The City of Durant encourages participation form all its citizens. If participation at any public meeting is not possible due to a disability, notification to the City Clerk at least 48 hours prior to the scheduled meeting is encouraged in order to make the necessary accommodations. The City of Durant may waive the 48-hour rule if interpreters for the deaf (signing) or translation services for limited English proficient (LEP) individuals are not the necessary accommodation.

DURANT CITY COUNCIL

6:00 PM | **Roscoe J. Hatfield Council Chambers, 300 West Evergreen, Durant, Oklahoma** | **June 8, 2021**

AGENDA

CALL TO ORDER

INVOCATION/FLAG SALUTE

ROLL CALL

ORDER OF BUSINESS

1. Consent Items

To help streamline meetings and allow the focus to be on other items requiring strategic thought, the "Consent Items" portion of the agenda groups the routine, procedural, and self-explanatory non-controversial items together. These items are voted on in a single motion (one vote). However, any Council member requesting further information on a specific item thus removes it from the "Consent Items" section for individual attention and separate vote.

a. Consider Approval of Regular Meeting Minutes of May 11, 2021

b. Consider Approval of Budget Supplements BA 2021-11

c. Consider Acceptance of Filings:

1. 5% Lodging Tourism Tax Econ. Dev. FY 2021-2022 Financial Plan;
2. Durant Utility Authority FY 2021-2022 Financial Plan;
3. Durant Airport Authority FY 2021-22 Financial Plan;
4. Durant Industrial Authority FY 2021-22 Financial Plan;
5. Durant Community Facilities Authority FY 2021-22 Financial Plan.

d. Consider Approval of Resolution R-2021-02B Amending the Comprehensive Fee Schedule for the City of Durant, Durant City Utility Authority, and Durant Airport Authority.

e. Consider Approval of Collective Bargaining Agreement Between the City of Durant and Local 3061, International Association of Fire Fighters Union AFL-CIO/CLC, Bargaining Agent for FY 2021-2022.

f. Consider Approval of Mayoral Recommendation for Appointment of Wayne Jones and Connor Alford and the Reappointment of Mike Allen to the Board of

Adjustments.

g. Consider Approval of Mayoral Recommendation for Appointment of John Dean and Natalie Blackburn to the Durant Community Facilities Authority

h. Consider Approval of Mayoral Recommendation of Reappointment of Clent Horner and Whitney Kerr to the Planning Commission.

i. Discussion, Consideration and Possible Action for the Purchase of VistaCom Eventide VM Recorder and Eventide/Motorola AIS-API License in the amount of $104,741.

j. Discussion, Consideration and Possible Action for the Declaration of Seven Police Vehicles as Surplus Items to be Disposed of Either by Trade In or Auction.

2. Consider Items Removed from Consent

3. Information Items

a. Assistant City Manager Report - May 2021

b. City Clerk Report - May 2021

c. City Manager Monthly Report - May 2021

d. Community Development Monthly Report - May, 2021

e. Economic Development Monthly Report - May 2021

f. Emergency Management Monthly Report - May 2021

g. Financial Statements for April 2021 and Sales Tax - May 2021

h. Fire Department Monthly Report - May 2021

i. Human Resources Monthly Report- May 2021

j. Library Monthly Report - May 2021

k. Police Department Monthly Report - April 2021

l. Street Department Report - May 2021

4. Administration

a. Discussion, Consideration, and Possible Action on a Resolution R-2021-14 Establishing a Wage and Salary Plan.

b. 1) Consider Approval of Ordinance No. O-2021-15 Providing for a Fee to Defray Costs of Collecting Delinquent Receivables Pursuant to 11 Oklahoma Statute Section 22-138;

2) Consider Award of Bid for Collection Services for Court and Accounts Receivable;

3) Consider Approval of Contract for Collection Services with Perdue, Brandon, Fielder, Collins & Mott, L.L.P. and Authorize City Manager to Execute Contract.

c. Discussion, Consideration and Possible Action on PC2021-16 a Preliminary

Plat request for property near Wilson Street and Larkspur Lane.

d. Discussion, Consideration and Possible Action on Awarding Bid for the West University Boulevard Improvement Project and Authorize the Mayor to Execute the Associated Contract and Documents.

e. **15421 CDBG-ED 12 Closeout for PharmcareOK of Durant, Inc. (C-2013-05)**

f. **16246 CDBG-ED 14 Closeout for Overland Corporation, Inc. – Materials and Manufacturing Asphalt Plant (C-2015-05)**

g. **16802 CDBG-ED 16 Closeout for Commercial Metals Company – CMC Steel Oklahoma, LLC. Facility (C-2016-86).**

5. Public Hearings

a. (1) Public Hearing on Proposed FY 2021-2022 Budget (Resolution R-2021-10) (2) Discussion, Consideration and Possible Action on Resolution R-2021-10 Adopting the Budget for Fiscal Year 2021-2022

b. **Public Hearing for 15421 CDBG-ED 12 (C-2013-05) Closeout - Industrial roadway infrastructure improvements on Waldron Drive for PharmcareOK of Durant, Inc.**

c. **Public Hearing for 16246 CDBG-ED 14 (C-2015-05) Closeout -** Industrial roadway infrastructure improvements on Country Club Road for Overland Corporation, Inc. – Materials and Manufacturing Asphalt Plant, Inc.

d. **Public Hearing for 16802 CDBG-ED 16 (C-2016-86) Closeout -** Water, Wastewater and Roadway Infrastructure Improvements for Commercial Metals Company, Inc. – CMC Steel Oklahoma, LLC. facility

6. Executive Session

a. Consider Executive Session to Discuss and Consider Durant Industrial Authority Land Purchase Related to Project 3T (This Executive Session Authorized by Title 25, Section 307 B(3) of the Oklahoma State Statutes)

b. Consider Action Pursuant to Item 6(a)

7. New Business

ADJOURNMENT

CERTIFICATE
This is to certify that in conformity with the Oklahoma Open Meeting Act, public notice of the date, time and place of this meeting was filed with the City Clerk of Durant on the 5th day of November, 2020 and that an agenda of said meeting was posted at the place of such meeting at 5:10 p.m. on the 3rd day of June, 2021.

Cynthia J. Price

_____
Cynthia J. Price, City of Durant

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From:
Re: Consider Approval of Regular Meeting Minutes of May 11, 2021

Council Information / Action Requested
Approval of Regular Meeting Minutes of May 11, 2021

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:
1. Durant City Council Minutes 05112021 cjp

This is to certify that in conformity with the Oklahoma Open Meeting Act, public notice of the date, time and place of this meeting was filed with the City Clerk of Durant on the 10th day of November, 2020 and that an agenda of said meeting was posted at the place of such meeting at 11:00 a.m. on the 7th day of May, 2021.

Cynthia J. Price

_____

Cynthia J. Price, City of Durant

MINUTES OF THE MEETING OF DURANT CITY COUNCIL
May 11, 2021 AT 6:00 PM, Roscoe J. Hatfield
Council Chambers,
300 West Evergreen,
Durant, Oklahoma

CALL TO ORDER

Mayor Grube called the meeting to order at 6:01 p.m.

INVOCATION/FLAG SALUTE

Assistant City Manager James Dalton provided the invocation.

Durant Police Department Honor Guard posted the colors.

ROLL CALL

Present:
Council Member Steve Brittingham
Council Member Humphrey Miller
Council Member Curtis Morris
Vice Mayor Danny Sherrer
Mayor Oden Grube
City Attorney Tom Marcum
City Manager John Dean
City Clerk Cynthia J. Price

Absent:
None

PRESENTATIONS

1. **Proclamation Declaring and Recognizing May 9th through May 15th of 2021 as National Police Week in Support of the Law Enforcement Officers That Have Lost Their Lives in the Line of Duty for the Safety and Protection of Others.**

Mayor Grube read aloud the Proclamation Declaring and Recognizing May 9th Through May 15th of 2021 as National Police Week in Support of Law Enforcement Officials that have Lost Their Lives in the Line Of Duty for the Safety and Protection of Others.

ORDER OF BUSINESS

1. Consent Items

To help streamline meetings and allow the focus to be on other items requiring strategic thought, the "Consent Items" portion of the agenda groups the routine, procedural, and self-explanatory non-controversial items together. These items are voted on in a single motion (one vote). However, any Council member requesting further information on a specific item thus removes it from the "Consent Items" section for individual attention and separate vote.

a. Consider Approval of Regular Called Meeting Minutes of April 13, 2021

b. Consider Approval of Special Called Meeting Minutes of April 19, 2021

c. Consider Approval of Special Called Meeting Minutes of May 4, 2021

d. Consider Approval of Budget Supplement BA 2021-10

e. Consider Approval of Arledge & Associates PC, FY 2021 Agreed-Upon Procedures Engagement Letter (C-2021-27) and FY 2021 Single Audit Engagement Letter (C-2021-28)

f. Consider Approval of Service Agreement with Crawford & Associates, P.C. for Accounting and Consulting Services (C-2021-24)

g. Consider Approval of the Appointment of Jeff Shattuck to Represent the Durant Industrial Authority on the Durant Tourism Economic Development Authority.

h. Consider Approval of Mayoral Appointment of Dr. Thomas Newsom, President of Southeastern Oklahoma State University, to Serve a Four Year Term as Non-Voting Advisory Member of the Durant Industrial Authority Representing an Educational Institution Serving the City of Durant, Oklahoma Pursuant to the Supplement to Trust Indenture of Durant Industrial Authority Dated June 14, 2016.

i. Consider Approval to Purchase Motorola Flex Mobile Records Management System in the Amount of $231,070

j. Consider Approval of Amendment to the City of Durant Personnel Manual to Include Paid Parental Leave.

Motion To: Approve Consent Items as Presented

Motion By: Steve Brittingham

Seconded By: Humphrey Miller

Ayes: Brittingham, Miller, Morris, Sherrer, Grube

Nays: None

Abstain: None

2. Consider Items Removed from Consent

3. Information Items

a. Assistant City Manager Report - April 2021

b. City Clerk Monthly Report - April 2021

c. City Manager Monthly Report - April 2021

d. Community Development Monthly Report - April, 2021

e. Economic Development Report

f. Emergency Management Monthly Report - April 2021

g. Financial Statements and Sales Tax Breakdown- March 2021

h. Fire Department Monthly Report - April 2021

i. Human Resources Report - April 2021

j. Library Monthly Report - April 2021

k. Neighborhood Services Monthly Report - April 2021

l. Police Department Monthly Report - March 2021

m. Street Department Monthly Report - April 2021

4. Administration

a. Consider Acceptance of FY19-20 Annual Financial Statements and Auditor's Reports, including Single Audit Report

Jake Winkler, Certified Public Accountant and Partner with Arledge and Associates, P.C., addressed council and reviewed the FY2019 - 2020 Annual Financial Statements, Auditor's Reports and Single Audit Report. Mr. Winkler stated there were no audit findings or issues to report.

Motion To: Accept FY2019-2020 Annual Financial Statements, Auditor's Reports and Single Audit Report.

Motion By: Danny Sherrer

Seconded By: Humphrey Miller

Ayes: Brittingham, Miller, Morris, Sherrer, Grube

Nays: None

Abstain: None

b. Discussion, Consideration and Possible Action on Ordinance O-2021-11 a Rezoning request from A-1, General Agriculture to R-2, Two-Family Residential and PC2021-08 a Preliminary Plat for property located near Cemetery Road and Rodeo Road

1. Consider Action on Preliminary Plat and Ordinance O-2021-11 Section 1.
2. Consider Action on Ordinance O-2021-11 Section 2. (Emergency Clause)

The property is five acres and would contain eight half-acre lots with duplex style homes. This would be considered spot zoning. The Planning Commission recommends denial of rezoning request and the preliminary plat.

Speaker - Dustin Wolf, Developer - Spoke in favor of rezoning request and preliminary plat.

Item 4.b.1. and 4.b.2

Motion To: Deny Preliminary Plat and Ordinance O-2021-11.

Motion By: Steve Brittingham

Seconded By: Curtis Morris

Ayes: Brittingham, Miller, Morris, Grube

Nays: None

Abstain: Danny Sherrer

c. Discussion, Consideration and Possible Action on Ordinance O-2021-12 a Rezoning request from R-3, General Residential to C-2 Highway Commercial and Commercial Recreation District for property located at 211 S. 1st Street (PC2021-10)

1. Consider action on Ordinance O-2021-12 Section 1.
2. Consider action on Ordinance O-2021-12 Section 2 (Emergency Clause)

The property owners are wanting to convert a condemned residential house to a commercial venture. The lot is 3600 square feet. The Planning Commission recommended denial for this zoning request.

Speaker - Charles Maxey - spoke in favor of rezoning request from R-3 to C-3.

City Attorney Tom Marcum stated applicant requested C-2 on his application. If applicant wants to now request rezoning to C-3, council could not consider the revised request at this meeting. Applicant can come back before council in the future for consideration of his C-3 request once proper notice has been given.

No action.

d. Discussion, Consideration and Possible Action of Ordinance O-2021-13 a Rezoning request from R-3 General Residential to C-3, General Commercial for property located at 106 SE 3rd Ave (PC2021-11)

1. Consider action on Ordinance O-2021-13 Section 1.
2. Consider action on Ordinance O-2021-13 Section 2 (Emergency Clause).

The property is currently being used as a gas station. The applicant is wanting to add a dispensary to the location. There was a letter of protest received. Several citizens spoke in protest to the rezoning request at the Planning Commission meeting. The Planning Commission recommended denial.

Speaker - Ty Osmani, Applicant, spoke in favor of rezoning request.

Motion To: Deny Ordinance O-2021-13

Motion By: Curtis Morris

Seconded By: Steve Brittingham

Ayes: Brittingham, Miller, Morris, Sherrer, Grube

Nays: None

Abstain: None

e. Discussion, Consideration and Possible Action on Ordinance Number O-2021-14 a Rezoning request from A-1 General Agriculture to I-1, Light Industrial for property located near Hillcrest Avenue and McLean Drive (PC2021-12)

1. Consider action on Ordinance O-2021-14 Section 1.
2. Consider action on Ordinance O-2021-14 Section 2 (Emergency Clause).

This is a 20 acre property. No letters of protest were received. Several citizens voiced concerns at the Planning Commission Meeting. The Planning Commission recommended approval. Community Development Director Danielle Barker recommended approval.

Item 4.e.1

Motion To: Approve Ordinance O-2021-14, Section 1.

Motion By: Humphrey Miller

Seconded By: Steve Brittingham

Ayes: Brittingham, Miller, Morris, Sherrer, Grube

Nays: None

Abstain: None

Motion To: Approve Ordinance O-2021-14, Section 2, emergency clause.

Motion By: Humphrey Miller

Seconded By: Curtis Morris

Ayes: Brittingham, Miller, Morris, Sherrer, Grube

Nays: None

Abstain: None

f. Discussion, Consideration and Possible Action on PC2021-01, the 2040 Comprehensive Plan and Future Land Use Map

No action taken.

g. Discussion, Consideration and Possible Action to Restrict On-Street Parking on South First Avenue from Main Street to Arkansas Street and to Put in Place Appropriate Signage.

Motion To: Approve Restriction of On-Street Parking on South First Avenue from Main Street to Arkansas Street and Put in Place Appropriate Signage.

Motion By: Steve Brittingham

Seconded By: Humphrey Miller

Ayes: Brittingham, Miller, Morris, Sherrer, Grube

Nays: None

Abstain: None

5. Public Hearings

There were no public hearings.

6. New Business

There was no new business.

ADJOURNMENT

Motion To: Adjourn Meeting.

Motion By: Danny Sherrer

Seconded By: Steve Brittingham

Ayes: Brittingham, Miller, Morris, Sherrer, Grube

Nays: None

Abstain: None

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From: An chen Lai, Finance Director/Treasurer
Re: Consider Approval of Budget Supplements BA 2021-11

Approval of Budget Supplements BA 2021-11
#2069 TO #2071 ADJ GF TREASURER, PD, FIRE, COMM. DEV. & COURT OPERATION EXPENDITURES
#2072 ADJ EMPLOYEE INSURANCE TRANSFER OUT TO OTHER FUNDS
#2073 & #2074 ADJ GF EMPLY INSU. & IT UNSU TRANSFER & EXPENDITURES
#2075 ADJ DCUA EMPLOYEEINSU. EXPENSES
#2076 ADJ WTP ROJECTO CITY COST & AIRPORT CI EXPENSE
#2077 ADJ OMAG REIMBURSE FOR STAL BUILDING DAMAGE & REPAIR
#2078 TO #2080 ADD CDBG-18114 UTILITY ASSISTANT GRANT REV. AND TRANSFER TO GF & DCUA

Council Information / Action Requested
APPROVED BUDGET SUPPLEMENTS 2021-11

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:
1. BA 2021-11

PACKET: 00425-BA 2021-11

BUDGET CODE: CB-Current Budget

FUND	ACCOUNT	DATE	DESCRIPTION	ADJUSTMENT	ORIGINAL BUDGET	PREVIOUS ADJUSTMENTS	NEW BUDGET	BUDGET BALANCE
Budget Adj. # 002069								
001	002-514.10-11	6/08/2021	BA21-11 OPERATION E	7,952.00-	41,941.52	0.00	33,989.52	5,902.29
	SALARIES AND WAGES							
	DEPT: CITY CLERK DEPARTMENT							
001	002-514.10-14	6/08/2021	BA21-11 OPERATION E	2,500.00-	5,608.33	0.00	3,108.33	816.03
	FICA TAXES							
	DEPT: CITY CLERK DEPARTMENT							
001	002-514.10-15	6/08/2021	BA21-11 OPERATION E	2,500.00-	5,608.32	0.00	3,108.32	813.22
	OMRF PENSION CONTRIBUTIONS							
	DEPT: CITY CLERK DEPARTMENT							
001	002-514.10-16	6/08/2021	BA21-11 OPERATION E	9,000.00-	16,885.60	0.00	7,885.60	1,387.66
	LIFE & HEALTH INSURANCE							
	DEPT: CITY CLERK DEPARTMENT							
001	002-514.10-25	6/08/2021	BA21-11 OPERATION E	952.00	2,448.00	952.00	4,352.00	1,352.00
	VEHICLE & CELL PHONE ALLOWANCE							
	DEPT: CITY CLERK DEPARTMENT							
001	001-513.10-11	6/08/2021	BA21-11 OPERATION E	12,426.00-	425,054.56	12,218.00-	400,410.56	70,556.92
	SALARIES AND WAGES							
	DEPT: CITY ADMINISTRATION							
001	003-515.10-16	6/08/2021	BA21-11 OPERATION E	33,426.00	33,770.24	0.00	67,196.24	11,199.84
	LIFE & HEALTH INSURANCE							
	DEPT: CITY TREASURER DEPT.							
001	005-521.10-11	6/08/2021	BA21-11 OPERATION E	60,771.00-	3,284,321.74	319,000.00-	2,904,550.74	256,657.64
	SALARIES AND WAGES							
	DEPT: POLICE - LAW ENFORCEMENT							
001	005-521.10-21	6/08/2021	BA21-11 OPERATION E	60,771.00	0.00	28,400.00	89,171.00	0.81
	SPECIAL PAY-LEAVE & BONUS ACCR							
	DEPT: POLICE - LAW ENFORCEMENT							
Budget Adj. # 002070								
001	008-522.10-11	6/08/2021	BA 21-11 OPERAT. EX	110,000.00-	2,213,106.76	0.00	2,103,106.76	177,596.43
	SALARIES AND WAGES							
	DEPT: FIRE DEPARTMENT							
001	008-522.10-12	6/08/2021	BA 21-11 OPERAT. EX	110,000.00	114,950.00	0.00	224,950.00	5,176.77-
	OVERTIME							
	DEPT: FIRE DEPARTMENT							
001	019-569.70-17	6/08/2021	BA 21-11 OPERAT. EX	97,000.00-	48,090.00	378,723.31	366,533.63	366,533.63
	FUND RESERVE							
	DEPT: GENERAL GOVERNMENT							

PACKET: 00425-BA 2021-11

BUDGET CODE: CB-Current Budget

FUND	ACCOUNT	DATE	DESCRIPTION	ADJUSTMENT	ORIGINAL BUDGET	PREVIOUS ADJUSTMENTS	NEW BUDGET	BUDGET BALANCE
Budget Adj. # 002070								
001	008-522.10-16	6/08/2021	BA 21-11 OPERAT. EX	97,000.00	405,238.62	0.00	592,238.62	98,017.43
	LIFE & HEALTH INSURANCE							
	DEPT: FIRE DEPARTMENT							
001	008-522.10-21	6/08/2021	BA 21-11 OPERAT. EX	90,765.00	13,167.00	0.00	103,932.00	0.06
	SPECIAL PAY-LEAVE & BONUS ACCR							
	DEPT: FIRE DEPARTMENT							
001	019-569.10-96	6/08/2021	BA 21-11 OPERAT. EX	90,765.00-	100,000.00	0.00	9,235.00	9,235.00
	V,S, & H BUYBACK RESERVE							
	DEPT: GENERAL GOVERNMENT							
Budget Adj. # 002071								
001	000-351.14-00	6/08/2021	BA 21-11 OPERAT. EX	12,000.00	7,000.00-	1,291.00	20,291.00-	5,032.15
	CRT-BAD DEBT COLLECT FEES REV							
001	013-512.30-78	6/08/2021	BA 21-11 OPERAT. EX	12,000.00	15,000.00	1,291.00	28,291.00	2,738.93
	MC BAD DEBT COLLECTION FEES							
	DEPT: MUNICIPAL COURT							
001	019-569.30-33	6/08/2021	BA 21-11 OPERAT. EX	2,550.00-	258,000.00	15,525.00-	239,925.00	105,260.48
	UTILITIES							
	DEPT: GENERAL GOVERNMENT							
001	013-512.30-32	6/08/2021	BA 21-11 OPERAT. EX	500.00	165.00	0.00	665.00	91.07
	FREIGHT & POSTAGE							
	DEPT: MUNICIPAL COURT							
001	013-512.30-56	6/08/2021	BA 21-11 OPERAT. EX	1,000.00	5,600.00	0.00	6,600.00	216.22
	CREDIT CARD PROCESSING FEES							
	DEPT: MUNICIPAL COURT							
001	013-512.50-51	6/08/2021	BA 21-11 OPERAT. EX	800.00	900.00	0.00	1,700.00	32.15
	OFFICE SUPPLIES							
	DEPT: MUNICIPAL COURT							
001	013-512.70-72	6/08/2021	BA 21-11 OPERAT. EX	250.00	200.00	0.00	450.00	300.00
	TRAINING & TRAVEL							
	DEPT: MUNICIPAL COURT							
001	014-525.30-38	6/08/2021	BA 21-11 OPERAT. EX	1,600.00	300.00	0.00	1,900.00	256.90
	LEGAL PUBLICATIONS NON REIMB							
	DEPT: COMMUNITY DEVELOPMENT							
001	014-525.70-72	6/08/2021	BA 21-11 OPERAT. EX	1,600.00-	6,000.00	2,000.00-	2,400.00	178.57
	TRAINING AND TRAVEL							
	DEPT: COMMUNITY DEVELOPMENT							

PACKET: 00425-BA 2021-11

BUDGET CODE: CB-Current Budget

FUND	ACCOUNT	DATE	DESCRIPTION	ADJUSTMENT	ORIGINAL BUDGET	PREVIOUS ADJUSTMENTS	NEW BUDGET	BUDGET BALANCE
Budget Adj. # 002072								
005	000-381.90-00	6/08/2021	BA21-11 HEALTH INS	122,000.00	2,601,612.00-	0.00	2,723,612.00-	206,639.51-
	CITY CONTRIBUTION							
005	000-381.91-00	6/08/2021	BA21-11 HEALTH INS	30,000.00	182,000.00-	0.00	212,000.00-	9,457.07-
	EMPLOYEE CONTRIBUTIONS							
005	000-381.92-00	6/08/2021	BA21-11 HEALTH INS	70,000.00	150,000.00-	0.00	220,000.00-	17,137.22-
	INSURE OKLAHOMA SUBSIDY							
005	066-569.99-11	6/08/2021	BA21-11 HEALTH INS	222,000.00	0.00	0.00	222,000.00	222,000.00
	PREMIUM REBATES TO GF							
	DEPT: EMPLOYEE HEALTH INS.							
Budget Adj. # 002073								
001	000-364.11-05	6/08/2021	BA21-11 EMP INS TRS	222,000.00	0.00	97,000.00	319,000.00-	222,000.00-
	TRANS FROM EMP INSURANCE 005							
001	005-521.10-16	6/08/2021	BA21-11 EMP INS TRS	82,000.00	562,831.29	0.00	644,831.29	100,670.19
	LIFE & HEALTH INSURANCE							
	DEPT: POLICE - LAW ENFORCEMENT							
001	008-522.10-16	6/08/2021	BA21-11 EMP INS TRS	90,000.00	405,238.62	0.00	592,238.62	98,017.43
	LIFE & HEALTH INSURANCE							
	DEPT: FIRE DEPARTMENT							
001	015-571.10-16	6/08/2021	BA21-11 EMP INS TRS	29,000.00	78,796.32	0.00	107,796.32	9,562.07
	LIFE & HEALTH INSURANCE							
	DEPT: PUBLIC LIBRARY							
001	019-569.99-10	6/08/2021	BA21-11 EMP INS TRS	21,000.00	0.00	238,878.00	259,878.00	21,000.00
	P.TRSF TO I.T. SERVICE FUND							
	DEPT: GENERAL GOVERNMENT							
Budget Adj. # 002074								
010	000-364.11-00	6/08/2021	BA21-11 OP. EMP INS	21,000.00	0.00	238,878.00	259,878.00-	21,000.00-
	TRSF. FROM GENERAL FUND							
010	020-560.10-16	6/08/2021	BA21-11 OP. EMP INS	21,000.00	33,770.12	0.00	54,770.12	9,116.72
	LIFE & HEALTH INSURANCE EXP							
	DEPT: INFO. TECH. SERVICE DEPT.							
Budget Adj. # 002075								
405	024-565.10-16	6/08/2021	BA21-11 EMP. INS AD	24,800.00	26,486.16	0.00	51,286.16	8,879.46
	LIFE & HEALTH INSURANCE							
	DEPT: PUBLIC WORKS ADMIN.							

PACKET: 00425-BA 2021-11

BUDGET CODE: CB-Current Budget

FUND	ACCOUNT	DATE	DESCRIPTION	ADJUSTMENT	ORIGINAL BUDGET	PREVIOUS ADJUSTMENTS	NEW BUDGET	BUDGET BALANCE
Budget Adj. # 002075								
405	026-551.10-16	6/08/2021	BA21-11 EMP. INS AD	44,600.00	112,566.52	0.00	157,166.52	25,981.27
	LIFE & HEALTH INSURANCE							
	DEPT: WATER/SEWER LINE MAINT.							
405	027-552.10-16	6/08/2021	BA21-11 EMP. INS AD	9,000.00	90,053.42	0.00	99,053.42	16,630.55
	LIFE & HEALTH INSURANCE							
	DEPT: WATER TREATMENT PLANT							
405	028-553.10-16	6/08/2021	BA21-11 EMP. INS AD	34,500.00	56,283.23	0.00	90,783.23	16,410.15
	LIFE & HEALTH INSURANCE							
	DEPT: WWTP							
405	030-555.70-17	6/08/2021	BA21-11 EMP. INS AD	112,900.00-	150,000.00	6,537.00-	17,563.00	17,563.00
	CONTINGENCY RESERVE							
	DEPT: UTILITY GENERAL ADMIN.							
Budget Adj. # 002076								
015	805-555.62-01	6/08/2021	BA 21-11 WTP PRJ AD	38,000.00-	0.00	38,000.00	0.00	0.00
	TURBIDITY METERS							
	DEPT: 2020 USSTRN EXPENSE							
015	805-555.62-04	6/08/2021	BA 21-11 WTP PRJ AD	23,628.00-	0.00	376,056.00	352,428.00	0.68
	WATER STORAGE TANK REHABILIT.							
	DEPT: 2020 USSTRN EXPENSE							
015	805-555.62-03	6/08/2021	BA 21-11 WTP PRJ AD	61,628.00	0.00	1,194,310.00	1,255,938.00	1,651.71-
	WTP PRJ CONSTRUCTION							
	DEPT: 2020 USSTRN EXPENSE							
015	019-569.61-49	6/08/2021	BA 21-11 WTP & 065	930.00-	10,000.00	399,189.00	408,259.00	149,043.64
	CITY HALL RENOVATION							
	DEPT: GENERAL GOVERNMENT							
015	027-552.65-14	6/08/2021	BA 21-11 WTP PRJ AD	815.00	0.00	165,000.00	165,815.00	0.00
	WTP PROJECT - OTHER COSTS							
	DEPT: WATER TREATMENT PLANT							
015	065-503.60-02	6/08/2021	BA 21-11 CAR ADJ	115.00	15,000.00	883.00	15,998.00	0.00
	AIRPORT COURTESY CAR							
	DEPT: EAKER FIELD AIRPORT							
Budget Adj. # 002077								
206	000-361.40-00	6/08/2021	BA 21-11 OPERATION	13,205.00	0.00	0.00	13,205.00-	830.10
	MISC. REVENUE							
206	065-503.50-60	6/08/2021	BA 21-11 OPERATION	13,205.00	0.00	23,700.00	36,905.00	13,364.20
	BUILDING MAINTENANCE							
	DEPT: EAKER FIELD							

PACKET: 00425-BA 2021-11
BUDGET CODE: CB-Current Budget

FUND	ACCOUNT	DATE	DESCRIPTION	ADJUSTMENT	ORIGINAL BUDGET	PREVIOUS ADJUSTMENTS	NEW BUDGET	BUDGET BALANCE
Budget Adj. # 002078								
250	000-362.40-19	6/08/2021	BA 21-11 CDBG18114	638,300.00	0.00	0.00	638,300.00-	638,300.00-
	20 CDBG-CR 18114 UT. ASST.							
250	139-596.60-01	6/08/2021	BA 21-11 CDBG18114	600,002.00	0.00	0.00	600,002.00	0.00
	REIMB TO UA - UTILITY ASSIST.							
	DEPT: 20 CDBG-CR 18114 UT ASST.							
250	139-596.60-02	6/08/2021	BA 21-11 CDBG18114	1,577.68	0.00	0.00	1,577.68	1,577.68
	UTILITY ASST. MISC. EXPENSES							
	DEPT: 20 CDBG-CR 18114 UT ASST.							
250	139-596.60-21	6/08/2021	BA 21-11 CDBG18114	36,720.32	0.00	0.00	36,720.32	36,720.32
	REIMB TO GF- PERSONNEL EXP.							
	DEPT: 20 CDBG-CR 18114 UT ASST.							
Budget Adj. # 002079								
001	000-364.25-00	6/08/2021	BA 21-11 CDBG-18114	36,720.32	0.00	0.00	36,720.32-	36,720.32-
	TRSF FROM CDBG FUND (REIMB)							
001	019-569.70-17	6/08/2021	BA 21-11 CDBG-18114	36,720.32	48,090.00	378,723.31	366,533.63	366,533.63
	FUND RESERVE							
	DEPT: GENERAL GOVERNMENT							
Budget Adj. # 002080								
405	024-565.10-14	6/08/2021	BA 21-11 UA PERSNL	8,154.00	8,783.29	0.00	16,937.29	811.63
	FICA TAXES							
	DEPT: PUBLIC WORKS ADMIN.							
405	024-565.10-15	6/08/2021	BA 21-11 UA PERSNL	11,543.00	9,290.29	0.00	20,833.29	980.51
	OMRF PENSION CONTRIBUTIONS							
	DEPT: PUBLIC WORKS ADMIN.							
405	024-565.10-21	6/08/2021	BA 21-11 UA PERSNL	18,526.00	700.00	0.00	19,226.00	0.80
	SPECIAL PAY-LEAVE & BONUS ACCR							
	DEPT: PUBLIC WORKS ADMIN.							
405	030-555.10-97	6/08/2021	BA 21-11 UA PERSNL	38,223.00-	100,000.00	47,000.00-	14,777.00	14,777.00
	COMP TIME BUYBACK RESERVE							
	DEPT: UTILITY GENERAL ADMIN.							
405	031-552.30-33	6/08/2021	BA 21-11 UA PERSNL	13,000.00	12,000.00	0.00	25,000.00	1,492.72
	UTILITIES							
	DEPT: "LAKE DURANT"							
405	030-555.70-17	6/08/2021	BA 21-11 UA PERSNL	13,000.00-	150,000.00	6,537.00-	17,563.00	17,563.00
	CONTINGENCY RESERVE							
	DEPT: UTILITY GENERAL ADMIN.							
	PACKET NOTES:							
	#2069 ADJ GF TREASURER & PD OPERATION EXPENDITURES							

PACKET: 00425-BA 2021-11

BUDGET CODE: CB-Current Budget

FUND	ACCOUNT	DATE	DESCRIPTION	ADJUSTMENT	ORIGINAL BUDGET	PREVIOUS ADJUSTMENTS	NEW BUDGET	BUDGET BALANCE
Budget Adj. # 002080								
	#2070 ADJ GF FIRE DEPT OPERATION EXPENDITURES							
	#2071 ADJ GF COMM.DEV. & COURT EXPENDITURES							
	#2072 ADJ EMPLY INSUR REV. AND TRANSFER OUT TO FUNDS							
	#2073 ADJ GF EMPLY INSU & IT INSU. EXPENDITURES							
	#2074 ADJ IT EMPLY INSU. EXPENDITURES							
	#2075 ADJ DCUA EMPLY INSU. EXPENSES							
	#2076 ADJ WTP PRJ. CITY COST & AIRPORT CAR ADJ							
	#2077 ADJ OMAGREIMB FOR STAL BUILDING REPAIR							
	$2078 ADD CDBG-18114 UTILITY ASSISTANT GRANT							
	#2079 ADD CDBG-18114 REIMB TO GF COVER PERSONNEL EXP							
	#2080 ADJ DCUA PERSONNEL EXPENSES							
			TOTAL NO. ADJUSTMENTS--REVENUE:	9			1,165,225.32	
			TOTAL NO. ADJUSTMENTS--EXPENSE:	51			1,165,225.32	
			TOTAL IN PACKET--				2,330,450.64	

*** BUDGET DEFICIT WARNINGS ***

FUND	ACCOUNT	NAME	BALANCE
001	008-522.10-12	OVERTIME	5,176.77-
015	805-555.62-03	WTP PRJ CONSTRUCTION	1,651.71-

TOTAL WARNINGS: 2

*** NO ERRORS ***

*** END OF REPORT ***

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From: John Dean, City Manager
Re: Consider Acceptance of Filings:

1. 5% Lodging Tourism Tax Econ. Dev. FY 2021-2022 Financial Plan;
2. Durant Utility Authority FY 2021-2022 Financial Plan;
3. Durant Airport Authority FY 2021-22 Financial Plan;
4. Durant Industrial Authority FY 2021-22 Financial Plan;
5. Durant Community Facilities Authority FY 2021-22 Financial Plan.

Council Information / Action Requested
Accept Filing of:

1. 5% Lodging Tourism Tax Econ. Dev. FY 2021-2022 Financial Plan;
2. Durant Utility Authority FY 2021-2022 Financial Plan;
3. Durant Airport Authority FY 2021-22 Financial Plan;
4. Durant Industrial Authority FY 2021-22 Financial Plan;
5. Durant Community Facilities Authority FY 2021-22 Financial Plan.

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:
1. Memorandums

Memorandum

Date: May 26, 2021

To: Mayor and City Council

From: John R Dean Jr., City Manager

Re: Motion to Accept Filing of 5% Lodging Tourism Tax Econ. Dev. FY 2021-2022 Financial Plan

Public Trusts created pursuant to Title 60 of the Oklahoma State Statutes shall file annually, with their respective beneficiaries, a financial plan or budget. Public trust fund budgets are not required by the Municipal Budget Act and are not considered legally adopted, appropriated budgets (merely financial plans).

		FY 19/20 Actuals	FY 20/21 Budget	FY 20/21 Projections	FY 21/22 Budget
Durant Industrial Authority Fund:					
REVENUE SUMMARY					
Begging Balance		0	130,000	0	425,000
Taxes		402,057	400,000	331,976	375,000
Miscellaneous Revenues		6,895	3,500	2,937	5,800
Total Revenues		**408,952**	**533,500**	**334,914**	**805,800**
EXPENSE SUMMARY					
Economic Development		168,691	533,500	196,543	805,800
Total		**168,691**	**533,500**	**196,543**	**805,000**

Council Information / Action Requested

- Acceptance of the 5% Lodging Tourism Tax Econ. Dev. Fiscal Year 2021-2022 Financial Plan

City Staff Information / Action Follow-up, if Council authorizes this action:

- Treasurer's Office : Install FY 21-22 % Lodging Tourism tax Econ. Dev. Financial Plan

Memorandum

Date: May 26, 2021

To: Mayor and City Council

From: **John R. Dean Jr., City Manager**

Re: **Motion to Accept Filing of Durant Utility Authority Fiscal Year 2021-2022 Financial Plan**

Public trusts created pursuant to Title 60 of the Oklahoma State Statutes shall file annually, with their respective beneficiaries, a financial plan or budget. Public trust fund budgets are not required by the Municipal Budget Act and are not considered legally adopted, appropriated budgets (merely financial plans).

Durant City Utilities Authority Fund:	FY 19/20 Actual	FY 20/21 Budget	FY 20/21 Projection	FY 21/22 Budget
Revenue Summary:				
Balance Forward	0	1,095,588	0	0
Licenses & Permits	30,825	25,000	22,489	40,000
Charges for Services	11,524,066	11,996,500	12,466,432	13,169,000
Miscellaneous Revenues	605,663	808,064	893,260	537,255
Total Revenues	**12,160,554**	**13,925,152**	**13,382,195**	**13,746,255**
Expenditure Summary:				
Public Works Administration	184,355	332,860	346,061	462,360
Utility Billing	641,938	606,183	541,197	589,872
Water/Sewer Line Maintenance	873,035	1,035,622	1,019,737	1,155,574
Water Treatment Plant	1,117,996	1,155,551	1,030,731	1,214,127
Wastewater Treatment Plant	859,479	970,358	952,828	1,000,399
Solid Waste Collection	967,023	1,070,861	1,025,705	1,056,058
Utility General Administration	5,313,540	6,975,313	6,564,521	6,501,569
Lake Durant	38,067	47,250	55,205	45,850
Solid Waste Disposal	1,404,273	1,731,154	1,571,514	1,720,447
Economic Development Transfer	0	0	0	0
Total Expenditures	**11,399,706**	**13,925,152**	**13,107,499**	**13,746,255**

Memorandum

Date: May 26, 2021

To: Mayor and City Council

From: John R. Dean Jr., City Manager

Re: Motion to Accept Filing of Durant Airport Authority FY 2021-2022 Financial Plan

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Public Trusts created pursuant to Title 60 of the Oklahoma State Statutes shall file annually, with their respective beneficiaries, a financial plan or budget. Public trust fund budgets are not required by the Municipal Budget Act and are not considered legally adopted, appropriated budgets (merely financial plans).

	FY 19/20 Actuals	FY 20/21 Budget	FY 20/21 Projections	FY 21/22 Budget
Durant Airport Authority Fund:				
REVENUE SUMMARY				
Balance Forward	22,444	121,762	175,888	455,644
Miscellaneous Revenues	1,020,022	1,437,630	1,484,752	986,725
Adjustments to Revenues	182,872			
Total Revenues	**1,225,338**	**1,559,392**	**1,660,640**	**1,442,369**
EXPENSE SUMMARY				
Eaker Field	1,251,364	1,559,392	1,204,996	1,442,369
Total	**1,251,364**	**1,559,392**	**1,204,996**	**1,442,369**

Council Information / Action Requested

- Acceptance of the Durant Airport Authority Fiscal Year 2021/2022 Financial Plan

City Staff Information / Action Follow-up, if Council authorizes this action:

- Treasurer's Office : Install FY 21-22 DAA Financial Plan

Memorandum

Date: May 26, 2021

To: Mayor and City Council

From: John R Dean Jr., City Manager

Re: Motion to Accept Filing of Durant Industrial Authority FY 2021-2022 Financial Plan

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Public Trusts created pursuant to Title 60 of the Oklahoma State Statutes shall file annually, with their respective beneficiaries, a financial plan or budget. Public trust fund budgets are not required by the Municipal Budget Act and are not considered legally adopted, appropriated budgets (merely financial plans).

	FY 19/20 Actuals	FY 20/21 Budget	FY 20/21 Projections	FY 21/22 Budget
Durant Industrial Authority Fund:				
REVENUE SUMMARY				
Balance Forward	0	850,573	0	850,573
Miscellaneous Revenues	203,861	1,134,229	1,633,919	362,450
Industrial Projects Revenues	39,998	78,251	106,312	95,550
Total Revenues	**243,859**	**2,063,053**	**1,740,231**	**1,308,573**
EXPENSE SUMMARY				
Econ Dev Administration	71,276	68,569	32,752	102,434
Industrial Projects	152,866	1,994,484	198,833	1,206,139
Total	**224,142**	**2,063,053**	**231,585**	**1,308,573**

Council Information / Action Requested

- Acceptance of the Durant Industrial Authority Fiscal Year 2016-17 Budget

City Staff Information / Action Follow-up, if Council authorizes this action:

- Treasurer's Office : Install FY16/17 DIA Budget

Memorandum

Date: May 26, 2021

To: Mayor and City Council

From: **John R. Dean Jr., City Manager**

Re: **Motion to Accept Filing of Durant Community Facilities Authority FY 2021-2022 Financial Plan**

Public Trusts created pursuant to Title 60 of the Oklahoma State Statutes shall file annually, with their respective beneficiaries, a financial plan or budget. Public trust fund budgets are not required by the Municipal Budget Act and are not considered legally adopted, appropriated budgets (merely financial plans).

	FY 19/20 Actual	FY 20/21 Budget	FY 20/21 Projection	FY 21/22 Budget
Durant Community Facilities Authority Fund:				
REVENUE SUMMARY				
Balance Forward	0	2,277,205	0	1,576,175
Miscellaneous Revenues	2,001,810	1,902,000	1,906,000	2,041,960
Total Revenues	**2,001,810**	**4,179,205**	**1,906,000**	**3,618,135**
EXPENSE SUMMARY				
Gen Gov & Debt Service	1,603,245	4,179,205	1,265,610	3,618,135
Total	**1,603,245**	**4,179,205**	**1,265,610**	**3,618,135**

Council Information / Action Requested

- Acceptance of the Durant Community Facilities Authority Fiscal Year 2021-2022 Financial Plan

City Staff Information / Action Follow-up, if Council authorizes this action:

- Treasurer's Office : Install FY 21-22 DCFA Financial Plan

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From:
Re: Consider Approval of Resolution R-2021-02B Amending the Comprehensive Fee Schedule for the City of Durant, Durant City Utility Authority, and Durant Airport Authority.

This amendment incorporates DCUA fees that we previously approved but not included in the comprehensive fee schedule.

Council Information / Action Requested

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:

1. Fee Schedule Res. R-2021-02B

RESOLUTION NO. R-2021-02B

A RESOLUTION ESTABLISHING FEES AND COSTS CHARGED BY THE CITY OF DURANT, DURANT CITY UTILITY AUTHORITY, AND DURANT AIRPORT AUTHORITY FOR DURANT SERVICES.

WHEREAS, the City Council of the City of Durant and the Trustees for the Durant City Utility Authority, and the Trustees for the Durant Airport Authority have reviewed various fees charged for inspections, utility services, zoning, and other services provided by Durant as set forth on the Exhibit A attached hereto; and,

WHEREAS, the costs charged for various fees are in need of adjustment to ensure the City of Durant, Durant City Utility Authority, and Durant Airport Authority will recover its expenses involved in providing certain services.

NOW, THEREFORE, be it resolved by the City Council of the City of Durant, Oklahoma, and the Trustees for the Durant City Utility Authority, and the Trustees for the Durant Airport Authority that the attached Exhibit A, with various services and fees set forth therein, are hereby established as fees to be charged by the City of Durant, Durant City Utility Authority, and Durant Airport Authority for the specific services enumerated.

BE IT FURTHER resolved that the City Manager is authorized to set additional temporary fees, as needed, to ensure Durant will recover its expenses for services.

PASSED AND APPROVED by the Durant City Council, the Durant City Utility Authority, and Durant Airport Authority on this 8th day of June, 2021, all rates will become effective the 9th day of June, 2021.

_____
Mayor

_____
DCUA Chairman

_____
DAA Chairman

ATTEST:

_____
Cynthia Price, City Clerk

EXHIBIT A

FEES AND OTHER CHARGES

FEE SCHEDULE

Section	Fee Description	Amount (in dollars)
Administration		
Public Records Requests	Photocopy Costs, per page up to 8.5 x 14	$0.25
	Photocopy Costs, per page larger than 8.5 x 14	$0.50
	Certified Photocopy Costs, per page	$1.00
	Items on CD-ROM or DVD-ROM (additional charge of time to copy to media will apply if employee time exceeds 60 minutes)	$5.00
	Items on citizen supplied media (charge of time to copy to media will apply if employee time exceeds 60 minutes)	TBD
	Returned Check Fee	$45.00
	Fingerprint Fee	$25.00
	Deferment Fee	$40.00 plus the amount of ticket
	Property Abatement Fee	Actual Costs
	Property Condemnation Fee	Actual Costs
	Asbestos Inspection Fee (per structure)	Actual cost of materials and shipping plus $25.00
Equipment Costs	See Current FEMA Schedule of Equipment Rates https://www.fema.gov/assistance/public/schedule-equipment-rates	
	Actual Cost of Labor	
Airport		
Hangar Rental Rates		
Building #	Hangar Type & Number	Rate
4	Box Hangar (1-2)	$400.00
4	Box Hangar (3-12)	$310.00
8	Box Hangar (1-4)	$440.00
8	Box Hangar (5-12)	$350.00
10	T-Hangar (1-9)	$230.00
10	T-Hangar (10)	$340.00
12	T-Hangar (1)	$230.00
12	T-Hangar (2)	$340.00
12	T-Hangar (3-8)	$230.00
12	T-Hangar (9)	$260.00
12	T-Hangar (10)	$310.00
24	Corp Hangar (A-D)	$730.00
	After Hours Call Out Fee – Airplanes	$150.00 per occurrence
	After Hours Call Out Fee – Helicopters	$150.00 per occurrence
	Single/Twin Engine Overnight Parking	$5.00 - $10.00/night - 3 nights Waived with $100 fuel purchase $80.00 monthly
	Turban/Jet Overnight Parking	$15.00 - $50.00/night - 3 nights Waived with $200 fuel purchase
	Airport Facility Fee/Training Room	$100.00 per day
Animal Control		
Impound Fees and Costs	Impound Fee	$10.00
	Redemption Fee	$10.00
	Boarding Fee	$7.00 per day
	Publication of Notice and Animal Care (including veterinary)	Actual Cost
	Pet Adoption Fees	No Charge
	Sterilization Deposit	$35.00
License Fees	Dangerous Animals – additional license surcharge	$10.00
	Kennels, Catteries, and Pet Shops – Annual	$100.00
	Exotic Animal Owner Permit	$2,400.00

Buildings and Building Regulations (All permits are subject to an additional $4.00 State Fee)		
Residential Permit Fees	New Construction (Does not include Floodplain permit or MEP's; pulled separate)	$0.35 per square foot ($250.00 minimum)
	Remodel Construction (Does not include Floodplain permit or MEP's; pulled separate)	$0.35 per square foot ($100.00 minimum)
Commercial Permit Fees	New Commercial, Industrial, Warehouse Construction (Does not include Floodplain permit or MEP's; pulled separate)	$0.35 per square foot ($250.00 minimum)
	Remodel Commercial, Industrial, Warehouse Construction (Does not include Floodplain permit or MEP's; pulled separate)	$0.35 per square foot ($100.00 minimum)
Other Charges and Fees	Certificate of Occupancy	$150.00
	Fencing	$50.00
	Accessory Buildings	$75.00
	Swimming Pools	$150.00
	Roofing Residential	$75.00
	Roofing Commercial	$150.00
	Demolition	$100.00
	Building/Structure Relocation Fee	$50.00
	Electrical Permit	$0.05 per square foot
	Plumbing Permit	$0.05 per square foot
	Mechanical Permit	$0.05 per square foot
	Fire, Health/Safety Code Compliance Certification Fee	$50.00
	Zoning Code Compliance Certification Fee	$50.00
	Antenna & Antenna Support Permit Fee	$500.00
	Roll Off Permit Fee (Annual)	$100.00 annually
	Non-Permanent Structure	N/A
	Permanent Structure	$300.00
	Residential Building Inspection Fee	$50.00/trade per inspection
	Commercial Inspection Fee	$50.00/trade per inspection
	Electrical Inspection Fee	$50.00/trade per inspection
	Plumbing or Mechanical Inspection Fee	$50.00/trade per inspection
	Red Tag Fee	$100.00 per visit
	Onsite Consultations	$50.00 per labor hour (2 hour minimum)
	Night, Weekend, Holiday Inspections	$75.00 per hour (2 hour minimum)
	Contractor License—Electrical, Mechanical, Plumbing, Roofing	$100.00 annually (expires June 30 each year)
Signs	New Sign Construction Permit	$200.00
	Sign Modification Permit	$75.00
	New Sign/Modification Permit	$25.00
	Temporary Sign Permit	$40.00
	Billboard Sign Permit	$500.00
Floodplain Development		
	Floodplain Development Review	$300.00
	Flood Hazard Development Review	$100.00
	Floodplain Development Inspection The floodplain fee schedule shall not exceed a cumulative amount of $500.00, in accordance with the Title 82, Section 1604, Item 4.	$100.00
Engineering Review		
	In-House Engineering Review	$500.00
	Consultant Engineering Review	$50.00 plus invoiced cost
Plan Review Fee		
		25% of permit fee
Cemetery		
	Burial Plot	$375.00
	Maintenance Fee (one time only, due at time of each burial)	$75.00
	Highland Cemetery Chapel Rental Fee	$200.00
	Pavilion Rental (if deceased will not be buried at Highland Cemetery)	$100.00
	Deed Transfer Fee	$25.00
Emergency Response Rate Schedule		
Structure Fire (Including Mobile Homes and Outbuilding)	*Minimum charge for first hour, first assignment (three apparatus typical with staff vehicle)	$750.00*
	For each additional apparatus for the first hour	$250.00

	For each apparatus for each additional hour or portion thereof	$250.00
Hazardous Material Response	*Minimum charge for first hour, first alarm assignment (three apparatus typical with staff vehicle) Hourly rate as listed plus actual replacement cost of materials to include, but not limited to: disposable supplies, personal protective equipment, monitoring equipment, and other contaminated unusable equipment. Additional charges may be incurred for specialized equipment and contractors	$750.00*
	For each additional apparatus for the first hour	$250.00
	For each apparatus for each additional hour or portion thereof	$250.00
Vehicle Fire	**minimum charger for the first hour, first alarm assignment (one apparatus typical)	$250.00*
Wildland Fire	**minimum charge for first hour, first alarm assignment (two apparatus typical)	$300.00*
Trash Fire	**minimum charge for first hour, first assignment (one apparatus typical)	$200.00*
Motor Vehicle Collision	*minimum charge for first hour, first alarm assignment (two apparatus typical with staff vehicle)	$650.00*
	For each additional apparatus for the first hour	$250.00*
	For each apparatus for each additional hour or portion thereof	$250.00*
Other Charges and Fees	Firefighter Stand-by	$50.00 per hour
	Brush Truck Stand-by	$150.00 per hour
	Engine Stand-by	$250.00 per hour
Fire Department Permits and Plan Review		
Residential Burn Permit	2 Day Permit	$10.00
	30 Day Permit	$25.00
	1 Year Permit	$100.00
Commercial Burn Permit	1 Year Permit	$100.00
	Fire Suppression Plan Review	$50.00/min per .03 sqft
	Fire Alarm Plan Review	$50.00/min per .03 sqft
	Fire Sprinkler Plan Review	$50.00/min per .03 sqft
Legal Publications in newspaper or periodicals		
		Invoiced cost of publication
Library		
Late Fees	Books & Audiobooks	$0.10 per day
	DVDs	$0.25 per day
	Video Games & Launch Pads	$1.00 per day
Room Rentals	Children's Story Room	$50.00
(room set up free)	Conference Room	$50.00
	Black Box Theater	$250.00
	CC Meeting Room	$125.00
	Computer Lab	$50.00
Private Rentals	Deposit	$200.00
Library Services	Copies	B&W $0.10 Color $0.50
	Fax Sending	$1.00 per page; additional $0.25 after 1 page
	Fax Receiving	$0.10 per page
	Library Card Replacement	$3.00
	Out of County Membership	$25.00 for 3 years
	Interlibrary Loan (first loan free per month)	$1.50
	Proctor	$15.00 per hour
	Laminating	$1.00 per business card $2.00 per 8.5 x 11 sheet $1.50 per foot
Licenses		
Business	Business License Tax – Annual (January 1st-December 31st)	$100.00
	Family Amusement Center License – Base Fee (Annual)	$75.00
	Additional for each pool or billiard table	$15.00
	Additional for each card table	$5.00
	Additional for each coin-operated amusement device	$15.00
Caterer	Caterer License – Initial	$1,000.00
	Caterer License – Renewal	$900.00
Winemaker	Winemaker License	$625.00
Brewer	Brewer License	$1,250.00
Distiller	Distiller License	$3,125.00

Retail Alcohol	On Premise Beer License	$900.00
	Off Premise Beer License	$1,000.00
	Retail Beer	$500.00
	Retail Wine	$1,000.00
	Retail Alcohol	$1,500.00
	Retail Alcohol, Beer, and Wine	$1,500.00
Retail Spirits Store	Retail Spirits Store	$900.00
Mixed Beverage Establishment (Bars)	Mixed Beverage Establishment – Initial	$1,000.00
	Mixed Beverage Establishment – Renewal	$900.00
Wholesaler	Wholesaler License	$2,500.00
	Class B Wholesaler License	$625.00
Itinerant Merchant	Itinerant Merchant License (1-3 Days)	$250.00
	Itinerant Merchant License (4-7 Days)	$500.00
	Itinerant Merchant License (Annual)	$1,000.00
	Locally Grown Produce Vendor License (Annual)	$100.00
Mobile Home Park	Mobile Home Park License	$500.00
Pawn Shop	Pawn Shop License	$25.00
Taxicab	Taxicab Business License	$125.00
Manufactured Housing and Mobile Homes		
	Manufactured Housing Development License – Initial	$1,500.00
	Manufactured Housing Development License – Renewal	$500.00
	Manufactured Housing Development License Transfer	$500.00
	Manufactured Housing Development Review	$500.00
	Manufactured Housing Placement Inspection	$50.00 per home
	Manufactured Housing Development Annual Inspection Fee	$500.00
	Mobile Home Alteration or Accessory Building Permit Fee	$75.00
	Mobile Home Permit Fee	$100.00
Maps and Digital Data		
	8 ½ x 11 Prints	$5.00
	11 x 17 Prints	$6.00
	8 ½ x 11 Prints with Aerial Background	$20.00
	11 x 17 Prints with Aerial Background	$24.00
	Plots	$25.00 plus 3.00/linear foot
	Plots with Aerial Background	$50.00 plus 3.00/linear foot
	Digital Aerial Photos	$75.00 per section
	Customer Map & Data Research and Preparation	$50.00 per hour (2 hour minimum)
	Mapping & Electronic Fees	$25.00
	911 Information and Shape Files	$1,000.00 per shape file
Oil/Gas and Associated Facilities		
	Oil/Gas Drilling Permit	$1,000.00/Well
	Oil/Gas Well Drilling Inspection	$100.00/Site
	Oil/Gas Construction (Tank Batteries, Booster Pumps, Compressor, Pipeline)	$1,000.00/Site
	Oil/Gas Injection Well and Secondary Recovery Program Permit	$1,000.00/Site
	Oil/Gas License – Initial	$7,500.00 applicable structure
	Oil/Gas License – Annual Renewal	$1,000.00 applicable structure
	Oil/Gas Well Operation Inspection Fee	$250.00/Site
Parks		
Baseball and Softball Fields	Field Rental	$50.00 per field/per day
Lake		
Durant City Residents	Lake Durant RV Camping Fees – Daily (28 day max.)	$15.00 per day plus applicable taxes
	Lake Durant RV Camping Fees – Weekly (4 week max.)	$87.50 per week plus applicable taxes
	Lake Durant RV Camping Cancellation Fee	$10.00
	Lake Durant RV Domestic Sewage Disposal Fee	$15.00
	Lake Durant Pavilion Reservation Fee	$5.00 per hour ($25.00 minimum)
Non-Durant City Residents	Lake Durant RV Camping Fees – Daily (28 day max.)	$30.00 per day plus applicable taxes

	Lake Durant RV Camping Fees – Weekly (4 week max.)	$175.00 per week plus applicable taxes
	Lake Durant RV Camping Cancellation Fee	$10.00
	Lake Durant RV Domestic Sewage Disposal Fee	$15.00
	Lake Durant Pavilion Reservation Fee	$5.00 per hour ($25.00 minimum)
Multi-Sports Complex		
Baseball and Softball Fields	Field Deposit (Refundable upon satisfactory inspection)	$25.00 per field
	Tournament Use Fee	$150.00 per field
	Durant Youth Complex Tournament Deposit	$100.00 per day
	Durant Youth Complex – Youth League Use fee (Regular Season only)	$10.00 per kid
Pool		
Daily Admission	Children (0 – 5 years)	$1.00
On any day, if arrival fees after 5:00 pm, the fee is dropped to $2.50 for ages 6-54 years.	Students (6 – 18 years)	$3.50
	Adults (19 – 54 years)	$4.00
	Seniors (55+ years)	$1.00
Season Pass	Individual Pass	$40.00
	Family (up to 3 members)	$120.00
	Family (3+ members)	$120.00 plus $25.00 or each additional person after 3
Swim Lessons	Group Lessons (4 lessons Monday-Thursday)	$65.00 per individual
	Private Lessons (4 lessons Monday-Thursday)	$120.00
Pool Party	2 hour pool party (up to 60 guests)	$220.00; $100.00 deposit (non-refundable)
Petitions to the Board of Adjustments (does not include legal publication and engineering review fees)		
	Variances	$300.00
	Appeals	$300.00
	Expedited Hearing Fee	$500.00
Petitions to the Planning Commission (does not include legal publication and engineering review fees)		
	Zoning Amendments	$300.00
	Conditional Use Permits	$300.00
	Planned Unit Developments	$300.00
	Expedited Hearing Fee	$500.00
Platting/Development (does not include legal publication and engineering review fees)		
	Preliminary Plat through Final Plat Fee	$300.00
	Lot Split Plat Fee	$100.00
	Airport Zone Permit	$300.00
	Zoning Verification Letter	$50.00
	Zoning Clearance	$50.00
	Street Improvement Inspection Fee	$500.00 plus actual cost of inspection
	Water Line Improvement Inspection Fee	$500.00 plus actual cost of inspection
	Sanitary Sewer Improvement Inspection Fee	$500.00 plus actual cost of inspection
	Storm Drainage Improvement Inspection Fee	$500.00 plus actual cost of inspection
Permits		
Special Event Permit	Special Event Permit	$25.00
Food Truck	Food Truck 3 Day Permit	$30.00
	Food Truck 1 Month	$70.00
	Food Truck Annual Permit	$250.00
Firework Stand	Firework Stand Permit	$25.00
Farmer's Market	Farmer's Market Permit	$25.00
Produce	Produce Permit	$25.00
Snow Cone Stand	Snow Cone Stand Permit	$250.00
Street Cut/Excavation Permit		
Street Cut/Excavation Permit	Minimum Application Deposit	$200.00
	Inspection Fee	$70.00
Type of Surface	Asphalt	$2.00 per square foot
	Concrete	$2.00 per square foot
	Earth	$0.25 per square foot

	Directional Boring	$1.00 per linear foot
	Work conducted without a permit additional 50% of cost of the permit	50% upcharge
Sanitation		
Residential Poly Cart (once per week)	Inside City Limits	$20.35
	Additional Cart	$11.45 each
	Outside City Limits	$29.30
	Additional Cart	$13.70 each
Commercial Poly Cart (once per week)	Inside City Limits	$24.85
	Additional Cart	$11.45 each
	Outside City Limits	$29.90
	Additional Cart	$13.70 each
	Poly Cart Replacement (if missing)	$90.00
	Extra Dump Poly Cart	$25.80
City Waste Collection Rates	Tires	$6.00 each, 16” and below $13.00 each, 17” and up
	One Ton Flat-Bed Load	$49.90 per trip
	Furniture requiring 1-2 workers to collect	$27.70 per piece
	Appliances requiring 1-2 workers to collect	$27.70 per unit
	Freon laden appliances (refrigerators, freezers, AC units, etc.)	$30.40 per unit
Landfill – Durant City Residents	Residential Customer C&D Landfill (min charge)	$15.00
	Residential Customer C&D Landfill Charge per Ton (including DEQ fee)	$30.00
Landfill – Commercial and Non-Durant City Residents	Commercial and Out of City Customer C&D Landfill (min charge)	$25.00
	Commercial and Out of City Customer C&D Landfill Charge per Ton (including DEQ fee)	$45.00
Landfill – Other Charges and Fees	Transfer Station MSW	$19.30 minimum charge
	Transfer Station MSW	$75.00 per ton
	Concrete Disposal	$16.00 per ton
	Appliance w/ Freon	$31.45
	Appliance w/o Freon	$15.75
	Tires 16’’ and below	$4.90
	Tires 17’’ and above	$9.80
	Clean Dirt	$10.80
	Unsecured Loads additional 50% of the cost of the load	50% upcharge
Roll Off Charge	Roll Off (container)	$30.00 per container dumped
Roll Off $25 one time delivery fee per container	20 yd. per dump on demand (you call)	$307.05
	Sitting fee if no dump within the billing period (ON DEMAND ONLY)	$208.40
	20 yd. 1x per week scheduled	$631.85
	20 yd. 2x per week scheduled	$1,263.75
	20 yd. 3x per week scheduled	$1,895.60
	20 yd. 4x per week scheduled	$2,527.45
	20 yd. 5x per week scheduled	$3,159.35
Roll Off $25 one time delivery fee per container	30 yd. per dump on demand (you call)	$460.00
	Sitting fee if no dump within the billing period (ON DEMAND ONLY)	$312.40
	30 yd. 1x per week scheduled	$947.80
	30 yd. 2x per week scheduled	$1,895.60
	30 yd. 3x per week scheduled	$2,843.40
	30 yd. 4x per week scheduled	$3,791.20
	30 yd. 5x per week scheduled	$4,739.00
Roll Off $25 one time delivery fee per container	40 yd. per dump on demand (you call)	$615.25
	Sitting fee if no dump within the billing period (ON DEMAND ONLY)	$372.85
	40 yd. 1x per week scheduled	$1,263.75
	40 yd. 2x per week scheduled	$2,527.45
	40 yd. 3x per week scheduled	$3,791.20
	40 yd. 4x per week scheduled	$5,054.95
	40 yd. 5x per week scheduled	$6,318.65

	Relocating Roll Off Container fee	$69.00
Commercial Rate Compactor per collection – City Owned	20 yd. self-contained	$456.50
	30 yd. self-contained	$684.65
	40 yd. self-contained	$912.90
Commercial Rate Compactor per collection – Privately Owned	20 yd. compactor	$345.60
	30 yd. compactor	$518.40
	40 yd. compactor	$691.05
Scheduled Collection Monthly Dumpster Rates	2 yd. dumpster (1 Collection per week)	$69.10
	2 yd. dumpster (2 Collection per week)	$138.25
	2 yd. dumpster (3 Collection per week)	$207.35
	2 yd. dumpster (4 Collection per week)	$276.50
	2 yd. dumpster (5 Collection per week)	$345.60
	Additional pick up of 2 yd. dumpster	$84.60
	3 yd. dumpster (1 Collection per week)	$103.65
	3 yd. dumpster (2 Collection per week)	$207.30
	3 yd. dumpster (3 Collection per week)	$310.95
	3 yd. dumpster (4 Collection per week)	$414.60
	3 yd. dumpster (5 Collection per week)	$518.25
	Additional pick up of 3 yd. dumpster	$126.90
Utilities		
Residential Water Inside City Limits	First 2,000 gallons	$12.00
	Next 1000 gallons	$3.50
	Next 1000 gallons	$3.60
	Next 1000 gallons	$3.70
	Over 5000 gallons, rate per 1000 gallons	$3.80
Residential Sewer Inside City Limits	First 2,000 gallons	$9.00
	Next 1000 gallons	$2.63
	Next 1000 gallons	$2.70
	Next 1000 gallons	$2.78
	Over 5000 gallons, rate per 1000 gallons	$2.85
Commercial Water and Sewer Inside City Limits	First 2000 gallons	$17.95
	Next 1000 gallons	$4.25
	Next 1000 gallons	$4.50
	Next 1000 gallons	$4.70
	Over 5000 gallons, rate per 1000 gallons	$4.50
Residential and Commercial Water and Sewer Outside City Limits	First 2000 gallons	$17.95
	Next 1000 gallons	$4.25
	Next 1000 gallons	$4.50
	Next 1000 gallons	$4.70
	Over 5000 gallons, rate per 1000 gallons	$4.50
Summer Residential Sewer Rates	Residential sewer customers whose sewer bill is based on water consumption, sewer charges shall be based on a maximum water usage of 10,000 gallons for the months of May, June, July, & August	
Sanitary Sewer Rates for customers not connected to City water service	Customers shall be charged based on RWD reported water usage	
Surcharges for Industrial Wastewater	Surcharge for BOD (Biochemical Oxygen Demand)	$0.50 per lb.
	Surcharge for TSS (Total Suspended Solids)	$0.40 per lb.
	Surcharge for FOG (Fats, Oil, Grease)	$0.65 per lb.
	Surcharge for Nitrogen, Ammonia	N/A
	Table II & III Metals plus Molly	Monitored
Water and Sewer Distribution System Rates	Water Tap ¾-inch Fee	$875.00
	Water Tap 1-inch Fee	$1,012.50
	Water Tap 1 ½-inch Fee	$1,712.50
	Water Tap 2-inch Fee	$1,912.50

	ALL WATER TAP FEES ARE IN ADDITION TO THE CURRENT COST OF THE METER. LESS $75.00 CHARGE FOR ANY NEW WATERLINE WITH AN OPEN DITCH NEW SUBDIVISION WITH PRIOR APPROVAL ONLY). STREET CUT FOR ROAD BORE FEES SHALL BE IN ADDITION TO WATER AND TAP FEES AND EQUAL TO $6.00 PER INCH/FOOT FOR 2" THROUGH 10" DIAMETER PLUS CURRENT COST OF ENCASEMENT. FEES FOR WATER TAPS OVER 2" AND METER COSTS WILL BE SET BY THE M&O SUPERINTENDENT.	
	Sewer Tap 4-inch Fee	$931.25
	Sewer Tap 6-inch Fee	$1,393.75
	Sewer Tap 8-inch Fee PLUS, A MAINTENANCE FEE OF $13.00 PER FOOT (FROM TAP TO SERVICE LINE EXCESSIVE DEPTH FEE $13.00 PER LINEAR FOOT FOR EACH 5 FEET OR PORTION THEREOF LESS $75.00 CHARGE FOR ANY NEW SEWER LINE WITH AN OPEN DITCH ALL USERS CONNECTED TO A SEWER LINE EXTENSION WHICH IS FUNDED IN PART BY THE CITY OF DURANT, EITHER BY CASH EXPENDITURE OR THE FURNISHING OF LABOR IN CONSTRUCTING SAID EXTENSION, SHALL PAY A CONNECTION FEE OF $1061.00 FOR CONNECTING TO SAID SEWER LINE EXTENSION	$1,856.25
	Subdivision Development Water/Sewer Connection Inspection	$188.00 per tap
	Water Main and Sub Main Installation Permit Fee	$100.00
	Water Main and Sub Main Installation Plan Review	$50.00 per hour
	Water Main and Sub Main Installation Testing	$50.00 per hour
	Water Main and Sub Main Installation Inspection	$50.00 per hour
	Collection Line Cleaning (Excessive Grease)	$125.00 per hour
	Meter On/Off After Hours	$50.00
	Pop Off Valve Installation & Inspection	$38.00
Deposits	Residential Water/Sewer and Garbage	$100.00
	Residential Garbage (only)	$85.00
	Commercial Accounts	$300.00
Miscellaneous Fees	Penalty if not paid by the due date (10% of the balance)	10%
	Nonpayment fee if not paid by 5:00 p.m. before the cut-off day	$50.00
	Transfer Fee	$25.00
	Clean Up Fee (5 business day clean-up for property owner/landlord)	$25.00
	Tampering with meter Fee	$100.00
	Bacteriological Total Coliform Water Testing - 1 sample	$31.25
	Bacteriological Total Coliform Water Testing - 2 samples or more	$25.00
	Industrial Pretreatment Wastewater Discharge Permit Application Fee	$312.50
	Annual Industrial Pretreatment Permit Fee	$125.00
	Industrial Pretreatment Permit Modification Fee	$31.25
	Accidental Discharge Procedure/Construction Plan Review	$31.25 per plan
	Industrial Pretreatment Appeal Filing Fee	$31.25
	Routine Pretreatment Facility Inspection	$93.75
	Requested Pretreatment Facility Inspection	$125.00
	Industrial Pretreatment Onsite Consultations	$50.00
	Night, Weekend, Holiday Pretreatment Inspection Fee	$93.75
	After Hours Industrial Visit	$62.50
	Industrial Pretreatment Grab Sample Collection	$31.25
	Industrial Pretreatment 24-hour Composite Sample Collection	$31.25
	Industrial Pretreatment Analytical Testing/Shipping	Actual Cost
	Industrial Pretreatment Code Enforcement Administrative Fee	$250.00
	Excessive Strength FOG Surcharge	$0.65 per lb.
	Excessive Strength BOD Surcharge	$0.50 per lb.
	Excessive Strength TSS Surcharge	$0.40 per lb.
	Commercial Septic Disposal Permit	$312.50
	Commercial Septic Waste Disposal Discharge	$125.00 flat rate or $0.05/gallon (whichever is greater)

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From:
Re: Consider Approval of Collective Bargaining Agreement Between the City of Durant and Local 3061, International Association of Fire Fighters Union AFL-CIO/CLC, Bargaining Agent for FY 2021-2022.

The IAFF has ratified the FY 2021-2022 CBA.
The relevant changes to the are outlined below.
Art. 18 - Wage Adjustment - 2% across the board increase to wage table
Art. 19 - Incentive Education Pay - City to provide cell phone to Fire Marshall vs a phone allowance
Art 27 - Work Schedule - Incorporate MOU Language to recognize 14 day work period and OT over 106 hours
Art 28 - Compensatory Time - Deleted from Agreement
Art. 30 - Sick Leave - recognize accrue on bi-weekly basis, eliminated annual excess buy back, increased retirement buy back from 1 to 5 hours to 1 to 3 hours.
Art 31 - Vacation Leave - reduced the number of max accrual hours for new hires from 1440 hours to 960 Hours.

Council Information / Action Requested

Staff recommends approval of the Collective Bargaining Agreement Between the City of Durant and Local 3061, International Association of Fire Fighters Union AFL-CIO/CLC, Bargaining Agent for FY 2021-2022.

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:

1. IAFF FY 21-22 CBA Final

AGREEMENT BETWEEN

CITY OF DURANT, OKLAHOMA, EMPLOYER

AND

LOCAL 3061, INTERNATIONAL ASSOCIATION OF FIREFIGHTERS, UNION

AFL-CIO/CLC, BARGAINING AGENT

FISCAL YEAR 2021-2022

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ARTICLE 1
PURPOSE OF AGREEMENT

It is the intent and purpose of this Agreement, entered into by and between the CITY OF DURANT, OKLAHOMA, hereinafter referred to as EMPLOYER, and LOCAL NO. 3061, INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS, AFL-CIO/CLC, hereinafter referred to as UNION, to achieve and maintain harmonious relations between the parties hereto and to provide for the equitable and orderly adjustment of grievances which may arise during the term of this agreement.

ARTICLE 2
AUTHORITY AND TERM

Section 1. The Employer and the Union have, by these presents, reduced to writing the collective bargaining agreement resulting from negotiations entered into by the Employer and the Union.

Section 2. This Agreement shall become effective on July 1, 2021, and shall have a one-year term, through June 30, 2022.

Section 3. Whenever wages, rate of pay, or any other matters requiring appropriation of monies by the Employer are included as a matter of collective bargaining, it shall be the obligation of the Union to serve written notice of request for collective bargaining on the Employer at least one hundred twenty (120) days prior to the last day on which monies can be appropriated by the Employer to cover the Agreement period which is the subject of the collective bargaining procedure.

Section 4. It shall be the obligation of the Employer and the Union to meet at a reasonable time and confer in good faith with representatives of the Union or the Employer requesting a meeting for purpose of collective bargaining.

Section 5. In the event the Union and the Employer are unable, within thirty (30) business days from and including the date of the first meeting, to reach an agreement, any and all unresolved issues may be submitted to arbitration at the request of either party.

ARTICLE 3
RECOGNITION

Section 1. The Employer recognizes the Union as the sole and exclusive Bargaining Agent for all permanent firefighters of the Fire Department, except the Fire Chief and one designated Administrative Assistant.

Title II Article LI Sec. 51-102-1. Definition of a Firefighter:

> "Fire fighters and police officers" shall mean the permanent paid members of any fire department or police department in any municipality within the State of Oklahoma but shall not include the chief of police and an administrative assistant and the chief of the fire department and an administrative assistant. The administrative assistant shall be that person so designated by the chief of the police department. "Police officers" as used herein shall be those persons as defined in Section 11-50-101 of this title.

ARTICLE 4
GRIEVANCE PROCEDURE

Section 1. The Union or any employee covered under this Agreement may file a grievance within ten (10) business days of alleged occurrence, as hereinafter defined, and shall be afforded the full protection of this Agreement.

Section 2. The Union President or his designated representative may report an impending grievance to the Fire Chief in an effort to forestall its occurrence; however the timeframes for filing a grievance under Section 1 shall only be waived or delayed through an agreement in writing between the parties.

Section 3. Any controversy between the Employer and the Union or any employee concerning the interpretation, enforcement or application of any provision of this Agreement and/or concerning any of the terms or conditions of employment contained in this Agreement, including discipline and discharge, shall be adjusted in the following manner.

3.A. The grievance shall be discussed by the employee(s) involved with the Chief or his designated representative. Said employee's Union President or his designated representative may be present at said discussion. The answer to the grievance shall be orally submitted by the Chief or his designated representative within ten (10) business days to the employee(s) involved and to the Union President.

3.B. If the grievance is not settled by the provisions of Section 3A, it shall be submitted in writing to the Union Grievance Committee. Within five (5) business days from the oral answer rendered by the Chief or his designated representative, the Union Grievance Committee shall determine, in their sole discretion and judgment, whether or not a grievance exists within the terms and conditions of this Agreement.

3.B.(1) If the Union Grievance Committee finds a grievance does exist, the Committee shall submit the grievance in writing to the Fire Chief for adjustment within seven (7) business days of the Chief's oral grievance response.

3.B.(2) If the Union Grievance Committee finds a grievance does not exist, no further proceedings shall be necessary.

3.C. The Fire Chief shall submit his answer in writing to the employee(s) involved and to the Union Grievance Committee within five (5) business days after receipt of the written grievance, (if any). If the grievance is not settled by the Chief's written grievance response, the grievance shall be sent in writing to the City Manager for an answer within five (5) business days after the date of the Chief's written response.

3.D. The City Manager shall submit his answer to the grievance in writing to the Fire Chief, the employee(s) involved, and the Union Grievance Committee within five (5) business days after receipt of the Union Grievance Committee's written grievance. If the Union Grievance Committee determines the City Manager's response has not resolved the grievance, the Union shall, within five (5) business days of the City Manager's response, provide written notice of intent to submit the grievance dispute to grievance arbitration for adjustment as follows:

3.D.(1) The parties shall request a list of seven (7) arbitrators from the Federal Mediation and Conciliation Service within five (5) business days from the date of the Union's notice to arbitrate the issue.

3.D.(2) Within ten (10) business days from the receipt of such list, a representative of the Union and Employer shall meet and alternately strike arbitrator names until the last arbitrator's name remains. That arbitrator shall be selected as the impartial arbitrator. Employer shall strike the first name.

3.D.(3) The parties shall provide notice to the FMCS of the arbitrator's selection within five (5) business days of the

above arbitrator selection process and a hearing shall be requested to be held within no more than sixty (60) days from the FMCS notice.

3.D.(4) Within twenty (20) business days after the conclusion of the hearing, the arbitrator shall issue a written opinion containing findings and recommendations with respect to the issues presented. A copy of the opinion shall be mailed, emailed or delivered to the Union and the Employer.

3.D.(5) With respect to the interpretation, enforcement or application of the provisions of this Agreement~~,~~ the decision, findings~~,~~ and recommendations of the arbitrator shall be final and binding on the parties to this Agreement.

3.D.(6) The arbitrator's authority shall be limited to the interpretation and application of the terms of this Agreement and/or any supplement thereto. The arbitrator shall have no jurisdiction to establish provisions of a new agreement or variation of the present Agreement or to arbitrate away, in whole or in part, any provisions or amendments thereof. This shall not preclude individual wage grievances.

3.D.(7) The cost of the impartial arbitrator shall be shared equally between the Union and the Employer. If a transcript of the proceedings is requested, then the party requesting the transcript shall pay for it or the parties may agree to share in the costs and both receive a copy of the transcript.

Section 4. All time limits set forth in this Article may be extended in writing by mutual consent, but if not so extended, they must be strictly observed. Unless the time limits are mutually extended by the parties, in the event the Union misses a time limit then the matter shall be considered settled/closed, if the City misses a time limit the grievance shall be considered denied and if appropriate be advanced to the next step.

Section 5. It is specifically and expressly understood that filing a grievance under this Article which has as its last step, final and binding arbitration, constitutes an election of remedies and a waiver of any and all rights by both parties to litigate or otherwise contest the last answer rendered through the Grievance Procedure in any Court or other appeal forum.

Section 6. In the event the City should find it necessary to file a grievance against the Union, then the City shall present the grievance to the President of the Union, or his designee, in writing. The Union shall respond in writing within ten (10) business days of receipt. If the grievance is not settled by the Union’s response, the City may proceed to

Step 3 D. (Except City and Union roles shall reverse.)

ARTICLE 5
MANAGEMENT RIGHTS AND RESPONSIBILITIES

Section 1. The Union recognizes the prerogative of the Employer to operate and manage its affairs in all respects and in accordance with its responsibilities and the powers or authority which the Employer has not officially abridged, delegated, granted or modified by this Agreement are retained by the Employer, and all rights, powers and authority the Employer had prior to the signing of this Agreement are retained by the Employer and remain exclusively without limitations within the rights of the Employer.

Section 2. Except as may be limited herein, the Employer retains its rights in accordance with the laws of the State of Oklahoma and the responsibilities and duties contained in the ordinances and regulations promulgated by the City of Durant. These rights include, but are not limited to:

2.A. The determination of Fire Department policy, including the right to manage the affairs of the Fire Department in all respects;

2.B. The right to assign working hours, including overtime;

2.C. The right to establish, modify or change work schedules, manning of shifts, assignments, etc.;

2.D. The right to direct the members of the Fire Department, including the right to hire, terminate, suspend, demote, promote, transfer or take any other disciplinary action against employees of the Fire Department for just cause;

2.E. The determination of the table of organization of the Fire Department, including the right to organize and reorganize the Fire Department in any manner it chooses, including the size of the Fire Department, and the determination of job classification, ranks and positions based upon duties assigned;

2.F. The determination of safety, health and property protection measures for the Fire Department;

2.G. The allocation and assignment of work to all members within the Fire Department;

2.H. The sole judge to the qualifications of applicants and training of employees;

2.I. The scheduling of operations and the determination of the number and duration of hours of assigned duty per working period;

2.J. The establishment and enforcement of Fire Department rules, regulations, and orders;

2.K. The introduction of new, improved or different methods and techniques of operation of the Fire Department or changes in existing methods and techniques;

2.L. The determination of the amount of supervision necessary;

2.M. The control of the departmental budget;

2.N. The right to take whatever actions may be necessary to carry out the mission of the City in situations of emergency;

2.O. The right to relieve employees from duties because of lack of work, funds, or other legitimate reasons;

2.P. Organization of City government;

2.Q. Other matters as covered by the Personnel Manual that are not in conflict with provisions of this Agreement.

ARTICLE 6
PREVAILING RIGHTS

Section 1. All rules, regulations, fiscal procedures, working conditions, departmental practices and manner of conducting the operation and administration of the fire department currently in effect on the effective date of any negotiated agreement shall be deemed a part of said agreement unless and except as modified or changed by the specific terms of such agreement.

ARTICLE 7
PROHIBITION OF STRIKES

Section 1. During the term of this Agreement, the Union agrees to a prohibition of any job action, i.e., strikes, work slowdowns, mass absenteeism, or being a party to such activities.

Section 2. Upon notification confirmed in writing by the Employer to the Union that certain of its members are engaged in a job action, the Union shall immediately, in writing, order such members to cease the job action and return to work at once and provide the Employer with a copy of such an order. Additionally, a responsible official of

the Union shall publicly order all employees participating in a job action to cease such action.

Section 3. Nothing contained in this Article shall be construed to limit, impair, or affect the right of the Union or any other member of the bargaining unit to the express or communication of a view, grievance, complaint or opinion on any matter related to conditions or compensation of employment, or their betterment so long as the same does not interfere with the full, faithful, and proper performance of duties of employment.

ARTICLE 8
PERSONNEL FILES

Section 1. A copy of all personnel records for a Fire Fighter concerning an investigation, complaint, reprimand, counseling sessions for violations of any rule, regulation, or policy within the City or Department or any other information or documentation which might be considered as being detrimental to the Fire Fighter's position advancement or future With the Department shall be furnished to the employee within three (3) days from the date of such action.

Section 2. A Fire Fighter shall be allowed to review his personnel file under supervision at any reasonable time upon written request to the Fire Chief.

ARTICLE 9
SENIORITY

Section 1. Seniority shall be defined as the length of service in the Fire Department of an employee calculated from the most recent date of his employment. If two or more employees began employment on the same date, then their seniority shall be determined by the composite score when hired.

Section 2. Article 38 provides a summary of job descriptions, responsibilities, duties and requirements for all positions within the bargaining unit. Any changes in the job descriptions will be by mutual Agreement.

ARTICLE 10
SUCCESSORS AND ASSIGNS

Section 1. This Agreement shall be binding upon the successors and assigns of the parties hereto during the term of this Agreement; and no provisions, terms or obligations herein contained shall be affected, modified, altered or changed in any respect whatsoever by the consolidations, merger or annexation, transfer or assignment of either party hereto, or affected, modified, altered or changed in any respect whatsoever by any change of any kind in the ownership or management of either party hereto, or by any change geographically of place of business of either party hereto.

ARTICLE 11
REGULAR AND SPECIAL MEETINGS

Section 1. The Union will be permitted to hold one regular monthly meeting and three special meetings each fiscal year on the Employer's premises, with the understanding that permission, time and location of such meetings must be approved by the Fire Chief or his designee prior to said meeting, said approval shall not be unreasonably denied.

Section 2. The Union and the Employer agree that bargaining unit members on duty at the sub-stations shall be allowed to attend all regular and special Union meetings.

Section 3. All regular and special meetings shall be set for 5:00 p.m. or later, and shall end by or prior to 10:00 p.m.

ARTICLE 12
DUES CHECK OFF

Section 1. The Employer agrees to deduct, each month, Union dues in an amount certified to be correct by the Secretary-Treasurer of the Union from the pay of those employees who individually request in writing that deductions be made; and such deductions shall continue until the employee requests in writing that deductions cease. All deductions will be for the month in which they are taken.

Section 2. The Employer shall remit, each month, the total amount of deductions to the Secretary-Treasurer of the Union. The Union shall pay the Employer a reasonable bookkeeping fee each month of five percent (5%) of the total amount of deductions.

Section 3. As to the deductions for dues the Union agrees: to be responsible for refunding any deductions which are refundable when an employee terminates or resigns; to be responsible for making a proper adjustment with the employee affected if the Employer makes an error or improper deduction; to indemnify, defend and hold the Employer harmless as to claims made, or suits instituted, against the Employer on account of payroll deductions for Union dues.

ARTICLE 13
BULLETIN BOARDS

Section 1. The Employer shall allow the Union to maintain a bulletin board at the Durant Central Fire Station not to exceed 48" x 48" in size. This board shall be used only for the following materials:

1.A. Union meetings;

1.B. Union elections;

1.C. Recreational and social affairs;

1.D. Reports of Union committees;

1.E. International Association of Fire Fighters and State Association notices;

1.F. Legislative enactments and judicial decisions affecting employees;

1.G. Minutes of Union meetings which do not violate the provisions of the following paragraph.

Section 2. Materials shall not contain anything reflecting upon the Employer or any of its employees.

ARTICLE 14
SAFETY AND HEALTH COMMITTEE

Section 1. The Union agrees to appoint two (2) members and the Employer agrees to appoint two (2) members to comprise the Joint Safety and Health Committee. The Union and the Employer agree to cooperate to the fullest extent in the promotion of safety and health through full disclosure of any information, results or surveys and/or studies, new forms, procedures, materials, equipment and any new concept in safety and health applicable to the Joint Safety and Health Committee.

Section 2. The Joint Safety and Health Committee shall meet quarterly and at such other times as deemed necessary by the Fire Chief and the Union.

Section 3. Committee members shall also be granted time off with pay to conduct investigations of safety and health problems with permission of the Fire Chief.

Section 4. All recommendations and reports from the Joint Safety and Health Committee shall be in writing and copies submitted to the Employer and Union.

ARTICLE 15
TRAINING POLICY

Section 1. Training will be conducted primarily on Tuesdays, Wednesdays and Thursdays at a minimum to consist of: one (1) hour of map study on streets, hydrants and addresses; two (2) hours on subject matter of the month, including practical factors training; and one (1) hour of physical fitness program. A committee to set the training policy will consist of the Executive Board and two (2) members appointed by the Employer.

Section 2. Apparatus and streets tests will only be given to those with less than three (3) years service, except and unless there is an unusual, observed or notified potential safety or operational issue. For those with more than three (3) years service, the Fire Chief, with input and or discussion with the Union President or designee(s) of the Executive Board, shall determine the appropriate additional and/or remedial training. In such cases, the reasons for such training shall be able to be articulated to the employee and/or Union upon inquiry and such reasons shall not be arbitrary, capricious or discriminatory. All other activities will continue after training has been completed.

ARTICLE 16
UNION BUSINESS

Section 1. It is understood that Union business shall not be conducted on the Employer's premises during regular working hours except to investigate grievances, attend negotiation meetings and/or Labor/Management meetings. The above activities will be permitted provided there are not uncompleted duties or work and provided it does not interfere with the operations of the Fire Department.

Section 2. The Union shall be granted time not to exceed four (4) shifts with pay per year to perform Union functions, including attendance at conventions, conferences and seminars. Two additional shifts shall be granted for the IAFF Convention to be held in August of each year. This time shall not interfere with the normal operations of the Fire Department.

ARTICLE 17
UNIFORMS

Section 1. The Employer shall provide bunker gear, station uniforms and safety clothing to members of the bargaining unit at no cost to the employee and bunker gear and safety clothing shall meet NFPA standards as approved by the Safety and Health Committee. Station uniforms provided by the Employer at no cost to the employee shall be 100% cotton or other material as approved by the Safety and Health Committee.

Section 2. The Employer will additionally provide shorts and t-shirts to each member of the bargaining unit. These may be worn after 5:00 p.m. Monday through Friday and on weekends. An allowance for footwear has been included in wages and shall be provided by the employee.

Section 3. The City and the bargaining unit are in agreement that, as budgetary resources are specifically made available/appropriated by action of the City Manager and City Council, Class A Uniforms are desired to be added to the clothing provided by the City to Employees.

Section 4 The Chief or his designee shall provide replacement clothing items when current bunker gear, pants, shorts or shirts are torn or damaged through normal wear and tear and/or job duties. Additionally, these same replacement clothing items shall be made available

to the employee when clothing items become worn to the point that discoloration or department standards are not being maintained as determined by the Chief or his designee.

ARTICLE 18
WAGE ADJUSTMENT

Section 1. The Employer agrees to pay 0.7% longevity of completed years of service, with a cap of twenty (20) years for all bargaining unit members as of July 1, 1999.

Section 2. Incentive and Bonus Pay – A schedule listing for incentive and bonus pay is listed in Article 19.

Section 3. Wages are identified on the Wage Table (Appendix B).

3 a. For FY 2020-21 the parties agree, Article18- Wages may be reopened for negotiations if the general employees receive an across the board cost of living increase. It is understood the City implementing a new pay plan system/structure for general employees which may result in positions obtaining a wage adjustment does not qualify as a cost of living increase.

Section 4. Working out of Classification - Any Driver, Lieutenant, or Captain who works out of their regular designated pay classification in a higher pay classification shall receive twenty dollars ($20.00) for that shift after completing more than ten (10) hours out of class work in said shift.

ARTICLE 19
INCENTIVE AND EDUCATION PAY AND OTHER ALLOWANCES

Section 1. The Fire Marshal shall receive a city issued cell phone..

Section 2. Eligible members of the Bargaining Unit shall receive incentive pay and education pay as benchmarks are met in accordance with the following schedule:

City of Durant and Firefighters Local 3061
Incentive and Education Pay for Benchmarks Met
and Other Allowances
One Year Contract

Monthly Incentive Pay	
[1]Instructor Level 1 *	50
[1]Instructor Level 2 *	50
Arson Investigation	50
[1]Fire Officer 1 *	50
[1]Fire Officer 2 *	50
HazMat Tech	50
[2]NFA Leadership I, II, III: Strategies for Company Success	50
Confined Space Operations	50
Confined Space Technician	50
Structural Collapse Operations	50
Structural Collapse Technician	50
Swiftwater Rescue Technician	50
Swiftwater Rescue Operations	50
Trench Rescue Technician	50
Trench Rescue Operations	50
Vehicle Rescue Technician	50

Vehicle Rescue Operations	50
INCENTIVE PAY CAP	350 /month**

Monthly Education Pay	
EMT Basic	100
EMT Intermediate	125
EMT Paramedic	200
[3]Associate or 62 hrs ***	25
[3]BS or BA ***	50
[3]Fire Service Degree (BS) ***	75

Other Allowances	
Fire Marshal Cell Phone Allowance	City Cell Phone

[1] Incentive pay for these training incentives limited to the first six Fire Department bargaining unit members per year to be certified, who have been authorized for this training by the Fire Chief.

[2] All three NFA Leadership classes must be completed in order to earn $50/month.

[3] Education bonus pay shall be paid for highest level of education achieved only.

[4] Effective FY 2011-12 *(Memorandum of Understanding 2011-12-1 approved by the City Council)*, the following shall apply to the Fire Marshal position. The Fire Marshal shall ONLY receive incentive pay for Cleet Certification. Additionally, the Fire Marshal position shall be the only member of the bargaining unit eligible for incentive pay for Cleet Certification. Bonus pay will be granted to the Fire Marshal in the amounts stated above for Associates, BS, BA, BS in Fire Service, Advanced Arson Investigation, EMT Basic or Intermediate/Advanced, or EMT Paramedic. The Fire Marshal shall be the only member of the bargaining unit eligible for bonus pay for Advanced Arson Investigation.

Advanced Arson Investigation course curriculum to be approved by the Fire Chief prior to enrollment.

Note: Incentive pay for categories without an asterisk (*) are not limited in number, but scheduling of training for Fire Department bargaining unit members shall be approved by the Fire Chief to maintain constant manning and in accordance with the training priorities of the department. Maximum monthly incentive pay shall be $350.

Section 3. In the event an employee receives discipline which results in time-off without pay, Incentive and Education pay shall be prorated by the number of shifts not worked within the month not worked. If the time-off occurs following the payment of Incentive and Education pay the following months payment shall be adjusted.

ARTICLE 20
SAVINGS CLAUSE

Section 1. If any provision of this Agreement or the application thereof to any person or circumstance is held invalid, the invalidity shall not affect other provisions or applications of this Agreement which can be given effect without the invalid provision or application, and to this end, the provisions of this Agreement are severable.

Section 2. It is understood that the foregoing is a complete understanding of all the terms and conditions of employment to be governed by this Agreement during the contract period and it cannot be altered in any manner, save by the complete written concurrence of the parties subscribing hereto.

Section 3. Any appendices of this Agreement shall be numbered, dated and signed by the Employer and the Union and shall be subject to the provisions of this Agreement unless the terms of said Appendices specifically delete or change a provision of this Agreement, and all appendices shall become a part of this Agreement as if specifically set forth herein.

Section 4. It is understood that all time limits found in this Agreement may be extended by mutual concurrence, but if not extended, they must be strictly adhered to.

ARTICLE 21
CALLBACK

Section 1. All members of the bargaining unit will be paid overtime and callback for emergencies, and will be paid at the rate of one and one-half (1 ½) times their regular hourly rate of pay in accordance with FLSA regulations. Voluntary overtime for constant manning will be paid at one and one-half (1 ½) times their regular hourly rate.

Section 2. Required off-duty training of Fire Department meetings will be paid at one and one-half (1 ½) times their regular hourly rate of pay in accordance with FLSA regulations.

Section 3. Department personnel assigned to "on-call status" shall be compensated at the rate of one and one-half (1 ½) times his time worked, for a minimum of two (2) hours if called back. Compensation shall be paid in accordance with FLSA regulations.

ARTICLE 22
INSURANCE

Section 1. It is agreed that members of the bargaining unit will, at all times, receive coverage and benefits under the City of Durant health insurance program equal to the coverage and benefits provided other City employees.

ARTICLE 23
CONSTANT MANNING

Section 1. Constant manning levels will be maintained on each shift at all times when more than three (3) members of the bargaining unit are off due to holiday, vacation, training leave, sick leave, and/or other approved leave.

Section 2. A voluntary constant manning list will be used to call from when manning drops below the eight (8) fire fighters per shift.

Section 3. Constant manning pay will be paid at the rate of one and one-half (1 ½) times their regular hourly rate of pay.

Section 4. These rules and regulations will be followed when using constant manning list to call in personnel.

The first person eligible to work whose name is on the voluntary constant manning list is to be notified by phone or other City approved notification system and asked to come in for call back time. If that person does not notify the Fire Department within five minutes and confirm that he/she is in route, they will be dropped to the bottom of the list and the next person will be notified. The first person who is contacted by the department will be required to standby to work in the event that no one on the list wishes to work. Anyone who is on vacation, holiday or any other scheduled department leave will be eligible to work, but will not be dropped for failure to work or for not responding to the notification. Definition for eligibility to work shall be defined as any person who is on the voluntary constant manning list and is not on duty that day.

ARTICLE 24
WORKING ON PERSONAL PROPERTY

Section 1. The Employer and the Union agree that members will not pull vehicles (cars, trucks), boats, or trailers inside the fire station. It is also agreed that bargaining unit members shall not use hand tools owned by the City to work on personal property.

ARTICLE 25
PURCHASING COMMITTEE

Section 1. On the effective date of this Agreement the Union will notify the Fire Chief of their selection of representatives to participate in a five-member Purchasing Committee, which will include three (3) members selected by the bargaining unit and two (2) members selected by the Fire Chief. The Committee is to study, advise, and make recommendations for the purchase of any new firefighting equipment.

ARTICLE 26
PROMOTIONAL POLICY

Section 1. Promotional qualifications for each position in the bargaining unit are as follows:

1.A. Rank	Certification Required
Firefighter	Firefighter I& II Certification required before end of probationary period
Driver	Successful completion of Apparatus Operation Driving Course
Lieutenant	Instructor I & Fire Officer I
Captain	Instructor Level II or Public Information Officer & Fire Officer II & Arson Investigation (minimum 40hrs)
Battalion Chief	All the above.

Note: To promote to the next higher rank, candidate must have satisfied all preceding prerequisites. For rank of Captain, an option is given between Instructor Level II or Public Information Officer. Fire Officer II & Arson Investigation is required. As of the approval date of the FY 2013-2016 contract, officers currently holding the position of Battalion Chief are exempt from the requirements stated above.

1.B. All promotional requirements for Lieutenant, Captain, and Battalion Chief positions shall be based on completion of the certification for the rank as administered by the Oklahoma State University Fire Training Service or other nationally accredited fire service program approved by the Fire Chief. Up to one year from date of appointment will be allowed to complete required certifications. If certifications are not completed by the end of one year, that member will drop back to the previous rank and the next senior member with time in rank will be promoted. Upon Promotion to one of these ranks, there shall be an increase in salary to the promoted individual of not less than 5%.

1.C. In the event OSU required courses are not available for candidate to take within one year of appointment to new rank, candidates will be allowed to complete required courses as they become available. If candidate is unable to enroll in courses due to capacity limitations or course is cancelled because of lack of students, candidate will be allowed to retain position until courses become available.

Section 2. No fire fighters having exercised his right to decline a promotion prior to the approval date of this contract shall be penalized for that decision in the next available promotion offered him. Seniority for promotion with the above-described exception shall be determined by continuous time in rank. The individual having the longest continuous time in the highest rank shall have seniority over those having discontinuous, nonconcurrent, or lower ranking positions.

ARTICLE 27
WORK SCHEDULE

Section 1. All members of the bargaining unit who work 24-hour shifts shall be on a fourteen (14) day work period. All hours actually worked in excess of one hundred six (106) hours shall be paid at one and one-half (1 ½) times their regular rate of pay for each hour worked. All overtime shall be in compliance with the Fair Labor Standards Act.

The Fire Marshal position shall retain exempt status as defined by the Fair Labor Standards Act for administrative personnel. The regular work schedule for the Fire Marshal shall be Monday through Friday, 8:00am to 5:00pm with a one-hour lunch in order to best serve the needs of the community. The Fire Marshal shall conduct investigations and/or other departmental activity outside the above mentioned work schedule as necessary or as directed by the Fire Chief.

ARTICLE 28

Intionaly left blank. Deleted by the parties FY 21-22.

ARTICLE 29
HOLIDAYS

Section 1. Bargaining unit members shall receive twelve (12) paid holidays during each year of service to the Fire Department.

ARTICLE 30
SICK LEAVE

Section 1. Sick leave shall be accumulated at a rate of two hundred sixteen hours per year (8.30 hours per pay period) for 24 hour shift employees, except the Fire Marshall shall be accumulated at a rate eighty (80) hours per year (3.07 hours per pay period).

Section 2. Bargaining unit members shall be allowed to carry over or accumulate unused sick leave from year to year. The maximum carry over or accumulation allowed at year end, December 31st, shall be eight hundred (800) hours for the Fire Marshal, and two thousand, one hundred sixty (2,160) hours for all other members of the bargaining unit.

Section 4. The Employer agrees to buy back sick leave for employees retiring with over twenty (20) years of service at the rate of one (1) hour of buy-back credit for each three (3) hours of accumulated sick leave [max of seven hundred and twenty (720) hours pay].

ARTICLE 31
VACATION LEAVE

Sections 1 and 2 of this Article shall apply to all bargaining unit members with the exception of the Fire Marshal. Section 3 of this Article shall address vacation leave for the Fire Marshal.

Section 1. The parties agree that bargaining unit employees shall be granted the following shifts and hours of vacation leave with pay each complete year in which they have been in municipal service:

	Each complete year in municipal service shall	
Bargaining Unit Employees' Years of Service	…receive Shifts	… receive hours of Vacation Leave with pay
New Employee	--	*Not eligible to take earned vacation time off until completion of 9 months' service*
Less than 10 years	9	216 hours
More than 10 years *(but less than 15 years)*	12	288 hours
Over 15 years	15	360 hours

Section 2. Vacation leave for employees hired prior to July 1, 2021 shall not accrue to more than 1440 hours, employees hired on or after July 1, 2021 shall not accrue to more than 960 hours.

Section 3. The Fire Marshal shall receive vacation leave with pay each complete year in which he or she has been in service:

	Each complete year in service shall
Fire Marshal's Municipal Years of Service	… receive hours of Vacation Leave with pay
New Employee	*Not eligible to take earned vacation time off until completion of 9 months' service*
Less than 10 years	80 hours

More than 10 years *(but less than 15 years)*	120 hours
Over 15 years	160 hours

3A. Vacation leave for Fire Marshall shall not accrue to more than 480 hours.

Section 4. Guidelines for all employee vacation leave are as follows:

4.A. Earned vacation leave shall accrue bi-weekly; however, new employees shall not be eligible to take earned vacation time off until after completion of nine (9) months' service.

Section 5. As soon as possible after January 1st of each year, the department head of each department shall post a sign-up sheet for employees to schedule their vacation for the calendar year. The department head shall approve all vacation requests, provided that operating requirements of the Employer are met. In case of conflict where two (2) or more employees desire to schedule vacations at the same time and not all requests can be granted, the employee with the most seniority shall have priority.

Section 6. An authorized Employer holiday shall not constitute a vacation day and whenever an authorized holiday falls within an employee's vacation, he will be entitled to one additional day off.

Section 7. Bargaining unit members shall be allowed to schedule vacation leave at their discretion subject to the above requirements and that leave be taken in twenty-four (24) hour increments or one (1) shift up to a maximum of seven (7) shifts at any one time.

Section 8. When minimum staffing requirements are exceeded, a member of the bargaining unit will be able to take vacation leave in one (1) hour increments (2 hours minimum) with the approval of officer in charge.

ARTICLE 32
WORKERS' COMPENSATION

Section 1. Members of the bargaining unit shall be entitled to the same workers' compensation program as other City employees. In the event that the Employer establishes a Certified Workplace Plan for Workers' Compensation for City employees, all members of the Fire Department bargaining unit shall be included in this plan. The bargaining unit shall have the right to approve the provider network before implementation of this section.

ARTICLE 33
PROBATIONARY PERIOD FOR FIRE FIGHTERS

Section 1. Probationary employees are employees working toward regular status and will become a regular classified employee at the end of one (1) year unless terminated on receiving an unfavorable recommendation by the Fire Chief. Probationary employees shall not move above the rank of fire fighter. This period should be used to observe and evaluate new employees. The probationary fire fighter shall receive an evaluation every three (3) months for the duration of his or her probationary period. This evaluation will be documented and placed on file.

Section 2. During the probationary period, the Fire Chief may remove a probationary employee who is unable or unwilling to perform the duties of the position satisfactorily or whose habits and dependability do not merit his continuance in the service. No appeal right shall be allowed, and the terminated probationary employee will not be eligible for rehire. A probationary employee is excluded from the bargaining unit for one (1) year, until the employee is given regular status.

Section 3. At the end of one (1) year, the employee shall be given regular status. The employee will be eligible for a step increase at the end of twelve (12) months.

ARTICLE 34
DRESS CODE

Section 1. The parties agree that in line with law under OSHA Standards, Employees must not have facial hair or haircuts in general that would allow hair grooming and growth that “interferes with the use of SCBA”. Employees shall be allowed to have short haircut styles, mustaches, sideburns and small goatees that are trimmed in such a manner so that no hair interferes with the sealing surface of a SCBA respirator when in use. The parties agree the objective of this requirement is that trimmed hair shall present no hazard and does not violate OSHA standards.

Section 2. Body puncture/jewelry and non-offensive tattoos are allowed by the DFD so long as the body puncture/jewelry is not visible outside of clothing and the tattoos are not on an Employee’s face or upper neck. Further, if the Chief or designee unilaterally determine that a tattoo does not generally meet DFD management’s determination of being “non-offensive,” the employee will be required to keep the tattoo covered with a sleeve and/or have the tattoo removed/modified at the choice of the employee. (However, the sleeve order would remain in effect unless and until removal/modification is completed by the employee). The Fire Chief or designee while determining if a tattoo meets management’s determination of being “non-offensive” will seek input or have discussion with the Union President or designee(s) of the Executive Board.

ARTICLE 35
LAUNDRY

Section 1. The members of the bargaining unit agree to do all laundering of linens in the station. Laundry day shall be Monday. The Employer will provide a washer and dryer for the bargaining unit to use.

ARTICLE 36
DRUG TESTING AND ASSISTANCE PROGRAM

Section 1. The City of Durant Drug and Alcohol Free Workplace Policy in effect on the date of this Agreement shall become part of this Agreement as Appendix "A" and be in full force for all employees of the Durant Fire Department with the following modifications.

1.A. If testing is requested upon reasonable cause or suspicion, the employer may require the employee to provide a urine sample, but shall allow a due process type hearing prior to having the sample tested. The hearing shall provide an opportunity for the employee to rebut any evidence of reasonable suspicion. The employee shall have the right to a representative at the hearing.

1.B. **Employee Testing**: The city shall not permit an employee to perform or continue to perform job functions, until an alcohol test is administered and the employee's breath concentration measures less than 0.04 percent.

1.C**. Return to Duty Testing**: An Employee who is not terminated is prohibited from working in a safety sensitive function after a positive drug test result, or an alcohol test result indicating a breath alcohol concentration of 0.04 or more, regardless of when the drug or alcohol was ingested and regardless of whether or not the employee is under the influence of alcohol or drugs, as defined by Federal, State or Local law. Employees are subject to the following return-to-duty guidelines:

Before an employee returns to duty, following a positive alcohol and/or drug test result, the employee shall undergo a return-to-duty alcohol test with a result indicating a breath alcohol concentration of less than 0.04 if the conduct involved alcohol, or a controlled substance test with a verified negative result if the conduct involved a controlled substance.

ARTICLE 37
EMERGENCY MEDICAL SERVICES

Section 1. The Durant Fire Department provides emergency medical service (EMS) assistance in line with those guidelines established within the EMS procedures of the DFD Rules and Regulations.

Section 2. Medical assist responses will be made to those emergencies where the life of our citizens are at stake and rapid intervention can make a difference in the outcome and/or calls that due to information given cannot be ruled out as life threatening emergencies.

ARTICLE 38
JOB DESCRIPTIONS

City of Durant Fire Department

38.1. Fire Marshal

38.2 Battalion Chief

38.3. Captain

38.4. Lieutenant

38.5. Driver

38.6. Firefighter

38.1. Fire Marshal

(City of Durant Fire Department)

Job Summary

Class specifications are intended to present a descriptive list of the range of duties performed by employee in the class. Specifications are not intended to reflect all duties performed within the job.

Definition
To provide a pro-active fire prevention program to include building inspection, enforcement of applicable codes and ordinances, conducting fire safety classes, and fire investigations.

Supervision Received
The Fire Marshal shall receive direction from the Fire Chief. This position has exempt status under the Fair Labor Standards Act.

Responsibilities and Duties

Essential & Marginal Function Statements
Essential and other important responsibilities and duties may include but are not limited to the following:

1. Perform and coordinate inspections of fire protection systems and equipment; inspection activities for various new construction projects; inspection of businesses prior to issuance of business Certificate of Occupancy; prepare a variety of reports as required.
2. Review and evaluate construction plans for various buildings, architectural plans, and fire protection systems to ensure compliance with applicable fire codes and regulations.
3. Address compliance issues with Federal, State and local codes applicable to fire safety; recommend policies, procedures and ordinance revisions as necessary.
4. Verify through on-site inspections that required facilities have prepared pre-fire plans which meet fire safety standards.
5. Develop and implement procedural methods and practices for reviewing plans, conducting inspections, investigating incidents and related activities as required.
6. Conduct fire and arson investigations to determine the origin and cause of fire incidents that cannot be determined or of incendiary nature. Follow proper chain-of-custody procedures for evidence collection and participate in prosecution activities as required.
7. Conduct interviews with bystanders and personnel at fire scenes; document fire scenes with photographs, sketches and diagrams.
8. Conduct follow-up investigations as required. Prepare reports on investigation activities performed; assist in the prosecution of violators.
9. Coordinate and maintain a variety of fire safety and prevention programs.

10. Prepare and present educational presentations regarding general fire safety, proper use of fire extinguishers, alarm systems and chemical storage safety precautions.

Job Requirements

Knowledge of

1. Fire Behavior and building construction
2. Fire investigation and documentation
3. Pertinent Federal, State, and local laws codes and regulations including those pertaining to fire prevention.
4. Department policies, rules and regulations.

Ability to

1. Prepare clear and concise operational work records and reports.
2. Properly interpret and enforce applicable laws, regulations and policies.
3. Review and interpret new construction and remodel plans, emergency plans and calculate occupancy loads.
4. Conduct thorough fact-finding investigations and enforce regulations firmly, tactfully and impartially. Communicate clearly and concisely, both orally and in writing.
5. Establish and maintain effective working relationships with those contacted in the course of work.
6. Establish and maintain cooperative working relationships with public safety and emergency service agencies.
7. Properly plan, implement, and evaluate effective fire prevention programs.
8. File, record, and document reports.
9. Maintain effective audio-visual discrimination and perception needed for:
   - 9.A. Making observations
   - 9.B. Communicating with others
   - 9.C. Reading and writing
   - 9.D. Operating assigned equipment and vehicles
   - 9.E. Exercising sound judgment and rational thinking
   - 9.F. Evaluating various options and alternatives, choose an appropriate and reasonable course of action

Other Significant Facts

Work Environment & Physical Requirements

Work is performed in both inside and outside environments. Work may require frequent standing, walking and bending. May be exposed to repetitive motion, vision to monitor, hazardous materials, dangerous machinery and potential physical harm when responding to fire and rescue emergencies. Must have ability to wear SCBA.

Education and Experience

Experience and Training Guidelines
Any combination of experience and training that would likely provide the required knowledge and abilities. A typical way to obtain the knowledge and abilities would be:

Experience
Five years of increasingly responsible fire fighting or investigation experience.

Training
Education equivalent to High School Diploma.

Advanced training in fire fighting and prevention, fire investigation, safety, or related field is desirable.

Licensure or Certification
1. Possession of or ability to obtain, an appropriate, valid Oklahoma driver's license.
2. Possession of or ability to obtain, an appropriate, valid Fire Inspector I Certification within two years.
3. Possession of or ability to obtain, an appropriate, valid CPR Certification and First Responder Certification within two years.
4. Possession of certification in Fire Cause and Determination
5. Possession of or ability to obtain Cleet Certification if requested.

38.2. Battalion Chief
(City of Durant Fire Department)

Job Summary

Under the supervision of the Fire Chief, coordinates and supervises all operations of one 24- hour shift including fire prevention, maintenance and inspection of equipment and station, staffing and pre-fire planning.

Responsibilities and Duties

1. Directs all activities of all fire companies on duty in saving of life and property during fires and may assist in performing these activities as necessary.
2. Coordinates training of all men on one 24-hour shift and conducts drills on a monthly basis.
3. Establishes and coordinates standardized operating procedures for department.
4. Responsible for maintenance and upkeep of all fire equipment and fire stations and inspects stations once a week.
5. Performs supervisory duties including performance evaluations, staffing, disciplinary action and execution of personnel policies and procedures.
6. Assists Fire Marshal in developing and coordinating pre-fire planning to establish appropriate firefighting procedures.
7. Establishes and enforces all safety policies and procedures.
8. Oversee purchasing for all supplies and equipment for the general maintenance and operations of the stations.
9. Maintains all departmental records on a daily basis.
10. Maintains continuous public relations.
11. Assists Fire Chief and Deputy Fire Chief in the preparation of the annual budget requests.
12. Calls for mutual aid from other fire departments and directs Durant Fire Department to provide mutual aid to other cities as necessary.
13. Responsible for keeping up with literature, advances in firefighting and fire prevention and actions by other departments in order to evaluate and improve departmental operations and self.

14. Assists with fire prevention activities as necessary.

15. Performs duties of Fire Chief in the absence of the Fire Chief and Deputy Fire Chief.

16. Performs other duties as required.

(Any changes to this job description shall be made only by mutual agreement by the parties.)

Job Requirements

1. Knowledge of fire fighting and rescue techniques.

2. Knowledge of principles of supervision.

3. Knowledge of fire department operations.

4. Knowledge of departmental regulations and other personnel policies and procedures.

5. Knowledge of other City departments and how they relate to the Fire Department.

6. Knowledge of correct safety policies, procedures, and regulations.

7. Knowledge of purchasing policies and procedures.

8. Knowledge of City building, hydrants and private fire fighting facilities.

9. Knowledge of the fire resistant properties of various building materials.

10. Skill in effective oral and written communication.

11. Skill in the utilization of pre-fire plans.

12. Ability to coordinate fire fighting and rescue activities in emergency situations.

13. Ability to prepare accurate and informative reports.

14. Ability to plan, organize and direct the work of others.

15. Ability to establish and maintain effective working relationships with subordinates, peers, other agencies and the public.

16. Ability to give clear, concise instructions in stressful situations.

17. Ability to make command decisions using good judgment and assume responsibility for their impact.

18. Ability to organize work and perform duties independently of close supervision.

19. Ability to use initiative in performing duties and suggesting improvements.

20. Employee must possess valid Oklahoma driver's license.

Other Significant Facts

Difficulty of Work
Work is managerial and supervisory in nature, requiring the employee to coordinate personnel and equipment to accomplish performance of overall goals. Employee must possess extensive knowledge of fire fighting skills and operations and be able to coordinate the activities of others performing skilled tasks.

Interpersonal Relations
Employee comes in frequent contact with the public, both in public relations activities and in stressful situations. Employee often must coordinate actions with Police Department, Fleet Maintenance and other City departments, as well as with utility companies and other fire departments. Social skills are very important in this position.

Working Conditions
Employee is based in an office at the Central Fire Station and makes regular rounds of all stations on one 24-hour shift. Employee assumes command at fire and usually directs fire-fighting operations. Employee may, at times, engage directly in fire fighting or rescue activities and is therefore occasionally subject to severe job hazards.

Physical Effort
Employee's job routinely requires minimal physical activity, although moderate to heavy activity may be required at times during fire fighting or rescue activities.

Supervision
Employee is responsible for one of three 24-hour shifts of fire-fighting personnel. Employee directly supervises one captain and one lieutenant at each substation and is responsible for all operations on that shift. Employee is subject to general review and direction by the Fire Chief.

Education and Experience

Employee is required to have been employed with the Durant Fire Department for a period of eight (8) continuous years' service and must have held the position of Captain for two (2) years. Employees must be certified in Arson Investigation within two (2) years of appointment. Candidate must have completed prerequisites as outlined in Article 26 - Promotional Policy.

38.3. Captain
(City of Durant Fire Department)

Job Summary

Under the supervision of the Battalion Chief, employee is responsible for the supervision and training of a company of firefighters, and the maintenance and upkeep of equipment.

Responsibilities and Duties

1. Directs activities of a fire company in saving lives and property during fires, emergency rescues, natural disasters, bomb threats and any other emergency situation.
2. Performs routine supervisory duties of one company, including performance evaluations, recommendation of disciplinary actions and execution of personnel policies and procedures.
3. Supervises the maintenance and upkeep of fire station and equipment.
4. Maintains company records including daily and monthly reports.
5. Assists Deputy Fire Chief in coordinating and conducting an on-going training program for a company of firefighters.
6. Developing pre-fire plans monthly.
7. Supervises one company, and assists in the performance of salvage and overhaul of fire damaged property.
8. Enforces all safety policies and procedures.
9. Responsible for keeping up with literature, advances in fire fighting and fire prevention in order to improve company and departmental operations.
10. Performs other duties as required. (Any changes to this job description shall be made only by mutual agreement by the parties.)

Job Requirements

1. Knowledge of fire fighting, rescue techniques and fire department operations.
2. Knowledge of principles of supervision.
3. Knowledge of departmental regulations and other personnel policies and procedures.
4. Knowledge of other City Departments and how they relate to the Fire Department.

5. Knowledge of correct safety policies, procedures and regulations.
6. Skill in planning, directing and evaluating the work of others.
7. Skill in the orientation and training of others in the operation of fire fighting equipment and the conduct of rescue operations.
8. Ability to coordinate fire fighting and rescue activities in emergency situations.
9. Ability to utilize pre-fire plans.
10. Ability to prepare accurate and informative reports.
11. Ability to establish and maintain effective working relationships with subordinates, peers, and other agencies and the public.
12. Ability to give clear, concise instructions in stressful situations.
13. Ability to make command decisions using good judgment.
14. Ability to perform duties independently of close supervision.
15. Ability to withstand heavy physical activity.
16. Employee must possess a valid Oklahoma driver's license.

Other Significant Facts

Difficulty of work
Work is supervisory in nature requiring employee to coordinate and supervise personnel and equipment in the performance of skilled tasks. Employee must possess knowledge of fire fighting skills and operations.

Interpersonal Relations
Employee comes in frequent contact with the public in stressful situations. Employee must coordinate actions with Police Department, and other City departments. Social skills are important in this position.

Working Conditions
Employee is based at an assigned station and works a 24-hour shift. Worker engages directly in fire fighting and rescue activities and is therefore intermittently subjected to severe job hazards and mental stress.

Physical Effort
Moderate to heavy physical activity is required during fire fighting, rescue and training activities.

Supervision
Employee is responsible for the supervision of one company of firefighters and is subject to review and direction by the Battalion Chief.

Education and Experience

Employee is required to have been employed with the Durant Fire Department for a period of six (6) continuous years' service and must have held the position of Lieutenant for two (2) years. Employee must be certified in Arson Investigation within two (2) years of appointment. Candidate must have completed prerequisites as outlined in Article 26 - Promotional Policy.

38.4. Lieutenant
(City of Durant Fire Department)

Job Summary

Under the supervision of the Battalion Chief, employee is responsible for the supervision and training of a company of firefighters, and the maintenance and upkeep of equipment.

Responsibilities and Duties

1. Directs activities of an engine company in saving lives and property during fires, emergency rescues, natural disasters, bomb threats and any other emergency situation.
2. Performs routine supervisory duties of an engine company, including performance evaluations, recommendation of disciplinary actions and execution of personnel policies and procedures.
3. Supervises the maintenance and upkeep of sub-station and equipment.
4. Maintains station records including daily and monthly reports.
5. Supervises an engine company, and assists in the performance of salvage and overhaul of fire damaged property.
6. Enforces all safety policies and procedures.
7. May perform duties of Captain in that individual's absence, when the individual will be absent for 3 or more consecutive shifts.
8. Performs other duties as required.

(Any changes to this job description shall be made only by mutual agreement by the parties.)

Job Requirements

1. Knowledge of fire fighting, rescue techniques and fire department operations.
2. Knowledge of principles of supervision.
3. Knowledge of departmental regulations and other personnel policies and procedures.
4. Knowledge of other City Departments and how they relate to the Fire Department.
5. Knowledge of correct safety policies, procedures and regulations.

6. Skill in planning, directing and evaluating the work of others.
7. Skill in the orientation and training of others in the operation of fire fighting equipment and the conduct of rescue operations.
8. Ability to coordinate fire fighting and rescue activities in emergency situations.
9. Ability to utilize pre-fire plans.
10. Ability to prepare accurate and informative reports.
11. Ability to establish and maintain effective working relationships with subordinates, peers, and other agencies and the public.
12. Ability to give clear, concise instructions in stressful situations.
13. Ability to make command decisions using good judgment.
14. Ability to perform duties independently of close supervision.
15. Ability to withstand heavy physical activity.
16. Employee must possess a valid Oklahoma driver's license.

Other Significant Facts

Difficulty of work
Work is supervisory in nature requiring employee to coordinate and supervise personnel and equipment in the performance of skilled tasks. Employee must possess knowledge of fire fighting skills and operations.

Interpersonal Relations
Employee comes in frequent contact with the public in stressful situations. Employee must coordinate actions with Police Department, and other City departments. Social skills are important in this position.

Working Conditions
Employee is based at an assigned station and works a 24-hour shift. Worker engages directly in fire fighting and rescue activities and is therefore intermittently subjected to severe job hazards and mental stress.

Physical Effort
Moderate to heavy physical activity is required during fire fighting, rescue and training activities.

Supervision
Employee is responsible for the supervision of all personnel at the sub-station and is subject to review and direction by the Battalion Chief or Captain.

Education and Experience

Employee is required to have been employed with the Durant Fire Department for a period of four (4) continuous years' service and must have held the position of Driver (Apparatus Operator) for two (2) years. Candidate must have completed prerequisites as outlined in Article 26 - Promotional Policy.

38.5. Driver
(City of Durant Fire Department)

Job Summary

Under the supervision of the Captain or Lieutenant, employee is responsible for the driving, operation and upkeep of apparatus and equipment for one station.

Responsibilities and Duties

1. Drives assigned fire fighting apparatus to and from fires and is responsible for proper operation of equipment at the fire scene.
2. Responsible for the maintenance and upkeep of equipment and apparatus including daily and weekly equipment checks, service testing equipment, recording and reporting mechanical failures or difficulties to supervisor and performing minor maintenance on apparatus as necessary.
3. Assists in the preparation of various company reports including daily and monthly training reports and injury reports. Attends fire training and drill sessions to receive instructions in all aspects of fire fighting.
4. Instructs relief drivers in the operation and maintenance of equipment.
5. Operates two-way radio to inform dispatcher of actions being taken.
6. Participates in pre-fire planning.
7. Assists in fire prevention activities as necessary.
8. Performs salvage and overhaul of fire damaged property as required.
9. Performs duties of Captain in that individual's absence.
10. Performs other duties as required. (Any change to this job description shall be made only by mutual agreement by the parties.)

Driver Assignments

1. The Senior Driver will drive lead from the Central Station.
2. The 2nd Senior Driver will drive back up to the Senior Driver.
3. The 3rd Senior Driver will be assigned to Sub-Station #2 as Driver.
4. The 4th Senior Driver will be assigned to Sub-Station #3 as Driver.

This will be the general rule on each shift unless other circumstances arise, such as disciplinary action or etc.

Any person working as duty exchange or on call back will work as assigned by the Battalion Chief in charge of that shift.

(Any changes to driver assignments shall be made only by mutual agreement between both parties.)

Job Requirements

1. Knowledge of fire fighting, rescue techniques and fire department operations.
2. Knowledge of equipment maintenance standards.
3. Knowledge of other City departments and how they relate to the Fire Department.
4. Knowledge of City streets and hydrant locations.
5. Knowledge of correct safety policies, procedures and regulations.
6. Skill in the operation of apparatus and equipment.
7. Skill in the operation of a two-way radio.
8. Ability to utilize pre-fire plans.
9. Ability to prepare accurate and informative reports.
10. Ability to establish and maintain effective working relationships with peers, subordinates, other City departments and the public.
11. Ability to make decisions using good judgment.
12. Ability to control emotion and actions, in stressful situations.
13. Ability to withstand heavy physical activity.
14. Employee must possess valid Oklahoma driver's license.

Other Significant Facts

Difficulty of Work
Tasks are skilled in nature and are acquired prior to assuming the position. Work is generally standardized but worker is required to make quick, accurate decisions in dealing with variables at the scene of a fire.

Interpersonal Relations
Employee often comes in contact with the public in stressful situations. Worker has frequent contact with fleet maintenance personnel and other departments regarding the maintenance and upkeep of apparatus and equipment.

Working Conditions

Employee is based at an assigned station and works a 24-hour shift. Worker engages directly in fire fighting and rescue activities and is therefore intermittently subject to severe job hazards and mental stress.

Physical Effort
Moderate to heavy physical activity is required during fire fighting, rescue, equipment maintenance and training activities.

Supervision
Employee is subject to review and direction by the Captain and supervises a company in the absence of the Captain.

Education and Experience

Applicants shall be required to have been employed with the Durant Fire Department for a period of eighteen (18) continuous months performing the duties as Fire Fighters and must be certified as Firefighter II. Candidate must have completed prerequisites as outlined in Article 26 - Promotional Policy.

38.6. Firefighter
(City of Durant Fire Department)

Job Summary

1. Under the direction of the Battalion Chief or Captain, firefighters respond to all alarms and calls to which their company is assigned, operate fire fighting equipment, and aid in protection of life and property.

2. For the first six (6) months after firefighter's hire date, s/he cannot act as a Driver. After six (6) months, firefighter will act as a Driver on vehicles without air breaks and only when assigned by the Battalion Chief or Captain. After eighteen (18) months, Driver can drive all other vehicles after passing the driving and pumping test(s) on the assigned apparatus.

3. In a reasonable length of time, firefighter shall learn all phases of fire service practices and keep abreast of fire fighting methods.

4. Perform other duties as required.

(Any changes to this job description shall be made only by mutual agreement by the parties.)

Education and Experience

Must receive Firefighter I & II Certification before end of probationary period.

Appendix A

7.00 DRUG AND ALCOHOL FREE WORKPLACE POLICY

AND

EMPLOYEE ASSISTANCE PROGRAM

7.01 POLICY STATEMENT

1. The City of Durant considers its employees to be its most valuable resource and is concerned about the health, safety, well being, and satisfactory work performance of all employees. The use, abuse, and dependence on alcohol and/or drugs can seriously affect the health of employees, jeopardize their own safety and that of others, as well as impair job performance.

2. It is the policy of the City of Durant to comply with all applicable state and/or federal laws in the administration of creating and sustaining a drug and alcohol free workplace.

3. It is the policy of the City of Durant that the unlawful manufacture, distribution, dispensing, possession, use of, or being under the influence of, a controlled substance or alcohol is prohibited in the workplace. Any employee determined to be in violation of this policy while on duty, on or in City property, or when wearing a City of Durant uniform, whether on or off duty, is subject to disciplinary action, which may include termination.

4. The City of Durant, pursuant to the Oklahoma Standards for Workplace Drug and Alcohol Testing Act, effective June, 1993, and as amended, and the Omnibus Transportation Employee Testing Act, effective 1991, and as amended, hereby declares and establishes the following Drug and Alcohol Free Workplace Policy for employees of the City of Durant (hereinafter referred to as the City).

5. This policy also applies to the abuse of alcoholic beverages. A person is under the influences of alcohol or drugs when that person does not have the normal use of mental or physical faculties by reasons of the introduction of alcohol or a drug or a combination of two or more such substances into the body.

6. Full details of the rules and procedures for drug and alcohol policy and testing are available from the Personnel Office or any City Department Head.

7. The City of Durant Drug and Alcohol Free Workplace Policy was implemented on February 15, 1999, and a period of 30 days notice was given to employees before implementation. At such time as changes to the policy may become necessary, the City will give at least 30 days notice before the changes shall take effect. The City shall post a copy of this policy as amended in a prominent employee access area and shall give a copy of this policy as amended to each employee and to each applicant for employment upon his or her receipt of a conditional offer of employment from the City.

7.02 GENERAL POLICY PROVISIONS

Any of the following actions are grounds for discipline, up to and including, termination of employment:

1. The use, sale, purchase, or possession of illegal drugs on or off the job, or the misuse of prescription drugs in a manner that affects the employee's work;

2. Possessing or using alcoholic beverages on the job or on the premises of the City, or in City vehicles or equipment;

3. Reporting to work under the influence of an illegal drug or alcohol. An employee may attend work under the influence of a prescription drug for which he or she has a valid prescription, and use of the drug will not affect the employee's job performance or endanger others.

7.03 TOBACCO USE

In keeping with the City's intent to provide a safe work environment, smoking and the use of smokeless tobacco is prohibited throughout the workplace and extends to 25 feet beyond any portion of City buildings or facilities. Any tobacco use in City-owned or leased vehicles is also prohibited.

This policy applies equally to all employees, customers, and visitors.

7.04 DRUG AND ALCOHOL TESTING

1. DEFINITIONS. As Used in this policy, the defining terms are as follows:

A. "Alcohol: means ethyl alcohol or ethanol;

B. "Applicant" means a person who has applied for a position with the City.

C. "Breath alcohol technician 'BAT'" - an individual who instructs and assists in the alcohol testing process and operates an evidential breath-testing device (EBT).

D. "Commercial Motor Vehicle" - a motor vehicle or combination of motor vehicles used in commerce to transport passengers or property if the motor vehicle:

1) Has a gross combination weight of 26,001 or more pounds inclusive of a towed unit with a gross vehicle weight rating of more than 1 0,000 pounds, or

2) Has a gross vehicle weight rating of 26,001 or more pounds; or

3) Is designed to transport 16 or more passengers, including the driver; or

4) Is of any size and is used in the transportation of hazardous materials requiring placards.

E. "Confirmation test" means a drug or alcohol test on a sample to substantiate the results of a prior drug or alcohol test on the same sample and which uses different chemical principles and is of equal or greater accuracy than the prior drug or alcohol test.

F. "Driver" - any person who operates a commercial motor vehicle (CMV). For the purposes of pre-employment testing, the term driver includes a person applying to drive a commercial motor vehicle.

G. "Drug" means amphetamines, cannabinoids, cocaine, phencyclidine (PCP), hallucinogens, methaqualone, opiates, barbiturates, benzodiazepines, propoxyphen, synthetic narcotics, designer drugs, or a metabolite of any of the substances listed herein, and includes all substances, which are illegal under federal, State, or local laws, except that FHA/DOT required testing shall only test for marijuana metabolites, cocaine metabolites, amphetamines, opiate metabolites and phencyclidine (or other substances as may be permitted by the FHA/DOT for drivers of commercial motor vehicles);

H. "Drug or alcohol test' means a chemical test administered for the purpose of determining the presence or absence of a drug or its metabolites or alcohol in a person's bodily tissue, fluids or products.

I. "Employee Assistance Program" or "EAP" means an in-house or contracted program, which, at a minimum, provides drug and alcohol dependency evaluation and referral services for substance abuse counseling, treatment or rehabilitation.

J. "Employee" means any person who is an employee of the City.

K. "City" means the City.

L. "Random selection basis" means a mechanism for selecting employees for drug or alcohol testing that:

1) Results in an equal probability that any employee from a group of employees subject to the selection mechanism will be selected, and

2) Does not give the City discretion to waive the selection of any employee selected under the mechanism.

M. "Reasonable suspicion" means a belief that an employee is using or has used drugs or alcohol in violation of the City's written policy drawn from specific objective and

articulated facts and reasonable inferences drawn from those facts in light of experience, and may be based upon, among other things:

1) Observable phenomena, such as,

   a) Physical symptoms or manifestations of being under the influence of a drug or alcohol while at work, on duty, or wearing a City uniform; or

   b) Direct observation of drug or alcohol use while at work or on duty, or wearing a City uniform.

2) A report of drug or alcohol use while at work or on duty, provided by reliable and credible sources and which has been independently corroborated,

3) Evidence that an individual has tampered with a drug or alcohol test during his employment with the City, or

4) Evidence that an employee is involved in the use, possession, sale, solicitation or transfer of drugs or alcohol while on duty or while on the City's premises or operating the City's vehicle, machinery or equipment.

N. "Medical Review Officer (MRO)" means a person, qualified by the State Board of Health, who is responsible for receiving results from a testing facility which have been generated by the City's drug or alcohol testing program, and who has knowledge and training to interpret and evaluate an individual's test results together with the individual's medical history and any other relevant information.

O. "Sample" means tissue, fluid or product of the human body chemically capable of revealing the presence of drugs or alcohol in the human body.

P. "Safety-sensitive function"

1) All time waiting to be dispatched, unless the commercial motor vehicle driver has been relieved from duty by the employer.

2) All time inspecting equipment, or otherwise inspecting, servicing, or conditioning any commercial motor vehicle at any time.

3) All time spent at the driving controls of a commercial motor vehicle.

4) All time loading or unloading a commercial motor vehicle, supervising, or assisting in the loading or unloading, attending a vehicle being loaded or unloaded, remaining in readiness to operate the vehicle, or in giving or receiving receipts for shipments loaded or unloaded.

5) All time spent performing the driver requirements associated with an accident.

6) All time repairing, obtaining assistance, or remaining in attendance upon a disabled vehicle.

Q. "Screening test" in alcohol testing it means an analytical procedure to determine whether an employee may have a prohibited concentration of alcohol in his or her system. In controlled substance testing it means an immunoassay screen to eliminate “negative" urine specimens from further consideration.

R. "Substance abuse professional (SAP)" - a licensed physician (Medical Doctor or Doctor of Osteopathy), or a licensed or certified psychologist, social worker employee assistance professional, or addiction counselor (certified by the National Association of Alcoholism and Drug Abuse Counselors Certification Commission) with knowledge of a clinical experience in the diagnosis and treatment of alcohol and controlled substances related disorders.

S. "Testing Facility" means any person, including any laboratory, hospital, clinic, or either, on or off the premises of the City, which provides laboratory services to test for the presence of drugs or alcohol in the human body.

2. CIRCUMSTANCES UNDER WHICH TESTING WILL BE DONE AND PERSONS WHO ARE SUBJECT TO BE TESTED.

A. Applicant Testing. The City will require all applicants, upon receiving a conditional offer of employment, to undergo drug and/or alcohol testing, and will use a refusal to undergo such testing or a confirmed positive test result as a base for refusal to hire provided that such testing does not violate the Americans with Disabilities Act of 1990, 42 U.S.C. §121010 et seq., (hereinafter referred to as ADA). The ADA does not, in any way, preclude or interfere with the City's compliance with the Department of Transportation (hereafter referred to as DOT) new or existing drug and alcohol testing regulations. Such testing will be required of all applicants who have received a conditional offer of employment regardless of employment classification.

1) Tests required under the Department of Transportation regulations:

a) The City is not required to administer an alcohol test or controlled substances test if-

(i) The applicant has participated in a drug testing program within the previous thirty (30) days, that meets the requirements of the DOT, and

(ii) While participating in that program, either:

(A) Was tested for controlled substances within the past six (6) months from the date of application, or

(B) Participated in a random controlled substances testing program for the previous twelve (12) months from the date of application, and

(C) The City will check that no prior employer of the driver, of whom the City has knowledge, has records of a violation of another DOT agency within the previous six (6) months.

B. Employee Testing. Employees of the City will be subject to drug and/or alcohol testing under the applicable circumstances:

1. Reasonable Suspicion Testing. The City will require an employee to submit to drug and/or alcohol testing if there is reasonable suspicion that the employee is violating the City Drug and Alcohol Free Workplace Policy.

a) Observations of employee conduct while the employee is at work or on duty, which cause the City to require reasonable suspicion testing of an employee, shall be made by a supervisor or department head who has received training for the detection of symptoms or manifestations of being under the influence of a drug or alcohol. Testing will be required of all employees, regardless of classification when reasonable suspicion exists.

b) The driver of a commercial motor vehicle may be directed to undergo reasonable suspicion testing while the driver is performing safety sensitive functions, just before the driver is to perform safety sensitive functions, or just after the driver has ceased performing such functions.

c) If an alcohol test is not administered to a driver of a commercial motor vehicle within two (2) hours following the determination that reasonable suspicion exits, the Department Head shall prepare and maintain on file a record stating the reasons the alcohol test was not promptly administered. If an alcohol test is not administered to a driver of a commercial motor vehicle within eight (8) hours following the determination, the City shall cease attempts to administer an alcohol test and shall cite in the record the reasons for not administering the test.

d) The City shall not permit an employee to perform or continue to perform job functions, until:

1) An alcohol test is administered and the employee's breath alcohol concentration measures less than 0.02; or

2) Twenty-four (24) hours have elapsed following the determination that there is reasonable suspicion to believe that the employee has violated the rules concerning the use of alcohol.

e. A written record shall be made of the observations leading to a controlled substance reasonable suspicion test and signed by the supervisor or department head who made the observations, within twenty-four (24) hours of the observed behavior or before the results of the controlled substances test are released, whichever is earlier.

2. Post-Accident-Testing. The City will require an employee to undergo drug and/or alcohol testing if there is a reasonable suspicion the employee or another person sustained a work-related injury or the City's property was damaged as a direct result of use of drugs and/or alcohol by an employee in the workplace while performing job duties, operating a City vehicle or equipment, or wearing a City uniform. This includes damage to the City's equipment. Post-accident testing will be conducted when the amount of damage is reasonably estimated at the time of the accident to exceed $500.00. An employee who is subject to post-accident testing shall remain readily available for such testing or may be deemed, by the City, to have refused to submit to testing. Nothing in this policy shall be construed to require the delay of necessary medical attention for injured people following an accident or to prohibit a driver from leaving the scene of an accident for the period necessary to obtain assistance in responding to the accident, or to obtain necessary emergency medical care,

a. Drivers of commercial motor vehicles:

1) As soon as practical following an accident involving a commercial motor vehicle, the City shall test for alcohol substances, the surviving driver:

(A) Who was performing safety-sensitive functions with respect to the vehicle, if the accident involved the loss of human life; or

(B) Who receives a citation within 8 hours of the occurrence under State or local law for a moving traffic violation arising from the accident, if the accident involved: (i) bodily injury to any person who, as a result of the injury, immediately receives medical treatment away from the scene of the accident; or (ii) one or more motor vehicles incurring disabling damage as a result of the accident, requiring the motor vehicle to be transported away from the scene by a tow truck or other motor vehicle.

2) As soon as practicable following an occurrence involving a commercial motor vehicle, the City shall test for controlled substances, the surviving driver:

(A) Who was performing safety-sensitive functions with respect to the vehicle, if the accident involves loss of human life; or

(B) Who receives a citation within 32 hours of the occurrence under State or local law for a moving traffic violation arising from the accident, if the accident involved: (i) bodily injury to any person who, as a result of the injury, immediately receives medical treatment away from the scene of the accident; or (ii) one or more motor vehicles incurring disabling damage as a result of the accident, requiring the motor vehicle to be transported away from the scene by a tow truck or other motor vehicle.

3) No driver of a commercial motor vehicle required to take a post accident alcohol test shall use alcohol for eight (8) hours following the accident or until he/she undergoes a post-accident alcohol test, whichever occurs first.

4) If an alcohol test is not administered within two (2) hours following the determination that reasonable suspicion exits, the Department Head shall prepare and maintain on file a record stating the reason the alcohol test was not promptly administered.

5) If a controlled substance test is not administered within thirty-two (32) hours following the accident, the City shall cease attempts to administer a controlled substance test; and the Department Head will prepare and maintain on file, a record stating the reasons the test was not promptly administered.

3. Random Testing.

a. The City requires drug and/or alcohol testing on a random selection basis, and shall be restricted to employees who perform safety sensitive functions in the following classifications and/or positions:

1) Vehicle and equipment operator employees who are required to maintain a Commercial Drivers License (hereafter referred to as "CDL") and operate vehicles and/or equipment in excess of 26,001 pounds; or

2) Mechanic employees who maintain equipment in excess of 26, 001 pounds; or

3) Any other employees involved in the repair, operation, or dispatching of vehicles and/or equipment (or as may be required by federal law), including employees operating their personal vehicle on city business as a part of their normal job duties.

b. Random controlled substances testing shall be conducted in accordance with the following requirements:

1) The City will randomly select employees for testing at the highest minimum annual percentage rate established for the calendar year by the DOT rules to which the City is subject.

2) The City will use a scientific valid method of random selection, which is matched with the driver's social security number or employee number.

3) The City will ensure that random testing is unannounced and spread reasonably throughout the calendar year.

4) The City will ensure that employees selected for random testing proceed immediately to the, testing site upon notification of being selected.

5) In the event an employee, who is selected for random controlled substances testing, is on vacation or an extended medical absence, the City will select another driver for testing.

6) No driver of a CMV shall report for duty, or remain on duty, requiring the performance of safety-sensitive functions while having a breath alcohol concentration of 0.04 or greater. The City, having actual knowledge that a driver has a breath alcohol concentration of 0.04 or greater shall not permit an employee to perform or continue to perform safety-sensitive functions.

7) No driver of a CMV shall perform safety-sensitive functions within four (4) hours after using alcohol. The City, having actual knowledge that a driver has

used alcohol within four (4) hours shall not permit a driver to perform or continue to perform safety-sensitive functions.

8) No driver of a CMV shall report for duty, or remain on duty, requiring the Performance of safety-sensitive functions when the driver uses any controlled substance, except when the use is pursuant to the instructions of a physician who has advised the driver that the substance does not adversely affect the driver's ability to safely operate a commercial motor vehicle.

9) The City, having actual knowledge that a driver has used a controlled substance shall not permit the driver to perform or continue to perform safety sensitive functions except as outlined in (H) above.

10) No driver of a CMV shall report for duty, or remain on duty, requiring the performance of safety-sensitive functions if the driver tests positive for controlled substances. The City, having actual knowledge that a driver has tested positive for controlled substance shall not permit an employee to perform or continue to perform safety-sensitive functions except as outlined in (H) above.

11) The City may require a driver to inform the City of any therapeutic drug use.

4. Post-Rehabilitation Testing. The City will require an employee to undergo drug and/or alcohol testing, without prior notice, for a period of up to two (2) years, commencing with the employee's return to work, in the following situations:

   a. After the employee tested positive on a drug and/or alcohol test required by City; or

   b. After having participated in a drug or alcohol treatment program.

5. Return-To-Duty Testing for drivers of commercial motor vehicles. If the City decides to permit a driver of a commercial motor vehicle to return to a DOT safety sensitive duty following a positive test result for alcohol or controlled substances, the driver must receive an evaluation by a Substance Abuse Professional (SAP) and

successfully comply with the SAP evaluation recommendation. A verified positive DOT drug test result, a DOT alcohol test with a result indicating an alcohol concentration of 0.04 or greater, a refusal to test (including by adulterating or substituting a urine specimen) or any other violation of the prohibition on the use of alcohol or drugs under a DOT agency regulation constitutes a DOT drug and alcohol regulation violation.

a. An employee shall be evaluated by a Substance Abuse Professional who shall determine what assistance, if any, the employee needs in resolving problems associated with alcohol misuse and/or controlled substance abuse. The Substance Abuse Professional shall determine that the employee has properly followed any rehabilitation program prescribed.

b. Before an employee returns to duty, following a positive alcohol and/or drug test result, the employee shall undergo a return-to-duty alcohol test with a result indicating a breath alcohol concentration of less than 0.02 if the conduct involved alcohol, or a controlled substances test with a verified negative result if the conduct involved a controlled substance.

c. The employee shall be subject to unannounced follow-up alcohol and controlled substances tests, ordered by the Employees Department Head or his/her designee, following the employees return to duty. The number and frequency of such follow-up testing shall be as recommended by the Substance Abuse Professional and may consist of at least six (6) tests in the first twelve (12) months following the employee's return to duty. Follow-up tests also may be required for another 48 months of safety-sensitive duty following this first (12) month period. The Employees Department Head or his/her designee may direct the employee to undergo return-to-duty and follow-up testing for both alcohol and controlled substances if the Substance Abuse Professional determines that such testing is necessary.

3. TESTING DEFINED.

A. All Drug and Alcohol Free Workplace testing of employees and applicants shall be conducted at a laboratory selected by the City, which has been approved, by the Substance Abuse and Mental Health Services Administration (hereafter referred to as "SAMHSA"), pursuant to federal and state law requirements.

1. The facility will be responsible for:

   a. Employing testing procedures that ensure privacy to employees and job applicants consistent with prevention tampering.

   b. Employing the split sample method of testing; in the event results of the test are challenged. Without a split sample, a challenged test is considered negative.

   c. Employing methods of analysis that ensure reliable test results, including the use of gas chromatography/mass spectrometry to confirm positive test results.

   d. Employing chain-of-custody procedures that ensure proper identification, labeling and handling of test samples.

   e. Employing retention and storage procedures that ensure reliable results on confirmatory tests of original samples,

   f. Employing alcohol-screening tests using approved evidential testing devices that test for prohibited alcohol concentration.

   g. Maintaining SAMHSA approval of their facility.

2. The City, shall not permit a driver who refuses to submit to a post-accident alcohol or controlled substance test, a random post-accident or controlled substance test, a reasonable suspicion alcohol or controlled substance test, or a follow-up alcohol or controlled substance test to perform or continue to perform safety-sensitive functions,

B. Employee consent will be obtained for each test. Refusal of an employee to consent and submit to testing will subject that employee to disciplinary action, which may include termination of employment.

C. The City shall pay all costs of testing for drugs or alcohol required by the City, including confirmation tests required by this Policy. Provided however, an individual who requests a retest of a sample in order to challenge the results of a positive test shall pay all costs of their retest, unless the retest reverses the findings of the challenged positive test. In such case, the City shall reimburse the individual for the costs of the retest.

4. TESTING METHODS AND COLLECTION PROCEDURES TO BE USED:

A. Applicant Drug/or Alcohol Screening Process: The job application form of the City contains Notification of Drug/Alcohol Testing Policy of the City, in accordance with federal and state law. The applicant must sign the application form, acknowledging receipt of Notice of City's Drug and Alcohol Free Workplace Policy.

1. In order to achieve the City's goal in providing and maintaining a drug and alcohol free work environment for the safety and protection of employees and others, the following procedures are hereby established:

a. Upon notification of the selected applicant the Human Resource Director will schedule the applicant for the drug screen/alcohol test.

b. The applicant shall complete the "Applicant/Employee Consent for Drug Screen/Alcohol Test" form. The completed form shall be placed in an envelope with directions to the Medical facility.

c. Applicants refusing to submit to the drug screen and/or alcohol test will be considered to have withdrawn their application for employment.

d. The sample collection site will obtain the specimen from the applicant of sufficient quantity to allow for split sample testing. The specimen will be sent to the laboratory.

e. The laboratory designated by the City shall perform an initial drug screen, which shall be a form of chemical identification with confirmation testing of any positive results with Gas Chromatography/Mass Spectrometry (GC/MS) or other reliable confirmation testing.

f. The alcohol screening tests will be done using approved evidential testing devices that test for prohibited alcohol concentration.

5. APPLICANT TEST RESULTS.

A. Upon completion of testing, results of the drug screen/alcohol test shall be communicated to the Human Resource Director, after compliance with the procedures listed below:

1. Negative test result from drug screen and/or alcohol test.

a) The collection site will notify the Human Resource Director the drug screen and or alcohol test was negative.

b) The Human Resource Director will schedule the applicant for a pre-employment physical.

2. Positive test result from drug screen and/or alcohol test.

a) The collection site Medical Review Officer shall compare the test results to the list of prescribed medications applicant identified as having taken.

b) If a drug screen reveals a drug present which is questionable, the applicant will be contacted by the Medical Review Officer in order for the applicant to explain, in confidence, and/or provide additional documentation as the Medical Review Officer deems necessary to satisfy the Medical Review Officer that the presence of such drug is not unlawful.

c) The applicant must provide the requested explanation and/or documentation as requested by the collection site Medical Review Officer within forty-eight (48) hours of time of request. Failure to provide information within the forty-eight (48) hours will result in applicant's drug screen being reported to the Human Resource Director as positive.

d) If the applicant provides explanation and/or documentation within forty-eight (48) hours of the request, sufficient to satisfy the Medical Review Officer that the presence of the drug is lawful, the result of the drug screen test shall be reported to the Human Resource Director as negative.

6. EMPLOYEE DRUG/ALCOHOL TESTING PROCESS.

A. Any drug or alcohol testing shall occur during or immediately after the regular work period of current employees and shall be deemed work time for purposes of compensation and benefits for current employees.

B. A supervisor who has reasonable suspicion to believe an employee has ingested, inhaled or injected an illegal or unlawful drug, or has ingested an alcoholic beverage when reporting for duty, while on duty, or during standby or callback duty must act promptly to insure the following:

1 Prohibit the employee from working or continuing to work.

2. Notify the Department Head or the City Manager and request a personal observation of an employee's conduct to confirm that reasonable suspicion exists.

3. Based on reasonable suspicion. Employees shall be required to submit to drug or alcohol testing. Prior to requiring such testing, the basis for the reasonable suspicion shall be communicated to the City Manager or his designee.

4. The Supervisor or Department Head will immediately take the employee, to a collection facility selected by the City in compliance with state and federal regulations.

5. Before testing, an employee shall sign a form consenting to testing. Failure or refusal to sign the consent form and to submit to testing will result in disciplinary action, which may include termination.

6. Supervisors are prohibited from demanding or encouraging drug or alcohol testing without reasonable suspicion and without confirmation from a Department Head or the City Manager/designee.

7. Harassment, by any Supervisor or Department Head, of any employee who has, been requested or required to undergo a drug screen will subject the Supervisor or Department Head employees to disciplinary action, which may include termination.

7. EMPLOYEE TEST RESULTS:

A. Upon completion of testing, results of the drug screen and/or alcohol test shall be communicated to the Personnel Director, after compliance with the procedures listed below.

1. Negative test result from drug screen and/or alcohol test.

a) Collection site will notify Human Resource Director that drug screen and/or alcohol test was negative,

2. Positive test result from drug screen and/or alcohol test.

a) The collection site Medical Review Officer shall compare the test results to the list of prescribed medications the employee identified as having taken.

b) If a drug screen reveals a drug present which is questionable, the employee will be contacted by the Medical Review Officer in order for the employee to explain, in confidence, and/or provide additional documentation as the Medical Review Officer deems necessary to satisfy the Medical Review Officer that the presence of such drug is not unlawful. An employee shall be given the opportunity to explain, in confidence, the results of the test.

c) The employee must provide the requested explanation and/or documentation as requested by the collection site Medical Review Officer within forty-eight (48) hours of time of request. Failure to provide information within the forty-eight (48) hours will result in employee's drug screen results as correct.

d) If the employee provides explanation and/or documentation within forty-eight (48) hours of the request, sufficient to satisfy the Review Officer that the presence of the drug is lawful, the result of the drug screen test shall be reported to the Human Resource Director as negative.

e) An employee testing positive, to a drug screen and/or alcohol test shall result in the employee being subject to disciplinary action, which may include termination.

f) The test results will not be disclosed to any person other than the employee, Human Resource Director, Department Head, City Manager and those involved directly on a need to know basis.

g) Any employee tampering with the results of a drug screen/alcohol test will be terminated.

8. PERSONNEL ACTION FOLLOWING TESTING:

A. Applicants who test positive for alcohol or drugs, or otherwise violate this policy, are subject to having their conditional offers of employment revoked. Employees who test positive for alcohol or drugs, or otherwise violated this policy, are subject to discipline, up to and including termination.

B. No disciplinary action, except a temporary suspension or temporary transfer to another department, may be taken by the City against an employee based upon a positive test result unless the test result is confirmed by a second test, using gas chromatography-mass spectroscopy, or an equivalent scientifically accepted method of equal or greater accuracy as approved by rule of the State Board of Health at the cutoff levels determined by Board rule,

C. The City may take disciplinary action against an employee who refuses to undergo drug or alcohol testing conducted in accordance with the provisions of the City's Policy, the Standards for Workplace Drug and Alcohol Free Workplace Free Act and/or the Omnibus Transportation Employee Testing Act.

D. An employee discharged on the basis of a refusal to undergo drug and/or alcohol testing or a confirmed positive drug or alcohol test conducted in accordance with the provision of

the City's Policy, the Standards for Workplace Drug and Alcohol Free Workplace Free Act and/or the Omnibus Transportation Employee Testing Act shall be considered to have been discharged for misconduct for purposes of unemployment compensation benefits.

E. An employee may appeal his/her disciplinary action or termination to the City Manager.

9. SUPERVISORS TRAINING AND EMPLOYEE EDUCATION:

A. Supervisors will be trained:

1. To recognize employees when they appear unfit for duty because of drugs or alcohol and how to determine reasonable suspicion.

2. To effectively and appropriately intervene in reasonable suspicious instances.

3. To understand the methods of the City Drug and Alcohol Free Workplace procedures.

4. To effectively and appropriately document reasonable suspicion cases prior to the test, and after the initial hearing.

5. In proper disciplinary measures.

6. In issues relative to privacy, search and seizure, and employee representation rights during investigations.

B. Employee education shall consist of:

1. Educating employees concerning the harmful effects of drugs and alcohol in the workplace.

a. The City shall provide educational materials that explain the City's policies and procedures with respect to meeting the requirements of this policy.

b. The City shall ensure that a copy of these materials are distributed to each employee prior to the start of drug and/or alcohol testing and to each driver hired or transferred into a position requiring driving a commercial motor vehicle.

2. Encouraging employees to voluntarily seek assistance through the Employees Assistance Program;

3. Informing employees concerning the City's concern for correcting drug and alcohol use or dependency before it adversely affects an employee's work record and causes irreparable harm to the employee and the residents of the City.

4. The City shall provide written notice to representatives of employee organization s of the availability of this information.

5. The City Manager and/or his designee are designated by the City to answer questions concerning distributed materials and City Policies.

10. RECORD KEEPING AND CONFIDENTIALITY.

A. City shall maintain all drug and alcohol test results and related information, including, but not limited to, interviews, reports, statements and memoranda, as confidential records, separate from other personnel records. Such records, including the records of the testing facility, shall not be used in any criminal proceeding, or any civil or administrative proceeding except in those actions taken by City or in any action involving the individual tested and the City or unless such records are ordered released pursuant to a valid court order.

B. The records described in Paragraph I above, and maintained by the City, shall be the property of the City and, upon the request of the applicant or employee tested, shall be made available for inspection and copying to the applicant or employee. The City shall not release such records to any person other than the applicant, employee or the City's Medical Review Officer, unless the applicant or employee, in writing, following receipt of the test results, has expressly granted permission for the City to release such records or pursuant to a valid court order.

C. A testing facility, or any agent, representative or designee of the facility, or any Medical Review Officer, shall not disclose to the City, based on the analysis of a sample collected from an applicant or employee for the purpose of testing for the presence of drugs or alcohol, any information relating to:

1. The general health, pregnancy or other physical or mental condition of the applicant or employee; or

2. The presence of any drug other than the drug or its metabolites that the City requested be identified and for which a Medically acceptable explanation of the positive results, other than the use of drugs, has not been forthcoming from the applicant or employee, provided, however, a testing facility shall release the results of the drug or alcohol test and any analysis and information related thereto, to the individual tested upon his request and only after presenting proof of identification.

11. CITY RESPONSIBILITIES UNDER LAW.

A. The City Manager is responsible for notification of the drug testing policy and procedure to employees as specified, and educating and training of employees, department heads, and supervisors as outlined.

B. The City provides an Employee Assistance Program and will coordinate city education and training relative to drug testing and the benefits of voluntary admission into the EAP.

12. EMPLOYEE'S NOTICE TO THE CITY. It is mandatory that an employee notifies the City Manager, within five (5) working days, if he/she has been convicted of a criminal drug status violation.

13. CITY NOTICE TO FEDERAL GOVERNMENT. The City as a recipient of a grant from the Community Development Block Grant Program from the United States Department of Housing and Urban Development (HUD) and any other Federal grant that requires such notice shall notify the prospective agency within ten (10) days after receiving notice of any employee convicted of a criminal drug statute.

7.05 EMPLOYEE ASSISTANCE PROGRAM

1. Employees who violate the City's Drug and Alcohol Free Workplace Policy and have been with the City for more than three (3) years will be given the opportunity to participate in a drug and alcohol abuse treatment program:

a. The treatment will be agreed to by the City Manager.

b. The employee will be removed from his/her current position and immediately placed on a leave of absence. If an employee has earned days available, he/she must first utilize all available time accrued, then vacation, and then apply for additional unpaid leave, if necessary. In no case may the combination of paid and unpaid leave exceed six (6) consecutive months. Any employee seeking medical attention for drug or alcohol abuse will be entitled to benefits as described in the medical insurance plan.

c. The employee will not be returned to active status until such time as a Medical Review Officer or Substance Abuse Professional certifies that the employee has successfully completed the appropriate treatment.

d. When the employee is allowed to return to work, attempts will be made to place the employee back into his/her previously held position.

e. No employee will be eligible for drug or alcohol abuse treatment, as described under this policy, more than once.

f. The recurrence of a positive test or drug or alcohol problem may result in termination of employment.

2. Any employee who feels he/she has developed an addiction to, dependence upon, or problem with alcohol or drugs (legal or illegal), is encouraged to voluntarily seek assistance. The City supports sound treatment efforts. Whenever feasible, the City will assist employees in overcoming drug or alcohol abuse.

3. Any employee seeking medical attention for drug or alcohol abuse will be entitled to benefits as specified in the medical insurance plan. For qualified employees voluntarily enrolled in a formal treatment program, the City will grant paid rehabilitation leave of up to five (5) additional days of paid leave. For continued treatment, an employee must use his/her available leave balances. If the employee continues to require additional time off, he/she should request to be placed on unpaid leave. In order to receive the five (5) days paid rehabilitation leave, the employee must provide certifiable proof of enrollment in an approved treatment program.

4. Upon successful, certified completion of a rehabilitation program, attempts will be made to place the employee back into his/her previous position, if it is still available, or the next available position for which the employee is qualified.

APPENDIX B (NEW)			Durant Fire Department				2% Increase
Pay Chart Rates Effective July 1, 2021							
Grade	**Position Title**	**Step 1**	**Step 2**	**Step 3**	**Step 4**	**Step 5**	**Step 6**
FD -01 (P)	**Annual**	**$ 31,045.08**					
(Probationary)	**Pay Period**	**$ 1,194.04**					
	Hourly	**10.66**					
FD -01	**Annual**		**$40,476.61**	**$44,159.76**	**$44,829.65**	**$45,559.97**	**$46,290.85**
Firefighter	**Pay Period**		1,556.79	1,698.45	1,724.22	1,752.31	1,780.42
	Hourly		**13.90**	**15.16**	**15.39**	**15.65**	**15.90**
FD -02	**Annual**	**$45,154.66**	**$45,871.67**	**$46,624.03**	**$47,376.82**	**$48,160.56**	**$48,975.80**
Driver	**Pay Period**	1,736.72	1,764.29	1,793.23	1,822.19	1,852.33	1,883.68
	Hourly	**15.51**	**15.75**	**16.01**	**16.27**	**16.54**	**16.82**
FD -03	**Annual**	**$46,365.35**	**$47,156.07**	**$47,919.81**	**$48,714.95**	**$49,542.09**	**$51,424.59**
Lieutenant	**Pay Period**	1,783.28	1,813.70	1,843.07	1,873.65	1,905.46	1,977.87
	Hourly	**15.92**	**16.19**	**16.46**	**16.73**	**17.01**	**17.66**
FD -04	**Annual**	**$48,434.84**	**$49,269.36**	**$50,108.36**	**$51,006.16**	**$52,011.95**	**$53,995.82**
Captain	**Pay Period**	1,862.88	1,894.98	1,927.24	1,961.78	2,000.46	2,076.76
	Hourly	**16.63**	**16.92**	**17.21**	**17.52**	**17.86**	**18.54**
FD -05	**Annual**	**$51,405.38**	**$52,526.23**	**$53,618.67**	**$54,744.09**	**$55,902.77**	**$57,127.43**
Crew Chief	**Pay Period**	1,977.13	2,020.24	2,062.26	2,105.54	2,150.11	2,197.21
	Hourly	**17.65**	**18.04**	**18.41**	**18.80**	**19.20**	**19.62**
FD -06	**Annual**	**$64,280.33**	**$65,738.20**	**$67,234.19**	**$68,768.53**	**$70,342.22**	**$71,956.25**
Fire Marshal	**Pay Period**	2,472.32	2,528.39	2,585.93	2,644.94	2,705.47	2,767.55
	Hourly	**22.07**	**22.57**	**23.09**	**23.62**	**24.16**	**24.71**
* Annual salary and Pay Period amounts are show for Illustrative purposes							

IN WITNESS THEREOF, the parties have hereunto set their hands this _____ day of June, 2021.

THE CITY OF DURANT, OKLAHOMA

BY _____
Oden Grube, Mayor

ATTEST:

_____
Cynthia Price, City Clerk

INTERNATIONAL ASSOCIATION OF
FIRE FIGHTERS, LOCAL 3061 AFL-CIO/CLC

BY _____
Jake Midgely, President

ATTEST:

_____
Jay Bergner, Secretary

APPROVED as to form:

_____
Tom Marcum, City Attorney

The City of Durant

Memorandum

Date:	6/8/2021
To:	Mayor and City Council
From:	Cynthia Price, City Clerk
Re:	Consider Approval of Mayoral Recommendation for Appointment of Wayne Jones and Connor Alford and the Reappointment of Mike Allen to the Board of Adjustments.

The terms of three of the Board of Adjustment members expire in June 2021.
Mayor Grube recommends Wayne Jones fill the seat vacated by Randy Downs and Connor Alford fill the seat vacated by Dale Goad.
Mayor Grube recommends the reappointment of Mike Allen.

Council Information / Action Requested

Approval of Mayoral Recommendation for Appointment of Mike Allen, Wayne Jones and Connor Alford to Board of Adjustments.

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:

The City of Durant

Memorandum

Date:	6/8/2021
To:	Mayor and City Council
From:	Cynthia Price, City Clerk
Re:	Consider Approval of Mayoral Recommendation for Appointment of John Dean and Natalie Blackburn to the Durant Community Facilities Authority

Mayor Grube recommends John Dean to replace Anne Tuttle as a trustee on the Durant Community Facilities Authority. Mayor Grube further recommends the recommendation of Durant Independent School Superintendent Duane Merideth to appoint Natalie Blackburn to fill the designated school position vacated by Joey Gosnell.

Council Information / Action Requested

Approval of Mayoral Recommendation for Appointment of John Dean and Natalie Blackburn to the Durant Community Facilities Authority.

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:

The City of Durant

Memorandum

Date:	6/8/2021
To:	Mayor and City Council
From:	Cynthia Price, City Clerk
Re:	Consider Approval of Mayoral Recommendation of Reappointment of Clent Horner and Whitney Kerr to the Planning Commission.

Council Information / Action Requested

Approval of Mayoral Recommendation of Reappointment of Clent Horner and Whitney Kerr to the Planning Commission

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:

The City of Durant

Memorandum

Date:	6/8/2021
To:	Mayor and City Council
From:	
Re:	Discussion, Consideration and Possible Action for the Purchase of VistaCom Eventide VM Recorder and Eventide/Motorola AIS-API License in the amount of $104,741.

VistaCom is an approved vendor for the State Contract - Houston Galveston Area Contract (HGAC) buy board for the Eventide Software Product. This purchase is an approved expenditure on the FY21/22 capital improvement budget and is contingent on the passage and implementation of the proposed budget. VistaCom is a recording software product that enables short term and long term recording of 911 calls, phone lines and radio traffic for both instant retrieval and record retention. This product will replace our current system which is outdated and not NG911 compliant. This purchase is the integral "fourth leg" of our 911 dispatch, police reporting and GIS mapping project that is ongoing.

Council Information / Action Requested

Staff recommends council approval contingent upon approval of FY21/22 proposed budget

City Staff Information / Action Follow-up, if Council authorizes this action:

Mayor / Sign Agreement in Two Places
911 / Request and Obtain Purchase Order
IT / Coordinate and Have Involvement in Installation and Implementation

ATTACHMENTS:

1. Motorola_Contract 2020-44
2. HGAC State Contract

Houston, TX
9824 Whithorn Drive
Houston, Texas 77095
P: (800) 708-6423
www.vistacomtx.com

Remit, Sales and Support

Oklahoma City, OK
4200 Perimeter Center Drive, Suite 140
Oklahoma City, OK 73112
P: (800) 708-6423
www.vistacomtx.com

Sales and Support

We have prepared a quote for you

City of Durant - Eventide/Motorola AIS - API License

Quote # HOU004086

Version 1

Oklahoma City, OK
4200 Perimeter Center Drive, Suite 140
Oklahoma City, OK 73112
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Sales and Support

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Remit, Sales and Support

Disclosures

All order cancellations are subject to a 35% restocking charge once order has been placed. Your solution is custom built for your environment. Vista Com will make every attempt to modify changes once purchase has been placed however the customer is ultimately responsible for any financial implications for order changes after the order is placed.

Solution Design - we make every attempt to ensure the attached quote is exact and matches your requirements. Please pay special attention to our description of goods and services to ensure it matches your requests. If Vista Com inspects your site location and determines that our solution does not match your communicated requirement, we will promptly revise this quote.

Customer Demarcations - The point at which the recording equipment is connected to the customer equipment is termed "demarcation point". The demarcation point can be a physical cable connection to a demarcation block or it can be a network cable connected to a customer network switch. Due to vendor and customer liabilities it is accepted that Vista Com is responsible for cabling and recorder connection from the demarcation point and the customer is responsible for all cabling, configuration, and coordination for recorded devices to the demarcation block.

Install Guide - Vista Com requires information about your network and user environment before installation of the recording solution. This information includes necessary information proprietary to the customer such as network addresses, user names/passwords, channel assignments and user rights. It is understood that the customer will answer this proprietary information to Vista Com prior to installation in order for the services to be conducted quickly and efficiently.

By acceptance of this offer you accept the disclosures above as part of this agreement.

Vista Com Proprietary and Confidential

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Remit, Sales and Support

City of Durant - Eventide/Motorola AIS - API License

Robin Clevenger

Prepared by:

Vista Com
Robin Clevenger
281-516-9800 ext 201
Fax (281) 518-7056
robin@vistacomtx.com

Prepared for:

City of Durant
300 West Evergreen
Durant, OK 74701
Brenton Rucker
brucker@durant.org
(580) 920-5534

Quote Information:

Quote #: HOU004086
Version: 1
Delivery Date: 04/29/2021
Expiration Date: 09/30/2021

Part Number	Software	Qty	List Price (Each)	List Price (Extended)	Discounted Price (Each)	Discounted Price (Extended)
The Motorola API integration is non discountable and needs to be paid for up front at the time of PO issuance, so the manufacturer (Eventide) can begin the programming process with Motorola **Vista Com will need to connect to a AIS (provided by Motorola) for this reason: Archiving Interface Server (AIS) - This is the interface that sits between your radio system and the MCC 7500 IP Logging Recorder. It makes it possible to record calls and the call related data. You need one AIS for each logging recorder. The AIS also: Monitors the resources you specify, Passes call control information to the logging recorder and Redirects audio from monitored channels to the logging recorder.						
271141	**Mandatory License Fee - Initial/One AIS** Mandatory Motorola API License fee due at time of order for Inital System Release, First AIS.	1	$54,995.00	$54,995.00	$54,995.00	$54,995.00
				$54,995.00		**$54,995.00**

Quote Summary	Amount
Software	$54,995.00
Total	**$54,995.00**

Payment Terms	No. of Payments		Amount
Net 30	1	None	$54,995.00

Taxes, shipping, handling and other fees may apply. We reserve the right to cancel orders arising from pricing or other errors.

Vista Com Proprietary and Confidential

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Oklahoma City, OK 73112
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Sales and Support

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Remit, Sales and Support

Signature

Date

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Remit, Sales and Support

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Oklahoma City, OK 73112
P: (800) 708-6423
www.vistacomtx.com

Sales and Support

We have prepared a quote for you

City of Durant | Revised Eventide VM Recorder Quote

Quote # HOU004085

Version 1

Oklahoma City, OK
4200 Perimeter Center Drive, Suite 140
Oklahoma City, OK 73112
P: (800) 708-6423
www.vistacomtx.com
Sales and Support

Houston, TX
9824 Whithorn Drive
Houston, Texas 77095
P: (800) 708-6423
www.vistacomtx.com
Remit, Sales and Support

Thursday, April 29, 2021

City of Durant
Brenton Rucker
300 West Evergreen
Durant, OK 74701
brucker@durant.org

Dear Brenton,

Thank you for allowing Vista Com to prepare a quotation for you recording solution. Vista Com has over a 25 year history of providing public safety recording solutions throughout the region. We partner with the best OEM's in the industry to delivery the latest technology to you and we back the solution with local support and factory engineering.

Within this quotation you will find three key areas that describe the solution.

- Hardware - this is the physical components to be installed at your site.
- Software - each solution requires software that is licensed to you for your recorder.
- Services - items that are one time charges and represent labor and support for your solution.

The link details all areas of your quotation that we have designed for you. This quotation is based upon given facts and knowledge of your requirements passed to us by you and your organization. As such if we determine that the environment is different than what we have designed we will promptly edit the proposal for your presentation.

Important Note - the point at which the recorder equipment connects to the customer equipment is referred to as the demarcation point. The customer and/or its vendors are responsible for any required connections to this demarcation point such as cabling, equipment programming, or equipment relocation.

If you approve of this quotation please indicate so within the link. By accepting this quotation you represent your authorization of your entity and legally bind your agency to the terms of this sales contract.

Kind Regards,

Robin Clevenger

Robin Clevenger
Regional Sales Manager
Vista Com

Vista Com Proprietary and Confidential

Oklahoma City, OK
4200 Perimeter Center Drive, Suite 140
Oklahoma City, OK 73112
P: (800) 708-6423
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Disclosures

All order cancellations are subject to a 35% restocking charge once order has been placed. Your solution is custom built for your environment. Vista Com will make every attempt to modify changes once purchase has been placed however the customer is ultimately responsible for any financial implications for order changes after the order is placed.

Solution Design - we make every attempt to ensure the attached quote is exact and matches your requirements. Please pay special attention to our description of goods and services to ensure it matches your requests. If Vista Com inspects your site location and determines that our solution does not match your communicated requirement, we will promptly revise this quote.
Customer Demarcations - The point at which the recording equipment is connected to the customer equipment is termed "demarcation point". The demarcation point can be a physical cable connection to a demarcation block or it can be a network cable connected to a customer network switch. Due to vendor and customer liabilities it is accepted that Vista Com is responsible for cabling and recorder connection from the demarcation point and the customer is responsible for all cabling, configuration, and coordination for recorded devices to the demarcation block.
Install Guide - Vista Com requires information about your network and user environment before installation of the recording solution. This information includes necessary information proprietary to the customer such as network addresses, user names/passwords, channel assignments and user rights. It is understood that the customer will answer this proprietary information to Vista Com prior to installation in order for the services to be conducted quickly and efficiently.
By acceptance of this offer you accept the disclosures above as part of this agreement.

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City of Durant | Revised Eventide VM Recorder Quote

Robin Clevenger

Prepared by:

Vista Com
Robin Clevenger
281-516-9800 ext 201
Fax (281) 518-7056
robin@vistacomtx.com

Prepared for:

City of Durant
300 West Evergreen
Durant, OK 74701
Brenton Rucker
brucker@durant.org
(580) 920-5534

Quote Information:

Quote #: HOU004085
Version: 1
Delivery Date: 04/29/2021
Expiration Date: 09/30/2021

Part Number	Software	Qty	List Price (Each)	List Price (Extended)	Discounted Price (Each)	Discounted Price (Extended)
City of Durant is looking to replace the Higher Ground recorder. They have the following to record: (5) Grandstream IP G711 phones, (4) Callworx IP 9-1-1s, (5) Motorola MCC7500 P25 IP radios and other IP connections to be determined. The Motorola API Integration will allow you to capture radio ID and talkgroup ID information. Capturing ANI/ALI and Geographical location of 9-1-1 calls, Spillman CAD integration is also included in the quote. City of Durant would like a VM solution, Vista Com is proposing an Eventide VM recorder. Vista Com will need access to the VM host to install the server OVA file. The City will need to provide a AIS from Motorola to connect to the Eventide for recording the radios. City of Durant has a internal archive setup for archiving calls and a UPS. **The quote reflects HGAC RP07-20**.						
NexLog 740DX Channel Bundle	**NexLog 740DX Channel Bundle** Eventide User Channel Activation Bundle Provides TDM, VoIP, RoIP Licensing for Playback	**1**	**$7,350.00**	**$7,350.00**	**$6,154.00**	**$6,154.00**
	Internal IP Recorder w/ 8 G.711 Channel Licenses Internal IP Recorder w/ 8 G.711 Channel Licenses	1				
	Add-on license pack (internal IP recording engine) Add-on license pack (internal IP recording engine) with 8 Channel Licenses for G.711 RTP/RoIP/NG911	2				
NexLog 740DX Software Bundle	**NexLog 740DX Software Bundle** Eventide User Software Bundle and Licensing	**1**	**$37,965.00**	**$37,965.00**	**$31,791.00**	**$31,791.00**

Vista Com Proprietary and Confidential

	NexLog DX-Series "740 VM" Software for VMWare Inc. Virtualization NexLog DX-Series "740 VM" Software for VMWare Inc. Virtualization on customer-furnished hardware and enterprise-class ESXI operating environment, which must meet minimum operating specifications. Requires ongoing Eventide DX Software Update Subscription (DXSUS) for access to critical DX-Series Software & Security Updates.	1				
	Integration to Motorola ASTRO 25 system - Initial ASTRO version Integration to Motorola ASTRO 25 system - Initial ASTRO version - SINGLE AIS	1				
	DVSI 2-Port USB Decoder Unit (for P25) DVSI 2-Port USB Decoder Unit (for P25, DMR, MOTOTRBO, NXDN)	1				
	Motorola Spillman CAD Integration Motorola Spillman CAD Integration	1				
	Callworx Integration Eventide Interface license for Callworx IP Recording	1				
	MediaWorks Plus Licenses MediaWorks Plus (Web) Concurrent Access for 8 Users	1				
	Geographic Search/View (Requires Lat/Lon, MW Plus, Geographic Search/View (Requires Lat/Lon, MW Plus, Google Maps)	1				
	NENA ANI/ALI CAD Spill Integration of SMDR NENA ANI/ALI CAD Spill Integration SMDR	1				

	License, Speech to Text Speech to Text Licensing (Experimental) Quality Assurance "Word Factor" option (May Help to Identify Candidate Calls for Evaluation; US English only, Experimental/Free)	1				

Part Number	Services	Qty	List Price (Each)	List Price (Extended)	Discounted Price (Each)	Discounted Price (Extended)
Prof Serv Install Bundle	**Prof Service Installations Bundle** Recorder Solutions Installation Services Includes Site Installation Guides, Project Management, Pre-Configuration, Onsite Installation, System Integrations, and De-trash	**1**	**$5,883.00**	**$5,883.00**	**$5,883.00**	**$5,883.00**
	Install Data Integration Installation of Data Integration Including GenSpout, ANI/ALI, Metadata Capture, CAD Integrations, Call Re-archive	1				
Prof Support Bundle	**Support Product and Configuration Bundle** Support For Recording Solution During Period of OEM Materials Warranty. Includes Software Support, Configration Support, Time and Materials, and all On-Site Maintenance	**1**	**$4,018.00**	**$4,018.00**	**$4,018.00**	**$4,018.00**
Prof Service Training Bundle	**Prof Service Training Bundle** Professional Services, Training Programs Designed To Your Solution. Includes Materials, Training Class, and Follow Up Support	**1**	**$1,900.00**	**$1,900.00**	**$1,900.00**	**$1,900.00**
				$12,811.00		**$12,811.00**

Part Number	Maintenance Contract *Optional	Qty	List Price (Each)	List Price (Extended)	Discounted Price (Each)	Discounted Price (Extended)
Annual Maintenance Contracts	**1st year maintenance contract** Annual Maintenance contracts	1	$8,022.00	$8,022.00	$8,022.00	$8,022.00

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	***Optional Amount:**	**$8,022.00**
$8,022.00		**$8,022.00**

Quote Summary	Amount
Software	$37,945.00
Services	$11,801.00
Total	**$49,746.00**

*Optional Expenses	Amount
Maintenance Contract	$8,022.00
Optional Subtotal	**$8,022.00**

Payment Terms	No. of Payments		Amount
Net 30	1	None	$49,746.00

Taxes, shipping, handling and other fees may apply. We reserve the right to cancel orders arising from pricing or other errors.

Signature _____ Date _____

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Eventide®

NexLog™ DX SERIES™

Advanced Recording Solutions for Mission-Critical Communications

Recording Systems • Software Solutions • Edge Capture Devices

NG9-1-1 • P25 Radio • DMR • IP Dispatch • ATC/ATM
Incident Reconstruction • Instant Recall • Mobile
Quality Assessment • Screen Recording • Reporting
VoIP • SIP • Digital • Analog • T1/E1 • ISDN • ED-137B/C

Eventide's mission-critical recording solutions are trusted by organizations worldwide to capture, secure and reconstruct their most important interactions.

▶ *NexLog DX-Series Communications Recording Software and Solutions*

NexLog DX-Series™ recording solutions are the culmination of over 30 years of mission-critical recording experience. The DX-Series continues the NexLog tradition of reliability and ease-of-use while focusing on Digital Transformation (DX) to meet tomorrow's needs. With expanded solution architectures, as well as enhanced security, scalability and integrations, the NexLog DX-Series is truly the next generation recorder.

The NexLog DX-Series software includes multi-tier security and a web-based configuration management tool, as well as support for password policies, Active Directory, SNMP, TLS and AES-256 encryption.

The innovative *NexLog Access Bridge* option enables a scalable approach to enterprise deployments. Multiple recorders can be linked together for unified searching, replay, incident management and configuration.

NexLog 740 DX-Series™ Recording Solution

Channel Capacity*: 96 Analog, 96 Digital PBX, 192 T1, 240 E1, 560 VoIP, 240+ P25, 240+ DMR
3U Rack-Mountable

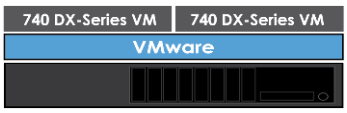
NexLog 840 DX-Series™ Recording Solution

Channel Capacity*: 240 Analog, 240 Digital PBX, 240 T1, 240 E1, 560 VoIP, 240+ P25, 240+ DMR
4U Rack-Mountable

Smart Edge Capture Device™

Captures, Buffers and Transfers to DX-Series Recording Solutions
Up to 24 Analog, 24 Digital, 48 T1, 60 E1 or 120 VoIP Channels. 1U

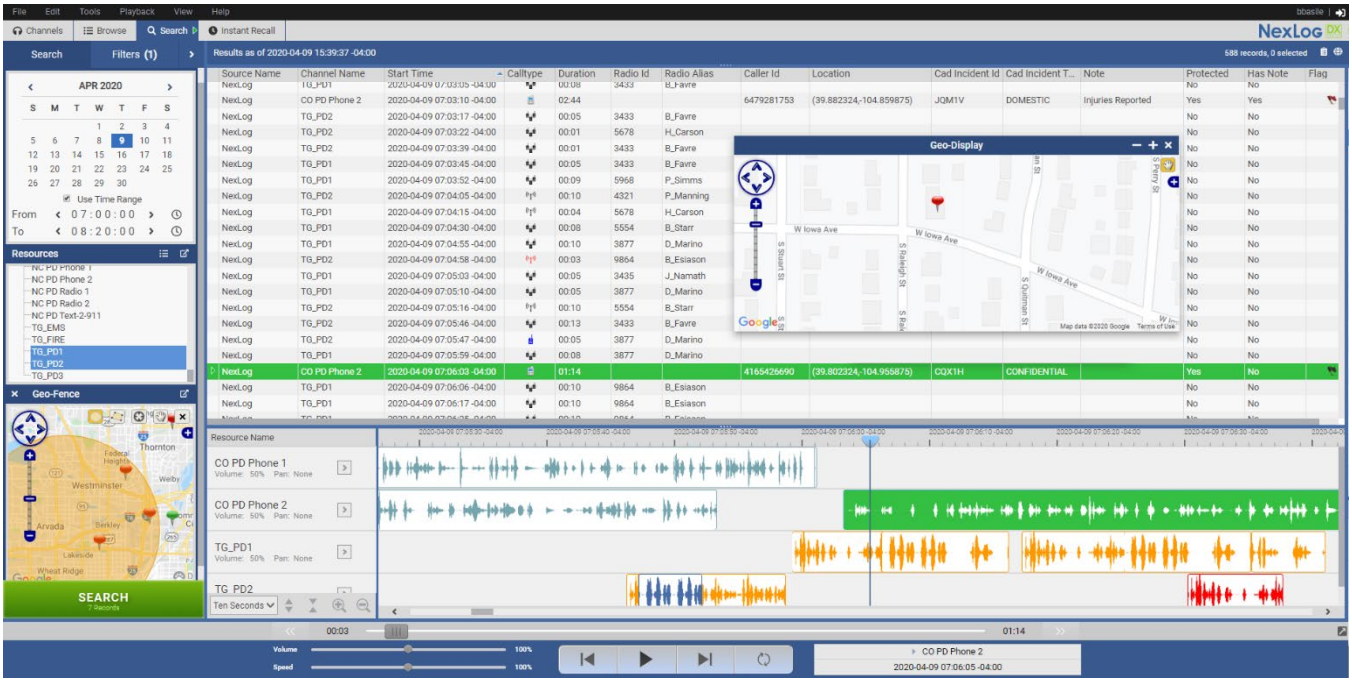
NexLog DX-Series™ Virtual Recording Software Solution



Channel Capacity*: 560 VoIP, 240+ P25. Add ***DX-Series Smart Gateways*** for Analog, Digital or Remote VoIP. Works with **ESXi**

▶ *MediaWorks DX Software: Incident Reconstruction, Instant Recall and More!*

The ***MediaWorks DX*** ™ software option provides secure access, replay and management of audio, screen, multimedia, text and TDD recordings. It is available via web browser on PCs, tablets and phones (using secure HTML5 technology) or as a native application on a PC. MediaWorks DX provides a complete set of tools to Browse, Search, Replay, Instant Recall, Live Monitor, Reconstruct Incidents, Protect, Export and much more.

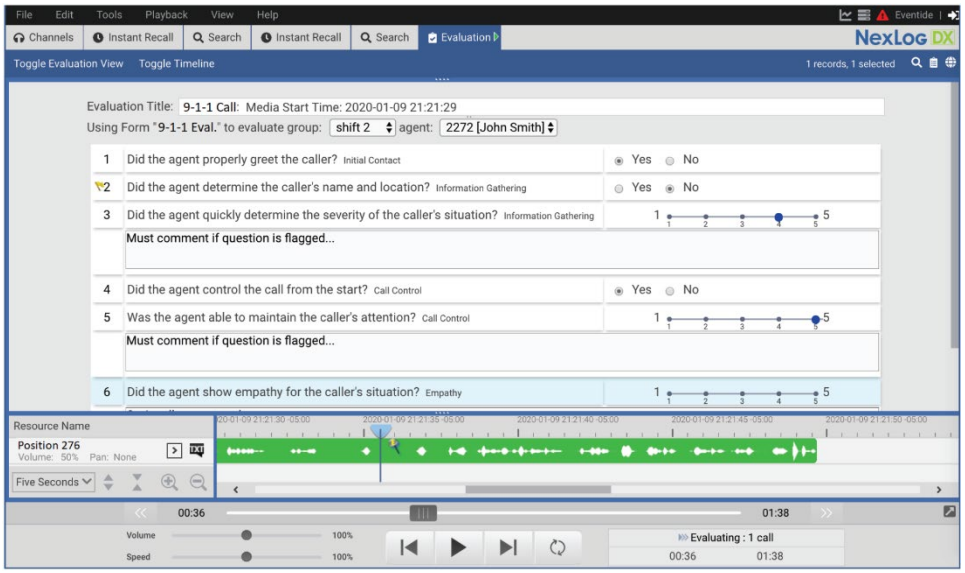


Capabilities include: Graphical Time-Line • Waveform Display • Talking Time and Date • Zoom In/Out • Loop Playback Skip Forward/Back • Playback AGC • Pitch-Corrected Variable Speed • Redact Audio • Obfuscate Audio • Audio Annotation • Text Annotation • Screen Replay • Text/SMS Replay • Multimedia Replay • Call Notes • Lock Recordings Protect Calls • Quarantine Recordings • Pop-Out Search Tools • Geo-Fence Search • Speech Search • Location Display** Location Tracking** • Multi-Parameter Search • Create Incident • Modify Incident • Attach Other Media • Split/Join Audio Clips • Restrict Access • Share Incident Folder • Pre-Set Exports • Menu Driven Export • Incident Export • Single and Multi-Recording Export • Export with Secure Standalone Player • Phone and Tablet Support • Multiple Monitor Support Configurable Layout • Dark Mode • Touch Screen Support • Accessibility Modes • Two Factor Authentication • Auditing

▶ *Quality Factor DX Software: Integrated Quality Assessment and Reporting*

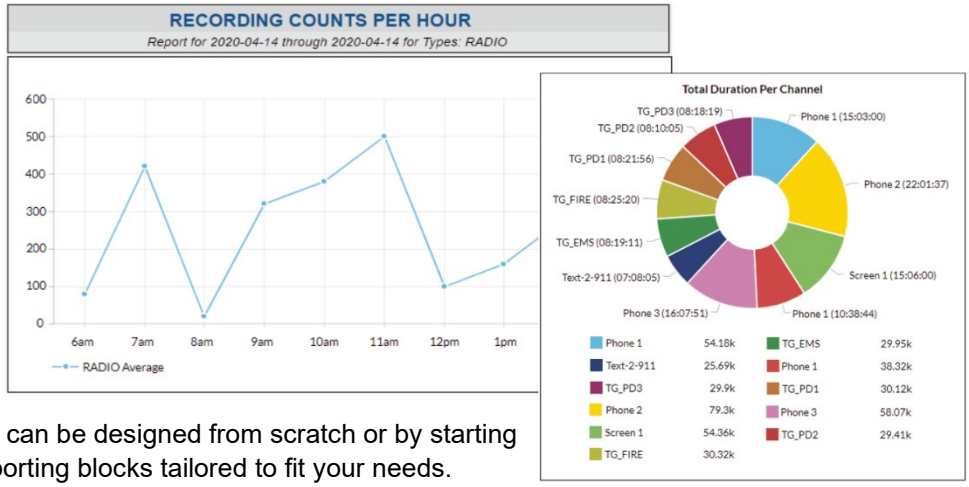
The *Quality Factor DX* ™ software option facilitates a quality assurance program to fit your agency's needs. With its built-in APCO/NENA QA/QI evaluation forms, you can quickly start measuring agent performance and help to protect your center from unwarranted conformance questions.

Quality Factor DX software includes a wide range of options for scoring, comments, notifications, scheduling, and reporting that can be selected to fit any agency. Add the optional *Screen Recording DX* software to get the complete picture via synchronized voice and screen replay.



▶ *Reporting Engine DX*

The flexible *Reporting Engine DX* ™ option provides directors and managers with business intelligence to help determine necessary staffing levels and workflows, and to help justify budgets. Radio traffic, 9-1-1 and administrative phone activity can all be joined into actionable reports.



Reports can be generated on a schedule and delivered via email, PDF, or viewed in a browser. Custom reports can be designed from scratch or by starting from a wide range of pre-configured reporting blocks tailored to fit your needs.

▶ *Screen Recording DX*

The *Screen Recording DX* ™ option allows you to capture high-quality videos of workstation activity that can be seamlessly synchronized with recorder audio. Supervisors can benefit by obtaining a better understanding of each agent's compliance with required practices and protocols. *Screen Recording DX* can capture the important imagery appearing on a user's PC screen, such as surveillance camera video, maps, or overlay application video. Screen recording replay can also aid during incident investigations and can help to document issues with other software.

The *Screen Recording DX* software can efficiently capture up to 20 frames per second, offers flexible bandwidth-limiting options, supports multiple displays and is compatible with modern Windows and Linux workstations.

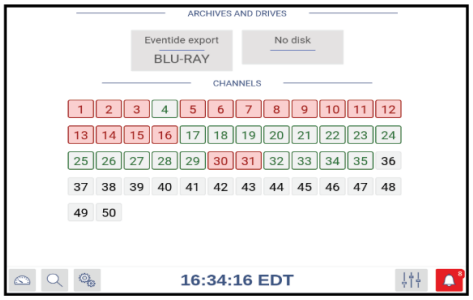
▶ *NexLog DX-Series Software Update Subscription (DXSUS)*

The NexLog DX-Series software continues to evolve in order to meet tomorrow's technical and security challenges, and new software versions and updates are produced on a regular basis. The *DX-Series Software Update Subscription* (***DXSUS*** ™) provides access to these important software versions and updates, which can incorporate Linux security updates, application-level security updates, and improvements to existing functionality. Each NexLog DX-Series software version is conveniently designated by its year of release, as well as its update level (example: "Version 2020.1").

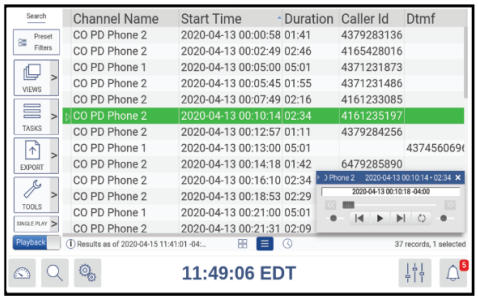
The first 12 Months of ***DXSUS*** coverage is included at no charge with the purchase of each DX-Series recorder, DX-Series virtual recording solution or Smart Edge Capture Device. *Yearly renewals of coverage will help assure that your NexLog DX-Series products maintain the highest levels of security, performance, functionality and supportability*.

LCD Touch Screen

The optional 7” multi-touch LCD screen (on the front panel) lets you conveniently search and replay calls, protect calls, create incidents, export, burn to CD/DVD, live monitor, view alerts, view archive status, configure the NexLog DX recording system and more.



Info mode: Channels, Archives, Alerts, Live Monitor



Replay mode: Search, Replay, Build Incidents, Export

NexLog DX-Series Interoperability:

RADIO TECHNOLOGIES:
Motorola Astro 25
Motorola Dimetra IP
Motorola MotoTrbo Cap Max
Motorola MotoTrbo Cap Plus
Motorola MotoTrbo LCP
Motorola MotoTrbo IPSC
Motorola SmartNet/Zone
Motorola MDC1200
L3Harris VIDA P25
L3Harris EDACS via MGW
ISSI & OTAR for P25 Trunked
EF Johnson ATLAS P25
Tait P25 Trunked via ISSI
Tait/L3Harris DMR Tier III
Tait/L3Harris DMR Tier II
Tait MPT-IP
Sepura/Fylde DMR III
Sepura/Fylde MPT1327
ICOM iDAS Conventional
Kenwood NexEdge Trunked
ESChat PTT

9-1-1 TECHNOLOGIES:
NENA i3 SIPREC
NENA i3 SMS/MMS/Logging
Zetron MAX Call Taking
Zetron Series 3200
Intrado VIPER
Motorola VESTA
Motorola CallWorks
Emergitech IP9-1-1
TCS Solacom Guardian
RapidSOS
Carbyne 911
Priority Dispatch AQUA

CAD TECHNOLOGIES:
Southern Software
Hexagon Edge Frontier
New World Tyler
MobileTec InMotion
Motorola Spillman
Geoconex
Central Square: Inform, Zuercher & Sungard

DISPATCH TECHNOLOGIES:
Zetron MAX Dispatch
Zetron ACOM Novus
Zetron DCS-5020
AVTEC Scout
Motorola MCC7500
Omnitronics Omnicore
L3Harris SwitchPlus IP
L3Harris Symphony
Telex Radio Dispatch
Telex IP-223 & IP-224
Catalyst IP|Console
PENTA cPCx
Cisco IPICS
CSS Mindshare
CTI RadioPro Dispatch
InterTalk Vantage DCS
iNEMSOFT Console/Gateway
SmartPTT Dispatch
JPS Interoperability Solutions

PHONE TECHNOLOGIES:
VoIP and SIP Telephones
Digital PBX Telephones
Analog Telephones
2-wire Analog lines
4-wire Analog circuits
CAMA Trunks
T1, E1, and ISDN Trunks
SIP Trunks
Cisco Built-in Bridge (BiB)
Mitel SRC

ADDITIONAL TECHNOLOGIES:
VMware
AWS Cloud Storage
Calabrio (NexLog as Gateway)
Harding Instruments DXL Intercom
GAI-Tronics Intercom
Industronic PA/GA
Thales TopSky
ThruPut ATG
Asterix IP Surveillance Data
Park Air T6 GRS
Jotron 7000 Series GRS
Rohde & Schwarz 4400 GRS

Air Traffic Management and ED-137

NexLog DX-Series recording solutions can record all types of ATC/ATM audio sources, including controller working positions, VCCS, GRS, ambient audio, and telephones. NexLog systems fully support the ED-137B/C-Part 4 (VoIP) recording interface. Eventide actively participates in EUROCAE’s Working Group 67 and the EUROCONTROL VOTE group.

Synchronized Replay for ATC/ATM

NexLog DX-Series systems can directly record CWP screens and provide synchronized replay of both screen and audio. NexLog DX-Series recorders can also interface with Thales airspace navigation systems for synchronized replay of audio with CWP scenario replay. A DX-Series replay control API is also available.

Redundancy

NexLog 740 DX-Series and *NexLog 840 DX-Series* recorders each include redundant power supplies and redundant disk drives. Redundant archiving options include NAS, Blu-ray/DVD-RAM, RDX, and removable HDD.

NexLog 740 DX-Series and *NexLog 840 DX-Series* recorders are available in sets of multiple units for fully redundant “Active + Active” recording, storage and archiving.

© 2020 Eventide Inc. Specifications and features are subject to change without notice. Some listed features are extra-cost options. Capacities are for DX-Series units. *Check with Eventide for mixed-type channel capacities, and for pre-sales review of digital phone, LMR, VoIP phone, and VoIP codec compatibility. **Location view & tracking functions require coordinates to be delivered to the recorder and require both Chrome browser and Google Maps.

Eventide Inc. ***Communications Software Division*** https://www.eventidecommunications.com
1 Alsan Way, Little Ferry, NJ 07643 USA Tel: +201-641-1200 Fax: +201-641-1640 Email: loggers@eventide.com

142339-12

NexLog DX SERIES COMMUNICATIONS RECORDING SOLUTIONS Eventide®

ISO 9001:2015
GSA SCHEDULE

Request Quote

APPLICATION NOTE - NEXLOG INTEGRATION FOR MOTOROLA-SPILLMAN CAD

Solution Overview

Eventide has implemented an optional (licensed) NexLog integration to the Motorola Spillman Data Exchange, providing added metadata for recordings and enabling easier call searching.

Connectivity and Data Capture

- The NexLog recorder periodically polls the Spillman Data Exchange XML database for CAD records containing data associated with any ongoing or previously recorded call
- The NexLog recorder matches the Caller ID from the 911 call delivery system with the Caller ID retrieved from the CAD record and attaches any available CAD data to the matched call recording
- The attached CAD metadata can then be used for later search, replay and incident creation
- The CAD metadata fields being attached to the call recordings include the following
    - CAD ID (CAD Incident ID)
    - Caller ID
    - Time CAD Received the call
    - City Code
    - Call Taker
    - Call Type
    - Call Nature

Licensing Requirements

- Eventide: Motorola Spillman CAD integration License (P/N 209292)
- Motorola-Spillman CAD: Please contact Motorola Solutions for Spillman Data Exchange licensing requirements

Features and capabilities are subject to change. Check with Eventide Inc. for current information and availability.

Download This Application Note as PDF:

Eventide Application Note Motorola-Spillman CAD Integration 0219

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HGACBuy (/)
THE SMART PURCHASING SOLUTION

Product Information

Product Description

Eventide's NexLog mission-critical communications logging systems reliably capture, store, protect, reproduce, and help you manage important interactions and critical data. NexLog logging systems are designed for NG9-1-1 applications and integrate with many public safety CAD, radio, and consoles systems.

Manufacturer

Eventide Inc.

Product Code

EE

Contract

RP07-20 Record & Playback Systems

Contract Category

Communications Equipment & Services

Discount

0.00

Price Unit

EA

Keyword(s)

Logging Systems; Mission critical; CAD; Radio and Console Systems

View Catalog (/media/hgacbuy/catalogs/RP07-20/Eventide.zip)

Vendors Offering This Product

Eventide Inc.

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Phone: 201-641-1200
Fax: 201-641-1640

Goserco, Inc

Shaun Andrews
sandrews@goserco.com (mailto:sandrews@goserco.com)
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Fax: 480-984-8912

Nelson Systems, Inc.

Brandt Whitehead
bwhitehead@nelsonsystems.com (mailto:bwhitehead@nelsonsystems.com)
Phone: 217-793-1042 x 231
Fax: 217-793-1582

Quality Recording Solutions

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Phone: 770-993-4793 ext 704
Fax: 770-993-5038

Quality Recording Solutions

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Fax: 770-993-5038

SAR Enterprises, Inc. dba Communications Northwest

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Fax: 503-232-7384

Vista Com

Robin Clevenger
robin@vistacomtx.com (mailto:robin@vistacomtx.com)
Phone: 281-516-9800 x 201
Fax: 281-516-7056

Contact HGACBuy

Loleta Chappel

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Phone: 713-993-2486
Fax: 713-993-4548

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From: David Houser, Chief
Re: Discussion, Consideration and Possible Action for the Declaration of Seven Police Vehicles as Surplus Items to be Disposed of Either by Trade In or Auction.

This fiscal year, the City of Durant purchased five new patrol vehicles (2020 Chevrolet Tahoes). These vehicles are now fully functional patrol vehicles and are assigned and operational. Because of this purchase, we have been able to reassign patrol vehicles and identify units to dispose of which are no longer needed or serviceable. Five Dodge Chargers and two Chevrolet Tahoes have been identified as surplus. If approved as surplus the vehicles will be disposed of as quickly as possible with a target of July or August.

Requested Surplus Vehicles are:

Unit 748 - 2005 Chevy Tahoe Asset# 2728
Unit 203 - 2006 Dodge Charger Asset# 2283
Unit 120 - 2008 Dodge Charger Asset# 2503
Unit 121 - 2008 Dodge Charger Asset# 2504
Unit 975 - 2009 Dodge Charger Asset# 2569
Unit 581 - 2010 Dodge Charger Asset# 2619
Unit 527 - 2011 Chevy Tahoe Asset# 2668

Council Information / Action Requested
Staff Recommends Approval

City Staff Information / Action Follow-up, if Council authorizes this action:
Police - Identify the best value either trade in or auction and implement

ATTACHMENTS:
1. surplus vehicles

ASSET RETIREMENT (DISPOSAL) FORM

(This form must be completed whenever any fixed asset is disposed of or otherwise removed from service.)

	DISPOSED OR RETIRED FROM:
Department:	Police
Location:	3104 Carl Albert Drive Durant, OK 74701

EQUIPMENT DETAILS:	
Asset #: 2504	Make/Model #: 2008 Dodge Charger
V.I.N. or Serial #: 2B3KA43H48H220121	Number of Miles or Hours: 151550
Description: Dodge Charger	
Means of Disposal: (to be auctioned, was traded-in, was scrapped, etc.) To be auctioned or traded	
Date on which asset was taken out of service: 6/1/2021	

Signature of Department Head: [signature]	Date: 6/2/21
Additional Comments and/or Disposal Details: Item placed on June 8, 2021 council agenda to be declared surplus.	
Item to be traded in for new vehicle or auctioned	

CITY OF DURANT-CITY CLERK AND CITY TREASURER OFFICE USE ONLY		
Form Received from Department By:		Date:
Disposal Complete in the Following Records (initial and date)		
Insurance:	Fixed Assets:	General Ledger:
G.L. Fund and Department Numbers:		

ASSET RETIREMENT (DISPOSAL) FORM

(This form must be completed whenever any fixed asset is disposed of or otherwise removed from service.)

	DISPOSED OR RETIRED FROM:
Department:	Police
Location:	3104 Carl Albert Drive Durant, OK 74701

EQUIPMENT DETAILS:	
Asset #: 2668	Make/Model #: 2011 Chevrolet Tahoe
V.I.N. or Serial #: 1GNLC2E01BR273527	Number of Miles or Hours: 98992
Description: Chevrolet Tahoe	
Means of Disposal: (to be auctioned, was traded-in, was scrapped, etc.) To be auctioned or traded	
Date on which asset was taken out of service: 6/1/2021	

Signature of Department Head: David Haun Date: 6/2/21

Additional Comments and/or Disposal Details: Item placed on June 8, 2021 council agenda to be declared surplus.

Item to be traded in for new vehicle or auctioned

CITY OF DURANT-CITY CLERK AND CITY TREASURER OFFICE USE ONLY

Form Received from Department By: _____ Date: _____

Disposal Complete in the Following Records (initial and date)

Insurance: _____ Fixed Assets: _____ General Ledger: _____

G.L. Fund and Department Numbers: _____

ASSET RETIREMENT (DISPOSAL) FORM

(This form must be completed whenever any fixed asset is disposed of or otherwise removed from service.)

	DISPOSED OR RETIRED FROM:
Department:	Police
Location:	3104 Carl Albert Drive Durant, OK 74701

EQUIPMENT DETAILS:

Asset #: 2569 Make/Model #: 2009 Dodge Charger

V.I.N. or Serial #: 2B3KA43T09H598975 Number of Miles or Hours: 149380

Description: Dodge Charger

Means of Disposal: (to be auctioned, was traded-in, was scrapped, etc.) To be auctioned or traded

Date on which asset was taken out of service: 6/1/2021

Signature of Department Head: Daniel Hansen Date: 6/2/21

Additional Comments and/or Disposal Details: Item placed on June 8, 2021 council agenda to be declared surplus.

Item to be traded in for new vehicle or auctioned

CITY OF DURANT-CITY CLERK AND CITY TREASURER OFFICE USE ONLY

Form Received from Department By: _____ Date: _____

Disposal Complete in the Following Records (initial and date)

Insurance: _____ Fixed Assets: _____ General Ledger: _____

G.L. Fund and Department Numbers: _____

ASSET RETIREMENT (DISPOSAL) FORM

(This form must be completed whenever any fixed asset is disposed of or otherwise removed from service.)

	DISPOSED OR RETIRED FROM:
Department:	Police
Location:	3104 Carl Albert Drive Durant, OK 74701

EQUIPMENT DETAILS:	
Asset #: 2728	Make/Model #: 2005 Chevrolet Tahoe
V.I.N. or Serial #: 1GNEC13T55R116748	Number of Miles or Hours: 140430
Description: Tan Chevrolet Tahoe	
Means of Disposal: (to be auctioned, was traded-in, was scrapped, etc.) To be auctioned or traded	
Date on which asset was taken out of service: 6/1/2021	

Signature of Department Head: David Haun Date: 6/2/21

Additional Comments and/or Disposal Details: Item placed on June 8, 2021 council agenda to be declared surplus.

Item to be traded in for new vehicle or auctioned

CITY OF DURANT-CITY CLERK AND CITY TREASURER OFFICE USE ONLY

Form Received from Department By: _____ Date: _____

Disposal Complete in the Following Records (initial and date)

Insurance: _____ Fixed Assets: _____ General Ledger: _____

G.L. Fund and Department Numbers: _____

ASSET RETIREMENT (DISPOSAL) FORM

(This form must be completed whenever any fixed asset is disposed of or otherwise removed from service.)

	DISPOSED OR RETIRED FROM:
Department:	Police
Location:	3104 Carl Albert Drive Durant, OK 74701

EQUIPMENT DETAILS:	
Asset #: 2283	Make/Model #: 2006 Dodge Charger
V.I.N. or Serial #: 2B3KA43H56H263203	Number of Miles or Hours:
Description: Dodge Charger	
Means of Disposal: (to be auctioned, was traded-in, was scrapped, etc.) To be auctioned or traded	
Date on which asset was taken out of service: 6/1/2021	

Signature of Department Head: David Hauser Date: 6/2/21

Additional Comments and/or Disposal Details: Item placed on June 8, 2021 council agenda to be declared surplus.

Item to be traded in for new vehicle or auctioned

CITY OF DURANT-CITY CLERK AND CITY TREASURER OFFICE USE ONLY

Form Received from Department By: _____ Date: _____

Disposal Complete in the Following Records (initial and date)

Insurance: _____ Fixed Assets: _____ General Ledger: _____

G.L. Fund and Department Numbers: _____

ASSET RETIREMENT (DISPOSAL) FORM

(This form must be completed whenever any fixed asset is disposed of or otherwise removed from service.)

	DISPOSED OR RETIRED FROM:
Department:	Police
Location:	3104 Carl Albert Drive Durant, OK 74701

EQUIPMENT DETAILS:	
Asset #: 2619	Make/Model #: 2010 Dodge Charger
V.I.N. or Serial #: 2B3AA4CT3AH193581	Number of Miles or Hours:
Description: Dodge Charger	
Means of Disposal: (to be auctioned, was traded-in, was scrapped, etc.) To be auctioned or traded	
Date on which asset was taken out of service: 6/1/2021	

Signature of Department Head:	Date: 6/2/21
Additional Comments and/or Disposal Details: Item placed on June 8, 2021 council agenda to be declared surplus.	
Item to be traded in for new vehicle or auctioned	

CITY OF DURANT-CITY CLERK AND CITY TREASURER OFFICE USE ONLY		
Form Received from Department By:		Date:
Disposal Complete in the Following Records (initial and date)		
Insurance:	Fixed Assets:	General Ledger:
G.L. Fund and Department Numbers:		

ASSET RETIREMENT (DISPOSAL) FORM

(This form must be completed whenever any fixed asset is disposed of or otherwise removed from service.)

	DISPOSED OR RETIRED FROM:
Department:	Police
Location:	3104 Carl Albert Drive Durant, OK 74701

EQUIPMENT DETAILS:	
Asset #: 2503	Make/Model #: 2008 Dodge Charger
V.I.N. or Serial #: 2B3KA43H28H220120	Number of Miles or Hours:
Description: Dodge Charger	
Means of Disposal: (to be auctioned, was traded-in, was scrapped, etc.) To be auctioned or traded	
Date on which asset was taken out of service: 6/1/2021	

Signature of Department Head: [signature] Date: 6/2/21

Additional Comments and/or Disposal Details: Item placed on June 8, 2021 council agenda to be declared surplus.

Item to be traded in for new vehicle or auctioned

CITY OF DURANT-CITY CLERK AND CITY TREASURER OFFICE USE ONLY

Form Received from Department By: _____ Date: _____

Disposal Complete in the Following Records (initial and date)

Insurance: _____ Fixed Assets: _____ General Ledger: _____

G.L. Fund and Department Numbers: _____

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From: James Dalton, Assistant City Manager
Re: Assistant City Manager Report - May 2021

Assistant City Manager Report

Council Information / Action Requested

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:

THE CITY OF DURANT
Assistant City Manager

TO: Durant City Council
FROM: James Dalton, Assistant City Manager
DATE: June 1, 2021
SUBJECT: Monthly Report for May 2021

Parks Department
Carl Albert Park update: Work remaining at Carl Albert Park includes drainage improvements, parking lot overlays, track lighting, and ADA improvements to the restrooms.
We have developed a basic work copy of the Parks Master Plan for all 13 parks in the City, to begin future planning efforts for each park.
DMSC has been having some tournaments; however, due to weather and cancellations by tournament organizers, the Complex hasn't been used to its full potential.
The swimming pool is open. Aundrea Boyd is serving as the Pool Manager.
Parks Director Caleb Gwaltney has resigned effective June 4, to relocate closer to his home.

Airport
The airport has multiple issues that we're in the process of working through in an effort to maximize the full potential of the airport. Below is a list of some tasks in May.

1. Work continues on the 100 LL Fuel Tank system. The tank base and some other workmanship issues seem not to be completed. City Attorney Tom Marcum and I have visited with both IFS, the firm that was awarded the initial contract for the tank and installation and the Airport Consultant for the project, Lochner Engineering for solutions to the problems that we have identified.
2. A drainage issue has developed near the NW corner of Hangar 8. We have contact public works to evaluate and help with the construction of the necessary drainage improvements elevate the problem.

Utility Billing
I met with Utility Billing Supervisor Stephanie Barfield, M&O Supervisor Randy Cantrell, Representatives from Wall Engineering, and Representatives from Core and Main (Contractor) who reports that the change over to the AMR's is going well and about 85% of the new AMR meters have been installed. They anticipate being finished with the project by the July.
We are waiting on additional quotes for material cost and design plans for construction of a drive-thru for City payments at the Library. The drive-thru will include a covered area that will be located on the NW side of the building, near the book return drop.

Garage
Discussion continues for implementation of a motor pool that would house equipment that would be maintained by the garage; and be checked out to qualified operators for projects. We're also looking for space to keep our equipment under cover and out of the elements as much as possible to prevent unnecessary damage to our equipment from the exposure. Jerry Burk and the garage staff have been very helpful assisting other departments with mechanical issues in the field.

Senior Center
The City with funding from the DCFA is in the process of remodeling the new Senior Center Building located at 1401 Chuckwa. Work during May, includes the following:

1. Coordinating with Senior Center Director Mike Davis for daily construction updates.
2. Plumbers have finished the rough-in.
3. The fire suppression system is being constructed and should be installed in June. The Severe Freeze that occurred in Oklahoma caused the manufacturer to get behind repairing systems that had damaged from the freeze, so we have been delayed.
4. Secure Oklahoma is in the process of installing the I.T. and security hardware.
5. Sheetrock, insulation, and some new doors are scheduled for the first week of June.

I.T. Department

1. I.T. Director Brenton Rucker has been negotiating with various Fiber providers to supply fiber to City facilities that currently are dramatically underserved.
2. Brenton and the I.T. Department have been really busy installing the new Spellman Flex software at 9-1-1 to enhance our 9-1-1 Computer Aided Dispatch (CAD)

Library

1. The Library usage is up to near Pre-Covid highs.
2. Staff has been preparing for summer programs; including the Summer Reading Program.
3. Library Director Robbee Tonubbee, Grants Coordinator Becca Payne, Utility Supervisor Stephanie Barfield, and other city management and staff have been in the process of implementing the CDBG Residential Utility Assistance Program for those city utility customers who were impacted by COVID. The City was granted $683,300 for this project. Robbee and Library are doing the initial applications and screening at the Library.

Public Works
With the resignation of Public Works Director Marty Cook, City Manager Dean and I are sharing duties with the PW Departments. Early Friday morning, May 28, a 16" water main split near the Armstrong WTP causing low water pressure and temporary outages for the City. The leak was located at 0700 and was repaired by mid afternoon. Phillip Hightower and the WTP did a good job of catching the leak early and keeping the outage to a minimum. Big thanks to Mike Stinson from M&O who responded at 1:30 am to provide location expertise.

James Dalton

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From: Cynthia Price, City Clerk
Re: City Clerk Report - May 2021

Council Information / Action Requested
Information only.

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:
1. CITY CLERK MONTHLY REPORT - JUNE 2021

CITY CLERK MONTHLY INFORMATION REPORT

MAY 2021

MUNICIPAL COURT -

I have created the attached spreadsheet which will allow you to track the various municipal court categories as the calendar year progresses.

SPECIAL EVENT PERMIT APPLICATIONS -

There were two Special Event Permit Applications received in May 2021.

Events Held in City of Durant in May 2021:

Farmers Market – May 1, 8, 15, 22, 29, 2021

Cinco De Mayo – May 1, 2021

580 Realty Grand Opening – May 1, 2021

Jazz Fest – May 7, 2021

Events To Be Held in City of Durant in June 2021:

Farmers Market – June 5, 12, 19, 26, 2021

Magnolia Run – June 5, 2021

Wine Walk/Downtown Fest – June 5, 2021

1st Annual Durant Red Dirt Music & Food Festival – June 12, 2021

Draggin' Main Car & Bike Show – June 18-19, 2021

RECORD REQUESTS -

There were nine (9) record requests received and processed in May 2021.

CEMETERY ADMINISTRATION/3B GRAVE SERVICE –

I have created the attached spreadsheets which will allow you to track burials and sales (through the city and private seller) as the calendar year progresses.

CEMETERY –

Cemetery Pavilion – We are fortunate to have a beautiful open-air pavilion available for funeral services at Highland Cemetery. Due to the milder weather and observing safety precautions due to Covid, the pavilion has become the venue of choice for families. There is no charge to

families burying their loved one at Highland Cemetery. If a family wishes to use the pavilion for a memorial service but no burial will take place at Highland Cemetery, there is a $100.00 charge.

Cemetery Chapel – The cemetery chapel at Highland Cemetery is back to operating at full capacity and is available for services on a rental basis. The chapel seats 40 and continues to be professionally cleaned and disinfected after each service to protect the safety and health of each family and funeral home staff when using this venue.

Phase 2 -Ground Penetrating Radar Project – Phase 2 of the Ground Penetrating Project is underway. The portion of the project performed by Texas Cemetery Restoration Services is complete. Field work by staff personnel has been delayed due to the rainy weather. We look forward to resuming our work in June.

Highland Cemetery Trash Receptacles – There are now two dumpsters available for disposal of gravesite decorations only. In an effort to lessen the stress, wear and tear on the roadways within the cemetery, the trash cans randomly placed throughout the cemetery have been removed. In their place, a second dumpster has been placed in front of the Cemetery Maintenance Building. This is in addition to the dumpster at the back of the cemetery. This change will reduce the amount of roadway the trash truck will need to travel within the cemetery to empty trash receptacles. These dumpsters are placed as a courtesy and for the convenience of visitors to the cemetery. They are not intended for use by the general public for disposal of residential garbage.

BIDS -

There was one bid advertised in May 2021:

Municipal Court and Accounts Receivable Collection Services – Deadline: May 13, 2021. This bid is listed as an agenda item on the June 8, 2021 council agenda.

Open Ended:

Call Service Providers for Health Nuisance Abatements

BOARD SECRETARY -

I served functions of the secretary for the following council, authorities, and advisory boards in the month of May 2021:

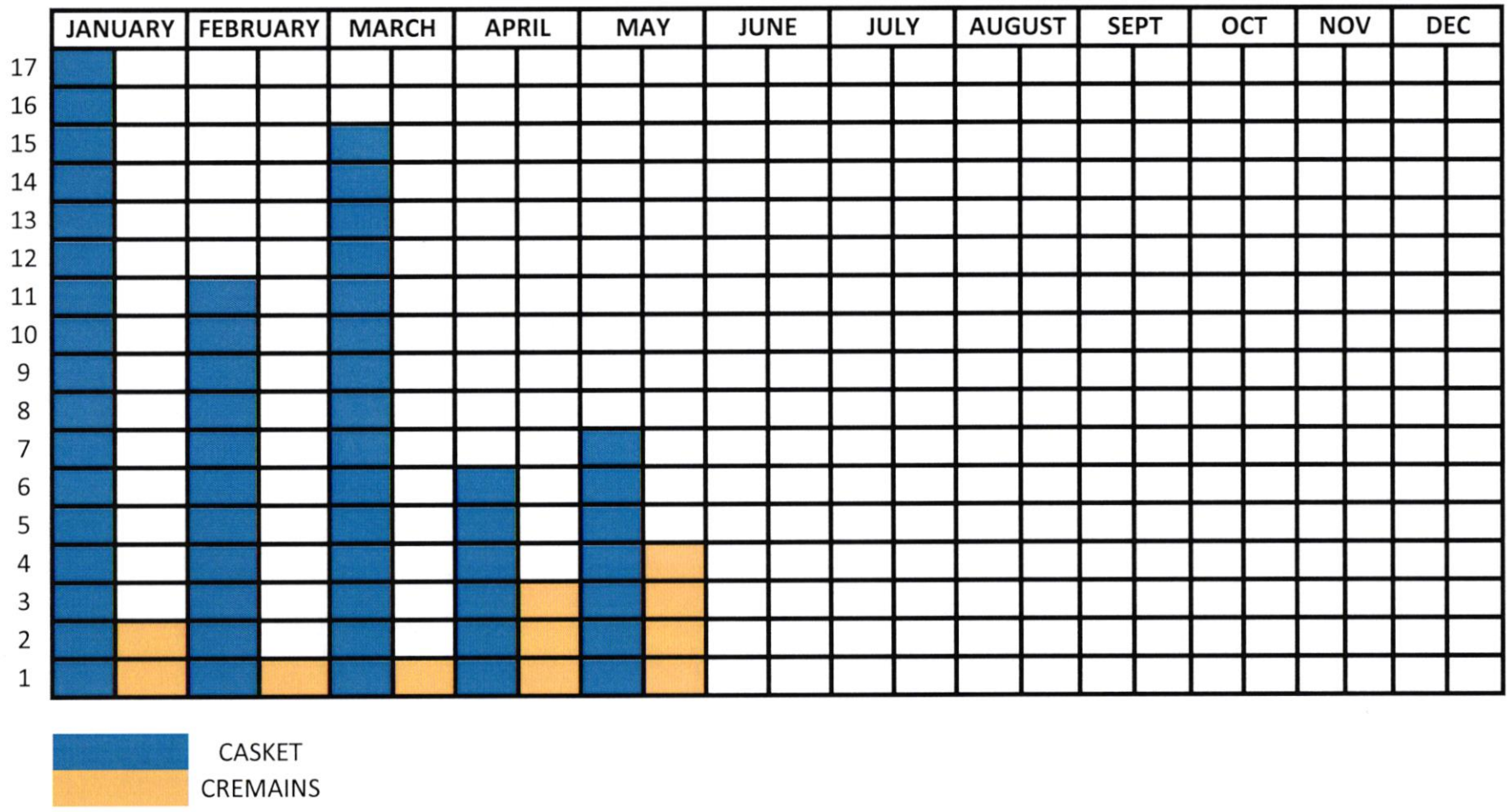
Durant City Council;
Durant City Utility Authority (May 4, 2021 and May 11, 2021);
Durant Airport Authority;
Durant Community Facilities Authority;
Parks and Recreation Advisory Board.

CITY OF DURANT MUNICIPAL COURT

2021	Total Violations Issued			Total Cases Heard By Judge			Warrants Issued			Warrants Cleared			Fine Suspended			Transfer to County		
Dec																		
Nov																		
Oct																		
Sept																		
Aug																		
July																		
Jun																		
May	485	49	34	398	36	39	198	33	31	214	33	33	0	0	0	0	0	0
Apr	478	36	47	390	42	52	216	40	47	189	41	56	0	0	0	0	0	0
Mar	531	45	27	418	34	39	321	43	70	237	41	64	0	0	0	0	0	0
Feb	303	21	14	232	13	27	115	28	27	140	16	30	0	0	0	0	0	0
Jan	362	37	35	184	18	16	112	16	14	167	19	22	0	0	0	0	0	0
	Traffic	State Law	City Ordinance	Traffic	State Law	City Ordinance	Traffic	State Law	City Ordinance	Traffic	State Law	City Ordinance	Traffic	State Law	City Ordinance	Traffic	State Law	City Ordinance

	DISMISSED CASES																	
2021	Completed Deferred			Dismissed by Complainant			Presented Insurance			Dismissed by Judge's Order			Dismissed Compliance			Prosecutor's Motion		
Dec																		
Nov																		
Oct																		
Sept																		
Aug																		
July																		
Jun																		
May	26	1	1	2	0	3	16	0	0	6	0	1	16	0	2	0	0	0
Apr	13	2	0	0	0	0	17	0	0	10	2	0	14	0	0	0	0	0
Mar	20	1	1	3	2	0	19	0	0	16	2	2	29	0	0	3	2	0
Feb	29	0	0	1	0	0	18	0	0	4	0	1	16	0	0	1	0	0
Jan	19	0	0	2	1	0	8	0	0	13	0	12	9	0	0	0	0	0
	Traffic	State Law	City Ordinance	Traffic	State Law	City Ordinance	Traffic	State Law	City Ordinance	Traffic	State Law	City Ordinance	Traffic	State Law	City Ordinance	Traffic	State Law	City Ordinance

2021 GRAVE OPENINGS/CLOSINGS
HIGHLAND CEMETERY



2021 CEMETERY SALES
HIGHLAND CEMETERY

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC
12												
11												
10												
9												
8												
7												
6												
5												
4												
3												
2												
1												

2021 CEMETERY PRIVATE SALES
HIGHLAND CEMETERY

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC
10												
9												
8												
7												
6												
5												
4												
3												
2												
1												

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From:
Re: City Manager Monthly Report - May 2021

Council Information / Action Requested

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:
1. City Manager Report May 2021

City of Durant

300 West Evergreen St
Durant, OK 74701

June 02, 2021

Mayor Grube and members of the City Council:

May, 2021 City Manager Monthly Report

- Attended Council meetings.
- Attended DTEDA meeting.
- Attended DIA meeting.
- Attended BOA meeting.
- Conducted Budget Workshop.
- Completed Proposed Budget and submitted to the City Council IAW State Statute.
- Continued CBA negotiations with the FOP and IAFF.
    - IAFF CBA negotiations completed.
- Conducted staff meetings.
- Accepted resignations of the Public Works Director and Streets Manager.
- Hired an interim Public Works Director that will begin on June 10, 2021.
- Met with Brandon Wall (City Engineer) regarding several PW and Street projects.
- Began the COVID City Utility bill assistance program.
- AMR project continued. Approximately 85% of the meters installed through the end of May.
- Received bids on University Street improvements.
    - Low bid was just under $3.1 million.
- Sludge Press project continued.
- Senior Center renovation project continued.
- Dealt with a number of resident issues and concerns.
- Sales Tax collections were up again over the same month last year.
- Evaluated RWD #5 projected needs request.
    - We will not be able meet the projected RWD #5 needs.
    - We will be able increase our current contractual daily supply to RWD #5.
- Met with Durant Main Street leaders after Stephanie's departure.
- Worked on addressing the Waldron and S 9th intersection issue.
- Met with city Police and Fire leaders to discuss Ambulance/Emergency Care for our residents.

Respectfully Submitted,

John R Dean, Jr.

John R. Dean, Jr., City Manager

The City of Durant

Memorandum

Date:	6/8/2021
To:	Mayor and City Council
From:	Danielle O'Neal Director
Re:	Community Development Monthly Report - May, 2021

The following and attached is a summary of the various activities worked on by the Community Development Staff during the month of May:

- A Municipal Planning Commission meeting in May was postponed due to lack of quorum and items were placed on the June agenda. The Municipal Planning Commission did hear three cases at the June meeting. One of those cases were recommended for approval and two no action was taken. Both items that had no action taken will have to go back through the process. There is one item that will be heard by the City Council at their regularly scheduled meeting in June. We currently have two items expected to be on the schedule for the regular meeting in July. There are several cases that are in various stages of being prepared for Planning Commission and City Council.

- The Regional Planning Commission meeting was held; however, the members voted to move all items to the regular meeting scheduled in July. Staff continues to work on draft language for an ordinance that will help provide guidance for the Commissioners moving forward.

- The Board of Adjustment held a meeting in May for a case where an applicant requested a variance on the front setback for a section of a housing development. The Board of Adjustment did grant the variance.

- Staff met with several citizens and developers to discuss various projects and/or issues they may have. Staff has been quite busy with various public information requests.

- Staff continues working on the business licenses as well the other licenses that is being brought to Community Development.

- Staff has begun the annual renewal for various licenses and working to gain compliance with some of the various licenses.

- Staff attended a conference as well as meetings with Blue Zones, Destination Durant and Imagine Durant.

- Staff is working to put together a group consisting of a couple Council members and Planning Commissioners to go over the questions and concerns regarding the Comprehensive Plan and Future Land Use Map. Staff is working to find a date that we can get the entire group together.

- Staff continues training and working on a lot of different items to help the department improve on all aspects that will help streamline some processes and make things better for both citizens and staff.

- Staff examined and helped with a few code enforcement concerns.

- Staff continues working together on the transition of the new Neighborhood Services Department.

- Staff remains examining and working through some ordinance or policy issues that we are facing. Currently, staff is working on the Subdivision section.

Council Information / Action Requested
No Action Required.

City Staff Information / Action Follow-up, if Council authorizes this action:
No Follow-up Required.

ATTACHMENTS:
1. Community Development Monthly Report - May 2021

The City of Durant
Office of Community Development

DURANT
· OKLAHOMA ·

Monthly Activity Report, May 2021
Community Development Department

1. Permits Issued	72
Building	28
Electrical	15
Plumbing	13
Mechanical	10
Floodplain	6
2. Public Hearings	**6**
Board of Adjustment	1
Planning Commission	0
City Council	5
3. GIS / Mapping	**104**
Maps printed	60
911 Addresses Requested	44

4. Licenses Issued	59
Electrical	3
Plumbing	2
Mechanical	2
Roll Off	0
Roofing	2
Alcohol	4
Business (Issued)	20
Business (Pending Payment)	13
Business (Pending Info)	5
Food Vendor	4
Mobile Home Park	2
Pawn Shop	2
6. Letters Mailed	**77**
Public Hearings	77
Other	0

PROJECTS: 0 -ZZZZZZZZZZ
APPLIED DATES: 5/01/2021 THRU 5/31/2021
ISSUED DATES: 5/01/2021 THRU 5/31/2021
EXPIRE DATES: 0/00/0000 THRU 99/99/9999
STATUS: ALL

PROJECT	ISSUE DATE	NAME	LOCATION	CONTRACTOR	DESCRIPTION	I
031943	5/03/2021	CRAWFORD ELECTRIC	807 N 7TH AVE	OWNER	SERVICE UPGRADE	I
031944	5/03/2021	ACE PLUMBING SERVICE	1821 W EVERGREEN ST	OWNER	RESIDENTIAL REMODEL	I
031945	5/03/2021	ACE PLUMBING SERVICE	1821 W EVERGREEN ST	OWNER	RESIDENTIAL REMODEL	I
031946	5/03/2021	ACE PLUMBING SERVICE	1821 W EVERGREEN ST	OWNER	NEW PLUMBING PERMIT	I
031947	5/05/2021	LEWIS ELECTRIC	2200 FOUR SEASONS 13F	OWNER	METER RELEASE	I
031948	5/05/2021	LEWIS ELECTRIC	2200 FOUR SEASONS 13E	OWNER	METER RELEASE	I
031949	5/06/2021	R&R SIGNS	508 W MAIN ST	OWNER	NEW POLE SIGN PERMIT	I
031950	5/06/2021	KEENER INVESTMENTS LLC	2905 N 1ST AVE	OWNER	TEMPORARY SIGN PERMIT	I
031951	5/10/2021	TRAMMELL CONSTRUCTION	1309 FOLSOM RD	OWNER	NEW HOME PERMIT	I
031952	5/10/2021	TRAMMELL CONSTRUCTION	1309 FOLSOM RD	OWNER	FLOOD PLAIN MANAGEMENT	I
031953	5/10/2021	RAPID HEAT & AIR	1309 FOLSOM RD	OWNER	NEW MECHANICAL PERMIT	I
031954	5/10/2021	CRAWFORD ELECTRIC	1309 FOLSOM RD	OWNER	NEW ELECTRIC PERMIT	I
031955	5/10/2021	WILKEY PLUMBING	1309 FOLSOM RD	OWNER	NEW PLUMBING PERMIT	I
031956	5/10/2021	JOHNNY WINGFIELD CONSTRUCTI	4319 SE 3RD AVE	OWNER	NEW HOME PERMIT	I
031957	5/10/2021	JOHNNY WINGFIELD CONSTRUCTI	4319 SE 3RD AVE	OWNER	FLOOD PLAIN MANAGEMENT	I
031958	5/10/2021	PURCELL MECHANICAL	4319 SE 3RD AVE	OWNER	NEW MECHANICAL PERMIT	I
031959	5/10/2021	MORTON ELECTRIC	4319 SE 3RD AVE	OWNER	NEW ELECTRIC PERMIT	I
031960	5/10/2021	WILKEY PLUMBING	4319 SE 3RD AVE	OWNER	NEW PLUMBING PERMIT	I
031961	5/10/2021	ADVANCED COOLING	493 RADIO ROAD	OWNER	MOVE UNIT FROM STAND TO ROO	I
031962	5/10/2021	THE SIGN DEPOT	122 N 2ND	OWNER	NEW WALL SIGN PERMIT	I
031963	5/11/2021	THE SIGN DEPOT	137 W MAIN ST	OWNER	NEW WALL SIGN PERMIT	I
031964	5/12/2021	BOGGS, JOHN C	2001 TIMBERLINE DR	OWNER	NEW HOME PERMIT	I
031965	5/12/2021	BOGGS, JOHN C	2001 TIMBERLINE DR	OWNER	FLOOD PLAIN MANAGEMENT	I
031966	5/12/2021	REYNOLDS HVAC	2001 TIMBERLINE DR	OWNER	NEW MECHANICAL PERMIT	I

PROJECTS: 0 -ZZZZZZZZZZ
APPLIED DATES: 5/01/2021 THRU 5/31/2021
ISSUED DATES: 5/01/2021 THRU 5/31/2021
EXPIRE DATES: 0/00/0000 THRU 99/99/9999
STATUS: ALL

PROJECT	ISSUE DATE	NAME	LOCATION	CONTRACTOR	DESCRIPTION
031967	5/12/2021	VANZETTEN, JOSH	2001 TIMBERLINE DR	OWNER	NEW ELECTRIC PERMIT
031968	5/12/2021	KEVIN'S PLUMBING	2001 TIMBERLINE DR	OWNER	NEW PLUMBING PERMIT
031969	5/14/2021	BT XTERIORS	207 SANDPIPER CIR	OWNER	RV CARPORT EXTENSION
031970	5/14/2021	ACE PLUMBING SERVICE	1725 W ARKANSAS 1	OWNER	TEMP POLE
031971	5/17/2021	NEWTON, LUTHER L JR	1312 N 7TH AVE	OWNER	RE ROOF PERMIT
031972	5/18/2021	HOLLOWAY, WILLIAM	1524 FRANCES ST	OWNER	NEW GARAGE/SHOP PERMIT
031973	5/19/2021	SIGN DEPOT	1201 BRIARWOOD AVE	OWNER	NEW SIGN PERMIT
031974	5/19/2021	NEEDHAM ROOFING	493 RADIO RD	OWNER	NEW COMMERCIAL ADDITION PER
031975	5/18/2021	CLARKS PLUMBING	412 W WILLOW ST	OWNER	GAS TEST
031976	5/19/2021	NEEDHAM ROOFING	493 RADIO RD	OWNER	FLOOD PLAIN MANAGEMENT
031977	5/19/2021	BLACKBURN HEAT & AIR LLC	493 RADIO RD	OWNER	NEW MECHANICAL PERMIT
031978	5/19/2021	LEWIS ELECTRIC	493 RADIO RD	OWNER	NEW ELECTRIC PERMIT
031979	5/19/2021	BLACKBURN PLUMBING LLC	493 RADIO RD	OWNER	NEW PLUMBING PERMIT
031980	5/19/2021	BLACKBURN PLUMBING LLC	1320 W LIVEOAK ST	OWNER	GAS PLUMBING PERMIT
031981	5/20/2021	AMERICAN ELECTRIC	420 REDBUD LANE	OWNER	METER RELEASE
031982	5/20/2021	AMERICAN ELECTRIC	1524 FRANCES ST	OWNER	NEW ELECTRIC PERMIT
031983	5/20/2021	JACKSON PLUMBING	1524 FRANCES ST	OWNER	NEW PLUMBING PERMIT
031984	5/20/2021	F2M CONSTRUCTION	515 CARDINAL PKWY	OWNER	COMM REMODEL (GLASS TEMP LI
031985	5/20/2021	TEXOMA MILLWRIGHT & WELDING	515 CARDINAL PKWY	OWNER	NEW MECHANICAL PERMIT
031986	5/20/2021	COLBURN ELECTRIC LLC	515 CARDINAL PKWY	OWNER	NEW ELECTRIC PERMIT
031987	5/20/2021	RED RIVER PLUMBING LLC	515 CARDINAL PKWY	OWNER	NEW PLUMBING PERMIT
031988	5/20/2021	GATEWAY HOMES & DESIGN LLC	1322 REMINGTON W CIRCLE	OWNER	NEW HOME PERMIT
031989	5/20/2021	GATEWAY HOMES & DESIGN LLC	1322 REMINGTON W CIRCLE	OWNER	FLOOD PLAIN MANAGEMENT
031990	5/20/2021	BLACKBURN HEAT & AIR LLC	1322 REMINGTON W CIRCLE	OWNER	NEW MECHANICAL PERMIT

PROJECTS: 0 -ZZZZZZZZZZ
APPLIED DATES: 5/01/2021 THRU 5/31/2021
ISSUED DATES: 5/01/2021 THRU 5/31/2021
EXPIRE DATES: 0/00/0000 THRU 99/99/9999
STATUS: ALL

PROJECT	ISSUE DATE	NAME	LOCATION	CONTRACTOR	DESCRIPTION
031991	5/20/2021	FARRIS ELECTRIC & MECHANICA	1322 REMINGTON W CIRCLE	OWNER	NEW ELECTRIC PERMIT
031992	5/20/2021	BLACKBURN PLUMBING LLC	1322 REMINGTON W CIRCLE	OWNER	NEW PLUMBING PERMIT
031993	5/21/2021	MATTRESS PLUS MORE	519 UNIVERSITY PL	OWNER	TEMPORARY BANNER SIGN PERMI
031994	5/21/2021	PRICE'S PRINTING	698 WESTSIDE 102	OWNER	NEW WALL SIGN PERMIT
031995	5/21/2021	HIGH 5 HEADQUARTERS	624 W MAIN ST	OWNER	TEMPORARY BANNER SIGN PERMI
031996	5/24/2021	BILLINGS CONSTRUCTION	230 S 22ND AVE	OWNER	COMMERCIAL ADDITION
031997	5/24/2021	ARGO AIR	230 S 22ND AVE	OWNER	NEW MECHANICAL PERMIT
031998	5/24/2021	HALLS ELECTRIC	230 S 22ND AVE	OWNER	NEW ELECTRIC PERMIT
031999	5/24/2021	WILLCO PLUMBING	230 S 22ND AVE	OWNER	NEW PLUMBING PERMIT
032000	5/24/2021	BT XTERIORS LLC	1825 W MAIN ST	OWNER	ROOF REPLACEMENT PERMIT
032001	5/24/2021	ORGANIC WELLNESS, LLC	1210 N 1ST AVE	OWNER	TEMPORARY BANNER SIGN PERMI
032002	5/25/2021	HAUSNERS	3333 LAZY LN	OWNER	STORM SHELTER PERMIT
032003	5/26/2021	BARGER CONSTRUCTION	901 W MAIN ST	OWNER	NEW COMMERCIAL PERMIT
032004	5/26/2021	BARGER CONSTRUCTION	901 W MAIN ST	OWNER	FLOOD PLAIN PERMIT
032005	5/26/2021	CORNERSTONE WIRING & ELECTR	901 W MAIN ST	OWNER	NEW MECHANICAL PERMIT
032006	5/26/2021	CORNERSTONE WIRING & ELECTR	901 W MAIN ST	OWNER	NEW ELECTRIC PERMIT
032007	5/26/2021	CLEAR CREEK PLUMBING	901 W MAIN ST	OWNER	NEW PLUMBING PERMIT
032008	5/26/2021	B & H CONSTRUCTION	412 W WILLOW ST	OWNER	GAS METER REHANG
032009	5/26/2021	ALLISON LANDSCAPE & POOL	1119 BERETTA BLVD	OWNER	NEW SWIMMING POOL PERMIT
032010	5/27/2021	C & J ROOFING	219 N 3RD AVE	OWNER	COMMERCIAL ROOF REPAIR
032011	5/27/2021	C & J ROOFING	220 N 10TH AVE	OWNER	ROOF REPLACEMENT PERMIT
032012	5/28/2021	SIGN DEPOT	3801 W MAIN ST	OWNER	NEW SIGN PERMIT
032013	5/28/2021	NORTHSTAR SIGNS & GRAPHICS	519 UNIVERSITY PL	OWNER	NEW SIGN PERMIT
032014	5/28/2021	SIGN DEPOT	816 W MAIN	OWNER	NEW SIGN PERMIT

PROJECTS: 0 -ZZZZZZZZZZ
APPLIED DATES: 5/01/2021 THRU 5/31/2021
ISSUED DATES: 5/01/2021 THRU 5/31/2021
EXPIRE DATES: 0/00/0000 THRU 99/99/9999
STATUS: ALL

PROJECT	ISSUE DATE	NAME	LOCATION	CONTRACTOR	DESCRIPTION

*** TOTALS *** NUMBER OF PROJECTS: 72 VALUATION: 4,147,621.27 FEES:

PROJECTS: 0 -ZZZZZZZZZZ
APPLIED DATES: 5/01/2021 THRU 5/31/2021
ISSUED DATES: 5/01/2021 THRU 5/31/2021
EXPIRE DATES: 0/00/0000 THRU 99/99/9999
STATUS: ALL

*** SEGMENT RECAP ***

PROJECT SEGMENT - DESCRIPTION	# OF SEGMENTS	VALUATION	FEE
BLDG - NEW BUILDING PERMIT	28	3,086,100.27	14,584.55
ELEC - NEW ELECTRIC PERMIT	15	297,203.00	2,930.50
FPM - FLOOD PLAIN MANAGEMENT	6	135,000.00	624.00
MECH - NEW MECHANICAL PERMIT	10	332,507.00	2,638.90
PLUMB - NEW PLUMBING PERMIT	13	296,811.00	3,122.50
*** TOTALS ***	72	4,147,621.27	23,900.45

PROJECTS: 0 -ZZZZZZZZZZ
APPLIED DATES: 5/01/2021 THRU 5/31/2021
ISSUED DATES: 5/01/2021 THRU 5/31/2021
EXPIRE DATES: 0/00/0000 THRU 99/99/9999
STATUS: ALL

*** BUILDING CODE RECAP ***

BUILDING CODE - DESCRIPTION	# OF PROJECTS	# OF SEGMENTS	VALUATION	
ACCS - SIGNS/ACCESSORY STRUCTURES	20	20	142,301.27	2
C - COMMERCIAL	10	10	1,507,005.00	1(
CA - COMMERCIAL ALTERATION	10	10	450,304.00	2
SFR - SINGLE FAMILY RESIDENTIAL	21	21	2,004,007.00	8
SFRA - SINGLE FAMILY RESIDENTIAL ALTERATION	11	11	44,004.00	
*** TOTALS ***	72	72	4,147,621.27	2:

SELECTION CRITERIA

REPORT SELECTION

PROJECT RANGE FROM: 0 THROUGH ZZZZZZZZZZ
PROJECT STATUS: All
CONTRACTOR: All
PROJECT TYPE: All
SEGMENT: All
VALUATION RANGE FROM: 0.00 THROUGH 999,999,999.99

PROJECT DATES

APPLIED RANGE FROM: 05/01/2021 THROUGH 05/31/2021
ISSUED RANGE FROM: 05/01/2021 THROUGH 05/31/2021
USE SEGMENT DATES: NO
EXPIRE RANGE FROM: 00/00/0000 THROUGH 99/99/9999
USE SEGMENT DATES: NO

PRINT OPTIONS

TOTALS ONLY: NO
INCLUDE SEGMENTS: NO
COMMENT CODES: None

*** END OF REPORT ***

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From:
Re: Economic Development Monthly Report - May 2021

Council Information / Action Requested

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:
1. May 2021 Monthly Report

Monthly Economic Development Report

May 2021

To: Mayor and Council Members

From: Lisa Taylor, Director

Date: June 1, 2021

During the previous month, I conducted the following activities:

- Attended the following meetings: DIA, City Council, Annual Budget Workshop, Planning Commission, Ward, Blue Zones, Destination Durant, Select Oklahoma, Community Development Council Board Meeting, Business Retention & Expansion International Education Committee, Durant Area Chamber of Commerce Board Meeting, Manufacturing Committee, Economic Development Council, and Oklahoma Southeast.
- Prepared agendas and/ or related documents to the following meetings: DIA Meeting, City Council Meeting.
- Conducted BRE Interviews and/ or site visits: Cardinal Glass, Lost Street Brewery.
- Conducted site visits and/ or other recruitment activities: Denison Main Street, McKinney Development Authority, housing developer, and commercial property visit in Durant.
- Activities related to real estate acquisition: Conducted calls and in-person visits to inquire about purchase of property for Project 3T.
- Conducted weekly calls with New Growth Group (grant consultants), along with various community partners. Worked to schedule in-person meetings for June 14-15 when the New Growth Group team will be in Durant.
- Conducted weekly calls with Marketing Alliance (workforce recruitment campaign). The website it live at ok-durant.org
- DIA Social media pages are up (Facebook and LinkedIn). In collaboration with the City's PIO, posts were made throughout Economic Development Week. Facebook has reached more than 7,000 viewers, 1,737 engagements and 124 followers.
- Coordinated meeting to discuss the intersection of Waldron Road and South Ninth Street.
- Met with representatives from the following organizations regarding various activities: Imagine Durant, Durant Main Street, Southeastern OK State University, Durant Area Chamber of Commerce, Kiamichi Railroad, Choctaw Nation of Oklahoma, Kiamichi Technology Center, Southern Workforce Board, Blue Zones – Durant, Oklahoma Department of Commerce.
- Spent countless hours reviewing various DIA documents (contracts, funding documents, property records, etc.)
- Worked with Marketing Alliance and local team members to provide content for the new website. Coordinated reviews and photography activities.
- Worked with CGI Team to edit/ approve videos for the Durant.org

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From:
Re: Emergency Management Monthly Report - May 2021

Emergency Management Monthly Report - May

Council Information / Action Requested

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:
1. Monthly EM Report May 2021

DURANT/BRYAN COUNTY EMERGENCY MANAGEMENT

PUBLIC SAFETY, PUBLIC TRUST

TO: Mayor, City Council

FROM: Kenneth Eppler, Emergency Management Director

DATE: June 1, 2021

SUBJECT: Monthly Report for April 2021

I filed Q2 payment request for the 2021 EMPG on April 6th 2021. We received the $10,000 Q2 payment on May 18, 2021. I will file the Q3 reimbursement request after July 1, 2021.

We performed the Monthly Outdoor Warning Siren Test for May on the 6th. All Durant sirens functioned properly.

May 3- Prepared EM Monthly Reports. Prepare EOC for possible severe weather activation. Tornado Watch and EOC activated, spotters deployed 1545-2300.

May 5- Drywall complete at EOC.

May 6- Performed monthly outdoor warning siren test. Worked on warehouse. Programmed radio for Police Department.

May 7- Mowed EOC lawn and cleaned building.

May 10- Met with paint contractors for quote. EOC activated for severe weather.

May 11 – Attended City Council Meeting at City Hall.

May 12- Participated WeatherCall demo via ZOOM.

May 16- EOC activated for severe weather 1730-2130.

May 18- Participated mandatory HR training at City Hall.

May 19- Worked on upcoming safety training schedule with Safety Coordinator.

May 20- Attended department head meeting at City Hall. Performed monthly IPAWS test. Worked with Safety Coordinator on training materials purchases and training schedule. Participated in Statewide WebEoc drill with OEM.

May 25- Participated in COVID Task Force meeting.

May 26- Worked airport on audio system. Attended NWS webinar regarding possible severe weather coming on May 27.

May 27- Attended NWS webinar regarding upcoming severe weather event. Attended staff meeting at City Hall. Tornado Watch, EOC activated at 1830. Spotters not deployed. EOC stood down at 2200.

May 28- Assisted with messaging for water main break.

May 29-31 On call for the weekend, including the Memorial Day Holiday on Monday.

Kenneth Eppler, Director

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From:
Re: Financial Statements for April 2021 and Sales Tax - May 2021

Attached the
April 2021
- General Fund
- Capital Improvements Fund
- Durant City Utilities Authority Fund

AND
May 2021
- Sales Tax Breakdown and 1% Sales Tax 10-Year report

Council Information / Action Requested
Information Only

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:
1. April 2021 General Fund (001) Revenue & Expense Report
2. April 2021 CI REV and Expenses
3. April 2021 DCUA Revenues & Expense Report
4. May 2021 Sales Tax Breakdown
5. 1% Sales Tax 10-Y History

City of Durant, Oklahoma
General Fund - UNAUDITED

Monthly Revenue and Expense Report
APRIL 2021 - 83.33% of Fiscal Year Lapsed

Revenue Type:	This Period	Year-To-Date	Current FY20/21 Budget	% of Budget Y-T-D
Sales Tax (2%)	667,286	7,133,301	7,548,000	94.51%
Use Tax	162,434	1,893,406	1,600,000	118.34%
Alcoholic Beverage Tax	10,499	167,756	152,204	110.22%
Tobacco Excise Tax	15,407	146,759	150,000	97.84%
Telephone Franchise Tax	7,973	12,883	15,000	85.89%
Electric Service Franchise Tax	-	670,451	850,000	78.88%
Natural Gas Franchise Tax	50,670	95,165	60,000	158.61%
Cable TV Service Franchise Tax	-	70,372	71,000	99.12%
Vehicle Tax	8,583	107,186	125,000	85.75%
Gasoline Excise Tax	-	31,144	35,000	88.98%
Licenses - All Types	4,860	88,315	171,500	51.50%
Permits - All Types	31,579	263,567	247,700	106.41%
Swimming Pool Revenues	400	20,714	45,000	46.03%
Library Café Revenues	-	-	2,500	0.00%
Charges For Services	2,419	20,574	18,000	114.30%
Police Bonds & Fines	68,370	442,033	338,941	130.42%
Interest Earnings	1,598	15,487	28,000	55.31%
Proceeds From Sale of Asssets	-	22,887	18,787	121.82%
Grant Revenues	38,340	117,579	135,832	86.56%
Miscellaneous Revenues	16,841	1,674,036	1,641,395	101.99%
Sub-Total Revenues	**1,087,259**	**12,993,614**	**13,253,859**	**98.04%**
Transfer from Emp Insuance	-	97,000	97,000	
Transfer from Utility Authority	396,322	4,144,216	4,936,859	83.94%
	396,322	**4,241,216**	**5,033,859**	**84.25%**
USE OF FUND BALANCE			1,598,839	
Total Revenues & Other Financing Sources	**1,483,580**	**17,234,830**	**19,886,557**	**86.67%**

Department:	This Period	Year-To-Date	Current FY20/21 Budget	% of Budget Y-T-D
City Administration	66,742	474,966	643,948	73.76%
City Clerk	6,670	59,486	99,301	59.90%
City Treasurer	40,848	322,436	366,970	87.86%
Legal Services - Attorney	39,095	48,301	100,000	48.30%
Law Enforcement - Police Dept	489,162	4,189,123	5,323,998	78.68%
Animal Control	7,283	77,557	118,561	65.42%
Fire Dept	396,588	3,152,286	3,498,633	90.10%
Parks, Rec & General Services	77,870	621,998	965,423	64.43%
Swimming Pool	2,514	79,348	121,139	65.50%
Municipal Court	11,371	137,251	152,037	90.28%
Community Development	59,482	482,882	597,875	80.77%
Public Library	64,101	556,992	670,819	83.03%
Street Department	102,959	884,958	1,477,627	59.89%
Economic Development	13,368	146,362	204,473	71.58%
Civil Emergency Management	33,452	267,364	346,974	77.06%
General Government	57,209	505,258	1,543,725	32.73%
City Garage	31,552	250,429	341,102	73.42%
Senior Citizens Center	6,319	27,488	77,600	35.42%
Sub-Total Operating Expenditures	**1,506,585**	**12,284,482**	**16,650,204**	**73.78%**
Other Financing Uses:				
P. TRSF to I.T. service Fund	-	238,878	238,878	
Transfer to Insurance Cash Fund		193,438	193,438	100.00%
Transfer to Airport Authority	8,336	83,363	100,036	83.33%
Transfer to 911 Tax Fund	44,539	445,394	534,473	83.33%
Transfer to DMSC Fund	30,261	302,607	363,128	83.33%
Transfer to Capital Impr. Fund	-	1,251,297	1,695,697	73.79%
Transfer to Cemetery Operations Fund	9,225	92,252	110,702	83.33%
Sub-Total Transfers Out	**92,362**	**2,607,229**	**3,236,352**	**80.56%**
Total Expenditures & Other Financing Sources	**1,598,947**	**14,891,711**	**19,886,557**	**74.88%**
Net Gain / (Loss) - *Excluding Balance Forward*	**(115,367)**	**2,343,118**	**0**	

April 2021 Had 3 Payrolls

City of Durant, Oklahoma
Capital Improvements Fund - UNAUDITED

Monthly Revenue and Expense Report
APRIL 30, 2021

Revenue Type:	This Period	Year-To-Date	Current FY20/21 Budget
Interest Earnings	106	3,574	10,000
Miscellaneous	-	66,927	75,149
CCPF Donation	-	160,000	200,000
FAA Grant	-	-	28,120
ODOT Streetscape V Grant	-	-	399,968
OPJ-BVP Bullet Proof Vest	-	755	3,819
OWBR Loan Proceeds	-	-	3,949,500
Grant-2019 BOR-WEEG	-	-	1,487,000
Grant-2018 BOR-SWEP	-	-	73,724
FY17 Land and Water Grant CA Park	121,796	121,796	108,861
OEM/911 MNGMNT AUTH GRANT	-	-	225,344
EDA 08-01-05284 WWTP IMP 69%	-	-	1,406,534
County Fire Tax Fund	-	56,336	56,337
Sub-Total Revenues	**121,902**	**409,389**	**8,024,356**
TRSF From General Fund	-	1,251,297	1,695,697
TRSF From 1% S.T. Rev. Fun	147,500	1,475,000	1,770,000
Transfer from DCFA Fund-MISC	-	-	-
Transfer from Utility Authority	16,667	166,667	365,000
TRSF FR DCUASF 12-STRN 210	-	239,345	232,534
Transfer from UA 2020 STRN 210-052	-	2,088,372	13,001,400
Transfer from 2020 CWSRF 210-053	-	-	12,670,800
Equipment Financing	-	731,152	762,000
TRSF From DCFFA Fund-Misc	726,000	750,000	900,000
Sub-Total Transfers In	**890,167**	**6,701,833**	**31,397,431**
Balance Forward from FY19 (Unaudited)			**1,132,012**
Total Revenue & Other Financing Sources	**1,012,069**	**7,111,222**	**40,553,799**

Expenditure Type:	This Period	Year-To-Date	Current FY20/21 Budget
Law Enforcement - Police Dept	-	359,316	674,512
Animal Control	-	5,200	141,618
Communication Ctr.	-	71,925	359,181
Fire Dept		557,652	557,832
Parks, Rec, & Gen Services	237	159,999	403,122
Community Development	-	-	31,500
Street	-	381,113	870,061
Economic Development	4,857	24,740	30,000
Civil Emergency Management	9,852	124,614	338,800
General Government	32,425	577,850	1,734,065
Information Technology	295	28,193	214,500
City Garage	-	28,851	30,000
Senior Cityzens Center	102,629	205,477	726,000
Public Works Administration	-	-	21,510
Water / Sewer Line Maintenance	26,270	2,092,856	5,716,426
Water Treatment Plant	-	31,378	210,440
Wastewater Treatment Plant	-	468,249	2,388,361
Collection-Solid Waste	-	54,310	224,995
Disposal- Solid Waste	-	161,715	234,437
Eaker Field Airport	-	59,615	110,120
Sub-Total Expenditures	**176,564**	**5,393,052**	**15,017,480**
Sub-total of Transfer Expenses	**-**	**-**	**-**
Total Expenses	**176,564**	**5,393,052**	**15,017,480**
2020U.S.S.T.R.N. Exp.	3,229	2,454,544	12,865,519
2020 CWSRF Exp.		177,979	12,670,800
Total Fund Expenditures	**179,794**	**8,025,575**	**40,553,799**
Net Gain / (Loss) - *Excluding Balance Forward*	**832,275**	**(914,353)**	**-**

City of Durant, Oklahoma
Durant City Utilities Authority Fund 405 - Unaudited

Monthly Revenue and Expense Report
APRIL 2021 - 83.33% of Fiscal Year Lapsed

Revenue Type:	This Period	Year-To-Date	Current FY 20/21 Budget	% of Budget Y-T-
Licenses and Permits	1,055	17,073	25,000	68.29%
Laboratory Test Performed	1,469	18,074	25,000	72.29%
Water Service - City-Wide	188,592	2,237,803	2,800,000	79.92%
Water Sales - RW Dist. #2	3,034	30,336	37,000	81.99%
Water Sales - RW Dist. #5	70,079	936,051	1,175,000	79.66%
Sewer Service Fees	169,551	2,039,865	2,625,000	77.71%
Sewer Excessive Strength Fees	46,514	233,823	-	0.00%
Sanitation Service Fees	274,135	2,718,037	3,100,000	87.68%
Sanitation - Roll off Bins Revenue	81,618	752,014	1,003,000	74.98%
Sanitation - Compactor Revenue	27,406	217,060	270,000	80.39%
Landfill Gate Fees (excluding Xfer ST.)	22,964	779,750	526,500	148.10%
Transfer Station Fees Revenue	3,716	299,311	435,000	68.81%
Interest Earnings	1,204	12,034	23,495	51.22%
Agri. Lease Revenue	-	-	2,600	0.00%
Late Payment Penalties	8,270	97,835	100,000	97.84%
Non Payment Fee	11,505	129,975	120,000	108.31%
Bad Debt Collect Fees Revenue	565	4,781	20,000	23.90%
Water Tower Lease	8,750	95,731	103,000	92.94%
DCUA Service Initiation Fee	2,475	22,925	28,000	81.88%
Tap Fees: Water & Sewer	5,094	90,035	150,000	60.02%
Recyclable Products SW Dis.	476	17,944	6,000	299.06%
Interest Earnings in 2007 USSTRN Proj. Acct.	8	183		0.00%
Miscellaneous Revenues	862	33,413	36,474	91.61%
2020 Airport Tank Principal Pymt	-	-	5,318	0.00%
2020 Airport Tank Interest Pymt	-	-	203	0.00%
2020 LED Proj. Principal FM GF	-	-	25,761	0.00%
2020 LED Proj. Interest FM GF	-	-	213	0.00%
Trans from emp insurance 005	-	187,000	187,000	100.00%
Sub-Total Operating Revenues	**929,342**	**10,971,052**	**12,829,564**	85.51%
USE OF FUND BALANCE			1,095,588	
Total Revenues & Other Financing Sources	**929,342**	**10,971,052**	**13,925,152**	**78.79%**

Expense Type:	This Period	Year-To-Date	Current FY 20/21 Budget	
Public Works Administration	42,481	309,152	332,860	92.88%
Utility Billing	41,446	441,880	606,183	72.90%
Water/Sewer Line Maintenance	91,179	824,620	1,035,622	79.63%
Water Treatment Plant	86,152	848,939	1,155,551	73.47%
Wastewater Treatment Plant	71,108	772,450	970,358	79.60%
Solid Waste - Collections	94,373	845,851	1,070,861	78.99%
Utility General Administration	12,538	219,009	753,258	29.07%
Lake Durant	3,283	43,303	47,250	91.65%
Solid Waste - Disposals	108,238	1,263,857	1,731,154	73.01%
Sub-Total Operating Expenses	**550,798**	**5,569,061**	**7,703,097**	72.30%
Transfer to Insurance Cash Fund	-	139,467	139,467	100.00%
Transfer to I.T. service Fund 010	-	4,032	4,032	0.00%
Transfer to General Fund	396,322	4,144,216	4,936,859	83.94%
Transfer to Capital Improvement Fund	16,667	166,667	200,000	83.33%
Transfer 2007 USSTRN To CI Fund 015	-	-		
Transfer to Airport Authority	12,936	454,362	480,234	94.61%
Sub-Total Transfer Expenses	**425,924**	**4,908,743**	**5,760,592**	85.21%
Reserve - Contingency			308,463	
Reserve for Payroll			153,000	
DCUA Fund Expense & Transfer Totals:	**425,924**	**4,908,743**	**6,222,055**	
Total Fund Expenses & Transfers	**976,722**	**10,477,804**	**13,925,152**	**75.24%**
Net Gain / (Loss) - *Excluding Balance Forward*	**(47,380)**	**493,248**	**0**	

** April 2021 Had 3 Payrolls

City of Durant, Oklahoma
4.375% Sales Tax Revenue Breakdown

Current Month Sales Tax Revenue Detail	
1/4% Economic Development (e	$109,917.91
1/4% Multi-Sports Facilities (eff	$109,917.91
1/4% SOSU Improvements (effe	$109,917.91
1% Capital Improvements (effec	$439,671.63
2% General Operations	$879,343.27
5/8% DISD Improvements (effec	$274,794.77
Total Sales Tax Rev. May 2021 (	**$1,923,563.40**

City of Durant, Oklahoma
Ten-Year History Report - 1% Sales Tax Revenue

	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	% Change	Single Month Period
July	$262,370	$264,561	$280,589	$274,992	$285,723	$282,117	$313,058	**$329,525**	**331,058**	**376,455**	13.71%	June / July
August	$271,678	$270,982	$274,864	$192,988	$301,211	$314,889	$329,217	**$323,680**	**343,378**	**371,268**	8.12%	July / Aug.
September	$243,537	$265,390	$280,800	$387,003	$310,412	$292,744	$298,291	**$309,656**	**340,005**	**375,103**	10.32%	Aug. / Sept.
October	$255,780	$261,089	$264,719	$277,693	$292,477	$295,814	$313,960	**$305,445**	**329,146**	**359,331**	9.17%	Sept. / Oct.
November	$242,999	$225,334	$259,486	$279,266	$263,753	$305,225	$317,104	**$292,323**	**322,363**	**360,649**	11.88%	Oct. / Nov.
December	$232,683	$251,426	$244,334	$273,374	$280,961	$282,558	$287,917	**$302,025**	**336,928**	**342,145**	1.55%	Nov. / Dec.
January	$264,219	$257,713	$272,680	$287,156	$303,941	$316,625	$319,265	**$319,947**	**331,582**	**348,969**	5.24%	Dec. / Jan.
February	$260,541	$271,834	$285,667	$293,872	$282,081	$304,006	$314,369	**$300,025**	**340,113**	**351,684**	3.40%	Jan. / Feb.
March	$248,797	$253,498	$252,598	$265,962	$255,710	$278,891	$281,267	**$275,318**	**295,098**	**347,403**	17.72%	Feb. / March
April	$257,195	$252,569	$261,938	$271,232	$290,669	$305,276	$313,062	**$299,350**	**328,110**	**333,643**	1.69%	March / Aprl.
May	$262,840	$261,496	$273,004	$290,750	$286,450	$317,742	$325,558	**$332,701**	**331,431**	**439,672**	**32.66%**	**Aprl. / May**
June	$241,265	$276,146	$280,815	$283,656	$277,462	$298,475	**$286,097**	**$318,281**	**$332,952**			May / June
Total	**$3,043,904**	**$3,112,039**	**$3,231,494**	**$3,377,943**	**$3,430,849**	**$3,594,364**	**$3,699,166**	**$3,708,275**	**$3,962,165**	**$4,006,322**		
FY Monthly Average	**$253,659**	**$259,337**	**$269,291**	**$281,495**	**$285,904**	**$299,530**	**$308,264**	**$309,023**	**$330,180**	**$364,211**		
% change from prior yr.	**1.88%**	**2.24%**	**3.84%**	**4.53%**	**1.57%**	**4.77%**	**2.92%**	**0.25%**	**6.85%**	**9.92%**		
$ change from prior yr.	**$56,198**	**$68,136**	**$119,454**	**$146,449**	**$52,906**	**$163,515**	**$104,802**	**$9,109**	**$253,889**	**391,781**		

Current Month Sales Tax Revenue Detai	
1/4% Economic Development (effe	$109,917.91
1/4% Multi-Sports Facilities (effect	$109,917.91
1/4% SOSU Improvements (effecti	$109,917.91
1% Capital Improvements (effectiv	$439,671.63
2% General Operations	$879,343.27
5/8% DISD Improvements (effecti	$274,794.77
Total Sales Tax Rev. May 2021 @	**$1,923,563.40**

** Per Ordinance #1589, Durant City Sales Tax Rate Increased from 3.75% to 4-3/8% (4.375%)*

Use Tax	
$42,438.57	**$317,233.34**

1% Sales Tax - Current Annual Growth		
Previous 12 - Month Period	Current 12 - Month Period	% Change
$3,947,493	**$4,339,274**	**9.92%**

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From: Jeff Langford, Deputy Chief
Re: Fire Department Monthly Report - May 2021

Fire Department Monthly Report - May 2021

Council Information / Action Requested
Information Only

City Staff Information / Action Follow-up, if Council authorizes this action:
N/A

ATTACHMENTS:
1. Council Monthly Report May 2021

Durant Fire Department

Monthly Report

May 2021

Type of Response	Month	Year to Date	
	May	2020	2021
Fires & Fire Related Calls	14	63	90
Rescue (MVC's) & Medical Calls	174	464	369
Hazardous Condition (No Fire)	8	30	17
Service Calls	4	24	16
Good Intent Calls	18	97	40
False Alarm & False Calls	11	42	27
Special Incident Type	0	3	3
Total Responses	**229**	**723**	**562**

Type of Service Performed	Month	Year to Date	
	May	2020	2021
Permits	15	124	86
Inspections	40	232	214
Plans Review	11	80	89
Smoke Alarm Installed	2	3	5
Public Education	0	0	2
Fire Investigations	2	24	14
Pre-Fire Plans	0	2	5
Total Services	**70**	**465**	**415**

Comments :

Training May 2021:

Week 1: Annual Hose testing, DFD sent 7 members to Shawnee for Aircraft Rescue Fire Fighting and 3 members to Fire Fighter II in Stillwater.

Week 2: Annual Hose Testing Continued

Week 3: CMC tour, confined space and high angle rescue scenarios

Week 4: Required MRI safety training refresher and complete hose testing.

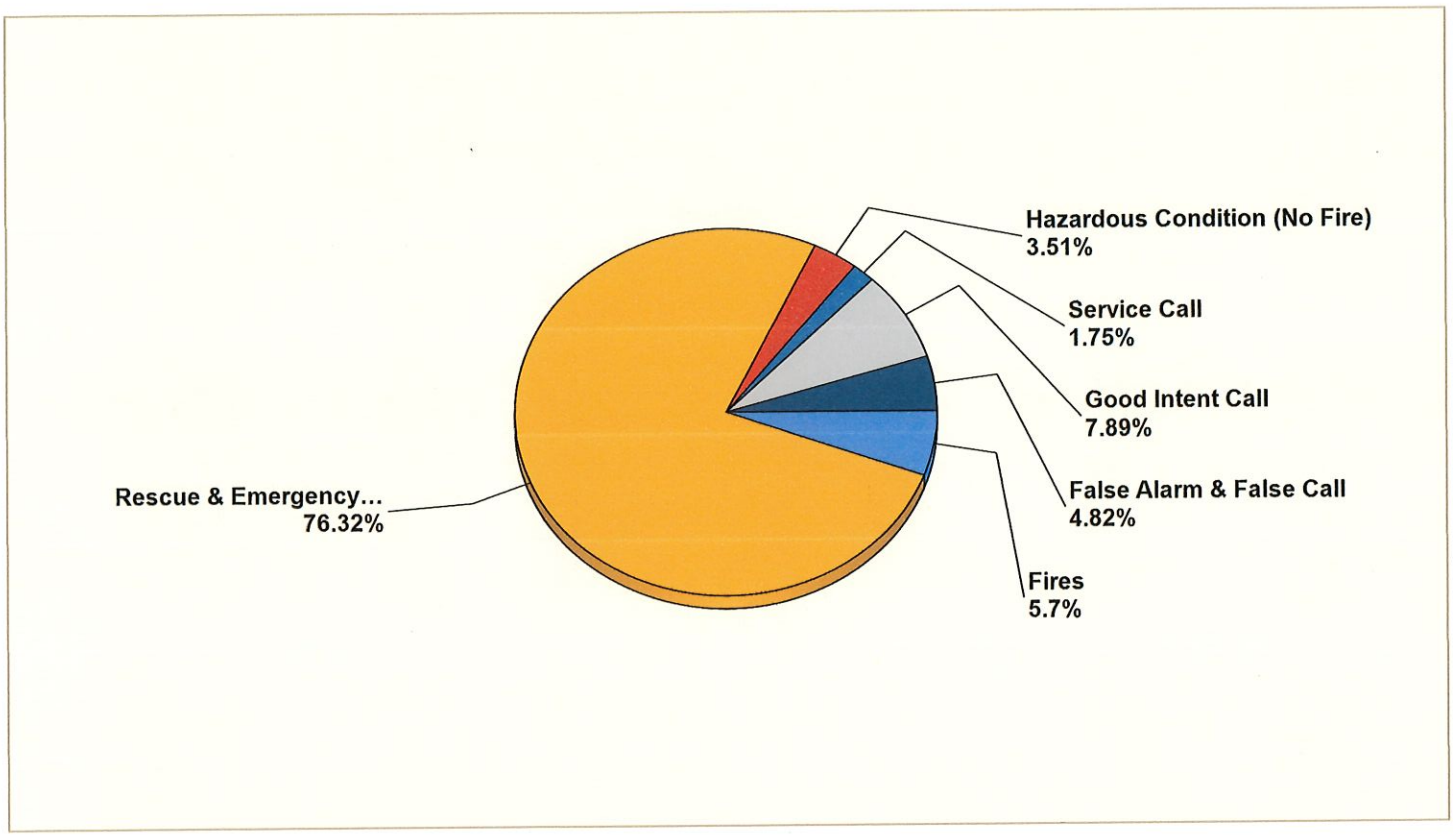
Durant Fire Department

Durant, OK

This report was generated on 6/1/2021 9:05:48 AM

Breakdown by Major Incident Types for Date Range

Zone(s): All Zones | Start Date: 05/01/2021 | End Date: 05/31/2021



MAJOR INCIDENT TYPE	# INCIDENTS	% of TOTAL
Fires	13	5.7%
Rescue & Emergency Medical Service	174	76.32%
Hazardous Condition (No Fire)	8	3.51%
Service Call	4	1.75%
Good Intent Call	18	7.89%
False Alarm & False Call	11	4.82%
TOTAL	228	100%

Only REVIEWED and/or LOCKED IMPORTED incidents are included. Summary results for a major incident type are not displayed if the count is zero.

Detailed Breakdown by Incident Type		
INCIDENT TYPE	**# INCIDENTS**	**% of TOTAL**
111 - Building fire	2	0.88%
112 - Fires in structure other than in a building	1	0.44%
113 - Cooking fire, confined to container	2	0.88%
118 - Trash or rubbish fire, contained	2	0.88%
131 - Passenger vehicle fire	4	1.75%
132 - Road freight or transport vehicle fire	1	0.44%
142 - Brush or brush-and-grass mixture fire	1	0.44%
311 - Medical assist, assist EMS crew	154	67.54%
322 - Motor vehicle accident with injuries	9	3.95%
323 - Motor vehicle/pedestrian accident (MV Ped)	1	0.44%
324 - Motor vehicle accident with no injuries.	9	3.95%
352 - Extrication of victim(s) from vehicle	1	0.44%
400 - Hazardous condition, other	1	0.44%
411 - Gasoline or other flammable liquid spill	1	0.44%
412 - Gas leak (natural gas or LPG)	1	0.44%
440 - Electrical wiring/equipment problem, other	1	0.44%
444 - Power line down	1	0.44%
445 - Arcing, shorted electrical equipment	3	1.32%
551 - Assist police or other governmental agency	2	0.88%
561 - Unauthorized burning	2	0.88%
600 - Good intent call, other	1	0.44%
611 - Dispatched & cancelled en route	14	6.14%
651 - Smoke scare, odor of smoke	3	1.32%
700 - False alarm or false call, other	2	0.88%
711 - Municipal alarm system, malicious false alarm	1	0.44%
713 - Telephone, malicious false alarm	1	0.44%
733 - Smoke detector activation due to malfunction	3	1.32%
735 - Alarm system sounded due to malfunction	2	0.88%
745 - Alarm system activation, no fire - unintentional	2	0.88%
TOTAL INCIDENTS:	**228**	**100%**

Only REVIEWED and/or LOCKED IMPORTED incidents are included. Summary results for a major incident type are not displayed if the count is zero.

The City of Durant

Memorandum

Date:	6/8/2021
To:	Mayor and City Council
From:	Kari Jones, Supervisor
Re:	Human Resources Monthly Report- May 2021

Date: 06/01/2021
To: Mayor and City Council
From: Human Resources
Re: HR Report, May 2021

_____

Staffing info for May 2021:

5 Terminations (4 Full- time, 1 Part-time)
27 New Hires (3 Full-time, 26 Temporary)

250 Total Employees as of May 31st, 2021.
(213 Full-time, 5 Part-time, 32 Temporary)

Council Information / Action Requested
Information only.

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From: Robbee Tonubbee, Director
Re: Library Monthly Report - May 2021

Report for May 2021

Council Information / Action Requested

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:
1. Library Monthly report May2021

Donald W Reynolds Community Center & Library

May 2021

Statistical Report

Attendance monthly total ----------*limitations lifted M 4/19*---------- 4,087

We were open 25 days this month.

Attendance daily average ----------163

Circulation monthly (physical units)---------- 4,154

Circulation average daily ---------- 166

Computer usage total ----------349

Computer users average daily---------- 14

Computer usage average time---------- 32 min

Computer guest passes----------150

Computer guest passes average daily----------6

New Library card holders----------104

Materials donated ---------- 1355

(70 put in collection)

Interesting Statistics

Attendance: We have gone back to our normal hours to M-FR 9:00am to 8:00pm and SA 9:00am to 5:00pm. We opened both entrances towards the end of April and removed the computer lab restrictions. Public areas are still being sanitized, shields are up at the circ desk, and masks are worn when in close proximity with patrons. The statistics do not include the traffic at the drive thru window. Many are requesting copies, faxing, and scanning to email through the window as well as picking up request/hold items.

Revenue: $3,026.38 for May. There were several paying events in the community center this month totaling over $1400; ECU/SE Nursing Graduation Reception, OU Foster Parent Training, Webstaurant hiring event, Centric Healthcare meetings, Texoma Board of Realtors, & a local graduation party. Payment for the 3 week foster parent training will come in June/July.

$700 in copies, $185 in faxes, $417 in fines, $85 in lost items, $72 in replacement cards, and $125 in out-of-county memberships.

What's Happened

- The "Very Hungry Reader" food program resumed evening meals and snacks (M-F from 4:00pm to 6:00pm, ending on Fridays at 5:00 due to going back to regular hours) w/a total of **446** for the month with an average of **18** meals per day. The final week of May saw a 40%+ increase in meals for the week.

-The City held a city budget meeting with department heads, administration, and the city council. PD held their awards ceremony and community sponsored dinner on May 10th in the theater. The library hosted the first "Ward Meeting" in May and will continue to host monthly in the meeting room.

-The library hosted court-ordered mediations, literacy sessions, GED classes in the computer lab through the Ardmore Adult Ed. Center, a deposition, & summer school visits. May had a greater number of paying events and reservations for the upcoming year.

Community Engagement/FOL

- The library begins its Summer Reading Program, "Tails & Tales" on June 1st with participants in 3 groups: 5-8 years old, 9-12 years old, and teens. This program runs for the months of June and July meeting on Tuesdays and Thursdays in the community center's Theater. There are many community guests for the program including the Durant PRCA group and a local bee keeper. The program is sponsored by local businesses and organizations in addition to city funding.

-The library has been extended as an evening food site through 7/31/21, maybe through the end of 2021. These meals and snacks are provided by the Oklahoma Food Bank program and are a part of the library's "Very Hungry Reader" program. The meals are picked up in the drive thru and are available from 4:00-6:00pm weekdays, sans Fridays as we now close at 5:00pm.

- A local chess coach began a chess club in the library's conference room on Saturdays. Coach Curtis is volunteering to do chess games for kids and adults a few Saturdays a month. Beginning in June the program will move to both Adult Chess & Kids Chess in the Community Center's Meeting Room every Saturday from 12:30pm – 2:00pm

-The library will partner with Durant Main Street to put donated books in their new "Little Library" in one of the downtown pocket parks. This little library will have free books to take or trade for all ages.

Projects

- IT replaced the laptops in the theater & meeting room as these laptops are used by groups renting these rooms and the current computers are not working at full capacity (they are almost 10 years old.) They have also replaced computers at the circulation desk and are finished replacing staff computers for this year's cycle.

- The library's roof has not shown any more signs of leaking since the contractor came and sealed some rooftop HVAC vents. If there is no new damage by the end of summer the sheetrock will be replaced in the areas that had leaks.

- The library was approved to move on to the engineering for the Library Park which will begin, tentatively, in July. This project is being funded by the Pendleton donation.

- The library will house the covid relief grant program, Utility Billing Assistance Program, to help City of Durant utility customers with their bills. This program will help citizens needing help with their water bills for the next two years. About six water customers qualified for help in the first two weeks of the program.

- The library will also be able to take water bill payments through the drive thru window later in the year as an awning is being put up over the drive thru window and drop box in the summer.

Library Promotion

Library Website – www.donaldwreynolds.okpls.org

Donald W Reynolds & Donald W Reynolds Friends of the Library- FACEBOOK FOR PHOTOS AND INFORMATION

http://www.facebook.com/home.php?#!/rlwpubliclibrary

"Check it out at the Library" - weekly column with the Sunday edition of the Durant Daily Democrat. *Currently on hold.*

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From:
Re: Police Department Monthly Report - April 2021

The grant funded Computer Aided Dispatch (CAD) upgrade through Motorola Spillman Flex is progressing along. Added to this project last month was the second arm of the CAD project, Motorola Flex Records Management System (RMS). These projects are on track for full implementation in July. The project management, configuration and implementation will ramp up in June and continue to go live. A third leg of this upgrade project is Geographical Information Systems (GIS). It too is on track with a final product projected in August. A voice recorder upgrade is a fourth and very important component of the dispatch system. This component is detailed in the FY 21/22 capital improvement budget to be considered this evening at the June council meeting.

Judge Ken Rainbolt swore in two new police recruits Meghan Bruce and Nathan Price on May 21st. Each of them are in week six of training. We anticipate starting another group of 1-3 recruits on June 21.

Council Information / Action Requested
See/Review Attached Report

City Staff Information / Action Follow-up, if Council authorizes this action:
None

ATTACHMENTS:
1. APR 2021

Durant Police Department

3104 Carl Albert Drive
Durant, Ok 74701-5015
Phone 580-924-3737 Fax 580-924-8928
David Houser, Chief of Police

MONTHLY DEPARTMENTAL REPORT

Apr-21

In accordance with the mandatory monthly report to the Oklahoma Bureau of Investigation and the Federal Uniform Crime Reporting system, the following offenses were reported

OFFENSES	Apr-21	Apr-20	YTD 2021
UCR PART 1 CRIMES			
Criminal Homicide	0	0	0
Forcible Rape	0	0	0
Robbery	0	1	1
Aggravated Assaults	5	0	10
Burglary	5	13	29
Larceny-Theft	32	28	97
Motor Vehicle Theft	3	4	12
Arson	0	0	0
UCR Part 1 Crimes - TOTAL	45	46	149
UCR PART 2 CRIMES			
Other Assaults (Simple)**	8	10	27
**Forgery and Counterfeiting; Fraud; Embezzlement; Stolen Property-Buying, Receiving, Possessing;			
Vandalism; Weapons-Carrying, Possessing, etc; Prostitution and Commercialized Vice;			
Sex Offenses; Drug Abuse Violations; Gambling; Offenses Against Family and Children;			
Driving Under the Influence; Liquor Laws; Drunkenness; Disorderly Conduct; Vagrancy;			
All Other Offenses (Warrant Arrests); Suspicion; Curfew and Loitering Laws; Runaways**			
***UCR Part 2 Crimes**-TOTAL*	330	151	1,160
TOTAL OFFENSES (UCR Part 1 & Part 2 Crimes)	375	197	1,309

Domestic Violence Cases	Apr-21	Apr-20	YTD 2021
This number is included in Part 1 Crimes- Aggravated Assaults & Part 2 Crimes-Simple Assaults	4	6	25

Durant Police Department

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Durant, Ok 74701-5015
Phone 580-924-3737 Fax 580-924-8928
David Houser, Chief of Police

MONTHLY DEPARTMENTAL REPORT

Apr-21

ARRESTS	Apr-21	Apr-20	YTD 2021
UCR Part 1 Crimes	5	6	24
UCR Part 2 Crimes	191	54	610
Juvenile Crimes	4	9	11
TOTAL ARRESTS	200	69	645

EOD Actions	18	23	84

Emergency **O**rder of **D**etentions include the preparation of reports and affidavit to commit persons for an emergency mental health evaluation, having the officer stand by while the evaluation is conducted by a mental health professional, and then the transport to an approved state mental health institution for treatment. (Norman, McAlester, Ada or Sulphur)

MOTOR VEHICLE COLLISIONS	Apr-21	Apr-20	YTD 2021
Injury Accidents	4	2	28
Property Damage Accidents	51	12	179
Private Property Accidents	15	2	45
Fatality Accidents	0	0	1
TOTAL ACCIDENTS	70	16	253

CITATIONS	Apr-21	Apr-20	YTD 2021
Traffic/Non-Traffic Citations	656	95	2,171
Warnings	260	35	571
DUI	17	4	56
TOTAL	933	134	2,798

Durant Police Department

3104 Carl Albert Drive
Durant, Ok 74701-5015
Phone 580-924-3737 Fax 580-924-8928
David Houser, Chief of Police

MONTHLY DEPARTMENTAL REPORT

Apr-21

CALLS FOR SERVICE	Apr-21	Apr-20	YTD 2021
Durant Police Department	2,346	1,402	8,633
Bryan County*	2,494	1,395	8,973
TOTAL CALLS FOR SERVICE	4,840	2,797	17,606

*Bryan County *Calls for Service* include all calls received for any jurisdictions participating in the CAD System and contracting with the City of Durant for communication services: Achille PD; Bryan County Sheriff's Office; Bennington PD; Bokchito PD; Bryan County District Attorney's Office; Caddo PD; Calera PD; Choctaw Nation Tribal; Colbert PD; OHP; and SOSU PD

RESERVE HOURS	110	130	522.00
CHAPLAIN HOURS	18.75	8.5	86.5

Department Report Totals (OSBI-UCR)

2021	>>> MISC OFFENSES <<<													>>> ARRESTS <<<					> COLLISIONS (MVC) <					>>> > CITATIONS < <<<				CALLS FOR SERVICE					>> ANIMAL CONTROL <<			
	MUR-DER	RAPE	ROB-BERY	ASSAULTS AGG	ASSAULTS SIMP	BURG B&E	LAR-CENY	MV THEFT	AR-SON	UCR PT 1	UCR PT 2	TOTAL OFF	DOM VIOL	UCR PT 1	UCR PT 2	JUV	TOTAL	EOD	INJU-RIES	PROP DAM	PRIV PROP	FATAL-ITIES	TOTAL	TRAF/NON-TRAF CITS	WARN	DUI	TOTAL	DURANT	BRYAN CO	TOTAL	RESERVE HOURS	Chaplain Hours	CFS	CITA-TIONS	FELS COU	ADOP-TIONS
JAN	0	0	1	1	6	10	23	1	0	36	280	316	7	6	129	1	136	23	8	37	8	1	54	490	105	10	605	2,044	1,889	3,933	147.0	17.25	128	6		0
FEB	0	0	0	1	9	4	19	2	0	26	231	257	10	2	109	5	116	11	7	43	6	0	56	448	90	16	554	1,884	1,828	3,712	175.0	43.00	121	3		3
MAR	0	0	0	3	4	10	23	6	0	42	319	361	4	11	181	1	193	32	9	48	16	0	73	577	116	13	706	2,359	2,762	5,121	90.0	7.50	127	7		0
APR	0	0	0	5	8	5	32	3	0	45	330	375	4	5	191	4	200	18	4	51	15	0	70	656	260	17	933	2,346	2,494	4,840	110.0	18.75				
MAY										0		0					0						0				0			0						
JUNE										0		0					0						0				0			0						
JULY										0		0					0						0				0			0						
AUG										0		0					0						0				0			0						
SEPT										0		0					0						0				0			0						
OCT										0		0					0						0				0			0						
NOV										0		0					0						0				0			0						
DEC										0		0					0						0				0			0						
TOTAL	0	0	1	10	27	29	97	12	0	149	1,160	1,309	25	24	610	11	645	84	28	179	45	1	253	2,171	571	56	2,798	8,633	8,973	17,606	522.00	86.50	376	16		3

2020	>>> MISC OFFENSES <<<													>>> ARRESTS <<<					> COLLISIONS (MVC) <					>>> > CITATIONS < <<<				CALLS FOR SERVICE					>> ANIMAL CONTROL <<			
	MUR-DER	RAPE	ROB-BERY	ASSAULTS AGG	ASSAULTS SIMP	BURG B&E	LAR-CENY	MV THEFT	AR-SON	UCR PT 1	UCR PT 2	TOTAL OFF	DOM VIOL	UCR PT 1	UCR PT 2	JUV	TOTAL	EOD	INJU-RIES	PROP DAM	PRIV PROP	FATAL-ITIES	TOTAL	TRAF/NON-TRAF CITS	WARN	DUI	TOTAL	DURANT	BRYAN CO	TOTAL	RESERVE HOURS	Chaplain Hours	CFS	CITA-TIONS	FELS COU	ADOP-TIONS
JAN	0	2	0	1	9	19	41	4	0	67	283	350	5	10	161	0	171	29	11	36	11	0	58	655	151	11	817	2,592	1,646	4,238	134.5	17.75	207	0		3
FEB	0	1	1	1	10	3	32	5	1	44	270	314	3	5	152	2	159	16	11	41	11	0	63	569	118	12	699	2,263	1,633	3,896	90.0	26.25	172	1		2
MAR	2	0	0	2	11	9	30	5	0	48	213	261	5	7	111	1	119	24	4	34	10	0	48	293	57	5	355	1,773	1,776	3,549	134.0	7.50	112	3		1
APR	0	0	1	0	10	13	28	4	0	46	151	197	6	6	54	9	69	23	2	12	2	0	16	95	35	4	134	1,402	1,395	2,797	130.0	8.50	205	9		1
MAY	0	1	0	9	9	14	34	1	0	59	284	343	6	6	125	1	132	27	6	23	11	1	41	622	155	13	790	2,735	1,993	4,728	207.0	22.75	239	5		1
JUNE	0	1	0	2	19	17	37	4	0	61	332	393	11	3	148	1	152	33	5	31	14	0	50	645	374	6	1,025	2,430	2,073	4,503	204.0	23.25	194	23		1
JULY	0	0	1	1	16	11	22	6	0	41	249	290	11	6	125	3	134	33	10	33	15	0	58	612	343	9	964	2,308	1,997	4,305	188.0	0.50	208	12		1
AUG	0	0	1	2	11	12	47	3	0	65	346	411	10	9	167	4	180	27	8	32	9	0	49	522	196	16	734	2,220	2,204	4,424	210.0	12.25	157	19		0
SEPT	0	1	0	3	8	10	22	3	0	39	254	293	8	7	149	2	158	42	13	36	8	1	58	297	78	4	379	2,091	1,919	4,010	194.0	9.25	227	9		3
OCT	0	1	1	2	10	8	28	3	0	43	326	369	6	13	173	1	187	25	11	40	11	0	62	353	81	6	440	2,166	2,044	4,210	129.0	10.75	267	21		0
NOV	0	0	0	0	10	10	30	4	0	44	231	275	7	8	112	3	123	17	9	36	5	0	50	499	73	4	576	2,231	2,106	4,337	177.0	4.25	184	34		0
DEC	0	0	0	3	16	9	26	5	0	43	191	234	13	18	82	6	106	22	13	39	10	0	62	314	52	3	369	1,815	1,935	3,750	165.0	1.50	153	8		4
TOTAL	2	7	5	26	139	135	377	47	1	600	3,130	3,730	91	98	1,559	33	1,690	318	103	393	117	2	615	5,476	1,713	93	7,282	26,026	22,721	48,747	1,962.50	144.50	2,325	144		17

2019	>>> MISC OFFENSES <<<													>>> ARRESTS <<<					> COLLISIONS (MVC) <					>>> > CITATIONS < <<<				CALLS FOR SERVICE					>> ANIMAL CONTROL <<			
	MUR-DER	RAPE	ROB-BERY	ASSAULTS AGG	ASSAULTS SIMP	BURG B&E	LAR-CENY	MV THEFT	AR-SON	UCR PT 1	UCR PT 2	TOTAL OFF	DOM VIOL	UCR PT 1	UCR PT 2	JUV	TOTAL	EOD	INJU-RIES	PROP DAM	PRIV PROP	FATAL-ITIES	TOTAL	TRAF/NON-TRAF CITS	WARN	DUI	TOTAL	DURANT	BRYAN CO	TOTAL	RESERVE HOURS	Chaplain Hours	CFS	CITA-TIONS	FEES COLL	ADOP-TIONS
JAN	0	0	0	11	5	18	25	2	0	56	221	277	6	14	128	1	143	24	13	30	12	1	56	311	246	10	567	1,975	1,994	3,969	95.0	14.75	168	2		4
FEB	0	0	0	3	14	14	35	1	0	53	193	246	10	10	104	0	114	13	6	35	14	0	55	241	173	9	423	1,764	1,718	3,482	91.0	4.25	163	1		3
MAR	1	0	0	9	11	16	36	1	0	63	222	285	9	6	136	1	143	16	8	33	15	0	56	239	133	15	387	1,746	2,034	3,780	105.0	9.75	199	4		6
APR	0	0	1	2	15	11	32	5	0	51	235	286	8	8	121	0	129	23	14	45	8	0	67	252	106	7	365	1,916	1,684	3,600	104.0	10.50	196	1		4
MAY	0	0	0	8	20	15	66	8	1	98	280	378	16	19	153	6	178	22	17	38	15	0	70	422	132	15	569	2,409	2,039	4,448	329.0	15.50	161	1		4
JUNE	0	4	1	3	12	9	54	6	0	77	250	327	10	15	139	1	155	23	9	30	22	0	61	367	192	7	566	2,304	1,946	4,250	123.0	3.00	191	2		11
JULY	0	1	0	4	10	12	50	9	0	76	273	349	7	16	128	2	146	27	13	22	18	0	53	317	207	8	532	2,090	1,938	4,028	151.0	3.50	207	2		7
AUG	0	1	0	4	10	14	65	3	0	87	286	373	7	10	140	5	155	17	9	26	24	0	59	458	338	10	806	2,418	1,779	4,197	232.0	4.00	180	3		12
SEPT	0	0	1	3	12	12	34	4	0	54	236	290	6	11	145	0	156	20	12	35	19	0	66	493	378	14	885	2,327	1,783	4,110	198.5	5.75	208	3		22
OCT	0	0	0	2	14	19	43	6	0	70	219	289	8	11	133	3	147	24	13	27	13	1	54	291	51	23	365	2,057	1,642	3,699	351.0	15.75	242	11		22
NOV	0	0	0	2	11	20	48	8	1	79	236	315	5	14	138	1	153	16	13	26	14	2	55	221	29	20	270	1,938	1,607	3,545	310.0	13.50	235	6		8
DEC	0	1	2	1	8	30	46	4	0	84	272	356	4	10	164	1	175	31	13	30	11	1	55	244	122	14	380	2,141	1,797	3,938	528.0	8.00	222	4		41
TOTAL	1	7	5	52	142	190	534	57	2	848	2,923	3,771	96	144	1,629	21	1,794	256	140	377	185	5	707	3,856	2,107	152	6,115	25,085	21,961	47,046	2,617.50	108.25	2,372	40		144

2018	>>> MISC OFFENSES <<<													>>> ARRESTS <<<					> COLLISIONS (MVC) <					>>> > CITATIONS < <<<				CALLS FOR SERVICE					>> ANIMAL CONTROL <<			
	MUR-DER	RAPE	ROB-BERY	ASSAULTS AGG	ASSAULTS SIMP	BURG B&E	LAR-CENY	MV THEFT	AR-SON	UCR PT 1	UCR PT 2	TOTAL OFF	DOM VIOL	UCR PT 1	UCR PT 2	JUV	TOTAL	EOD	INJU-RIES	PROP DAM	PRIV PROP	FATAL-ITIES	TOTAL	TRAF/NON-TRAF CITS	WARN	DUI	TOTAL	DURANT	BRYAN CO	TOTAL	RESERVE HOURS	Chaplain Hours	CFS	CITA-TIONS	FEES COLL	ADOP-TIONS
JAN	0	0	0	1	11	20	40	1	0	62	243	305	6	6	130	6	142	20	9	28	10	0	47	321	320	6	647	1,741	1,728	3,469	220.0	13.75	172	2		31
FEB	0	0	1	9	7	16	41	3	0	70	209	279	8	12	100	1	113	15	10	45	12	0	67	205	53	2	260	1,621	1,548	3,169	184.0	8.25	151	1		29
MAR	0	0	0	1	20	12	57	5	0	75	226	301	8	12	105	3	120	21	20	33	12	1	66	261	102	5	368	1,883	2,141	4,024	167.5	4.75	191	1		42
APR	0	0	0	2	10	16	51	8	1	78	223	301	5	10	101	5	116	20	19	37	17	0	73	296	190	6	492	1,647	1,870	3,517	145.0	12.50	153	0		38
MAY	0	1	0	4	10	19	86	5	1	116	254	370	8	15	124	1	140	27	13	31	11	0	55	239	120	7	366	2,010	2,268	4,278	178.0	17.25	142	0		41
JUNE	0	0	0	4	13	19	70	5	1	99	249	348	8	15	109	3	127	18	15	29	20	0	64	222	260	4	486	1,987	2,040	4,027	242.0	9.75	161	0		5
JULY	0	0	0	2	7	22	52	4	0	80	211	291	4	15	101	6	122	19	10	25	12	0	47	177	279	9	465	1,904	2,024	3,928	167.0	5.00	166	2		3
AUG	0	0	1	6	17	9	48	5	0	69	237	306	6	11	126	1	138	24	11	27	11	1	50	196	210	8	414	1,771	2,165	3,936	122.0	8.25	156	1		4
SEPT	0	0	1	5	8	19	40	6	0	71	186	257	9	17	84	2	103	24	15	32	10	0	57	154	220	3	377	1,672	2,059	3,731	235.5	2.25	196	0		7
OCT	0	1	0	6	5	10	51	7	0	75	229	304	6	12	125	2	139	26	11	35	14	0	60	190	126	6	322	1,764	1,741	3,505	245.5	9.75	196	0		12
NOV	0	1	1	2	10	16	55	2	1	78	261	339	6	15	112	1	128	20	12	42	11	0	65	231	275	6	512	1,851	1,897	3,748	104.0	4.00	178	3		2
DEC	0	1	0	3	10	16	66	7	0	93	220	315	8	15	120	8	143	21	8	36	10	1	55	244	151	12	407	2,031	2,027	4,058	244.0	13.00	227	2		6
TOTAL	0	4	4	45	128	194	657	58	4	966	2,748	3,716	82	155	1,337	39	1,531	255	153	400	150	3	706	2,736	2,306	74	5,116	21,882	23,508	45,390	2,254.50	108.50	2,089	12		220

2017	>>>	>>>	>>>	MISC OFFENSES					<<<		<<<	<<<		>>> ARRESTS <<<					> COLLISIONS (MVC) <					>>> > CITATIONS < <<<				CALLS FOR SERVICE					>> ANIMAL CONTROL <<			
	MUR-DER	RAPE	ROB-BERY	ASSAULTS AGG	ASSAULTS SIMP	BURG B&E	LAR-CENY	MV THEFT	AR-SON	UCR PT 1	UCR PT 2	TOTAL OFF	DOM VIOL	UCR PT 1	UCR PT 2	JUV	TOTAL	EOD	INJU-RIES	PROP DAM	PRIV PROP	FATAL-ITIES	TOTAL	TRAF/NON-TRAF CITS	WARN	DUI	TOTAL	DURANT	BRYAN CO	TOTAL	RESERVE HOURS	Chaplain Hours	CFS	CITA-TIONS	FEES COLL	ADOP-TIONS
JAN	0	0	0	5	12	17	64	8	0	94	324	418	7	20	168	6	194	21	4	32	13	0	49	675	373	9	1,057	2,493	2,036	4,529	150.5	34.00	185	1		51
FEB	0	0	0	4	22	14	67	8	0	93	272	365	15	16	130	10	156	21	11	38	9	0	58	437	454	8	899	1,914	1,951	3,865	109.0	43.75	141	5		27
MAR	0	0	0	6	15	14	39	4	0	63	281	344	9	17	144	5	166	10	15	41	19	0	75	299	224	8	531	2,059	2,025	4,084	177.0	40.25	174	1		40
APR	0	1	0	4	11	9	57	2	0	73	248	321	9	20	114	5	139	22	5	44	17	0	66	352	48	2	402	1,815	1,890	3,705	152.0	19.50	133	5		34
MAY	0	0	0	1	10	14	46	5	0	66	203	269	4	10	117	7	134	18	10	31	6	0	47	235	109	9	353	2,098	1,959	4,057	205.0	22.00	103	0		24
JUNE	0	1	1	6	9	19	58	2	0	87	211	298	7	18	94	6	118	17	14	30	9	1	54	186	32	11	229	1,953	2,015	3,968	298.0	4.50	172	1		31
JULY	0	0	1	2	12	29	62	3	0	97	204	301	9	14	107	3	124	25	11	41	13	0	65	262	268	7	537	2,089	1,951	4,040	203.0	11.50	163	0		37
AUG	0	1	0	2	24	27	61	4	0	95	211	306	14	7	93	4	104	16	10	30	23	0	63	471	664	5	1,140	1,939	2,156	4,095	142.0	14.00	169	3		28
SEPT	0	2	0	6	7	23	45	3	0	79	232	311	9	14	108	4	126	21	10	32	13	1	56	278	92	8	378	2,104	2,033	4,137	159.0	4.75	198	3		38
OCT	0	1	0	6	7	24	46	3	0	80	218	298	2	15	104	2	121	23	19	33	17	0	69	341	244	8	593	2,023	2,065	4,088	0.0	13.25	219	0		20
NOV	0	0	1	3	16	16	57	5	0	82	230	312	6	13	109	6	128	19	13	27	14	1	55	216	103	4	323	1,681	1,978	3,659	163.0	8.75	174	2		18
DEC	0	1	3	3	20	18	64	5	0	94	203	297	10	15	100	2	117	13	9	27	15	0	51	146	23	4	173	1,632	1,776	3,408	315.0	13.00	136	0		31
TOTAL	0	7	6	48	165	224	666	52	0	1,003	2,837	3,840	101	179	1,388	60	1,627	226	131	406	168	3	708	3,898	2,634	83	6,615	23,800	23,835	47,635	2,073.50	229.25	1,967	21		379

2016	>>>	>>>	>>>	MISC OFFENSES					<<<		<<<	<<<		>>> ARRESTS <<<					> COLLISIONS (MVC) <					>>> > CITATIONS < <<<					CALLS FOR SERVICE					>> ANIMAL CONTROL <<			
	MUR-DER	RAPE	ROB-BERY	ASSAULTS AGG	ASSAULTS SIMP	BURG B&E	LAR-CENY	MV THEFT	AR-SON	UCR PT 1	UCR PT 2	TOTAL OFF	DOM VIOL	UCR PT 1	UCR PT 2	JUV	TOTAL	EOD	INJU-RIES	PROP DAM	PRIV PROP	FATAL-ITIES	TOTAL	TRAF-FIC	NON-TRAF	WARN	DUI	TOTAL	DURANT	BRYAN CO	TOTAL	RESERVE HOURS	Chaplain Hours	CFS	CITA-TIONS	FEES COLL	ADOP-TIONS
JAN	0	0	1	3	9	11	50	3	0	68	231	299	6	19	138	7	164	20	7	40	14	0	61	261	62	126	11	460	1,802	1,691	3,493	295.0	21.75	119	2		31
FEB	0	1	1	5	17	8	55	1	1	72	244	316	11	14	118	18	150	12	12	40	13	0	65	445	69	246	10	770	1,869	1,757	3,626	200.0	14.25	133	2		26
MAR	0	0	0	2	25	10	50	3	1	66	221	287	13	14	113	6	133	22	14	51	19	0	84	373	73	134	10	590	2,073	1,895	3,968	143.5	22.25	181	11		46
APR	0	1	0	4	23	22	45	5	1	78	241	319	15	21	124	10	155	22	2	37	18	0	57	405	61	207	15	688	1,986	1,857	3,843	230.0	8.00	169	6		22
MAY	0	1	0	8	10	18	75	1	0	103	214	317	9	25	108	6	139	18	13	40	4	2	59	371	56	111	7	545	2,267	2,170	4,437	178.5	43.75	144	4		25
JUNE	0	0	2	1	16	13	66	2	0	84	242	326	11	19	53	10	82	24	16	35	8	1	60	228	49	87	9	373	2,121	1,981	4,102	203.0	3.25	185	1		51
JULY	0	1	0	9	8	19	74	1	0	104	236	340	7	16	114	1	131	16	8	26	14	0	48	214	30	109	9	362	2,239	2,029	4,268	87.0	12.25	224	3		39
AUG	0	1	0	8	16	15	59	2	0	85	252	337	17	19	147	9	175	20	12	37	14	0	63	377	36	117	12	542	2,698	1,917	4,615	320.5	14.75	179	2		52
SEPT	0	0	0	4	12	13	50	1	0	68	258	326	6	14	119	5	138	16	13	29	17	0	59	338	10	59	6	413	2,349	1,830	4,179	302.0	9.50	171	6		30
SubT	0	5	4	44	136	129	524	19	3	728	2,139	2,867	95	161	1,034	72	1,267	170	97	335	121	3	556	####	446	1,196	89	4,743	19,404	17,127	36,531	1,960	150	1,505	37		322
OCT	0	0	0	1	14	16	68	5	0	90	218	308	5	19	102	6	127	15	11	31	18	1	61	333	53	6	392	2,160	1,766	3,926	272.0	15.30	134	2		67
NOV	0	1	0	3	13	16	85	4	0	109	237	346	7	23	98	9	130	26	9	41	14	2	66	435	200	7	642	1,919	1,685	3,604	193.0	18.50	110	4		28
DEC	0	0	1	5	10	7	45	5	0	63	193	256	7	11	84	8	103	19	8	27	23	0	58	348	196	0	544	1,999	1,921	3,920	215.0	31.50	145	0		28
SubT	0	1	1	9	37	39	198	14	0	262	648	910	19	53	284	23	360	60	28	99	55	3	185	1,116	449	13	1,578	6,078	5,372	11,450	680	65	389	6		123
TOTAL	0	6	5	53	173	168	722	33	3	990	2,787	3,777	114	214	1,318	95	1,627	230	125	434	176	6	741	4,574	1,645	102	6,321	25,482	22,499	47,981	2,640	215	1,894	43		445

2015	>>> MISC OFFENSES <<<													>>> ARRESTS <<<						> COLLISIONS (MVC) <					>>> > CITATIONS < <<<					CALLS FOR SERVICE					>> ANIMAL CONTROL <<			
	MUR-DER	RAPE	ROB-BERY	ASSAULTS AGG	ASSAULTS SIMP	BURG B&E	LAR-CENY	MV THEFT	AR-SON	UCR PT 1	UCR PT 2	TOTAL OFF	DOM VIOL	UCR PT 1	UCR PT 2	JUV	TOTAL	EOD	INJU-RIES	PROP DAM	PRIV PROP	FATAL-ITIES	TOTAL	TRAF-FIC	NON-TRAF	WARN	DUI	TOTAL	DURANT	BRYAN CO	TOTAL	RESERVE HOURS	Chaplain Hours	CFS	CITA-TIONS	FEES COLL	ADOP-TIONS
JAN	0	2	0	1	9	16	73	3	0	95	245	349	7	25	120	6	151	21	9	36	9	2	56	422	62	62	9	555	2,247	1,730	3,977	248.5	13.50	123	0	$57	20
FEB	0	0	0	2	14	23	80	1	0	106	235	355	11	24	114	12	150	11	11	36	12	0	59	373	89	96	14	572	1,857	1,443	3,300	250.0	28.00	152	3	$162	21
MAR	0	0	0	1	17	20	97	4	2	124	243	384	8	32	138	10	180	12	5	42	15	1	63	148	90	91	6	335	1,957	1,875	3,832	284.5	27.75	160	12	$109	25
APR	0	0	0	6	15	23	75	5	0	109	216	340	12	27	119	6	152	20	12	32	13	0	57	163	70	67	6	306	1,950	1,991	3,941	306.5	16.25	117	5	$20	13
MAY	0	0	0	3	15	13	81	4	0	101	211	327	12	27	111	14	152	18	5	33	17	1	56	283	79	78	9	449	2,002	1,967	3,969	392.0	21.50	143	1	$17	15
JUNE	0	2	1	2	14	10	62	3	0	80	211	305	7	16	119	6	141	17	10	39	15	0	64	326	74	117	10	527	2,196	1,984	4,180	149.0	5.25	171	3	$0	27
JULY	0	2	0	4	16	18	56	3	0	83	230	329	15	23	147	5	175	19	13	26	19	1	59	362	75	113	12	562	2,312	1,860	4,172	330.0	23.00	161	1	$0	23
AUG	0	0	0	3	5	11	72	0	0	86	253	344	7	19	151	4	174	19	12	35	20	0	67	291	66	125	8	490	2,353	1,817	4,170	212.0	26.25	139	1	$0	25
SEPT	0	1	0	5	17	12	62	6	0	86	268	371	15	19	148	8	175	18	8	30	27	0	65	175	68	154	11	408	2,045	1,650	3,695	233.0	9.25	157	2	$0	20
OCT	0	0	2	2	19	17	98	5	0	124	220	363	12	25	109	10	144	22	18	39	13	0	70	250	53	134	6	443	1,783	1,621	3,404	291.0	20.50	164	9	$0	27
NOV	0	0	0	2	7	13	68	4	0	87	164	258	4	22	87	5	114	12	6	35	14	0	55	268	57	165	2	492	1,583	1,743	3,326	407.0	14.50	133	14	$0	31
DEC	0	1	0	5	12	9	59	4	1	79	182	273	8	26	96	4	126	16	15	36	16	0	67	222	56	186	9	473	1,556	1,587	3,143	408.0	25.75	135	10	$0	40
Totals	0	8	3	36	160	185	883	42	3	1,160	2,678	3,998	118	285	1,459	90	1,834	205	124	419	190	5	738	####	839	1,388	102	5,612	23,841	21,268	45,109	3,511.5	231.50	1,755	61	$365	287

2014	>>> MISC OFFENSES <<<													>>> ARRESTS <<<					> COLLISIONS (MVC) <					>>> > CITATIONS < <<<					CALLS FOR SERVICE					>> ANIMAL CONTROL <<			
	MUR-DER	RAPE	ROB-BERY	ASSAULTS AGG	ASSAULTS SIMP	BURG B&E	LAR-CENY	MV THEFT	AR-SON	UCR PT 1	MISC OFF	TOTAL OFF	DOM VIOL	FEL-ONIES	MISD	JUV	TOTAL	EOD	INJU-RIES	PROP DAM	PRIV PROP	FATAL-ITIES	TOTAL	TRAF-FIC	NON-TRAF	WARN	DUI	TOTAL	DURANT	BRYAN CO	TOTAL	RESERVE HOURS	Chaplain Hours	CFS	CITA-TIONS	FEES COLL	ADOP-TIONS
JAN	0	0	0	8	0	12	66	6	0	92	239	331	6	42	142	9	193	21	11	28	14	0	53	324	63	8	14	409	2,164	1,473	3,637	348.0		122	0	$188	28
FEB	0	0	0	2	0	12	77	3	0	94	184	278	5	50	79	11	140	11	10	43	16	0	69	169	57	7	8	241	1,748	1,374	3,122	259.5		103	4	$91	13
MAR	0	1	0	4	0	20	71	4	0	100	210	310	9	41	70	9	120	16	11	41	10	1	63	128	43	18	6	195	1,947	1,587	3,534	447.5		152	1	$154	22
APR	0	0	0	7	1	14	60	3	0	84	236	321	13	45	110	3	158	13	6	23	9	1	39	138	101	0	18	257	2,041	1,652	3,693	472.0		151	7	$50	15
MAY	0	1	2	3	1	28	71	6	1	112	257	371	9	53	129	9	191	13	5	46	13	0	64	291	97	43	13	444	2,322	1,907	4,229	459.5		113	0	$111	27
JUNE	0	1	0	4	15	16	65	7	0	93	257	365	10	51	137	6	194	13	6	32	7	1	46	112	63	7	8	190	2,060	1,671	3,731	246.5		93	1	$214	22
JULY	0	0	0	5	11	29	60	8	0	102	215	328	10	49	109	5	163	18	5	30	14	0	49	136	47	221	8	412	2,089	1,531	3,620	217.5		113	0	$70	24
AUG	0	1	1	4	18	29	67	7	0	109	250	377	9	60	126	6	192	7	9	30	11	0	50	175	86	332	15	608	1,938	1,578	3,516	425.0		87	0	$70	13
SEPT	0	2	1	10	9	16	85	4	0	118	207	334	5	10	154	4	168	14	10	50	18	0	78	182	75	368	10	635	1,965	1,529	3,494	340.0		112	2	$60	17
OCT	0	0	0	5	16	21	82	8	0	116	234	366	10	62	103	7	172	11	6	57	26	0	89	80	72	2	10	164	1,820	1,664	3,484	333.5		119	2	$74	19
NOV	0	0	0	5	8	13	50	3	0	71	201	280	8	44	98	4	146	17	16	41	11	0	68	157	58	278	7	500	1,643	1,587	3,230	188.5		96	0	$122	17
DEC	0	2	0	0	14	11	77	2	0	92	227	333	6	56	83	7	146	13	10	30	14	0	54	161	45	162	6	374	1,708	1,693	3,401	266.5		115	1	$64	19
Totals	0	8	4	57	93	221	831	61	1	1,183	2,717	3,994	100	563	1,340	80	1,983	167	105	451	163	3	722	####	807	1,446	123	4,429	23,445	19,246	42,691	4,004.0		1,376	18	$1,268	236

Department Report Totals (OSBI-UCR)

2013	>>> MISC OFFENSES <<<												>>> ARRESTS <<<					> COLLISIONS (MVC) <					>>> > CITATIONS < <<<					CALLS FOR SERVICE					>> ANIMAL CONTROL <<			
	MUR-DER	RAPE	ROB-BERY	ASSAULTS AGG	ASSAULTS SIMP	BURG B&E	LAR-CENY	MV THEFT	AR-SON		MISC OFF	TOTAL OFF	DOM VIOL	FEL-ONIES	MISD	JUV	TOTAL	EOD	INJU-RIES	PROP DAM	PRIV PROP	FATAL-ITIES	TOTAL	TRAF-FIC	NON-TRAF	WARN	DUI	TOTAL	DURANT	BRYAN CO	TOTAL	RESERVE HOURS	Chaplain Hours	CFS	CITA-TIONS	FEES COLL	ADOP-TIONS
JAN	0	1	1	10	9	20	64	4	1		180	290	9	50	128	6	184	10	11	34	11	1	57	277	40	144	6	467	1,705	1,390	3,095	564.5		114	1	$67	20
FEB	0	0	0	9	9	11	50	1	0		221	301	9	49	137	3	189	13	9	36	26	0	71	255	43	36	7	341	1,566	1,220	2,786	502.0		121	1	$213	27
MAR	0	0	1	20	12	25	73	2	1		188	322	11	54	111	6	171	13	10	32	11	0	53	271	32	52	7	362	1,705	1,584	3,289	424.0		164	1	$203	29
APR	0	0	2	16	13	32	63	4	1		208	339	12	35	115	4	154	18	10	40	13	0	63	203	27	21	4	255	1,658	1,428	3,086	506.5		185	1	$164	43
MAY	0	1	0	9	10	28	72	3	0		208	330	10	20	157	7	177	17	17	37	13	0	67	236	41	49	11	337	1,986	1,400	3,386	377.0		164	3	$105	27
JUNE	0	0	0	19	4	27	71	0	0		192	313	14	32	129	14	175	20	10	24	7	0	41	145	41	39	7	232	1,726	1,471	3,197	356.5		137	0	$189	33
JULY	0	3	0	11	8	14	84	5	0		164	289	9	54	121	3	178	25	12	35	17	0	64	144	46	35	10	235	1,906	1,475	3,381	491.5		123	0	$174	32
AUG	0	2	1	9	9	17	92	6	1		211	348	8	97	138	8	243	11	10	39	11	0	60	187	55	30	8	280	1,960	1,540	3,500	479.0		170	1	$192	29
SEPT	0	0	2	13	8	34	96	0	0		250	403	11	71	102	7	180	17	13	32	13	0	58	117	131	5	10	263	1,808	1,831	3,639	339.5		150	2	$67	26
OCT	0	1	1	5	9	27	69	6	0		237	355	10	47	108	4	155	23	16	23	16	0	55	48	57	2	5	112	1,607	1,504	3,111	402.5		140	1	$40	23
NOV	0	0	0	10	12	19	67	3	0		203	314	6	37	105	8	150	13	11	39	13	0	63	192	54	28	13	287	1,861	1,535	3,396	341.5		123	1	$105	18
DEC	0	2	2	17	3	23	58	5	0		195	305	8	26	109	11	146	10	10	44	13	0	67	138	47	25	5	215	1,755	1,451	3,206	411.5		85	1	$51	10
Totals	0	10	10	148	106	277	859	39	4		2,457	3,909	117	572	1,460	81	2,102	190	139	415	164	1	719	####	614	466	93	3,386	21,243	17,829	39,072	5,196.0		1,676	13	$1,570	317

2012	>>> MISC OFFENSES <<<												>>> ARRESTS <<<					> COLLISIONS (MVC) <					>>> > CITATIONS < <<<					CALLS FOR SERVICE					>> ANIMAL CONTROL <<			
	MUR-DER	RAPE	ROB-BERY	ASSAULTS AGG	ASSAULTS SIMP	BURG B&E	LAR-CENY	MV THEFT	AR-SON		MISC OFF	TOTAL OFF	DOM VIOL	FEL-ONIES	MISD	JUV	TOTAL	EOD	INJU-RIES	PROP DAM	PRIV PROP	FATAL-ITIES	TOTAL	TRAF-FIC	NON-TRAF	WARN	DUI	TOTAL	DURANT	BRYAN CO	TOTAL	RESERVE HOURS	Chaplain Hours	CFS	CITA-TIONS	FEES COLL	ADOP-TIONS
JAN	0	1	0	7	9	11	55	3	0		175	261	8	31	135	8	174	11	11	24	14	0	49	225	37	213	12	487	1,957	1,672	3,629	541.0		163	0	$342	28
FEB	0	0	0	3	4	10	43	2	0		203	265	4	29	115	2	146	10	8	27	12	0	47	230	31	178	12	451	1,752	1,348	3,100	580.0		181	2	$349	56
MAR	0	0	0	9	4	5	41	0	0		194	253	6	36	143	5	184	10	11	31	11	0	53	230	35	139	16	420	2,044	1,368	3,412	570.5		181	0	$224	51
APR	0	0	2	14	10	7	37	4	0		210	284	16	34	169	6	209	10	8	36	5	0	49	220	47	46	21	334	1,907	1,564	3,471	697.5		138	1	$463	19
MAY	0	1	1	9	12	17	37	3	1		215	296	9	32	132	7	171	9	9	33	9	0	51	145	27	34	13	219	1,852	1,643	3,495	845.0		127	0	$185	20
JUNE	0	0	0	19	14	15	53	3	0		158	262	12	35	109	7	151	8	12	34	11	0	57	200	27	93	9	329	1,925	1,555	3,480	914.5		164	1	$178	23
JULY	0	0	2	22	4	20	75	5	0		239	367	11	44	151	25	220	13	9	28	12	0	49	189	52	298	18	557	2,176	1,740	3,916	591.0		147	0	$158	28
AUG	0	4	1	19	4	22	67	0	0		214	331	9	41	142	6	189	17	12	38	15	0	65	128	45	54	5	232	1,804	1,468	3,272	547.5		167	0	$352	44
SEPT	0	2	0	16	9	17	54	3	1		209	311	9	50	164	8	222	10	14	39	17	0	70	297	73	12	8	390	1,968	1,406	3,374	514.5		177	1	$130	44
OCT	0	1	1	11	3	27	51	7	0		215	316	9	35	172	8	215	22	14	39	12	0	65	282	70	15	7	374	1,708	1,478	3,186	722.0		173	1	$316	30
NOV	0	1	1	7	12	21	66	3	0		184	295	9	44	160	12	216	8	16	25	20	0	61	206	58	55	8	327	1,646	1,438	3,084	479.0		124	2	$237	33
DEC	0	1	1	7	6	22	56	3	0		156	252	9	31	94	5	130	6	21	42	17	0	80	132	31	37	5	205	1,646	1,395	3,041	507.0		86	2	$20	15
Totals	0	11	9	143	91	194	635	36	2		2,372	3,493	111	442	1,686	99	2,227	134	145	396	155	0	696	####	533	1,174	134	4,325	22,385	18,075	40,460	7,509.5		1,828	10	$2,954	391

Department Report Totals (OSBI-UCR)

2011	>>> MISC OFFENSES <<<												>>> ARRESTS <<<					> COLLISIONS (MVC) <					>>> > CITATIONS < <<<					CALLS FOR SERVICE					>> ANIMAL CONTROL <<			
	MUR-DER	RAPE	ROB-BERY	ASSAULTS AGG	ASSAULTS SIMP	BURG B&E	LAR-CENY	MV THEFT	AR-SON		MISC OFF	TOTAL OFF	DOM VIOL	FEL-ONIES	MISD	JUV	TOTAL	EOD	INJU-RIES	PROP DAM	PRIV PROP	FATAL-ITIES	TOTAL	TRAF-FIC	NON-TRAF	WARN	DUI	TOTAL	DURANT	BRYAN CO	TOTAL	RESERVE HOURS	Chaplain Hours	CFS	CITA-TIONS	FEES COLL	ADOP-TIONS
JAN	0	3	1	4	14	14	46	3	1		149	235	8	43	168	4	215	11	8	15	41	0	64	428	40	109	22	599	1,625	1,680	3,305	646.5		187	0	$404	50
FEB	0	1	0	8	5	8	35	6	1		180	244	6	36	118	1	155	7	9	50	16	0	75	215	39	54	9	317	1,441	1,439	2,880	681.5		185	0	$310	51
MAR	0	0	0	7	18	18	39	5	0		260	347	17	41	157	6	204	6	13	38	14	0	65	199	40	95	19	353	1,722	1,676	3,398	758.5		228	1	$451	52
APR	0	2	1	6	17	17	25	2	0		259	329	10	29	164	9	202	7	13	49	20	0	82	224	42	69	17	352	1,633	1,568	3,201	1,043.0		166	3	$281	45
MAY	0	0	1	12	6	21	31	3	1		270	345	9	42	205	3	250	9	14	45	9	0	68	451	35	82	15	583	1,950	1,709	3,659	527.5		219	1	$272	58
JUNE	0	0	1	16	12	13	33	3	0		253	331	19	39	158	6	203	9	11	28	15	0	54	328	45	59	20	452	1,912	1,694	3,606	732.0		152	1	$124	32
JULY	0	2	2	11	12	15	41	5	0		173	261	17	30	113	2	145	12	10	30	19	0	59	370	24	83	6	483	1,832	1,849	3,681	379.5		191	1	$324	50
AUG	0	2	1	22	14	16	45	5	0		129	234	21	49	118	2	169	7	10	23	19	0	52	171	25	36	7	239	1,854	1,832	3,686	306.0		206	0	$340	49
SEPT	0	3	1	13	11	19	46	8	0		250	351	14	46	139	1	186	17	12	31	20	0	63	123	49	42	15	229	2,050	1,812	3,862	458.0		279	1	$466	39
OCT	0	6	1	6	8	26	57	4	0		229	337	10	42	159	6	207	4	10	35	16	0	61	148	45	112	16	321	2,068	1,749	3,817	523.5		194	1	$359	40
NOV	0	2	2	8	12	33	53	1	0		186	297	9	30	123	8	161	15	8	24	15	0	47	81	34	129	12	256	1,545	1,586	3,131	397.0		164	1	$362	59
DEC	0	1	0	13	11	23	52	2	0		189	291	15	29	126	9	164	11	11	43	17	0	71	135	42	85	8	270	1,512	1,713	3,225	597.0		162	0	$481	58
Totals	0	22	11	126	140	223	503	47	3		2,527	3,602	155	456	1,748	57	2,261	115	129	411	221	0	761	####	460	955	166	4,454	21,144	20,307	41,451	7,050.0		**2,333**	**10**	**$4,174**	**583**

2010	>>> MISC OFFENSES <<<												>>> ARRESTS <<<					> COLLISIONS (MVC) <					>>> > CITATIONS < <<<					CALLS FOR SERVICE					>> ANIMAL CONTROL <<			
	MUR-DER	RAPE	ROB-BERY	ASSAULTS AGG	ASSAULTS SIMP	BURG B&E	LAR-CENY	MV THEFT	AR-SON		MISC OFF	TOTAL OFF	DOM VIOL	FEL-ONIES	MISD	JUV	TOTAL	EOD	INJU-RIES	PROP DAM	PRIV PROP	FATAL-ITIES	TOTAL	TRAF-FIC	NON-TRAF	WARN	DUI	TOTAL	DURANT	BRYAN CO	TOTAL	RESERVE HOURS	Chaplain Hours	CFS	CITA-TIONS	FEES COLL	ADOP-TIONS
JAN	0	2	1	5	0	24	44	4	0		191	271	10	30	107	9	146	4	8	36	15	0	59	662					1,961	1,533	3,494	385.5		215	0	$326	14
FEB	0	1	0	14	1	4	30	1	0		250	301	13	25	96	4	125	7	11	38	17	0	66	284	50	245	15	594	1,796	1,520	3,316	573.0		188	3	$279	22
MAR	0	0	0	6	0	21	23	1	0		362	413	8	36	148	1	185	10	10	42	13	0	65	313	46	201	20	580	1,831	1,578	3,409	686.0		233	0	$497	49
APR	1	0	1	4	14	16	30	3	1		266	335	11	120	32	7	159	4	10	32	15	0	57	588	45	155	9	797	2,063	1,581	3,644	717.0		188	2	$421	26
MAY	0	1	0	7	7	23	47	4	0		238	327	12	23	145	3	171	4	11	37	18	0	66	444	43	126	22	635	2,000	1,800	3,800	466.0		193	0	$194	15
JUNE	0	0	0	7	16	10	52	1	0		252	338	14	25	115	10	150	7	6	27	6	0	39	238	43	57	10	348	1,715	1,628	3,343	892.5		205	0	$236	9
JULY	0	1	1	15	3	28	67	3	0		267	385	12	31	120	5	156	3	9	37	15	0	61	334	50	95	13	492	1,886	1,639	3,525	325.5		228	0	$274	19
AUG	0	0	0	18	4	18	52	4	1		287	384	11	28	142	6	176	8	11	33	14	0	58	135	66	23	17	241	1,832	1,709	3,541	353.0		209	0	$148	9
SEPT	0	6	0	9	6	34	27	5	1		251	339	5	22	140	5	167	14	11	34	13	1	59	134	51	33	14	232	1,714	1,494	3,208	643.5		197	3	$382	24
OCT	0	0	0	9	20	33	51	2	0		269	384	6	53	208	4	265	6	13	37	13	1	64	228	76	112	14	430	1,865	1,587	3,452	672.5		207	2	$342	22
NOV	0	1	1	5	13	16	39	2	0		215	292	16	50	168	8	226	12	16	53	16	0	85	530	38	115	20	703	1,576	1,624	3,200	591.5		162	0	$351	37
DEC	0	2	0	12	9	27	44	1	0		288	383	6	49	158	6	213	8	13	39	9	0	61	282	57	38	16	393	1,569	1,491	3,060	707.5		107	0	$164	25
Totals	1	14	4	111	93	254	506	31	3		3,136	4,152	124	492	1,579	68	2,139	87	129	445	164	2	740	####	565	1,200	170	5,445	21,808	19,184	40,992	7,013.5		**2,332**	**10**	**$3,614**	**271**

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From: Carl Meade, Street Department
Re: Street Department Report - May 2021

Council Information / Action Requested
Information only.

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:
1. Street Department Report - May 2021

THE CITY OF DURANT
Office of the Street Department

Monthly Report
May 1, 2021 – May 31, 2021

Tasks Completed:

1. Asphalt street repair was done at many locations throughout the city
2. Installed culvert on Meadowlark Ln
3. Street sweeping was done at various locations within the community
4. Traffic signal maintenance was done at various locations within the city
5. Street sign repair, installations, relocations and 27 stop signs replaced
6. Work requests completed 117
7. Filled 1300 potholes in the city
8. Fixed 25 street cuts throughout the city

Planned Tasks:

1. Continue street maintenance activities
2. Drainage improvements at Carl Albert Park
3. Relocate and improve signage throughout the city
4. City wide pothole repair and utility cut repair (asphalt and/or concrete)
5. Continue downtown brick street project

Respectfully Submitted,

Carl Meade

The City of Durant

Memorandum

Date:	6/8/2021
To:	Mayor and City Council
From:	John Dean, City Manager
Re:	Discussion, Consideration, and Possible Action on a Resolution R-2021-14 Establishing a Wage and Salary Plan.

This Resolution would establish a new wage and salary plan. The current 2015 Wage Guide only includes a limited number of hourly positions. The proposed plan includes all full-time positions. In adjusting wages of high turnover and hard to fill positions we have reached the top end of the 2015 wage guide. The staff prepared plan establishes a wage and salary plan that is comparable with other comparable Oklahoma cities wages. The plan sets ranges instead of the previously proposed grade and step system. This plan is simply an updated and more complete version of the 2015 wage guide to which everyone is familiar. Funding for wage increases of this nature have been calculated into the FY 2021-2022 budget.

Council Information / Action Requested

Staff recommends approval of Resolution R-2021-14 Establishing a Wage and Salary Plan.

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:

1. Resolution No. R-2021-14 Wage and Salary Plan
2. R-2021-14 Exhibit A Wage and Salary Plan

RESOLUTION NO. R-2021-14

A RESOLUTION ESTABLISHING A WAGE AND SALARY PLAN FOR NON-COLLECTIVE BARGAINING UNIT EMPLOYEES.

WHEREAS, the City of Durant adopted a Wage Guide in 2015 that established wage ranges for a number of hourly employee positions within the city. The 2015 wage guide has reached its life span in regards to many positions; and,

WHEREAS, the City Council of Durant recognized in early 2019 the need to evaluate the wage and salary ranges of the employees to ensure the City is providing fair and competitive wages and salaries to the employees. Therefore, the City Council contracted with a third party (McGrath) to study and develop a compensation plan. McGrath delivered their findings and a recommended compensation plan for City Council's consideration in early 2020. The City Council took no action on the McGrath recommendations; and,

WHEREAS, City Council directed staff to compare the wages and salaries of the City of Durant employees with comparable Oklahoma cities. Staff delivered City Council a similar compensation plan that was delivered by McGrath. The City Council took no action on the staff recommended plan; and,

WHEREAS, staff has prepared a wage and salary plan (Exhibit A) in a very similar format of the 2015 Wage Guide based on the wages and salaries of comparable Oklahoma cities. The staff developed wage and salary plan establishes minimum and maximum rates for both hourly and salaried full-time employees; and,

WHEREAS, if approved all full-time non-probationary employees (not members of a collective bargaining unit) shall be placed in the range scale appropriate for his or her current position. Full-time non-probationary employees below the minimum range established by the Wage and Salary Plan (Exhibit A) shall receive a minimum of a 2 percent rate increase or be placed on the scale at the minimum rate, whichever is greater. All full-time non-probationary employees (not members of a collective bargaining unit) that are within the minimum and maximum ranges set by the Wage and Salary Plan (Exhibit A) shall receive up to a 2 percent pay rate increase so as not to exceed the maximum position rate established by the plan. Employees who currently receive a rate higher than the maximum rate established by the Plan for the current position shall not receive a pay rate increase; and,

NOW, THEREFORE, be it resolved by the City Council of the City of Durant that the attached Exhibit A, are hereby established as wage and salary ranges for the City of Durant.

BE IT FURTHER resolved that the City Manager is authorized to set temporary, part-time and seasonal wage rates for city employees.

PASSED AND APPROVED by the Durant City Council on this 8th day of June, 2021, all pay rate changes shall become effective with the first full pay period of July, 2021.

_____
Oden Grube, Mayor

ATTEST:

_____
Cynthia Price, City Clerk

Exhibit A

Non-Collective Bargaining Unit Wage and Salary Plan

Title	Minimum	Mid-Range	Maximum
Grade 1 Library Assistant	**$12.00**	**$14.48**	**$16.96**
Grade 2 Custodian	**$12.72**	**$15.35**	**$17.97**
Grade 3 Customer Service Representative Refuse Worker Transfer Station Operator Meter Reader Maintenance Worker I Adminstrative Assistant I	**$14.00**	**$16.89**	**$19.78**
Grade 4 Maintenance Worker II WTP Operator I (new or Class D) WWTP Operator I (new or Class D) Airport Maintenance Technician Animal Control Officer Police Records Specialist Library Associate Scalehouse Attendant	**$15.12**	**$18.25**	**$21.37**
Grade 5 HR Specialist I Customer Service Representative - Lead 911 Dispatcher Evidence Technician Municipal Court Clerk Equipment Operator WWTP Operator II (Class C) WTP Operator II (Class C) Refuse Driver Landfilll Driver Accounting Specialist I Police Recruit Permit Technician Lab Technician Sign Technician Mechanic Assistant Grants Coordinator Adminstrative Assistant II	**$16.27**	**$19.63**	**$22.99**
Grade 6 Accounting Specialist II Payroll/Benefits Specialist Maintenance Worker III Code Enforcement Officer Code Enforcement Officer/ Building Inspector Literacy Program Coordinator Library/Circulation Supervisor 911 Supervisor	**$17.48**	**$21.08**	**$24.69**
Grade 7 Pretreatment Coordinator Crew Leader HR Specialist II Crime Analyst IT Technician GIS Technician/911 Addressing Coordinator Recreation Events Coordinator Emerg Mgmt and Safety Coordinator Assistant to the City Manager Senior Center Coordinator Building Inspector I (no or res cert only)	**$19.13**	**$23.08**	**$27.03**
Grade 8 Streets Foreman Utility Line Foreman WWTP Operator III (Class B) WTP Operator III (Class B) Utility Billing Manager Airport Operations Supervisor Building Inspector II (res & comm)	**$20.52**	**$24.76**	**$28.99**

Exhibit A

Non-Collective Bargaining Unit Wage and Salary Plan

Grade 9 Parks and Recreation Facilities Manager Landfill Manager WWTP Manager Fleet Maintenance Manager 911 Dispatch Manager Neighborhood Services Manager Assistant Finance Director	**$46,099**	**$55,617.57**	**$65,136**
Grade 10 Grants Coordinator Solid Waste Manager Library Director Streets Manager IT Manager Airport Manager WTP Manager Utility Line Manager Human Resources Manager	**$51,506**	**$62,141.43**	**$72,777**
Grade 11 City Clerk Deputy Fire Chief Deputy Police Chief IT Director	**$61,559**	**$74,270.42**	**$86,982**
Grade 12 Community Development Director Emergency Management Director Economic Development Director	**$63,612**	**$76,746.87**	**$89,882**
Grade 13 Police Chief Fire Chief Public Works Director	**$74,570**	**$87,849.96**	**$101,130**
Grade 14 Assistant City Manager Treasurer/Finance Director City Attorney	**$84,597**	**$102,065.61**	**$119,534**

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From: Cynthia Price, City Clerk
Re: 1) Consider Approval of Ordinance No. O-2021-15 Providing for a Fee to Defray Costs of Collecting Delinquent Receivables Pursuant to 11 Oklahoma Statute Section 22-138;

2) Consider Award of Bid for Collection Services for Court and Accounts Receivable;

3) Consider Approval of Contract for Collection Services with Perdue, Brandon, Fielder, Collins & Mott, L.L.P. and Authorize City Manager to Execute Contract.

A request for proposal was published in the Durant Democrat on April 22, 2021 and April 29, 2021and was posted continuously on the City of Durant website from April 22, 2021 through May 13, 2021. A review committee was formed consisting of the Assistant City Manager, Finance Director, City Clerk and City Court Clerk. Five proposals were received. Two companies were interviewed. It is the recommendation of the Review Committee that the bid be awarded to Perdue, Brandon, Fielder, Collins & Mott.

Council Information / Action Requested

1) Approval of Ordinance No. O-2021-15 Providing for a Fee to Defray Costs of Collecting Delinquent Receivables Pursuant to 11 Oklahoma Statute Section 22-138;

2) Award of Bid for Collection Services for Court and Accounts Receivable to Perdue, Brandon, Fielder, Collins & Mott, L.L.P

3) Approval of Contract for Collection Services with Perdue, Brandon, Fielder, Collins & Mott, L.L.P. and Authorize City Manager to Execute Contract.

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:

1. Ordinance O-2021-15
2. Contract C-2021-34 Contract for Collection Services thru Perdue, Brandon, Fielder, Collins & Mott LLP

ORDINANCE NO. O-2021-15

AN ORDINANCE PROVIDING FOR A FEE TO DEFRAY COSTS OF COLLECTING DELINQUENT RECEIVABLES PURSUANT TO 11 OKLAHOMA STATUTE §22-138

STATE OF OKLAHOMA §
COUNTY OF BRYAN §

WHEREAS, 11 Okla. Statute §22-138 authorizes the City of Durant to contract with a collection agency for the collection of the fees listed above and to impose an additional fee in the amount of thirty-five percent on each debt or account receivable which has been referred to the agency for collection; and

WHEREAS, the City of Durant has determined that it is in the public interest to ensure the prompt payment of delinquent court-imposed fines, fees, court costs, and other debts as provided by said statute; and

WHEREAS, the City of Durant, pursuant to 11 Okla. Statute §22-138 has entered into a contract with a private firm, Perdue, Brandon, Fielder, Collins & Mott L.L.P. (Perdue), to provide services for the collection of debts and accounts receivables, i.e.: fines, fees, court costs, restitution, and other debts due the City of Durant; and

WHEREAS, the City of Durant deems it in the public interest to pass this Ordinance authorizing an additional fee for the collection of delinquent fines, fees, court costs, and other debts;

NOW THEREFORE BE IT ORDAINED BY THE CITY COUNCIL FOR THE CITY OF DURANT, OKLAHOMA THAT:

SECTION 1. COLLECTION FEE. In accordance with 11 Okla. Statute §22-138, there is hereby imposed an additional fee of up to thirty-five percent (35%) on all debts and accounts receivable, i.e.: fines, fees, court costs, restitution, and other debts owed the City of Durant that have been referred to a private firm (Perdue) for collection. This fee is up to 35% and is governed by the contract between the City and Perdue.

SECTION 2. EFFECTIVE DATE. This Ordinance shall be effective from and after its date of passage.

PASSED AND APPROVED on the ____ day of _____, 2021.

CITY OF DURANT, OKLAHOMA

_____
Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:

_____
City Attorney

CONTRACT FOR COLLECTION SERVICES

THIS CONTRACT, hereinafter called "Contract", is made and entered into by and between **The City of Durant**, acting herein by and through its governing body, hereinafter called "City", and **Perdue, Brandon, Fielder, Collins & Mott, L.L.P.,** hereinafter called "Perdue".

WHEREAS: City agrees to employ and does hereby employ Perdue to enforce the collection of delinquent court fees and fines and other receivables due to City. In addition to court fees and fines, City shall determine what other receivables it would like collected pursuant to this contract and shall forward them to Perdue. Perdue shall review those receivables and determine if Perdue has the capability and desire to collect them. This contract shall cover any and all receivables owed to the City so that if City should decide to send receivables other than court fees and fines to Perdue, an amendment to this contract would not be necessary. This collection shall be made pursuant to the terms and conditions described in this Contract.

NOW, THEREFORE, in consideration of the covenants, conditions and agreements hereinafter set forth, the adequacy of which is hereby acknowledged, City and Perdue agrees as follows:

SECTION I. CITY'S COLLECTION OBLIGATIONS

A. City agrees to refer all delinquent accounts to Perdue for collection. City shall refer all delinquent accounts by electronic or magnetic medium, or in any other way that is most favorable to City. All delinquent accounts must be in a specified format that will allow Perdue to process the account data.

B. An account is considered delinquent when not paid within thirty (30) days of the scheduled appearance date (if the defendant failed to appear), or from any granted extension, or from the date of conviction or judgment, or other court specified due date.

C. City will provide Perdue with copies of, or access to, the information and documentation necessary to collect the fees and fines that are subject to this Contract.

SECTION II. PERDUE'S COLLECTION OBLIGATIONS

A. Perdue agrees to refer all payments and correspondence directly to the court that has assessed or levied the fees and fines being collected pursuant to this Contract. Perdue reserves the right to return all accounts not being collected within one (1) year of referral by City, as well as any accounts identified as being in bankruptcy. Upon return of these accounts, neither party will have any obligation to the other party to this Contract.

B. Perdue agrees to use its best efforts to collect the delinquent accounts received from the City and to comply with all provisions of state and federal law and regulations promulgated pursuant thereto in the rendition of collection services contemplated by this Contract.

C. Any fees charged to the City by its software provider in order for Perdue to perform the collection function will be reimbursed by Perdue to the City. City agrees to let Perdue know the amount of such charges prior to having the applicable software interface added. This applies to the collection interface only and does not include the normal operating, maintenance, etc fees that the City is already paying its software provider for the use of its system.

SECTION III. COLLECTION FEE

City agrees to add a collection fee pursuant to 11 OK Statute 22-138 on all receivables sent to Perdue for collection. This fee is added in addition to the amount already due and the City agrees to set the fee at the amount of 25%. This collection fee shall be paid to Perdue only upon collection of the receivable. If the receivable is not collected by Perdue, Perdue is not entitled to a collection fee as it relates to that particular receivable.

SECTION IV. METHOD OF PAYMENT

City shall calculate and receive the amount of any collection fee due to Perdue. Said fee shall be paid to Perdue by check on a monthly basis. All compensation shall become the property of Perdue at the time of payment.

SECTION V. COMMENCEMENT AND TERMINATION OF CONTRACT

This Contract is for an initial period beginning on the execution date in 2021, and ending on the same date in 2022. After the initial period, this contract shall automatically renew and continue in full force and effect thereafter from year to year for additional twelve month periods on the same terms and conditions unless either party delivers written notice to the other party of its intent to terminate this contract at least 30 days prior to each renewal date of this contract. The first renewal date in 2022 is one year from the execution date in this Contract and is the same date each year thereafter.

SECTION VI. NOTICES

For purposes of sending notice under the terms of this Contract, all notices from City shall be sent to Perdue by certified United States mail, and addressed as follows:

Perdue, Brandon, Fielder, Collins & Mott, L.L.P.
Attn: Tony Fidelie, Partner
3401 N.W. 63rd Street, Suite 601
Oklahoma City, Oklahoma 73116
Telephone Number: (800) 525-2481
Email: tfidelie@pbfcm.com

All notices from Perdue shall be sent to the City by certified United States mail, and addressed as follows:

City of Durant
Attn: City Manager
300 W Evergreen
Durant, Oklahoma 74701

SECTION VII. VENUE AND CONTROLLING LAW

This Contract is made and is to be interpreted under the laws of the State of Oklahoma. Venue for any disputes involving this Contract shall be in the appropriate courts in the City of Durant, Bryan County, Oklahoma.

SECTION VIII. ACCEPTANCE OF EMPLOYMENT

In consideration of the terms and compensation herein stated, Perdue hereby accepts said employment and undertakes performance of said Contract as set forth above.

SECTION IX. LAW FIRM ASSOCIATION

Perdue and City acknowledge that Perdue has entered into an agreement with the Christensen Law Group in pursuing the collections for City. City agrees and acknowledges that Perdue may split a portion of the fees paid to Perdue with the Christensen Law Group for the services they provide.

SECTION X. SEVERABILITY

Every provision of this Contract is intended to be severable. If any term or provision hereof is hereafter deemed by a Court to be illegal, invalid, void or unenforceable, for any reason or to any extent whatsoever, such illegality, invalidity, or unenforceability shall not affect the validity of the remainder of this Contract, it being intended that such remaining provisions shall be construed in a manner most closely approximating the intention of the Parties with respect to the illegal, invalid, void or unenforceable provision or part thereof.

This Contract supersedes all prior oral and written agreements between the parties, and can only be amended if done so in writing and signed by all parties. Furthermore, this Contract cannot be transferred or assigned by either party without the written consent of all parties.

This Contract is executed on behalf of City by the presiding officer of its governing body who is authorized to execute this instrument by order heretofore passed and recorded in its minutes. This Contract may be executed in any number of counterparts, and each counterpart shall be deemed an original for all purposes. Signed facsimiles or electronically signed Contracts executed on behalf of City by the presiding officer of its governing body authorized to execute this instrument shall be binding and enforceable.

WITNESS the signature of all parties hereto this the 8th day of June, 2021.

(This date shall also be the execution date as referenced in Section V of this Contract.)

THE CITY OF DURANT, OK

By: _____
City Manager

Attest:_____
City Clerk

Attest:_____
City Attorney

PERDUE, BRANDON, FIELDER, COLLINS & MOTT, L.L.P.

By: _____
Partner

The City of Durant

Memorandum

Date:	6/8/2021
To:	Mayor and City Council
From:	Danielle O'Neal Director
Re:	Discussion, Consideration and Possible Action on PC2021-16 a Preliminary Plat request for property near Wilson Street and Larkspur Lane.

Request: Consider a request from Midcontinental Real Estate, LLC, for a Preliminary Plat Request for property located near Wilson Street and Larkspur Lane.

Current Zoning: R-3, General Residential

Surrounding Properties:

Direction	Zoning	Use
North	A-1	Single Family Homes
East	A-1/R-1	Single Family Homes
South	R-3	Multi-Family Uses
West	R-1/A-1	Single Family Homes

Applicant: Midcontinental Real Estate, LLC

Background: Applicants approached staff regarding filing for a preliminary plat for a housing development that contains approximately 51 lots. The applicant stated that this development would be made up of single-family style homes. There is currently rural water in the area, and city sewer is shown to be in the area as well.
Notifications have been made to the surrounding property owners and at the time of this report staff has received several letters/emails and phone calls protesting the request and asking questions. Staff did receive a phone call in support of the request. Those letters/emails are attached to this report.

Analysis: The subject property is approximately 20 acres in total, and the current preliminary plat shows approximately 51 lots with 50 of them buildable. Each lot is approximately 100 feet by 120 feet. There is a lot that will be used for detention purposes only and there is also an area that runs along the entire west side of the development that will be used for water run-off. The applicant stated they are planning to have single-family style homes built on each lot with their own driveways. Rural water runs along Wilson and there is a sewer line that runs along Wilson as well as on the West side of the property.

Staff has reviewed this plat and there are no issues that have been expressed by staff and each member has signed off on the plat. The current Future Land Use Map has this area as Low Density Residential; therefore, this request is generally in compliance with the Comprehensive Plan. It should be noted that the Future Land Use Map and Comprehensive Plan are still being updated and this area could potentially change.

Planning Commission Recommendation: The Planning Commission recommended approval contingent that the development follows the R-1 standards.

Required Action: Hold a hearing and approve or deny the Preliminary Plat request for property located near Wilson Street and Larkspur Lane. Any specific conditions imposed by the Council should be read into any approval motion.

Council Information / Action Requested

City staff and the Planning Commission recommend approval of the preliminary plat request contingent that the plat/development follow the R-1 standards.

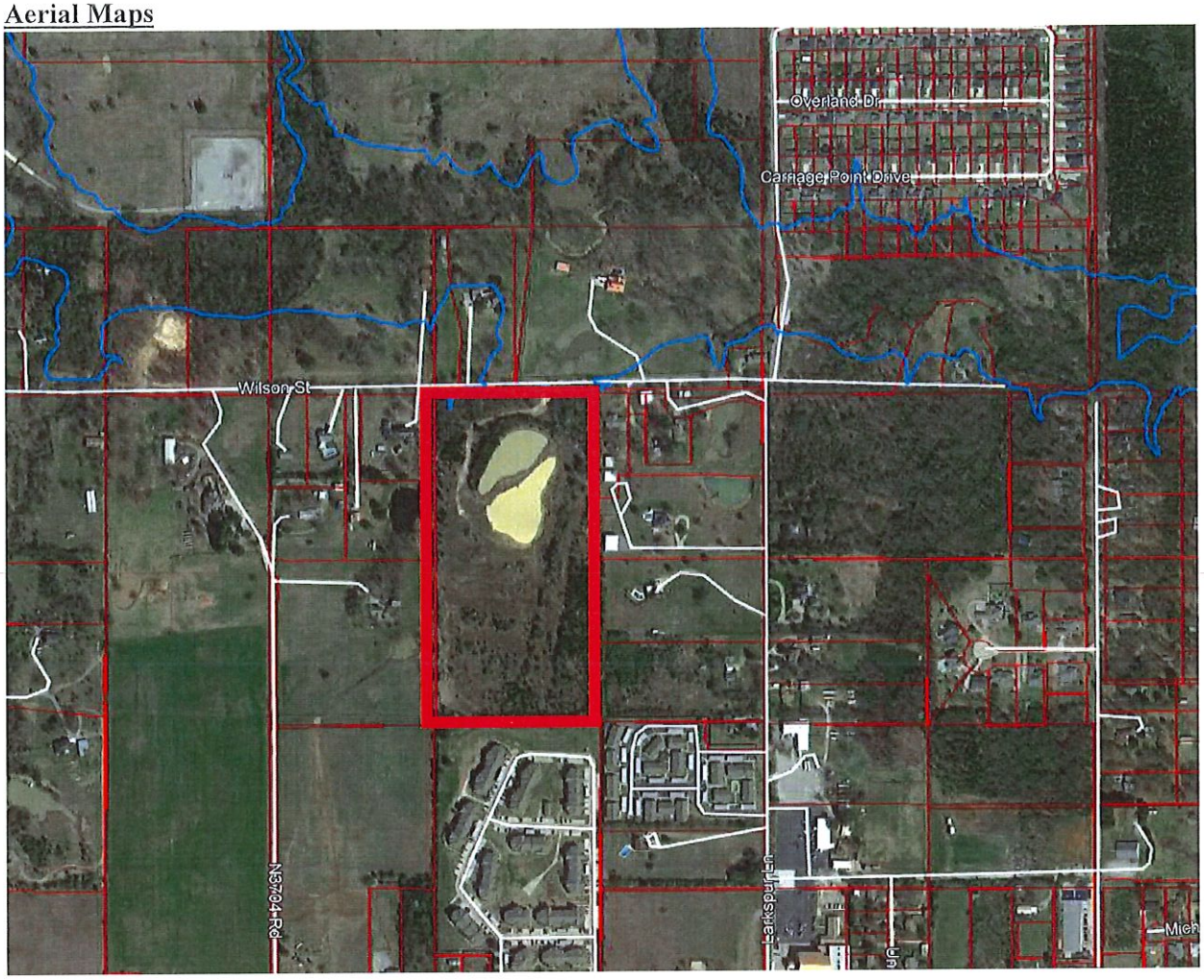
City Staff Information / Action Follow-up, if Council authorizes this action:

City Clerk to get the Mayor's signature
GIS to update City Maps
Community Development to notify applicant

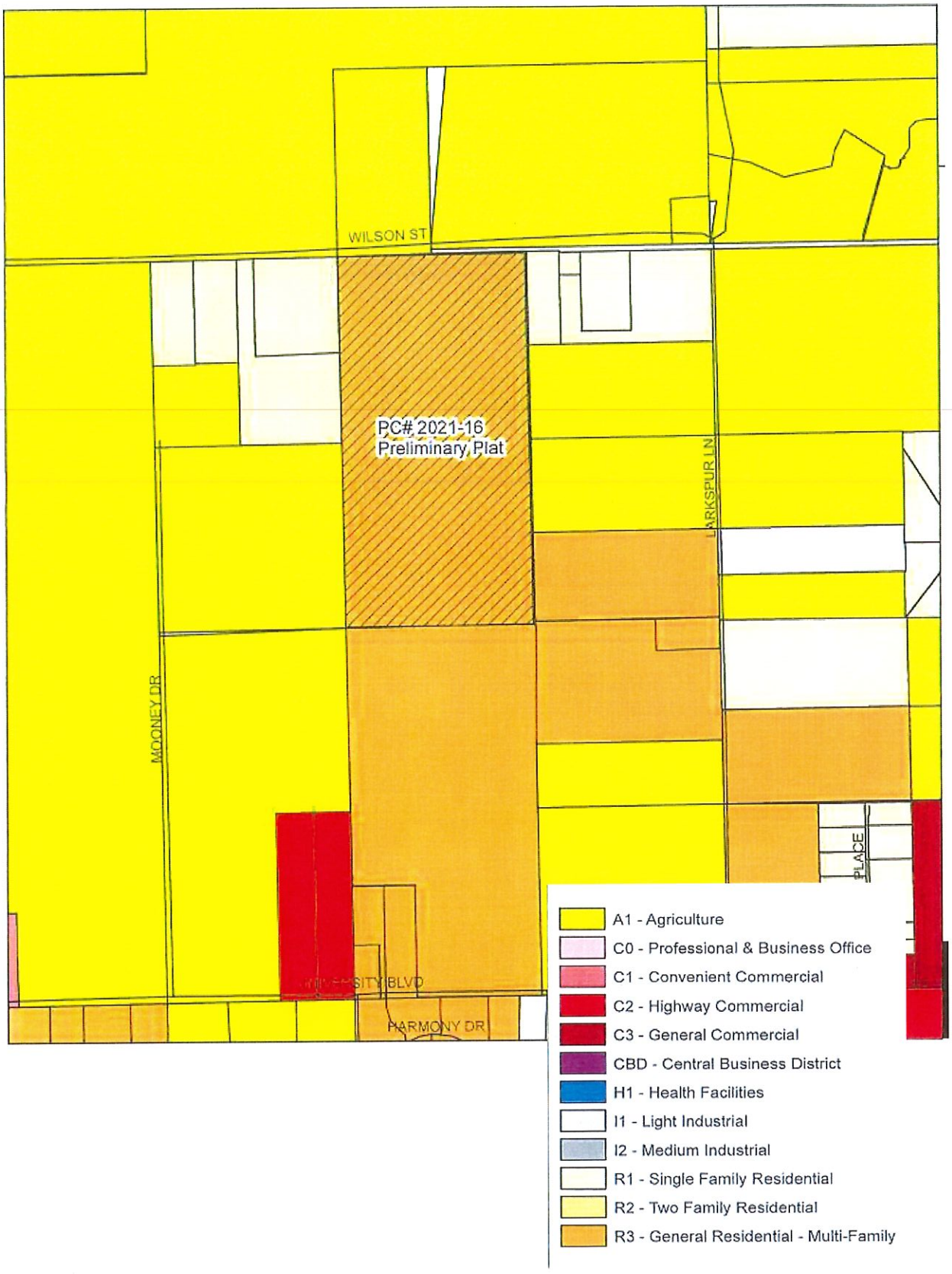
ATTACHMENTS:

1. PC2021 16 Additiional Information and Application
2. PC2021 16 Letters of Concern or Protest
3. 05 - CI101 Surveyor's Preliminary Plat-P&P (100sc) (1)
4. S060-21-Kash Acres-24x36

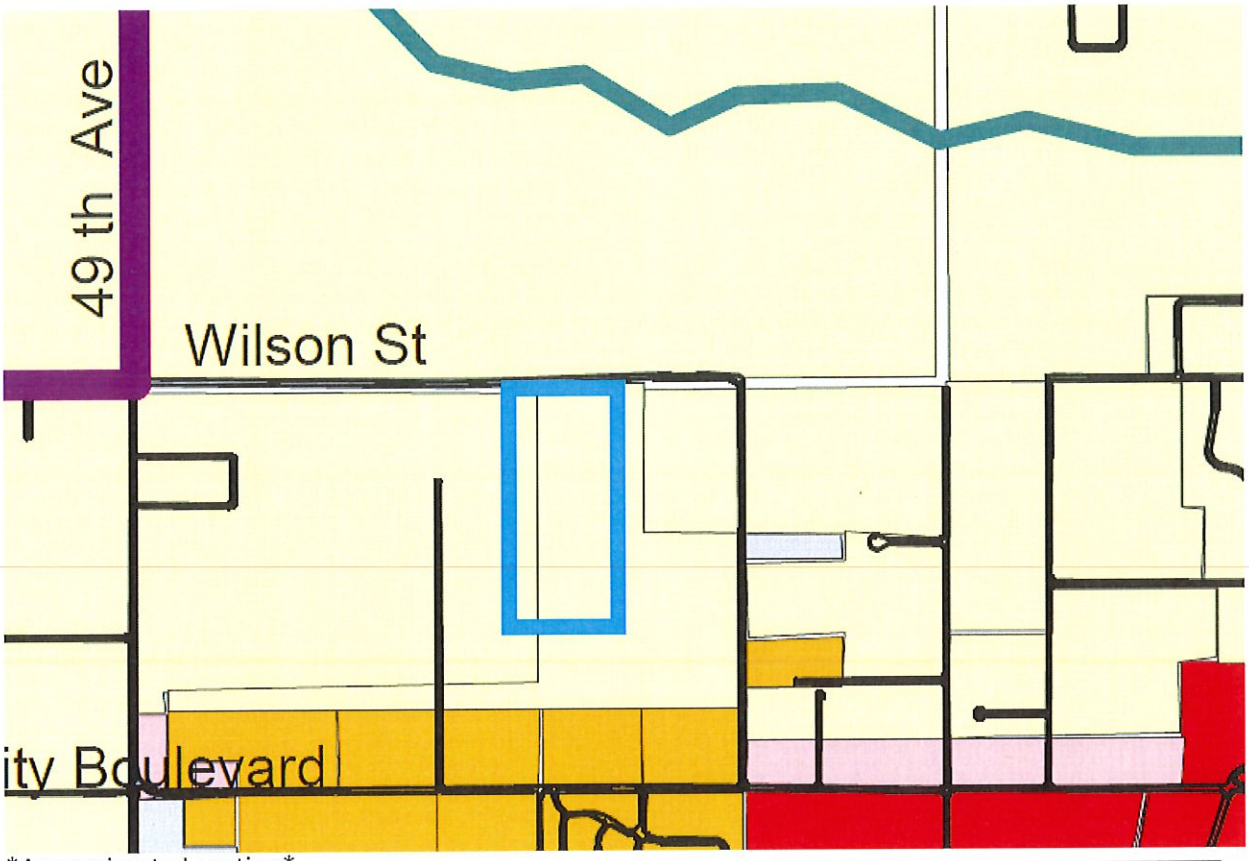
Aerial Maps



Zoning Map


WILSON ST
PC# 2021-16
Preliminary Plat
LARKSPUR LN
MOONEY DR
PLACE
HARMONY DR
A1 - Agriculture
C0 - Professional & Business Office
C1 - Convenient Commercial
C2 - Highway Commercial
C3 - General Commercial
CBD - Central Business District
H1 - Health Facilities
I1 - Light Industrial
I2 - Medium Industrial
R1 - Single Family Residential
R2 - Two Family Residential
R3 - General Residential - Multi-Family

Future Land Use Map



Approximate Location

- Durant City Limits
- Calera City Limits
- Roads and Highways
- Railroads
- School District Boundaries
- Agriculture
- Low-density Residential
- Medium-density Residential
- High-density Residential
- Public & Open Space
- General Commercial
- Central Business District
- Highway Commercial
- Light Industrial
- Medium Industrial
- Outside City Limits
- Parks

COMMUNITY DEVELOPMENT PLAT SIGN OFF SHEET

KASH ACRES (Wilson & Larkspur)

Department	Signature	Date	Notes
Com Dev Director Danielle O'Neal	D O'Neal	5/27/21	
M&O Randy Cartrell		05-14-2021	
Streets John Cain	John Cain	05/12/21	
Fire Marshal Wade Boyd	W Boyd	5/24/21	Pending turn radius. per email 5/27 satisfied with radius
Building Official Marc Hall	Marc A. Hall	5-25-21	Pending: Building lines being 25' per email conversation satisfied 5/27
Engineer Brandon Wall		05/08/21	No comments

§ 156.043 PRELIMINARY PLAT.

(A) Purpose. The purpose of the preliminary plat is to provide an interim step in the procedure at which point the subdivider shall present drawings of the detail features of the subdivision. It is at this point that the items discussed at the sketch plat stage and as set down herein are prepared in a form from which determinations can be made as to the technical workability of the development proposal.

(B) After the Planning Commission has approved the sketch plat, the subdivider may proceed with the preparation of the preliminary plat. After the subdivider has prepared the preliminary plat, he or she may take either of the following actions:

(1) He or she may present the preliminary plat and preliminary plat checklist to the Planning Commission and obtain approval thereof before proceeding with preparation of the improvement plans; or

(2) He or she may present the improvement plans and improvement plans checklist to the Planning Commission at the time the preliminary plat and preliminary plat checklist are presented.

(C) Whenever the subdivider presents to the Planning Commission a preliminary plat and preliminary plat checklist, without improvement plans, the Planning Commission may conditionally approve the preliminary plat, subject to Planning Commission approval of the improvement plans within six months following the preliminary plat conditional approval.

(D) After review of the preliminary plat, the Planning Commission shall, within 60 days of its submission, approve, conditionally approve or reject the plat. The subdivider shall be notified in writing of this action, together with any conditions of approval or the reasons for rejection.

(E) Whenever the subdivider presents to the Planning Commission the preliminary plat, preliminary plat checklist, improvement plans and improvement plans checklist and the Planning Commission finds that the plat and improvement plans meet all the requirements of these regulations, it shall approve the preliminary plat and improvement plans by placing a certificate of approval upon each copy of the plat and plans. Such certificate of approval shall bear the signature of the Chairperson and Secretary of the Planning Commission and shall provide that the approval given thereby does not constitute approval for purposes of recording.

(F) Approval of the preliminary plat shall not in all cases entitle the subdivider to approval of the final plat. Upon preliminary approval, if any conditions arise which would cause the preliminary plat to become unsatisfactory due to health, safety or welfare of the community, the Planning Commission shall recommend that the final plat be rejected.

(G) Application procedure and requirements. On forms approved by the city, the applicant shall file for approval of a preliminary plat, which conforms substantially with the sketch plat (if required) or alternate plan submitted by the applicant. The plat shall be prepared by or under the supervision of a registered public surveyor in the State of Oklahoma and shall bear his or her seal, signature and date on each sheet. The payment of all applicable fees shall be required at the time of submission.

(1) *General application requirement*. Copies of the proposed preliminary plat shall be at a scale of one inch equals 100 feet or larger and in a form substantially as follows:

(a) The boundary lines with accurate distances and bearings and the exact location and width of all existing or recorded streets intersecting the boundary of the tract.

(b) True bearings and distances to the nearest established street lines and monuments, which shall be accurately described on the plat.

(c) Specific tree survey.

(d) The exact layout including:

1. Proposed street names. Street names must be submitted to the Community Development Department for approval in accordance with the city's guidelines for naming streets. The Community Development Department will maintain an index of street names which will contain these guidelines. Street names and subdivision names are fixed at the time of approval of the preliminary plat. A fee, as set by the City Council by motion or resolution, will be charged to change street names and subdivision names after approval of the preliminary plat.

2. The length of all arcs, radii, internal angles, points of curvature, length, and bearings of the tangents.

3. All easements for rights-of-way provided for public services or utilities and any limitations of the easements.

4. All lot numbers and lines with accurate dimensions in feet and hundredths of feet and with bearings and angles to street and alley lines.

5. The location of the centerline of creeks or drainage ways should be tied with accurate dimensions in feet and hundredths of feet with bearings and angles. No unplatted remainder will be allowed between property boundaries and centerlines of creeks.

(e) The accurate location, material, and size of all monuments approved by the City Engineer. Horizontal and vertical control data shall be established for a minimum of two corners of the subdivision or addition. One inch iron rods shall be set at all block corners, angle points, points of corners, and points of tangents. One-half inch iron rods shall be set at all other lot corners.

(f) The accurate outline of all property which is offered for dedication for public use with the purpose indicted thereon, and of all property that may be reserved by deed covenant for the common use of the property owners in the subdivision or addition.

(g) Building setback lines for residential properties.

(h) Special restrictions including, but not limited to, drainage and floodway, fire lanes, and screening.

(i) Proposed name of the subdivision or addition. The name shall not duplicate, be the same in spelling or alike in pronunciation with any other recorded subdivision.

(j) Names of adjacent subdivisions.

(k) Name and address of the property owner, the owner's surveyor, and the owner's engineer.

(l) North point, scale, and date.

(m) Legal description according to the real estate records maintained by the County Clerk's office and area calculations.

(n) Location by section, town, range, township, county and state.

(o) Additional documents necessary for dedication or conveyance of easements or rights-of-way, as required by the city. The city may, in some instances, require the conveyance of fee simple title for certain rights-of-way.

(p) Entry easements to allow city inspectors to enter the property being platted for the purpose of inspecting the construction of the public improvements.

(q) Important features such as existing permanent buildings:

1. Large trees and water courses;

2. Parks and other public lands;

3. Railway lines;

4. Existing public easements;

5. Oil and gas lines or wells as shown on the records of the Oklahoma Corporation Commission (including abandoned or gas or oil wells and dry holes which remain unplugged).

6. Existing utilities including sewer, water mains, culverts and other underground structures within the tract or immediately adjacent thereto, showing pipe sizes and grades indicates;

7. Contours at intervals of two feet which are referenced to USGS data; and

8. Any other relevant feature necessary for a full and complete understanding of the proposed subdivision.

(r) Title of document and a vicinity sketch drawn to a scale of a maximum of 2,000 feet to the inch.

(s) Copies of any private restrictions to be included in the deeds shall be attached to the preliminary plat.

(t) Regulatory flood boundaries, and the ten-year flood boundaries.

(2) *Other required documents and information to be filed with preliminary plat.*

(a) Proposed covenants and deed restrictions, if any.

(b) Source of water supply.

(c) Provisions for sewage disposal.

(d) Construction plans.

(3) *Standards for approval.* No preliminary plat shall be approved by the Planning Commission or by the City Council unless the following standards have been met:

(a) The plat substantially conforms with the approved sketch plat or other study as provided in these regulations.

(b) The construction plans have been reviewed by the City Engineer.

(c) Provision for installation and dedication of public improvements has been made.

(d) The plat conforms to applicable zoning and other regulations.

(e) The plat meets all other requirements of these regulations.

(4) *Timing of public improvements.*

(a) 1. The Planning Commission may require that all public improvements be installed, offered for dedication, and ready for acceptance by the city prior to the signing of the final plat by the Chairman of the Planning Commission.

2. The Planning Commission may permit or require the deferral of the construction of public improvements if in its judgment, deferring the construction would not result in any harm to the public, or offer significant advantage in coordinating the site's development with adjacent properties and off-site public improvements. Any required public improvement(s) approved for deferred construction must be provided for as required prior to the approval of the final plat.

(b) If the Planning Commission does not require that all public improvements be installed, offered for dedication and accepted by the city prior to signing of the final plat by the Chairman, it shall

require that the applicant execute an improvement agreement and provide security for the agreement as provided in those regulations.

(c) This procedure shall also apply to the approval of a final plat if the preliminary plat is omitted.

(5) *Approval procedure.* After review of the preliminary plat, the report and recommendations of the Community Development Director concerning the land study and the application, the report and recommendation of the City Engineer on the construction plans, and any exhibits submitted at a public meeting, the applicant shall be advised of any required changes and/or additions. The Planning Commission shall approve or disapprove the preliminary plat. One copy of the proposed preliminary plat shall be returned to the owner with the date of approval, conditional approval or disapproval and the reasons therefor accompanying the plat if the Planning Commission disapproves the proposed preliminary plat, the applicant may execute an appeal in the manner prescribed in these regulations.

(6) *Effect of approval.* Approval of a preliminary plat by the Planning Commission constitutes authorization for the City Engineer to release construction plans subject to his or her final approval and for the City Engineer to authorize for the property owner to commence grading of the site and construction of such public improvements as are required by the Planning Commission. Approval of a preliminary plat also authorizes the property owner, upon fulfillment of all requirements and conditions of approval, to submit for approval an application for final plat approval. Upon release of the construction plans, the City Engineer may, upon request of the applicant, issue a certificate indicating the construction plans have been released and construction of the improvement is thereafter authorized. Additional certificates may be issued by the City Engineer authorizing the construction of private utilities on a phased schedule. The certificate shall read as follows:

"The preliminary plat for (insert name of the subdivision or addition) as approved by the City of Durant Planning Commission on (insert date of approval) is authorized for use with engineering plans for the construction of public improvements as approved by the City Engineer. A final plat shall be approved by the Planning Commission upon the completion of all public improvements or the provision of a subdivision improvement agreement under the terms of the Subdivision Ordinance and submission of a final plat in compliance with Section 3.6 of the Subdivision Ordinance of the City of Durant.

Zoning regulations that affect exterior appearance of a single-family house or the landscaping of a single-family lot and that are adopted after approval of a preliminary plat for a single-family residential development, shall not apply for a period of two years from the latter of the date of plat approval or the date of the acceptance of public improvements related to the plat."

(7) *Lapse of preliminary plat approval.* The approval of a preliminary plat shall be effective for a period of two years from the date that the preliminary plat is approved by the Planning Commission or the City Council, at the end of which time the applicant must have submitted and received approval for a final plat. If a final plat is not submitted and approved within two years, or an extension is not granted in accordance with these regulations, the preliminary plat approval shall be null and void, and the applicant shall be required to submit a sketch plat for review subject to the then existing zoning restrictions and subdivision regulations.

(H) Construction plan procedure and requirements.

(1) *General application requirement.* Construction plans shall be prepared by or under the supervision of a professional engineer or architect registered in the State of Oklahoma as required by state law governing such professions. Plans submitted for review by the city shall be dated and bear the responsible engineer's or architect's name, serial number and the designation of "engineer," "professional engineer," or "P.E." or "architect" and an appropriate stamp or statement near the engineer's or architect's identification, stating that the documents are for preliminary review and are not intended for construction. Final plans acceptable to the city shall bear the seal and signature of the engineer or architect and the date signed on all sheets of the plans. Public works construction in

streets, alleys or easements which will be maintained by the city shall be designed by a professional engineer registered in the State of Oklahoma.

(2) *Construction plan review procedure*. Copies of the construction plans, and the required number of copies of the plat shall be submitted to the City Engineer for final approval. The plans shall contain all necessary information for construction of the project, including screening wails and other special features. All materials specified shall conform to the design standards of the city. Each sheet of the plans shall contain a title block including space for the notation of revisions. This space is to be completed with each revision to the plan sheet and shall clearly note the nature of the revision and the date the revision was made. The City Engineer will release the plans for construction, after approval of the preliminary plat by the Planning Commission and payment of all inspection fees. Upon such release, each contractor shall maintain one set of plans, stamped with city release, on the project at all times during construction. This procedure shall also apply to approval of a final plat, if a preliminary plat is omitted.

(3) *Failure to commence construction*. If construction has not commenced within one year after approval of the plans, resubmittal of plans may be required by the City Engineer for meeting current standards and engineering requirements. ***CONSTRUCTION*** shall mean installation of city maintained public improvements.

(Ord. 1573, passed 11-13-07)

Subdivision/Plat Application

Petition # PC 2021-16

Preliminary Plat: ☑

Final Plat: ☐

Fee $ 300

Expedited Fee $_____

APPLICANT INFORMATION Point of Contact: Danny Khoury

Name: Midcontinental Real Est, LLC	Email: dkhoury@barkerengineers.com	Phone #1 580-931-9045
Mailing Address: 1700 Delivery Ln		Phone #2
City: Durant State: Oklahoma Zip: 74701		Fax #
Applicant's Interest in Property: Owner / User		

SURVEYOR INFORMATION

Name: Chappell Land Surveying, PC	Email: ctrey@chappellsurveying.com	Phone #1 580-326-6688
Mailing Address: P.O. Box 863		Phone #2
City: Hugo State: Oklahoma Zip: 74743		Fax #
Surveyor Oklahoma License Number: 1673		

ENGINEER INFORMATION

Name: H. Wayne Barker P.E.	Email: wbarker@barkerengineers.com	Phone #1 580-931-9045
Mailing Address: 3902 University Blvd.		Phone #2
City: Durant State: OK Zip: 74701		Fax #
Engineer Oklahoma License Number: 18513		

LAND INFORMATION

Legal Description: A piece or parcel of land being the W/2 of the NW/4 of the NE/4 of section 25, Township 6 South, Range 8 East of the Indian Base and Meridian, Bryan County, Oklahoma. Containing 20.05 Acres, More or Less.	Parcel Number:
Proposed Subdivision Name: Kash Acres	Current Zone: R - 3
Proposed Use: General Residential	Proposed Zone: R - 3
Current Property Owner's Name: Midcontinental Real Est, LLC	

The applicant has prepared this application and supporting documentation and certifies that the facts stated herein and exhibits attached hereto are true and correct.

Applicant: _____ Date: 4/27/2021

Office Use Only

Date Filed Initial	Date Payment Received Initial	Notification Mailed Date Initial	Comments
Proof of Publication Received Date Initial	Property Posting Verified Date Initial		Comprehensive Plan Recommendations
Staff Recommendation ___Approve ___Deny	PC Recommendation ___Approve ___Deny	City Council Action ___Approve ___Deny	Ordinance #

APPLICATION WILL NOT BE CONSIDERED COMPLETE WITHOUT THE FOLLOWING INFORMATION ADDRESSED:

Please describe the nature and operating characteristics of the proposed use:
Residential Housing

STATE HOW THE FOLLOWING ISSUES WILL BE ADDRESSED:

1. Parking:
Attached parking at every individual house.

2. Screening of offensive areas (trash, loading areas, transformers, utility connections, detention ponds, etc.).
N/A

3. Traffic Impacts:
Vehicles will access the property from Wilson St.

4. Protection of Neighborhoods:

What licenses and permits (if any) are required for this proposed use?

Please list or describe any other reasons to support this Subdivision/Final Plat Application.

Jones Law, PC
113 N. 3rd Ave.
Durant, OK 74701

WARRANTY DEED

I-2018-709776 Book 1485 Pg: 280
12/17/2018 8:23 am Pg 0280-0281
Fee: $ 15.00 Doc: $ 336.00
Tammy Reynolds - Bryan County Clerk
State of Oklahoma

KNOW ALL MEN BY THESE PRESENTS:

THAT **Jason Mauck and Kimberly Mauck**, husband and wife, parties of the first part, in consideration of the sum of Ten ($10.00) and more Dollars, the receipt of which is hereby acknowledged, do by these presents, grants, bargain, sell and convey unto **Midcontinental Real Estate, LLC**, 1400 Bryan Dr., Durant, OK 74701, the property herein described, party of the second part, and its grantees and assigns, all of the following described real property and premises, situated in Bryan County, State of Oklahoma, to-wit:

See Exhibit "A"

together with all the improvements thereon and the appurtenances thereunto belonging, and warrant the title to the same.

TO HAVE AND TO HOLD said described premises unto party of the second part, its grantees and assigns, forever, free, clear and discharged of and from all former grants, titles, charges, taxes, judgments, mortgages and other liens and encumbrances of whatsoever nature.

SIGNED AND SEALED this 16th day of November, 2018.

Jason Mauck

Kimberly Mauck

STATE OF OKLAHOMA
Bryan County
Documentary Stamps $ 336.00

COUNTY CLERK
BRYAN COUNTY, OK

STATE OF OKLAHOMA)
) SS. ACKNOWLEDGMENT
COUNTY OF MARSHALL)

BEFORE ME, the undersigned, a Notary Public, in and for said County and State, on this 16th day of November, 2018, personally appeared **Jason Mauck and Kimberly Mauck**, wife and husband, to me known to be the identical persons who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their free and voluntary act and deed for the uses and purposes therein set forth.

WITNESS my hand and seal on this 16th day of November, 2018.

Notary Public

SABRINA N. KERBO
NOTARY
12007759
PUBLIC
STATE OF OKLAHOMA

My Commission expires: August 16, 2020

Jones Law, PC
113 N. 3rd Ave.
Durant, OK 74701

Exhibit "A"

W/2 W/2 NE/4 of Section 25, Township 6 South, Range 8 East of the Indian Base and Meridian, Bryan County, Oklahoma, LESS AND EXCEPT THE FOLLOWING FOUR TRACTS:

Tract I: All that part of the SW/4 SW/4 NE/4 of Section 25, Township 6 South, Range 8 East of the Indian Base and Meridian, Bryan County, Oklahoma, described as follows, to-wit: Beginning at the center of said Section 25; Thence North along the quarter section line of said section a distance of 396 feet; Thence East a distance of 110 feet; Thence South and parallel to said quarter section line a distance of 396 feet to a point on the South line of the NE/4 of said Section; Thence West along said line a distance of 110 fee to the Point of Beginning.

Tract II: The South 190 feet of the South 396 feet of the West 110 feet of the SW/4 SW/4 NE/4 of Section 25, Township 6 South, Range 8 East of the Indian Base and Meridian, Bryan County, Oklahoma.

Tract III: All that part of the SW/4 SW/4 NE/4 of Section 25, Township 6 South, Range 8 East of the Indian Base and Meridian, which is bounded and described as Beginning at a point on the South line of the NE/4 of said Section 25, 110 feet East of the center of said Section 25; Thence North parallel to the West line of said NE/4 a distance of 396 feet to the South line thereof; Thence West along South line a distance 110 feet to the Point of Beginning.

Tract IV: All of Lot 1, Block 1 of HIGH MEADOW ADDITION to the City of Durant, Oklahoma, as recorded by Plat or Record in Book 1188 Page 132, deed Records, Bryan County, Oklahoma.

TOGETHER with an Easement for the Right of Way purposes across the East 20 feet of the South 190 feet of the South 396 feet of the West 110 feet of the SW/4 SW/4 NE/4 of Section 25, Township 6 South, Range 8 East of the Indian Base and Meridian, Bryan County, Oklahoma

AND LESS AND EXCEPT all oil, gas, coal, and other mineral rights or interest currently outstanding of record and all oil, gas, coal and other mineral rights or interest currently not outstanding of record. It being the Intent of Grantors to reserve unto Grantors all mineral interests to which Grantors may be entitled;

I-2018-709776 Book 1485 Pg: 281
12/17/2018 8:23 am Pg 0280-0281
Fee $ 15.00 Doc $ 336.00
Tammy Reynolds - Bryan County Clerk
State of Oklahoma

Email from Cindy Soltis 4012 Wilson Emailed June 1, 2021 at 5:15 pm

Ms. Soltis asked that I place the pictures in the Council packet. Ms. Soltis states that the damage seen in these pictures has occurred since Midcontinental purchased the property. She states her front yard is full of sand that was not there before the ponds were filled in and they can no longer access the pictured part of the yard.

Durant.org
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Danielle O'Neal <doneal@durant.org>

4012 Wilson str.

1 message

Cindy Soltis <cindy.soltis2@gmail.com> Wed, May 26, 2021 at 2:18 PM
To: planning@durant.org

We own the property across from the land that MIDCONTINENTAL REAL ESTATE plans to develop on Wilson str. After they cleared the land our property has been affected by water drain off and a large amount of sand that has come both over and under the road. The ditches on both sides of the street are full of sand and it has damaged the street as well. Currently we can not access part of our front yard to clean it or mow. When it's not raining there is so much dust that it's hard to stay outside.
The sand has also washed into our neighbor's pond and negatively affected it also. We feel that the additional traffic and deteriorating road conditions will be a concern for the neighborhood also.
Please find attached pictures of our property that have been taken over several months and it continues to get worse after every rain.

Please feel free to call with any questions.

Cindy Soltis
580-916-1730

6 attachments

IMG_0721.jpg
2115K

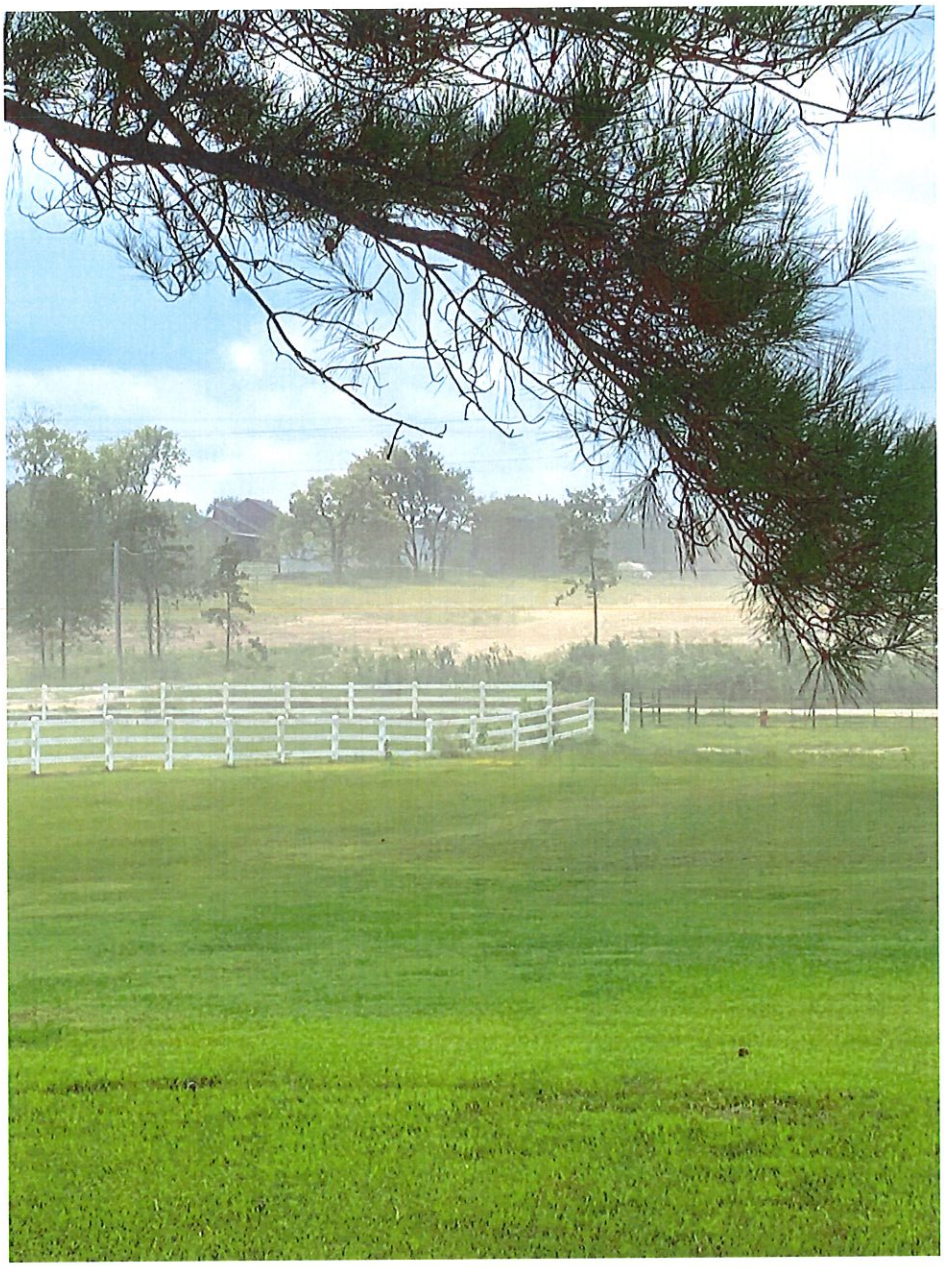
IMG_0722.JPG
405K

IMG_1044.jpg
1674K

IMG_1544.jpg
2039K

IMG_1545.jpg
2585K

IMG_2144.jpg
5504K



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Danielle O'Neal <doneal@durant.org>

New Addition On Wilson

1 message

Pamela Rutherford <pamelalyn84@gmail.com> Thu, May 27, 2021 at 11:16 AM
To: mmorris@durant.org, planning@durant.org

Dear Mr. Morris, and any others it may concern:
I would like to voice my opinion and concerns on the new neighborhood being considered on Wilson just west of Larkspur. I live in Heritage Crossing, and have for the last 6 years. When I first began looking into this neighborhood 11 years ago, I was assured that Larkspur would be run further north, to provide 2 exits for our neighborhood.
As I am sure you are well aware, that has not been done, leaving us with 1 exit out of Heritage Crossing, despite essentially doubling the number of residents with the new additions past Carriage Point. Our 1 tiny exit to Larkspur is a mess of an intersection, with limited visibility at best. That intersection feeds to Wilson and Larkspur, which are both sorely in need of widening and reinforcing. I drive a small SUV, and when meeting vehicles I am within inches of being run off the road due to limited space. I used to meet vehicles a lot less frequently, and with adding the large number of residences on Wilson, that issue will continue to be further compounded.
We desperately need another exit from Heritage Crossing. If the creek floods the bridge (as it has in the past) there is no entrance and no exit for residents or emergency vehicles. Heaven forbid the bridge wash out, and we are all stuck here. If there were a fire or other emergency, we are also trapped. That's the first and biggest issue that I want to share my concern about. I think things like that, that are huge safety issues need to be remedied before considering adding more traffic and residents to an already congested area.
Larkspur and Wilson must be widened, and the issues of traffic exiting onto University from Larkspur need to be dealt with as well. It is nearly impossible to turn left onto University as you are leaving Walmart to head to our neighborhoods, and adding 50 or more houses to the mix will further worsen that issue as well. Please pump the brakes on this project, and consider our dire need for these other issues to be handled first.
Thank you for your time!
Pamela Rutherford
Heritage Crossing Resident

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Danielle O'Neal <doneal@durant.org>

New Housing event

1 message

'Mark Turvey' via Community Development <planning@durant.org> Thu, May 27, 2021 at 8:33 AM
Reply-To: Mark Turvey <markturvey14@yahoo.com>
To: "mmorris@durant.org" <mmorris@durant.org>, "planning@durant.org" <planning@durant.org>

Mr. Morris and planning committee, I would like to voice my concerns on Lakespur street handling another new housing development that will be on Wilson street. I live in Heritage which has doubled in size with still just one opening for this development. We must use Lakespur or Wilson to enter or leave. I'm self employed which I pull a trailer and when meeting cars it is a very tight squeeze and many go into the ditch or stop when trying to pass on Lakespur.
I'm excited that Durant is growing with a possible new housing development, but the streets in the area are not ready for more drivers on a daily basis.
Thanks for your time, and I hope you really check this out, it isn't good.

Thanks,
Mark Turvey

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Danielle O'Neal <doneal@durant.org>

Fwd: Proposed Development on Wilson Rd

2 messages

Oden Grube <ogrube@durant.org> Wed, May 26, 2021 at 11:52 AM
To: John Dean <jdean@durant.org>, Danielle Barker <dbarker@durant.org>

Sent from my iPhone

Begin forwarded message:

From: Mike Morris <mmorris@durant.org>
Date: May 26, 2021 at 11:03:47 AM CDT
To: John Dean <jdean@durant.org>, Oden Grube <ogrube@durant.org>
Subject: Fwd: Proposed Development on Wilson Rd

FYI. I just got this and am still digesting it. Anycomments will be appreciated.

Mike Morris

---------- Forwarded message ---------
From: **Tamera Tignor** <ttignor75@gmail.com>
Date: Tue, May 25, 2021 at 3:55 PM
Subject: Proposed Development on Wilson Rd
To: <mmorris@durant.org>

Good Afternoon Mr. Morris:
I would like to express my concerns about the proposed development on Wilson Road between Larkspur and 49th Street.

I am retired from the Dallas City Attorneys Office, we had a home built and moved to Durant 2 years ago. We live at 3508 Lazy Lane. Here are my concerns with the planned development:

1. The Heritage Crossing neighborhood currently has one way in and out. There is already issues with the crooked street at the stop sign, which some people fail to stop.

2. As of a few weeks ago, the Fire Dept did not know we were down here, my husband had to put out a fire behind one of the homes on Prairie Crossing because the Fire Dept couldn't find us (this came from the crew that finally showed up after the fire was out) there was no street sign on that street until after the fire, I reminded the City Manager that we were still without proper signage. The street sign went up shortly after that incident.

3. Larkspur is not wide enough, Wilson isn't much better for the existing homes down Larkspur and the Heritage Crossing neighborhood

4. There is a urgent need for traffic signals on University. I have contacted the city manager on many occasions regarding the need for a traffic signal at University and University Plaza, I was told it was planned but so far, nothing has taken place. Gates and Hwy 70 needs a traffic signal as well, we have seen many accidents at that intersection in our two years. In addition to traffic signals whomever owns the vacant lots at University and University Plaza needs to keep the grass cut, it serves as a site obstruction to those trying to navigate the already dangerous intersection.

5. There is a possibility more homes will be going in at the north end of Larkspur which will connect Madison Ridge to Larkspur, bringing additional stress to Larkspur, it will be a shortcut to Walmart and Main Street from Madison Ridge. We do not need more traffic on a street that is already struggling with existing traffic issues.

It's next to impossible to get something as simple as a street sign out of the city. It took me over a year to get a stop sign and street sign on Prairie Crossing, there are still no street lights north of Carriage Point on Larkspur. Additional development is not a good idea until the city gets its infrastructure straightened out.

Please pass this on to the Planning Commission. Infrastructure must be in place before any sort of positive growth can take place in a city.

Thank you
Tamera Barton Tignor
3508 Lazy Ln.
Durant, OK 74701

Danielle O'Neal <doneal@durant.org> Wed, May 26, 2021 at 12:35 PM
To: Oden Grube <ogrube@durant.org>
Cc: John Dean <jdean@durant.org>, Danielle Barker <dbarker@durant.org>

Thank you for passing this along. I will be sure this gets into the Planning Commission packets.

Thank you,

Danielle O'Neal
Community Development Director

City of Durant
300 W. Evergreen
Durant, OK 74701

Direct Line: (580) 931-6613

Sent from my Android device
[Quoted text hidden]

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Danielle O'Neal <doneal@durant.org>

Opposition to planned Development on Wilson Rd

1 message

Tamera Tignor <ttignor75@gmail.com> Wed, May 26, 2021 at 11:40 AM
To: planning@durant.org

Please be advised that I am in opposition to the planned development on Wilson Road between Larkspur and 49th Street.

I am a resident of Heritage Crossing on the northern end of Larkspur. There is only one way in and one way out of this neighborhood, which is Larkspur. There are 8 streets down here with approx 30 homes on each street. Larkspur is not wide enough to accommodate the current usage, adding more to both Larkspur and Wilson would only create more traffic issues on two streets that are already not wide enough for 2 vehicles to pass each other. Until Durant can update its infrastructure to accommodate existing traffic, we do not need more development in this area. Infrastructure update should include widening of roads, repair of roads and proper signaling at busy intersections (University and University Place, Gates and Hwy 70). You cannot have any positive growth within a city with a broken infrastructure.

Tamera Barton Tignor
3508 Lazy Ln, Durant, OK 74701
Heritage Crossing Neighborhood

Durant.org
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Danielle O'Neal <doneal@durant.org>

FW: Opposition to the Wilson Housing Development

2 messages

denarymel@gmail.com <denarymel@gmail.com> Wed, May 26, 2021 at 10:36 AM
To: planning@durant.org

I am concerned about the proposed Wilson Housing Development. I live on 3500 Heritage Drive and must use either Larkspur or Wilson every time I leave my house.

- Larkspur is simply too narrow.
  - Many times I have to drive off into the grass when I meet a larger vehicle. If you look at the sides of the road, you'll see that is a common occurrence.
  - There are three children who stay at that one house at the top of the hill on Larkspur, and they play close to the road.
  - You narrowly miss the mailbox by the residential housing if you're meeting another vehicle there.
- We need a three-way stop sign at the junction of Wilson and Larkspur.
  - There's no logical reasoning behind the missing stop sign, and it is confusing.
  - When traffic increases – and it is already a fairly busy junction – that one road on the curve that is missing a stop sign will cause more issues.
  - The brush by the stop signs needs to be cleared as well, it's hard to see when stopped.
- Victory Life school
  - Currently, there is ONE school sign coming from the North on Larkspur that lists 20mph 8-4. There is not one from the other direction, only a 30mph sign. Does that mean only one side of the road – which is opposite the school – is 20mph 8-4?
  - The sign needs to be both directions, and flashing only when needed, not 8-4 every day. There is no way to know when school is in session, so 20mph 8-4 every day is not realistic and is not obeyed. I polled those I knew, only a couple were even aware of the one sign.

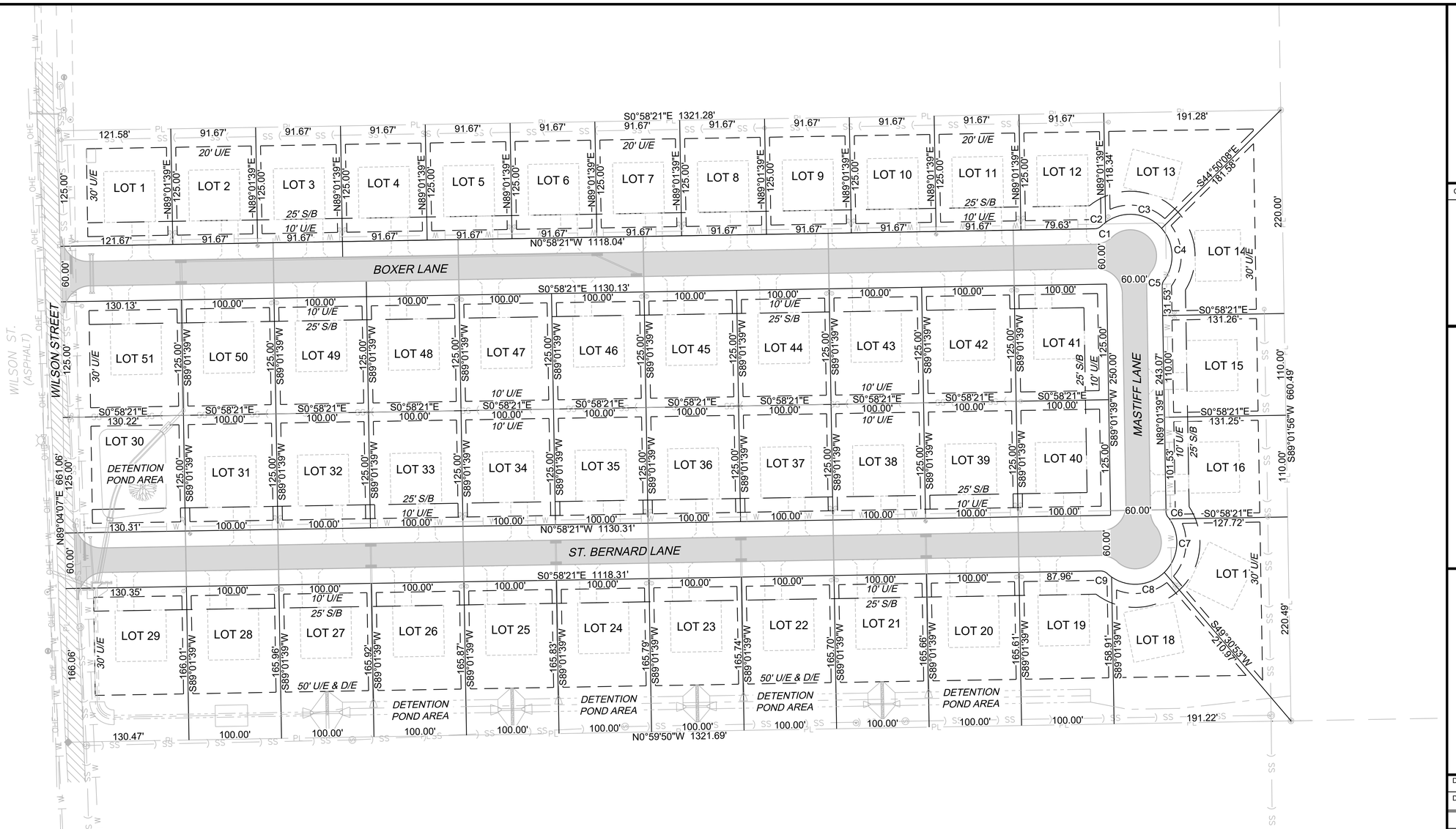
I am for expansion and additional housing. I am not for increased traffic on too-narrow roads, as that is dangerous and will be a bone of contention between the residents and the City. Larkspur and Wilson may seem to be back roads, but quite a lot of traffic goes down those roads. I have not counted the homes I can see down that stretch of Wilson, but only in the Heritage Crossing there are four main roads with two connecting roads. Each side of those main roads has 15 houses, so there's 30 houses on each main road, plus those connecting roads. THAT'S A LOT OF TRAFFIC SIMPLY FROM HERITAGE CROSSING. Now let's add in the traffic from the additional planned 50 homes. You can immediately see why Larkspur, the stop signs, and the need for flashing school signs are so vital to address BEFORE the new homes are built.

I oppose the proposed housing development on Wilson at this time.

Dena Rymel

John Rymel

580-743-0589



LOT #	AREA
1	15203.68 S.F. 0.35AC. ±
2	11459.26 S.F. 0.26AC. ±
3	11459.26 S.F. 0.26AC. ±
4	11459.26 S.F. 0.26AC. ±
5	11459.26 S.F. 0.26AC. ±
6	11459.26 S.F. 0.26AC. ±
7	11459.26 S.F. 0.26AC. ±
8	11459.26 S.F. 0.26AC. ±

LOT #	AREA
9	11459.26 S.F. 0.26AC. ±
10	11459.26 S.F. 0.26AC. ±
11	11459.26 S.F. 0.26AC. ±
12	11430.12 S.F. 0.26AC. ±
13	15110.96 S.F. 0.35AC. ±
14	20145.81 S.F. 0.46AC. ±
15	14437.83 S.F. 0.33AC. ±
16	14426.86 S.F. 0.33AC. ±

LOT #	AREA
17	18063.70 S.F. 0.41AC. ±
18	19696.33 S.F. 0.45AC. ±
19	16530.10 S.F. 0.38AC. ±
20	16563.60 S.F. 0.38AC. ±
21	16567.94 S.F. 0.38AC. ±
22	16572.29 S.F. 0.38AC. ±
23	16576.63 S.F. 0.38AC. ±
24	16580.98 S.F. 0.38AC. ±

LOT #	AREA
25	16585.33 S.F. 0.38AC. ±
26	16589.67 S.F. 0.38AC. ±
27	16594.02 S.F. 0.38AC. ±
28	16598.37 S.F. 0.38AC. ±
29	21652.98 S.F. 0.50AC. ±
30	16283.28 S.F. 0.37AC. ±
31	12500.00 S.F. 0.29AC. ±
32	12500.00 S.F. 0.29AC. ±

LOT #	AREA
33	12500.00 S.F. 0.29AC. ±
34	12500.00 S.F. 0.29AC. ±
35	12500.00 S.F. 0.29AC. ±
36	12500.00 S.F. 0.29AC. ±
37	12500.00 S.F. 0.29AC. ±
38	12500.00 S.F. 0.29AC. ±
39	12500.00 S.F. 0.29AC. ±
40	12500.00 S.F. 0.29AC. ±

LOT #	AREA
41	12500.00 S.F. 0.29AC. ±
42	12500.00 S.F. 0.29AC. ±
43	12500.00 S.F. 0.29AC. ±
44	12500.00 S.F. 0.29AC. ±
45	12500.00 S.F. 0.29AC. ±
46	12500.00 S.F. 0.29AC. ±
47	12500.00 S.F. 0.29AC. ±
48	12500.00 S.F. 0.29AC. ±

LOT #	AREA
49	12500.00 S.F. 0.29AC. ±
50	12500.00 S.F. 0.29AC. ±
51	16272.11 S.F. 0.37AC. ±

Curve Table					
CURVE #	LENGTH	RADIUS	DELTA	CHORD DIRECTION	CHORD LENGTH
C1	8.24'	11.00'	42°56'01"	S22°26'21"E	8.05'
C2	5.88'	45.00'	7°29'00"	N40°09'52"W	5.87'
C3	66.78'	45.00'	85°01'48"	N6°05'32"E	60.82'
C4	60.57'	45.00'	77°07'08"	N87°10'01"E	56.10'
C5	7.05'	11.00'	36°41'56"	N72°37'23"W	6.93'
C6	2.32'	45.00'	2°56'59"	N53°48'13"E	2.32'
C7	63.15'	45.00'	80°23'59"	S84°31'17"E	58.09'
C8	61.89'	45.01'	78°47'04"	S4°55'10"E	57.12'
C9	5.88'	45.00'	7°29'00"	S38°13'11"W	5.87'

0' 60' 120' 240'

SCALE IN FEET

CONSULTING ENGINEERS
Barker ASSOCIATES
Barker & Associates
3902 University Blvd.
Durant, OK 74701
580.931.9045
OK. CA. 3998
EXP. 06/30/2022

CHECKED BY: H. WAYNE BARKER, P.E.

CITY REVIEW SET
-NOT FOR CONSTRUCTION-
05/26/2021

PROPOSED IMPROVEMENTS

FOR

KASH ACRES

DEVELOPED BY

MIDCONTINENTAL REAL ESTATE, LLC

DURANT, OKLAHOMA

KEY PLAN

DESIGNED BY: DJK

DRAWN BY: JBA

RECORD OF REVISIONS

No.	DATE	DESCRIPTION

PRELIMINARY PLAT

PROJECT NUMBER

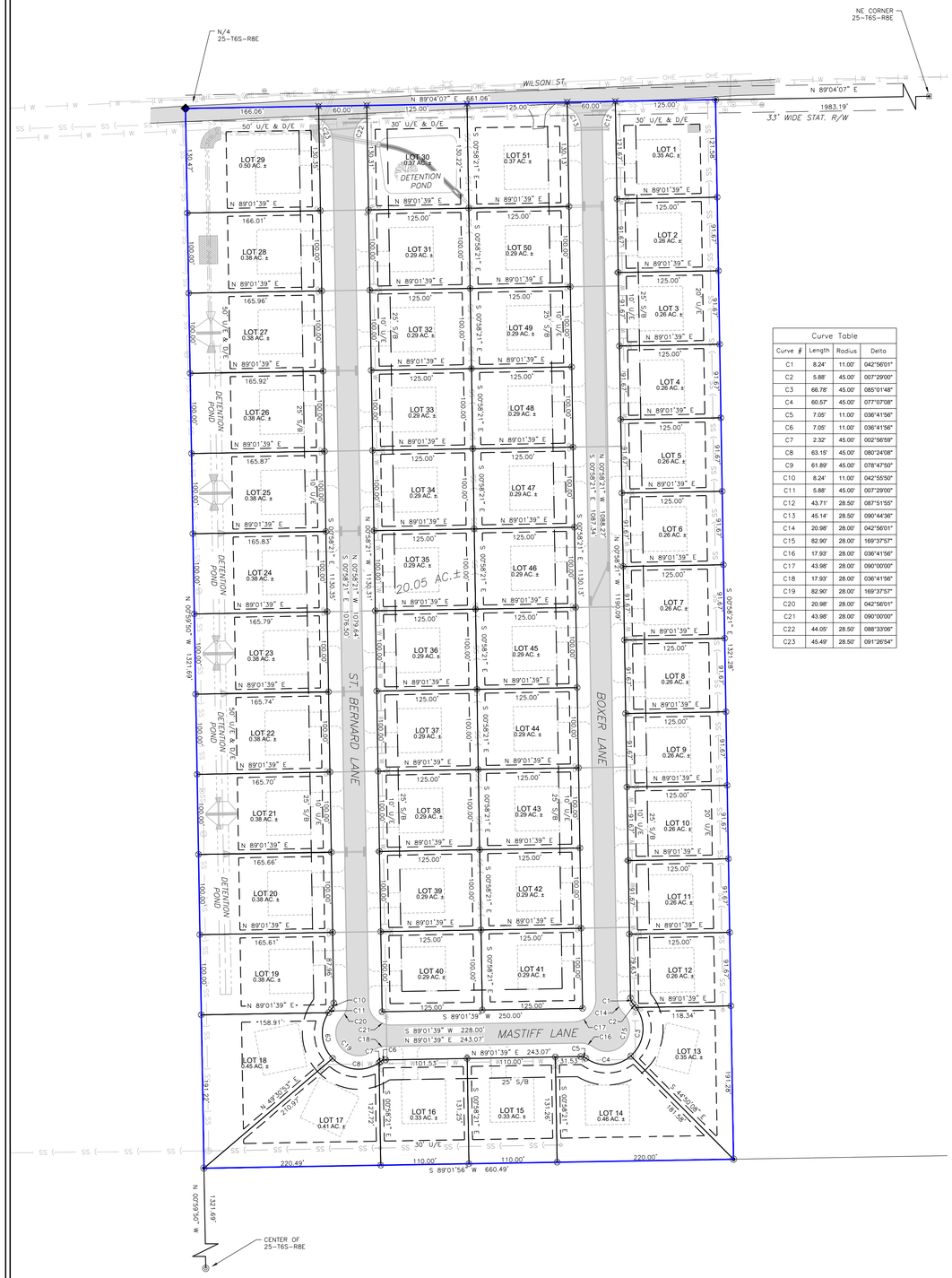
10717

STATE	DATE
OKLAHOMA	MAY 2021

SHEET NUMBER

CI101

5/26/2021 4:38:18 PM



Curve Table			
Curve #	Length	Radius	Delta
C1	8.24'	11.00'	042°56'01"
C2	5.88'	45.00'	007°29'00"
C3	66.78'	45.00'	085°01'48"
C4	60.57'	45.00'	077°07'08"
C5	7.05'	11.00'	036°41'56"
C6	7.05'	11.00'	036°41'56"
C7	2.32'	45.00'	002°56'59"
C8	63.15'	45.00'	080°24'08"
C9	61.89'	45.00'	078°47'50"
C10	8.24'	11.00'	042°55'50"
C11	5.88'	45.00'	007°29'00"
C12	43.71'	28.50'	087°51'55"
C13	45.14'	28.50'	090°44'36"
C14	20.98'	28.00'	042°56'01"
C15	82.90'	28.00'	169°37'57"
C16	17.93'	28.00'	036°41'56"
C17	43.98'	28.00'	090°00'00"
C18	17.93'	28.00'	036°41'56"
C19	82.90'	28.00'	169°37'57"
C20	20.98'	28.00'	042°56'01"
C21	43.98'	28.00'	090°00'00"
C22	44.05'	28.50'	088°33'06"
C23	45.49'	28.50'	091°26'54"

Subdivision Plat
KASH ACRES
Addition has 51 Lots and contains 20.05 acres, more or less

OWNERS CERTIFICE AND DEDICATION
I, Dr. Kinion Whittington, President, MIDCONTINENTAL REAL ESTATE, LLC, do hereby certify that I am the owner of legal title and the only person, firm or corporation having any right, title or interest in and to the land shown on the annexed map or plat and do further certify that:

1. As owner of title to said land which is shown on the annexed map or plat of KASH ACRES, being a subdivision in the W/2 of the NW/4 of the NE/4 of Section 25 Township 6 South Range 8 East of the Indian Base and Meridian, BRYAN County, Oklahoma, do hereby reserve the areas indicated as "60' R/W" (60 feet Roadway Right-of-Way) for the purposes of locating, constructing, erecting, maintaining, conducting and performing any public or quasi-public roadway & utility or roadway & utility function or service above or beneath the surface of the ground, with rights of ingress and egress at any time for the purpose of installation, repair, maintenance, operation and removal of any public or quasi-public roadway or utility.

2. Said property covered by said map or plat and dedication is subject to certain restrictions, reservations and covenants contained in a separate instrument, which will be filed for record in the Office of the County Clerk of BRYAN County, Oklahoma, subsequent to the filing of this plat.

Witness my hand on this_____day of_____, 2021

MIDCONTINENTAL REAL ESTATE, LLC,

By: _____
Dr. Kinion Whittington, President

STATE OF OKLAHOMA)
) ss
COUNTY OF BRYAN)

Before me, the undersigned, a Notary Public in and for said County and State, on this_____day of_____, 2021, personally appeared, Dr. Kinion Whittington, to me known to be the identical person who signed the name of the maker thereof to the within and foregoing instrument as its Owner, and acknowledged to me that he executed the same as his free and voluntary act and deed for the uses and purposes therein set forth.

My Commission Expires the_____day of_____, 20__.

_____
Notary Public

DEPARTMENT OF ENVIRONMENTAL QUALITY
I certify that I have approved this plat of a residential development which is on file at the BRYAN County Office of the Oklahoma Department of Environmental Quality, and hereby approve this plat for the use of public water and public sewer systems.
Note: Once plat approval has been obtained from the D.E.Q, no major modifications may occur in an area designated for septic disposal.

_____
Environmental Specialist, O.D.E.Q

COUNTY TREASURERS CERTIFICATE
I, _____, do hereby certify that I am the duly elected and qualified and acting County Treasurer of BRYAN County, State of Oklahoma; that the tax records of said County show that all taxes are paid for the tax year of 2021 and prior years on the land shown on the annexed plat of KASH ACRES, a subdivision in the W/2 of the NW/4 of the NE/4 of Section 25 Township 6 South Range 8 East, of the Indian Base and Meridian, BRYAN County, Oklahoma; that the required statutory security has been deposited in the Office of County Treasurer, guaranteeing payment of the current year's taxes.

Witness my hand on this_____day of_____, 2021

_____
County Treasurer

CITY COUNSEL CERTIFICATE
I, the undersigned, do hereby certify that the plat of KASH ACRES, a subdivision in the W/2 of the NW/4 of the NE/4 of Section 25 Township 6 South Range 8 East, of the Indian Base and Meridian, BRYAN County, Oklahoma; together with the Owners Certificate and the Surveyors Certificate on the same were presented to the City Counsel of Durant, Oklahoma for approval; that said plat, Owners Certificate and Surveyors Certificate being found to conform to the platting requirements in all respects, are in all things approved on this_____day of_____, 2021

ROADS SHALL BE PUBLIC AND SHALL BE MAINTAINED BY THE CITY ☐
ROADS WILL NOT BE MAINTAINED BY THE CITY, PROVIDED HOWEVER THAT THE CITY MAY AGREE TO MAINTAIN THE ROADS AT SOME FUTURE DATE ☐

_____
Mayor

_____
City Clerk

PLANNING & ZONING CERTIFICATE
I, the undersigned, do hereby certify that the plat of KASH ACRES, a subdivision in the W/2 of the NW/4 of the NE/4 of Section 25 Township 6 South Range 8 East, of the Indian Base and Meridian, BRYAN County, Oklahoma; together with the Owners Certificate and the Surveyors Certificate on the same were presented to the Planning & Zoning of Durant, Oklahoma for approval; that said plat, Owners Certificate and Surveyors Certificate being found to conform to the platting requirements in all respects, are in all things approved on this_____day of_____, 2021

_____
President

LEGAL DESCRIPTION – KASH ACRES
A PIECE OR PARCEL OF LAND BEING THE W/2 OF THE NW/4 OF THE NE/4 OF SECTION 25 TOWNSHIP 6 SOUTH RANGE 8 EAST, BRYAN COUNTY, OKLAHOMA

SURVEYORS CERTIFICATE
I, T.D. Chappell, Licensed Professional Land Surveyor No. 1673 in the State of Oklahoma, hereby certify that the annexed plat of KASH ACRES, BRYAN County, Oklahoma, represents a true and correct survey thereof, made under my supervision on the _____th day of _____, 2021 and that all monuments shown hereon actualy exist and their positions are correctly shown. I also certify that the survey and plat thereof meets or exceeds the Oklahoma Minimum Standards for the Practice of Land Surveying as adopted by the Oklahoma State Board of Licensure for Professional Engineers and Land Surveyors.

_____
T.D. Chappell, Oklahoma Licensed Professional Land Surveyor No. 1673

STATE OF OKLAHOMA)
) ss
COUNTY OF CHOCTAW)

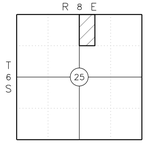
Before me, the undersigned, a Notary Public in and for said County and State, on this_____day of_____, 2021, personally appeared, T.D. Chappell, to me known to be the identical person who signed the name of the maker thereof to the within and foregoing instrument as its Owner, and acknowledged to me that he executed the same as his free and voluntary act and deed for the uses and purposes therein set forth.

My Commission Expires the_____day of_____, 20__.

_____
Notary Public

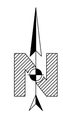
SURVEYOR NOTES:
1. This survey was preformed on the Oklahoma State Plane Coordinate System (NAD 83) and all bearings and distance shown hereon are indicative of said Grid system.
2. The utilities shown hereon were located from visible field evidence. The surveyor does not warrant the exact position of each utility is as shown nor make up the entirety of utilities on site.
3. Property being subject to all easements, rights-of-ways, restrictions, filed of record, if any.
4. Roadway shall be public.
5. Domestic water shall be served by Rural Water District No. 2.
6. There are no subdivision adjacent to property.
7. Sanitory sewer shall be served by City of Durant.

EXISTING MANHOLE
PROPOSED MANHOLE
FOUND RAILROAD SPIKE
FOUND STEEL PIN
SET 1/2" STEEL PIN W/ CAP (ONCE PLAT IS APPROVED)
SET PK NAIL W/ WASHER (ONCE PLAT IS APPROVED)
SET 5/8" STEEL PIN W/ CAP
FOUND 1" PIPE
PROPERTY LINE
16.5' STAT R/W
SEWER LINE
WATER LINE
OVERHEAD ELECTRIC
BREAK LINE



LOCATION MAP

NOTE: THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT AND MAY CONTAIN EASEMENTS OR RIGHTS OF WAY NOT SHOWN


BEARING BASIS
OSPCS (NAD 83)-SOUTH ZONE

SCALE
0' 40' 80' 160'

OWNER
MIDCONTINENTAL REAL ESTATE, LLC
Durant, Oklahoma

ENGINEER
BARKER & ASSOCIATES
Durant, Oklahoma

SURVEYOR
CHAPPELL LAND SURVEYING, PC
CA# 5072 Expires: June 30, 2022
P.O. Box 863,
Hugo, Oklahoma, 74743
Phone: (580) 326-6688
email: ctrey@chappellsurveying.com

5/27/2021 9:28:45 AM

WALL ENGINEERING, LLC
223 N Washington
Durant, OK 74701
Ph: 580-924-1800

May 27, 2021

City of Durant
300 W Evergreen
Durant, OK 74701

RE: University Blvd Improvements
Bid Tabulation and Recommendation

Mayor:

The above referenced project was bid at 2:00 p.m. on May 25, 2021. Twenty-One (21) contractors received plans and specifications for this project and Two (2) elected to submit a bid. Schiralli Construction Corp. of Wilson, OK was the apparent low bidder with a bid of: Three Million Ninety-Six Thousand Five Hundred Five Dollars and Sixteen Cents ($3,096,505.16). A Certified Bid Tabulation is enclosed.

The final engineers estimate on the project was $3,149,628.00. While the low bid received was under the final estimate by $53,122.84, it was substantially over the original budgeted project ($2,184,910.00) due to COVID related cost increases, but it still in line with current pricing.

As such, we recommend award to Schiralli Construction Corp. in the amount of: Three Million Ninety-Six Thousand Five Hundred Five Dollars and Sixteen Cents ($3,096,505.16) A Notice of Award is attached.

Should you have any questions or require additional information, please do not hesitate to call us at (580) 924-1800.

Respectfully,

WALL ENGINEERING

Brandon Wall, P.E.
President

Enclosure(s)
DBW

cc: Bidding Contractors
Wall Engineering File (DU-20-03)

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

NOTICE OF AWARD

Date of Issuance:

Owner:	City of Durant	Owner's Contract No.:	DU-20-03
Engineer:	Wall Engineering, LLC	Engineer's Project No.:	DU-20-03
Project:	University Blvd Improvements	Contract Name: One	
Bidder:	Schiralli Construction Corp.		
Bidder's Address:	766 US Hwy 70 A, Wilson, OK 73463		

TO BIDDER:

You are notified that Owner has accepted your Bid dated __May 25, 2021__ for the above Contract, and that you are the Successful Bidder and are awarded a Contract for: Grade, Drain, Surface (Concrete) with Traffic Signal

Base Bid

The Contract Price of the awarded Contract is:

Three Million Ninety-Six Thousand Five Hundred Five Dollars and Sixteen Cents ($3,096,505.16)

6 unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.

☒ a set of the Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver to Owner 6 counterparts of the Agreement, fully executed by Bidder.
2. Deliver with the executed Agreement(s) the Contract security and insurance documentation as specified in the Instructions to Bidders and General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any): None

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner: City of Durant

_____

By: Oden Grube

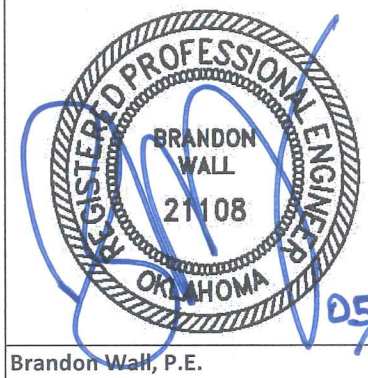
Title: Mayor

Copy: Engineer

City of Durant
University Blvd Improvements
Wall Engineering Project: DU-20-03
Bid Opening: May 25, 2021 at 2:00 p.m.

#	Bid Item Sections	Schiralli Constructin Corp. Wilson, OK 73463	Built Right Construction, LLC Savanna, OK 74565
		Bid Price	Bid Price
1	General Pay Items (#1 - #4)	$ 149,193.46	$ 528,500.00
2	Gates Ave to Radio Road (#5 - #62)	$ 1,423,170.56	$ 1,986,121.00
3	Radio Road to Westside Drive (#63 - #123)	$ 1,196,488.19	$ 1,685,923.00
4	Utility Relocation - Gates to Radio Road (#124 - #139)	$ 49,280.00	$ 23,500.00
5	Utility Relocation - Radio Road to Westside Drive (#140 - #153)	$ 44,000.00	$ 37,500.00
6	Speccial Traffic (#154 - #184)	$ 234,372.95	$ 278,810.90
	Total Base Bid	$ 3,096,505.16	$ 4,540,354.90

Certified as True and Correct



05/25/21

Brandon Wall, P.E.
Wall Engineering, LLC

ATTACHMENT A

COMPLETE SCHIRALLI CONSTRUCTION CORPORATION BID PROPOSAL

BID FORM SECTION 5.01 - BID PROPOSAL SUMMARY OF BID PRICING (ADDM 4)	
SECTION	**BID PRICE**
GENERAL PAY ITEMS (#1 - #4)	$149,193.46
GATES AVE TO RADIO ROAD (#5 - #62)	$1,423,170.56
RADIO ROAD TO WESTSIDE DRIVE (#63 - #123)	$1,196,488.19
UTILITY RELOCATION - GATES TO RADIO ROAD (#124 - #139)	$49,280.00
UTILITY RELOCATION - GATES TO RADIO ROAD (#140 - #153)	$44,000.00
SPECIAL TRAFFIC (#154 - #184)	$234,372.95
TOTAL PROJECT BID PRICE	$3,096,505.16

BID FORM SECTION 5.01 - BID PROPOSAL GENERAL PAY ITEMS - BOTH PROJECTS (4-3 & 4-4)							
#	ODOT Item #	ODOT Code #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
1	220	2800	SWPPP DOCUMENTATION AND MANAGEMENT	LSUM	1	$3,517.72	$3,517.72
2	641	1369	MOBILIZATION	LSUM	1	$101,235.86	$101,235.86
3	642(B)	0096	CONSTRUCTION STAKING (LEVEL II)	LSUM	1	$22,164.88	$22,164.88
4	880(J)	8905	CONSTRUCTION TRAFFIC CONTROL	LSUM	1	$22,275.00	$22,275.00
						SUBTOTAL - GENERAL PAY ITEMS (#1 - #4)	$149,193.46

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY - GATES AVENUE TO RADIO ROAD - PROJECT 4-3							
#	ODOT Item #	ODOT Cone #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
5	202(A)	0183	UNCLASSIFIED EXCAVATION	CY	452	$19.59	$8,854.68
6	202(D)	0184	UNCLASSIFIED BORROW	CY	2406	$24.32	$58,513.92
7	221(C)	2801	TEMPORARY SILT FENCE	LF	4744	$2.75	$13,046.00
8	221(D)	2803	TEMPORARY SEDIMENT FILTER	EA	10	$275.00	$2,750.00
9	221(F)	0100	TEMPORARY SILT DIKE	LF	40	$16.50	$660.00
10	221(K)	0600	TEMPORARY FIBER LOG	LF	173	$3.85	$666.05
11	230(A)	2806	SOLID SLAB SODDING	SY	7529	$3.96	$29,814.84
12	303(A)	2100	AGGREGATE BASE TYPE A	CY	1110	$60.49	$67,143.90
13	310(B)	0149	SUBGRADE, METHOD B	SY	6659	$2.37	$15,781.83
14	325	5271	SEPARATOR FABRIC	SY	6659	$2.14	$14,250.26
15	402(E)	0225	TRAFFIC BOUND SURFACE COURSE TYPE E	TON	50	$37.80	$1,890.00
16	414(B)	5725	DOWEL JOINTED P.C. CONC PVMT (PLACEMENT)	SY	6276	$25.24	$158,406.24
17	414(G)	5275	P.C. CONCRETE FOR PAVEMENT	CY	1743	$186.93	$325,818.99
18	501(A)	0313	STRUCTURAL EXCAVATION UNCLASSIFIED	CY	8	$72.98	$583.84
19	509(A)	0319	CLASS AA CONCRETE	CY	15	$1,723.89	$25,858.35
20	511(A)	0332	REINFORCING STEEL	LB	1419	$3.78	$5,363.82
21	609(A)	0300	CONCRETE CURB (6" BARRIER-INTEGRAL)	LF	2804	$12.71	$35,638.84
22	609(B)	0383	COMBINED CURB & GUTTER (6" BARRIER)	LF	312	$36.07	$11,253.84
23	610(A)	0602	4" CONCRETE SIDEWALK	SY	2091	$67.08	$140,264.28
24	610(B)	0399	6" CONCRETE DRIVEWAY (H. E. S.)	SY	774	$102.60	$79,412.40
25	610(I)	4610	TACTILE WARNING DEVICE-NEW	SF	168	$30.49	$5,122.32
26	611(G)	5116	INLET CI DES. 2 (2C)	EA	2	$7,480.00	$14,960.00

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY - GATES AVENUE TO RADIO ROAD - PROJECT 4-3							
#	ODOT Item #	ODOT Cone #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
27	611(G)	5122	INLET CI DES. 3 (D)	EA	1	$8,250.00	$8,250.00
28	611(G)	5124	INLET CI DES. 3 (B-D)	EA	7	$9,350.00	$65,450.00
29	611(G)	5328	INLET GPI TYPE 1 (DES. 2)	EA	1	$3,850.00	$3,850.00
30	611(G)	5340	INLET GPI TYPE 2 (DES. 14)	EA	1	$4,950.00	$4,950.00
31	611(G)	6000	INLET (SMD-TYPE 1)	EA	3	$3,520.00	$10,560.00
32	611(H)	5325	ADD'L DEPTH IN INLET CI DES. 2	VF	2	$495.00	$990.00
33	611(H)	5330	ADD'L DEPTH IN INLET CI DES. 3	VF	5	$550.00	$2,750.00
34	611(H)	5374	ADD'L DEPTH IN INLET GPI TYPE 1	VF	1	$495.00	$495.00
35	611(L)	0487	JUNCTION BOXES	CF	800	$49.50	$39,600.00
36	612(A)	0641	MANHOLES ADJUST TO GRADE	EA	3	$550.00	$1,650.00
37	612(E)	0647	VALVE BOXES ADJUST TO GRADE	EA	5	$330.00	$1,650.00
38	613(A)	0491	18" R.C. PIPE CLASS III	LF	129	$55.00	$7,095.00
39	613(A)	0492	24" R.C. PIPE CLASS III	LF	793	$66.00	$52,338.00
40	613(A)	0493	30" R.C. PIPE CLASS III	LF	223	$74.80	$16,680.40
41	613(A)	0494	36" R.C. PIPE CLASS III	LF	299	$82.50	$24,667.50
42	613(A)	0496	48" R.C. PIPE CLASS III	LF	8	$110.00	$880.00
43	613(B)	0688	12" CORR. GALV. STEEL PIPE	LF	20	$44.00	$880.00
44	613(L)	5738	48" PREFAB. CULVERT END SECTION, ROUND	EA	1	$4,400.00	$4,400.00
45	613(S)	1186	STANDARD BEDDING MATERIAL, CLASS B	CY	680	$44.00	$29,920.00
46	613(V)	1180	TRENCH EXCAVATION	CY	1288	$5.50	$7,084.00
47	619(A)	0920	REMOVAL OF STRUCTURES & OBSTRUCTIONS	LSUM	1	$9,103.66	$9,103.66
48	619(B)	4726	REMOVAL OF CURB AND GUTTER	LF	822	$6.66	$5,474.52

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY - GATES AVENUE TO RADIO ROAD - PROJECT 4-3							
#	ODOT Item #	ODOT Cone #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
49	619(B)	4727	REMOVAL OF CONCRETE PAVEMENT	SY	397	$10.23	$4,061.31
50	619(B)	4728	REMOVAL OF ASPHALT PAVEMENT	SY	4515	$14.04	$63,390.60
51	619(B)	4766	REMOVAL OF CONCRETE DRIVEWAY	SY	249	$12.66	$3,152.34
52	619(B)	4767	REMOVAL OF ASPHALT DRIVEWAY	SY	347	$11.70	$4,059.90
53	619(B)	4792	REMOVAL OF SIDEWALK	SY	23	$18.10	$416.30
54	805(B)	8728	RESET OF PULLBOX	EA	1	$1,260.00	$1,260.00
55	805(D)	8756	REMOVE & RESET EXISITING SIGNS	EA	12	$275.00	$3,300.00
56	856(A)	8530	TRAFFIC STRIPE(MULTI-POLYMER) (4" WIDE)	LF	7259	$0.77	$5,589.43
57	856(A)	8540	TRAFFIC STRIPE(MULTI-POLYMER) (8" WIDE)	LF	273	$3.30	$900.90
58	856(A)	8555	TRAFFIC STRIPE(MULTI-POLY.) (24" WIDE)	LF	699	$16.50	$11,533.50
59	856(B)	8860	TRAFFIC STRIPE(MULTI-POLY.) (ARROWS)	EA	22	$275.00	$6,050.00
60	857(F)	8006	PAVEMENT MARKING REMOVAL (TRAFFIC STRIPE)	LF	1779	$2.20	$3,913.80
61	857(F)	8007	PAVEMENT MARKING REMOVAL (ARROWS)	EA	8	$82.50	$660.00
62	857(F)	8008	PAVEMENT MARKING REMOVAL (WORDS)	EA	1	$110.00	$110.00
SUBTOTAL - PROJECT 4-3 PAY ITEMS (#5 - #62)							$1,423,170.56

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY - RADIO ROAD TO WESTSIDE - PROJECT 4-4							
#	ODOT Item #	ODOT Cone #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
63	202(A)	0183	UNCLASSIFIED EXCAVATION	CY	2650	$16.84	$44,626.00
64	220	2800	SWPPP DOCUMENTATION AND MANAGEMENT	LSUM	1	$2,377.72	$2,377.72
65	221(C)	2801	TEMPORARY SILT FENCE	LF	2533	$2.75	$6,965.75
66	221(D)	2803	TEMPORARY SEDIMENT FILTER	EA	14	$275.00	$3,850.00
67	221(K)	0600	TEMPORARY FIBER LOG	LF	283	$3.85	$1,089.55
68	230(A)	2806	SOLID SLAB SODDING	SY	5242	$3.96	$20,758.32
69	303(A)	2100	AGGREGATE BASE TYPE A	CY	804	$59.45	$47,797.80
70	310(B)	0149	SUBGRADE, METHOD B	SY	4821	$2.73	$13,161.33
71	325	5271	SEPARATOR FABRIC	SY	4821	$2.06	$9,931.26
72	402(E)	0225	TRAFFIC BOUND SURFACE COURSE TYPE E	TON	50	$37.80	$1,890.00
73	414(B)	5725	DOWEL JOINTED P.C. CONC PVMT (PLACEMENT)	SY	4499	$26.86	$120,843.14
74	414(G)	5275	P.C. CONCRETE FOR PAVEMENT	CY	1250	$186.98	$233,725.00
75	501(A)	0313	STRUCTURAL EXCAVATION UNCLASSIFIED	CY	1	$63.00	$63.00
76	509(A)	0319	CLASS AA CONCRETE	CY	2	$1,414.54	$2,829.08
77	509(C)	0322	CLASS A CONCRETE, SMALL STRUCTURES	CY	18	$2,425.09	$43,651.62
78	509(D)	0325	CLASS C CONCRETE	CY	2	$441.00	$882.00
79	511(A)	0332	REINFORCING STEEL	LB	262	$3.78	$990.36
80	609(A)	0300	CONCRETE CURB (6" BARRIER-INTEGRAL)	LF	1570	$13.40	$21,038.00
81	609(B)	0383	COMBINED CURB & GUTTER (6" BARRIER)	LF	205	$44.08	$9,036.40
82	609(C)	4811	CONCRETE HEADER CURB (12" X 18")	LF	106	$53.72	$5,694.32
83	610(A)	0602	4" CONCRETE SIDEWALK	SY	1205	$67.60	$81,458.00
84	610(B)	0399	6" CONCRETE DRIVEWAY (H. E. S.)	SY	1369	$75.28	$103,058.32

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY - RADIO ROAD TO WESTSIDE - PROJECT 4-4							
#	ODOT Item #	ODOT Cone #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
85	610(C)	0609	6" CONCRETE DIVIDING STRIP	SY	45	$99.13	$4,460.85
86	610(I)	4610	TACTILE WARNING DEVICE-NEW	SF	88	$29.96	$2,636.48
87	611(G)	5113	INLET CI DES. 2 (B)	EA	1	$5,500.00	$5,500.00
88	611(G)	5115	INLET CI DES. 2 (D)	EA	2	$6,600.00	$13,200.00
89	611(G)	5116	INLET CI DES. 2 (2C)	EA	1	$7,480.00	$7,480.00
90	611(G)	5119	INLET CI DES. 2 (2D)	EA	3	$8,580.00	$25,740.00
91	611(G)	5120	INLET CI DES. 3 (STD.)	EA	1	$6,050.00	$6,050.00
92	611(G)	5124	INLET CI DES. 3 (B-D)	EA	4	$9,350.00	$37,400.00
93	611(G)	6000	INLET (SMD-TYPE 1)	EA	6	$3,520.00	$21,120.00
94	611(G)	6004	INLET (SMD-TYPE 2A)	EA	1	$3,740.00	$3,740.00
95	611(G)	6006	INLET (SMD-TYPE 2B)	EA	2	$4,070.00	$8,140.00
96	611(H)	5325	ADD'L DEPTH IN INLET CI DES. 2	VF	2.5	$495.00	$1,237.50
97	611(H)	5330	ADD'L DEPTH IN INLET CI DES. 3	VF	0.5	$550.00	$275.00
98	612(A)	0641	MANHOLES ADJUST TO GRADE	EA	5	$550.00	$2,750.00
99	612(E)	0647	VALVE BOXES ADJUST TO GRADE	EA	1	$330.00	$330.00
100	612(F)	0648	METER BOXES ADJUST TO GRADE	EA	1	$330.00	$330.00
101	613(E)	4784	18" CORRUGATED POLYETHYLENE PIPE	LF	698	$49.50	$34,551.00
102	613(E)	4785	24" CORRUGATED POLYETHYLENE PIPE	LF	213	$58.30	$12,417.90
103	613(E)	7206	30" CORRUGATED POLYETHYLENE PIPE	LF	421	$69.30	$29,175.30
104	613(E)	7207	36" CORRUGATED POLYETHYLENE PIPE	LF	323	$77.00	$24,871.00
105	613(L)	5734	36" PREFAB. CULVERT END SECTION, ROUND	EA	1	$3,850.00	$3,850.00
106	613(S)	1186	STANDARD BEDDING MATERIAL, CLASS B	CY	697	$44.00	$30,668.00

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY - RADIO ROAD TO WESTSIDE - PROJECT 4-4							
#	ODOT Item #	ODOT Cone #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
107	613(V)	1180	TRENCH EXCAVATION	CY	1254	$5.50	$6,897.00
108	619(A)	0920	REMOVAL OF STRUCTURES & OBSTRUCTIONS	LSUM	1	$9,103.66	$9,103.66
109	619(B)	4726	REMOVAL OF CURB AND GUTTER	LF	928	$6.88	$6,384.64
110	619(B)	4727	REMOVAL OF CONCRETE PAVEMENT	SY	396	$12.29	$4,866.84
111	619(B)	4728	REMOVAL OF ASPHALT PAVEMENT	SY	3464	$11.72	$40,598.08
112	619(B)	4766	REMOVAL OF CONCRETE DRIVEWAY	SY	1686	$12.04	$20,299.44
113	619(B)	4792	REMOVAL OF SIDEWALK	SY	14	$21.64	$302.96
114	SPEC.	SPEC.	26' GRATED STREET INLET	EA	1	$31,336.62	$31,336.62
115	805(B)	8728	(PL) RESET OF PULLBOX	EA	3	$1,260.00	$3,780.00
116	805(D)	8756	REMOVE & RESET EXISITING SIGNS	EA	4	$275.00	$1,100.00
117	856(A)	8530	TRAFFIC STRIPE(MULTI-POLY.) (4" WIDE)	LF	4705	$0.77	$3,622.85
118	856(A)	8540	TRAFFIC STRIPE(MULTI-POLY.) (8" WIDE)	LF	107	$3.30	$353.10
119	856(A)	8555	TRAIFFIC STRIPE(MULTI-POLY.) (24" WIDE)	LF	259	$16.50	$4,273.50
120	856(B)	8860	TRAFFIC STRIPE(MULTI-POLY.) (ARROWS)	EA	24	$275.00	$6,600.00
121	857(F)	8006	PAVEMENT MARKING REMOVAL (TRAFFIC STRIPE)	LF	2110	$2.20	$4,642.00
122	857(F)	8007	PAVEMENT MARKING REMOVAL (ARROWS)	EA	7	$82.50	$577.50
123	857(F)	8008	PAVEMENT MARKING REMOVAL (WORDS)	EA	1	$110.00	$110.00
SUBTOTAL - PROJECT 4-4 PAY ITEMS (#63 - #123)							$1,196,488.19

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY UTILITY RELOCATION - GATES TO RADIO ROAD - PROJECT 4-3 (ADDM 3)						
#	Plan Ref #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
124	1	Sta. 12+86 to Sta. 12+94 -RT- Lower 6" Water Main	LSUM	1	$3,850.00	$3,850.00
125	2	Sta. 13+10 - RT - Lower 6" Water Main	LSUM	1	$3,850.00	$3,850.00
126	3	Sta. 13+24 - RT - Lower 4" Sanitary Sewer Force Main	LSUM	1	$3,190.00	$3,190.00
127	4	Sta. 13+40 to Sta. 13+48 - RT - Lower 6" Water Main	LSUM	1	$3,850.00	$3,850.00
128	5	Sta. 13+37 to 13+45 - RT - Lower 4" Sanitary Sewer Force Main	LSUM	1	$3,190.00	$3,190.00
129	6	Sta. 13+35 - LT - Lower 6" Water Main Supply to Fire Hydrant	LSUM	1	$3,850.00	$3,850.00
130	7	Sta. 21+36 to Sta. 21+44 - LT - Lower 6" Water Main	LSUM	1	$3,850.00	$3,850.00
131	8	Sta. 19+14 - RT - Raise Existing Sanitary Sewer Manhole Top to Match Finish Grade	LSUM	1	$550.00	$550.00
132	9	Sta. 21+85 - LT - Lower 6" Water Main	LSUM	1	$3,850.00	$3,850.00
133	10	Sta 22+72 - LT - Lower 3/4" Water Service Line	LSUM	1	$1,650.00	$1,650.00
134	11	Sta. 23+27 - RT - Raise Existing Sanitary Sewer Manhole Top to Match Finish Grade	LSUM	1	$550.00	$550.00
135	12	Sta 23+89 - LT - Lower 3/4" Water Service Line	LSUM	1	$1,650.00	$1,650.00
136	13	Sta. 23+39 to 23+48 - LT - Lower 6" Water Main	LSUM	1	$3,850.00	$3,850.00
137	14	Sta. 23+39 to Sta 23+48 RT - Lower 6" Water Main	LSUM	1	$3,850.00	$3,850.00
138	15	Sta 14+22 to Sta. 14+30 LT - Lower 6" Water Main	LSUM	1	$3,850.00	$3,850.00
139	16	Sta. 24+62 to Sta. 24+70 LT - Lower 6" Water Main	LSUM	1	$3,850.00	$3,850.00
SUBTOTAL - UTILITY RELOCATION 4-3 (#124 - #139)						$49,280.00

*****See Exhibit 2 and 3 for item numbers and descriptions corresponding

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY UTILITY RELOCATION - RADIO ROAD TO WESTSIDE - PROJECT 4-4 (ADDM 3)						
#	Plan Ref #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
140	1	Sta. 0+91 -LT- Relocate Existing Water Service and Meter	LSUM	1	$2,200.00	$2,200.00
141	2	Sta. 0+93 - LT- Relocate Existing Water Service and Meter	LSUM	1	$2,200.00	$2,200.00
142	3	Sta. 0+87 to Sta. 0+95 - LT - Lower 6" Water Main	LSUM	1	$3,850.00	$3,850.00
143	4	Sta. 1+67 LT - Relocate 6" Gate Valve	LSUM	1	$1,650.00	$1,650.00
144	5	Sta. 1+69 to 1+77 - LT - Lower 6" Water Main	LSUM	1	$3,850.00	$3,850.00
145	6	Sta. 2+42 to 2+49 - LT - Lower 6" Water Main	LSUM	1	$3,850.00	$3,850.00
146	7	Sta. 3+16 to Sta. 3+24 - LT - Lower 6" Water Main	LSUM	1	$3,850.00	$3,850.00
147	8	Sta. 4+24 - RT - Raise Existing Sanitary Sewer Manhole Top to Match Finish Grade	LSUM	1	$550.00	$550.00
148	9	Sta. 3+79 to 4+25 - LT - Remove and Replace Sanitary Sewer Main Line.	LSUM	1	$5,500.00	$5,500.00
149	10	Sta 4+25 - Remove and Replace Sanitary Sewer Service and Cleanout Assembly.	LSUM	1	$2,750.00	$2,750.00
150	11	Sta. 4+25 - LT - Raise Existing Sanitary Sewer Manhole Top to Match Finish Grade	LSUM	1	$550.00	$550.00
151	12	Sta 4+19 to 4+59 - LT - Remove and Replace Sanitary Sewer Main Line	LSUM	1	$5,500.00	$5,500.00
152	13	Sta. 4+17 to 6+37 - LT - Relocate Water Main	LSUM	1	$3,850.00	$3,850.00
153	14	Sta. 6+81 - RT - Lower 6" Water Main	LSUM	1	$3,850.00	$3,850.00
SUBTOTAL - UTILITY RELOCATION 4-4 (#140 - #153)						$44,000.00

*****See Exhibit 2 and 3 for item numbers and descriptions corresponding

BID FORM SECTION 5.01 - BID PROPOSAL SPECIAL TRAFFIC							
#	ODOT Item #	ODOT CoDe #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
154	802(8)	8342	2" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	LF	150	$22.00	$3,300.00
155	802(8)	8344	3" PVC SCH. 40 PLASTIC CONDUIT BORED	LF	175	$60.50	$10,587.50
156	802(8)	8346	3" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	LF	40	$27.50	$1,100.00
157	803(A)	8065	PULL BOX (SIZE I)	EA	3	$1,100.00	$1,100.00
158	803(A)	8066	PULL BOX (SIZE II)	EA	1	$1,320.00	$1,320.00
159	804(A)	2915	STRUCTURAL CONCRETE	CY	11.2	$1,045.00	$11,704.00
160	804(8)	2916	REINFORCING STEEL	LB	1630.3	$2.16	$3,521.45
161	806(A)	8728	POLE & 30' TS MST. ARM (G.STL.)	EA	2	$12,061.50	$24,123.00
162	806(A)	8352	32' MH POLE, 20' TS & 1 0' LMA (G.STL.)	EA	1	$11,110.00	$11,110.00
163	806(A)	8350	32' MH POLE, 30' TS & 1 0' LMA (G.STL.)	EA	1	$14,355.00	$14,355.00
164	806(8)	8894	1 0' MTG. HT. TS PED. POLE (G.STL.)	EA	3	$1,650.00	$4,950.00
165	809(A)	8090	ROADWAY LUMINAIRE	EA	1	$1,320.00	$1,320.00
166	810(A)	3118	SERVICE POLE	EA	1	$550.00	$550.00
167	811	8040	1/C NO. 6 ELECTRICAL CONDUCTOR	LF	200	$3.30	$660.00
168	811	8044	1/C NO. 10 ELECTRICAL CONDUCTOR	LF	510	$2.20	$1,122.00
169	825	8550	TRAFFIC SIGNAL CONTROLLER ASSEMBLY	EA	1	$35,832.50	$35,832.50
170	828	8132	(PL)DETECTION SYSTEM (VIDEO)	LSUM	1	$44,132.00	$44,132.00
171	830	8000	PEDESTRIAN PUSH BUTTON	EA	8	$1,100.00	$8,800.00
172	831	8231	1WAY 3SEC. ADJ. SIG. HD. S-6	EA	8	$1,045.00	$8,360.00
173	831	8280	1WAY 4SEC. ADJ. SIG. HD. S-13	EA	2	$1,320.00	$2,640.00
174	831	8295	1WAY 2SEC. ADJ. PED. SIG. HD. S-20	EA	8	$660.00	$5,280.00
175	833	3030	BACKPLATE	EA	10	$275.00	$2,750.00
176	834(A)	8207	5/C TRAFFIC SIGNAL ELECTRICAL CABLE	LF	1480	$5.50	$8,140.00
177	834(A)	8208	7/C TRAFFIC SIGNAL ELECTRICAL CABLE	LF	110	$6.60	$726.00

BID FORM SECTION 5.01 - BID PROPOSAL SPECIAL TRAFFIC							
#	ODOT Item #	ODOT CoDe #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
178	834(A)	8213	21/C TRAFFIC SIGNAL ELECTRICAL CABLE	LF	425	$8.80	$3,740.00
179	834(8)	8220	2/C SHIELDED LOOP DETECTOR LEAD-IN CABLE	LF	45	$2.20	$99.00
180	840(A)	8592	E.P.S. OPTICAL EMITTER	EA	5	$1,166.00	$5,830.00
181	840(8)	8593	E.P.S. OPTICAL DETECTOR	EA	2	$715.00	$1,430.00
182	840(C)	8594	E.P.S. OPTICAL DETECTOR CABLE	LF	345	$2.20	$759.00
183	840(0)	8595	E.P.S. 2 CHANNEL PHASE SELECTOR	EA	1	$4,510.00	$4,510.00
184	850(C)	8118	MAST ARM MOUNTED SIGNS (ALUMINUM)	SF	89	$93.50	$8,321.50
SUBTOTAL - PROJECT 4-4 PAY ITEMS (#154 - #184)							$234,372.95

ATTACHMENT B

COMPLETE BUILT RIGHT CONSTRUCTION CORPORATION BID PROPOSAL

BID FORM SECTION 5.01 - BID PROPOSAL SUMMARY OF BID PRICING (ADDM 4)	
SECTION	**BID PRICE**
GENERAL PAY ITEMS (#1 - #4)	528,500.00
GATES AVE TO RADIO ROAD (#5 - #62)	1,986,121.00
RADIO ROAD TO WESTSIDE DRIVE (#63 - #123)	1,685,923.00
UTILITY RELOCATION - GATES TO RADIO ROAD (#124 - #139)	23,500.00
UTILITY RELOCATION - GATES TO RADIO ROAD (#140 - #153)	37,500.00
SPECIAL TRAFFIC (#154 - #184)	278,810.90
TOTAL PROJECT BID PRICE	4,540,354.90

BID FORM SECTION 5.01 - BID PROPOSAL GENERAL PAY ITEMS - BOTH PROJECTS (4-3 & 4-4)							
#	ODOT Item #	ODOT Code #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
1	220	2800	SWPPP DOCUMENTATION AND MANAGEMENT	LSUM	1	3,500.00	3,500.00
2	641	1369	MOBILIZATION	LSUM	1	275,000.00	275,000.00
3	642(B)	0096	CONSTRUCTION STAKING (LEVEL II)	LSUM	1	50,000.00	50,000.00
4	880(J)	8905	CONSTRUCTION TRAFFIC CONTROL	LSUM	1	200,000.00	200,000.00
SUBTOTAL - GENERAL PAY ITEMS (#1 - #4)							528,500.00

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY - GATES AVENUE TO RADIO ROAD - PROJECT 4-3							
#	ODOT Item #	ODOT Cone #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
5	202(A)	0183	UNCLASSIFIED EXCAVATION	CY	452	45.00	20,340.00
6	202(D)	0184	UNCLASSIFIED BORROW	CY	2406	21.50	51,729.00
7	221(C)	2801	TEMPORARY SILT FENCE	LF	4744	4.00	18,976.00
8	221(D)	2803	TEMPORARY SEDIMENT FILTER	EA	10	50.00	500.00
9	221(F)	0100	TEMPORARY SILT DIKE	LF	40	50.00	2,000.00
10	221(K)	0600	TEMPORARY FIBER LOG	LF	173	35.00	6,055.00
11	230(A)	2806	SOLID SLAB SODDING	SY	7529	5.00	37,645.00
12	303(A)	2100	AGGREGATE BASE TYPE A	CY	1110	55.00	61,050.00
13	310(B)	0149	SUBGRADE, METHOD B	SY	6659	10.00	66,590.00
14	325	5271	SEPARATOR FABRIC	SY	6659	5.00	33,295.00
15	402(E)	0225	TRAFFIC BOUND SURFACE COURSE TYPE E	TON	50	55.00	2,750.00
16	414(B)	5725	DOWEL JOINTED P.C. CONC PVMT (PLACEMENT)	SY	6276	35.00	219,660.00
17	414(G)	5275	P.C. CONCRETE FOR PAVEMENT	CY	1743	300.00	522,900.00
18	501(A)	0313	STRUCTURAL EXCAVATION UNCLASSIFIED	CY	8	25.00	200.00
19	509(A)	0319	CLASS AA CONCRETE	CY	15	600.00	9,000.00
20	511(A)	0332	REINFORCING STEEL	LB	1419	3.00	4,257.00
21	609(A)	0300	CONCRETE CURB (6" BARRIER-INTEGRAL)	LF	2804	45.00	126,180.00
22	609(B)	0383	COMBINED CURB & GUTTER (6" BARRIER)	LF	312	45.00	14,040.00
23	610(A)	0602	4" CONCRETE SIDEWALK	SY	2091	85.00	177,735.00
24	610(B)	0399	6" CONCRETE DRIVEWAY (H. E. S.)	SY	774	100.00	77,400.00
25	610(I)	4610	TACTILE WARNING DEVICE-NEW	SF	168	75.00	12,600.00
26	611(G)	5116	INLET CI DES. 2 (2C)	EA	2	9,500.00	19,000.00

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY - GATES AVENUE TO RADIO ROAD - PROJECT 4-3							
#	ODOT Item #	ODOT Cone #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
27	611(G)	5122	INLET CI DES. 3 (D)	EA	1	7,500.00	7,500.00
28	611(G)	5124	INLET CI DES. 3 (B-D)	EA	7	7,800.00	54,600.00
29	611(G)	5328	INLET GPI TYPE 1 (DES. 2)	EA	1	4,500.00	4,500.00
30	611(G)	5340	INLET GPI TYPE 2 (DES. 14)	EA	1	6,600.00	6,600.00
31	611(G)	6000	INLET (SMD-TYPE 1)	EA	3	4,800.00	14,400.00
32	611(H)	5325	ADD'L DEPTH IN INLET CI DES. 2	VF	2	1,000.00	2,000.00
33	611(H)	5330	ADD'L DEPTH IN INLET CI DES. 3	VF	5	1,000.00	5,000.00
34	611(H)	5374	ADD'L DEPTH IN INLET GPI TYPE 1	VF	1	1,000.00	1,000.00
35	611(L)	0487	JUNCTION BOXES	CF	800	30.00	24,000.00
36	612(A)	0641	MANHOLES ADJUST TO GRADE	EA	3	2,000.00	6,000.00
37	612(E)	0647	VALVE BOXES ADJUST TO GRADE	EA	5	1,000.00	5,000.00
38	613(A)	0491	18" R.C. PIPE CLASS III	LF	129	85.00	10,965.00
39	613(A)	0492	24" R.C. PIPE CLASS III	LF	793	95.00	75,335.00
40	613(A)	0493	30" R.C. PIPE CLASS III	LF	223	120.00	26,760.00
41	613(A)	0494	36" R.C. PIPE CLASS III	LF	299	140.00	41,860.00
42	613(A)	0496	48" R.C. PIPE CLASS III	LF	8	200.00	1,600.00
43	613(B)	0688	12" CORR. GALV. STEEL PIPE	LF	20	45.00	900.00
44	613(L)	5738	48" PREFAB. CULVERT END SECTION, ROUND	EA	1	4,000.00	4,000.00
45	613(S)	1186	STANDARD BEDDING MATERIAL, CLASS B	CY	680	65.00	44,200.00
46	613(V)	1180	TRENCH EXCAVATION	CY	1288	15.00	19,320.00
47	619(A)	0920	REMOVAL OF STRUCTURES & OBSTRUCTIONS	LSUM	1	50,000.00	50,000.00
48	619(B)	4726	REMOVAL OF CURB AND GUTTER	LF	822	8.00	6,576.00

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY - GATES AVENUE TO RADIO ROAD - PROJECT 4-3							
#	ODOT Item #	ODOT Cone #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
49	619(B)	4727	REMOVAL OF CONCRETE PAVEMENT	SY	397	8.00	3,176.00
50	619(B)	4728	REMOVAL OF ASPHALT PAVEMENT	SY	4515	8.00	36,120.00
51	619(B)	4766	REMOVAL OF CONCRETE DRIVEWAY	SY	249	12.00	2,988.00
52	619(B)	4767	REMOVAL OF ASPHALT DRIVEWAY	SY	347	12.00	4,164.00
53	619(B)	4792	REMOVAL OF SIDEWALK	SY	23	12.00	276.00
54	805(B)	8728	RESET OF PULLBOX	EA	1	300.00	500.00
55	805(D)	8756	REMOVE & RESET EXISITING SIGNS	EA	12	150.00	1,800.00
56	856(A)	8530	TRAFFIC STRIPE(MULTI-POLYMER) (4" WIDE)	LF	7259	2.00	14,518.00
57	856(A)	8540	TRAFFIC STRIPE(MULTI-POLYMER) (8" WIDE)	LF	273	4.00	1,092.00
58	856(A)	8555	TRAFFIC STRIPE(MULTI-POLY.) (24" WIDE)	LF	699	18.00	12,582.00
59	856(B)	8860	TRAFFIC STRIPE(MULTI-POLY.) (ARROWS)	EA	22	300.00	6,600.00
60	857(F)	8006	PAVEMENT MARKING REMOVAL (TRAFFIC STRIPE)	LF	1779	3.00	5,337.00
61	857(F)	8007	PAVEMENT MARKING REMOVAL (ARROWS)	EA	8	100.00	800.00
62	857(F)	8008	PAVEMENT MARKING REMOVAL (WORDS)	EA	1	150.00	150.00
SUBTOTAL - PROJECT 4-3 PAY ITEMS (#5 - #62)							1,986,121.00

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY - RADIO ROAD TO WESTSIDE - PROJECT 4-4							
#	ODOT Item #	ODOT Cone #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
63	202(A)	0183	UNCLASSIFIED EXCAVATION	CY	2650	20.00	53,000.00
64	220	2800	SWPPP DOCUMENTATION AND MANAGEMENT	LSUM	1	3,500.00	3,500.00
65	221(C)	2801	TEMPORARY SILT FENCE	LF	2533	5.00	12,665.00
66	221(D)	2803	TEMPORARY SEDIMENT FILTER	EA	14	30.00	420.00
67	221(K)	0600	TEMPORARY FIBER LOG	LF	283	30.00	8,490.00
68	230(A)	2806	SOLID SLAB SODDING	SY	5242	5.00	26,210.00
69	303(A)	2100	AGGREGATE BASE TYPE A	CY	804	55.00	44,220.00
70	310(B)	0149	SUBGRADE, METHOD B	SY	4821	9.00	43,389.00
71	325	5271	SEPARATOR FABRIC	SY	4821	5.00	24,105.00
72	402(E)	0225	TRAFFIC BOUND SURFACE COURSE TYPE E	TON	50	55.00	2,750.00
73	414(B)	5725	DOWEL JOINTED P.C. CONC PVMT (PLACEMENT)	SY	4499	35.00	157,465.00
74	414(G)	5275	P.C. CONCRETE FOR PAVEMENT	CY	1250	300.00	375,000.00
75	501(A)	0313	STRUCTURAL EXCAVATION UNCLASSIFIED	CY	1	25.00	25.00
76	509(A)	0319	CLASS AA CONCRETE	CY	2	600.00	1,200.00
77	509(C)	0322	CLASS A CONCRETE, SMALL STRUCTURES	CY	18	600.00	10,800.00
78	509(D)	0325	CLASS C CONCRETE	CY	2	600.00	1,200.00
79	511(A)	0332	REINFORCING STEEL	LB	262	3.00	786.00
80	609(A)	0300	CONCRETE CURB (6" BARRIER-INTEGRAL)	LF	1570	45.00	70,650.00
81	609(B)	0383	COMBINED CURB & GUTTER (6" BARRIER)	LF	205	45.00	9,225.00
82	609(C)	4811	CONCRETE HEADER CURB (12" X 18")	LF	106	45.00	4,770.00
83	610(A)	0602	4" CONCRETE SIDEWALK	SY	1205	85.00	102,425.00
84	610(B)	0399	6" CONCRETE DRIVEWAY (H. E. S.)	SY	1369	95.00	130,055.00

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY - RADIO ROAD TO WESTSIDE - PROJECT 4-4							
#	ODOT Item #	ODOT Cone #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
85	610(C)	0609	6" CONCRETE DIVIDING STRIP	SY	45	150. ea	6,750. ea
86	610(I)	4610	TACTILE WARNING DEVICE-NEW	SF	88	75. ea	6,600. ea
87	611(G)	5113	INLET CI DES. 2 (B)	EA	1	6,000. ea	6,000. ea
88	611(G)	5115	INLET CI DES. 2 (D)	EA	2	7,000. ea	14,000. ea
89	611(G)	5116	INLET CI DES. 2 (2C)	EA	1	9,500. ea	9,500. ea
90	611(G)	5119	INLET CI DES. 2 (2D)	EA	3	6,500. ea	19,500. ea
91	611(G)	5120	INLET CI DES. 3 (STD.)	EA	1	6,100. ea	6,100. ea
92	611(G)	5124	INLET CI DES. 3 (B-D)	EA	4	8,000. ea	32,000. ea
93	611(G)	6000	INLET (SMD-TYPE 1)	EA	6	4,800. ea	28,800. ea
94	611(G)	6004	INLET (SMD-TYPE 2A)	EA	1	4,000. ea	4,000. ea
95	611(G)	6006	INLET (SMD-TYPE 2B)	EA	2	5,700. ea	11,400. ea
96	611(H)	5325	ADD'L DEPTH IN INLET CI DES. 2	VF	2.5	1,000. ea	2500. ea
97	611(H)	5330	ADD'L DEPTH IN INLET CI DES. 3	VF	0.5	1,000. ea	500. ea
98	612(A)	0641	MANHOLES ADJUST TO GRADE	EA	5	2,000. ea	10,800. ea
99	612(E)	0647	VALVE BOXES ADJUST TO GRADE	EA	1	1,000. ea	1,000. ea
100	612(F)	0648	METER BOXES ADJUST TO GRADE	EA	1	1,000. ea	1,000. ea
101	613(E)	4784	18" CORRUGATED POLYETHYLENE PIPE	LF	698	60. ea	41,800. ea
102	613(E)	4785	24" CORRUGATED POLYETHYLENE PIPE	LF	213	75. ea	15,975. ea
103	613(E)	7206	30" CORRUGATED POLYETHYLENE PIPE	LF	421	110. ea	46,310. ea
104	613(E)	7207	36" CORRUGATED POLYETHYLENE PIPE	LF	323	120. ea	38,760. ea
105	613(L)	5734	36" PREFAB. CULVERT END SECTION, ROUND	EA	1	3,000. ea	3,000. ea
106	613(S)	1186	STANDARD BEDDING MATERIAL, CLASS B	CY	697	65. ea	45,305. ea

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY - RADIO ROAD TO WESTSIDE - PROJECT 4-4							
#	ODOT Item #	ODOT Cone #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
107	613(V)	1180	TRENCH EXCAVATION	CY	1254	20.00	25,080.00
108	619(A)	0920	REMOVAL OF STRUCTURES & OBSTRUCTIONS	LSUM	1	50,000.00	50,000.00
109	619(B)	4726	REMOVAL OF CURB AND GUTTER	LF	928	6.00	5,568.00
110	619(B)	4727	REMOVAL OF CONCRETE PAVEMENT	SY	396	6.00	2,376.00
111	619(B)	4728	REMOVAL OF ASPHALT PAVEMENT	SY	3464	6.00	20,784.00
112	619(B)	4766	REMOVAL OF CONCRETE DRIVEWAY	SY	1686	6.00	10,116.00
113	619(B)	4792	REMOVAL OF SIDEWALK	SY	14	6.00	84.00
114	SPEC.	SPEC.	26' GRATED STREET INLET	EA	1	30,000.00	30,000.00
115	805(B)	8728	(PL) RESET OF PULLBOX	EA	3	2,000.00	6,000.00
116	805(D)	8756	REMOVE & RESET EXISITING SIGNS	EA	4	250.00	1,000.00
117	856(A)	8530	TRAFFIC STRIPE(MULTI-POLY.) (4" WIDE)	LF	4705	3.00	14,115.00
118	856(A)	8540	TRAFFIC STRIPE(MULTI-POLY.) (8" WIDE)	LF	107	5.00	535.00
119	856(A)	8555	TRAIFFIC STRIPE(MULTI-POLY.) (24" WIDE)	LF	259	20.00	5,180.00
120	856(B)	8860	TRAFFIC STRIPE(MULTI-POLY.) (ARROWS)	EA	24	300.00	7,200.00
121	857(F)	8006	PAVEMENT MARKING REMOVAL (TRAFFIC STRIPE)	LF	2110	3.00	6,330.00
122	857(F)	8007	PAVEMENT MARKING REMOVAL (ARROWS)	EA	7	100.00	700.00
123	857(F)	8008	PAVEMENT MARKING REMOVAL (WORDS)	EA	1	200.00	200.00
SUBTOTAL - PROJECT 4-4 PAY ITEMS (#63 - #123)							1,685,923.00

BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY UTILITY RELOCATION - GATES TO RADIO ROAD - PROJECT 4-3 (ADDM 3)						
#	Plan Ref #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
124	1	Sta. 12+86 to Sta. 12+94 -RT- Lower 6" Water Main	LSUM	1	1,500.00	1,500.00
125	2	Sta. 13+10 - RT - Lower 6" Water Main	LSUM	1	2,000.00	2,000.00
126	3	Sta. 13+24 - RT - Lower 4" Sanitary Sewer Force Main	LSUM	1	1,500.00	1,500.00
127	4	Sta. 13+40 to Sta. 13+48 - RT - Lower 6" Water Main	LSUM	1	1,500.00	1,500.00
128	5	Sta. 13+37 to 13+45 - RT - Lower 4" Sanitary Sewer Force Main	LSUM	1	2,000.00	2,000.00
129	6	Sta. 13+35 - LT - Lower 6" Water Main Supply to Fire Hydrant	LSUM	1	2,000.00	2,000.00
130	7	Sta. 21+36 to Sta. 21+44 - LT - Lower 6" Water Main	LSUM	1	1,500.00	1,500.00
131	8	Sta. 19+14 - RT - Raise Existing Sanitary Sewer Manhole Top to Match Finish Grade	LSUM	1	1,000.00	1,000.00
132	9	Sta. 21+85 - LT - Lower 6" Water Main	LSUM	1	1,500.00	1,500.00
133	10	Sta 22+72 - LT - Lower 3/4" Water Service Line	LSUM	1	1,000.00	1,000.00
134	11	Sta. 23+27 - RT - Raise Existing Sanitary Sewer Manhole Top to Match Finish Grade	LSUM	1	1,000.00	1,000.00
135	12	Sta 23+89 - LT - Lower 3/4" Water Service Line	LSUM	1	1,000.00	1,000.00
136	13	Sta. 23+39 to 23+48 - LT - Lower 6" Water Main	LSUM	1	1,500.00	1,500.00
137	14	Sta. 23+39 to Sta 23+48 RT - Lower 6" Water Main	LSUM	1	1,500.00	1,500.00
138	15	Sta 14+22 to Sta. 14+30 LT - Lower 6" Water Main	LSUM	1	1,500.00	1,500.00
139	16	Sta. 24+62 to Sta. 24+70 LT - Lower 6" Water Main	LSUM	1	1,500.00	1,500.00
SUBTOTAL - UTILITY RELOCATION 4-3 (#124 - #139)						23,500.00

*****See Exhibit 2 and 3 for item numbers and descriptions corresponding

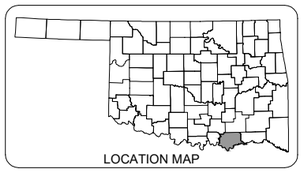
BID FORM SECTION 5.01 - BID PROPOSAL UNIVERSITY UTILITY RELOCATION - RADIO ROAD TO WESTSIDE - PROJECT 4-4 (ADDM 3)						
#	Plan Ref #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
140	1	Sta. 0+91 -LT- Relocate Existing Water Service and Meter	LSUM	1	1,500.00	1,500.00
141	2	Sta. 0+93 - LT- Relocate Existing Water Service and Meter	LSUM	1	1,500.00	1,500.00
142	3	Sta. 0+87 to Sta. 0+95 - LT - Lower 6" Water Main	LSUM	1	1,500.00	1,500.00
143	4	Sta. 1+67 LT - Relocate 6" Gate Valve	LSUM	1	1,500.00	1,500.00
144	5	Sta. 1+69 to 1+77 - LT - Lower 6" Water Main	LSUM	1	1,500.00	1,500.00
145	6	Sta. 2+42 to 2+49 - LT - Lower 6" Water Main	LSUM	1	1,500.00	1,500.00
146	7	Sta. 3+16 to Sta. 3+24 - LT - Lower 6" Water Main	LSUM	1	1,500.00	1,500.00
147	8	Sta. 4+24 - RT - Raise Existing Sanitary Sewer Manhole Top to Match Finish Grade	LSUM	1	1,000.00	1,000.00
148	9	Sta. 3+79 to 4+25 - LT - Remove and Replace Sanitary Sewer Main Line.	LSUM	1	6,500.00	6,500.00
149	10	Sta 4+25 - Remove and Replace Sanitary Sewer Service and Cleanout Assembly.	LSUM	1	1,500.00	1,500.00
150	11	Sta. 4+25 - LT - Raise Existing Sanitary Sewer Manhole Top to Match Finish Grade	LSUM	1	1,000.00	1,000.00
151	12	Sta 4+19 to 4+59 - LT - Remove and Replace Sanitary Sewer Main Line	LSUM	1	5,500.00	5,500.00
152	13	Sta. 4+17 to 6+37 - LT - Relocate Water Main	LSUM	1	10,000.00	10,000.00
153	14	Sta. 6+81 - RT - Lower 6" Water Main	LSUM	1	1,500.00	1,500.00
SUBTOTAL - UTILITY RELOCATION 4-4 (#140 - #153)						37,500.00

*****See Exhibit 2 and 3 for item numbers and descriptions corresponding

BID FORM SECTION 5.01 - BID PROPOSAL SPECIAL TRAFFIC							
#	ODOT Item #	ODOT CoDe #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
154	802(8)	8342	2" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	LF	150	16.00	2,400.00
155	802(8)	8344	3" PVC SCH. 40 PLASTIC CONDUIT BORED	LF	175	42.00	7,350.00
156	802(8)	8346	3" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	LF	40	27.00	1,080.00
157	803(A)	8065	PULL BOX (SIZE I)	EA	3	1,400.00	4200.00
158	803(A)	8066	PULL BOX (SIZE II)	EA	1	1,700.00	1,700.00
159	804(A)	2915	STRUCTURAL CONCRETE	CY	11.2	1,500.00	16,800.00
160	804(8)	2916	REINFORCING STEEL	LB	1630.3	3.00	4,890.90
161	806(A)	8728	POLE & 30' TS MST. ARM (G.STL.)	EA	2	14,000.00	28,000.00
162	806(A)	8352	32' MH POLE, 20' TS & 1 0' LMA (G.STL.)	EA	1	16,000.00	16,000.00
163	806(A)	8350	32' MH POLE, 30' TS & 1 0' LMA (G.STL.)	EA	1	16,000.00	16,000.00
164	806(8)	8894	1 0' MTG. HT. TS PED. POLE (G.STL.)	EA	3	1,000.00	3,000.00
165	809(A)	8090	ROADWAY LUMINAIRE	EA	1	3,000.00	3,000.00
166	810(A)	3118	SERVICE POLE	EA	1	3,000.00	3,000.00
167	811	8040	1/C NO. 6 ELECTRICAL CONDUCTOR	LF	200	5.00	1,000.00
168	811	8044	1/C NO. 10 ELECTRICAL CONDUCTOR	LF	510	4.00	2,040.00
169	825	8550	TRAFFIC SIGNAL CONTROLLER ASSEMBLY	EA	1	45,000.00	45,000.00
170	828	8132	(PL)DETECTION SYSTEM (VIDEO)	LSUM	1	60,000.00	60,000.00
171	830	8000	PEDESTRIAN PUSH BUTTON	EA	8	1,500.00	12,000.00
172	831	8231	1WAY 3SEC. ADJ. SIG. HD. S-6	EA	8	850.00	6,800.00
173	831	8280	1WAY 4SEC. ADJ. SIG. HD. S-13	EA	2	1,000.00	2,000.00
174	831	8295	1WAY 2SEC. ADJ. PED. SIG. HD. S-20	EA	8	1,000.00	8,000.00
175	833	3030	BACKPLATE	EA	10	300.00	3,000.00
176	834(A)	8207	5/C TRAFFIC SIGNAL ELECTRICAL CABLE	LF	1480	3.00	4,440.00
177	834(A)	8208	7/C TRAFFIC SIGNAL ELECTRICAL CABLE	LF	110	5.00	550.00

BID FORM SECTION 5.01 - BID PROPOSAL SPECIAL TRAFFIC							
#	ODOT Item #	ODOT CoDe #	Pay Item, including, but not limited to, the following for a complete system / installation	Unit	Quantity	Cost/Unit	Total Cost
178	834(A)	8213	21/C TRAFFIC SIGNAL ELECTRICAL CABLE	LF	425	9.00	3,825.00
179	834(8)	8220	2/C SHIELDED LOOP DETECTOR LEAD-IN CABLE	LF	45	5.00	225.00
180	840(A)	8592	E.P.S. OPTICAL EMITTER	EA	5	1,500.00	7,500.00
181	840(8)	8593	E.P.S. OPTICAL DETECTOR	EA	2	1,000.00	2,000.00
182	840(C)	8594	E.P.S. OPTICAL DETECTOR CABLE	LF	345	5.00	1,725.00
183	840(0)	8595	E.P.S. 2 CHANNEL PHASE SELECTOR	EA	1	5,500.00	5,500.00
184	850(C)	8118	MAST ARM MOUNTED SIGNS (ALUMINUM)	SF	89	65.00	5,785.00
SUBTOTAL - PROJECT 4-4 PAY ITEMS (#154 - #184)							278,810.90

FOR SURVEY CONTROL DATA,
SEE SURVEY DATA SHEET



LOCATION MAP

UTILITY OWNERS	
CALL OKIE	1-800-522-6543
CITY OF DURANT UTILITY DEPT.	1-580-924-3737
ONG	1-580-634-0547
OG&E	1-580-224-7358
CHEROKEE COMMUNICATIONS	1-580-434-5375
AT&T	1-918-421-1792
INDIAN NATIONS FIBER OPTICS	1-580-622-3837

DESIGN DATA		
AADT 2020	=	11,200
AADT 2040	=	22,400
K	=	0.09
D	=	55%
T (% DHV)	=	0%
T (% AADT)	=	0%
T3 (% AADT)	=	10%
V	=	30 MPH
20 YR. FLEX. ESALS	=	16,040,086

SCALES 1"

PLAN 1" = 30'

PROFILE HOR. 1" = 30'

VER. 1" = 10'

LAYOUT MAP 1" = 2640'

LEVEL DATA IS MEAN SEA LEVEL (USC&GS)
BEARINGS ARE FROM OBSERVATION OF
POLARIS.

CONVENTIONAL SYMBOLS

- PROPOSED ROAD
- RAILROADS
- RANGE & TOWNSHIP
- SECTION LINES
- QUARTER SECTION LINES
- FENCES
- GROUND LINE
- EXISTING ROADS
- BASE LINE
- GRADE LINES (+2% / -2%)
- TELEPHONE & TELEGRAPH
- POWER LINES
- BUILDINGS
- DRAINAGE STRUCTURES - IN PLACE
- DRAINAGE STRUCTURES - NEW
- RIGHT-OF-WAY LINES - EXISTING (PRES. R/W)
- RIGHT-OF-WAY LINES - NEW (R/W)
- RIGHT-OF-WAY MARKERS - IN PLACE
- RIGHT-OF-WAY MARKERS - REMOVE & REPLACE
- RIGHT-OF-WAY MARKERS - NEW
- CONTROLLED ACCESS
- RIGHT-OF-WAY FENCE

2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION - ENGLISH GOVERN
APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

PLAN OF PROPOSED

ROADWAY REHABILITATION

DURANT TRANSPORTATION BOND PROJECT 4-4

UNIVERSITY BLVD. – RADIO RD. TO WESTSIDE DR.

GRADING, DRAINAGE, SURFACING, & EROSION CONTROL PLANS IN THE CITY OF DURANT

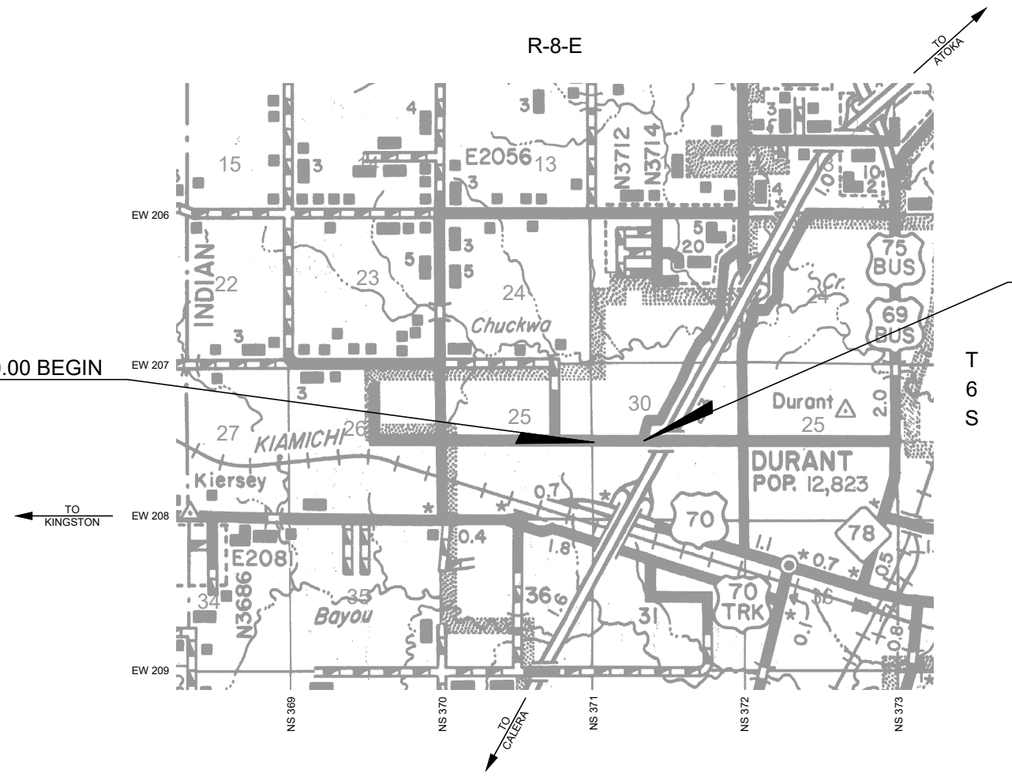
BRYAN COUNTY

INDEX OF SHEETS

0001	TITLE SHEET
0002	LOCATION MAP
0003	TYPICAL SECTIONS
AR01	PAY QUANTITIES & GENERAL NOTES
AR02-AR03	SUMMARY SHEETS
R001	DRAINAGE MAP
R002-R003	EROSION CONTROL SHEETS
R004-R006	P&P SHEETS
R007	REMOVAL SHEET
R008	JOINT LAYOUT SHEET
R009-R011	DETAIL SHEETS
T001	STRIPING SHEET
X000	EARTHWORK QUANTITIES
X001-X021	CROSS SECTION SHEETS

THE FOLLOWING STANDARD DRAWINGS SHALL BE REQUIRED:

ROADWAY		BRIDGE	TRAFFIC	
SSS-1-1	SSCD-3-1	RCB-C1-3&4&5(2-20)-01E	TCS1-1-01	TCS19-1-01
TSC2-3-2	CI-1-2		TCS2-1-00	TCS20-1-00
TFL-1-1	SSIF-4-0		TCS3-1-01	TCS21-1-02
ASCD-5-2	CIG-3-0		TCS4-1-01	TCS22-1-00
CSCD-5-4	MFC-4-1		TCS5-1-00	TCS24-1-02
LECS-4-2	MJB-3-2		TCS6-1-02	TCS25-1-00
LTU-4-0	FPI-3-3		TCS7-1-02	PM1-1-03
PR-3-0	SPB-1-4		TCS8-1-00	PM3-1-02
PCPR-3-2	FHTMPP-1-0		TCS9-1-01	PM6-1-00
WCR-3-2	SBI-4-2		TCS10-1-00	GMS1-1-00
TWD-1-1	DC-3-2		TCS11-1-01	GMS2-1-00
PSMD-1-0	OKC D-102		TCS12-1-00	SSP1-1-02
PCI-0-0	OKC D-501		TCS13-1-00	SSA1-1-00
PCES-4-1			TCS14-1-00	SSA2-1-00
SMD-3-2			TCS15-1-00	FGS1-1-00
			TCS16-1-00	



ROADWAY LENGTH	999.58 FT.	0.19	MI.
BRIDGE LENGTH		0	MI.
PROJECT LENGTH	1991.61 FT.	0.38	MI.

FINAL CONSTRUCTION PLANS

PREPARED BY:

WALL ENGINEERING
PO BOX 1457, DURANT, OK 74702
OKLAHOMA CA #5413 EXP. JUNE 30, 2021

Cabbiness engineering, llc
333 12th Avenue SE, Suite 200
Norman, Oklahoma 73071
405.310.6435 Office. 405.310.6495 Fax
www.CabbinessEngineering.com
Certificate of Authorization No. CA #5714 Expires June 30, 2022

REGISTERED PROFESSIONAL ENGINEER — BRANDON WALL 21108 — OKLAHOMA

BRANDON WALL
REGISTERED PROFESSIONAL ENGINEER NO. 21108

04/01/21
DATE

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TITLE SHEET

DURANT ROADWAY REHABILITATION BRYAN COUNTY

LOCATION MAP

PROJECT NO. 4-4 SHEET NO. 0002

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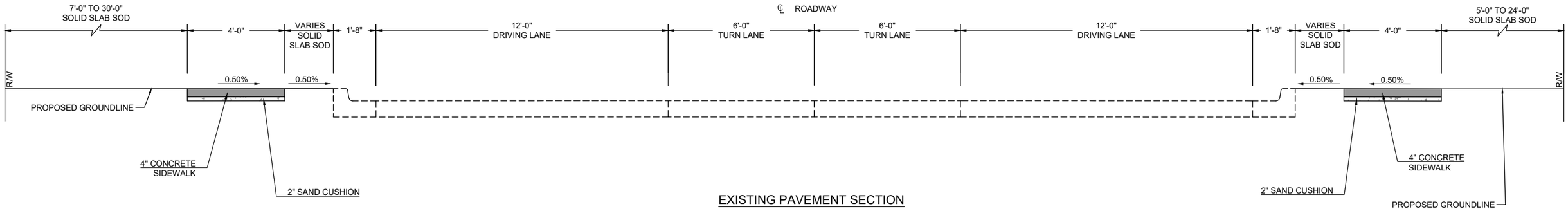
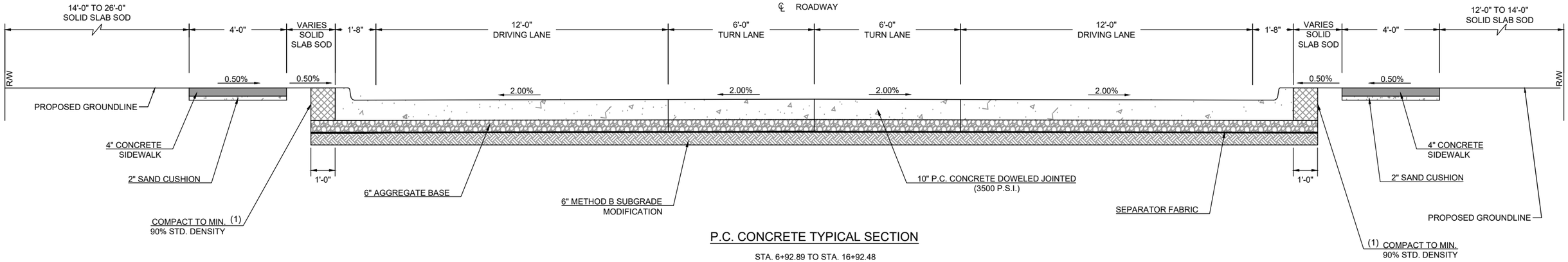
DURANT ROADWAY REHABILITATION BRYAN COUNTY



EXISTING PAVEMENT SECTION

STA. 00+13.38 TO STA. 6+92.89
STA. 16+92.48 TO STA. 18+32.14



P.C. CONCRETE TYPICAL SECTION

STA. 6+92.89 TO STA. 16+92.48

NOTES: (1) COST OF WORK TO BE INCLUDED IN OTHER BID ITEMS.

REGISTERED PROFESSIONAL ENGINEER
BRET CADBINESS
18093
OKLAHOMA

TYPICAL SECTION

PROJECT NO. 4-4 SHEET NO. 0003

Owner
11/10/2020 10:14 AM
TYPICAL SECTION
Typical Section
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DURANT ROADWAY REHABILITATION BRYAN COUNTY

GENERAL CONSTRUCTION NOTES:

1. IN ACCORDANCE WITH THE OKLAHOMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT THE CONTRACTOR SHALL NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, INC 48 HOURS PRIOR TO BEGINNING EXCAVATION. OKLAHOMA ONE-CALL SYSTEM, INC. (CALL "OKIE" 1-800-522-6543 OR 811).

2. A WORK ZONE PERMIT MUST BE OBTAINED FROM THE CITY OF DURANT AT LEAST TWO (2) WORKING DAYS PRIOR TO THE START OF WORK AND/OR PLACING OR REMOVING ANY BARRICADES OR MODIFYING EXISTING TRAFFIC CONTROL DEVICES.

3. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

4. ANY CONSTRUCTION ITEMS THAT ARE NOT LISTED IN THE SUMMARY OF QUANTITIES SHALL BE CONSIDERED INCIDENTAL CONSTRUCTION ITEMS. THE COST OF INCIDENTAL CONSTRUCTION ITEMS SHALL BE INCLUDED IN THE COST OF OTHER BID ITEMS.

5. THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

6. THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING TRAFFIC ON CROSS STREETS. A MINIMUM OF ONE LANE IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES. SEE O.D.O.T. STANDARDS AND DETAIL DRAWINGS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

7. MAINTENANCE OF THROUGH TRAFFIC INCLUDES THE MAINTENANCE OF THE EXISTING ROAD IN CLOSE PROXIMITY TO THE NEW CONSTRUCTION AS SHOWN ON THE PLANS.

8. ALL TREES, BRUSH, AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER SHALL BE CLEANED OUT TO THE RIGHT-OF-WAY LINE, AT EACH STRUCTURE AND BRIDGE, IN A MANNER APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

9. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY RIGHT-OF-WAY FENCE AS REQUIRED. WHEN THE PORTION OF THE PROJECT THAT REQUIRED THIS FENCE IS COMPLETED, THE TEMPORARY FENCE SHALL BE REMOVED, AND PERMANENT RIGHT-OF-WAY FENCING SHALL BE RESTORED OR INSTALLED IN A MANNER APPROVED BY THE ENGINEER. ALL COST OF TEMPORARY FENCING SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

10. IN ORDER TO ALLEVIATE DUST CONDITIONS DURING GRADING OPERATIONS AND BEFORE PAVEMENT WORK IS COMPLETED, THE CONTRACTOR SHALL SPRINKLE GRADING AT INTERVALS APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

11. THE CONTRACTOR SHALL NOT WASTE ANY EXCESS EXCAVATION UNTIL ALL PLANNED EMBANKMENTS AND BACKFILLS ARE COMPLETED. EXCESS UNCLASSIFIED EXCAVATION MATERIAL DETERMINED BY THE ENGINEER TO BE SUITABLE FOR BACKFILL SHALL BE USED TO REDUCE ANY UNCLASSIFIED BORROW NEEDED. COST OF SECOND HANDLING SHALL BE INCLUDED IN OTHER ITEMS OF WORK. ANY REMAINING EXCESS EXCAVATION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

12. ALL WASTE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.

13. THE CONTRACTOR SHALL REMOVE AND RESET MAILBOXES AS NECESSARY. MAILBOXES ARE TO BE MAINTAINED IN AN UPRIGHT POSITION AND ACCESSIBLE TO MAIL CARRIER'S CAR DURING CONSTRUCTION. ANY DAMAGE TO BOXES OR SUPPORTS SHALL BE REPAIRED BY THE CONTRACTOR. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

14. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL PAVEMENT MARKINGS THAT WILL BE IN CONFLICT WITH THE PROPOSED WORK.

15. THE CONTRACTOR IS RESPONSIBLE FOR THE PROMPT REPLACEMENT AND/OR REPAIR OF ALL TRAFFIC CONTROL DEVICES AND APPURTENANCES DAMAGED OR DISTURBED DUE TO CONSTRUCTION.

16. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL BUILT ELEMENTS, INCLUDING BUT NOT LIMITED TO, SIDEWALKS, PARKING SPACES AND ACCESS RAMPS COMPLY WITH ADA STANDARD REQUIREMENTS. CONTRACTOR SHALL NOTIFY THE ENGINEER OR ENGINEER'S DESIGNEE OF ANY DISCREPANCIES BETWEEN DESIGN INFORMATION AND ADA STANDARD REQUIREMENTS PRIOR TO CONSTRUCTION.

17. CONTRACTOR SHALL NOT STORE MATERIALS NOR OPERATE OR PARK CONSTRUCTION EQUIPMENT WITHIN 25 FEET OF ANY WATERLINE OR FIRE HYDRANT.

18. PRIOR TO FINAL ACCEPTANCE, ALL EXPOSED CURB SURFACES SHALL BE CLEANED OF ALL DISCOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, OR OTHER DISFIGUREMENT.

19. ANY SIGNS AND/OR DELINEATORS WHICH ARE TO BE REMOVED DURING THIS PROJECT WILL BE STORED IN A PROTECTED AREA DESIGNATED BY THE RESIDENT ENGINEER. UNTIL SUCH A TIME THAT THEY ARE TO BE RESET BY THE CONTRACTOR. COST OF THIS WORK TO BE INCLUDED IN OTHER ITEMS OF WORK.

20. ANY DAMAGE CAUSED BY THE CONTRACTOR TO ANY STRUCTURES, ROADWAY SURFACES, STRIPING, RAISED PAVEMENT MARKERS, GUARDRAIL, SLOPES, AND SIGNS SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE ENGINEER.

21. DEPTH OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

22. ALL REMOVED SIGNS, SIGN POSTS, BOLTS, MISCELLANEOUS HARDWARE, AND DELINEATORS SHALL REMAIN THE PROPERTY OF THE STATE. THE CONTRACTOR SHALL NEATLY STACK SUCH REMOVED MATERIAL AT A LOCATION ON THE JOB SITE AS DESIGNATED BY THE ENGINEER UNTIL SUCH TIME AS DIVISION PERSONNEL CAN REMOVE THE MATERIAL FROM THE JOB SITE.

23. ALL SIGNS SHALL BE REMOVED FROM THE POSTS IN A SALVAGEABLE MANNER FOR REUSE. CARE SHALL BE TAKEN DURING REMOVAL AND TRANSPORTING TO ALLEVIATE DAMAGE OF MATERIALS. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED DURING REMOVAL OF SIGNS AND SIGN POSTS.

24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC.

25. ALL ITEMS THAT ARE TO BE REMOVED AND/OR RESET SHALL BE HANDLED WITH CARE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OCCURRING DURING THESE OPERATIONS.

26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH PROPERTY OWNERS TO RELOCATE SPRINKLER SYSTEMS.

27. CONTRACTOR SHALL CONTACT ALL PROPERTY AND BUSINESS OWNERS SEVEN (7) DAYS IN ADVANCE OF ANY CONSTRUCTION AFFECTING THOSE OWNERS. THE CONTRACTOR SHALL ENSURE ACCESS FOR ALL DELIVERIES TO BUSINESS DURING CONSTRUCTION AND PROVIDE ANY ADDITIONAL MATERIAL, OR EQUIPMENT OR ASSISTANCE TO ENSURE ACCESS AT ALL TIMES.

28. ALL FLOWLINES THAT ARE TO BE FILLED SHALL BE THOROUGHLY TAMPED BEFORE CONSTRUCTION OR EXTENSION OF DRAINAGE STRUCTURES. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

29. THE CONTRACTOR SHALL KEEP THE OPEN TRENCH DRAINED. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

30. SURFACING OF RETURNS, UNLESS OTHERWISE SHOWN ON PLANS, SHALL BE OF THE SAME MATERIAL (BASE AND SURFACE) AS THAT OF THE ABUTTING SHOULDER OF THE MAINLINE. BASE AND SURFACE THICKNESS SHALL BE THE THICKNESS SHOWN ON PLANS.

31. ALL FEATURES OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, CURB RAMPS AND CROSSWALK MARKINGS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT, ACCESSIBILITY GUIDELINES (ADAAG). WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THE ADAAG, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURE(S). THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK WHICH IS NOT IN FULL COMPLIANCE WITH THE ADAAG WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE ADAAG, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

32. THE CROSS SLOPE FOR PATHS, SIDEWALKS, AND RAMPS WITHIN THE LIMITS OF AN ACCESSIBLE ROUTE WILL NOT EXCEED 1:50 OR 2%.

33. RAMP SLOPES WILL NOT EXCEED 1:12 OR 8.33%.THE CONTINUOUS PATH'S CROSS SLOPE WILL NOT EXCEED 2% THROUGH DRIVEWAYS. SEE DRIVEWAY DETAIL ON O.D.O.T. STANDARD DRAWING WCR-3.

34. SIDEWALK AND RAMP LOCATIONS HAVE BEEN DEPICTED WITHOUT KNOWLEDGE OF ULTIMATE UTILITY STRUCTURES LOCATIONS. LOCATIONS WILL BE ADJUSTED TO AVOID ABOVE GRADE UTILITY STRUCTURES SUCH AS UTILITY POLES, RISERS, GUY ANCHORS, AND OTHER ABOVE GRADE APPURTENANCES. NO

EROSION CONTROL NOTES:

1. DURING ALL SOIL DISTURBING ACTIVITIES, THE CONTRACTOR WILL TAKE APPROPRIATE STEPS, USING ACCEPTABLE CONSTRUCTION METHODS, TO MINIMIZE THE TIME OF EXPOSURE OF UNPROTECTED SOIL AND OTHER CONSTRUCTION MATERIALS TO RAINFALL. PARTICULAR CARE MUST BE EXERCISED WHEN DEALING WITH STOCKPILES OF TOPSOIL OR FILL MATERIALS AND SOIL ON SLOPES.

2. THE CONTRACTOR WILL MAINTAIN A LOG OF THE DATES OF ALL MAJOR GRADING/SOIL DISTURBANCE ACTIVITIES AND OF THE INSTALLATION OF ALL MANAGEMENT PRACTICES OR CONTROL MEASURES.

3. PLEASE NOTE THAT PERIMETER CONTROLS ALONE MAY NOT BE SUCCESSFUL SINCE LARGE AMOUNTS OF SEDIMENT PRODUCED BY A HEAVY RAIN ON EXPOSED SOIL COULD OVERWHELM SUCH MEASURES. IN SUCH INSTANCES, TEMPORARY VEGETATION, MULCHING, OR ANCHORED EROSION CONTROL MATTING SHOULD BE USED.

4. AT THE ENGINEERS DISCRETION, ADDITIONAL TEMPORARY EROSION CONTROL PRACTICES MAY BE INSTALLED ALONG ANY DOWNSLOPE AND SIDESLOPE PERIMETER OF AREAS DISTURBED DURING EARTH-MOVING OPERATIONS TO PREVENT UNNECESSARY SEDIMENT TRANSPORT. ANCHORED EROSION CONTROL MATTING, MULCHES, OR OTHER ACCEPTABLE METHODS MAY ALSO BE INSTALLED AT THE CONTRACTOR'S DISCRETION TO STABILIZE ANY UNPROTECTED SLOPES DURING CONSTRUCTION AND TO HOLD THEM TO FINAL GRADE. AS SITE CONDITIONS WARRANT, THE CONTRACTOR MAY ALSO CHOOSE TO MODIFY THE TYPE OF ARRANGEMENT OF SPECIFIED PRACTICES TO IMPROVE THEIR EFFECTIVENESS. AS WITH ANY OTHER PROJECT CHANGES, THE CONTRACTOR MUST PRESENT ANY SUCH PROPOSED MODIFICATIONS TO THE OWNER FOR APPROVAL PRIOR TO INSTALLATION.

5. WHEN WATER IS USED FOR DUST CONTROL, CARE SHOULD BE EXERCISED TO PREVENT THE ESCAPE OF THIS WATER AND ANY SEDIMENT IT MAY CARRY FROM THE CONSTRUCTION SITE.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ALL EROSION CONTROL DEVICES DAMAGED DUE TO CONSTRUCTION.

7. CARE MUST ALSO BE EXERCISED TO PREVENT EXCESSIVE OFF-SITE TRACKING OF MUD OR SEDIMENT BY CONSTRUCTION VEHICLES. PROPERLY GRAVELED TRANSITION AREAS SHOULD BE ESTABLISHED AT ANY TEMPORARY SITE EXITS TO ASSIST IN MUD REMOVAL FROM DEPARTING VEHICLES.

8. DURING THE FINAL SITE CLEAN-UP PRIOR TO THE ACCEPTANCE DATE, EACH TEMPORARY PRACTICE WILL BE COMPLETELY REMOVED AND THE AREA RESTORED TO APPROPRIATE POST-PROJECT CONDITION. THIS WILL INVOLVE FINAL GRADING AND/OR INSTALLATION OF SOD.

9. THE CONTRACTOR WILL COMPLETE AND FILE THE NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) WITH THE CITY AND DEQ.

10. THE CONTRACTOR WILL TAKE ADDITIONAL STEPS, IF NECESSARY, TO PREVENT SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM OR LEAVING THE SITE.

11. CONSTRUCTION ACTIVITIES THAT RESULT IN LAND DISTURBANCE OF EQUAL TO OR GREATER THAN ONE (1) ACRE, OR LESS THAN ONE (1) ACRE IF THEY ARE A PART OF A LARGER COMMON PLAN OF DEVELOPMENT OR SALE THAT TOTALS AT LEAST ONE (1) ACRE MUST ALSO OBTAIN A PERMIT FROM ODEQ (FORM 605-002A) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES. THIS MEANS THAT DISTURBING OF ONE (1) ACRE OR MORE MUST PERMIT WITH ODEQ STORM WATER QUALITY.

GENERAL PAY QUANTITY NOTES:

(R-7) FOR SOLID SLAB SODDING PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 40 GALLONS PER S.Y.

(R-8) PRICE BID TO INCLUDE COST OF SEDIMENT REMOVAL AND ALL MAINTENANCE. SEDIMENT MUST BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE DEVICE.

(R-18) ESTIMATED AT 165 LBS. PER CU. FT.

(R-31) PRICE BID TO INCLUDE COST OF 98 - 6" BARRIER CURB HOODS.

(R-32) THE PRECAST CONCRETE OPTION MAY BE USED INSTEAD, PER DIRECTION OF THE ENGINEER.

(R-36) INCLUDES REMOVAL OF ALL EXISTING ROADWAY DRAINAGE STRUCTURES, HEADWALLS (UNLESS OTHERWISE SPECIFIED), INLETS, FENCES, AND OTHER STRUCTURES WITHIN THE RIGHT OF WAY.

(R-37) TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.

(R-38) MATERIALS REMOVED SHALL NOT BE MEASURED FOR PAYMENT UNDER SECTION 202.06 UNCLASSIFIED EXCAVATION.

(TC-14) SEE STANDARD DRAWING PM1-1, PM2-1, PM3-1, PM4-1, PM5-1, PM6-1, PM7-1, PM8-1 (LATEST REVISION). A PART, OR ALL, OF THE QUANTITY SHOWN IS TO BE USED AS FINAL PAVEMENT MARKING.

(TC-16) PAINT SHALL CONFORM TO SECTION 711 "TRAFFIC STRIPE", OF THE ODOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION). IF CONSTRUCTION TRAFFIC STRIPE PAINT IS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND FAILS DURING THE FIRST SIX MONTHS OF SERVICE, REPLACEMENT WILL BE MADE AT THE CONTRACTOR'S EXPENSE AND SHALL BE ACCOMPLISHED IN A TIMELY MANNER UPON NOTIFICATION BY THE ENGINEER OF SUCH FAILURE.

(TC-25) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS REQUIRED FOR COMPLETION OF THIS PROJECT.

(TS-24) QUANTITY SHOWN INCLUDES 240 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 4,465 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF FOUR INCH (4") WIDE TRAFFIC STRIPE.

(TS-26) QUANTITY SHOWN INCLUDES 0 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 107 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF EIGHT INCH (8") WIDE TRAFFIC STRIPE.

(TS-28) QUANTITY SHOWN INCLUDES 259 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND WILL BE MEASURED BY THE LINEAR FOOT OF TWENTY-FOUR INCH (24") WIDE TRAFFIC STRIPE.

(TS-34) INCLUDED IN THIS PAY ITEM IS THE REMOVAL OF ANY EXISTING SIGNS TO BE REPLACED BY NEW ASSEMBLIES AND THE REMOVAL OF ANY EXISTING SIGNS THAT WILL BE IN CONFLICT WITH THE NEW ROADWAY OR NEW SIGNAGE.

(1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY ONLY AS SHOWN ON THE EROSION CONTROL SHEETS. ANY ADDITIONAL DISTURBED AREAS REQUIRING SOD WILL BE CONSIDERED INCIDENTAL CONSTRUCTION AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

(2) ITEM WILL INCLUDE 52.25 S.Y. OF PAVED CONCRETE DITCH REMOVAL.

(3) SAWING PAVEMENT TO BE INCLUDED IN REMOVALS.

(4) ESTIMATED QUANTITY TO BE USED FOR TEMPORARY DRIVES AT THE DISCRETION OF THE PROJECT ENGINEER.

(5) ITEM TO BE USED UNDERNEATH PAVEMENT ON ROADWAY AND TWO (2) STREET RETURNS.

SUMMARY OF PAY QUANTITIES - ROADWAY

0100 PROJECT NO. 4-4

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	QUANTITY
202(A)	0183	UNCLASSIFIED EXCAVATION	CY	2650
220	2800	SWPPP DOCUMENTATION AND MANAGEMENT	LSUM	1
221(C)	2801	TEMPORARY SILT FENCE (R-8)	LF	2533
221(D)	2803	TEMPORARY SEDIMENT FILTER (R-8)	EA	14
221(K)	0600	TEMPORARY FIBER LOG (R-8)	LF	283
230(A)	2806	SOLID SLAB SODDING (1)(R-7)	SY	5242
303(A)	2100	AGGREGATE BASE TYPE A (5)	CY	804
310(B)	0149	SUBGRADE, METHOD B (5)	SY	4821
325	5271	SEPARATOR FABRIC (5)	SY	4821
402(E)	0225	TRAFFIC BOUND SURFACE COURSE TYPE E (4)(R-18)	TON	50
414(B)	5725	DOWEL JOINTED P.C. CONCRETE PAVEMENT (PLACEMENT)	SY	4499
414(G)	5275	P.C. CONCRETE FOR PAVEMENT	CY	1250
501(A)	0313	STRUCTURAL EXCAVATION UNCLASSIFIED	CY	1
509(A)	0319	CLASS AA CONCRETE	CY	2
509(C)	0322	CLASS A CONCRETE, SMALL STRUCTURES	CY	18
509(D)	0325	CLASS C CONCRETE	CY	2
511(A)	0332	REINFORCING STEEL	LB	262
609(A)	0300	CONCRETE CURB (6" BARRIER-INTEGRAL)	LF	1570
609(B)	0383	COMBINED CURB & GUTTER (6" BARRIER)	LF	205
609(C)	4811	CONCRETE HEADER CURB (12" X 18")	LF	106
610(A)	0602	4" CONCRETE SIDEWALK	SY	1205
610(B)	0399	6" CONCRETE DRIVEWAY (H. E. S.)	SY	1,369
610(C)	0609	6" CONCRETE DIVIDING STRIP	SY	45
610(I)	4610	TACTILE WARNING DEVICE-NEW	SF	88
611(G)	5113	INLET CI DES. 2 (B) (R-31,32)	EA	1
611(G)	5115	INLET CI DES. 2 (D) (R-31,32)	EA	2
611(G)	5116	INLET CI DES. 2 (2C) (R-31,32)	EA	1
611(G)	5119	INLET CI DES. 2 (2D) (R-31,32)	EA	3
611(G)	5120	INLET CI DES. 3 (STD.) (R-31,32)	EA	1
611(G)	5124	INLET CI DES. 3 (B-D) (R-31,32)	EA	4
611(G)	6000	INLET (SMD-TYPE 1) (R-32)	EA	6
611(G)	6004	INLET (SMD-TYPE 2A) (R-32)	EA	1
611(G)	6006	INLET (SMD-TYPE 2B) (R-32)	EA	2
611(H)	5325	ADD'L DEPTH IN INLET CI DES. 2 (R-32)	VF	3
611(H)	5330	ADD'L DEPTH IN INLET CI DES. 3 (R-32)	VF	1
612(A)	0641	MANHOLES ADJUST TO GRADE	EA	5
612(E)	0647	VALVE BOXES ADJUST TO GRADE	EA	1
612(F)	0648	METER BOXES ADJUST TO GRADE	EA	1
613(E)	4784	18" CORRUGATED POLYETHYLENE PIPE	LF	698
613(E)	4785	24" CORRUGATED POLYETHYLENE PIPE	LF	213
613(E)	7206	30" CORRUGATED POLYETHYLENE PIPE	LF	421
613(E)	7207	36" CORRUGATED POLYETHYLENE PIPE	LF	323
613(L)	5734	36" PREFAB. CULVERT END SECTION, ROUND	EA	1
613(S)	1186	STANDARD BEDDING MATERIAL, CLASS B	CY	697
613(V)	1180	TRENCH EXCAVATION	CY	1254
619(A)	0920	REMOVAL OF STRUCTURES & OBSTRUCTIONS (R-36,37)	LSUM	1
619(B)	4726	REMOVAL OF CURB AND GUTTER (3)(R-37,38)	LF	928
619(B)	4727	REMOVAL OF CONCRETE PAVEMENT (2)(3)(R-37,38)	SY	396
619(B)	4728	REMOVAL OF ASPHALT PAVEMENT (3)(R-37,38)	SY	3464
619(B)	4766	REMOVAL OF CONCRETE DRIVEWAY (3)(R-37,38)	SY	1686
619(B)	4792	REMOVAL OF SIDEWALK (3)(R-37,38)	SY	14
SPEC.		26' GRATED STREET INLET	EA	1

SUMMARY OF PAY QUANTITIES - TRAFFIC

0300 PROJECT NO. 4-4

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	QUANTITY
805(B)	8728	(PL) RESET OF PULLBOX	EA	3
805(D)	8756	REMOVE & RESET EXISITING SIGNS (TS-34)	EA	4
856(A)	8530	TRAFFIC STRIPE(MULTI-POLY.) (4" WIDE) (TC-14,16)(TS-24)	LF	4705
856(A)	8540	TRAFFIC STRIPE(MULTI-POLY.) (8" WIDE) (TC-14,16)(TS-26)	LF	107
856(A)	8555	TRAIFFIC STRIPE(MULTI-POLY.) (24" WIDE) (TC-14,16)(TS-28)	LF	259
856(B)	8860	TRAFFIC STRIPE(MULTI-POLY.) (ARROWS)	EA	24
857(F)	8006	PAVEMENT MARKING REMOVAL (TRAFFIC STRIPE)	LF	2110
857(F)	8007	PAVEMENT MARKING REMOVAL (ARROWS)	EA	7
857(F)	8008	PAVEMENT MARKING REMOVAL (WORDS)	EA	1

SUMMARY OF PAY QUANTITIES - TRAFFIC CONTROL

0301 PROJECT NO. 4-4

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	QUANTITY
880(J)	8905	CONSTRUCTION TRAFFIC CONTROL (TC-25)	LSUM	1

SUMMARY OF PAY QUANTITIES - STAKING

0600 PROJECT NO. 4-4

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	QUANTITY
642(B)	0096	CONSTRUCTION STAKING (LEVEL II)	LSUM	1

SUMMARY OF PAY QUANTITIES - CONSTRUCTION

0640 PROJECT NO. 4-4

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	QUANTITY
641	1552	MOBILIZATION	LSUM	1

REGISTERED PROFESSIONAL ENGINEER BRANDON WALL 21108 OKLAHOMA 11/11/20

REGISTERED PROFESSIONAL ENGINEER BRET CABBINESS 18093 OKLAHOMA

PAY QUANTITIES AND GENERAL NOTES

PROJECT NO. 4-4 SHEET NO. AR01

U:\Projects\387 - Durant Transportation Bond Project 4-4 Univ from Estell to Westside\DWG\Notes annd Quantities.dwg 11/10/2020 10:14 AM Owner
PAY QUANTITIES & GENERAL NOTES Pay Quantities & General Notes
BRYAN COUNTY DURANT ROADWAY REHABILITATION

SUMMARY OF SURFACING QUANTITIES

Sheet No.	Staion Extents	Aggregate Base Type A 303(A)	Subgrade, Method B 310(B)	Separator Fabric 325	Dowel Jointed P.C. Concrete Pavement (Placement) 414(B)	P.C. Concrete Pavement 414(G)	Concrete Curb (6" Barrier-Integral) 609(A)	Combined Curb & Gutter (6" Barrier) 609(B)	Concrete Header Curb (12" X 18") 609(C)	4" Concrete Sidewalk 610(A)	6" Concrete Divide Strip 610(C)	Tactile Warning Device-New 610(I)
		C.Y.	S.Y.	S.Y.	S.Y.	C.Y.	L.F.	L.F.	L.F.	S.Y.	S.Y.	S.F.
R004	00+00.00 TO 9+00.00	182.20	1093.20	1093.20	887.68	281.46	356.31	205.00	105.27	543.20	44.65	56.00
R005	9+00.00 TO 18+00.00	621.25	3727.52	3727.52	3383.85	967.73	1212.76	0.00	0.00	647.83	0.00	24.00
R006	18+00.00 TO 19+91.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.53	0.00	8.00
Total		**803.45**	**4820.72**	**4820.72**	**4271.53**	**1249.19**	**1569.07**	**205.00**	**105.27**	**1204.56**	**44.65**	**88.00**

SUMMARY OF REMOVAL QUANTITIES

Sheet No.	Station Extents	Removal of Curb and Gutter (619B)	Removal of Concrete Pavement (619B)	Removal of Asphalt Pavement (619B)	Removal of Concrete Driveway (619B)	Removal of Sidewalk (619B)	Pavement Striping Removal (Traffic Stripe) 857(F)	Pavement Striping Removal (Arrows) 857(F)	Pavement Striping Removal (Words) 857(F)
		L.F.	S.Y.	S.Y.	S.Y.	S.Y.	L.F.	EA.	EA.
R007	00+00.00 TO 9+00.00	215.42	259.64	719.35	843.16	13.82	1873.77	5.00	1.00
R007	9+00.00 TO 18+00.00	711.89	135.60	2744.13	842.44	0.00	236.06	2.00	0.00
Total		**927.31**	**395.24**	**3463.48**	**1685.60**	**13.82**	**2109.83**	**7.00**	**1.00**

SUMMARY OF STRIPING QUANTITIES

Sheet No.	Station Extents	Traffic Stripe (Multi-Poly.)(4" Wide) 856(A)	Traffic Stripe (Multi-Poly.)(8" Wide) 856(A)	Traffic Stripe (Multi-Poly.)(24" Wide) 856(A)	Traffic Stripe (Multi-Poly.)(Arrows) 856(A)
		L.F.	L.F.	L.F.	EA.
T001	00+00.00 TO 9+00.00	2344.86	53.04	159.28	14.00
T001	9+00.00 TO 18+00.00	2359.70	53.04	98.92	10.00
Total		**4704.56**	**106.08**	**258.20**	**24.00**

SUMMARY OF STREET RETURNS & DRIVES

Sheet No.	Station	Location	Radii	Radii	Dowel Jointed P.C. Concrete Pavement (Placement) 414(B)	6" Concrete Driveway (H.E.S) 610(B)
					S.Y.	S.Y.
R004	1+39.60	LT.	15	10	-	98.81
R004	1+92.96	LT.	15	10	-	85.07
R004	3+51.58	LT.	15	-	-	89.17
R004	4+54.43	LT.	15	-	-	91.03
R004	5+31.76	LT.	15	-	-	87.44
R004	6+65.95	LT.	15	-	125.98	-
R004	7+46.88	RT.	15	-	-	90.21
R004	8+78.13	LT.	15	-	-	90.36
R005	9+22.06	RT.	15	-	-	89.44
R005	10+02.67	LT.	5	-	-	27.29
R005	10+79.01	RT.	15	-	101.39	-
R005	11+87.78	LT.	5	-	-	31.57
R005	12+58.56	RT.	15	-	-	82.03
R005	13.67.07	LT.	15	-	-	75.86
R005	15+47.77	RT.	15	-	-	171.69
R005	15+73.56	LT.	15	-	-	107.90
R005	18+48.49	LT.	15	-	-	151.01
Total					**227.37**	**1368.88**

SUMMARY OF EROSION CONTROL

Sheet No.	Station Extents	Temporary Silt Fence 221(C)	Temporary Sediment Filter 221(D)	Temporary Fiber Log 221(K)	Solid Slab Sodding 230(A)
		L.F.	EA.	L.F.	S.Y.
R002	00+00.00 TO 9+00.00	1018.21	9.00	155.80	2305.41
R002	9+00.00 TO 18+00.00	1483.81	5.00	126.70	2853.47
R003	18+00.00 TO 19+91.61	30.60	0.00	0.00	82.61
Total		**2532.62**	**14.00**	**282.50**	**5241.49**

SUMMARY OF REMOVE & RESET/RELOCATE

Sheet No.	Station	Location	Manholes Adjust to Grade 612(A)	Valve Boxes Adjust to Grade 612(E)	Meter Boxes Adjust to Grade 612(F)	Reset of Pull Box 805(B)	Remove and Reset Existing Signs 805(D)
			EA.	EA.	EA.	EA.	EA.
R004	0+26.91	27.21' LT.				1.00	
R004	0+30.34	39.02' RT				1.00	
R004	2+67.22	34.31' RT.		1.00			
R004	2+67.73	38.38' RT.			1.00		
R004	4+23.86	22.15' RT.	1.00				
R004	4+25.52	26.42' LT.	1.00				
R004	6+50.30	42.31' LT.					1.00
R004	7+73.10	21.43' LT.					1.00
R004	7+99.35	22.22' RT.	1.00				
R005	10+45.31	24.69' RT.				1.00	
R005	11+57.57	21.54' RT.	1.00				
R005	14+20.96	22.86' LT.					1.00
R005	15+18.04	22.43' LT.					1.00
R005	15+33.07	22.01' RT.	1.00				
Total			**5.00**	**1.00**	**1.00**	**3.00**	**4.00**

SUMMARY OF EARTHWORK QUANTITIES

Sheet No.	Station Extents	Unclassified Excavation 202(A)	Embankment	Embankment +15% Comp.	Unclassified Borrow	Excess Excavation
		C.Y.	C.Y.	C.Y.	C.Y.	C.Y.
R004-R006	00+00.00 TO 19+91.61	2649.84	1701.45	1956.67	0.00	693.17
Total		**2649.84**	**1701.45**	**1956.67**	**0.00**	**693.17**

SUMMARY OF FLUME TREATMENT

Sheet No.	Station	Location	Class C Concrete 509(D)
			C.Y.
R004	17+66.53	48.60' LT.	1.35
Total			**1.35**

BRANDON WALL 21108 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA 11/11/20

BRET GIBBINESS 18093 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA

SUMMARY SHEET
(1 OF 2)

PROJECT NO. 4-4 SHEET NO. AR02

DURANT ROADWAY REHABILITATION BRYAN COUNTY

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Summary of Drainage Structures

Structure No.	Station	Offset	Description	Standard Bedding Material (Class B) 613(S)	Trench Excavation 613(V)	Class AA Concrete 509(A)	Reinforcing Steel 511(A)	Structural Excavation Unclassified 501(A)	Top of Rim or Top of Grate	Flowlines								Inlets											Junction Boxes			HDPE Pipe				RCB	End Sections
																		ODOT CI DES. 2 (B) 611(G)	ODOT CI DES. 2 (D) 611(G)	ODOT CI DES. 2 (2C) 611(G)	ODOT CI DES. 2 (2D) 611(G)	ODOT CI DES. 3 (STD.) 611(G)	ODOT CI DES. 3 (B-D) 611(G)	ODOT SMD (TYPE 1) 611(G)	ODOT SMD (TYPE 2A) 611(G)	ODOT SMD (TYPE 2B) 611(G)	OKC 26' GRATED STREET INLET SPEC.	ADD'L DEPTH CI DES. 2 611(H)	ADD'L DEPTH CI DES. 3 611(H)	Class A Concrete, Small Structures 509(C)			18"	24"	30"	36"	2'x3'	36" Round PCES 613(L)
																														3' x 3'	4' x 4'	5' x 5'						
				C.Y.	C.Y.	C.Y.	LB.	C.Y.	ELEV.	FL N	FL NE	FL NW	FL E	FL S	FL SE	FL SW	FL W	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	V.F.	V.F.	C.Y.	C.Y.	C.Y.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.
1	0+94.47'	35' LT	ODOT Type 1 SMD (0.46' Add'l Depth) w/ Type 1 Grate w/ 79' of 18" HDPE Pipe to Struc. 3 @ 0.48%	22.12	38.39				708.00				704.98	705.18									1.00									79.00					
2	0+91.40'	18' LT	ODOT 3-Std. w/ 15' of 18" HDPE Pipe to Struc. 1 @ 0.27%	4.20	7.29				707.89	705.22											1.00									15.00					
3	1+73.07'	35' LT	ODOT Type 1 SMD (0.16' Add'l Depth) w/ Type 1 Grate w/ 73' of 18" HDPE Pipe to Struc. 4 @ 1.30%	20.44	35.47				707.32				704.60				704.60						1.00									73.00					
4	2+45.59'	35' LT	3'x3' JB w/ 74' of 18" HDPE Pipe to Struc. 6 @ 1.76%	20.72	35.96				706.57				702.96	703.66			703.66														1.48			74.00					
5	2+42.55'	18' LT	ODOT 3-B-D Inlet w/ 16' of 18" HDPE Pipe to Struc. 4 @ 0.38%	4.48	7.77				706.39	703.72												1.00												16.00					
6	3+19.57'	36' LT	ODOT Type 2A SMD w/ Type 1 Grate w/ 103' of 30" HDPE Pipe to Struc. 7 @ 0.19%	52.53	95.22				704.31				700.66				701.66							1.00											103.00				
7	4+22.57'	36' LT	4'x4' JB w/ 65' of 30" HDPE Pipe to Struc. 9 @ 0.26%	33.15	60.09				704.54					701.69	700.25		700.46														2.27			65.00				
8	4+19.54'	18' LT	ODOT 3-B-D Inlet w/ 17' of 18" HDPE Pipe to Struc. 7 @ 0.48%	4.76	8.26				704.40	701.77												1.00												17.00					
9	4+87.43'	31' LT	5'x5' JB w/ 7' of 2'x3' RCB to Existing 2'x3' RCB @ 0.88%	-	-	1.82	261.10	0.26	704.15			700.08	699.25	699.36																		2.79					7.00	
10	4+87.43'	18' LT	ODOT 3-B-D Inlet into ExiSting 2'x3' RCB from Top	-	-				704.18													1.00																
11	4+87.43'	19' RT	ODOT 2-D Inlet into Existing 2'x3' RCB from Top	-	-				704.12										1.00																				
12	5+72.11'	32' LT	ODOT Type 2B SMD (SPECIAL) w/ Type 1 Grate w/ 85' of 36" HDPE Pipe to Struc. 9 @ 0.50%	53.55	99.56				703.37				699.67				699.67									1.00									85.00			
13	6+64.89'	40' LT	OKC 26' Grate and Hoods w/ 8' of 30" HDPE Pipe to Struc. 14 @ 0.63%	4.08	7.40				704.68					700.98													1.00							8.00				
14	6+58.27'	32' LT	4'x4' JB w/ 86' of 36" HDPE Pipe to Struc. 12 @ 0.72%	54.18	100.73				704.77	700.93			700.29				700.29														2.11				86.00			
15	7+00.21'	32' LT	3'x3' JB w/ 42' of 30" HDPE Pipe to Struc. 14 @ 1.00%	21.42	38.83				705.58				701.99	701.48			700.71														1.86			42.00				
16	7+03.23'	18' LT	ODOT 3-B-D Inlet w/ 14' of 18" HDPE Pipe to Struc. 15 @ 0.60%	3.92	6.80				704.87	701.56				701.56								1.00							0.65				14.00					
17	7+00.58'	19' RT	ODOT 2-D Inlet w/ 34' of 18" HDPE Pipe to Struc. 16 @ 0.06%	9.52	16.83				704.85	701.58									1.00								0.60					34.00					
18	8+17.15'	32' LT	ODOT Type 1 SMD (SPECIAL) w/ Type 1 Grate W/ 117' of 18" HDPE Pipe to Struc. 15 @ 0.50%	32.76	56.85				704.71				702.57				702.57							1.00									117.00					
19	9+85.15'	32' LT	ODOT Type 1 SMD (SPECIAL) w/ Type 1 Grate w/ 168' of 18" HDPE Pipe to Struc. 18 @ 0.45%	47.04	81.64				705.56								703.33							1.00									168.00					
20	12+24.44'	30' LT	3'x3' JB w/ 106' of 24" HDPE Pipe to Struc. 23 @ 0.19%	41.34	72.24				705.22				700.95	701.05																	1.70				106.00			
21	12+24.10'	18' LT	ODOT 2-2D Inlet w/ 11' of 24" HDPE Pipe to Struc. 20 @ 0.19%	4.29	7.50				704.81	701.07				701.57									1.00						0.57					11.00				
22	12+24.11'	18' RT	ODOT 2-B Inlet w/ 34' of 18" HDPE Pipe to Struc. 21 @ 0.21%	9.52	16.52				704.81	701.64								1.00										0.50				34.00					
23	13+30.51'	30' LT	ODOT Type 1 SMD (0.27' Add'l Depth) w/ Type 1 Grate w/ 96' of 24" HDPE Pipe to Struc. 24 @ 1.09%	37.44	65.42				704.10				700.75				700.75							1.00										96.00				
24	14+26.48'	30' LT	4'x4' JB w/ 114' of 30" HDPE Pipe to Struc. 26 @ 0.35%	58.14	105.39				703.43				698.88	700.15			699.70														2.44			114.00				
25	14+26.14'	18' LT	ODOT 2-2D Inlet w/ 11' of 18" HDPE Pipe to Struc. 24 @ 0.19%	3.08	5.35				702.84	700.17													1.00											11.00				
26	15+39.95'	31' LT	ODOT Type 2A SMD (SPECIAL) w/ Type 1 Grate w/ 89' of 30" HDPE Pipe to Struc. 27 @ 1.35%	45.39	82.28				701.64				698.48				698.48								1.00										89.00			
27	16+28.97'	32' LT	5'x5' JB w/ 86' of 36" HDPE Pipe to Struc. 30 @ 0.22%	54.18	100.73				701.91		696.53			698.23			697.28															3.31			86.00			
28	16+28.79'	19' LT	ODOT 2-2D Inlet w/ 12' of 18" HDPE Pipe to Struc. 27 @ 0.43%	3.36	5.83				701.47	698.28				698.28										1.00						0.52				12.00				
29	16+29.22'	18' RT	ODOT 2-2C Inlet w/ 34' of 18" HDPE Pipe to Struc. 28 @ 0.03%	9.52	17.77				701.50	698.29										1.00								0.54				34.00					
30	17+14.89'	40' LT	ODOT Type 2B SMD (SPECIAL) w/ Type 1 Grate w/ 66' of 36" HDPE Pipe to Outlet @ 0.36%	41.58	77.31				700.10		696.34					696.34										1.00									66.00			
31	17+84.19'	46' LT	ODOT 36" Round Prefabricated Culvert End Section	-	-				-				696.10																										1.00
Totals				**696.71**	**1,253.41**	**1.82**	**261.10**	**0.26**										**1.00**	**2.00**	**1.00**	**3.00**	**1.00**	**4.00**	**6.00**	**1.00**	**2.00**	**1.00**	**2.73**	**0.65**	**5.04**	**6.81**	**6.10**	**698.00**	**213.00**	**421.00**	**323.00**	**7.00**	**1.00**

SUMMARY SHEET
(2 OF 2)

PROJECT NO. 4-4 SHEET NO. AR03

DURANT ROADWAY REHABILITATION BRYAN COUNTY

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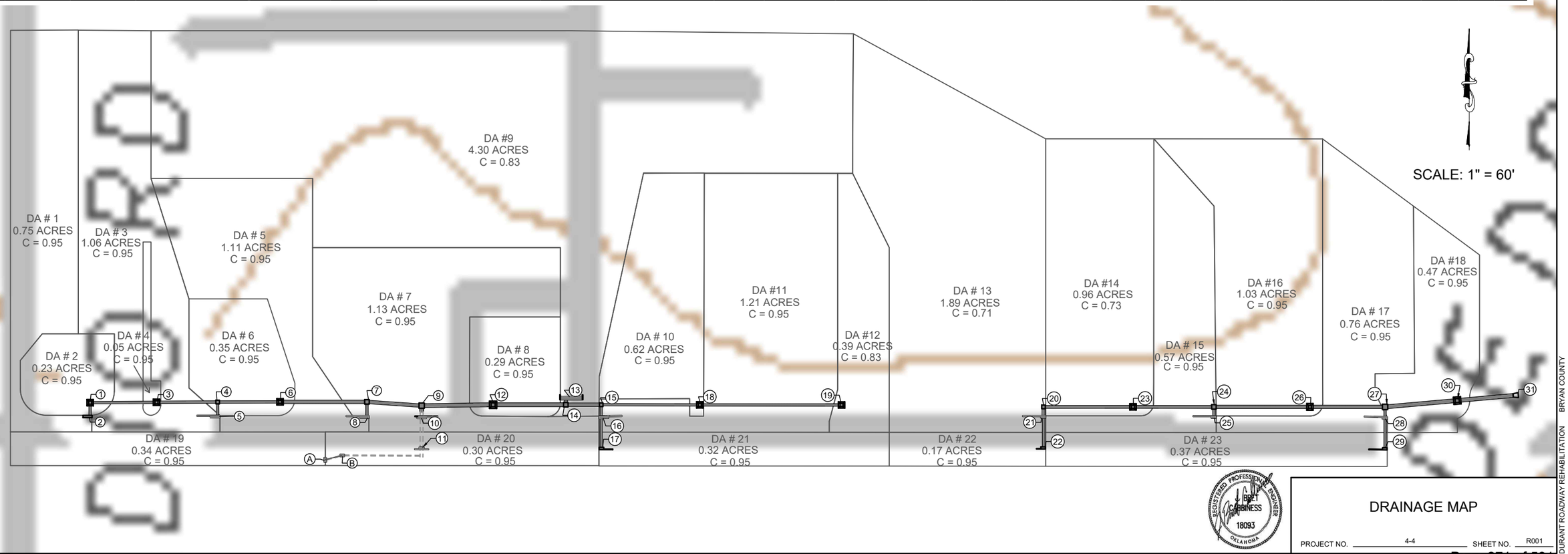
Drainage Structure Design Record

Structure No.	Design Year	Station	Location	Structure Description	Drainage Area	Anticipated Land Use	Avg. Slope of Watershed	C, Runoff Coefficient Weighted (Anticipated)	Length of Overland Flow	Slope of Overland	T_c, Time of Conc.	Intensity of Design Year Rainfall						Design Year Discharge						FL Inlet	FL Outlet	Structure Slope	Outlet Velocity
												I_2	I_5	I_{10}	I_{25}	I_{50}	I_{100}	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}				V
					acre		%		≅	%	min	in/hr	in/hr	in/hr	in/hr	in/hr	in/hr	ft^3/s	ft^3/s	ft^3/s	ft^3/s	ft^3/s	ft^3/s	Elev	Elev	%	ft/s
1	50	0+94.47'	35' LT	ODOT Type 1 SMD (0.46' Add'l Depth) w/ Type 1 Grate w/ 79' of 18" HDPE Pipe to Struc. 3 @ 0.48%	0.23	100% Commercial	3.1	0.95	125	1.8	10.00	5.51	6.53	7.48	9.02	9.49	10.44	1.20	1.43	1.63	2.17	2.49	2.85	704.98	704.60	0.48	
2	10	0+91.40'	18' LT	ODOT 3-Std. w/ 15' of 18" HDPE Pipe to Struc. 1 @ 0.27%	0.75	100% Commercial	3.1	0.95	550	1.8	10.26	4.54	5.42	6.26	7.55	8.02	8.88	3.24	3.86	4.46	5.92	6.86	7.91	705.22	705.18	0.27	
3	50	1+73.07'	35' LT	ODOT Type 1 SMD (0.16' Add'l Depth) w/ Type 1 Grate w/ 73' of 18" HDPE Pipe to Struc. 4 @ 1.30%	0.05	100% Commercial	2.7	0.95	200	2.6	10.00	5.34	6.34	7.27	8.77	9.24	10.18	0.25	0.30	0.35	0.46	0.53	0.60	704.60	703.66	1.30	
4	10	2+45.59'	35' LT	3'x3' JB w/ 74' of 18" HDPE Pipe to Struc. 6 @ 1.76%																				702.96	701.66	1.76	
5	10	2+42.55'	18' LT	ODOT 3-B-D Inlet w/ 16' of 18" HDPE Pipe to Struc. 4 @ 0.38%	1.06	100% Commercial	2.7	0.95	550	2.6	10.00	4.68	5.58	6.43	7.76	8.23	9.10	4.71	5.62	6.48	8.60	9.94	11.46	703.72	703.66	0.38	
6	50	3+19.57'	36' LT	ODOT Type 2A SMD w/ Type 1 Grate w/ 103' of 30" HDPE Pipe to Struc. 7 @ 0.19%	0.35	100% Commercial	2.4	0.95	175	2.1	10.00	5.35	6.35	7.28	8.79	9.26	10.20	1.78	2.11	2.42	3.21	3.69	4.24	700.66	700.46	0.19	
7	10	4+22.57'	36' LT	4'x4' JB w/ 65' of 30" HDPE Pipe to Struc. 9 @ 0.26%																				700.25	700.08	0.26	
8	10	4+19.54'	18' LT	ODOT 3-B-D Inlet w/ 17' of 18" HDPE Pipe to Struc. 7 @ 0.48%	1.11	100% Commercial	2.4	0.95	450	2.1	10.00	4.73	5.64	6.50	7.85	8.32	9.20	4.99	5.95	6.86	9.10	10.52	12.12	701.77	701.69	0.48	
9	10	4+87.43'	31' LT	5'x5' JB w/ 7' of 2'x3' RCB to Existing 2'x3' RCB @ 0.88%																				699.36	699.30	0.88	6.43
10	10	4+87.43'	18' LT	ODOT 3-B-D Inlet into ExiSting 2'x3' RCB from Top	1.13	100% Commercial	2.4	0.95	270	2.1	10.00	5.07	6.03	6.93	8.37	8.84	9.75	5.45	6.48	7.44	9.88	11.38	13.08	-	-	-	
11	10	4+87.43'	19' RT	ODOT 2-D Inlet into Existing 2'x3' RCB from Top	0.30	100% Commercial	1.3	0.95	200	2.0	10.00	5.25	6.24	7.15	8.63	9.10	10.03	1.50	1.78	2.04	2.71	3.11	3.57	-	-	-	
12	50	5+72.11'	32' LT	ODOT Type 2B SMD (SPECIAL) w/ Type 1 Grate w/ 85' of 36" HDPE Pipe to Struc. 9 @ 0.50%	0.29	100% Commercial	2.4	0.95	150	2.1	10.00	5.45	6.46	7.40	8.93	9.40	10.35	1.50	1.78	2.04	2.71	3.11	3.56	699.67	699.25	0.50	
13	50	6+64.89'	40' LT	OKC 26' Grate and Hoods w/ 8' of 30" HDPE Pipe to Struc. 14 @ 0.63%	4.30	50% Commercial, 50% Residential	3.2	0.83	900	3.0	11.94	4.26	5.10	5.90	7.12	7.58	8.41	15.12	18.10	20.93	27.79	32.26	37.28	700.98	700.93	0.63	
14	10	6+58.27'	32' LT	4'x4' JB w/ 86' of 36" HDPE Pipe to Struc. 12 @ 0.72%																				700.29	699.67	0.72	
15	10	7+00.21'	32' LT	3'x3' JB w/ 42' of 30" HDPE Pipe to Struc. 14 @ 1.00%																				700.71	700.29	1.00	
16	10	7+03.23'	18' LT	ODOT 3-B-D Inlet w/ 14' of 18" HDPE Pipe to Struc. 15 @ 0.60%	1.21	100% Commercial	2.6	0.95	375	2.1	10.00	4.86	5.78	6.66	8.04	8.50	9.40	5.58	6.65	7.65	10.16	11.73	13.50	701.56	701.48	0.60	
17	10	7+00.58'	19' RT	ODOT 2-D Inlet w/ 34' of 18" HDPE Pipe to Struc. 16 @ 0.06%	0.32	100% Commercial	1.2	0.95	335	1.3	10.00	4.76	5.67	6.53	7.89	8.35	9.24	1.45	1.72	1.99	2.64	3.05	3.51	701.58	701.56	0.06	
18	50	8+17.15'	32' LT	ODOT Type 1 SMD (SPECIAL) w/ Type 1 Grate w/ 117' of 18" HDPE Pipe to Struc. 15 @ 0.50%	0.62	100% Commercial	2.4	0.95	375	1.8	10.00	4.80	5.72	6.59	7.95	8.42	9.31	2.83	3.37	3.88	5.15	5.95	6.85	702.57	701.99	0.50	
19	50	9+85.15'	32' LT	ODOT Type 1 SMD (SPECIAL) w/ Type 1 Grate w/ 168' of 18" HDPE Pipe to Struc. 18 @ 0.45%	0.39	50% Commercial, 50% Residential	3.2	0.83	260	2.8	10.00	5.07	6.03	6.93	8.37	8.84	9.75	1.63	1.94	2.23	2.96	3.41	3.92	703.33	702.57	0.45	
20	10	12+24.44'	30' LT	3'x3' JB w/ 106' of 24" HDPE Pipe to Struc. 23 @ 0.19%																				700.95	700.75	0.19	
21	10	12+24.10'	18' LT	ODOT 2-2D Inlet w/ 11' of 24" HDPE Pipe to Struc. 20 @ 0.19%	1.89	5% Commercial, 95% Residential	3.8	0.71	570	3.4	10.38	4.52	5.40	6.23	7.52	7.99	8.84	6.09	7.27	8.39	11.14	12.90	14.89	701.07	701.05	0.19	
22	10	12+24.11'	18' RT	ODOT 2-B Inlet w/ 34' of 18" HDPE Pipe to Struc. 21 @ 0.21%	0.17	100% Commercial	1.5	0.95	190	1.9	10.00	5.27	6.25	7.17	8.66	9.13	10.06	0.85	1.01	1.16	1.54	1.77	2.03	701.64	701.57	0.21	
23	50	13+30.51'	30' LT	ODOT Type 1 SMD (0.27' Add'l Depth) w/ Type 1 Grate w/ 96' of 24" HDPE Pipe to Struc. 24 @ 1.09%	0.96	10% Commercial, 90% Residential	4.2	0.73	275	3.4	10.00	4.99	5.93	6.82	8.24	8.70	9.61	3.47	4.13	4.75	6.30	7.27	8.36	700.75	699.70	1.09	
24	10	14+26.48'	30' LT	4'x4' JB w/ 114' of 30" HDPE Pipe to Struc. 26 @ 0.35%																				698.88	698.48	0.35	
25	10	14+26.14'	18' LT	ODOT 2-2D Inlet w/ 11' of 18" HDPE Pipe to Struc. 24 @ 0.19%	0.57	100% Commercial	3.8	0.95	440	3.2	10.00	4.90	5.84	6.72	8.10	8.57	9.47	2.65	3.16	3.64	4.83	5.57	6.41	700.17	700.15	0.19	
26	50	15+39.95'	31' LT	ODOT Type 2A SMD (SPECIAL) w/ Type 1 Grate w/ 89' of 30" HDPE Pipe to Struc. 27 @ 1.35%	1.03	100% Commercial	2.4	0.95	475	1.6	10.00	4.60	5.49	6.33	7.64	8.11	8.97	4.50	5.37	6.19	8.22	9.52	10.98	698.48	697.28	1.35	
27	10	16+28.97'	32' LT	5'x5' JB w/ 86' of 36" HDPE Pipe to Struc. 30 @ 0.22%																				696.53	696.34	0.22	
28	10	16+28.79'	19' LT	ODOT 2-2D Inlet w/ 12' of 18" HDPE Pipe to Struc. 27 @ 0.43%	0.76	100% Commercial	2.6	0.95	275	1.7	10.00	4.99	5.93	6.82	8.23	8.70	9.61	3.60	4.28	4.93	6.54	7.54	8.67	698.28	698.23	0.43	
29	10	16+29.22'	18' RT	ODOT 2-2C Inlet w/ 34' of 18" HDPE Pipe to Struc. 28 @ 0.03%	0.37	100% Commercial	1.8	0.95	400	2.1	10.00	4.81	5.73	6.60	7.97	8.44	9.33	1.69	2.02	2.32	3.08	3.56	4.10	698.29	698.28	0.03	
30	50	17+14.89'	40' LT	ODOT Type 2B SMD (SPECIAL) w/ Type 1 Grate w/ 66' of 36" HDPE Pipe to Outlet @ 0.36%	0.47	100% Commercial	2.2	0.95	150	1.0	10.00	5.19	6.17	7.08	8.55	9.02	9.95	2.32	2.76	3.16	4.20	4.83	5.55	696.34	696.10	0.36	8.28
31	10	17+84.19'	46' LT	ODOT 36" Round Prefabricated Culvert End Section																				696.12	696.10	0.36	
A	10	3+73.14'	34' RT	Existing Curb Inlet w/ 21' of 12" Pipe to Struc. B at 3.52%	0.34	100% Commercial	1.3	0.95	375	2	10.00	4.84	5.76	6.64	8.01	8.48	9.37	1.56	1.86	2.14	2.85	3.29	3.78	701.91	701.17	3.52	
B	10	3+93.23'	28' RT	Existing SMD w/ 92' of 12" Pipe to Exisiting 2'x3' RCB at 3.07%	0.10	100% Commercial	1.3	0.95	100	1.8	10.00	5.65	6.69	7.65	9.23	9.69	10.65	0.54	0.64	0.73	0.96	1.10	1.27	701.17	698.35	3.07	

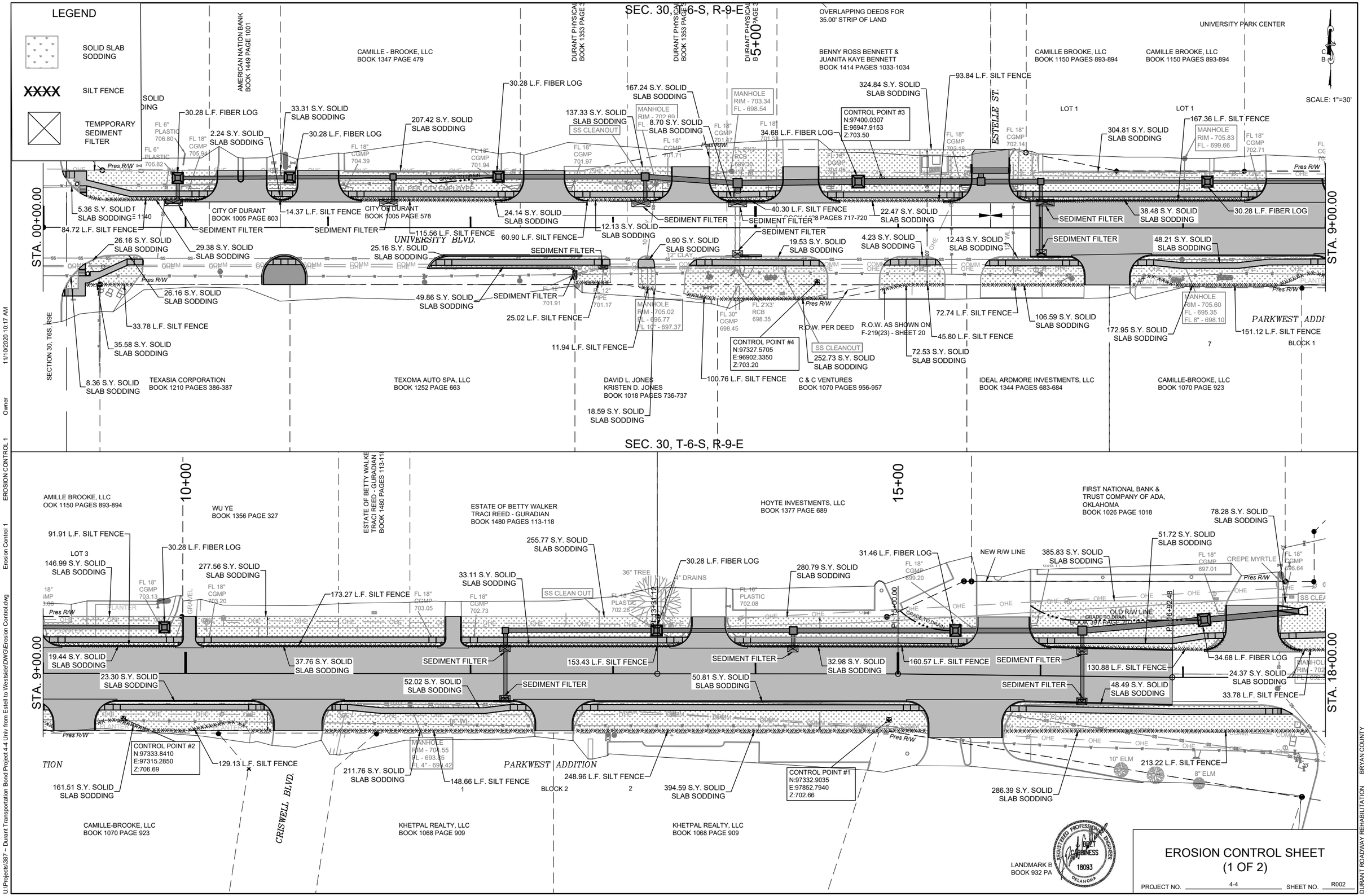


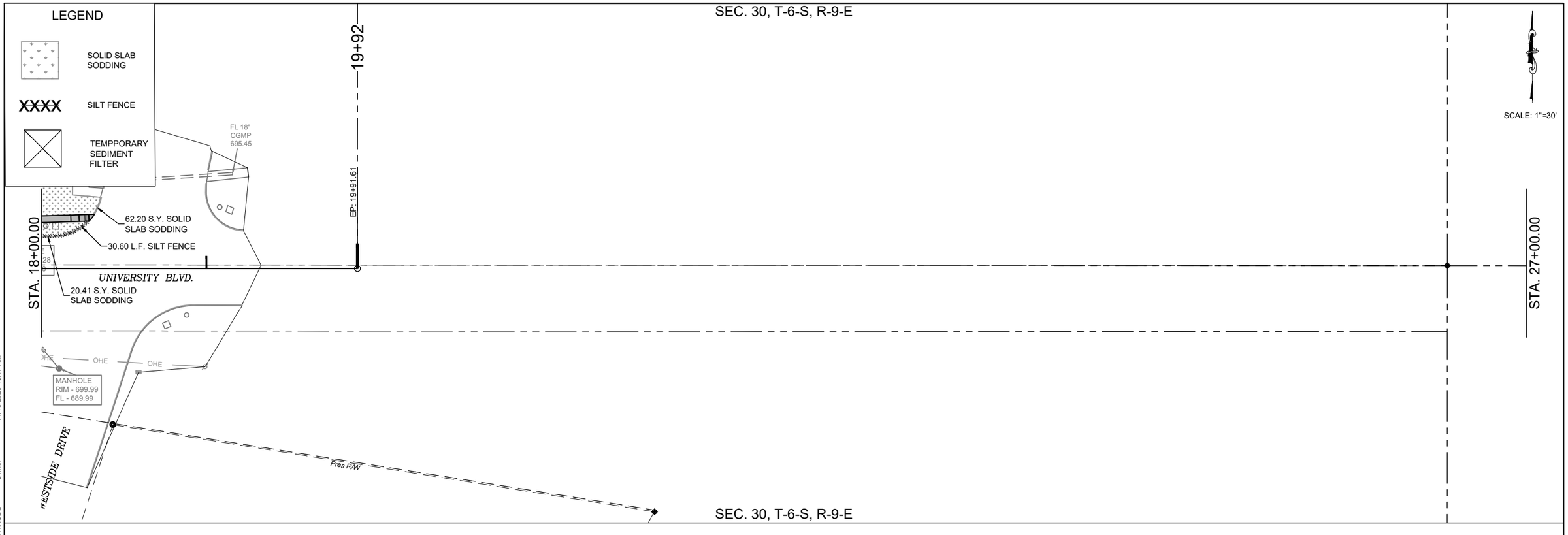
REGISTERED PROFESSIONAL ENGINEER
BRET C. GIBBINESS
18093
OKLAHOMA

DRAINAGE MAP

PROJECT NO. 4-4 SHEET NO. R001

Owner 11/10/2020 10:16 AM U:\Projects\387 – Durant Transportation Bond Project 4-4 Univ from Estell to Westside\DWG\Drainage Map.dwg Drainage Map DRAINAGE MAP DURANT ROADWAY REHABILITATION BRYAN COUNTY


LEGEND
SOLID SLAB SODDING
SILT FENCE
TEMPPORARY SEDIMENT FILTER
SEC. 30, T-6-S, R-9-E
SCALE: 1"=30'
STA. 00+00.00
STA. 5+00.00
STA. 9+00.00
STA. 10+00
STA. 15+00
STA. 18+00.00
OVERLAPPING DEEDS FOR 35.00' STRIP OF LAND
BENNY ROSS BENNETT & JUANITA KAYE BENNETT BOOK 1414 PAGES 1033-1034
CAMILLE BROOKE, LLC BOOK 1150 PAGES 893-894
UNIVERSITY PARK CENTER
AMERICAN NATION BANK BOOK 1449 PAGE 1001
CAMILLE - BROOKE, LLC BOOK 1347 PAGE 479
DURANT PHYSICIAN CENTER BOOK 1353 PAGE 3
CITY OF DURANT BOOK 1005 PAGE 803
CITY OF DURANT BOOK 1005 PAGE 578
ESTELLE ST.
UNIVERSITY BLVD.
PARKWEST ADDITION
BLOCK 1
LOT 1
TEXASIA CORPORATION BOOK 1210 PAGES 386-387
TEXOMA AUTO SPA, LLC BOOK 1252 PAGE 663
DAVID L. JONES KRISTEN D. JONES BOOK 1018 PAGES 736-737
C & C VENTURES BOOK 1070 PAGES 956-957
IDEAL ARDMORE INVESTMENTS, LLC BOOK 1344 PAGES 683-684
CAMILLE-BROOKE, LLC BOOK 1070 PAGE 923
CONTROL POINT #3 N:97400.0307 E:96947.9153 Z:703.50
CONTROL POINT #4 N:97327.5705 E:96902.3350 Z:703.20
R.O.W. PER DEED
R.O.W. AS SHOWN ON F-219(23) - SHEET 20
SECTION 30, T6S, R9E
WU YE BOOK 1356 PAGE 327
ESTATE OF BETTY WALKER TRACI REED - GURADIAN BOOK 1480 PAGES 113-118
HOYTE INVESTMENTS, LLC BOOK 1377 PAGE 689
FIRST NATIONAL BANK & TRUST COMPANY OF ADA, OKLAHOMA BOOK 1026 PAGE 1018
CONTROL POINT #2 N:97333.8410 E:97315.2850 Z:706.69
CONTROL POINT #1 N:97332.9035 E:97852.7940 Z:702.66
CAMILLE-BROOKE, LLC BOOK 1070 PAGE 923
KHETPAL REALTY, LLC BOOK 1068 PAGE 909
KHETPAL REALTY, LLC BOOK 1068 PAGE 909
LANDMARK B
BOOK 932 PA
CRISWELL BLVD.
GRADE TO DRAIN
Pres R/W
OHE
SS CLEANOUT
MANHOLE RIM - 703.34 FL - 698.54
MANHOLE RIM - 702.69 FL - 8.70 S.Y. SOLID SLAB SODDING
MANHOLE RIM - 705.83 FL - 699.66
MANHOLE RIM - 705.02 FL - 696.77 FL 10" - 697.37
MANHOLE RIM - 705.60 FL - 695.35 FL 8" - 698.10
MANHOLE RIM - 705.55 FL - 693.15 FL 4" - 699.42
93.84 L.F. SILT FENCE
324.84 S.Y. SOLID SLAB SODDING
167.36 L.F. SILT FENCE
304.81 S.Y. SOLID SLAB SODDING
34.68 L.F. FIBER LOG
40.30 L.F. SILT FENCE
22.47 S.Y. SOLID SLAB SODDING
38.48 S.Y. SOLID SLAB SODDING
30.28 L.F. FIBER LOG
SEDIMENT FILTER
4.23 S.Y. SOLID SLAB SODDING
12.43 S.Y. SOLID SLAB SODDING
48.21 S.Y. SOLID SLAB SODDING
72.74 L.F. SILT FENCE
106.59 S.Y. SOLID SLAB SODDING
45.80 L.F. SILT FENCE
72.53 S.Y. SOLID SLAB SODDING
172.95 S.Y. SOLID SLAB SODDING
151.12 L.F. SILT FENCE
252.73 S.Y. SOLID SLAB SODDING
100.76 L.F. SILT FENCE
19.53 S.Y. SOLID SLAB SODDING
0.90 S.Y. SOLID SLAB SODDING
12.13 S.Y. SOLID SLAB SODDING
24.14 S.Y. SOLID SLAB SODDING
60.90 L.F. SILT FENCE
115.56 L.F. SILT FENCE
14.37 L.F. SILT FENCE
207.42 S.Y. SOLID SLAB SODDING
30.28 L.F. FIBER LOG
137.33 S.Y. SOLID SLAB SODDING
167.24 S.Y. SOLID SLAB SODDING
33.31 S.Y. SOLID SLAB SODDING
2.24 S.Y. SOLID SLAB SODDING
30.28 L.F. FIBER LOG
5.36 S.Y. SOLID SLAB SODDING
84.72 L.F. SILT FENCE
26.16 S.Y. SOLID SLAB SODDING
29.38 S.Y. SOLID SLAB SODDING
25.16 S.Y. SOLID SLAB SODDING
49.86 S.Y. SOLID SLAB SODDING
25.02 L.F. SILT FENCE
11.94 L.F. SILT FENCE
18.59 S.Y. SOLID SLAB SODDING
26.16 S.Y. SOLID SLAB SODDING
33.78 L.F. SILT FENCE
35.58 S.Y. SOLID SLAB SODDING
8.36 S.Y. SOLID SLAB SODDING
91.91 L.F. SILT FENCE
30.28 L.F. FIBER LOG
146.99 S.Y. SOLID SLAB SODDING
277.56 S.Y. SOLID SLAB SODDING
173.27 L.F. SILT FENCE
255.77 S.Y. SOLID SLAB SODDING
33.11 S.Y. SOLID SLAB SODDING
30.28 L.F. FIBER LOG
280.79 S.Y. SOLID SLAB SODDING
31.46 L.F. FIBER LOG
NEW R/W LINE
385.83 S.Y. SOLID SLAB SODDING
51.72 S.Y. SOLID SLAB SODDING
78.28 S.Y. SOLID SLAB SODDING
OLD R/W LINE BOOK 397 PAGE 270
19.44 S.Y. SOLID SLAB SODDING
37.76 S.Y. SOLID SLAB SODDING
153.43 L.F. SILT FENCE
32.98 S.Y. SOLID SLAB SODDING
160.57 L.F. SILT FENCE
130.88 L.F. SILT FENCE
34.68 L.F. FIBER LOG
24.37 S.Y. SOLID SLAB SODDING
23.30 S.Y. SOLID SLAB SODDING
52.02 S.Y. SOLID SLAB SODDING
50.81 S.Y. SOLID SLAB SODDING
48.49 S.Y. SOLID SLAB SODDING
33.78 L.F. SILT FENCE
129.13 L.F. SILT FENCE
211.76 S.Y. SOLID SLAB SODDING
148.66 L.F. SILT FENCE
248.96 L.F. SILT FENCE
394.59 S.Y. SOLID SLAB SODDING
213.22 L.F. SILT FENCE
161.51 S.Y. SOLID SLAB SODDING
286.39 S.Y. SOLID SLAB SODDING
EROSION CONTROL SHEET (1 OF 2)
PROJECT NO. 4-4
SHEET NO. R002
BRET GABBINESS 18093 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA
U:\Projects\387 – Durant Transportation Bond Project 4-4 Univ from Estell to Westside\DWG\Erosion Control.dwg Erosion Control 1 EROSION CONTROL 1 Owner 11/10/2020 10:17 AM
DURANT ROADWAY REHABILITATION BRYAN COUNTY



U:\Projects\387 - Durant Transportation Bond Project 4-4 Univ from Estell to Westside\DWG\Erosion Control.dwg Erosion Control 2 11/10/2020 10:17 AM Owner

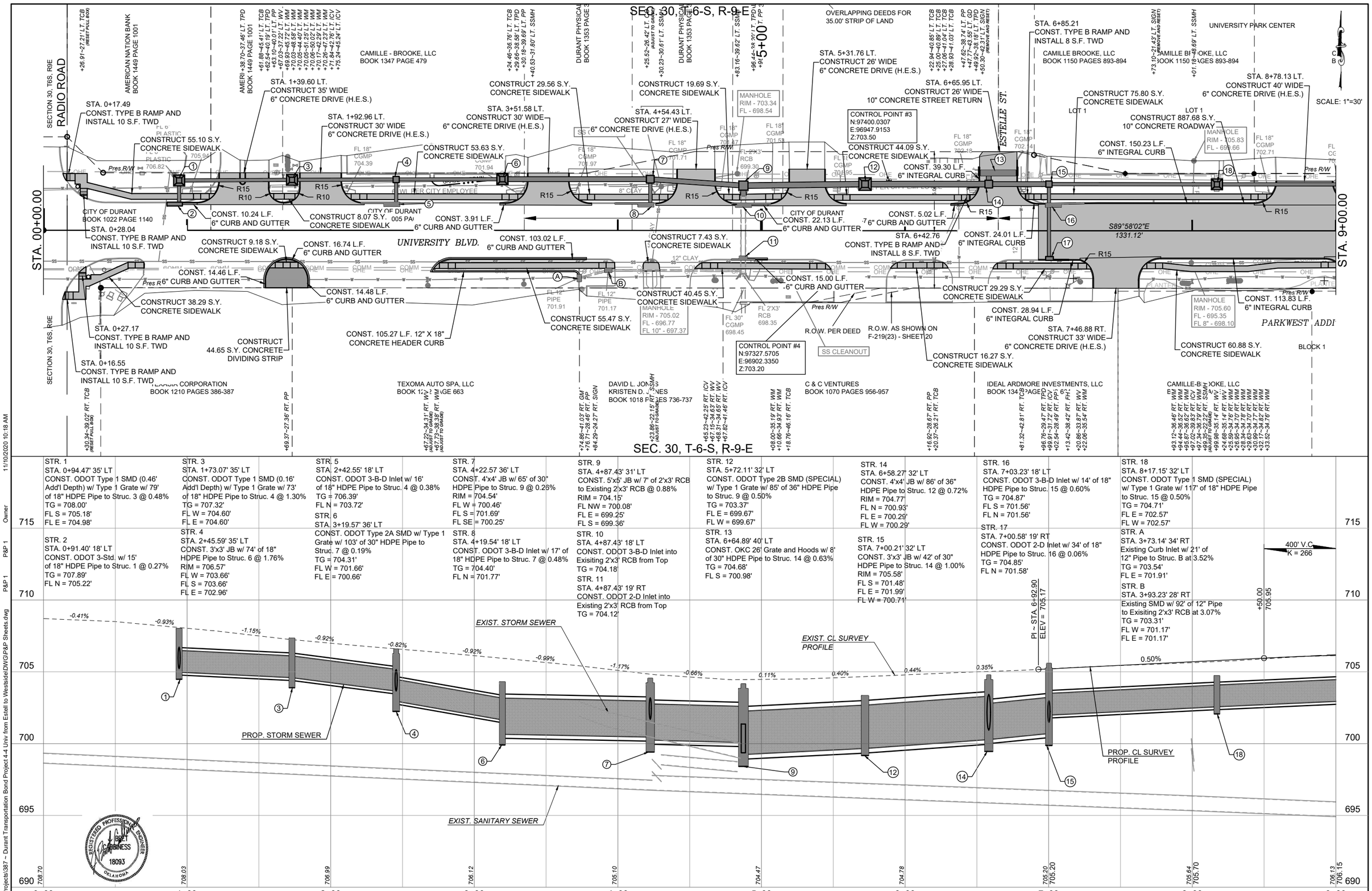
EROSION CONTROL 2

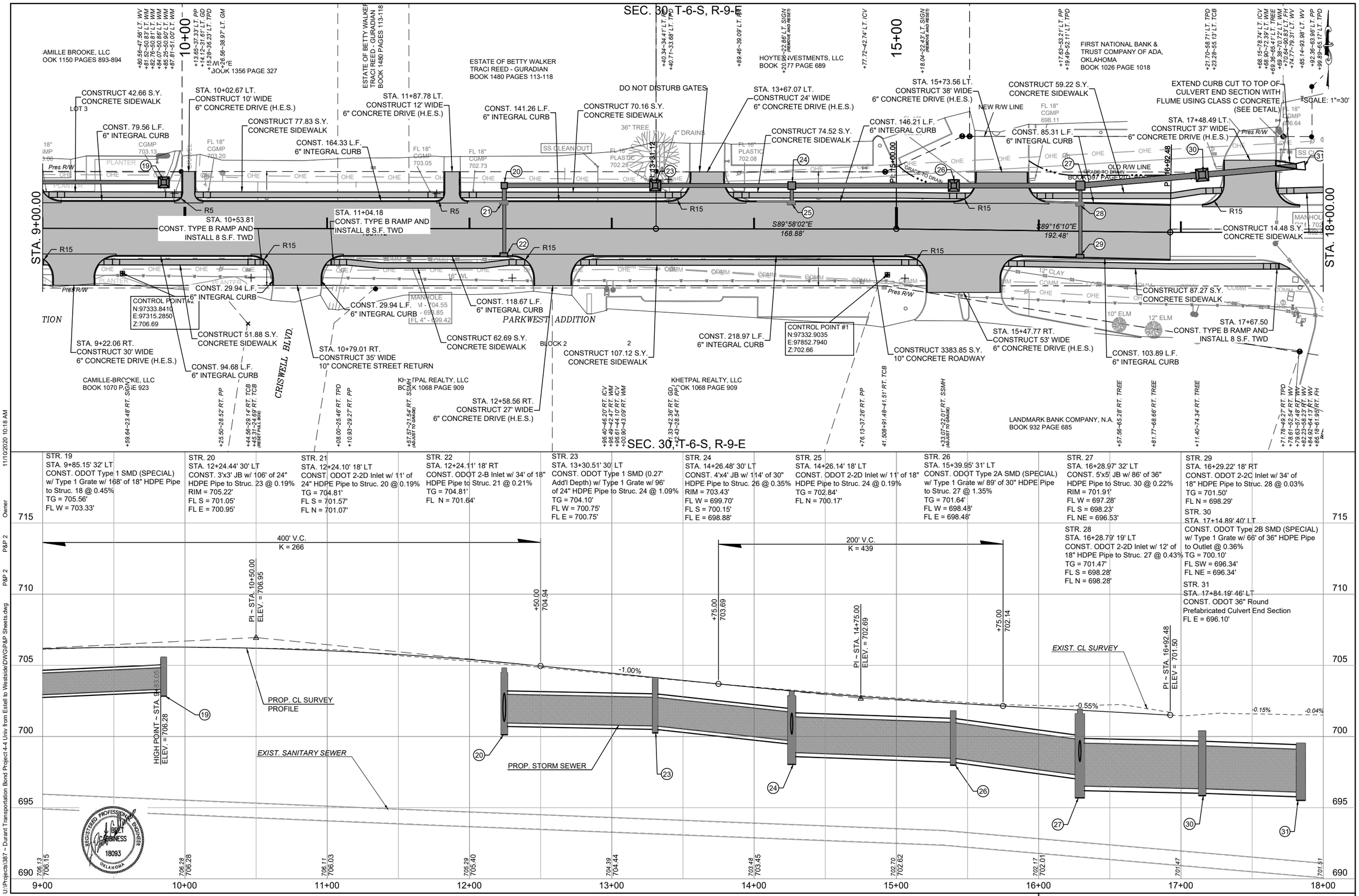
REGISTERED PROFESSIONAL ENGINEER
BRET CRABBINESS
18093
OKLAHOMA

EROSION CONTROL SHEET
(2 OF 2)

PROJECT NO. 4-4 SHEET NO. R003

DURANT ROADWAY REHABILITATION BRYAN COUNTY


SEC. 30, T-6-S, R-9-E
STA. 5+00.00
STA. 00+00.00
STA. 9+00.00
SECTION 30, T6S, R9E
RADIO ROAD
AMERICAN NATION BANK
BOOK 1449 PAGE 1001
CAMILLE - BROOKE, LLC
BOOK 1347 PAGE 479
DURANT PHYSICAL
BOOK 1353 PAGE
OVERLAPPING DEEDS FOR
35.00' STRIP OF LAND
CAMILLE BROOKE, LLC
BOOK 1150 PAGES 893-894
UNIVERSITY PARK CENTER
ESTELLE ST.
LOT 1
CITY OF DURANT
BOOK 1022 PAGE 1140
UNIVERSITY BLVD.
TEXOMA AUTO SPA, LLC
DAVID L. JONES
KRISTEN D. JONES
BOOK 1018 PAGES 736-737
C & C VENTURES
BOOK 1070 PAGES 956-957
IDEAL ARDMORE INVESTMENTS, LLC
PARKWEST ADDI
BLOCK 1
STA. 0+17.49
CONST. TYPE B RAMP AND
INSTALL 10 S.F. TWD
CONSTRUCT 55.10 S.Y.
CONCRETE SIDEWALK
CONST. 10.24 L.F.
6" CURB AND GUTTER
STA. 0+28.04
CONST. TYPE B RAMP AND
INSTALL 10 S.F. TWD
STA. 0+27.17
CONST. TYPE B RAMP AND
INSTALL 10 S.F. TWD
STA. 0+16.55
CONST. TYPE B RAMP AND
INSTALL 10 S.F. TWD
CONSTRUCT 38.29 S.Y.
CONCRETE SIDEWALK
CONST. 14.46 L.F.
6" CURB AND GUTTER
CONSTRUCT 9.18 S.Y.
CONCRETE SIDEWALK
CONST. 16.74 L.F.
6" CURB AND GUTTER
CONST. 14.48 L.F.
6" CURB AND GUTTER
CONSTRUCT
44.65 S.Y. CONCRETE
DIVIDING STRIP
STA. 1+39.60 LT.
CONSTRUCT 35' WIDE
6" CONCRETE DRIVE (H.E.S.)
STA. 1+92.96 LT.
CONSTRUCT 30' WIDE
6" CONCRETE DRIVE (H.E.S.)
CONSTRUCT 53.63 S.Y.
CONCRETE SIDEWALK
CONSTRUCT 8.07 S.Y.
CONCRETE SIDEWALK
CONST. 3.91 L.F.
6" CURB AND GUTTER
CONSTRUCT 29.56 S.Y.
CONCRETE SIDEWALK
STA. 3+51.58 LT.
CONSTRUCT 30' WIDE
6" CONCRETE DRIVE (H.E.S.)
CONST. 103.02 L.F.
6" CURB AND GUTTER
CONSTRUCT 55.47 S.Y.
CONCRETE SIDEWALK
CONST. 105.27 L.F. 12" X 18"
CONCRETE HEADER CURB
CONSTRUCT 19.69 S.Y.
CONCRETE SIDEWALK
STA. 4+54.43 LT.
CONSTRUCT 27' WIDE
6" CONCRETE DRIVE (H.E.S.)
CONSTRUCT 7.43 S.Y.
CONCRETE SIDEWALK
CONSTRUCT 40.45 S.Y.
CONCRETE SIDEWALK
CONST. 15.00 L.F.
6" CURB AND GUTTER
CONST. 22.13 L.F.
6" CURB AND GUTTER
CONTROL POINT #3
N:97400.0307
E:96947.9153
Z:703.50
CONTROL POINT #4
N:97327.5705
E:96902.3350
Z:703.20
MANHOLE
RIM - 703.34
FL - 698.54
MANHOLE
RIM - 705.02
FL - 696.77
FL 10" - 697.37
MANHOLE
RIM - 705.83
FL - 699.66
MANHOLE
RIM - 705.60
FL - 695.35
FL 8" - 698.10
R.O.W. PER DEED
R.O.W. AS SHOWN ON
F-219(23) - SHEET 20
SS CLEANOUT
STA. 5+31.76 LT.
CONSTRUCT 26' WIDE
6" CONCRETE DRIVE (H.E.S.)
STA. 6+65.95 LT.
CONSTRUCT 26' WIDE
10" CONCRETE STREET RETURN
CONSTRUCT 44.09 S.Y.
CONCRETE SIDEWALK
CONST. 39.30 L.F.
6" INTEGRAL CURB
STA. 6+42.76
CONST. TYPE B RAMP AND
INSTALL 8 S.F. TWD
CONST. 5.02 L.F.
6" CURB AND GUTTER
CONST. 24.01 L.F.
6" INTEGRAL CURB
CONSTRUCT 29.29 S.Y.
CONCRETE SIDEWALK
CONSTRUCT 16.27 S.Y.
CONCRETE SIDEWALK
CONST. 28.94 L.F.
6" INTEGRAL CURB
STA. 7+46.88 RT.
CONSTRUCT 33' WIDE
6" CONCRETE DRIVE (H.E.S.)
CONSTRUCT 60.88 S.Y.
CONCRETE SIDEWALK
STA. 6+85.21
CONST. TYPE B RAMP AND
INSTALL 8 S.F. TWD
STA. 8+78.13 LT.
CONSTRUCT 40' WIDE
6" CONCRETE DRIVE (H.E.S.)
CONSTRUCT 75.80 S.Y.
CONCRETE SIDEWALK
CONSTRUCT 887.68 S.Y.
10" CONCRETE ROADWAY
CONST. 150.23 L.F.
6" INTEGRAL CURB
CONST. 113.83 L.F.
6" INTEGRAL CURB
S89°58'02"E
1331.12'
SCALE: 1"=30'
Pres R/W
R15
R10
FL 18" CGMP 704.39
FL 18" CGMP 701.97
FL 18" CGMP 701.71
FL 18" CGMP 701.53
FL 18" CGMP 702.18
FL 18" CGMP 702.71
FL 2'X3' RCB 699.30
FL 30" CGMP 698.45
FL 2'X3' RCB 698.35
FL 12" PIPE 701.91
FL 12" PIPE 701.17
8" CLAY
12" CLAY
SS CLEANOUT
PLANTER
+26.91–27.21' LT. TCB (RESET PULL BOX)
+30.34–39.02' RT. TCB (RESET PULL BOX)
+69.37–27.36' RT. PP
+74.86–41.03' RT. GM
+76.71–28.46' RT. PP
+84.29–24.27' RT. SIGN
+67.22–34.31' RT. WM (ADJUST TO GRADE)
+67.75–38.38' RT. WM (ADJUST TO GRADE)
+23.86–22.15' RT. SSMH (ADJUST TO GRADE)
+65.92–42.83' RT. ICV
+67.15–34.83' RT. WV
+68.31–34.65' RT. WV
+67.82–41.46' RT. ICV
+08.00–35.19' RT. WM
+10.66–34.93' RT. WM
+18.76–46.16' RT. TCB
+16.92–28.67' RT. PP
+20.37–26.21' RT. TCB
+81.32–42.81' RT. TCB
+96.76–29.47' RT. TPD
+99.91–31.72' RT. ICV
+02.54–28.49' RT. PP
+13.42–38.42' RT. FH
+20.86–33.87' RT. WV
+22.06–35.54' RT. WM
+93.12–36.46' RT. WM
+94.44–36.52' RT. WM
+95.87–36.62' RT. WM
+97.02–39.83' RT. ICV
+97.33–34.29' RT. SSMH (ADJUST TO GRADE)
+99.98–35.14' RT. WV
+24.68–35.14' RT. WV
+26.09–34.70' RT. WM
+28.34–34.78' RT. WM
+29.63–34.70' RT. WM
+30.99–34.72' RT. WM
+32.47–34.62' RT. WM
+33.52–34.76' RT. WM
+24.46–36.76' LT. TCB
+29.66–38.58' LT. TPD
+30.18–39.69' LT. PP
+40.53–31.80' LT. SSMH
+83.76–39.62' LT. SSMH
+96.44–28.95' LT. TPD
+91.41–31.72' LT. PP
+22.94–40.85' LT. TCB
+25.00–40.69' LT. TCB
+27.06–41.04' LT. TCB
+28.93–41.05' LT. TCB
+47.62–38.74' LT. PP
+47.77–43.55' LT. GD
+49.39–43.11' LT. SIGN
+50.80–42.31' LT. SIGN
+73.10–21.43' LT. SIGN
+01.18–48.69' LT. SSMH
+61.88–45.41' LT. TCB
+62.10–40.01' LT. PP
+67.03–37.22' LT. WV
+69.99–45.72' LT. WM
+70.03–46.58' LT. WM
+70.05–44.40' LT. WM
+70.06–48.51' LT. WM
+70.06–50.02' LT. WM
+70.17–42.29' LT. WM
+70.28–47.23' LT. WM
+71.84–42.76' LT. ICV
+75.24–45.84' LT. ICV
STR. 1
STA. 0+94.47' 35' LT
CONST. ODOT Type 1 SMD (0.46' Add'l Depth) w/ Type 1 Grate w/ 79' of 18" HDPE Pipe to Struc. 3 @ 0.48%
TG = 708.00'
FL S = 705.18'
FL E = 704.98'
STR. 2
STA. 0+91.40' 18' LT
CONST. ODOT 3-Std. w/ 15' of 18" HDPE Pipe to Struc. 1 @ 0.27%
TG = 707.89'
FL N = 705.22'
STR. 3
STA. 1+73.07' 35' LT
CONST. ODOT Type 1 SMD (0.16' Add'l Depth) w/ Type 1 Grate w/ 73' of 18" HDPE Pipe to Struc. 4 @ 1.30%
TG = 707.32'
FL W = 704.60'
FL E = 704.60'
STR. 4
STA. 2+45.59' 35' LT
CONST. 3'x3' JB w/ 74' of 18" HDPE Pipe to Struc. 6 @ 1.76%
RIM = 706.57'
FL W = 703.66'
FL S = 703.66'
FL E = 702.96'
STR. 5
STA. 2+42.55' 18' LT
CONST. ODOT 3-B-D Inlet w/ 16' of 18" HDPE Pipe to Struc. 4 @ 0.38%
TG = 706.39'
FL N = 703.72'
STR. 6
STA. 3+19.57' 36' LT
CONST. ODOT Type 2A SMD w/ Type 1 Grate w/ 103' of 30" HDPE Pipe to Struc. 7 @ 0.19%
TG = 704.31'
FL W = 701.66'
FL E = 700.66'
STR. 7
STA. 4+22.57 36' LT
CONST. 4'x4' JB w/ 65' of 30" HDPE Pipe to Struc. 9 @ 0.26%
RIM = 704.54'
FL W = 700.46'
FL S = 701.69'
FL SE = 700.25'
STR. 8
STA. 4+19.54' 18' LT
CONST. ODOT 3-B-D Inlet w/ 17' of 18" HDPE Pipe to Struc. 7 @ 0.48%
TG = 704.40'
FL N = 701.77'
STR. 9
STA. 4+87.43' 31' LT
CONST. 5'x5' JB w/ 7' of 2'x3' RCB to Existing 2'x3' RCB @ 0.88%
RIM = 704.15'
FL NW = 700.08'
FL E = 699.25'
FL S = 699.36'
STR. 10
STA. 4+87.43' 18' LT
CONST. ODOT 3-B-D Inlet into Exisiting 2'x3' RCB from Top
TG = 704.18'
STR. 11
STA. 4+87.43' 19' RT
CONST. ODOT 2-D Inlet into Existing 2'x3' RCB from Top
TG = 704.12'
STR. 12
STA. 5+72.11' 32' LT
CONST. ODOT Type 2B SMD (SPECIAL) w/ Type 1 Grate w/ 85' of 36" HDPE Pipe to Struc. 9 @ 0.50%
TG = 703.37'
FL E = 699.67'
FL W = 699.67'
STR. 13
STA. 6+64.89' 40' LT
CONST. OKC 26' Grate and Hoods w/ 8' of 30" HDPE Pipe to Struc. 14 @ 0.63%
TG = 704.68'
FL S = 700.98'
STR. 14
STA. 6+58.27' 32' LT
CONST. 4'x4' JB w/ 86' of 36" HDPE Pipe to Struc. 12 @ 0.72%
RIM = 704.77'
FL N = 700.93'
FL E = 700.29'
FL W = 700.29'
STR. 15
STA. 7+00.21' 32' LT
CONST. 3'x3' JB w/ 42' of 30" HDPE Pipe to Struc. 14 @ 1.00%
RIM = 705.58'
FL S = 701.48'
FL E = 701.99'
FL W = 700.71'
STR. 16
STA. 7+03.23' 18' LT
CONST. ODOT 3-B-D Inlet w/ 14' of 18" HDPE Pipe to Struc. 15 @ 0.60%
TG = 704.87'
FL S = 701.56'
FL N = 701.56'
STR. 17
STA. 7+00.58' 19' RT
CONST. ODOT 2-D Inlet w/ 34' of 18" HDPE Pipe to Struc. 16 @ 0.06%
TG = 704.85'
FL N = 701.58'
STR. 18
STA. 8+17.15' 32' LT
CONST. ODOT Type 1 SMD (SPECIAL) w/ Type 1 Grate w/ 117' of 18" HDPE Pipe to Struc. 15 @ 0.50%
TG = 704.71'
FL E = 702.57'
FL W = 702.57'
STR. A
STA. 3+73.14' 34' RT
Existing Curb Inlet w/ 21' of 12" Pipe to Struc. B at 3.52%
TG = 703.54'
FL E = 701.91'
STR. B
STA. 3+93.23' 28' RT
Existing SMD w/ 92' of 12" Pipe to Exisiting 2'x3' RCB at 3.07%
TG = 703.31'
FL W = 701.17'
FL E = 701.17'
400' V.C.
K = 266
+50.00
705.95
PI – STA. 6+92.90
ELEV = 705.17
-0.41%
-0.93%
-1.15%
-0.92%
-0.82%
-0.92%
-0.99%
-1.17%
-0.66%
0.11%
0.40%
0.44%
0.35%
0.50%
EXIST. STORM SEWER
EXIST. CL SURVEY PROFILE
PROP. STORM SEWER
PROP. CL SURVEY PROFILE
EXIST. SANITARY SEWER
708.70
708.03
706.99
706.12
705.10
704.47
704.78
705.20
705.20
705.64
705.70
706.13
706.15
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
715
710
705
700
695
690
REGISTERED PROFESSIONAL ENGINEER
BRET CABINESS
18093
OKLAHOMA
11/10/2020 10:16 AM
U:\Projects\387 - Durant Transportation Bond Project 4-4 Univ from Estell to Westside\DWG\P&P Sheets.dwg
Owner
P&P 1
P&P 1
COUNTY BRYAN COUNTY
PROJECT NO. 4-4
SHEET NO. 2 OF 2 SHEETS

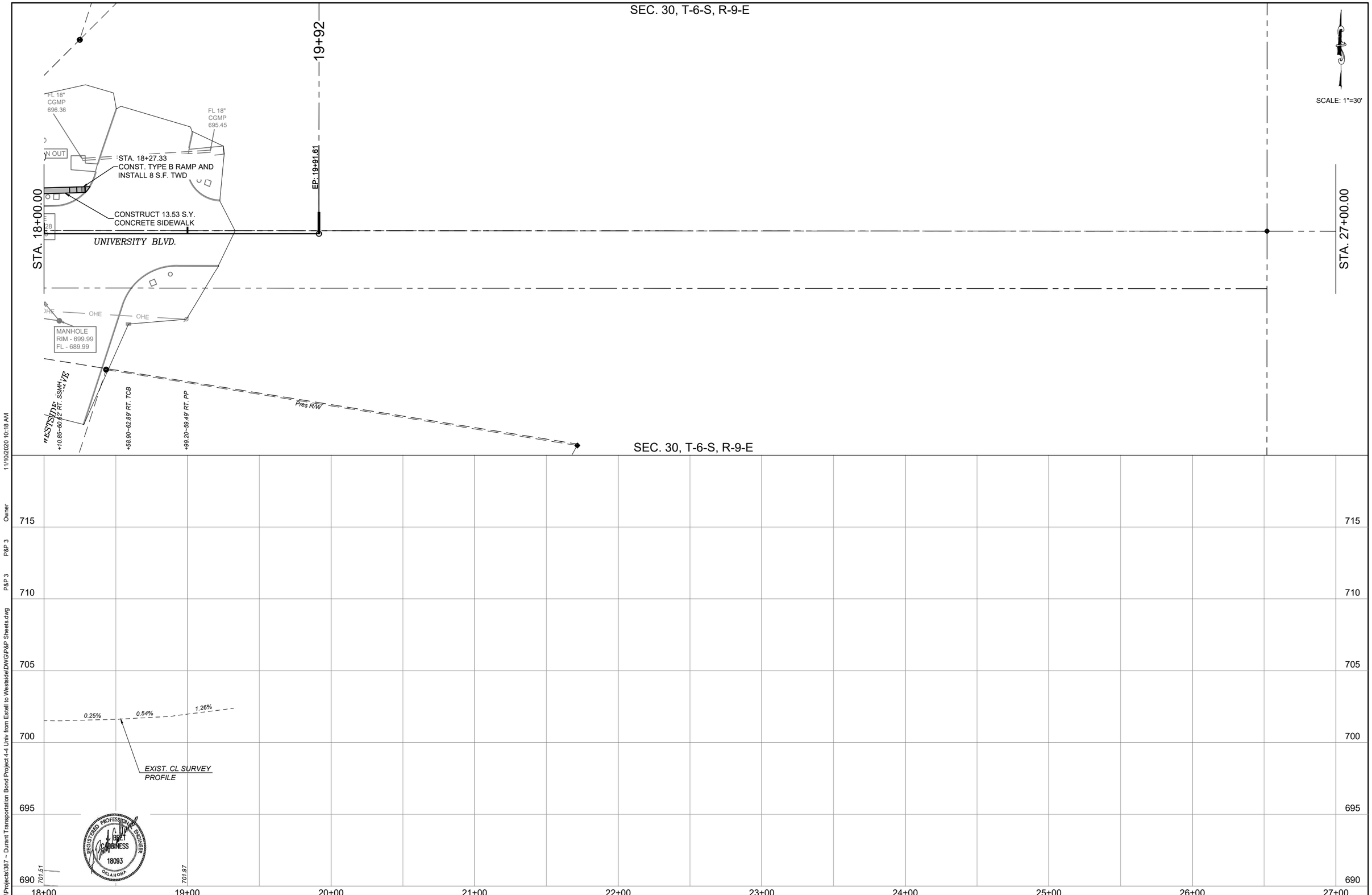


STR. 19	STR. 20	STR. 21	STR. 22	STR. 23	STR. 24	STR. 25	STR. 26	STR. 27	STR. 29
STA. 9+85.15' 32' LT CONST. ODOT Type 1 SMD (SPECIAL) w/ Type 1 Grate w/ 168' of 18" HDPE Pipe to Struc. 18 @ 0.45% TG = 705.56' FL W = 703.33'	STA. 12+24.44' 30' LT CONST. 3'x3' JB w/ 106' of 24" HDPE Pipe to Struc. 23 @ 0.19% RIM = 705.22' FL S = 701.05' FL E = 700.95'	STA. 12+24.10' 18' LT CONST. ODOT 2-2D Inlet w/ 11' of 24" HDPE Pipe to Struc. 20 @ 0.19% TG = 704.81' FL S = 701.57' FL N = 701.07'	STA. 12+24.11' 18' RT CONST. ODOT 2-B Inlet w/ 34' of 18" HDPE Pipe to Struc. 21 @ 0.21% TG = 704.81' FL N = 701.64'	STA. 13+30.51' 30' LT CONST. ODOT Type 1 SMD (0.27' Add'l Depth) w/ Type 1 Grate w/ 96' of 24" HDPE Pipe to Struc. 24 @ 1.09% TG = 704.10' FL W = 700.75' FL E = 700.75'	STA. 14+26.48' 30' LT CONST. 4'x4' JB w/ 114' of 30" HDPE Pipe to Struc. 26 @ 0.35% RIM = 703.43' FL W = 699.70' FL S = 700.15' FL E = 698.88'	STA. 14+26.14' 18' LT CONST. ODOT 2-2D Inlet w/ 11' of 18" HDPE Pipe to Struc. 24 @ 0.19% TG = 702.84' FL N = 700.17'	STR. 26 STA. 15+39.95' 31' LT CONST. ODOT Type 2A SMD (SPECIAL) w/ Type 1 Grate w/ 89' of 30" HDPE Pipe to Struc. 27 @ 1.35% TG = 701.64' FL W = 698.48' FL E = 698.48'	STR. 27 STA. 16+28.97' 32' LT CONST. 5'x5' JB w/ 86' of 36" HDPE Pipe to Struc. 30 @ 0.22% RIM = 701.91' FL W = 697.28' FL S = 698.23' FL NE = 696.53'	STR. 29 STA. 16+29.22' 18' RT CONST. ODOT 2-2C Inlet w/ 34' of 18" HDPE Pipe to Struc. 28 @ 0.03% TG = 701.50' FL N = 698.29' STR. 30 STA. 17+14.89' 40' LT CONST. ODOT Type 2B SMD (SPECIAL) w/ Type 1 Grate w/ 66' of 36" HDPE Pipe to Outlet @ 0.36% TG = 700.10' FL SW = 696.34' FL NE = 696.34' STR. 31 STA. 17+84.19' 46' LT CONST. ODOT 36" Round Prefabricated Culvert End Section FL E = 696.10'

REGISTERED PROFESSIONAL ENGINEER BRET CABBINESS 18093 OKLAHOMA

11/10/2020 10:18 AM
Owner
P&P 2
P&P 2
U:\Projects\387 - Durant Transportation Bond Project 4-4 Univ from Estell to Westside\DWG\P&P Sheets.dwg

COUNTY BRYAN COUNTY PROJECT NO. 4-4 SHEET NO. 27 OF 95



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COUNTY BRYAN COUNTY PROJECT NO. 4-4 SHEET NO. R006

LEGEND

- CONCRETE REMOVAL
- ASPHALT REMOVAL
- XXXX CURB AND GUTTER REMOVAL
- TRAFFIC STRIPE REMOVAL

SEC. 30, T-6-S, R-9-E

SCALE: 1"=30'

STA. 00+00.00

STA. 9+00.00

CAMILLE - BROOKE, LLC
BOOK 1347 PAGE 479

DURANT PHYSICAL CAPITAL
BOOK 1353 PAGE 3

OVERLAPPING DEEDS FOR
35.00' STRIP OF LAND

BENNY ROSS BENNETT &
JUANITA KAYE BENNETT
BOOK 1414 PAGES 1033-1034

CAMILLE BROOKE, LLC
BOOK 1150 PAGES 893-894

UNIVERSITY PARK CENTER

LOT 1

ESTELLE ST.

CITY OF DURANT
BOOK 1022 PAGE 1140

CITY OF DURANT
BOOK 1005 PAGE 570

CITY OF DURANT
BOOK 1428 PAGES 717-720

UNIVERSITY BLVD.

PARKWEST ADDI

BLOCK 1

REMOVE CONCRETE SIDEWALK 7.61 S.Y.
REMOVE 26.27 L.F. TRAFFIC STRIPE
REMOVE 177.30 L.F. TRAFFIC STRIPE
REMOVE CONCRETE DRIVE 111.50 S.Y.
REMOVE CONCRETE DRIVE 85.86 S.Y.
REMOVE CONCRETE DRIVE 92.39 S.Y.
REMOVE CONCRETE DRIVE 87.96 S.Y.
REMOVE CONCRETE DRIVE 86.20 S.Y.
REMOVE 40.77 SY ASPHALT PAVEMENT
REMOVE CONCRETE DRIVE 107.11 S.Y.
REMOVE 678.58 SY ASPHALT PAVEMENT
REMOVE 41.35 L.F. CURB AND GUTTER
REMOVE 26.37 L.F. CURB AND GUTTER
REMOVE 43.07 S.Y. CONCRETE DITCH
REMOVE 45.24 L.F. CURB AND GUTTER
REMOVE 5.60 L.F. CURB AND GUTTER
REMOVE 177.30 L.F. DOUBLE TRAFFIC STRIPE
REMOVE TRAFFIC WORD
REMOVE 101.20 L.F. DOUBLE TRAFFIC STRIPE
REMOVE 323.12 L.F. TRAFFIC STRIPE
REMOVE 15.00 L.F. TRAFFIC STRIPE
REMOVE 22.13 L.F. CURB AND GUTTER
REMOVE 81.97 S.Y. CONCRETE PAVEMENT
REMOVE 3.10 L.F. CURB AND GUTTER
REMOVE 4.09 L.F. CURB AND GUTTER
REMOVE 323.12 L.F. TRAFFIC STRIPE
REMOVE 125.42 S.Y. CONCRETE PAVEMENT
REMOVE 4.09 L.F. CURB AND GUTTER
REMOVE CONCRETE SIDEWALK 6.21 S.Y.
REMOVE 100.60 L.F. DOUBLE TRAFFIC STRIPE
REMOVE 55.76 L.F. DIAGONAL TRAFFIC STRIPE
REMOVE TRAFFIC ARROW
REMOVE 9.18 S.Y. CONCRETE DITCH
REMOVE 15.00 L.F. CURB AND GUTTER
REMOVE 4.12 L.F. CURB AND GUTTER
REMOVE 28.94 L.F. CURB AND GUTTER
REMOVE 3.43 L.F. CURB AND GUTTER
REMOVE 5.66 L.F. CURB AND GUTTER
REMOVE 6.30 L.F. CURB AND GUTTER
REMOVE CONCRETE DRIVE 62.80 S.Y.
REMOVE CONCRETE DRIVE 119.08 S.Y.
REMOVE CONCRETE DRIVE 90.26 S.Y.

CONTROL POINT #3
N:97400.0307
E:96947.9153
Z:703.50

CONTROL POINT #4
N:97327.5705
E:96902.3350
Z:703.20

R.O.W. PER DEED

R.O.W. AS SHOWN ON
F-219(23) - SHEET 20

TEXASIA CORPORATION
BOOK 1210 PAGES 386-387

TEXOMA AUTO SPA, LLC
BOOK 1252 PAGE 663

DAVID L. JONES
KRISTEN D. JONES
BOOK 1018 PAGES 736-737

C & C VENTURES
BOOK 1070 PAGES 956-957

IDEAL ARDMORE INVESTMENTS, LLC
BOOK 1344 PAGES 683-684

CAMILLE-BROOKE, LLC
BOOK 1070 PAGE 923

SEC. 30, T-6-S, R-9-E

CAMILLE BROOKE, LLC
BOOK 1150 PAGES 893-894

WU YE
BOOK 1356 PAGE 327

ESTATE OF BETTY WALKER
TRACI REED - GURADIAN
BOOK 1480 PAGES 113-118

HOYTE INVESTMENTS, LLC
BOOK 1377 PAGE 689

FIRST NATIONAL BANK &
TRUST COMPANY OF ADA,
OKLAHOMA
BOOK 1026 PAGE 1018

LOT 3

CRISWELL BLVD.

REMOVE CONCRETE DRIVE 38.58 S.Y.
REMOVE CONCRETE DRIVE 46.44 S.Y.
REMOVE 97.75 L.F. CURB AND GUTTER
REMOVE CONCRETE DRIVE 106.85 S.Y.
REMOVE 145.39 L.F. CURB AND GUTTER
REMOVE CONCRETE DRIVE 122.68 S.Y.
REMOVE CONCRETE DRIVE 160.77 S.Y.
REMOVE 88.12 L.F. CURB AND GUTTER
REMOVE 69.89 L.F. DOUBLE TRAFFIC STRIPE
REMOVE 33.45 L.F. CURB AND GUTTER
REMOVE 33.28 L.F. CURB AND GUTTER
REMOVE TRAFFIC ARROW
REMOVE 101.42 L.F. CURB AND GUTTER
REMOVE 70.07 L.F. TRAFFIC STRIPE
REMOVE 26.21 L.F. TRAFFIC STRIPE
REMOVE CONCRETE DRIVE 83.30 S.Y.
REMOVE 2744.13 SY ASPHALT PAVEMENT
REMOVE 135.60 S.Y. CONCRETE PAVEMENT
REMOVE 212.48 L.F. CURB AND GUTTER
REMOVE CONCRETE DRIVE 107.93 S.Y.
REMOVE CONCRETE DRIVE 175.89 S.Y.

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E:97315.2850
Z:706.69

CONTROL POINT #1
N:97332.9035
E:97852.7940
Z:702.66

CAMILLE-BROOKE, LLC
BOOK 1070 PAGE 923

KHETPAL REALTY, LLC
BOOK 1068 PAGE 909

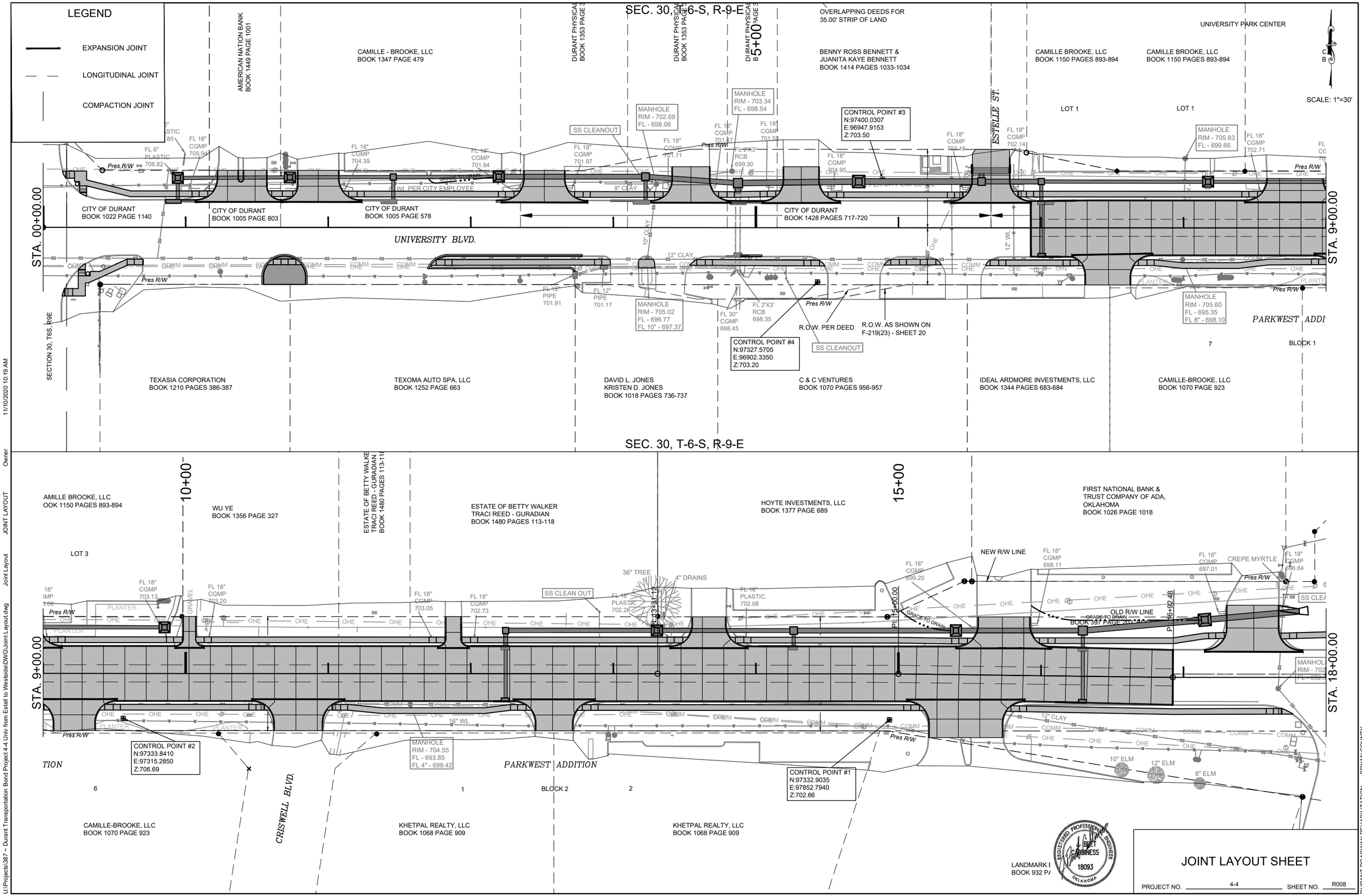
KHETPAL REALTY, LLC
BOOK 1068 PAGE 909

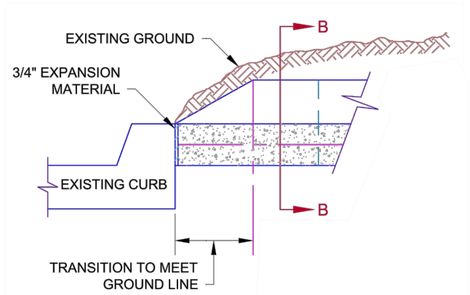
LANDMARK E
BOOK 932 PA

REGISTERED PROFESSIONAL ENGINEER
BRET CADENHEAD
18093
OKLAHOMA

REMOVAL SHEET

PROJECT NO. 4-4 SHEET NO. R007

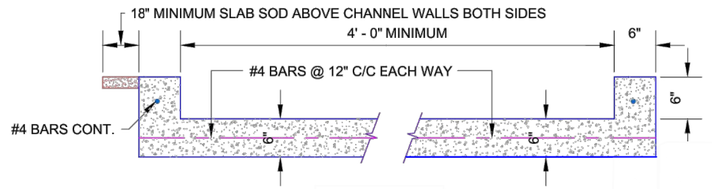

LEGEND
EXPANSION JOINT
LONGITUDINAL JOINT
COMPACTION JOINT
SEC. 30, T-6-S, R-9-E
SEC. 30, T-6-S, R-9-E
STA. 00+00.00
STA. 9+00.00
STA. 9+00.00
STA. 18+00.00
5+00
10+00
15+00
UNIVERSITY BLVD.
ESTELLE ST.
CRISWELL BLVD.
PARKWEST ADDITION
PARKWEST ADDI
SCALE: 1"=30'
AMERICAN NATION BANK BOOK 1449 PAGE 1001
CAMILLE - BROOKE, LLC BOOK 1347 PAGE 479
DURANT PHYSICAL BOOK 1353 PAGE 3
OVERLAPPING DEEDS FOR 35.00' STRIP OF LAND
BENNY ROSS BENNETT & JUANITA KAYE BENNETT BOOK 1414 PAGES 1033-1034
CAMILLE BROOKE, LLC BOOK 1150 PAGES 893-894
UNIVERSITY PARK CENTER
LOT 1
LOT 1
CITY OF DURANT BOOK 1022 PAGE 1140
CITY OF DURANT BOOK 1005 PAGE 803
CITY OF DURANT BOOK 1005 PAGE 578
CITY OF DURANT BOOK 1428 PAGES 717-720
CONTROL POINT #3 N:97400.0307 E:96947.9153 Z:703.50
CONTROL POINT #4 N:97327.5705 E:96902.3350 Z:703.20
R.O.W. PER DEED
R.O.W. AS SHOWN ON F-219(23) - SHEET 20
SS CLEANOUT
MANHOLE RIM - 702.69 FL - 698.06
MANHOLE RIM - 703.34 FL - 698.54
MANHOLE RIM - 705.83 FL - 699.66
MANHOLE RIM - 705.02 FL - 696.77 FL 10" - 697.37
MANHOLE RIM - 705.60 FL - 695.35 FL 8" - 698.10
TEXASIA CORPORATION BOOK 1210 PAGES 386-387
TEXOMA AUTO SPA, LLC BOOK 1252 PAGE 663
DAVID L. JONES KRISTEN D. JONES BOOK 1018 PAGES 736-737
C & C VENTURES BOOK 1070 PAGES 956-957
IDEAL ARDMORE INVESTMENTS, LLC BOOK 1344 PAGES 683-684
CAMILLE-BROOKE, LLC BOOK 1070 PAGE 923
CAMILLE BROOKE, LLC BOOK 1150 PAGES 893-894
WU YE BOOK 1356 PAGE 327
ESTATE OF BETTY WALKER TRACI REED - GURADIAN BOOK 1480 PAGES 113-118
HOYTE INVESTMENTS, LLC BOOK 1377 PAGE 689
FIRST NATIONAL BANK & TRUST COMPANY OF ADA, OKLAHOMA BOOK 1026 PAGE 1018
LOT 3
NEW R/W LINE
OLD R/W LINE
CREPE MYRTLE
CONTROL POINT #2 N:97333.8410 E:97315.2850 Z:706.69
CONTROL POINT #1 N:97332.9035 E:97852.7940 Z:702.66
MANHOLE RIM - 704.55 FL - 693.85 FL 4" - 699.42
CAMILLE-BROOKE, LLC BOOK 1070 PAGE 923
KHETPAL REALTY, LLC BOOK 1068 PAGE 909
KHETPAL REALTY, LLC BOOK 1068 PAGE 909
LANDMARK
BOOK 932 PA
SECTION 30, T6S, R9E
BLOCK 1
BLOCK 2
JOINT LAYOUT SHEET
PROJECT NO. 4-4
SHEET NO. R008
BRYAN COUNTY
DURANT ROADWAY REHABILITATION
U:\Projects\387 ~ Durant Transportation Bond Project 4-4 Univ from Estell to Westside\DWG\Joint Layout.dwg
Joint Layout
JOINT LAYOUT
Owner
11/10/2020 10:19 AM



PROFILE

CONCRETE FLUME DETAIL

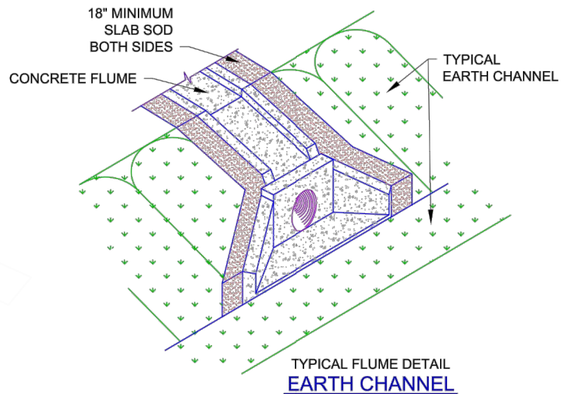
NOTE: 3/4" EXPANSION JOINT @ 100' MAXIMUM
SAWED CONSTRUCTION JOINT @ 20' MAXIMUM



SECTION B-B
(SYMMETRICAL)

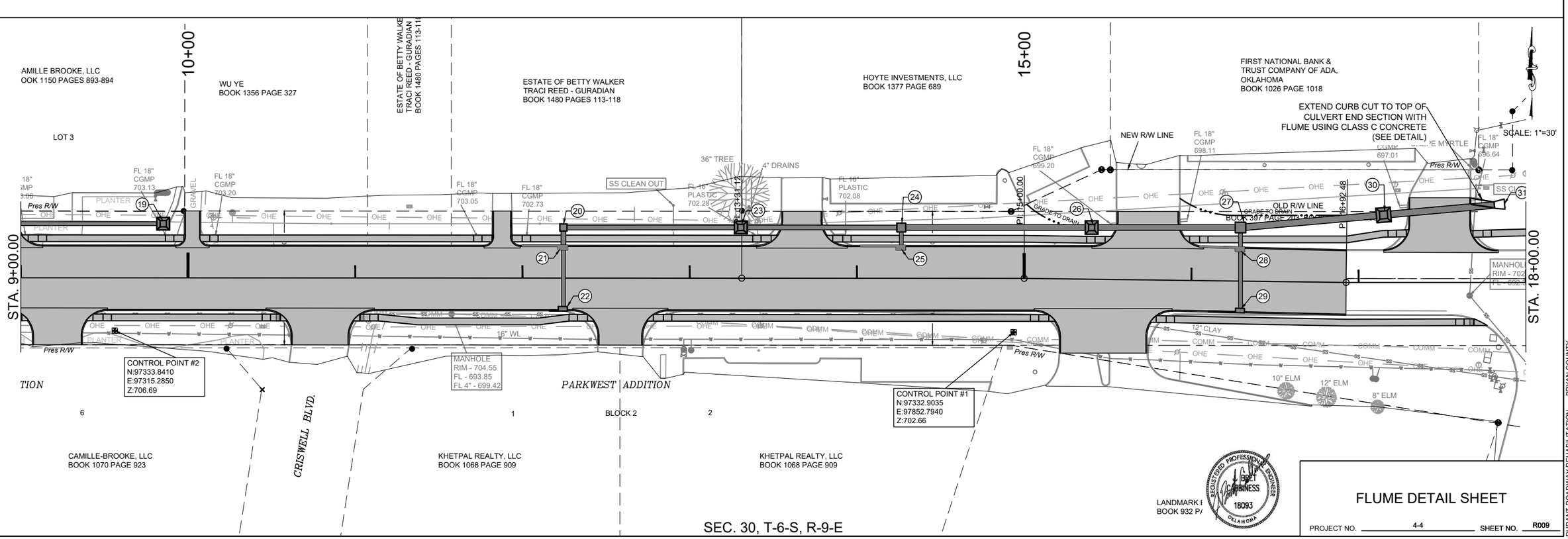
CONSTRUCTION JOINT

SPACED AT 20 FOOT C/C
(ALSO USE JOINT LONGITUDINALLY AT CENTERLINE OF CHANNEL
FOR BOTTOMS OF 12 FOOT AND OVER)



TYPICAL FLUME DETAIL

EARTH CHANNEL



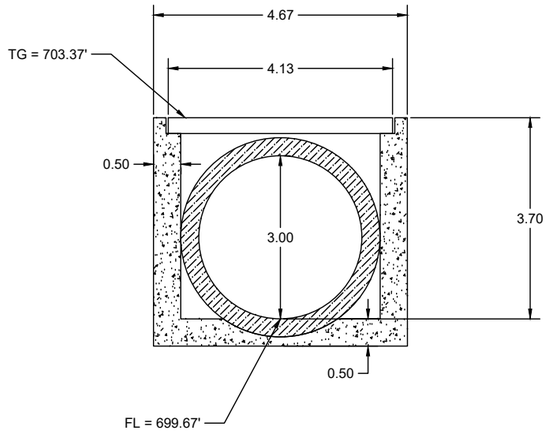
REGISTERED PROFESSIONAL ENGINEER
BRET CRABTREE
18093
OKLAHOMA

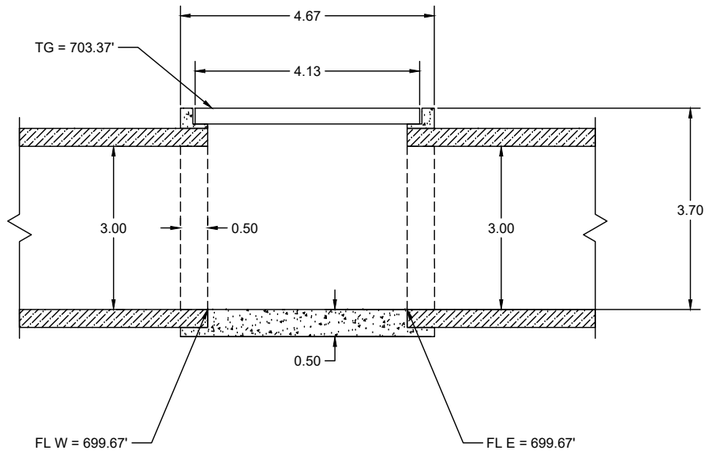
FLUME DETAIL SHEET

PROJECT NO. 4-4 SHEET NO. R009

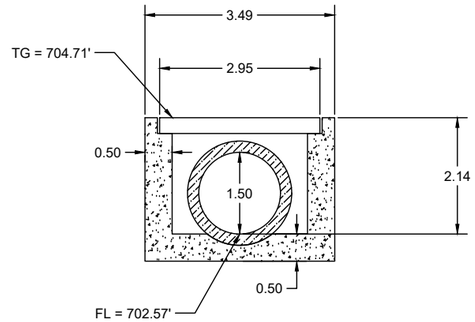
U:\Projects\387 – Durant Transportation Bond Project 4-4 Univ from Estell to Westside\DWG\Flume Detail Sheet.dwg Flume Detail Sheet Owner 11/10/2020 10:19 AM FLUME DETAIL SHEET

DURANT ROADWAY REHABILITATION BRYAN COUNTY

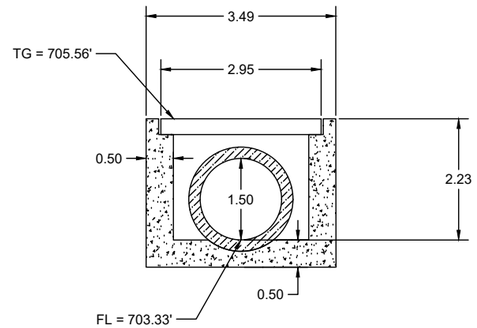




SPECIAL STRUCTURE 12
(TYPE 2B SMD W/ TYPE 1 GRATE)



SPECIAL STRUCTURE 18
(TYPE 1 SMD W/ TYPE 1 GRATE)



SPECIAL STRUCTURE 19
(TYPE 1 SMD W/ TYPE 1 GRATE)

NOTES:

(1) SPECIAL STRUCTURES DO NOT SATISFY STANDARD MEDIAN DRAIN MINIMUM DEPTH REQUIREMENTS PER ODOT STANDARD DRAWING SMD-3-2.

(2) ALL OTHER DIMENSIONS AND DETAILS, BESIDES DEPTH, WILL APPLY TO THE SPECIAL STRUCTURES ACCORDING TO ODOT STANDARD DRAWING SMD-3-2.

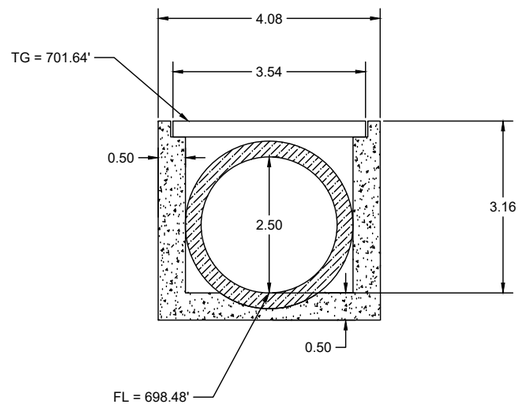
REGISTERED PROFESSIONAL ENGINEER
BRET C. GIBBINESS
18093
OKLAHOMA

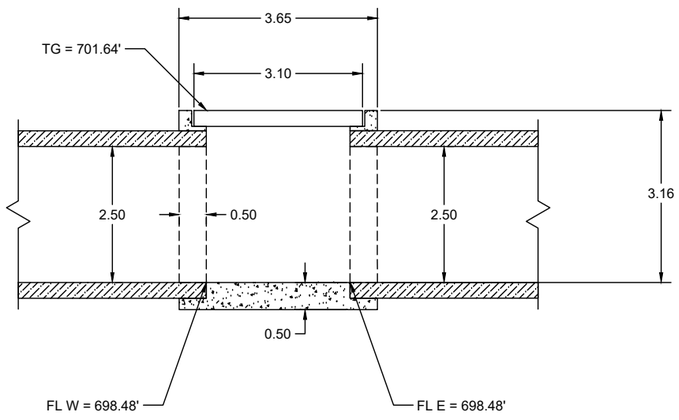
SPECIAL STRUCTURE
DETAIL SHEET (1 OF 2)

PROJECT NO. 4-4 SHEET NO. R010

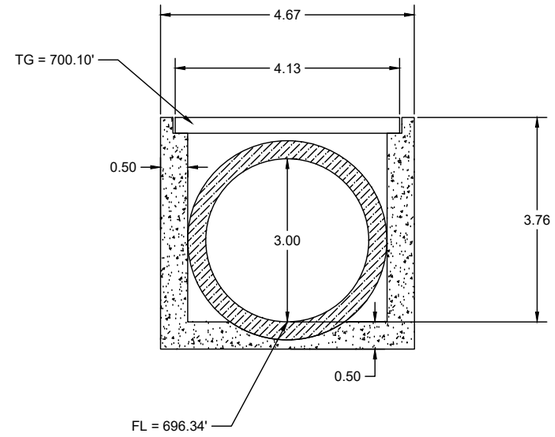
DURANT ROADWAY REHABILITATION BRYAN COUNTY

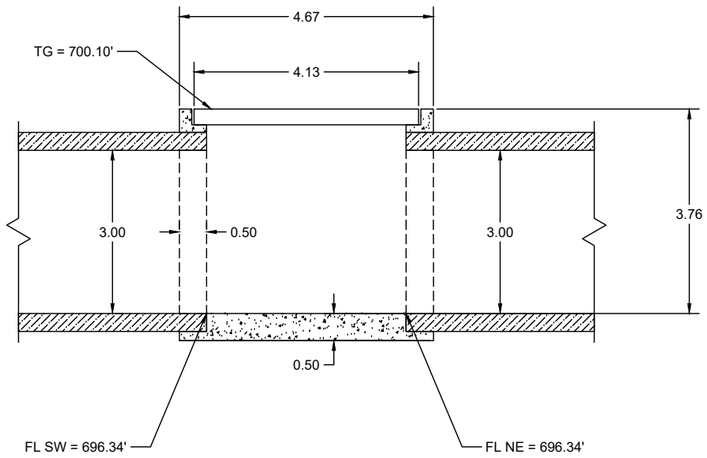
U:\Projects\387 – Durant Transportation Bond Project 4-4 Univ from Estell to Westside\DWG\Special Structure Detail Sheet.dwg Special Structure Detail Sheet 1 SPECIAL STRUCTURE DETAIL SHEET 1 Owner 11/10/2020 10:20 AM





SPECIAL STRUCTURE 26
(TYPE 2A SMD W/ TYPE 1 GRATE)





SPECIAL STRUCTURE 30
(TYPE 2B SMD W/ TYPE 1 GRATE)

NOTES:

(1) SPECIAL STRUCTURES DO NOT SATISFY STANDARD MEDIAN DRAIN MINIMUM DEPTH REQUIREMENTS PER ODOT STANDARD DRAWING SMD-3-2.

(2) ALL OTHER DIMENSIONS AND DETAILS, BESIDES DEPTH, WILL APPLY TO THE SPECIAL STRUCTURES ACCORDING TO ODOT STANDARD DRAWING SMD-3-2.

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

SPECIAL STRUCTURE
DETAIL SHEET (2 OF 2)

PROJECT NO. 4-4 SHEET NO. R011

DURANT ROADWAY REHABILITATION - BRYAN COUNTY

U:\Projects\387 ~ Durant Transportation Bond Project 4-4 Univ from Estell to Westside\DWG\Special Structure Detail Sheet.dwg Special Structure Detail Sheet 2 SPECIAL STRUCTURE DETAIL SHEET 2 Owner 11/10/2020 10:20 AM

LEGEND

TRAFFIC STRIPE (4", 8" & 24")

SEC. 30, T-6-S, R-9-E

SECTION 30, T6S, R9E

AMERICAN NATION BANK BOOK 1449 PAGE 1001

CAMILLE - BROOKE, LLC BOOK 1347 PAGE 479

DURANT PHYSICIAN BOOK 1353 PAGE 3

DURANT PHYSICIAN BOOK 1353 PAGE 3

5+00

OVERLAPPING DEEDS FOR 35.00' STRIP OF LAND

BENNY ROSS BENNETT & JUANITA KAYE BENNETT BOOK 1414 PAGES 1033-1034

CAMILLE BROOKE, LLC BOOK 1150 PAGES 893-894

CAMILLE BROOKE, LLC BOOK 1150 PAGES 893-894

UNIVERSITY PARK CENTER

SCALE: 1"=30'

ESTELLE ST.

LOT 1

LOT 1

STA. 00+00.00

STA. 9+00.00

FL 6" PLASTIC 706.80

FL 6" PLASTIC 706.82

FL 18" CGMP 705.94

FL 18" CGMP 704.39

FL 18" CGMP 701.94

SS CLEANOUT

MANHOLE RIM - 702.69 FL - 698.06

FL 18" CGMP 701.97

FL 18" CGMP 701.71

MANHOLE RIM - 703.34 FL - 698.54

FL 18" CGMP 701.17

FL 18" CGMP 701.53

CONTROL POINT #3 N:97400.0307 E:96947.9153 Z:703.50

FL 18" CGMP 701.95

FL 18" CGMP 702.18

FL 18" CGMP 702.14

MANHOLE RIM - 705.83 FL - 699.66

FL 18" CGMP 702.71

Pres R/W

8.00 L.F. 24" WHITE LINE

120.00 L.F. 4" WHITE LINE

CITY OF DURANT BOOK 1022 PAGE 1140

CITY OF DURANT BOOK 1005 PAGE 803

97.18 L.F. 4" DOUBLE YELLOW LINE

381.44 L.F. 4" YELLOW LINE

TRAFFIC STRIPE ARROW

CITY OF DURANT BOOK 1428 PAGES 717-720

8.00 L.F. 24" WHITE LINE

13.01 L.F. 24" WHITE LINE

5.00

12.00

207.11 L.F. 4" YELLOW LINE

25.00

15.00

12.00

12.00

207.11 L.F. 4" YELLOW LINE

5.00

26.27 L.F. 24" WHITE LINE

120.00 L.F. 4" DOUBLE YELLOW LINE

96.70 L.F. 4" DOUBLE YELLOW LINE

15.00 L.F. 4" YELLOW LINE

381.44 L.F. 4" YELLOW LINE

53.04 L.F. 8" DIAGONAL YELLOW LINE

UNIVERSITY BLVD.

FL 12" PIPE 701.91

FL 12" PIPE 701.17

MANHOLE RIM - 705.02 FL - 696.77 FL 10" - 697.37

FL 30" CGMP 698.45

FL 2'X3' RCB 698.35

CONTROL POINT #4 N:97327.5705 E:96902.3350 Z:703.20

R.O.W. PER DEED

R.O.W. AS SHOWN ON F-219(23) - SHEET 20

SS CLEANOUT

MANHOLE RIM - 705.60 FL - 695.35 FL 8" - 698.10

PARKWEST ADDI

7

BLOCK 1

TEXASIA CORPORATION BOOK 1210 PAGES 386-387

TEXOMA AUTO SPA, LLC BOOK 1252 PAGE 663

DAVID L. JONES KRISTEN D. JONES BOOK 1018 PAGES 736-737

C & C VENTURES BOOK 1070 PAGES 956-957

IDEAL ARDMORE INVESTMENTS, LLC BOOK 1344 PAGES 683-684

CAMILLE-BROOKE, LLC BOOK 1070 PAGE 923

SEC. 30, T-6-S, R-9-E

10+00

15+00

CAMILLE BROOKE, LLC BOOK 1150 PAGES 893-894

WU YE BOOK 1356 PAGE 327

ESTATE OF BETTY WALKER TRACI REED - GURADIAN BOOK 1480 PAGES 113-118

ESTATE OF BETTY WALKER TRACI REED - GURADIAN BOOK 1480 PAGES 113-118

HOYTE INVESTMENTS, LLC BOOK 1377 PAGE 689

FIRST NATIONAL BANK & TRUST COMPANY OF ADA, OKLAHOMA BOOK 1026 PAGE 1018

LOT 3

STA. 9+00.00

STA. 18+00.00

FL 18" CGMP 703.13

FL 18" CGMP 703.20

FL 18" CGMP 703.05

FL 18" CGMP 702.73

SS CLEAN OUT

36" TREE

4" DRAINS

FL 18" PLASTIC 702.28

FL 18" PLASTIC 702.08

FL 18" CGMP 699.20

NEW R/W LINE

FL 18" CGMP 698.11

FL 18" CGMP 697.01

CREPE MYRTLE

FL 18" CGMP 696.64

Pres R/W

GRADE TO DRAIN

OLD R/W LINE BOOK 337 PAGE 214

146.65 L.F. 4" YELLOW LINE

12.00

12.00

15.00

25.00

434.32 L.F. 4" YELLOW LINE

96.70 L.F. 4" DOUBLE YELLOW LINE

TRAFFIC STRIPE ARROW

120.00 L.F. 4" DOUBLE YELLOW LINE

26.16 L.F. 24" WHITE LINE

146.65 L.F. 4" YELLOW LINE

5.00

8.00 L.F. 24" WHITE LINE

12.00

15.00 L.F. 4" YELLOW LINE

434.32 L.F. 4" YELLOW LINE

97.18 L.F. 4" DOUBLE YELLOW LINE

120.00 L.F. 4" WHITE LINE

53.04 L.F. 8" DIAGONAL YELLOW LINE

16.76 L.F. 24" WHITE LINE

16" WL

12" CLAY

10" ELM

12" ELM

8" ELM

CONTROL POINT #2 N:97333.8410 E:97315.2850 Z:706.69

MANHOLE RIM - 704.55 FL - 693.85 FL 4" - 699.42

CONTROL POINT #1 N:97332.9035 E:97852.7940 Z:702.66

TION

PARKWEST ADDITION

6

1

BLOCK 2

2

CRISWELL BLVD.

CAMILLE-BROOKE, LLC BOOK 1070 PAGE 923

KHETPAL REALTY, LLC BOOK 1068 PAGE 909

KHETPAL REALTY, LLC BOOK 1068 PAGE 909

LANDMARK E BOOK 932 PA

REGISTERED PROFESSIONAL ENGINEER BRET CABBINESS 18093 OKLAHOMA

STRIPING SHEET

PROJECT NO. 4-4 SHEET NO. T001

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Striping Plan STRIPING PLAN

DURANT ROADWAY REHABILITATION BRYAN COUNTY

UNIVERSITY BOULEVARD EARTHWORK QUANTITIES

Total Volume Table							
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol	Net Vol
0+00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0+50.00	6.68	14.46	6.18	15.39	6.18	15.39	-9.21
0+94.47	6.29	29.27	10.68	41.41	16.87	56.80	-39.94
1+00.00	8.08	29.88	1.47	6.97	18.34	63.77	-45.43
1+50.00	43.97	5.15	48.20	37.30	66.53	101.06	-34.53
1+73.07	5.63	8.87	21.19	6.89	87.72	107.95	-20.23
2+00.00	27.36	9.01	16.45	10.26	104.18	118.20	-14.03
2+45.59	0.23	39.51	23.29	47.11	127.47	165.32	-37.85
2+50.00	1.34	38.72	0.13	7.34	127.60	172.66	-45.06
3+00.00	27.07	35.88	26.31	79.44	153.91	252.10	-98.19
3+19.57	27.09	35.97	19.63	29.95	173.54	282.05	-108.51
3+50.00	53.21	12.28	45.25	31.27	218.79	313.32	-94.53
4+00.00	4.93	40.50	53.84	56.21	272.63	369.52	-96.89
4+22.57	0.95	52.34	2.46	44.63	275.08	414.15	-139.07
4+50.00	25.72	6.39	13.55	34.30	288.63	448.45	-159.82
4+87.43	0.22	115.79	17.98	97.39	306.61	545.84	-239.23
5+00.00	5.75	54.53	1.39	45.60	308.00	591.44	-283.44
5+40.00	20.85	5.68	19.70	51.29	327.70	642.72	-315.02
5+72.11	0.00	53.17	12.40	40.24	340.10	682.97	-342.87
6+00.00	0.31	39.39	0.16	54.97	340.26	737.94	-397.68
6+50.00	29.71	3.76	27.80	45.94	368.06	783.88	-415.82
6+58.27	30.03	3.35	9.14	1.25	377.20	785.13	-407.93
7+00.21	55.90	25.74	66.75	25.99	443.96	811.12	-367.17
7+50.00	52.95	20.94	100.37	49.50	544.32	860.62	-316.30
8+00.00	51.17	25.22	96.41	49.15	640.73	909.77	-269.04
8+17.15	48.95	24.56	31.80	18.18	672.53	927.95	-255.42
8+50.00	49.93	24.97	60.16	34.65	732.69	962.61	-229.92
8+75.00	59.67	0.42	50.74	13.52	783.43	976.13	-192.70
9+00.00	53.14	4.23	52.23	2.48	835.65	978.61	-142.96
9+21.94	45.83	14.20	40.21	8.61	875.86	987.22	-111.36
9+50.00	48.48	25.79	49.01	23.90	924.87	1011.12	-86.25
9+85.15	50.98	17.17	64.75	32.16	989.62	1043.28	-53.66
10+00.00	62.94	1.79	31.32	5.99	1020.94	1049.27	-28.33
10+50.00	48.13	23.33	102.84	26.75	1123.78	1076.02	47.75
10+75.00	55.54	24.15	48.00	25.28	1171.77	1101.30	70.47

Total Volume Table							
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol	Net Vol
11+00.00	49.10	27.82	48.44	27.67	1220.22	1128.97	91.25
11+50.00	43.95	30.97	86.15	62.60	1306.37	1191.57	114.80
11+87.78	64.98	4.92	76.22	28.88	1382.59	1220.45	162.14
12+00.00	54.81	6.94	27.10	3.09	1409.69	1223.53	186.15
12+24.44	53.45	15.66	49.00	11.76	1458.69	1235.30	223.39
12+50.00	65.87	12.10	56.47	15.11	1515.16	1250.41	264.75
12+58.56	66.12	11.87	20.91	4.37	1536.07	1254.78	281.29
13+00.00	58.42	7.91	95.58	17.46	1631.65	1272.23	359.41
13+30.51	62.74	5.87	68.45	8.95	1700.09	1281.19	418.91
13+50.00	62.59	0.91	45.24	2.82	1745.34	1284.00	461.33
13+67.07	74.41	1.25	43.30	0.78	1788.64	1284.79	503.85
14+00.00	62.68	6.39	83.61	5.36	1872.25	1290.14	582.11
14+26.48	63.24	10.78	61.76	9.68	1934.01	1299.83	634.18
14+50.00	63.57	15.06	55.23	12.94	1989.23	1312.77	676.46
15+00.00	64.78	24.27	118.84	41.88	2108.08	1354.66	753.42
15+39.95	69.47	32.51	99.33	48.31	2207.41	1402.97	804.44
15+50.00	71.57	38.46	26.24	15.19	2233.65	1418.15	815.50
15+73.56	91.89	0.00	71.32	19.30	2304.97	1437.45	867.52
16+00.00	68.68	54.33	78.61	30.59	2383.58	1468.04	915.54
16+28.97	71.12	66.69	74.99	74.65	2458.57	1542.70	915.87
16+50.00	75.11	71.48	56.96	61.89	2515.53	1604.58	910.94
17+00.00	16.79	84.23	85.10	165.80	2600.63	1770.38	830.25
17+14.31	1.52	81.00	4.85	50.36	2605.48	1820.73	784.74
17+50.00	32.42	3.47	22.43	64.20	2627.91	1884.94	742.97
17+85.34	0.25	54.72	21.39	43.80	2649.30	1928.74	720.56
18+00.00	1.76	34.77	0.55	27.93	2649.84	1956.67	693.17

NOTE: QUANTITIES INCLUDE 15% COMP.

REGISTERED PROFESSIONAL ENGINEER
BRET GUINESS
18093
OKLAHOMA

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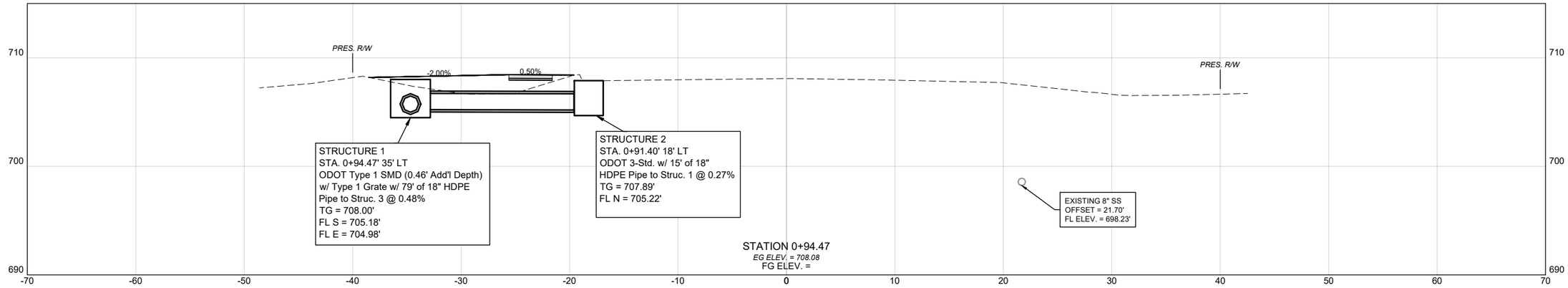

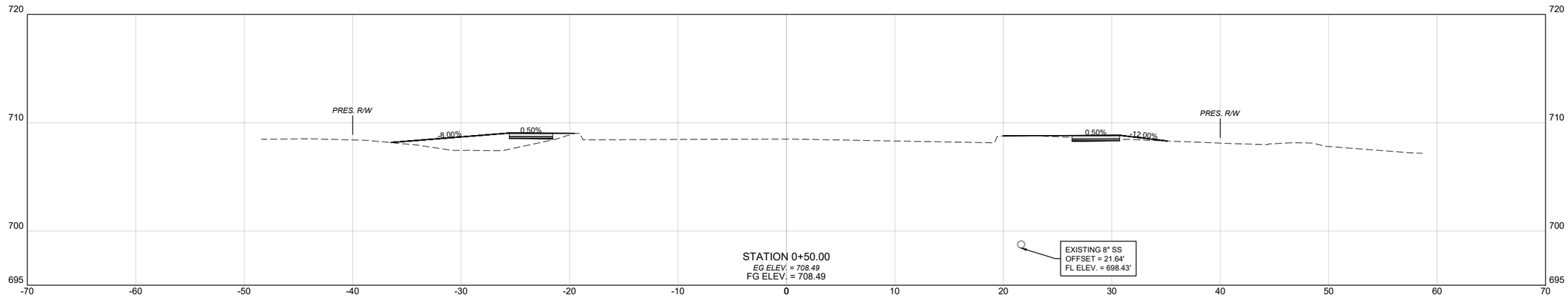

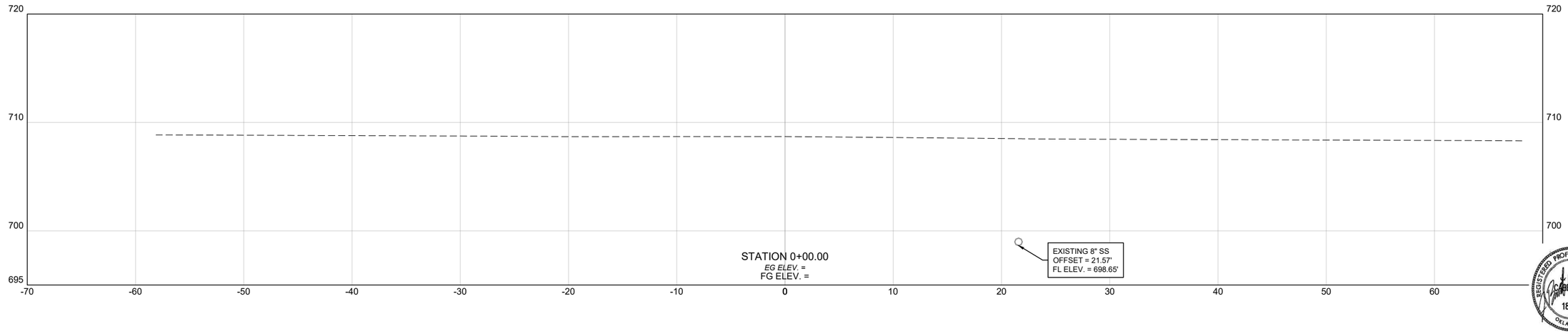

REGISTERED PROFESSIONAL ENGINEER
J. BRET CABINESS
18093
OKLAHOMA

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Owner
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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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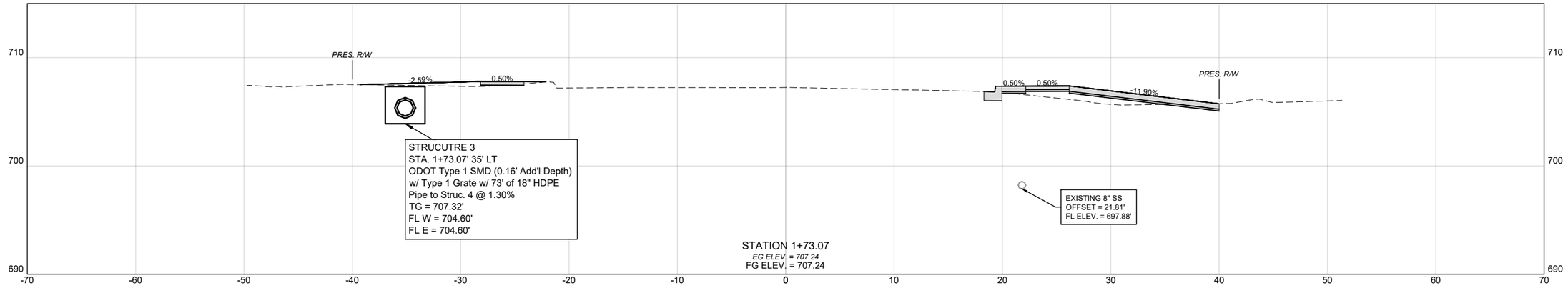

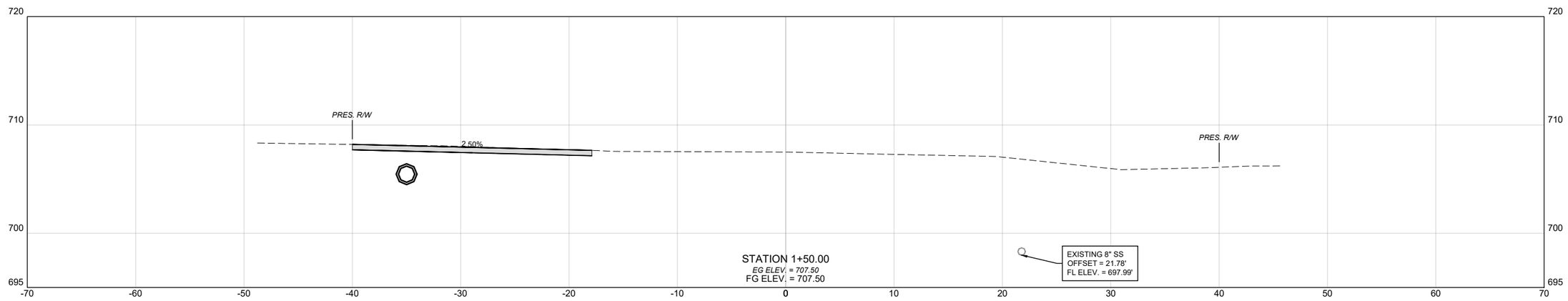

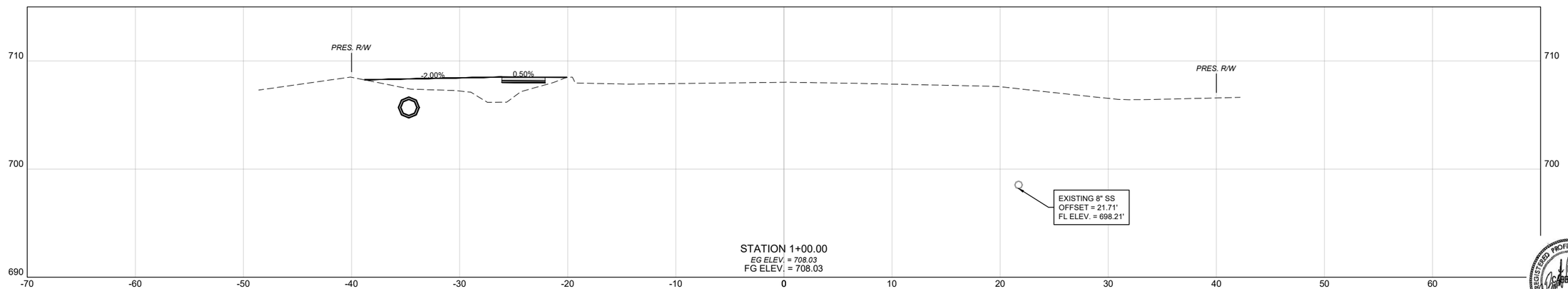

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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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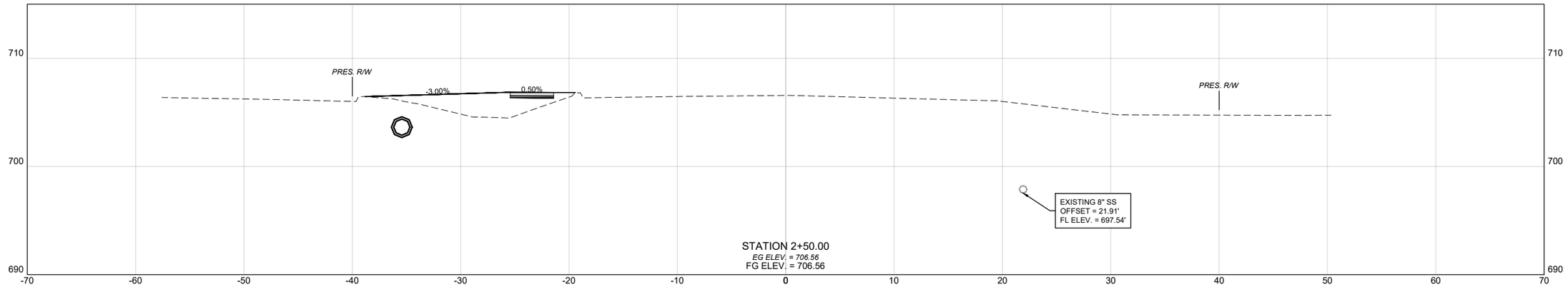

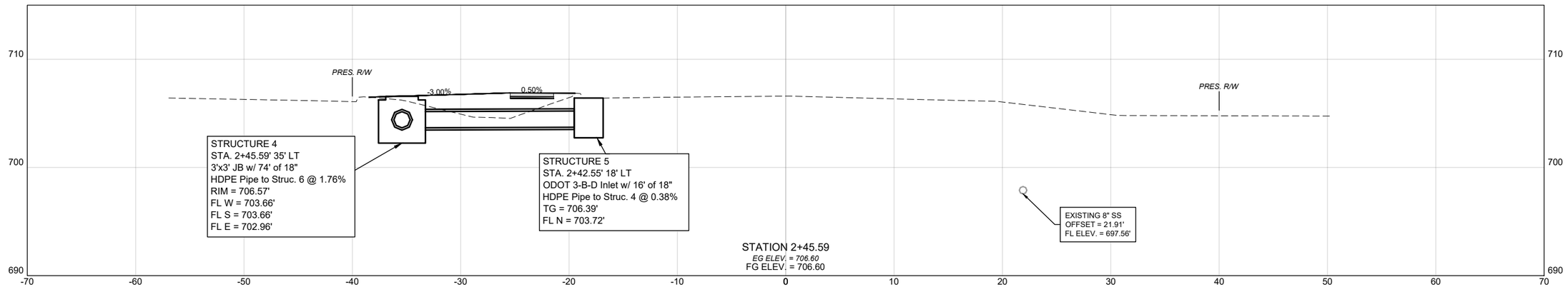

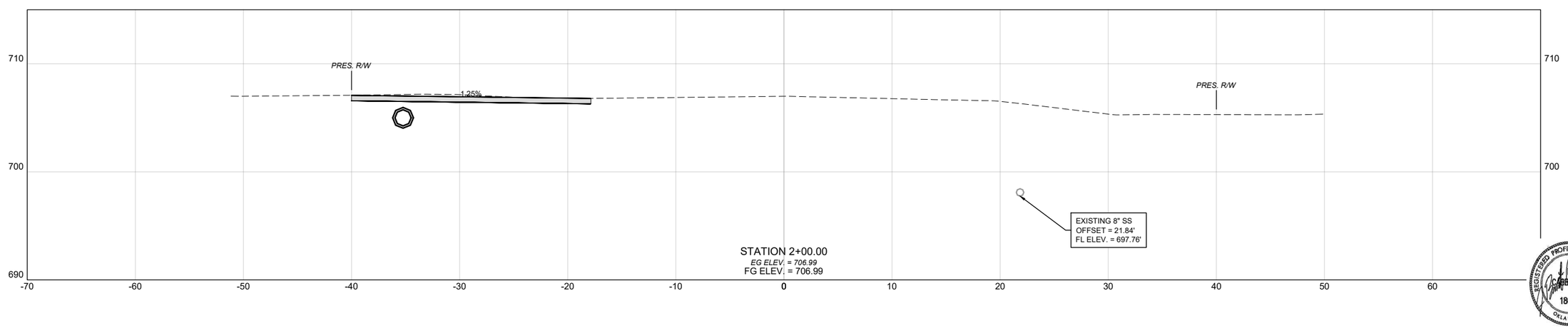

REGISTERED PROFESSIONAL ENGINEER
BRET GRINESS
18093
OKLAHOMA

Owner 11/10/2020 11:36 AM
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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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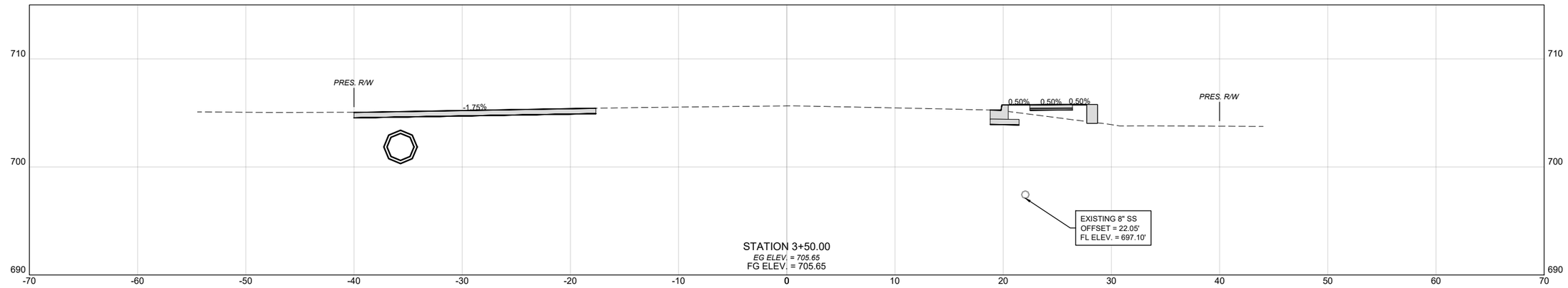

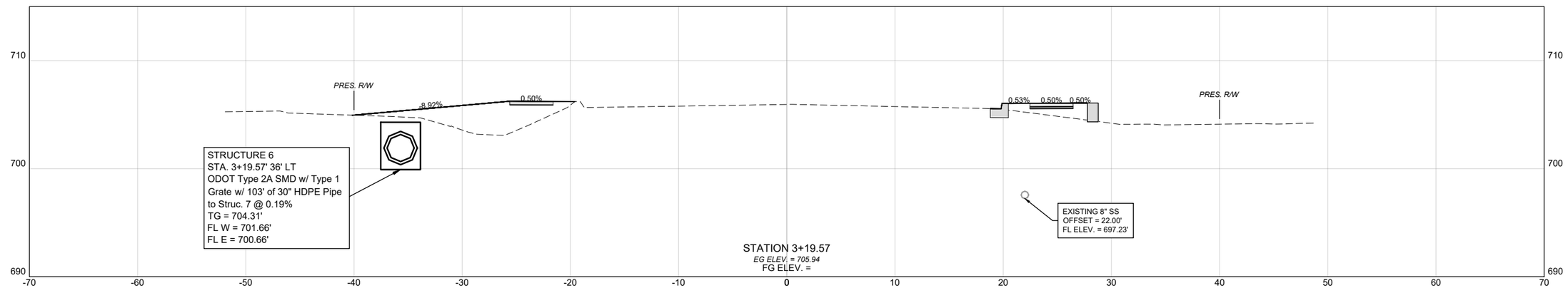

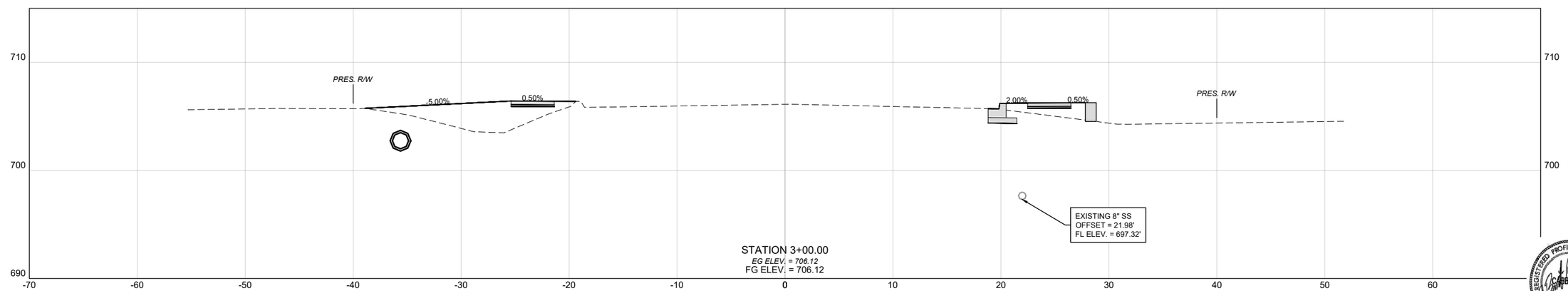

BRET CABINESS 18093 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA

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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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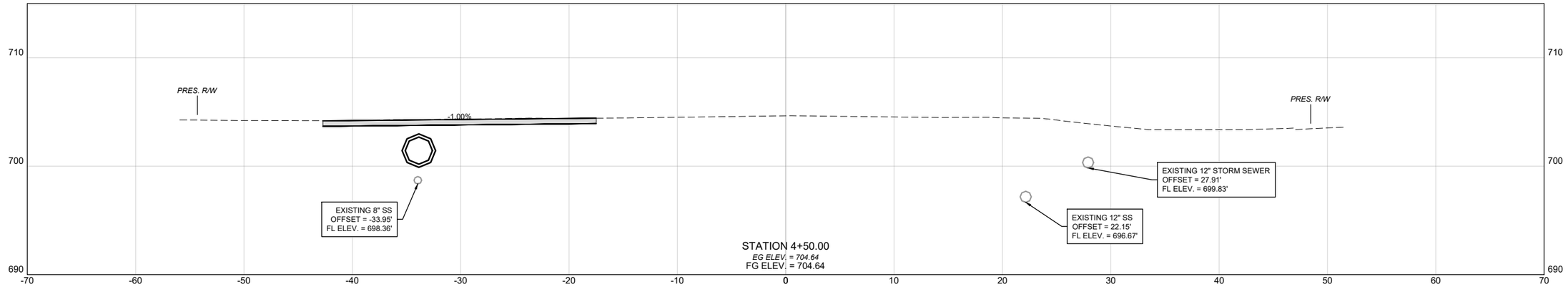

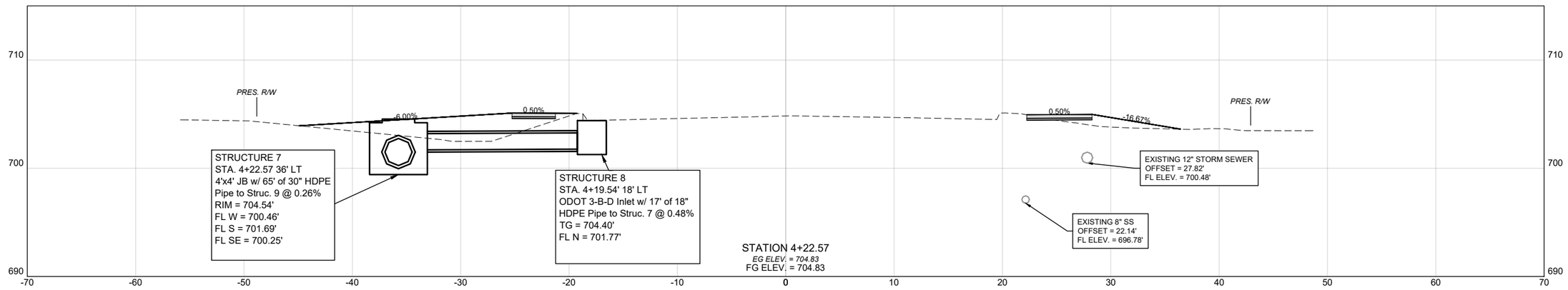

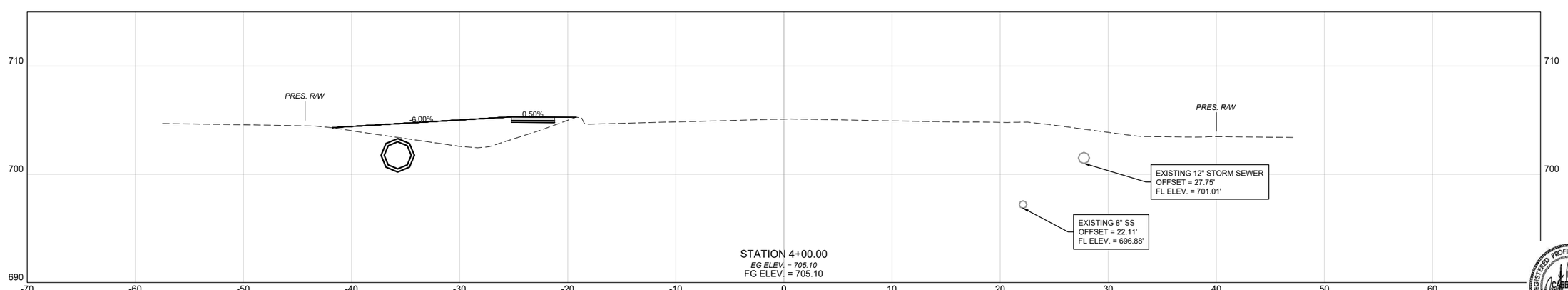

REGISTERED PROFESSIONAL ENGINEER
BRET C. GABBINESS
18093
OKLAHOMA

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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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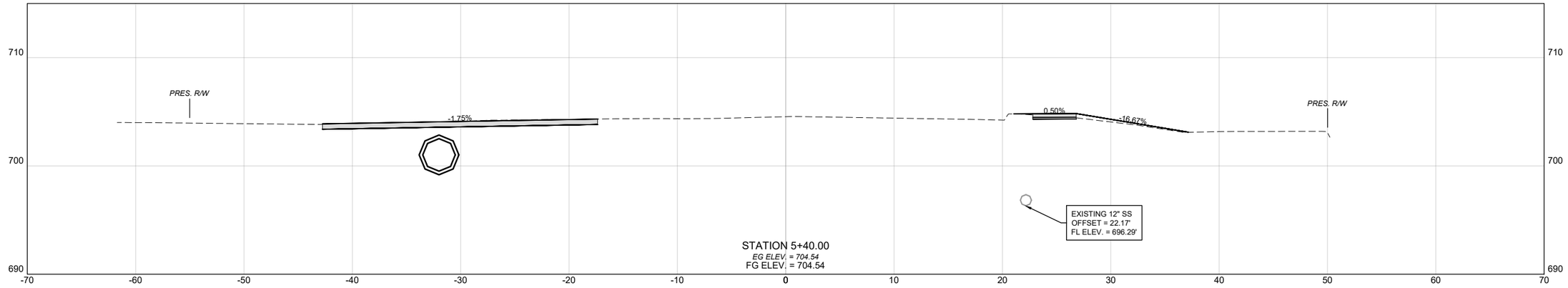

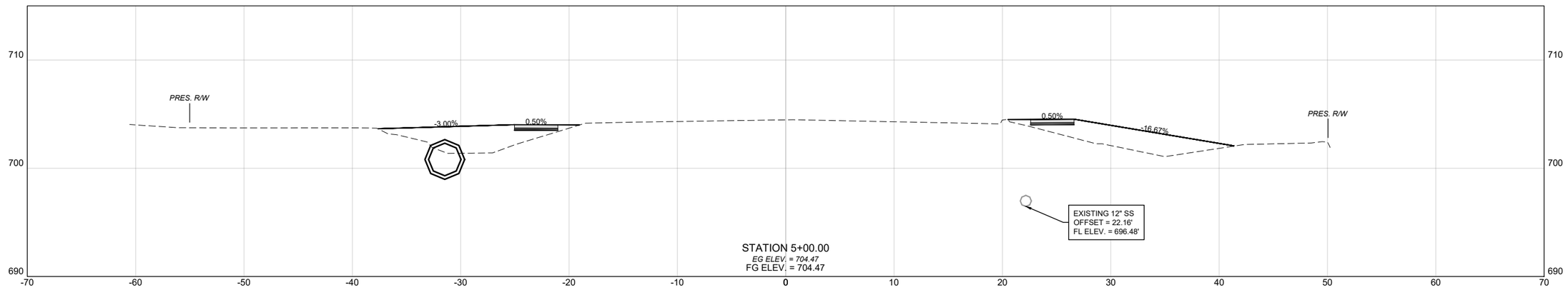

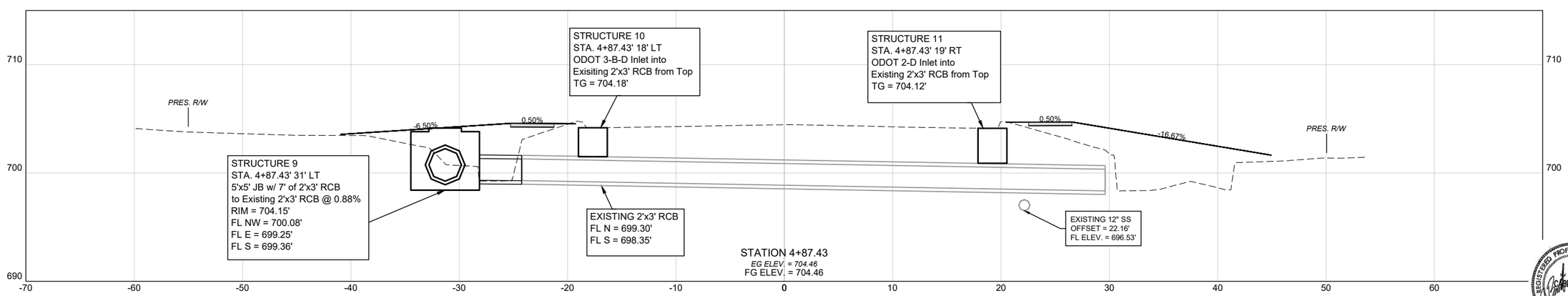

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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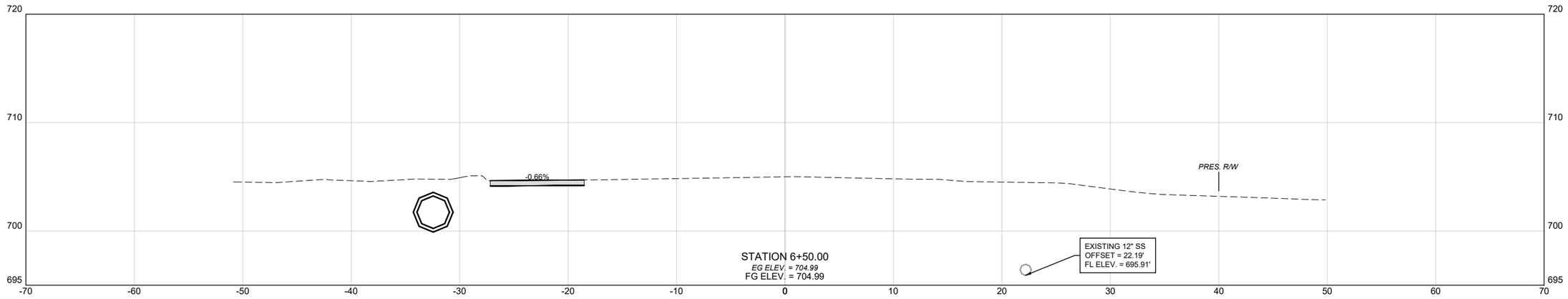

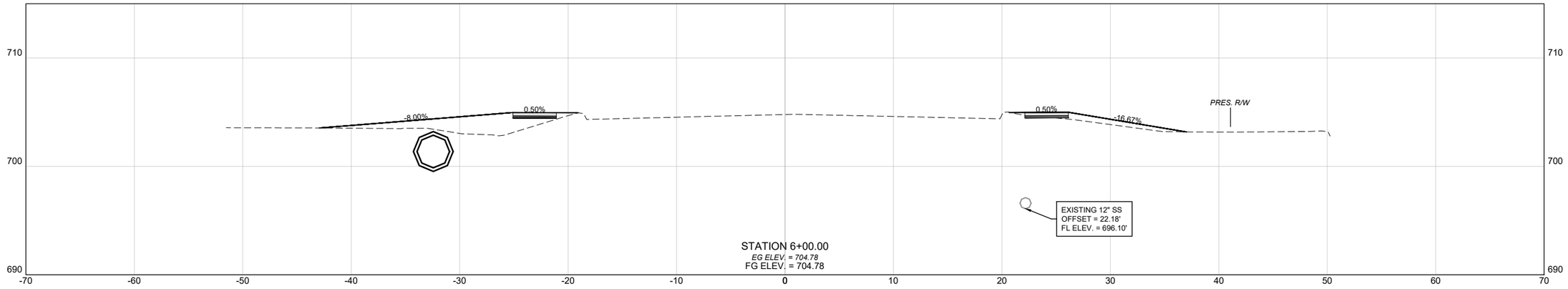

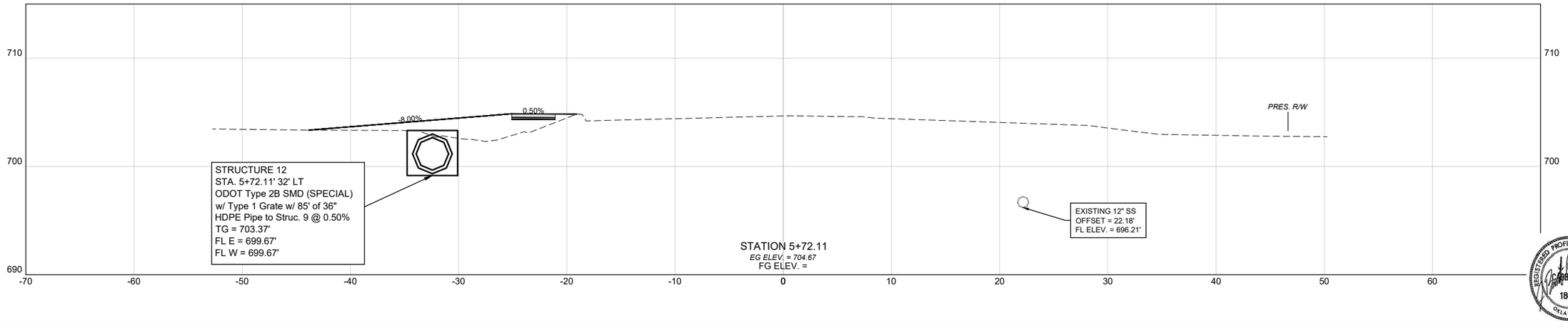

REGISTERED PROFESSIONAL ENGINEER
BRET C. BINNESS
18093
OKLAHOMA

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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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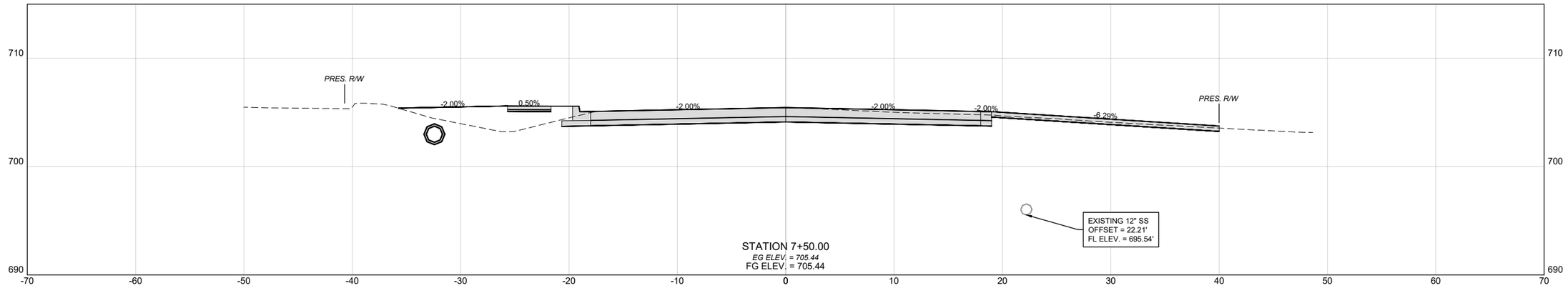

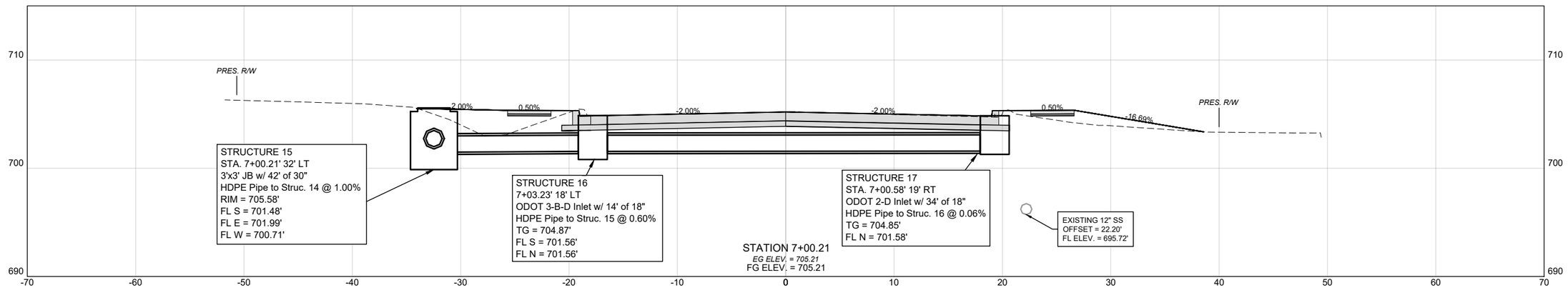

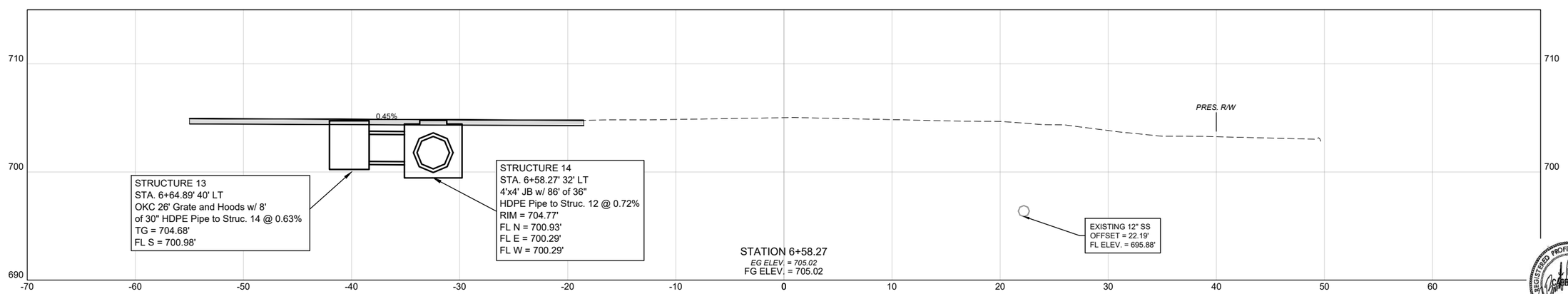

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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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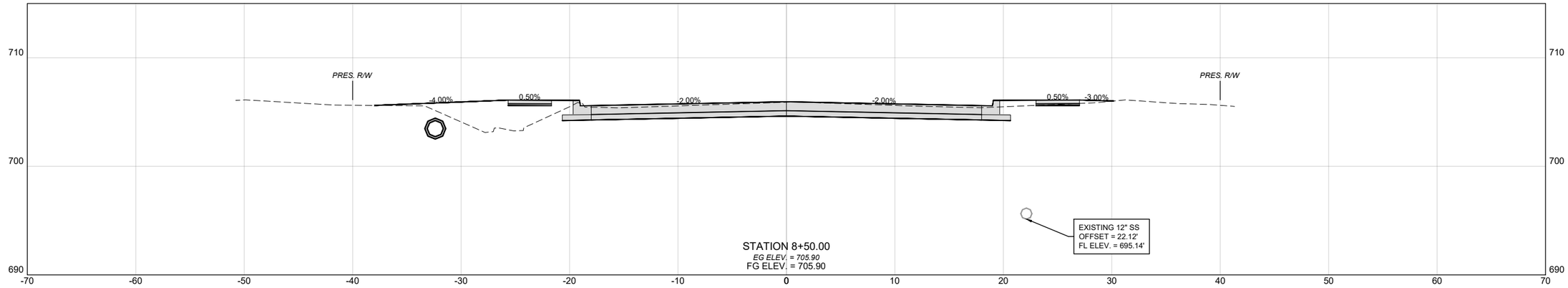

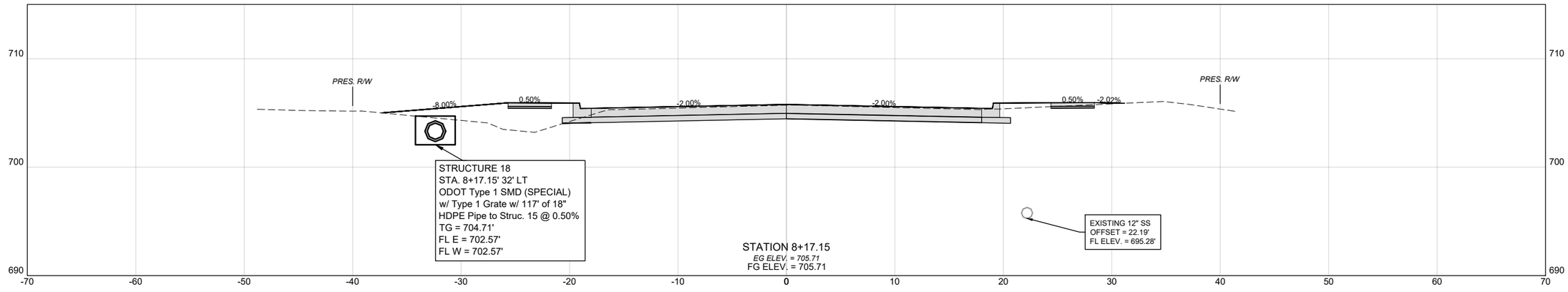

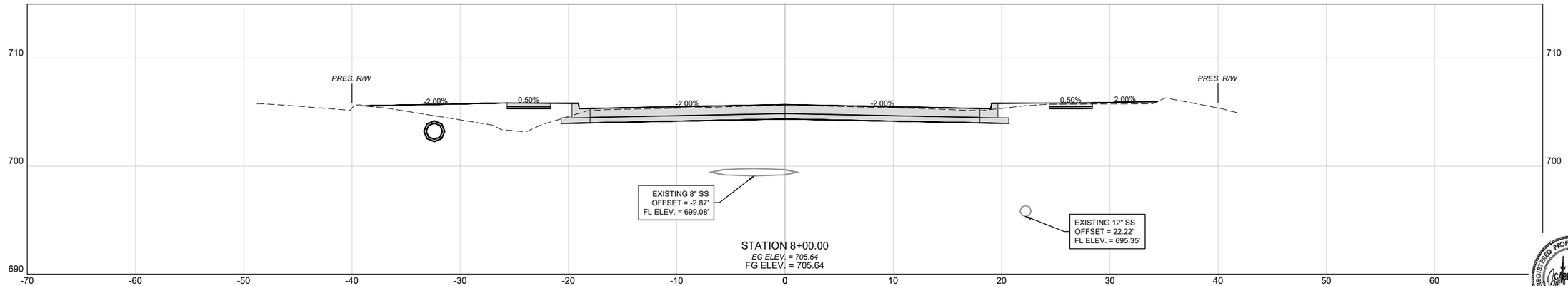

REGISTERED PROFESSIONAL ENGINEER
J. BRET CABINESS
18093
OKLAHOMA

Owner
11/10/2020 11:36 AM
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XS - (9)
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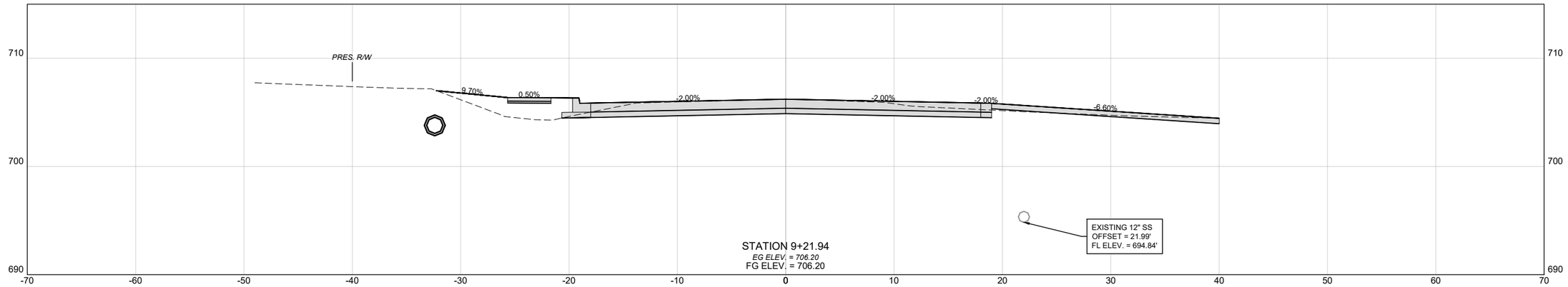
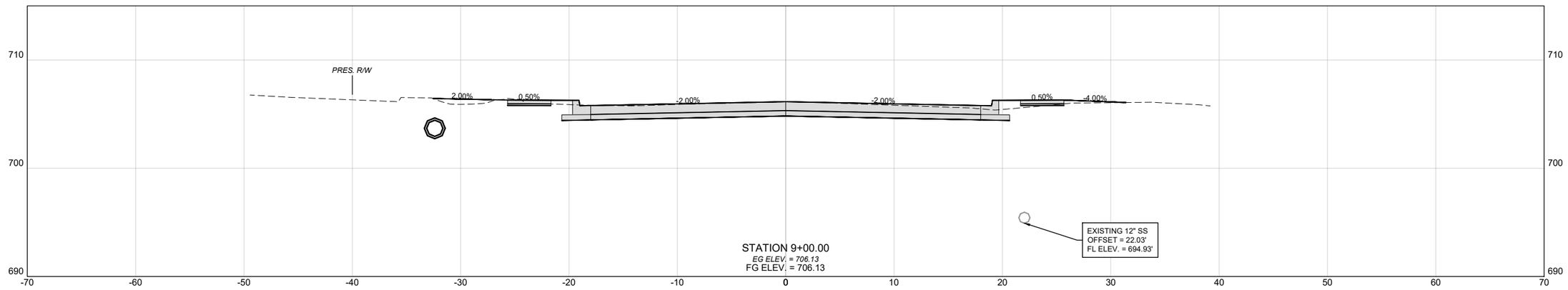
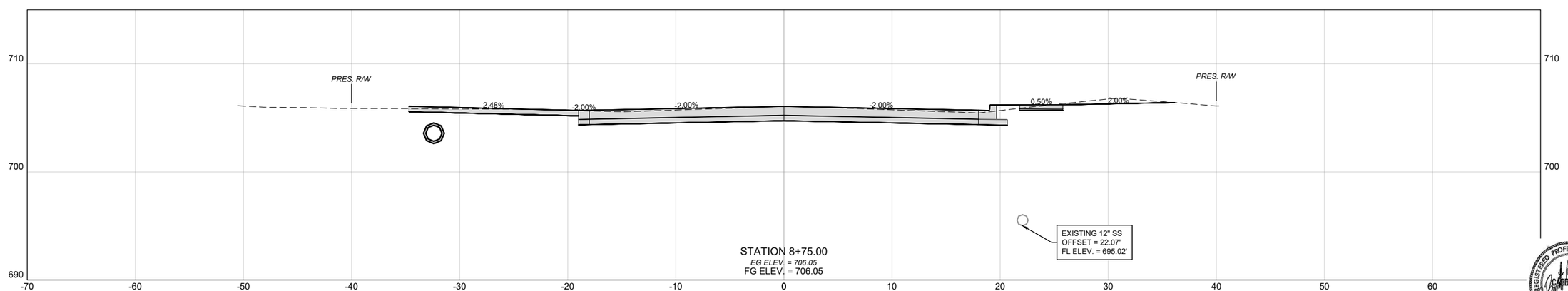
DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-4 SHEET NO. X009







REGISTERED PROFESSIONAL ENGINEER
BRET CABINESS
18093
OKLAHOMA

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XS - (10) XS - (10)

DURANT ROADWAY REHABILITATION BRYAN COUNTY

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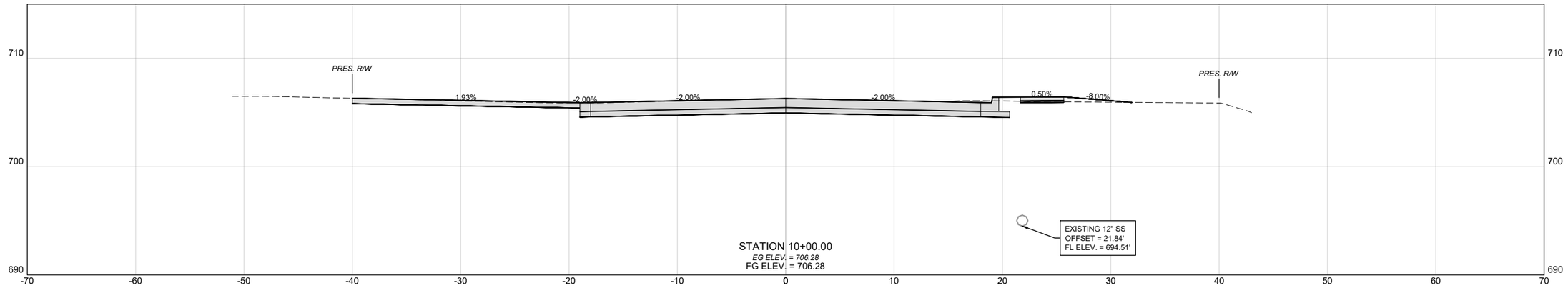

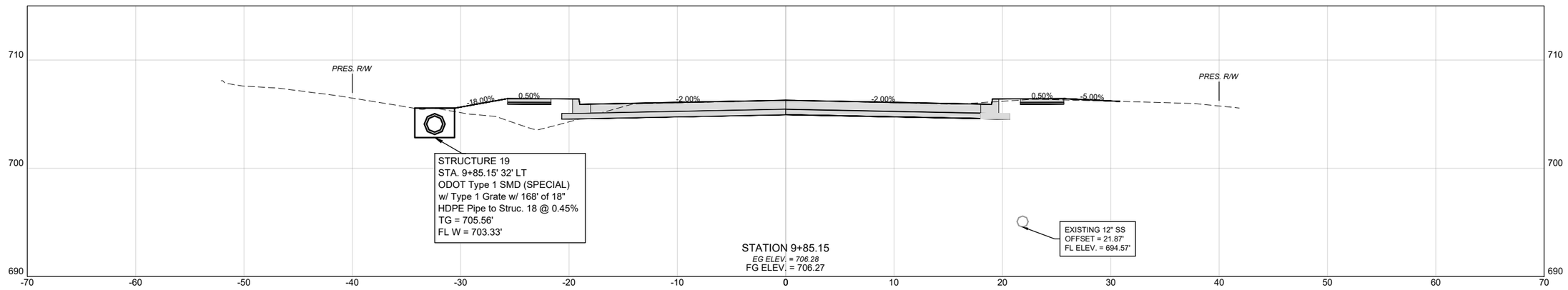

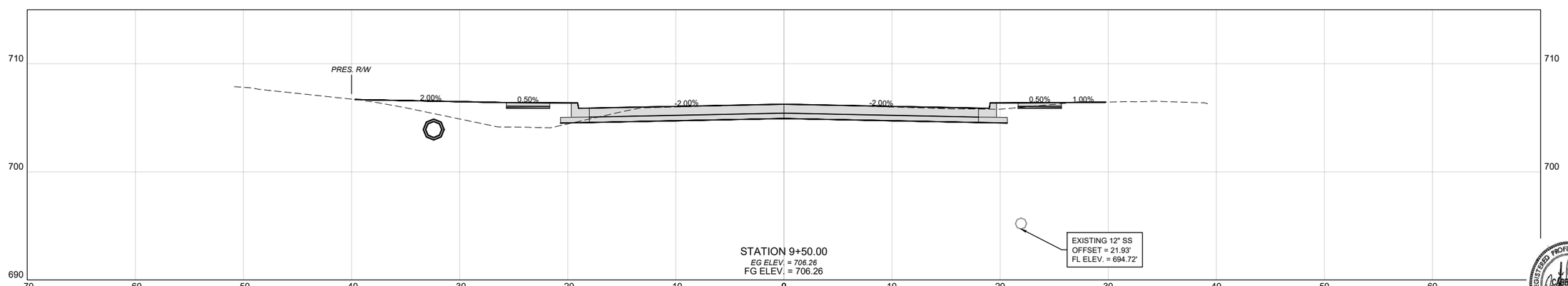

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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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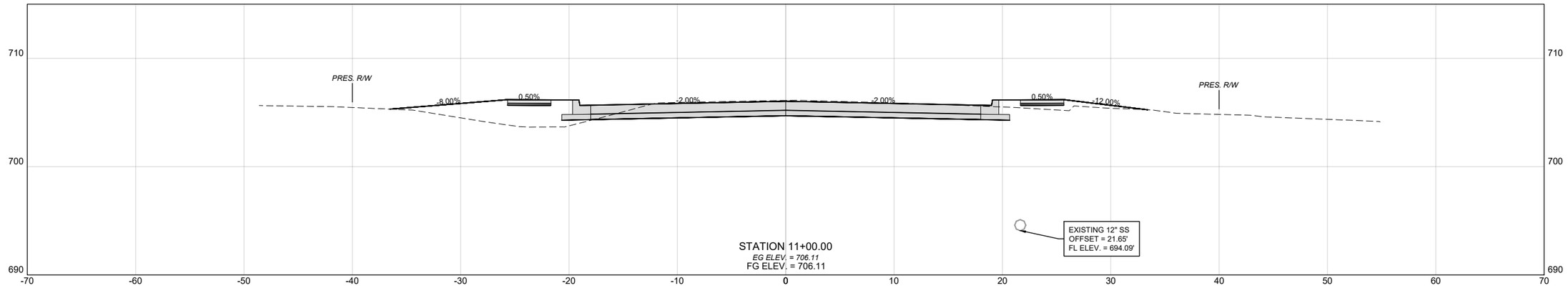

STATION 11+00.00
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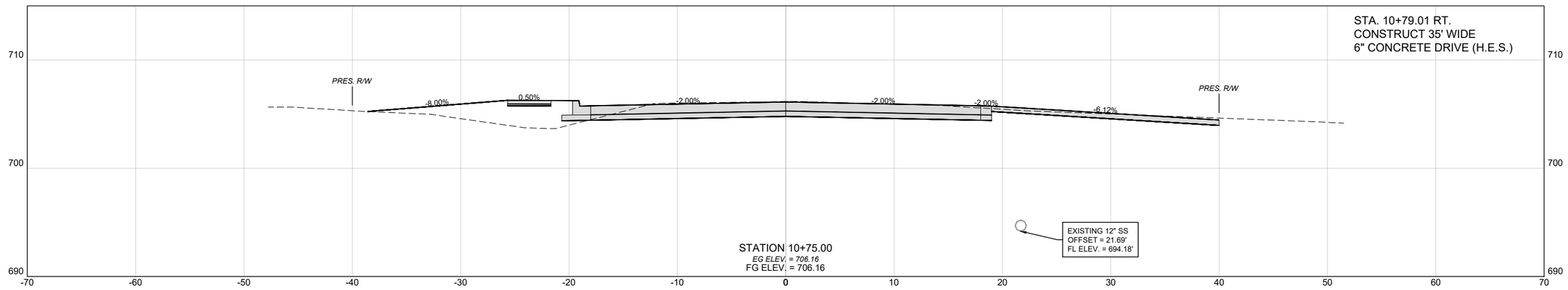
STA. 10+79.01 RT.
CONSTRUCT 35' WIDE
6" CONCRETE DRIVE (H.E.S.)



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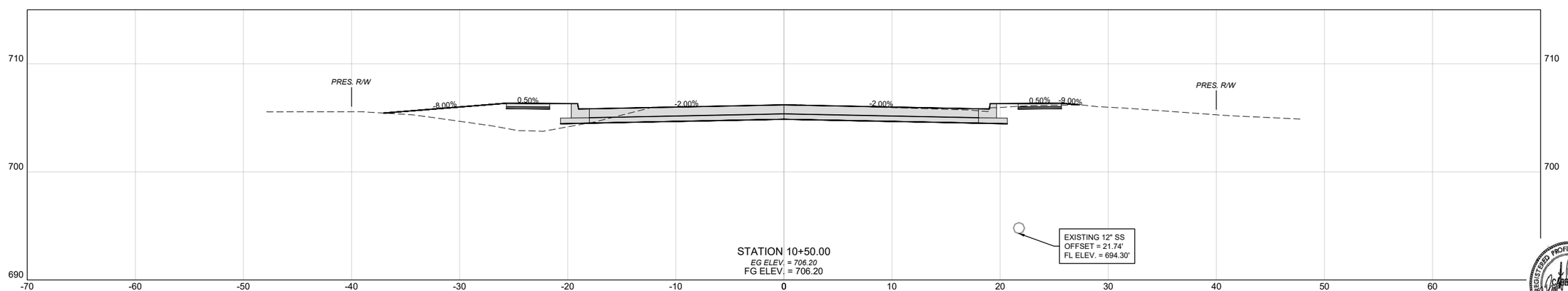

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REGISTERED PROFESSIONAL ENGINEER
BRET CABINESS
18093
OKLAHOMA

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XS - (12)

DURANT ROADWAY REHABILITATION BRYAN COUNTY

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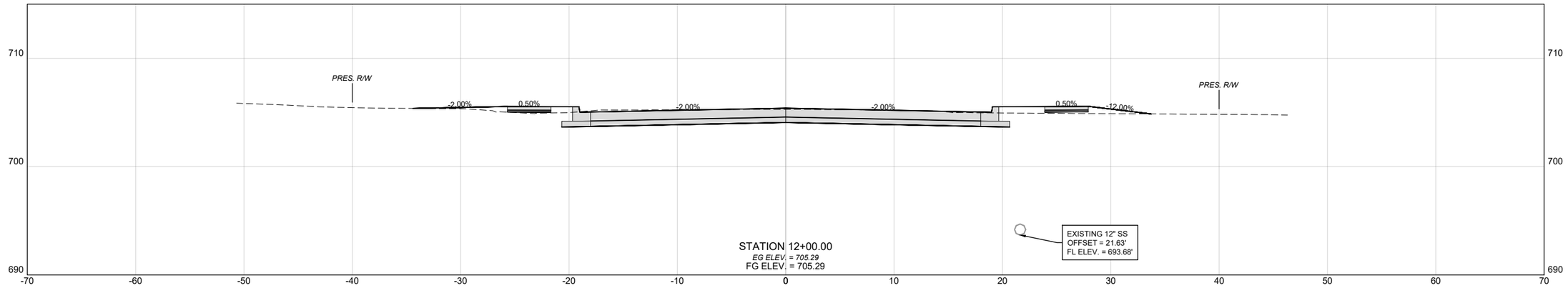

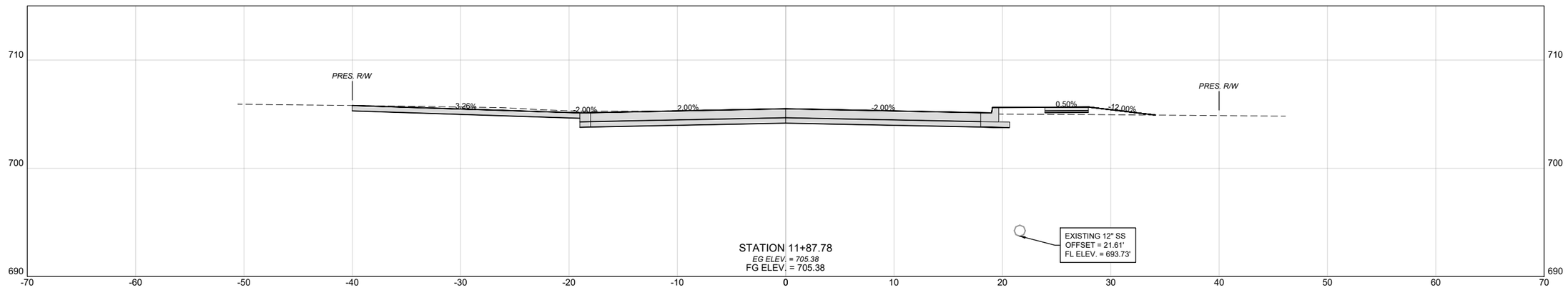

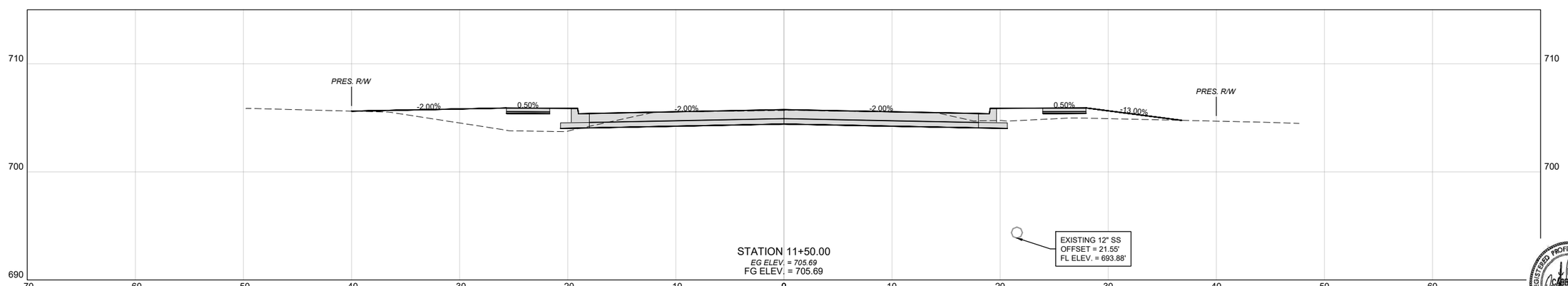

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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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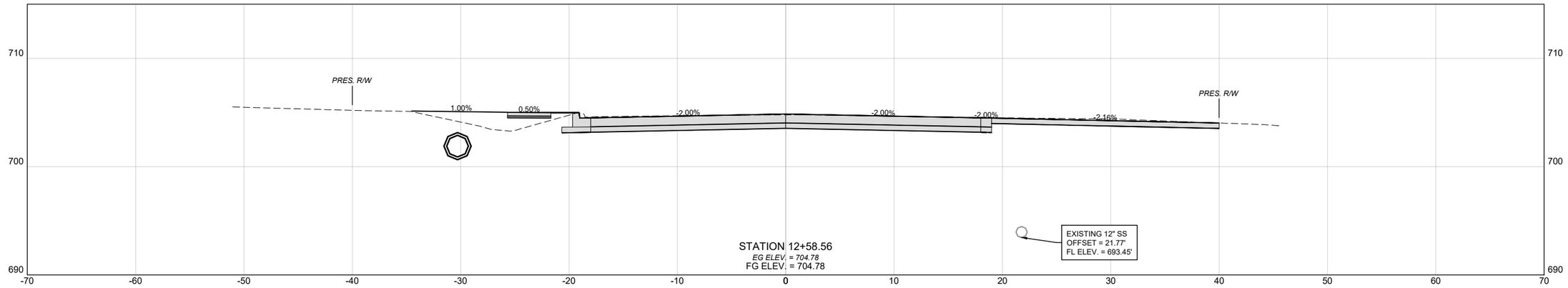

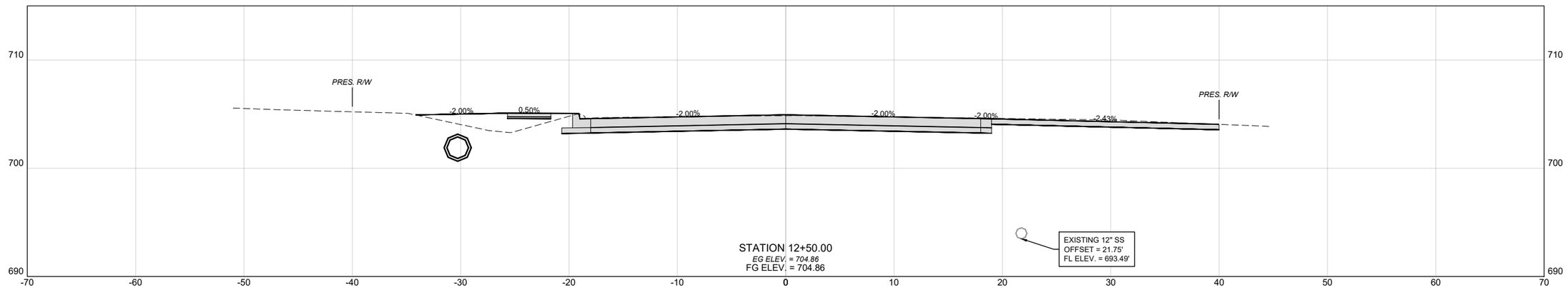

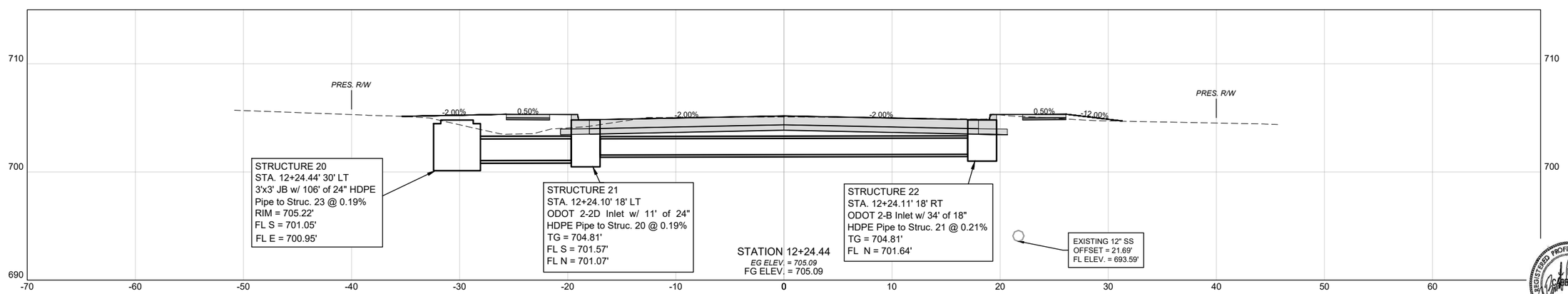

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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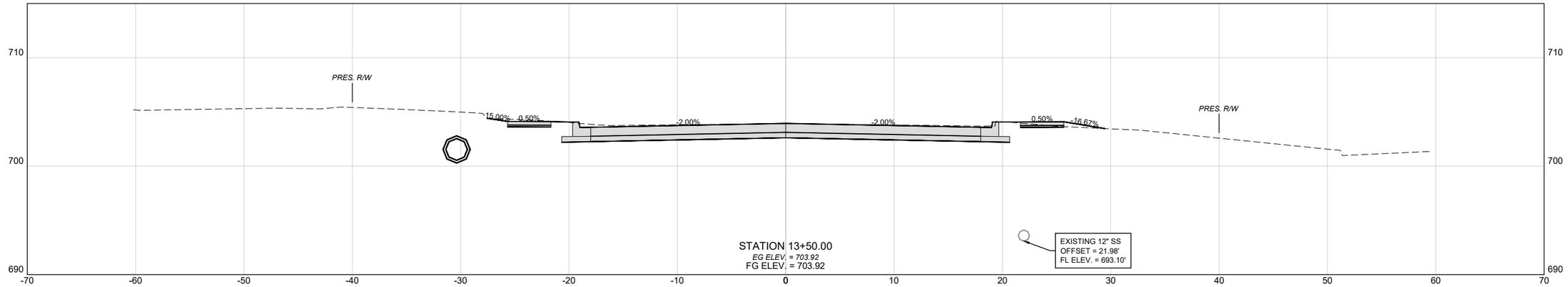

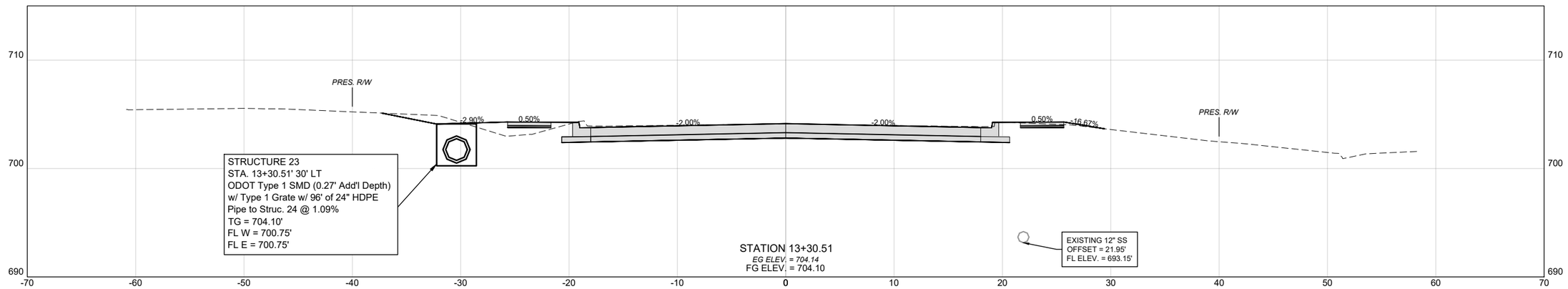

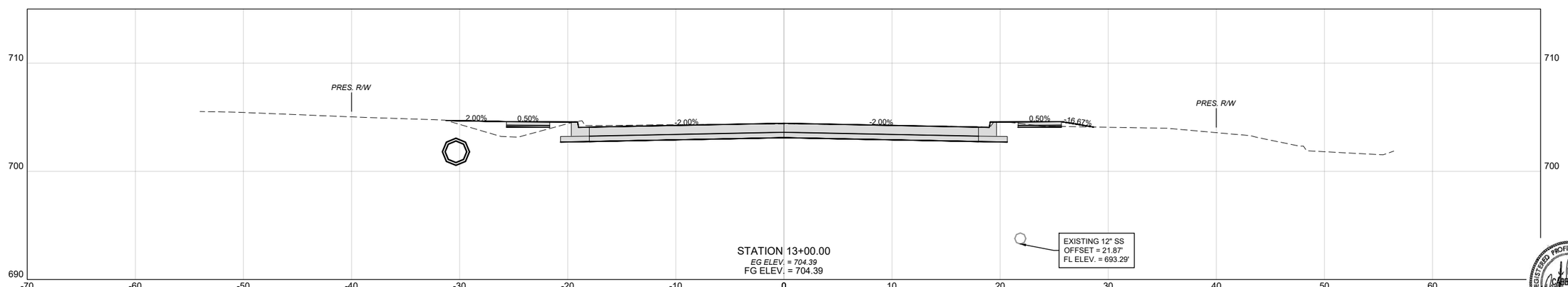

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

11/10/2020 11:36 AM
Owner
XS - (15)
XS - (15)
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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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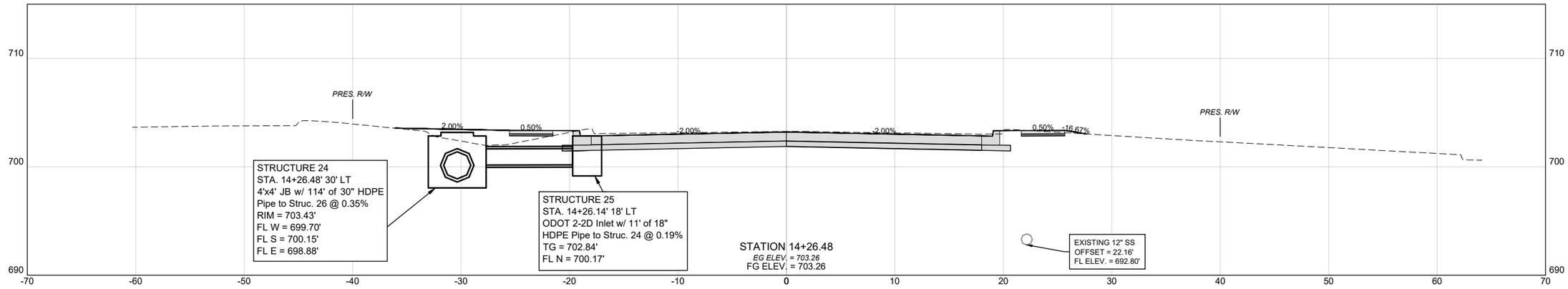

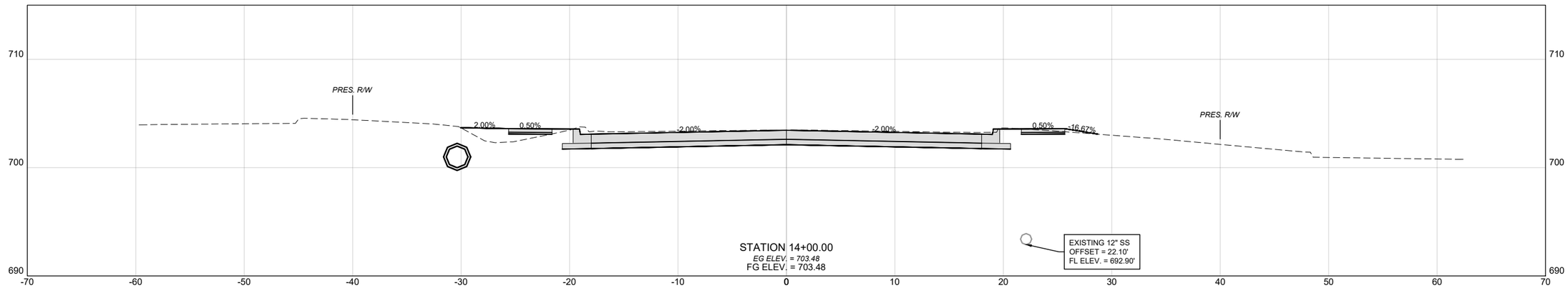

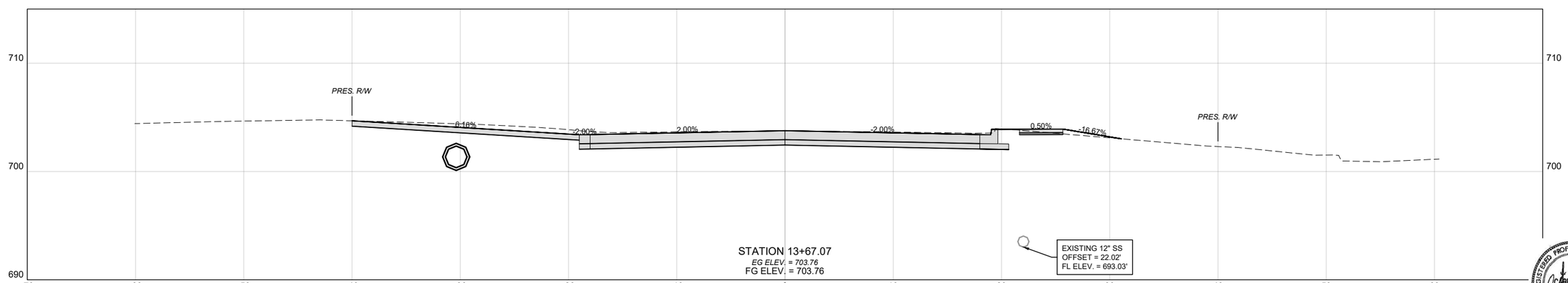

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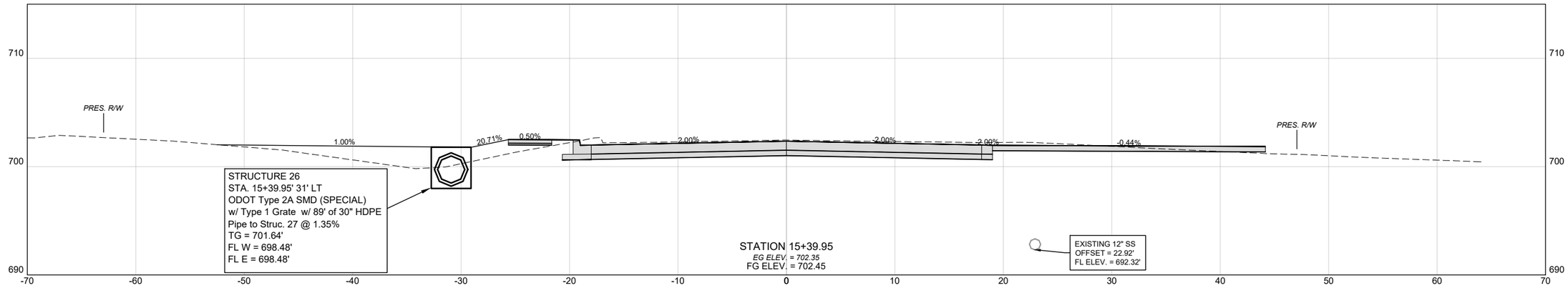
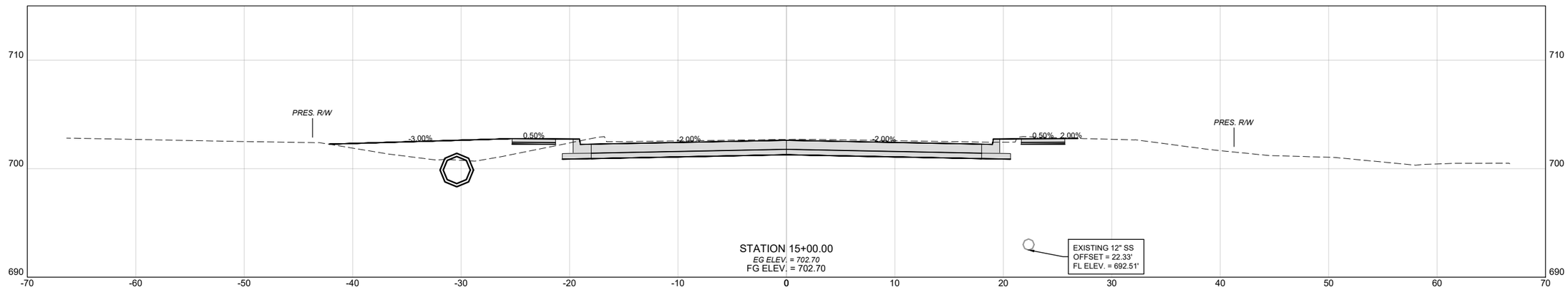
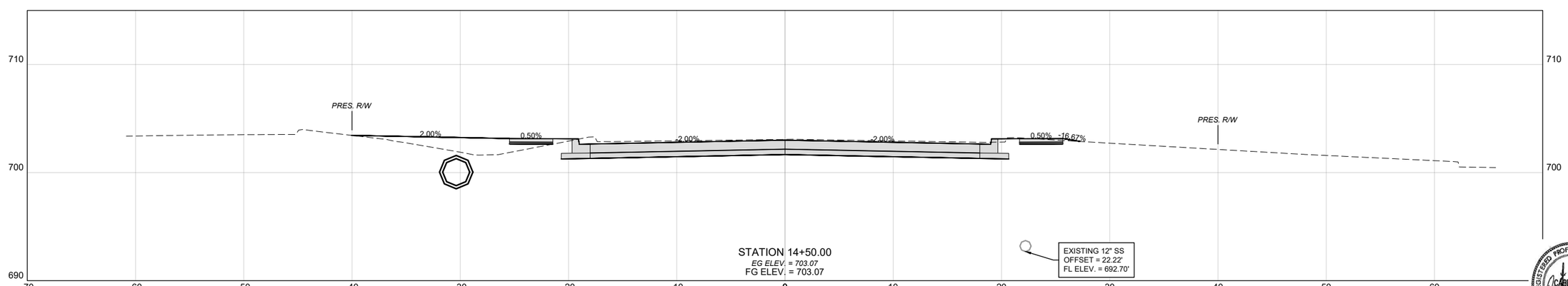
XS - (16)

DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-4 SHEET NO. X016







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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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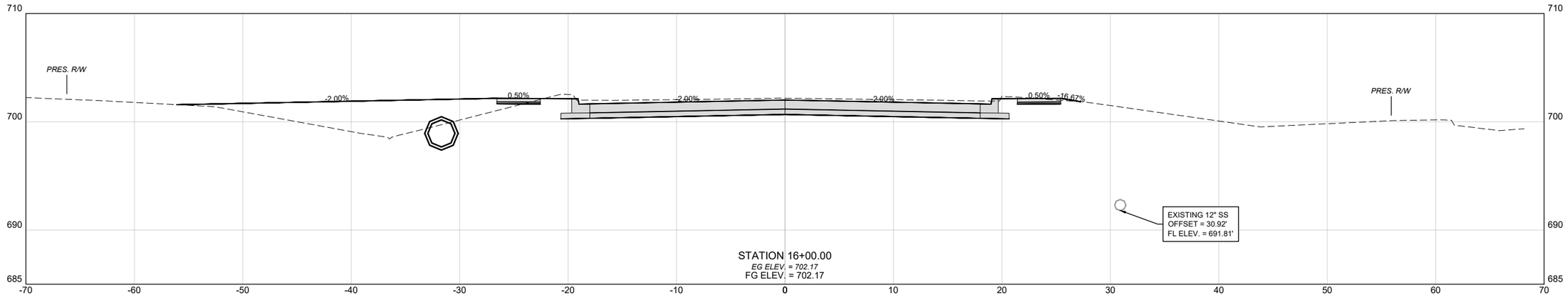
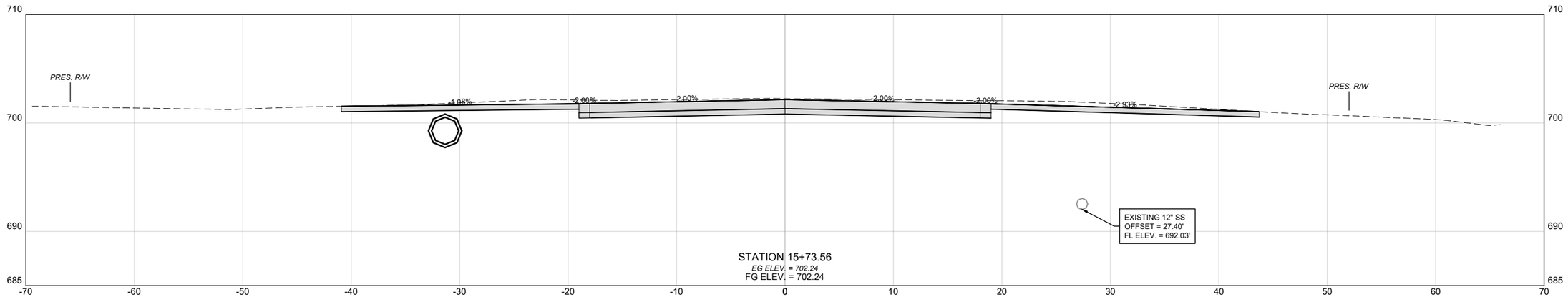
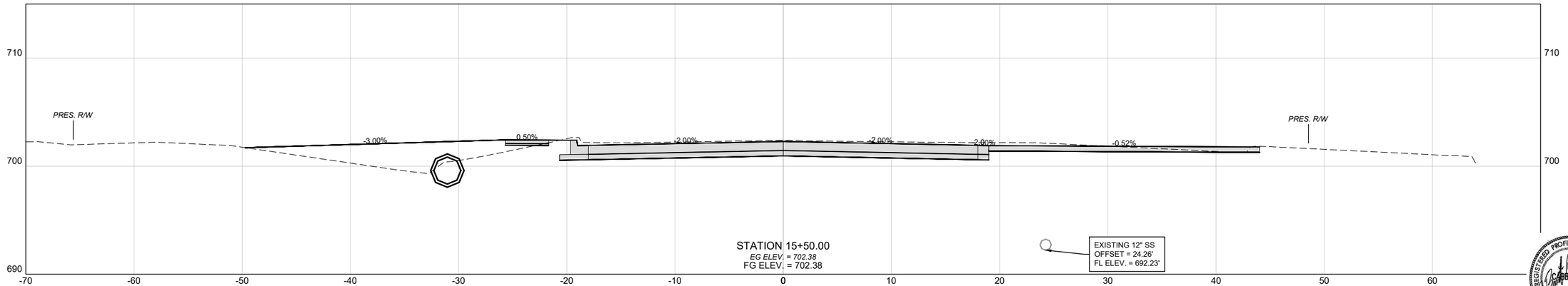




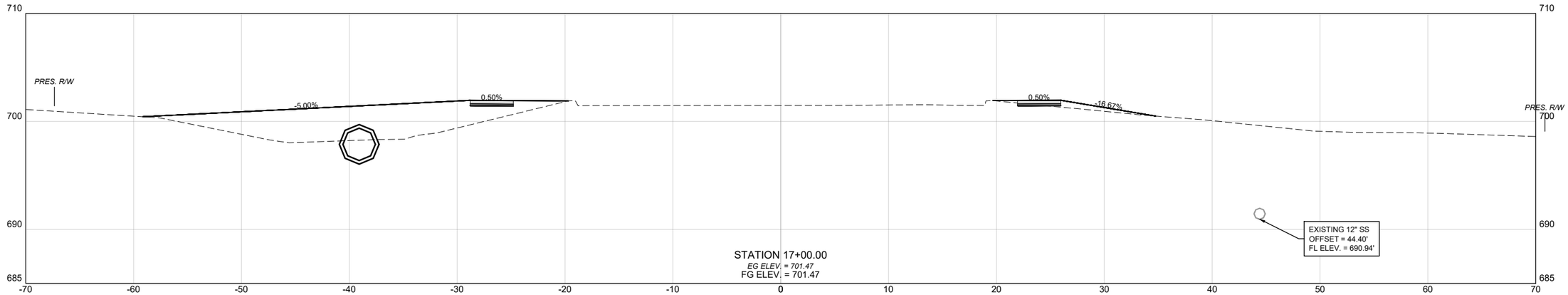


REGISTERED PROFESSIONAL ENGINEER
BRET C. GIBBINESS
18093
OKLAHOMA

11/10/2020 11:36 AM Owner
XS - (18)
XS - (18)
U:\Projects\387 ~ Durant Transportation Bond Project 4-4 Univ from Esteil to Westside\DWG\Cross Section Sheets.dwg

DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-4 SHEET NO. X018



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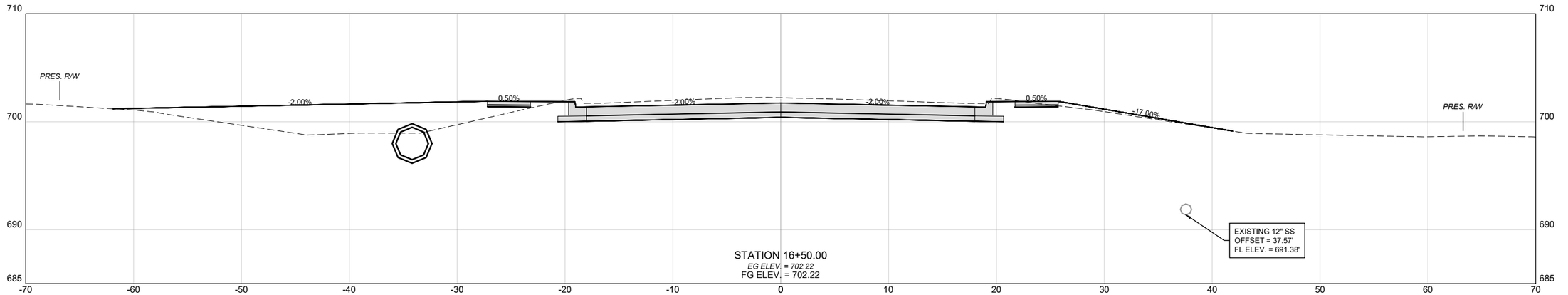

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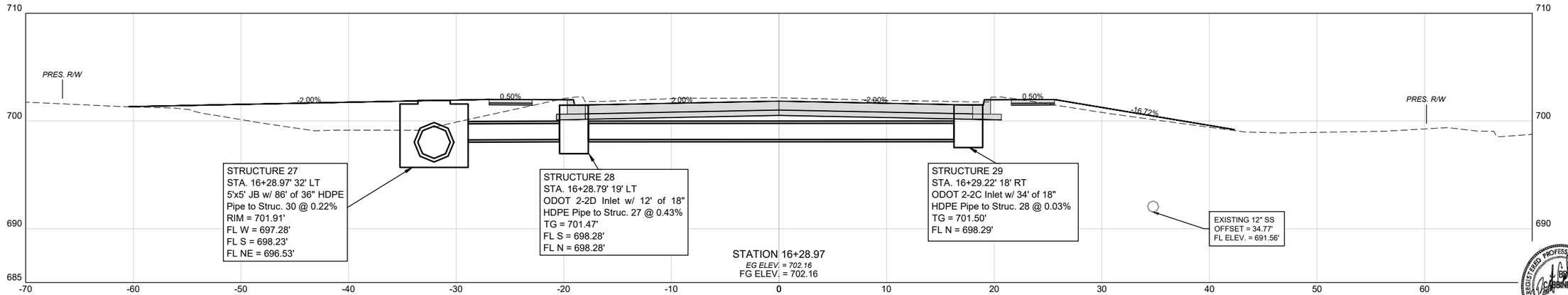

STATION 16+28.97
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FG ELEV. = 702.16

REGISTERED PROFESSIONAL ENGINEER
J. BRET CABINESS
18093
OKLAHOMA

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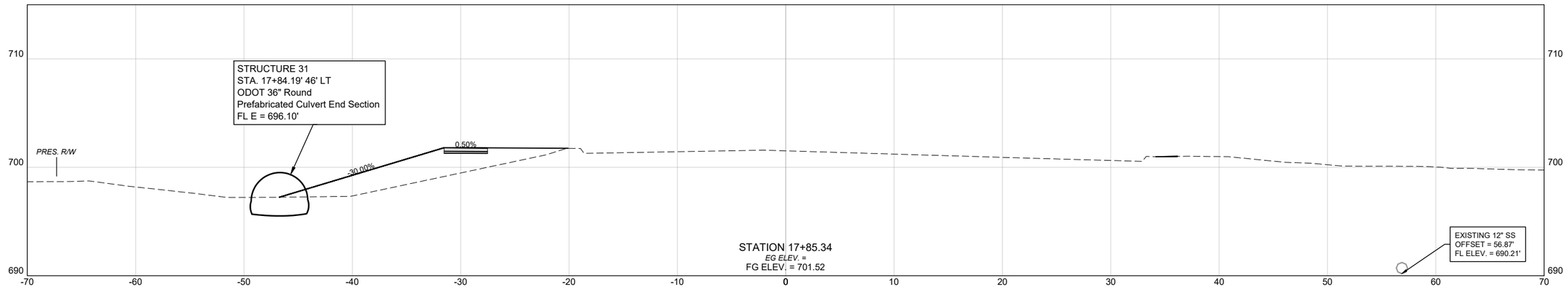
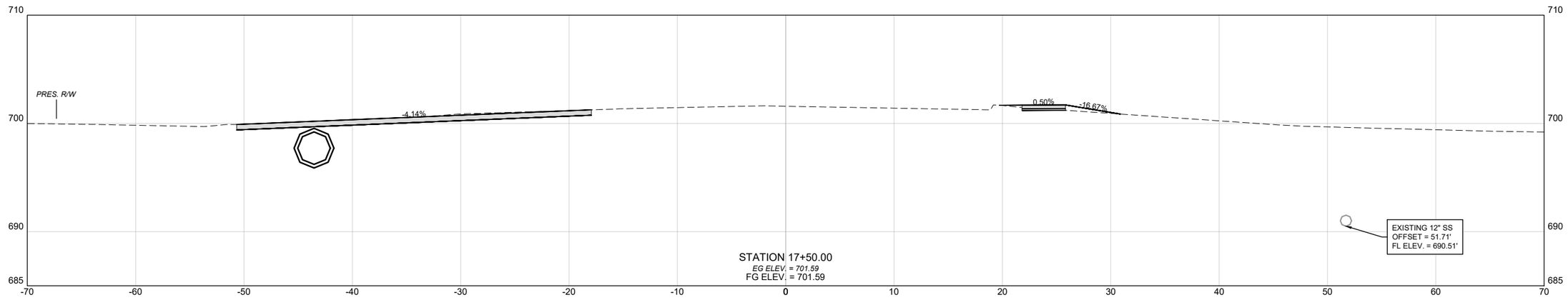
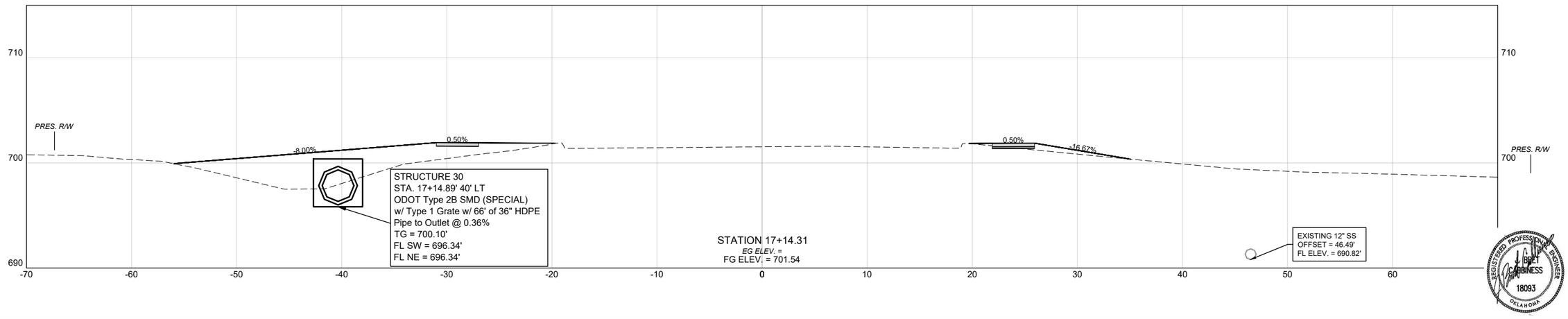
DURANT ROADWAY REHABILITATION BRYAN COUNTY







REGISTERED PROFESSIONAL ENGINEER
BRET C. GIBBINESS
18093
OKLAHOMA

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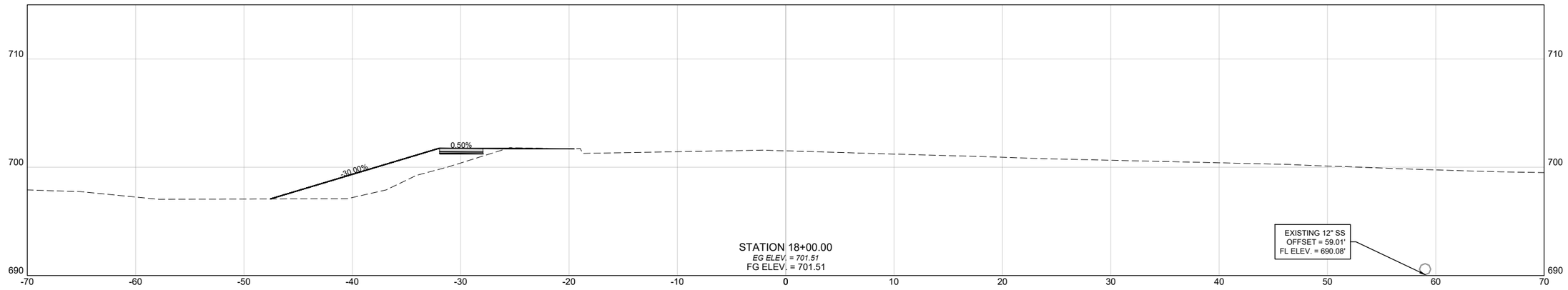
DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-4 SHEET NO. X020



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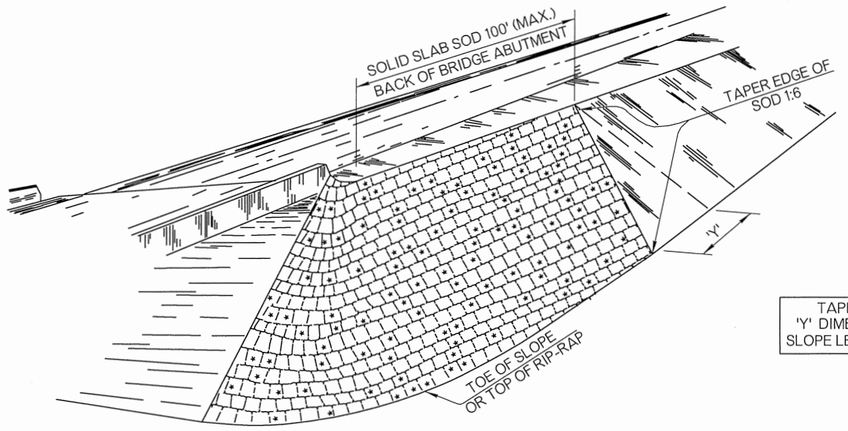
BRET C. GIBBINESS 18093 OKLAHOMA REGISTERED PROFESSIONAL ENGINEER

DURANT ROADWAY REHABILITATION BRYAN COUNTY

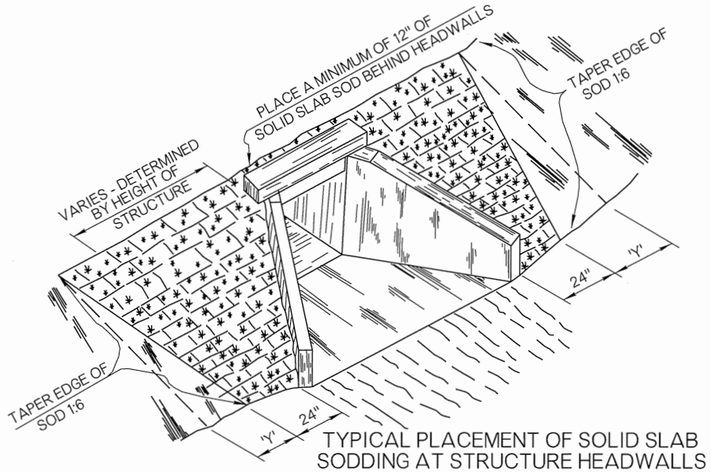
PROJECT NO. 4-4 SHEET NO. X021

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



TYPICAL PLACEMENT OF SOLID SLAB SODDING
ON FILL SLOPES, APPROACHES TO OVERPASSES AND BRIDGES.

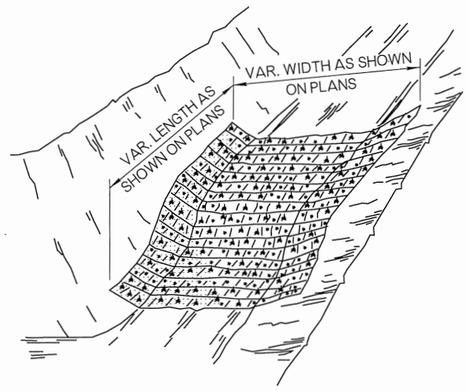
TAPER NOTE
'Y' DIMENSION =
SLOPE LENGTH x 0.17



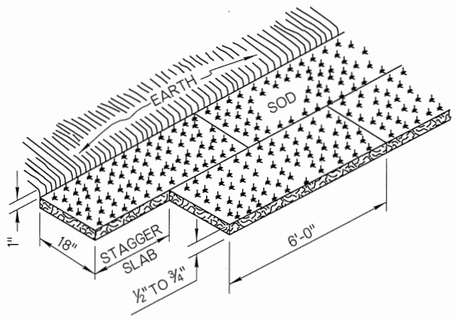
TYPICAL PLACEMENT OF SOLID SLAB
SODDING AT STRUCTURE HEADWALLS

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. SOLID SLAB SOD SHALL BE PLACED IN HORIZONTAL ROWS WITH THE LONGEST SIDE OF EACH SLAB RUNNING PARALLEL TO THE ROADWAY, AND THE SLABS IN ALTERNATE ROWS STAGGERED HALF THE LENGTH OF EACH INDIVIDUAL SLAB. ENSURE THE ROWS RUN PARALLEL TO THE ROADWAY.
3. SLABS SHALL BE CUT AND HARVESTED WITH A COMMERCIAL SOD CUTTER TO THE DIMENSIONS SHOWN, THEN LOADED, TRANSPORTED AND HANDLED ON PALLETS.
4. AFTER PLACEMENT OF SOLID SLAB SOD, EARTH AT THE OUTER EDGES OF THE PLACEMENT SHALL BE BACKFILLED AND LOOSELY COMPACTED TO AT LEAST 1" ABOVE THE TOP OF THE SOLID SLAB SODDING.
5. STAKE SOD ON ALL SLOPES 1:2 OR STEEPER, AND ON ANY AREAS THAT ARE IN SUCH CONDITION THAT THERE IS DANGER OF SOD SLIPPING. PERFORM STAKING CONCURRENTLY WITH SOD PLACEMENT AND PRIOR TO TAMPING WITH SOUND WOODEN STAKES APPROXIMATELY 1 INCH SQUARE OR 1 INCH IN DIAMETER AND NOT LESS THAN 12 INCHES IN LENGTH, OR USE METAL STAPLES IN PLACE OF WOODEN STAKES. PLACE, STAKE AND STAPLE THE SOD WHERE NECESSARY, AND AS DETERMINED BY THE ENGINEER.



TYPICAL PLACEMENT OF
SOLID SLAB SODDING IN DITCHES



SOLID SLAB SODDING
(MARCH 1 THRU AUGUST 31)

THE PLACEMENT OF SOLID SLAB SOD SHALL BE RESTRICTED TO THE PERIOD FROM MARCH 1 THRU AUGUST 31, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
230(A)	SOLID SLAB SODDING	SY

APPROVED BY
ROADWAY ENGINEER: Caleb F. A. DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

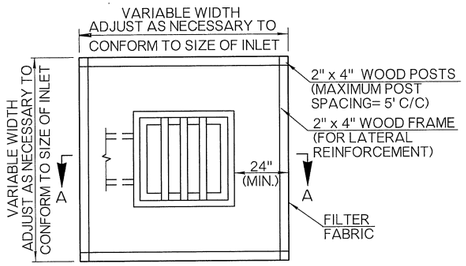
SOLID SLAB SODDING

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

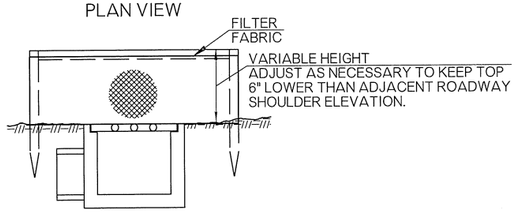
SSS-1 | 1

OKLAHOMA DEPARTMENT OF TRANSPORTATION

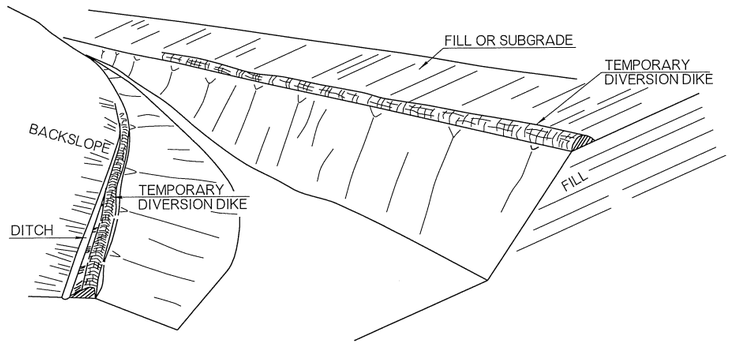
STANDARD REVISIONS	
DESCRIPTION	DATE



PLAN VIEW



SECTION A - A
SEDIMENT FILTER



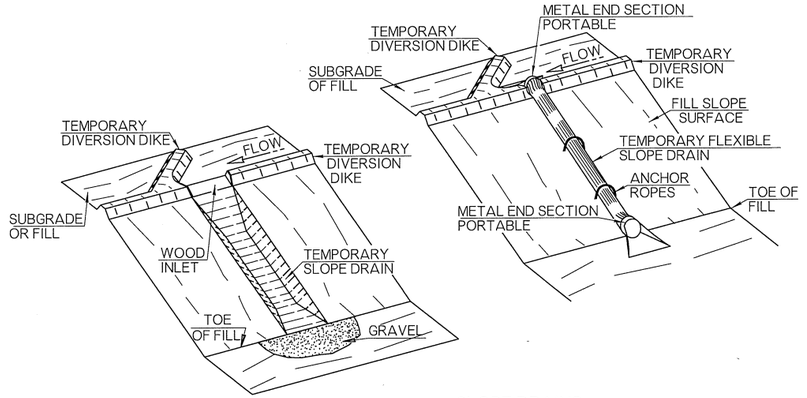
DIVERSION DIKES

TEMPORARY SEDIMENT FILTER

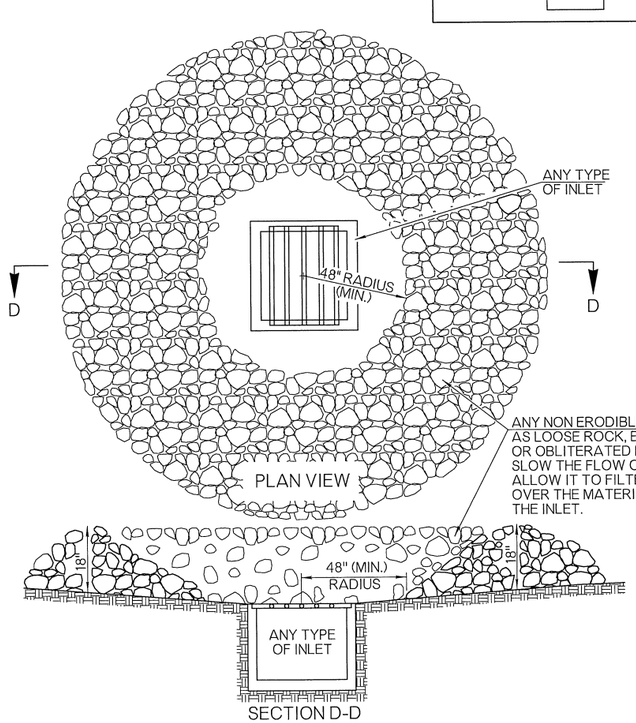
SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

TSF
#

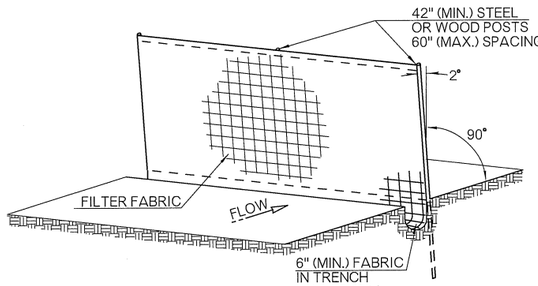


SLOPE DRAINS



SECTION D-D

SEDIMENT FILTER
(TYPE II)

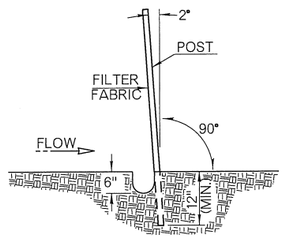


TEMPORARY SILT FENCE
RECOMMENDED TOE-IN METHOD

TEMPORARY SILT FENCE

SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS



TEMPORARY SILT FENCE
SECTION

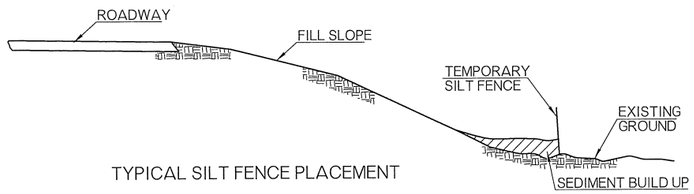
TEMPORARY SLOPE DRAIN

SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. COST OF TEMPORARY DIVERSION DIKES TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.



TYPICAL SILT FENCE PLACEMENT

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
221 (A)	TEMPORARY SLOPE DRAINS	LF
221 (C)	TEMPORARY SILT FENCE	LF
221 (D)	TEMPORARY SEDIMENT FILTER	EA

APPROVED BY
ROADWAY ENGINEER: Caleb F. H DATE 04/16/15

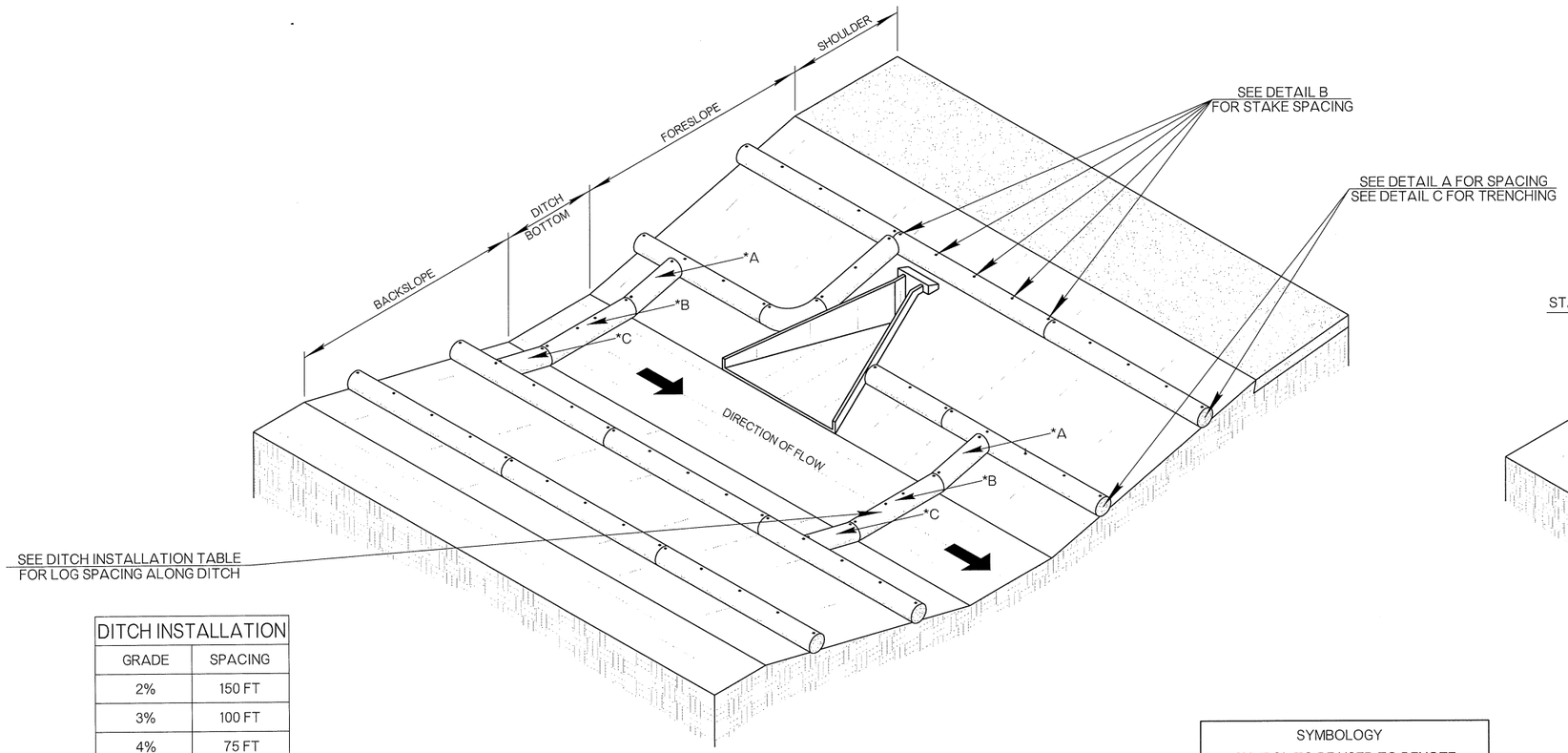
ROADWAY DESIGN DIVISION STANDARD

TEMPORARY SEDIMENT CONTROLS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

TSC2-3	2

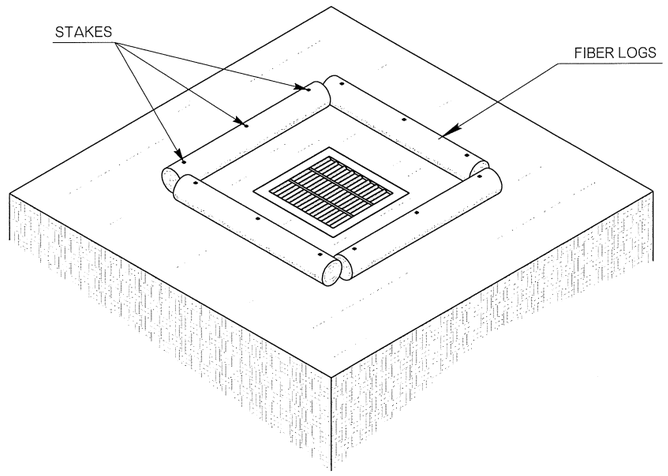
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



DITCH INSTALLATION	
GRADE	SPACING
2%	150 FT
3%	100 FT
4%	75 FT
5%	50 FT

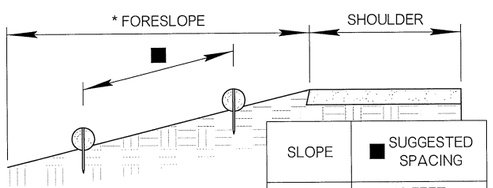
* NOTE: POINTS 'A' AND 'C' ARE HIGHER THAN POINT 'B'.

SUGGESTED PLACEMENT AROUND CROSSDRAINS, ON SLOPES, AND ACROSS DITCH BOTTOM.



TEMPORARY INLET PROTECTION

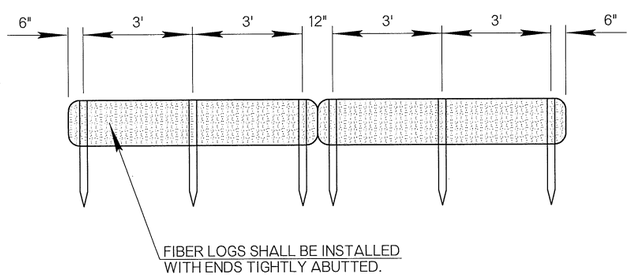
SYMBOLOGY
SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS



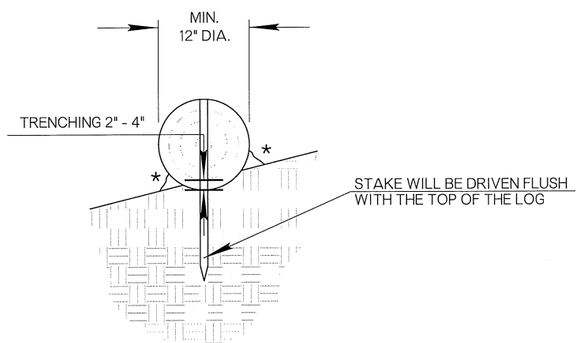
SLOPE	SUGGESTED SPACING
1:1	10 FEET
1:2	20 FEET
1:3	30 FEET
1:4	40 FEET
1:6	60 FEET

* NOTE: SPACING APPLIES FOR BACKSLOPES AS WELL AS FORESLOPES.

DETAIL A - CROSS SECTION VIEW



DETAIL B - FIBER LOG FRONT VIEW



* AREAS TO BE FILLED WITH COMPACTED SOIL TAKEN FROM THE EXCAVATED TRENCH.

DETAIL C - TRENCHING

GENERAL NOTES

1. FIBER LOGS ARE TO BE INSTALLED AND MAINTAINED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.
2. TRENCHING OF LOGS SHALL BE 2" TO 4" INTO SOIL. BEFORE TRENCHING, REMOVE ALL ROCKS, VEGETATION OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED LOGS WILL HAVE DIRECT CONTACT WITH SOIL. THERE SHALL NOT BE ANY GAPS BETWEEN THE LOGS AND THE SOIL.
3. STAKES DRIVEN INTO LOGS SHOULD BE MADE OF WOOD. METAL STAKES MAY BE USED IN PLACE OF WOOD STAKES IN AREAS WHERE WOOD STAKES ARE UNABLE TO BE DRIVEN, OR IF APPROVED BY THE ENGINEER. WOOD STAKES SHALL BE ¾" BY ¾" MINIMUM. LENGTH OF STAKES SHALL BE TWICE THE DIAMETER OF THE LOG.
4. LOGS MAY BE MADE OF STRAW, EXCELSIOR, COIR OR OTHER SIMILAR MATERIAL AS APPROVED BY THE ENGINEER. FIBER NET SURROUNDING THE LOG MAY BE SYNTHETIC MATERIAL OR A NATURAL FIBER.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
221 (K)	TEMPORARY FIBER LOG	LF

APPROVED BY ROADWAY ENGINEER _____ DATE 04/16/15

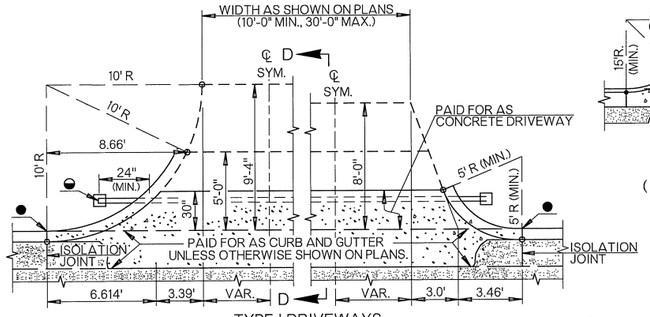
ROADWAY DESIGN DIVISION STANDARD

TEMPORARY FIBER LOG

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

TFL-1 | 1

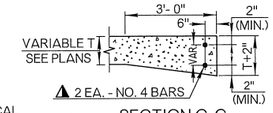
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



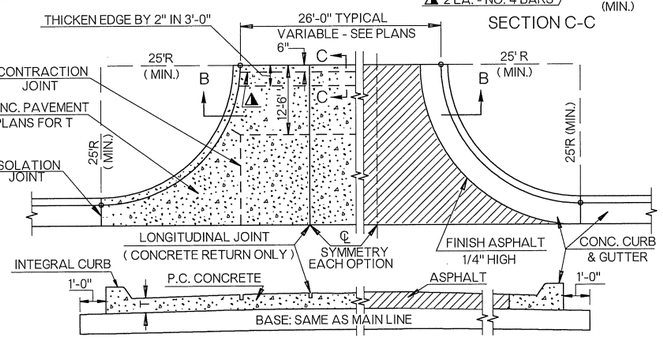
TYPE I DRIVEWAYS
(PRIVATE OR RESIDENTIAL)

◒ IF SPECIFIED IN THE PLANS, CONSTRUCT CONDUIT CROSSING OF THE SPECIFIC SIZE AND TYPE AT APPROXIMATELY 30" BELOW FINISHED GRADE OF THE RAMP. SEE GENERAL NOTES FOR DETAILS.

● BEGIN ROLL CURB. TERMINATE CURB & GUTTER.



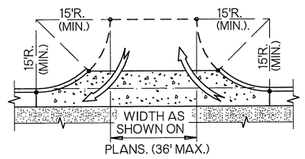
SECTION C-C



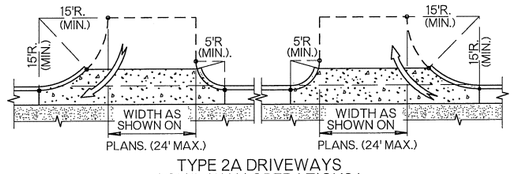
ALT. SECTION B-B
CONCRETE RETURN

ALT. SECTION B-B
ASPHALT RETURN
(WHERE CURB AND GUTTER IS USED)

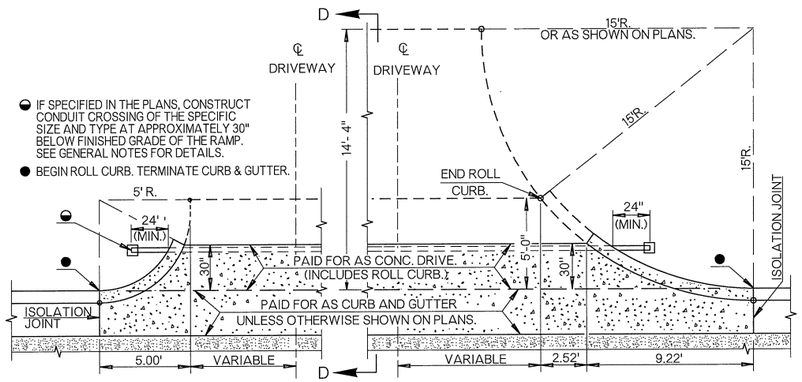
TYPICAL STREET RETURN



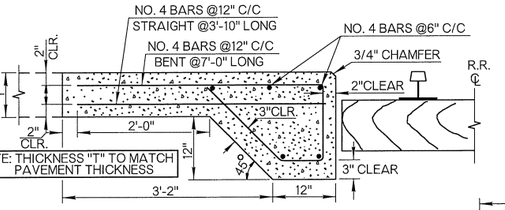
TYPE 2 DRIVEWAY
(TWO -WAY OPERATION)



TYPE 2A DRIVEWAYS
(ONE -WAY OPERATIONS)

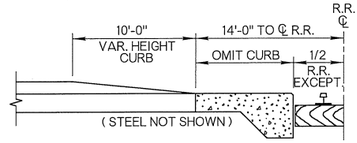


TYPE 2 & 2A COMMERCIAL DRIVEWAYS

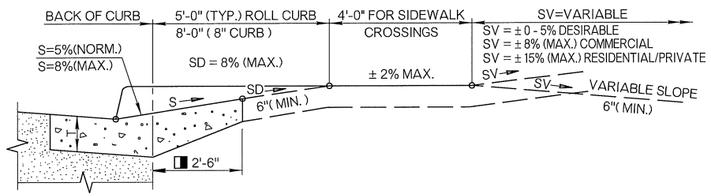


P. C. RAILROAD APPROACH SLAB WITH
THICKENED EDGE AT RAILROAD CROSSING

THICKENED EDGE OF CONCRETE RAILROAD APPROACH SLAB SHALL EXTEND FROM OUTSIDE TO OUTSIDE OF SHOULDERS. COST OF CLASS A CONCRETE & REINFORCING STEEL TO BE INCLUDED IN THE PRICE BID FOR RAILROAD APPROACH SLAB.



DETAIL OF CURBS ADJACENT
TO RAILROAD CROSSINGS

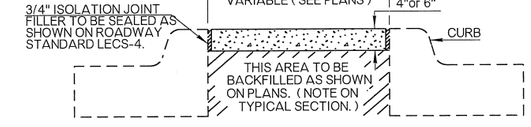


SECTION D-D ALONG ℄ DRIVE

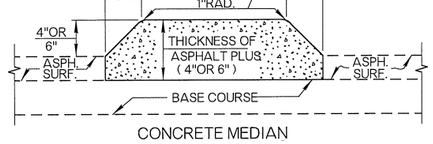
◨ WHEN SIDEWALK IS BUILT DIRECTLY BEHIND CURB, THE CONCRETE DRIVEWAY SHOULD BE CONSTRUCTED & EXTENDED TO THE BACK EDGE OF SIDEWALK.

GENERAL NOTES

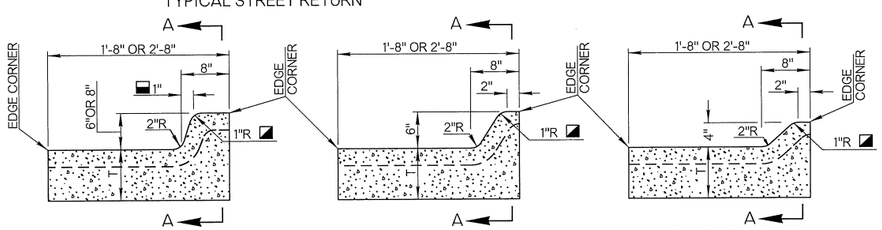
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. COST OF JOINT FILLERS, SEALING AND REINFORCING STEEL SHALL BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.
3. TRANSVERSE ISOLATION JOINTS FOR CONCRETE DIVIDING STRIP AND CONCRETE MEDIAN (MOUNTABLE CURB TYPE) TO BE 1/2" ISOLATION JOINT FILLER AT 50' C/C, 1/4" ISOLATION JOINT MATERIAL AT 1/3 POINTS BETWEEN 1/2" ISOLATION JOINTS. FILLER MATERIAL TO BE PREMOLDED AND JOINTS TO BE SEALED AS SHOWN ON ROADWAY STANDARD LECS-4.
4. COMBINED CURB & GUTTER SHALL HAVE 3/4" ISOLATION JOINTS AT DRAINAGE STRUCTURES, STREET CURB RETURNS AND AT THOSE LOCATIONS SHOWN ON THE PLANS. BUTT OR SAWED JOINTS SHALL BE SPACED AT 20'-0" CENTERS MAX. JOINT FILLER IN THE CURBS SHALL EXTEND TO WITHIN 2" OF THE FACE & TOP OF CURB. ALL JOINTS SHALL BE SEALED AS SHOWN ON ROADWAY STANDARD LECS-4.
5. ALL CONDUIT CROSSINGS ARE TO BE TRENCHED, PLACED, BACKFILLED AND COMPACTED PRIOR TO SURFACING. BORING OR PUSHING PROCEDURES MAY BE USED WHERE SURFACING IS ALREADY IN PLACE AND IF APPROVED BY THE ENGINEER.
6. IF CONDUIT IS NOT CONTINUOUS BETWEEN DRIVEWAYS OR RAMPS, CAP BOTH ENDS OF EACH CONDUIT CROSSING AND PLACE MARKER TO PREVENT DAMAGE DURING CONSTRUCTION.
7. CONDUIT SHALL NOT TERMINATE BELOW A SURFACED AREA, BUT SHALL EXTEND A MINIMUM OF 2'-0" PAST EDGE OF PAVING.
8. FOR PULL BOX INSTALLATION DETAILS, SEE TRAFFIC STANDARD PBD1-1 (PULL BOX DETAILS).



CONCRETE DIVIDING STRIP



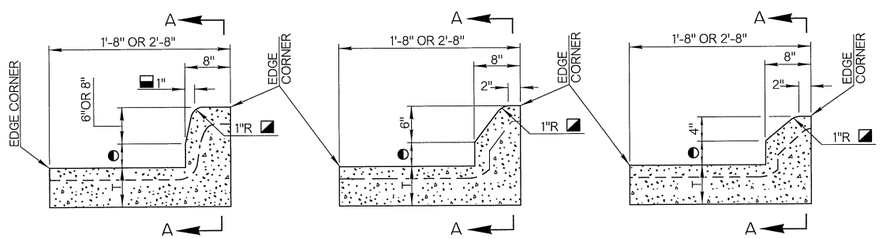
CONCRETE MEDIAN
MOUNTABLE CURB TYPE
(TO BE PAID FOR AS CLASS A CONCRETE.)



6" & 8" BARRIER CURB

6" MOUNTABLE CURB

4" MOUNTABLE CURB



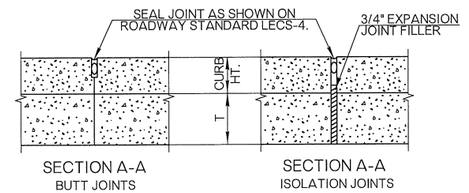
NOTCHED 6" & 8" BARRIER CURB

NOTCHED 6" MOUNTABLE CURB

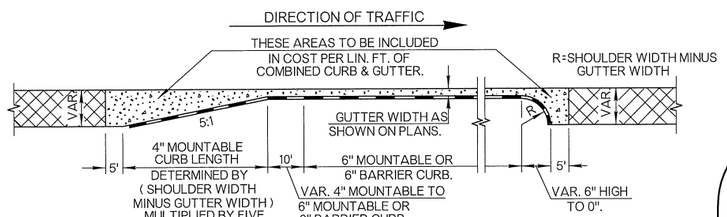
NOTCHED 4" MOUNTABLE CURB

COMBINED CURB & GUTTER TYPICAL SECTIONS

NOTE: T DIMENSION EQUALS THE THICKNESS SHOWN ON TYPICAL SECTION. (MIN.=6")
◐ DIMENSION EQUALS THE THICKNESS ASPHALT CONC. SHOWN ON TYPICAL SECTION. (MIN.=2"; MAX.=4")
◪ RADIUS OF 2" MAY BE USED IF APPROVED BY THE ENGINEER.
▬ BATTER OF 2" MAY BE USED IF APPROVED BY THE ENGINEER.



CURB & GUTTER JOINTS
BUTT & ISOLATION JOINTS TO EXTEND THROUGH CURB & GUTTER TO BACK OF CURB



BEGINNING CURB & GUTTER

ENDING CURB & GUTTER

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
414 (H)	P. C. RAILROAD APPROACH SLABS	SY
509 (B)	CLASS A CONCRETE	CY
609 (B)	■ COMBINED CURB & GUTTER (▲)	LF
610 (B)	▼ CONCRETE DRIVEWAY	SY
610 (C)	▼ CONCRETE DIVIDING STRIP	SY
610 (H)	▼ ASPHALT DIVIDING STRIP	SY

■ WIDTH OF CURB & GUTTER WILL BE SPECIFIED.
▲ HEIGHT & TYPE OF CURB SHALL BE SPECIFIED.
▼ THICKNESS WILL BE SPECIFIED.

APPROVED BY ROADWAY ENGINEER: Caleb Kerr DATE: 04/14/15

ROADWAY DESIGN DIVISION STANDARD

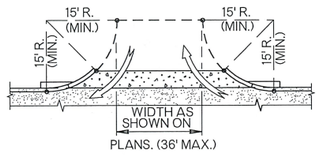
ODOT

ASPHALT SURFACING CONSTRUCTION DETAILS

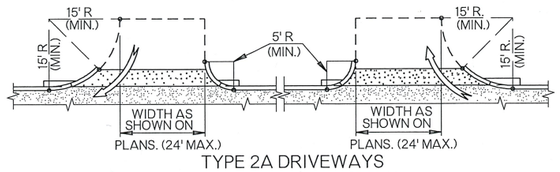
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

ASCD-5	2

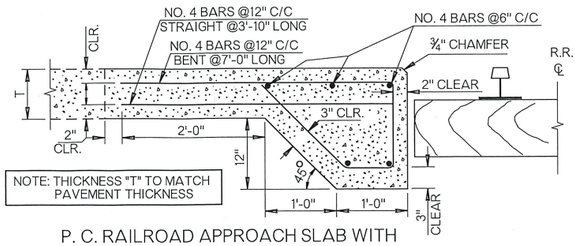
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



TYPE 2 DRIVEWAY
(TWO -WAY OPERATION)

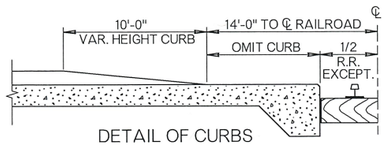


TYPE 2A DRIVEWAYS
(ONE -WAY OPERATION)

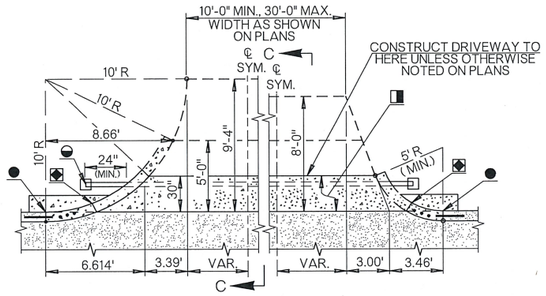


NOTE: THICKNESS "T" TO MATCH PAVEMENT THICKNESS

P. C. RAILROAD APPROACH SLAB WITH
THICKENED EDGE AT RAILROAD CROSSING

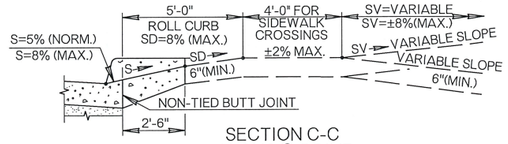


DETAIL OF CURBS
ADJACENT TO RAILROAD CROSSINGS



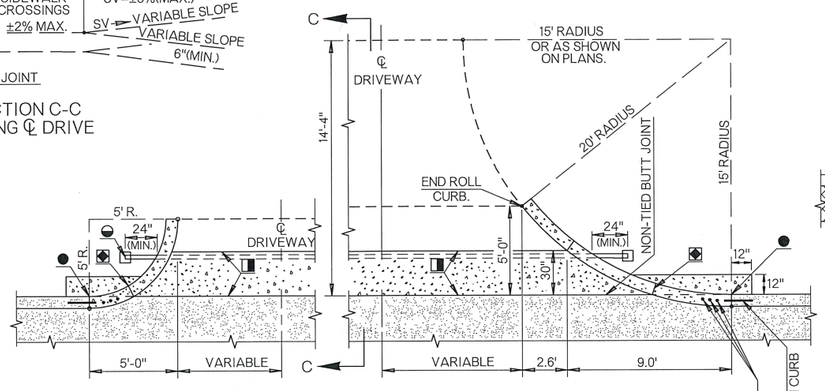
TYPE I DRIVEWAYS
(PRIVATE OR RESIDENTIAL)

◆ ¾" EXPANSION JOINT NO LOAD TRANSFER DEVICES
◧ PAID FOR AS CONCRETE DRIVEWAY (INCLUDES CURB)
● BEGIN ROLL CURB & TERMINATE INTEGRAL CURB. POUR APRON & CURB INTEGRAL WITH DRIVEWAY
◒ IF SPECIFIED IN THE PLANS, CONSTRUCT CONDUIT CROSSING OF THE SAME SIZE & TYPE SPECIFIED AT APPROXIMATELY 30" BELOW FINISHED GRADE OF RAMP. SEE GENERAL NOTES FOR DETAILS.



SECTION C-C
ALONG ℄ DRIVE

FOR STREET RETURN DETAILS SEE THE CURRENT VERSION OF ROADWAY STD. ASCD-5.

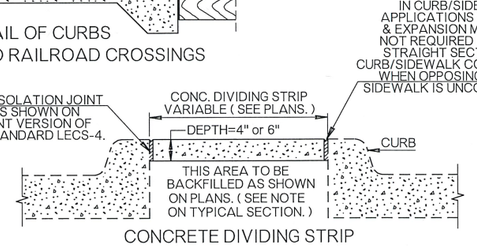


TYPE 2 & 2A COMMERCIAL DRIVEWAYS

◆ ¾" EXPANSION JOINT NO LOAD TRANSFER DEVICES
◧ PAID FOR AS CONCRETE DRIVEWAY (INCLUDES CURB)
● BEGIN ROLL CURB & TERMINATE INTEGRAL CURB. POUR APRON & CURB INTEGRAL WITH DRIVEWAY
◒ IF SPECIFIED IN THE PLANS, CONSTRUCT CONDUIT CROSSING OF THE SAME SIZE & TYPE SPECIFIED AT APPROXIMATELY 30" BELOW FINISHED GRADE OF RAMP. SEE GENERAL NOTES FOR DETAILS.

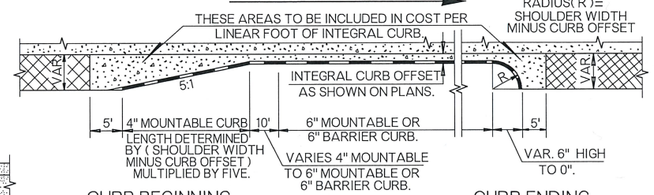
NOTE: WHEN SIDEWALK IS BUILT DIRECTLY BEHIND THE CURB THE CONCRETE DRIVEWAY SHOULD BE CONSTRUCTED AND EXTENDED TO THE BACK EDGE OF SIDEWALK.

OPTIONAL CURB CONSTRUCTION
FOR SLIP FORM PAVING



CONCRETE DIVIDING STRIP

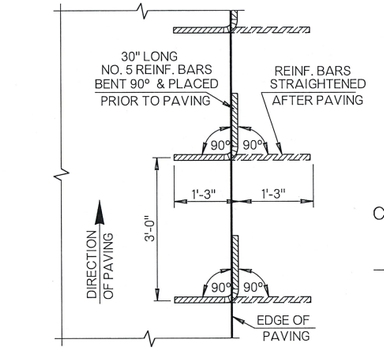
TRANSVERSE EXPANSION JOINTS TO BE 1/2" EXPAN. JOINT FILLER AT 50'-0" C/C, 1/4" EXPANSION JOINT MATERIAL AT 1/3 POINTS BETWEEN 1/2" EXPANSION JOINTS. FILLER MATERIAL TO BE PREMOLDED & JOINTS TO BE SEALED AS SHOWN ON THE CURRENT VERSION OF ROADWAY STANDARD LECS-4. JOINTS IN DIVIDING STRIP SHOULD ALIGN WITH CURB EXPANSION JOINTS.



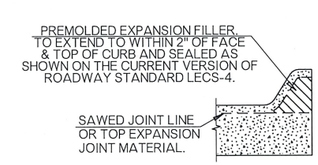
CURB BEGINNING CURB ENDING

GENERAL NOTES

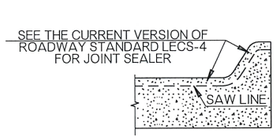
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL COST OF CLASS A CONCRETE & REINFORCING STEEL IN THICKENED EDGE AT RAILROAD CROSSINGS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR APPROACH SLAB-RAILROAD.
3. COST OF JOINT FILLERS, SEALING AND REINFORCING STEEL SHALL BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.
4. CONTRACTION JOINTS IN JOINTED P.C. PAVEMENT SHALL BE AT APPROXIMATELY 15'-0" CENTERS, UNLESS OTHERWISE SHOWN ON THE PLANS.
5. CURB & GUTTER SHALL BE PLACED INTEGRAL WITH THE PAVING SLAB UNLESS OTHERWISE SHOWN IN THE PLANS. TRANSVERSE JOINTS SHALL MATCH PAVEMENT JOINTS AND PLACED AT DRAINAGE STRUCTURES. LONGITUDINAL JOINTS SHALL BE TIED WITH #5 DEFORMED TIE BARS 2'-6" LONG AT 3'-0" CTRS. SEE TIED BUTT AND LONGITUDINAL CONSTRUCTION JOINT DETAIL ON THE CURRENT VERSION OF ROADWAY STANDARD LECS-4.
6. ALL CONDUIT CROSSINGS ARE TO BE TRENCHED, PLACED, BACKFILLED, AND COMPACTED PRIOR TO SURFACING. BORING OR PUSHING PROCEDURES MAY BE USED WHERE SURFACING IS ALREADY IN PLACE AND IF APPROVED BY THE ENGINEER.
7. IF CONDUIT IS NOT CONTINUOUS BETWEEN DRIVEWAYS/RAMPS, CAP BOTH ENDS OF EACH CONDUIT CROSSING AND PLACE MARKER TO PREVENT DAMAGE DURING CONSTRUCTION.
8. CONDUIT SHALL NOT TERMINATE BELOW A SURFACED AREA, BUT SHALL EXTEND MINIMUM OF 24" PAST EDGE OF PAVING.
9. FOR PULL BOX INSTALLATION DETAILS, SEE THE CURRENT VERSION OF TRAFFIC STANDARD PBD1-1.



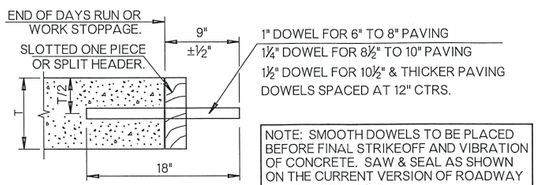
SECTION B-B



CURB JOINT WITH EXPANSION MATERIAL

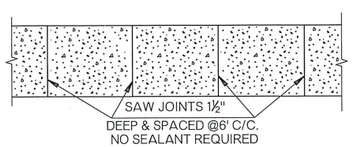


ALTERNATE CURB JOINT

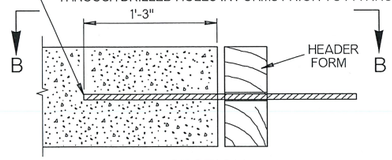


NOTE: SMOOTH DOWELS TO BE PLACED BEFORE FINAL STRIKEOFF AND VIBRATION OF CONCRETE. SAW & SEAL AS SHOWN ON THE CURRENT VERSION OF ROADWAY STANDARD LECS-4.

TRANSVERSE CONSTRUCTION JOINT
(TO BE USED AT END OF DAYS PLACEMENT OF CONCRETE OR ANY STOPPAGE OF 30 MINUTES OR MORE.)

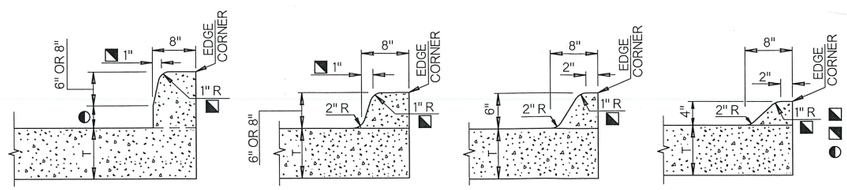


PLAN DETAIL OF CONCRETE SIDEWALK



SECTION
TIED LONGITUDINAL BUTT JOINT
(TO BE USED BETWEEN ADJACENT PAVING LANES)

NOTE: LONGITUDINAL BUTT JOINT TIE BAR STEEL AND PLACEMENT METHOD NOT COVERED ON THIS STANDARD SHALL BE APPROVED BY THE ENGINEER.



NOTCHED 6" & 8" BARRIER
6" & 8" BARRIER
6" MOUNTABLE
4" MOUNTABLE

INTEGRAL CURB TYPICAL SECTIONS

◪ RADIUS OF 2" MAY BE USED IF APPROVED BY THE ENGINEER.
◪ BATTER OF 2" MAY BE USED IF APPROVED BY THE ENGINEER.
◐ DIMENSION EQUALS THICKNESS OF ASPHALT CONCRETE SHOWN ON TYPICAL SECTION ASPHALT CONCRETE THICKNESS (2" MIN. ; 4" MAX.)
T T DIMENSION EQUALS THE THICKNESS SHOWN ON TYPICAL SECTION (MIN. = 6")

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
414 (H)	P. C. RAILROAD APPROACH SLABS	SY
609 (A)	■ CONCRETE CURB (INTEGRAL)	LF
610 (A)	▼ CONCRETE SIDEWALK	SY
610 (B)	▼ CONCRETE DRIVEWAY	SY
610 (C)	▼ CONCRETE DIVIDING STRIP	SY

■ HEIGHT & TYPE OF CURB SHALL BE SPECIFIED.
▼ THICKNESS SHALL BE SPECIFIED IN INCHES.

APPROVED BY ROADWAY ENGINEER: _____ DATE: 01/28/19

ROADWAY DESIGN DIVISION STANDARD

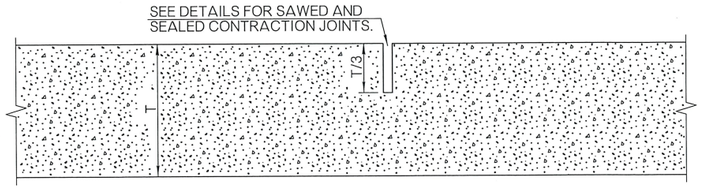
CONCRETE SURFACING CONSTRUCTION DETAILS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

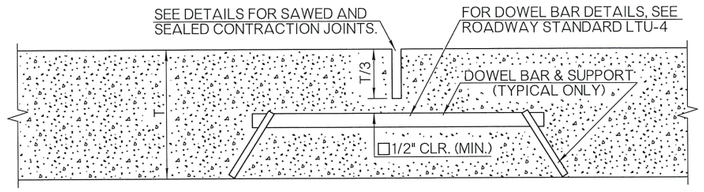
CSCD-5	4

R-12

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE

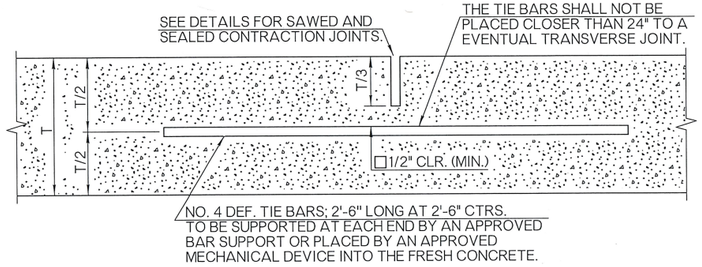


NON-DOWELED CONTRACTION JOINT

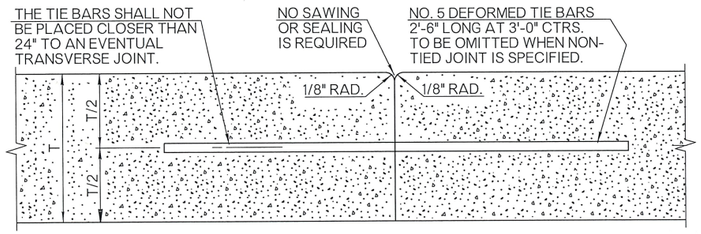


◁DOWELED CONTRACTION JOINT

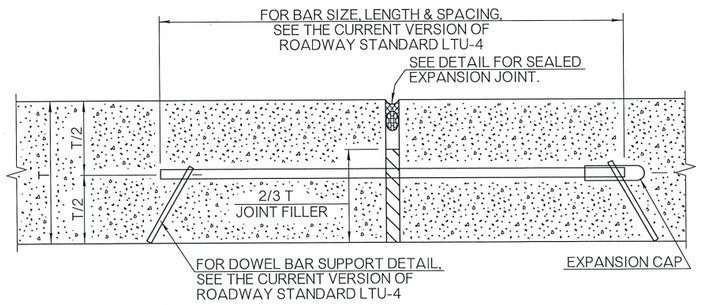
◁ ON JOINTED PORTLAND CEMENT CONCRETE PAVEMENTS, DOWELLED CONTRACTION JOINTS SHALL BE USED ON DRIVING LANES ONLY. CONCRETE SHOULDERS SHALL NOT BE DOWELLED UNLESS SPECIFIED ON THE PLANS.



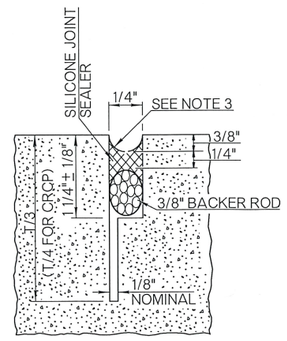
LONGITUDINAL JOINT



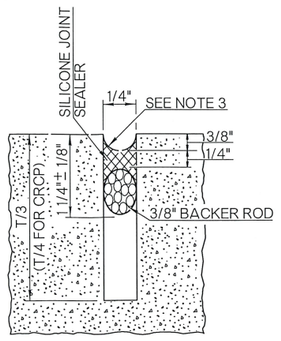
TIED BUTT JOINT AND
LONGITUDINAL CONSTRUCTION JOINT



EXPANSION JOINT / ISOLATION JOINT
OMIT DOWEL BARS, CAPS & SUPPORTS FOR ISOLATION JOINTS



SILICONE SEALANT OPTION



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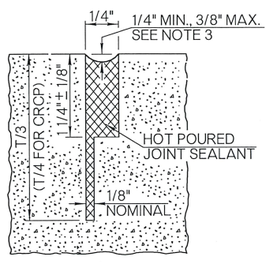
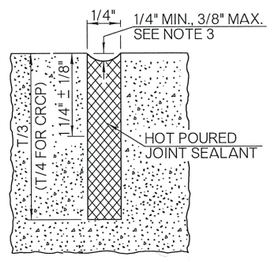
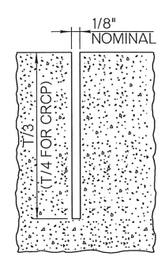


HOT POUR OPTION



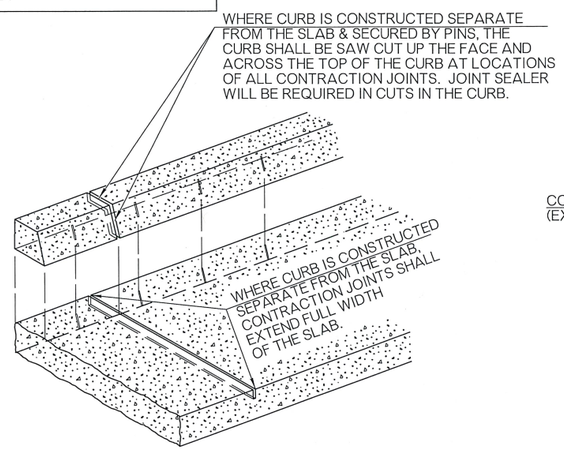
HOT POUR OPTION



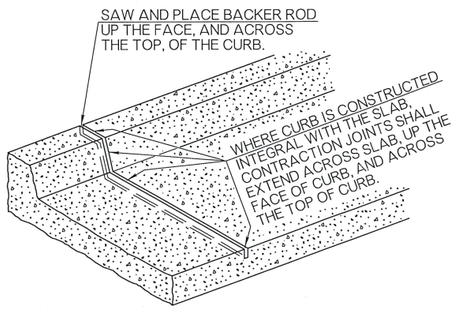
NO SEALANT OPTION

SAWED AND SEALED, CONTRACTION AND LONGITUDINAL JOINTS ALTERNATE DETAILS
UNLESS OTHERWISE SPECIFIED IN THE PLANS, ONLY THE SILICONE SEALANT OPTIONS WILL BE ALLOWED.

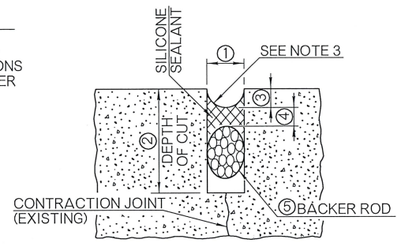
☐ NOTE: ON ALL SAWED JOINTS, THE KERF DEPTH SHALL CLEAR DOWEL BARS, TIE BARS AND/OR REINFORCING STEEL BY A MINIMUM OF 1/2".



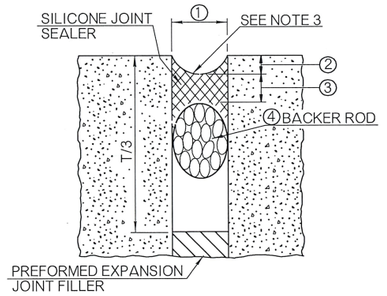
CONTRACTION JOINT WITH
SEPARATE CURB



CONTRACTION JOINT WITH
INTEGRAL CURB



JOINT REHABILITATION DETAILS



EXPANSION JOINTS / ISOLATION JOINTS
HOT POURED JOINT SEALANT MAY BE USED IN LIEU OF BACKER ROD AND SILICONE SEALANT, IF APPROVED BY THE ENGINEER

EXPANSION JOINT / ISOLATION JOINT TREATMENT TABLE			
JOINT WIDTH ①	SEALANT RECESS DEPTH ②	SILICONE SEALANT THICKNESS ③	BACKER ROD DIAMETER ④
1/2"	3/8"	1/4"	5/8"
3/4"	3/8"	3/8"	7/8"
1"	3/8"	1/2"	1 1/4"
1 1/2"	1/2"	3/4"	2"
2"	1/2"	3/4"	2 1/2"

EXPANSION OR ISOLATION JOINT WIDTH SHALL BE 1/2", UNLESS OTHERWISE SPECIFIED ON THE PLANS. TABLE VALUES, AS SHOWN IN THIS TABLE, SHALL BE USED IN THOSE SPECIFIED CASES.

JOINT REHABILITATION TREATMENT TABLE				
SILICONE SEALANT				
JOINT WIDTH ①	DEPTH OF CUT ②	SEALANT RECESS DEPTH ③	SEALANT THICKNESS ④	BACKER ROD DIAMETER ⑤
3/8"	1 1/4"	3/8"	3/16"	1/2"
1/2"	1 3/4"	3/8"	1/4"	5/8"
3/4"	1 3/4"	3/8"	3/8"	7/8"
7/8"	1 3/4"	1/2"	7/16"	1"
1"	2"	1/2"	1/2"	1 1/8"
OVER 1"	OVER 2"	1/2"	1/2"	1 1/4"

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL CONCRETE JOINT SEALING SHALL BE IN ACCORDANCE WITH SECTION 415 OF THE SPECIFICATIONS.
3. THE SHAPE FACTOR, COMBINED WITH THE JOINT CLEANLINESS, IS THE CRITICAL COMBINATION NECESSARY TO GUARANTEE DESIRED BONDING AND FUNCTION OF SEALED JOINTS. THE JOINT SHAPE FACTOR IS DEFINED AS THE FINAL PRESSED SHAPE OF THE SILICONE MATERIAL. THE TOOLING OPERATION WILL FIRMLY PRESS THE FRESHLY APPLIED MATERIAL INTIMATELY AGAINST THE CUT SIDES OF THE RECESS AND THE BACKER ROD SURFACES. THE ROUNDED SHAPE ON TOP AND BOTTOM OF THE SILICONE ALLOWS THE SEALANT TO PROPERLY FLEX BUT MAINTAIN ADHERENCE TO THE PAVING. SELF LEVELING SEALANTS WILL BE INSTALLED TO BE FLUSH WITH THE PAVEMENT SURFACE, OR BY MANUFACTURER'S RECOMMENDATION.
4. LONGITUDINAL JOINTS BETWEEN PAVEMENT AND TIED CONCRETE SHOULDERS SHALL NOT BE SAWED OR SEALED UNLESS OTHERWISE SHOWN ON THE PLANS.
5. CONTRACTION JOINTS IN JOINTED P. C. PAVEMENT SHALL BE AT APPROXIMATELY 15'-0" CENTERS, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
6. TRANSVERSE GROOVING SHALL BE CONSTRUCTED TO THE FOLLOWING DIMENSIONS: 1/8" TO 3/16" WIDE, 1/8" TO 3/16" DEEP, AND EQUALLY SPACED AT 1/2" TO 1" APART. GROOVES SHALL BE NEAT IN APPEARANCE, OF UNIFORM DEPTH, AND LOCATED 1" TO 3" FROM NEAREST CONTRACTION JOINTS.

APPROVED BY ROADWAY ENGINEER: Caitlin A DATE: 01/23/19

ROADWAY DESIGN DIVISION STANDARD

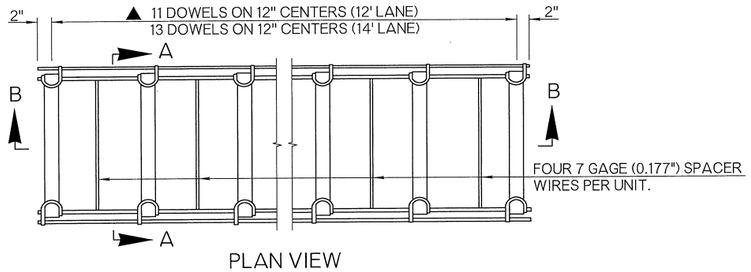
DOT JOINTS AND SEALERS - LONGITUDINAL, EXPANSION / ISOLATION, & CONTRACTION

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

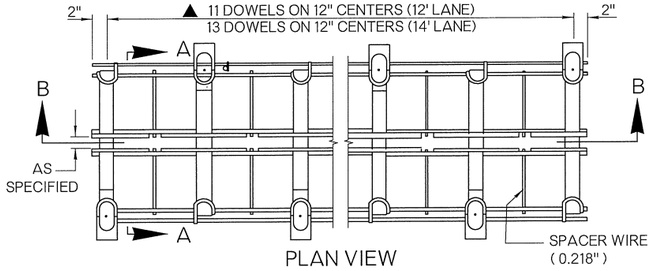
LECS-4	2

R-14

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



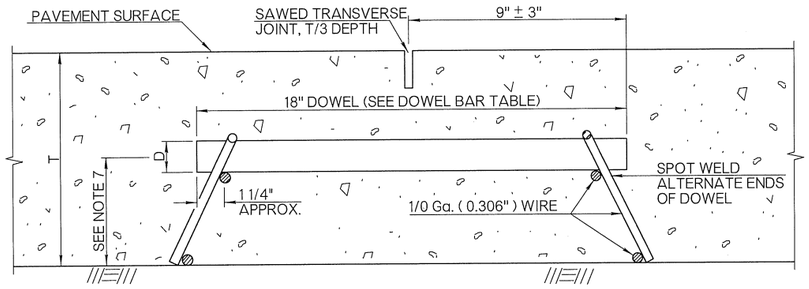
PLAN VIEW



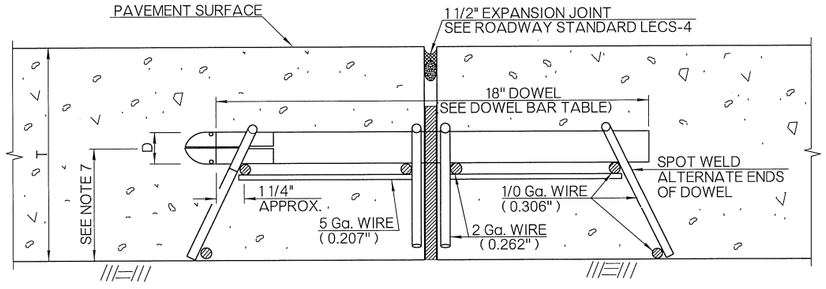
PLAN VIEW

DOWEL BAR TABLE			
▲ SPACING & SIZE DATA			
(T) SLAB DEPTH	DOWEL DIA.	TOTAL DOWEL LENGTH	C/C DOWEL SPACING
6" - 8"	1"	18"	12"
8 1/2" - 10"	1¼"	18"	12"
10 1/2" & UP	1½"	18"	12"

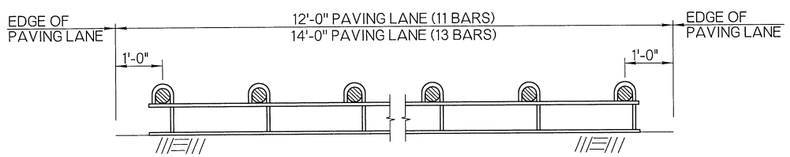
DOWEL DIAMETER WILL BE DETERMINED BY THE SLAB DEPTH (T) OR THE NOMINAL DEPTH WHEN SLAB DEPTH VARIES. WHEN NOMINAL DEPTH VALUE IS TO BE USED, THE CALCULATED NOMINAL DEPTH WILL BE SHOWN ON THE PLANS.



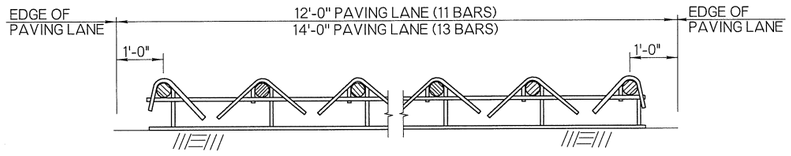
SECTION A - A



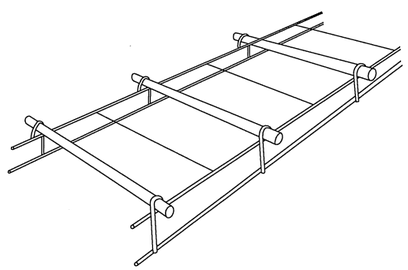
SECTION A - A



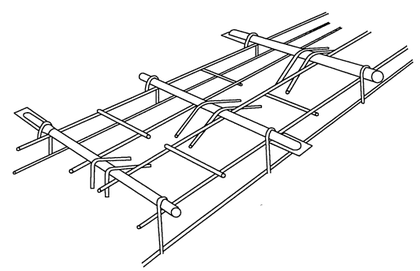
SECTION B - B



SECTION B - B



WELDED CONTRACTION JOINT ASSEMBLY



WELDED EXPANSION JOINT ASSEMBLY

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ANY DEVICE USED FOR SUPPORTING DOWELS SHALL HAVE SUFFICIENT RIGIDITY AND BE HELD IN PLACE DURING CONCRETE PLACEMENT SO THAT DOWELS WILL BE IN SPECIFIED POSITION IN THE FINISHED PAVEMENT. ANY DEVICE NOT PRODUCING THE SPECIFIED RESULTS SHALL BE REJECTED.
3. PRODUCER AND CONTRACTOR SHALL AVOID PATENT INFRINGEMENT OF THE BASKET AND SHALL SAVE THE STATE HARMLESS IN THE USE OF ANY BASKET.
4. THE CONTRACTOR MAY SELECT THE TYPE OF BASKET TO BE USED. AFTER THE SELECTION IS MADE, THE SAME TYPE BASKET SHALL BE USED THROUGHOUT THE PROJECT, UNLESS APPROVED OTHERWISE BY THE ENGINEER.
5. COLD-DRAWN STEEL WIRE, USED FOR DOWEL BASKETS, SHALL BE ACCEPTED BY VISUAL FIELD INSPECTION, AS PROVIDING SUFFICIENT DOWEL BAR SUPPORT DURING PAVING PROCESS.

▲ 6. DOWEL BARS SHALL BE GRADE 60 PLAIN BARS, IN ACCORDANCE WITH SECTION 723.01 OF THE SPECIFICATIONS. DOWEL BARS SHALL BE CENTERED ON THE BASKET REGARDLESS OF THE WIDTH OF THE BASKET OR THE LENGTH OF THE DOWEL BAR.

7. THE HEIGHT OF THE LOAD TRANSFER UNIT (MEASURED TO THE CENTER OF THE DOWEL BAR FROM THE PAVEMENT SURFACE) SHALL BE 1/2 THE THICKNESS OF THE PAVEMENT, PLUS OR MINUS 1/2 THE DIAMETER OF DOWEL BAR OF THE UNIT.
8. DOWEL BARS SHALL HAVE A SHOP APPLIED EPOXY COATING OVER THEIR ENTIRE LENGTH (ENDS EXCEPTED). ADDITIONALLY, DOWELS SHALL BE COMPLETELY COATED WITH A FORM RELEASE AGENT (OR APPROVED EQUIVALENT BOND BREAKER) APPLIED IN THE FIELD, IMMEDIATELY PRIOR TO PAVING. THE FORM RELEASE AGENT SHALL NOT BE ALLOWED TO EVAPORATE FROM THE BARS PRIOR TO PAVING.
9. FOR EXPANSION JOINTS, THE DOWEL BARS SHALL HAVE EXPANSION CAPS WITH A MINIMUM 1" AND A MAXIMUM 2" AIR SPACE IN THE END OF THE EXPANSION CAPS (EXPANSION JOINT ASSEMBLIES).
10. THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER A STAKING PATTERN THAT SHALL SECURE ALL DOWEL BASKETS SUCH THAT THE FINAL DOWEL POSITION IS WITHIN SPECIFICATION LIMITS.
11. FOR EXPANSION JOINTS, IN ADDITION TO THE SUPPORTS INDICATED, THE CONTRACTOR SHALL PROVIDE SUITABLE INSTALLING DEVICES AND SUCH ADDITIONAL STAKES AS MAY BE REQUIRED TO HOLD THE JOINT FILLER VERTICAL AND SECURELY IN LINE AND POSITION. THE CONTRACTOR WILL ALSO BE REQUIRED TO SATISFACTORILY FORM THE UPPER PORTION OF THE JOINT FOR RECEIVING THE SEAL. SEE ROADWAY STANDARD LECS-4.

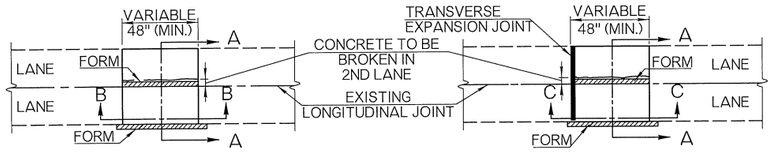
APPROVED BY ROADWAY ENGINEER: Caleb F. A DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

LOAD TRANSFER UNITS FOR CONCRETE PAVEMENT JOINTS

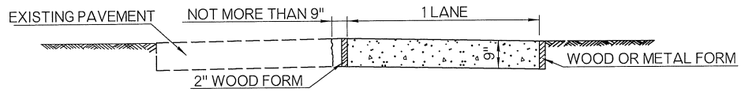
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

LTU-4	0

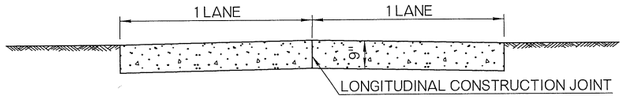


PLAN PATCH BETWEEN JOINTS

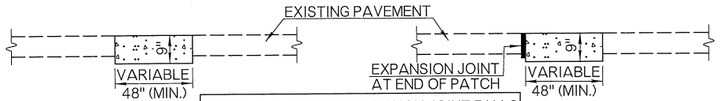
PLAN PATCH AT EXPANSION JOINT



SEC. A - A CONSTRUCTION OF FIRST LANE

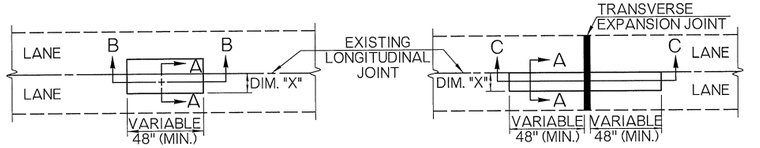


SEC. A - A CONSTRUCTION COMPLETED



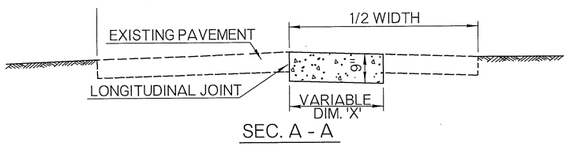
SEC. B-B SEC. C-C

MULTI LANE PATCH (CONSTRUCTED ONE LANE AT A TIME)

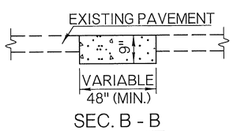


PLAN PATCH BETWEEN JOINTS

PLAN PATCH AT EXPANSION JOINTS



SEC. A - A



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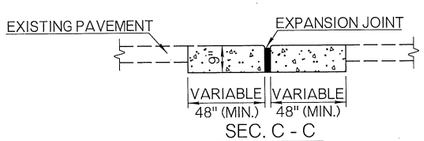
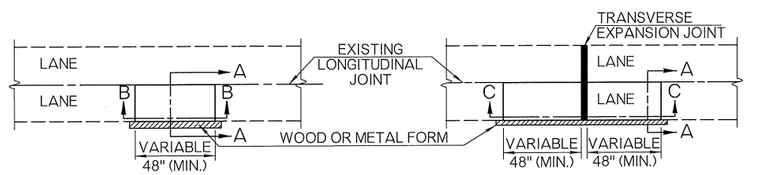


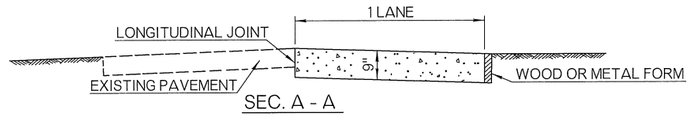
SEC. C - C

INTERIOR EDGE PATCH

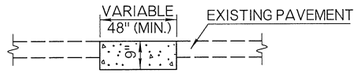


PLAN PATCH BETWEEN JOINTS

PLAN PATCH AT EXPANSION JOINT



SEC. A - A



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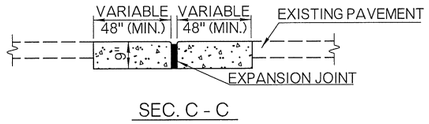
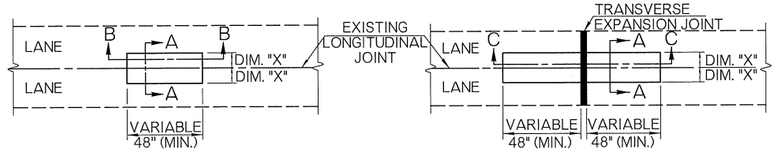


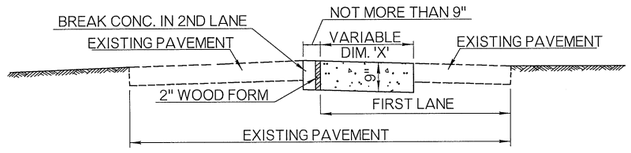
SEC. C - C

SINGLE LANE PATCH

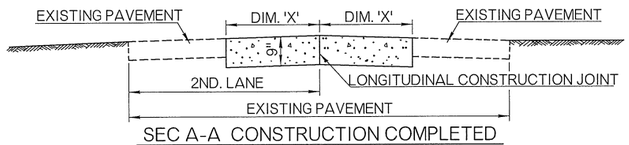


PLAN PATCH BETWEEN JOINTS

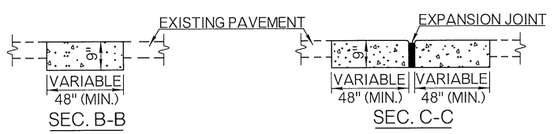
PLAN PATCH AT EXPANSION JOINT



SEC A-A CONSTRUCTION OF FIRST LANE

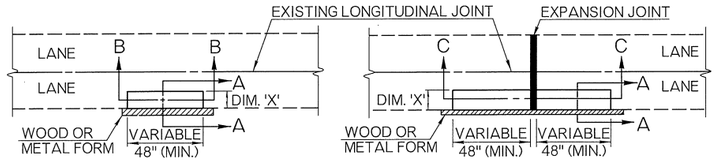


SEC A-A CONSTRUCTION COMPLETED



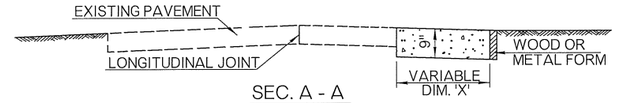
SEC. B-B SEC. C-C

RECTANGULAR PLUG PATCH

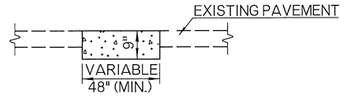


PLAN PATCH BETWEEN JOINTS

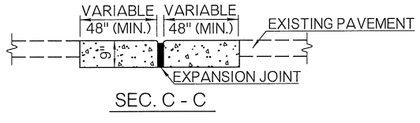
PLAN PATCH AT EXPANSION JOINT



SEC. A - A



SEC. B - B



SEC. C - C

EXTERIOR EDGE PATCH

GENERAL NOTES

1. CROWN OF PATCH TO MATCH CROWN OF EXISTING PAVEMENT.
2. EDGES OF PAVEMENT SLAB, OPEN JOINTS AND CONSTRUCTION JOINTS SHALL BE EDGED WITH AN EDGER HAVING A 1/2" RADIUS. JOINT ALONG A BROKEN EDGE OF THE EXISTING PAVEMENT SHALL NOT BE EDGED.
3. CONCRETE FOR PATCHES SHALL BE HIGH-EARLY-STRENGTH CONCRETE PAVEMENT MADE WITH THE USE OF HIGH-EARLY-STRENGTH PORTLAND CEMENT OR 25% ADDITIONAL STANDARD PORTLAND CEMENT. TRAFFIC SHALL NOT BE ALLOWED ON THE PATCH FOR THE FIRST 24 HOURS, OR FOR LONGER WHEN DIRECTED BY THE RESIDENT ENGINEER.
4. DIMENSION 'X' TO BE NOT LESS THAN 4 FEET, NOR SHALL IT EXCEED 5 FEET FOR 18 FOOT PAVEMENT OR EXCEED 6 FEET FOR 20 FOOT PAVEMENT. IF EITHER OF THESE LIMITS ARE EXCEEDED USE A HALF WIDTH PATCH.
5. PAVEMENT SECTION DEPTH TO BE SHOWN ON PLANS.
6. IN AREAS WHERE PATCHING IS REQUIRED, UNDERCUTTING AND BACK FILLING OF SUBGRADE SHALL BE DONE IN A MANNER APPROVED BY THE ENGINEER. BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 95% OF STANDARD DENSITY. COST OF UNDERCUTTING AND BACKFILLING TO BE INCLUDED IN OTHER ITEMS OF WORK.
7. FOR DETAILS OF JOINTS AND SEALERS, SEE ROADWAY STANDARD LECS-4.

OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE

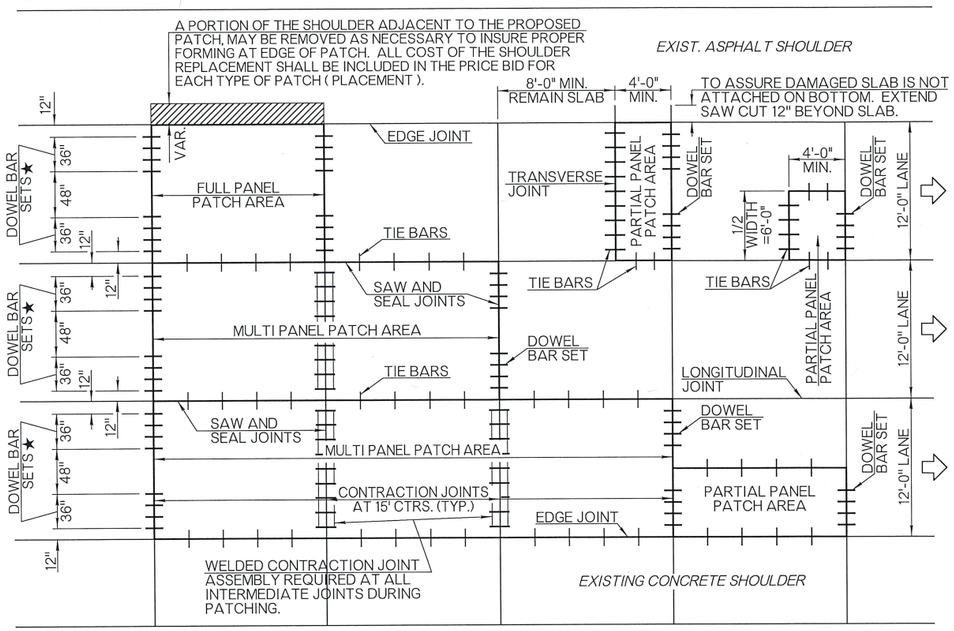
APPROVED BY ROADWAY ENGINEER: _____ DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

PAVEMENT RECONSTRUCTION DETAILS

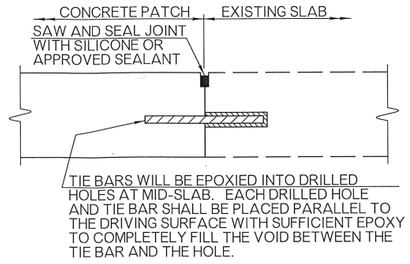
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

PR-3	0



★ DOWEL BAR SETS (FOUR BARS AT 12"CTRS.) SHALL BE USED AS SHOWN FOR ALL CONTRACTION JOINTS. IF PATCH EXTENDS IN BOTH DIRECTIONS, FROM A CONTRACTION JOINT, THEN APPROVED LOAD TRANSFER DEVICES MEETING THE REQUIREMENTS OF SECTION 414.04, AND AS SHOWN ON ROADWAY STANDARD LTU-4 SHALL BE USED IN LIEU OF DOWEL BAR SETS. IF PARTIAL PANEL PATCH IS GOING TO EXCEED 7' (FOR 15' JOINTED PAVEMENT) OR 15' (FOR 62' JOINTED PAVEMENT), THEN USE A FULL PANEL PATCH.

FULL DEPTH PATCHING DETAIL

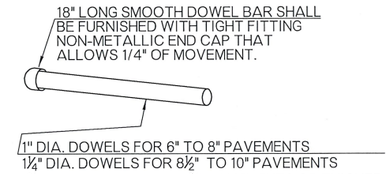


DETAIL OF TIE BAR JOINT

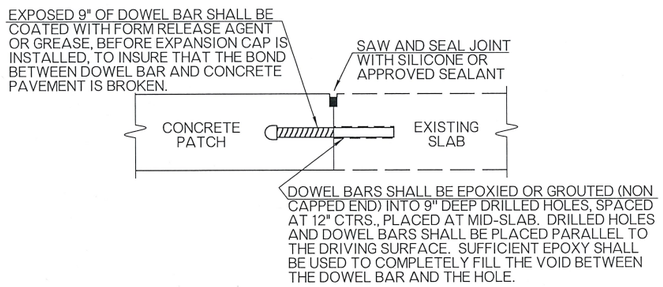
NOTE

LONGITUDINAL JOINT - TIE BARS - NO. 5 DEFORMED REINFORCING STEEL BARS, 2'-6" LONG, SHALL BE EPOXIED INTO 3/4" DIA. (MAX.) DRILLED HOLES AT 3'-0" CTRS. TIED LONGITUDINALLY. JOINT SHALL BE SAWED AND SEALED.

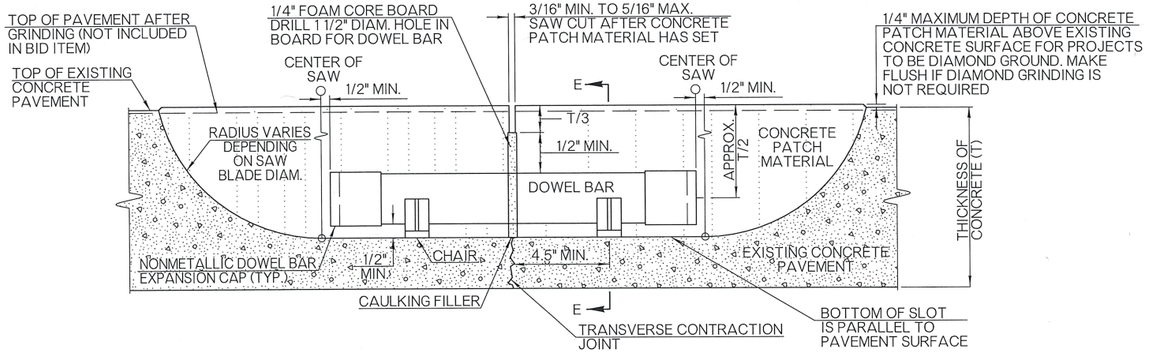
TRANSVERSE JOINT - TIE BARS - NO. 10 DEFORMED REINFORCING STEEL BARS, 1'-6" LONG, SHALL BE EPOXIED INTO 1 3/8" DIA. (MAX.) DRILLED HOLES AT 18" CTRS. FULL WIDTH, TRANSVERSE, TIED JOINTS SHALL NOT BE SAWED OR SEALED.



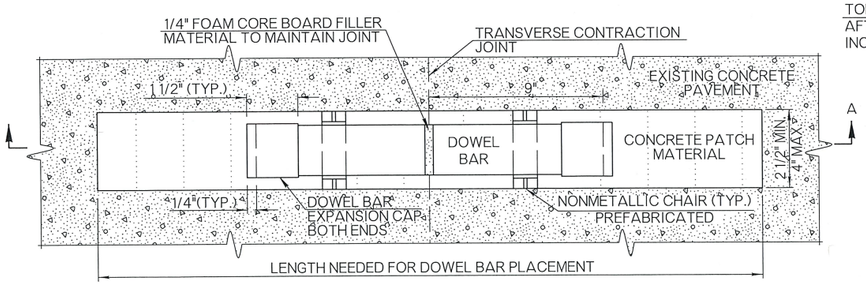
DETAIL OF DOWEL BAR WITH CAP



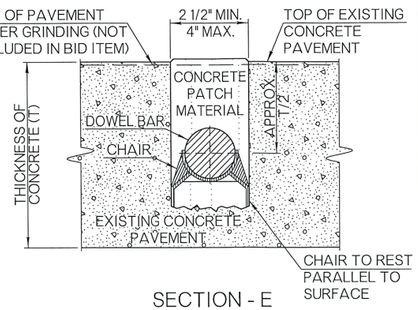
DETAIL OF DOWEL BAR AT CONSTRUCTION JOINT



SECTION - A
DOWEL BAR RETROFIT PLACEMENT DETAIL



PLAN VIEW
DOWEL BAR RETROFIT INSTALLATION



SECTION - E

BASE REPAIR AND PREPARATION

IN AREAS WHERE PATCHING IS REQUIRED, THE REMOVAL OF THE DAMAGED PAVEMENT SHALL BE PERFORMED IN A MANNER THAT WOULD MINIMIZE FURTHER DAMAGE TO THE UNDERLYING SUBBASE (S), SUBGRADE OR ADJACENT PAVEMENT(S). NO COMPENSATION WILL BE MADE TO CONTRACTOR FOR REPAIRING DAMAGE SUSTAINED DURING THE REMOVAL PROCESS.

COST OF ANY INCIDENTAL BASE REPAIR, LEVELING OR BACKFILLING, UP TO 2", WILL BE INCLUDED IN FULL DEPTH PCC PATCH (PLACEMENT) PAY ITEM. INCIDENTAL REPAIR, LEVELING AND BACKFILLING MATERIAL SHALL CONSIST OF SAME MATERIAL ENCOUNTERED, CRUSHED LIMESTONE OR BY THICKENING THE FULL DEPTH PATCH.

BASE REPAIR, LEVELING AND RELATED BACKFILLING OF SUBBASE (S) OR SUBGRADE IN EXCESS OF 2" SHALL BE PAID FOR AS UNCLASSIFIED EXCAVATION WITH QUANTITIES COMPUTED FROM BOTTOM OF SLAB DOWNWARD TO LIMITS OF REMOVAL.

OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE

GENERAL SEQUENCE OF PAVEMENT REPAIR

STEP 1 CONCRETE PATCHING

(1) AREAS TO BE PATCHED WILL BE DESIGNATED BY THE ENGINEER

(2) FOR REMOVAL OF FULL DEPTH PATCHES, SAWING IS TO BE FULL DEPTH. LIFT OUT DAMAGED PAVEMENT WHENEVER PRACTICAL.

(3) THE FLOW OF TRAFFIC MAY BE RESTRICTED TO ONE LANE DUE TO PATCHING OPERATION FOR A MAXIMUM DISTANCE OF ONE MILE.

STEP 2 DOWEL BAR RETROFIT INSTALLATION

(1) INSTALL DOWEL BARS AS SHOWN. BAR PLACEMENT SHALL CONSIST OF 3 BARS PER WHEEL PATH, PLACED 12" TO 15" APART, AND 18" FROM EDGE OF DRIVING LANE.

(2) DOWEL BARS SHALL NOT BE PLACED ON TOP OF A LONGITUDINAL CRACK.

(3) PAYMENT FOR 'DOWEL BAR RETROFIT' SHALL ONLY BE MADE FOR DOWELS PLACED BY THE PROCESS OF CUTTING A SLOT.

(4) IF SLOTS ARE SAWED BUT NOT RETROFITTED WITH A BAR, THE SAW CUTS SHALL BE CLEANED AND SEALED WITH AN EPOXY RESIN.

STEP 3 DIAMOND GRINDING CONCRETE PAVEMENT

(1) AFTER SLAB STABILIZATION AND/OR DOWEL BAR RETROFIT INSTALLATION, & APPROPRIATE CURE TIME HAS BEEN DETERMINED, GRINDING OPERATIONS MAY BEGIN.

STEP 4 CONCRETE JOINT SEALING

(1) CUT SHALL BEGIN AT THE LOW EDGE OF THE DRIVING LANES AND MOVE TOWARD THE INITIAL JOINT.

(2) INSTALLATION OF BOND BREAKER AND SILICONE JOINT SEALANT SHALL BE FROM THE END OF THE INITIAL JOINT TO THE LOW EDGE OF THE DRIVING LANES.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. COST OF SAWING AND REMOVAL OF PAVEMENT FOR FULL DEPTH PATCHING, COST OF DOWEL BARS, TIE BARS AND ANY/ALL INCIDENTALS REQUIRED FOR INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR FULL DEPTH PCC PATCH (PLACEMENT), UNLESS OTHERWISE SHOWN ON THE PLANS.
3. HIGH EARLY STRENGTH (HE) CONCRETE, WHEN USED FOR FULL DEPTH PATCHING, WILL BE PAID FOR AS PC CONCRETE FOR PAVEMENT.
4. BID ITEM FOR CONCRETE JOINT SEALING (JOINT REHABILITATION) WILL INCLUDE SAWING, CLEANING OF JOINT, BACKER ROD, SILICONE SEALANT AND ANY/ALL INCIDENTALS REQUIRED TO COMPLETE THE WORK.
5. FOR SKEWED TRANSVERSE JOINTS, DOWEL BARS SHALL ALWAYS BE PLACED PARALLEL TO THE ROADWAY.
6. HOLES ARE TO BE DRILLED IN DIAMETER BASED ON DOWEL BAR SIZE AND TYPE OF GLUE USED:
   - FOR EPOXY, HOLE DIAMETER SHALL BE DOWEL DIA. + (2 x 1/8")
   - FOR CEMENT GROUT, HOLE DIAMETER SHALL BE DOWEL DIA. + (2 x 1/4")

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
202 (A)	UNCLASSIFIED EXCAVATION	CY
414 (E)	FULL DEPTH P. C. C. PATCH (PLACEMENT)	SY
414 (G)	P. C. CONCRETE FOR PAVEMENT	CY
415	CONCRETE JOINT SEALING	LF
416	DOWEL BAR RETROFIT	EA
425	DIAMOND GRINDING CONCRETE PAVEMENT	SY

APPROVED BY ROADWAY ENGINEER: _____ DATE: 01/23/19

ROADWAY DESIGN DIVISION STANDARD

PORTLAND CEMENT CONCRETE PAVEMENT REPAIR

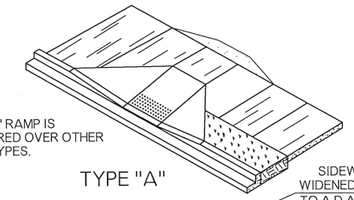
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

PCPR-3 | 2

R-19

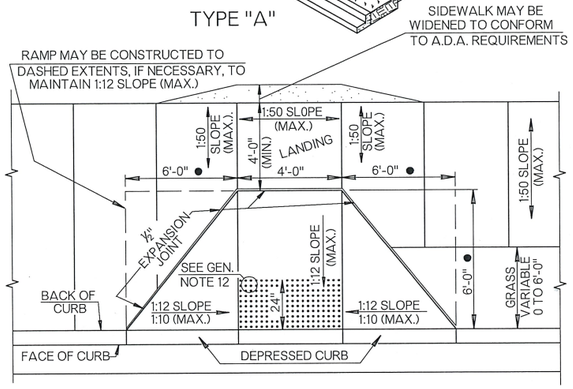
OKLAHOMA DEPARTMENT OF TRANSPORTATION

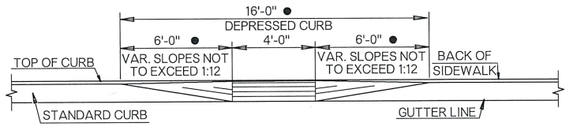
STANDARD REVISIONS	
DESCRIPTION	DATE



TYPE "A" RAMP IS PREFERRED OVER OTHER RAMP TYPES.

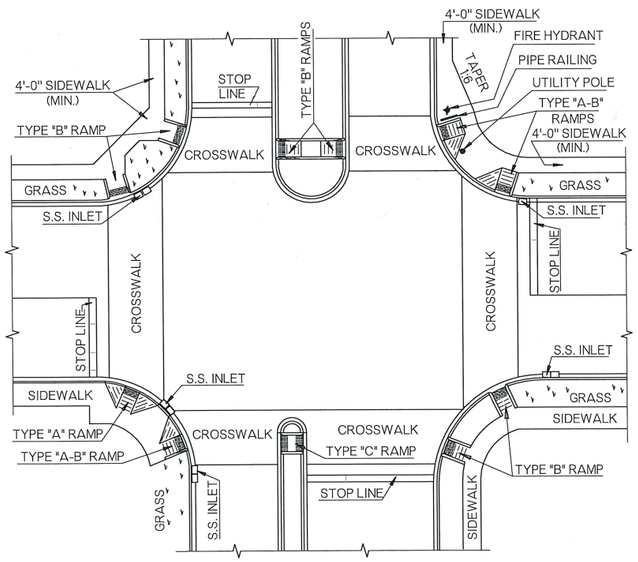
TYPE "A"



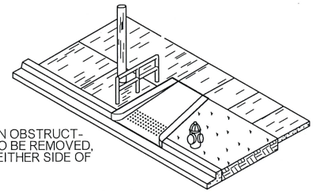


ELEVATION

● RAMP DIMENSIONS SHOWN ARE BASED ON A CURB HEIGHT OF SIX INCHES. THE DIMENSIONS SHOULD BE ADJUSTED FOR OTHER CURB HEIGHTS. THE MAXIMUM PERMISSIBLE SLOPES OF THE WHEELCHAIR RAMPS IS 8.33% (1:12). RAMP SLOPE MAY BE 1:10 (MAXIMUM) ALONG FACE OF TAPERED CURB.

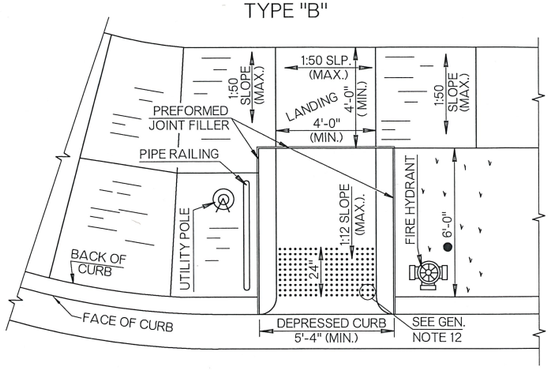


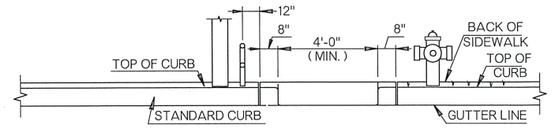
THE ABOVE EXAMPLES ARE TYPICAL ONLY AND ARE SHOWN TO ILLUSTRATE POSSIBLE RAMP TYPES, POSSIBLE RAMP LOCATIONS, POSSIBLE INLET LOCATIONS, AND HOW THE RAMP WILL BE DESIGNATED ON THE PLANS. CARE SHOULD BE EXERCISED TO ASSURE THAT MEDIAN RAMP AND CURB RAMP LINE UP AND THAT RAMPS THROUGHOUT A PROJECT ARE LOCATED WITH SOME DEGREE OF UNIFORMITY.



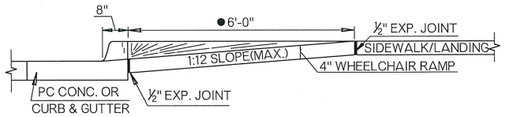
USE TYPE "B" RAMP WHEN OBSTRUCTIONS, WHICH ARE NOT TO BE REMOVED, ARE ENCOUNTERED ON EITHER SIDE OF WHEELCHAIR RAMPS.

TYPE "B"

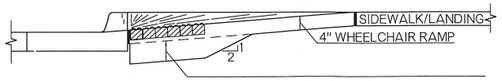




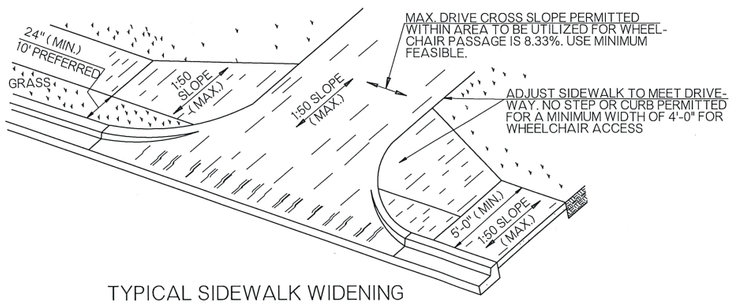
ELEVATION



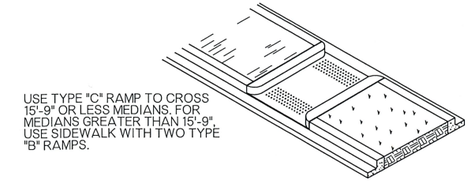
WHEELCHAIR RAMP PROFILES
(TYPE A OR B)



SIDEWALK THICKENING FOR TYPE A TACTILE WARNING DEVICES

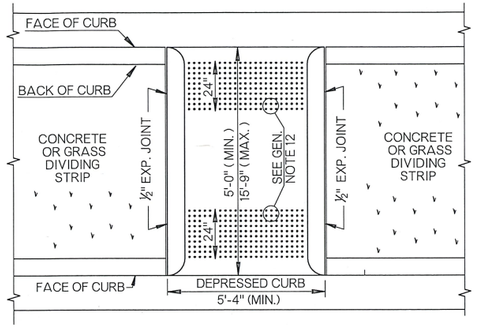


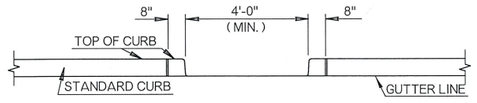
TYPICAL SIDEWALK WIDENING AT DRIVEWAY



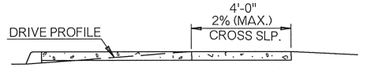
USE TYPE "C" RAMP TO CROSS 15'-9" OR LESS MEDIANS. FOR MEDIANS GREATER THAN 15'-9", USE SIDEWALK WITH TWO TYPE "B" RAMPS.

TYPE "C"

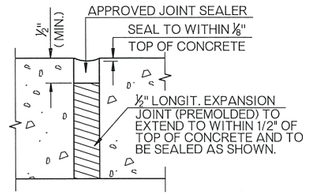




ELEVATION



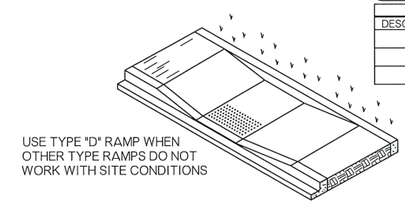
AT DRIVEWAY LOCATIONS, THE NORMAL 4'-0" SIDEWALK MUST BE WIDENED SO THAT A 4' PORTION OF SIDEWALK IS ALIGNED WITH SIDEWALK CROSSING SHELF IN THE DRIVEWAY PROFILE. A WIDER SIDEWALK (5'-0" TYP.) SHALL ALSO BE USED AT INTERVALS LESS THAN 200 FEET, TO ASSURE WHEELCHAIR PASSAGE.



1/2" EXPANSION JOINT

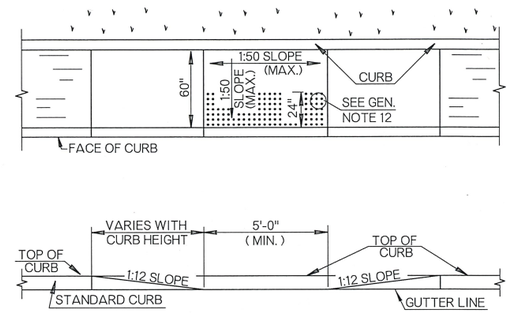
JOINT FILLER SHALL MEET THE REQUIREMENTS OF SECTION 701.08 OF THE SPECIFICATIONS.

JOINT FILLER SHALL BE USED BETWEEN SIDEWALK AND CURBS, WHEELCHAIR RAMPS, DRIVEWAYS, STREETS, RETAINING WALLS, ETC.



USE TYPE "D" RAMP WHEN OTHER TYPE RAMPS DO NOT WORK WITH SITE CONDITIONS

TYPE "D"



ELEVATION

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. THERE WILL BE NO DEDUCTION OF PAYMENT FOR CONCRETE CURB & GUTTER AND/OR INTEGRAL CURB FOR THE LENGTH OF THE DEPRESSED CURB.
3. DRAINAGE STRUCTURES SHALL NOT BE PLACED IN LINE WITH THE RAMPS.
4. THE NORMAL GUTTER LINE PROFILE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP WITH A 1:50 SLOPE (MAX.), SEE GENERAL NOTE NO. 9.
5. WHEELCHAIR RAMPS SHOULD BE LOCATED SO THAT THE RAMP WILL BE ON THE TRAFFIC APPROACH SIDE OF ANY OBSTACLE.
6. WHEELCHAIR RAMPS SHOULD BE BUILT AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE TYPE OF RAMP WILL BE DESIGNATED ON THE PLANS. IF A RAMP IS TO BE CONSTRUCTED AS A COMBINATION OF TWO TYPES, (ONE SIDE TYPE "A" AND ONE SIDE TYPE "B") THE RAMP SHALL BE DESIGNATED AS TYPE "A-B."
7. PIPE RAILING CONSTRUCTION DETAILS, WHEN REQUIRED AT TYPE "B" WHEELCHAIR RAMPS, WILL BE SHOWN ON THE PLANS.
8. EXCAVATION, BACKFILL, EXPANSION JOINT MATERIAL, SEALERS, AND OTHER RELATED MISCELLANEOUS ITEMS WILL NOT BE PAID FOR SEPARATELY BUT THE COST THEREOF SHALL BE INCLUDED IN THE COST OF THE SIDEWALK.
9. ALL FEATURES OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, CURB RAMPS AND CROSSWALK MARKINGS SHALL COMPLY WITH THE PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG). WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THE PROWAG, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURE(S). THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK WHICH IS NOT IN FULL COMPLIANCE WITH THE PROWAG WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE PROWAG, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
10. ALL WHEELCHAIR RAMP CURBS SHALL BE INCLUDED IN COST OF SIDEWALK.
11. FOR DETAILS OF TACTILE WARNING DEVICES, SEE THE CURRENT VERSION OF ROADWAY STANDARD TWD-1.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
610 (A)	■ CONCRETE SIDEWALK	SY
622 (A)	PIPE RAILING	LF

■ SIDEWALK THICKNESS SHALL BE SPECIFIED IN INCHES.

APPROVED BY ROADWAY ENGINEER Caleb F A DATE 01/23/19

ROADWAY DESIGN DIVISION STANDARD

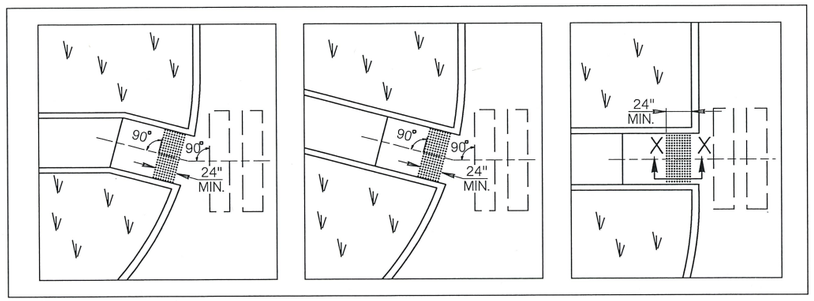
WHEELCHAIR RAMPS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

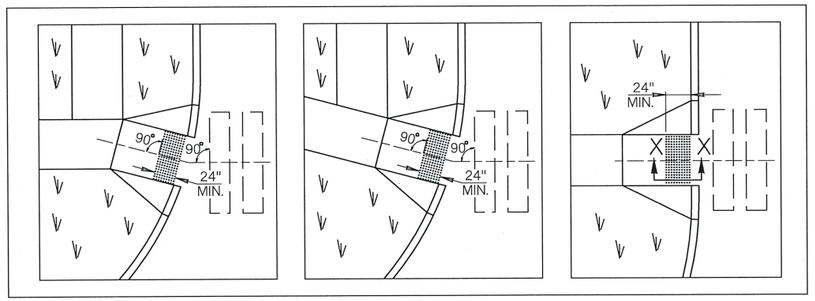
WCR-3	2

P-22

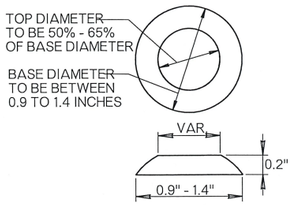
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



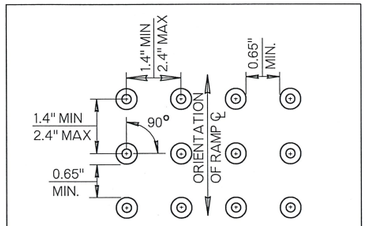
TACTILE SYSTEM ORIENTATION - TYPICAL CURBED RAMPS



TACTILE SYSTEM ORIENTATION - TYPICAL FLARED RAMPS



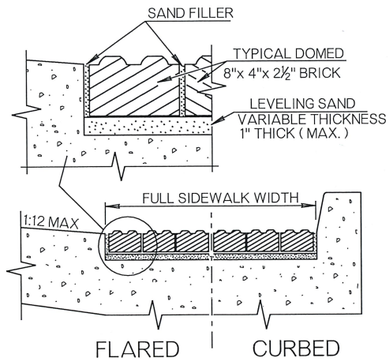
TACTILE MARKERS
TRUNCATED DOMES



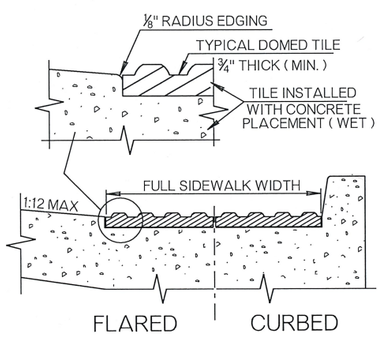
90° GRID DOME PATTERN
(SEE GENERAL NOTE NUMBER 15 & 16.)

GENERAL NOTES

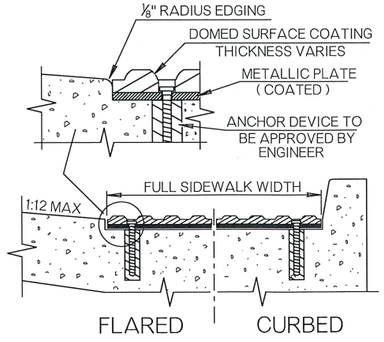
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL FEATURES OF TACTILE WARNING DEVICE DESIGN AND FINAL INSTALLATION SHALL COMPLY WITH THE PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG). WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THE PROWAG, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURE(S). THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK WHICH IS NOT IN FULL COMPLIANCE WITH THE PROWAG WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE PROWAG, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
3. TACTILE WARNING SURFACE SHALL EXTEND FROM EDGE TO EDGE OF WALKWAY ENTERING THE CROSSWALK, AT STREET LEVEL.
4. CURB IS NOT SHOWN IN THE SECTION X-X DETAIL ON THIS SHEET.
5. THICKNESS 'T' OF PAVEMENT ABUTTING SIDEWALK/RAMP VARIES.
6. SIDEWALK, RAMP AND FLARE THICKNESS SHALL BE 4" MINIMUM THICKNESS AFTER INSTALLATION OF TACTILE WARNING TREATMENT.
7. TRUNCATED DOME SURFACE SHALL CONTRAST VISUALLY WITH THE ADJOINING WALKING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE TRUNCATED SURFACE.
8. LEVELING SAND FOR DOMED BRICK SYSTEMS SHALL MEET THE REQUIREMENTS OF SECTION 703.06B(2) OF THE SPECIFICATIONS.
9. SURFACE BONDED TACTILE SYSTEMS MAY ONLY BE PLACED ON NEWLY POURED CONCRETE AFTER AN APPROPRIATE PERIOD OF CURING, IN ACCORDANCE WITH MANUFACTURE'S SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.
10. ROWS OF TACTILE DOME TREATMENT SHOULD BE ORIENTED PARALLEL WITH CENTERLINE OF SIDEWALK/RAMP OR TOWARD THE CENTERLINE OF MARKED CROSSWALK.
11. EXPANSION JOINTS DEEMED NECESSARY, BUT NOT SHOWN ON THE PLANS, MAY BE ADDED AND PLACED DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER.
12. TACTILE SYSTEMS, DOME PATTERNS OR FEATURES DIFFERING FROM THOSE SHOWN ON THIS DETAIL, BUT MEETING CURRENT PROWAG SPECIFICATIONS, SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER BEFORE INSTALLATION.
13. THE SAME TACTILE DOME PATTERN AND COLOR SHALL BE USED THROUGHOUT ANY NEW OR RETROFIT PROJECT. DOME PATTERN & LOCATION OF EXISTING RAMPS TO BE RETROFIT WITH TACTILE DEVICES SHALL BE DESIGNATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
14. RETROFIT INSTALLATIONS WILL NOT REQUIRE REPLACING EXISTING DEPRESSED CURBING. A NOMINAL 6 TO 8 INCH SETBACK FROM FACE OF CURB SHALL BE ENFORCED FOR NEAR EDGE OF TACTILE DOMES.
15. TYPES A & B TACTILE SYSTEMS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 10,000 PSI. TYPES C & D SYSTEMS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI. COMPRESSIVE TESTS MEET ASTM D695.
16. TACTILE WARNING SURFACES MAY NOT BE STAMPED IN WET CONCRETE.



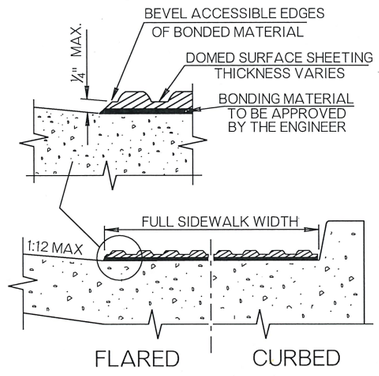
SECTION A - A



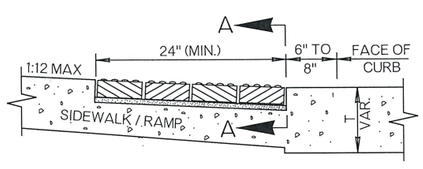
SECTION B - B



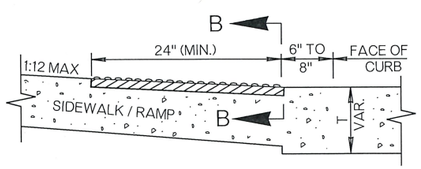
SECTION C - C



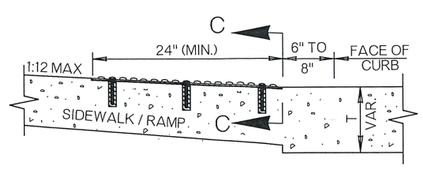
SECTION D - D



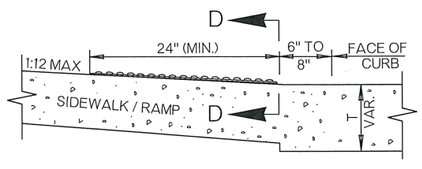
SECTION X - X
TYPE A
DOMED BRICK SYSTEM



SECTION X - X
TYPE B
DOMED TILE SYSTEM
(WET SET INLAY)



SECTION X - X
TYPE C
DOME COATED PLATE SYSTEM
(TYPICAL RETROFIT)



SECTION X - X
TYPE D
SURFACE BONDED DOMED SYSTEM
(TYPICAL RETROFIT)

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
610 (I)	TACTILE WARNING DEVICE - NEW	SF
610 (I)	TACTILE WARNING DEVICE - RETROFIT	SF

NOTE: TYPE A OR B TACTILE WARNING DEVICE SHALL BE SPECIFIED ON THE PLANS FOR NEW CONSTRUCTION & TYPE C OR D SHALL BE SPECIFIED ON THE PLANS FOR RETROFIT CONSTRUCTION.

APPROVED BY ROADWAY ENGINEER Caleb A ____ DATE: 01/23/19

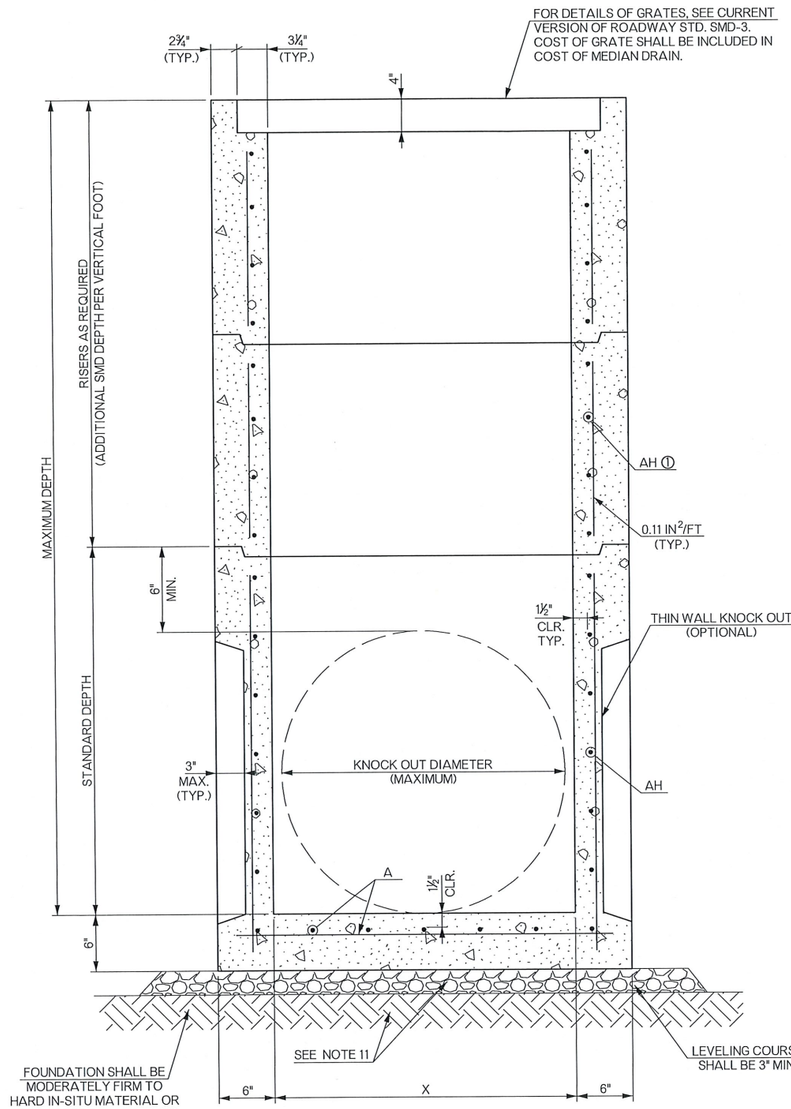
ROADWAY DESIGN DIVISION STANDARD

TACTILE WARNING DEVICES

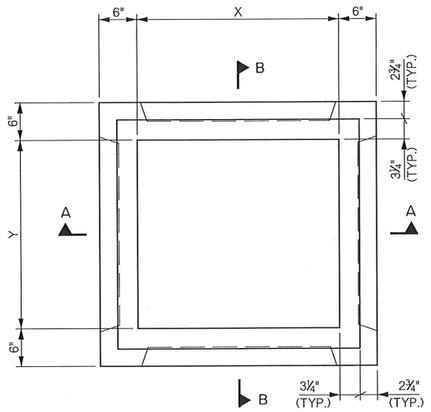
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

TWD-1	1

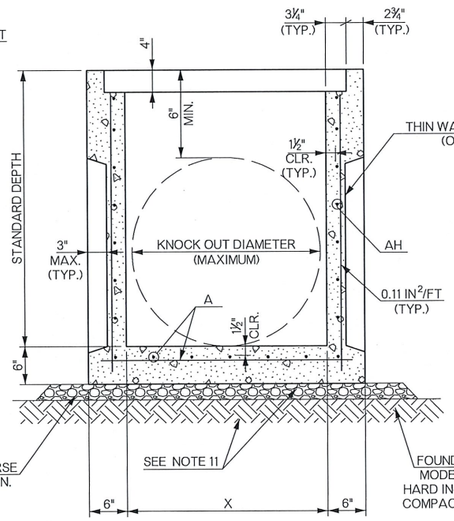
R-23



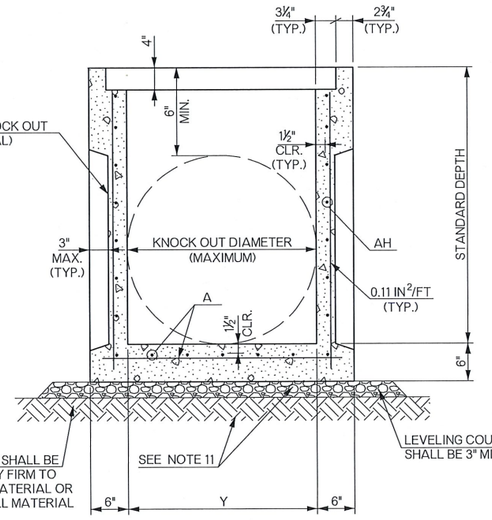
SECTION A-A
RISER OPTION



PLAN



SECTION A-A
STANDARD DEPTH INLET



SECTION B-B
STANDARD DEPTH INLET

DESIGN DATA

MATERIAL:

CLASS A CONCRETE f'c = 4 KSI
REINFORCING STEEL fy = 60 KSI

LOADING:

HL-93

DESIGN:

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION
ASTM C890
ASTM C913

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. STANDARD DEPTH IS AS SHOWN. COST OF ALL MATERIALS FOR ADDITIONAL DEPTH SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET. INLET ADDITIONAL DEPTH DATA SHALL BE NOTED ON THE PLANS.
3. THERE SHALL BE A MINIMUM VERTICAL DISTANCE OF 6" BETWEEN OPENINGS AND THE TOP EDGE.
4. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE GRADE 60 REINFORCING STEEL CONFORMING TO ASTM A615 OR EQUIVALENT AREA OF WELDED WIRE REINFORCING CONFORMING TO ASTM A1064.
6. PROVIDE A MINIMUM CLEAR COVER OF 1½" TO REINFORCING STEEL.
7. WALLS OR SLABS WITH A THICKNESS OF 8" OR GREATER REQUIRE A SECONDARY LAYER OF REINFORCING STEEL. PROVIDE AN AREA OF STEEL EQUAL TO 0.11 IN^2/FT EACH WAY.
8. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON BOTH SHOULDERS. MINIMUM SPIGOT DEPTH IS ¾".
9. SEAL TONGUE AND GROOVE JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS MAY BE GROUTED NO MORE THAN 1" BETWEEN EACH SECTIONS OR ½ THE JOINT DEPTH, WHICHEVER IS GREATER. JOINT SEALING SHALL BE INCLUDED IN COST OF STRUCTURE.
10. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT THE MANUFACTURER'S RECOMMENDATIONS.
11. THE FOUNDATION SHALL BE STABILIZED OR REMOVED AND REPLACED WITH FIRM AND STABLE FOUNDATION MATERIAL. A MINIMUM 3" THICK LEVELING COURSE SHALL BE PROVIDED BELOW THE BASE AREA OF THE INLET AND EXTEND 6" BEYOND THE BASE AREA. THE LEVELING COURSE SHALL BE CONSTRUCTED WITH AGGREGATE BASE TYPE A. COSTS ASSOCIATED WITH THE FOUNDATION AND LEVELING COURSES SHALL BE INCLUDED IN THE PRICE BID OF THE STRUCTURE.
12. THIN WALL KNOCKOUTS MAY BE CAST AT THE MANUFACTURER'S DISCRETION.
13. REFER TO PROJECT PLAN SHEETS FOR NUMBER, LOCATION, AND SIZE OF PIPE.
14. FLEXURAL REINFORCING STEEL SHALL NOT EXCEED SPACING OF 6" CENTER TO CENTER.

SCHEDULE OF DIMENSIONS AND REINFORCING STEEL

PIPE DIAMETER	STANDARD DEPTH	TYPE OF GRATE	KNOCK OUT DIAMETER	X	Y	A BARS (IN^2/FT) DEPTH			AH BARS (IN^2/FT) ① DEPTH									
						≤5'	≤10'	≤15'	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'
18" & 24"	3'-2"	TYPE 1 OR 2	2'-6"	2'-8"	2'-6"	0.17	0.21	0.26	0.12	0.12	0.12	0.13	0.14	0.15	0.17	0.18	0.20	0.21	0.23	0.24
30"	4'-3"	TYPE 2B	3'-8"	3'-8"	3'-8"	0.20	0.27	0.34	0.19	0.22	0.25	0.28	0.31	0.35	0.38	0.41	0.45	0.48	0.52	0.55

① SECTIONS WITHOUT A THIN WALL KNOCK OUT AND A MINIMUM THICKNESS OF 6" MAY USE AN AREA OF REINFORCING STEEL EQUAL TO 0.13 IN^2/FT

REINFORCING STEEL VALUES LISTED IN "SCHEDULE OF DIMENSIONS AND REINFORCING STEEL" ARE MINIMUM VALUES. STRUCTURES THAT PROVIDE VALUES LARGER THAN THOSE SHOWN WILL BE CONSIDERED ACCEPTABLE.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
611(G)	PRECAST INLET (SMD - TYPE 1)	EA.
611(G)	PRECAST INLET (SMD - TYPE 2)	EA.
611(G)	PRECAST INLET (SMD - TYPE 2B)	EA.

APPROVED BY ROADWAY ENGINEER: _____ DATE 03/05/19

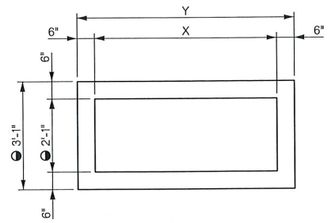
ROADWAY STANDARD

PRECAST STANDARD MEDIAN DRAIN

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

PSMD-1 | 0

R-24



PLAN VIEW - STANDARD CURB INLET

CURB INLET SCHEDULE

DESIGNATION	STRUCTURE LENGTH		
	DESIGN 1	DESIGN 2	DESIGN 3
STD.	3'-7"	6'-2"	11'-6"
A	6'-3"	8'-10"	14'-2"
B	8'-11"	11'-6"	16'-10"
C	11'-7"	14'-2"	19'-6"
D	14'-4"	16'-11"	22'-3"
2A	8'-11"	11'-6"	16'-10"
A-B	11'-7"	14'-2"	19'-6"
A-C	14'-3"	16'-10"	22'-2"
2B	14'-3"	16'-10"	22'-2"
B-C	16'-11"	19'-6"	24'-10"
2C	19'-7"	22'-2"	27'-6"
B-D	19'-8"	22'-3"	27'-7"
2D	25'-1"	27'-8"	33'-0"

CURB INLET ADDITIONAL OPENINGS

CURB OPENING DESIGNATION	THROAT SECTION LENGTH
A	2'-8"
B	5'-4"
C	8'-0"
D	10'-9"

① STANDARD DEPTH
2'-9" FOR 18" DIA. PIPE
3'-4" FOR 24" DIA. PIPE
4'-0" FOR 30" DIA. PIPE
4'-6" FOR 36" DIA. PIPE

DESIGN DATA

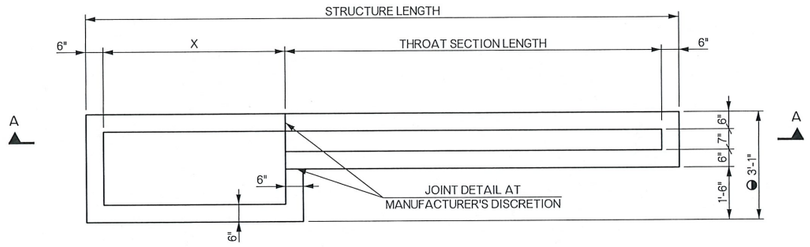
MATERIAL:
CLASS A CONCRETE f'c = 4 KSI
REINFORCING STEEL fy = 60 KSI

LOADING:
HL-93

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION
ASTM C890
ASTM C913

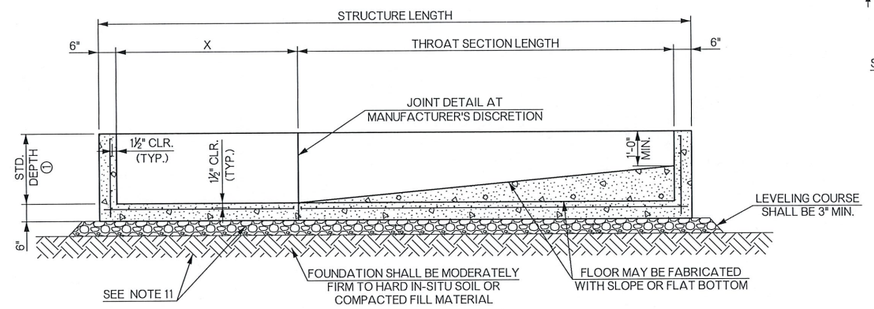
GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. FOR DETAILS OF FRAMES, GRATES AND HOODS SEE ROADWAY STANDARDS SSIF-4, CIG-3 AND CI-1. COST OF FRAMES, GRATES AND HOODS SHALL BE INCLUDED IN THE COST OF THE STRUCTURE.
3. THERE SHALL BE A MINIMUM VERTICAL DISTANCE OF 6" BETWEEN AN OPENING AND ANY EDGE.
4. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE GRADE 60 REINFORCING STEEL CONFORMING TO ASTM A615 OR EQUIVALENT AREA OF WELDED WIRE REINFORCING CONFORMING TO ASTM A1064.
6. PROVIDE A MINIMUM CLEAR COVER OF 1½" TO REINFORCING STEEL.
7. WALLS OR SLABS WITH A THICKNESS OF 8" OR GREATER REQUIRE A SECONDARY LAYER OF REINFORCING STEEL. PROVIDE AN AREA OF REINFORCING STEEL EQUAL TO 0.11 IN^2/FT EACH WAY IN THE SECONDARY LAYER.
8. BLOCKOUTS IN WALLS MAY BE FORMED FOR GRATE SUPPORT BEAMS. THE SUPPORT BEAM SHALL BE OF SIZE S4x7.7 OR AS DESCRIBED ON ROADWAY STANDARD SSIF-4.
9. MAXIMUM OPENING DIAMETER SHALL BE 4" LARGER THAN OUTSIDE DIAMETER OF PIPE.
10. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT THE MANUFACTURER'S RECOMMENDATIONS.
11. THE FOUNDATION SHALL BE STABILIZED OR REMOVED AND REPLACED WITH FIRM AND STABLE FOUNDATION MATERIAL. A MINIMUM 3" THICK LEVELING COURSE SHALL BE PROVIDED BELOW THE BASE AREA OF THE INLET AND EXTEND 6" BEYOND THE BASE AREA. THE LEVELING COURSE SHALL BE CONSTRUCTED WITH AGGREGATE BASE TYPE A. COSTS ASSOCIATED WITH THE FOUNDATION AND LEVELING COURSE SHALL BE INCLUDED IN THE PRICE BID OF THE STRUCTURE.
12. WALLS AND SLABS WILL HAVE A MINIMUM THICKNESS OF 6". A TOLERANCE OF ±3/8" WILL BE ALLOWED FOR FABRICATION.
13. FLEXURAL REINFORCING STEEL SHALL NOT EXCEED SPACING OF 6" CENTER TO CENTER

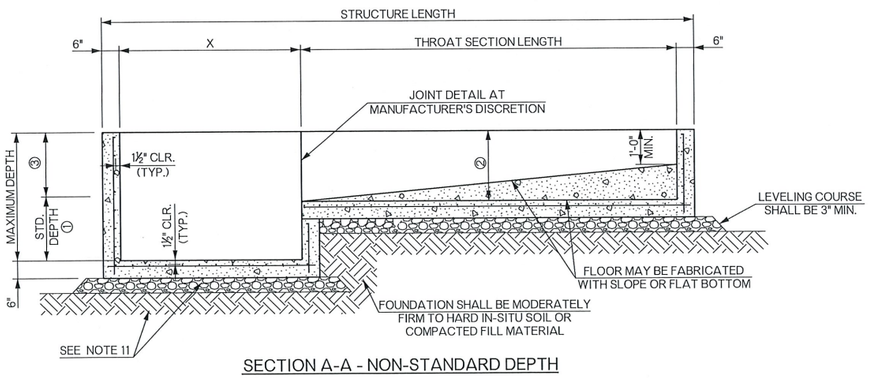


PLAN VIEW - CURB INLET WITH ADDITONAL OPENINGS

NOTE: THROAT SECTION MAY ENTER EITHER OR BOTH SIDES OF CURB INLET.

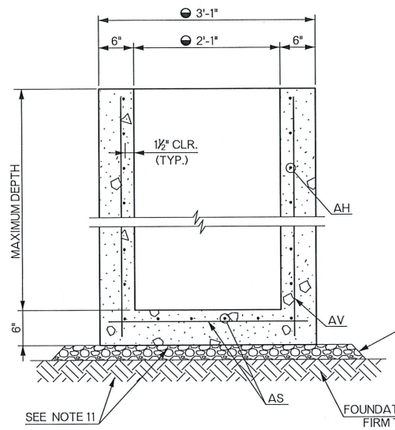


SECTION A-A - STANDARD DEPTH

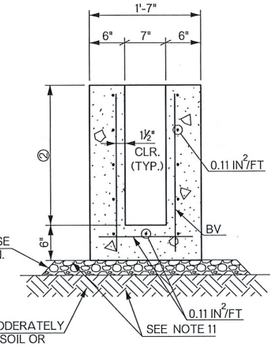


SECTION A-A - NON-STANDARD DEPTH

③ ADDITIONAL CURB INLET DEPTH PER VERTICAL FOOT



CROSS-SECTIONAL VIEW - CURB INLET



CROSS-SECTIONAL VIEW - THROAT

② STANDARD DEPTH SHALL BE AS SHOWN IN STANDARD DEPTH TABLE ABOVE. NON-STD. DEPTH SHALL BE A MINIMUM OF 2'-0" AND A MAXIMUM OF 5'-0"

SCHEDULE OF DIMENSIONS AND REINFORCING STEEL

INLET DESIGN	◒X	◒Y	AH BARS (IN^2/FT) DEPTH 3'	4'	5'	6'	7'	8'	9'	10'	AS BARS (IN^2/FT)	AV BARS (IN^2/FT)	BV BARS (IN^2/FT) DEPTH 3'	4'	5'
1	2'-7"	3'-7"	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.20	0.11			
2	5'-2"	6'-2"	0.11	0.11	0.11	0.11	0.11	0.12	0.13	0.14	0.18	0.11	0.11	0.16	0.26
3	10'-6"	11'-6"	0.20	0.25	0.29	0.33	0.37	0.41	0.46	0.50	0.13	0.17			

◒ DIMENSIONS SHOWN ARE THE MAXIMUM DIMENSIONS ALLOWED. INLET DIMENSIONS LESS THAN THOSE SHOWN ARE ACCEPTABLE FOR THE APPLICABLE INLET DESIGN NUMBER PROVIDED THE DIMENSIONS MEET GEOMETRIC REQUIREMENTS OF THE FRAMES, GRATES AND HOODS.

REINFORCING STEEL VALUES LISTED IN "SCHEDULE OF DIMENSIONS AND REINFORCING STEEL" ARE MINIMUM VALUES. STRUCTURES THAT PROVIDE VALUES LARGER THAN THOSE SHOWN WILL BE CONSIDERED ACCEPTABLE.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
611(G)	PRECAST INLET CI DES. 1 (STD)	EA.
611(G)	PRECAST INLET CI DES. 1 (A)	EA.
611(G)	PRECAST INLET CI DES. 1 (B)	EA.
611(G)	PRECAST INLET CI DES. 1 (C)	EA.
611(G)	PRECAST INLET CI DES. 1 (D)	EA.
611(G)	PRECAST INLET CI DES. 1 (2A)	EA.
611(G)	PRECAST INLET CI DES. 1 (A-B)	EA.
611(G)	PRECAST INLET CI DES. 1 (A-C)	EA.
611(G)	PRECAST INLET CI DES. 1 (2B)	EA.
611(G)	PRECAST INLET CI DES. 1 (B-C)	EA.
611(G)	PRECAST INLET CI DES. 1 (2C)	EA.
611(G)	PRECAST INLET CI DES. 2 (STD)	EA.
611(G)	PRECAST INLET CI DES. 2 (B)	EA.
611(G)	PRECAST INLET CI DES. 2 (C)	EA.
611(G)	PRECAST INLET CI DES. 2 (D)	EA.
611(G)	PRECAST INLET CI DES. 2 (2B)	EA.
611(G)	PRECAST INLET CI DES. 2 (2C)	EA.
611(G)	PRECAST INLET CI DES. 2 (B-D)	EA.
611(G)	PRECAST INLET CI DES. 2 (2D)	EA.
611(G)	PRECAST INLET CI DES. 3 (STD)	EA.
611(G)	PRECAST INLET CI DES. 3 (B)	EA.
611(G)	PRECAST INLET CI DES. 3 (D)	EA.
611(G)	PRECAST INLET CI DES. 3 (2B)	EA.
611(G)	PRECAST INLET CI DES. 3 (B-D)	EA.
611(G)	PRECAST INLET CI DES. 3 (2D)	EA.
611(G)	ADD'L DEPTH IN PRECAST INLET CI DES. 1	VF
611(G)	ADD'L DEPTH IN PRECAST INLET CI DES. 2	VF
611(G)	ADD'L DEPTH IN PRECAST INLET CI DES. 3	VF

APPROVED BY ROADWAY ENGINEER: _____ DATE: 03/05/19

ROADWAY DESIGN DIVISION STANDARD

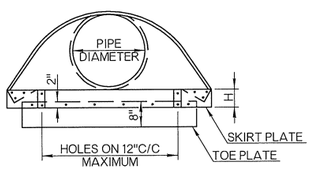
PRECAST CURB INLET (DESIGNS 1, 2 AND 3)

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

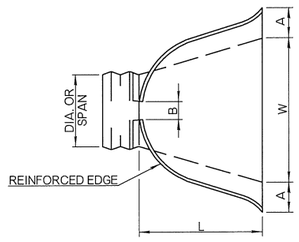
PCI-0 | 0 | R-25

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE

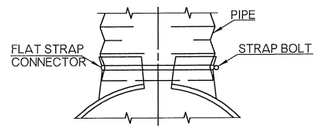
DIMENSIONS OF END SECTIONS FOR ROUND METAL PIPE								
PIPE DIA.	GA.	A	B	H	L	W	APPROX. SLOPE	BODY TYPE
12"	16	6"	6"	6"	21"	24"	1:2 1/2	1 PC.
15"	16	7"	8"	6"	26"	30"	1:2 1/2	1 PC.
18"	16	8"	10"	6"	31"	36"	1:2 1/2	1 PC.
21"	16	9"	12"	6"	36"	42"	1:2 1/2	1 PC.
24"	16	10"	13"	6"	41"	48"	1:2 1/2	1 PC.
30"	14	12"	16"	8"	51"	60"	1:2 1/2	1 PC.
36"	14	14"	19"	9"	60"	72"	1:2 1/2	2 PC.
42"	12	16"	22"	11"	69"	84"	1:2 1/2	2 PC.
48"	12	18"	27"	12"	78"	90"	1:2 1/4	2 PC.
54"	12	18"	30"	12"	84"	102"	1:2	2 PC.
60"	12	18"	33"	12"	87"	114"	1:1 3/4	3 PC.
66"	12	18"	36"	12"	87"	120"	1:1 1/2	3 PC.
72"	12	18"	39"	12"	87"	126"	1:1 1/3	3 PC.
78"	12	18"	42"	12"	87"	132"	1:1 1/4	3 PC.
84"	12	18"	45"	12"	87"	138"	1:1 1/6	3 PC.



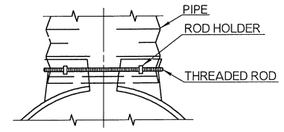
ROUND METAL PIPE END SECTION
END VIEW



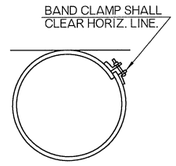
METAL END SECTION
PLAN VIEW



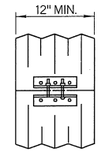
TYPE 1
FOR 12" TO 24" ROUND AND
EQUIVALENT ROUND PIPE ARCH SIZES.



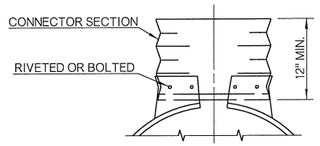
TYPE 2
FOR 30" TO 36" ROUND AND
30" TO 48" EQUIVALENT ROUND
PIPE - ARCH SIZES.



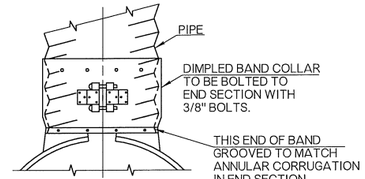
COUPLING BAND



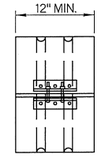
STANDARD
COUPLING BAND



TYPE 3
FOR 42" TO 84" ROUND AND
54" TO 72" EQUIVALENT ROUND
PIPE - ARCH SIZES.



TYPE 4
FOR USE WITH ALL ROUND
AND PIPE ARCH SIZES.

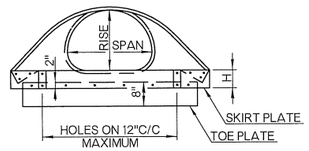


DIMPLED
COUPLING BAND

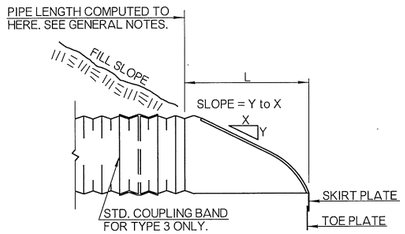
TYPICAL METAL END SECTION CONNECTIONS

DIMENSIONS OF END SECTIONS FOR METAL PIPE - ARCH									
SPAN x RISE	EQUIV. ROUND	GA.	A	B	H	L	W	APPROX. SLOPE	BODY TYPE
17" x 13"	15"	16	7"	9"	6"	19"	30"	1:2 1/2	1 PC.
21" x 15"	18"	16	7"	10"	6"	23"	36"	1:2 1/2	1 PC.
24" x 18"	21"	16	8"	12"	6"	28"	42"	1:2 1/2	1 PC.
28" x 20"	24"	#16	9"	14"	6"	32"	48"	1:2 1/2	1 PC.
35" x 24"	30"	14	10"	16"	6"	39"	60"	1:2 1/2	1 PC.
42" x 29"	36"	#14	12"	18"	8"	46"	75"	1:2 1/2	1 PC.
49" x 33"	42"	12	13"	21"	9"	53"	85"	1:2 1/2	2 PC.
57" x 38"	48"	12	18"	26"	12"	63"	90"	1:2 1/2	2 PC.
64" x 43"	54"	12	18"	30"	12"	70"	102"	1:2 1/4	2 PC.
71" x 47"	60"	12	18"	33"	12"	77"	114"	1:2 1/4	3 PC.
77" x 52"	66"	12	18"	36"	12"	77"	126"	1:2	3 PC.
83" x 57"	72"	12	18"	39"	12"	77"	138"	1:2	3 PC.

FOR ALUMINUM END SECTIONS THE 28" x 20" SHALL BE 14 GAGE AND THE 42" x 29" SHALL BE 12 GAGE.



ARCH METAL PIPE END SECTION
END VIEW

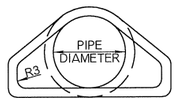


METAL END SECTION
SIDE VIEW

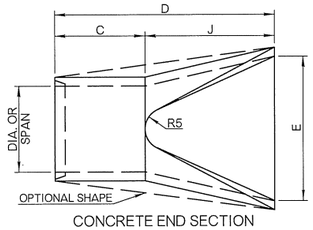
GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. CULVERT END SECTIONS SHALL BE OF THE SAME MATERIAL AND SHAPE (ROUND, ARCH, OR ELLIPTICAL) AS THE PIPE ON WHICH THEY ARE INSTALLED.
3. DIMENSIONS SHOWN FOR END SECTIONS ARE SUBJECT TO MANUFACTURER TOLERANCES.
4. TOE PLATE WILL BE REQUIRED ON ALL METAL END SECTIONS UNLESS SOLID ROCK IS ENCOUNTERED. HOLES IN TOE PLATE TO BE PUNCHED TO MATCH HOLES IN SKIRT PLATE. 3/8" BOLTS TO BE FURNISHED. LENGTH OF TOE PLATES FOR ROUND PIPE END SECTIONS SHALL BE W=10" FOR 12" TO 30" DIAMETER PIPE, W=20" FOR 36" TO 84" DIAMETER PIPE. LENGTH OF TOE PLATES FOR ARCH PIPE END SECTIONS SHALL BE W=10" FOR A RISE OF 13" TO 29" AND W=20" FOR A RISE OF 33" TO 57".
5. CONNECTOR SECTION, SKIRT PLATE, AND TOE PLATE ON METAL END SECTIONS SHALL BE THE SAME GAGE AND MATERIAL AS THE SKIRT AND SHALL BE INCLUDED IN PRICE BID FOR END SECTION.
6. IF TYPE 3 METAL END SECTION IS USED AS OPTIONAL PIPE, THE LENGTH OF PIPE TO BE REDUCED BY 12" FOR EACH END SECTION. IF CONCRETE PIPE OPTION IS USED, THE LENGTH OF PIPE TO BE REDUCED BY THE C DIMENSION FOR EACH END SECTION.

DIMENSIONS OF PRECAST END SECTIONS FOR ROUND PIPE										
DIAMETER	R3	R4	R5	T	K	J	C	D	E	SLOPE
18"	3"	3"	6"	2 1/2"	9"	2.25'	3.83'	6.08'	3.00'	1:3
24"	3"	3"	7"	3"	9 1/2"	3.63'	2.50'	6.12'	4.00'	1:3
30"	3"	3"	8"	3 1/2"	12"	4.50'	1.65'	6.16'	5.00'	1:3
36"	3"	3"	10 1/2"	4"	15"	5.25'	2.90'	8.15'	6.00'	1:3
42"	3"	3"	10 1/2"	4 1/2"	21"	5.25'	2.92'	8.17'	6.50'	1:3
48"	6"	6"	14"	5"	24"	6.00'	2.17'	8.17'	7.00'	1:3
54"	6"	6"	-	5 1/2"	27"	5.42'	2.92'	8.33'	7.50'	1:2 1/2
60"	6"	6"	-	6"	30"	5.00'	3.25'	8.25'	8.00'	1:2
66"	6"	6"	-	6 1/2"	24"	6.50'	1.75'	8.25'	8.50'	1:2
72"	6"	6"	-	7"	24"	6.50'	1.75'	8.25'	9.00'	1:2

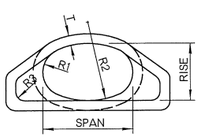


ROUND CONCRETE PIPE
END SECTION
END VIEW

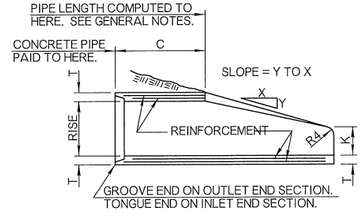


CONCRETE END SECTION
PLAN VIEW

DIMENSIONS OF PRECAST END SECTIONS FOR ELLIPTICAL PIPE													
APPROX. EQUIV. DIAMETER	RISE	SPAN	R1	R2	R3	R4	R5	T	K	J	C	D	E	SLOPE
18"	14"	23"	6"	20"	3"	3"	6"	2 3/4"	8"	2.25'	3.75'	6.00'	3.00'	1:3
24"	19"	30"	8 1/4"	26 1/4"	3"	3"	7"	3 1/4"	8 1/2"	3.25'	2.75'	6.00'	4.00'	1:3
30"	24"	38"	10 1/4"	32 3/4"	3"	3"	9"	3 3/4"	9 1/2"	4.50'	1.50'	6.00'	5.00'	1:3
36"	29"	45"	12 1/4"	39 1/4"	3"	3"	12"	4 1/2"	11 1/4"	5.00'	3.00'	8.00'	6.00'	1:3
42"	34"	53"	14 1/2"	46"	6"	6"	13"	5"	15 3/4"	5.00'	3.00'	8.00'	6.50'	1:3
48"	38"	60"	16 1/2"	51 1/2"	6"	6"	14"	5 1/2"	21"	5.00'	3.00'	8.00'	7.00'	1:3
54"	43"	68"	18 3/4"	58 1/2"	6"	6"	16"	6"	25 1/2"	5.00'	3.00'	8.00'	7.50'	1:3
60"	48"	76"	20 3/4"	65"	6"	6"	36 11/16"	6 1/2"	30"	5.00'	3.25'	8.25'	8.00'	1:2
66"	53"	83"	22 3/4"	71 1/2"	6"	6"	36 1/8"	7 1/2"	24"	6.50'	1.75'	8.25'	8.50'	1:2
72"	58"	91"	24 3/4"	78"	6"	6"	38"	7 1/2"	24"	6.50'	1.75'	8.25'	9.00'	1:2

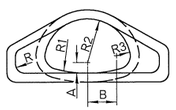


ELLIPTICAL CONCRETE PIPE
END SECTION
END VIEW



CONCRETE END SECTION
SIDE VIEW

DIMENSIONS OF PRECAST END SECTIONS FOR ARCH PIPE																	
APPROX. EQUIV. DIAMETER	SPAN	RISE	A	B	R	R1	R2	R3	R4	R5	T	K	J	C	D	E	SLOPE
18"	22"	13"	- 1/4"	5 3/4"	2"	27 1/2"	13 3/4"	5 1/4"	3"	13"	2 1/2"	7"	2.25'	3.75'	6.08'	3.00'	1:3
24"	28"	18"	3 7/16"	9 21/32"	3"	40 11/16"	14 9/16"	4 19/32"	3"	16 13/16"	3"	9 1/2"	3.58'	2.50'	6.08'	4.00'	1:3
30"	36"	22"	3 3/4"	12 3/32"	3"	51"	18 3/4"	6 1/32"	3"	18 1/2"	3 1/2"	12"	4.50'	1.58'	6.08'	5.00'	1:3
36"	43"	26"	4 1/8"	15 1/2"	6"	62"	22 1/2"	6 3/8"	3"	24 5/16"	4"	15"	5.25'	2.90'	8.15'	6.00'	1:3
42"	51"	31"	5 1/16"	18"	6"	73"	26 1/4"	7 9/16"	3"	27 1/2"	4 1/2"	21"	5.25'	2.92'	8.17'	6.50'	1:3
48"	58"	36"	6"	20 1/2"	6"	84"	30"	8 3/4"	3"	28 1/2"	5"	24"	6.00'	2.17'	8.17'	7.00'	1:3
54"	65"	40"	6 5/8"	22 11/16"	6"	92 1/2"	33 3/8"	9 13/16"	6"	33 1/8"	5 1/2"	27"	5.42'	2.92'	8.34'	7.50'	1:2.4
60"	73"	45"	7 1/2"	25 9/32"	6"	105"	37 1/2"	11 7/32"	6"	33 11/16"	6"	30"	5.00'	3.25'	8.25'	8.00'	1:2
72"	88"	54"	9"	31 7/16"	6"	126"	45"	12 9/16"	6"	38 15/16"	7"	24"	6.50'	1.75'	8.25'	9.00'	1:2



ARCH CONCRETE PIPE
END SECTION
END VIEW

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
613(L)	▼ PREFAB. CULVERT END SECTION, ROUND	EA
613(L)	▼ PREFAB. CULVERT END SECTION, ARCH	EA
613(L)	▼ PREFAB. CULVERT END SECTION, ELLIPTICAL	EA

▼END SECTION DIMENSION(S) SHALL BE SPECIFIED.

APPROVED BY
ROADWAY ENGINEER: Caleb F. H DATE: 04/14/15

ROADWAY DESIGN DIVISION STANDARD

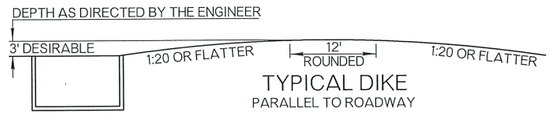
PREFABRICATED CULVERT END SECTIONS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

PCES-4	1

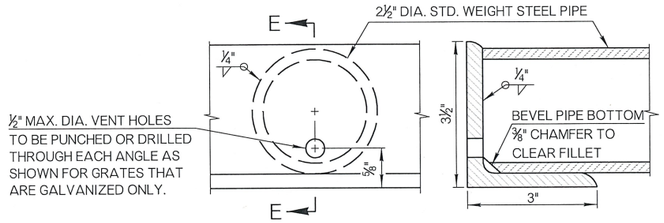
OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE

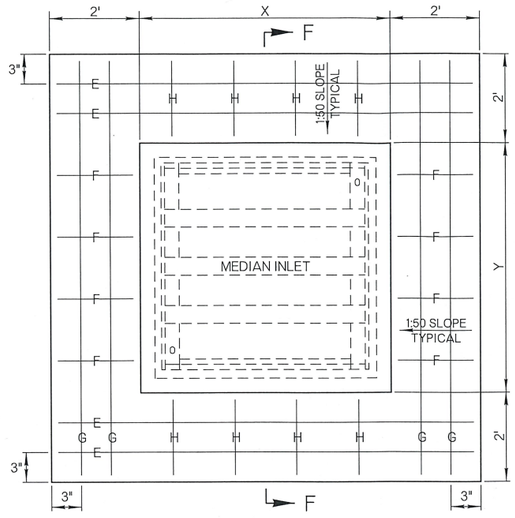


TYPICAL DIKE
PARALLEL TO ROADWAY

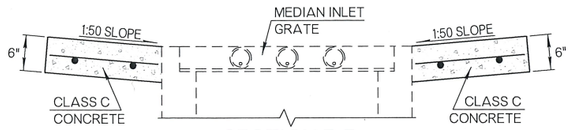
NOTE: WHEN A DIKE IS REQUIRED, IT SHALL BE CONSTRUCTED SLOPING UP FROM THE INLET ON A 1:20 SLOPE TO A DESIRABLE HEIGHT OF 3 FEET. IN NO CASE SHALL THE DIKE TOP BE HIGHER THAN 6" BELOW THE FINISHED GRADE OF THE INNER EDGE OF SURFACING AS SHOWN ON THE PLAN AND PROFILE SHEET.



VENT HOLE DETAIL — SECTION E-E



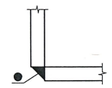
MEDIAN DRAIN CONCRETE APRON DETAIL



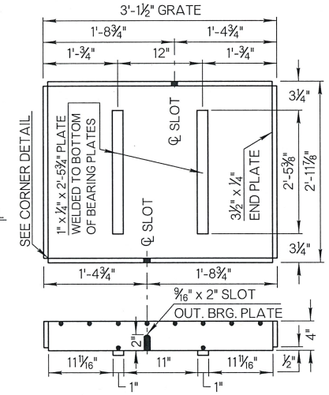
SECTION F-F

APRON REINFORCING STEEL LOCATION & LENGTHS (#4 BARS - EQUALLY SPACED @ 18" MAXIMUM)*							APRON REINF. STEEL°	APRON CLASS C CONCRETE°
DIAMETER	E - BARS	F - BARS	G - BARS	H - BARS	X	Y		
IN.	(NO.) FT. - IN.	(NO.) FT. - IN.	(NO.) FT. - IN.	(NO.) FT. - IN.	FT. - IN.	FT. - IN.	LB.	C.Y.
18 & 24	(4) 7 - 2⅞	(8) 1 - 9	(4) 7 - 4¾	(8) 1 - 9	3 - 7¾	3 - 5⅞	57	0.41
30	(4) 7 - 10	(8) 1 - 9	(4) 7 - 4¾	(8) 1 - 9	3 - 7¾	4 - 1	59	0.43
36	(4) 8 - 5	(9) 1 - 9	(4) 8 - 5	(9) 1 - 9	4 - 8	4 - 8	66	0.49

*MINIMUM 1½" COVER OVER STEEL °QUANTITIES ARE FOR ONE APRON



CORNER DETAIL
- ALL CORNERS SHALL HAVE FULL 4" CORNER WELDS



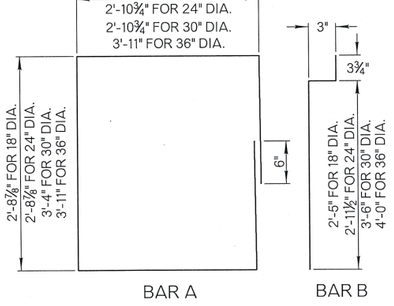
DETAIL ALTERNATE STIFFENER
TYPE 1 GRATE

■½" DIA. x 3½" STD. HEX BOLT W/ NUT (2 TOTAL)
CROSS BARS - ⅜" DIA. x 2'-11⅞" (10 TOTAL)
END PLATES - 3½" x ¼" x 2'-11⅞" (2 TOTAL)
BEARING PLATES - 4" x ¼" x 3'-1" (16 TOTAL)

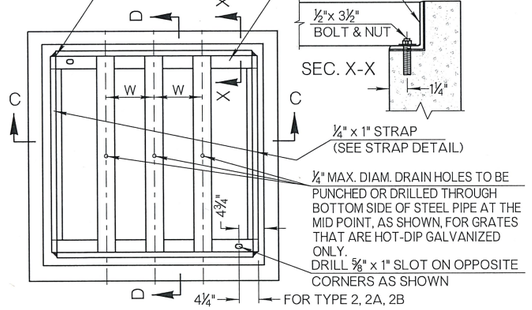
SMD BAR LIST					
BAR	SIZE	NO.	SHAPE	LENGTH	SPACE
TYPE 1 - 18" OR 24" RCP OR CGSP					
A	#4	5	BENT	11'-10"	6" C/C
B	#4	15	BENT	2'-11⅛"	9" C/C
C	#5	7	STR.	3'-1⅛"	6" C/C
D	#5	6	STR.	3'-3¾"	6" C/C
TYPE 2 - 18" OR 24" RCP OR CGSP					
A	#4	6	BENT	11'-10"	6" C/C
B	#4	16	BENT	3'-6¼"	9" C/C
C	#5	7	STR.	3'-1⅛"	6" C/C
D	#5	6	STR.	3'-3¾"	6" C/C
TYPE 2A - 18", 24" OR 30" RCP OR CGSP					
A	#4	7	BENT	12'-11⅛"	6" C/C
B	#4	18	BENT	4'-1"	9" C/C
C	#5	7	STR.	3'-3¾"	6" C/C
D	#5	7	STR.	3'-7"	6" C/C
TYPE 2B - 18",24",30" OR 36" RCP OR CGSP					
A	#4	8	BENT	16'-2"	6" C/C
B	#4	20	BENT	4'-7"	9" C/C
C	#5	7	STR.	4'-4"	6" C/C
D	#5	8	STR.	4'-4"	6" C/C

GRATES - OVERALL DIMENSIONS
TYPE 1 GRATE: 3'-1½" x 2'-11⅞"
TYPE 2 GRATE: 3'-1¼" x 2'-11¾"
TYPE 2A GRATE: 3'-1¼" x 3'-6½"
TYPE 2B GRATE: 4'-1½" x 4'-1½"
W = 8¼" FOR TYPE 2
W = 9" FOR TYPE 2A & 2B

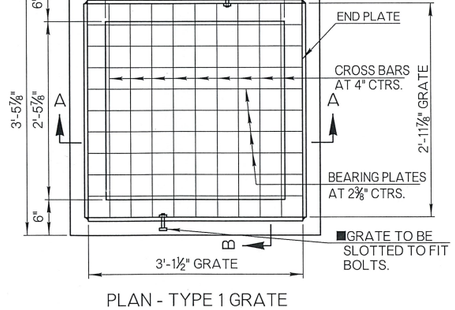
PIPE GRATE MATERIAL
2½" I.D. STD. WEIGHT STEEL PIPE



REINFORCING STEEL



PLAN - TYPE 2, 2A, 2B GRATE

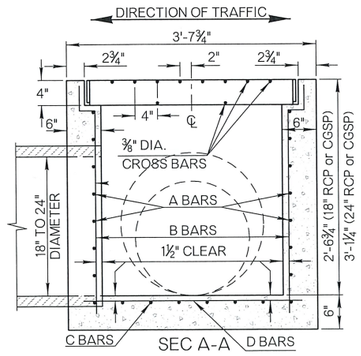


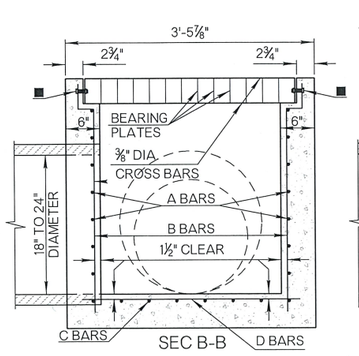
PLAN - TYPE 1 GRATE

ESTIMATED SMD QUANTITIES						ADD'L SMD DEPTH PER VERT. FT.	
DESIGNATED PIPE SIZE IN INLET	TYPE OF GRATE	1 PIPE CLASS A CONC.	2 PIPES CLASS A CONC.	REINF. STEEL	CLASS A CONC.	REINF. STEEL
		CY	CY	LB.	CY	LB
18" RCP	1 OR 2	0.75	0.67	115	0.23	27
24" RCP	1 OR 2	0.85	0.76	129	0.23	27
30" RCP	2A	1.06	0.96	160	0.25	29
36" RCP	2B	1.52	1.38	211	0.31	35

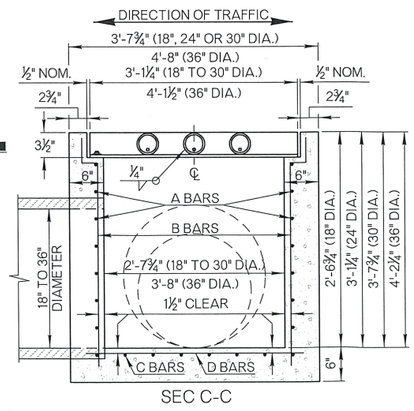
GENERAL NOTES

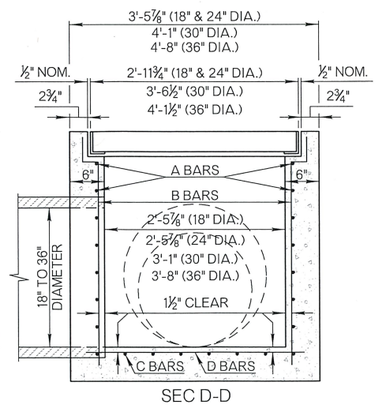
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. VENT HOLES AND DRAIN HOLES FOR HOT DIP GALVANIZATION SHALL BE DRILLED OR PUNCHED IN GRATE AS SHOWN.
3. BICYCLE AND PEDESTRIAN SAFE GRATES, SIMILIAR TO TYPE 1 GRATES, MAY BE USED, PROVIDED THEY MEET THE MINIMUM EQUIVALENT HYDRAULIC AND STRUCTURAL REQUIREMENTS AND PROPOSED DESIGNS ARE APPROVED BY THE ENGINEER. SUBSTITUTED GRATES SHALL BE INCLUDED IN THE PRICE BID FOR THE RESPECTIVE INLET.
4. EXPOSED ROUNDED EDGING, ALL EXPOSED SURFACES SHALL BE FINISHED IN ACCORDANCE WITH SECTION 509 OF THE SPECIFICATIONS.
5. COST OF APRON MATERIALS (INCLUDING REINFORCING STEEL), LABOR, AND INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR SMD INLET.
6. AS-SHOWN ON THIS STANDARD, INLET CONCRETE DRAWINGS AND INLET REINFORCING STEEL DESIGN ARE BASED ON CAST-IN-PLACE MANUFACTURING. PRECAST CONCRETE MANUFACTURED DESIGN AND DRAWINGS ARE ON ROADWAY STANDARD PSMD-0.



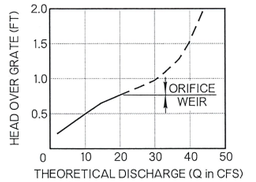


SMD INLET WITH TYPE 1 GRATE



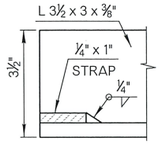


SMD INLET WITH TYPE 2, 2A & 2B GRATE



HYDRAULIC PERFORMANCE CHART

NOTE: TO ALLOW FOR CLOGGING 60% THEORETICAL DISCHARGE IS THE RECOMMENDED FACTOR TO USE IN AREAS SUBJECT TO FLOODING.



STRAP DETAIL

BASIS OF PAYMENT		
ITEM. NO.	ITEM	UNIT
611 (G)	INLET (SMD-TYPE 1)	EA
611 (G)	INLET (SMD-TYPE 2)	EA
611 (G)	INLET (SMD-TYPE 2A)	EA
611 (G)	INLET (SMD-TYPE 2B)	EA

NOTE: COST OF INLET GRATE SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET. COST OF ALL CLASS A CONCRETE AND REINFORCING STEEL NECESSARY FOR ADDITIONAL DEPTH SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET. INLET ADDITIONAL DEPTH DATA SHALL BE NOTED ON THE PLANS.

APPROVED BY ROADWAY ENGINEER: _____ DATE 01/23/19

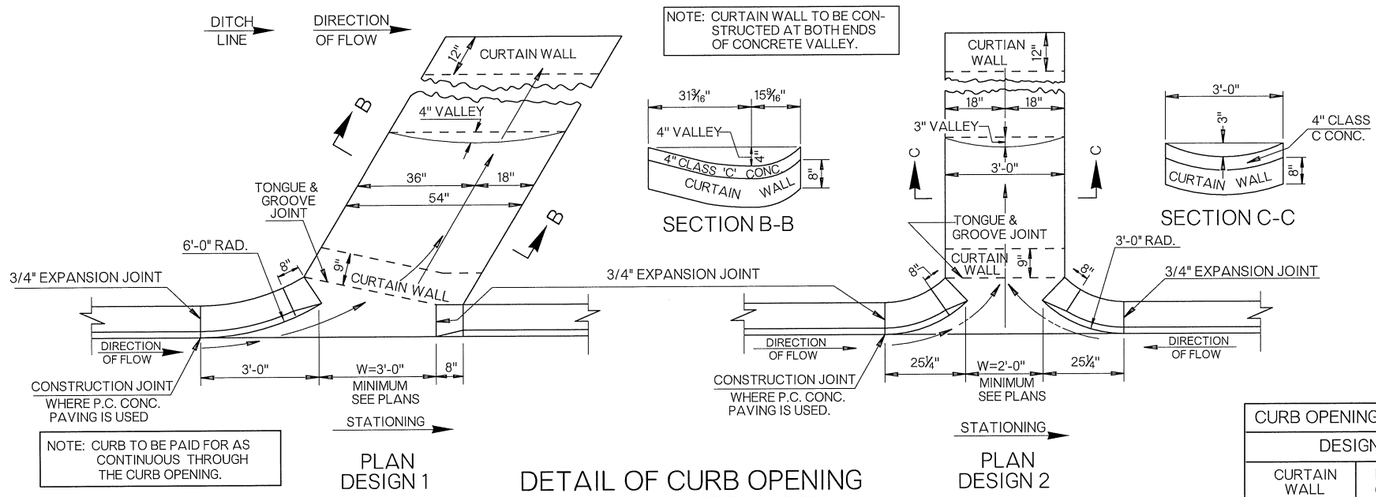
ROADWAY DESIGN DIVISION STANDARD

STANDARD MEDIAN DRAINS
(18" TO 36" PIPES)

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

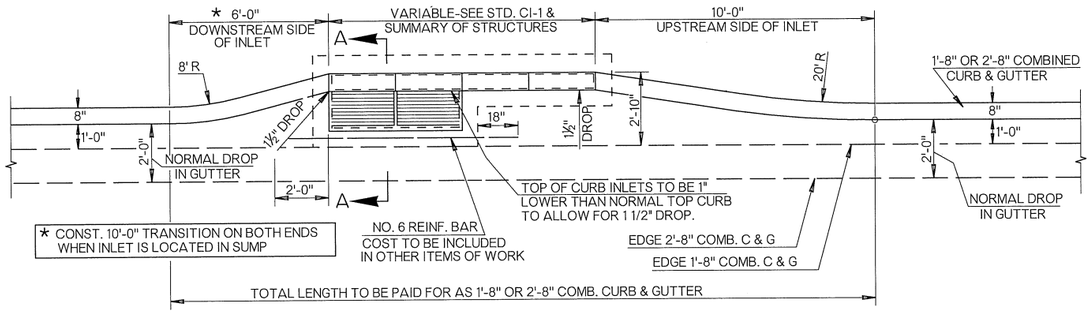
SMD-3	2
	R-36

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



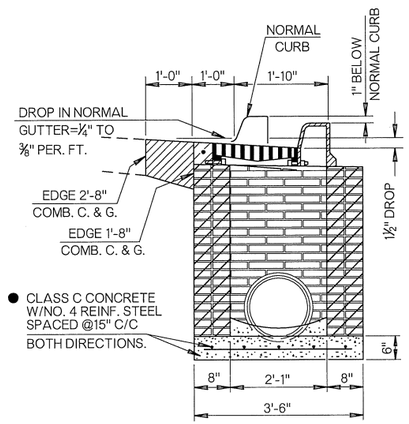
DETAIL OF CURB OPENING IN CONCRETE CURB

CURB OPENING - CLASS C CONCRETE QUANTITIES			
DESIGN 1		DESIGN 2	
CURTAIN WALL	PER FOOT OF FLUME	CURTAIN WALL	PER FOOT OF FLUME
0.096 C.Y.	0.048 C.Y.	0.074 C.Y.	0.037 C.Y.



PLAN

CURB TURNOUT FOR CURB INLET



SECTION A-A

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. INLET STRUCTURES MAY BE SUPPLIED AS PRECAST UNITS IF PROPOSED PRECAST DESIGN IS SUBMITTED TO THE ENGINEER AND APPROVED FOR USE. SEE ROADWAY STANDARD CI-1.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
509 (D)	CLASS C CONCRETE	CY

APPROVED BY ROADWAY ENGINEER: Caleb F. A DATE: 04/11/15

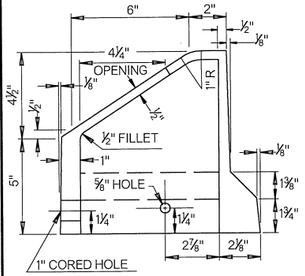
ROADWAY DESIGN DIVISION STANDARD

ODOT STORM SEWER CONSTRUCTION DETAILS

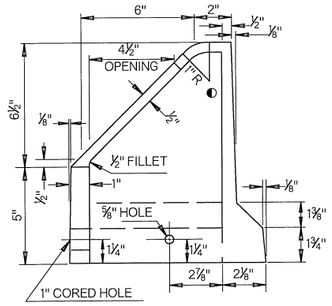
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

SSCD-3	1

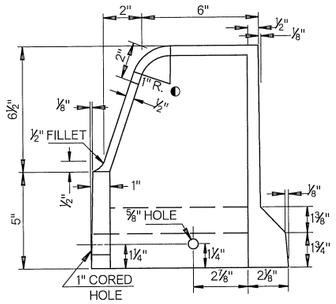
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



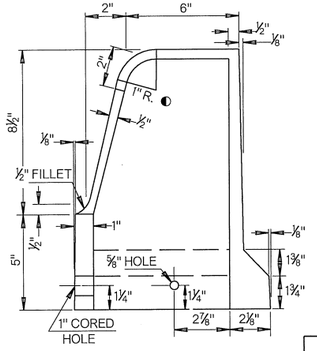
4" MOUNTABLE CURB HOOD



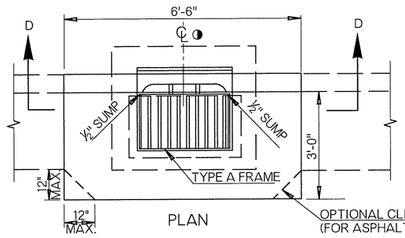
6" MOUNTABLE CURB HOOD



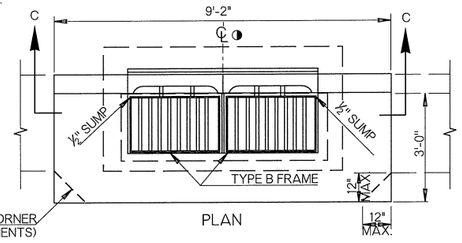
6" BARRIER CURB HOOD



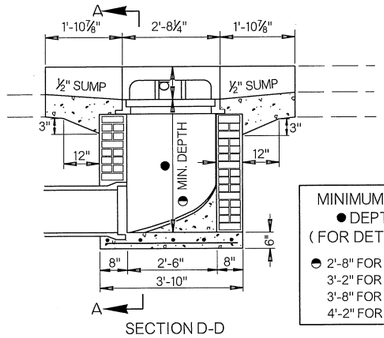
8" BARRIER CURB HOOD



PLAN



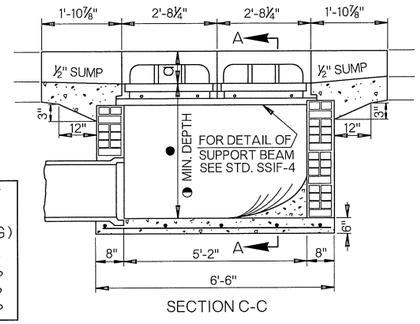
PLAN



SECTION D-D

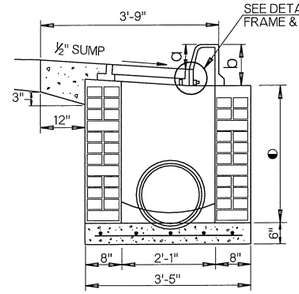
DESIGN 1
(SINGLE GRATE)

MINIMUM INLET
● DEPTH
(FOR DETAILING)
◓ 2'-8" FOR 18" RCP
3'-2" FOR 24" RCP
3'-8" FOR 30" RCP
4'-2" FOR 36" RCP

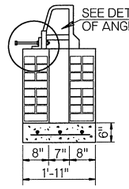


SECTION C-C

DESIGN 2 (DOUBLE GRATING)
DESIGN 3 (MULTIPLE DOUBLE GRATING)

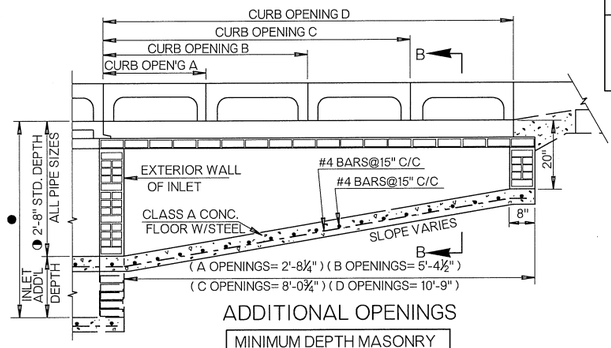


SECTION A-A



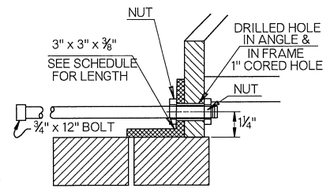
SECTION B-B

DESIGN NO.	TYPE OF CURB	DIMENSIONS a	DIMENSIONS b
1	4" MOUNTABLE	4½"	9½"
	6" MOUNTABLE	6½"	11½"
	6" BARRIER	6½"	11½"
	8" BARRIER	8½"	13½"
2	4" MOUNTABLE	4½"	9½"
	6" MOUNTABLE	6½"	11½"
	6" BARRIER	6½"	11½"
	8" BARRIER	8½"	13½"
3	4" MOUNTABLE	4½"	9½"
	6" MOUNTABLE	6½"	11½"
	6" BARRIER	6½"	11½"
	8" BARRIER	8½"	13½"

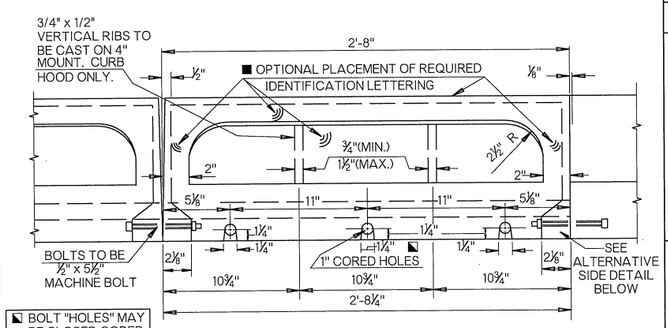


ADDITIONAL OPENINGS

MINIMUM DEPTH MASONRY OR PRECAST WALLS
2'- 3" FOR 18" RCP
2'- 9" FOR 24" RCP
3'- 3" FOR 30" RCP
3'- 9" FOR 36" RCP



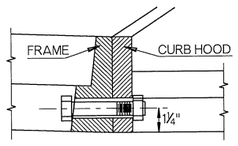
DETAIL OF CONNECTION
ANGLE IRON & CAST IRON HOOD
NOTE: ANGLE IRON TO BE BOLTED TO HOOD WITH 3 EACH - 3/4 " x 12" MACHINE BOLTS IN EACH HOOD SECTION.



◪ BOLT "HOLES" MAY BE CLOSED CORED HOLES OR SLOTS.

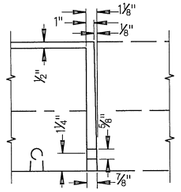
CAST IRON HOOD ELEVATION

■ TOP OF HOOD SHALL STATE "DUMP NO WASTE" AND "DRAINS TO RIVER" OR SIMILAR WORDING.



DETAIL OF CONNECTION
FRAME & CAST IRON HOOD

NOTE: FRAME TO BE BOLTED TO THE HOOD WITH 3 EA.- 3/4" x 4 1/2" MACHINE BOLTS. FOR FRAME DETAILS, SEE ROADWAY STANDARD SSIF-4



ALTERNATE SIDE DETAIL

INLET	CURB OPENING	CLASS A CONCRETE	INLET		INLET FRAME & GRATE	CAST IRON HOOD	ANGLE IRON		
DESIGN	DESIGNATION	CU. YD.	BASE AM'T.	ADD'L. CF PER VERT FT.	EACH	EACH	NO.	LENGTH	
1	STD.	0.24	17.76	7.89	1	1	-	-	-
	A	0.34	23.84	7.89	1	2	1	2'-5⅛"	-
	B	0.43	30.11	7.89	1	3	1	5'-1⅝"	-
	C	0.53	36.38	7.89	1	4	1	7'-9⅛"	-
	D	0.63	42.66	7.89	1	5	1	10'-6¼"	-
	2A	0.43	29.91	7.89	1	3	2	2'-5⅛"	2'-5⅛"
	A-B	0.53	36.19	7.89	1	4	2	2'-5⅛"	5'-1⅝"
	A-C	0.62	42.46	7.89	1	5	2	2'-5⅛"	7'-9⅛"
	2B	0.62	42.46	7.89	1	5	2	5'-1⅝"	5'-1⅝"
	B-C	0.72	48.74	7.89	1	6	2	5'-1⅝"	7'-9⅛"
	2C	0.82	55.01	7.89	1	7	2	7'-9⅛"	7'-9⅛"
2	STD.	0.41	25.76	11.45	2	2	-	-	-
	B	0.60	38.11	11.45	2	4	1	5'-1⅝"	-
	C	0.73	44.39	11.45	2	5	1	7'-9⅛"	-
	D	0.79	50.66	11.45	2	6	1	10'-6¼"	-
	2B	0.79	50.46	11.45	2	6	2	5'-1⅝"	5'-1⅝"
	2C	0.98	63.01	11.45	2	8	2	7'-9⅛"	7'-9⅛"
	B-D	0.98	63.01	11.45	2	8	2	5'-1⅝"	10'-6¼"
	2D	1.17	75.56	11.45	2	10	2	10'-6⅛"	10'-6⅛"
◓ 3	STD.	0.74	41.27	18.34	4	4	-	-	-
	B	0.93	53.62	18.34	4	6	1	5'-1⅝"	-
	D	1.12	66.17	18.34	4	8	1	10'-6⅛"	-
	2B	1.12	65.98	18.34	4	8	1	5'-1⅝"	5'-1⅝"
	B-D	1.31	78.52	18.34	4	10	2	5'-1⅝"	10'-6⅛"
	2D	1.50	91.07	18.34	4	12	2	10'-6⅛"	10'-6⅛"

◓ DEPTH OF 2'-8" SHALL BE USED FOR STANDARD DEPTH FOR ALL PIPE SIZES AND/OR PIPE TYPES. FOR INLET DEPTHS GREATER THAN STANDARD DEPTH, A PAY ITEM FOR ADDITIONAL DEPTH, VERTICAL FEET, SHALL BE USED. TO DETERMINE TOTAL INLET QUANTITY FOR INLET DEPTHS GREATER THAN 2'-8", MULTIPLY ADDITIONAL DEPTH BY ADDITIONAL CU. FT. PER VERTICAL FOOT AND ADD TO THE BASE AMOUNT.

◒ QUANTITIES SHOWN ARE FOR 2 DOUBLE GRATED INLETS.

PAYMENT FOR ALL CLASS A CONCRETE AND ANY REINFORCING STEEL USED TO CONSTRUCT CAST IN PLACE INLET WALLS OR FLOORS SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET.

PRECAST INLET ALTERNATIVES MAY BE ACCEPTED, IN LIEU OF BRICK MASONRY OR CAST-IN-PLACE CONCRETE, IF APPROVED BY THE ENGINEER.

SPECIAL DESIGN CASTINGS, HOODS, FRAMES OR GRATES MAY BE USED, IN LIEU OF STANDARD DESIGNS SHOWN ON THIS SHEET, IF APPROVED BY THE ENGINEER.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. STANDARD SSIF-4 FRAMES AND STANDARD CIG-3 GRATES TO BE USED WITH THESE INLETS UNLESS OTHERWISE SPECIFIED. COST OF THESE ITEMS AND HOODS SHALL BE INCLUDED IN THE COST OF INLET.
3. WHEN THE INLET IS BUILT IN NEW CONCRETE PAVEMENT, THE APRON AROUND THE INLET MAY BE BUILT INTEGRAL WITH PAVEMENT OR MAY BE SEPARATE AND OF THE SIZE AS SHOWN. THE THICKNESS SHALL BE THE SAME AS THE CONCRETE PAVEMENT OR CURB AND GUTTER. IF CONSTRUCTED IN ANY OTHER AREA OR IN EXISTING PAVEMENT, THE APRON AROUND THE INLET SHALL BE THE SIZE AS SHOWN AND BUILT OF P.C. CONCRETE TO A MINIMUM 8 INCH THICKNESS.
4. THERE WILL BE NO DEDUCTION OF PAYMENT FOR CONCRETE CURB AND GUTTER OR P.C. CONCRETE THRU THE EXTENTS OF THE INLET HOODS. DEDUCTION WILL BE MADE FOR THE PAYMENT OF INTEGRAL CURB THROUGH THE EXTENTS OF THE INLET HOODS.
5. ALL LETTERING TO BE RECESSED⅛INCH AND SHALL NOT EXCEED ONE INCH IN HEIGHT. INFORMATION REQUIRED SHALL BE AS STATED IN THE SPECIFICATIONS. LOCATION OF LETTERING TO BE AS SHOWN, WITH ADDITIONAL IDENTIFICATION LETTERING AT OTHER LOCATIONS PERMITTED.
6. CAST IN PLACE CONCRETE WALLS MEETING MIX REQUIREMENTS OF CLASS A CONCRETE MAY BE BUILT IN LIEU OF THE BRICK MASONRY TO THE SAME DIMENSIONS AS SHOWN. NO. 4 REINFORCING STEEL BARS SPACED 30" VERTICALLY AND 12" HORIZONTALLY WILL BE REQUIRED FOR ALL CAST IN PLACE INLET WALLS EXCEEDING 5.0 FEET IN DEPTH (GUTTERLINE TO FLOWLINE). COST OF STEEL REINFORCING TO BE INCLUDED IN THE COST OF THE INLET.
7. ALL CAST IN PLACE CLASS A CONCRETE INLET FLOORS SHALL HAVE NO. 4 REINFORCING STEEL PLACED AT 15" MAXIMUM C/C SPACING IN BOTH DIRECTIONS.
8. THE STANDARD DRAWING, DESIGN NO., DESIGNATION NO., AND NUMBER OF ADDITIONAL OPENINGS SHALL BE INDICATED ON THE PLANS, I.E., EXAMPLE: STD. CI-1, DES. 1(A-B).
9. TYPE B & C FRAMES TO BE USED FOR MULTIPLE DOUBLE GRATES. SEE ROADWAY STD. SSIF-4 FOR DETAILS.
10. BOLT(S) WITH EXPANSION DEVICES OR EPOXY TYPE PUTTY TO BE USED TO INSTALL CAST IRON HOOD INTO CONCRETE CURB. COST OF INSTALLATION TO BE INCLUDED IN PRICE BID FOR THE CURB INLET.
11. CASTINGS AS SHOWN HERE SHALL BE CAST STEEL, DUCTILE IRON OR GRAY IRON CONFORMING TO SECTION 725 OF THE SPECIFICATIONS.

◐ 12. TWO INCH RADIUS MAY BE USED IF APPROVED BY THE ENGINEER.

◑ 13. CONSTRUCTION STATIONING OF CURB INLETS IS DETERMINED BY THE CENTERLINE (℄) OF THE SURFACE GRATES.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611 (G)	INLET (CI DES. ◭)	EA
611 (H)	ADDITIONAL DEPTH IN INLET (CI DES. ▽)	VF
611 (I)	REPLACEMENT OF INLET FRAME AND GRATE▲	EA
611 (J)	REPLACEMENT OF INLET FRAME	EA
611 (K)	REPLACEMENT OF INLET GRATE	EA
611 (M)	REPLACEMENT OF CAST IRON HOOD	EA

◭ SPECIFY INLET DESIGN & CURB OPENING DESIGNATION.
▽ SPECIFY INLET DESIGN 1, 2 OR 3.
▲ TYPE OF FRAME AND TYPE OF GRATE SHALL BE SPECIFIED.

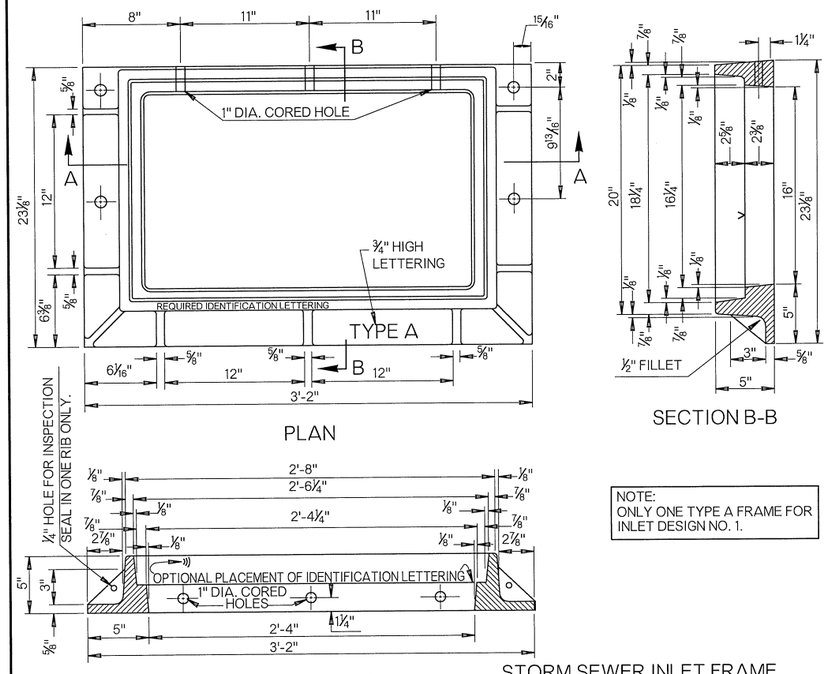
APPROVED BY ROADWAY ENGINEER: Caleb F. A DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

CURB INLETS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

CI-1 | 2



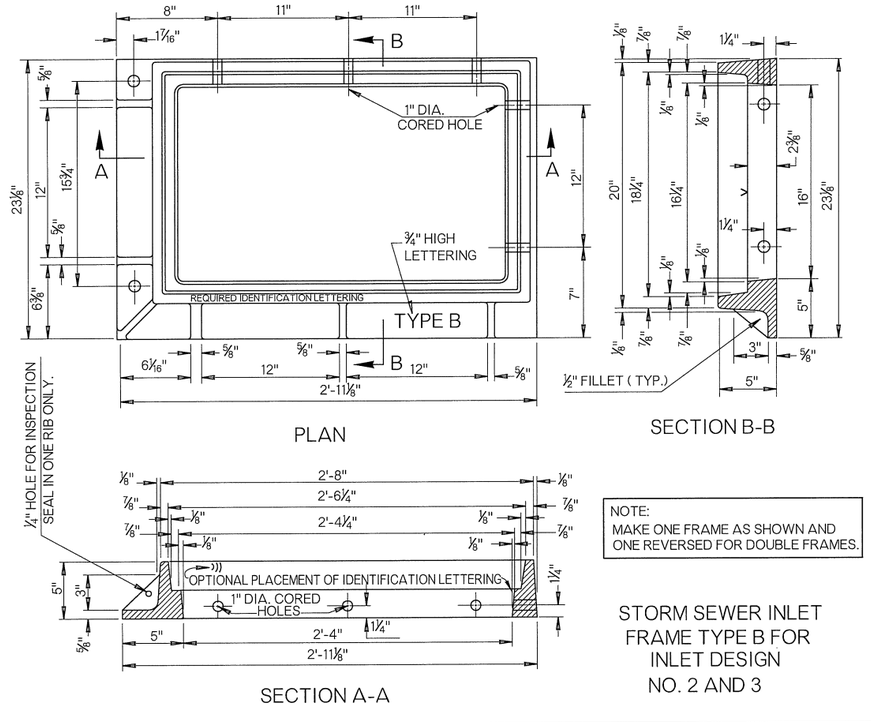
PLAN

SECTION B-B

SECTION A-A

NOTE:
ONLY ONE TYPE A FRAME FOR INLET DESIGN NO. 1.

STORM SEWER INLET FRAME TYPE A FOR INLET DESIGN NO. 1



PLAN

SECTION B-B

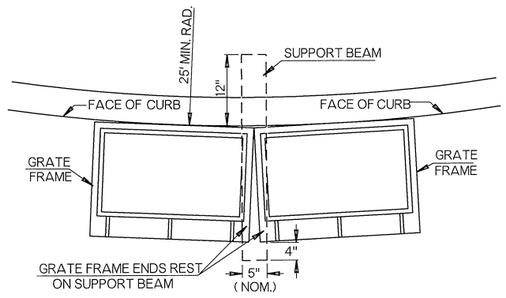
SECTION A-A

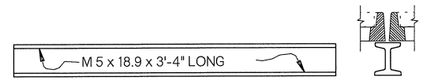
NOTE:
MAKE ONE FRAME AS SHOWN AND ONE REVERSED FOR DOUBLE FRAMES.

STORM SEWER INLET FRAME TYPE B FOR INLET DESIGN NO. 2 AND 3

OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE





ALTERNATE SUPPORT BEAM
TO BE USED IN LIEU OF S 4 x 7.7, WHEN STRUCTURE IS BUILT ALONG CURVED CURB

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. INLET DESIGN NO. 1 REQUIRES ONE TYPE A FRAME.
3. INLET DESIGN NO. 2 REQUIRES TWO TYPE B FRAMES AND 2 EA.-3/4" x 5" BOLTS WITH NUTS AND ONE S 4 x 7.7 x 3'-4" LONG SUPPORT BEAM. IF BUILT ON CURVED CURB, THE INLET REQUIRES 1 EA. 3/4" x 5" BOLT WITH NUT AND 1 EA. 3/4" x 6 1/2" BOLT WITH NUT AND ONE M 5 x 18.9 x 3'-4" LONG SUPPORT BEAM .
4. INLET DESIGN NO. 3 REQUIRES THE SAME APPURTENANCES AS DESIGN NO. 2 WITH TWO OR MORE TYPE C FRAMES LOCATED BETWEEN THE TWO TYPE B FRAMES AND ONE ADDITIONAL SUPPORT BEAM AND A PAIR OF BOLTS WITH NUTS FOR EACH ADDED TYPE C FRAME, PLUS ONE ADDITIONAL PAIR OF BOLTS AND SUPPORT BEAM.
5. ALL LETTERING TO BE RECESSED 1/16" AND SHALL NOT EXCEED 1" IN HEIGHT. INFORMATION REQUIRED SHALL BE STATED IN THE SPECIFICATIONS. LOCATION OF LETTERING TO BE AS SHOWN WITH ADDITIONAL IDENTIFICATION LETTERING AT OTHER LOCATIONS ACCEPTABLE.
6. FRAMES SHALL BE CAST STEEL, DUCTILE IRON, OR GRAY IRON CONFORMING TO SECTION 725 OF THE SPECIFICATIONS.
7. INLET FRAMES AND GRATES INSTALLED DURING ORIGINAL CONSTRUCTION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF THE ORIGINAL INLET.

NOTE: MACHINING (SYMBOL ^) MAY BE ACCOMPLISHED BY MILLING OR BY LEVEL GRINDING.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611 (I)	REPLACEMENT OF INLET FRAME AND GRATE (■)	EA
611 (J)	REPLACEMENT OF INLET FRAME (■)	EA

■ TYPE OF FRAME AND TYPE OF GRATE SHALL BE SPECIFIED.

TYPE A, B, OR C FRAMES AS SHOWN HERE WITH GRATES FROM STD. CIG-3 (TYPE VG-F OR RVG-F) COMPRISE THE PAY ITEM. SEE NOTE THIS SHEET FOR PAY UNIT.

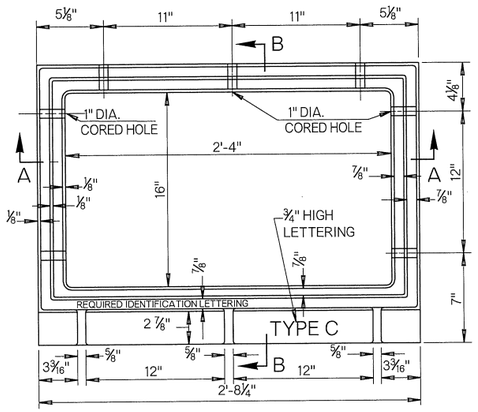
APPROVED BY ROADWAY ENGINEER: _____ DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

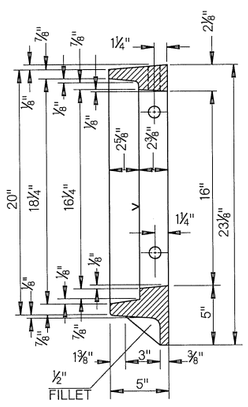
STORM SEWER INLET FRAMES (CURB INLETS)

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

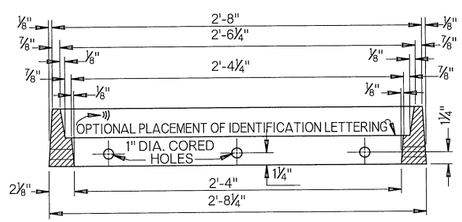
SSIF-4	0



PLAN



SECTION B-B

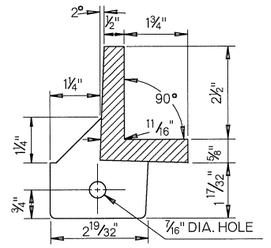


SECTION A-A

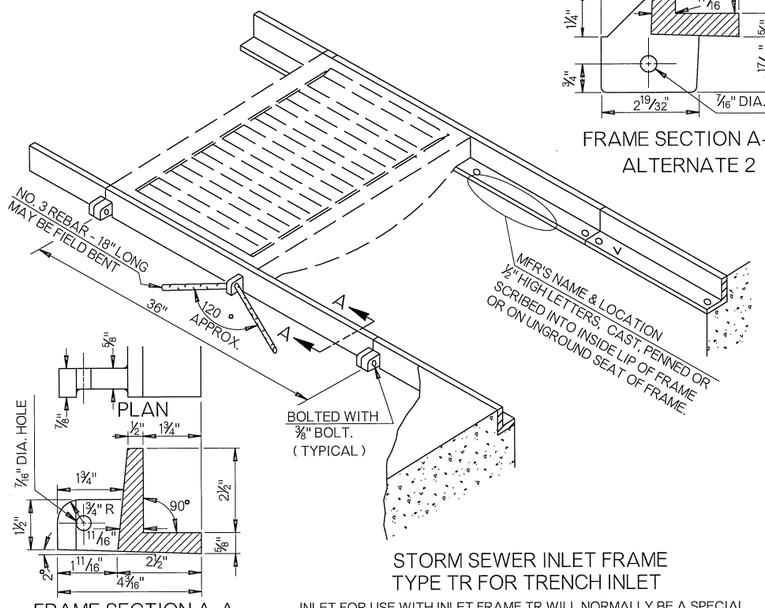
NOTE:
TWO TYPE B FRAMES AND TWO TYPE C FRAMES ARE REQUIRED FOR INLET DESIGN NO. 3.

STORM SEWER INLET FRAME TYPE C FOR INLET DESIGN NO. 3

NOTE: ONE PAY UNIT OF TYPE TR FRAME IS COMPOSED OF TWO 36" LONG SECTIONS OF FRAME. ONE TYPE TR FRAME REQUIRES TWO TRENCH TYPE GRATES (SEE ROADWAY STANDARD CIG-3). DO NOT USE FRAME TYPE GRATES IN A TRENCH INSTALLATION. COST OF BOLTS AND REBARS TO BE INCLUDED IN PRICE BID FOR INLET FRAME. FRAME MEMBERS MAY BE FURNISHED AS TWO 18" LONG PIECES, END-MATCHED, TO PROVIDE ONE 36" LONG UNIT.



FRAME SECTION A-A ALTERNATE 2

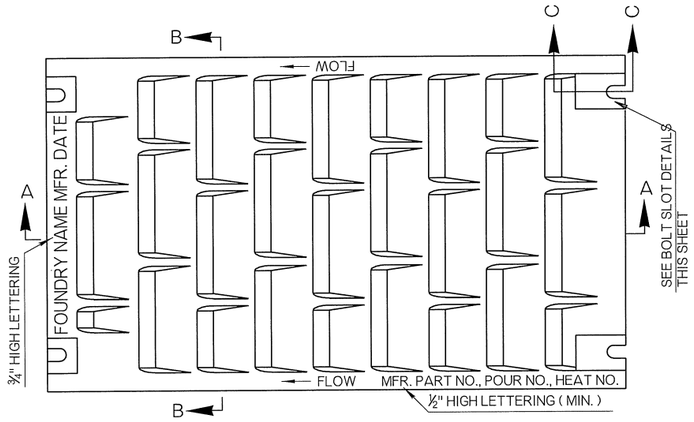


FRAME SECTION A-A ALTERNATE 1

STORM SEWER INLET FRAME TYPE TR FOR TRENCH INLET

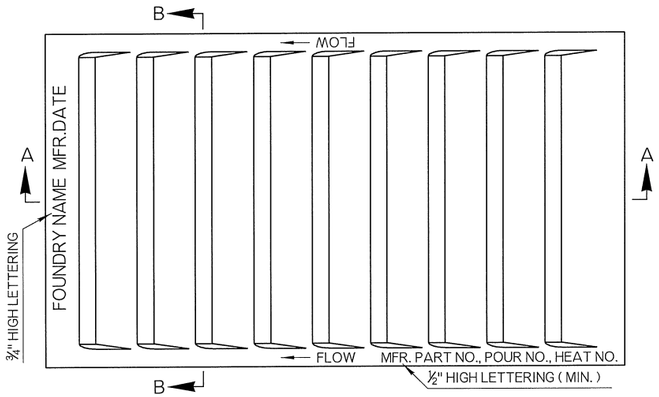
INLET FOR USE WITH INLET FRAME TR WILL NORMALLY BE A SPECIAL DESIGN REINFORCED CONCRETE BOX WITH PART(S) OF THE TOP REMOVED.

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



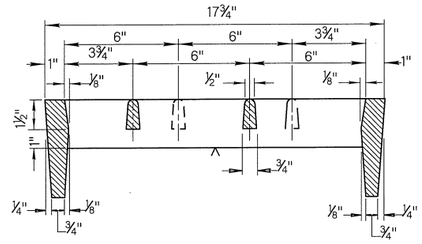
PLAN - RIBBED VANE GRATE
(SHOWN FOR TRENCH INSTALLATION)

TYPE RVG-F (FRAME INSTALLATION)
TYPE RVG-T (TRENCH INSTALLATION)

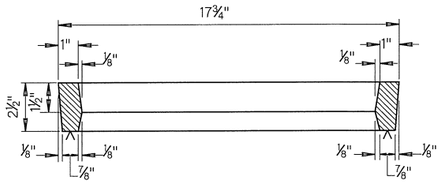


PLAN - VANE GRATE
(SHOWN FOR FRAME INSTALLATION)

TYPE VG-F (FRAME INSTALLATION)
TYPE VG-T (TRENCH INSTALLATION)



SECTION B - B (TRENCH INSTALLATION)

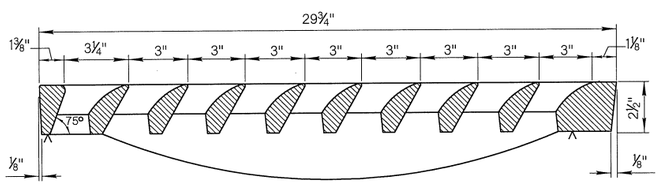


SECTION B - B (FRAME INSTALLATION)

GENERAL NOTES

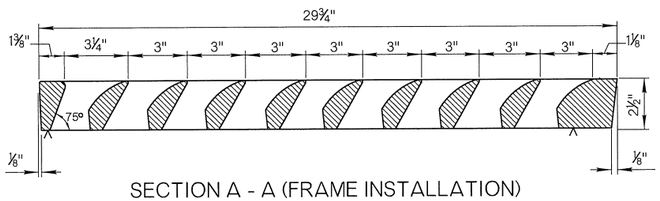
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. FRAME TYPE GRATES SHALL NOT TO BE USED IN TRENCH INSTALLATIONS.
3. GRATES SHALL BE INSTALLED IN THE FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SUMP.
4. ALL LETTERING IS TO BE RECESSED 1/16". ALL INFORMATION REQUIRED SHALL BE SUFFICIENT FOR IDENTIFICATION, AS SHOWN.
5. GRATES SHALL BE CAST STEEL, DUCTILE IRON, OR GRAY IRON CONFORMING TO SECTION 725 OF THE SPECIFICATIONS.
6. ALL GRATES INSTALLED IN A TRENCH FRAME (STD. SSIF-4) SHALL HAVE A BOLTED HOLD-DOWN FEATURE. IF INSTALLED IN AN ANGLE IRON FRAME OR RESTING ON A CONCRETE SHOULDER, A POSITIVE HOLD-DOWN FEATURE, APPROVED BY THE ENGINEER, SHALL BE USED.
7. INLET FRAMES, GRATES AND COVER GRATES INSTALLED DURING ORIGINAL CONSTRUCTION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF THE ORIGINAL INLET OR MANHOLE.

NOTE: MACHINING (SYMBOL ^) MAY BE ACCOMPLISHED BY MILLING OR BY LEVEL GRINDING.



^ MACHINING ONLY ON END BEARING AREAS.

SECTION A - A (TRENCH INSTALLATION)

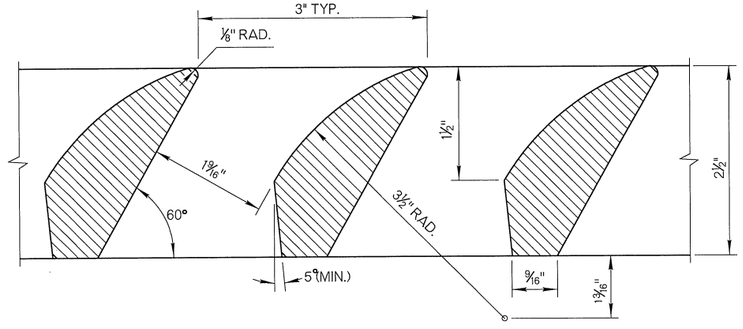


SECTION A - A (FRAME INSTALLATION)

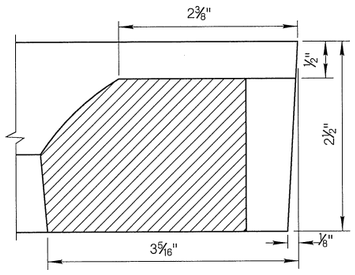
BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
▼ 611 (I)	REPLACEMENT OF INLET FRAME AND GRATE	EA
611 (K)	REPLACEMENT OF INLET GRATE (TYPE ■)	EA

▼ ANY FRAME TYPE GRATE ON THIS DRAWING INSTALLED IN A PROPER FRAME, AS SHOWN ON ROADWAY STANDARD SSIF-4 (TYPE A, B, C) WILL COMPRISE THE PAY ITEM.

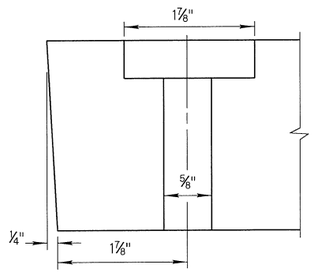
■ CAST INLET GRATE NOMENCLATURE	
TYPE VG-F	VANE GRATE - FRAME TYPE
TYPE VG-T	VANE GRATE - TRENCH TYPE
TYPE RVG-F	RIBBED VANE GRATE - FRAME TYPE
TYPE RVG-T	RIBBED VANE GRATE - TRENCH TYPE



TYPICAL SECTION THRU VANES



SECTION C - C



END VIEW

BOLT SLOT DETAILS

APPROVED BY ROADWAY ENGINEER: _____ DATE 04/16/15

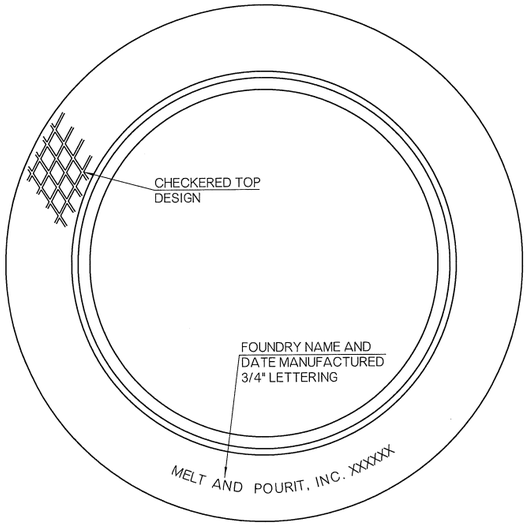
ROADWAY DESIGN DIVISION STANDARD

CAST IRON GRATES
(CURB INLETS)

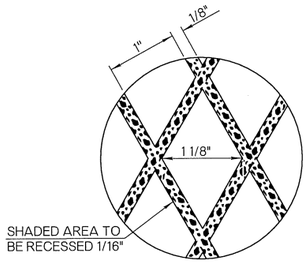
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

CIG-3	0

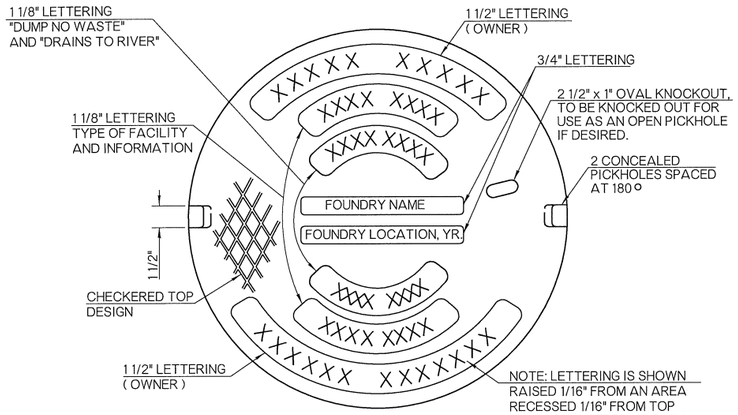
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



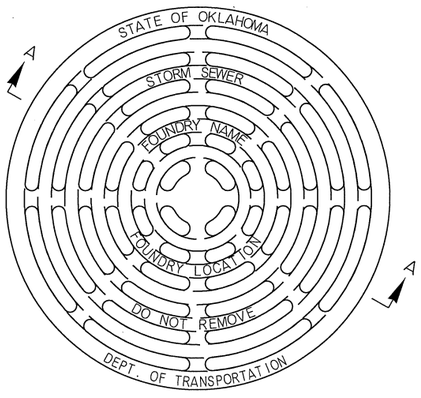
TOP SIDE OF FRAME FOR OUT OF PAVING INSTALLATION



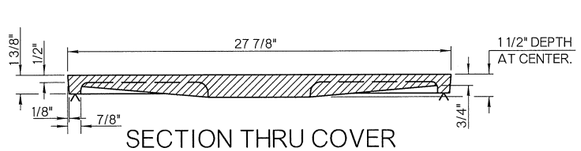
CHECKERED DESIGN DETAIL



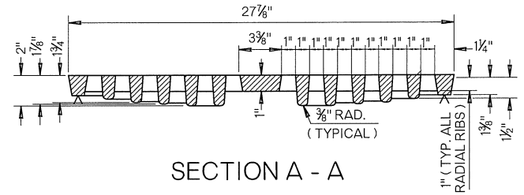
TOP SIDE OF COVER



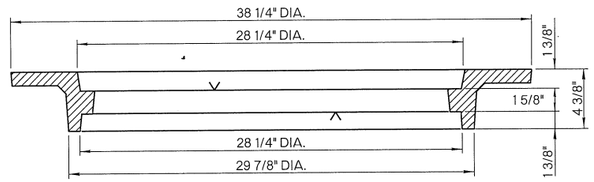
TOP SIDE OF COVER GRATE



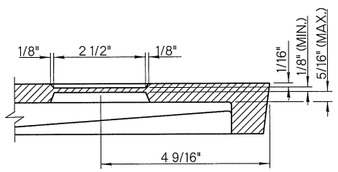
SECTION THRU COVER



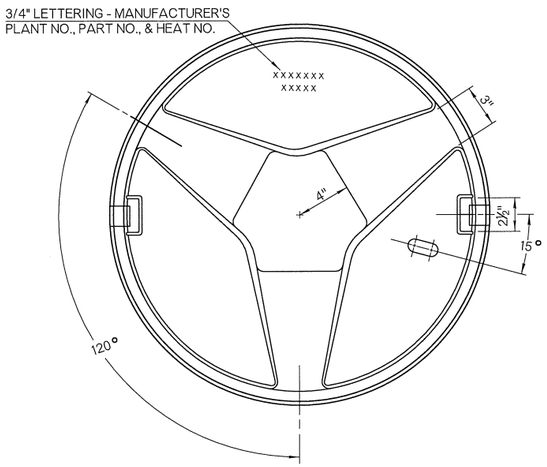
SECTION A - A



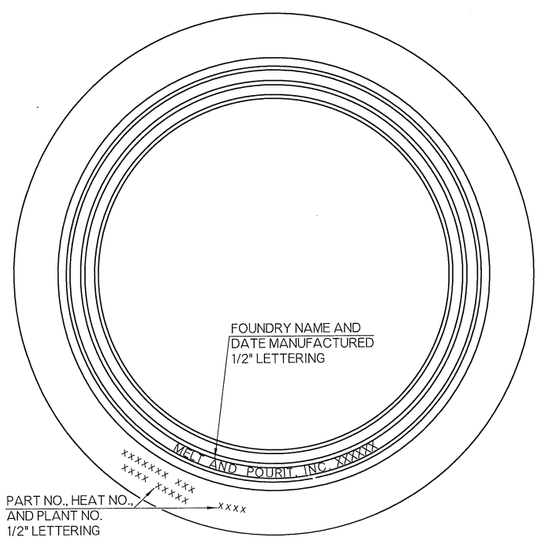
REVERSIBLE FRAME



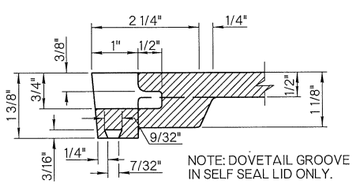
SECTION THRU OVAL KNOCKOUT



BOTTOM SIDE OF COVER



TOP SIDE OF FRAME FOR IN PAVING INSTALLATION



SECTION THRU PICKHOLE

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. COVERS WILL BE FURNISHED WITH A PLAIN SEAT, UNLESS A SELF-SEAL SEAT OR A LOCKING DEVICE IS SPECIFIED IN THE PLANS.
3. LETTERING TO DENOTE OWNERSHIP AND TYPE OF USAGE WILL BE AT THE DISCRETION OF THE OWNER.
4. FRAMES AND COVERS SHALL BE CAST STEEL, DUCTILE IRON, OR GRAY IRON CONFORMING TO SECTION 725 OF THE SPECIFICATIONS.
5. MANHOLE FRAMES, COVERS AND COVER GRATES INSTALLED DURING ORIGINAL CONSTRUCTION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF THE ORIGINAL MANHOLE.

NOTE: MACHINING (SYMBOL ^) MAY BE ACCOMPLISHED BY MILLING OR BY LEVEL GRINDING.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611 (C)	REPLACEMENT OF MANHOLE FRAME AND COVER	EA
611 (D)	REPLACEMENT MANHOLE FRAME	EA
611 (E)	REPLACEMENT OF MANHOLE COVER	EA
611 (F)	REPLACEMENT OF MANHOLE COVER GRATE	EA

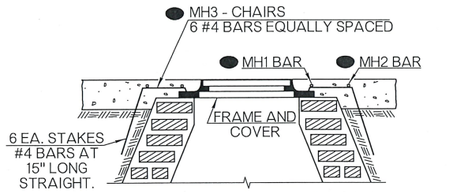
APPROVED BY ROADWAY ENGINEER: Caleb F. A DATE 04/16/15

ROADWAY DESIGN DIVISION STANDARD

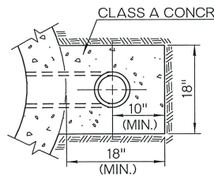
MANHOLE FRAME AND COVER

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

MFC-4	1



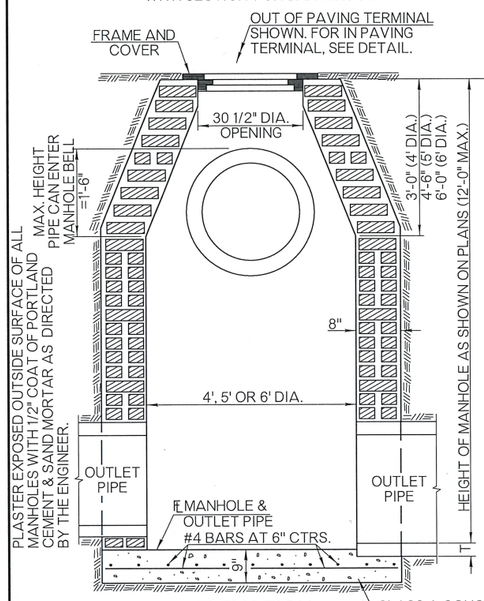
IN PAVING MANHOLE TERMINAL



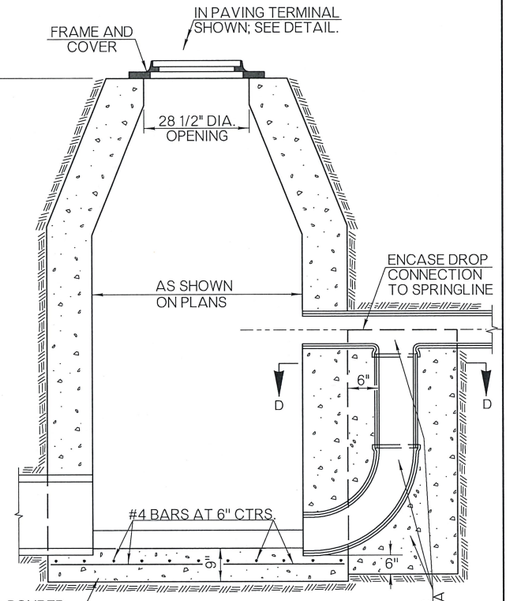
SECTION D-D

NOTE: ALL SANITARY SEWER MANHOLES SHALL BE CONSTRUCTED ONLY OF CLASS A CONCRETE OR PRECAST CONCRETE UNITS. TYPICAL BRICK MASONRY CONSTRUCTION MAY BE USED FOR STORM SEWER MANHOLES, CURB INLETS AND JUNCTION BOXES.

SEE 'BAR BENDING DIAGRAMS' AND 'PLAN WITH SECTION' FOR BAR DETAILS



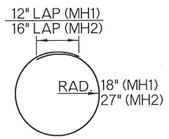
ELEVATION



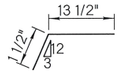
CLASS A CONC. POURED NOT LESS THAN 24 HOURS BEFORE BUILDING WALLS.

DROP INLET FOR SANITARY SEWER
WHERE DIFFERENCE IN FLOW LINES IS 4' AND OVER

COST OF "T" JOINT, 90° BEND, CLASS A CONCRETE & EXTRA PIPE TO BE INCLUDED IN PRICE BID FOR MANHOLE.

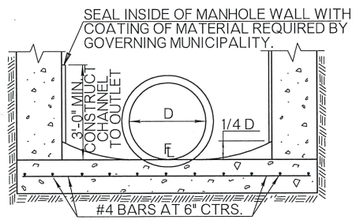


MH1 AND MH2 #4 BAR
FOR MANHOLE & JUNCTION BOX RISERS IN PAVING.

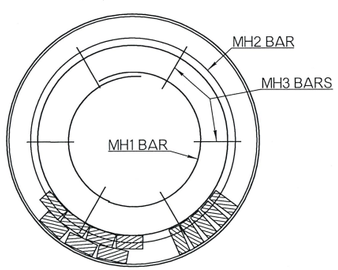


MH3 #4 BAR (CHAIR)

BAR BENDING DIAGRAMS



SECTION AT BOTTOM OF SANITARY SEWER MANHOLE

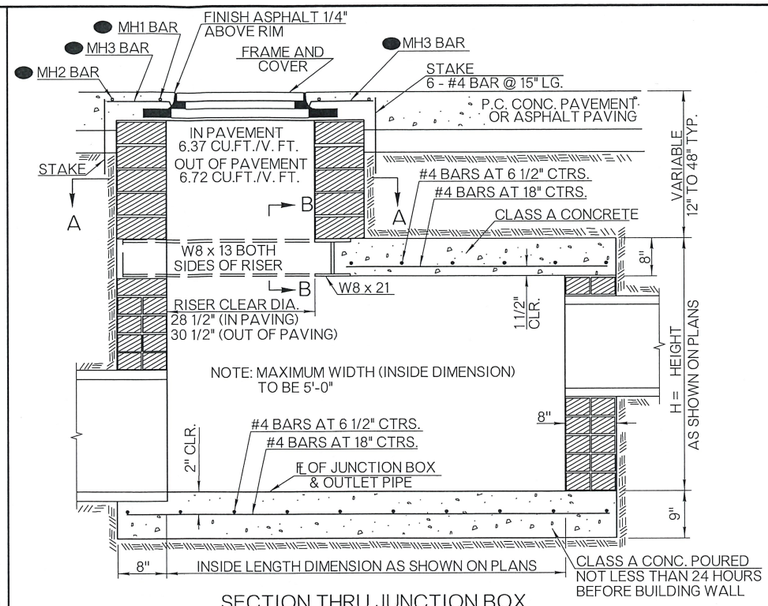


PLAN WITH SECTION
(FRAME REINFORCING SHOWN)

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611 (A)	MANHOLE (▼DIA.)	EA
611 (B)	ADDITIONAL DEPTH IN MANHOLE (▼DIA.)	VF

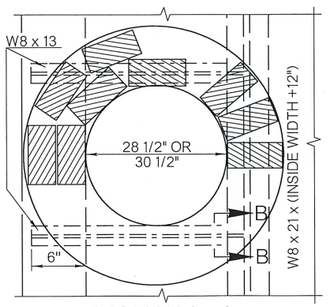
▼DIAMETER SHALL BE SPECIFIED (SEE PAY ITEM LIST)

STANDARD MANHOLES

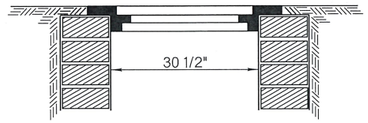


SECTION THRU JUNCTION BOX
(SHOWN IN PAVING WITH RISER)

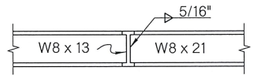
SEE 'BAR BENDING DIAGRAMS' AND 'PLAN WITH SECTION' FOR BAR DETAILS



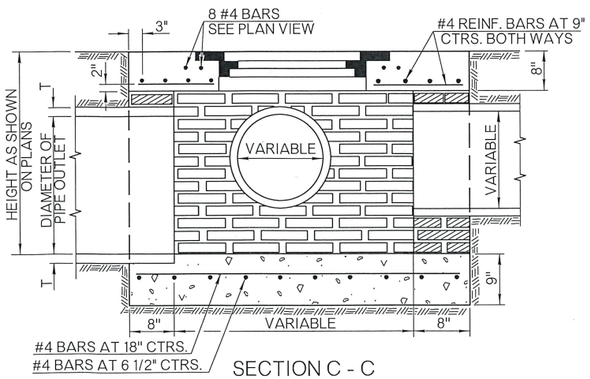
SECTION A - A



JUNCTION BOX RISER
OUT OF PAVING



SECTION B - B

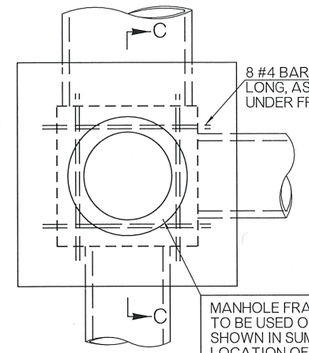


SECTION C - C
DETAIL OF JUNCTION BOX
(SHOWN OUTSIDE OF PAVING AND NO RISER)

STANDARD JUNCTION BOXES

OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE



PLAN

DEDUCTIONS FOR PIPE OPENING	
PIPE DIA.	VOLUME (CU. FT.)
18"	1.92
24"	3.24
30"	4.93
36"	6.97
42"	9.36
48"	12.11
54"	15.21
60"	18.66
66"	22.47
72"	26.62
78"	31.45
84"	36.36
90"	41.63

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL MANHOLES SHALL BE 4 FOOT DIAMETER UNLESS A LARGER DIAMETER IS REQUIRED.
3. CAST-IN-PLACE CONCRETE WALLS WITH THE SAME DIMENSIONS SHOWN ON THIS STANDARD, MAY BE USED IN LIEU OF THE BRICK MASONRY. CAST-IN-PLACE WALLS EXCEEDING 5 FEET IN DEPTH (GUTTERLINE TO FLOWLINE), WILL REQUIRE NO. 4 REINFORCING BARS SPACED AT 30 INCH CTRS. VERTICALLY AND 12 INCH CTRS. HORIZONTALLY.
4. WHERE A MORTAR COAT IS REQUIRED IT SHALL BE 1/2" THICK AND SHALL BE APPLIED WHILE BRICK MASONRY IS CLEAN AND DAMP.
5. MANHOLES UP TO 6 FEET IN HEIGHT SHALL BE PAID FOR AS 'MANHOLE' (EA.). ANY ADDITIONAL HEIGHT OF MANHOLE SHALL BE PAID FOR AS 'ADDITIONAL DEPTH IN MANHOLE' (VF).
6. JUNCTION BOXES SHALL HAVE INSIDE DIMENSIONS AND HEIGHT AS SHOWN ON THE PLANS, AND CONSTRUCTION SHALL BE MEASURED BY CF. OF WALL MATERIAL AND TO BE PAID FOR AS 'JUNCTION BOXES' (CF). DEDUCTIONS IN VOLUME WILL BE MADE FOR ALL PIPE OPENINGS 18 INCHES IN DIAMETER AND LARGER (SEE TABLE).
7. REINFORCING STEEL AND STRUCTURAL STEEL WILL BE INCLUDED AS PART OF THE COST OF THE STRUCTURE COMPLETE, AND WILL NOT BE MEASURED AS A PAY ITEM.
8. MANHOLE FRAMES, COVERS AND COVER GRATES INSTALLED DURING ORIGINAL CONSTRUCTION SHALL BE INCLUDED IN CONTRACT UNIT PRICE OF ORIGINAL MANHOLE AND JUNCTION BOX. FOR DETAILS OF FRAME AND COVER, SEE THE CURRENT VERSION OF ROADWAY STANDARD MFC-4.

OPTIONAL PRECAST MANHOLES

9. PRECAST STORM SEWER MANHOLE STRUCTURES CAN BE SUBSTITUTED FOR BRICK MASONRY OR CAST-IN-PLACE MANHOLE STRUCTURES. SEE ROADWAY STANDARDS PRM-0, PSM-0, AND PMD-0 FOR THEIR DESIGN, DETAILS AND BASIS OF PAYMENT.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
▲ 509 (C)	CLASS A CONCRETE, SMALL STRUCTURES	CY
611 (L)	JUNCTION BOXES	CF

▲ FOR QUANTITIES OF CLASS A CONCRETE LESS THAN 20.0 CY

APPROVED BY ROADWAY ENGINEER: _____ DATE 01/23/19

ROADWAY DESIGN DIVISION STANDARD

MANHOLES AND JUNCTION BOXES

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

MJB-3	2

R-43

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE

TABLE OF TRENCHING AND STANDARD BEDDING MATERIAL QUANTITIES

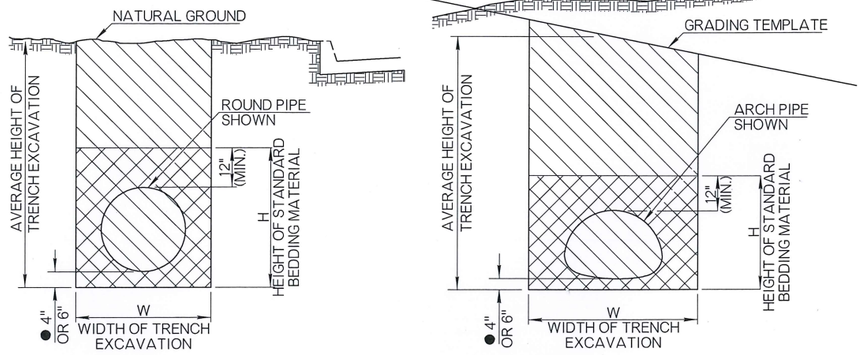
	PIPE DIAM. OR DESIGN EQUIV.	H ■	SINGLE PIPE INSTALLATION		DOUBLE PIPE INSTALLATION		TRIPLE PIPE INSTALLATION		CLEAR SPACE BETWEEN PIPES
			W	STANDARD BEDDING MATERIAL ■	W	STANDARD BEDDING MATERIAL ■	W	STANDARD BEDDING MATERIAL ■	
		FT.	FT.	CY/LF	FT.	CY/LF	FT.	CY/LF	INCHES
◆ ROUND PIPE	18"	3.10	3.20	0.28	6.10	0.52	9.00	1.00	14
	24"	3.60	4.00	0.39	7.70	0.73	11.40	1.50	17
	30"	4.20	4.80	0.51	9.30	0.97	13.80	2.15	20
	36"	4.75	5.50	0.63	10.80	1.23	16.20	2.85	23
	42"	5.30	7.00	0.92	13.20	1.67	19.30	3.80	26
	48"	6.20	7.50	1.03	14.75	2.00	21.70	4.70	29
	54"	6.20	8.00	1.20	15.30	2.20	22.70	5.10	32
	60"	6.75	9.50	1.60	17.60	2.75	25.90	6.30	35
	66"	7.20	10.00	1.70	18.80	3.10	27.70	7.35	38
METAL ARCH PIPE	18"	2.80	3.20	0.27	6.20	0.52	9.20	0.77	14
	24"	3.25	4.00	0.38	7.83	0.74	11.67	1.09	17
	30"	3.60	5.50	0.57	10.20	1.03	14.87	1.49	20
	36"	4.00	6.25	0.69	11.75	1.27	17.25	1.84	23
	42"	4.40	7.00	0.82	13.33	1.53	19.66	2.24	26
	48"	4.80	8.10	1.02	15.35	1.88	22.60	2.75	29
	54"	5.25	9.50	1.32	17.58	2.36	25.66	3.40	32
	60"	5.60	10.00	1.40	18.92	2.62	27.84	3.82	35
	66"	6.00	10.90	1.63	20.65	3.00	30.40	4.39	38

■ FOR PIPES UNDER PAVEMENT, THE H DIMENSION AND THE STANDARD BEDDING MATERIAL QUANTITY, SHALL BE INCREASED TO GO TO THE TOP OF THE TRENCH.

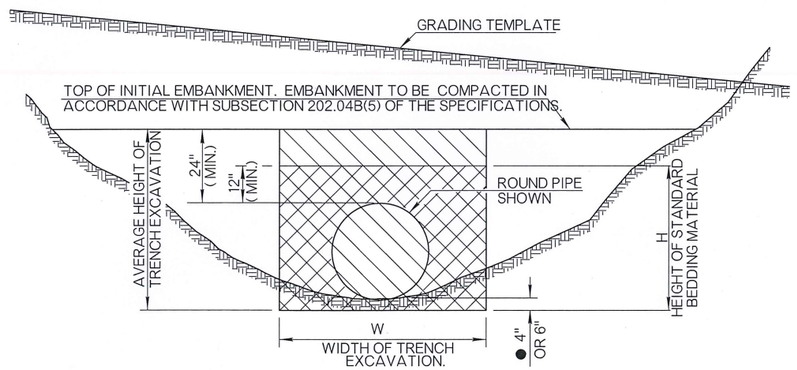
TABLE OF FILL HEIGHTS

	PIPE SIZE		MINIMUM COVER OVER TOP OF PIPE (BUOYANCY)	MAXIMUM COVER		MINIMUM METAL PIPE GAGE REQUIREMENT	
	POLYETH. ROUND	EQUIVALENT METAL ARCH		POLYETHYLENE	METAL	UNDER PAVEMENT	ALL OTHERS
ROUND PIPE	18"	21" x 15"	15"	10'	REFER TO RDY. STANDARD FHTMPP-1	14 ◒	REFER TO RDY. STANDARD FHTMPP-1
	24"	28" x 20"	20"	10'		14 ◒	
	30"	35" x 24"	25"	10'		14 ◒	
	36"	42" x 29"	30"	10'		14	
	42"	49" x 33"	35"	10'		12	
	48"	57" x 38"	40"	10'		12	
	54"	64" x 43"	45"	10'		12	
	60"	71" x 47"	50"	10'		10	
	66"	77" x 52"	55"	N/A		10	

◒ UNDER PAVEMENT IS DEFINED TO INCLUDE ALL P.C. OR A.C. SURFACING UNDER MAINLINE TRAFFIC AND MAJOR STREET RETURNS. A MINIMUM PIPE GAGE OF 16 MAY BE USED FOR INSTALLATIONS REQUIRING 30 INCH EQUIVALENT ROUND CONDUITS (MAX.) AND LIMITED TO LOW VOLUME COUNTY OR OFF-SYSTEM ROADS, MINOR STREET RETURNS, DRIVEWAYS OR TEMPORARY DETOURS, AS APPROVED BY THE ENGINEER.



TRENCH EXCAVATION IN CUT SECTIONS



TRENCH EXCAVATION IN EMBANKMENT SECTIONS

LIMITS OF STANDARD BEDDING MATERIAL.
QUANTITIES FOR BEDDING MATERIAL DO NOT INCLUDE THE SPACE WITHIN AND BOUNDED BY THE OUTER SURFACE OF THE PIPE CONDUIT.

LIMITS OF TRENCH EXCAVATION.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. TRENCH EXCAVATION & STANDARD BEDDING WILL NOT BE REQUIRED FOR PIPE INSTALLATIONS ON SIDE DRAINS UNLESS OTHERWISE SPECIFIED ON THE PLANS.
3. TRENCH EXCAVATION WILL BE PAID FOR ON PIPE UNDERDRAIN. SEE ROADWAY STANDARD PUD-3.
4. TRENCHING REQUIREMENTS FOR DEPTHS OVER 5 FEET SHALL BE IN ACCORDANCE WITH, & DEFINED BY, O.S.H.A. REGS., TITLE 29 CFR, STANDARDS 1926.650, 1926.651 & 1926.652.
5. NORMAL BACKFILLING OPERATIONS SHALL FOLLOW BEDDING AND PIPE INSTALLATION AS CLOSELY AS PRACTICAL. IN NO CASE SHALL A PIPE INSTALLATION SUBJECT TO SUDDEN FLOW DEVELOPMENT BE LEFT WITHOUT SUFFICIENT BACKFILL TO RESTRAIN THE CONDUIT AND PREVENT JOINT SEPARATION AND/OR PIPING SCOUR. PHYSICALLY RESTRAINING THE CONDUIT MAY BE USED TO AUGMENT OR REPLACE THIS IMMEDIATE BACKFILL REQUIREMENT.
6. ANY EXCESS EXCAVATION NOT USED FOR BACKFILL WILL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF, BY HIM, IN A MANNER APPROVED BY THE ENGINEER.
7. INSTALLATION OF FLEXIBLE PIPE SHALL CONFORM TO SECTION 26 - DIVISION II OF AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
8. JOINTS IN METAL PIPES SHALL CONFORM TO SECTION 26.4.2.4 OF AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. IF A WATERTIGHT JOINT IS SPECIFIED ON THE PLANS, A 12" WIDE BY 3/4" THICK NEOPRENE SLEEVE GASKET MEETING ASTM D1056 REQUIREMENT SHALL BE USED.
9. JOINTS IN CORRUGATED POLETHYLENE PIPES SHALL CONSIST OF A GASKETED SYSTEM WHICH CAN PASS MINIMUM OF 2 PSI HYDROSTATIC TEST WITHOUT LEAKAGE AND CONFORM TO AASHTO M 294▲& SECTION 26.4.2.4 OF AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES. GASKET MATERIAL SHALL CONFORM TO EITHER ASTM D1056 OR ASTM F477 REQUIREMENTS. SIDE DRAINS ARE EXCLUDED FROM THE LEAKAGE RESISTANCE REQUIREMENTS UNLESS OTHERWISE SPECIFIED.
10. TYPE C POLYETHYLENE PIPE SHALL BE USED ONLY IN SIDE-DRAIN & SLIPLINING APPLICATIONS.

◆ 11. STANDARD BEDDING MATERIAL QUANTITIES ARE BASED ON THE TRENCH WIDTH (W), TRENCH HEIGHT (H) AND EFFECTIVE DIAMETER (D) OF ROUND CORRUGATED POLYETHYLENE PIPE MEETING THE REQUIREMENTS OF AASHTO M 294 (18"-60").

▲ 12. SPLIT COLLAR COUPLERS ARE NOT APPROVED FOR USE IN ALL CORRUGATED POLYETHYLENE PIPE INSTALLATIONS.

● 13. EQUIVALENT PIPE SIZES 66 INCHES AND LARGER REQUIRE 6 INCHES OF BEDDING MATERIAL BELOW PIPE CONDUIT.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
613 (R)	STANDARD BEDDING MATERIAL, CLASS A	CY
613 (S)	STANDARD BEDDING MATERIAL, CLASS B	CY
613 (T)	STANDARD BEDDING MATERIAL, CLASS C	CY
613 (V)	TRENCH EXCAVATION	CY

APPROVED BY ROADWAY ENGINEER: _____ DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

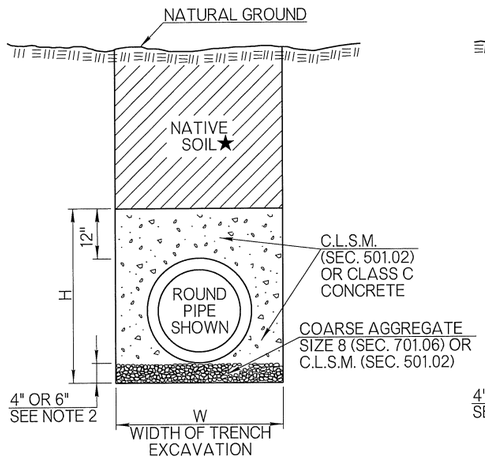
FLEXIBLE PIPE INSTALLATION

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

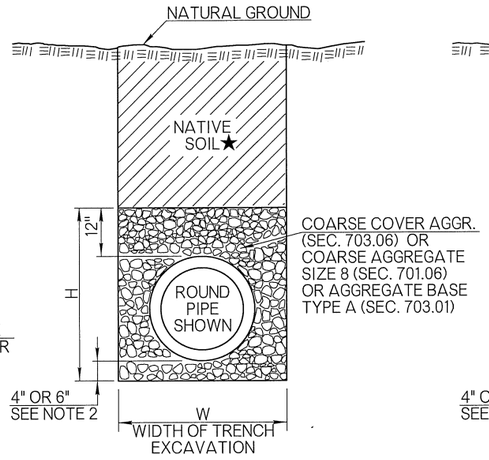
FPI-3	3

R-48

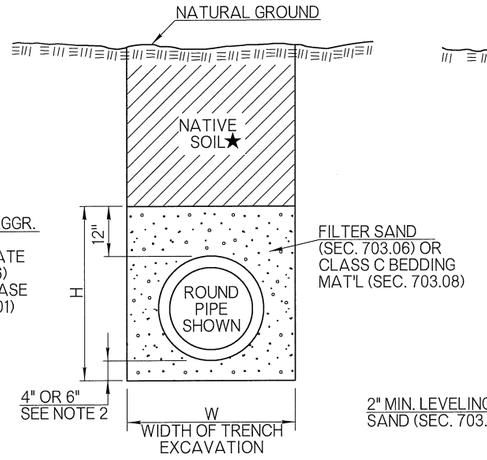
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



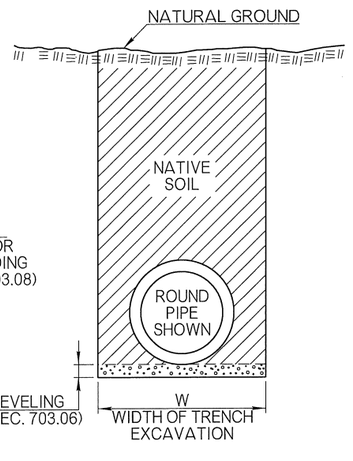
CLASS A BEDDING



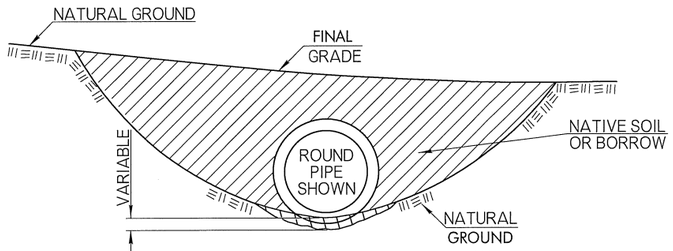
CLASS B BEDDING



CLASS C BEDDING



CLASS D BEDDING
ALTERNATE 1



NATIVE SOIL OR SAND (SEC. 703.06) MAY BE USED TO ADJUST FLOWLINE OF NATURAL DITCH TO PROVIDE SMOOTH BEDDING SURFACE FOR PIPE CONDUIT AND ATTAIN PROPER DESIGN GRADE. SEE SECTION 613.04.G

CLASS D BEDDING
ALTERNATE 2

PIPE BEDDING CLASS/DESIGN TABLE							
	■ UNDER PAVING				OUTSIDE PAVING		
TYPE OF PIPE	CROSS DRAIN (NHS OR ADT > 6000 VPD)	CROSS DRAIN (OTHER)	STORM SEWER (NHS OR ADT > 6000 VPD)	STORM SEWER (OTHER)	CROSS DRAIN	SIDE DRAIN	STORM SEWER
REINFORCED CONCRETE PIPE	B	C	B	C	C	D	C
CORRUGATED GALV. STEEL PIPE (CGSP)	NA	B	NA	B	C	D	C
MILL PRECOATED CGSP	NA	B	NA	B	C	D	C
CORRUGATED GALV. STRUCT. PLATE	NA	B	NA	B	C	D	C
ALUMINIZED TYPE II CSP	NA	B	NA	B	C	D	C
CORRUGATED POLYETHYLENE / PVC	NA	A	NA	A	B	B	B
POLYVINYL CHLORIDE (SC 40/80 PVC)	NA	NA	NA	NA	NA	NA	NA
POLYPROPYLENE PIPE (PP) ▲	NA	B	NA	B	C	D	C

■ WHEN THERE IS ANY POSSIBILITY OF THE PAVEMENT BEING WIDENED DURING THE LIFE OF THE DRAINAGE STRUCTURE, THE BEDDING SHALL MEET THE 'UNDER PAVING SECTION' CRITERIA FOR THE FULL EXTENT OF ANY ANTICIPATED EXPANSION TO THE FACILITY.

▲ BACKFILL WITH A MINIMUM OF TWO (2) FEET OF APPROVED BACKFILL MATERIAL.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. EQUIVALENT PIPE SIZES 66 INCHES AND LARGER REQUIRE 6 INCHES OF BEDDING MATERIAL BELOW PIPE CONDUIT.
3. NATIVE SOIL FOR BACKFILL, TO BE COMPACTED IN ACCORDANCE WITH SECTION 202.04 OF THE STANDARD SPECIFICATIONS.
4. A BETTER CLASS OF BEDDING MAY BY SUBSTITUTED FOR THE NEXT LOWER CLASS. EXAMPLE: CLASS A STANDARD BEDDING CAN BE USED IN LIEU OF CLASS B STANDARD BEDDING.
5. FOR TRENCH WIDTH (W), BEDDING HEIGHT (H), PIPE DATA, MULTIPLE PIPE SPACING & BEDDING DATA, SEE ROADWAY STANDARDS SPI-4 & FPI-3.
6. DATA TABLE WILL DISPLAY 'NA' WHEN PIPE MATERIALS ARE NOT ALLOWED.
7. STANDARD BEDDING CLASS D MATERIAL(S) (ALTERNATE 1) WILL BE CONSIDERED AS INCIDENTAL AND NOT BE PAID FOR SEPARATELY. COST FOR BORROW OR FILL MATERIAL, NEEDED FOR ALTERNATE 2, WILL BE INCLUDED IN THE PRICE OF THE PIPE.
8. PIPE MATERIAL(S)/PRODUCT(S) NOT SHOWN IN THE PIPE BEDDING TABLE WILL BE EVALUATED AND APPROVED ON A CASE BY CASE BASIS.
9. ALL TEMPORARY PIPES SHALL HAVE CLASS D BEDDING UNLESS OTHERWISE SHOWN IN THE PLANS.
10. BEDDING MATERIAL TYPE B, C, AND D, SHALL BE PLACED IN 6" LAYERS AND COMPACTED TO THE SPECIFIED DENSITY USING HAND OPERATED EQUIPMENT ONLY.

★11. WHEN PIPE INSTALLATION IS UNDER PAVING, IN LIEU OF BACKFILLING WITH NATIVE SOIL, PLACE BEDDING MATERIAL ALL THE WAY TO TOP OF TRENCH.

12. THE USE OF AN ALTERNATE PIPE AND ITS CORRESPONDING BEDDING MATERIAL WILL BE ACCEPTABLE PROVIDED THE CRITERIA IN THE DESIGN TABLE IS MET
13. POLYPROPYLENE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
613 (R)	STANDARD BEDDING MATERIAL, CLASS A	CY
613 (S)	STANDARD BEDDING MATERIAL, CLASS B	CY
613 (T)	STANDARD BEDDING MATERIAL, CLASS C	CY

APPROVED BY ROADWAY ENGINEER: Caleb F. A DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

STANDARD PIPE BEDDING

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

SPB-1 | 4

FULL CIRCLE STEEL PIPE CULVERT

PIPE DIAMETER FOR CORRUGATION PATTERN				MIN. COVER TOP OF PIPE TO TOP OF SUBGRADE	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE						
					EQUIV. STANDARD GAGE						
2 2/3" x 1/2"	3" x 1"	5" x 1"	6" x 2"		16	14	12	10	8	7	5
18"				12"	61'	67'	86'	90'	94'		
21"				12"	53'	57'	74'	77'	81'		
24"				12"	46'	50'	65'	68'	71'		
27"				12"	41'	44'	57'	60'	63'		
30"				12"	37'	40'	52'	54'	56'		
36"				12"	30'	33'	43'	45'	47'		
	36"			12"	53'	66'	77'	89'	100'		
42"				12"	34'	44'	46'	47'	49'		
	42"			12"	45'	56'	64'	71'	78'		
48"				12"		41'	44'	45'	46'		
	48"			12"	39'	49'	56'	61'	66'		
		48"		12"	49'	52'	56'	61'	66'		
54"				12"		36'	43'	44'	45'		
	54"			12"	35'	44'	51'	55'	58'		
		54"		12"	47'	48'	52'	55'	58'		
60"				12"			42'	43'	43'		
	60"			12"	31'	39'	49'	51'	53'		
		60"		12"	43'	46'	49'	51'	53'		
			60"	12"			46'	68'	90'	96'	106'
66"				12"				42'	43'		
	66"			12"	29'	36'	47'	48'	50'		
		66"		12"	39'	45'	47'	48'	50'		
			66"	12"			42'	62'	78'	82'	90'
72"				12"				42'	42'		
	72"			12"	26'	33'	45'	47'	48'		
		72"		12"	36'	44'	45'	47'	48'	73'	78'
			72"	12"			38'	57'	69'		
78"				12"					42'		
	78"			12"	24'	30'	44'	45'	46'		
		78"		12"	33'	42'	44'	45'	46'		
			78"	12"			35'	53'	63'	66'	70'
84"				12"					42'		
	84"			12"	22'	28'	42'	44'	45'		
		84"		12"	31'	39'	43'	44'	45'		
			84"	12"			33'	49'	59'	61'	64'
	90"			12"		26'	39'	44'	44'		
		90"		12"	29'	36'	43'	44'	44'		
			90"	12"			31'	45'	55'	57'	60'
	96"			12"		24'	36'	43'	44'		
		96"		12"		34'	43'	43'	44'		
			96"	12"			29'	43'	53'	54'	57'
	102"			24"			34'	41'	43'		
		102"		24"		32'	42'	43'	43'		
	108"			24"			32'	39'	43'		
		108"		24"			42'	42'	43'		
			108"	24"			25'	38'	49'	50'	52'
	114"			24"			31'	37'	41'		
		114"		24"			40'	42'	42'		
	120"			24"			29'	35'	39'		
		120"		24"			38'	42'	42'		
			120"	24"			23'	34'	45'	48'	49'

FULL CIRCLE ALUMINUM PIPE CULVERT

PIPE DIAMETER FOR CORRUGATION PATTERN			MIN. COVER TOP OF PIPE TO TOP OF SUBGRADE	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE				
				EQUIV. STANDARD GAGE				
2 2/3" x 1/2"	3" x 1"	6" x 1"		16	14	12	10`	8
18"			12"	36'	36'	63'		
24"			12"	27'	27'	47'	50'	
27"			12"	24'	24'	42'	44'	
30"			12"	22'	21'	37'	39'	
	30"		12"	40'	50'	68'		
36"			12"		18'	32'	33'	
	36"		12"	33'	41'	57'	85'	
		36"	12"	20'				
42"			12"			54'	57'	
	42"		12"	27'	35'	48'	73'	
48"			12"			47'	49'	51'
	48"		12"	24'	30'	42'	63'	82'
54"			12"			41'	44'	45'
	54"		12"	21'	27'	37'	56'	73'
		54"	12"		29'	42'	67'	66'
60"			12"				39'	41'
	60"		12"	19'	24'	33'	24'	66'
		60"	12"		25'	37'	59'	58'
66"			12"				36'	37'
	66"		12"	14'	18'	26'	40'	51'
		66"	12"		23'	33'	53'	52'
	72"		12"		28'	27'	41'	54'
		72"	15"		19'	27'	36'	43'
	78"		15"		18'	25'	38'	50'
		78"	15"		17'	25'	32'	40'
	84"		18"		17'	23'	35'	47'
		84"	18"			23'	30'	37'
	90"		18"			21'	33'	43'
		90"	18"			21'	28'	34'
	96"		18"			20'	31'	40'
		96"	18"			19'	26'	32'
	102"		21"			18'	28'	37'
		102"	21"			18'	25'	29'
	108"		21"				27'	35'
		108"	21"			17'	23'	28'
	114"		24"				25'	34'
		114"	24"			16'	21'	26'
	120"		24"				24'	32'
		120"	24"				20'	25'

METAL PIPE ARCH - FILLS TO 10 FT. MAX.

APPROX. EQUIV. ROUND PIPE	SIZE SPAN x RISE	2 2/3" x 1/2" CORRUGATION PATTERN			
		STEEL		ALUMINUM	
		MIN. GAGE	MIN. COVER	MIN. GAGE	MIN. COVER
15"	17" x 13"	16	12"	16	12"
18"	21" x 15"	16	12"	16	12"
21"	24" x 18"	16	12"	16	12"
24"	28" x 20"	16	12"	14	12"
30"	35" x 24"	14◒	12"	14	12"
36"	42" x 29"	14	12"	12	15"
42"	49" x 33"	14	12"	12	15"
48"	57" x 38"	12	12"	10	15"
54"	64" x 43"	12	12"	10	18"
60"	71" x 47"	10	12"	8	18"
66"	77" x 52"	8	12"	8	18"
72"	83" x 57"	8	12"	8	18"
3" x 1" & 5" x 1" CORRUGATION PATTERN					
36"	40" x 31"	14	12"		
42"	46" x 36"	14	12"		
48"	53" x 41"	14	12"		
54"	60" x 46"	14	12"	14	15"
60"	66" x 51"	14	12"	14	18"
66"	73" x 55"	14	12"	14	18"
72"	81" x 59"	14	12"	12	21"
78"	87" x 63"	14	12"	12	21"
84"	95" x 67"	12	12"	12	24"
90"	103" x 71"	12	18"	10	24"
96"	112" x 75"	12	18"	10	27"
102"	117" x 79"	12	18"		
108"	128" x 83"	10	24"		
114"	137" x 87"	10	24"		
120"	142" x 91"	10	24"		

◒ WHEN INSTALLED UNDER PAVEMENT INCLUDING ALL P.C. OR A.C. SURFACING UNDER MAINLINE TRAFFIC AND MAJOR STREET RETURNS. A MINIMUM PIPE GAGE OF 16 MAY BE USED FOR INSTALLATION REQUIRING 30 INCH EQUIVALENT ROUND CONDUITS (MAX.) AND LIMITED TO LOW VOLUME COUNTY OR OFF-SYSTEM ROADS, MINOR STREET RETURNS, DRIVEWAYS OR TEMPORARY DETOURS, AS APPROVED BY THE ENGINEER.

POLY-PROPYLENE PIPE DIAMETER	MAXIMUM FILL HEIGHT OVER CULVERT (FT.) ◑			
	UNDER PAVEMENT		OUTSIDE PAVEMENT	
	95% COMPACT	90% COMPACT	Class C - 85% COMPACT	Class D - 85% COMPACT
18	25	18	16	13
24	22	16	14	12
30	23	17	13	12
36	22	16	11	11
42	22	15	11	11
48	21	15	11	10
60	23	16	11	10

◑ REFER TO ROADWAY DESIGN STANDARD SPB-1 FOR MINIMUM FILL HEIGHT AND OTHER POLYPROPYLENE INSTALLATION DETAILS.

EQUIVALENT METAL THICKNESS AND GAGE

GAGE NUMBER	METAL THICKNESS (INCHES)	
	■ STEEL	♦ ALUMINUM
16	0.064	0.060
14	0.079	0.075
12	0.109	0.105
10	0.138	0.135
8	0.168	0.164
7	0.188	----
5	0.218	----

■ THE THICKNESS OF THE SHEET INCLUDES BOTH THE BASE STEEL AND THE COATING.

♦ THE THICKNESS SHOWN REFERS TO THE CLAD SHEET.

GENERAL NOTES

1. METAL PIPE FILL HEIGHT DESIGNS ARE BASED ON A CLASS B BEDDING, NEGATIVE PROJECTION, HS-20 LIVE LOADING AND 120 LBS/C.F. SOIL WEIGHT. POLYPROPYLENE PIPE FILL HEIGHTS ARE BASED ON AASHTO M330 FOR POLYPROPYLENE, TYPE S, PIPE WITH OUTER CORRUGATED WALL AND SMOOTH INNER WALL.
2. IN THE EVENT LOADS IN EXCESS OF HS-20 ARE TO BE OPERATED OVER OR ADJACENT TO THE PIPE INSTALLATION DURING THE CONSTRUCTION PHASE, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A MINIMUM OF FOUR FEET OF COVER OVER THE PIPE AT WHEEL OR TRACK PATHS.
3. PROPER INSTALLATION PRACTICES MUST BE ADHERED TO AS SHOWN ON ROADWAY STANDARDS SPI-4, FPI-3 AND SPB-1. POLYPROPYLENE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.
4. ANY PIPE DEFORMED PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE. SURFACE DISTRESS MUST BE REPAIRED TO THE SATISFACTION OF THE ENGINEER OR REPLACED AT THE CONTRACTOR'S EXPENSE.
5. MAXIMUM FILL HEIGHTS ARE MEASURED TO TOP OF SUBGRADE (OR BOTTOM OF ASPHALT OR PC PAVEMENT) FOR METAL AND POLYPROPYLENE PIPES.

OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE

APPROVED BY ROADWAY ENGINEER: Caleb F. H DATE: 04/14/15

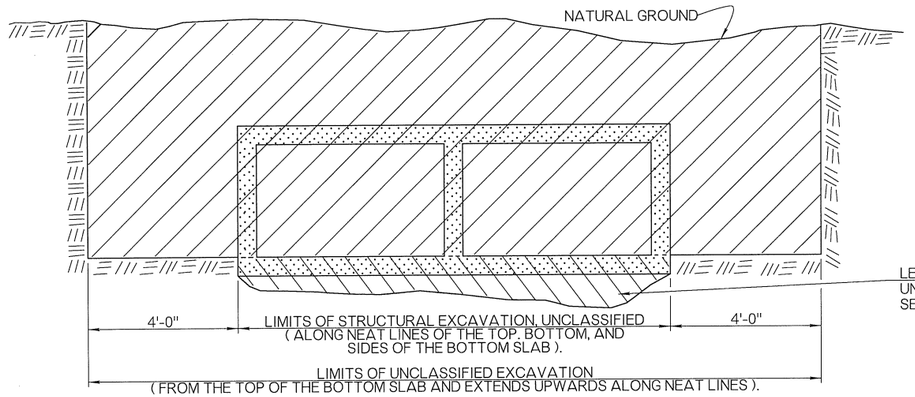
ROADWAY DESIGN DIVISION STANDARD

FILL HEIGHT TABLES (METAL & POLYPROPYLENE PIPES)

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

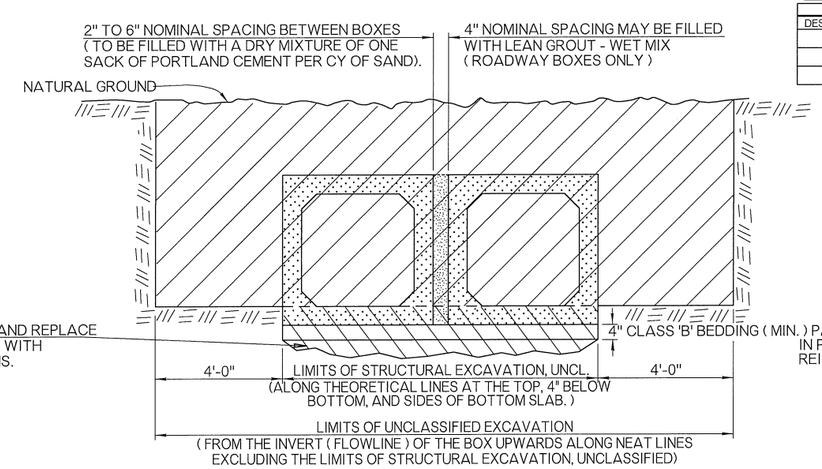
FHTMPP-1 | 0

STANDARD REVISIONS	
DESCRIPTION	DATE



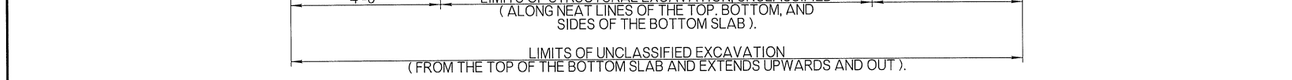
REQUIREMENTS FOR UNCLASSIFIED AND STRUCTURAL EXCAVATION OF RCB STORM SEWERS

LEVEL UNEVEN SUBSURFACE, REMOVE AND REPLACE UNSTABLE MATERIAL IN ACCORDANCE WITH SECTION 501.05 OF THE SPECIFICATIONS.



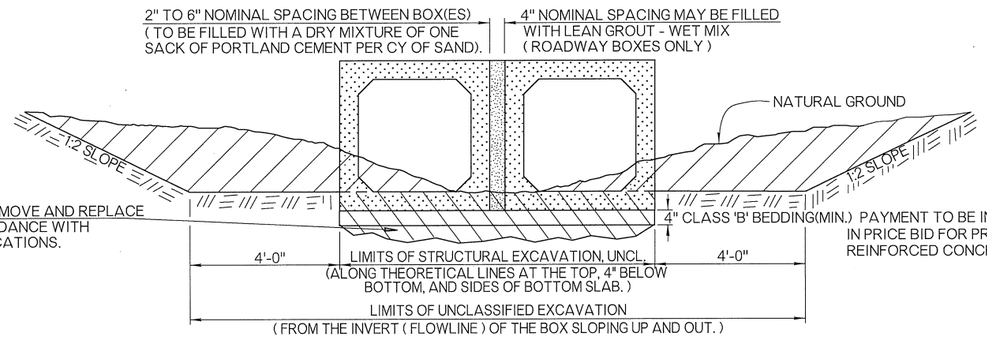
PAYMENT TO BE INCLUDED IN PRICE BID FOR PRECAST REINFORCED CONCRETE BOX.

REQUIREMENTS FOR EXCAVATION OF PRECAST RCB STORM SEWERS



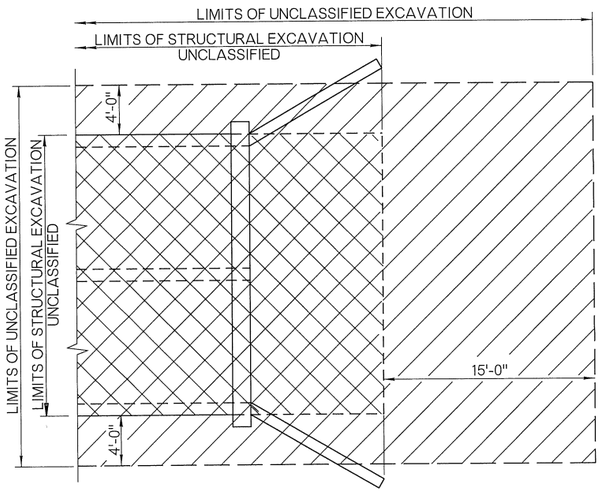
REQUIREMENTS FOR UNCLASSIFIED AND STRUCTURAL EXCAVATION OF RCB CULVERTS OF ROADWAY AND BRIDGE CLASSIFICATION

LEVEL UNEVEN SUBSURFACE, REMOVE AND REPLACE UNSTABLE MATERIAL IN ACCORDANCE WITH SECTION 501.05 OF THE SPECIFICATIONS.

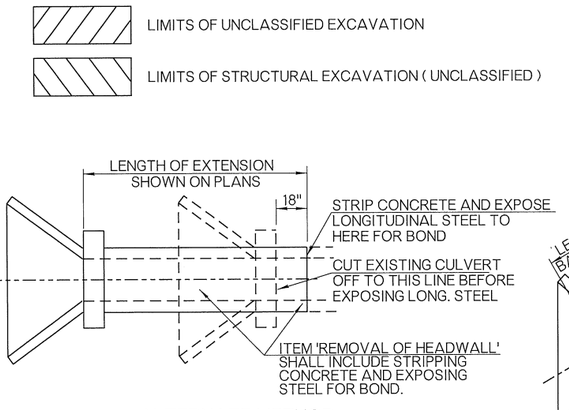


PAYMENT TO BE INCLUDED IN PRICE BID FOR PRECAST REINFORCED CONCRETE BOX.

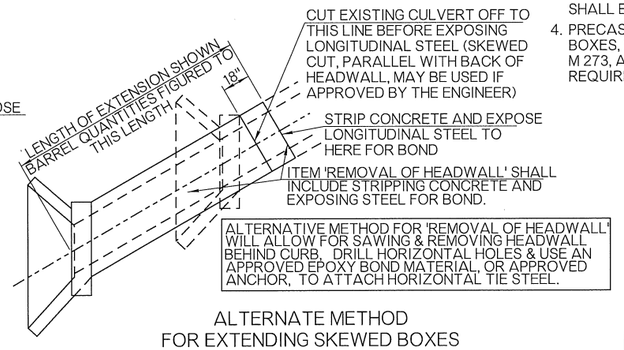
REQUIREMENTS FOR EXCAVATION OF PRECAST RCB CULVERTS OF ROADWAY AND BRIDGE CLASSIFICATION.



PLAN VIEW



ALTERNATE METHOD FOR EXTENDING 90° BOXES



ALTERNATE METHOD FOR EXTENDING SKEWED BOXES

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. PAYMENT FOR CAST-IN-PLACE REINFORCED CONCRETE BOXES WILL BE IN CUBIC YARDS OF CLASS A OR CLASS AA CONCRETE AND POUNDS OF REINFORCING STEEL, IN ACCORDANCE WITH SECTION 509 AND 511 OF THE SPECIFICATIONS.
3. PAYMENT FOR PRECAST CONCRETE BOX CULVERTS WILL BE MADE BASED ON THE UNIT PRICE BID FOR ITEMS AND QUANTITIES OF A CAST-IN-PLACE BOX OF THE LENGTH REQUIRED AS DETERMINED BY FIELD MEASUREMENTS, AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 508 OF THE SPECIFICATIONS.
4. PRECAST CONCRETE BOX SECTIONS, USED IN LIEU OF CAST-IN-PLACE CONCRETE BOXES, SHALL MEET MINIMUM DESIGN REQUIREMENTS OF AASHTO M 259 OR M 273, AND ASTM C1433 OR C1577, AND JOINT FILLER SHALL MEET THE REQUIREMENTS OF SUBSECTION 726.01.B OF THE SPECIFICATIONS.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
202 (A)	UNCLASSIFIED EXCAVATION	CY
501 (A)	STRUCTURAL EXCAVATION UNCLASSIFIED	CY
619 (B)	REMOVAL OF HEADWALL	EA

APPROVED BY ROADWAY ENGINEER: Caleb F. H DATE 04/16/15

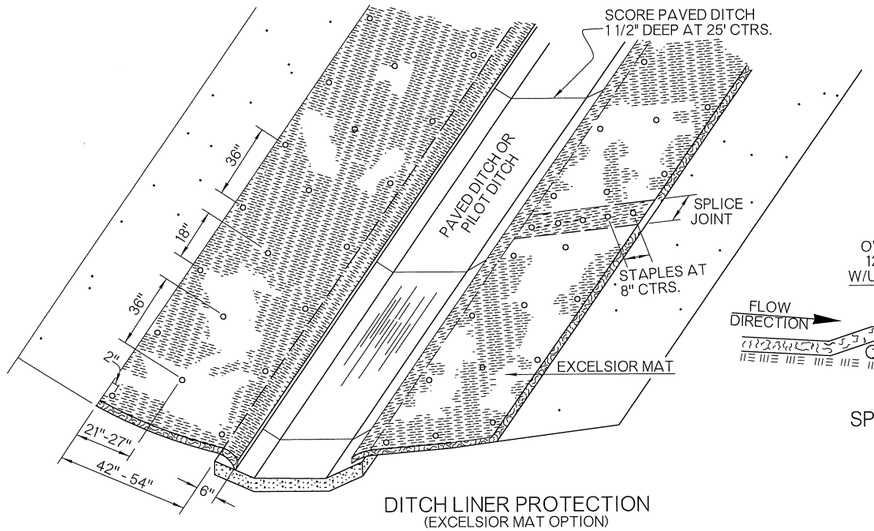
ROADWAY DESIGN DIVISION STANDARD

STANDARD BOX INSTALLATION

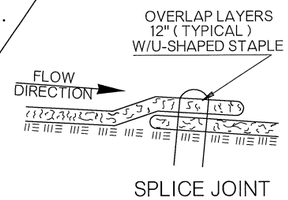
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

SBI-4	2

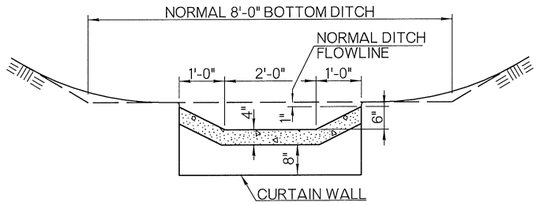
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



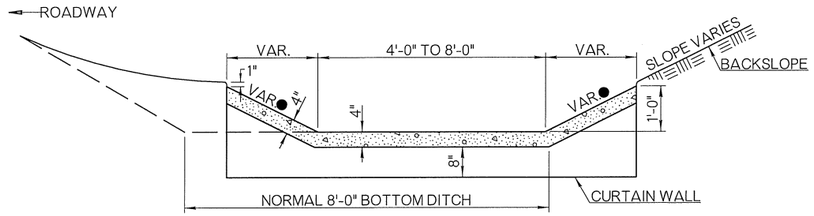
DITCH LINER PROTECTION
(EXCELSIOR MAT OPTION)



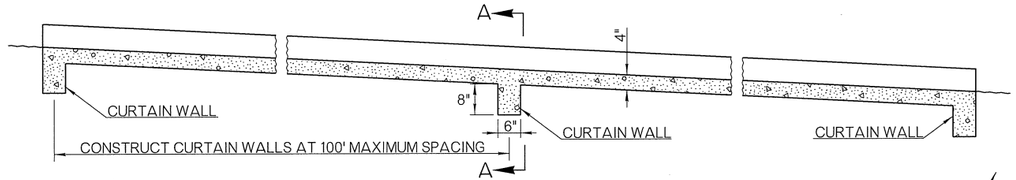
SPLICE JOINT



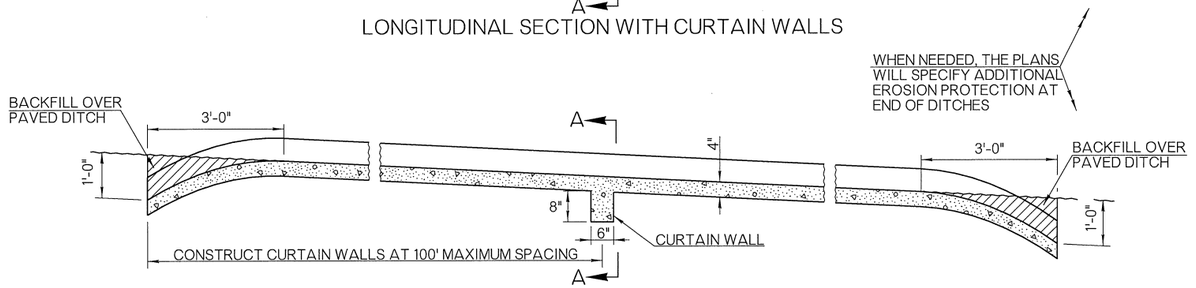
SECTION A - A
DESIGN NO. 1



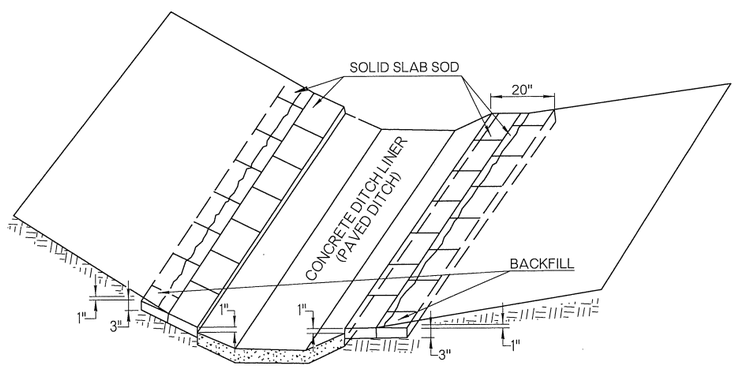
SECTION A - A
DESIGN NO. 2



LONGITUDINAL SECTION WITH CURTAIN WALLS



OPTIONAL LONGITUDINAL SECTION WITH BURIED ENDS
(BURIED ENDS SHALL NOT BE USED ADJACENT TO DRAINAGE STRUCTURES)



DITCH LINER PROTECTION
(SOLID SLAB SOD OPTION)

DESIGN NO. 1 - A PAVED PILOT DITCH TO BE PLACED 6" BELOW THE NORMAL FLOWLINE AND IN THE CENTER OF A STANDARD DITCH

DESIGN NO. 2 - A DITCH THAT IS PAVED AND HAVING THE SAME FLOWLINE AS A STANDARD UNPAVED DITCH

QUANTITIES OF CLASS C CONCRETE PER LF OF PAVED DITCH
QUANTITIES IN CUBIC YARDS

	DESIGN NO. 1					DESIGN NO. 2					
BOTTOM WIDTH	2'-0"	3'-0"	4'-0"	5'-0"	6'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	
K 1	.0522	.0645	.0769	.0892	.1016	.1274	.1397	.1521	.1644	.1768	DES. 2A
K2	.0586	.0709	.0832	.0955	.1078	.1790	.1913	.2036	.2159	.2282	
● VARIABLE AS SHOWN ON PLANS DESIGN 2A = 1:3 SLOPES DESIGN 2B = 1:2 SLOPES DESIGN 2C = 1:1 SLOPES					K1	.1045	.1168	.1292	.1415	.1539	DES. 2B
					K2	.1357	.1480	.1603	.1726	.1850	
					K1	.0923	.1048	.1172	.1295	.1479	DES. 2C
					K2	.1105	.1228	.1352	.1476	.1600	

TOTAL CLASS C CONC.= (LENGTH OF PAVED DITCH) (K1) + (NO. OF CURT. WALLS) (K2)
K1=CU. YDS. OF CONCRETE PER LINEAR FOOT
K2=CU. YDS. OF CONCRETE PER CURTAIN WALL

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL COST OF ADDITIONAL BORROW OR EXCAVATION, REQUIRED FOR INSTALLING PAVED DITCH, SHALL BE INCLUDED IN PRICE BID FOR CLASS C CONCRETE.
3. THE DITCH SHALL BE WATERED, AND COMPACTED, BEFORE PLACING CLASS C CONCRETE.
4. DITCH LINER PROTECTION MAY BE EITHER EXCELSIOR MAT, OR SOLID SLAB SOD, AND SHALL BE MEASURED BY THE LINEAR FOOT OF DITCH (PAVED DITCH), IN PLACE.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
509 (D)	CLASS C CONCRETE	CY
229	DITCH LINER PROTECTION	LF

APPROVED BY
ROADWAY ENGINEER: Caleb A. _____ DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

PAVED DITCHES AND FLUMES

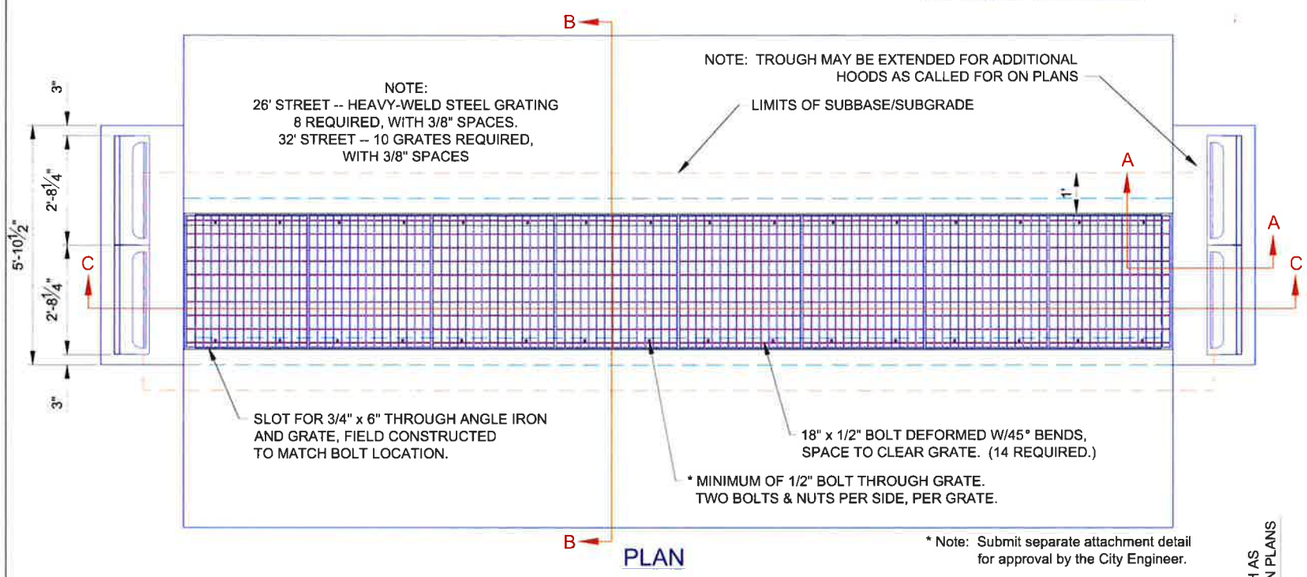
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

DC-3 | 2

QUANTITIES OF ANGLE IRON FOR CURB INLETS		
# OF CAST HOODS	# OF PIECES	LENGTH OF 3" x 3" ∠
2 - 0	1	5' - 1 5/8"
2 - 1	1	10' - 6 1/8"
2 - 2	1	15' - 10 5/8"
2 - 3	2	10' - 6 1/8"

VARIABLE DIMENSION FOR ALL CURB CASTINGS			
	A	B	C
6" CURB FACE	7"	11 3/8"	8 1/4"
8" CURB FACE	9"	13 3/8"	10 1/4"

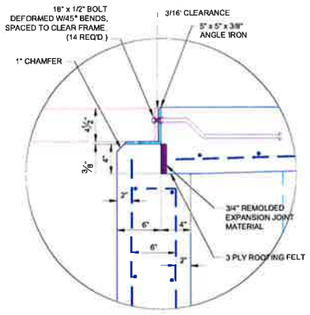
INLET CAPACITIES (CFS)		
STREET WIDTH	IKG GRATE	
	SUMP	ON GRADE (NOT IN SUMP)
26'	112	67
32'	140	84



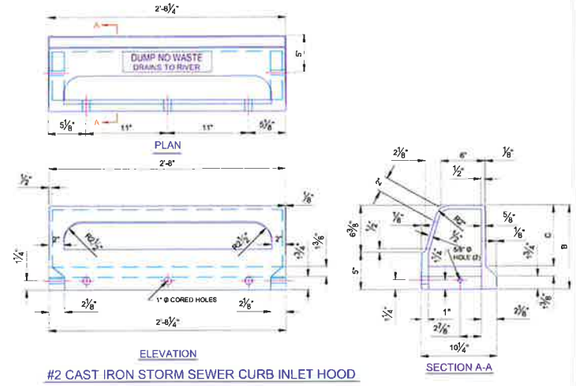
PLAN

* Note: Submit separate attachment detail for approval by the City Engineer.

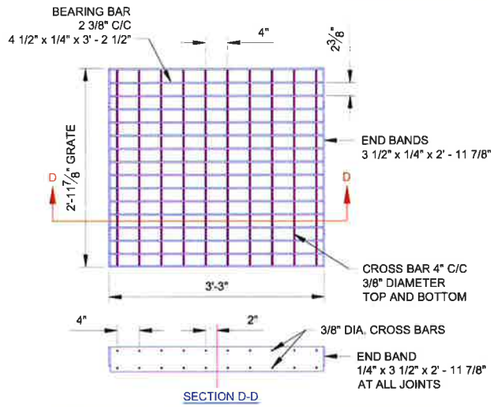
LONGITUDINAL SECTION C-C



DETAIL "A"
ALTERNATE "A" ONLY



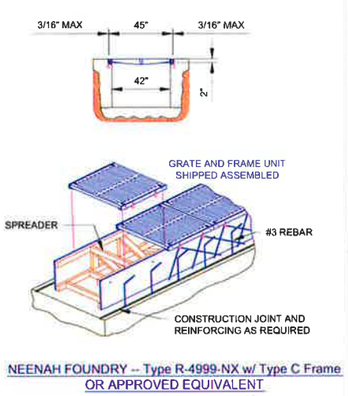
#2 CAST IRON STORM SEWER CURB INLET HOOD



SECTION D-D

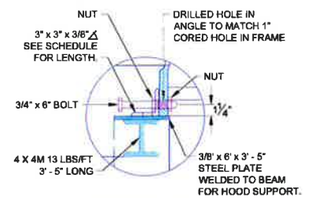
16 BEARING BARS 4 1/2" X 1/4" x 3' - 2 1/2" LONG SPACED AT 2 3/8" C/C.
OVERALL DIMENSIONS 3' - 3" X 2' - 11 7/8" ARRANGED WITH 4 1/2" X 1/4" BEARING BARS
3' - 2 1/2" LONG WITH END BANDING 3 1/2" 1/4" END BANDS 2' 11 7/8" LONG & 3/8"
CROSS BARS TOP AND BOTTOM, 4" C/C SPACED AS SHOWN.

IKG INDUSTRIES IRVING HEAVY - WELD
GALVANIZED STEEL GRATING TYPE HE
ALTERNATE "A" ONLY



NEENAH FOUNDRY -- Type R-4999-NX w/ Type C Frame
OR APPROVED EQUIVALENT

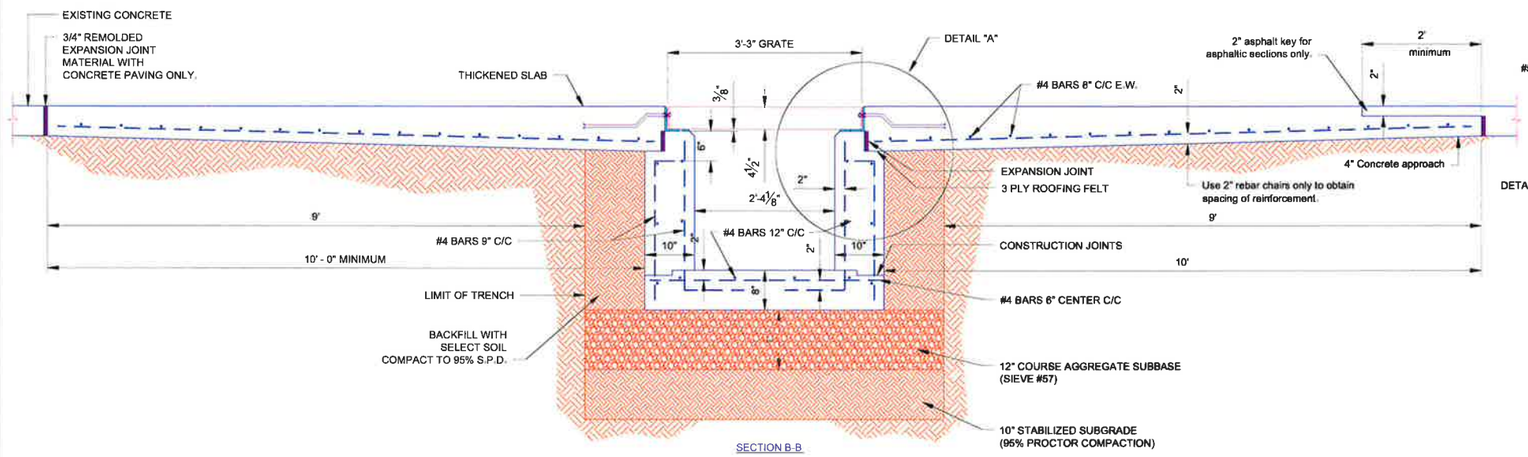
ALTERNATE "B" ONLY
To be installed as per manufacturer's specifications.



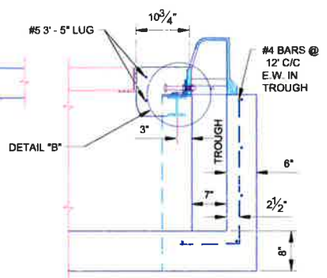
DETAIL "B"

NOTE: ANGLE IRON TO BE BOLTED TO CURB WITH 3(3/4" x 6") MACHINE BOLTS IN EACH CURB SECTION

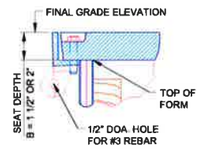
ALTERNATE "A" ONLY



SECTION B-B



SECTION A-A
DETAIL FOR IRVING GRATE



DETAIL "B"
For dimensions chart see 102-a06

ALTERNATE "B" ONLY

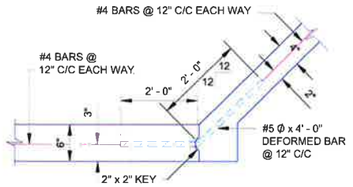
The City of Oklahoma City
Public Works Department
Engineering Division

APPROVED BY: ERIC J. WENGER, P.E. CITY ENGINEER — DATE: 01-31-13
DRAWN: VSC — DATE: 01-31-13

GRATED STREET INLET DETAIL

Drawing Number
D-102

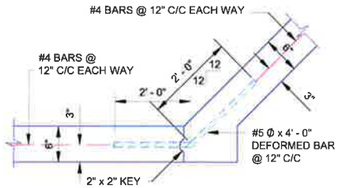
\\cl.okc.lokc\PW-Section\CITYACAD-STD\STD-102 VSC 01-31-13



LONGITUDINAL CONSTRUCTION JOINT

FOR 6" BOTTOM & 4" SIDE WALLS
4" WALLS FOR DEPTH OF 0' TO 5'
WALL DETAIL "A"

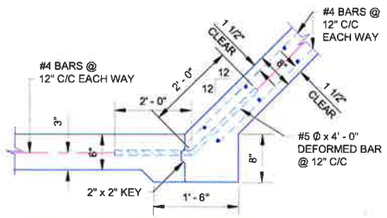
CONCRETE CHANNEL LINER JOINT DETAIL



LONGITUDINAL CONSTRUCTION JOINT

FOR 6" BOTTOM & 4" SIDE WALLS
6" WALLS FOR DEPTH OF 0' TO 5'
WALL DETAIL "B"

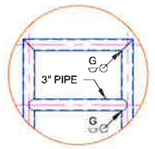
CONCRETE CHANNEL LINER JOINT DETAIL



LONGITUDINAL CONSTRUCTION JOINT

FOR 6" BOTTOM & 6" SIDE WALLS
8" WALLS FOR 2/3 THE WALL HEIGHT ABOVE 5'
WALL DETAIL "C"

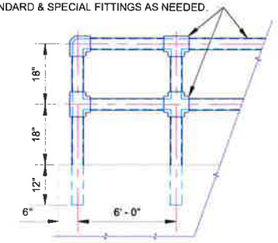
CONCRETE CHANNEL LINER JOINT DETAIL



ALTERNATE DETAIL

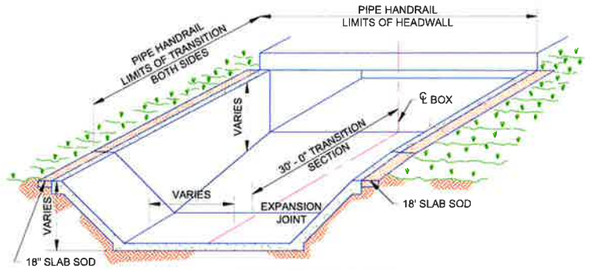
(USUING WELD CONNECTIONS ON PIPE HANDRAILS)

3" I.D. GALV. STEEL PIPE WITH PLAIN GALV. FITTINGS. USE STANDARD & SPECIAL FITTINGS AS NEEDED.



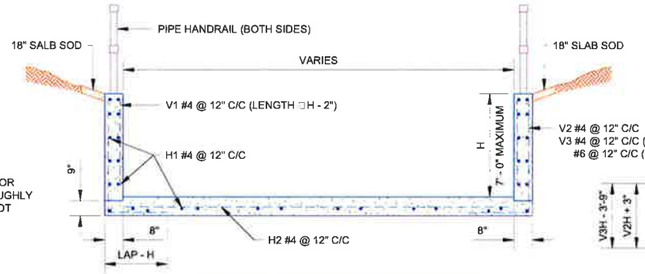
PIPE HANDRAIL DETAIL

HANDRAIL NOTES: WELD CONNECTIONS MAY BE USED FOR PIPE HANDRAIL. WELD CONNECTIONS SHALL BE THOROUGHLY CLEANED OF ALL LOOSE SCALE, GROUND SMOOTH & SPOT POINTED WITH TWO COATS OF ALUMINUM PAINT.



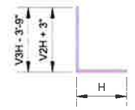
30' TRANSITION TO R.C. BOXES
VERTICAL 1:1 SIDE SLOPE

CONCRETE CHANNEL LINER JOINT DETAIL

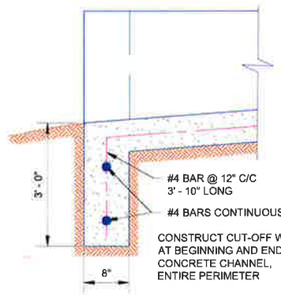


ODOT TYPE II-C RETAINING WALL SECTION (MODIFIED)

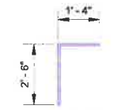
CONCRETE CHANNEL LINER JOINT DETAIL



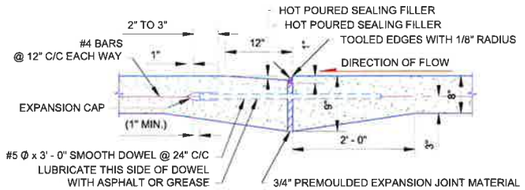
BAR BENDING DIAGRAM



CUT-OFF WALL DETAIL

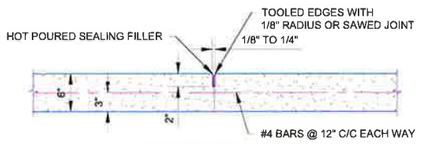


TYPICAL #4 BAR
(FOR CUT-OFF WALL)



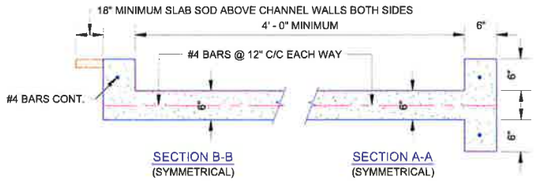
TYPICAL TRANSVERSE EXPANSION JOINT

SPACED AT 100 FOOT C/C MAXIMUM



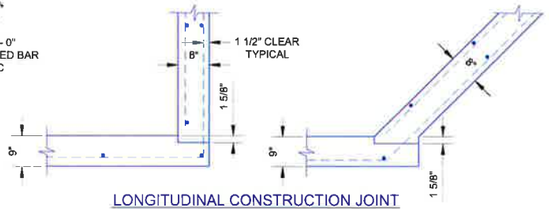
CONTRACTION JOINT

SPACED AT 20 FOOT C/C
(ALSO USE JOINT LONGITUDINALLY AT CENTERLINE OF CHANNEL FOR BOTTOM WIDTHS OF 12 FOOT AND OVER)



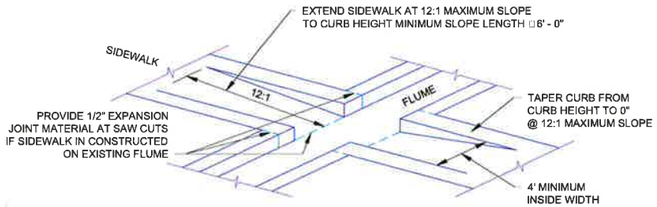
CONSTRUCTION JOINT

SPACED AT 20 FOOT C/C
(ALSO USE JOINT LONGITUDINALLY AT CENTERLINE OF CHANNEL FOR BOTTOMS OF 12 FOOT AND OVER)

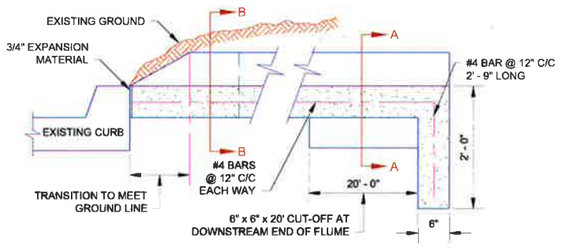


LONGITUDINAL CONSTRUCTION JOINT

THROUGH TRANSITION SECTION



SIDEWALK RAMP AT FLUME CROSSING

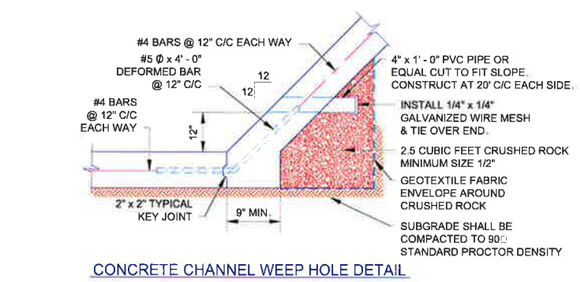


PROFILE

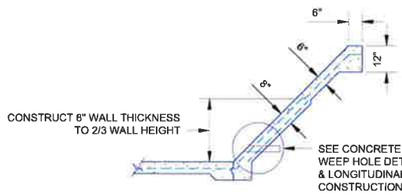
CONCRETE FLUME DETAIL

NOTE: 3/4" EXPANSION JOINT @ 100' MAXIMUM
SAWED CONSTRUCTION JOINT @ 20' MAXIMUM

TYPICAL #4 BAR
(FOR CONCRETE FLUME)



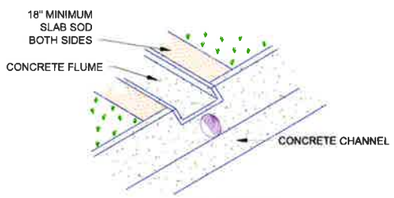
TYPICAL CONCRETE CHANNEL LINER DETAIL



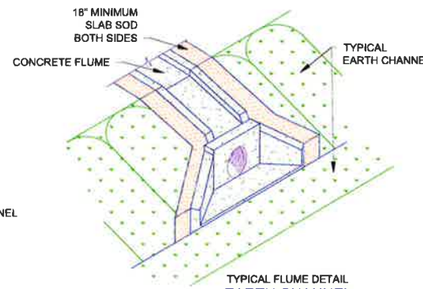
CONCRETE CHANNEL LINER JOINT DETAIL

FOR WALL HEIGHT ABOVE 5'

CONCRETE CHANNEL WEEP HOLE DETAIL



TYPICAL FLUME DETAIL
CONCRETE CHANNEL



TYPICAL FLUME DETAIL
EARTH CHANNEL

OKLAHOMA CITY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

STANDARD CHANNEL LINER & FLUME DETAILS

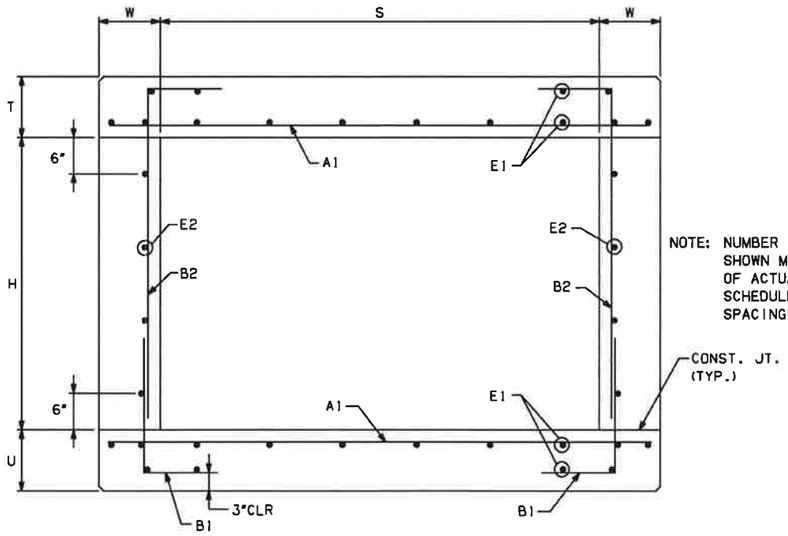
APPROVED BY: PAUL HUBRUM, P.E. CITY ENGINEER
DATE:

DRAWN:	DATE:	DWG. NO.
V.S.C.	06/27/01	D-501

E:/CITY/ACAD2000-STD/D-501.DWG VSC 06/27/01

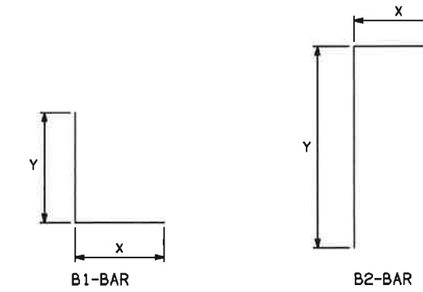
REVISIONS		
DESCRIPTION		DATE

SECTION DIMENSIONS					REINFORCING STEEL																						SECTION DIMENSIONS		QUANTITIES	
					A1-BARS				B1-BARS						B2-BARS						E1-BARS AT 12" MAX.			E2-BARS AT 12" MAX.					PER FOOT OF BARREL	
S	H	T	U	W	SIZE	SPA	LENGTH	WEIGHT PER FT.	SIZE	SPA	"X"	"Y"	LENGTH	WEIGHT PER FT.	SIZE	SPA	"X"	"Y"	LENGTH	WEIGHT PER FT.	NO.	SIZE	WEIGHT PER FT.	NO.	SIZE	WEIGHT PER FT.	S	H	CONC. (C.Y.)	REINF. (LB.)
3'	2'	7"	8"	6"	#5	6"	3'-8"	15.3	#4	12"	0'-8"	1'-9"	2'-5"	3.2	#4	12"	0'-8"	2'-5"	3'-1"	4.1	18	#4	12.0	4	#4	2.7	3'	2'	0.26	37.3
3'	3'	7"	8"	7"	#5	6"	3'-10"	16.0	#4	12"	0'-8"	1'-9"	2'-5"	3.2	#4	12"	0'-8"	3'-5"	4'-1"	5.5	18	#4	12.0	6	#4	4.0	3'	3'	0.32	40.7
4'	2'	9"	10"	7"	#5	6"	4'-10"	20.2	#4	12"	0'-8"	1'-11"	2'-7"	3.5	#4	12"	0'-8"	2'-7"	3'-3"	4.3	20	#4	13.4	4	#4	2.7	4'	2'	0.39	44.1
4'	3'	9"	10"	7"	#5	6"	4'-10"	20.2	#4	12"	0'-8"	1'-11"	2'-7"	3.5	#4	12"	0'-8"	3'-7"	4'-3"	5.7	20	#4	13.4	6	#4	4.0	4'	3'	0.43	46.8
4'	4'	9"	10"	8"	#5	6"	5'-0"	20.9	#5	12"	0'-10"	2'-3"	3'-1"	6.4	#5	12"	0'-10"	4'-7"	5'-5"	11.3	20	#4	13.4	8	#4	5.3	4'	4'	0.51	57.3
5'	2'	9"	10"	6"	#6	6"	5'-8"	34.0	#4	12"	0'-8"	1'-11"	2'-7"	3.5	#4	12"	0'-8"	2'-7"	3'-3"	4.3	22	#4	14.7	4	#4	2.7	5'	2'	0.43	59.2
5'	3'	9"	10"	6"	#6	6"	5'-8"	34.0	#5	6"	0'-10"	2'-3"	3'-1"	12.9	#5	6"	0'-10"	3'-7"	4'-5"	18.4	22	#4	14.7	6	#4	4.0	5'	3'	0.46	84.0
5'	4'	9"	10"	7"	#6	6"	5'-10"	35.0	#5	6"	0'-10"	2'-3"	3'-1"	12.9	#5	6"	0'-10"	4'-7"	5'-5"	22.6	22	#4	14.7	8	#4	5.3	5'	4'	0.53	90.5
5'	5'	9"	10"	8"	#6	6"	6'-0"	36.0	#5	6"	0'-10"	2'-3"	3'-1"	12.9	#5	6"	0'-10"	5'-7"	6'-5"	26.8	22	#4	14.7	10	#4	6.7	5'	5'	0.62	97.1
5'	7'	10"	11"	10"	#6	6"	6'-4"	38.1	#5	6"	0'-10"	2'-4"	3'-2"	13.2	#5	6"	0'-10"	7'-8"	8'-6"	35.5	22	#4	14.7	14	#4	9.4	5'	7'	0.86	110.9



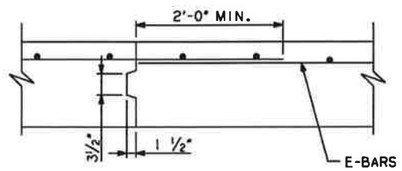
BARREL SECTION

NOTE: NUMBER AND SPACING OF E-BARS SHOWN MAY NOT BE REPRESENTATIVE OF ACTUAL CULVERT SECTIONS, SEE SCHEDULE ABOVE FOR NUMBER AND SPACING OF E-BARS.



BAR BEND DIAGRAMS

NOTE: ALL "X" DIMENSIONS ARE HORIZONTAL IN BARREL SECTION.
ALL "Y" DIMENSIONS ARE VERTICAL IN BARREL SECTION.



TRANSV. CONSTR. JOINT

DESIGN DATA:

1. DESIGNED IN ACCORDANCE WITH 2007 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND INTERIM SPECIFICATIONS FROM 2008.
2. DESIGNED FOR HL-93 LOADING AND ODOT OVERLOAD TRUCK.
3. MATERIALS:
   CONCRETE (CLASS AA) f'c = 4 KSI
   REINFORCING STEEL fy = 60 KSI

GENERAL NOTES:

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
2. ALL CONCRETE EDGES SHALL HAVE A 1 ½" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.
3. ALL REINFORCING STEEL SHALL HAVE A 2" MINIMUM CLEAR COVER UNLESS OTHERWISE SHOWN.
4. THE QUANTITY FOR REINFORCING STEEL DOES NOT INCLUDE LAP SPLICES OF E1-BARS OR E2-BARS IN THE LENGTH OF THE BARREL OR AT TRANSVERSE CONSTRUCTION JOINTS. THE SPLICE LENGTH FOR E-BARS SHALL BE 24" MINIMUM. THE NUMBER OF SPLICES USED IS TO BE APPROVED BY THE ENGINEER. REINFORCING STEEL FOR SPLICES SHALL NOT BE MEASURED FOR PAYMENT, AND ALL COSTS WILL BE INCLUDED IN THE UNIT BID PRICE FOR REINFORCING STEEL.
5. TRANSVERSE CONSTRUCTION JOINTS SHALL BE PLACED IN ALL CULVERTS 100 FT. OR MORE IN LENGTH. JOINTS SHALL BE SPACED AT 60 FT. MAX.
6. REINFORCING STEEL SHALL BE CONTINUOUS THROUGH THE TRANSVERSE CONSTRUCTION JOINT AND EXTEND A MIN. OF 24" INTO ADJACENT SECTION.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
509.06 (A)	CLASS AA CONCRETE	C.Y.
511.06 (A)	REINFORCING STEEL	LB.

APPROVED BY BRIDGE ENGINEER Kenneth Lucas DATE 4/2/10

OKLAHOMA DEPT. OF TRANSPORTATION
BRIDGE STANDARD (ENGLISH)

RCB CULVERTS - BARREL DETAILS
3'-0", 4'-0" & 5'-0" SPANS - SINGLE CELL
2 FT. TO 20 FT. FILL

2009 SPECIFICATIONS	RCB-C1-3&4&5(2-20)	01E
		B-510E

REVISIONS	
DESCRIPTION	DATE
MODIFIED NOTES	3/15/2011

ALL GENERAL NOTES SHOWN BELOW SHALL APPLY
TO ALL OF THE STANDARD DRAWINGS IN TCS SERIES

CONTRACTOR

ON CONSTRUCTION PROJECTS IT WILL BE THE CONTRACTORS RESPONSIBILITY TO INSTALL THE NECESSARY TRAFFIC CONTROL BEFORE CONSTRUCTION BEGINS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL DEVICES TO ASSURE A HIGH DEGREE OF BOTH DAY AND NIGHT VISIBILITY, WHICH WILL INCLUDE ANY WASHING, REPLACEMENT AND/OR REPOSITIONING WHERE DEEMED NECESSARY BY THE ENGINEER.

THE CONTRACTOR SHALL REPAIR OR REPLACE ANY NEW OR EXISTING PERMANENT STATE OWNED SIGNS WHICH ARE DAMAGED DUE TO HIS NEGLIGENCE OR CARELESS HANDLING DURING THE CONSTRUCTION OF THIS PROJECT. THIS SHALL BE DONE AT THE CONTRACTORS EXPENSE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TEMPORARY TRAFFIC CONTROL WORK ZONE AND EXISTING PAVEMENT MARKINGS ON ALL ROADWAYS OPEN TO TRAFFIC WITHIN THE PROJECT. SUFFICIENT QUANTITIES HAVE BEEN PROVIDED FOR MAINTAINING PAVEMENT MARKINGS FOR PRESCRIBED DETOUR ROUTES WHEN DEEMED NECESSARY BY THE ENGINEER.

SIGN MATERIALS

ALL SIGN BLANK MATERIALS SHALL BE THE OPTION OF THE CONTRACTOR BUT SHALL BE OF SUCH MATERIAL THAT WILL RETAIN A SATISFACTORY APPEARANCE THROUGHOUT THE LIFE OF THE PROJECT.

ALL SIGNS, LIGHTS, FLAGS, ETC. SHALL CONFORM IN SIZE, SHAPE, COLOR, LEGENDS AND APPLICATIONS TO THE STANDARDS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND/OR OKLAHOMA STATE STANDARD DRAWINGS FOR SIGNS. STANDARD DRAWINGS ARE AVAILABLE FROM THE DEPARTMENT OF TRANSPORTATION. INTERPRETATIONS THAT MAY BE NECESSARY SHALL BE REFERRED TO THE ENGINEER.

SIGN SHEETING

REFLECTORIZATION OF TRAFFIC CONTROL DEVICES SHALL BE BY MEANS OF WIDE ANGLE, FLAT TOP REFLECTIVE SHEETING MEETING THE REQUIREMENTS OF 2009, OKLAHOMA STANDARD SPECIFICATIONS.

SIGN INSTALLATION

ALL SIGNS SHALL BE SECURELY PLACED OR WEIGHTED TO PREVENT BLOWING OVER. ROCKS, BROKEN CONCRETE OR OTHER SUCH OBJECTS SHALL NOT BE CONSIDERED AN ACCEPTABLE SUBSTITUTE FOR SAND BAGS WHEN USED TO OBTAIN ADDED STABILITY FOR MOVABLE SIGNS AND BARRICADES.

SPACING OF SIGNING, ON THE PLANS OR TCS STANDARDS, SHOULD BE NO LESS THAN THE DISTANCES SHOWN. THE DISTANCE BETWEEN SIGNS SHOULD BE INCREASED ON HIGH SPEED OR MORE HEAVILY TRAVELED HIGHWAYS, OR WHERE SIGHT DISTANCE IS RESTRICTED.

IN ALL CONSTRUCTION ZONES, THE 48 INCH X 48 INCH WARNING SIGNS SHALL HAVE ATTACHED THERETO FLORESCENT FLAGS AND TYPE "A" WARNING LIGHTS. THIS SHALL ALSO APPLY WHEN SIGNS ARE USED ON BOTH SIDES OF THE ROADWAY. ADDITIONAL FLASHING LIGHTS MAY BE REQUIRED WHEN SO DESIRED BY THE ENGINEER.

ALL DIAMOND SHAPED CONSTRUCTION WARNING SIGNS ON EXPRESSWAYS OR FREEWAYS SHALL BE 48 INCH X 48 INCH, WITH THE APPROPRIATE ADVISORY SIGN WHERE REQUIRED UNLESS OTHERWISE NOTED IN THE PLANS.

DUE TO THE TEMPORARY NATURE OF CONSTRUCTION, SIGNS WHICH ARE 33 S.F. AND OVER WILL HAVE NO REINFORCING STEEL IN THEIR FOOTINGS.

ALL SIGNS AND SIGN ASSEMBLIES WITH A TOTAL SURFACE AREA OF 10 S.F. OR MORE SHALL BE INSTALLED ON TWO (2) POSTS. THE EXCEPTION BEING SINGLE ROUTE MARKER ASSEMBLIES.

SIGNS MOUNTED ON BARRICADES SHALL BE MOUNTED AS HIGH AS NECESSARY TO BE VISIBLE.

BARRICADES

ONE (1) WING BARRICADE SHALL BE SET ON EACH SIDE OF THE ROADWAY IN ADVANCE OF THE FIRST ADVANCE WARNING SIGN. THE EXCEPTIONS ARE MINOR CROSS STREETS AND SECTION LINE ROADS WHICH INTERSECT THE WORK AREA.

WING BARRICADES SHALL BE INSTALLED ON TWO (2) BREAKAWAY POSTS.

WORK DURATION

THE FIVE CATEGORIES OF WORK DURATION AND THIER TIME AT A LOCATION SHALL BE:
A) LONG-TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN 3 DAYS.
B) INTERMEDIATE-TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 DAYS, OR NIGHTTIME WORKLASTING MORE THAN 1 HOUR.
C) SHORT-TERM STATIONARY IS DAYTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR WITHIN A SINGLE DAYLIGHT PERIOD.
D) SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.
E) MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.

LIGHTING

TYPE "A" WARNING LIGHTS SHALL BE USED ON BARRICADES (AS REQUIRED) AND WARNING SIGNS.

TYPE "C" WARNING LIGHTS MAY BE USED ON VERTICAL PANELS (OPTIONAL).

CONSTRUCTION NOTES

SHOULD THE REQUIRED WORK ON ANY PROJECT, INCLUDING ANY TRAFFIC CONTROL, OVERLAP OR OTHERWISE INTERFERE WITH THE ON-GOING WORK OR TRAFFIC CONTROL OF ANOTHER PROJECT, IT SHALL BE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTORS TO COORDINATE THEIR WORK ACTIVITIES TO FACILITATE THE SAFE MOVEMENT OF TRAFFIC THROUGHOUT OR AROUND THEIR COLLECTIVE WORK AREAS. ANY SUCH RECOMMENDED CHANGES SHALL BE SUBMITTED IN WRITING TO EACH PROJECT RESIDENT ENGINEER FOR REVIEW AND APPROVAL.

ALL TRAFFIC CONTROL DEVICES NOT REQUIRED FOR THE SAFE CONDUCT OF TRAFFIC THROUGH THE TEMPORARY TRAFFIC CONTROL ZONE SHALL BE PROMPTLY REMOVED, COMPLETELY COVERED, TURNED AWAY FROM TRAFFIC OR OTHERWISE TAKEN OUT OF SERVICE. DEVICES SHALL NOT BE STORED ALONG THE ROADWAY, WITHIN 15 FEET (15') OF AN OPEN DRIVING LANE, EITHER BEFORE OR AFTER THEY ARE TO BE USED UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. THESE DEVICES SHALL BE REMOVED FROM THE TEMPORARY TRAFFIC CONTROL ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS 15 FEET (15') SETBACK, THE CONTRACTOR SHALL DETERMINE ALTERNATE LOCATIONS AND REQUEST THE ENGINEERS APPROVAL TO USE THEM.

TRAFFIC CONTROL DEVICES, WARNING DEVICES, AND BARRIERS SHALL BE KEPT IN CORRECT POSITION, PROPERLY DIRECTED, CLEARLY VISIBLE AND CLEAN AT ALL TIMES. DAMAGED, DEFACED OR DIRTY DEVICES OR BARRICADES SHALL IMMEDIATELY BE REPAIRED, REPLACED OR CLEANED BY THE CONTRACTOR AND APPROVED FOR USE BY THE ENGINEER.

NO EQUIPMENT OR VEHICLES BELONGING TO THE CONTRACTOR, HIS SUB-CONTRACTORS OR EMPLOYEES SHALL BE PARKED OR STOPPED WITHIN 30 FEET (30') OF A LANE CARRYING TRAFFIC, AT ANY TIME, UNLESS REQUIRED BY ONGOING WORK OPERATIONS.

ALL DETOURS AND DIVERSIONS SHOULD BE IN PLACE, WITH SIGNING, STRIPING AND CHANNELIZING DEVICES, AS SHOWN IN THE PLANS OR STANDARD DRAWINGS. BEFORE THEY ARE OPENED TO TRAFFIC.

WHEN IT BECOMES NECESSARY TO CLOSE THE ROAD TO THROUGH TRAFFIC, NO LESS THAN SEVEN DAYS PRIOR TO THE CLOSURE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES DESCRIBING THE AFFECTED ROAD AND THE APPROXIMATE DURATION OF THE CLOSURE. THOSE TO BE NOTIFIED INCLUDE BUT ARE NOT LIMITED TO 1) LOCAL LAW ENFORCEMENT OFFICIALS, 2) LOCAL FIRE OFFICIALS, 3) AMBULANCE SERVICES, 4) LOCAL SCHOOL SUPERINTENDENT, 5) UNITED STATES POSTAL SERVICE, AND 6) CITY OR COUNTY ROAD SUPERINTENDENT.

ALL TEMPORARY TRAFFIC CONTROL DEVICES, AND THIER CONDITIONS THROUGHOUT THE LIFE OF THE CONSTRUCTION PROJECT, SHALL MEET O.D.O.T.'S LATEST "QUALITY STANDARDS FOR TEMPORARY TRAFFIC CONTROL DEVICES". THE O.D.O.T. RESIDENT ENGINEER WILL MAKE FINAL DECISION OF ALL TEMPORARY TRAFFIC CONTROL DEVICES BASED ON THE O.D.O.T. GUIDELINES.

NO GENDER BIAS SIGNS ARE ALLOWED.

ARROW DISPLAY

USE OF AN ARROW DISPLAY, IN THE ARROW OR CHEVRON MODE, SHALL BE LIMITED TO STATIONARY OR MOVING LANE CLOSURES.

AN ARROW DISPLAY, IN THE CAUTION MODE, SHALL BE USED ONLY FOR SHOULDER WORK, BLOCKING THE SHOULDER, ROADSIDE WORK NEAR THE SHOULDER, OR FOR MOBILE OPERATIONS (I.E. STRIPING).

AN ARROW DISPLAY IN THE ARROW OR CHEVRON MODE, SHALL NOT BE USED ON A TWO-LANE, TWO-WAY ROADWAY FOR TEMPORARY ONE-LANE OPERATION.

AN ARROW DISPLAY SHALL NOT BE USED ON A MULTI-LANE ROADWAY TO LATERALLY SHIFT TRAFFIC.

CHANNELIZING DEVICES

IN THOSE AREAS WHERE DRIVERS ARE ASKED TO MAKE A DECISION OR MUST BE GUIDED THROUGH A PRECISE MOVEMENT, BY USE OF CHANNELIZING DEVICES, IT IS ESPECIALLY IMPORTANT TO PROVIDE A CLEARLY DEFINED PATH. EXAMPLES OF THIS COULD BE IN DELINEATING A TEMPORARY GORE OR TURNING RADIUS. IN SUCH AREAS THE SPACING OF CHANNELIZING DEVICES MAY BE REDUCED TO 10 FEET FOR SPEEDS OF 40 M.P.H. OR LESS, AND 20 FEET FOR SPEEDS GREATER THAN 40 M.P.H.

WHEN CHANNELIZING DEVICES ARE USED TO DIRECT TRAFFIC ACROSS EXISTING LANE LINES OR EDGE LINES, THE SPACING BETWEEN CHANNELIZING DEVICES SHALL BE REDUCED 50%. SPACING SHOULD ALSO BE REDUCED WHEN CHANNELIZING DEVICES ARE PLACED ON CURVES, HILLS, OR NEXT TO POTENTIAL HAZARDS.

ALL TRAFFIC CONTROL CHANNELIZING DEVICES SHALL MEET MUTCD COLOR REQUIREMENTS.

FLAGGERS

FLAGGERS MUST BE CLEARLY VISIBLE TO APPROACHING TRAFFIC FOR A DISTANCE SUFFICIENT TO PERMIT PROPER RESPONSE BY MOTORISTS TO THE FLAGGING INSTRUCTIONS, AND TO PERMIT TRAFFIC TO REDUCE SPEED OR STOP BEFORE ENTERING THE TEMPORARY TRAFFIC CONTROL ZONE. FLAGGERS SHALL BE POSITIONED TO MAINTAIN MAXIMUM COLOR CONTRAST BETWEEN THE FLAGGER'S REFLECTIVE CLOTHING AND EQUIPMENT AND THE WORK AREA BACKGROUND.

DURING HOURS OF DARKNESS, FLAGGER STATIONS SHALL BE ILLUMINATED SUCH THAT THE FLAGGER WILL BE CLEARLY VISIBLE TO APPROACHING TRAFFIC. LIGHTS TO BE USED FOR ILLUMINATING THE STATION SHALL BE APPROVED BY THE ENGINEER. REFLECTORIZED PADDLES AND REFLECTORIZED VESTS, SHIRTS OR JACKETS SHALL BE USED FOR NIGHTTIME FLAGGING.

UNLESS OTHERWISE SPECIFIED IN THE PLANS, THE COST OF FLAGGING OPERATIONS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

MINIMUM STANDARDS FOR TRAFFIC CONTROL DEVICES

(1) WARNING LIGHTS (TYPE A FLASHERS AND TYPE C STEADY BURN)
- (A) NOT LESS THAN NINETY (90) PERCENT OF THE TOTAL NUMBER OF LIGHTS BEING USED AT ANY ONE TIME SHALL BE FULLY OPERATIONAL.
- (B) NOT MORE THAN THREE (3) LIGHTS ADJACENT TO ONE ANOTHER SHALL BE FAILING.

(2) ARROW DISPLAY
- (A) WHEN IN ARROW MODE, NO MORE THAN TWO (2) LAMPS IN THE STEM AND ZERO (0) LAMPS IN THE HEAD SHALL BE FAILING. THE DIMMING FUNCTION SHALL BE OPERATING PROPERLY.
- (B) WHEN IN CAUTION MODE (CORNERS), A MINIMUM OF FOUR (4) LAMPS SHALL BE OPERATIONAL. THE DIMMING FUNCTION SHALL BE OPERATING PROPERLY.
- (C) ANY LAMP WHICH IS LIGHTED BUT IMPROPERLY ALIGNED SHALL NOT BE CONSIDERED OPERATIONAL.

(3) CHANGEABLE MESSAGE SIGNS
- (A) NOT LESS THAN NINETY (90) PERCENT OF THE PIXELS SHALL BE FUNCTIONAL IN EACH CHARACTER MODULE.
- (B) NO SANDBAG BALLASTING OVER 3 FEET IN HEIGHT.

(4) PAVEMENT MARKING TAPE
- (A) NOT MORE THAN TEN (10) PERCENT OF ALL TAPE, PAINT, MESSAGE OR SYMBOL SHALL BE MISSING
- (B) NOT MORE THAN TWO (2) CONSECUTIVE DASHED LINES SHALL BE MISSING.
- (C) NOT MORE THAN FIFTY (50) CONTINUOUS FEET OF A SOLID LINE SHALL BE MISSING.

(5) CONSTRUCTION ZONE PAVEMENT MARKERS
- (A) NOT MORE THAN TEN (10) PERCENT OF THE TOTAL NUMBER OF MARKERS SHALL BE MISSING.
- (B) NOT MORE THAN THREE (3) CONSECUTIVE MARKERS SHALL BE MISSING.

STRIPING

WHENEVER THE WORK CAUSES THE OBLITERATION OF PAVEMENT MARKINGS, EITHER TEMPORARY OR PERMANENT MARKINGS SHALL BE IN PLACE PRIOR TO OPENING THE ROADWAY TO TRAFFIC. CENTERLINE PAVEMENT MARKINGS SHALL BE PROVIDED AT ALL TIMES FOR ROADWAYS OPEN TO TRAFFIC.

THE APPLICATION SURFACES FOR PAVEMENT MARKINGS SHALL BE FREE OF DUST, DIRT, MOISTURE OR OTHER FOREIGN MATTER WHICH WOULD INTERFERE WITH ADHESION. INSTALLATION OF ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED IMMEDIATELY AHEAD OF THE PERMANENT STRIPING OPERATIONS OR RE-STRIPING FOR FOLLOWING CONSTRUCTION PHASES.

WHEN REMOVABLE PAVEMENT MARKINGS TAPE IS TO BE INSTALLED ON NEW CONCRETE PAVEMENT, THE CURING COMPOUND SHALL BE REMOVED PRIOR TO INSTALLATION.

IF REMOVABLE PAVEMENT MARKING TAPE IS INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND FAILS DURING THE FIRST SIX MONTHS OF SERVICE, IT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. REPLACEMENT SHALL BE ACCOMPLISHED IN A TIMELY MANNER UPON BEING NOTIFIED, BY THE ENGINEER, OF SUCH FAILURE.

PILOT CAR

WHEN LANE CLOSURES ARE REQUIRED ON TWO-LANE / TWO-WAY ROADWAYS, THE CONTRACTOR MAY, AT HIS OPTION, UTILIZE A PILOT CAR. IF THE CONTRACTOR ELECTS TO USE A PILOT CAR, CHANNELIZING DEVICES ALONG THE CENTERLINE WILL NOT BE REQUIRED. THE PILOT CAR OPERATOR SHALL BE IN RADIO CONTACT WITH PERSONNEL IN THE TEMPORARY TRAFFIC CONTROL ZONE. MAXIMUM SPEED OF THE PILOT CAR THROUGH THE WORK AREA SHALL BE 25 M.P.H. FULL COMPENSATION FOR FURNISHING AND OPERATING THE PILOT CAR, (INCLUDING DRIVER, RADIOS, AND ANY OTHER EQUIPMENT OR LABOR REQUIRED) SHALL BE CONSIDERED AS INCLUDED IN THE COST OF OTHER ITEMS OF WORK.

MISCELLANEOUS

TRAFFIC CONDITIONS MAY NECESSITATE CHANGES IN THE USE AND/OR QUANTITIES OF THE TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS OR IN THE STANDARDS. ANY SUCH CHANGES ARE SUBJECT TO APPROVAL BY THE ENGINEER.

ALL CHANNELIZING DEVICES PROVIDED ON THIS PROJECT SHALL BE IN GOOD CONDITION AND SHALL BE APPROVED FOR USE ON THIS PROJECT BY THE ENGINEER.

THE REGULATORY SPEED LIMITS THROUGH THE WORK ZONE MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER WITH THE DOCUMENTED APPROVAL OF THE DIVISION ENGINEER IN ACCORDANCE WITH TITLE 47 OF THE OKLAHOMA MOTOR VEHICLE LAWS.

THE TERMINATION AREA EXTENDS FROM THE DOWNSTREAM END OF THE WORK AREA TO THE TEMPORARY TRAFFIC CONTROL DEVICE SUCH AS "END ROAD WORK" SIGNS, IF POSTED. A SPEED SIGN, OR OTHER SIGNS MAY BE USED TO INFORM ROAD USERS THAT THEY CAN RESUME NORMAL OPERATIONS.

THE CONSTRUCTION SIGNING AND BARRICADE CONTRACTOR SHOULD AFFIX THEIR COMPANY NAME AND/OR LOGO INCONSPICUOUSLY ON EACH TRAFFIC CONTROL DEVICE.

APPROVED BY
TRAFFIC ENGINEER: _____ DATE: 3/21/11

TRAFFIC STANDARD
TRAFFIC CONTROL STANDARD
TRAFFIC CONTROL CONSTRUCTION NOTES

2009 SPECIFICATIONS

TCS1-1	01

T-501

$$date$$

REVISIONS		
DESCRIPTION		DATE

TAPER LENGTH CRITERIA FOR WORK ZONES

SPEED LIMIT M.P.H.	"L" FORMULA	"L" TAPER LENGTH (MINIMUM) (FT)			NUMBER OF CHANNELIZING DEVICES REQUIRED (MINIMUM)			SPACING CHANNELIZING DEVICES (MAXIMUM)		MAXIMUM HORIZONTAL ALIGNMENT THRU DETOUR (DEGREE) (S=0)	SPEED LIMIT M.P.H.
		10' OFFSET	11' OFFSET	12' OFFSET	10' OFFSET	11' OFFSET	12' OFFSET	① THRU TAPER SECTION (FT.)	② THRU TANGENT SECTION (FT.)		
20	$L = \frac{W \times S^2}{60}$	70	75	80	5	5	5	20	40	—	20
25		105	115	125	6	6	6	25	50	—	25
30		150	165	180	6	7	7	30	60	15	30
35		205	225	245	7	8	8	35	70	11	35
40		265	295	320	8	9	9	40	80	8	40
45	$L = W \times S$	450	495	540	11	12	13	45	90	6	45
50		500	550	600	11	12	13	50	100	5	50
55		550	605	660	12	14	15	50	100	4	55
60		600	660	720	13	15	16	50	100	3	60
65		650	715	780	14	16	17	50	100	2.5	65
70		700	770	840	15	17	18	50	100	2	70
75		750	825	900	16	18	19	50	100	1.8	75

NOTES:

① RECOMMENDED SIGNING TO BE USED THRU LANE TAPER IS (1) CW1-8 ON EVERY OTHER DRUM.

② RECOMMENDED SIGNING TO BE USED THRU TANGENT LANES IS (1) R4-7A(R) OR (1) R4-7A(L) (AS APPLIES) ON EVERY OTHER DRUM.

L = TAPER LENGTH IN FEET

W = WIDTH OF OFFSET IN FEET

S = POSTED SPEED OR OFF-PEAK 85 PERCENTILE SPEED IN MPH

TYPE OF TAPER	TAPER LENGTH
UPSTREAM TAPERS	
MERGING TAPER	L MINIMUM
SHIFTING TAPER	1/2 L MINIMUM
SHOULDER TAPER	1/3 L MINIMUM
TWO-WAY TRAFFIC TAPER	100 FEET MAXIMUM
DOWNSTREAM TAPERS (USE IS OPTIONAL)	100 FEET PER LANE

RECOMMENDED CLEAR ZONE DISTANCE (FT) (CONSTRUCTION WORK ZONES)

DESIGN SPEED	DESIGN ADT	FILL SLOPES			CUT SLOPES		
		6:1 OR FLATTER	5:1 OR 4:1	3:1	3:1	4:1 OR 5:1	6:1 OR FLATTER
40 MPH OR LESS	UNDER 750	4	4	SEE NOTE 3	4	4	4
	750-1500	5	6		5	5	5
	1500-6000	6	7		6	6	6
	OVER 6000	7	8		7	7	7
45-50 MPH	UNDER 750	5	6		4	4	5
	750-1500	7	8		5	6	7
	1500-6000	8	10		6	7	8
	OVER 6000	10	12		7	9	10
55 MPH	UNDER 750	6	7		4	5	5
	750-1500	8	10		5	7	8
	1500-6000	10	12		7	8	10
	OVER 6000	11	13		8	10	11
60 MPH	UNDER 750	8	10		5	6	7
	750-1500	10	13		6	8	10
	1500-6000	13	16 *		7	9	12
	OVER 6000	15	18 *		10	12	13
65-70 MPH	UNDER 750	9	10		5	7	7
	750-1500	12	14		6	9	10
	1500-6000	14	17 *		8	11	13
	OVER 6000	15	19 *		11	13	14

NOTES:

* THE CLEAR ZONE MAY BE LIMITED TO 15 FEET FOR PRACTICALITY AND TO PROVIDE A CONSISTENT ROADWAY TEMPLATE.

(1) ALL DISTANCES ARE MEASURED FROM EDGE OF THE TRAVEL LANE.

(2) FOR CLEAR ZONES, THE "DESIGN ADT" WILL BE THE TOTAL ADT ON TWO-WAY ROADWAYS AND DIRECTIONAL ADT ON ONE-WAY ROADWAYS (E.G., RAMPS AND ONE ROADWAY OF A DIVIDED HIGHWAY).

(3) FILL SLOPES WHICH ARE 3:1 OR STEEPER ARE CRITICAL AND MAY REQUIRE A BARRIER. THEREFORE THERE IS NOT A CLEAR ZONE APPLICATION.

FLARE RATES FOR CONCRETE MEDIAN BARRIER IN TEMPORARY TRAFFIC CONTROL ZONES

SPEED *	FLARE RATE (MINIMUM)
40 M.P.H.	9 TO 1
45 M.P.H.	10 TO 1
50 M.P.H.	11 TO 1
55 M.P.H.	12 TO 1
60 M.P.H.	13 TO 1
65 M.P.H.	14 TO 1
70 M.P.H.	15 TO 1
75 M.P.H.	16 TO 1

* POSTED SPEED LIMIT PRIOR TO CONSTRUCTION

STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

SPEED * (MPH)	LENGTH (FEET)
20 M.P.H.	115
25 M.P.H.	155
30 M.P.H.	200
35 M.P.H.	250
40 M.P.H.	305
45 M.P.H.	360
50 M.P.H.	425
55 M.P.H.	495
60 M.P.H.	570
65 M.P.H.	645
70 M.P.H.	730
75 M.P.H.	820

* POSTED SPEED, OFF-PEAK 85th PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED.

RECOMMENDED DISTANCE BETWEEN SIGNS (MIN.)			
ROAD TYPE	A (FT)	B (FT)	C (FT)
URBAN (LOW SPEED)	100	100	100
URBAN (HIGH SPEED)	350	350	350
RURAL	500	500	500
EXPRESSWAY /FREEWAY	1,000	1,500	2,640

PAVEMENT MARKINGS THROUGH TEMPORARY TRAFFIC CONTROL ZONE

	DRIVING SURFACE	FLEX TAB MARKERS	TAPE (REMOVABLE)	TAPE (NON-REMOVABLE)	PAINT	CONSTRUCTION ZONE PAVEMENT MARKERS
ASPHALT	EXISTING PAVEMENT TO BE REMOVED OR OVERLAYED IN THE NEXT PHASE	X	X	X	X	X
	EXISTING PAVEMENT TO BE LEFT IN PLACE THRU THE NEXT PHASE	X	X			X
	INTERMEDIATE LIFT	X	X	X	X	X
	MILLED SURFACE	X	X	X	X	X
	FINAL LIFT	X	X			
CONCRETE	EXISTING PAVEMENT TO BE REMOVED OR OVERLAYED IN THE NEXT PHASE	X	X	X	X	X
	EXISTING PAVEMENT TO BE LEFT IN PLACE THRU THE NEXT PHASE	X	X			X
	FINAL SURFACE	X	X		X	X

NOTE:
USE OF NON-REMOVABLE TAPE (FOILBACK) SHALL BE LIMITED TO THOSE CONDITIONS SHOWN IN THE TABLE.

CROSSOVER CRITERIA FOR WORK ZONES

WIDTH OF MEDIAN (W) (FT)	LATERAL SHIFT - (P) (FT)	LENGTH OF CROSSOVER - LC * (FT)									
		V.	30 M.P.H.	35 M.P.H.	40 M.P.H.	45 M.P.H.	50 M.P.H.	55 M.P.H.	60 M.P.H.	65 M.P.H.	70 M.P.H.	75 M.P.H.
		D.	15°	11°	8°	6°	5°	4°	3°	2.5°	2°	1.8°
		R.	382	521	716	955	1146	1433	1910	2292	2865	3183
20	32		219	256	301	348	382	427	493	541	605	637
30	42		250	293	344	398	437	489	565	619	692	730
40	52		277	325	382	443	485	543	628	688	770	812
50	62		301	354	417	483	529	593	685	751	841	886
60	72		324	381	448	519	570	638	738	809	905	955
70	82		344	405	478	554	608	681	787	863	966	1,018
80	92		363	428	505	586	643	720	833	914	1,023	1,078
90	102		381	450	531	616	676	758	877	962	1,076	1,135
100	112		398	470	555	644	708	793	918	1,007	1,127	1,189
110	122		414	489	578	672	738	827	958	1,050	1,176	1,240
120	132		429	508	601	698	767	860	995	1,092	1,223	1,290

* CROSSOVER = REVERSE CURVE CONNECTION TYING TWO (2) PARALLEL ROADWAYS.

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 5/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
TRAFFIC CONTROL TABLES AND CHARTS

2009 SPECIFICATIONS

TCS2-1	00
T-502	

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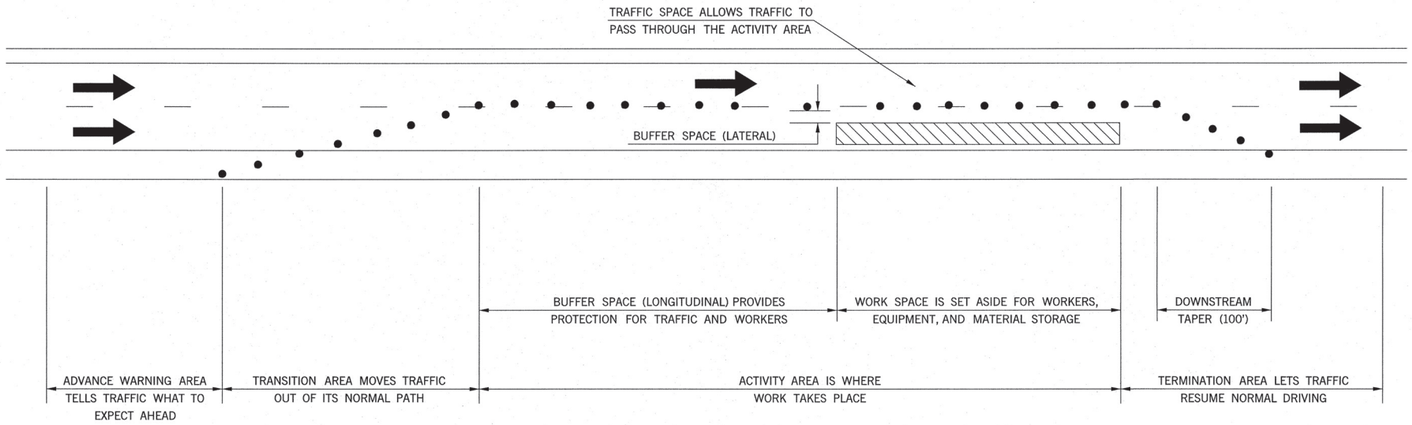
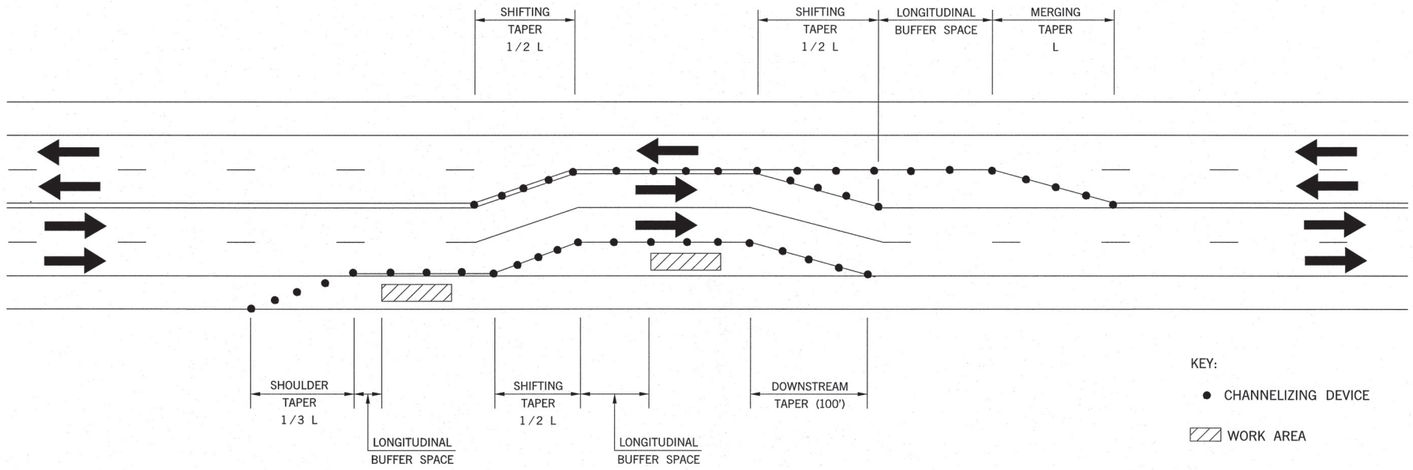
REVISIONS	
DESCRIPTION	DATE
CHANGED TRANSITION NOTATION	5/31/2011



COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL ZONE



TAPERS AND BUFFER SPACE

TEMPORARY TRAFFIC CONTROL ELEMENTS

APPROVED BY
TRAFFIC ENGINEER: _____ DATE: 5/31/2011

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
TEMPORARY TRAFFIC CONTROL ELEMENTS

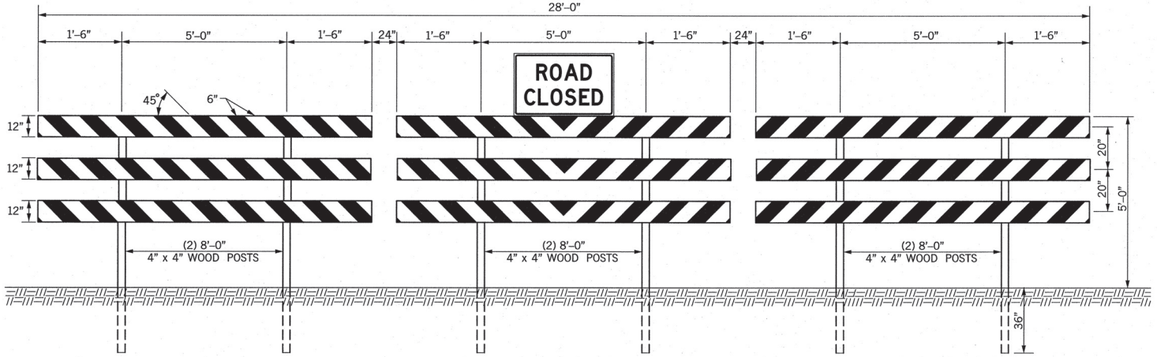
2009 SPECIFICATIONS

TCS3-1	01

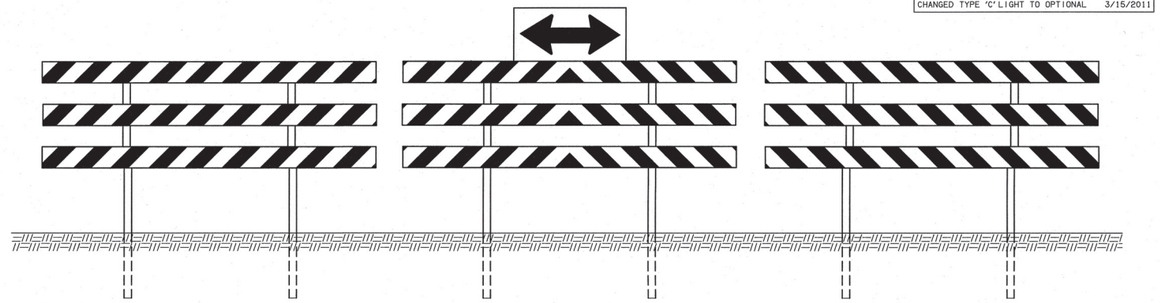
T-503

$$date$$

REVISIONS	
DESCRIPTION	DATE
CHANGED TYPE 'C' LIGHT TO OPTIONAL	3/15/2011



WHEN ROAD ENDS



FOR T-INTERSECTIONS

PERMANENT TYPE III(A/B) BARRICADE

(DIMENSIONS ARE TYPICAL FOR BOTH BARRICADES)

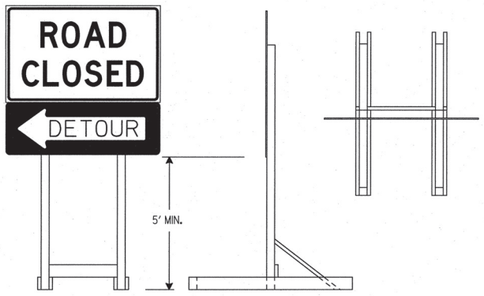
NOTES: A PERMANENT BARRICADE TYPE III(A) SHALL CONSIST OF NINE (9) PANELS AND SIX (6) POSTS.

TYPICAL INSTALLATION AS SHOWN IS FOR AN ABSOLUTE CLOSURE.

BARRICADES SHOULD NOT BE PLACED PARALLEL TO TRAFFIC IF NOT OUTSIDE OF CLEAR ZONE.

PERMANENT BARRICADE TYPE III(B) WILL BE IDENTICAL TO TYPE III(A) WITH NINE (9) ADDITIONAL REFLECTORIZED 3/4"x12" LUMBER PANELS ATTACHED TO THE BACK SIDE OF THE BARRICADE.

COLOR: BACKGROUND – WHITE (REFLECTORIZED)
DIAGONAL STRIPES – RED (REFLECTORIZED)



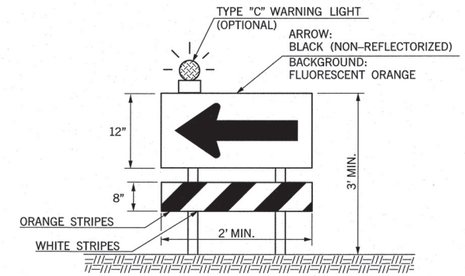
Skid-Mounted
Sign Support
with plywood sign

LONG/INTERMEDIATE TERM STATIONARY PORTABLE SIGN SUPPORTS

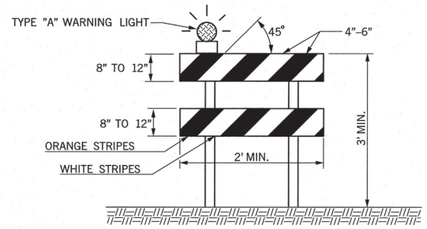
5 Foot Mounting Height

(SKID MOUNTED)

(SHALL BE PLACED BEHIND TYPE III BARRICADE)



DIRECTION INDICATOR BARRICADE



TYPE II BARRICADE

NOTES: FOR WOODEN BARRICADES NOMINAL LUMBER DIMENSIONS WILL BE SATISFACTORY.

FOR RAILS LESS THAN 3 FEET LONG, 4 INCH WIDE STRIPES SHALL BE USED.

TYPE III BARRICADES SHALL BE CONSTRUCTED USING A MINIMUM OF TWO (2) POSTS.

FOR WOODEN BARRICADES, PANEL THICKNESS SHALL NOT EXCEED ONE-HALF INCH (1/2").

BARRICADES SHOULD NOT BE PLACED PARALLEL TO TRAFFIC IF NOT OUTSIDE OF CLEAR ZONE.

PROJECTS WITH WORK LIMITS OF 2.0 MILES OR MORE IN LENGTH WILL REQUIRE THE G20-1A SIGN. THE SIGN (G20-1A) WILL BE REQUIRED ON ONE SIDE OF A 2-LANE ROADWAY AND BOTH SIDES OF A DIVIDED HIGHWAY.

ALL BARRICADE STRIPES SHALL BE RETROREFLECTIVE.

COLOR: BACKGROUND – WHITE (REFLECTORIZED)
DIAGONAL STRIPES – FLUORESCENT ORANGE (REFLECTORIZED)

IF BARRICADES ARE USED TO CHANNELIZE PEDESTRIANS, THERE SHALL BE CONTINUOUS DETECTABLE BOTTOM AND TOP RAILS WITH NO GAPS BETWEEN INDIVIDUAL BARRICADES TO BE DETECTABLE TO USERS OF LONG CANES. THE BOTTOM OF THE BOTTOM RAIL SHALL BE NO HIGHER THAN 6 INCHES ABOVE THE GROUND SURFACE. THE TOP OF THE TOP RAIL SHALL BE NO LOWER THAN 36 INCHES ABOVE THE GROUND SURFACE.

SIGNS MOUNTED ON TYPE III BARRICADES SHOULD NOT COVER MORE THAN 50 PERCENT OF THE TOP TWO RAILS OR 33 PERCENT OF THE TOTAL AREA OF THE THREE RAILS

SIGNS MOUNTED ON BARRICADES, OR OTHER PORTABLE SUPPORTS, SHALL BE NO LESS THAN 1' ABOVE THE TRAVELED WAY.

SANDBAGS MAY BE PLACED ON LOWER PARTS OF THE FRAME OR THE STAYS OF BARRICADES TO PROVIDE THE REQUIRED BALLAST.

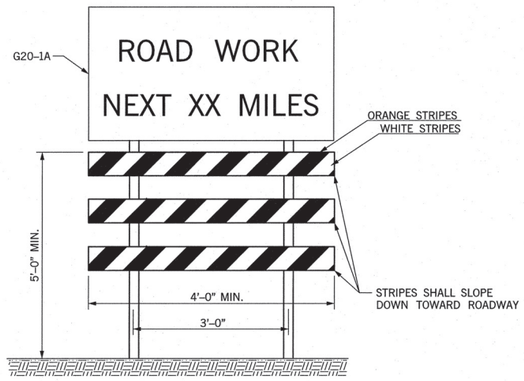
BALLAST SHALL NOT BE PLACED ON TOP OF ANY STRIPED RAIL. BARRICADES SHALL NOT BE BALLASTED BY NONDEFORMABLE OBJECTS SUCH AS ROCKS OR CHUNKS OF CONCRETE. BALLAST SHALL NOT EXTEND INTO THE ACCESSIBLE PASSAGE WIDTH OF 60".

DIRECTION INDICATOR BARRICADE SHALL CONSIST OF A ONE-DIRECTION LARGE ARROW (W1-6) SIGN MOUNTED ABOVE A DIAGONAL STRIPED, HORIZONTALLY ALIGNED, RETRO-REFLECTIVE RAIL.

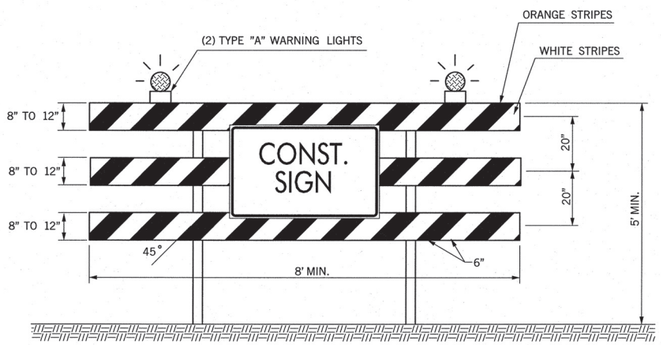
WHERE BARRICADES EXTEND ENTIRELY ACROSS A ROADWAY, THE STRIPES SHOULD SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH ROAD USERS MUST TURN.

WHERE BOTH RIGHT AND LEFT TURNS ARE PROVIDED, THE BARRICADE STRIPES SHOULD SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE OR BARRICADES.

WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD BE POSITIONED TO SLOPE DOWNWARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES.



WING BARRICADE



TYPE III BARRICADE

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD
880(C)	CONSTRUCTION BARRICADES	SD
880(E)	WARNING LIGHTS	SD

APPROVED BY
TRAFFIC ENGINEER: _____ DATE: 3/21/11

TRAFFIC STANDARD

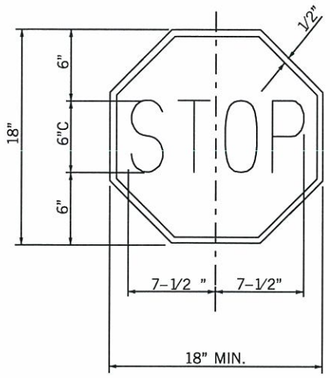
TRAFFIC CONTROL STANDARD
TRAFFIC CONTROL DEVICES

2009 SPECIFICATIONS

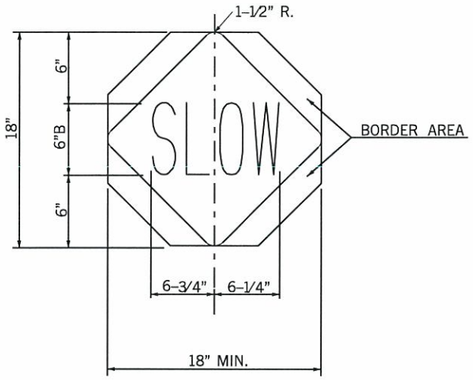
TCS4-1 | 01

T-504

$$date$$



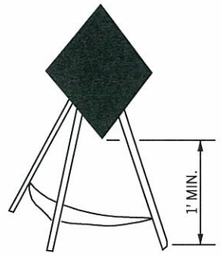
STOP:
LEGEND AND BORDER: WHITE (REFLECTORIZED)
BACKGROUND: RED (REFLECTORIZED)

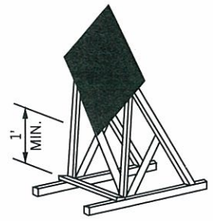


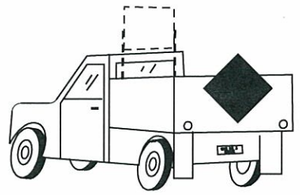
SLOW:
LEGEND AND BORDER AREA: BLACK (NON-REFLECTORIZED)
BACKGROUND: ORANGE (REFLECTORIZED)

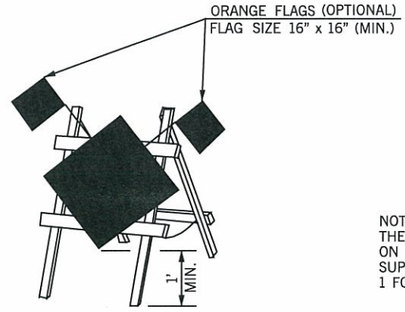
STOP–SLOW PADDLE

DESCRIPTION	REVISIONS	DATE



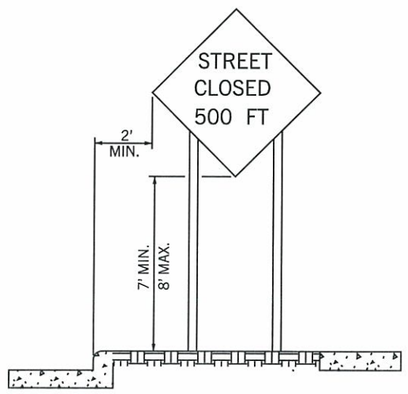




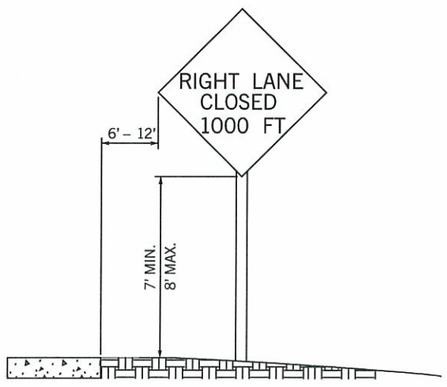


NOTE:
THE BOTTOM OF SIGNS MOUNTED ON BARRICADES OR TEMPORARY SUPPORTS SHALL NOT BE LESS THAN 1 FOOT ABOVE THE TRAVELED WAY.

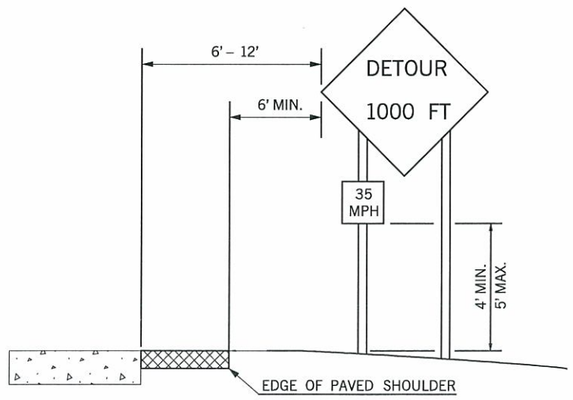
PORTABLE AND TEMPORARY MOUNTINGS
METHODS OF MOUNTING SIGNS OTHER THAN ON POSTS



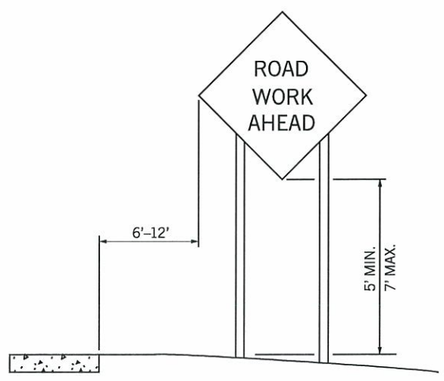
URBAN DISTRICT
(WITH CURB)



URBAN DISTRICT
(WITHOUT CURB)



RURAL DISTRICT WITH
ADVISORY SPEED PLATE



RURAL DISTRICT

HEIGHT AND LATERAL LOCATIONS OF SIGNS – TYPICAL INSTALLATIONS

APPROVED BY TRAFFIC ENGINEER: Harold Smith DATE: 6/23/10
TRAFFIC STANDARD

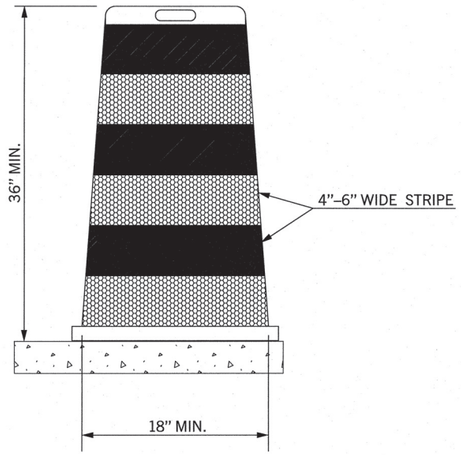
TRAFFIC CONTROL STANDARD
TYPICAL SIGN INSTALLATION

2009 SPECIFICATIONS

TCS5–1	00
T–505	

TRFPC36 M:\2009_Standards_TC\505.dgn 8:16:51 AM 6/2/2010 d:\usr2\fiib\leroyh.pen R:\TRAF_PLOT\bw.tbl

REVISIONS	
DESCRIPTION	DATE
ADD NOTE TO VERTICAL PANEL	07/19/10
CHANGED TYPE 'C' LIGHT TO OPTIONAL	3/15/2011



DRUM

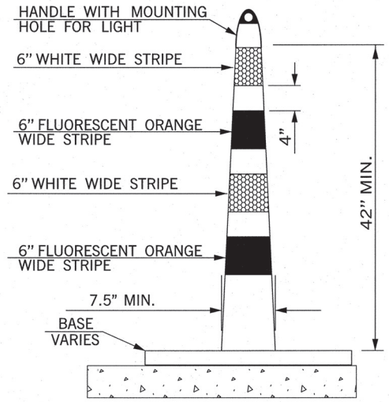
NOTES:

METAL DRUMS SHALL NOT BE USED.

EACH DRUM SHALL HAVE A MINIMUM OF TWO (2) FLUORESCENT ORANGE STRIPES ALTERNATING WITH A MINIMUM OF TWO (2) WHITE STRIPES. THESE STRIPES SHALL CONSIST OF RETROREFLECTIVE SHEETING.

BALLAST SHALL NOT BE PLACED ON TOP OF A DRUM.

DRUMS SHALL NOT BE USED TO DELINEATE AN EDGE DROP OFF IF THEY MUST BE PLACED IN THE DROP OFF AREA BELOW THE LEVEL OF THE DRIVING SURFACE.



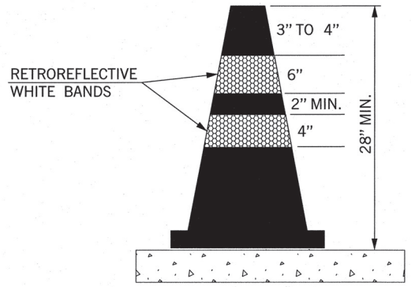
CHANNELIZER CONE

NOTES:

CHANNELIZER CONES USED ON HIGH SPEED ROADWAYS, ON ALL HIGHWAYS DURING NIGHTTIME, OR WHENEVER MORE CONSPICUOUS GUIDANCE IS NEEDED SHALL BE A MINIMUM OF 42 INCHES HIGH.

EACH CHANNELIZERS CONES SHALL HAVE A MINIMUM OF TWO (2) FLUORESCENT ORANGE STRIPES ALTERNATING WITH A MINIMUM OF TWO (2) WHITE STRIPES. THESE STRIPES SHALL CONSIST OF RETROREFLECTIVE SHEETING.

BASE SHALL WEIGH 30 LBS. OR MORE.

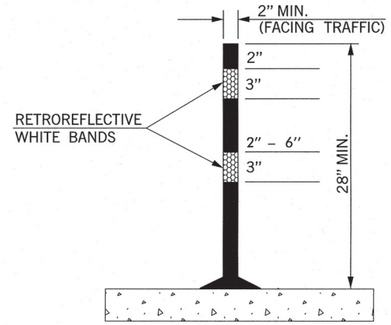


CONE

NOTES:

CONES USED ON HIGH SPEED ROADWAYS, ON ALL HIGHWAYS DURING NIGHTTIME, OR WHENEVER MORE CONSPICUOUS GUIDANCE IS NEEDED SHALL BE A MINIMUM OF 28 INCHES HIGH.

CONES SHALL BE PREDOMINANTLY ORANGE, WITH WHITE RETROREFLECTIVE SHEETING.

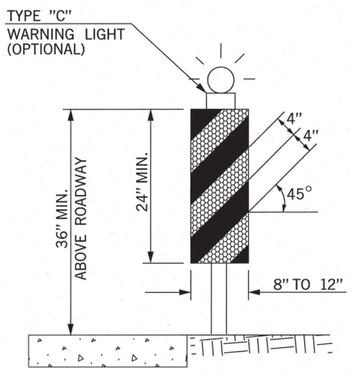


TUBE CHANNELIZER

NOTES:

TUBE CHANNELIZERS USED ON HIGH SPEED ROADWAYS, ON ALL HIGHWAYS DURING NIGHTTIME, OR WHENEVER MORE CONSPICUOUS GUIDANCE IS NEEDED SHALL BE A MINIMUM OF 28 INCHES HIGH.

TUBE CHANNELIZERS SHALL BE PREDOMINANTLY ORANGE, WITH WHITE RETROREFLECTIVE SHEETING.



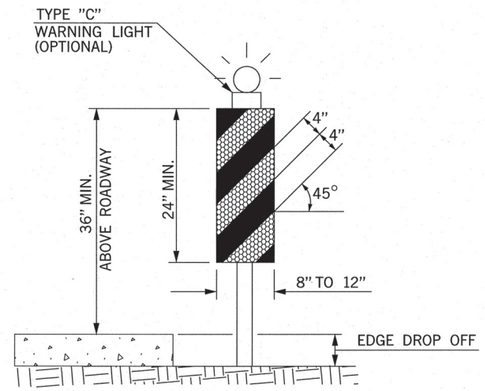
VERTICAL PANEL W/NO DROP OFF

NOTES:

PANEL STRIPE WIDTHS SHALL BE 6 INCHES EXCEPT WHERE PANELS LENGTHS ARE LESS THAN 36 INCHES, THEN 4 INCH WIDE STRIPES MAY BE USED.

MARKINGS FOR VERTICAL PANELS SHALL BE ALTERNATING FLUORESCENT ORANGE AND WHITE RETROEFLECTORIZED STRIPES (SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS).

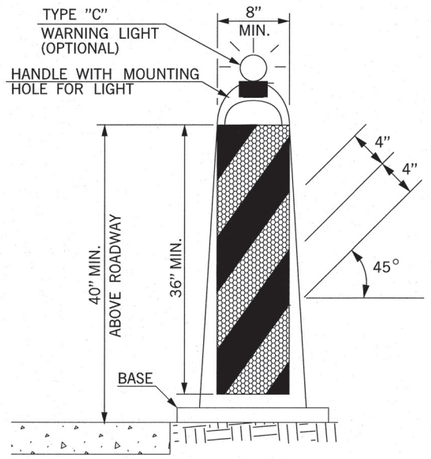
SHALL HAVE A MINIMUM OF TWO (2) FULL FLUORESCENT ORANGE STRIPES.



VERTICAL PANEL W/DROP OFF

ON UNDIVIDED HIGHWAYS, VERTICAL PANELS SHALL HAVE A MINIMUM OF 192 SQUARE INCHES OF RETROREFLECTIVE SHEETING ON EACH PANEL (FRONT AND BACK). WHEN USED ON HIGH SPEED ROADWAYS, VERTICAL PANELS SHALL HAVE MINIMUM OF 270 SQUARE INCHES OF RETROREFLECTIVE SHEETING ON EACH PANEL (FRONT AND BACK). THIS SHALL CONSTITUTE ONE (1) COMPLETE VERTICAL PANEL.

ON DIVIDED HIGHWAYS A VERTICAL PANEL MAY HAVE SHEETING ON ONLY ONE SIDE.



STACKABLE VERTICAL PANEL

NOTES:

(1) VERTICAL PANEL SIGNS SHALL BE MOUNTED BACK TO BACK WHEN USED FOR TWO–WAY TRAFFIC.

(2) BASE SHALL BE NO LARGER THAN 28" LONG BY 20" WIDE, AND 2" THICK.

(3) BASE SHALL WEIGHT 30 LBS. OR MORE.

(4) THESE DEVICES SHALL BE CONSTRUCTED OF A MATERIAL THAT CAN BE STRUCK WITHOUT DAMAGING VEHICLES ON IMPACT.

KEY:

FLUORESCENT ORANGE (REFLECTORIZED)

WHITE (REFLECTORIZED)

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(D)	VERTICAL PANEL	SD
880(E)	WARNING LIGHTS	SD
880(F)	DRUMS	SD
880(G)	TUBE CHANNELIZERS	SD
880(H)	CONES	SD
880(G)	CHANNELIZER CONES	SD

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 3/21/11

TRAFFIC STANDARD

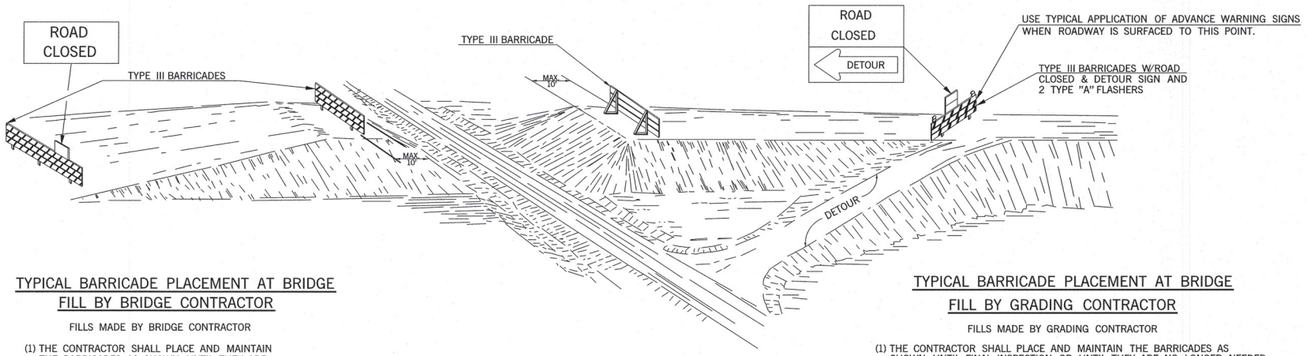
TRAFFIC CONTROL STANDARD
CHANNELIZING DEVICES

2009 SPECIFICATIONS

TCS6–1	02

$$date$$

REVISIONS	
DESCRIPTION	DATE
MODIFIED NOTE	3/15/2011
ADD "NO CELL PHONE" USAGE IN WORK ZONE, DISTANCE SIGN TO WARNING SIGNS	4/2/2013



TYPICAL BARRICADE PLACEMENT AT BRIDGE FILL BY BRIDGE CONTRACTOR

FILLS MADE BY BRIDGE CONTRACTOR

(1) THE CONTRACTOR SHALL PLACE AND MAINTAIN THE BARRICADES AS SHOWN UNTIL THEY ARE NO LONGER NEEDED.

(2) THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO REMOVAL OF THE BARRICADES.

(3) THE ENGINEER SHALL NOTIFY THE GRADING CONTRACTOR TO FURNISH AND ERECT HIS BARRICADES "IMMEDIATELY" AFTER THE BRIDGE CONTRACTOR REMOVES HIS BARRICADES. THE GRADING CONTRACTOR SHALL MAINTAIN HIS BARRICADES UNTIL FINAL INSPECTION OR UNTIL THEY ARE NO LONGER NEEDED.

(4) BARRICADES AT BRIDGE FILL SHALL BE IN PLACE AND MAINTAINED AT ALL TIMES UNTIL OPENED TO TRAFFIC, HOWEVER, BARRICADES MAY BE REMOVED OR ADJUSTED, AS NEEDED, TO ALLOW ACCESS TO THE WORK AREA.

TYPICAL BARRICADE PLACEMENT AT BRIDGE FILL BY GRADING CONTRACTOR

FILLS MADE BY GRADING CONTRACTOR

(1) THE CONTRACTOR SHALL PLACE AND MAINTAIN THE BARRICADES AS SHOWN UNTIL FINAL INSPECTION OR UNTIL THEY ARE NO LONGER NEEDED.

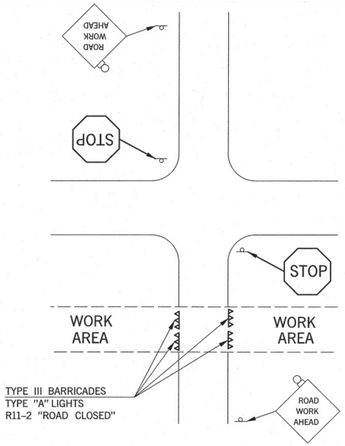
(2) THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO REMOVAL OF THE BARRICADES.

(3) IF THE BRIDGE WORK ORDER IS ISSUED PRIOR TO COMPLETION OF THE GRADING CONTRACT, THE BRIDGE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE GRADING CONTRACTOR TO ASSUME RESPONSIBILITY FOR PROTECTION OF THE BRIDGE WORK AREA. THIS WILL INCLUDE FURNISHING, INSTALLING, AND MAINTAINING ALL BARRICADES AND SIGNS NECESSARY TO PROVIDE THAT PROTECTION UNTIL THE BRIDGE IS COMPLETED AND THE FINAL INSPECTION IS COMPLETED.

(4) IF THE BRIDGE WORK ORDER HAS NOT BEEN ISSUED PRIOR TO THE FINAL INSPECTION OF THE GRADING, THEN THE GRADING CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OKLAHOMA DEPARTMENT OF TRANSPORTATION FOR STATE FORCES TO SUPPLY, INSTALL AND MAINTAIN ANY NECESSARY TRAFFIC CONTROL DEVICES NEEDED TO PROTECT THE WORK AREA. THESE STATE OWNED DEVICES SHALL REMAIN IN PLACE UNTIL SUCH TIME THAT THE BRIDGE WORK ORDER IS ISSUED. AT THAT TIME THE BRIDGE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR TRAFFIC CONTROL AND REPLACE THE STATE OWNED DEVICES WITH HIS OWN.

(5) SUFFICENT NUMBER OF TYPE II BARRICADES WITH SIGNS SHALL BE USED TO COMPLETELY CLOSE THE WORK AREA TO THROUGH TRAFFIC.

(6) BARRICADES AT BRIDGE FILL SHALL BE IN PLACE AND MAINTAINED AT ALL TIMES UNTIL OPENED TO TRAFFIC, HOWEVER, BARRICADES MAY BE REMOVED OR ADJUSTED, AS NEEDED, TO ALLOW ACCESS TO THE WORK AREA.



TYPICAL SIGN PLACEMENT FOR INTERSECTING ROADS AND STREETS

NOTES:

(1) SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.

(2) FLASHING WARNING LIGHTS SHALL BE USED TO CALL ATTENTION TO THE EARLY WARNING SIGNS.

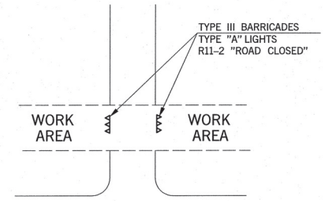
(3) WARNING LIGHTS SHOULD BE USED TO MARK CHANNELIZING DEVICES AT NIGHT AS NEEDED.

(4) PLACEMENT OF TYPE III BARRICADES SHALL BE APPROVED BY THE ENGINEER.

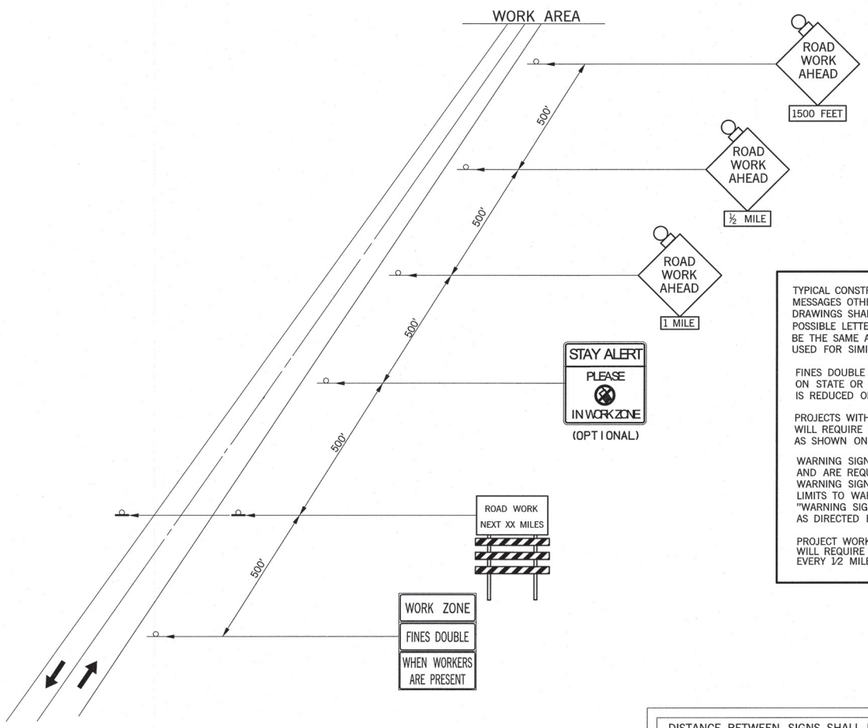
(5) TYPE II BARRICADES, DRUMS AND/OR VERTICAL PANELS MAY BE SUBSTITUTED FOR TYPE III BARRICADES TO AVOID OBSTRUCTING THE MOTORISTS VIEW.

(6) IF TWO OR MORE DRIVEWAYS ARE IN CLOSE PROXIMITY, THE BARRICADES BETWEEN THE DRIVEWAYS MAY BE OMITTED AT THE DISCRETION OF THE ENGINEER.

(7) THE "ROAD WORK AHEAD" SIGN, WHICH SERVES AS A GENERAL WARNING OF OBSTRUCTIONS OR RESTRICTIONS, SHALL BE LOCATED ON ALL INTERSECTING ROADS AND STREETS.



TYPICAL SIGN PLACEMENT FOR PRIVATE DRIVE OR RESIDENCE



TYPICAL APPLICATION ADVANCE WARNING SIGNS ON 2-LANE HIGHWAY

TYPICAL CONSTRUCTION WARNING SIGNS WITH MESSAGES OTHER THAN DETAILED ON STANDARD DRAWINGS SHALL BE CONSTRUCTED USING THE LARGEST POSSIBLE LETTER SIZE. SIGN SIZE AND COLOR SHALL BE THE SAME AS OTHER CONSTRUCTION WARNING SIGNS USED FOR SIMILAR CONDITIONS.

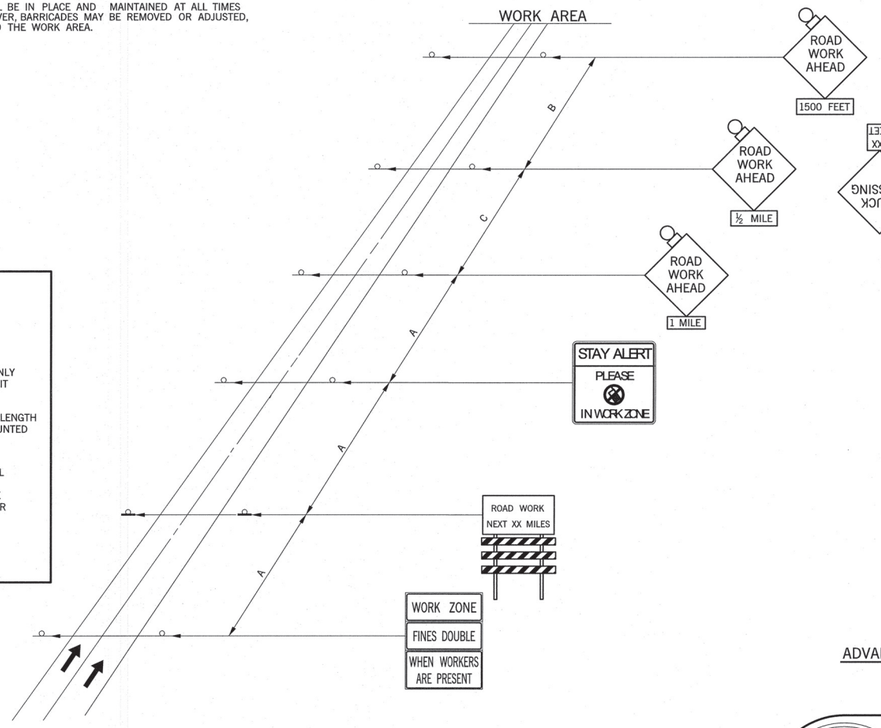
FINES DOUBLE IN WORK ZONE SIGNS ARE TO BE USED ONLY ON STATE OR FEDERAL HIGHWAYS WHERE THE SPEED LIMIT IS REDUCED OR AS DIRECTED BY THE ENGINEER.

PROJECTS WITH WORK LIMITS OF 1.0 MILES OR MORE IN LENGTH WILL REQUIRE THE G20-1A SIGN. THE SIGN SHALL BE MOUNTED AS SHOWN ON TCS4-1-(LATEST REVISION).

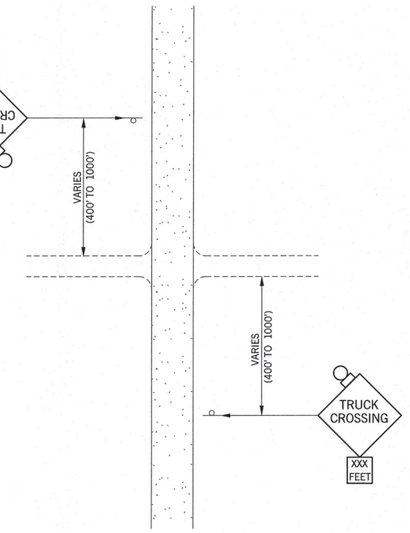
WARNING SIGNS SHOWN ARE "ADVANCE" WARNING SIGNS AND ARE REQUIRED ON ALL STATE HIGHWAYS. ADDITIONAL WARNING SIGNS MAY BE REQUIRED WITHIN THE PROJECT LIMITS TO WARN DRIVERS OF SPECIFIC HAZARDS. ADVANCE "WARNING SIGNS" MAY CHANGE AS CONDITIONS CHANGE OR AS DIRECTED BY THE ENGINEER.

PROJECT WORK OF 1.0 MILE OR MORE IN LENGTH WILL REQUIRE SIGNS CS-14 AND R2-1 TO BE PLACED EVERY 1/2 MILE THROUGH WORK ZONE.

DISTANCE BETWEEN SIGNS SHALL BE A (MIN.)			
ROAD TYPE	A (FT)	B (FT)	C (FT)
URBAN (LOW SPEED)	100	100	100
URBAN (HIGH SPEED)	350	350	350
RURAL	500	500	500
EXPRESSWAY /FREEWAY	1,000	1,500	2,640



TYPICAL APPLICATION ADVANCE WARNING SIGNS ON A DIVIDED HIGHWAY



TYPICAL APPLICATION ADVANCE SIGNING WHERE TRUCKS ARE CROSSING

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 4/8/2013

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD PLACEMENT OF ADVANCE WARNING SIGNS

2009 SPECIFICATIONS

TCS7-1	02
	T-507

$$date$$

STOP

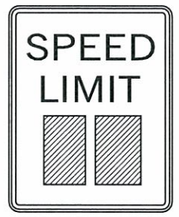
R1-1	30 x 30	5.18 SF
R1-1E	36 x 36	7.46 SF
R1-1F	48 x 48	13.26 SF

COLOR:
LEGEND AND BORDER:
WHITE (REFLECTORIZED)
BACKGROUND:
RED (TRANSPARENT REFLECTORIZED)

YIELD

R1-2	36 x 36 x 36	3.90 SF
R1-2E	48 x 48 x 48	6.93 SF
R1-2F	60 x 60 x 60	10.83 SF

COLOR:
LEGEND AND BORDER:
RED (TRANSPARENT REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



SPEED LIMIT

R2-1( ) (SPEED)	24 x 30	5.00 SF
R2-1E( )	36 x 48	12.00 SF
R2-1F( )	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

NO RIGHT TURN

R3-1	24 x 24	4.00 SF
R3-1E	36 x 36	9.00 SF
R3-1F	48 x 48	16.00 SF

COLOR:
ARROW AND BORDER:
BLACK (NON-REFLECTORIZED)
CIRCLE AND DIAGONAL:
RED (TRANSPARENT REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

NO LEFT TURN

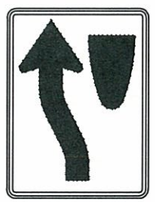
R3-2	24 x 24	4.00 SF
R3-2E	36 x 36	9.00 SF
R3-2F	48 x 48	16.00 SF

COLOR:
ARROW AND BORDER:
BLACK (NON-REFLECTORIZED)
CIRCLE AND DIAGONAL:
RED (TRANSPARENT REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

KEEP RIGHT SIGN

R4-7	24 x 30	5.00 SF
R4-7E	36 x 48	12.00 SF
R4-7F	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



KEEP LEFT SIGN

R4-8	24 x 30	5.00 SF
R4-8E	36 x 48	12.00 SF
R4-8F	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

KEEP RIGHT

R4-7a(R)	24 x 30	5.00 SF
R4-7a(R)E	36 x 48	12.00 SF
R4-7a(R)F	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

KEEP LEFT

R4-7a(L)	24 x 30	5.00 SF
R4-7a(L)E	36 x 48	12.00 SF
R4-7a(L)F	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

DO NOT ENTER

R5-1	30 x 30	6.25 SF
R5-1E	36 x 36	9.00 SF
R5-1F	48 x 48	16.00 SF

COLOR:
SYMBOL: :
RED (TRANSPARENT REFLECTORIZED)
LEGEND AND BACKGROUND: :
WHITE (REFLECTORIZED)

ONE WAY

R6-1(L)	36 x 12	3.00 SF
R6-1E(L)	54 x 18	6.75 SF
R6-1F(L)	54 x 18	6.75 SF

COLOR:
ARROW AND BORDER:
WHITE (NON-REFLECTORIZED)
LEGEND AND BACKGROUND:
BLACK (REFLECTORIZED)

ONE WAY

R6-1(R)	36 x 12	3.00 SF
R6-1E(R)	54 x 18	6.75 SF
R6-1F(R)	54 x 18	6.75 SF

COLOR:
ARROW AND BORDER:
WHITE (NON-REFLECTORIZED)
LEGEND AND BACKGROUND:
BLACK (REFLECTORIZED)

STOP HERE ON RED

R10-6	24 x 36	6.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

NOTES:
WORD SIGNS MAY BE USED IF SYMBOL SIGNS ARE NOT AVAILABLE EITHER IN "STANDARD HIGHWAY SIGNS MANUAL" OR IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (CURRENT EDITION).

REVISIONS		
DESCRIPTION		DATE

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER Ronald Smith DATE 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS8-1	00
T-508	

TRFPC36 M:\2009 Standards TC\t508.dgn 8:18:06 AM 6/2/2010 d:\usr2\flib\leroyh.pen R:\TRAF PLOT\bw.tbl

DESCRIPTION	REVISIONS	DATE
CHANGED SIGN DESIGNATION		3/15/2011

ROAD CLOSED

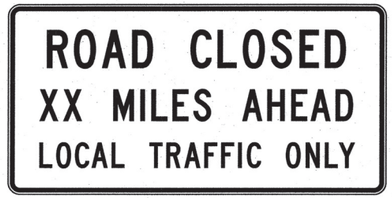
R11-2 48 x 30 10.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

LANE CLOSED

R11-2(LANE) 48 x 30 10.00 SF

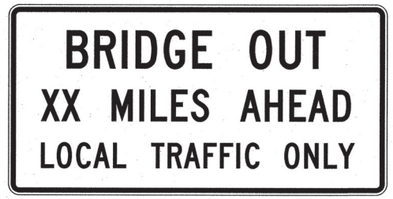
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



ROAD CLOSED XX MILES AHEAD

R11-3a 60 x 30 12.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



BRIDGE OUT XX MILES AHEAD

R11-3b 60 x 30 12.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

ROAD CLOSED TO THRU TRAFFIC

R11-4 60 x 30 12.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

DETOUR SIGN

M4-8 24 x 12 2.00 SF
M4-8E 30 x 15 3.13 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(R) 30 x 24 5.00 SF
M4-9(R)E 48 x 36 12.00 SF
M4-9(R)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(L) 30 x 24 5.00 SF
M4-9(L)E 48 x 36 12.00 SF
M4-9(L)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(V) 30 x 24 5.00 SF
M4-9(V)E 48 x 36 12.00 SF
M4-9(V)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

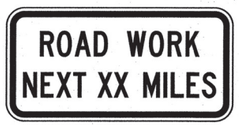
M4-10(R) 48 x 18 6.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-10(L) 48 x 18 6.00 SF

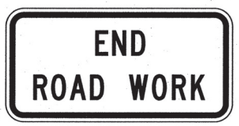
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



ROAD WORK NEXT XX MILES SIGN

G20-1A 36 x 18 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



END ROAD WORK SIGN

G20-2A 36 x 18 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

PILOT CAR FOLLOW ME SIGN

G20-4 36 x 18 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

NOTES:
WORD SIGNS MAY BE USED IF SYMBOL SIGNS ARE NOT AVAILABLE EITHER IN "STANDARD HIGHWAY SIGNS MANUAL" OR IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (CURRENT EDITION).

ALL DIAMOND SHAPE CONSTRUCTION WARNING SIGNS SHALL BE 48 INCHES X 48 INCHES UNLESS OTHERWISE NOTED IN THE PLANS.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: David Streett DATE: 3/21/11

TRAFFIC STANDARD

TRAFFIC CONTROL STANARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS9-1 01

$$date$$

TURN LEFT

W1-1(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

TURN RIGHT

W1-1(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

CURVE LEFT

W1-2(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

CURVE RIGHT

W1-2(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE TURN

W1-3(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE TURN

W1-3(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE CURVE

W1-4(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE CURVE

W1-4(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE CURVE

W1-4B(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE CURVE

W1-4B(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE CURVE

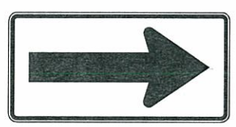
W1-4C(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE CURVE

W1-4C(R) 48 x 48 16.00 SF

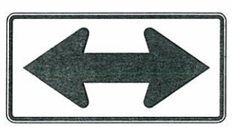
COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



ARROW

W1-6 48 x 24 8.00 SF
W1-6E 60 x 30 12.50 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



DOUBLE ARROW

W1-7 48 x 24 8.00 SF
W1-7E 60 x 30 12.50 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

REVISIONS		
DESCRIPTION		DATE

NOTES:
WORD SIGNS MAY BE USED IF SYMBOL SIGNS ARE NOT AVAILABLE EITHER IN "STANDARD HIGHWAY SIGNS MANUAL" OR IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (CURRENT EDITION).

ALL DIAMOND SHAPE CONSTRUCTION WARNING SIGNS SHALLBE 48 INCHES X 48 INCHES UNLESS OTHERWISE NOTED IN THE PLANS.

* SUPPLEMENTAL SIGNS SHALL ONLY BE USED IN CONJUCTION WITH DIAMOND SHAPE CONSTRUCTION WARNING SIGNS . THE SIZE OF SUPPLEMENTAL SIGNS SHALL BE APPROPRIATE FOR USE WITH A 48 INCH x 48 INCH WARNING SIGN UNLESS OTHERWISE NOTED IN THE PLANS.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: Arnold Smarr DATE: 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS10-1 00
T-510

TRFPC36 M:\2009 Standards TC\t510.dgn 8:18:46 AM 6/2/2010 d:\usr2\flib\leroyh.pen R:\TRAF PLOT\bw.tbl

CHEVRON

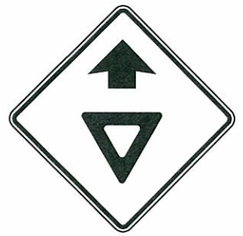
W1-8	18 x 24	3.00 SF
W1-8E	30 x 36	7.50 SF
W1-8F	36 x 48	12.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

STOP AHEAD

W3-1 48 x 48 16.00 SF

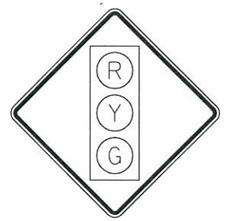
COLOR:
BORDER AND ARROW:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
SYMBOL:
WHITE BORDER ON RED BACKGROUND
(REFLECTORIZED)



YIELD AHEAD

W3-2 48 x 48 16.00 SF

COLOR:
BORDER AND ARROW:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
SYMBOL:
WHITE BORDER ON RED BACKGROUND
(REFLECTORIZED)



SIGNAL AHEAD

W3-3 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
R = RED (REFLECTORIZED)
Y = YELLOW (REFLECTORIZED)
G = GREEN (REFLECTORIZED)

BE PREPARED TO STOP SIGN

W3-4 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SPEED REDUCTION

W3-5 48 x 48 16.00 SF

COLOR:
BORDER AND ARROW:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
SYMBOL:
BLACK BORDER AND TEXT ON
WHITE BACKGROUND (REFLECTORIZED)

LEFT LANE ENDS

W4-2(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

RIGHT LANE ENDS

W4-2(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROAD NARROWS

W5-1 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

NARROW BRIDGE

W5-2 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ONE LANE BRIDGE

W5-3 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DIVIDED HIGHWAY

W6-1 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DIVIDED HIGHWAY

W6-2 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

TWO WAY TRAFFIC SIGN

W6-3 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

REVISIONS	
DESCRIPTION	DATE
CHANGE DESIGN NUMBER	07/19/10

NOTES:
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BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 3/6/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS11-1 01

T-511

TRFPC36 U:\Traffic\TRAFFIC_STD_CURRENT\2009\DRAWINGS\TCS11-1-01 t511.dgn 10:38:39 AM 7/19/2010 R:\TRAF PLOT\leroyh.pen R:\TRAF PLOT\bw.tbl

REVISIONS		
DESCRIPTION		DATE

HILL SIGN

W7-1 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

HILL SIGN

W7-1b 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

HILL SIGN *

W7-1S 24 x 18 3.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

BUMP SIGN

W8-1 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DIP SIGN

W8-2 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

PAVEMENT ENDS SIGN

W8-3 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SOFT SHOULDER SIGN

W8-4 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SLIPPERY WHEN WET SIGN

W8-5 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SLIPPERY WHEN WET *

W8-5S 24 x 18 3.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

TRUCK CROSSING

W8-6 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LOOSE GRAVEL SIGN

W8-7 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROUGH ROAD SIGN

W8-8 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

NOTES:
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BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: Harold Smith DATE: 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS12-1	00
	T-512

TRFPC36 M:\2009 Standards TC\1512.dgn 8:19:28 AM 6/2/2010 d:\usr2\fiib\leroyh.pen R:\TRAF PLOT\bw.tbl

LOW SHOULDER SIGN

W8-9 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

UNEVEN LANES SIGN

W8-11 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

NO CENTER LINE SIGN

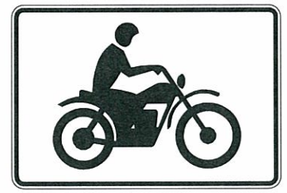
W8-12 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

GROOVED PAVEMENT SIGN

W8-15 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)



MOTORCYCLE (PLAQUE) *

W8-15P 18 x 36 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SHOULDER DROP-OFF (SYMBOL)

W8-17 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SHOULDER DROP-OFF (PLAQUE) *

W8-17P 18 x 36 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LANE ENDS MERGE LEFT SIGN

W9-2(L) 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LANE ENDS MERGE RIGHT SIGN

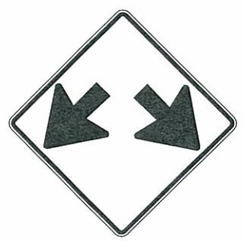
W9-2(R) 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

TRUCK CROSSING SIGN

W11-10 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)



DOUBLE ARROW SIGN

W12-1 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

CLEARANCE SIGN

W12-2 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ADVISORY SPEED SIGN *

W13-1P 18 x 18 2.25 SF
W13-1PE 24 x 24 4.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

XX FEET SIGN *

W16-2P 24 x 18 3.00 SF
W16-2PE 30 x 24 5.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

REVISIONS		
DESCRIPTION		DATE

NOTES:
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BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER Chad Smith DATE 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS13-1 00
T-513

TRFPC36 M:\2009 Standards TC\t513.dgn 8:19:50 AM 6/2/2010 d:\usr2\fitb\leroyh.pen R:\TRAF PLOT\bw.tbl

REVISIONS	
DESCRIPTION	DATE

ROAD WORK SIGN

W20-1 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DETOUR SIGN

W20-2 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROAD CLOSED SIGN

W20-3 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

STREET CLOSED SIGN

W20-3A 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ONE LANE ROAD SIGN

W20-4 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LEFT LANE CLOSED SIGN

W20-5(L) 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

RIGHT LANE CLOSED SIGN

W20-5(R) 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

FLAGGER SIGN

W20-7 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

FLAGGER SIGN

W20-7a 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

WORKERS SIGN

W21-1 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

FRESH OIL SIGN

W21-2 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROAD MACHINERY AHEAD SIGN

W21-3 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

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BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: David G. Smalley DATE: 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS14-1	00
	T-514

TRFPC36 M:\2009_Standards_TC\tfsl4.dgn 8:33:25 AM 6/23/2010 R:\TRAF_PLOT\leroyh.pen R:\TRAF_PLOT\bx.tbl

SHOULDER WORK SIGN

W21-5 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SURVEY CREW SIGN

W21-6 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

UTILITY WORK AHEAD SIGN

W21-7 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

MOWING AHEAD SIGN

W21-8 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

BRIDGE REPAIR SIGN

W21-9 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

MATERIAL ON SHOULDER SIGN

W21-10 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

MATERIAL ON ROADWAY SIGN

W21-11 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

BLASTING ZONE AHEAD SIGN

W22-1 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

CELL TELEPHONES SIGN

W22-2 36 x 30 7.50 SF
W22-2E 42 x 36 10.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

END BLASTING ZONE SIGN

W22-3 36 x 30 7.50 SF
W22-3E 42 x 36 10.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

REVISIONS		
DESCRIPTION		DATE

NOTES:
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BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER Arvid Grant DATE: 5/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS15-1 00

T-515

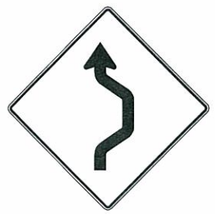
TRFPC36 M:\2009 Standards TC\t515.dgn 8:20:40 AM 6/2/2010 d:\usr2\fiib\leroyh.pen R:\TRAF PLOT\bw.tbl

REVISIONS	
DESCRIPTION	DATE

DOUBLE REVERSE CURVE (1 LANE)

W24-1(L) 48 X 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)



DOUBLE REVERSE CURVE (1 LANE)

W24-1(R) 48 X 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DOUBLE REVERSE CURVE (2 LANE)

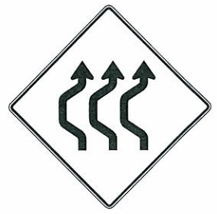
W24-1a(L) 48 X 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DOUBLE REVERSE CURVE (2 LANE)

W24-1a(R) 48 X 48 16.00 SF

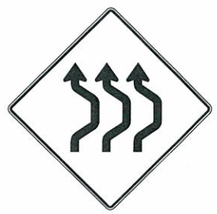
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)



DOUBLE REVERSE CURVE (3 LANE)

W24-1b(L) 48 X 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)



DOUBLE REVERSE CURVE (3 LANE)

W24-1b(R) 48 X 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ALL LANES*

W24-1cP 24 X 24 4.00 SF
W24-1cEP 30 X 30 6.25 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

NOTES:
WORD SIGNS MAY BE USED IF SYMBOL SIGNS ARE NOT AVAILABLE EITHER IN "STANDARD HIGHWAY SIGNS MANUAL" OR IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (CURRENT EDITION).

ALL DIAMOND SHAPE CONSTRUCTION WARNING SIGNS SHALLBE 48 INCHES X 48 INCHES UNLESS OTHERWISE NOTED IN THE PLANS.

* SUPPLEMENTAL SIGNS SHALL ONLY BE USED IN CONJUCTION WITH DIAMOND SHAPE CONSTRUCTION WARNING SIGNS . THE SIZE OF SUPPLEMENTAL SIGNS SHALL BE APPROPRIATE FOR USE WITH A 48 INCH x 48 INCH WARNING SIGN UNLESS OTHERWISE NOTED IN THE PLANS.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: Harold Smith DATE: 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

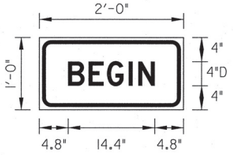
2009 SPECIFICATIONS

TCS16-1 00

T-516

TRFPC36 M:\2009 Standards TC\t516.dgn 8:21:00 AM 6/2/2010 d:\usr2\lib\leroyh.pen R:\TRAF PLOT\bw.tbl

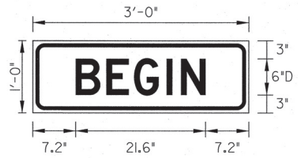
REVISIONS		
DESCRIPTION		DATE
CHANGED DECRIPTIONS		3/15/2011



Dimensions are in inches.tenths

SIGN NUMBER	CS-13
WIDTH x HGHT.	2'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	2.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)									LENGTH	SERIES/SIZE
B	E	G	I	N					D	2000
4.8	8.2	11.3	14.9	16.5				14.4		



Dimensions are in inches.tenths

SIGN NUMBER	CS-13E
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

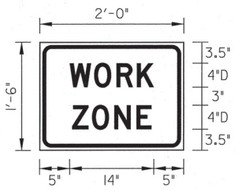
LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
B	E	G	I	N						D	2000
7.2	12.3	16.9	22.3	24.7					21.6		

Dimensions are in inches.tenths

SIGN NUMBER	CS-13F
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
B	E	G	I	N						E	2000
7.1	15.2	22.6	30.9	34.4					33.8		

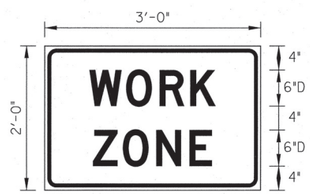
FLO* = FLUORESCENT ORANGE



Dimensions are in inches.tenths

SIGN NUMBER	CS-14
WIDTH x HGHT.	2'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

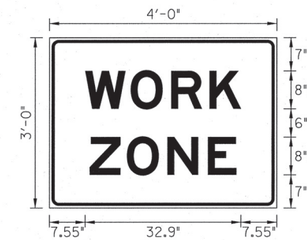
LETTER POSITIONS (X)									LENGTH	SERIES/SIZE
W	O	R	K						D	2000
5	9.1	12.8	16.2					14		
Z	O	N	E						D	2000
5.4	8.7	12.5	16.1					13.2		



Dimensions are in inches.tenths

SIGN NUMBER	CS-14E
WIDTH x HGHT.	3'-0" x 2'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

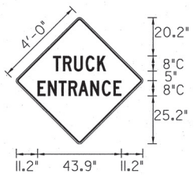
LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
W	O	R	K							D	2000
7.5	13.6	19.2	24.3						21		
Z	O	N	E							D	2000
8.1	13.1	18.7	24.2						19.8		



Dimensions are in inches.tenths

SIGN NUMBER	CS-14F
WIDTH x HGHT.	4'-0" x 3'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	12.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

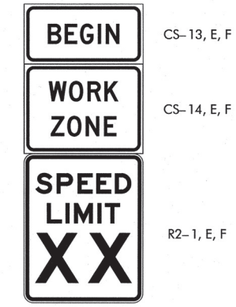
LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
W	O	R	K							E	2000
7.6	17.2	25.7	33.8						32.9		
Z	O	N	E							E	2000
8.5	16.4	24.9	33.5						31		



Dimensions are in inches.tenths

SIGN NUMBER	CS-15
WIDTH x HGHT	4'-0" x 4'-0"
BORDER WIDTH	0.75"
CORNER RADIUS	1.38"
MOUNTING	Ground
SIGN AREA	16.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Yellow
LEGEND/BORDER	TYPE: Reflective
	COLOR: Black

LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
T	R	U	C	K						C	2000
19.3	24.5	30.4	36.5	42.5					27.7		
E	N	T	R	A	N	C	E			C	2000
11.2	16.7	22.3	27.5	32.7	38.9	45	51.1		43.9		



CS-13, E, F

CS-14, E, F

R2-1, E, F

CONSTRUCTION
BEGIN WORK ZONE
SPEED LIMIT
ASSEMBLY

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY
TRAFFIC ENGINEER: _____ DATE: 3/21/11

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD CONSTRUCTION SIGNS

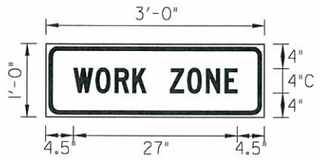
2009 SPECIFICATIONS

TCS19-1	01

T-519

$$date$$

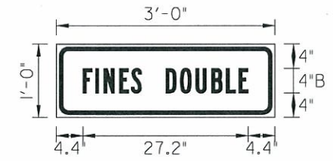
DESCRIPTION	REVISIONS	DATE



Dimensions are in inches.tenths

SIGN NUMBER	CS-16
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Orange
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE
W	O	R	K		Z	O	N	E				C 2000
4.5	8	11.2	14.1	16.3	20.3	23.2	26.3	29.5		27		



Dimensions are in inches.tenths

SIGN NUMBER	CS-17
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
F	I	N	E	S		D	O	U	B	L	E			B 2000
4.4	6.5	7.9	10.5	12.4	14.1	18.1	20.5	23.1	25.7	28	30.1	27.2		

Dimensions are in inches.tenths

SIGN NUMBER	CS-18
WIDTH x HGHT.	3'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	4.5 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
W	H	E	N		W	O	R	K	E	R	S			B 2000
3	6.1	8.7	10.9	12.6	16.6	19.6	22.2	24.6	27	29.1	31.3	30		
A	R	E		P	R	E	S	E	N	T				B 2000
5.3	8	10.3	11.9	15.9	18.1	20.5	22.4	24.8	26.9	29.2		25.5		

Dimensions are in inches.tenths

SIGN NUMBER	CS-16E
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Orange
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE
W	O	R	K		Z	O	N	E				C 2000
3.8	9	13.8	18.2	21.5	27.5	31.8	36.5	41.2		40.5		

Dimensions are in inches.tenths

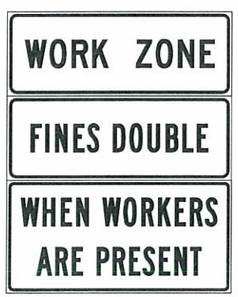
SIGN NUMBER	CS-17E
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
F	I	N	E	S	D	O	U	B	L	E				B 2000
5.1	8.2	10.3	14.2	17.1	22.7	26.2	30.1	34	37.5	40.7	37.9			

Dimensions are in inches.tenths

SIGN NUMBER	CS-18E
WIDTH x HGHT.	4'-0" x 2'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.13"
MOUNTING	Ground
SIGN AREA	8.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)												LENGTH	SERIES/SIZE
W	H	E	N	W	O	R	K	E	R	S			B 2000
3	7.7	11.6	14.9	20.4	24.9	28.8	32.4	36	39.2	42.4	41.9		
A	R	E	P	R	E	S	E	N	T				B 2000
6.4	10.5	14	19.3	22.7	26.3	29.1	32.7	35.9	39.3		35.2		



CS-16, E

CS-17, E

CS-18, E

CONSTRUCTION
FINES DOUBLE
ASSEMBLY

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER David Streb DATE 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS20-1	00
	T-520

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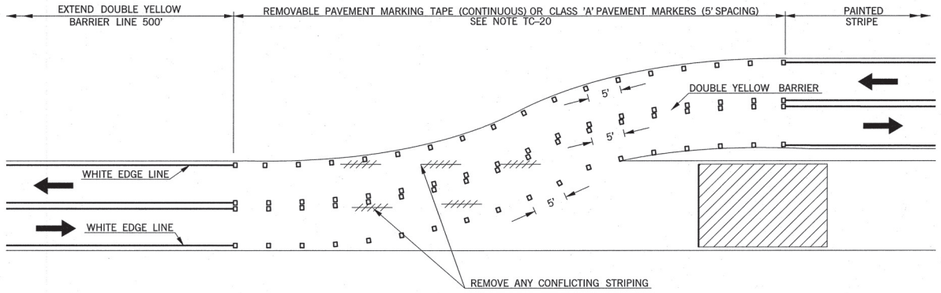
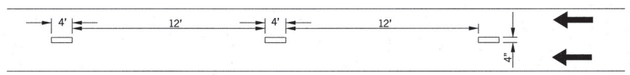
REVISIONS		
DESCRIPTION		DATE
ADDED TRAFFIC STRIPE NOTES		4/10/12
REDEFINED TERMS, MOD. PM SPACING		4/2/2013



CONSTRUCTION ZONE PAVEMENT MARKINGS THRU SHOO–FLY

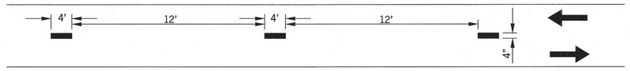


ONE–WAY PAVEMENT MARKING REMOVABLE TAPE OR PAINT

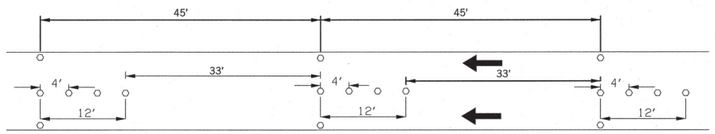
PAVEMENT MARKINGS: REMOVABLE TAPE OR PAINT

WIDTH OF STRIPED LANE LINES SHALL BE A MINIMUM OF 4".

INTERMEDIATE–TERM STATIONARY PAVEMENT MARKINGS ARE THOSE THAT MAY BE USED UNTIL THE EARLIEST DATE WHEN IT IS PRACTICAL AND POSSIBLE TO INSTALL PERMANENT PAVEMENT MARKINGS THAT MEET THE FULL OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARDS FOR PAVEMENT MARKINGS.



TWO–WAY PAVEMENT MARKING REMOVABLE TAPE OR PAINT



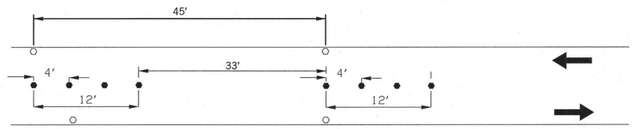
ONE–WAY PAVEMENT MARKING FLEX TABS

PAVEMENT MARKINGS: FLEX TABS

TYPE I – FLEX TAB MARKERS SHALL HAVE REFLECTORIZED MATERIAL ON BOTH SIDES.

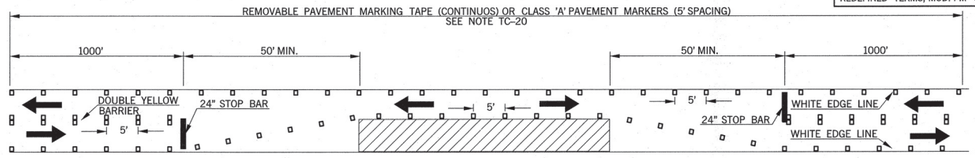
TYPE II – FLEX TAB MARKERS SHALL HAVE REFLECTORIZED MATERIAL ON BOTH SIDES AND SHALL HAVE A CLEAR REMOVABLE COVER.

FLEX TABS MAY BE INSTALLED AS SHOWN FOR LONG–TERM STATIONARY PAVEMENT MARKINGS.



TWO–WAY PAVEMENT MARKING FLEX TABS

INTERMEDIATE–TERM STATIONARY PAVEMENT MARKINGS



TYPICAL PAVEMENT MARKINGS FOR ONE LANE CLOSURE ON TWO LANE /TWO WAY ROADWAY REMOVABLE TAPE OR CONSTRUCTION ZONE PAVEMENT MARKERS

NOTES:

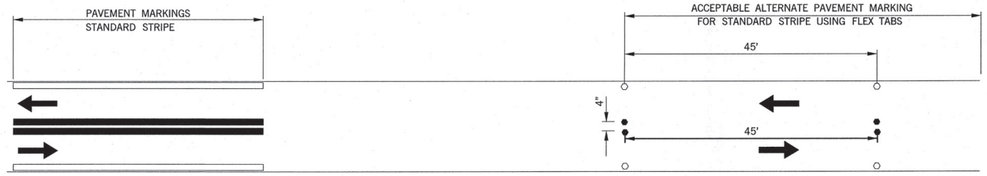
CONSTRUCTION ZONE PAVEMENT MARKINGS SHALL CONSIST OF EITHER PAINT, CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TABS) OR REMOVABLE MARKING TAPE. THERMO–PLASTIC STRIPE MAY BE USED IN CONJUNCTION WITH PAINT, FLEX TABS OR TAPE WHEN SPECIFIED IN THE PLANS.

ALL PAVEMENT MARKINGS TO BE PLACED ON TEMPORARY SURFACES OR ON SURFACES SCHEDULED TO BE REMOVED SHALL BE DONE WITH PAINT UNLESS OTHERWISE SHOWN IN THE PLANS OR STANDARD DRAWINGS. ALL FINAL OR FINISHED SURFACES SHALL BE MARKED WITH EITHER REMOVABLE PAVEMENT MARKING TAPE OR CONSTRUCTION ZONE PAVEMENT MARKERS, UNLESS OTHERWISE NOTED ON THE PLANS.

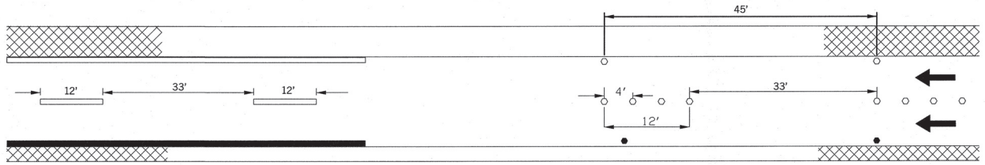
WIDTH OF STRIPED LANE LINES SHALL BE A MINIMUM OF 4".

KEY:

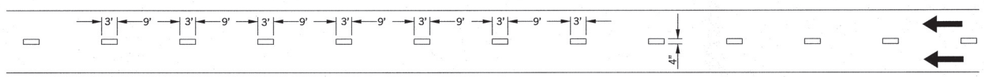
- WORK ZONE
- WHITE LANE LINE (PAINT OR TAPE)
- YELLOW LANE LINE (PAINT OR TAPE)
- WHITE FLEX TAB
- YELLOW FLEX TAB
- CLASS A PAVEMENT MARKER



TWO–LANE /TWO–WAY



4 –LANE DIVIDED ROADWAY



WHITE DOTTED LINE

LONG–TERM STATIONARY PAVEMENT MARKINGS

MUTCD DEFINITIONS OF THE FIVE CATEGORIES OF WORK DURATION, AND THEIR TIME AT A LOCATION SHALL BE:

A. LONG–TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN 3 DAYS.
B. INTERMEDIATE–TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 DAYS, OR NIGHTTIME WORK LASTING MORE THAN 1 HOUR.
C. SHORT–TERM STATIONARY IS DAYTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR WITHIN A SINGLE DAYLIGHT PERIOD.
D. SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.
E. MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 4/8/2013

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD CONSTRUCTION ZONE PAVEMENT MARKINGS

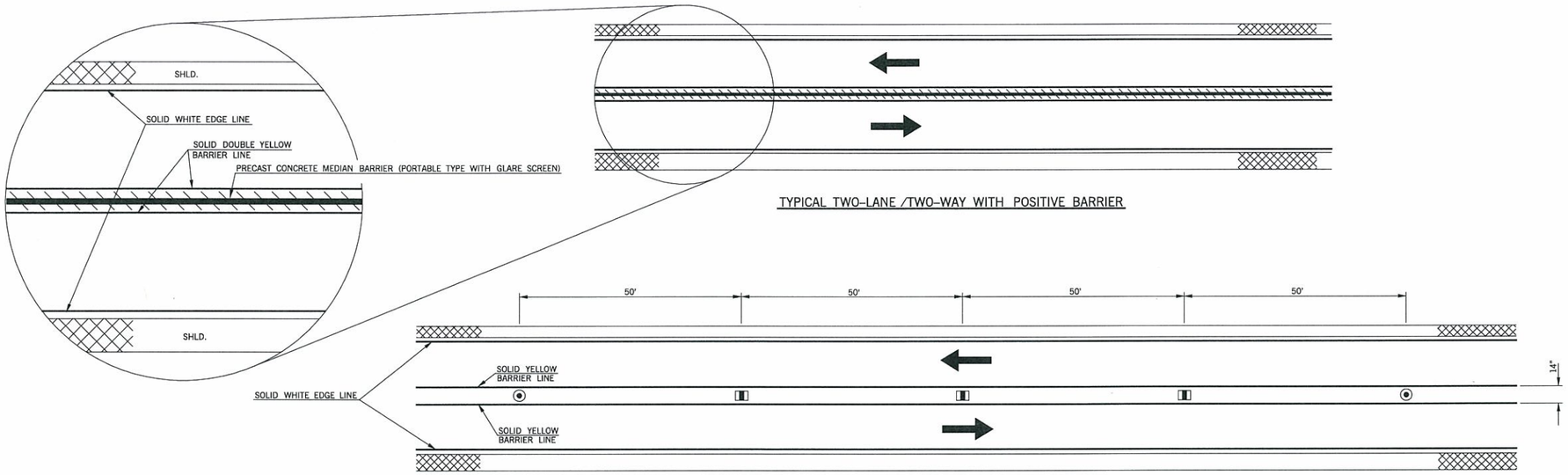
2009 SPECIFICATIONS

TCS21–1	02

T–521

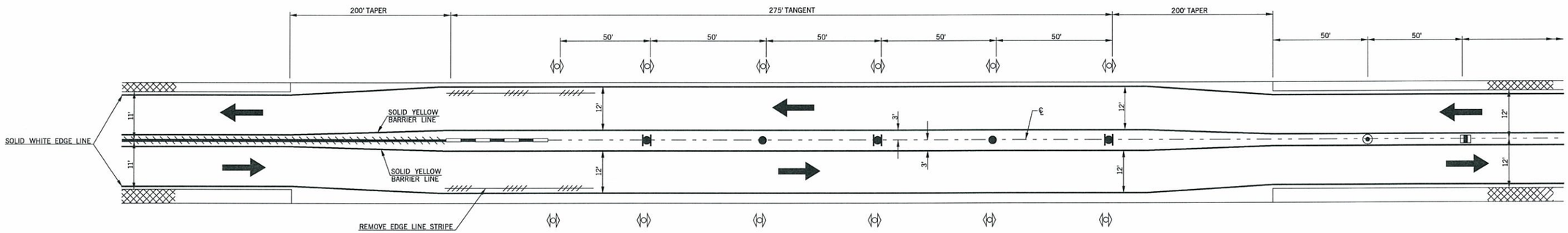
$$date$$

DESCRIPTION	REVISIONS	DATE



TYPICAL TWO–LANE /TWO–WAY WITH POSITIVE BARRIER

TYPICAL TWO–LANE /TWO–WAY WITHOUT POSITIVE BARRIER



TRANSITION INTO NARROW IMPACT ATTENUATOR

CONSTRUCTION ZONE PAVEMENT MARKINGS

KEY:

- VERTICAL PANEL W/TYPE "C" STEADY BURN LIGHT
- CENTERLINE CONST. ZONE PAVEMENT MARKER (YELLOW)
- TUBE CHANNELIZERS
- NARROW CZ IMPACT ATTENUATOR
- PRECAST CONCRETE MEDIAN BARRIER (PORTABLE TYPE WITH GLARE SCREEN)
- EXISTING PAVEMENT MARKINGS TO BE REMOVED
- DRUM
- DRUM WITH SIGNS MOUNTED ON BOTH SIDES

NOTES:

CONSTRUCTION ZONE PAVEMENT MARKINGS SHALL CONSIST OF EITHER PAINT, CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TAB) OR REMOVABLE PAVEMENT MARKING TAPE. THERMO-PLASTIC STRIPE MAY BE USED IN CONJUNCTION WITH PAINT, MARKERS OR TAPE WHEN SPECIFIED IN THE PLANS.

APPROVED BY TRAFFIC ENGINEER David Streb DATE 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION ZONE PAVEMENT MARKINGS

2009 SPECIFICATIONS

TCS22–1	00
	T–522

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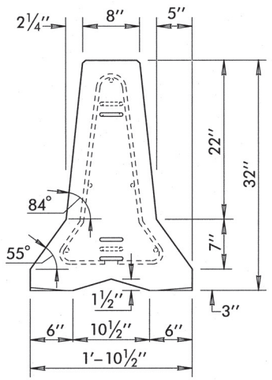
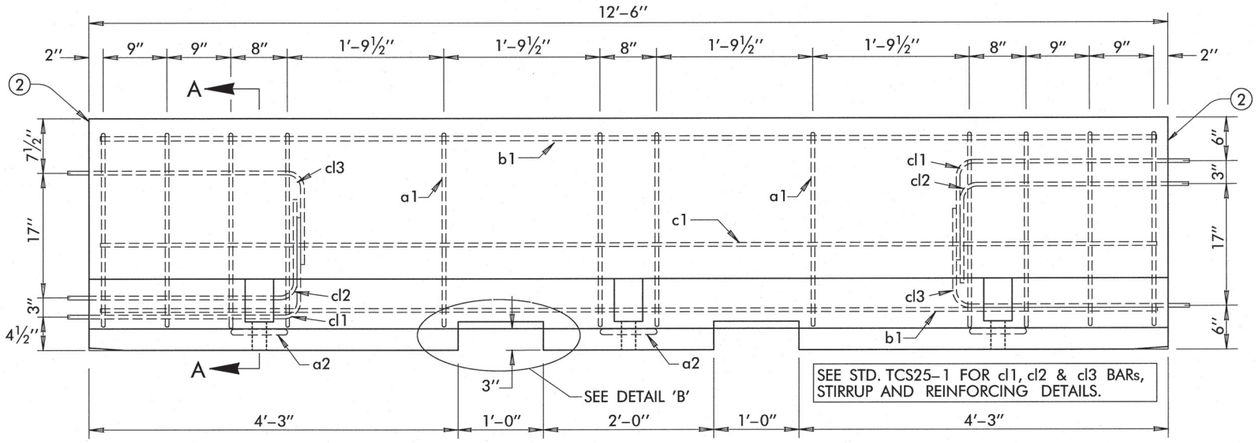
REVISIONS		
DESCRIPTION		DATE
CHANGED DIMENSION		2/25/2011
ADDED DELINEATORS/NOTES		11/09/2011



END VIEW



ELEVATION VIEW

DRAWING NOTES:

① 1 INCH RADIUS ALLOWED FOR EASE OF CASTING (BOTH SIDES).

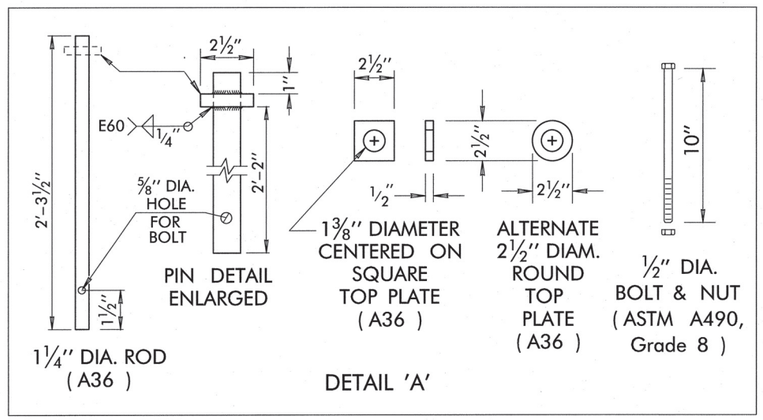
② THE TOP SURFACE OF ONE END OF EACH BARRIER UNIT SHALL BE PERMANENTLY MARKED INDICATING THE FOLLOWING INFORMATION:
- NCHRP REPORT 350 APPROVED
- TYPE F BARRIER
- MANUFACTURER IDENTIFICATION
- DATE MANUFACTURED (MONTH AND YEAR)

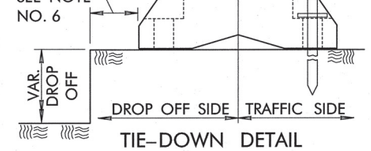
EXAMPLE: 350F–SM9/01 (SM = SMITH MATERIALS)

③ 1 INCH CHAMFER TO PREVENT SPALLING (BOTH SIDES).

GENERAL NOTES:

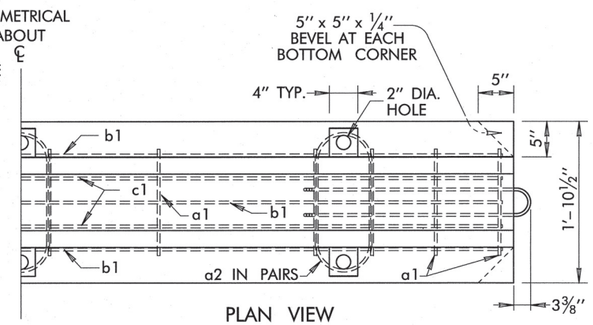
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS OF THE PORTABLE PRECAST CONCRETE MEDIAN BARRIER, PROVIDED BY THE CONTRACTOR, SHALL BE IN ACCORDANCE WITH THE 2009 ENGLISH STANDARD SPECIFICATIONS & MEET REQUIREMENTS OF NCHRP REPORT 350, TEST LEVEL 3. CONTRACTOR MAY PROVIDE ANY PORTABLE F–SHAPE BARRIER DESIGN MEETING THE REQUIREMENTS OF NCHRP REPORT 350, SO LONG AS THE MATERIAL REQUIREMENTS OF 2009 STANDARD SPECIFICATIONS ARE MET.
2. CONCRETE FOR PORTABLE PRECAST CONCRETE MEDIAN BARRIER SHALL REACH A MINIMUM OF 4000 PSI STRENGTH AFTER 28 DAYS.
3. ALL REINFORCEMENT SHALL BE DEFORMED GRADE 60, AASHTO M 31, EXCEPT FOR THE CONNECTION LOOP BAR ASSEMBLY SHALL BE SMOOTH #6 BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A MINIMUM TENSILE STRENGTH OF 80 KSI, AND PASSING A 180 DEGREE BEND TEST USING A 2¾" PIN BEND DIAMETER. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSIONS.
4. CONTRACTOR SHALL FURNISH AND INSTALL REFLECTIVE MARKERS ON BARRIER AS RECOMMENDED BY THE MANUFACTURER AND SHOWN ON THIS SHEET. DELINEATORS USED MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION QUALIFIED PRODUCTS LIST (QPL) AT http://www.okladot.state.ok.us/traffic/qpl/index.php. TWO MARKERS ON EACH SIDE OF THE BARRIER SHALL BE INSTALLED AT NOMINAL 12.5 FOOT SPACING AND FACE ONCOMING TRAFFIC. THE CONTRACTOR SHALL MAINTAIN THE MARKERS AND PROMPTLY REPAIR OR REPLACE ANY DAMAGED OR MISSING UNITS. ALL COSTS FOR FURNISHING, INSTALLING AND MAINTAINING MARKERS SHALL BE INCLUDED IN THE PRICE BID FOR THE PORTABLE LONGITUDINAL BARRIER.
5. UNLESS STATED OTHERWISE IN THE PLANS, THE BARRIER RAIL SECTIONS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AND AT THE COMPLETION OF THE WORK SHALL BE REMOVED FROM THE SITE BY CONTRACTOR.
6. WHEN TEMPORARY BARRIER RAIL IS INSTALLED WITHIN 2 FEET OF A DROPOFF, BARRIER SECTIONS SHALL BE ANCHORED WITH TIE DOWN PINS AS DESCRIBED AND SHOWN ON TIE–DOWN DETAIL, THIS SHEET. SEE ROADWAY STD. PDT–1–(LATEST REVISION) FOR PAVEMENT EDGE DROP–OFF DETAILS.
7. PAVEMENT MARKERS OR TEMPORARY FLEXIBLE–REFLECTIVE ROADWAY MARKER TABS SHALL NOT BE USED AS BARRIER DELINEATION.
8. CONTRACTOR MAY USE STEEL BARRIER INSTEAD OF CONCRETE BARRIER. THE STEEL BARRIER USED MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION QUALIFIED PRODUCTS LIST (QPL) AT http://www.okladot.state.ok.us/traffic/qpl/index.php.



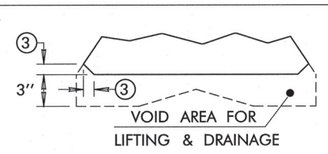


TIE–DOWN DETAIL

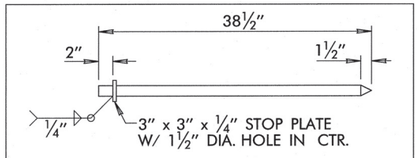
WHEN CONDITIONS REQUIRE PORTABLE BARRIER TO BE TIED DOWN, BARRIER SHALL BE ANCHORED USING 1½" DIA. STAKE AS SHOWN IN THIS DETAIL. AFTER BARRIER IS REMOVED, HOLES SHALL BE FILLED IN A MANNER APPROVED BY THE ENGINEER.



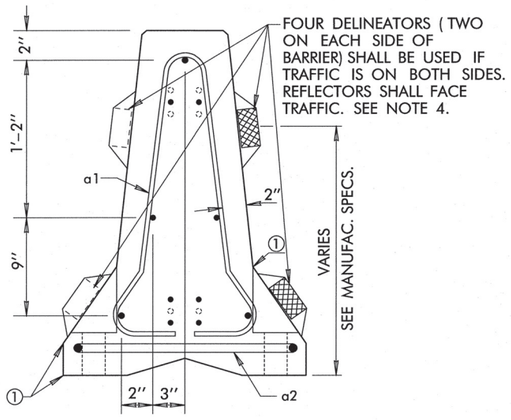
PLAN VIEW



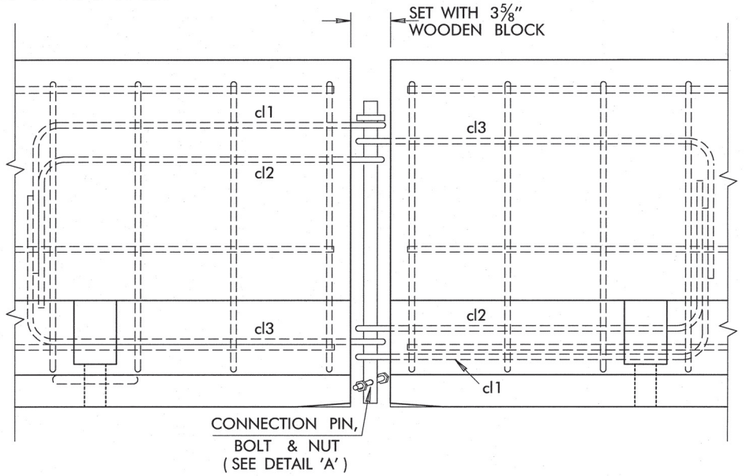
DETAIL 'B'
LIFTING & DRAINAGE SLOT DETAIL



DETAIL 'C'
1½" DIA. STAKE



SECTION A–A
TYPICAL SECTION
STIRRUP PLACEMENT



DETAILS OF BARRIER SECTION CONNECTION

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
877(A)	PORTABLE LONGITUDINAL BARRIER	L.F.
877(B)	DELIVER PORTABLE LONGITUDINAL BARRIER	L.F.
877(C)	RELOCATION OF PORT. LONGITUDINAL BARRIER	L.F.

THIS STANDARD SHALL BE USED IN CONJUNCTION WITH TCS25–1.

APPROVED BY TRAFFIC ENGINEER: Chad Tomas DATE: 11/9/2011

TRAFFIC STANDARD

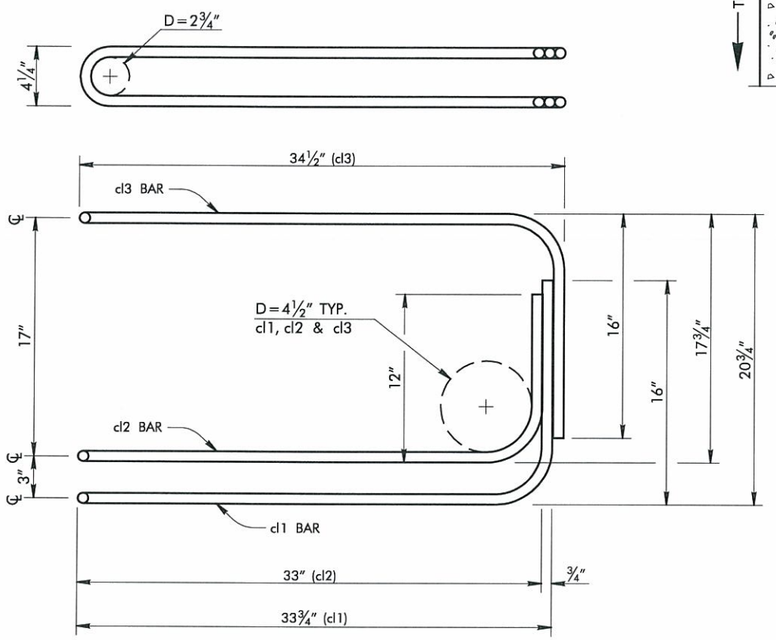
TRAFFIC CONTROL STATNDARD
PORTABLE LONGITUDINAL BARRIER

2009 SPECIFICATIONS	(NCHRP 350 F–SHAPE)	TCS24–1	02

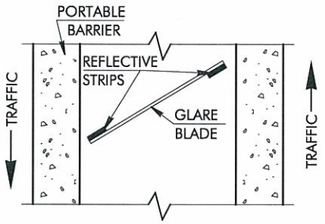
T–524

$$date$$

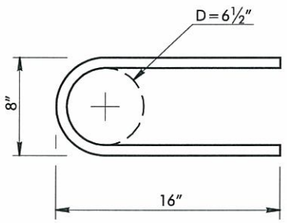
DESCRIPTION	REVISIONS	DATE



CONNECTION LOOP BAR ASSEMBLY

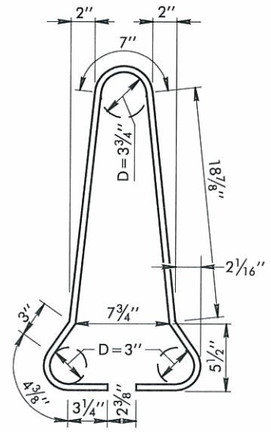


SEC. A–A

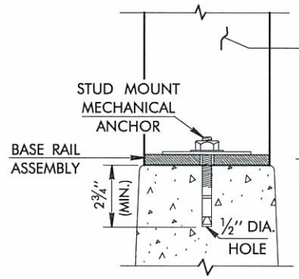


a2 STIRRUP BAR

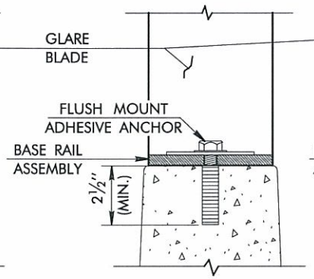
SCHEDULE OF REINFORCING BARS PER 12'– 6" BARRIER SECTION					
BAR	BAR SIZE	SHAPE	NO. of BARS	LENGTH FT.	WEIGHT LBS.
■ a1	4		11	5'–6"	40.4
■ a2	6		6	3'–1"	27.8
b1	5		3	12'–2"	38.1
c1	4		2	12'–2"	16.3
■ cl1	6		2	8'–0"	24.1
■ cl2	6		2	7'–7"	22.8
■ cl3	6		2	8'–2"	24.6
				TOTAL	194.1
■ NOTE: LENGTHS MEASURED ALONG OUTSIDE OF HOOP.					



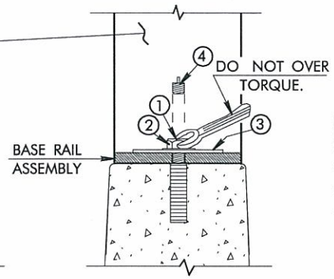
a1 STIRRUP BAR
LENGTHS MEASURED ALONG OUTSIDE OF HOOPS.



END ELEVATION
TYPICAL
STUD MOUNT–MECHANICAL
THIS ANCHORING METHOD TO BE USED FOR PERMANENT INSTALLATIONS ONLY.



END ELEVATION
TYPICAL
FLUSH MOUNT–ADHESIVE
REQUIRED DRILL DEPTH: 2–1/2"



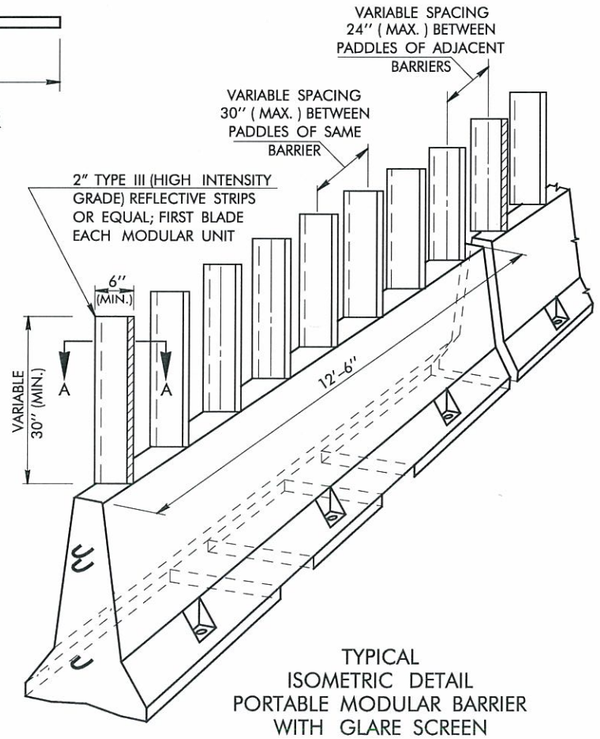
END ELEVATION
TYPICAL
BASE RAIL FASTENING
WHEN APPLICABLE

PLACE 4" WASHERS (3) OVER MOUNTING HOLES & INSERT ½" x 1½" BOLT (1) WITH ½" LOCK WASHER (2) AND TIGHTEN DOWN & TORQUE TO 20 –25 FT. LBS.

AFTER REMOVAL OF BASE RAIL ASSEMBLY, PLUG (4) SHALL BE RE–INSERTED TO PROTECT HOLE FROM THE ELEMENTS.

TYPICAL BASE RAIL ANCHORING METHODS

REQUIRED DRILL BIT: ½" DIAMETER
CARBIDE TIP – MASONARY
REQUIRED DRILL DEPTH: 2½" (MIN.) – 2¾" (MAX.)



TYPICAL
ISOMETRIC DETAIL
PORTABLE MODULAR BARRIER
WITH GLARE SCREEN

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.
2. ALL REINFORCEMENT SHALL BE DEFORMED GRADE 60, AASHTO M 31, EXCEPT FOR THE CONNECTION LOOP BAR ASSEMBLY SHALL BE SMOOTH #6 BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A MINIMUM TENSILE STRENGTH OF 80 KSI, AND PASSING A 180 DEGREE BEND TEST USING A 2¾" PIN BEND DIAMETER. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSIONS.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL SUCH LIGHTS, SIGNS, BARRICADES AND FLAGMEN THAT MAY BE NECESSARY FOR THE CONTROL, SAFETY AND MAINTENANCE OF TRAFFIC WHEN INITIALLY INSTALLING OR RELOCATING PRECAST CONCRETE MEDIAN BARRIER.
4. GLARE SCREEN SYSTEMS SHALL BE INSTALLED AS PER MANUFACTURERS SPECIFICATIONS AND UNIQUE INSTALLATION INSTRUCTIONS OR DETAILS NOT SHOWN ON THIS STANDARD SHALL BE PROVIDED TO AND APPROVED BY THE ENGINEER.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
877(A)	PORTABLE LONGITUDINAL BARRIER	LF
878(A)	MODULAR GLARE SCREEN (PERMANENT)	EA OR LF
878(B)	MODULAR GLARE SCREEN (TEMPORARY)	SD

THIS STANDARD SHALL BE USED IN CONJUNCTION WITH TCS24–1.

APPROVED BY TRAFFIC ENGINEER: Harold Smalley DATE: 6/23/10

TRAFFIC STANDARD
TRAFFIC CONTROL STANDARD
PORTABLE LONGITUDINAL BARRIER
REINFORCING/CONNECTION STEEL
AND GLARE SCREEN

2009 SPECIFICATIONS	(NCHRP 350 F–SHAPE)	TCS25–1	00
			T–525

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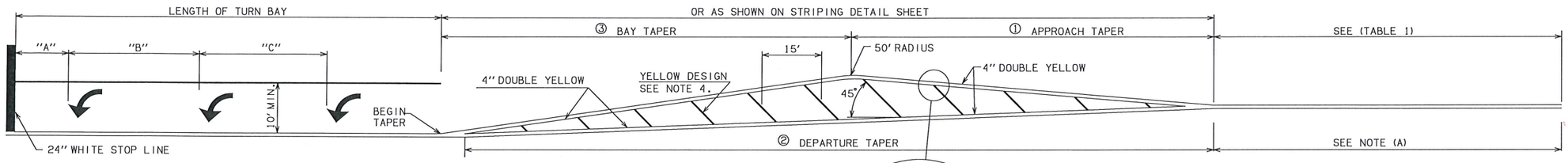
REVISIONS	
DESCRIPTION	DATE
ADDED GENERAL NOTE 4.	7/08/2011
UPDATED SYMBOLS	4/2/2013
CHANGE DASHED LINE DIMENSION	7/25/2019



LEFT TURN BAY AND STRIPED MEDIAN DETAIL

SEE PLANS FOR LENGTH OF LEFT TURN BAYS AND TAPERS ON STRIPED MEDIANS

① THE PREFERRED APPROACH TAPER RATE IS V:1, WHERE V IS THE DESIGN SPEED. FOR V≤40 MPH, IT IS ACCEPTABLE FOR THE APPROACH TAPER TO BE $(V^2/60):1$.

② THE PREFERRED DEPARTURE TAPER RATE IS V:1, WHERE V IS THE DESIGN SPEED. FOR V≤40 MPH, IT IS ACCEPTABLE FOR THE DEPARTURE TAPER TO BE $(V^2/60):1$.

③ SEE RECOMMENDED BAY TAPER RATES TABLE.

RECOMMENDED BAY TAPER RATES

DESIGN SPEED (MPH)	TAPER RATE
V < 30	8:1
30 ≤ V ≤ 50	10:1
50 > V	15:1

THE FOLLOWING MINIMUM VALUES MAY APPLY IN RESTRICTED LOCATIONS:
1. RIGHT-TURN LANES. A 4:1 BAY TAPER MAY BE USED WHERE PAINTED CHANNELIZATION IS USED.
2. LEFT-TURN LANES. IN SEVERELY RESTRICTED LOCATIONS, A 4:1 BAY TAPER MAY BE USED WHERE PAINTED CHANNELIZATION IS USED.

(A) NO PASS LINE ON APPROACH SIDE WITH SKIP CENTER LINE ON DEPARTURE SIDE UNLESS DOUBLE YELLOW CENTER LINE IS REQUIRED.

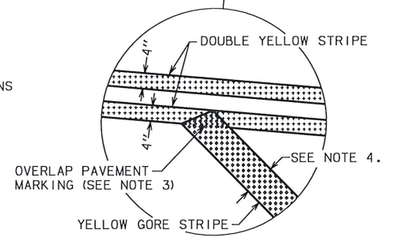


TABLE 1	
POSTED SPEED	NO PASS LENGTH (MINIMUM)
60 MPH	790'
55 MPH	725'
50 MPH	660'
45 MPH	590'
40 MPH	360'
35 MPH	260'
30 MPH	200'
25 MPH	150'

MATERIAL SPECIFICATIONS

A. UNLESS OTHERWISE SPECIFIED, RETROREFLECTIVE PAVEMENT MARKING SHALL BE APPLIED BY THE EXTRUSION METHOD.

B. THE THICKNESS OF THE PLASTIC PAVEMENT MARKING SHALL BE MEASURED FROM THE PLANE OF THE PAVEMENT SURFACE WITH A DEVICE SUPPLIED BY CONTRACTOR AND SUITABLE TO THE ENGINEER. THICKNESSES ARE AS FOLLOWS:

LANE LINES, STOP LINES, WORDS, ARROWS AND SYMBOLS.....0.120" MIN. & 0.188" MAX.
EDGE, GORE AND DIAGONAL LINES.... 0.090" MIN. & 0.188" MAX.

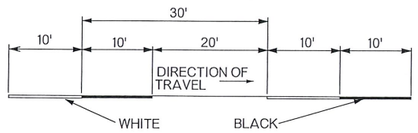
C. THE THICKNESS OF THE MULTI-POLYMER PAVEMENT MARKING SHALL BE MEASURED FROM THE PLANE OF THE PAVEMENT SURFACE WITH A DEVICE SUPPLIED BY CONTRACTOR AND SUITABLE TO THE ENGINEER. THICKNESSES ARE AS FOLLOWS:

LANE LINES, STOP LINES, WORDS, ARROWS, SYMBOLS, EDGE, GORE AND DIAGONAL LINES.... 0.020" MIN. & 0.025" MAX.

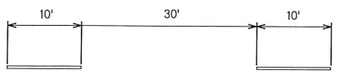
GENERAL NOTES

1. LANE WIDTH IS THE DISTANCE BETWEEN PAVEMENT MARKINGS, OR PAVEMENT MARKING AND EDGE OF PAVEMENT. LANE WIDTH IS MEASURED FROM CENTER OF STRIPE TO CENTER OF STRIPE.
2. LANE LINES SHALL BE PLACED LEFT OF THE LONGITUDINAL PAVEMENT JOINTS.
3. ALL PAVEMENT MARKING SHALL OVERLAP WHERE IT MEETS OTHER PAVEMENT MARKING.
4. WIDTH OF DIAGONALS ARE AS FOLLOWS:
≥45 MPH - 12" WIDE
<45 MPH - 8" WIDE

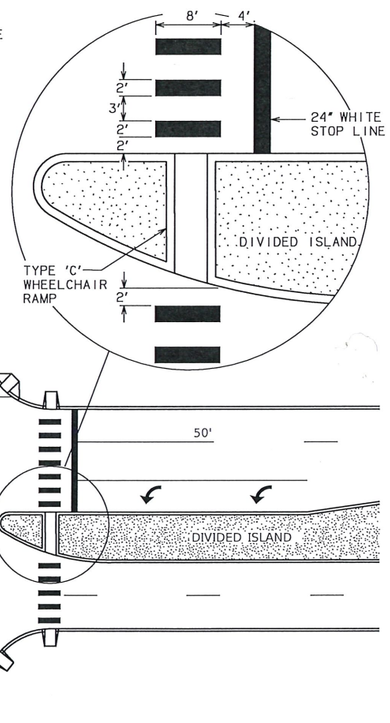
TURN BAY TABLE			
LENGTH OF BAY FT.	"A" FT.	"B" FT.	"C" FT.
75 TO 99	20	35	--
100 TO 149	20	35	35
150 TO 200	30	55	55



DASHED WHITE LANE LINE
TYPICAL CONCRETE PAVEMENT MARKING DETAILS



DASHED WHITE LANE LINE
TYPICAL ASPHALT PAVEMENT MARKING DETAILS



CROSSWALK INSTALLATIONS

FOR SPACING OF ARROWS SEE "TURN BAY TABLE"

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
854(A)	TRAFFIC STRIPE (PAINT) (4" WIDE)	LF
854(B)	TRAFFIC STRIPE (PAINT) (ARROW, WORDS, OR SYMBOLS)	EA
855(A)	TRAFFIC STRIPE (PLASTIC) (4" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (6" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (8" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (24" WIDE)	LF
855(B)	TRAFFIC STRIPE (PLASTIC) (ARROW)	EA
855(B)	TRAFFIC STRIPE (PLASTIC) (WORDS)	EA
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (4" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (6" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (8" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (24" WIDE)	LF
856(B)	TRAFFIC STRIPE (MULTI-POLYMER) (SYMBOLS, WORDS, ETC)	EA

APPROVED BY TRAFFIC ENGINEER: _____ DATE 7/31/19

CDOT

TRAFFIC STANDARD

PAVEMENT MARKING (CROSSWALKS AND LEFT TURN BAY)

2009 SPECIFICATIONS

PM1-1

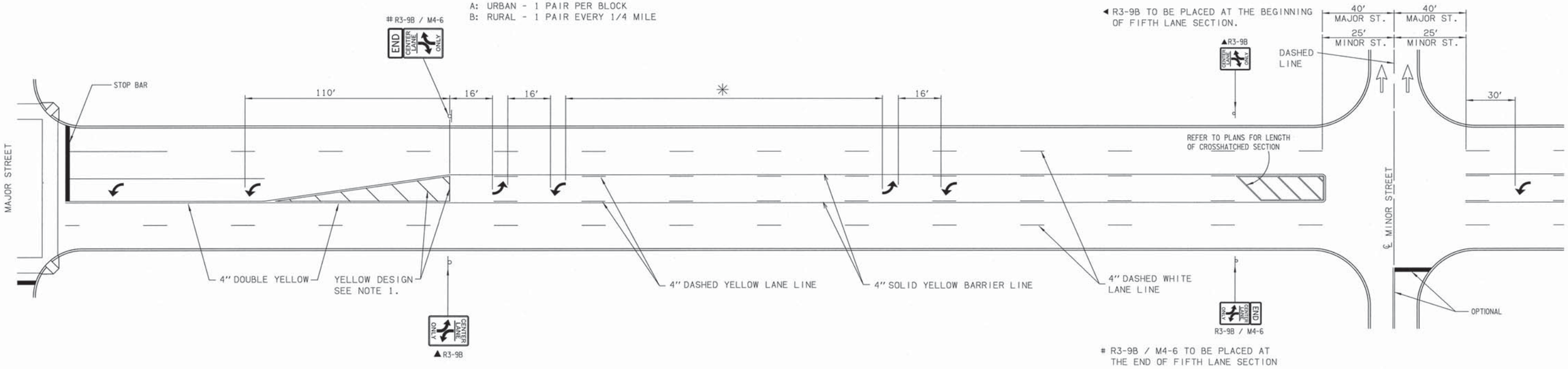
~~02~~ 03

T-101

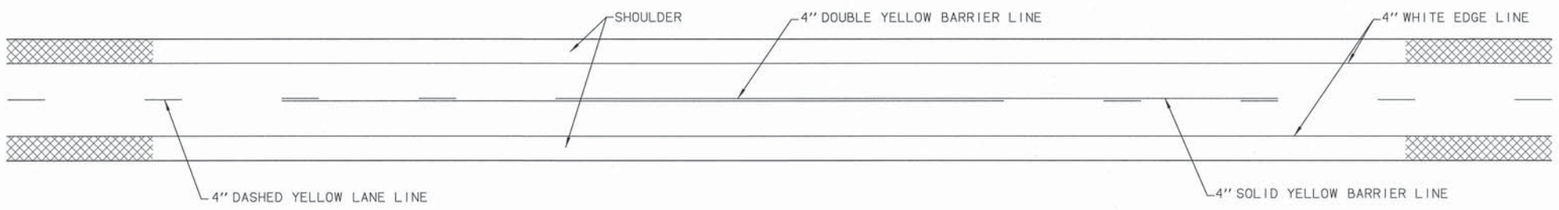
REVISIONS	
DESCRIPTION	DATE
ADDED GENERAL NOTE 1.	7/08/2011
MODIFIED SIGNS	4/10/2012

✳ ARROW SYMBOL PAIRS FOR TWO-WAY LEFT TURN LANES SHALL BE PLACED AS FOLLOWS:

A: URBAN - 1 PAIR PER BLOCK
B: RURAL - 1 PAIR EVERY 1/4 MILE



FIFTH LANE PAVEMENT MARKING DETAIL (URBAN)



TWO LANE RURAL ROADWAY PAVEMENT MARKINGS

GENERAL NOTE

1. WIDTH OF DIAGONALS ARE AS FOLLOWS:
≥45 MPH - 12" WIDE
<45 MPH - 8" WIDE

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
854(A)	TRAFFIC STRIPE (PAINT) (4" WIDE)	LF
854(B)	TRAFFIC STRIPE (PAINT) (ARROW, WORDS, OR SYMBOLS)	EA
855(A)	TRAFFIC STRIPE (PLASTIC) (4" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (6" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (8" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (24" WIDE)	LF
855(B)	TRAFFIC STRIPE (PLASTIC) (ARROW)	EA
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (4" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (6" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (8" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (24" WIDE)	LF
856(B)	TRAFFIC STRIPE (MULTI-POLYMER) (SYMBOLS, WORDS, ETC)	EA

APPROVED BY TRAFFIC ENGINEER: David Smalley DATE: 4/9/12

TRAFFIC STANDARD

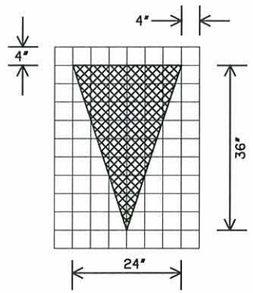
PAVEMENT MARKING
(FIFTH LANE AND TWO LANE RURAL)

2009 SPECIFICATIONS

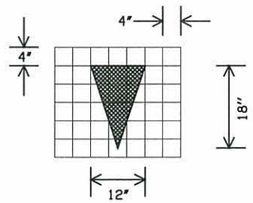
PM3-1	02

T-103

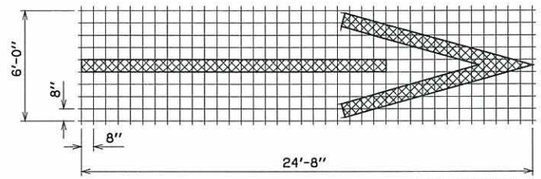
DESCRIPTION	REVISIONS	DATE



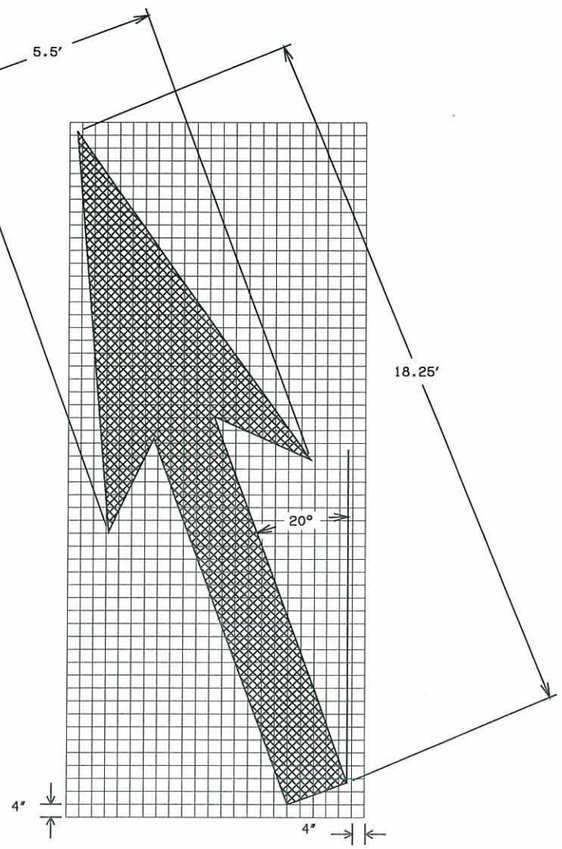
MAXIMUM
YIELD LINE TRIANGLE



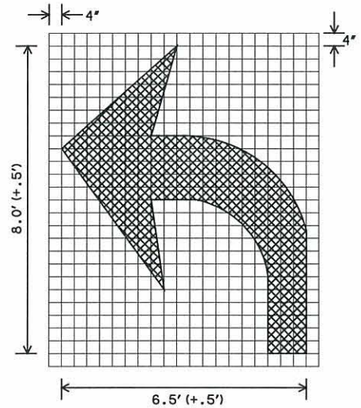
MINIMUM
YIELD LINE TRIANGLE

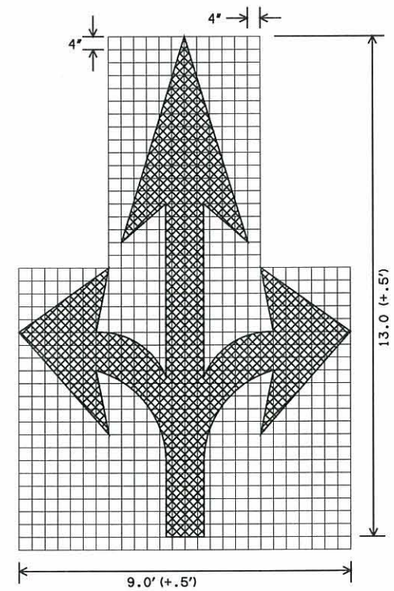


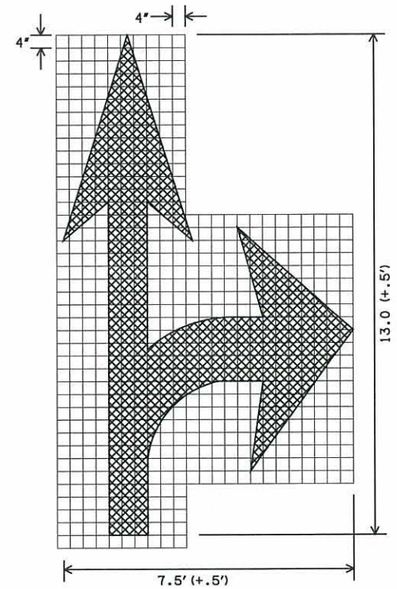
FREEWAY, EXPRESSWAY, AND RAMP PAVEMENT ARROW

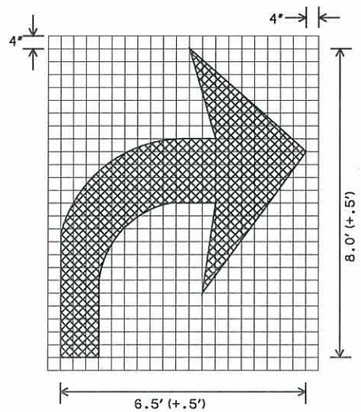


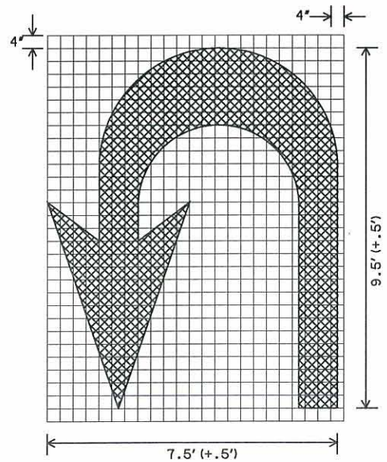
LANE–REDUCTION ARROW

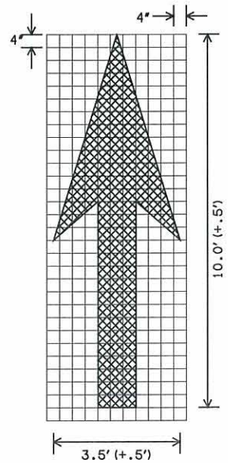












GENERAL NOTES

1. PAVEMENT MARKINGS SHALL BE WHITE RETROREFLECTORIZED PLASTIC UNLESS OTHERWISE SPECIFIED. WHEN THE MESSAGE CONSISTS OF MORE THAN ONE WORD, IT SHOULD READ "UP" I.E. THE FIRST WORD SHOULD BE NEAREST THE DRIVER. THE SPACE BETWEEN LINES SHOULD BE AT LEAST FOUR TIMES THE HEIGHT OF THE CHARACTERS.
2. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST REVISION).
3. ALL DIMENSIONS ARE TYPICAL FOR SINGLE LANE UNLESS OTHERWISE NOTED.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
854(B)	TRAFFIC STRIPE (PAINT) (ARROW, WORDS, OR SYMBOLS)	EA
855(B)	TRAFFIC STRIPE (PLASTIC) (ARROW)	EA
855(B)	TRAFFIC STRIPE (PLASTIC) (SYMBOLS)	EA
856(B)	TRAFFIC STRIPE (MULTI-POLYMER) (SYMBOLS, WORDS, ETC)	EA

APPROVED BY TRAFFIC ENGINEER David Smith DATE 8/5/10

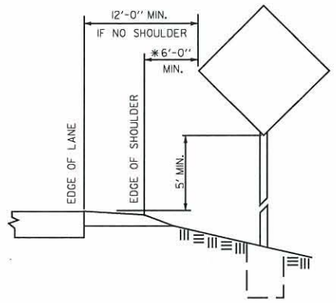
OKLAHOMA DEPARTMENT OF TRANSPORTATION

TRAFFIC STANDARD

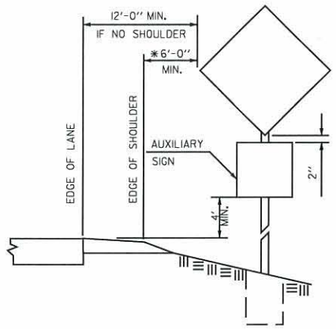
PAVEMENT MARKING
(ARROWS)

2009 SPECIFICATIONS

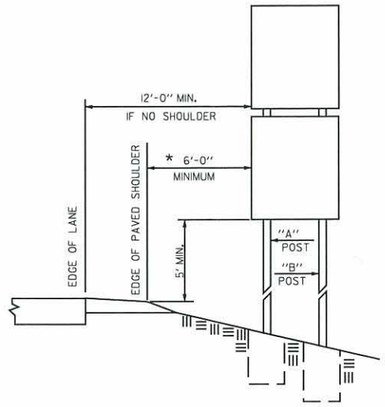
PM6-1	00
	T-106



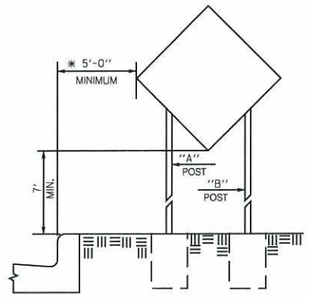
SINGLE POST (RURAL)



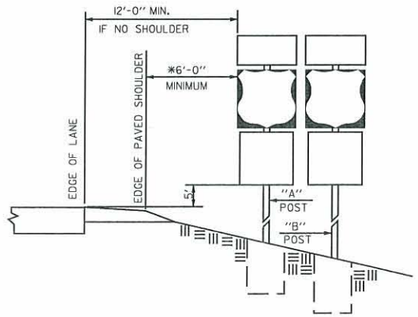
SINGLE POST WITH
AUXILIARY SIGN (RURAL)



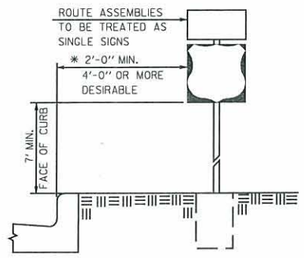
DOUBLE POST MAXIMUM &
MINIMUM SPEED LIMIT SIGNS (RURAL)



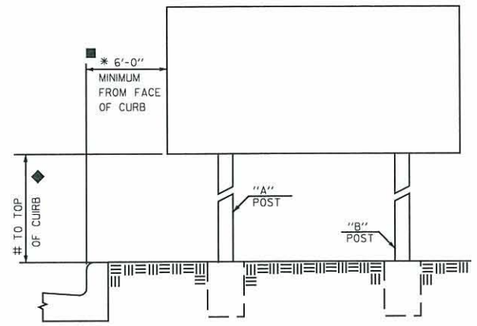
BUSINESS, COMMERCIAL OR
RESIDENTIAL AREA



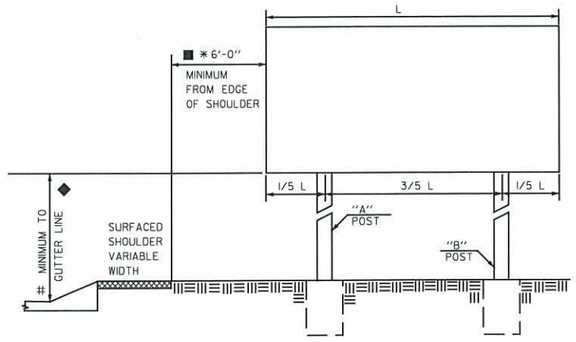
ROADSIDE ASSEMBLY
(RURAL)



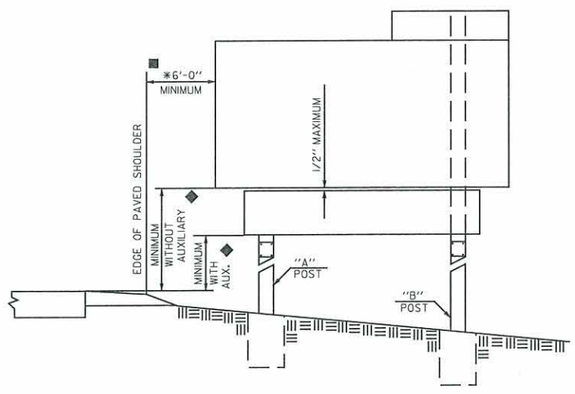
BUSINESS, COMMERCIAL OR
RESIDENTIAL AREA



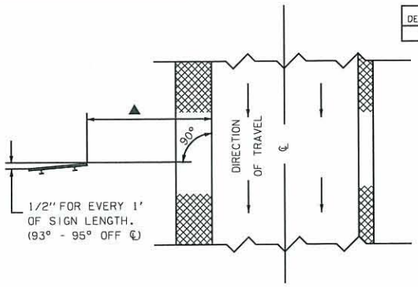
INFORMATION SIGN WITH
NON-MOUNTABLE CURB



INFORMATION SIGN WITH
MOUNTABLE CURB



FREEWAY OR EXPRESSWAY SIGN
(WITH OR WITHOUT AUXILIARY SIGN)



SIGN POSITIONING DETAIL

DESCRIPTION	REVISIONS	DATE

*1 SIGNS SHALL BE SO POSITIONED TO ELIMINATE OR MINIMIZE SPECULAR REFLECTION. DUE TO THE NUMEROUS VARIATIONS IN ROAD CURVES AND GRADES, THIS GENERAL RULE MAY NOT ALWAYS BE APPLICABLE, AND SIGNS SHALL BE POSITIONED AS DETERMINED BY THE ENGINEER.

*2 IF FURTHER CLARIFICATION OF VERTICAL AND LATERAL CLEARANCES IS REQUIRED, SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST REVISION).

◆ WHEN LATERAL CLEARANCE OF STANDARD OR SPECIAL INFORMATION GUIDE SIGNS IS 30' OR GREATER (AS REQUIRED BY CLEAR ZONE) FROM THE EDGE LINE, THE MINIMUM VERTICAL CLEARANCE IS 7'. IF AN AUXILIARY SIGN IS MOUNTED BELOW A STANDARD OR SPECIAL INFORMATION GUIDE SIGN, THE RECOMMEND VERTICAL CLEARANCE FOR THE STANDARD OR SPECIAL INFORMATION GUIDE SIGN IS MINIMUM 8' AND THE AUXILIARY SIGN IS MINIMUM 5'.

* THE MINIMUM LATERAL CLEARANCE OF THE SIGN FROM THE EDGE OF SHOULDER OR FACE OF CURB SHALL BE AS SHOWN ON THIS STANDARD DRAWING UNLESS OTHERWISE SHOWN OR NOTED ON PLANS. WHEN SIGNS ARE NOTED TO BE PLACED 5' TO 9' FROM SHOULDER, THE TOLERANCE SHALL BE THE DISTANCE SHOWN +2'.

IN INSTANCES WHERE THE LATERAL CLEARANCE SHOWN CAUSES THE FOOTING TO BE LOCATED UNDESIREABLY, SUCH AS THE BOTTOM OF DITCHES, ETC., THE LOCATION MAY BE ADJUSTED OUTWARD FROM THE ROADWAY IF NECESSARY AT THE DISCRETION OF THE ENGINEER.

IN RURAL AREAS THERE SHALL BE A 12' MINIMUM FROM TRAVELWAY (EDGELINE) TO THE EDGE OF THE SIGN IF NO SHOULDER EXISTS.

■ NORMALLY, ON FREEWAY AND EXPRESSWAY MAINLINE, STANDARD OR SPECIAL INFORMATION SIGNS SHALL BE LOCATED WITH A LATERAL CLEARANCE OF 10' FROM THE FACE OF NON-MOUNTABLE CURBS OR GUARD RAILS, 20' FROM EDGE OF SHOULDER. IN ALL CASES EXCEPT WHEN SIGN SUPPORTS ARE PROTECTED BY BARRIERS, SIGNS SHALL HAVE A LATERAL CLEARANCE OF 30' OR GREATER (AS REQUIRED BY CLEAR ZONE) FROM EDGE OF DRIVING LANE.

ALONG INTERCHANGE RAMPS THE LATERAL CLEARANCE SHALL NORMALLY BE 10' OR GREATER (AS REQUIRED BY CLEAR ZONE).

▲ WHEN LATERAL CLEARANCE IS 30'-0" OR GREATER FROM EDGE OF PAVEMENT, THE SIGN IS TO BE APPROXIMATELY PERPENDICULAR TO ROADWAY.

APPROVED BY
TRAFFIC ENGINEER [signature] DATE 8/5/10

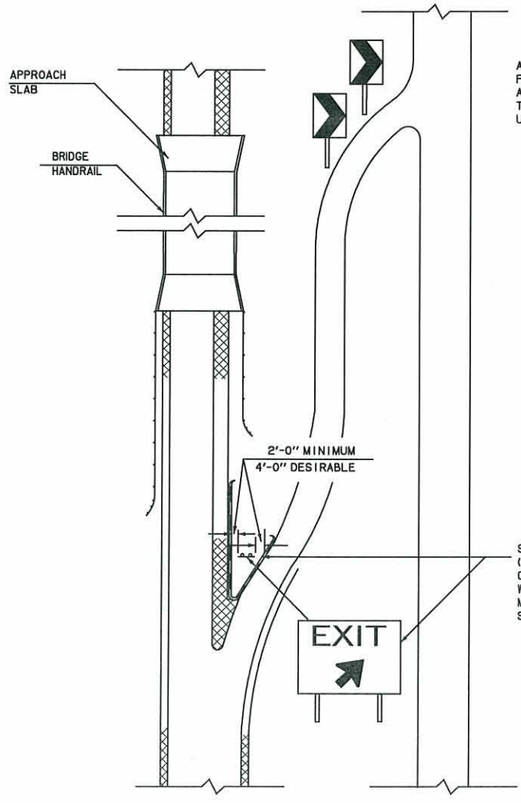
TRAFFIC STANDARD

TYPICAL INSTALLATIONS OF GROUND MOUNTED SIGNS

2009 SPECIFICATIONS

GMS1-1	00
	T-136

DESCRIPTION	REVISIONS	DATE

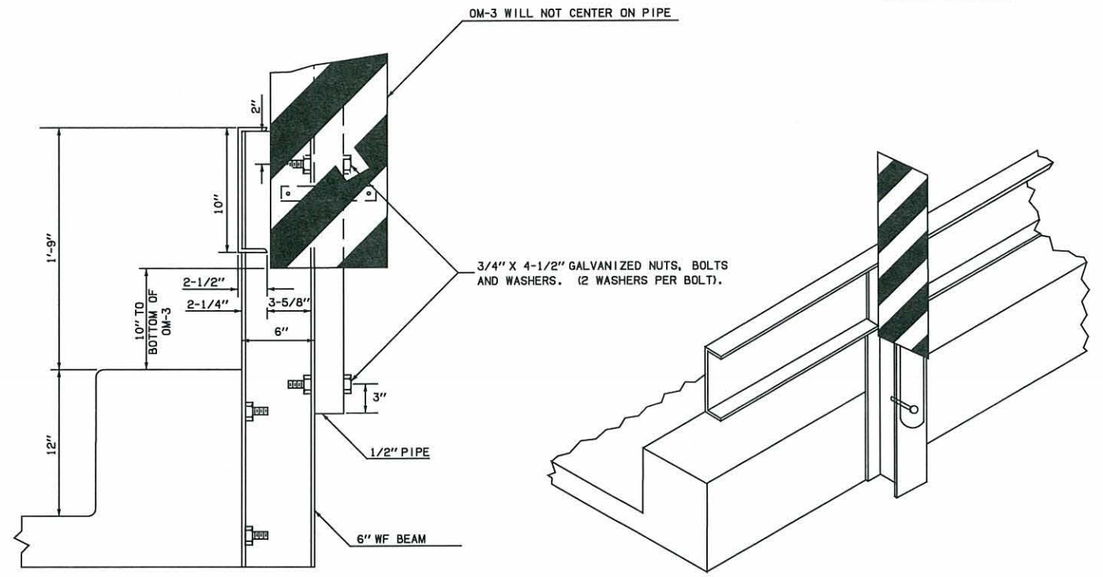


ALIGNMENT OF W1-8 MAY BE ADJUSTED FOR SIGHT DISTANCE DUE TO VERTICAL AND HORIZONTAL ALIGNMENT OF RAMP AT THE DISCRETION OF THE ENGINEER. USE ONLY WHEN SPECFIED ON PLANS.

SIGNS MOUNTED IN GORE SHALL BE 2'-0" MINIMUM (4'-0" DESIRABLE) FROM THE EDGE OF SHOULDER OR NON-MOUNTABLE CURB. WHERE MOUNTABLE CURB WITH SHOULDER EXISTS THE SIGN SHALL BE 2'-0" MINIMUM (4'-0" DESIRABLE) FROM THE EDGE OF SHOULDER LINE.

TYPICAL INSTALLATION OF:

"SIGN MOUNTED IN GORE"



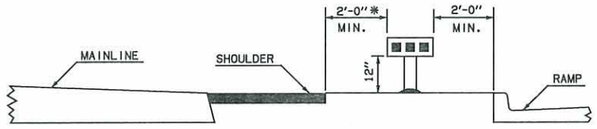
"OM-3'S IN REGARD TO BRIDGES"

MOUNTING HEIGHT FOR OBJECT MARKERS

WHEN USED FOR MARKING OBJECTS 8'-0" OR LESS FROM THE SHOULDER OR CURB, THE MOUNTING HEIGHT SHOULD BE 4'-0" ABOVE NEAR TRAFFIC LANE. WHEN MORE THAN 8'-0" FROM THE SHOULDER OR CURB THE MOUNTING HEIGHT MAY BE 4'-0" ABOVE THE GROUND. THE MOUNTING HEIGHT MAY VARY AS TO NEED.

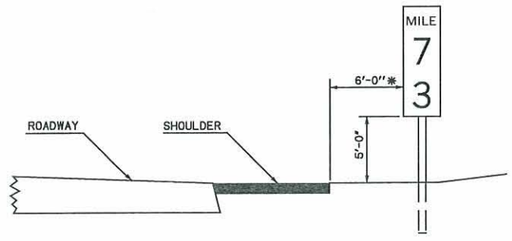
SPECIAL (TO BE USED ONLY WHEN SPECIFIED ON PROJECT.)

TYPICAL OM-3 INSTALLATION MOUNTED TO STEEL HANDRAIL



TYPICAL OM-2 INSTALLATION WHEN SPECIFIED ON PLANS

* FROM EDGE OF SHOULDER



TYPICAL D10-2F INSTALLATION

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 8/5/10

TRAFFIC STANDARD

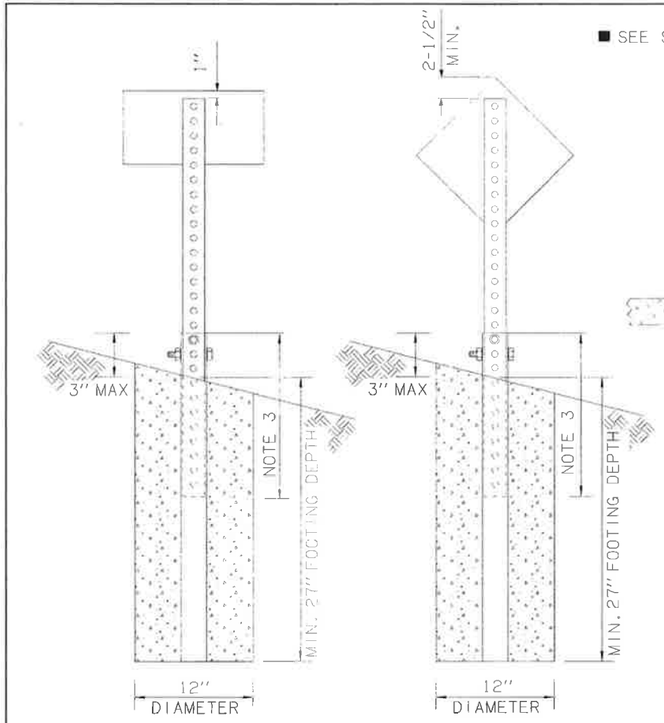
TYPICAL INSTALLATION OF GROUND MOUNTED SIGNS AND OBJECT MARKERS

2009 SPECIFICATIONS

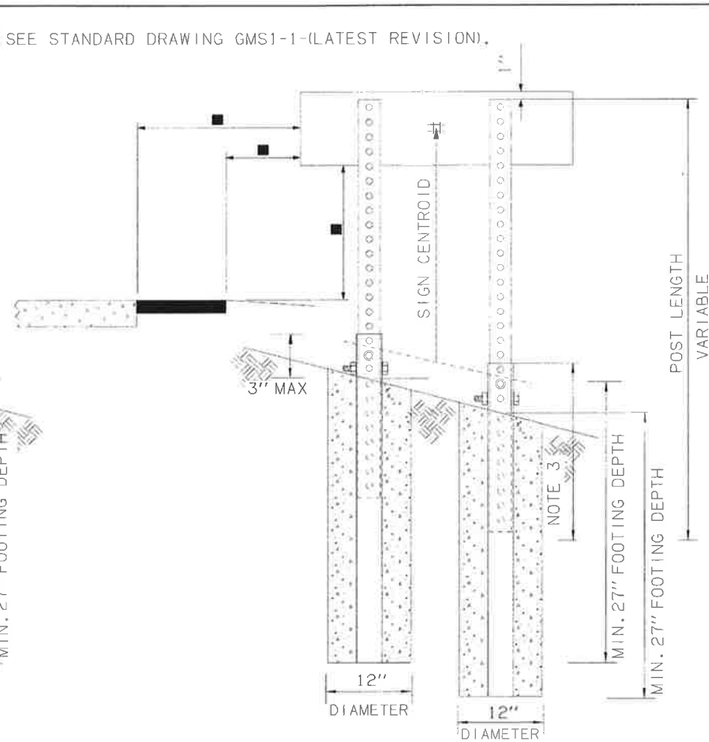
GMS2-1	00
	T-137

REVISIONS	
DESCRIPTION	DATE
MODIFIED GENERAL NOTE 4.	7/08/201
REISSUED	4/10/201

■ SEE STANDARD DRAWING GMS1-1-(LATEST REVISION).



TYPICAL SINGLE POST INSTALLATION



TYPICAL DOUBLE POST INSTALLATION

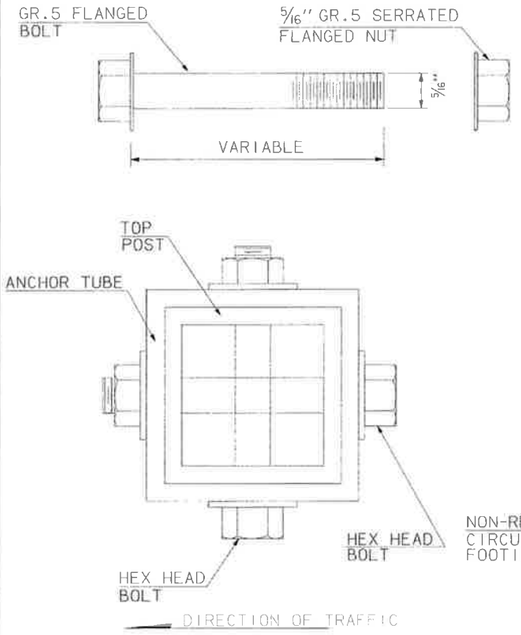
WINDLOAD COORDINATES FOR SQUARE POST AT 90 MPH

SIGN CENTROID	ALLOWABLE SIGN AREA (FT^2) PER SINGLE POST *								
	FHWA APPROVED FOR: 2 POST PER SIGN					FHWA APPROVED FOR: 1 POST PER SIGN			
	1½"x12ga perf.	1¾"x14ga perf.	1¾"x12ga perf.	2"x14ga perf.	2"x12ga perf.	2¼"x14ga perf.	2¼"x12ga perf.	2½"x12ga perf.	
16.5'	3.46	3.90	4.85	5.19	6.48	6.67	8.34	10.44	
16'	3.57	4.02	5.00	5.36	6.68	6.88	8.60	10.76	
15.5'	3.68	4.15	5.17	5.53	6.90	7.11	8.88	11.11	
15'	3.81	4.29	5.34	5.71	7.13	7.34	9.17	11.48	
14.5'	3.94	4.44	5.52	5.91	7.37	7.60	9.49	11.87	
14'	4.08	4.59	5.72	6.12	7.64	7.87	9.83	12.30	
13.5'	4.23	4.76	5.93	6.35	7.92	8.16	10.19	12.75	
13'	4.39	4.95	6.16	6.59	8.22	8.47	10.59	13.24	
12.5'	4.57	5.15	6.41	6.86	8.55	8.81	11.01	13.77	
12'	4.76	5.36	6.67	7.14	8.91	9.18	11.47	14.35	
11.5'	4.96	5.59	6.96	7.45	9.30	9.58	11.97	14.97	
11'	5.19	5.85	7.28	7.79	9.72	10.01	12.51	15.65	
10.5'	5.44	6.13	7.63	8.16	10.18	10.49	13.11	16.40	
10'	5.71	6.43	8.01	8.57	10.69	11.01	13.76	17.22	
9.5'	6.01	6.77	8.43	9.02	11.25	11.59	14.49	18.12	
9'	6.34	7.15	8.90	9.52	11.88	12.24	15.29	19.13	
8.5'	6.72	7.57	9.42	10.08	12.58	12.96	16.19	20.26	
8'	7.14	8.04	10.01	10.71	13.36	13.77	17.20	21.52	

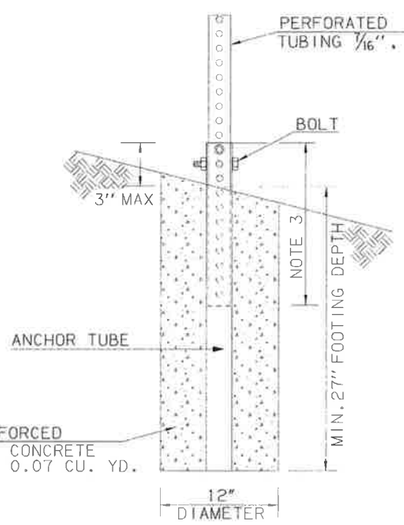
* USE A MULTIPLIER OF 2 OR 3 FOR 2 & 3 POST INSTALLATIONS.

GENERAL NOTES

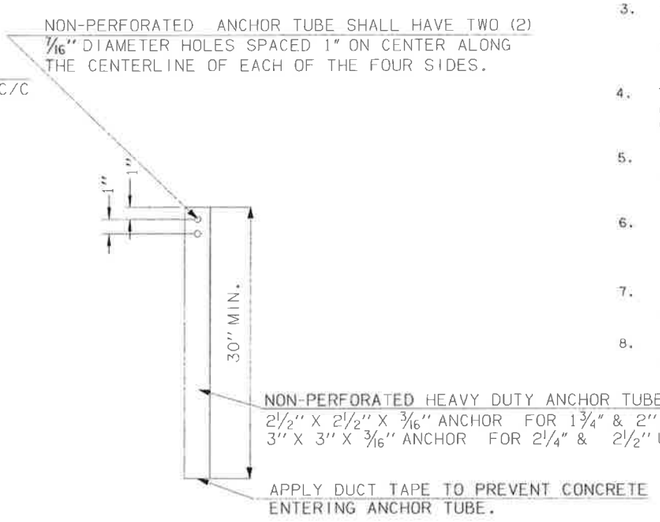
1. POST TUBE SHALL MEET ASTM A1011 GRADE 50.
   POST TUBE GALVANIZED AS PER ASTM A653 GRADE 90.
2. HEAVY DUTY ANCHOR TUBE SHALL MEET ASTM A500 GRADE B STRUCTURAL TUBE AND STEEL SHALL BE HOT DIP GALVANIZED PER ASTM A123.
3. THE UPPER SIGN POST SHALL TELESCOPE INSIDE THE ANCHOR TUBE A MINIMUM OF 12".
   ANCHOR TUBE SHALL BE MINIMUM OF 30" WITH 3" MAXIMUM AS SHOWN IN DETAILS.
4. THE CONCRETE FOOTING SHALL BE CLASS "C" CONCRETE OR AS DIRECTED BY THE ENGINEER. CONCRETE INCLUDED IN THE COST OF SQUARE TUBE POST.
5. THE NON-REINFORCED CIRCULAR CONCRETE FOOTING, ANCHOR TUBE AND HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE SQUARE TUBE POST.
6. SEE STANDARD DRAWINGS SSA1-1, MSD5-1, MSD6-1, SBS1-1, SBS2-1, AND SBS3-1 (LATEST REVISION) FOR PROPER BRACKET PLACEMENT ON THE SIGN AND POST SPACING FOR TWO POST INSTALLATION.
7. FOR VERTICAL AND LATERAL CLEARANCE, SEE STANDARD DRAWING GMS1-1-, AND GMS2-1-(LATEST REVISION).
8. SIGNS SHALL BE ATTACHED TO THE POSTS WITH BOLTS AS SHOWN ON STANDARD DRAWING SSA1-1-(LATEST REVISION).



BOLT DESIGN



ANCHOR TUBE DETAILS WITH CONCRETE FOOTING



HEAVY DUTY ANCHOR TUBE

– DRAWING NOT TO SCALE –

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
851(C)	SQUARE TUBE POST	LF

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 4/9/12

TRAFFIC STANDARD

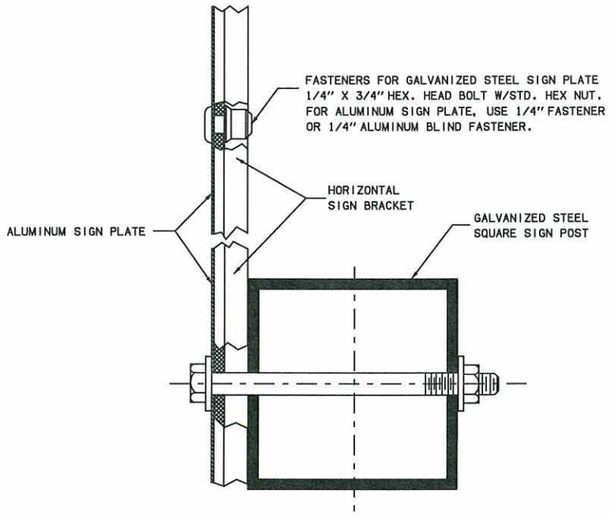
SQUARE TUBE POST DETAILS

2009 SPECIFICATIONS

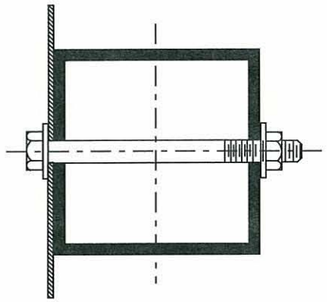
SSP1-1 | 02

T-138

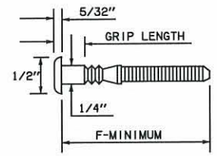
DESCRIPTION	REVISIONS	DATE

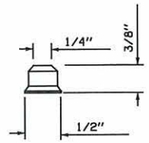


TOP VIEW



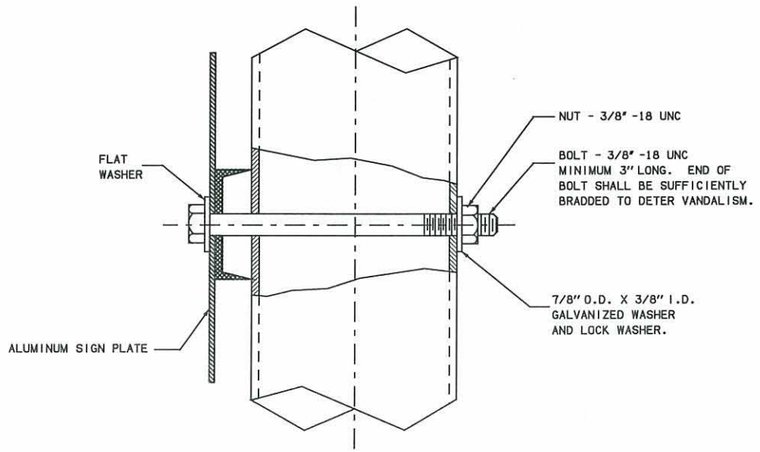
TOP VIEW





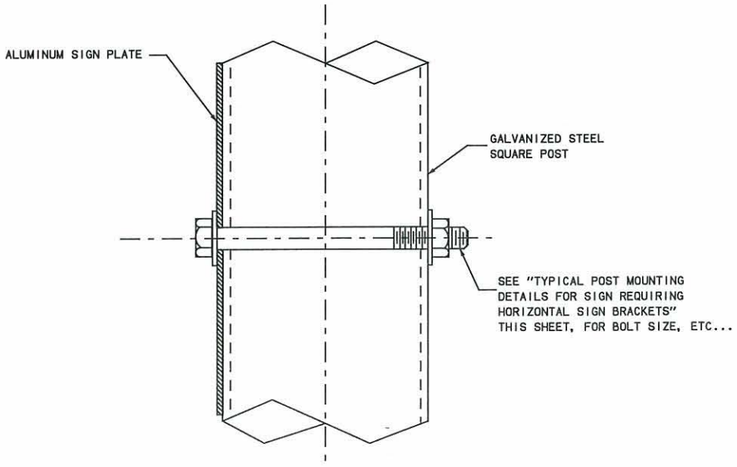
1/4" FASTENER AND 1/4" COLLAR
(TYPICAL)

GRIP NO.	GRIP LENGTH (INCHES)	F-MIN.
2	0.094 - 0.156	1-7/16"
3	0.157 - 0.218	1-1/2"
4	0.219 - 0.281	1-9/16"
5	0.282 - 0.343	1-5/8"
6	0.344 - 0.406	1-11/16"
17	0.407 - 1.093	2-3/8"



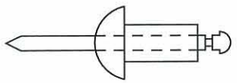
SIDE VIEW

TYPICAL POST MOUNTING DETAILS
FOR SIGN REQUIRING HORIZONTAL
SIGN BRACKETS



SIDE VIEW

TYPICAL POST MOUNTING DETAILS
FOR SIGN 18" WIDE AND UNDER



ALUMINUM ALLOY BODY AND
MANDREL. GRIP RANGE
1/16" TO 1/4".

1/4" BLIND
FASTENERS

NOTE: ALL NUTS SHALL
BE SELF-LOCKING.

APPROVED BY
TRAFFIC ENGINEER: Harold Smith DATE: 8/5/10

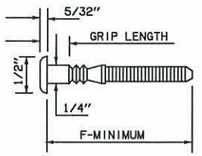
TRAFFIC STANDARD

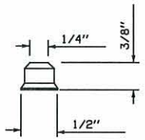
SHEET SIGN ASSEMBLY DETAILS
(SQUARE TUBE)

2009 SPECIFICATIONS

SSA1-1	00
	T-139

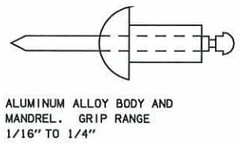
DESCRIPTION	REVISIONS	DATE





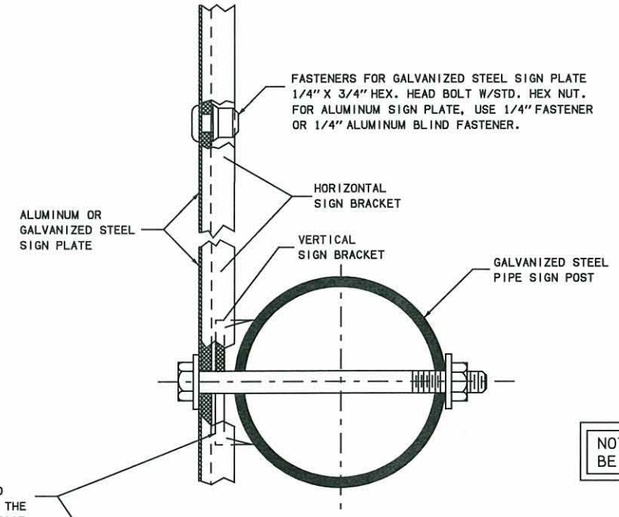
1/4" FASTENER AND 1/4" COLLAR (TYPICAL)

GRIP NO.	GRIP LENGTH	F-MIN.
2	0.094 - 0.156	1-7/16"
3	0.157 - 0.218	1-1/2"
4	0.219 - 0.281	1-9/16"
5	0.282 - 0.343	1-5/8"
6	0.344 - 0.406	1-11/16"
17	0.407 - 1.093	2-3/8"



ALUMINUM ALLOY BODY AND MANDREL. GRIP RANGE 1/16" TO 1/4"

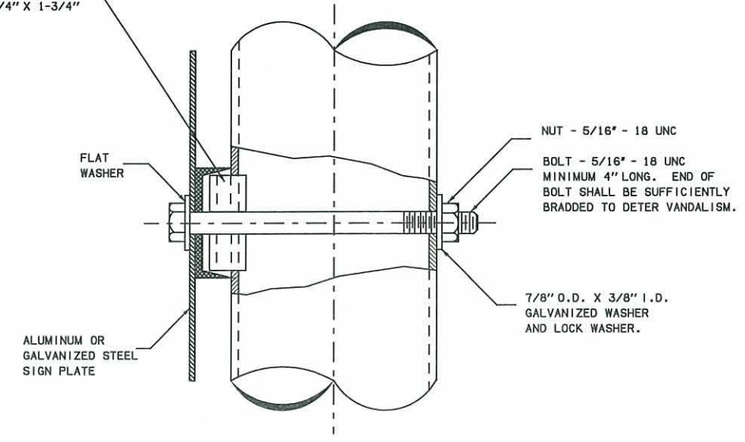
1/4" BLIND FASTENERS



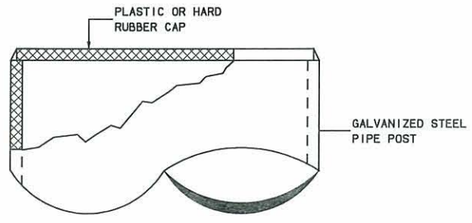
TOP VIEW

WHEN CONSTANT THICKNESS EXTRUDED ALUMINUM SIGN BRACKETS ARE USED THE HORIZONTAL SIGN BRACKET MAY CONTACT THE SIGN POST PREVENTING A SNUG AND PROPER FIT. WHEN THIS OCCURS AN ALUMINUM SPACER EITHER 1-1/4" X 1-1/4" X 1/8" THICK FOR 1-1/2" BRACKETS, OR 1-3/4" X 1-3/4" X 1/8" THICK FOR 2" BRACKETS SHALL BE USED.

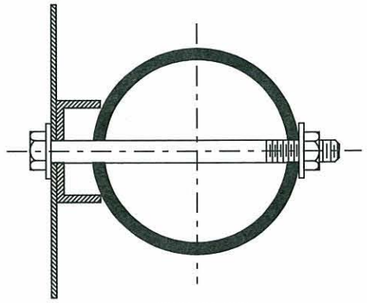
NOTE: ALL NUTS SHALL BE SELF-LOCKING.



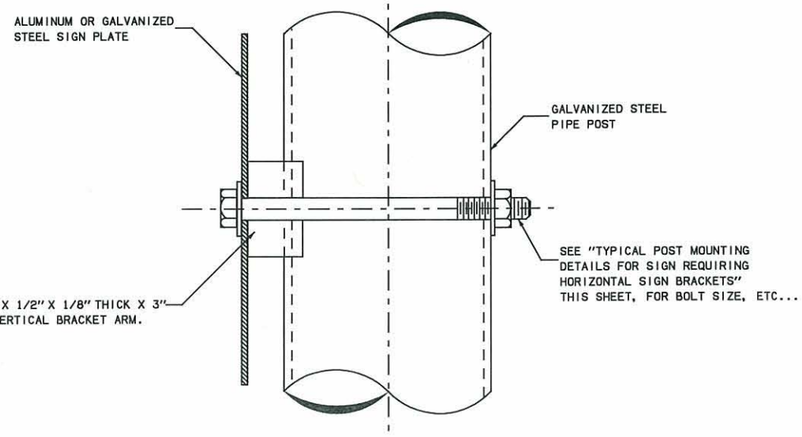
SIDE VIEW
TYPICAL POST MOUNTING DETAILS FOR SIGN REQUIRING HORIZONTAL SIGN BRACKETS



POST CAP NOT REQUIRED FOR 1-1/2" AND 2" PIPE POSTS



TOP VIEW



SIDE VIEW
TYPICAL POST MOUNTING DETAILS FOR SIGN REQUIRING VERTICAL SIGN BRACKETS ONLY

APPROVED BY TRAFFIC ENGINEER: Rudolf Smaj DATE: 8/5/10

TRAFFIC STANDARD

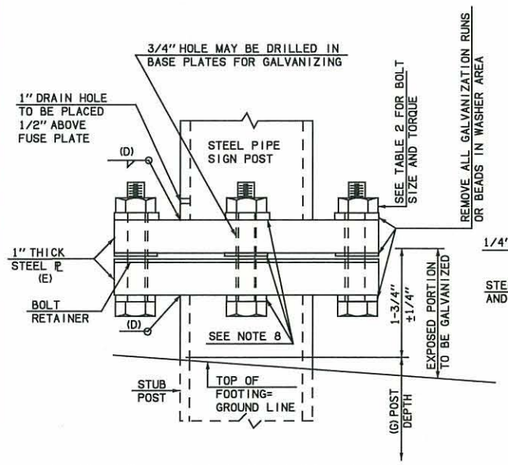
SHEET SIGN ASSEMBLY DETAIL (GALVANIZED PIPE)

2009 SPECIFICATIONS

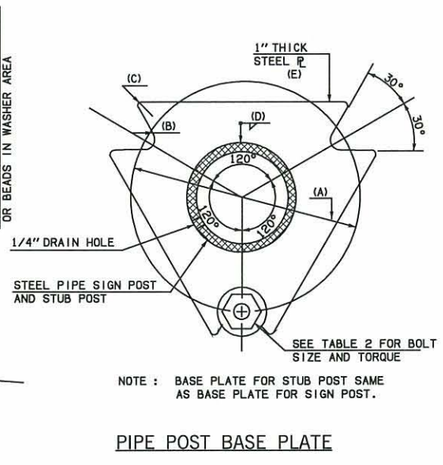
SSA2-1	00
	T-140

TRFPC## D:\usr2\2009Standards_ss\t140_SSA2-1-00.dgn 11:16:54 AM 7/28/2010 R:\TRAF_PLOT\leroyh.pen R:\TRAF_PLOT\bw.tbl

TABLE I														
FTG. DES. NO.	POST SIZE REQUIRED	BASE PLATE DIMENSIONS						FOOTING DIMENSIONS					QUANTITIES	
		TRIANGLE SIZE	A	B	C	D	E	SIZE DIA.	LENGTH	POST (G) DEPTH	VERTICAL BARS	HORIZONTAL BARS	CLASS "A" CONCRETE	REINFORCING STEEL
											NO./SIZE	NO./SIZE		
A-1	1-1/2" ø 2.72 plf	NO BASE PLATE REQUIRED						12"	2'-0"	24"	NONE	NONE	.06 CY	NONE
A-2	2" ø 3.65 plf	NO BASE PLATE REQUIRED						12"	2'-0"	24"	NONE	NONE	.06 CY	NONE
A-3	2-1/2" ø 5.79 plf	9" x 9" x 9"	6-1/4"	9/16"	1/4"	1/4"	1"	18"	3'-0"	24"	4 / #5	4 #4	.20 CY	24 lbs
A-4	3" ø 7.58 plf	9" x 9" x 9"	6-1/4"	9/16"	1/4"	1/4"	1"	18"	3'-6"	24"	6 / #5	4 #4	.23 CY	32 lbs
A-5	3-1/2" ø 9.11 plf	10" x 10" x 10"	7-1/16"	11/16"	1/4"	5/16"	1"	18"	4'-0"	30"	6 / #5	5 #4	.26 CY	38 lbs
A-6	4" ø 10.79 plf	10" x 10" x 10"	7-1/16"	11/16"	1/4"	5/16"	1"	18"	4'-6"	30"	6 / #5	5 #4	.30 CY	42 lbs



STEEL PIPE POST BASE CONNECTION



NOTE : BASE PLATE FOR STUB POST SAME AS BASE PLATE FOR SIGN POST.

PIPE POST BASE PLATE

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION

1. ASSEMBLE POST TO STUB WITH BOLTS AND WASHERS. USE ONE FLAT WASHER PER BOLT AND BOLT RETAINER BETWEEN BASE PLATES.
2. SHIM AS REQUIRED TO PLUMB AND ALIGN POST(S) BEFORE OR IMMEDIATELY AFTER POURING CONCRETE FOOTING.
3. TIGHTEN ALL BOLTS, IN A SYSTEMATIC ORDER, TO THE PRESCRIBED TORQUE TO BED WASHERS AND SHIMS AND CLEAN BOLT THREADS.
4. LOOSEN AND RETIGHTEN TO PRESCRIBED TORQUE IN THE SAME ORDER AS INITIAL TIGHTENING. DO NOT OVER TIGHTEN.

NO. REQ'D. PL 9" X 9" X 9"

(3) 1/2" ø X 3-1/4" H. S. BOLT
(3) HEX. NUTS
(9) FLAT WASHERS (SEE NOTE 8)

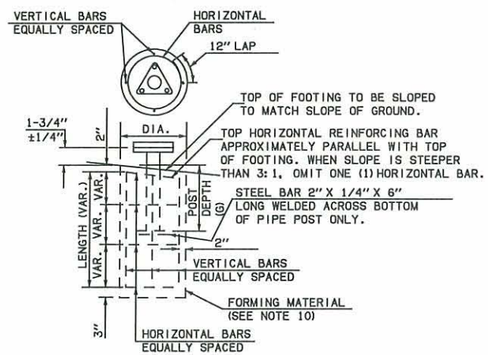
NO. REQ'D. PL 10" X 10" X 10"

(3) 5/8" ø X 3-3/4" H. S. BOLT
(3) HEX. NUTS
(9) FLAT WASHERS (SEE NOTE 8)

TABLE 2		
BASE PLATE CONNECTION DATA TABLE		
BOLT TORQUE FOR BASE PLATES		
BOLT SIZE	MINIMUM	MAXIMUM
1/2" ø X 3-1/4"	16.6 FT LBS	25.0 FT LBS
5/8" ø X 3-1/4"	37.5 FT LBS	56.6 FT LBS
3/4" ø X 3"	67.5 FT LBS	88.3 FT LBS

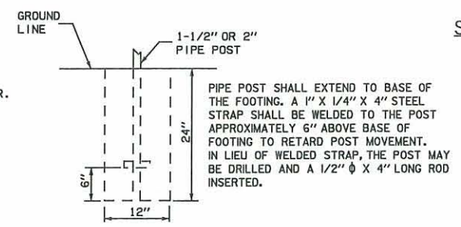
BOLT TORQUE LIMITS

THE HIGH STRENGTH BOLTS AT THE BASE CONNECTION SHOULD BE TORQUED WITHIN THE LIMITS SPECIFIED IN THE ABOVE TABLE. HOWEVER THE LOWER LIMIT SHOWN IN THE "BASE PLATE CONNECTION DATA TABLE" IS MORE DESIRABLE.



NOTE : PIPE STUB POST MAY BE INSTALLED TO THE BASE OF THE FOOTING IF DESIRED, BUT ONLY THE PIPE POST SPECIFIED IN THE FOOTING DESIGN WILL BE PAID FOR. PIPE POST EXTENDING TO THE BASE OF THE FOOTING SHALL HAVE THE STEEL BAR WELDED TO THE POST A MINIMUM OF 6" ABOVE THE BASE OF THE FOOTING.

TYPICAL "A" FOOTING DETAIL

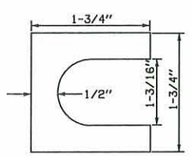


WHEN HOLE FOR FOOTING CAN BE DRILLED AND MAINTAINED AS A "NEAT LINE" HOLE IN THE OPINION OF THE ENGINEER, THE UPPER PORTION NEED NOT BE FORMED. IF FORMING IS REQUIRED, A MINIMUM OF 6" SHALL BE REQUIRED AT THE TOP OF FOOTING. FORMING MAY BE ACCOMPLISHED BY USE OF A CARDBOARD CASING OR SIMILAR MATERIAL THAT MAY BE LEFT IN PLACE. ANY VOID AROUND FINAL FOOTING SHALL BE BACK-FILLED AND FIRMLY TAMPED.

TYPICAL "A-1" & "A-2" FOOTING DETAIL

CUT FROM 30 GAUGE GALVANIZED SHEET METAL. PLACE BETWEEN BASE PLATES. SIZE---VARIES TO FIT BASE PLATES.

SHEET METAL BOLT RETAINER



FURNISH 2 ø 0.012 THICK AND 2 ø 0.32 THICK SHIMS FOR POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO ASTM-B36.

SHIM DETAIL

REVISIONS		
DESCRIPTION		DATE

CONSTRUCTION NOTES

1. ALL PIPE AND WIDE FLANGE BEAM POST SHALL CONFORM TO THE 2009 STANDARD SPECIFICATIONS.
2. ALL BOLTS, NUTS AND WASHERS SHALL NOT BE GALVANIZED OR PLATED, BUT SHALL BE PAINTED, AFTER INSTALLATION, WITH A ZINC RICH PAINT.
3. STRUCTURAL STEEL TO BE GALVANIZED AFTER FABRICATION, EXCEPT AS NOTED, IN ACCORDANCE WITH THE 2009 STANDARD SPECIFICATIONS.
4. POST LENGTHS AS SHOWN ON THE PLANS INCLUDE BOTH SIGN POST AND STUB POST WHICH IS SET IN THE CONCRETE FOOTING.
5. ALL WELDING MATERIALS AND METHODS, INCLUDING QUALIFICATIONS OF WELDERS, SHALL CONFORM WITH THE REQUIREMENTS OF THE 2009 STANDARD SPECIFICATIONS.
6. STRUCTURAL EXCAVATION TO BE PAID FOR IN OTHER ITEMS OF WORK.
7. TOP AND BOTTOM WASHERS ON BASE PLATE SHALL BE 1/4" THICK. WASHERS MAY BE ROUND OR SQUARE. USE STANDARD ROUND WASHERS BETWEEN BASE PLATES. REMOVE ALL GALVANIZING RUNS OR BEADS IN WASHER AREA.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
804(A)	STRUCTURAL CONCRETE	CY
804(B)	REINFORCING STEEL	LB
851(B)	GALVANIZED STEEL PIPE POST	LF

APPROVED BY TRAFFIC ENGINEER: Arnold Umanzor DATE: 8/5/10

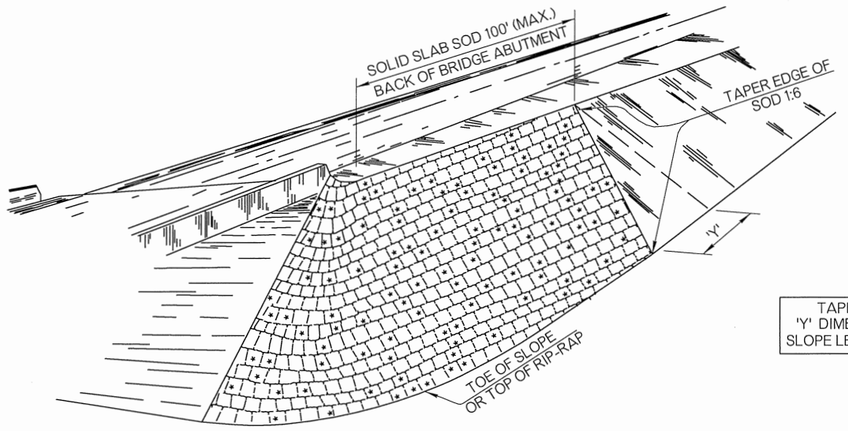
TRAFFIC STANDARD

STANDARD FOOTINGS FOR GROUND MOUNTED SIGNS (GALVANIZED PIPE)

2009 SPECIFICATIONS

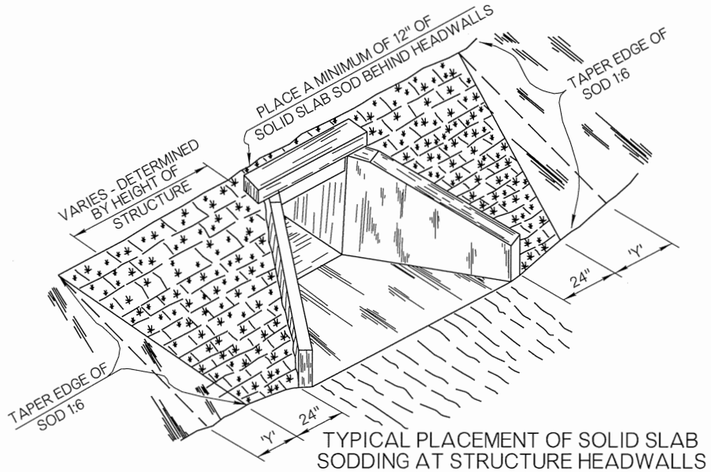
FGS1-1	00
	T-141

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE

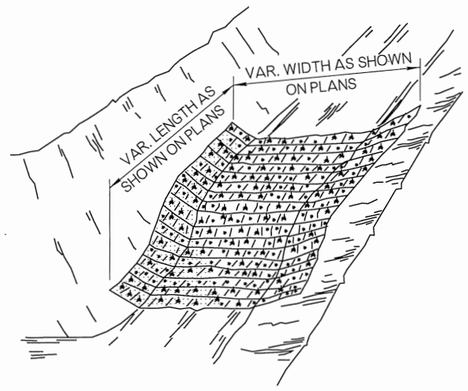


TYPICAL PLACEMENT OF SOLID SLAB SODDING
ON FILL SLOPES, APPROACHES TO OVERPASSES AND BRIDGES.

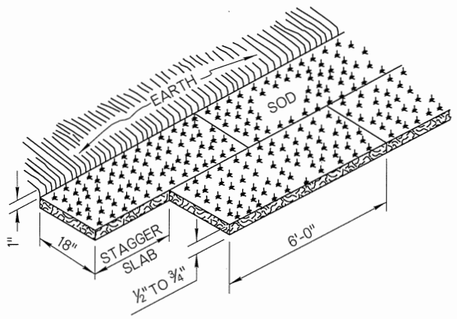
TAPER NOTE
'Y' DIMENSION =
SLOPE LENGTH x 0.17



TYPICAL PLACEMENT OF SOLID SLAB
SODDING AT STRUCTURE HEADWALLS



TYPICAL PLACEMENT OF
SOLID SLAB SODDING IN DITCHES



SOLID SLAB SODDING
(MARCH 1 THRU AUGUST 31)

THE PLACEMENT OF SOLID SLAB SOD SHALL BE RESTRICTED TO THE PERIOD FROM MARCH 1 THRU AUGUST 31, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. SOLID SLAB SOD SHALL BE PLACED IN HORIZONTAL ROWS WITH THE LONGEST SIDE OF EACH SLAB RUNNING PARALLEL TO THE ROADWAY, AND THE SLABS IN ALTERNATE ROWS STAGGERED HALF THE LENGTH OF EACH INDIVIDUAL SLAB. ENSURE THE ROWS RUN PARALLEL TO THE ROADWAY.
3. SLABS SHALL BE CUT AND HARVESTED WITH A COMMERCIAL SOD CUTTER TO THE DIMENSIONS SHOWN, THEN LOADED, TRANSPORTED AND HANDLED ON PALLETS.
4. AFTER PLACEMENT OF SOLID SLAB SOD, EARTH AT THE OUTER EDGES OF THE PLACEMENT SHALL BE BACKFILLED AND LOOSELY COMPACTED TO AT LEAST 1" ABOVE THE TOP OF THE SOLID SLAB SODDING.
5. STAKE SOD ON ALL SLOPES 1:2 OR STEEPER, AND ON ANY AREAS THAT ARE IN SUCH CONDITION THAT THERE IS DANGER OF SOD SLIPPING. PERFORM STAKING CONCURRENTLY WITH SOD PLACEMENT AND PRIOR TO TAMPING WITH SOUND WOODEN STAKES APPROXIMATELY 1 INCH SQUARE OR 1 INCH IN DIAMETER AND NOT LESS THAN 12 INCHES IN LENGTH, OR USE METAL STAPLES IN PLACE OF WOODEN STAKES. PLACE, STAKE AND STAPLE THE SOD WHERE NECESSARY, AND AS DETERMINED BY THE ENGINEER.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
230(A)	SOLID SLAB SODDING	SY

APPROVED BY ROADWAY ENGINEER: Calvin F. A DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

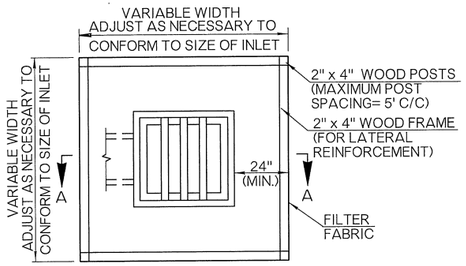
SOLID SLAB SODDING

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

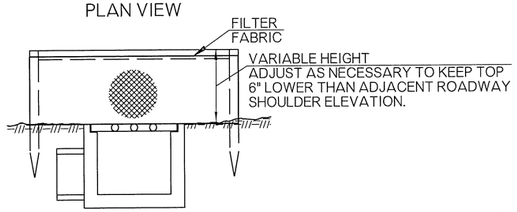
SSS-1	1

OKLAHOMA DEPARTMENT OF TRANSPORTATION

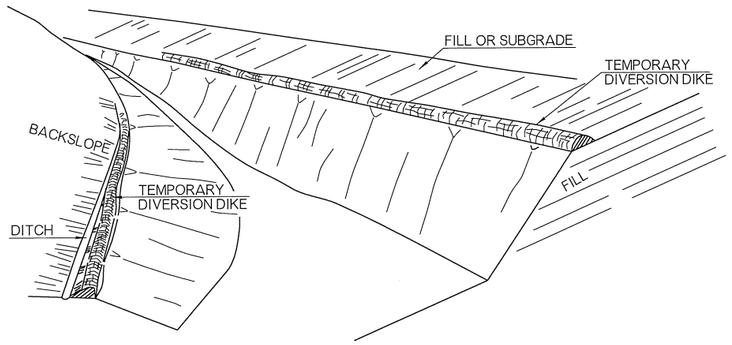
STANDARD REVISIONS	
DESCRIPTION	DATE



PLAN VIEW



SECTION A - A
SEDIMENT FILTER



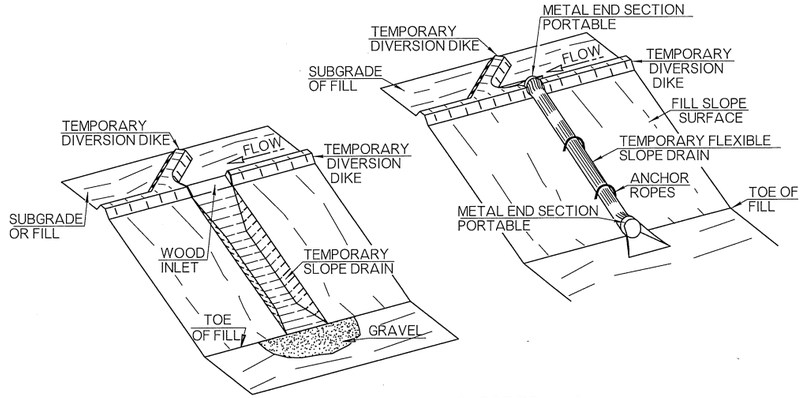
DIVERSION DIKES

TEMPORARY SEDIMENT FILTER

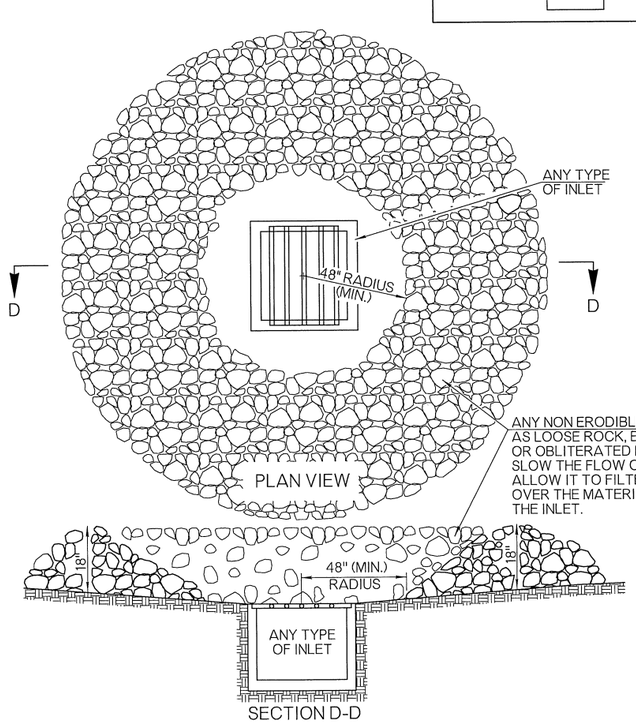
SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

TSF
#

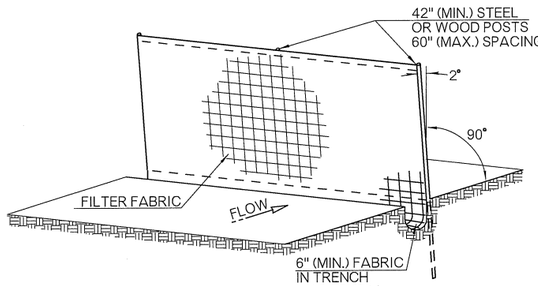


SLOPE DRAINS



SECTION D-D

SEDIMENT FILTER
(TYPE II)

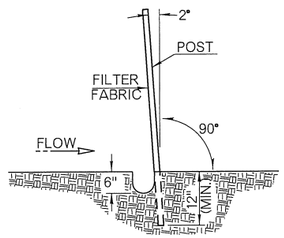


TEMPORARY SILT FENCE
RECOMMENDED TOE-IN METHOD

TEMPORARY SILT FENCE

SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS



TEMPORARY SILT FENCE
SECTION

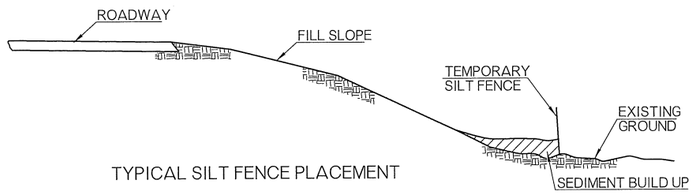
TEMPORARY SLOPE DRAIN

SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. COST OF TEMPORARY DIVERSION DIKES TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.



TYPICAL SILT FENCE PLACEMENT

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
221 (A)	TEMPORARY SLOPE DRAINS	LF
221 (C)	TEMPORARY SILT FENCE	LF
221 (D)	TEMPORARY SEDIMENT FILTER	EA

APPROVED BY
ROADWAY ENGINEER: Caleb F. H DATE 04/16/15

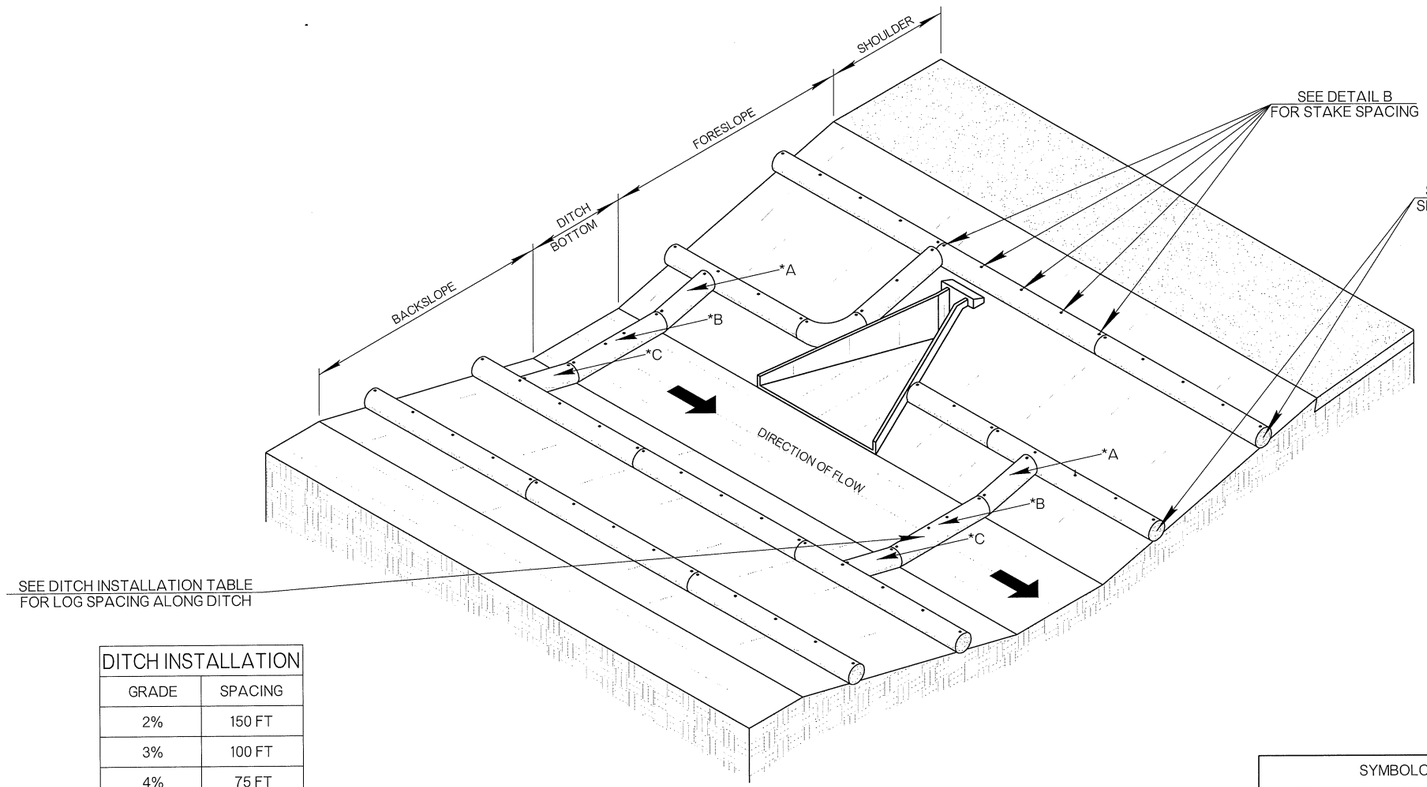
ROADWAY DESIGN DIVISION STANDARD

TEMPORARY SEDIMENT CONTROLS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

TSC2-3	2

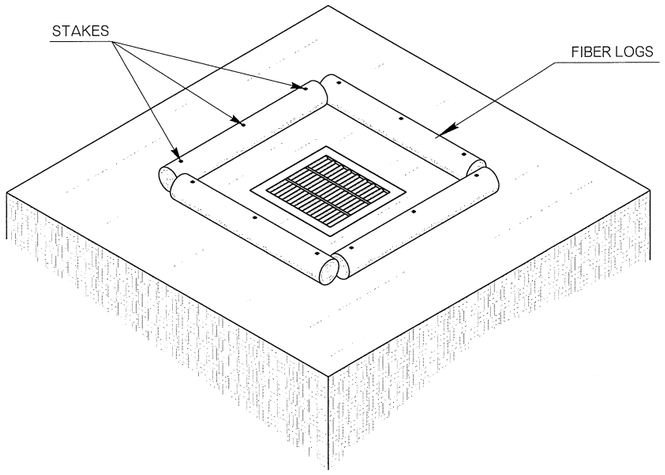
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



DITCH INSTALLATION	
GRADE	SPACING
2%	150 FT
3%	100 FT
4%	75 FT
5%	50 FT

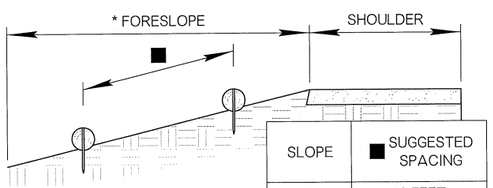
* NOTE: POINTS 'A' AND 'C' ARE HIGHER THAN POINT 'B'.

SUGGESTED PLACEMENT AROUND CROSSDRAINS, ON SLOPES, AND ACROSS DITCH BOTTOM.



TEMPORARY INLET PROTECTION

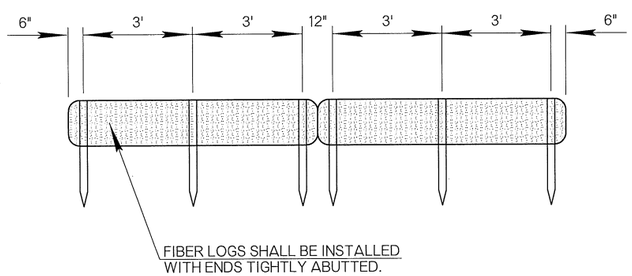
SYMBOLOGY
SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS



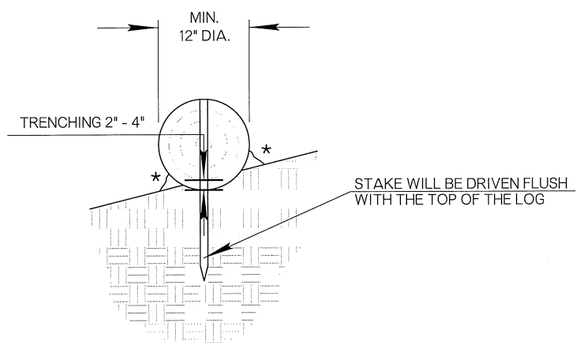
SLOPE	SUGGESTED SPACING
1:1	10 FEET
1:2	20 FEET
1:3	30 FEET
1:4	40 FEET
1:6	60 FEET

* NOTE: SPACING APPLIES FOR BACKSLOPES AS WELL AS FORESLOPES.

DETAIL A - CROSS SECTION VIEW



DETAIL B - FIBER LOG FRONT VIEW



* AREAS TO BE FILLED WITH COMPACTED SOIL TAKEN FROM THE EXCAVATED TRENCH.

DETAIL C - TRENCHING

GENERAL NOTES

1. FIBER LOGS ARE TO BE INSTALLED AND MAINTAINED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.
2. TRENCHING OF LOGS SHALL BE 2" TO 4" INTO SOIL. BEFORE TRENCHING, REMOVE ALL ROCKS, VEGETATION OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED LOGS WILL HAVE DIRECT CONTACT WITH SOIL. THERE SHALL NOT BE ANY GAPS BETWEEN THE LOGS AND THE SOIL.
3. STAKES DRIVEN INTO LOGS SHOULD BE MADE OF WOOD. METAL STAKES MAY BE USED IN PLACE OF WOOD STAKES IN AREAS WHERE WOOD STAKES ARE UNABLE TO BE DRIVEN, OR IF APPROVED BY THE ENGINEER. WOOD STAKES SHALL BE ¾" BY ¾" MINIMUM. LENGTH OF STAKES SHALL BE TWICE THE DIAMETER OF THE LOG.
4. LOGS MAY BE MADE OF STRAW, EXCELSIOR, COIR OR OTHER SIMILAR MATERIAL AS APPROVED BY THE ENGINEER. FIBER NET SURROUNDING THE LOG MAY BE SYNTHETIC MATERIAL OR A NATURAL FIBER.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
221 (K)	TEMPORARY FIBER LOG	LF

APPROVED BY ROADWAY ENGINEER _____ DATE 04/16/15

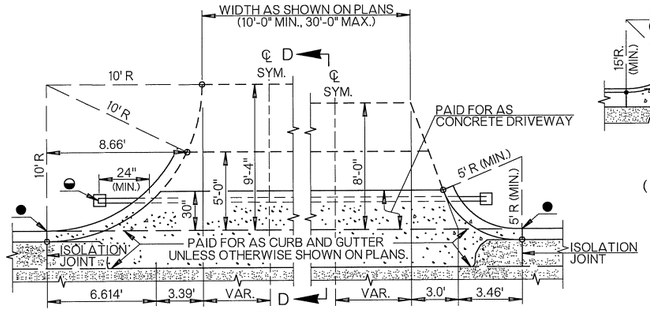
ROADWAY DESIGN DIVISION STANDARD

TEMPORARY FIBER LOG

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

TFL-1 | 1

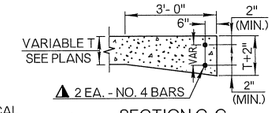
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



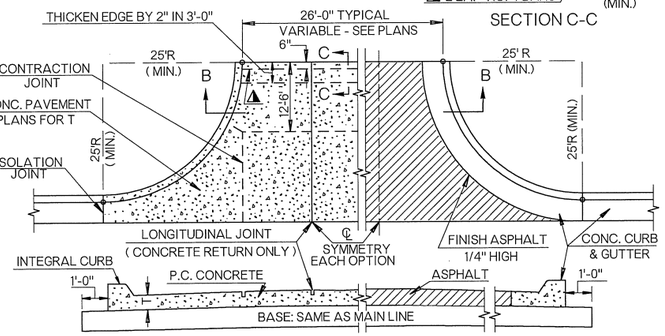
TYPE I DRIVEWAYS
(PRIVATE OR RESIDENTIAL)

◒ IF SPECIFIED IN THE PLANS, CONSTRUCT CONDUIT CROSSING OF THE SPECIFIC SIZE AND TYPE AT APPROXIMATELY 30" BELOW FINISHED GRADE OF THE RAMP. SEE GENERAL NOTES FOR DETAILS.

● BEGIN ROLL CURB. TERMINATE CURB & GUTTER.



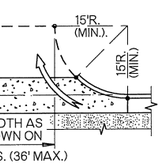
SECTION C-C



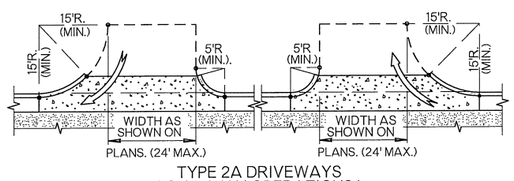
ALT. SECTION B-B
CONCRETE RETURN

ALT. SECTION B-B
ASPHALT RETURN
(WHERE CURB AND GUTTER IS USED)

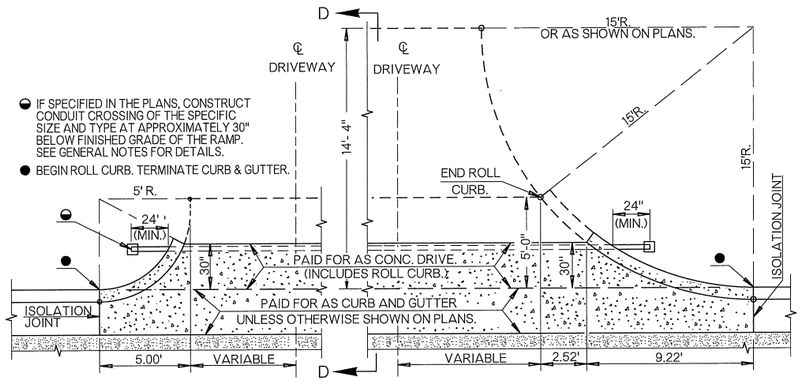
TYPICAL STREET RETURN



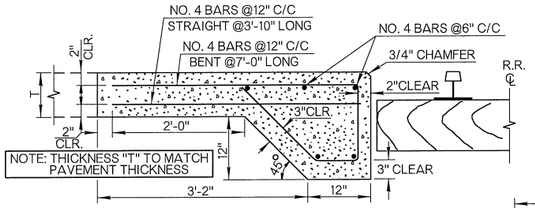
TYPE 2 DRIVEWAY
(TWO -WAY OPERATION)



TYPE 2A DRIVEWAYS
(ONE -WAY OPERATIONS)

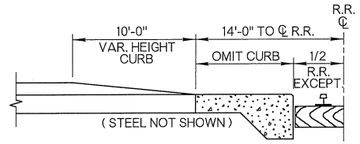


TYPE 2 & 2A COMMERCIAL DRIVEWAYS

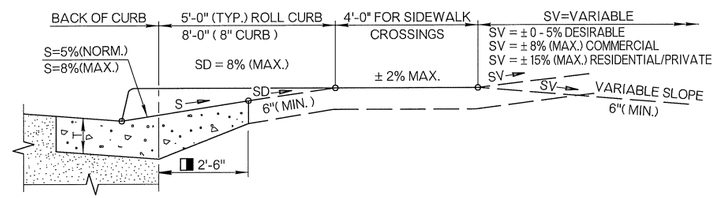


P. C. RAILROAD APPROACH SLAB WITH
THICKENED EDGE AT RAILROAD CROSSING

THICKENED EDGE OF CONCRETE RAILROAD APPROACH SLAB SHALL EXTEND FROM OUTSIDE TO OUTSIDE OF SHOULDERS. COST OF CLASS A CONCRETE & REINFORCING STEEL TO BE INCLUDED IN THE PRICE BID FOR RAILROAD APPROACH SLAB.



DETAIL OF CURBS ADJACENT
TO RAILROAD CROSSINGS

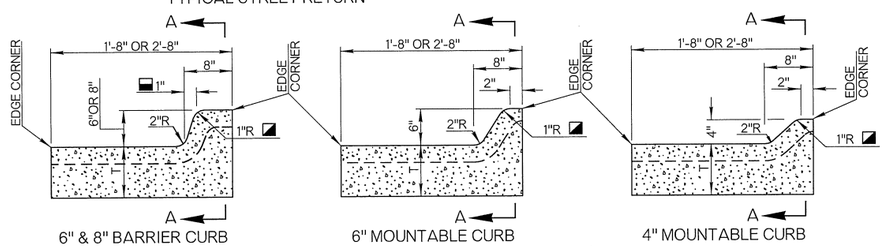


SECTION D-D ALONG ℄ DRIVE

◨ WHEN SIDEWALK IS BUILT DIRECTLY BEHIND CURB, THE CONCRETE DRIVEWAY SHOULD BE CONSTRUCTED & EXTENDED TO THE BACK EDGE OF SIDEWALK.

GENERAL NOTES

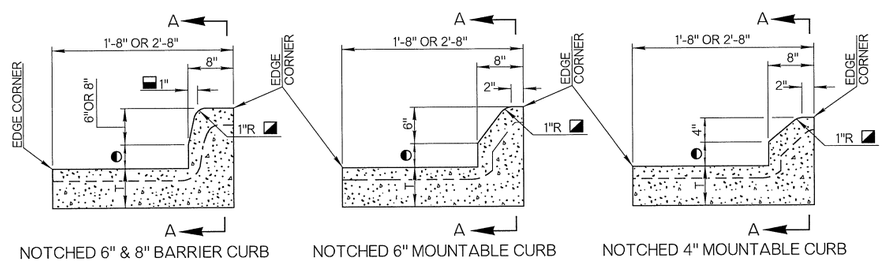
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. COST OF JOINT FILLERS, SEALING AND REINFORCING STEEL SHALL BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.
3. TRANSVERSE ISOLATION JOINTS FOR CONCRETE DIVIDING STRIP AND CONCRETE MEDIAN (MOUNTABLE CURB TYPE) TO BE 1/2" ISOLATION JOINT FILLER AT 50' C/C, 1/4" ISOLATION JOINT MATERIAL AT 1/3 POINTS BETWEEN 1/2" ISOLATION JOINTS. FILLER MATERIAL TO BE PREMOLDED AND JOINTS TO BE SEALED AS SHOWN ON ROADWAY STANDARD LECS-4.
4. COMBINED CURB & GUTTER SHALL HAVE 3/4" ISOLATION JOINTS AT DRAINAGE STRUCTURES, STREET CURB RETURNS AND AT THOSE LOCATIONS SHOWN ON THE PLANS. BUTT OR SAWED JOINTS SHALL BE SPACED AT 20'-0" CENTERS MAX. JOINT FILLER IN THE CURBS SHALL EXTEND TO WITHIN 2" OF THE FACE & TOP OF CURB. ALL JOINTS SHALL BE SEALED AS SHOWN ON ROADWAY STANDARD LECS-4.
5. ALL CONDUIT CROSSINGS ARE TO BE TRENCHED, PLACED, BACKFILLED AND COMPACTED PRIOR TO SURFACING. BORING OR PUSHING PROCEDURES MAY BE USED WHERE SURFACING IS ALREADY IN PLACE AND IF APPROVED BY THE ENGINEER.
6. IF CONDUIT IS NOT CONTINUOUS BETWEEN DRIVEWAYS OR RAMPS, CAP BOTH ENDS OF EACH CONDUIT CROSSING AND PLACE MARKER TO PREVENT DAMAGE DURING CONSTRUCTION.
7. CONDUIT SHALL NOT TERMINATE BELOW A SURFACED AREA, BUT SHALL EXTEND A MINIMUM OF 2'-0" PAST EDGE OF PAVING.
8. FOR PULL BOX INSTALLATION DETAILS, SEE TRAFFIC STANDARD PBD1-1 (PULL BOX DETAILS).



6" & 8" BARRIER CURB

6" MOUNTABLE CURB

4" MOUNTABLE CURB



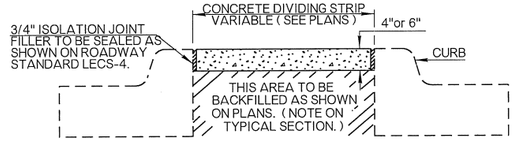
NOTCHED 6" & 8" BARRIER CURB

NOTCHED 6" MOUNTABLE CURB

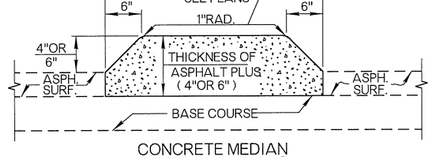
NOTCHED 4" MOUNTABLE CURB

COMBINED CURB & GUTTER TYPICAL SECTIONS

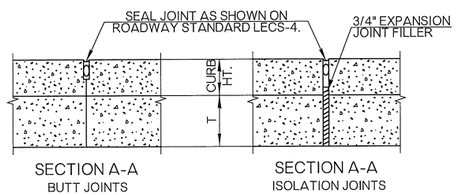
NOTE: T DIMENSION EQUALS THE THICKNESS SHOWN ON TYPICAL SECTION. (MIN.=6")
◐ DIMENSION EQUALS THE THICKNESS ASPHALT CONC. SHOWN ON TYPICAL SECTION. (MIN.=2"; MAX.=4")
◪ RADIUS OF 2" MAY BE USED IF APPROVED BY THE ENGINEER.
▬ BATTER OF 2" MAY BE USED IF APPROVED BY THE ENGINEER.



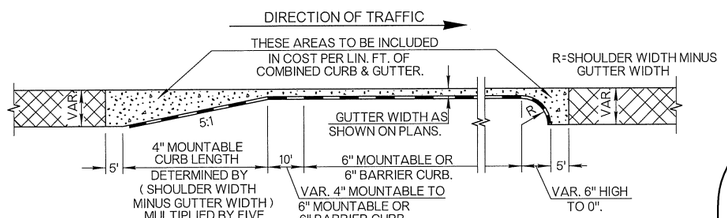
CONCRETE DIVIDING STRIP



CONCRETE MEDIAN
MOUNTABLE CURB TYPE
(TO BE PAID FOR AS CLASS A CONCRETE.)



CURB & GUTTER JOINTS
BUTT & ISOLATION JOINTS TO EXTEND THROUGH CURB & GUTTER TO BACK OF CURB



BEGINNING CURB & GUTTER

ENDING CURB & GUTTER

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
414 (H)	P. C. RAILROAD APPROACH SLABS	SY
509 (B)	CLASS A CONCRETE	CY
609 (B)	■ COMBINED CURB & GUTTER (▲)	LF
610 (B)	▼ CONCRETE DRIVEWAY	SY
610 (C)	▼ CONCRETE DIVIDING STRIP	SY
610 (H)	▼ ASPHALT DIVIDING STRIP	SY

■ WIDTH OF CURB & GUTTER WILL BE SPECIFIED.
▲ HEIGHT & TYPE OF CURB SHALL BE SPECIFIED.
▼ THICKNESS WILL BE SPECIFIED.

APPROVED BY ROADWAY ENGINEER: Caleb E-K DATE: 04/14/15

ROADWAY DESIGN DIVISION STANDARD

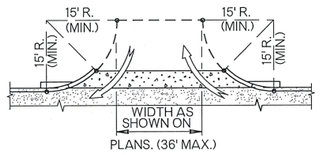
ODOT

ASPHALT SURFACING CONSTRUCTION DETAILS

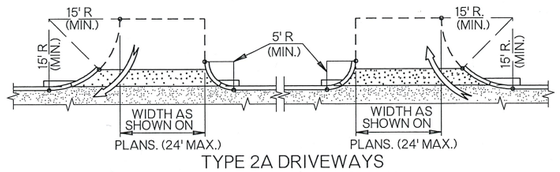
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

ASCD-5	2

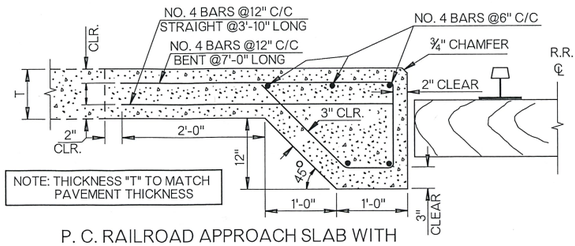
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



TYPE 2 DRIVEWAY
(TWO -WAY OPERATION)

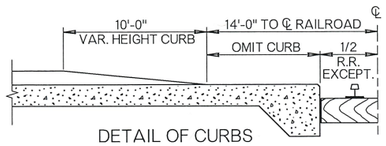


TYPE 2A DRIVEWAYS
(ONE -WAY OPERATION)

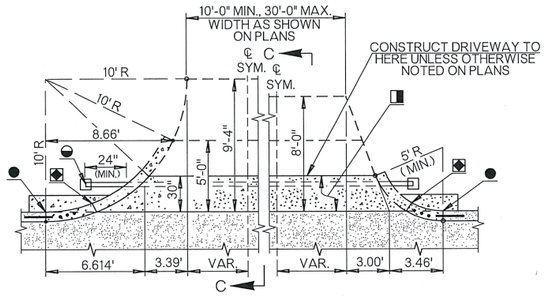


NOTE: THICKNESS "T" TO MATCH PAVEMENT THICKNESS

P. C. RAILROAD APPROACH SLAB WITH
THICKENED EDGE AT RAILROAD CROSSING

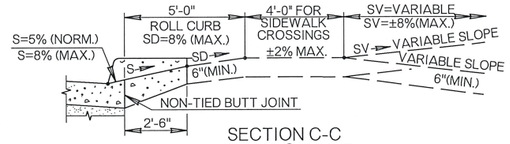


DETAIL OF CURBS
ADJACENT TO RAILROAD CROSSINGS



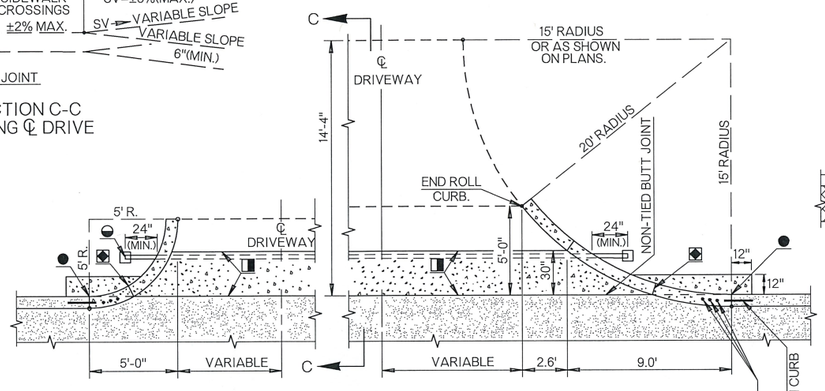
TYPE I DRIVEWAYS
(PRIVATE OR RESIDENTIAL)

- ◆ ¾" EXPANSION JOINT NO LOAD TRANSFER DEVICES
- ◧ PAID FOR AS CONCRETE DRIVEWAY (INCLUDES CURB)
- ● BEGIN ROLL CURB & TERMINATE INTEGRAL CURB. POUR APRON & CURB INTEGRAL WITH DRIVEWAY
- ◒ IF SPECIFIED IN THE PLANS, CONSTRUCT CONDUIT CROSSING OF THE SAME SIZE & TYPE SPECIFIED AT APPROXIMATELY 30" BELOW FINISHED GRADE OF RAMP. SEE GENERAL NOTES FOR DETAILS.



SECTION C-C
ALONG ℄ DRIVE

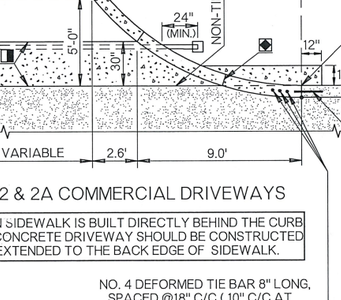
FOR STREET RETURN DETAILS SEE THE CURRENT VERSION OF ROADWAY STD. ASCD-5.



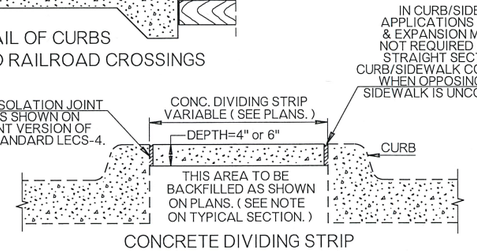
TYPE 2 & 2A COMMERCIAL DRIVEWAYS

- ◆ ¾" EXPANSION JOINT NO LOAD TRANSFER DEVICES
- ◧ PAID FOR AS CONCRETE DRIVEWAY (INCLUDES CURB)
- ● BEGIN ROLL CURB & TERMINATE INTEGRAL CURB. POUR APRON & CURB INTEGRAL WITH DRIVEWAY
- ◒ IF SPECIFIED IN THE PLANS, CONSTRUCT CONDUIT CROSSING OF THE SAME SIZE & TYPE SPECIFIED AT APPROXIMATELY 30" BELOW FINISHED GRADE OF RAMP. SEE GENERAL NOTES FOR DETAILS.

NOTE: WHEN SIDEWALK IS BUILT DIRECTLY BEHIND THE CURB THE CONCRETE DRIVEWAY SHOULD BE CONSTRUCTED AND EXTENDED TO THE BACK EDGE OF SIDEWALK.

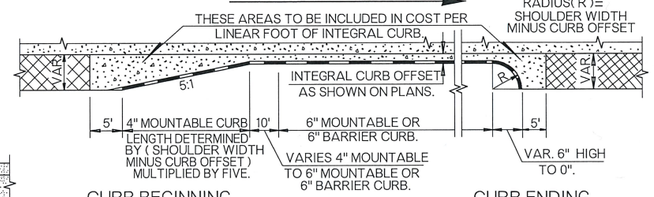


OPTIONAL CURB CONSTRUCTION
FOR SLIP FORM PAVING



CONCRETE DIVIDING STRIP

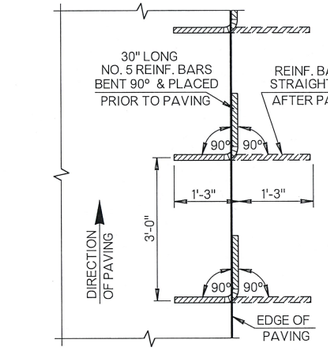
TRANSVERSE EXPANSION JOINTS TO BE 1/2" EXPAN. JOINT FILLER AT 50'-0" C/C, 1/4" EXPANSION JOINT MATERIAL AT 1/3 POINTS BETWEEN 1/2" EXPANSION JOINTS. FILLER MATERIAL TO BE PREMOLDED & JOINTS TO BE SEALED AS SHOWN ON THE CURRENT VERSION OF ROADWAY STANDARD LECS-4. JOINTS IN DIVIDING STRIP SHOULD ALIGN WITH CURB EXPANSION JOINTS.



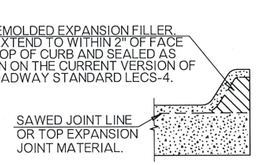
CURB BEGINNING CURB ENDING

GENERAL NOTES

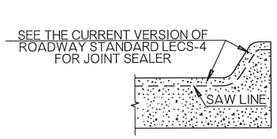
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL COST OF CLASS A CONCRETE & REINFORCING STEEL IN THICKENED EDGE AT RAILROAD CROSSINGS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR APPROACH SLAB-RAILROAD.
3. COST OF JOINT FILLERS, SEALING AND REINFORCING STEEL SHALL BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.
4. CONTRACTION JOINTS IN JOINTED P.C. PAVEMENT SHALL BE AT APPROXIMATELY 15'-0" CENTERS, UNLESS OTHERWISE SHOWN ON THE PLANS.
5. CURB & GUTTER SHALL BE PLACED INTEGRAL WITH THE PAVING SLAB UNLESS OTHERWISE SHOWN IN THE PLANS. TRANSVERSE JOINTS SHALL MATCH PAVEMENT JOINTS AND PLACED AT DRAINAGE STRUCTURES. LONGITUDINAL JOINTS SHALL BE TIED WITH #5 DEFORMED TIE BARS 2'-6" LONG AT 3'-0" CTRS. SEE TIED BUTT AND LONGITUDINAL CONSTRUCTION JOINT DETAIL ON THE CURRENT VERSION OF ROADWAY STANDARD LECS-4.
6. ALL CONDUIT CROSSINGS ARE TO BE TRENCHED, PLACED, BACKFILLED, AND COMPACTED PRIOR TO SURFACING. BORING OR PUSHING PROCEDURES MAY BE USED WHERE SURFACING IS ALREADY IN PLACE AND IF APPROVED BY THE ENGINEER.
7. IF CONDUIT IS NOT CONTINUOUS BETWEEN DRIVEWAYS/RAMPS, CAP BOTH ENDS OF EACH CONDUIT CROSSING AND PLACE MARKER TO PREVENT DAMAGE DURING CONSTRUCTION.
8. CONDUIT SHALL NOT TERMINATE BELOW A SURFACED AREA, BUT SHALL EXTEND MINIMUM OF 24" PAST EDGE OF PAVING.
9. FOR PULL BOX INSTALLATION DETAILS, SEE THE CURRENT VERSION OF TRAFFIC STANDARD PBD1-1.



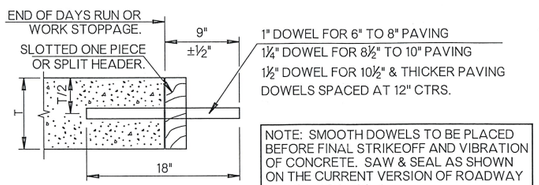
SECTION B-B



CURB JOINT WITH EXPANSION MATERIAL

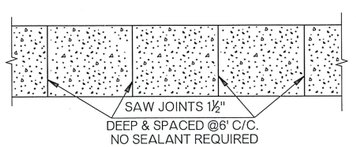


ALTERNATE CURB JOINT

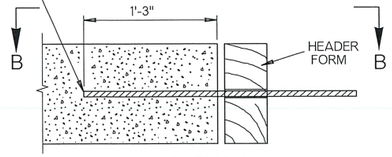


NOTE: SMOOTH DOWELS TO BE PLACED BEFORE FINAL STRIKEOFF AND VIBRATION OF CONCRETE. SAW & SEAL AS SHOWN ON THE CURRENT VERSION OF ROADWAY STANDARD LECS-4.

TRANSVERSE CONSTRUCTION JOINT
(TO BE USED AT END OF DAYS PLACEMENT OF CONCRETE OR ANY STOPPAGE OF 30 MINUTES OR MORE.)

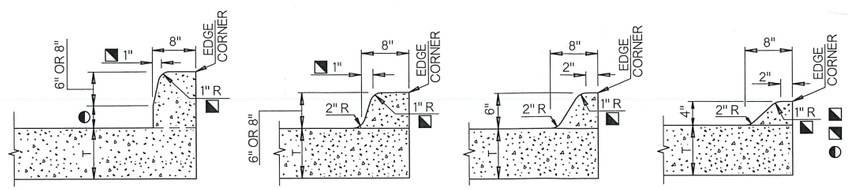


PLAN DETAIL OF CONCRETE SIDEWALK



SECTION
TIED LONGITUDINAL BUTT JOINT
(TO BE USED BETWEEN ADJACENT PAVING LANES)

NOTE: LONGITUDINAL BUTT JOINT TIE BAR STEEL AND PLACEMENT METHOD NOT COVERED ON THIS STANDARD SHALL BE APPROVED BY THE ENGINEER.



NOTCHED 6" & 8" BARRIER
6" & 8" BARRIER
6" MOUNTABLE
4" MOUNTABLE

INTEGRAL CURB TYPICAL SECTIONS

- ◪ RADIUS OF 2" MAY BE USED IF APPROVED BY THE ENGINEER.
- ◪ BATTER OF 2" MAY BE USED IF APPROVED BY THE ENGINEER.
- ◐ DIMENSION EQUALS THICKNESS OF ASPHALT CONCRETE SHOWN ON TYPICAL SECTION ASPHALT CONCRETE THICKNESS (2" MIN. ; 4" MAX.)
- T T DIMENSION EQUALS THE THICKNESS SHOWN ON TYPICAL SECTION (MIN. = 6")

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
414 (H)	P. C. RAILROAD APPROACH SLABS	SY
609 (A)	■ CONCRETE CURB (INTEGRAL)	LF
610 (A)	▼ CONCRETE SIDEWALK	SY
610 (B)	▼ CONCRETE DRIVEWAY	SY
610 (C)	▼ CONCRETE DIVIDING STRIP	SY

- ■ HEIGHT & TYPE OF CURB SHALL BE SPECIFIED.
- ▼ THICKNESS SHALL BE SPECIFIED IN INCHES.

APPROVED BY ROADWAY ENGINEER: _____ DATE: 01/28/19

ROADWAY DESIGN DIVISION STANDARD

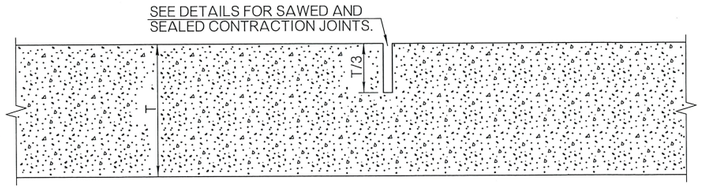
CONCRETE SURFACING CONSTRUCTION DETAILS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

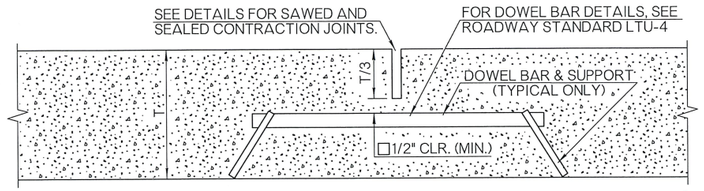
CSCD-5	4

R-12

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE

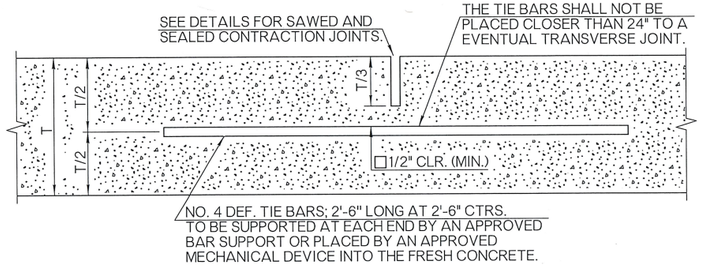


NON-DOWELED CONTRACTION JOINT

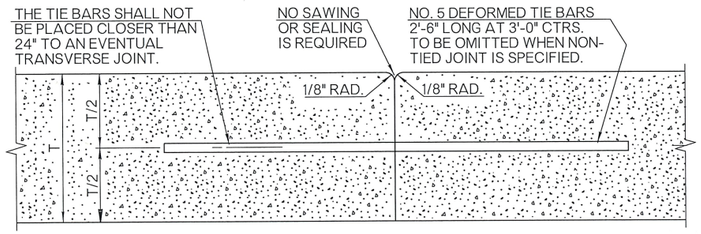


◁DOWELED CONTRACTION JOINT

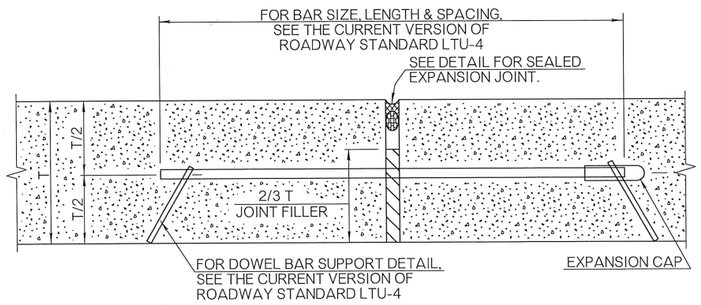
◁ ON JOINTED PORTLAND CEMENT CONCRETE PAVEMENTS, DOWELLED CONTRACTION JOINTS SHALL BE USED ON DRIVING LANES ONLY. CONCRETE SHOULDERS SHALL NOT BE DOWELLED UNLESS SPECIFIED ON THE PLANS.



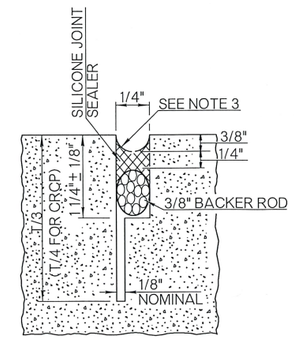
LONGITUDINAL JOINT



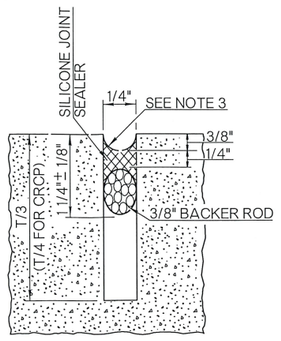
TIED BUTT JOINT AND
LONGITUDINAL CONSTRUCTION JOINT



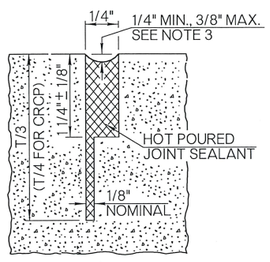
EXPANSION JOINT / ISOLATION JOINT
OMIT DOWEL BARS, CAPS & SUPPORTS FOR ISOLATION JOINTS



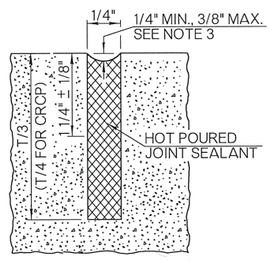
SILICONE SEALANT OPTION



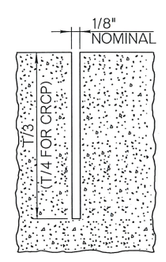
SILICONE SEALANT OPTION



HOT POUR OPTION



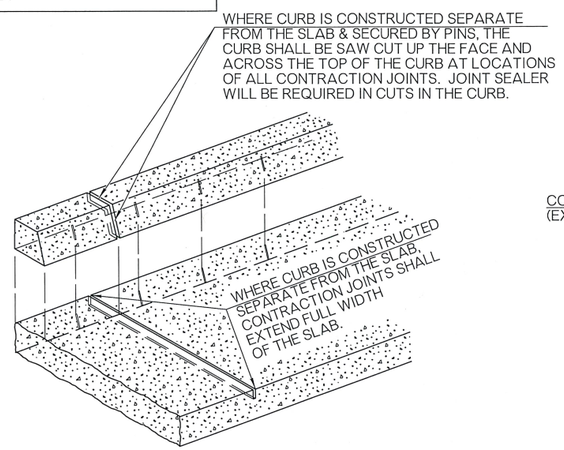
HOT POUR OPTION



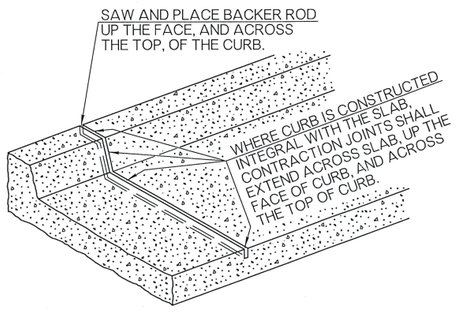
NO SEALANT OPTION

SAWED AND SEALED, CONTRACTION AND LONGITUDINAL JOINTS ALTERNATE DETAILS
UNLESS OTHERWISE SPECIFIED IN THE PLANS, ONLY THE SILICONE SEALANT OPTIONS WILL BE ALLOWED.

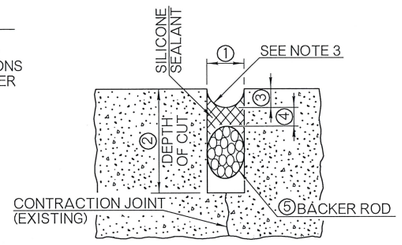
☐ NOTE: ON ALL SAWED JOINTS, THE KERF DEPTH SHALL CLEAR DOWEL BARS, TIE BARS AND/OR REINFORCING STEEL BY A MINIMUM OF 1/2".



CONTRACTION JOINT WITH
SEPARATE CURB

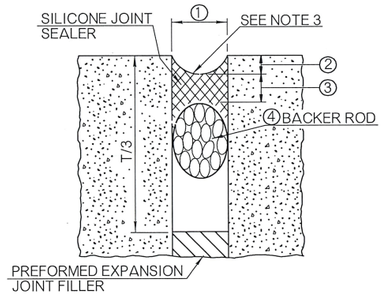


CONTRACTION JOINT WITH
INTEGRAL CURB



JOINT REHABILITATION DETAILS

JOINT REHABILITATION TREATMENT TABLE				
SILICONE SEALANT				
JOINT WIDTH ①	DEPTH OF CUT ②	SEALANT RECESS DEPTH ③	SEALANT THICKNESS ④	BACKER ROD DIAMETER ⑤
3/8"	1 1/4"	3/8"	3/16"	1/2"
1/2"	1 3/4"	3/8"	1/4"	5/8"
3/4"	1 3/4"	3/8"	3/8"	7/8"
7/8"	1 3/4"	1/2"	7/16"	1"
1"	2"	1/2"	1/2"	1 1/8"
OVER 1"	OVER 2"	1/2"	1/2"	1 1/4"



EXPANSION JOINTS / ISOLATION JOINTS
HOT POURED JOINT SEALANT MAY BE USED IN LIEU OF BACKER ROD AND SILICONE SEALANT, IF APPROVED BY THE ENGINEER

EXPANSION JOINT / ISOLATION JOINT TREATMENT TABLE			
JOINT WIDTH ①	SEALANT RECESS DEPTH ②	SILICONE SEALANT THICKNESS ③	BACKER ROD DIAMETER ④
1/2"	3/8"	1/4"	5/8"
3/4"	3/8"	3/8"	7/8"
1"	3/8"	1/2"	1 1/4"
1 1/2"	1/2"	3/4"	2"
2"	1/2"	3/4"	2 1/2"

EXPANSION OR ISOLATION JOINT WIDTH SHALL BE 1/2", UNLESS OTHERWISE SPECIFIED ON THE PLANS. TABLE VALUES, AS SHOWN IN THIS TABLE, SHALL BE USED IN THOSE SPECIFIED CASES.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL CONCRETE JOINT SEALING SHALL BE IN ACCORDANCE WITH SECTION 415 OF THE SPECIFICATIONS.
3. THE SHAPE FACTOR, COMBINED WITH THE JOINT CLEANLINESS, IS THE CRITICAL COMBINATION NECESSARY TO GUARANTEE DESIRED BONDING AND FUNCTION OF SEALED JOINTS. THE JOINT SHAPE FACTOR IS DEFINED AS THE FINAL PRESSED SHAPE OF THE SILICONE MATERIAL. THE TOOLING OPERATION WILL FIRMLY PRESS THE FRESHLY APPLIED MATERIAL INTIMATELY AGAINST THE CUT SIDES OF THE RECESS AND THE BACKER ROD SURFACES. THE ROUNDED SHAPE ON TOP AND BOTTOM OF THE SILICONE ALLOWS THE SEALANT TO PROPERLY FLEX BUT MAINTAIN ADHERENCE TO THE PAVING. SELF LEVELING SEALANTS WILL BE INSTALLED TO BE FLUSH WITH THE PAVEMENT SURFACE, OR BY MANUFACTURER'S RECOMMENDATION.
4. LONGITUDINAL JOINTS BETWEEN PAVEMENT AND TIED CONCRETE SHOULDERS SHALL NOT BE SAWED OR SEALED UNLESS OTHERWISE SHOWN ON THE PLANS.
5. CONTRACTION JOINTS IN JOINTED P. C. PAVEMENT SHALL BE AT APPROXIMATELY 15'-0" CENTERS, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
6. TRANSVERSE GROOVING SHALL BE CONSTRUCTED TO THE FOLLOWING DIMENSIONS: 1/8" TO 3/16" WIDE, 1/8" TO 3/16" DEEP, AND EQUALLY SPACED AT 1/2" TO 1" APART. GROOVES SHALL BE NEAT IN APPEARANCE, OF UNIFORM DEPTH, AND LOCATED 1" TO 3" FROM NEAREST CONTRACTION JOINTS.

APPROVED BY ROADWAY ENGINEER: Caitlin A DATE: 01/23/19

ROADWAY DESIGN DIVISION STANDARD

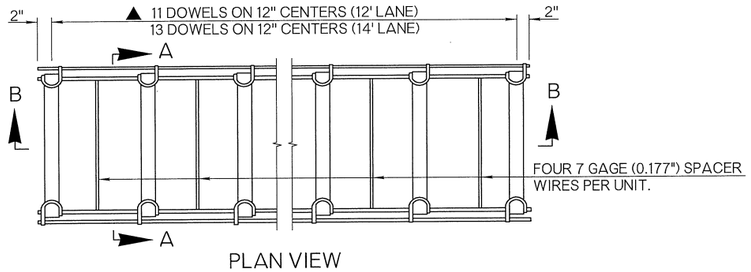
ODOT JOINTS AND SEALERS - LONGITUDINAL, EXPANSION / ISOLATION, & CONTRACTION

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

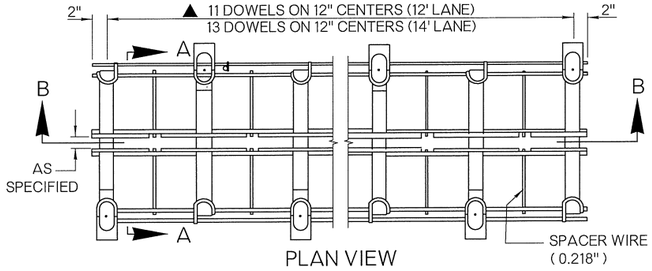
LECS-4	2

R-14

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



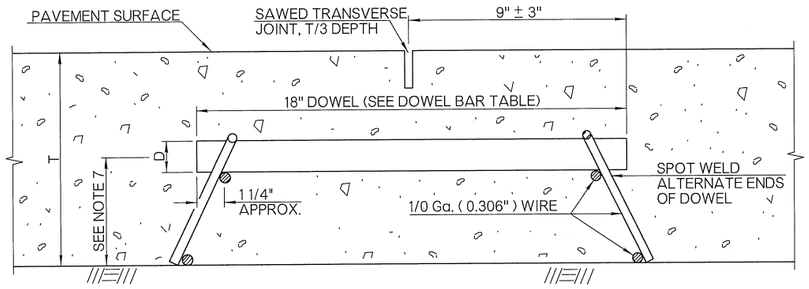
PLAN VIEW



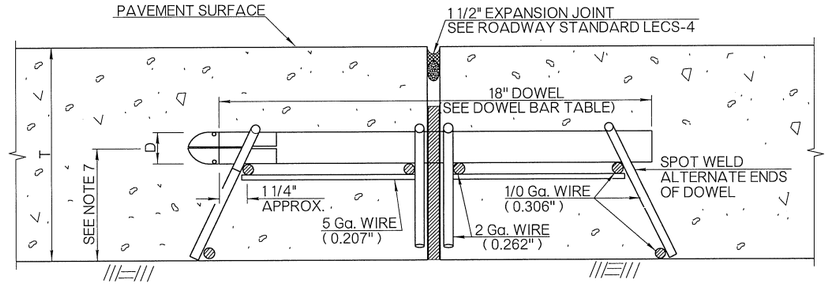
PLAN VIEW

DOWEL BAR TABLE			
▲ SPACING & SIZE DATA			
(T) SLAB DEPTH	DOWEL DIA.	TOTAL DOWEL LENGTH	C/C DOWEL SPACING
6" - 8"	1"	18"	12"
8 1/2" - 10"	1¼"	18"	12"
10 1/2" & UP	1½"	18"	12"

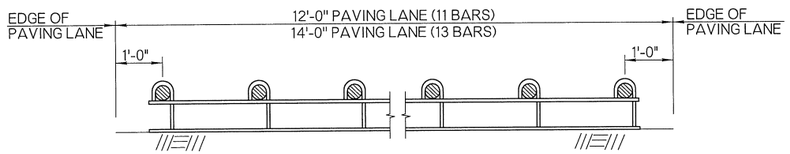
DOWEL DIAMETER WILL BE DETERMINED BY THE SLAB DEPTH (T) OR THE NOMINAL DEPTH WHEN SLAB DEPTH VARIES. WHEN NOMINAL DEPTH VALUE IS TO BE USED, THE CALCULATED NOMINAL DEPTH WILL BE SHOWN ON THE PLANS.



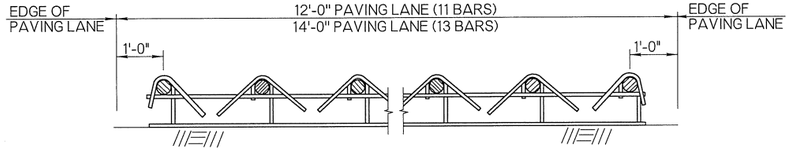
SECTION A - A



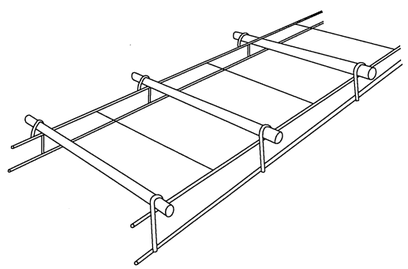
SECTION A - A



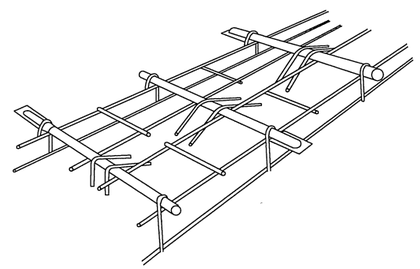
SECTION B - B



SECTION B - B



WELDED CONTRACTION JOINT ASSEMBLY



WELDED EXPANSION JOINT ASSEMBLY

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ANY DEVICE USED FOR SUPPORTING DOWELS SHALL HAVE SUFFICIENT RIGIDITY AND BE HELD IN PLACE DURING CONCRETE PLACEMENT SO THAT DOWELS WILL BE IN SPECIFIED POSITION IN THE FINISHED PAVEMENT. ANY DEVICE NOT PRODUCING THE SPECIFIED RESULTS SHALL BE REJECTED.
3. PRODUCER AND CONTRACTOR SHALL AVOID PATENT INFRINGEMENT OF THE BASKET AND SHALL SAVE THE STATE HARMLESS IN THE USE OF ANY BASKET.
4. THE CONTRACTOR MAY SELECT THE TYPE OF BASKET TO BE USED. AFTER THE SELECTION IS MADE, THE SAME TYPE BASKET SHALL BE USED THROUGHOUT THE PROJECT, UNLESS APPROVED OTHERWISE BY THE ENGINEER.
5. COLD-DRAWN STEEL WIRE, USED FOR DOWEL BASKETS, SHALL BE ACCEPTED BY VISUAL FIELD INSPECTION, AS PROVIDING SUFFICIENT DOWEL BAR SUPPORT DURING PAVING PROCESS.

▲ 6. DOWEL BARS SHALL BE GRADE 60 PLAIN BARS, IN ACCORDANCE WITH SECTION 723.01 OF THE SPECIFICATIONS. DOWEL BARS SHALL BE CENTERED ON THE BASKET REGARDLESS OF THE WIDTH OF THE BASKET OR THE LENGTH OF THE DOWEL BAR.

7. THE HEIGHT OF THE LOAD TRANSFER UNIT (MEASURED TO THE CENTER OF THE DOWEL BAR FROM THE PAVEMENT SURFACE) SHALL BE 1/2 THE THICKNESS OF THE PAVEMENT, PLUS OR MINUS 1/2 THE DIAMETER OF DOWEL BAR OF THE UNIT.
8. DOWEL BARS SHALL HAVE A SHOP APPLIED EPOXY COATING OVER THEIR ENTIRE LENGTH (ENDS EXCEPTED). ADDITIONALLY, DOWELS SHALL BE COMPLETELY COATED WITH A FORM RELEASE AGENT (OR APPROVED EQUIVALENT BOND BREAKER) APPLIED IN THE FIELD, IMMEDIATELY PRIOR TO PAVING. THE FORM RELEASE AGENT SHALL NOT BE ALLOWED TO EVAPORATE FROM THE BARS PRIOR TO PAVING.
9. FOR EXPANSION JOINTS, THE DOWEL BARS SHALL HAVE EXPANSION CAPS WITH A MINIMUM 1" AND A MAXIMUM 2" AIR SPACE IN THE END OF THE EXPANSION CAPS (EXPANSION JOINT ASSEMBLIES).
10. THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER A STAKING PATTERN THAT SHALL SECURE ALL DOWEL BASKETS SUCH THAT THE FINAL DOWEL POSITION IS WITHIN SPECIFICATION LIMITS.
11. FOR EXPANSION JOINTS, IN ADDITION TO THE SUPPORTS INDICATED, THE CONTRACTOR SHALL PROVIDE SUITABLE INSTALLING DEVICES AND SUCH ADDITIONAL STAKES AS MAY BE REQUIRED TO HOLD THE JOINT FILLER VERTICAL AND SECURELY IN LINE AND POSITION. THE CONTRACTOR WILL ALSO BE REQUIRED TO SATISFACTORILY FORM THE UPPER PORTION OF THE JOINT FOR RECEIVING THE SEAL. SEE ROADWAY STANDARD LECS-4.

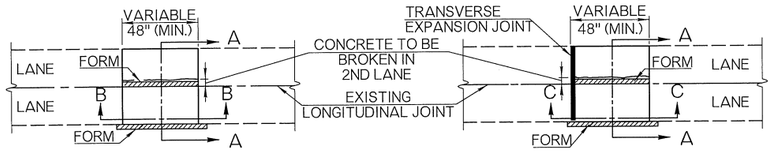
APPROVED BY ROADWAY ENGINEER: Caleb F. A DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

LOAD TRANSFER UNITS FOR CONCRETE PAVEMENT JOINTS

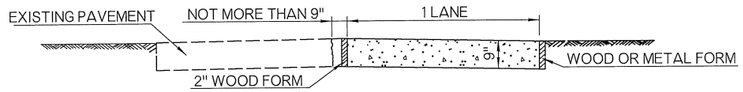
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

LTU-4	0

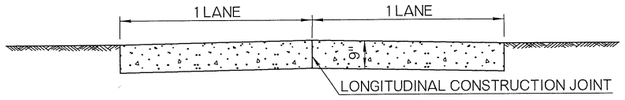


PLAN PATCH BETWEEN JOINTS

PLAN PATCH AT EXPANSION JOINT



SEC. A - A CONSTRUCTION OF FIRST LANE



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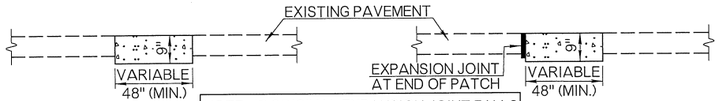
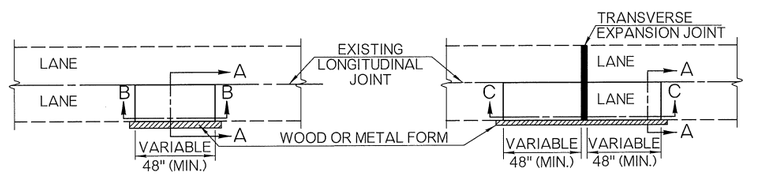


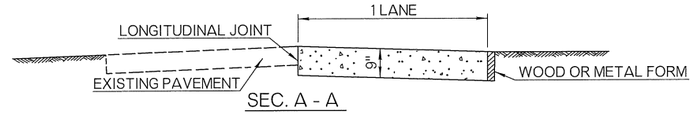
SEC. B-B SEC. C-C

MULTI LANE PATCH (CONSTRUCTED ONE LANE AT A TIME)

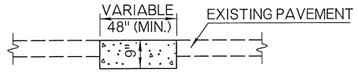


PLAN PATCH BETWEEN JOINTS

PLAN PATCH AT EXPANSION JOINT



SEC. A - A



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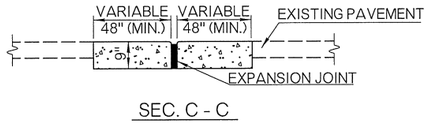
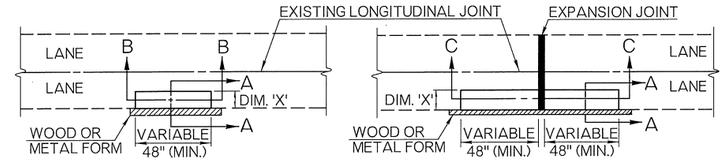


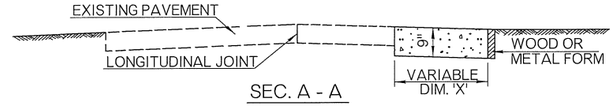
SEC. C - C

SINGLE LANE PATCH



PLAN PATCH BETWEEN JOINTS

PLAN PATCH AT EXPANSION JOINT



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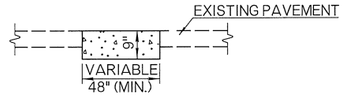

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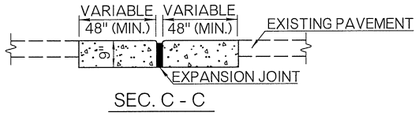
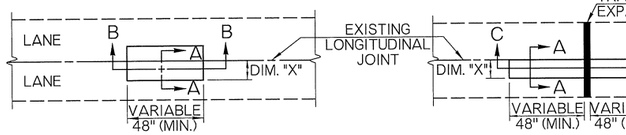


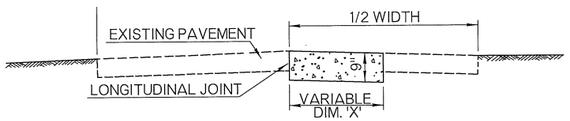
SEC. C - C

EXTERIOR EDGE PATCH



PLAN PATCH BETWEEN JOINTS

PLAN PATCH AT EXPANSION JOINTS



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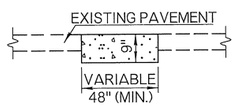

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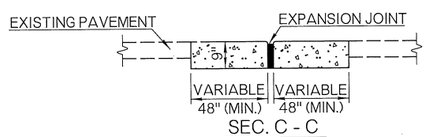
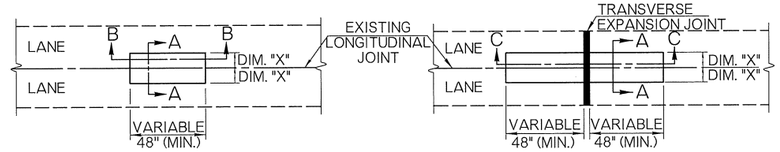


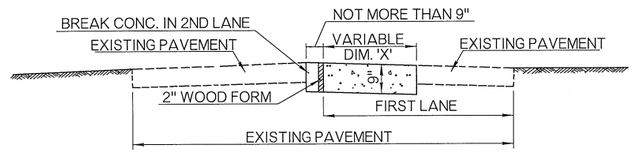
SEC. C - C

INTERIOR EDGE PATCH

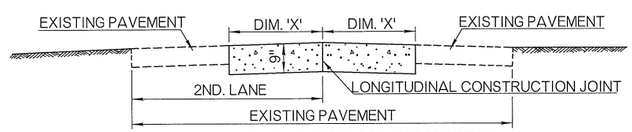


PLAN PATCH BETWEEN JOINTS

PLAN PATCH AT EXPANSION JOINT



SEC A-A CONSTRUCTION OF FIRST LANE



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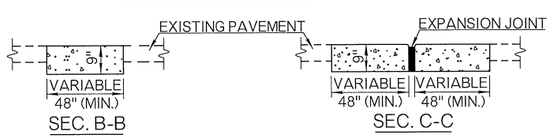


SEC. B-B SEC. C-C

RECTANGULAR PLUG PATCH

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE

GENERAL NOTES

1. CROWN OF PATCH TO MATCH CROWN OF EXISTING PAVEMENT.
2. EDGES OF PAVEMENT SLAB, OPEN JOINTS AND CONSTRUCTION JOINTS SHALL BE EDGED WITH AN EDGER HAVING A 1/2" RADIUS. JOINT ALONG A BROKEN EDGE OF THE EXISTING PAVEMENT SHALL NOT BE EDGED.
3. CONCRETE FOR PATCHES SHALL BE HIGH-EARLY-STRENGTH CONCRETE PAVEMENT MADE WITH THE USE OF HIGH-EARLY-STRENGTH PORTLAND CEMENT OR 25% ADDITIONAL STANDARD PORTLAND CEMENT. TRAFFIC SHALL NOT BE ALLOWED ON THE PATCH FOR THE FIRST 24 HOURS, OR FOR LONGER WHEN DIRECTED BY THE RESIDENT ENGINEER.
4. DIMENSION 'X' TO BE NOT LESS THAN 4 FEET, NOR SHALL IT EXCEED 5 FEET FOR 18 FOOT PAVEMENT OR EXCEED 6 FEET FOR 20 FOOT PAVEMENT. IF EITHER OF THESE LIMITS ARE EXCEEDED USE A HALF WIDTH PATCH.
5. PAVEMENT SECTION DEPTH TO BE SHOWN ON PLANS.
6. IN AREAS WHERE PATCHING IS REQUIRED, UNDERCUTTING AND BACK FILLING OF SUBGRADE SHALL BE DONE IN A MANNER APPROVED BY THE ENGINEER. BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 95% OF STANDARD DENSITY. COST OF UNDERCUTTING AND BACKFILLING TO BE INCLUDED IN OTHER ITEMS OF WORK.
7. FOR DETAILS OF JOINTS AND SEALERS, SEE ROADWAY STANDARD LECS-4.

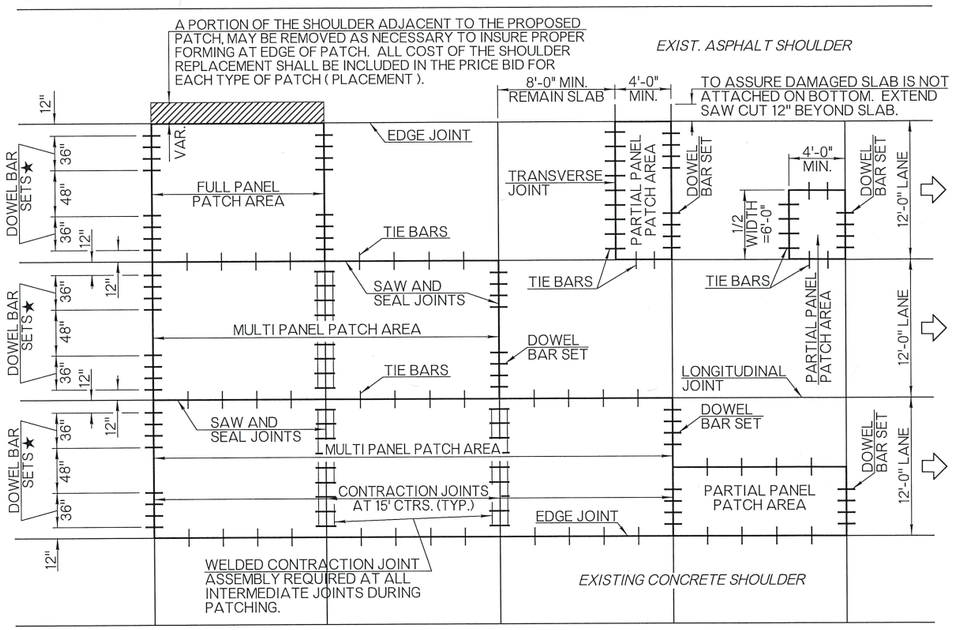
APPROVED BY
ROADWAY ENGINEER: Calista F. Ha DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

PAVEMENT RECONSTRUCTION DETAILS

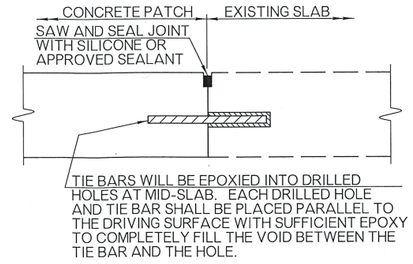
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

PR-3	0



★ DOWEL BAR SETS (FOUR BARS AT 12"CTRS.) SHALL BE USED AS SHOWN FOR ALL CONTRACTION JOINTS. IF PATCH EXTENDS IN BOTH DIRECTIONS, FROM A CONTRACTION JOINT, THEN APPROVED LOAD TRANSFER DEVICES MEETING THE REQUIREMENTS OF SECTION 414.04, AND AS SHOWN ON ROADWAY STANDARD LTU-4 SHALL BE USED IN LIEU OF DOWEL BAR SETS. IF PARTIAL PANEL PATCH IS GOING TO EXCEED 7' (FOR 15' JOINTED PAVEMENT) OR 15' (FOR 62' JOINTED PAVEMENT), THEN USE A FULL PANEL PATCH.

FULL DEPTH PATCHING DETAIL

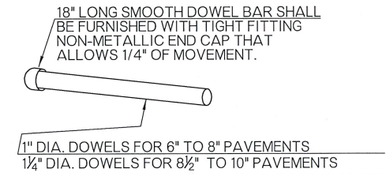


DETAIL OF TIE BAR JOINT

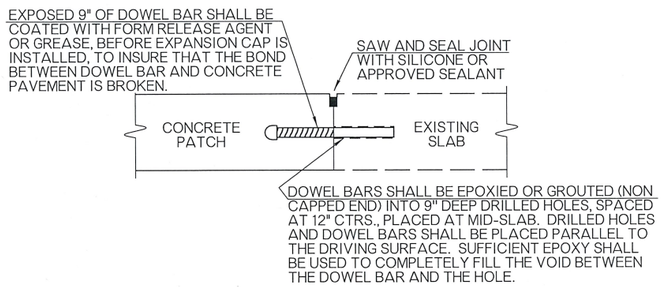
NOTE

LONGITUDINAL JOINT - TIE BARS - NO. 5 DEFORMED REINFORCING STEEL BARS, 2'-6" LONG, SHALL BE EPOXIED INTO 3/4" DIA. (MAX.) DRILLED HOLES AT 3'-0" CTRS. TIED LONGITUDINALLY. JOINT SHALL BE SAWED AND SEALED.

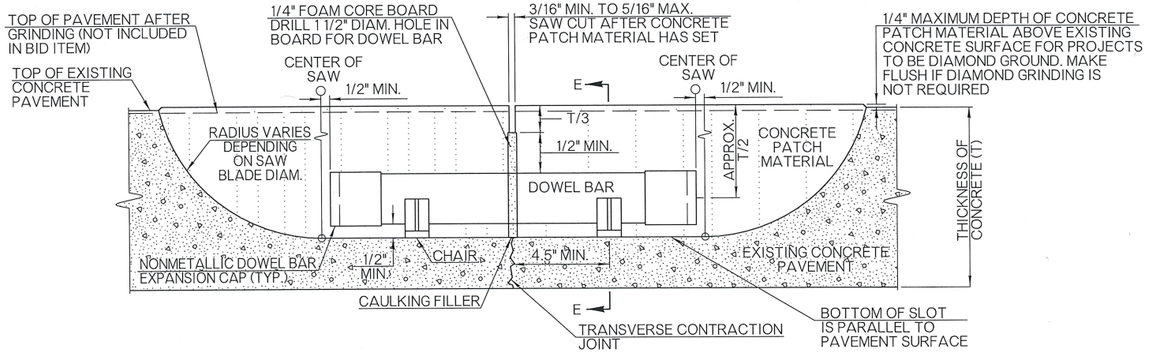
TRANSVERSE JOINT - TIE BARS - NO. 10 DEFORMED REINFORCING STEEL BARS, 1'-6" LONG, SHALL BE EPOXIED INTO 1 3/8" DIA. (MAX.) DRILLED HOLES AT 18" CTRS. FULL WIDTH, TRANSVERSE, TIED JOINTS SHALL NOT BE SAWED OR SEALED.



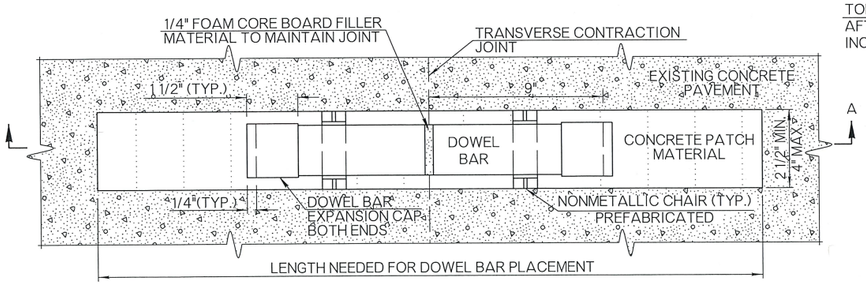
DETAIL OF DOWEL BAR WITH CAP



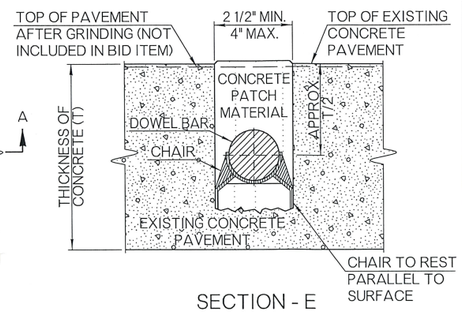
DETAIL OF DOWEL BAR AT CONSTRUCTION JOINT



SECTION - A
DOWEL BAR RETROFIT PLACEMENT DETAIL



PLAN VIEW
DOWEL BAR RETROFIT INSTALLATION



SECTION - E

BASE REPAIR AND PREPARATION

IN AREAS WHERE PATCHING IS REQUIRED, THE REMOVAL OF THE DAMAGED PAVEMENT SHALL BE PERFORMED IN A MANNER THAT WOULD MINIMIZE FURTHER DAMAGE TO THE UNDERLYING SUBBASE (S), SUBGRADE OR ADJACENT PAVEMENT(S). NO COMPENSATION WILL BE MADE TO CONTRACTOR FOR REPAIRING DAMAGE SUSTAINED DURING THE REMOVAL PROCESS.

COST OF ANY INCIDENTAL BASE REPAIR, LEVELING OR BACKFILLING, UP TO 2", WILL BE INCLUDED IN FULL DEPTH PCC PATCH (PLACEMENT) PAY ITEM. INCIDENTAL REPAIR, LEVELING AND BACKFILLING MATERIAL SHALL CONSIST OF SAME MATERIAL ENCOUNTERED, CRUSHED LIMESTONE OR BY THICKENING THE FULL DEPTH PATCH.

BASE REPAIR, LEVELING AND RELATED BACKFILLING OF SUBBASE (S) OR SUBGRADE IN EXCESS OF 2" SHALL BE PAID FOR AS UNCLASSIFIED EXCAVATION WITH QUANTITIES COMPUTED FROM BOTTOM OF SLAB DOWNWARD TO LIMITS OF REMOVAL.

GENERAL SEQUENCE OF PAVEMENT REPAIR

STEP 1 CONCRETE PATCHING

(1) AREAS TO BE PATCHED WILL BE DESIGNATED BY THE ENGINEER

(2) FOR REMOVAL OF FULL DEPTH PATCHES, SAWING IS TO BE FULL DEPTH. LIFT OUT DAMAGED PAVEMENT WHENEVER PRACTICAL.

(3) THE FLOW OF TRAFFIC MAY BE RESTRICTED TO ONE LANE DUE TO PATCHING OPERATION FOR A MAXIMUM DISTANCE OF ONE MILE.

STEP 2 DOWEL BAR RETROFIT INSTALLATION

(1) INSTALL DOWEL BARS AS SHOWN. BAR PLACEMENT SHALL CONSIST OF 3 BARS PER WHEEL PATH, PLACED 12" TO 15" APART, AND 18" FROM EDGE OF DRIVING LANE.

(2) DOWEL BARS SHALL NOT BE PLACED ON TOP OF A LONGITUDINAL CRACK.

(3) PAYMENT FOR 'DOWEL BAR RETROFIT' SHALL ONLY BE MADE FOR DOWELS PLACED BY THE PROCESS OF CUTTING A SLOT.

(4) IF SLOTS ARE SAWED BUT NOT RETROFITTED WITH A BAR, THE SAW CUTS SHALL BE CLEANED AND SEALED WITH AN EPOXY RESIN.

STEP 3 DIAMOND GRINDING CONCRETE PAVEMENT

(1) AFTER SLAB STABILIZATION AND/OR DOWEL BAR RETROFIT INSTALLATION, & APPROPRIATE CURE TIME HAS BEEN DETERMINED, GRINDING OPERATIONS MAY BEGIN.

STEP 4 CONCRETE JOINT SEALING

(1) CUT SHALL BEGIN AT THE LOW EDGE OF THE DRIVING LANES AND MOVE TOWARD THE INITIAL JOINT.

(2) INSTALLATION OF BOND BREAKER AND SILICONE JOINT SEALANT SHALL BE FROM THE END OF THE INITIAL JOINT TO THE LOW EDGE OF THE DRIVING LANES.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. COST OF SAWING AND REMOVAL OF PAVEMENT FOR FULL DEPTH PATCHING, COST OF DOWEL BARS, TIE BARS AND ANY/ALL INCIDENTALS REQUIRED FOR INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR FULL DEPTH PCC PATCH (PLACEMENT), UNLESS OTHERWISE SHOWN ON THE PLANS.
3. HIGH EARLY STRENGTH (HE) CONCRETE, WHEN USED FOR FULL DEPTH PATCHING, WILL BE PAID FOR AS PC CONCRETE FOR PAVEMENT.
4. BID ITEM FOR CONCRETE JOINT SEALING (JOINT REHABILITATION) WILL INCLUDE SAWING, CLEANING OF JOINT, BACKER ROD, SILICONE SEALANT AND ANY/ALL INCIDENTALS REQUIRED TO COMPLETE THE WORK.
5. FOR SKEWED TRANSVERSE JOINTS, DOWEL BARS SHALL ALWAYS BE PLACED PARALLEL TO THE ROADWAY.
6. HOLES ARE TO BE DRILLED IN DIAMETER BASED ON DOWEL BAR SIZE AND TYPE OF GLUE USED:
   - FOR EPOXY, HOLE DIAMETER SHALL BE DOWEL DIA. + (2 x 1/8")
   - FOR CEMENT GROUT, HOLE DIAMETER SHALL BE DOWEL DIA. + (2 x 1/4")

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
202 (A)	UNCLASSIFIED EXCAVATION	CY
414 (E)	FULL DEPTH P. C. C. PATCH (PLACEMENT)	SY
414 (G)	P. C. CONCRETE FOR PAVEMENT	CY
415	CONCRETE JOINT SEALING	LF
416	DOWEL BAR RETROFIT	EA
425	DIAMOND GRINDING CONCRETE PAVEMENT	SY

APPROVED BY ROADWAY ENGINEER: _____ DATE: 01/23/19

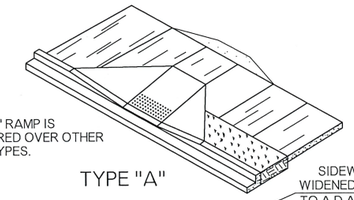
ROADWAY DESIGN DIVISION STANDARD

PORTLAND CEMENT CONCRETE PAVEMENT REPAIR

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

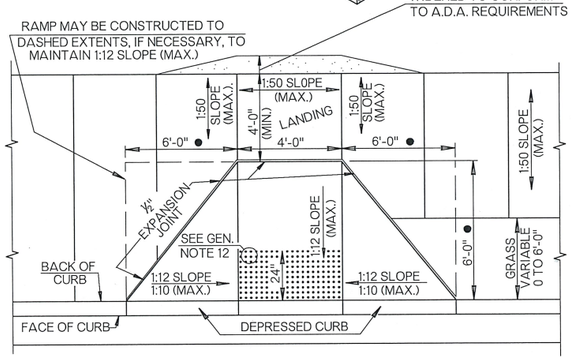
PCPR-3 | 2

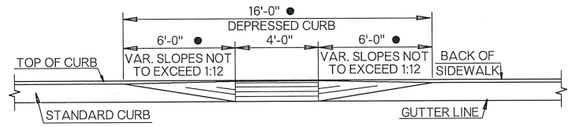
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



TYPE "A" RAMP IS PREFERRED OVER OTHER RAMP TYPES.

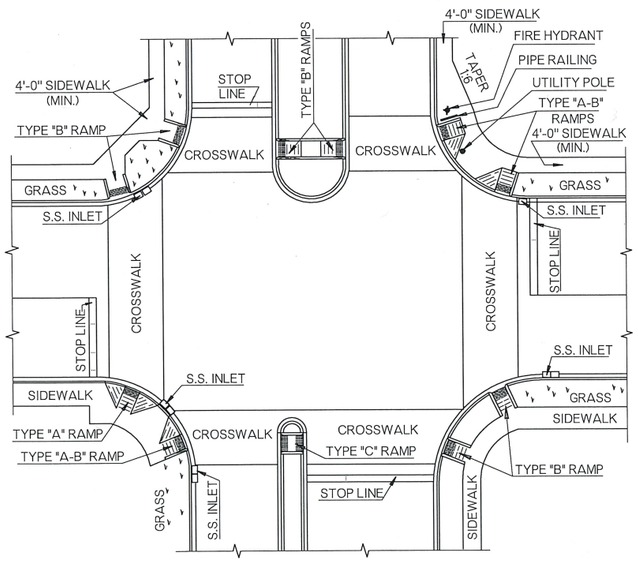
TYPE "A"



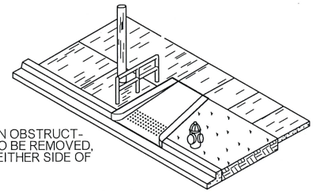


ELEVATION

● RAMP DIMENSIONS SHOWN ARE BASED ON A CURB HEIGHT OF SIX INCHES. THE DIMENSIONS SHOULD BE ADJUSTED FOR OTHER CURB HEIGHTS. THE MAXIMUM PERMISSIBLE SLOPES OF THE WHEELCHAIR RAMPS IS 8.33% (1:12). RAMP SLOPE MAY BE 1:10 (MAXIMUM) ALONG FACE OF TAPERED CURB.

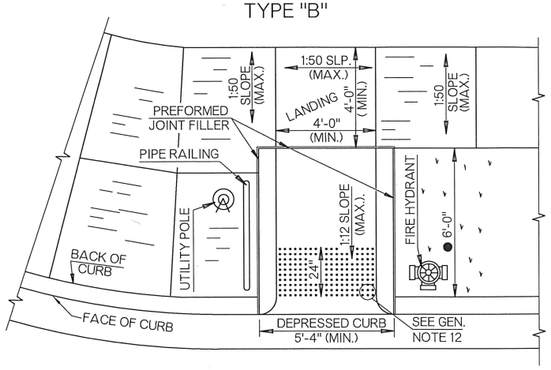


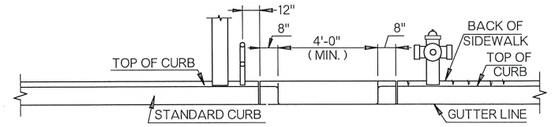
THE ABOVE EXAMPLES ARE TYPICAL ONLY AND ARE SHOWN TO ILLUSTRATE POSSIBLE RAMP TYPES, POSSIBLE RAMP LOCATIONS, POSSIBLE INLET LOCATIONS, AND HOW THE RAMP WILL BE DESIGNATED ON THE PLANS. CARE SHOULD BE EXERCISED TO ASSURE THAT MEDIAN RAMP AND CURB RAMP LINE UP AND THAT RAMPS THROUGHOUT A PROJECT ARE LOCATED WITH SOME DEGREE OF UNIFORMITY.



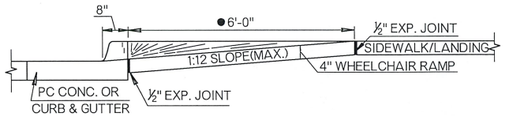
USE TYPE "B" RAMP WHEN OBSTRUCTIONS, WHICH ARE NOT TO BE REMOVED, ARE ENCOUNTERED ON EITHER SIDE OF WHEELCHAIR RAMPS.

TYPE "B"

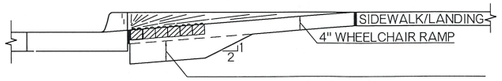




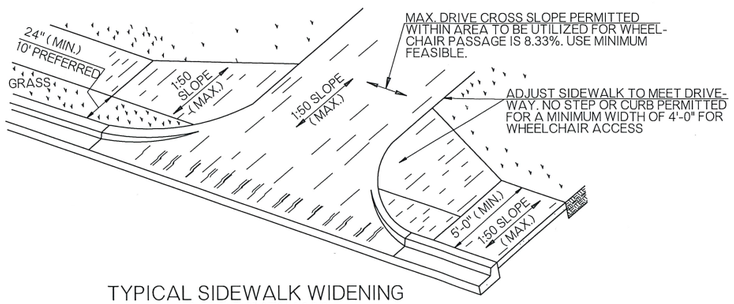
ELEVATION



WHEELCHAIR RAMP PROFILES
(TYPE A OR B)



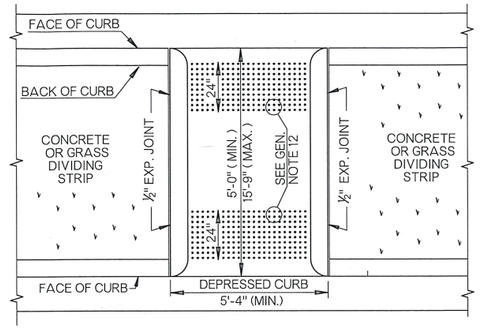
SIDEWALK THICKENING FOR TYPE A TACTILE WARNING DEVICES

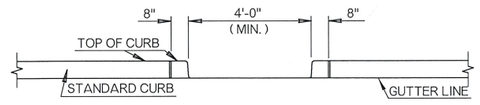


TYPICAL SIDEWALK WIDENING AT DRIVEWAY

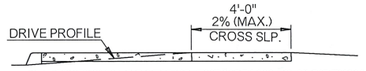
USE TYPE "C" RAMP TO CROSS 15'-9" OR LESS MEDIANS. FOR MEDIANS GREATER THAN 15'-9", USE SIDEWALK WITH TWO TYPE "B" RAMPS.

TYPE "C"

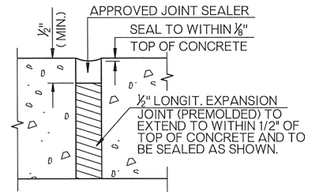




ELEVATION



AT DRIVEWAY LOCATIONS, THE NORMAL 4'-0" SIDEWALK MUST BE WIDENED SO THAT A 4' PORTION OF SIDEWALK IS ALIGNED WITH SIDEWALK CROSSING SHELF IN THE DRIVEWAY PROFILE. A WIDER SIDEWALK (5'-0" TYP.) SHALL ALSO BE USED AT INTERVALS LESS THAN 200 FEET, TO ASSURE WHEELCHAIR PASSAGE.

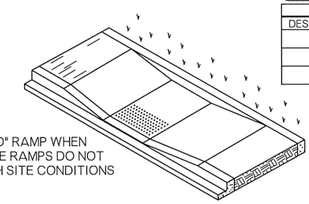


1/2" EXPANSION JOINT

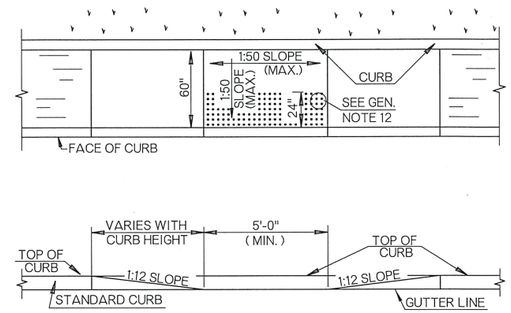
JOINT FILLER SHALL MEET THE REQUIREMENTS OF SECTION 701.08 OF THE SPECIFICATIONS.

JOINT FILLER SHALL BE USED BETWEEN SIDEWALK AND CURBS, WHEELCHAIR RAMPS, DRIVEWAYS, STREETS, RETAINING WALLS, ETC.

USE TYPE "D" RAMP WHEN OTHER TYPE RAMPS DO NOT WORK WITH SITE CONDITIONS



TYPE "D"



ELEVATION

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. THERE WILL BE NO DEDUCTION OF PAYMENT FOR CONCRETE CURB & GUTTER AND/OR INTEGRAL CURB FOR THE LENGTH OF THE DEPRESSED CURB.
3. DRAINAGE STRUCTURES SHALL NOT BE PLACED IN LINE WITH THE RAMPS.
4. THE NORMAL GUTTER LINE PROFILE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP WITH A 1:50 SLOPE (MAX.), SEE GENERAL NOTE NO. 9.
5. WHEELCHAIR RAMPS SHOULD BE LOCATED SO THAT THE RAMP WILL BE ON THE TRAFFIC APPROACH SIDE OF ANY OBSTACLE.
6. WHEELCHAIR RAMPS SHOULD BE BUILT AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE TYPE OF RAMP WILL BE DESIGNATED ON THE PLANS. IF A RAMP IS TO BE CONSTRUCTED AS A COMBINATION OF TWO TYPES, (ONE SIDE TYPE "A" AND ONE SIDE TYPE "B") THE RAMP SHALL BE DESIGNATED AS TYPE "A-B."
7. PIPE RAILING CONSTRUCTION DETAILS, WHEN REQUIRED AT TYPE "B" WHEELCHAIR RAMPS, WILL BE SHOWN ON THE PLANS.
8. EXCAVATION, BACKFILL, EXPANSION JOINT MATERIAL, SEALERS, AND OTHER RELATED MISCELLANEOUS ITEMS WILL NOT BE PAID FOR SEPARATELY BUT THE COST THEREOF SHALL BE INCLUDED IN THE COST OF THE SIDEWALK.
9. ALL FEATURES OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, CURB RAMPS AND CROSSWALK MARKINGS SHALL COMPLY WITH THE PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG). WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THE PROWAG, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURE(S). THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK WHICH IS NOT IN FULL COMPLIANCE WITH THE PROWAG WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE PROWAG, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
10. ALL WHEELCHAIR RAMP CURBS SHALL BE INCLUDED IN COST OF SIDEWALK.
11. FOR DETAILS OF TACTILE WARNING DEVICES, SEE THE CURRENT VERSION OF ROADWAY STANDARD TWD-1.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
610 (A)	■CONCRETE SIDEWALK	SY
622 (A)	PIPE RAILING	LF

■ SIDEWALK THICKNESS SHALL BE SPECIFIED IN INCHES.

APPROVED BY ROADWAY ENGINEER Caleb F A DATE 01/23/19

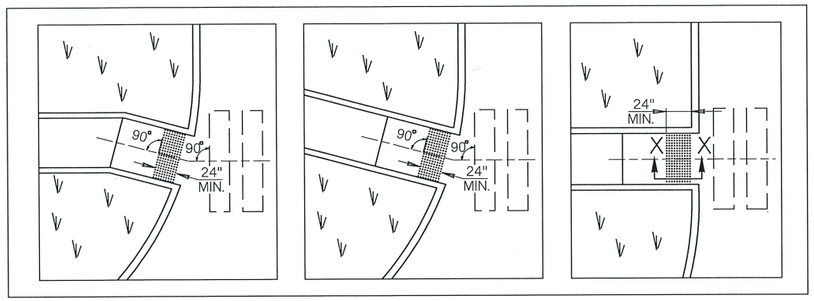
ROADWAY DESIGN DIVISION STANDARD

WHEELCHAIR RAMPS

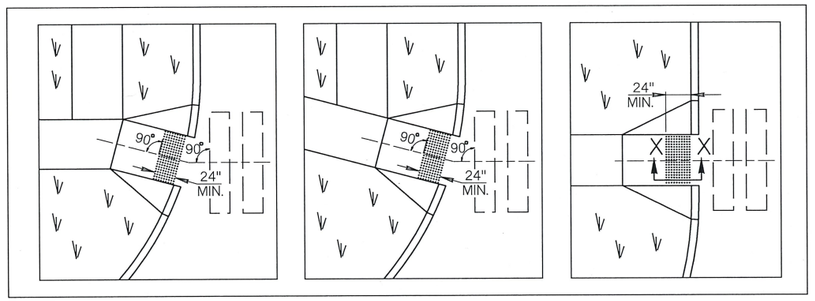
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

WCR-3	2

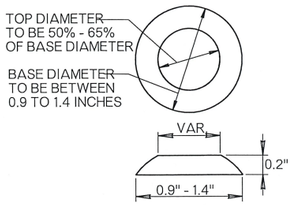
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



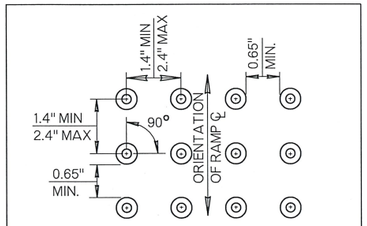
TACTILE SYSTEM ORIENTATION - TYPICAL CURBED RAMPS



TACTILE SYSTEM ORIENTATION - TYPICAL FLARED RAMPS



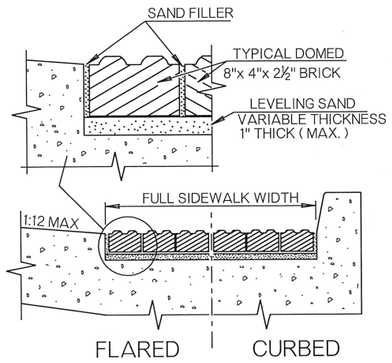
TACTILE MARKERS
TRUNCATED DOMES



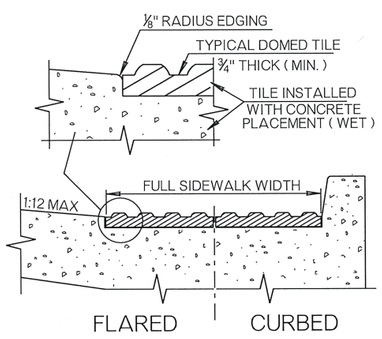
90° GRID DOME PATTERN
(SEE GENERAL NOTE NUMBER 15 & 16.)

GENERAL NOTES

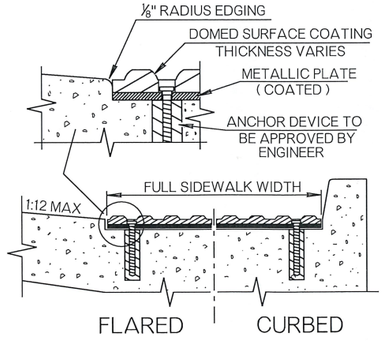
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL FEATURES OF TACTILE WARNING DEVICE DESIGN AND FINAL INSTALLATION SHALL COMPLY WITH THE PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG). WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THE PROWAG, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURE(S). THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK WHICH IS NOT IN FULL COMPLIANCE WITH THE PROWAG WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE PROWAG, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
3. TACTILE WARNING SURFACE SHALL EXTEND FROM EDGE TO EDGE OF WALKWAY ENTERING THE CROSSWALK, AT STREET LEVEL.
4. CURB IS NOT SHOWN IN THE SECTION X-X DETAIL ON THIS SHEET.
5. THICKNESS 'T' OF PAVEMENT ABUTTING SIDEWALK/RAMP VARIES.
6. SIDEWALK, RAMP AND FLARE THICKNESS SHALL BE 4" MINIMUM THICKNESS AFTER INSTALLATION OF TACTILE WARNING TREATMENT.
7. TRUNCATED DOME SURFACE SHALL CONTRAST VISUALLY WITH THE ADJOINING WALKING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE TRUNCATED SURFACE.
8. LEVELING SAND FOR DOMED BRICK SYSTEMS SHALL MEET THE REQUIREMENTS OF SECTION 703.06B(2) OF THE SPECIFICATIONS.
9. SURFACE BONDED TACTILE SYSTEMS MAY ONLY BE PLACED ON NEWLY POURED CONCRETE AFTER AN APPROPRIATE PERIOD OF CURING, IN ACCORDANCE WITH MANUFACTURE'S SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.
10. ROWS OF TACTILE DOME TREATMENT SHOULD BE ORIENTED PARALLEL WITH CENTERLINE OF SIDEWALK/RAMP OR TOWARD THE CENTERLINE OF MARKED CROSSWALK.
11. EXPANSION JOINTS DEEMED NECESSARY, BUT NOT SHOWN ON THE PLANS, MAY BE ADDED AND PLACED DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER.
12. TACTILE SYSTEMS, DOME PATTERNS OR FEATURES DIFFERING FROM THOSE SHOWN ON THIS DETAIL, BUT MEETING CURRENT PROWAG SPECIFICATIONS, SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER BEFORE INSTALLATION.
13. THE SAME TACTILE DOME PATTERN AND COLOR SHALL BE USED THROUGHOUT ANY NEW OR RETROFIT PROJECT. DOME PATTERN & LOCATION OF EXISTING RAMPS TO BE RETROFIT WITH TACTILE DEVICES SHALL BE DESIGNATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
14. RETROFIT INSTALLATIONS WILL NOT REQUIRE REPLACING EXISTING DEPRESSED CURBING. A NOMINAL 6 TO 8 INCH SETBACK FROM FACE OF CURB SHALL BE ENFORCED FOR NEAR EDGE OF TACTILE DOMES.
15. TYPES A & B TACTILE SYSTEMS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 10,000 PSI. TYPES C & D SYSTEMS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI. COMPRESSIVE TESTS MEET ASTM D695.
16. TACTILE WARNING SURFACES MAY NOT BE STAMPED IN WET CONCRETE.



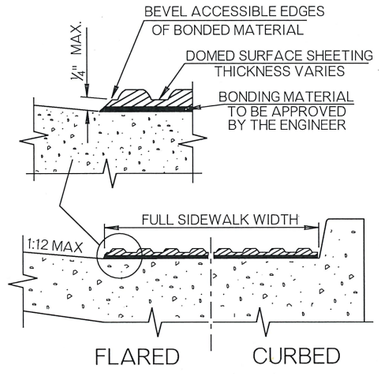
SECTION A - A



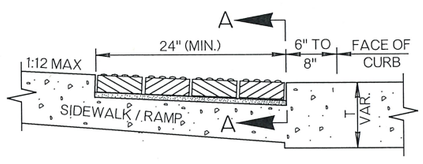
SECTION B - B



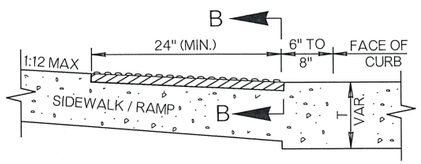
SECTION C - C



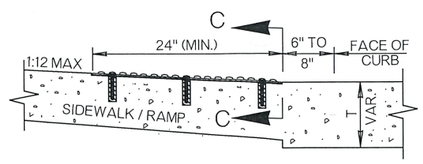
SECTION D - D



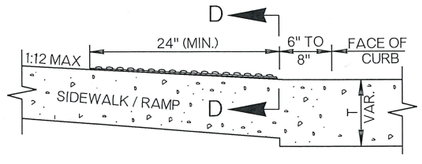
SECTION X - X
TYPE A
DOMED BRICK SYSTEM



SECTION X - X
TYPE B
DOMED TILE SYSTEM
(WET SET INLAY)



SECTION X - X
TYPE C
DOME COATED PLATE SYSTEM
(TYPICAL RETROFIT)



SECTION X - X
TYPE D
SURFACE BONDED DOMED SYSTEM
(TYPICAL RETROFIT)

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
610 (I)	TACTILE WARNING DEVICE - NEW	SF
610 (I)	TACTILE WARNING DEVICE - RETROFIT	SF

NOTE: TYPE A OR B TACTILE WARNING DEVICE SHALL BE SPECIFIED ON THE PLANS FOR NEW CONSTRUCTION & TYPE C OR D SHALL BE SPECIFIED ON THE PLANS FOR RETROFIT CONSTRUCTION.

APPROVED BY ROADWAY ENGINEER Caleb A ____ DATE: 01/23/19

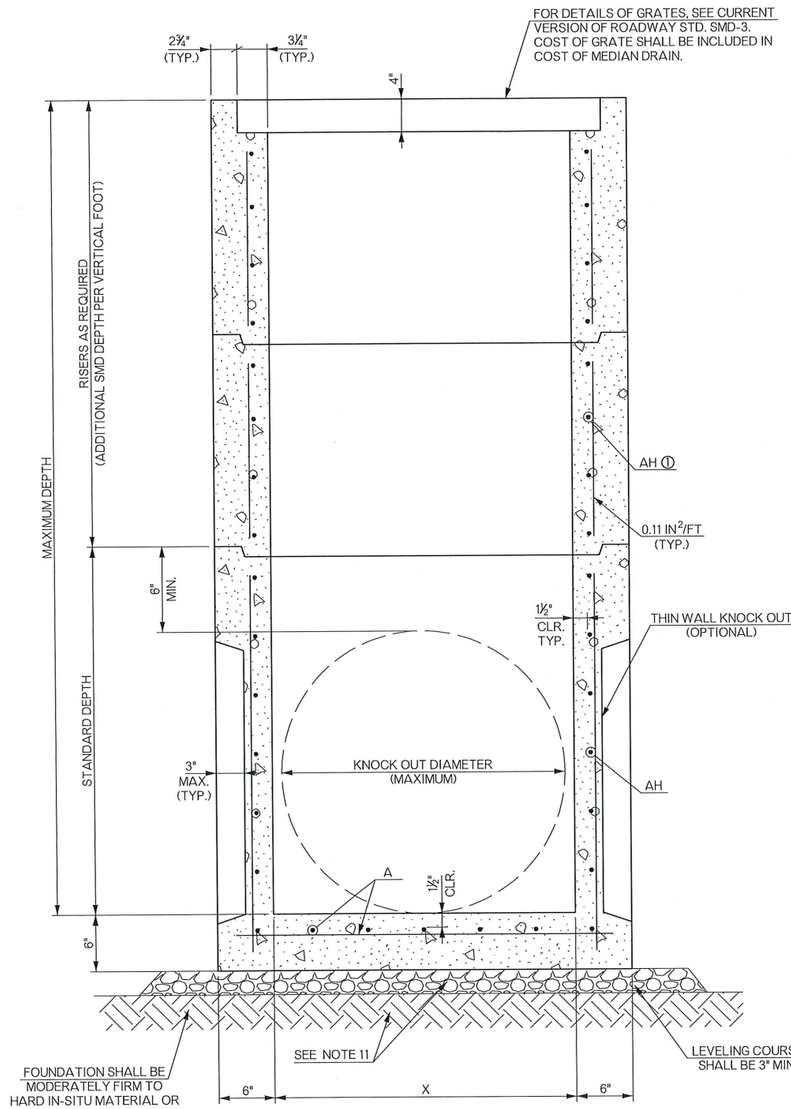
ROADWAY DESIGN DIVISION STANDARD

TACTILE WARNING DEVICES

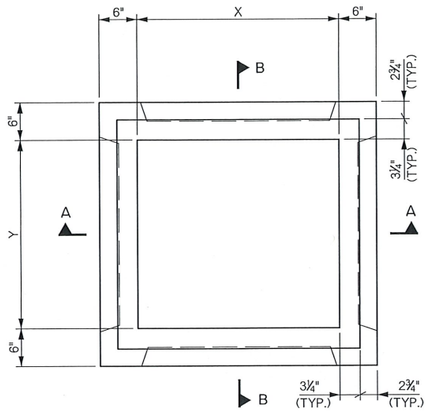
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

TWD-1	1

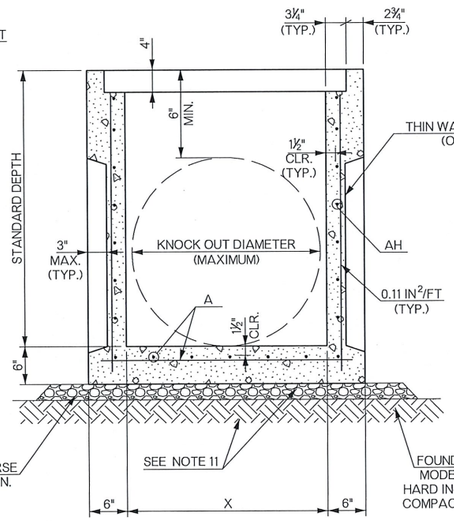
R-23



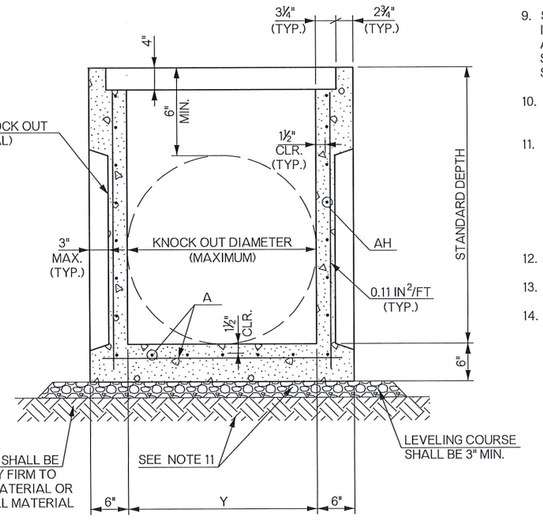
SECTION A-A
RISER OPTION



PLAN



SECTION A-A
STANDARD DEPTH INLET



SECTION B-B
STANDARD DEPTH INLET

DESIGN DATA

MATERIAL:

CLASS A CONCRETE f'c = 4 KSI
REINFORCING STEEL fy = 60 KSI

LOADING:

HL-93

DESIGN:

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION
ASTM C890
ASTM C913

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. STANDARD DEPTH IS AS SHOWN. COST OF ALL MATERIALS FOR ADDITIONAL DEPTH SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET. INLET ADDITIONAL DEPTH DATA SHALL BE NOTED ON THE PLANS.
3. THERE SHALL BE A MINIMUM VERTICAL DISTANCE OF 6" BETWEEN OPENINGS AND THE TOP EDGE.
4. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE GRADE 60 REINFORCING STEEL CONFORMING TO ASTM A615 OR EQUIVALENT AREA OF WELDED WIRE REINFORCING CONFORMING TO ASTM A1064.
6. PROVIDE A MINIMUM CLEAR COVER OF 1½" TO REINFORCING STEEL.
7. WALLS OR SLABS WITH A THICKNESS OF 8" OR GREATER REQUIRE A SECONDARY LAYER OF REINFORCING STEEL. PROVIDE AN AREA OF STEEL EQUAL TO 0.11 IN^2/FT EACH WAY.
8. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON BOTH SHOULDERS. MINIMUM SPIGOT DEPTH IS ¾".
9. SEAL TONGUE AND GROOVE JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS MAY BE GROUTED NO MORE THAN 1" BETWEEN EACH SECTIONS OR ½ THE JOINT DEPTH, WHICHEVER IS GREATER. JOINT SEALING SHALL BE INCLUDED IN COST OF STRUCTURE.
10. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT THE MANUFACTURER'S RECOMMENDATIONS.
11. THE FOUNDATION SHALL BE STABILIZED OR REMOVED AND REPLACED WITH FIRM AND STABLE FOUNDATION MATERIAL. A MINIMUM 3" THICK LEVELING COURSE SHALL BE PROVIDED BELOW THE BASE AREA OF THE INLET AND EXTEND 6" BEYOND THE BASE AREA. THE LEVELING COURSE SHALL BE CONSTRUCTED WITH AGGREGATE BASE TYPE A. COSTS ASSOCIATED WITH THE FOUNDATION AND LEVELING COURSES SHALL BE INCLUDED IN THE PRICE BID OF THE STRUCTURE.
12. THIN WALL KNOCKOUTS MAY BE CAST AT THE MANUFACTURER'S DISCRETION.
13. REFER TO PROJECT PLAN SHEETS FOR NUMBER, LOCATION, AND SIZE OF PIPE.
14. FLEXURAL REINFORCING STEEL SHALL NOT EXCEED SPACING OF 6" CENTER TO CENTER.

SCHEDULE OF DIMENSIONS AND REINFORCING STEEL

PIPE DIAMETER	STANDARD DEPTH	TYPE OF GRATE	KNOCK OUT DIAMETER	X	Y	A BARS (IN^2/FT) DEPTH			AH BARS (IN^2/FT) ① DEPTH									
						≤5'	≤10'	≤15'	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'
18" & 24"	3'-2"	TYPE 1 OR 2	2'-6"	2'-8"	2'-6"	0.17	0.21	0.26	0.12	0.12	0.12	0.13	0.14	0.15	0.17	0.18	0.20	0.21	0.23	0.24
30"	4'-3"	TYPE 2B	3'-8"	3'-8"	3'-8"	0.20	0.27	0.34	0.19	0.22	0.25	0.28	0.31	0.35	0.38	0.41	0.45	0.48	0.52	0.55

① SECTIONS WITHOUT A THIN WALL KNOCK OUT AND A MINIMUM THICKNESS OF 6" MAY USE AN AREA OF REINFORCING STEEL EQUAL TO 0.13 IN^2/FT

REINFORCING STEEL VALUES LISTED IN "SCHEDULE OF DIMENSIONS AND REINFORCING STEEL" ARE MINIMUM VALUES. STRUCTURES THAT PROVIDE VALUES LARGER THAN THOSE SHOWN WILL BE CONSIDERED ACCEPTABLE.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
611(G)	PRECAST INLET (SMD - TYPE 1)	EA.
611(G)	PRECAST INLET (SMD - TYPE 2)	EA.
611(G)	PRECAST INLET (SMD - TYPE 2B)	EA.

APPROVED BY ROADWAY ENGINEER: _____ DATE 03/05/19

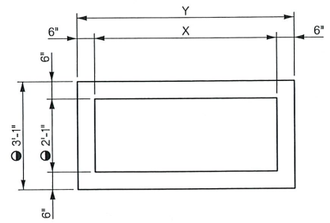
ROADWAY STANDARD

PRECAST STANDARD MEDIAN DRAIN

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

PSMD-1 | 0

R-24



PLAN VIEW - STANDARD CURB INLET

CURB INLET SCHEDULE

DESIGNATION	STRUCTURE LENGTH		
	DESIGN 1	DESIGN 2	DESIGN 3
STD.	3'-7"	6'-2"	11'-6"
A	6'-3"	8'-10"	14'-2"
B	8'-11"	11'-6"	16'-10"
C	11'-7"	14'-2"	19'-6"
D	14'-4"	16'-11"	22'-3"
2A	8'-11"	11'-6"	16'-10"
A-B	11'-7"	14'-2"	19'-6"
A-C	14'-3"	16'-10"	22'-2"
2B	14'-3"	16'-10"	22'-2"
B-C	16'-11"	19'-6"	24'-10"
2C	19'-7"	22'-2"	27'-6"
B-D	19'-8"	22'-3"	27'-7"
2D	25'-1"	27'-8"	33'-0"

CURB INLET ADDITIONAL OPENINGS

CURB OPENING DESIGNATION	THROAT SECTION LENGTH
A	2'-8"
B	5'-4"
C	8'-0"
D	10'-9"

① STANDARD DEPTH
2'-9" FOR 18" DIA. PIPE
3'-4" FOR 24" DIA. PIPE
4'-0" FOR 30" DIA. PIPE
4'-6" FOR 36" DIA. PIPE

DESIGN DATA

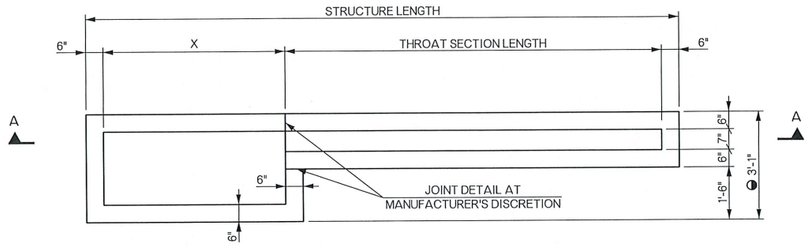
MATERIAL:
CLASS A CONCRETE f'c = 4 KSI
REINFORCING STEEL fy = 60 KSI

LOADING:
HL-93

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION
ASTM C890
ASTM C913

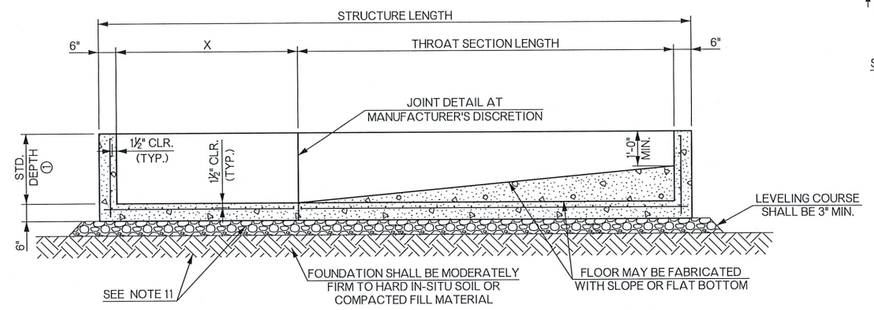
GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. FOR DETAILS OF FRAMES, GRATES AND HOODS SEE ROADWAY STANDARDS SSIF-4, CIG-3 AND CI-1. COST OF FRAMES, GRATES AND HOODS SHALL BE INCLUDED IN THE COST OF THE STRUCTURE.
3. THERE SHALL BE A MINIMUM VERTICAL DISTANCE OF 6" BETWEEN AN OPENING AND ANY EDGE.
4. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE GRADE 60 REINFORCING STEEL CONFORMING TO ASTM A615 OR EQUIVALENT AREA OF WELDED WIRE REINFORCING CONFORMING TO ASTM A1064.
6. PROVIDE A MINIMUM CLEAR COVER OF 1½" TO REINFORCING STEEL.
7. WALLS OR SLABS WITH A THICKNESS OF 8" OR GREATER REQUIRE A SECONDARY LAYER OF REINFORCING STEEL. PROVIDE AN AREA OF REINFORCING STEEL EQUAL TO 0.11 IN^2/FT EACH WAY IN THE SECONDARY LAYER.
8. BLOCKOUTS IN WALLS MAY BE FORMED FOR GRATE SUPPORT BEAMS. THE SUPPORT BEAM SHALL BE OF SIZE S4x7.7 OR AS DESCRIBED ON ROADWAY STANDARD SSIF-4.
9. MAXIMUM OPENING DIAMETER SHALL BE 4" LARGER THAN OUTSIDE DIAMETER OF PIPE.
10. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT THE MANUFACTURER'S RECOMMENDATIONS.
11. THE FOUNDATION SHALL BE STABILIZED OR REMOVED AND REPLACED WITH FIRM AND STABLE FOUNDATION MATERIAL. A MINIMUM 3" THICK LEVELING COURSE SHALL BE PROVIDED BELOW THE BASE AREA OF THE INLET AND EXTEND 6" BEYOND THE BASE AREA. THE LEVELING COURSE SHALL BE CONSTRUCTED WITH AGGREGATE BASE TYPE A. COSTS ASSOCIATED WITH THE FOUNDATION AND LEVELING COURSE SHALL BE INCLUDED IN THE PRICE BID OF THE STRUCTURE.
12. WALLS AND SLABS WILL HAVE A MINIMUM THICKNESS OF 6". A TOLERANCE OF ±3/8" WILL BE ALLOWED FOR FABRICATION.
13. FLEXURAL REINFORCING STEEL SHALL NOT EXCEED SPACING OF 6" CENTER TO CENTER

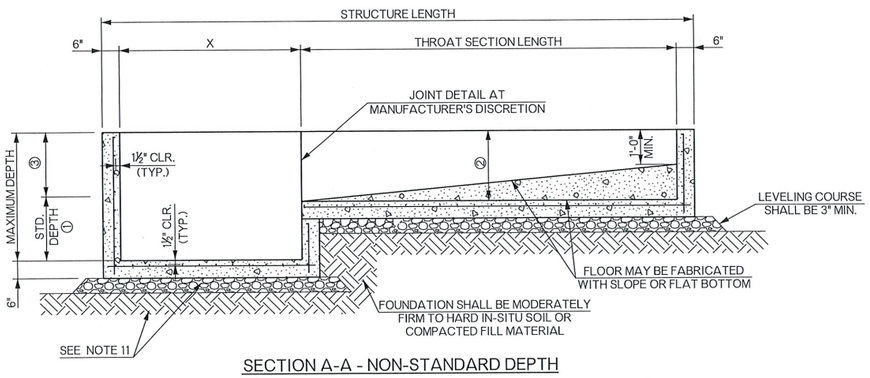


PLAN VIEW - CURB INLET WITH ADDITONAL OPENINGS

NOTE: THROAT SECTION MAY ENTER EITHER OR BOTH SIDES OF CURB INLET.

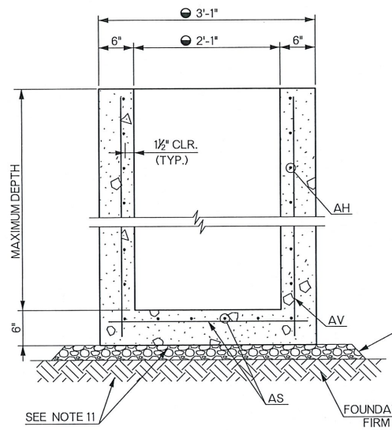


SECTION A-A - STANDARD DEPTH

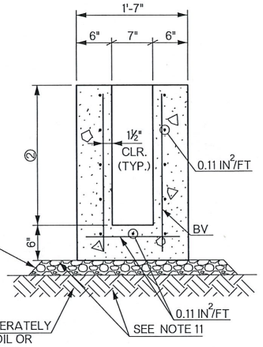


SECTION A-A - NON-STANDARD DEPTH

③ ADDITIONAL CURB INLET DEPTH PER VERTICAL FOOT



CROSS-SECTIONAL VIEW - CURB INLET



CROSS-SECTIONAL VIEW - THROAT

② STANDARD DEPTH SHALL BE AS SHOWN IN STANDARD DEPTH TABLE ABOVE. NON-STD. DEPTH SHALL BE A MINIMUM OF 2'-0" AND A MAXIMUM OF 5'-0"

SCHEDULE OF DIMENSIONS AND REINFORCING STEEL

INLET DESIGN	◒X	◒Y	AH BARS (IN^2/FT) DEPTH 3'	4'	5'	6'	7'	8'	9'	10'	AS BARS (IN^2/FT)	AV BARS (IN^2/FT)	BV BARS (IN^2/FT) DEPTH 3'	4'	5'
1	2'-7"	3'-7"	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.20	0.11			
2	5'-2"	6'-2"	0.11	0.11	0.11	0.11	0.11	0.12	0.13	0.14	0.18	0.11	0.11	0.16	0.26
3	10'-6"	11'-6"	0.20	0.25	0.29	0.33	0.37	0.41	0.46	0.50	0.13	0.17			

◒ DIMENSIONS SHOWN ARE THE MAXIMUM DIMENSIONS ALLOWED. INLET DIMENSIONS LESS THAN THOSE SHOWN ARE ACCEPTABLE FOR THE APPLICABLE INLET DESIGN NUMBER PROVIDED THE DIMENSIONS MEET GEOMETRIC REQUIREMENTS OF THE FRAMES, GRATES AND HOODS.

REINFORCING STEEL VALUES LISTED IN "SCHEDULE OF DIMENSIONS AND REINFORCING STEEL" ARE MINIMUM VALUES. STRUCTURES THAT PROVIDE VALUES LARGER THAN THOSE SHOWN WILL BE CONSIDERED ACCEPTABLE.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
611(G)	PRECAST INLET CI DES. 1 (STD)	EA.
611(G)	PRECAST INLET CI DES. 1 (A)	EA.
611(G)	PRECAST INLET CI DES. 1 (B)	EA.
611(G)	PRECAST INLET CI DES. 1 (C)	EA.
611(G)	PRECAST INLET CI DES. 1 (D)	EA.
611(G)	PRECAST INLET CI DES. 1 (2A)	EA.
611(G)	PRECAST INLET CI DES. 1 (A-B)	EA.
611(G)	PRECAST INLET CI DES. 1 (A-C)	EA.
611(G)	PRECAST INLET CI DES. 1 (2B)	EA.
611(G)	PRECAST INLET CI DES. 1 (B-C)	EA.
611(G)	PRECAST INLET CI DES. 1 (2C)	EA.
611(G)	PRECAST INLET CI DES. 2 (STD)	EA.
611(G)	PRECAST INLET CI DES. 2 (B)	EA.
611(G)	PRECAST INLET CI DES. 2 (C)	EA.
611(G)	PRECAST INLET CI DES. 2 (D)	EA.
611(G)	PRECAST INLET CI DES. 2 (2B)	EA.
611(G)	PRECAST INLET CI DES. 2 (2C)	EA.
611(G)	PRECAST INLET CI DES. 2 (B-D)	EA.
611(G)	PRECAST INLET CI DES. 2 (2D)	EA.
611(G)	PRECAST INLET CI DES. 3 (STD)	EA.
611(G)	PRECAST INLET CI DES. 3 (B)	EA.
611(G)	PRECAST INLET CI DES. 3 (D)	EA.
611(G)	PRECAST INLET CI DES. 3 (2B)	EA.
611(G)	PRECAST INLET CI DES. 3 (B-D)	EA.
611(G)	PRECAST INLET CI DES. 3 (2D)	EA.
611(G)	ADD'L DEPTH IN PRECAST INLET CI DES. 1	VF
611(G)	ADD'L DEPTH IN PRECAST INLET CI DES. 2	VF
611(G)	ADD'L DEPTH IN PRECAST INLET CI DES. 3	VF

APPROVED BY ROADWAY ENGINEER: _____ DATE: 03/05/19

ROADWAY DESIGN DIVISION STANDARD

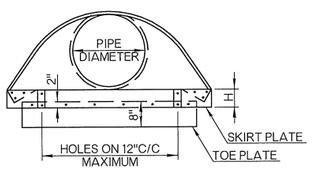
PRECAST CURB INLET
(DESIGNS 1, 2 AND 3)

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

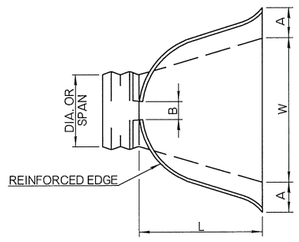
PCI-0	0
R-25	

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE

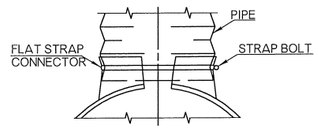
DIMENSIONS OF END SECTIONS FOR ROUND METAL PIPE								
PIPE DIA.	GA.	A	B	H	L	W	APPROX. SLOPE	BODY TYPE
12"	16	6"	6"	6"	21"	24"	1 : 2 1/2	1 PC.
15"	16	7"	8"	6"	26"	30"	1 : 2 1/2	1 PC.
18"	16	8"	10"	6"	31"	36"	1 : 2 1/2	1 PC.
21"	16	9"	12"	6"	36"	42"	1 : 2 1/2	1 PC.
24"	16	10"	13"	6"	41"	48"	1 : 2 1/2	1 PC.
30"	14	12"	16"	8"	51"	60"	1 : 2 1/2	1 PC.
36"	14	14"	19"	9"	60"	72"	1 : 2 1/2	2 PC.
42"	12	16"	22"	11"	69"	84"	1 : 2 1/2	2 PC.
48"	12	18"	27"	12"	78"	90"	1 : 2 1/4	2 PC.
54"	12	18"	30"	12"	84"	102"	1 : 2	2 PC.
60"	12	18"	33"	12"	87"	114"	1 : 1 3/4	3 PC.
66"	12	18"	36"	12"	87"	120"	1 : 1 1/2	3 PC.
72"	12	18"	39"	12"	87"	126"	1 : 1 1/3	3 PC.
78"	12	18"	42"	12"	87"	132"	1 : 1 1/4	3 PC.
84"	12	18"	45"	12"	87"	138"	1 : 1 1/6	3 PC.



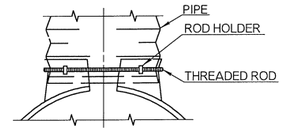
ROUND METAL PIPE END SECTION
END VIEW



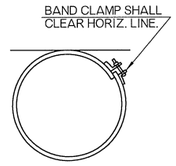
METAL END SECTION
PLAN VIEW



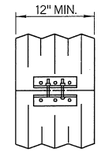
TYPE 1
FOR 12" TO 24" ROUND AND
EQUIVALENT ROUND PIPE ARCH SIZES.



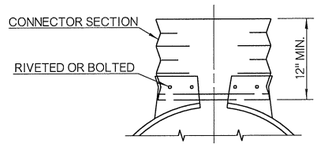
TYPE 2
FOR 30" TO 36" ROUND AND
30" TO 48" EQUIVALENT ROUND
PIPE - ARCH SIZES.



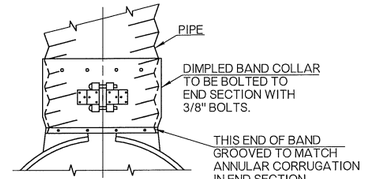
COUPLING BAND



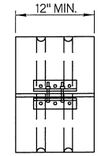
STANDARD
COUPLING BAND



TYPE 3
FOR 42" TO 84" ROUND AND
54" TO 72" EQUIVALENT ROUND
PIPE - ARCH SIZES.



TYPE 4
FOR USE WITH ALL ROUND
AND PIPE ARCH SIZES.

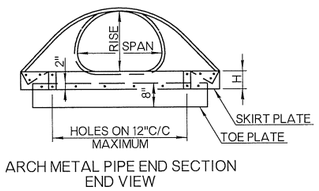


DIMPLED
COUPLING BAND

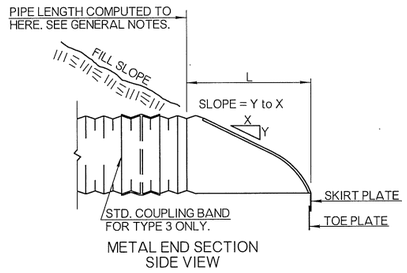
TYPICAL METAL END SECTION CONNECTIONS

DIMENSIONS OF END SECTIONS FOR METAL PIPE - ARCH									
SPAN x RISE	EQUIV. ROUND	GA.	A	B	H	L	W	APPROX. SLOPE	BODY TYPE
17" x 13"	15"	16	7"	9"	6"	19"	30"	1 : 2 1/2	1 PC.
21" x 15"	18"	16	7"	10"	6"	23"	36"	1 : 2 1/2	1 PC.
24" x 18"	21"	16	8"	12"	6"	28"	42"	1 : 2 1/2	1 PC.
28" x 20"	24"	#16	9"	14"	6"	32"	48"	1 : 2 1/2	1 PC.
35" x 24"	30"	14	10"	16"	6"	39"	60"	1 : 2 1/2	1 PC.
42" x 29"	36"	#14	12"	18"	8"	46"	75"	1 : 2 1/2	1 PC.
49" x 33"	42"	12	13"	21"	9"	53"	85"	1 : 2 1/2	2 PC.
57" x 38"	48"	12	18"	26"	12"	63"	90"	1 : 2 1/2	2 PC.
64" x 43"	54"	12	18"	30"	12"	70"	102"	1 : 2 1/4	2 PC.
71" x 47"	60"	12	18"	33"	12"	77"	114"	1 : 2 1/4	3 PC.
77" x 52"	66"	12	18"	36"	12"	77"	126"	1 : 2	3 PC.
83" x 57"	72"	12	18"	39"	12"	77"	138"	1 : 2	3 PC.

FOR ALUMINUM END SECTIONS THE 28" x 20" SHALL BE 14 GAGE AND THE 42" x 29" SHALL BE 12 GAGE.



ARCH METAL PIPE END SECTION
END VIEW

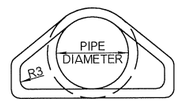


METAL END SECTION
SIDE VIEW

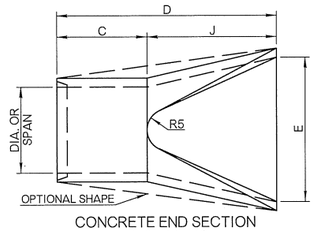
GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. CULVERT END SECTIONS SHALL BE OF THE SAME MATERIAL AND SHAPE (ROUND, ARCH, OR ELLIPTICAL) AS THE PIPE ON WHICH THEY ARE INSTALLED.
3. DIMENSIONS SHOWN FOR END SECTIONS ARE SUBJECT TO MANUFACTURER TOLERANCES.
4. TOE PLATE WILL BE REQUIRED ON ALL METAL END SECTIONS UNLESS SOLID ROCK IS ENCOUNTERED. HOLES IN TOE PLATE TO BE PUNCHED TO MATCH HOLES IN SKIRT PLATE. 3/8" BOLTS TO BE FURNISHED. LENGTH OF TOE PLATES FOR ROUND PIPE END SECTIONS SHALL BE W=10" FOR 12" TO 30" DIAMETER PIPE, W=20" FOR 36" TO 84" DIAMETER PIPE. LENGTH OF TOE PLATES FOR ARCH PIPE END SECTIONS SHALL BE W=10" FOR A RISE OF 13" TO 29" AND W=20" FOR A RISE OF 33" TO 57".
5. CONNECTOR SECTION, SKIRT PLATE, AND TOE PLATE ON METAL END SECTIONS SHALL BE THE SAME GAGE AND MATERIAL AS THE SKIRT AND SHALL BE INCLUDED IN PRICE BID FOR END SECTION.
6. IF TYPE 3 METAL END SECTION IS USED AS OPTIONAL PIPE, THE LENGTH OF PIPE TO BE REDUCED BY 12" FOR EACH END SECTION. IF CONCRETE PIPE OPTION IS USED, THE LENGTH OF PIPE TO BE REDUCED BY THE C DIMENSION FOR EACH END SECTION.

DIMENSIONS OF PRECAST END SECTIONS FOR ROUND PIPE										
DIAMETER	R3	R4	R5	T	K	J	C	D	E	SLOPE
18"	3"	3"	6"	2 1/2"	9"	2.25'	3.83'	6.08'	3.00'	1 : 3
24"	3"	3"	7"	3"	9 1/2"	3.63'	2.50'	6.12'	4.00'	1 : 3
30"	3"	3"	8"	3 1/2"	12"	4.50'	1.65'	6.16'	5.00'	1 : 3
36"	3"	3"	10 1/2"	4"	15"	5.25'	2.90'	8.15'	6.00'	1 : 3
42"	3"	3"	10 1/2"	4 1/2"	21"	5.25'	2.92'	8.17'	6.50'	1 : 3
48"	6"	6"	14"	5"	24"	6.00'	2.17'	8.17'	7.00'	1 : 3
54"	6"	6"	-	5 1/2"	27"	5.42'	2.92'	8.33'	7.50'	1 : 2 1/2
60"	6"	6"	-	6"	30"	5.00'	3.25'	8.25'	8.00'	1 : 2
66"	6"	6"	-	6 1/2"	24"	6.50'	1.75'	8.25'	8.50'	1 : 2
72"	6"	6"	-	7"	24"	6.50'	1.75'	8.25'	9.00'	1 : 2

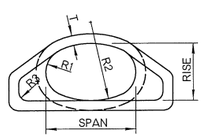


ROUND CONCRETE PIPE
END SECTION
END VIEW

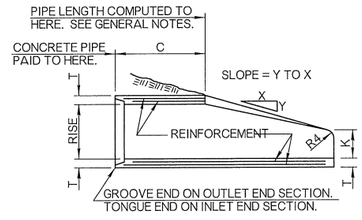


CONCRETE END SECTION
PLAN VIEW

APPROX. EQUIV. DIAMETER	DIMENSIONS OF PRECAST END SECTIONS FOR ELLIPTICAL PIPE												
	RISE	SPAN	R1	R2	R3	R4	R5	T	K	J	C	D	E	SLOPE
18"	14"	23"	6"	20"	3"	3"	6"	2 3/4"	8"	2.25'	3.75'	6.00'	3.00'	1 : 3
24"	19"	30"	8 1/4"	26 1/4"	3"	3"	7"	3 1/4"	8 1/2"	3.25'	2.75'	6.00'	4.00'	1 : 3
30"	24"	38"	10 1/4"	32 3/4"	3"	3"	9"	3 3/4"	9 1/2"	4.50'	1.50'	6.00'	5.00'	1 : 3
36"	29"	45"	12 1/4"	39 1/4"	3"	3"	12"	4 1/2"	11 1/4"	5.00'	3.00'	8.00'	6.00'	1 : 3
42"	34"	53"	14 1/2"	46"	6"	6"	13"	5"	15 3/4"	5.00'	3.00'	8.00'	6.50'	1 : 3
48"	38"	60"	16 1/2"	51 1/2"	6"	6"	14"	5 1/2"	21"	5.00'	3.00'	8.00'	7.00'	1 : 3
54"	43"	68"	18 3/4"	58 1/2"	6"	6"	16"	6"	25 1/2"	5.00'	3.00'	8.00'	7.50'	1 : 3
60"	48"	76"	20 3/4"	65"	6"	6"	36 11/16"	6 1/2"	30"	5.00'	3.25'	8.25'	8.00'	1 : 2
66"	53"	83"	22 3/4"	71 1/2"	6"	6"	36 1/8"	7 1/2"	24"	6.50'	1.75'	8.25'	8.50'	1 : 2
72"	58"	91"	24 3/4"	78"	6"	6"	38"	7 1/2"	24"	6.50'	1.75'	8.25'	9.00'	1 : 2

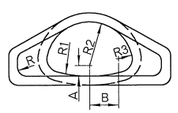


ELLIPTICAL CONCRETE PIPE
END SECTION
END VIEW



CONCRETE END SECTION
SIDE VIEW

APPROX. EQUIV. DIAMETER	DIMENSIONS OF PRECAST END SECTIONS FOR ARCH PIPE																
	SPAN	RISE	A	B	R	R1	R2	R3	R4	R5	T	K	J	C	D	E	SLOPE
18"	22"	13"	- 1/4"	5 3/4"	2"	27 1/2"	13 3/4"	5 1/4"	3"	13"	2 1/2"	7"	2.25'	3.75'	6.08'	3.00'	1 : 3
24"	28"	18"	3 7/16"	9 21/32"	3"	40 11/16"	14 9/16"	4 19/32"	3"	16 13/16"	3"	9 1/2"	3.58'	2.50'	6.08'	4.00'	1 : 3
30"	36"	22"	3 3/4"	12 3/32"	3"	51"	18 3/4"	6 1/32"	3"	18 1/2"	3 1/2"	12"	4.50'	1.58'	6.08'	5.00'	1 : 3
36"	43"	26"	4 1/8"	15 1/2"	6"	62"	22 1/2"	6 3/8"	3"	24 5/16"	4"	15"	5.25'	2.90'	8.15'	6.00'	1 : 3
42"	51"	31"	5 1/16"	18"	6"	73"	26 1/4"	7 9/16"	3"	27 1/2"	4 1/2"	21"	5.25'	2.92'	8.17'	6.50'	1 : 3
48"	58"	36"	6"	20 1/2"	6"	84"	30"	8 3/4"	3"	28 1/2"	5"	24"	6.00'	2.17'	8.17'	7.00'	1 : 3
54"	65"	40"	6 5/8"	22 11/16"	6"	92 1/2"	33 3/8"	9 13/16"	6"	33 1/8"	5 1/2"	27"	5.42'	2.92'	8.34'	7.50'	1 : 2.4
60"	73"	45"	7 1/2"	25 9/32"	6"	105"	37 1/2"	11 7/32"	6"	33 11/16"	6"	30"	5.00'	3.25'	8.25'	8.00'	1 : 2
72"	88"	54"	9"	31 7/16"	6"	126"	45"	12 9/16"	6"	38 15/16"	7"	24"	6.50'	1.75'	8.25'	9.00'	1 : 2



ARCH CONCRETE PIPE
END SECTION
END VIEW

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
613 (L)	▼ PREFAB. CULVERT END SECTION, ROUND	EA
613 (L)	▼ PREFAB. CULVERT END SECTION, ARCH	EA
613 (L)	▼ PREFAB. CULVERT END SECTION, ELLIPTICAL	EA

▼END SECTION DIMENSION(S) SHALL BE SPECIFIED.

APPROVED BY
ROADWAY ENGINEER: Caleb F. H DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

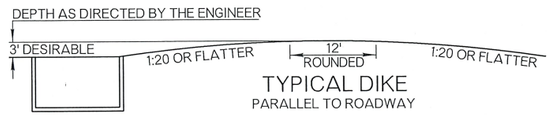
PREFABRICATED CULVERT END SECTIONS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

PCES-4	1

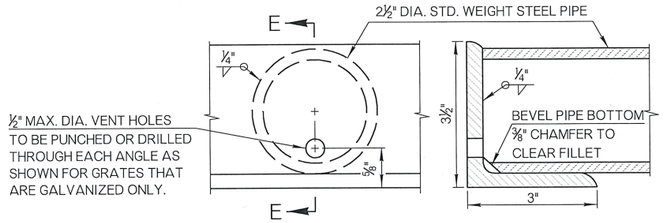
OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE

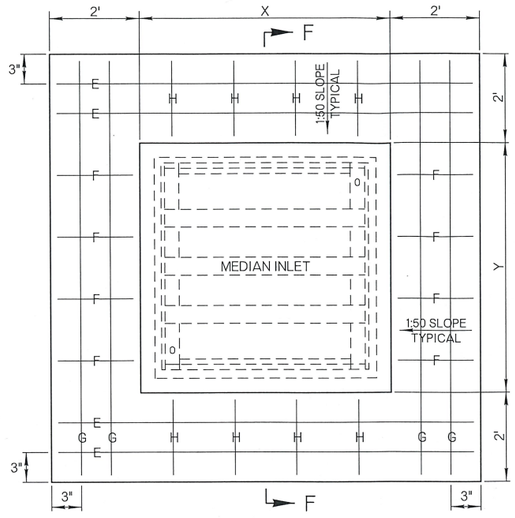


TYPICAL DIKE
PARALLEL TO ROADWAY

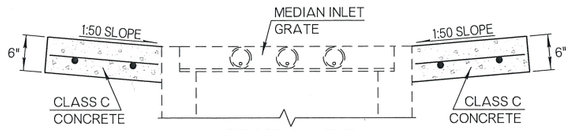
NOTE: WHEN A DIKE IS REQUIRED, IT SHALL BE CONSTRUCTED SLOPING UP FROM THE INLET ON A 1:20 SLOPE TO A DESIRABLE HEIGHT OF 3 FEET. IN NO CASE SHALL THE DIKE TOP BE HIGHER THAN 6" BELOW THE FINISHED GRADE OF THE INNER EDGE OF SURFACING AS SHOWN ON THE PLAN AND PROFILE SHEET.



VENT HOLE DETAIL — SECTION E-E



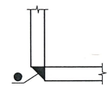
MEDIAN DRAIN CONCRETE APRON DETAIL



SECTION F-F

APRON REINFORCING STEEL LOCATION & LENGTHS (#4 BARS - EQUALLY SPACED @ 18" MAXIMUM)*							APRON REINF. STEEL°	APRON CLASS C CONCRETE°
DIAMETER	E - BARS	F - BARS	G - BARS	H - BARS	X	Y		
IN.	(NO.) FT. - IN.	(NO.) FT. - IN.	(NO.) FT. - IN.	(NO.) FT. - IN.	FT. - IN.	FT. - IN.	LB.	C.Y.
18 & 24	(4) 7 - 2⅞	(8) 1 - 9	(4) 7 - 4¾	(8) 1 - 9	3 - 7¾	3 - 5⅞	57	0.41
30	(4) 7 - 10	(8) 1 - 9	(4) 7 - 4¾	(8) 1 - 9	3 - 7¾	4 - 1	59	0.43
36	(4) 8 - 5	(9) 1 - 9	(4) 8 - 5	(9) 1 - 9	4 - 8	4 - 8	66	0.49

*MINIMUM 1½" COVER OVER STEEL °QUANTITIES ARE FOR ONE APRON

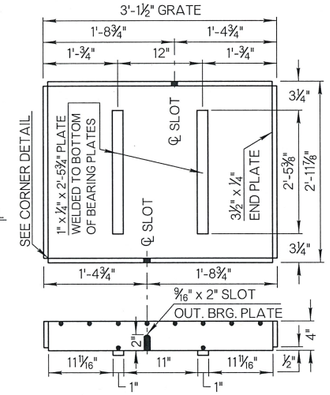


CORNER DETAIL
- ALL CORNERS SHALL HAVE FULL 4" CORNER WELDS

SMD BAR LIST					
BAR	SIZE	NO.	SHAPE	LENGTH	SPACE
TYPE 1 - 18" OR 24" RCP OR CGSP					
A	#4	5	BENT	11'-10"	6" C/C
B	#4	15	BENT	2'-11⅛"	9" C/C
C	#5	7	STR.	3'-1⅛"	6" C/C
D	#5	6	STR.	3'-3¾"	6" C/C
TYPE 2 - 18" OR 24" RCP OR CGSP					
A	#4	6	BENT	11'-10"	6" C/C
B	#4	16	BENT	3'-6¼"	9" C/C
C	#5	7	STR.	3'-1⅛"	6" C/C
D	#5	6	STR.	3'-3¾"	6" C/C
TYPE 2A - 18", 24" OR 30" RCP OR CGSP					
A	#4	7	BENT	12'-11⅛"	6" C/C
B	#4	18	BENT	4'-1"	9" C/C
C	#5	7	STR.	3'-3¾"	6" C/C
D	#5	7	STR.	3'-7"	6" C/C
TYPE 2B - 18",24",30" OR 36" RCP OR CGSP					
A	#4	8	BENT	16'-2"	6" C/C
B	#4	20	BENT	4'-7"	9" C/C
C	#5	7	STR.	4'-4"	6" C/C
D	#5	8	STR.	4'-4"	6" C/C

GRATES - OVERALL DIMENSIONS
TYPE 1 GRATE: 3'-1½" x 2'-11⅞"
TYPE 2 GRATE: 3'-1¼" x 2'-11¾"
TYPE 2A GRATE: 3'-1¼" x 3'-6½"
TYPE 2B GRATE: 4'-1½" x 4'-1½"
W = 8¼" FOR TYPE 2
W = 9" FOR TYPE 2A & 2B

PIPE GRATE MATERIAL
2½" I.D. STD. WEIGHT STEEL PIPE



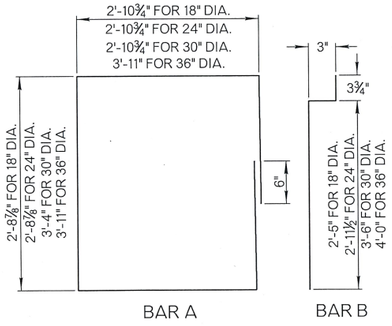
DETAIL ALTERNATE STIFFENER
TYPE 1 GRATE

■½" DIA. x 3½" STD. HEX BOLT W/ NUT (2 TOTAL)
CROSS BARS - ⅜" DIA. x 2'-11⅞" (10 TOTAL)
END PLATES - 3½" x ¼" x 2'-11⅞" (2 TOTAL)
BEARING PLATES - 4" x ¼" x 3'-1" (16 TOTAL)

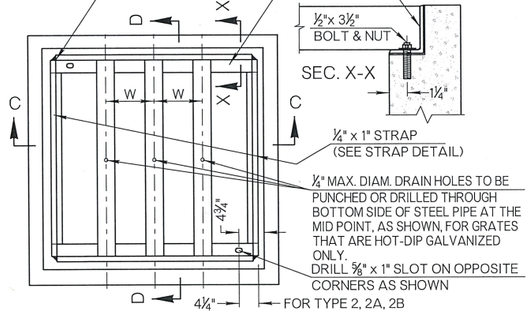
ESTIMATED SMD QUANTITIES							ADD'L SMD DEPTH PER VERT. FT.	
DESIGNATED PIPE SIZE IN INLET	TYPE OF GRATE	1 PIPE CLASS A CONC.	2 PIPES CLASS A CONC.	REINF. STEEL	CLASS A CONC.	REINF. STEEL		
		CY	CY	LB.	CY	LB		
18" RCP	1 OR 2	0.75	0.67	115	0.23	27		
24" RCP	1 OR 2	0.85	0.76	129	0.23	27		
30" RCP	2A	1.06	0.96	160	0.25	29		
36" RCP	2B	1.52	1.38	211	0.31	35		

GENERAL NOTES

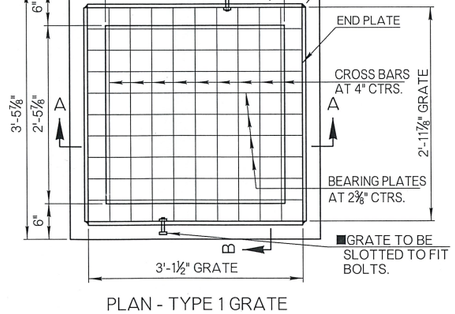
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. VENT HOLES AND DRAIN HOLES FOR HOT DIP GALVANIZATION SHALL BE DRILLED OR PUNCHED IN GRATE AS SHOWN.
3. BICYCLE AND PEDESTRIAN SAFE GRATES, SIMILIAR TO TYPE 1 GRATES, MAY BE USED, PROVIDED THEY MEET THE MINIMUM EQUIVALENT HYDRAULIC AND STRUCTURAL REQUIREMENTS AND PROPOSED DESIGNS ARE APPROVED BY THE ENGINEER. SUBSTITUTED GRATES SHALL BE INCLUDED IN THE PRICE BID FOR THE RESPECTIVE INLET.
4. EXPOSED ROUNDED EDGING, ALL EXPOSED SURFACES SHALL BE FINISHED IN ACCORDANCE WITH SECTION 509 OF THE SPECIFICATIONS.
5. COST OF APRON MATERIALS (INCLUDING REINFORCING STEEL), LABOR, AND INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR SMD INLET.
6. AS-SHOWN ON THIS STANDARD, INLET CONCRETE DRAWINGS AND INLET REINFORCING STEEL DESIGN ARE BASED ON CAST-IN-PLACE MANUFACTURING. PRECAST CONCRETE MANUFACTURED DESIGN AND DRAWINGS ARE ON ROADWAY STANDARD PSMD-0.



REINFORCING STEEL



PLAN - TYPE 2, 2A, 2B GRATE



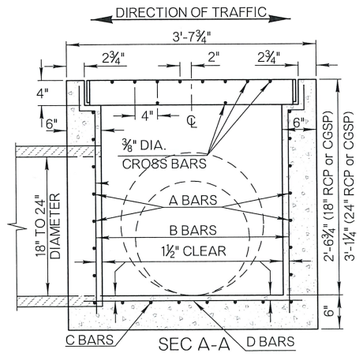
PLAN - TYPE 1 GRATE

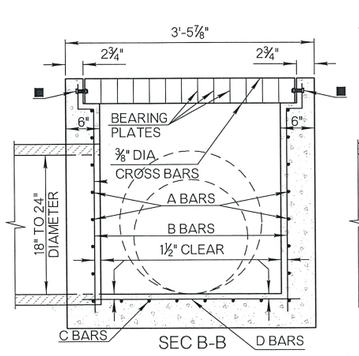
HYDRAULIC PERFORMANCE CHART

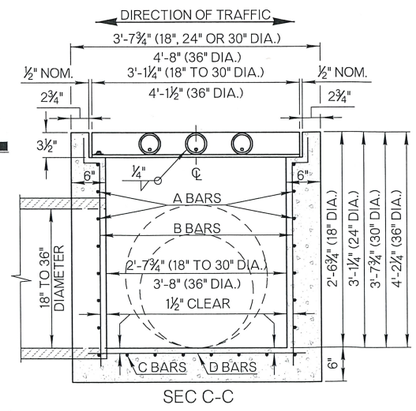
NOTE: TO ALLOW FOR CLOGGING 60% THEORETICAL DISCHARGE IS THE RECOMMENDED FACTOR TO USE IN AREAS SUBJECT TO FLOODING.

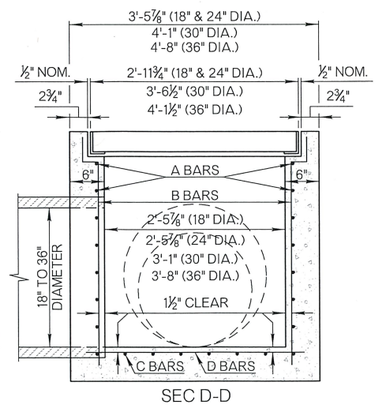
BASIS OF PAYMENT		
ITEM. NO.	ITEM	UNIT
611 (G)	INLET (SMD-TYPE 1)	EA
611 (G)	INLET (SMD-TYPE 2)	EA
611 (G)	INLET (SMD-TYPE 2A)	EA
611 (G)	INLET (SMD-TYPE 2B)	EA

NOTE: COST OF INLET GRATE SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET. COST OF ALL CLASS A CONCRETE AND REINFORCING STEEL NECESSARY FOR ADDITIONAL DEPTH SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET. INLET ADDITIONAL DEPTH DATA SHALL BE NOTED ON THE PLANS.



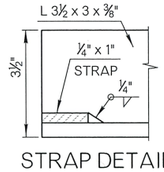






SMD INLET WITH TYPE 1 GRATE

SMD INLET WITH TYPE 2, 2A & 2B GRATE



STRAP DETAIL

GENERAL NOTES

APPROVED BY ROADWAY ENGINEER: _____ DATE 01/23/19

ROADWAY DESIGN DIVISION STANDARD

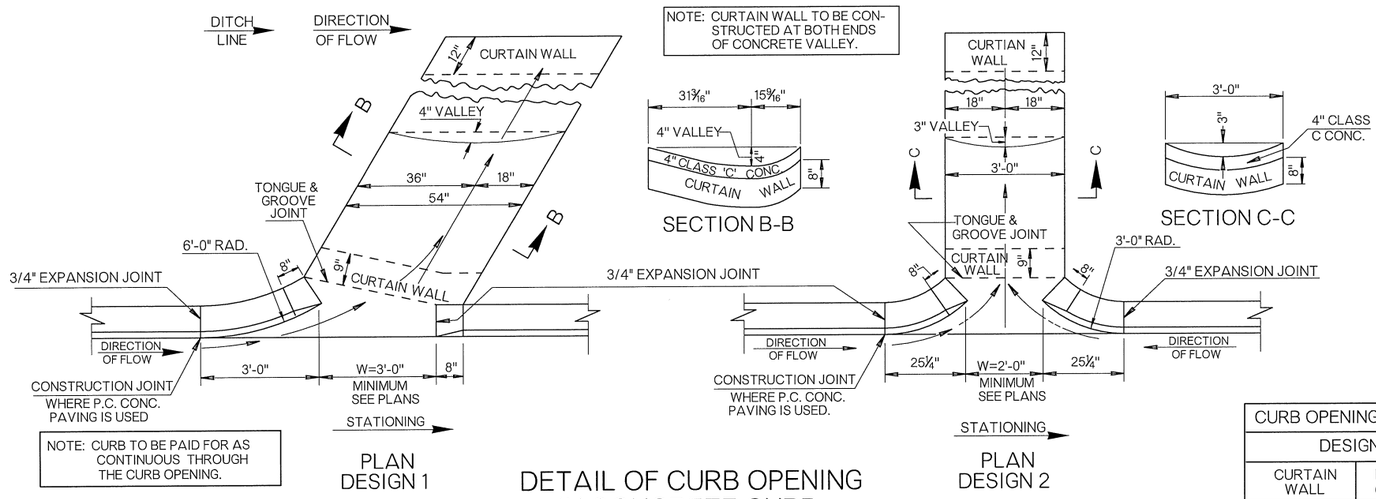
STANDARD MEDIAN DRAINS
(18" TO 36" PIPES)

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

SMD-3 | 2

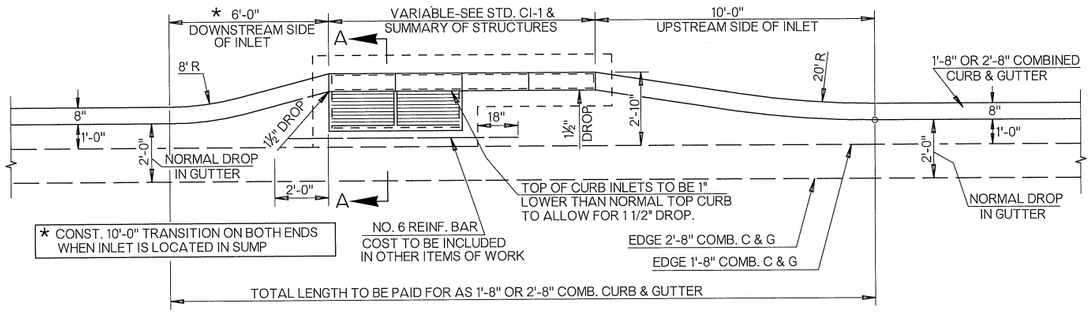
R-36

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



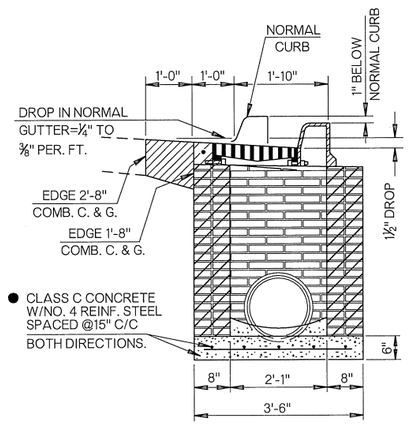
DETAIL OF CURB OPENING IN CONCRETE CURB

CURB OPENING - CLASS C CONCRETE QUANTITIES			
DESIGN 1		DESIGN 2	
CURTAIN WALL	PER FOOT OF FLUME	CURTAIN WALL	PER FOOT OF FLUME
0.096 C.Y.	0.048 C.Y.	0.074 C.Y.	0.037 C.Y.



PLAN

CURB TURNOUT FOR CURB INLET



SECTION A-A

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. INLET STRUCTURES MAY BE SUPPLIED AS PRECAST UNITS IF PROPOSED PRECAST DESIGN IS SUBMITTED TO THE ENGINEER AND APPROVED FOR USE. SEE ROADWAY STANDARD CI-1.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
509 (D)	CLASS C CONCRETE	CY

APPROVED BY ROADWAY ENGINEER: Caleb F. A DATE: 04/11/15

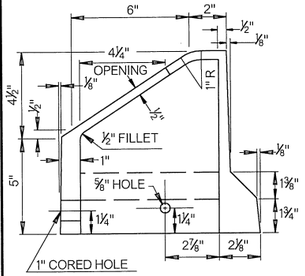
ROADWAY DESIGN DIVISION STANDARD

ODOT STORM SEWER CONSTRUCTION DETAILS

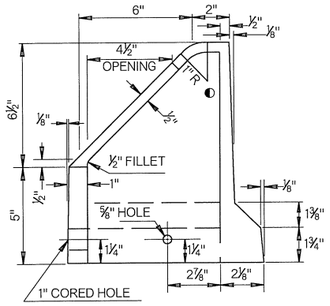
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

SSCD-3	1

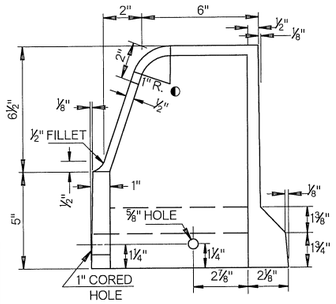
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



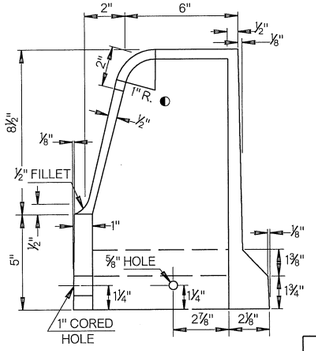
4" MOUNTABLE CURB HOOD



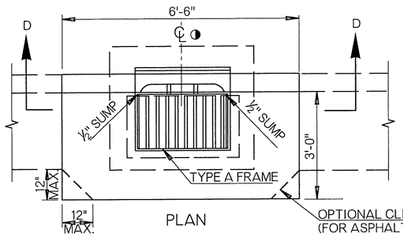
6" MOUNTABLE CURB HOOD



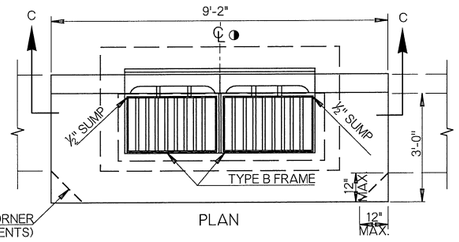
6" BARRIER CURB HOOD



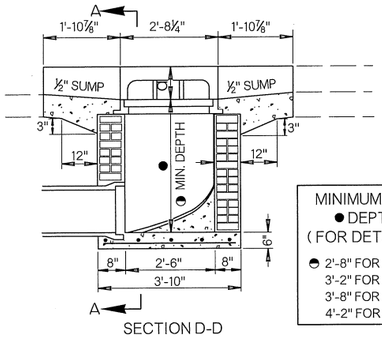
8" BARRIER CURB HOOD



PLAN



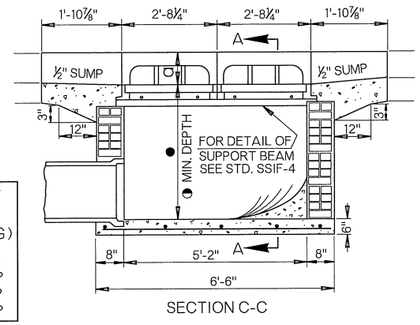
PLAN



SECTION D-D

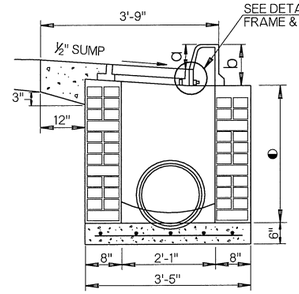
DESIGN 1
(SINGLE GRATE)

MINIMUM INLET
● DEPTH
(FOR DETAILING)
◓ 2'-8" FOR 18" RCP
3'-2" FOR 24" RCP
3'-8" FOR 30" RCP
4'-2" FOR 36" RCP

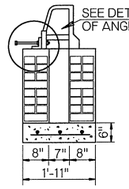


SECTION C-C

DESIGN 2 (DOUBLE GRATING)
DESIGN 3 (MULTIPLE DOUBLE GRATING)

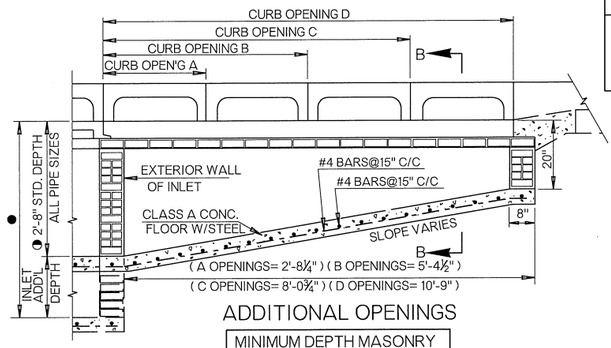


SECTION A-A



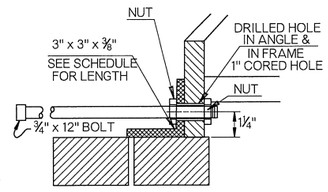
SECTION B-B

DESIGN NO.	TYPE OF CURB	DIMENSIONS a	DIMENSIONS b
1	4" MOUNTABLE	4½"	9½"
	6" MOUNTABLE	6½"	11½"
	6" BARRIER	6½"	11½"
	8" BARRIER	8½"	13½"
2	4" MOUNTABLE	4½"	9½"
	6" MOUNTABLE	6½"	11½"
	6" BARRIER	6½"	11½"
	8" BARRIER	8½"	13½"
3	4" MOUNTABLE	4½"	9½"
	6" MOUNTABLE	6½"	11½"
	6" BARRIER	6½"	11½"
	8" BARRIER	8½"	13½"



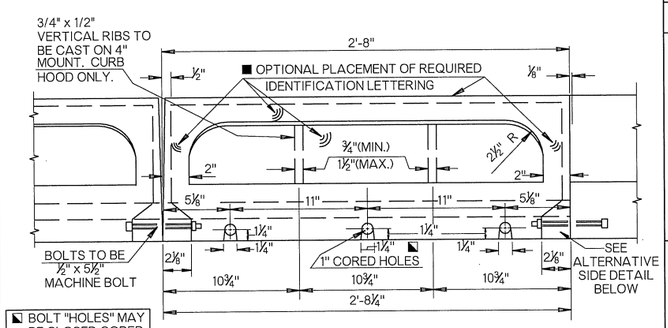
ADDITIONAL OPENINGS

MINIMUM DEPTH MASONRY OR PRECAST WALLS
2'- 3" FOR 18" RCP
2'- 9" FOR 24" RCP
3'- 3" FOR 30" RCP
3'- 9" FOR 36" RCP



DETAIL OF CONNECTION
ANGLE IRON & CAST IRON HOOD

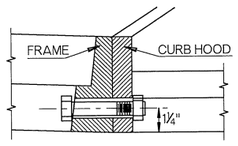
NOTE: ANGLE IRON TO BE BOLTED TO HOOD WITH 3 EACH - 3/4 " x 12" MACHINE BOLTS IN EACH HOOD SECTION.



CAST IRON HOOD ELEVATION

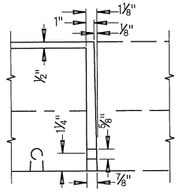
◪ BOLT "HOLES" MAY BE CLOSED CORED HOLES OR SLOTS.

■ TOP OF HOOD SHALL STATE "DUMP NO WASTE" AND "DRAINS TO RIVER" OR SIMILAR WORDING.



DETAIL OF CONNECTION
FRAME & CAST IRON HOOD

NOTE: FRAME TO BE BOLTED TO THE HOOD WITH 3 EA.- 3/4" x 4 1/2" MACHINE BOLTS. FOR FRAME DETAILS, SEE ROADWAY STANDARD SSIF-4



ALTERNATE SIDE DETAIL

INLET	CURB OPENING	CLASS A CONCRETE	INLET		INLET FRAME & GRATE	CAST IRON HOOD	ANGLE IRON		
DESIGN	DESIGNATION	CU. YD.	BASE AM'T.	ADD'L. CF PER VERT FT.	EACH	EACH	NO.	LENGTH	
1	STD.	0.24	17.76	7.89	1	1	-	-	-
	A	0.34	23.84	7.89	1	2	1	2'-5⅛"	-
	B	0.43	30.11	7.89	1	3	1	5'-1⅝"	-
	C	0.53	36.38	7.89	1	4	1	7'-9⅛"	-
	D	0.63	42.66	7.89	1	5	1	10'-6¼"	-
	2A	0.43	29.91	7.89	1	3	2	2'-5⅛"	2'-5⅛"
	A-B	0.53	36.19	7.89	1	4	2	2'-5⅛"	5'-1⅝"
	A-C	0.62	42.46	7.89	1	5	2	2'-5⅛"	7'-9⅛"
	2B	0.62	42.46	7.89	1	5	2	5'-1⅝"	5'-1⅝"
	B-C	0.72	48.74	7.89	1	6	2	5'-1⅝"	7'-9⅛"
	2C	0.82	55.01	7.89	1	7	2	7'-9⅛"	7'-9⅛"
2	STD.	0.41	25.76	11.45	2	2	-	-	-
	B	0.60	38.11	11.45	2	4	1	5'-1⅝"	-
	C	0.73	44.39	11.45	2	5	1	7'-9⅛"	-
	D	0.79	50.66	11.45	2	6	1	10'-6¼"	-
	2B	0.79	50.46	11.45	2	6	2	5'-1⅝"	5'-1⅝"
	2C	0.98	63.01	11.45	2	8	2	7'-9⅛"	7'-9⅛"
	B-D	0.98	63.01	11.45	2	8	2	5'-1⅝"	10'-6¼"
	2D	1.17	75.56	11.45	2	10	2	10'-6⅛"	10'-6⅛"
◓ 3	STD.	0.74	41.27	18.34	4	4	-	-	-
	B	0.93	53.62	18.34	4	6	1	5'-1⅝"	-
	D	1.12	66.17	18.34	4	8	1	10'-6⅛"	-
	2B	1.12	65.98	18.34	4	8	1	5'-1⅝"	5'-1⅝"
	B-D	1.31	78.52	18.34	4	10	2	5'-1⅝"	10'-6⅛"
	2D	1.50	91.07	18.34	4	12	2	10'-6⅛"	10'-6⅛"

◓ DEPTH OF 2'-8" SHALL BE USED FOR STANDARD DEPTH FOR ALL PIPE SIZES AND/OR PIPE TYPES. FOR INLET DEPTHS GREATER THAN STANDARD DEPTH, A PAY ITEM FOR ADDITIONAL DEPTH, VERTICAL FEET, SHALL BE USED. TO DETERMINE TOTAL INLET QUANTITY FOR INLET DEPTHS GREATER THAN 2'-8", MULTIPLY ADDITIONAL DEPTH BY ADDITIONAL CU. FT. PER VERTICAL FOOT AND ADD TO THE BASE AMOUNT.

◪ QUANTITIES SHOWN ARE FOR 2 DOUBLE GRATED INLETS.

PAYMENT FOR ALL CLASS A CONCRETE AND ANY REINFORCING STEEL USED TO CONSTRUCT CAST IN PLACE INLET WALLS OR FLOORS SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET.

PRECAST INLET ALTERNATIVES MAY BE ACCEPTED, IN LIEU OF BRICK MASONRY OR CAST-IN-PLACE CONCRETE, IF APPROVED BY THE ENGINEER.

SPECIAL DESIGN CASTINGS, HOODS, FRAMES OR GRATES MAY BE USED, IN LIEU OF STANDARD DESIGNS SHOWN ON THIS SHEET, IF APPROVED BY THE ENGINEER.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. STANDARD SSIF-4 FRAMES AND STANDARD CIG-3 GRATES TO BE USED WITH THESE INLETS UNLESS OTHERWISE SPECIFIED. COST OF THESE ITEMS AND HOODS SHALL BE INCLUDED IN THE COST OF INLET.
3. WHEN THE INLET IS BUILT IN NEW CONCRETE PAVEMENT, THE APRON AROUND THE INLET MAY BE BUILT INTEGRAL WITH PAVEMENT OR MAY BE SEPARATE AND OF THE SIZE AS SHOWN. THE THICKNESS SHALL BE THE SAME AS THE CONCRETE PAVEMENT OR CURB AND GUTTER. IF CONSTRUCTED IN ANY OTHER AREA OR IN EXISTING PAVEMENT, THE APRON AROUND THE INLET SHALL BE THE SIZE AS SHOWN AND BUILT OF P.C. CONCRETE TO A MINIMUM 8 INCH THICKNESS.
4. THERE WILL BE NO DEDUCTION OF PAYMENT FOR CONCRETE CURB AND GUTTER OR P.C. CONCRETE THRU THE EXTENTS OF THE INLET HOODS. DEDUCTION WILL BE MADE FOR THE PAYMENT OF INTEGRAL CURB THROUGH THE EXTENTS OF THE INLET HOODS.
5. ALL LETTERING TO BE RECESSED⅛INCH AND SHALL NOT EXCEED ONE INCH IN HEIGHT. INFORMATION REQUIRED SHALL BE AS STATED IN THE SPECIFICATIONS. LOCATION OF LETTERING TO BE AS SHOWN, WITH ADDITIONAL IDENTIFICATION LETTERING AT OTHER LOCATIONS PERMITTED.
6. CAST IN PLACE CONCRETE WALLS MEETING MIX REQUIREMENTS OF CLASS A CONCRETE MAY BE BUILT IN LIEU OF THE BRICK MASONRY TO THE SAME DIMENSIONS AS SHOWN. NO. 4 REINFORCING STEEL BARS SPACED 30" VERTICALLY AND 12" HORIZONTALLY WILL BE REQUIRED FOR ALL CAST IN PLACE INLET WALLS EXCEEDING 5.0 FEET IN DEPTH (GUTTERLINE TO FLOWLINE). COST OF STEEL REINFORCING TO BE INCLUDED IN THE COST OF THE INLET.
7. ALL CAST IN PLACE CLASS A CONCRETE INLET FLOORS SHALL HAVE NO. 4 REINFORCING STEEL PLACED AT 15" MAXIMUM C/C SPACING IN BOTH DIRECTIONS.
8. THE STANDARD DRAWING, DESIGN NO., DESIGNATION NO., AND NUMBER OF ADDITIONAL OPENINGS SHALL BE INDICATED ON THE PLANS, I.E., EXAMPLE: STD. CI-1, DES. 1(A-B).
9. TYPE B & C FRAMES TO BE USED FOR MULTIPLE DOUBLE GRATES. SEE ROADWAY STD. SSIF-4 FOR DETAILS.
10. BOLT(S) WITH EXPANSION DEVICES OR EPOXY TYPE PUTTY TO BE USED TO INSTALL CAST IRON HOOD INTO CONCRETE CURB. COST OF INSTALLATION TO BE INCLUDED IN PRICE BID FOR THE CURB INLET.
11. CASTINGS AS SHOWN HERE SHALL BE CAST STEEL, DUCTILE IRON OR GRAY IRON CONFORMING TO SECTION 725 OF THE SPECIFICATIONS.

◐ 12. TWO INCH RADIUS MAY BE USED IF APPROVED BY THE ENGINEER.

◑ 13. CONSTRUCTION STATIONING OF CURB INLETS IS DETERMINED BY THE CENTERLINE (℄) OF THE SURFACE GRATES.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611 (G)	INLET (CI DES. ▲)	EA
611 (H)	ADDITIONAL DEPTH IN INLET (CI DES. ▼)	VF
611 (I)	REPLACEMENT OF INLET FRAME AND GRATE▲	EA
611 (J)	REPLACEMENT OF INLET FRAME	EA
611 (K)	REPLACEMENT OF INLET GRATE	EA
611 (M)	REPLACEMENT OF CAST IRON HOOD	EA

▲ SPECIFY INLET DESIGN & CURB OPENING DESIGNATION.
▼ SPECIFY INLET DESIGN 1, 2 OR 3.
▲ TYPE OF FRAME AND TYPE OF GRATE SHALL BE SPECIFIED.

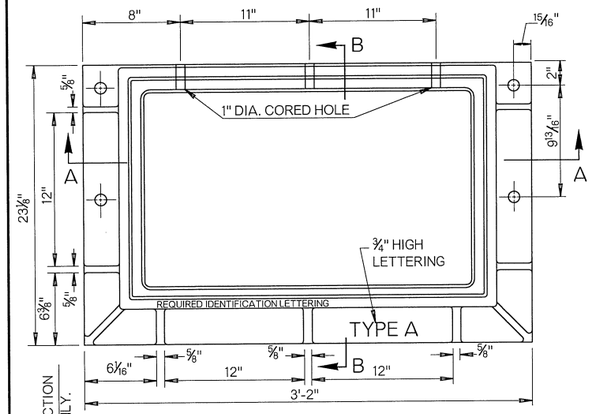
APPROVED BY ROADWAY ENGINEER: _____ DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

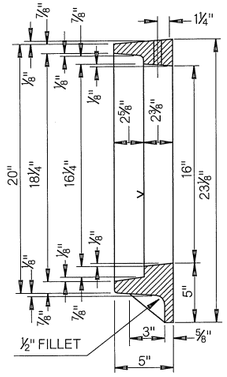
CURB INLETS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

CI-1 | 2

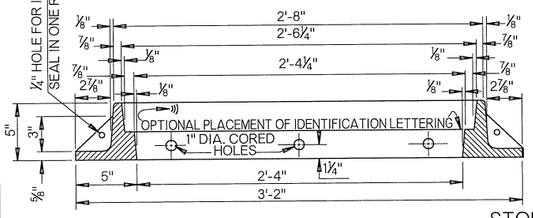


PLAN



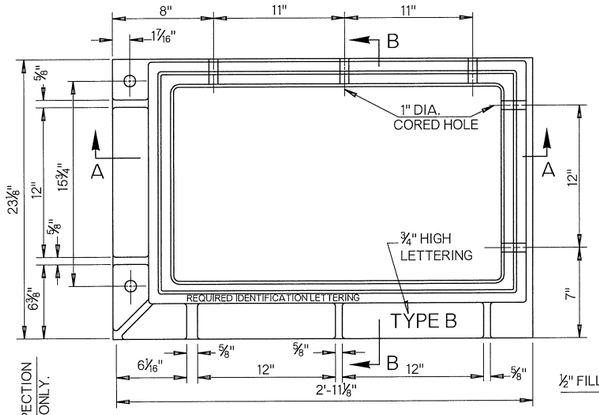
SECTION B-B

NOTE:
ONLY ONE TYPE A FRAME FOR INLET DESIGN NO. 1.

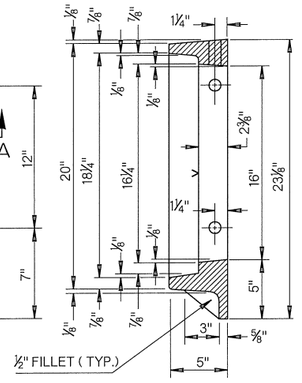


SECTION A-A

STORM SEWER INLET FRAME
TYPE A FOR INLET DESIGN NO. 1

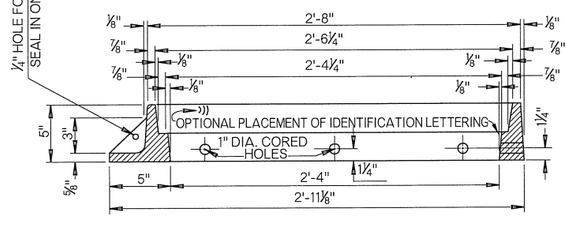


PLAN



SECTION B-B

NOTE:
MAKE ONE FRAME AS SHOWN AND ONE REVERSED FOR DOUBLE FRAMES.



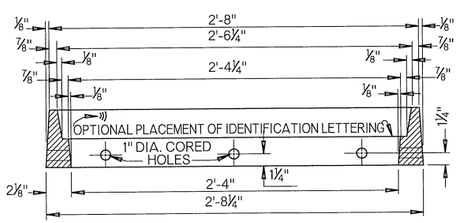
SECTION A-A

STORM SEWER INLET
FRAME TYPE B FOR
INLET DESIGN
NO. 2 AND 3

PLAN

SECTION B-B

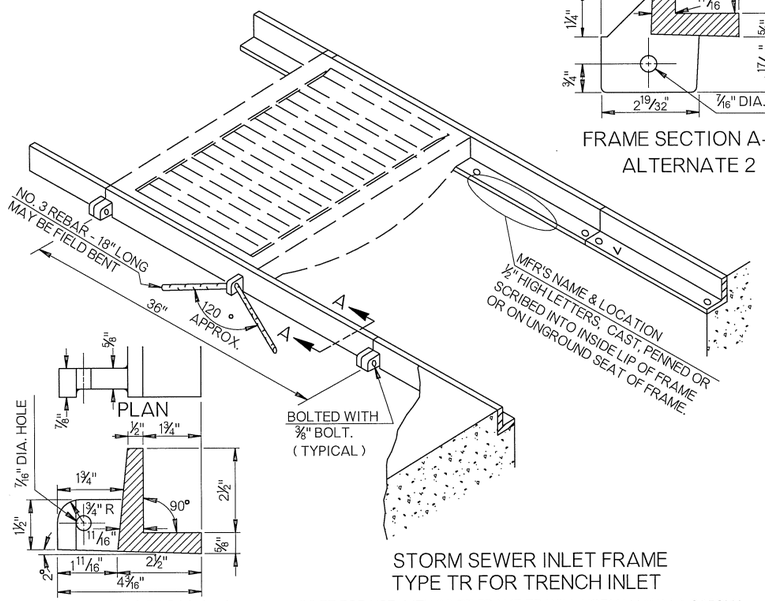
NOTE:
TWO TYPE B FRAMES AND TWO TYPE C FRAMES ARE REQUIRED FOR INLET DESIGN NO. 3.



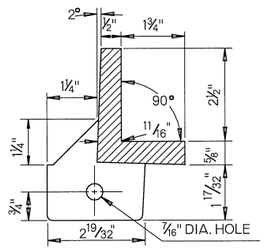
SECTION A-A

STORM SEWER INLET FRAME
TYPE C FOR INLET DESIGN NO. 3

NOTE: ONE PAY UNIT OF TYPE TR FRAME IS COMPOSED OF TWO 36" LONG SECTIONS OF FRAME. ONE TYPE TR FRAME REQUIRES TWO TRENCH TYPE GRATES (SEE ROADWAY STANDARD CIG-3). DO NOT USE FRAME TYPE GRATES IN A TRENCH INSTALLATION. COST OF BOLTS AND REBARS TO BE INCLUDED IN PRICE BID FOR INLET FRAME. FRAME MEMBERS MAY BE FURNISHED AS TWO 18" LONG PIECES, END-MATCHED, TO PROVIDE ONE 36" LONG UNIT.



FRAME SECTION A-A
ALTERNATE 1



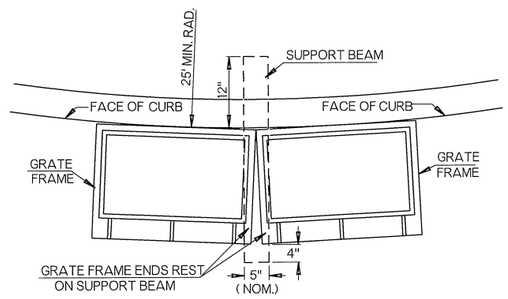
FRAME SECTION A-A
ALTERNATE 2

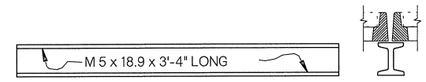
STORM SEWER INLET FRAME
TYPE TR FOR TRENCH INLET

INLET FOR USE WITH INLET FRAME TR WILL NORMALLY BE A SPECIAL DESIGN REINFORCED CONCRETE BOX WITH PART(S) OF THE TOP REMOVED.

OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE





ALTERNATE SUPPORT BEAM
TO BE USED IN LIEU OF S 4 x 7.7, WHEN STRUCTURE IS BUILT ALONG CURVED CURB

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. INLET DESIGN NO. 1 REQUIRES ONE TYPE A FRAME.
3. INLET DESIGN NO. 2 REQUIRES TWO TYPE B FRAMES AND 2 EA.-3/4" x 5" BOLTS WITH NUTS AND ONE S 4 x 7.7 x 3'-4" LONG SUPPORT BEAM. IF BUILT ON CURVED CURB, THE INLET REQUIRES 1 EA. 3/4" x 5" BOLT WITH NUT AND 1 EA. 3/4" x 6 1/2" BOLT WITH NUT AND ONE M 5 x 18.9 x 3'-4" LONG SUPPORT BEAM .
4. INLET DESIGN NO. 3 REQUIRES THE SAME APPURTENANCES AS DESIGN NO. 2 WITH TWO OR MORE TYPE C FRAMES LOCATED BETWEEN THE TWO TYPE B FRAMES AND ONE ADDITIONAL SUPPORT BEAM AND A PAIR OF BOLTS WITH NUTS FOR EACH ADDED TYPE C FRAME, PLUS ONE ADDITIONAL PAIR OF BOLTS AND SUPPORT BEAM.
5. ALL LETTERING TO BE RECESSED 1/16" AND SHALL NOT EXCEED 1" IN HEIGHT. INFORMATION REQUIRED SHALL BE STATED IN THE SPECIFICATIONS. LOCATION OF LETTERING TO BE AS SHOWN WITH ADDITIONAL IDENTIFICATION LETTERING AT OTHER LOCATIONS ACCEPTABLE.
6. FRAMES SHALL BE CAST STEEL, DUCTILE IRON, OR GRAY IRON CONFORMING TO SECTION 725 OF THE SPECIFICATIONS.
7. INLET FRAMES AND GRATES INSTALLED DURING ORIGINAL CONSTRUCTION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF THE ORIGINAL INLET.

NOTE: MACHINING (SYMBOL ^) MAY BE ACCOMPLISHED BY MILLING OR BY LEVEL GRINDING.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
611 (I)	REPLACEMENT OF INLET FRAME AND GRATE (■)	EA
611 (J)	REPLACEMENT OF INLET FRAME (■)	EA

■ TYPE OF FRAME AND TYPE OF GRATE SHALL BE SPECIFIED.

TYPE A, B, OR C FRAMES AS SHOWN HERE WITH GRATES FROM STD. CIG-3 (TYPE VG-F OR RVG-F) COMPRISE THE PAY ITEM. SEE NOTE THIS SHEET FOR PAY UNIT.

APPROVED BY
ROADWAY ENGINEER: _____ DATE: 04/16/15

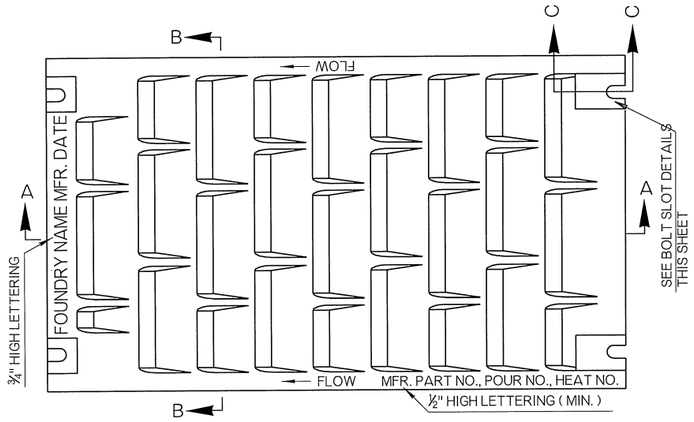
ROADWAY DESIGN DIVISION STANDARD

STORM SEWER INLET FRAMES
(CURB INLETS)

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

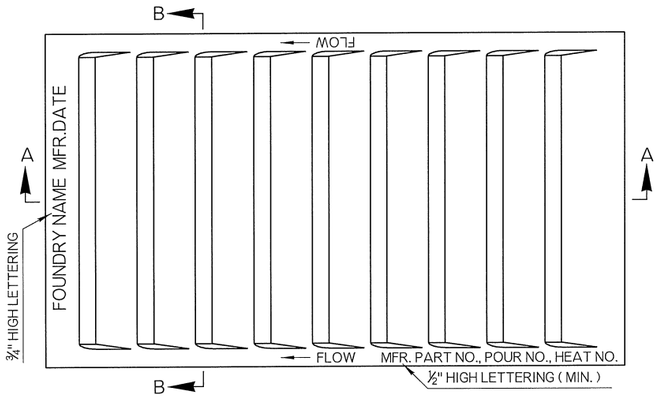
SSIF-4	0

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



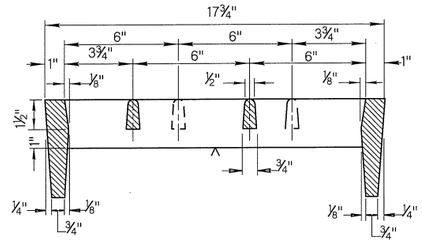
PLAN - RIBBED VANE GRATE
(SHOWN FOR TRENCH INSTALLATION)

TYPE RVG-F (FRAME INSTALLATION)
TYPE RVG-T (TRENCH INSTALLATION)

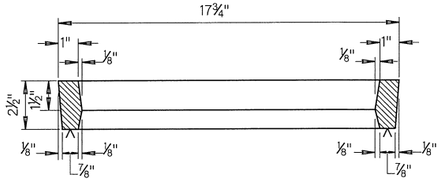


PLAN - VANE GRATE
(SHOWN FOR FRAME INSTALLATION)

TYPE VG-F (FRAME INSTALLATION)
TYPE VG-T (TRENCH INSTALLATION)



SECTION B - B (TRENCH INSTALLATION)

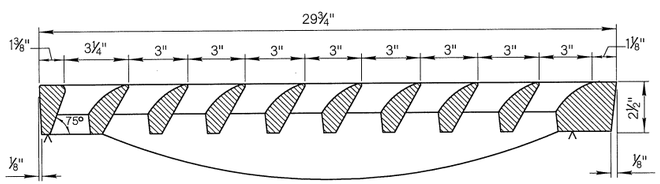


SECTION B - B (FRAME INSTALLATION)

GENERAL NOTES

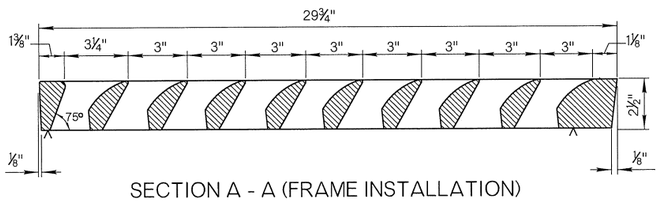
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. FRAME TYPE GRATES SHALL NOT TO BE USED IN TRENCH INSTALLATIONS.
3. GRATES SHALL BE INSTALLED IN THE FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SUMP.
4. ALL LETTERING IS TO BE RECESSED 1/16". ALL INFORMATION REQUIRED SHALL BE SUFFICIENT FOR IDENTIFICATION, AS SHOWN.
5. GRATES SHALL BE CAST STEEL, DUCTILE IRON, OR GRAY IRON CONFORMING TO SECTION 725 OF THE SPECIFICATIONS.
6. ALL GRATES INSTALLED IN A TRENCH FRAME (STD. SSIF-4) SHALL HAVE A BOLTED HOLD-DOWN FEATURE. IF INSTALLED IN AN ANGLE IRON FRAME OR RESTING ON A CONCRETE SHOULDER, A POSITIVE HOLD-DOWN FEATURE, APPROVED BY THE ENGINEER, SHALL BE USED.
7. INLET FRAMES, GRATES AND COVER GRATES INSTALLED DURING ORIGINAL CONSTRUCTION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF THE ORIGINAL INLET OR MANHOLE.

NOTE: MACHINING (SYMBOL ^) MAY BE ACCOMPLISHED BY MILLING OR BY LEVEL GRINDING.



^ MACHINING ONLY ON END BEARING AREAS.

SECTION A - A (TRENCH INSTALLATION)

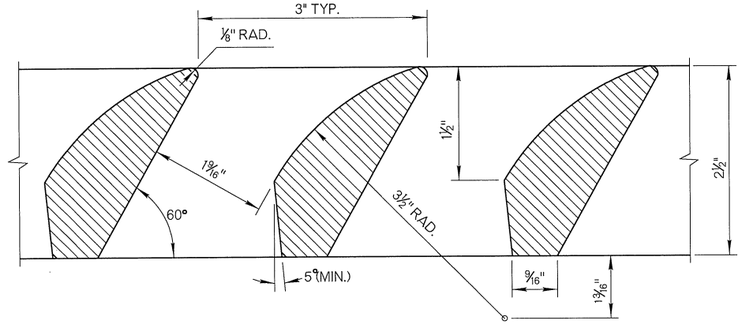


SECTION A - A (FRAME INSTALLATION)

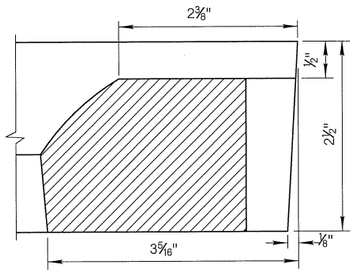
BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
▼ 611 (I)	REPLACEMENT OF INLET FRAME AND GRATE	EA
611 (K)	REPLACEMENT OF INLET GRATE (TYPE ■)	EA

▼ ANY FRAME TYPE GRATE ON THIS DRAWING INSTALLED IN A PROPER FRAME, AS SHOWN ON ROADWAY STANDARD SSIF-4 (TYPE A, B, C) WILL COMPRISE THE PAY ITEM.

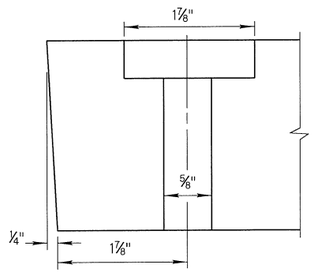
■ CAST INLET GRATE NOMENCLATURE	
TYPE VG-F	VANE GRATE - FRAME TYPE
TYPE VG-T	VANE GRATE - TRENCH TYPE
TYPE RVG-F	RIBBED VANE GRATE - FRAME TYPE
TYPE RVG-T	RIBBED VANE GRATE - TRENCH TYPE



TYPICAL SECTION THRU VANES



SECTION C - C



END VIEW

BOLT SLOT DETAILS

APPROVED BY ROADWAY ENGINEER: _____ DATE 04/16/15

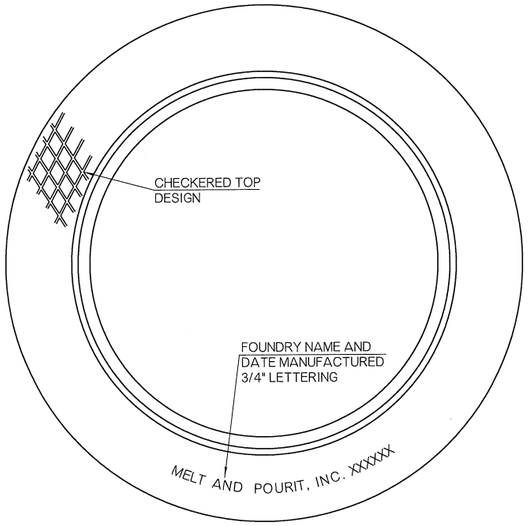
ROADWAY DESIGN DIVISION STANDARD

CAST IRON GRATES
(CURB INLETS)

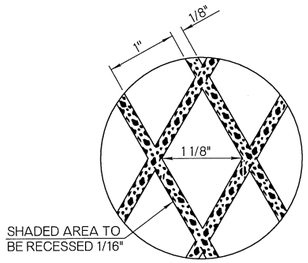
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

CIG-3	0

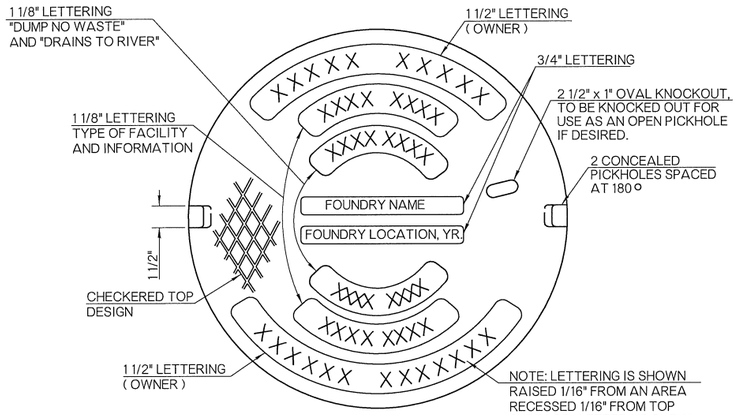
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



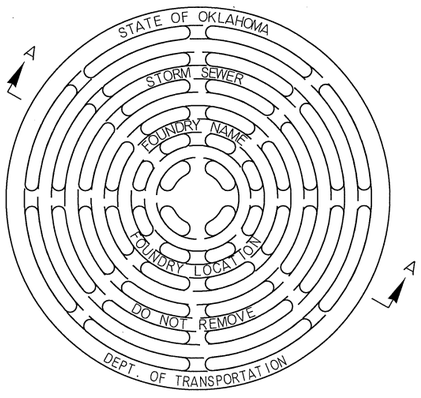
TOP SIDE OF FRAME FOR OUT OF PAVING INSTALLATION



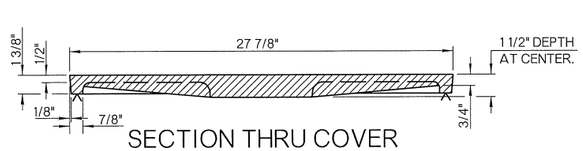
CHECKERED DESIGN DETAIL



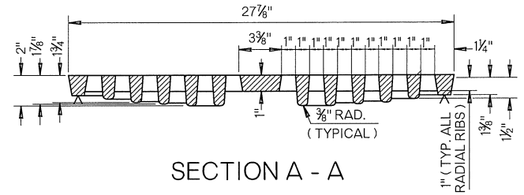
TOP SIDE OF COVER



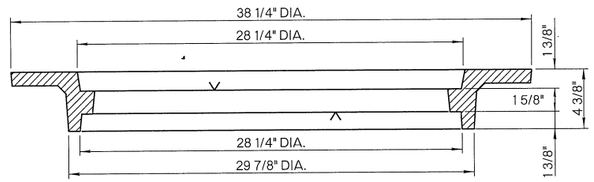
TOP SIDE OF COVER GRATE



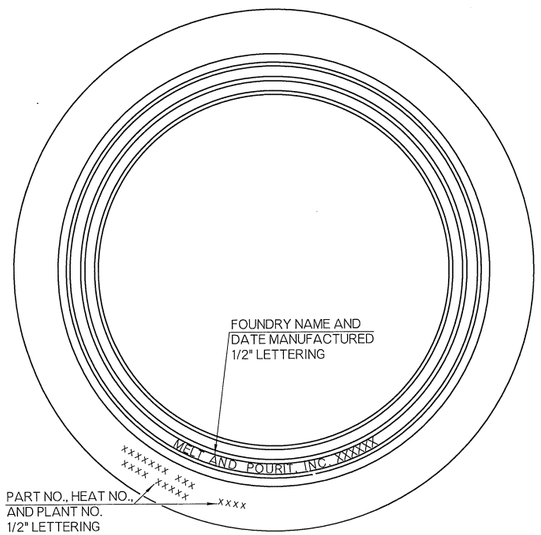
SECTION THRU COVER



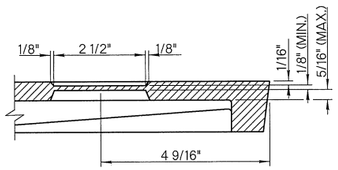
SECTION A - A



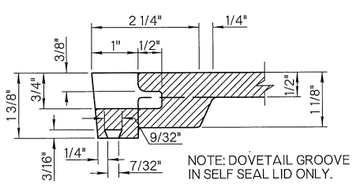
REVERSIBLE FRAME



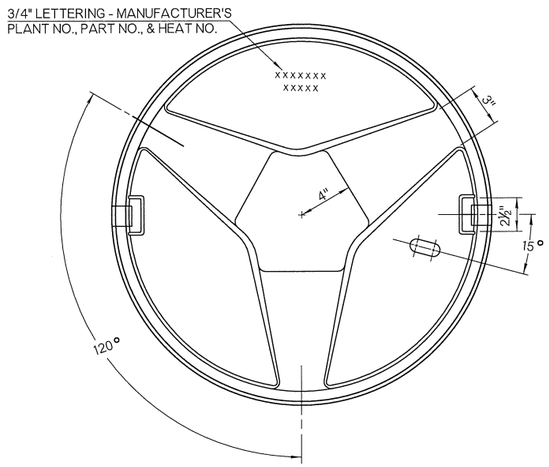
TOP SIDE OF FRAME FOR IN PAVING INSTALLATION



SECTION THRU OVAL KNOCKOUT



SECTION THRU PICKHOLE



BOTTOM SIDE OF COVER

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. COVERS WILL BE FURNISHED WITH A PLAIN SEAT, UNLESS A SELF-SEAL SEAT OR A LOCKING DEVICE IS SPECIFIED IN THE PLANS.
3. LETTERING TO DENOTE OWNERSHIP AND TYPE OF USAGE WILL BE AT THE DISCRETION OF THE OWNER.
4. FRAMES AND COVERS SHALL BE CAST STEEL, DUCTILE IRON, OR GRAY IRON CONFORMING TO SECTION 725 OF THE SPECIFICATIONS.
5. MANHOLE FRAMES, COVERS AND COVER GRATES INSTALLED DURING ORIGINAL CONSTRUCTION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF THE ORIGINAL MANHOLE.

NOTE: MACHINING (SYMBOL ^) MAY BE ACCOMPLISHED BY MILLING OR BY LEVEL GRINDING.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611 (C)	REPLACEMENT OF MANHOLE FRAME AND COVER	EA
611 (D)	REPLACEMENT MANHOLE FRAME	EA
611 (E)	REPLACEMENT OF MANHOLE COVER	EA
611 (F)	REPLACEMENT OF MANHOLE COVER GRATE	EA

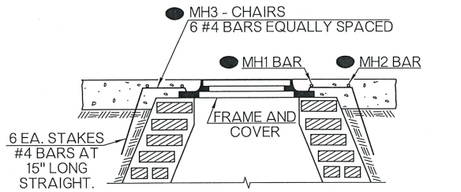
APPROVED BY ROADWAY ENGINEER: Caleb F. A DATE 04/16/15

ROADWAY DESIGN DIVISION STANDARD

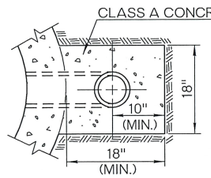
MANHOLE FRAME AND COVER

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

MFC-4	1



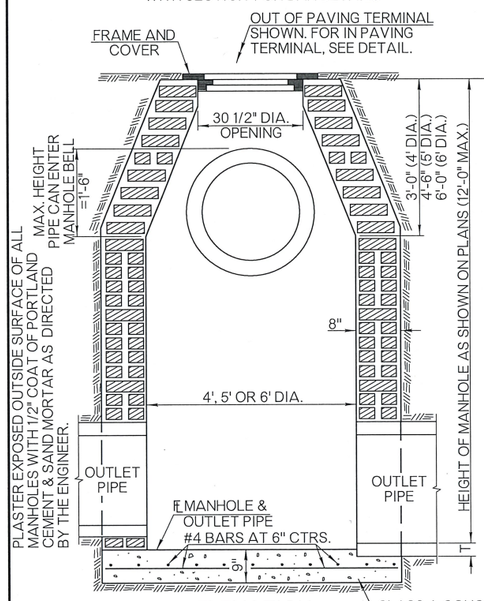
IN PAVING MANHOLE TERMINAL



SECTION D-D

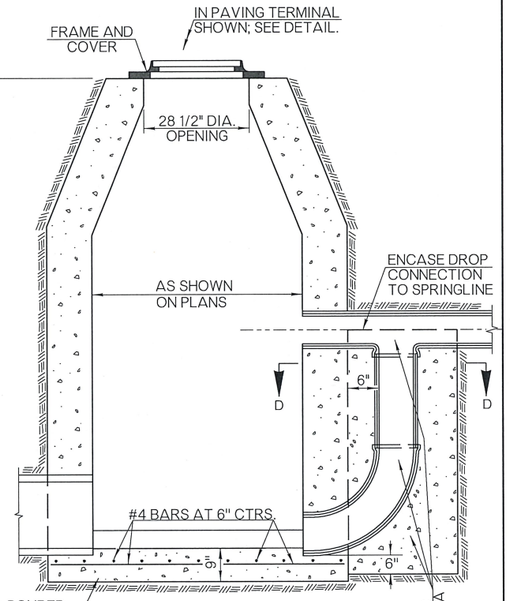
NOTE: ALL SANITARY SEWER MANHOLES SHALL BE CONSTRUCTED ONLY OF CLASS A CONCRETE OR PRECAST CONCRETE UNITS. TYPICAL BRICK MASONRY CONSTRUCTION MAY BE USED FOR STORM SEWER MANHOLES, CURB INLETS AND JUNCTION BOXES.

SEE 'BAR BENDING DIAGRAMS' AND 'PLAN WITH SECTION' FOR BAR DETAILS



ELEVATION

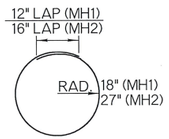
CLASS A CONC. POURED NOT LESS THAN 24 HOURS BEFORE BUILDING WALLS.



DROP INLET FOR SANITARY SEWER

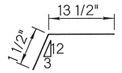
WHERE DIFFERENCE IN FLOW LINES IS 4' AND OVER

COST OF "T" JOINT, 90° BEND, CLASS A CONCRETE & EXTRA PIPE TO BE INCLUDED IN PRICE BID FOR MANHOLE.



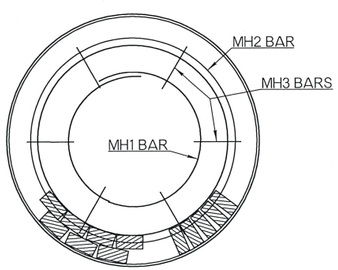
MH1 AND MH2 #4 BAR

FOR MANHOLE & JUNCTION BOX RISERS IN PAVING.



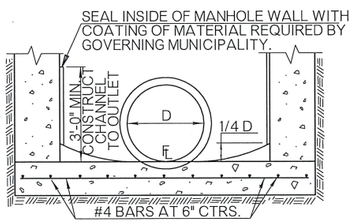
MH3 #4 BAR (CHAIR)

BAR BENDING DIAGRAMS



PLAN WITH SECTION

(FRAME REINFORCING SHOWN)

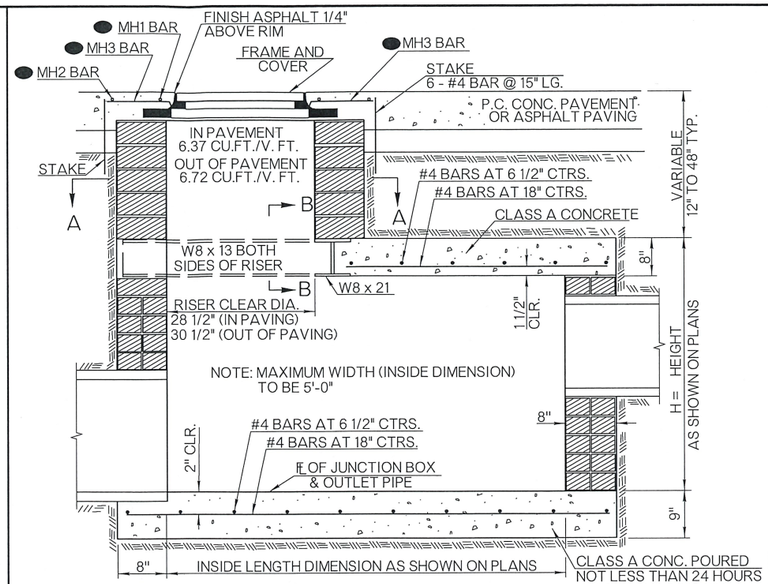


SECTION AT BOTTOM OF SANITARY SEWER MANHOLE

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611 (A)	MANHOLE (▼DIA.)	EA
611 (B)	ADDITIONAL DEPTH IN MANHOLE (▼DIA.)	VF

▼DIAMETER SHALL BE SPECIFIED (SEE PAY ITEM LIST)

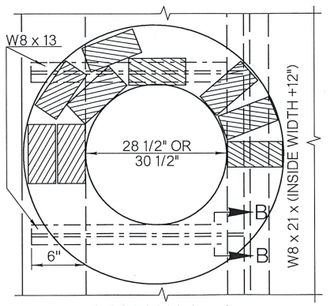
STANDARD MANHOLES



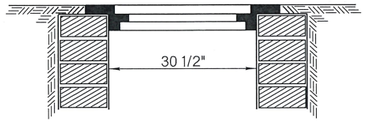
SECTION THRU JUNCTION BOX

(SHOWN IN PAVING WITH RISER)

SEE 'BAR BENDING DIAGRAMS' AND 'PLAN WITH SECTION' FOR BAR DETAILS

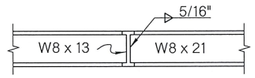


SECTION A - A

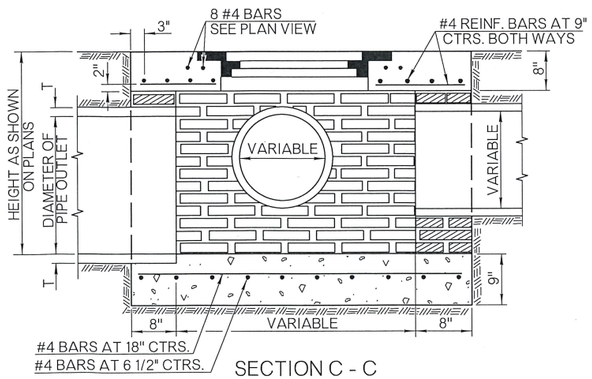


JUNCTION BOX RISER

OUT OF PAVING



SECTION B - B



SECTION C - C

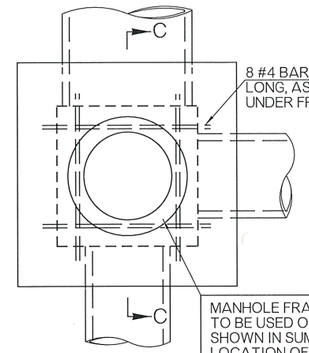
DETAIL OF JUNCTION BOX

(SHOWN OUTSIDE OF PAVING AND NO RISER)

STANDARD JUNCTION BOXES

OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE



PLAN

DEDUCTIONS FOR PIPE OPENING	
PIPE DIA.	VOLUME (CU. FT.)
18"	1.92
24"	3.24
30"	4.93
36"	6.97
42"	9.36
48"	12.11
54"	15.21
60"	18.66
66"	22.47
72"	26.62
78"	31.45
84"	36.36
90"	41.63

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL MANHOLES SHALL BE 4 FOOT DIAMETER UNLESS A LARGER DIAMETER IS REQUIRED.
3. CAST-IN-PLACE CONCRETE WALLS WITH THE SAME DIMENSIONS SHOWN ON THIS STANDARD, MAY BE USED IN LIEU OF THE BRICK MASONRY. CAST-IN-PLACE WALLS EXCEEDING 5 FEET IN DEPTH (GUTTERLINE TO FLOWLINE), WILL REQUIRE NO. 4 REINFORCING BARS SPACED AT 30 INCH CTRS. VERTICALLY AND 12 INCH CTRS. HORIZONTALLY.
4. WHERE A MORTAR COAT IS REQUIRED IT SHALL BE 1/2" THICK AND SHALL BE APPLIED WHILE BRICK MASONRY IS CLEAN AND DAMP.
5. MANHOLES UP TO 6 FEET IN HEIGHT SHALL BE PAID FOR AS 'MANHOLE' (EA.). ANY ADDITIONAL HEIGHT OF MANHOLE SHALL BE PAID FOR AS 'ADDITIONAL DEPTH IN MANHOLE' (VF).
6. JUNCTION BOXES SHALL HAVE INSIDE DIMENSIONS AND HEIGHT AS SHOWN ON THE PLANS, AND CONSTRUCTION SHALL BE MEASURED BY CF. OF WALL MATERIAL AND TO BE PAID FOR AS 'JUNCTION BOXES' (CF). DEDUCTIONS IN VOLUME WILL BE MADE FOR ALL PIPE OPENINGS 18 INCHES IN DIAMETER AND LARGER (SEE TABLE).
7. REINFORCING STEEL AND STRUCTURAL STEEL WILL BE INCLUDED AS PART OF THE COST OF THE STRUCTURE COMPLETE, AND WILL NOT BE MEASURED AS A PAY ITEM.
8. MANHOLE FRAMES, COVERS AND COVER GRATES INSTALLED DURING ORIGINAL CONSTRUCTION SHALL BE INCLUDED IN CONTRACT UNIT PRICE OF ORIGINAL MANHOLE AND JUNCTION BOX. FOR DETAILS OF FRAME AND COVER, SEE THE CURRENT VERSION OF ROADWAY STANDARD MFC-4.

OPTIONAL PRECAST MANHOLES

9. PRECAST STORM SEWER MANHOLE STRUCTURES CAN BE SUBSTITUTED FOR BRICK MASONRY OR CAST-IN-PLACE MANHOLE STRUCTURES. SEE ROADWAY STANDARDS PRM-0, PSM-0, AND PMD-0 FOR THEIR DESIGN, DETAILS AND BASIS OF PAYMENT.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
▲ 509 (C)	CLASS A CONCRETE, SMALL STRUCTURES	CY
611 (L)	JUNCTION BOXES	CF

▲ FOR QUANTITIES OF CLASS A CONCRETE LESS THAN 20.0 CY

APPROVED BY ROADWAY ENGINEER: _____ DATE 01/23/19

ROADWAY DESIGN DIVISION STANDARD

MANHOLES AND JUNCTION BOXES

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

MJB-3	2

R-43

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE

TABLE OF TRENCHING AND STANDARD BEDDING MATERIAL QUANTITIES

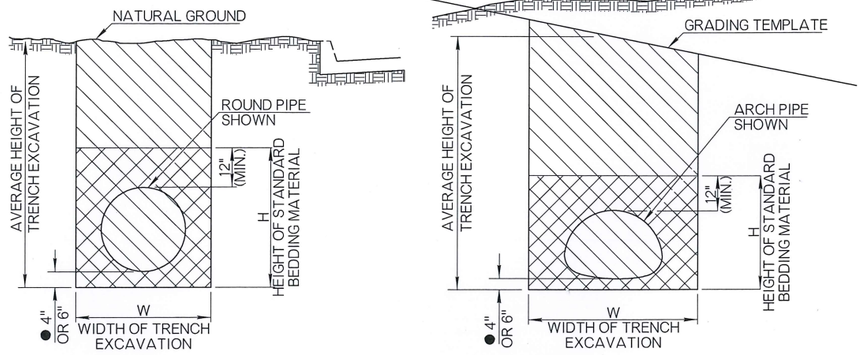
	PIPE DIAM. OR DESIGN EQUIV.	H ■	SINGLE PIPE INSTALLATION		DOUBLE PIPE INSTALLATION		TRIPLE PIPE INSTALLATION		CLEAR SPACE BETWEEN PIPES
			W	STANDARD BEDDING MATERIAL ■	W	STANDARD BEDDING MATERIAL ■	W	STANDARD BEDDING MATERIAL ■	
		FT.	FT.	CY/LF	FT.	CY/LF	FT.	CY/LF	INCHES
◆ ROUND PIPE	18"	3.10	3.20	0.28	6.10	0.52	9.00	1.00	14
	24"	3.60	4.00	0.39	7.70	0.73	11.40	1.50	17
	30"	4.20	4.80	0.51	9.30	0.97	13.80	2.15	20
	36"	4.75	5.50	0.63	10.80	1.23	16.20	2.85	23
	42"	5.30	7.00	0.92	13.20	1.67	19.30	3.80	26
	48"	6.20	7.50	1.03	14.75	2.00	21.70	4.70	29
	54"	6.20	8.00	1.20	15.30	2.20	22.70	5.10	32
	60"	6.75	9.50	1.60	17.60	2.75	25.90	6.30	35
	66"	7.20	10.00	1.70	18.80	3.10	27.70	7.35	38
METAL ARCH PIPE	18"	2.80	3.20	0.27	6.20	0.52	9.20	0.77	14
	24"	3.25	4.00	0.38	7.83	0.74	11.67	1.09	17
	30"	3.60	5.50	0.57	10.20	1.03	14.87	1.49	20
	36"	4.00	6.25	0.69	11.75	1.27	17.25	1.84	23
	42"	4.40	7.00	0.82	13.33	1.53	19.66	2.24	26
	48"	4.80	8.10	1.02	15.35	1.88	22.60	2.75	29
	54"	5.25	9.50	1.32	17.58	2.36	25.66	3.40	32
	60"	5.60	10.00	1.40	18.92	2.62	27.84	3.82	35
	66"	6.00	10.90	1.63	20.65	3.00	30.40	4.39	38

■ FOR PIPES UNDER PAVEMENT, THE H DIMENSION AND THE STANDARD BEDDING MATERIAL QUANTITY, SHALL BE INCREASED TO GO TO THE TOP OF THE TRENCH.

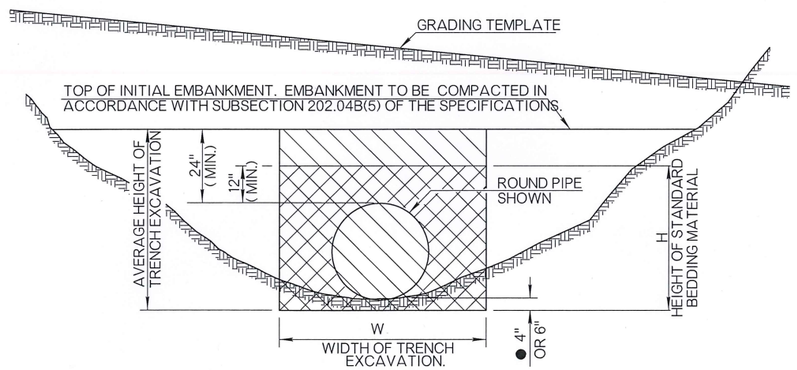
TABLE OF FILL HEIGHTS

	PIPE SIZE		MINIMUM COVER OVER TOP OF PIPE (BUOYANCY)	MAXIMUM COVER		MINIMUM METAL PIPE GAGE REQUIREMENT	
	POLYETH. ROUND	EQUIVALENT METAL ARCH		POLYETHYLENE	METAL	UNDER PAVEMENT	ALL OTHERS
ROUND PIPE	18"	21" x 15"	15"	10'	REFER TO RDY. STANDARD FHTMPP-1	14 ◒	REFER TO RDY. STANDARD FHTMPP-1
	24"	28" x 20"	20"	10'		14 ◒	
	30"	35" x 24"	25"	10'		14 ◒	
	36"	42" x 29"	30"	10'		14	
	42"	49" x 33"	35"	10'		12	
	48"	57" x 38"	40"	10'		12	
	54"	64" x 43"	45"	10'		12	
	60"	71" x 47"	50"	10'		10	
	66"	77" x 52"	55"	N/A		10	

◒ UNDER PAVEMENT IS DEFINED TO INCLUDE ALL P.C. OR A.C. SURFACING UNDER MAINLINE TRAFFIC AND MAJOR STREET RETURNS. A MINIMUM PIPE GAGE OF 16 MAY BE USED FOR INSTALLATIONS REQUIRING 30 INCH EQUIVALENT ROUND CONDUITS (MAX.) AND LIMITED TO LOW VOLUME COUNTY OR OFF-SYSTEM ROADS, MINOR STREET RETURNS, DRIVEWAYS OR TEMPORARY DETOURS, AS APPROVED BY THE ENGINEER.



TRENCH EXCAVATION IN CUT SECTIONS



TRENCH EXCAVATION IN EMBANKMENT SECTIONS

LIMITS OF STANDARD BEDDING MATERIAL.
QUANTITIES FOR BEDDING MATERIAL DO NOT INCLUDE THE SPACE WITHIN AND BOUNDED BY THE OUTER SURFACE OF THE PIPE CONDUIT.

LIMITS OF TRENCH EXCAVATION.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. TRENCH EXCAVATION & STANDARD BEDDING WILL NOT BE REQUIRED FOR PIPE INSTALLATIONS ON SIDE DRAINS UNLESS OTHERWISE SPECIFIED ON THE PLANS.
3. TRENCH EXCAVATION WILL BE PAID FOR ON PIPE UNDERDRAIN. SEE ROADWAY STANDARD PUD-3.
4. TRENCHING REQUIREMENTS FOR DEPTHS OVER 5 FEET SHALL BE IN ACCORDANCE WITH, & DEFINED BY, O.S.H.A. REGS., TITLE 29 CFR, STANDARDS 1926.650, 1926.651 & 1926.652.
5. NORMAL BACKFILLING OPERATIONS SHALL FOLLOW BEDDING AND PIPE INSTALLATION AS CLOSELY AS PRACTICAL. IN NO CASE SHALL A PIPE INSTALLATION SUBJECT TO SUDDEN FLOW DEVELOPMENT BE LEFT WITHOUT SUFFICIENT BACKFILL TO RESTRAIN THE CONDUIT AND PREVENT JOINT SEPARATION AND/OR PIPING SCOUR. PHYSICALLY RESTRAINING THE CONDUIT MAY BE USED TO AUGMENT OR REPLACE THIS IMMEDIATE BACKFILL REQUIREMENT.
6. ANY EXCESS EXCAVATION NOT USED FOR BACKFILL WILL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF, BY HIM, IN A MANNER APPROVED BY THE ENGINEER.
7. INSTALLATION OF FLEXIBLE PIPE SHALL CONFORM TO SECTION 26 - DIVISION II OF AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
8. JOINTS IN METAL PIPES SHALL CONFORM TO SECTION 26.4.2.4 OF AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. IF A WATERTIGHT JOINT IS SPECIFIED ON THE PLANS, A 12" WIDE BY 3/4" THICK NEOPRENE SLEEVE GASKET MEETING ASTM D1056 REQUIREMENT SHALL BE USED.
9. JOINTS IN CORRUGATED POLETHYLENE PIPES SHALL CONSIST OF A GASKETED SYSTEM WHICH CAN PASS MINIMUM OF 2 PSI HYDROSTATIC TEST WITHOUT LEAKAGE AND CONFORM TO AASHTO M 294▲& SECTION 26.4.2.4 OF AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES. GASKET MATERIAL SHALL CONFORM TO EITHER ASTM D1056 OR ASTM F477 REQUIREMENTS. SIDE DRAINS ARE EXCLUDED FROM THE LEAKAGE RESISTANCE REQUIREMENTS UNLESS OTHERWISE SPECIFIED.
10. TYPE C POLYETHYLENE PIPE SHALL BE USED ONLY IN SIDE-DRAIN & SLIPLINING APPLICATIONS.

◆ 11. STANDARD BEDDING MATERIAL QUANTITIES ARE BASED ON THE TRENCH WIDTH (W), TRENCH HEIGHT (H) AND EFFECTIVE DIAMETER (D) OF ROUND CORRUGATED POLYETHYLENE PIPE MEETING THE REQUIREMENTS OF AASHTO M 294 (18"-60").

▲ 12. SPLIT COLLAR COUPLERS ARE NOT APPROVED FOR USE IN ALL CORRUGATED POLYETHYLENE PIPE INSTALLATIONS.

● 13. EQUIVALENT PIPE SIZES 66 INCHES AND LARGER REQUIRE 6 INCHES OF BEDDING MATERIAL BELOW PIPE CONDUIT.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
613 (R)	STANDARD BEDDING MATERIAL, CLASS A	CY
613 (S)	STANDARD BEDDING MATERIAL, CLASS B	CY
613 (T)	STANDARD BEDDING MATERIAL, CLASS C	CY
613 (V)	TRENCH EXCAVATION	CY

APPROVED BY ROADWAY ENGINEER: _____ DATE: 04/16/15

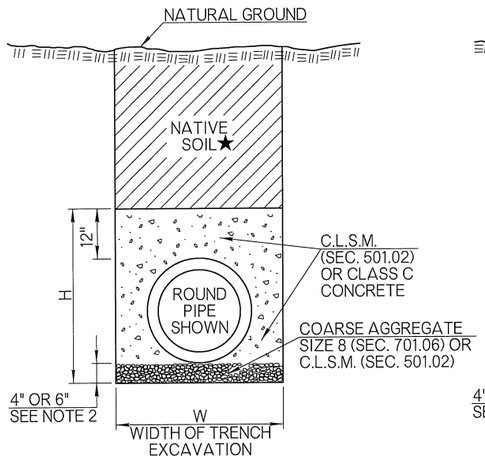
ROADWAY DESIGN DIVISION STANDARD

FLEXIBLE PIPE INSTALLATION

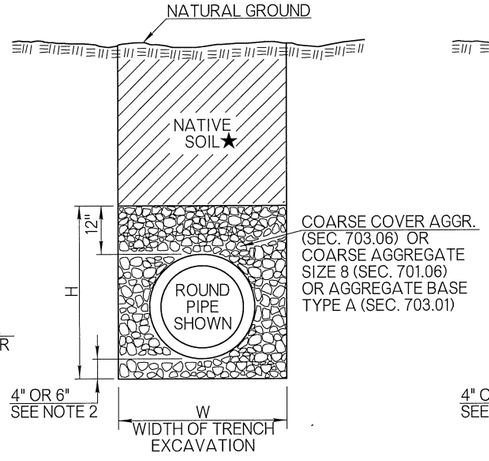
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

FPI-3	3

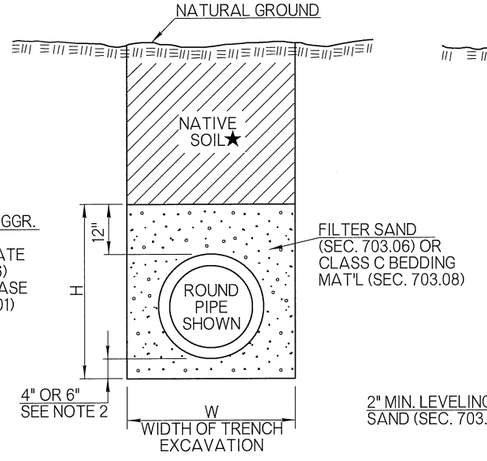
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



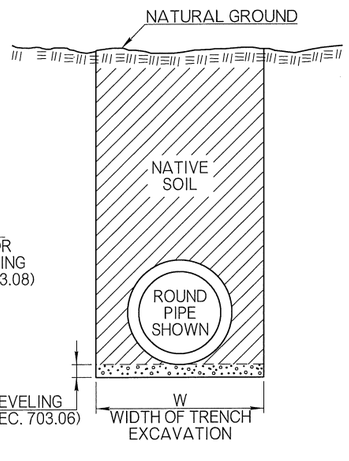
CLASS A BEDDING



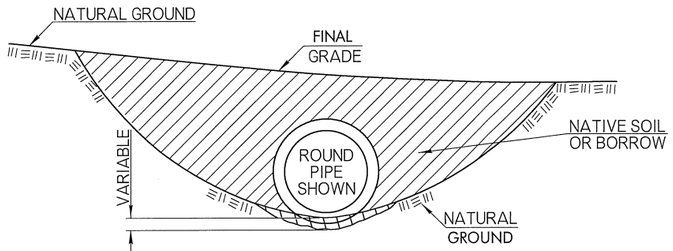
CLASS B BEDDING



CLASS C BEDDING



CLASS D BEDDING
ALTERNATE 1



NATIVE SOIL OR SAND (SEC. 703.06) MAY BE USED TO ADJUST FLOWLINE OF NATURAL DITCH TO PROVIDE SMOOTH BEDDING SURFACE FOR PIPE CONDUIT AND ATTAIN PROPER DESIGN GRADE. SEE SECTION 613.04.G

CLASS D BEDDING
ALTERNATE 2

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. EQUIVALENT PIPE SIZES 66 INCHES AND LARGER REQUIRE 6 INCHES OF BEDDING MATERIAL BELOW PIPE CONDUIT.
3. NATIVE SOIL FOR BACKFILL, TO BE COMPACTED IN ACCORDANCE WITH SECTION 202.04 OF THE STANDARD SPECIFICATIONS.
4. A BETTER CLASS OF BEDDING MAY BY SUBSTITUTED FOR THE NEXT LOWER CLASS. EXAMPLE: CLASS A STANDARD BEDDING CAN BE USED IN LIEU OF CLASS B STANDARD BEDDING.
5. FOR TRENCH WIDTH (W), BEDDING HEIGHT (H), PIPE DATA, MULTIPLE PIPE SPACING & BEDDING DATA, SEE ROADWAY STANDARDS SPI-4 & FPI-3.
6. DATA TABLE WILL DISPLAY 'NA' WHEN PIPE MATERIALS ARE NOT ALLOWED.
7. STANDARD BEDDING CLASS D MATERIAL(S) (ALTERNATE 1) WILL BE CONSIDERED AS INCIDENTAL AND NOT BE PAID FOR SEPARATELY. COST FOR BORROW OR FILL MATERIAL, NEEDED FOR ALTERNATE 2, WILL BE INCLUDED IN THE PRICE OF THE PIPE.
8. PIPE MATERIAL(S)/PRODUCT(S) NOT SHOWN IN THE PIPE BEDDING TABLE WILL BE EVALUATED AND APPROVED ON A CASE BY CASE BASIS.
9. ALL TEMPORARY PIPES SHALL HAVE CLASS D BEDDING UNLESS OTHERWISE SHOWN IN THE PLANS.
10. BEDDING MATERIAL TYPE B, C, AND D, SHALL BE PLACED IN 6" LAYERS AND COMPACTED TO THE SPECIFIED DENSITY USING HAND OPERATED EQUIPMENT ONLY.

★11. WHEN PIPE INSTALLATION IS UNDER PAVING, IN LIEU OF BACKFILLING WITH NATIVE SOIL, PLACE BEDDING MATERIAL ALL THE WAY TO TOP OF TRENCH.

12. THE USE OF AN ALTERNATE PIPE AND ITS CORRESPONDING BEDDING MATERIAL WILL BE ACCEPTABLE PROVIDED THE CRITERIA IN THE DESIGN TABLE IS MET
13. POLYPROPYLENE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.

PIPE BEDDING CLASS/DESIGN TABLE

TYPE OF PIPE	■ UNDER PAVING				OUTSIDE PAVING		
	CROSS DRAIN (NHS OR ADT > 6000 VPD)	CROSS DRAIN (OTHER)	STORM SEWER (NHS OR ADT > 6000 VPD)	STORM SEWER (OTHER)	CROSS DRAIN	SIDE DRAIN	STORM SEWER
REINFORCED CONCRETE PIPE	B	C	B	C	C	D	C
CORRUGATED GALV. STEEL PIPE (CGSP)	NA	B	NA	B	C	D	C
MILL PRECOATED CGSP	NA	B	NA	B	C	D	C
CORRUGATED GALV. STRUCT. PLATE	NA	B	NA	B	C	D	C
ALUMINIZED TYPE II CSP	NA	B	NA	B	C	D	C
CORRUGATED POLYETHYLENE / PVC	NA	A	NA	A	B	B	B
POLYVINYL CHLORIDE (SC 40/80 PVC)	NA	NA	NA	NA	NA	NA	NA
POLYPROPYLENE PIPE (PP) ▲	NA	B	NA	B	C	D	C

■ WHEN THERE IS ANY POSSIBILITY OF THE PAVEMENT BEING WIDENED DURING THE LIFE OF THE DRAINAGE STRUCTURE, THE BEDDING SHALL MEET THE 'UNDER PAVING SECTION' CRITERIA FOR THE FULL EXTENT OF ANY ANTICIPATED EXPANSION TO THE FACILITY.

▲ BACKFILL WITH A MINIMUM OF TWO (2) FEET OF APPROVED BACKFILL MATERIAL.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
613 (R)	STANDARD BEDDING MATERIAL, CLASS A	CY
613 (S)	STANDARD BEDDING MATERIAL, CLASS B	CY
613 (T)	STANDARD BEDDING MATERIAL, CLASS C	CY

APPROVED BY ROADWAY ENGINEER: Caleb F. H DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

STANDARD PIPE BEDDING

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

SPB-1 | 4

FULL CIRCLE STEEL PIPE CULVERT

PIPE DIAMETER FOR CORRUGATION PATTERN				MIN. COVER TOP OF PIPE TO TOP OF SUBGRADE	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE						
					EQUIV. STANDARD GAGE						
2 2/3" x 1/2"	3" x 1"	5" x 1"	6" x 2"		16	14	12	10	8	7	5
18"				12"	61'	67'	86'	90'	94'		
21"				12"	53'	57'	74'	77'	81'		
24"				12"	46'	50'	65'	68'	71'		
27"				12"	41'	44'	57'	60'	63'		
30"				12"	37'	40'	52'	54'	56'		
36"				12"	30'	33'	43'	45'	47'		
	36"			12"	53'	66'	77'	89'	100'		
42"				12"	34'	44'	46'	47'	49'		
	42"			12"	45'	56'	64'	71'	78'		
48"				12"		41'	44'	45'	46'		
	48"			12"	39'	49'	56'	61'	66'		
		48"		12"	49'	52'	56'	61'	66'		
54"				12"		36'	43'	44'	45'		
	54"			12"	35'	44'	51'	55'	58'		
		54"		12"	47'	48'	52'	55'	58'		
60"				12"			42'	43'	43'		
	60"			12"	31'	39'	49'	51'	53'		
		60"		12"	43'	46'	49'	51'	53'		
			60"	12"			46'	68'	90'	96'	106'
66"				12"				42'	43'		
	66"			12"	29'	36'	47'	48'	50'		
		66"		12"	39'	45'	47'	48'	50'		
			66"	12"			42'	62'	78'	82'	90'
72"				12"				42'	42'		
	72"			12"	26'	33'	45'	47'	48'		
		72"		12"	36'	44'	45'	47'	48'	73'	78'
			72"	12"			38'	57'	69'		
78"				12"					42'		
	78"			12"	24'	30'	44'	45'	46'		
		78"		12"	33'	42'	44'	45'	46'		
			78"	12"			35'	53'	63'	66'	70'
84"				12"					42'		
	84"			12"	22'	28'	42'	44'	45'		
		84"		12"	31'	39'	43'	44'	45'		
			84"	12"			33'	49'	59'	61'	64'
	90"			12"		26'	39'	44'	44'		
		90"		12"	29'	36'	43'	44'	44'		
			90"	12"			31'	45'	55'	57'	60'
	96"			12"		24'	36'	43'	44'		
		96"		12"		34'	43'	43'	44'		
			96"	12"			29'	43'	53'	54'	57'
	102"			24"			34'	41'	43'		
		102"		24"		32'	42'	43'	43'		
	108"			24"			32'	39'	43'		
		108"		24"			42'	42'	43'		
			108"	24"			25'	38'	49'	50'	52'
	114"			24"			31'	37'	41'		
		114"		24"			40'	42'	42'		
	120"			24"			29'	35'	39'		
		120"		24"			38'	42'	42'		
			120"	24"			23'	34'	45'	48'	49'

FULL CIRCLE ALUMINUM PIPE CULVERT

PIPE DIAMETER FOR CORRUGATION PATTERN			MIN. COVER TOP OF PIPE TO TOP OF SUBGRADE	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE				
				EQUIV. STANDARD GAGE				
2 2/3" x 1/2"	3" x 1"	6" x 1"		16	14	12	10`	8
18"			12"	36'	36'	63'		
24"			12"	27'	27'	47'	50'	
27"			12"	24'	24'	42'	44'	
30"			12"	22'	21'	37'	39'	
	30"		12"	40'	50'	68'		
36"			12"		18'	32'	33'	
	36"		12"	33'	41'	57'	85'	
		36"	12"	20'				
42"			12"			54'	57'	
	42"		12"	27'	35'	48'	73'	
48"			12"			47'	49'	51'
	48"		12"	24'	30'	42'	63'	82'
54"			12"			41'	44'	45'
	54"		12"	21'	27'	37'	56'	73'
		54"	12"		29'	42'	67'	66'
60"			12"				39'	41'
	60"		12"	19'	24'	33'	24'	66'
		60"	12"		25'	37'	59'	58'
66"			12"				36'	37'
	66"		12"	14'	18'	26'	40'	51'
		66"	12"		23'	33'	53'	52'
	72"		12"		28'	27'	41'	54'
		72"	15"		19'	27'	36'	43'
	78"		15"		18'	25'	38'	50'
		78"	15"		17'	25'	32'	40'
	84"		18"		17'	23'	35'	47'
		84"	18"			23'	30'	37'
	90"		18"			21'	33'	43'
		90"	18"			21'	28'	34'
	96"		18"			20'	31'	40'
		96"	18"			19'	26'	32'
	102"		21"			18'	28'	37'
		102"	21"			18'	25'	29'
	108"		21"				27'	35'
		108"	21"			17'	23'	28'
	114"		24"				25'	34'
		114"	24"			16'	21'	26'
	120"		24"				24'	32'
		120"	24"				20'	25'

METAL PIPE ARCH - FILLS TO 10 FT. MAX.

APPROX. EQUIV. ROUND PIPE	SIZE SPAN x RISE	2 2/3" x 1/2" CORRUGATION PATTERN			
		STEEL		ALUMINUM	
		MIN. GAGE	MIN. COVER	MIN. GAGE	MIN. COVER
15"	17" x 13"	16	12"	16	12"
18"	21" x 15"	16	12"	16	12"
21"	24" x 18"	16	12"	16	12"
24"	28" x 20"	16	12"	14	12"
30"	35" x 24"	14◒	12"	14	12"
36"	42" x 29"	14	12"	12	15"
42"	49" x 33"	14	12"	12	15"
48"	57" x 38"	12	12"	10	15"
54"	64" x 43"	12	12"	10	18"
60"	71" x 47"	10	12"	8	18"
66"	77" x 52"	8	12"	8	18"
72"	83" x 57"	8	12"	8	18"
3" x 1" & 5" x 1" CORRUGATION PATTERN					
36"	40" x 31"	14	12"		
42"	46" x 36"	14	12"		
48"	53" x 41"	14	12"		
54"	60" x 46"	14	12"	14	15"
60"	66" x 51"	14	12"	14	18"
66"	73" x 55"	14	12"	14	18"
72"	81" x 59"	14	12"	12	21"
78"	87" x 63"	14	12"	12	21"
84"	95" x 67"	12	12"	12	24"
90"	103" x 71"	12	18"	10	24"
96"	112" x 75"	12	18"	10	27"
102"	117" x 79"	12	18"		
108"	128" x 83"	10	24"		
114"	137" x 87"	10	24"		
120"	142" x 91"	10	24"		

◒ WHEN INSTALLED UNDER PAVEMENT INCLUDING ALL P.C. OR A.C. SURFACING UNDER MAINLINE TRAFFIC AND MAJOR STREET RETURNS. A MINIMUM PIPE GAGE OF 16 MAY BE USED FOR INSTALLATION REQUIRING 30 INCH EQUIVALENT ROUND CONDUITS (MAX.) AND LIMITED TO LOW VOLUME COUNTY OR OFF-SYSTEM ROADS, MINOR STREET RETURNS, DRIVEWAYS OR TEMPORARY DETOURS, AS APPROVED BY THE ENGINEER.

POLY-PROPYLENE PIPE DIAMETER	MAXIMUM FILL HEIGHT OVER CULVERT (FT.) ◑			
	UNDER PAVEMENT		OUTSIDE PAVEMENT	
	95% COMPACT	90% COMPACT	Class C - 85% COMPACT	Class D - 85% COMPACT
18	25	18	16	13
24	22	16	14	12
30	23	17	13	12
36	22	16	11	11
42	22	15	11	11
48	21	15	11	10
60	23	16	11	10

◑ REFER TO ROADWAY DESIGN STANDARD SPB-1 FOR MINIMUM FILL HEIGHT AND OTHER POLYPROPYLENE INSTALLATION DETAILS.

EQUIVALENT METAL THICKNESS AND GAGE		
GAGE NUMBER	METAL THICKNESS (INCHES)	
	■ STEEL	♦ ALUMINUM
16	0.064	0.060
14	0.079	0.075
12	0.109	0.105
10	0.138	0.135
8	0.168	0.164
7	0.188	----
5	0.218	----

■ THE THICKNESS OF THE SHEET INCLUDES BOTH THE BASE STEEL AND THE COATING.

♦ THE THICKNESS SHOWN REFERS TO THE CLAD SHEET.

GENERAL NOTES

1. METAL PIPE FILL HEIGHT DESIGNS ARE BASED ON A CLASS B BEDDING, NEGATIVE PROJECTION, HS-20 LIVE LOADING AND 120 LBS/C.F. SOIL WEIGHT. POLYPROPYLENE PIPE FILL HEIGHTS ARE BASED ON AASHTO M330 FOR POLYPROPYLENE, TYPE S, PIPE WITH OUTER CORRUGATED WALL AND SMOOTH INNER WALL.
2. IN THE EVENT LOADS IN EXCESS OF HS-20 ARE TO BE OPERATED OVER OR ADJACENT TO THE PIPE INSTALLATION DURING THE CONSTRUCTION PHASE, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A MINIMUM OF FOUR FEET OF COVER OVER THE PIPE AT WHEEL OR TRACK PATHS.
3. PROPER INSTALLATION PRACTICES MUST BE ADHERED TO AS SHOWN ON ROADWAY STANDARDS SPI-4, FPI-3 AND SPB-1. POLYPROPYLENE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.
4. ANY PIPE DEFORMED PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE. SURFACE DISTRESS MUST BE REPAIRED TO THE SATISFACTION OF THE ENGINEER OR REPLACED AT THE CONTRACTOR'S EXPENSE.
5. MAXIMUM FILL HEIGHTS ARE MEASURED TO TOP OF SUBGRADE (OR BOTTOM OF ASPHALT OR PC PAVEMENT) FOR METAL AND POLYPROPYLENE PIPES.

OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE

APPROVED BY ROADWAY ENGINEER: Caleb F. H DATE: 04/14/15

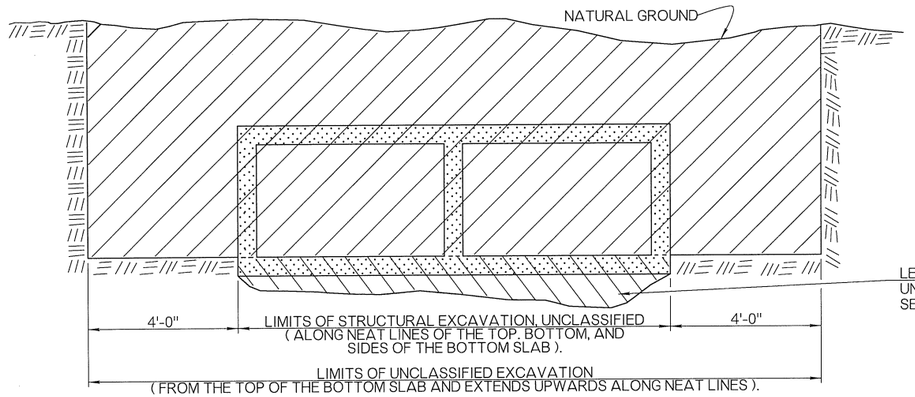
ROADWAY DESIGN DIVISION STANDARD

FILL HEIGHT TABLES (METAL & POLYPROPYLENE PIPES)

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

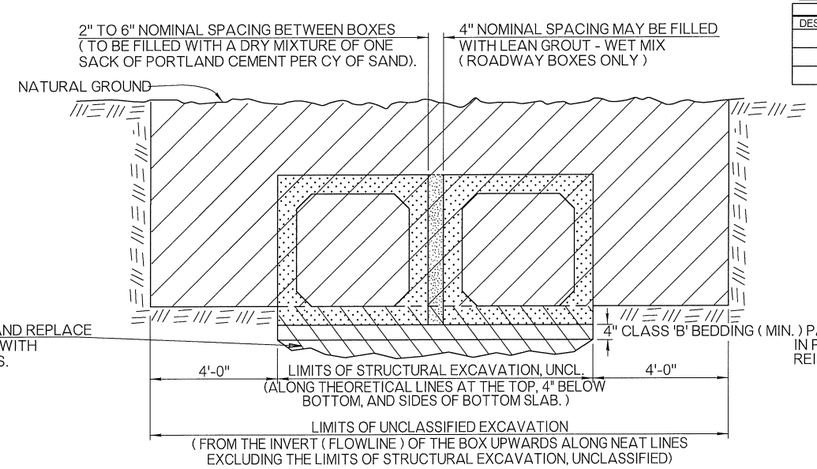
FHTMPP-1 | 0

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE

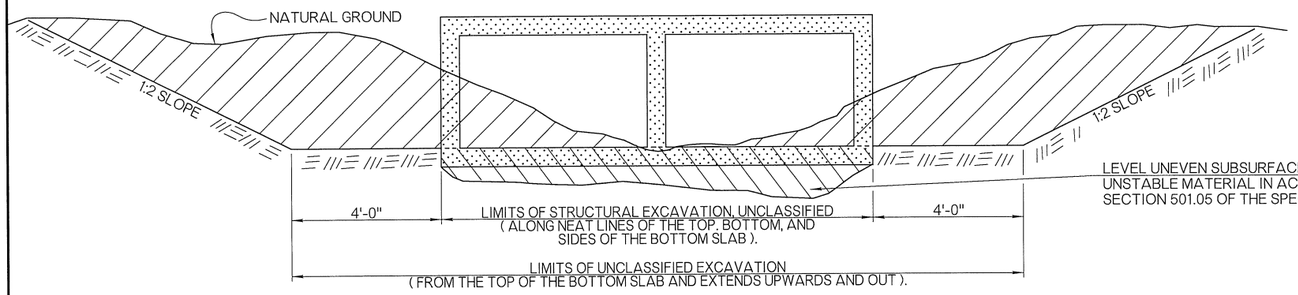


REQUIREMENTS FOR UNCLASSIFIED AND STRUCTURAL EXCAVATION OF RCB STORM SEWERS

LEVEL UNEVEN SUBSURFACE, REMOVE AND REPLACE UNSTABLE MATERIAL IN ACCORDANCE WITH SECTION 501.05 OF THE SPECIFICATIONS.

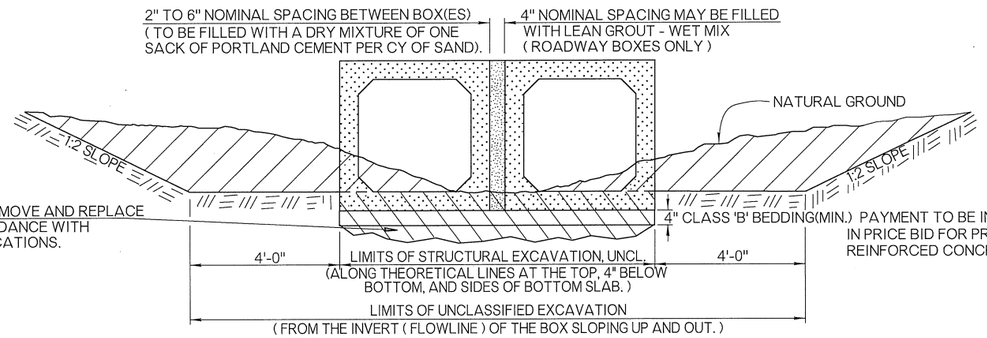


REQUIREMENTS FOR EXCAVATION OF PRECAST RCB STORM SEWERS

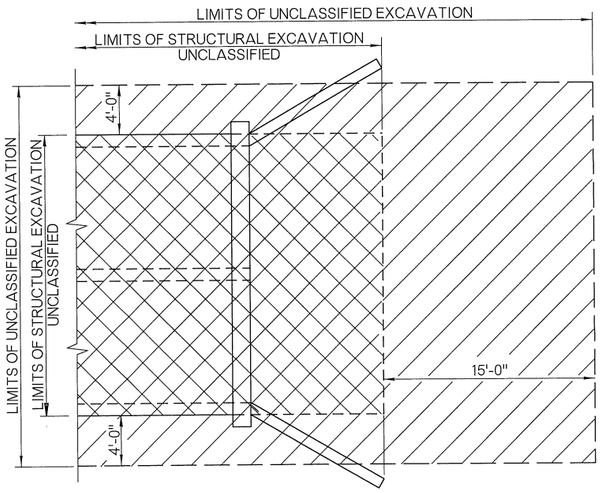


REQUIREMENTS FOR UNCLASSIFIED AND STRUCTURAL EXCAVATION OF RCB CULVERTS OF ROADWAY AND BRIDGE CLASSIFICATION

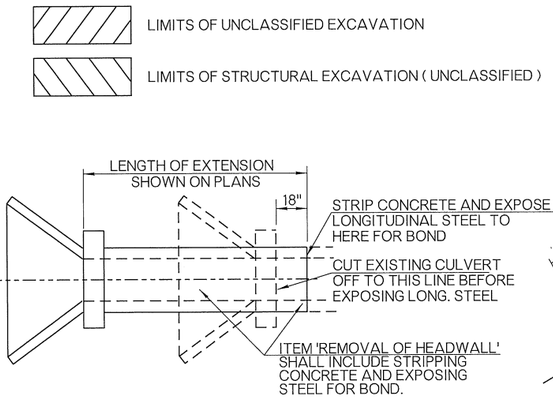
LEVEL UNEVEN SUBSURFACE, REMOVE AND REPLACE UNSTABLE MATERIAL IN ACCORDANCE WITH SECTION 501.05 OF THE SPECIFICATIONS.



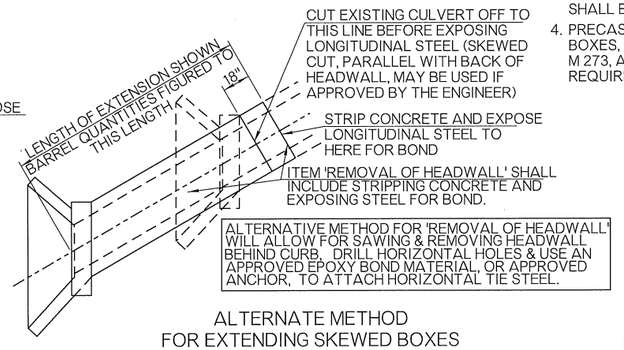
REQUIREMENTS FOR EXCAVATION OF PRECAST RCB CULVERTS OF ROADWAY AND BRIDGE CLASSIFICATION.



PLAN VIEW



ALTERNATE METHOD FOR EXTENDING 90° BOXES



ALTERNATE METHOD FOR EXTENDING SKEWED BOXES

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. PAYMENT FOR CAST-IN-PLACE REINFORCED CONCRETE BOXES WILL BE IN CUBIC YARDS OF CLASS A OR CLASS AA CONCRETE AND POUNDS OF REINFORCING STEEL, IN ACCORDANCE WITH SECTION 509 AND 511 OF THE SPECIFICATIONS.
3. PAYMENT FOR PRECAST CONCRETE BOX CULVERTS WILL BE MADE BASED ON THE UNIT PRICE BID FOR ITEMS AND QUANTITIES OF A CAST-IN-PLACE BOX OF THE LENGTH REQUIRED AS DETERMINED BY FIELD MEASUREMENTS, AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 508 OF THE SPECIFICATIONS.
4. PRECAST CONCRETE BOX SECTIONS, USED IN LIEU OF CAST-IN-PLACE CONCRETE BOXES, SHALL MEET MINIMUM DESIGN REQUIREMENTS OF AASHTO M 259 OR M 273, AND ASTM C1433 OR C1577, AND JOINT FILLER SHALL MEET THE REQUIREMENTS OF SUBSECTION 726.01.B OF THE SPECIFICATIONS.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
202 (A)	UNCLASSIFIED EXCAVATION	CY
501 (A)	STRUCTURAL EXCAVATION UNCLASSIFIED	CY
619 (B)	REMOVAL OF HEADWALL	EA

APPROVED BY ROADWAY ENGINEER: Caleb S. H DATE 04/16/15

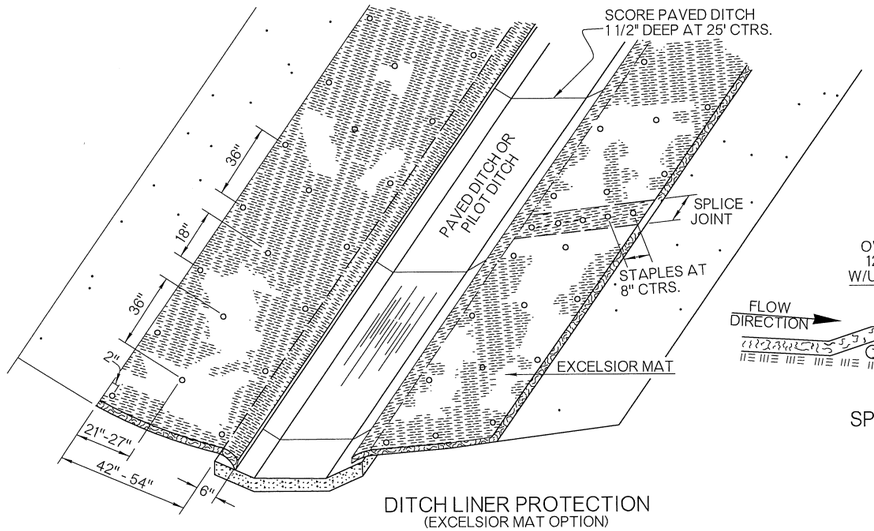
ROADWAY DESIGN DIVISION STANDARD

STANDARD BOX INSTALLATION

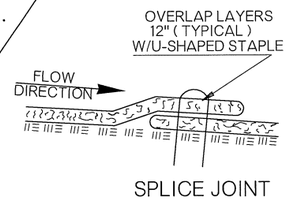
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

SBI-4	2

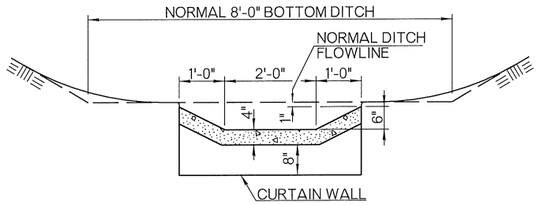
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



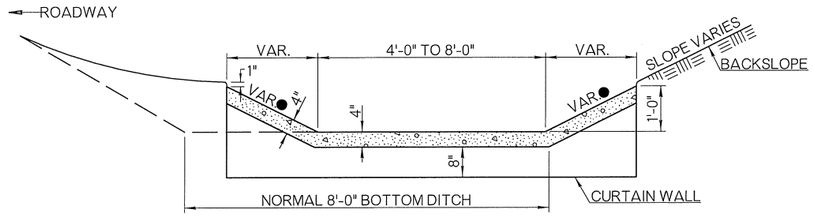
DITCH LINER PROTECTION
(EXCELSIOR MAT OPTION)



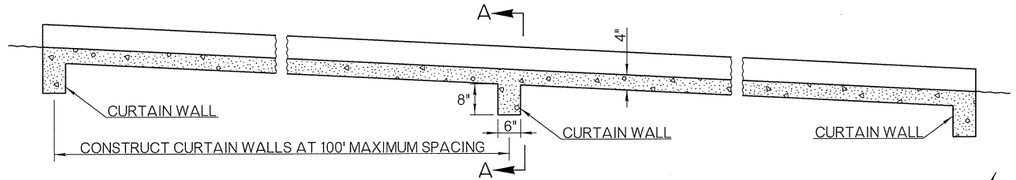
SPLICE JOINT



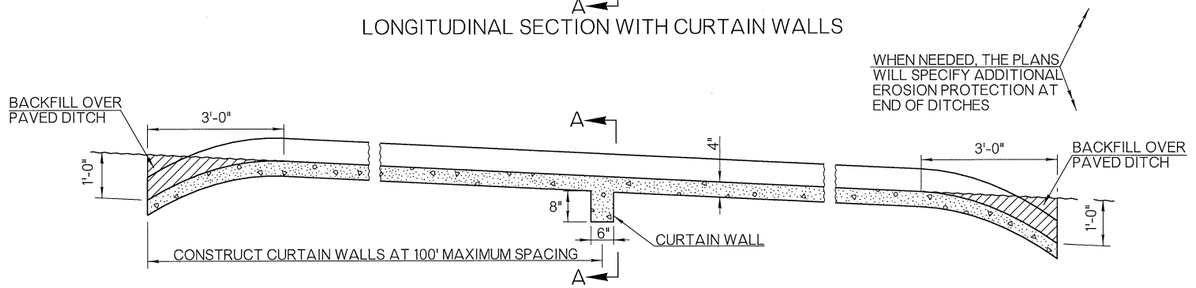
SECTION A - A
DESIGN NO. 1



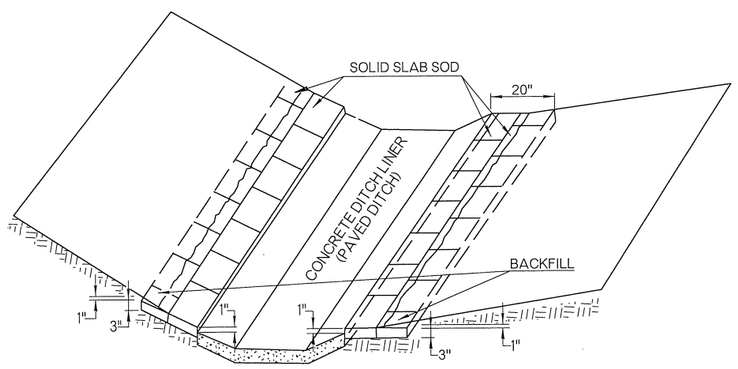
SECTION A - A
DESIGN NO. 2



LONGITUDINAL SECTION WITH CURTAIN WALLS



OPTIONAL LONGITUDINAL SECTION WITH BURIED ENDS
(BURIED ENDS SHALL NOT BE USED ADJACENT TO DRAINAGE STRUCTURES)



DITCH LINER PROTECTION
(SOLID SLAB SOD OPTION)

DESIGN NO. 1 - A PAVED PILOT DITCH TO BE PLACED 6" BELOW THE NORMAL FLOWLINE AND IN THE CENTER OF A STANDARD DITCH

DESIGN NO. 2 - A DITCH THAT IS PAVED AND HAVING THE SAME FLOWLINE AS A STANDARD UNPAVED DITCH

QUANTITIES OF CLASS C CONCRETE PER LF OF PAVED DITCH
QUANTITIES IN CUBIC YARDS

	DESIGN NO. 1					DESIGN NO. 2					
BOTTOM WIDTH	2'-0"	3'-0"	4'-0"	5'-0"	6'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	
K 1	.0522	.0645	.0769	.0892	.1016	.1274	.1397	.1521	.1644	.1768	DES. 2A
K2	.0586	.0709	.0832	.0955	.1078	.1790	.1913	.2036	.2159	.2282	
● VARIABLE AS SHOWN ON PLANS DESIGN 2A = 1:3 SLOPES DESIGN 2B = 1:2 SLOPES DESIGN 2C = 1:1 SLOPES					K1	.1045	.1168	.1292	.1415	.1539	DES. 2B
					K2	.1357	.1480	.1603	.1726	.1850	
					K1	.0923	.1048	.1172	.1295	.1479	DES. 2C
					K2	.1105	.1228	.1352	.1476	.1600	

TOTAL CLASS C CONC.= (LENGTH OF PAVED DITCH) (K1) + (NO. OF CURT. WALLS) (K2)
K1=CU. YDS. OF CONCRETE PER LINEAR FOOT
K2=CU. YDS. OF CONCRETE PER CURTAIN WALL

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL COST OF ADDITIONAL BORROW OR EXCAVATION, REQUIRED FOR INSTALLING PAVED DITCH, SHALL BE INCLUDED IN PRICE BID FOR CLASS C CONCRETE.
3. THE DITCH SHALL BE WATERED, AND COMPACTED, BEFORE PLACING CLASS C CONCRETE.
4. DITCH LINER PROTECTION MAY BE EITHER EXCELSIOR MAT, OR SOLID SLAB SOD, AND SHALL BE MEASURED BY THE LINEAR FOOT OF DITCH (PAVED DITCH), IN PLACE.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
509 (D)	CLASS C CONCRETE	CY
229	DITCH LINER PROTECTION	LF

APPROVED BY
ROADWAY ENGINEER: Caleb A. _____ DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

PAVED DITCHES AND FLUMES

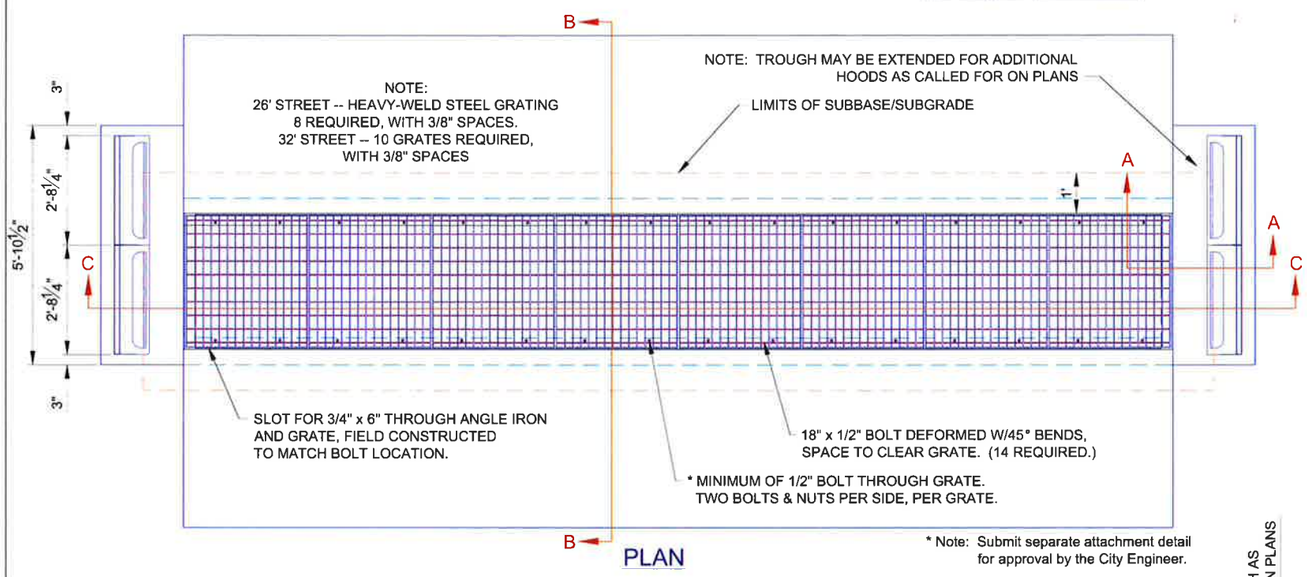
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

DC-3 | 2

QUANTITIES OF ANGLE IRON FOR CURB INLETS		
# OF CAST HOODS	# OF PIECES	LENGTH OF 3" x 3" ∠
2 - 0	1	5' - 1 5/8"
2 - 1	1	10' - 6 1/8"
2 - 2	1	15' - 10 5/8"
2 - 3	2	10' - 6 1/8"

VARIABLE DIMENSION FOR ALL CURB CASTINGS			
	A	B	C
6" CURB FACE	7"	11 3/8"	8 1/4"
8" CURB FACE	9"	13 3/8"	10 1/4"

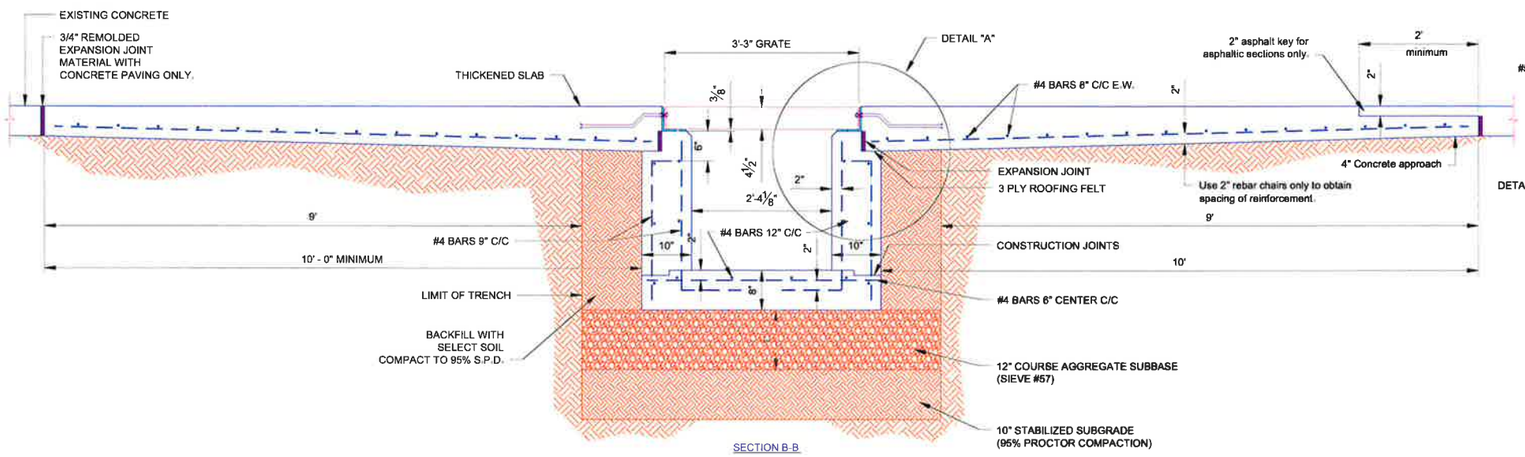
INLET CAPACITIES (CFS)		
STREET WIDTH	IKG GRATE	
	SUMP	ON GRADE (NOT IN SUMP)
26'	112	67
32'	140	84



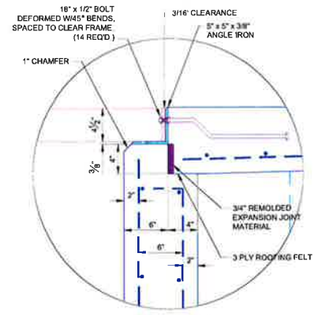
PLAN

* Note: Submit separate attachment detail for approval by the City Engineer.

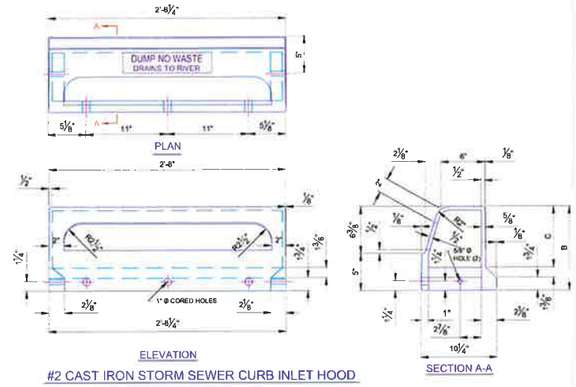
LONGITUDINAL SECTION C-C



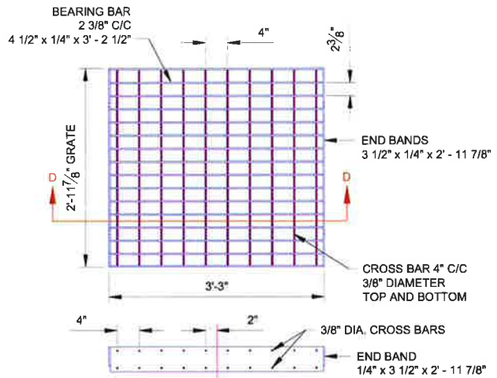
SECTION B-B



DETAIL "A"
ALTERNATE "A" ONLY



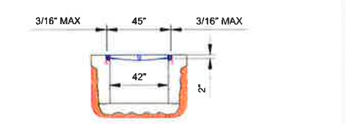
#2 CAST IRON STORM SEWER CURB INLET HOOD

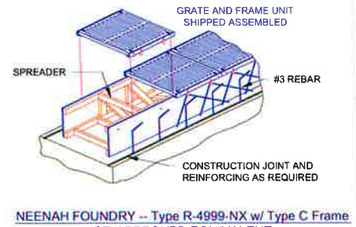


SECTION D-D

16 BEARING BARS 4 1/2" X 1/4" x 3' - 2 1/2" LONG SPACED AT 2 3/8" C/C.
OVERALL DIMENSIONS 3' - 3" X 2' - 11 7/8" ARRANGED WITH 4 1/2" X 1/4" BEARING BARS
3' - 2 1/2" LONG WITH END BANDING 3 1/2" 1/4" END BANDS 2' 11 7/8" LONG & 3/8"
CROSS BARS TOP AND BOTTOM, 4" C/C SPACED AS SHOWN.

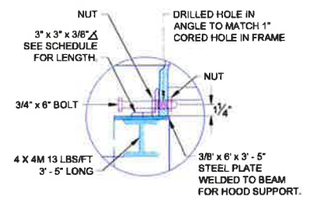
IKG INDUSTRIES IRVING HEAVY - WELD
GALVANIZED STEEL GRATING TYPE HE
ALTERNATE "A" ONLY





NEENAH FOUNDRY -- Type R-4999-NX w/ Type C Frame
OR APPROVED EQUIVALENT

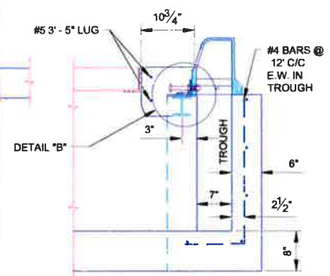
ALTERNATE "B" ONLY
To be installed as per manufacturer's specifications.



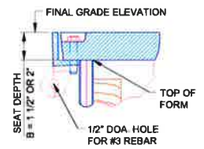
DETAIL "B"

NOTE: ANGLE IRON TO BE BOLTED TO CURB WITH 3(3/4" x 6") MACHINE BOLTS IN EACH CURB SECTION

ALTERNATE "A" ONLY



SECTION A-A
DETAIL FOR IRVING GRATE



DETAIL "B"

For dimensions chart see 102-a06

ALTERNATE "B" ONLY

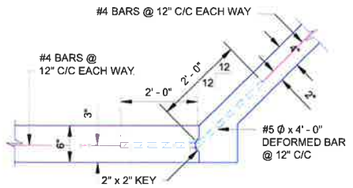
The City of Oklahoma City
Public Works Department
Engineering Division

APPROVED BY: ERIC J. WENGER, P.E. CITY ENGINEER — DATE: 01-31-13
DRAWN: VSC — DATE: 01-31-13

GRATED STREET INLET DETAIL

Drawing Number
D-102

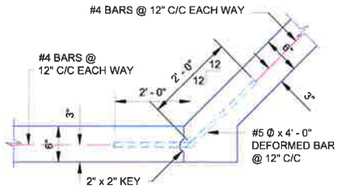
\\cl.okc.lokc\PW-Section\CITYACAD-STD\STD-102 VSC 01-31-13



LONGITUDINAL CONSTRUCTION JOINT

FOR 6" BOTTOM & 4" SIDE WALLS
4" WALLS FOR DEPTH OF 0' TO 5'
WALL DETAIL "A"

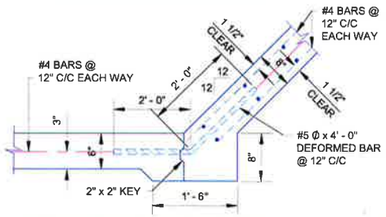
CONCRETE CHANNEL LINER JOINT DETAIL



LONGITUDINAL CONSTRUCTION JOINT

FOR 6" BOTTOM & 4" SIDE WALLS
6" WALLS FOR DEPTH OF 0' TO 5'
WALL DETAIL "B"

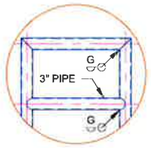
CONCRETE CHANNEL LINER JOINT DETAIL



LONGITUDINAL CONSTRUCTION JOINT

FOR 6" BOTTOM & 6" SIDE WALLS
8" WALLS FOR 2/3 THE WALL HEIGHT ABOVE 5'
WALL DETAIL "C"

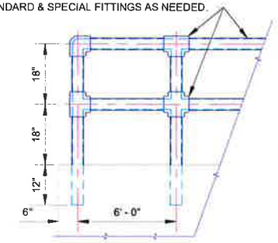
CONCRETE CHANNEL LINER JOINT DETAIL



ALTERNATE DETAIL

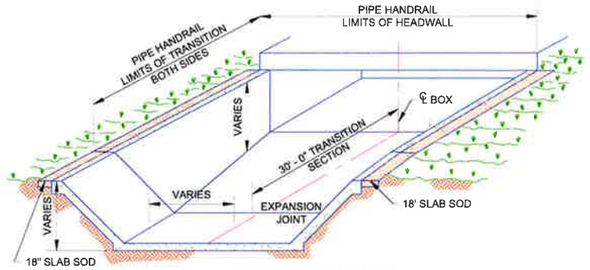
(USUING WELD CONNECTIONS ON PIPE HANDRAILS)

3" I.D. GALV. STEEL PIPE WITH PLAIN GALV. FITTINGS.
USE STANDARD & SPECIAL FITTINGS AS NEEDED.



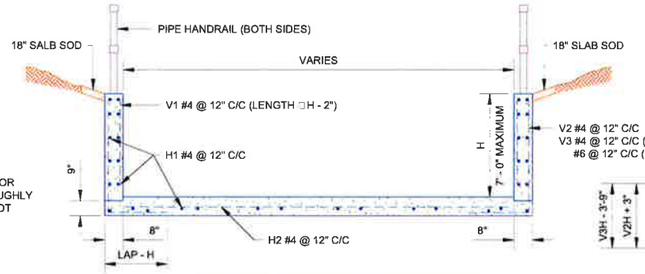
PIPE HANDRAIL DETAIL

HANDRAIL NOTES: WELD CONNECTIONS MAY BE USED FOR PIPE HANDRAIL. WELD CONNECTIONS SHALL BE THOROUGHLY CLEANED OF ALL LOOSE SCALE, GROUND SMOOTH & SPOT POINTED WITH TWO COATS OF ALUMINUM PAINT.



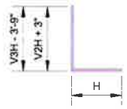
30' TRANSITION TO R.C. BOXES
VERTICAL 1:1 SIDE SLOPE

CONCRETE CHANNEL LINER JOINT DETAIL

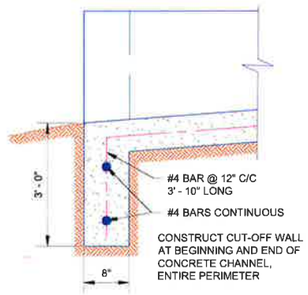


ODOT TYPE II-C RETAINING WALL SECTION (MODIFIED)

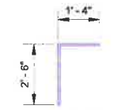
CONCRETE CHANNEL LINER JOINT DETAIL



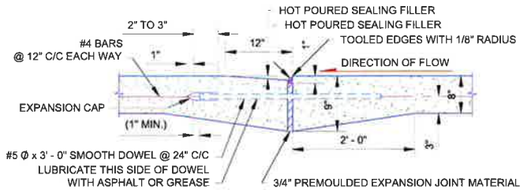
BAR BENDING DIAGRAM



CUT-OFF WALL DETAIL

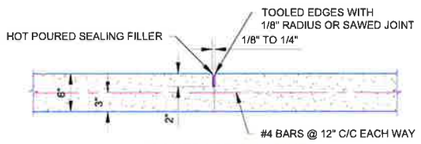


TYPICAL #4 BAR
(FOR CUT-OFF WALL)



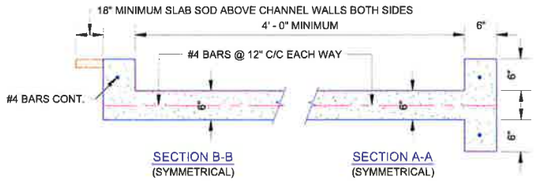
TYPICAL TRANSVERSE EXPANSION JOINT

SPACED AT 100 FOOT C/C MAXIMUM



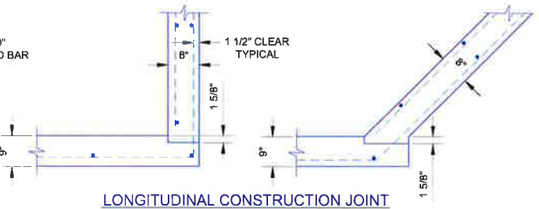
CONTRACTION JOINT

SPACED AT 20 FOOT C/C
(ALSO USE JOINT LONGITUDINALLY AT CENTERLINE OF CHANNEL FOR BOTTOM WIDTHS OF 12 FOOT AND OVER)



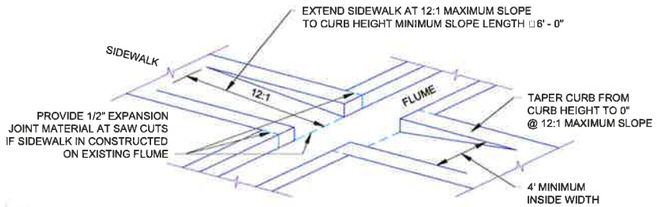
CONSTRUCTION JOINT

SPACED AT 20 FOOT C/C
(ALSO USE JOINT LONGITUDINALLY AT CENTERLINE OF CHANNEL FOR BOTTOMS OF 12 FOOT AND OVER)

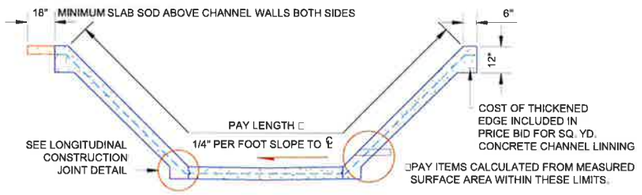


LONGITUDINAL CONSTRUCTION JOINT

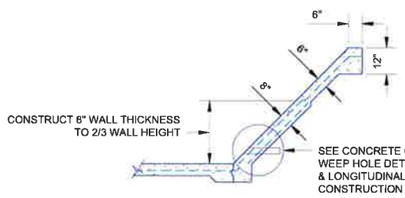
THROUGH TRANSITION SECTION



SIDEWALK RAMP AT FLUME CROSSING

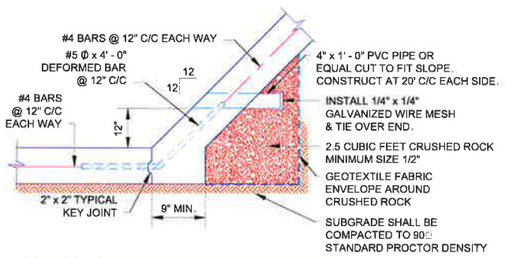


TYPICAL CONCRETE CHANNEL LINER DETAIL

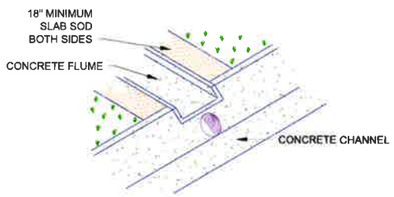


CONCRETE CHANNEL LINER JOINT DETAIL

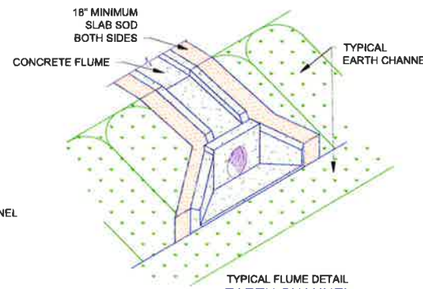
FOR WALL HEIGHT ABOVE 5'



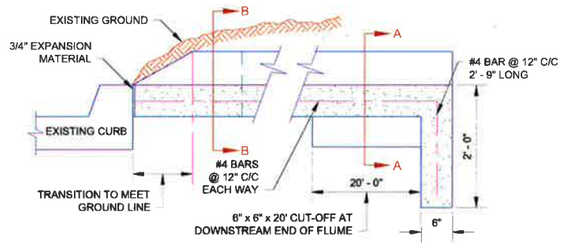
CONCRETE CHANNEL WEEP HOLE DETAIL



TYPICAL FLUME DETAIL
CONCRETE CHANNEL



TYPICAL FLUME DETAIL
EARTH CHANNEL



PROFILE

CONCRETE FLUME DETAIL

NOTE: 3/4" EXPANSION JOINT @ 100' MAXIMUM
SAWED CONSTRUCTION JOINT @ 20' MAXIMUM

TYPICAL #4 BAR
(FOR CONCRETE FLUME)

OKLAHOMA CITY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

STANDARD CHANNEL LINER & FLUME DETAILS

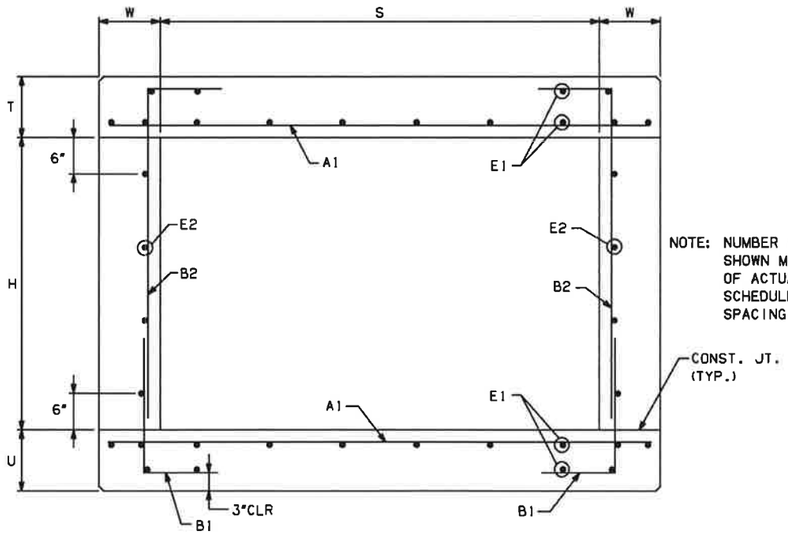
APPROVED BY:
PAUL HUBRUM, P.E.
CITY ENGINEER
DATE: 7-11-01

DRAWN:	DATE:	DWG. NO.
V.S.C.	06/27/01	D-501

E:/CITY/ACAD2000-STD/D-501.DWG VSC 06/27/01

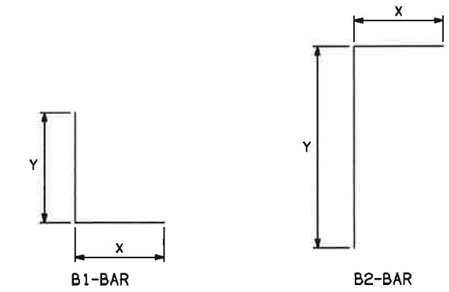
REVISIONS		
DESCRIPTION		DATE

SECTION DIMENSIONS					REINFORCING STEEL																						SECTION DIMENSIONS		QUANTITIES	
					A1-BARS				B1-BARS						B2-BARS						E1-BARS AT 12" MAX.			E2-BARS AT 12" MAX.					PER FOOT OF BARREL	
S	H	T	U	W	SIZE	SPA	LENGTH	WEIGHT PER FT.	SIZE	SPA	"X"	"Y"	LENGTH	WEIGHT PER FT.	SIZE	SPA	"X"	"Y"	LENGTH	WEIGHT PER FT.	NO.	SIZE	WEIGHT PER FT.	NO.	SIZE	WEIGHT PER FT.	S	H	CONC. (C.Y.)	REINF. (LB.)
3'	2'	7"	8"	6"	#5	6"	3'-8"	15.3	#4	12"	0'-8"	1'-9"	2'-5"	3.2	#4	12"	0'-8"	2'-5"	3'-1"	4.1	18	#4	12.0	4	#4	2.7	3'	2'	0.26	37.3
3'	3'	7"	8"	7"	#5	6"	3'-10"	16.0	#4	12"	0'-8"	1'-9"	2'-5"	3.2	#4	12"	0'-8"	3'-5"	4'-1"	5.5	18	#4	12.0	6	#4	4.0	3'	3'	0.32	40.7
4'	2'	9"	10"	7"	#5	6"	4'-10"	20.2	#4	12"	0'-8"	1'-11"	2'-7"	3.5	#4	12"	0'-8"	2'-7"	3'-3"	4.3	20	#4	13.4	4	#4	2.7	4'	2'	0.39	44.1
4'	3'	9"	10"	7"	#5	6"	4'-10"	20.2	#4	12"	0'-8"	1'-11"	2'-7"	3.5	#4	12"	0'-8"	3'-7"	4'-3"	5.7	20	#4	13.4	6	#4	4.0	4'	3'	0.43	46.8
4'	4'	9"	10"	8"	#5	6"	5'-0"	20.9	#5	12"	0'-10"	2'-3"	3'-1"	6.4	#5	12"	0'-10"	4'-7"	5'-5"	11.3	20	#4	13.4	8	#4	5.3	4'	4'	0.51	57.3
5'	2'	9"	10"	6"	#6	6"	5'-8"	34.0	#4	12"	0'-8"	1'-11"	2'-7"	3.5	#4	12"	0'-8"	2'-7"	3'-3"	4.3	22	#4	14.7	4	#4	2.7	5'	2'	0.43	59.2
5'	3'	9"	10"	6"	#6	6"	5'-8"	34.0	#5	6"	0'-10"	2'-3"	3'-1"	12.9	#5	6"	0'-10"	3'-7"	4'-5"	18.4	22	#4	14.7	6	#4	4.0	5'	3'	0.46	84.0
5'	4'	9"	10"	7"	#6	6"	5'-10"	35.0	#5	6"	0'-10"	2'-3"	3'-1"	12.9	#5	6"	0'-10"	4'-7"	5'-5"	22.6	22	#4	14.7	8	#4	5.3	5'	4'	0.53	90.5
5'	5'	9"	10"	8"	#6	6"	6'-0"	36.0	#5	6"	0'-10"	2'-3"	3'-1"	12.9	#5	6"	0'-10"	5'-7"	6'-5"	26.8	22	#4	14.7	10	#4	6.7	5'	5'	0.62	97.1
5'	7'	10"	11"	10"	#6	6"	6'-4"	38.1	#5	6"	0'-10"	2'-4"	3'-2"	13.2	#5	6"	0'-10"	7'-8"	8'-6"	35.5	22	#4	14.7	14	#4	9.4	5'	7'	0.86	110.9



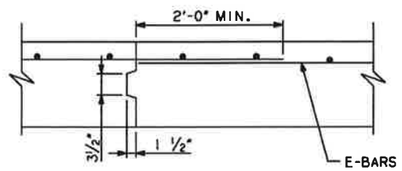
NOTE: NUMBER AND SPACING OF E-BARS SHOWN MAY NOT BE REPRESENTATIVE OF ACTUAL CULVERT SECTIONS, SEE SCHEDULE ABOVE FOR NUMBER AND SPACING OF E-BARS.

BARREL SECTION



BAR BEND DIAGRAMS

NOTE: ALL "X" DIMENSIONS ARE HORIZONTAL IN BARREL SECTION.
ALL "Y" DIMENSIONS ARE VERTICAL IN BARREL SECTION.



TRANSV. CONSTR. JOINT

DESIGN DATA:

1. DESIGNED IN ACCORDANCE WITH 2007 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND INTERIM SPECIFICATIONS FROM 2008.
2. DESIGNED FOR HL-93 LOADING AND ODOT OVERLOAD TRUCK.
3. MATERIALS:
   CONCRETE (CLASS AA) f'c = 4 KSI
   REINFORCING STEEL fy = 60 KSI

GENERAL NOTES:

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
2. ALL CONCRETE EDGES SHALL HAVE A 1 ½" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.
3. ALL REINFORCING STEEL SHALL HAVE A 2" MINIMUM CLEAR COVER UNLESS OTHERWISE SHOWN.
4. THE QUANTITY FOR REINFORCING STEEL DOES NOT INCLUDE LAP SPLICES OF E1-BARS OR E2-BARS IN THE LENGTH OF THE BARREL OR AT TRANSVERSE CONSTRUCTION JOINTS. THE SPLICE LENGTH FOR E-BARS SHALL BE 24" MINIMUM. THE NUMBER OF SPLICES USED IS TO BE APPROVED BY THE ENGINEER. REINFORCING STEEL FOR SPLICES SHALL NOT BE MEASURED FOR PAYMENT, AND ALL COSTS WILL BE INCLUDED IN THE UNIT BID PRICE FOR REINFORCING STEEL.
5. TRANSVERSE CONSTRUCTION JOINTS SHALL BE PLACED IN ALL CULVERTS 100 FT. OR MORE IN LENGTH. JOINTS SHALL BE SPACED AT 60 FT. MAX.
6. REINFORCING STEEL SHALL BE CONTINUOUS THROUGH THE TRANSVERSE CONSTRUCTION JOINT AND EXTEND A MIN. OF 24" INTO ADJACENT SECTION.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
509.06 (A)	CLASS AA CONCRETE	C.Y.
511.06 (A)	REINFORCING STEEL	LB.

APPROVED BY BRIDGE ENGINEER Kenneth Lucas DATE 4/2/10

OKLAHOMA DEPT. OF TRANSPORTATION
BRIDGE STANDARD (ENGLISH)

RCB CULVERTS - BARREL DETAILS
3'-0", 4'-0" & 5'-0" SPANS - SINGLE CELL
2 FT. TO 20 FT. FILL

2009 SPECIFICATIONS	RCB-C1-3&4&5(2-20)	01E
		B-510E

ALL GENERAL NOTES SHOWN BELOW SHALL APPLY
TO ALL OF THE STANDARD DRAWINGS IN TCS SERIES

REVISIONS	
DESCRIPTION	DATE
MODIFIED NOTES	3/15/2011

CONTRACTOR

ON CONSTRUCTION PROJECTS IT WILL BE THE CONTRACTORS RESPONSIBILITY TO INSTALL THE NECESSARY TRAFFIC CONTROL BEFORE CONSTRUCTION BEGINS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL DEVICES TO ASSURE A HIGH DEGREE OF BOTH DAY AND NIGHT VISIBILITY, WHICH WILL INCLUDE ANY WASHING, REPLACEMENT AND/OR REPOSITIONING WHERE DEEMED NECESSARY BY THE ENGINEER.

THE CONTRACTOR SHALL REPAIR OR REPLACE ANY NEW OR EXISTING PERMANENT STATE OWNED SIGNS WHICH ARE DAMAGED DUE TO HIS NEGLIGENCE OR CARELESS HANDLING DURING THE CONSTRUCTION OF THIS PROJECT. THIS SHALL BE DONE AT THE CONTRACTORS EXPENSE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TEMPORARY TRAFFIC CONTROL WORK ZONE AND EXISTING PAVEMENT MARKINGS ON ALL ROADWAYS OPEN TO TRAFFIC WITHIN THE PROJECT. SUFFICIENT QUANTITIES HAVE BEEN PROVIDED FOR MAINTAINING PAVEMENT MARKINGS FOR PRESCRIBED DETOUR ROUTES WHEN DEEMED NECESSARY BY THE ENGINEER.

SIGN MATERIALS

ALL SIGN BLANK MATERIALS SHALL BE THE OPTION OF THE CONTRACTOR BUT SHALL BE OF SUCH MATERIAL THAT WILL RETAIN A SATISFACTORY APPEARANCE THROUGHOUT THE LIFE OF THE PROJECT.

ALL SIGNS, LIGHTS, FLAGS, ETC. SHALL CONFORM IN SIZE, SHAPE, COLOR, LEGENDS AND APPLICATIONS TO THE STANDARDS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND/OR OKLAHOMA STATE STANDARD DRAWINGS FOR SIGNS. STANDARD DRAWINGS ARE AVAILABLE FROM THE DEPARTMENT OF TRANSPORTATION. INTERPRETATIONS THAT MAY BE NECESSARY SHALL BE REFERRED TO THE ENGINEER.

SIGN SHEETING

REFLECTORIZATION OF TRAFFIC CONTROL DEVICES SHALL BE BY MEANS OF WIDE ANGLE, FLAT TOP REFLECTIVE SHEETING MEETING THE REQUIREMENTS OF 2009, OKLAHOMA STANDARD SPECIFICATIONS.

SIGN INSTALLATION

ALL SIGNS SHALL BE SECURELY PLACED OR WEIGHTED TO PREVENT BLOWING OVER. ROCKS, BROKEN CONCRETE OR OTHER SUCH OBJECTS SHALL NOT BE CONSIDERED AN ACCEPTABLE SUBSTITUTE FOR SAND BAGS WHEN USED TO OBTAIN ADDED STABILITY FOR MOVABLE SIGNS AND BARRICADES.

SPACING OF SIGNING, ON THE PLANS OR TCS STANDARDS, SHOULD BE NO LESS THAN THE DISTANCES SHOWN. THE DISTANCE BETWEEN SIGNS SHOULD BE INCREASED ON HIGH SPEED OR MORE HEAVILY TRAVELED HIGHWAYS, OR WHERE SIGHT DISTANCE IS RESTRICTED.

IN ALL CONSTRUCTION ZONES, THE 48 INCH X 48 INCH WARNING SIGNS SHALL HAVE ATTACHED THERETO FLORESCENT FLAGS AND TYPE "A" WARNING LIGHTS. THIS SHALL ALSO APPLY WHEN SIGNS ARE USED ON BOTH SIDES OF THE ROADWAY. ADDITIONAL FLASHING LIGHTS MAY BE REQUIRED WHEN SO DESIRED BY THE ENGINEER.

ALL DIAMOND SHAPED CONSTRUCTION WARNING SIGNS ON EXPRESSWAYS OR FREEWAYS SHALL BE 48 INCH X 48 INCH, WITH THE APPROPRIATE ADVISORY SIGN WHERE REQUIRED UNLESS OTHERWISE NOTED IN THE PLANS.

DUE TO THE TEMPORARY NATURE OF CONSTRUCTION, SIGNS WHICH ARE 33 S.F. AND OVER WILL HAVE NO REINFORCING STEEL IN THEIR FOOTINGS.

ALL SIGNS AND SIGN ASSEMBLIES WITH A TOTAL SURFACE AREA OF 10 S.F. OR MORE SHALL BE INSTALLED ON TWO (2) POSTS. THE EXCEPTION BEING SINGLE ROUTE MARKER ASSEMBLIES.

SIGNS MOUNTED ON BARRICADES SHALL BE MOUNTED AS HIGH AS NECESSARY TO BE VISIBLE.

BARRICADES

ONE (1) WING BARRICADE SHALL BE SET ON EACH SIDE OF THE ROADWAY IN ADVANCE OF THE FIRST ADVANCE WARNING SIGN. THE EXCEPTIONS ARE MINOR CROSS STREETS AND SECTION LINE ROADS WHICH INTERSECT THE WORK AREA.

WING BARRICADES SHALL BE INSTALLED ON TWO (2) BREAKAWAY POSTS.

WORK DURATION

THE FIVE CATEGORIES OF WORK DURATION AND THIER TIME AT A LOCATION SHALL BE:
A) LONG-TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN 3 DAYS.
B) INTERMEDIATE-TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 DAYS, OR NIGHTTIME WORKLASTING MORE THAN 1 HOUR.
C) SHORT-TERM STATIONARY IS DAYTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR WITHIN A SINGLE DAYLIGHT PERIOD.
D) SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.
E) MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.

LIGHTING

TYPE "A" WARNING LIGHTS SHALL BE USED ON BARRICADES (AS REQUIRED) AND WARNING SIGNS.

TYPE "C" WARNING LIGHTS MAY BE USED ON VERTICAL PANELS (OPTIONAL).

CONSTRUCTION NOTES

SHOULD THE REQUIRED WORK ON ANY PROJECT, INCLUDING ANY TRAFFIC CONTROL, OVERLAP OR OTHERWISE INTERFERE WITH THE ON-GOING WORK OR TRAFFIC CONTROL OF ANOTHER PROJECT, IT SHALL BE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTORS TO COORDINATE THEIR WORK ACTIVITIES TO FACILITATE THE SAFE MOVEMENT OF TRAFFIC THROUGHOUT OR AROUND THEIR COLLECTIVE WORK AREAS. ANY SUCH RECOMMENDED CHANGES SHALL BE SUBMITTED IN WRITING TO EACH PROJECT RESIDENT ENGINEER FOR REVIEW AND APPROVAL.

ALL TRAFFIC CONTROL DEVICES NOT REQUIRED FOR THE SAFE CONDUCT OF TRAFFIC THROUGH THE TEMPORARY TRAFFIC CONTROL ZONE SHALL BE PROMPTLY REMOVED, COMPLETELY COVERED, TURNED AWAY FROM TRAFFIC OR OTHERWISE TAKEN OUT OF SERVICE. DEVICES SHALL NOT BE STORED ALONG THE ROADWAY, WITHIN 15 FEET (15') OF AN OPEN DRIVING LANE, EITHER BEFORE OR AFTER THEY ARE TO BE USED UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. THESE DEVICES SHALL BE REMOVED FROM THE TEMPORARY TRAFFIC CONTROL ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS 15 FEET (15') SETBACK, THE CONTRACTOR SHALL DETERMINE ALTERNATE LOCATIONS AND REQUEST THE ENGINEERS APPROVAL TO USE THEM.

TRAFFIC CONTROL DEVICES, WARNING DEVICES, AND BARRIERS SHALL BE KEPT IN CORRECT POSITION, PROPERLY DIRECTED, CLEARLY VISIBLE AND CLEAN AT ALL TIMES. DAMAGED, DEFACED OR DIRTY DEVICES OR BARRICADES SHALL IMMEDIATELY BE REPAIRED, REPLACED OR CLEANED BY THE CONTRACTOR AND APPROVED FOR USE BY THE ENGINEER.

NO EQUIPMENT OR VEHICLES BELONGING TO THE CONTRACTOR, HIS SUB-CONTRACTORS OR EMPLOYEES SHALL BE PARKED OR STOPPED WITHIN 30 FEET (30') OF A LANE CARRYING TRAFFIC, AT ANY TIME, UNLESS REQUIRED BY ONGOING WORK OPERATIONS.

ALL DETOURS AND DIVERSIONS SHOULD BE IN PLACE, WITH SIGNING, STRIPING AND CHANNELIZING DEVICES, AS SHOWN IN THE PLANS OR STANDARD DRAWINGS. BEFORE THEY ARE OPENED TO TRAFFIC.

WHEN IT BECOMES NECESSARY TO CLOSE THE ROAD TO THROUGH TRAFFIC, NO LESS THAN SEVEN DAYS PRIOR TO THE CLOSURE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES DESCRIBING THE AFFECTED ROAD AND THE APPROXIMATE DURATION OF THE CLOSURE. THOSE TO BE NOTIFIED INCLUDE BUT ARE NOT LIMITED TO 1) LOCAL LAW ENFORCEMENT OFFICIALS, 2) LOCAL FIRE OFFICIALS, 3) AMBULANCE SERVICES, 4) LOCAL SCHOOL SUPERINTENDENT, 5) UNITED STATES POSTAL SERVICE, AND 6) CITY OR COUNTY ROAD SUPERINTENDENT.

ALL TEMPORARY TRAFFIC CONTROL DEVICES, AND THIER CONDITIONS THROUGHOUT THE LIFE OF THE CONSTRUCTION PROJECT, SHALL MEET O.D.O.T.'S LATEST "QUALITY STANDARDS FOR TEMPORARY TRAFFIC CONTROL DEVICES". THE O.D.O.T. RESIDENT ENGINEER WILL MAKE FINAL DECISION OF ALL TEMPORARY TRAFFIC CONTROL DEVICES BASED ON THE O.D.O.T. GUIDELINES.

NO GENDER BIAS SIGNS ARE ALLOWED.

ARROW DISPLAY

USE OF AN ARROW DISPLAY, IN THE ARROW OR CHEVRON MODE, SHALL BE LIMITED TO STATIONARY OR MOVING LANE CLOSURES.

AN ARROW DISPLAY, IN THE CAUTION MODE, SHALL BE USED ONLY FOR SHOULDER WORK, BLOCKING THE SHOULDER, ROADSIDE WORK NEAR THE SHOULDER, OR FOR MOBILE OPERATIONS (I.E. STRIPING).

AN ARROW DISPLAY IN THE ARROW OR CHEVRON MODE, SHALL NOT BE USED ON A TWO-LANE, TWO-WAY ROADWAY FOR TEMPORARY ONE-LANE OPERATION.

AN ARROW DISPLAY SHALL NOT BE USED ON A MULTI-LANE ROADWAY TO LATERALLY SHIFT TRAFFIC.

CHANNELIZING DEVICES

IN THOSE AREAS WHERE DRIVERS ARE ASKED TO MAKE A DECISION OR MUST BE GUIDED THROUGH A PRECISE MOVEMENT, BY USE OF CHANNELIZING DEVICES, IT IS ESPECIALLY IMPORTANT TO PROVIDE A CLEARLY DEFINED PATH. EXAMPLES OF THIS COULD BE IN DELINEATING A TEMPORARY GORE OR TURNING RADIUS. IN SUCH AREAS THE SPACING OF CHANNELIZING DEVICES MAY BE REDUCED TO 10 FEET FOR SPEEDS OF 40 M.P.H. OR LESS, AND 20 FEET FOR SPEEDS GREATER THAN 40 M.P.H.

WHEN CHANNELIZING DEVICES ARE USED TO DIRECT TRAFFIC ACROSS EXISTING LANE LINES OR EDGE LINES, THE SPACING BETWEEN CHANNELIZING DEVICES SHALL BE REDUCED 50%. SPACING SHOULD ALSO BE REDUCED WHEN CHANNELIZING DEVICES ARE PLACED ON CURVES, HILLS, OR NEXT TO POTENTIAL HAZARDS.

ALL TRAFFIC CONTROL CHANNELIZING DEVICES SHALL MEET MUTCD COLOR REQUIREMENTS.

FLAGGERS

FLAGGERS MUST BE CLEARLY VISIBLE TO APPROACHING TRAFFIC FOR A DISTANCE SUFFICIENT TO PERMIT PROPER RESPONSE BY MOTORISTS TO THE FLAGGING INSTRUCTIONS, AND TO PERMIT TRAFFIC TO REDUCE SPEED OR STOP BEFORE ENTERING THE TEMPORARY TRAFFIC CONTROL ZONE. FLAGGERS SHALL BE POSITIONED TO MAINTAIN MAXIMUM COLOR CONTRAST BETWEEN THE FLAGGER'S REFLECTIVE CLOTHING AND EQUIPMENT AND THE WORK AREA BACKGROUND.

DURING HOURS OF DARKNESS, FLAGGER STATIONS SHALL BE ILLUMINATED SUCH THAT THE FLAGGER WILL BE CLEARLY VISIBLE TO APPROACHING TRAFFIC. LIGHTS TO BE USED FOR ILLUMINATING THE STATION SHALL BE APPROVED BY THE ENGINEER. REFLECTORIZED PADDLES AND REFLECTORIZED VESTS, SHIRTS OR JACKETS SHALL BE USED FOR NIGHTTIME FLAGGING.

UNLESS OTHERWISE SPECIFIED IN THE PLANS, THE COST OF FLAGGING OPERATIONS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

MINIMUM STANDARDS FOR TRAFFIC CONTROL DEVICES

(1) WARNING LIGHTS (TYPE A FLASHERS AND TYPE C STEADY BURN)
- (A) NOT LESS THAN NINETY (90) PERCENT OF THE TOTAL NUMBER OF LIGHTS BEING USED AT ANY ONE TIME SHALL BE FULLY OPERATIONAL.
- (B) NOT MORE THAN THREE (3) LIGHTS ADJACENT TO ONE ANOTHER SHALL BE FAILING.

(2) ARROW DISPLAY
- (A) WHEN IN ARROW MODE, NO MORE THAN TWO (2) LAMPS IN THE STEM AND ZERO (0) LAMPS IN THE HEAD SHALL BE FAILING. THE DIMMING FUNCTION SHALL BE OPERATING PROPERLY.
- (B) WHEN IN CAUTION MODE (CORNERS), A MINIMUM OF FOUR (4) LAMPS SHALL BE OPERATIONAL. THE DIMMING FUNCTION SHALL BE OPERATING PROPERLY.
- (C) ANY LAMP WHICH IS LIGHTED BUT IMPROPERLY ALIGNED SHALL NOT BE CONSIDERED OPERATIONAL.

(3) CHANGEABLE MESSAGE SIGNS
- (A) NOT LESS THAN NINETY (90) PERCENT OF THE PIXELS SHALL BE FUNCTIONAL IN EACH CHARACTER MODULE.
- (B) NO SANDBAG BALLASTING OVER 3 FEET IN HEIGHT.

(4) PAVEMENT MARKING TAPE
- (A) NOT MORE THAN TEN (10) PERCENT OF ALL TAPE, PAINT, MESSAGE OR SYMBOL SHALL BE MISSING
- (B) NOT MORE THAN TWO (2) CONSECUTIVE DASHED LINES SHALL BE MISSING.
- (C) NOT MORE THAN FIFTY (50) CONTINUOUS FEET OF A SOLID LINE SHALL BE MISSING.

(5) CONSTRUCTION ZONE PAVEMENT MARKERS
- (A) NOT MORE THAN TEN (10) PERCENT OF THE TOTAL NUMBER OF MARKERS SHALL BE MISSING.
- (B) NOT MORE THAN THREE (3) CONSECUTIVE MARKERS SHALL BE MISSING.

STRIPING

WHENEVER THE WORK CAUSES THE OBLITERATION OF PAVEMENT MARKINGS, EITHER TEMPORARY OR PERMANENT MARKINGS SHALL BE IN PLACE PRIOR TO OPENING THE ROADWAY TO TRAFFIC. CENTERLINE PAVEMENT MARKINGS SHALL BE PROVIDED AT ALL TIMES FOR ROADWAYS OPEN TO TRAFFIC.

THE APPLICATION SURFACES FOR PAVEMENT MARKINGS SHALL BE FREE OF DUST, DIRT, MOISTURE OR OTHER FOREIGN MATTER WHICH WOULD INTERFERE WITH ADHESION. INSTALLATION OF ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED IMMEDIATELY AHEAD OF THE PERMANENT STRIPING OPERATIONS OR RE-STRIPING FOR FOLLOWING CONSTRUCTION PHASES.

WHEN REMOVABLE PAVEMENT MARKINGS TAPE IS TO BE INSTALLED ON NEW CONCRETE PAVEMENT, THE CURING COMPOUND SHALL BE REMOVED PRIOR TO INSTALLATION.

IF REMOVABLE PAVEMENT MARKING TAPE IS INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND FAILS DURING THE FIRST SIX MONTHS OF SERVICE, IT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. REPLACEMENT SHALL BE ACCOMPLISHED IN A TIMELY MANNER UPON BEING NOTIFIED, BY THE ENGINEER, OF SUCH FAILURE.

PILOT CAR

WHEN LANE CLOSURES ARE REQUIRED ON TWO-LANE / TWO-WAY ROADWAYS, THE CONTRACTOR MAY, AT HIS OPTION, UTILIZE A PILOT CAR. IF THE CONTRACTOR ELECTS TO USE A PILOT CAR, CHANNELIZING DEVICES ALONG THE CENTERLINE WILL NOT BE REQUIRED. THE PILOT CAR OPERATOR SHALL BE IN RADIO CONTACT WITH PERSONNEL IN THE TEMPORARY TRAFFIC CONTROL ZONE. MAXIMUM SPEED OF THE PILOT CAR THROUGH THE WORK AREA SHALL BE 25 M.P.H. FULL COMPENSATION FOR FURNISHING AND OPERATING THE PILOT CAR, (INCLUDING DRIVER, RADIOS, AND ANY OTHER EQUIPMENT OR LABOR REQUIRED) SHALL BE CONSIDERED AS INCLUDED IN THE COST OF OTHER ITEMS OF WORK.

MISCELLANEOUS

TRAFFIC CONDITIONS MAY NECESSITATE CHANGES IN THE USE AND/OR QUANTITIES OF THE TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS OR IN THE STANDARDS. ANY SUCH CHANGES ARE SUBJECT TO APPROVAL BY THE ENGINEER.

ALL CHANNELIZING DEVICES PROVIDED ON THIS PROJECT SHALL BE IN GOOD CONDITION AND SHALL BE APPROVED FOR USE ON THIS PROJECT BY THE ENGINEER.

THE REGULATORY SPEED LIMITS THROUGH THE WORK ZONE MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER WITH THE DOCUMENTED APPROVAL OF THE DIVISION ENGINEER IN ACCORDANCE WITH TITLE 47 OF THE OKLAHOMA MOTOR VEHICLE LAWS.

THE TERMINATION AREA EXTENDS FROM THE DOWNSTREAM END OF THE WORK AREA TO THE TEMPORARY TRAFFIC CONTROL DEVICE SUCH AS "END ROAD WORK" SIGNS, IF POSTED. A SPEED SIGN, OR OTHER SIGNS MAY BE USED TO INFORM ROAD USERS THAT THEY CAN RESUME NORMAL OPERATIONS.

THE CONSTRUCTION SIGNING AND BARRICADE CONTRACTOR SHOULD AFFIX THEIR COMPANY NAME AND/OR LOGO INCONSPICUOUSLY ON EACH TRAFFIC CONTROL DEVICE.

APPROVED BY
TRAFFIC ENGINEER: _____ DATE: 3/21/11

TRAFFIC STANDARD
TRAFFIC CONTROL STANDARD
TRAFFIC CONTROL CONSTRUCTION NOTES

2009 SPECIFICATIONS

TCS1-1	01

T-501

$$date$$

TAPER LENGTH CRITERIA FOR WORK ZONES

SPEED LIMIT M.P.H.	"L" FORMULA	"L" TAPER LENGTH (MINIMUM) (FT) 10' OFFSET	11' OFFSET	12' OFFSET	NUMBER OF CHANNELIZING DEVICES REQUIRED (MINIMUM) 10' OFFSET	11' OFFSET	12' OFFSET	SPACING CHANNELIZING DEVICES (MAXIMUM) ① THRU TAPER SECTION (FT.)	② THRU TANGENT SECTION (FT.)	MAXIMUM HORIZONTAL ALIGNMENT THRU DETOUR (DEGREE) (S=0)	SPEED LIMIT M.P.H.
20	$L = \frac{W \times S^2}{60}$	70	75	80	5	5	5	20	40	—	20
25		105	115	125	6	6	6	25	50	—	25
30		150	165	180	6	7	7	30	60	15	30
35		205	225	245	7	8	8	35	70	11	35
40		265	295	320	8	9	9	40	80	8	40
45	$L = W \times S$	450	495	540	11	12	13	45	90	6	45
50		500	550	600	11	12	13	50	100	5	50
55		550	605	660	12	14	15	50	100	4	55
60		600	660	720	13	15	16	50	100	3	60
65		650	715	780	14	16	17	50	100	2.5	65
70		700	770	840	15	17	18	50	100	2	70
75		750	825	900	16	18	19	50	100	1.8	75

NOTES:

① RECOMMENDED SIGNING TO BE USED THRU LANE TAPER IS (1) CW1-8 ON EVERY OTHER DRUM.

② RECOMMENDED SIGNING TO BE USED THRU TANGENT LANES IS (1) R4-7A(R) OR (1) R4-7A(L) (AS APPLIES) ON EVERY OTHER DRUM.

L = TAPER LENGTH IN FEET

W = WIDTH OF OFFSET IN FEET

S = POSTED SPEED OR OFF-PEAK 85 PERCENTILE SPEED IN MPH

TYPE OF TAPER	TAPER LENGTH
UPSTREAM TAPERS	
MERGING TAPER	L MINIMUM
SHIFTING TAPER	1/2 L MINIMUM
SHOULDER TAPER	1/3 L MINIMUM
TWO-WAY TRAFFIC TAPER	100 FEET MAXIMUM
DOWNSTREAM TAPERS (USE IS OPTIONAL)	100 FEET PER LANE

RECOMMENDED CLEAR ZONE DISTANCE (FT) (CONSTRUCTION WORK ZONES)

DESIGN SPEED	DESIGN ADT	FILL SLOPES 6:1 OR FLATTER	5:1 OR 4:1	3:1	CUT SLOPES 3:1	4:1 OR 5:1	6:1 OR FLATTER
40 MPH OR LESS	UNDER 750	4	4	SEE NOTE 3	4	4	4
	750-1500	5	6		5	5	5
	1500-6000	6	7		6	6	6
	OVER 6000	7	8		7	7	7
45-50 MPH	UNDER 750	5	6		4	4	5
	750-1500	7	8		5	6	7
	1500-6000	8	10		6	7	8
	OVER 6000	10	12		7	9	10
55 MPH	UNDER 750	6	7		4	5	5
	750-1500	8	10		5	7	8
	1500-6000	10	12		7	8	10
	OVER 6000	11	13		8	10	11
60 MPH	UNDER 750	8	10		5	6	7
	750-1500	10	13		6	8	10
	1500-6000	13	16 *		7	9	12
	OVER 6000	15	18 *		10	12	13
65-70 MPH	UNDER 750	9	10		5	7	7
	750-1500	12	14		6	9	10
	1500-6000	14	17 *		8	11	13
	OVER 6000	15	19 *		11	13	14

NOTES:

* THE CLEAR ZONE MAY BE LIMITED TO 15 FEET FOR PRACTICALITY AND TO PROVIDE A CONSISTENT ROADWAY TEMPLATE.

(1) ALL DISTANCES ARE MEASURED FROM EDGE OF THE TRAVEL LANE.

(2) FOR CLEAR ZONES, THE "DESIGN ADT" WILL BE THE TOTAL ADT ON TWO-WAY ROADWAYS AND DIRECTIONAL ADT ON ONE-WAY ROADWAYS (E.G., RAMPS AND ONE ROADWAY OF A DIVIDED HIGHWAY).

(3) FILL SLOPES WHICH ARE 3:1 OR STEEPER ARE CRITICAL AND MAY REQUIRE A BARRIER. THEREFORE THERE IS NOT A CLEAR ZONE APPLICATION.

FLARE RATES FOR CONCRETE MEDIAN BARRIER IN TEMPORARY TRAFFIC CONTROL ZONES

SPEED *	FLARE RATE (MINIMUM)
40 M.P.H.	9 TO 1
45 M.P.H.	10 TO 1
50 M.P.H.	11 TO 1
55 M.P.H.	12 TO 1
60 M.P.H.	13 TO 1
65 M.P.H.	14 TO 1
70 M.P.H.	15 TO 1
75 M.P.H.	16 TO 1

* POSTED SPEED LIMIT PRIOR TO CONSTRUCTION

STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

SPEED * (MPH)	LENGTH (FEET)
20 M.P.H.	115
25 M.P.H.	155
30 M.P.H.	200
35 M.P.H.	250
40 M.P.H.	305
45 M.P.H.	360
50 M.P.H.	425
55 M.P.H.	495
60 M.P.H.	570
65 M.P.H.	645
70 M.P.H.	730
75 M.P.H.	820

* POSTED SPEED, OFF-PEAK 85th PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED.

RECOMMENDED DISTANCE BETWEEN SIGNS (MIN.)			
ROAD TYPE	A (FT)	B (FT)	C (FT)
URBAN (LOW SPEED)	100	100	100
URBAN (HIGH SPEED)	350	350	350
RURAL	500	500	500
EXPRESSWAY /FREEWAY	1,000	1,500	2,640

REVISIONS DESCRIPTION	DATE

PAVEMENT MARKINGS THROUGH TEMPORARY TRAFFIC CONTROL ZONE

DRIVING SURFACE		FLEX TAB MARKERS	TAPE (REMOVABLE)	TAPE (NON-REMOVABLE)	PAINT	CONSTRUCTION ZONE PAVEMENT MARKERS
ASPHALT	EXISTING PAVEMENT TO BE REMOVED OR OVERLAYED IN THE NEXT PHASE	X	X	X	X	X
	EXISTING PAVEMENT TO BE LEFT IN PLACE THRU THE NEXT PHASE	X	X			X
	INTERMEDIATE LIFT	X	X	X	X	X
	MILLED SURFACE	X	X	X	X	X
	FINAL LIFT	X	X			
CONCRETE	EXISTING PAVEMENT TO BE REMOVED OR OVERLAYED IN THE NEXT PHASE	X	X	X	X	X
	EXISTING PAVEMENT TO BE LEFT IN PLACE THRU THE NEXT PHASE	X	X			X
	FINAL SURFACE	X	X		X	X

NOTE:
USE OF NON-REMOVABLE TAPE (FOILBACK) SHALL BE LIMITED TO THOSE CONDITIONS SHOWN IN THE TABLE.

CROSSOVER CRITERIA FOR WORK ZONES

WIDTH OF MEDIAN (W) (FT)	LATERAL SHIFT - (P) (FT)	LENGTH OF CROSSOVER - LC * (FT) V.	30 M.P.H.	35 M.P.H.	40 M.P.H.	45 M.P.H.	50 M.P.H.	55 M.P.H.	60 M.P.H.	65 M.P.H.	70 M.P.H.	75 M.P.H.
		D.	15°	11°	8°	6°	5°	4°	3°	2.5°	2°	1.8°
		R.	382	521	716	955	1146	1433	1910	2292	2865	3183
20	32		219	256	301	348	382	427	493	541	605	637
30	42		250	293	344	398	437	489	565	619	692	730
40	52		277	325	382	443	485	543	628	688	770	812
50	62		301	354	417	483	529	593	685	751	841	886
60	72		324	381	448	519	570	638	738	809	905	955
70	82		344	405	478	554	608	681	787	863	966	1,018
80	92		363	428	505	586	643	720	833	914	1,023	1,078
90	102		381	450	531	616	676	758	877	962	1,076	1,135
100	112		398	470	555	644	708	793	918	1,007	1,127	1,189
110	122		414	489	578	672	738	827	958	1,050	1,176	1,240
120	132		429	508	601	698	767	860	995	1,092	1,223	1,290

* CROSSOVER = REVERSE CURVE CONNECTION TYING TWO (2) PARALLEL ROADWAYS.

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 5/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
TRAFFIC CONTROL TABLES AND CHARTS

2009 SPECIFICATIONS

TCS2-1 | 00

T-502

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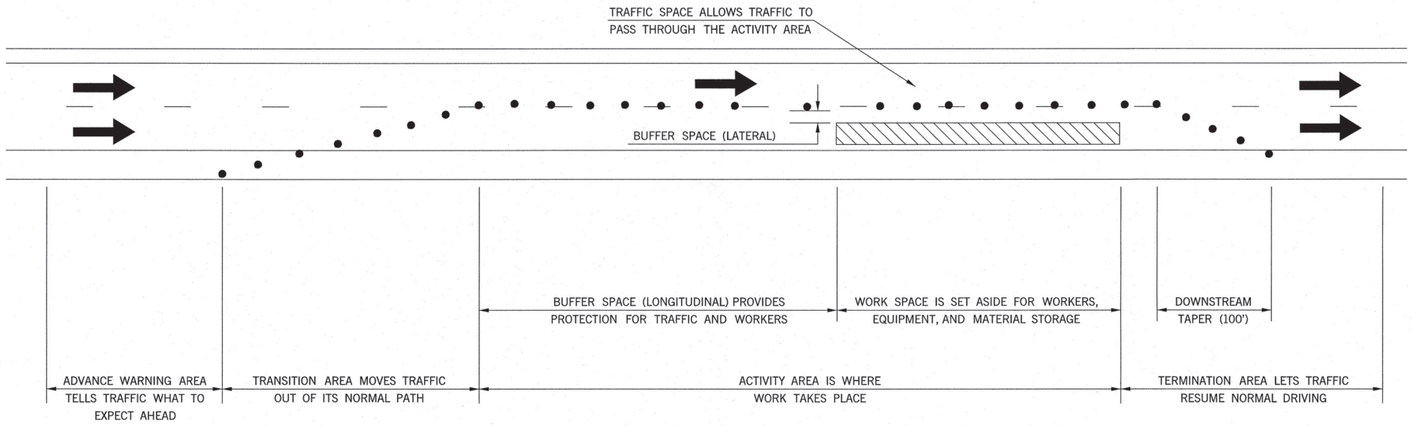
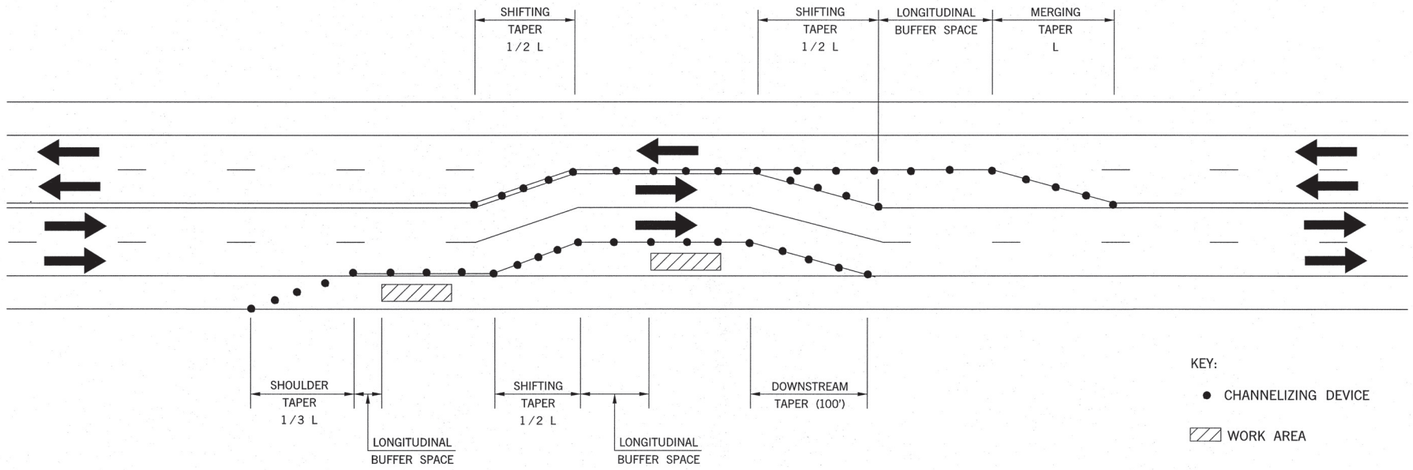
REVISIONS	
DESCRIPTION	DATE
CHANGED TRANSITION NOTATION	5/31/2011



COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL ZONE



TAPERS AND BUFFER SPACE

TEMPORARY TRAFFIC CONTROL ELEMENTS

APPROVED BY
TRAFFIC ENGINEER: _____ DATE: 5/31/2011

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
TEMPORARY TRAFFIC CONTROL ELEMENTS

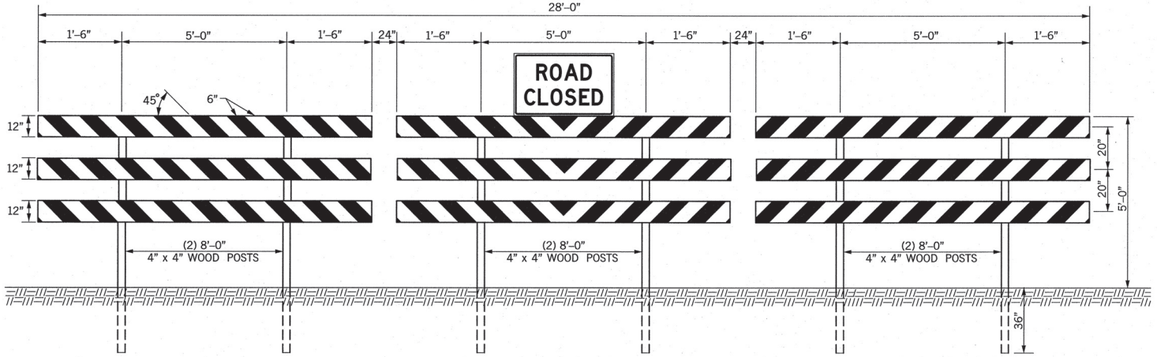
2009 SPECIFICATIONS

TCS3-1	01

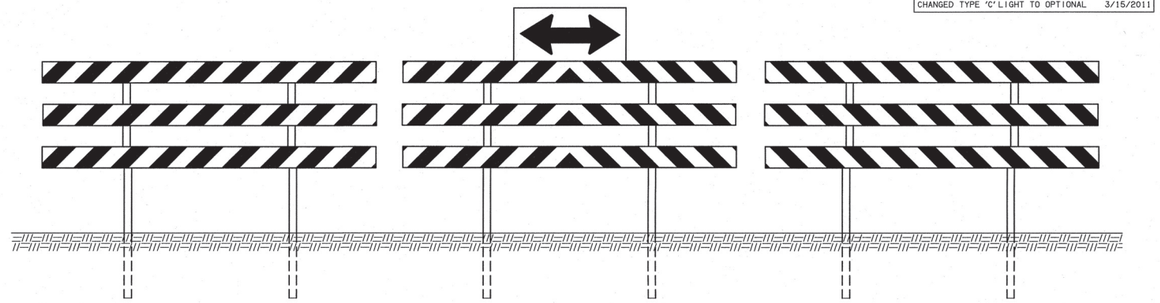
T-503

$$date$$

REVISIONS	
DESCRIPTION	DATE
CHANGED TYPE 'C' LIGHT TO OPTIONAL	3/15/2011



WHEN ROAD ENDS



FOR T–INTERSECTIONS

PERMANENT TYPE III(A/B) BARRICADE

(DIMENSIONS ARE TYPICAL FOR BOTH BARRICADES)

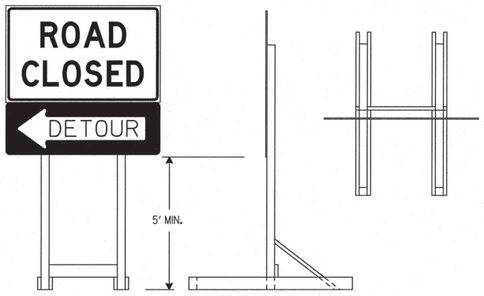
NOTES: A PERMANENT BARRICADE TYPE III(A) SHALL CONSIST OF NINE (9) PANELS AND SIX (6) POSTS.

TYPICAL INSTALLATION AS SHOWN IS FOR AN ABSOLUTE CLOSURE.

BARRICADES SHOULD NOT BE PLACED PARALLEL TO TRAFFIC IF NOT OUTSIDE OF CLEAR ZONE.

PERMANENT BARRICADE TYPE III(B) WILL BE IDENTICAL TO TYPE III(A) WITH NINE (9) ADDITIONAL REFLECTORIZED 3/4"x12" LUMBER PANELS ATTACHED TO THE BACK SIDE OF THE BARRICADE.

COLOR: BACKGROUND – WHITE (REFLECTORIZED)
DIAGONAL STRIPES – RED (REFLECTORIZED)



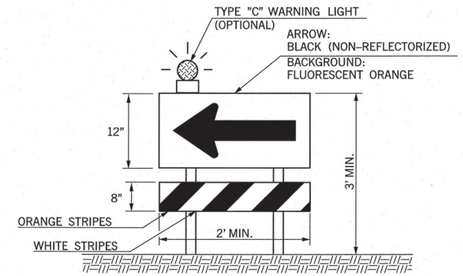
Skid-Mounted
Sign Support
with plywood sign

LONG/INTERMEDIATE TERM STATIONARY PORTABLE SIGN SUPPORTS

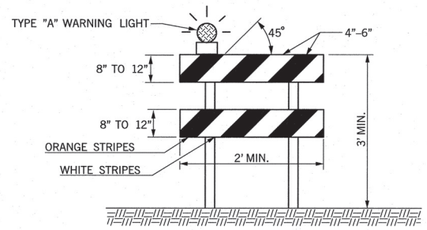
5 Foot Mounting Height

(SKID MOUNTED)

(SHALL BE PLACED BEHIND TYPE III BARRICADE)



DIRECTION INDICATOR BARRICADE



TYPE II BARRICADE

NOTES: FOR WOODEN BARRICADES NOMINAL LUMBER DIMENSIONS WILL BE SATISFACTORY.

FOR RAILS LESS THAN 3 FEET LONG, 4 INCH WIDE STRIPES SHALL BE USED.

TYPE III BARRICADES SHALL BE CONSTRUCTED USING A MINIMUM OF TWO (2) POSTS.

FOR WOODEN BARRICADES, PANEL THICKNESS SHALL NOT EXCEED ONE–HALF INCH (1/2").

BARRICADES SHOULD NOT BE PLACED PARALLEL TO TRAFFIC IF NOT OUTSIDE OF CLEAR ZONE.

PROJECTS WITH WORK LIMITS OF 2.0 MILES OR MORE IN LENGTH WILL REQUIRE THE G20–1A SIGN. THE SIGN (G20–1A) WILL BE REQUIRED ON ONE SIDE OF A 2–LANE ROADWAY AND BOTH SIDES OF A DIVIDED HIGHWAY.

ALL BARRICADE STRIPES SHALL BE RETROREFLECTIVE.

COLOR: BACKGROUND – WHITE (REFLECTORIZED)
DIAGONAL STRIPES – FLUORESCENT ORANGE (REFLECTORIZED)

IF BARRICADES ARE USED TO CHANNELIZE PEDESTRIANS, THERE SHALL BE CONTINUOUS DETECTABLE BOTTOM AND TOP RAILS WITH NO GAPS BETWEEN INDIVIDUAL BARRICADES TO BE DETECTABLE TO USERS OF LONG CANES. THE BOTTOM OF THE BOTTOM RAIL SHALL BE NO HIGHER THAN 6 INCHES ABOVE THE GROUND SURFACE. THE TOP OF THE TOP RAIL SHALL BE NO LOWER THAN 36 INCHES ABOVE THE GROUND SURFACE.

SIGNS MOUNTED ON TYPE III BARRICADES SHOULD NOT COVER MORE THAN 50 PERCENT OF THE TOP TWO RAILS OR 33 PERCENT OF THE TOTAL AREA OF THE THREE RAILS

SIGNS MOUNTED ON BARRICADES, OR OTHER PORTABLE SUPPORTS, SHALL BE NO LESS THAN 1' ABOVE THE TRAVELED WAY.

SANDBAGS MAY BE PLACED ON LOWER PARTS OF THE FRAME OR THE STAYS OF BARRICADES TO PROVIDE THE REQUIRED BALLAST.

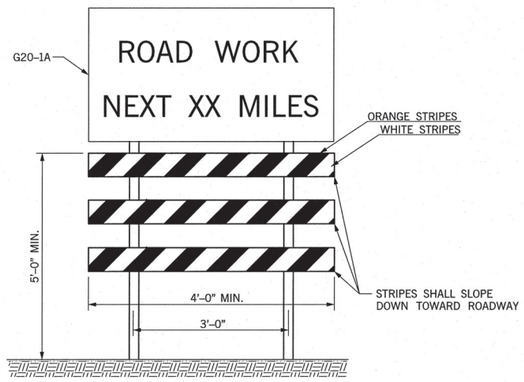
BALLAST SHALL NOT BE PLACED ON TOP OF ANY STRIPED RAIL. BARRICADES SHALL NOT BE BALLASTED BY NONDEFORMABLE OBJECTS SUCH AS ROCKS OR CHUNKS OF CONCRETE. BALLAST SHALL NOT EXTEND INTO THE ACCESSIBLE PASSAGE WIDTH OF 60".

DIRECTION INDICATOR BARRICADE SHALL CONSIST OF A ONE–DIRECTION LARGE ARROW (W1–6) SIGN MOUNTED ABOVE A DIAGONAL STRIPED, HORIZONTALLY ALIGNED, RETRO–REFLECTIVE RAIL.

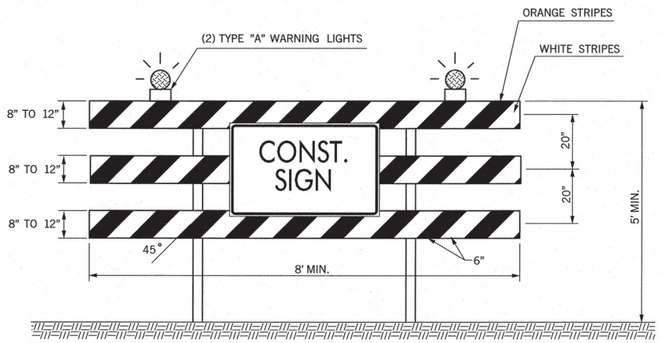
WHERE BARRICADES EXTEND ENTIRELY ACROSS A ROADWAY, THE STRIPES SHOULD SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH ROAD USERS MUST TURN.

WHERE BOTH RIGHT AND LEFT TURNS ARE PROVIDED, THE BARRICADE STRIPES SHOULD SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE OR BARRICADES.

WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD BE POSITIONED TO SLOPE DOWNWARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES.



WING BARRICADE



TYPE III BARRICADE

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD
880(C)	CONSTRUCTION BARRICADES	SD
880(E)	WARNING LIGHTS	SD

APPROVED BY
TRAFFIC ENGINEER: _____ DATE: 3/21/11

TRAFFIC STANDARD

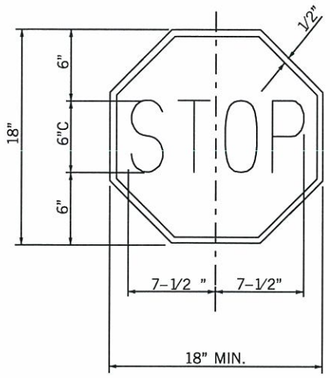
TRAFFIC CONTROL STANDARD
TRAFFIC CONTROL DEVICES

2009 SPECIFICATIONS

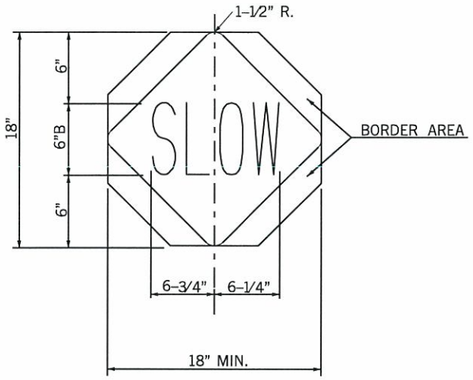
TCS4–1	01

T-504

$$date$$



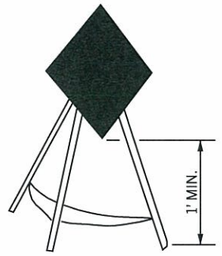
STOP:
LEGEND AND BORDER: WHITE (REFLECTORIZED)
BACKGROUND: RED (REFLECTORIZED)

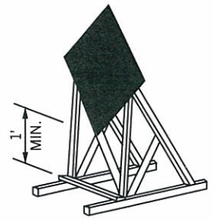


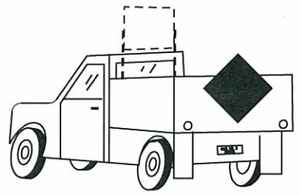
SLOW:
LEGEND AND BORDER AREA: BLACK (NON-REFLECTORIZED)
BACKGROUND: ORANGE (REFLECTORIZED)

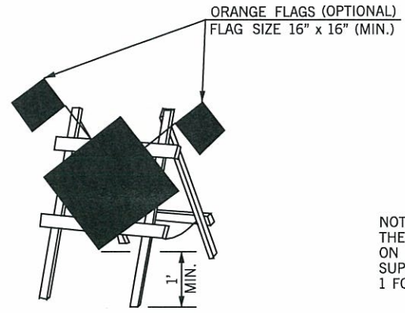
STOP–SLOW PADDLE

DESCRIPTION	REVISIONS	DATE



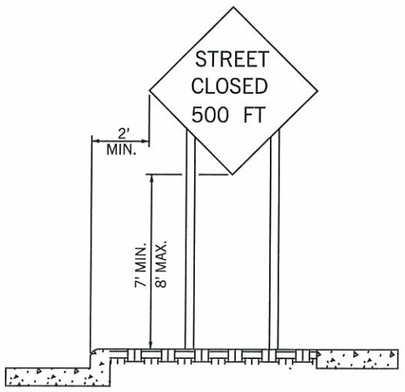




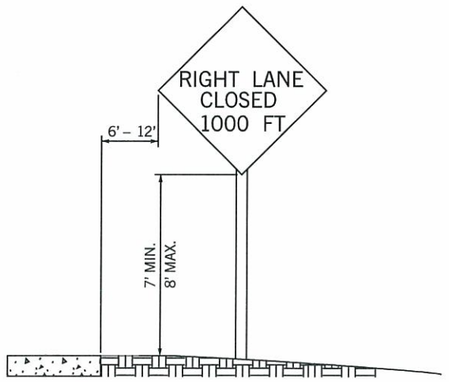


NOTE:
THE BOTTOM OF SIGNS MOUNTED ON BARRICADES OR TEMPORARY SUPPORTS SHALL NOT BE LESS THAN 1 FOOT ABOVE THE TRAVELED WAY.

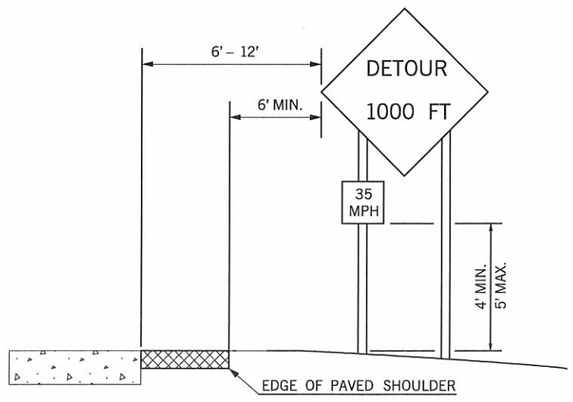
PORTABLE AND TEMPORARY MOUNTINGS
METHODS OF MOUNTING SIGNS OTHER THAN ON POSTS



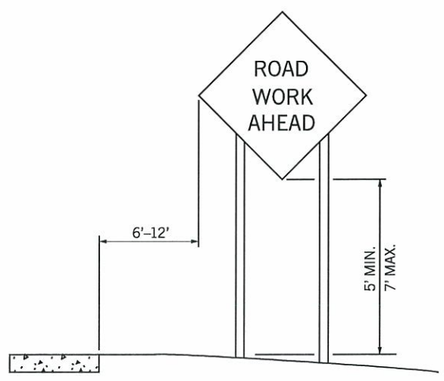
URBAN DISTRICT
(WITH CURB)



URBAN DISTRICT
(WITHOUT CURB)



RURAL DISTRICT WITH
ADVISORY SPEED PLATE



RURAL DISTRICT

HEIGHT AND LATERAL LOCATIONS OF SIGNS – TYPICAL INSTALLATIONS

APPROVED BY TRAFFIC ENGINEER: Harold Smith DATE: 6/23/10
TRAFFIC STANDARD

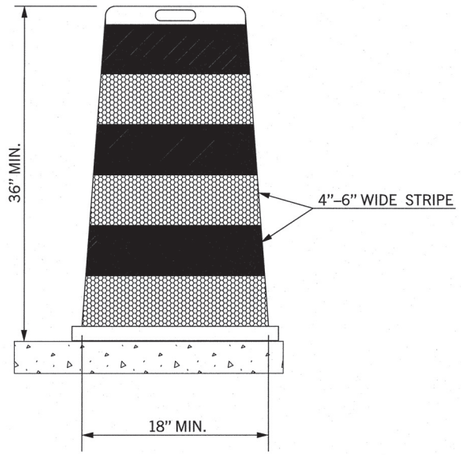
TRAFFIC CONTROL STANDARD
TYPICAL SIGN INSTALLATION

2009 SPECIFICATIONS

TCS5–1	00
T–505	

TRFPC36 M:\2009_Standards_TC\505.dgn 8:16:51 AM 6/2/2010 d:\usr2\fiib\leroyh.pen R:\TRAF_PLOT\bw.tbl

REVISIONS	
DESCRIPTION	DATE
ADD NOTE TO VERTICAL PANEL	07/19/10
CHANGED TYPE 'C' LIGHT TO OPTIONAL	3/15/2011



DRUM

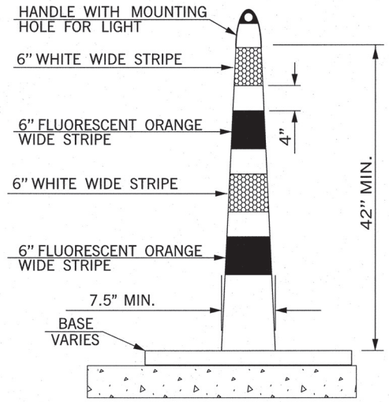
NOTES:

METAL DRUMS SHALL NOT BE USED.

EACH DRUM SHALL HAVE A MINIMUM OF TWO (2) FLUORESCENT ORANGE STRIPES ALTERNATING WITH A MINIMUM OF TWO (2) WHITE STRIPES. THESE STRIPES SHALL CONSIST OF RETROREFLECTIVE SHEETING.

BALLAST SHALL NOT BE PLACED ON TOP OF A DRUM.

DRUMS SHALL NOT BE USED TO DELINEATE AN EDGE DROP OFF IF THEY MUST BE PLACED IN THE DROP OFF AREA BELOW THE LEVEL OF THE DRIVING SURFACE.



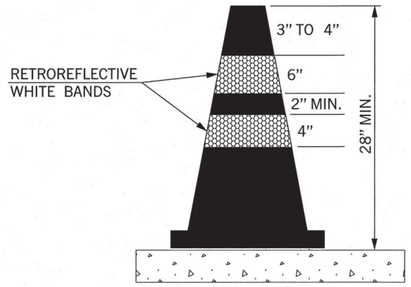
CHANNELIZER CONE

NOTES:

CHANNELIZER CONES USED ON HIGH SPEED ROADWAYS, ON ALL HIGHWAYS DURING NIGHTTIME, OR WHENEVER MORE CONSPICUOUS GUIDANCE IS NEEDED SHALL BE A MINIMUM OF 42 INCHES HIGH.

EACH CHANNELIZERS CONES SHALL HAVE A MINIMUM OF TWO (2) FLUORESCENT ORANGE STRIPES ALTERNATING WITH A MINIMUM OF TWO (2) WHITE STRIPES. THESE STRIPES SHALL CONSIST OF RETROREFLECTIVE SHEETING.

BASE SHALL WEIGH 30 LBS. OR MORE.

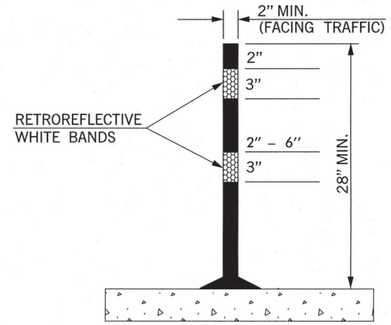


CONE

NOTES:

CONES USED ON HIGH SPEED ROADWAYS, ON ALL HIGHWAYS DURING NIGHTTIME, OR WHENEVER MORE CONSPICUOUS GUIDANCE IS NEEDED SHALL BE A MINIMUM OF 28 INCHES HIGH.

CONES SHALL BE PREDOMINANTLY ORANGE, WITH WHITE RETROREFLECTIVE SHEETING.

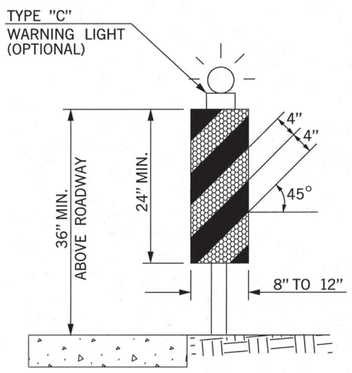


TUBE CHANNELIZER

NOTES:

TUBE CHANNELIZERS USED ON HIGH SPEED ROADWAYS, ON ALL HIGHWAYS DURING NIGHTTIME, OR WHENEVER MORE CONSPICUOUS GUIDANCE IS NEEDED SHALL BE A MINIMUM OF 28 INCHES HIGH.

TUBE CHANNELIZERS SHALL BE PREDOMINANTLY ORANGE, WITH WHITE RETROREFLECTIVE SHEETING.



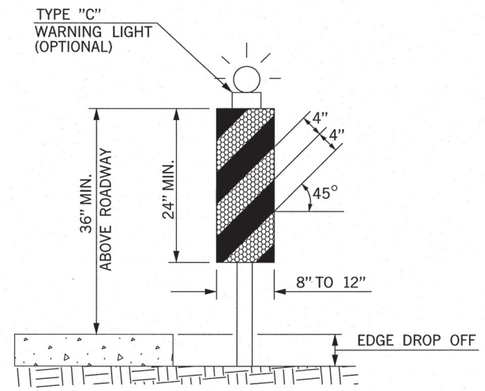
VERTICAL PANEL W/NO DROP OFF

NOTES:

PANEL STRIPE WIDTHS SHALL BE 6 INCHES EXCEPT WHERE PANELS LENGTHS ARE LESS THAN 36 INCHES, THEN 4 INCH WIDE STRIPES MAY BE USED.

MARKINGS FOR VERTICAL PANELS SHALL BE ALTERNATING FLUORESCENT ORANGE AND WHITE RETROEFLECTORIZED STRIPES (SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS).

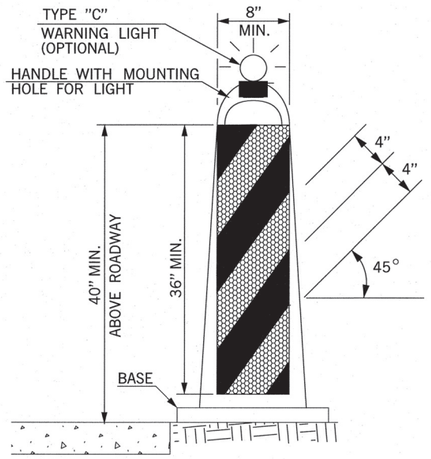
SHALL HAVE A MINIMUM OF TWO (2) FULL FLUORESCENT ORANGE STRIPES.



VERTICAL PANEL W/DROP OFF

ON UNDIVIDED HIGHWAYS, VERTICAL PANELS SHALL HAVE A MINIMUM OF 192 SQUARE INCHES OF RETROREFLECTIVE SHEETING ON EACH PANEL (FRONT AND BACK). WHEN USED ON HIGH SPEED ROADWAYS, VERTICAL PANELS SHALL HAVE MINIMUM OF 270 SQUARE INCHES OF RETROREFLECTIVE SHEETING ON EACH PANEL (FRONT AND BACK). THIS SHALL CONSTITUTE ONE (1) COMPLETE VERTICAL PANEL.

ON DIVIDED HIGHWAYS A VERTICAL PANEL MAY HAVE SHEETING ON ONLY ONE SIDE.



STACKABLE VERTICAL PANEL

NOTES:

(1) VERTICAL PANEL SIGNS SHALL BE MOUNTED BACK TO BACK WHEN USED FOR TWO–WAY TRAFFIC.

(2) BASE SHALL BE NO LARGER THAN 28" LONG BY 20" WIDE, AND 2" THICK.

(3) BASE SHALL WEIGHT 30 LBS. OR MORE.

(4) THESE DEVICES SHALL BE CONSTRUCTED OF A MATERIAL THAT CAN BE STRUCK WITHOUT DAMAGING VEHICLES ON IMPACT.

KEY:

FLUORESCENT ORANGE (REFLECTORIZED)

WHITE (REFLECTORIZED)

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(D)	VERTICAL PANEL	SD
880(E)	WARNING LIGHTS	SD
880(F)	DRUMS	SD
880(G)	TUBE CHANNELIZERS	SD
880(H)	CONES	SD
880(G)	CHANNELIZER CONES	SD

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 3/21/11

TRAFFIC STANDARD

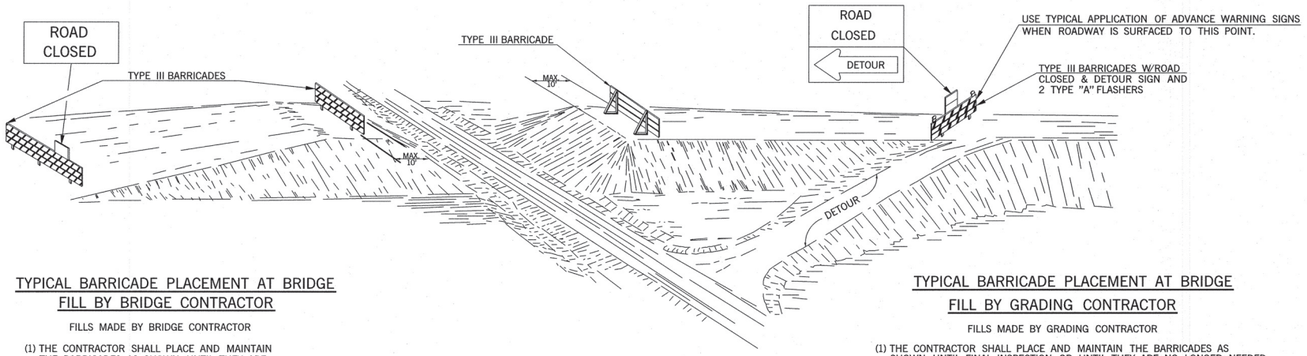
TRAFFIC CONTROL STANDARD
CHANNELIZING DEVICES

2009 SPECIFICATIONS

TCS6–1 | 02

$$date$$

REVISIONS	
DESCRIPTION	DATE
MODIFIED NOTE	3/15/2011
ADD "NO CELL PHONE" USAGE IN WORK ZONE, DISTANCE SIGN TO WARNING SIGNS	4/2/2013



TYPICAL BARRICADE PLACEMENT AT BRIDGE FILL BY BRIDGE CONTRACTOR

FILLS MADE BY BRIDGE CONTRACTOR

(1) THE CONTRACTOR SHALL PLACE AND MAINTAIN THE BARRICADES AS SHOWN UNTIL THEY ARE NO LONGER NEEDED.

(2) THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO REMOVAL OF THE BARRICADES.

(3) THE ENGINEER SHALL NOTIFY THE GRADING CONTRACTOR TO FURNISH AND ERECT HIS BARRICADES "IMMEDIATELY" AFTER THE BRIDGE CONTRACTOR REMOVES HIS BARRICADES. THE GRADING CONTRACTOR SHALL MAINTAIN HIS BARRICADES UNTIL FINAL INSPECTION OR UNTIL THEY ARE NO LONGER NEEDED.

(4) BARRICADES AT BRIDGE FILL SHALL BE IN PLACE AND MAINTAINED AT ALL TIMES UNTIL OPENED TO TRAFFIC, HOWEVER, BARRICADES MAY BE REMOVED OR ADJUSTED, AS NEEDED, TO ALLOW ACCESS TO THE WORK AREA.

TYPICAL BARRICADE PLACEMENT AT BRIDGE FILL BY GRADING CONTRACTOR

FILLS MADE BY GRADING CONTRACTOR

(1) THE CONTRACTOR SHALL PLACE AND MAINTAIN THE BARRICADES AS SHOWN UNTIL FINAL INSPECTION OR UNTIL THEY ARE NO LONGER NEEDED.

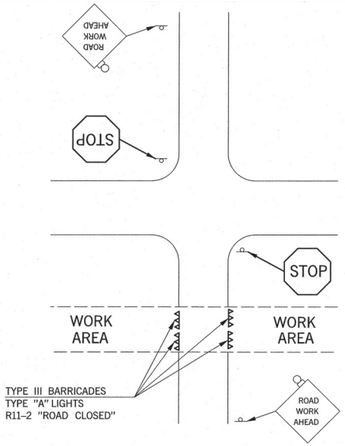
(2) THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO REMOVAL OF THE BARRICADES.

(3) IF THE BRIDGE WORK ORDER IS ISSUED PRIOR TO COMPLETION OF THE GRADING CONTRACT, THE BRIDGE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE GRADING CONTRACTOR TO ASSUME RESPONSIBILITY FOR PROTECTION OF THE BRIDGE WORK AREA. THIS WILL INCLUDE FURNISHING, INSTALLING, AND MAINTAINING ALL BARRICADES AND SIGNS NECESSARY TO PROVIDE THAT PROTECTION UNTIL THE BRIDGE IS COMPLETED AND THE FINAL INSPECTION IS COMPLETED.

(4) IF THE BRIDGE WORK ORDER HAS NOT BEEN ISSUED PRIOR TO THE FINAL INSPECTION OF THE GRADING, THEN THE GRADING CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OKLAHOMA DEPARTMENT OF TRANSPORTATION FOR STATE FORCES TO SUPPLY, INSTALL AND MAINTAIN ANY NECESSARY TRAFFIC CONTROL DEVICES NEEDED TO PROTECT THE WORK AREA. THESE STATE OWNED DEVICES SHALL REMAIN IN PLACE UNTIL SUCH TIME THAT THE BRIDGE WORK ORDER IS ISSUED. AT THAT TIME THE BRIDGE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR TRAFFIC CONTROL AND REPLACE THE STATE OWNED DEVICES WITH HIS OWN.

(5) SUFFICENT NUMBER OF TYPE II BARRICADES WITH SIGNS SHALL BE USED TO COMPLETELY CLOSE THE WORK AREA TO THROUGH TRAFFIC.

(6) BARRICADES AT BRIDGE FILL SHALL BE IN PLACE AND MAINTAINED AT ALL TIMES UNTIL OPENED TO TRAFFIC, HOWEVER, BARRICADES MAY BE REMOVED OR ADJUSTED, AS NEEDED, TO ALLOW ACCESS TO THE WORK AREA.



TYPICAL SIGN PLACEMENT FOR INTERSECTING ROADS AND STREETS

NOTES:

(1) SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.

(2) FLASHING WARNING LIGHTS SHALL BE USED TO CALL ATTENTION TO THE EARLY WARNING SIGNS.

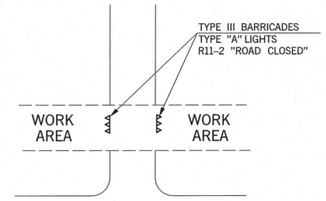
(3) WARNING LIGHTS SHOULD BE USED TO MARK CHANNELIZING DEVICES AT NIGHT AS NEEDED.

(4) PLACEMENT OF TYPE III BARRICADES SHALL BE APPROVED BY THE ENGINEER.

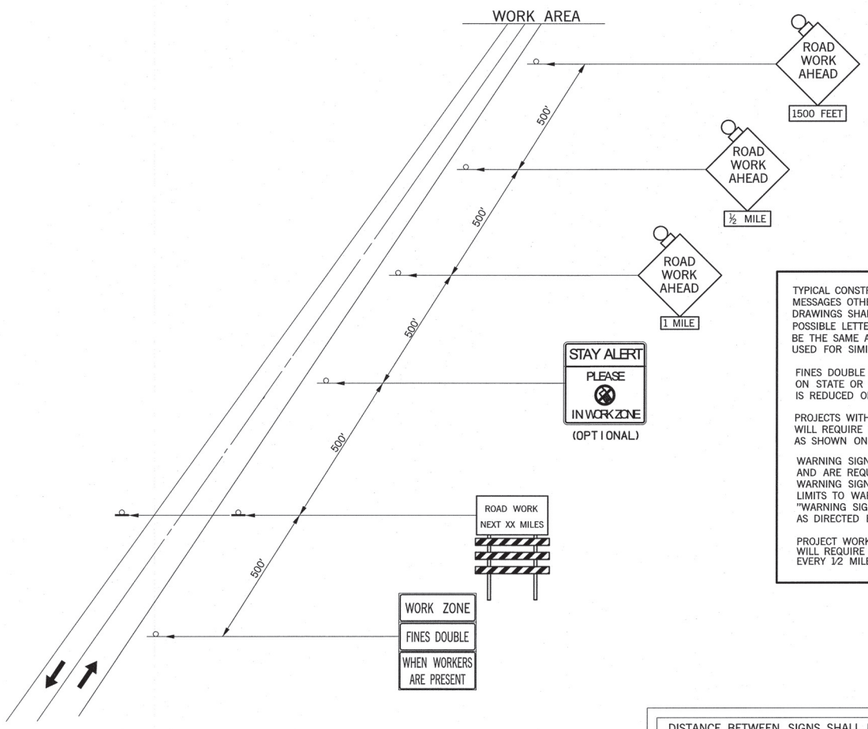
(5) TYPE II BARRICADES, DRUMS AND/OR VERTICAL PANELS MAY BE SUBSTITUTED FOR TYPE III BARRICADES TO AVOID OBSTRUCTING THE MOTORISTS VIEW.

(6) IF TWO OR MORE DRIVEWAYS ARE IN CLOSE PROXIMITY, THE BARRICADES BETWEEN THE DRIVEWAYS MAY BE OMITTED AT THE DISCRETION OF THE ENGINEER.

(7) THE "ROAD WORK AHEAD" SIGN, WHICH SERVES AS A GENERAL WARNING OF OBSTRUCTIONS OR RESTRICTIONS, SHALL BE LOCATED ON ALL INTERSECTING ROADS AND STREETS.



TYPICAL SIGN PLACEMENT FOR PRIVATE DRIVE OR RESIDENCE



TYPICAL APPLICATION ADVANCE WARNING SIGNS ON 2-LANE HIGHWAY

TYPICAL CONSTRUCTION WARNING SIGNS WITH MESSAGES OTHER THAN DETAILED ON STANDARD DRAWINGS SHALL BE CONSTRUCTED USING THE LARGEST POSSIBLE LETTER SIZE. SIGN SIZE AND COLOR SHALL BE THE SAME AS OTHER CONSTRUCTION WARNING SIGNS USED FOR SIMILAR CONDITIONS.

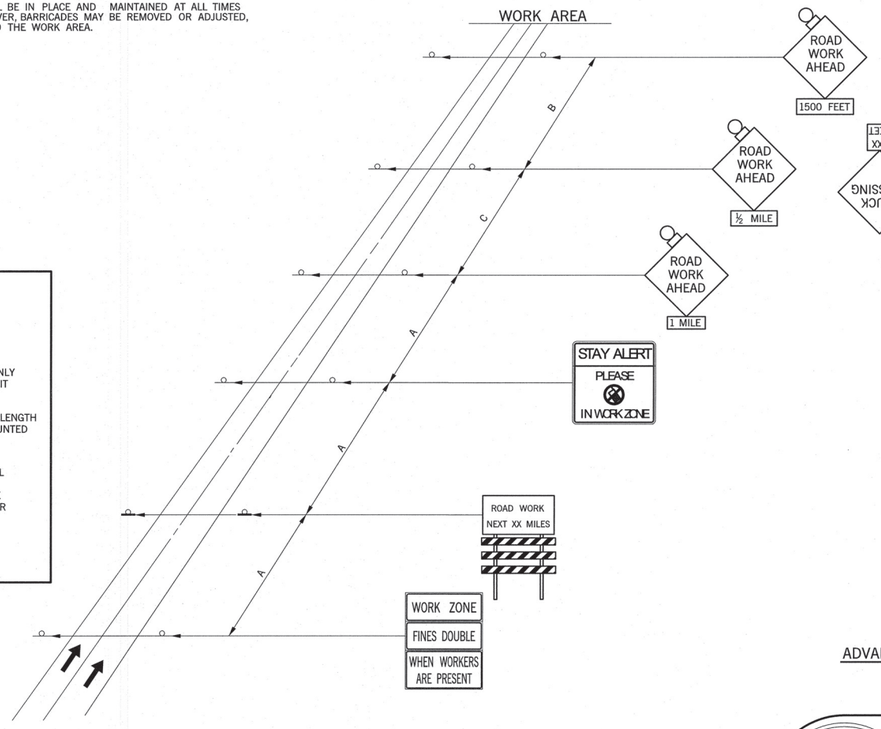
FINES DOUBLE IN WORK ZONE SIGNS ARE TO BE USED ONLY ON STATE OR FEDERAL HIGHWAYS WHERE THE SPEED LIMIT IS REDUCED OR AS DIRECTED BY THE ENGINEER.

PROJECTS WITH WORK LIMITS OF 1.0 MILES OR MORE IN LENGTH WILL REQUIRE THE G20-1A SIGN. THE SIGN SHALL BE MOUNTED AS SHOWN ON TCS4-1-(LATEST REVISION).

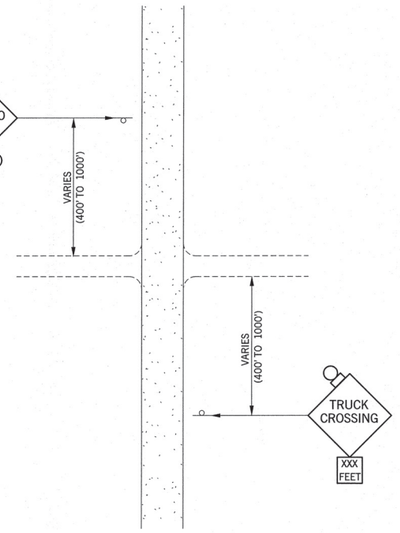
WARNING SIGNS SHOWN ARE "ADVANCE" WARNING SIGNS AND ARE REQUIRED ON ALL STATE HIGHWAYS. ADDITIONAL WARNING SIGNS MAY BE REQUIRED WITHIN THE PROJECT LIMITS TO WARN DRIVERS OF SPECIFIC HAZARDS. ADVANCE "WARNING SIGNS" MAY CHANGE AS CONDITIONS CHANGE OR AS DIRECTED BY THE ENGINEER.

PROJECT WORK OF 1.0 MILE OR MORE IN LENGTH WILL REQUIRE SIGNS CS-14 AND R2-1 TO BE PLACED EVERY 1/2 MILE THROUGH WORK ZONE.

DISTANCE BETWEEN SIGNS SHALL BE A (MIN.)			
ROAD TYPE	A (FT)	B (FT)	C (FT)
URBAN (LOW SPEED)	100	100	100
URBAN (HIGH SPEED)	350	350	350
RURAL	500	500	500
EXPRESSWAY /FREEWAY	1,000	1,500	2,640



TYPICAL APPLICATION ADVANCE WARNING SIGNS ON A DIVIDED HIGHWAY



TYPICAL APPLICATION ADVANCE SIGNING WHERE TRUCKS ARE CROSSING

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 4/8/2013

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD PLACEMENT OF ADVANCE WARNING SIGNS

2009 SPECIFICATIONS

TCS7-1	02
	T-507

$$date$$

STOP

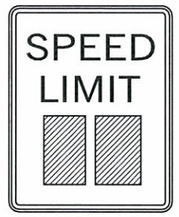
R1-1	30 x 30	5.18 SF
R1-1E	36 x 36	7.46 SF
R1-1F	48 x 48	13.26 SF

COLOR:
LEGEND AND BORDER:
WHITE (REFLECTORIZED)
BACKGROUND:
RED (TRANSPARENT REFLECTORIZED)

YIELD

R1-2	36 x 36 x 36	3.90 SF
R1-2E	48 x 48 x 48	6.93 SF
R1-2F	60 x 60 x 60	10.83 SF

COLOR:
LEGEND AND BORDER:
RED (TRANSPARENT REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



SPEED LIMIT

R2-1( ) (SPEED)	24 x 30	5.00 SF
R2-1E( )	36 x 48	12.00 SF
R2-1F( )	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

NO RIGHT TURN

R3-1	24 x 24	4.00 SF
R3-1E	36 x 36	9.00 SF
R3-1F	48 x 48	16.00 SF

COLOR:
ARROW AND BORDER:
BLACK (NON-REFLECTORIZED)
CIRCLE AND DIAGONAL:
RED (TRANSPARENT REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

NO LEFT TURN

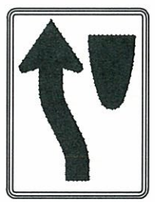
R3-2	24 x 24	4.00 SF
R3-2E	36 x 36	9.00 SF
R3-2F	48 x 48	16.00 SF

COLOR:
ARROW AND BORDER:
BLACK (NON-REFLECTORIZED)
CIRCLE AND DIAGONAL:
RED (TRANSPARENT REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

KEEP RIGHT SIGN

R4-7	24 x 30	5.00 SF
R4-7E	36 x 48	12.00 SF
R4-7F	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



KEEP LEFT SIGN

R4-8	24 x 30	5.00 SF
R4-8E	36 x 48	12.00 SF
R4-8F	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

KEEP RIGHT

R4-7a(R)	24 x 30	5.00 SF
R4-7a(R)E	36 x 48	12.00 SF
R4-7a(R)F	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

KEEP LEFT

R4-7a(L)	24 x 30	5.00 SF
R4-7a(L)E	36 x 48	12.00 SF
R4-7a(L)F	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

DO NOT ENTER

R5-1	30 x 30	6.25 SF
R5-1E	36 x 36	9.00 SF
R5-1F	48 x 48	16.00 SF

COLOR:
SYMBOL: :
RED (TRANSPARENT REFLECTORIZED)
LEGEND AND BACKGROUND: :
WHITE (REFLECTORIZED)

ONE WAY

R6-1(L)	36 x 12	3.00 SF
R6-1E(L)	54 x 18	6.75 SF
R6-1F(L)	54 x 18	6.75 SF

COLOR:
ARROW AND BORDER:
WHITE (NON-REFLECTORIZED)
LEGEND AND BACKGROUND:
BLACK (REFLECTORIZED)

ONE WAY

R6-1(R)	36 x 12	3.00 SF
R6-1E(R)	54 x 18	6.75 SF
R6-1F(R)	54 x 18	6.75 SF

COLOR:
ARROW AND BORDER:
WHITE (NON-REFLECTORIZED)
LEGEND AND BACKGROUND:
BLACK (REFLECTORIZED)

STOP HERE ON RED

R10-6	24 x 36	6.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

NOTES:
WORD SIGNS MAY BE USED IF SYMBOL SIGNS ARE NOT AVAILABLE EITHER IN "STANDARD HIGHWAY SIGNS MANUAL" OR IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (CURRENT EDITION).

DESCRIPTION	REVISIONS	DATE

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER Arnold Umach DATE 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS8-1	00
T-508	

TRFPC36 M:\2009 Standards TC\t508.dgn 8:18:06 AM 6/2/2010 d:\usr2\flib\leroyh.pen R:\TRAF PLOT\bw.tbl

DESCRIPTION	REVISIONS	DATE
CHANGED SIGN DESIGNATION		3/15/2011

ROAD CLOSED

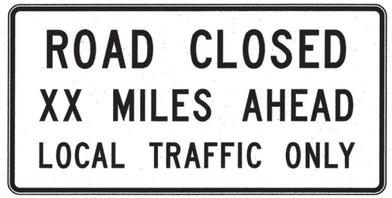
R11-2 48 x 30 10.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

LANE CLOSED

R11-2(LANE) 48 x 30 10.00 SF

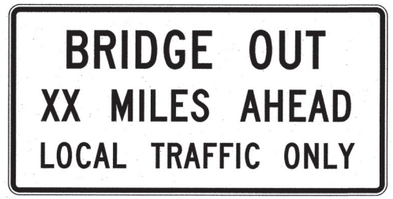
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



ROAD CLOSED XX MILES AHEAD

R11-3a 60 x 30 12.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



BRIDGE OUT XX MILES AHEAD

R11-3b 60 x 30 12.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

ROAD CLOSED TO THRU TRAFFIC

R11-4 60 x 30 12.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

DETOUR SIGN

M4-8 24 x 12 2.00 SF
M4-8E 30 x 15 3.13 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(R) 30 x 24 5.00 SF
M4-9(R)E 48 x 36 12.00 SF
M4-9(R)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(L) 30 x 24 5.00 SF
M4-9(L)E 48 x 36 12.00 SF
M4-9(L)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(V) 30 x 24 5.00 SF
M4-9(V)E 48 x 36 12.00 SF
M4-9(V)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

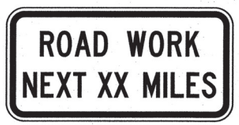
M4-10(R) 48 x 18 6.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-10(L) 48 x 18 6.00 SF

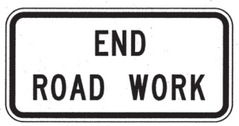
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



ROAD WORK NEXT XX MILES SIGN

G20-1A 36 x 18 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



END ROAD WORK SIGN

G20-2A 36 x 18 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

PILOT CAR FOLLOW ME SIGN

G20-4 36 x 18 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

NOTES:
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ALL DIAMOND SHAPE CONSTRUCTION WARNING SIGNS SHALL BE 48 INCHES X 48 INCHES UNLESS OTHERWISE NOTED IN THE PLANS.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: David Streb DATE: 3/21/11

TRAFFIC STANDARD

TRAFFIC CONTROL STANARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS9-1 | 01

$$date$$

TURN LEFT

W1-1(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

TURN RIGHT

W1-1(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

CURVE LEFT

W1-2(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

CURVE RIGHT

W1-2(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE TURN

W1-3(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE TURN

W1-3(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE CURVE

W1-4(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE CURVE

W1-4(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE CURVE

W1-4B(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE CURVE

W1-4B(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE CURVE

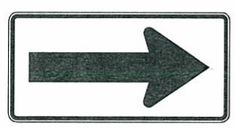
W1-4C(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE CURVE

W1-4C(R) 48 x 48 16.00 SF

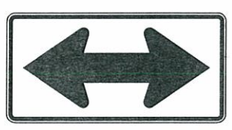
COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



ARROW

W1-6 48 x 24 8.00 SF
W1-6E 60 x 30 12.50 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



DOUBLE ARROW

W1-7 48 x 24 8.00 SF
W1-7E 60 x 30 12.50 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

REVISIONS		
DESCRIPTION		DATE

NOTES:
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BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: Arnold Smarr DATE: 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

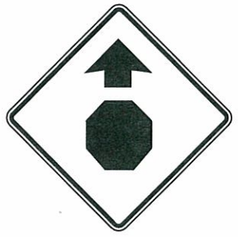
TCS10-1 00
T-510

TRFPC36 M:\2009 Standards TC\t510.dgn 8:18:46 AM 6/2/2010 d:\usr2\flib\leroyh.pen R:\TRAF PLOT\bw.tbl

CHEVRON

W1-8	18 x 24	3.00 SF
W1-8E	30 x 36	7.50 SF
W1-8F	36 x 48	12.00 SF

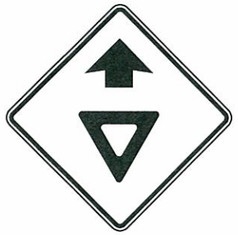
COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



STOP AHEAD

W3-1 48 x 48 16.00 SF

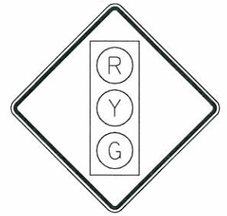
COLOR:
BORDER AND ARROW:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
SYMBOL:
WHITE BORDER ON RED BACKGROUND
(REFLECTORIZED)



YIELD AHEAD

W3-2 48 x 48 16.00 SF

COLOR:
BORDER AND ARROW:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
SYMBOL:
WHITE BORDER ON RED BACKGROUND
(REFLECTORIZED)



SIGNAL AHEAD

W3-3 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
R = RED (REFLECTORIZED)
Y = YELLOW (REFLECTORIZED)
G = GREEN (REFLECTORIZED)

BE PREPARED TO STOP SIGN

W3-4 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SPEED REDUCTION

W3-5 48 x 48 16.00 SF

COLOR:
BORDER AND ARROW:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
SYMBOL:
BLACK BORDER AND TEXT ON
WHITE BACKGROUND (REFLECTORIZED)

LEFT LANE ENDS

W4-2(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

RIGHT LANE ENDS

W4-2(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROAD NARROWS

W5-1 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

NARROW BRIDGE

W5-2 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ONE LANE BRIDGE

W5-3 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DIVIDED HIGHWAY

W6-1 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DIVIDED HIGHWAY

W6-2 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

TWO WAY TRAFFIC SIGN

W6-3 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

REVISIONS	
DESCRIPTION	DATE
CHANGE DESIGN NUMBER	07/19/10

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BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 3/6/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS11-1 01

T-511

TRFPC36 U:\Traffic\TRAFFIC_STD_CURRENT\2009\DRAWINGS\TCS11-1-01 t511.dgn 10:38:39 AM 7/19/2010 R:\TRAF PLOT\leroyh.pen R:\TRAF PLOT\bw.tbl

REVISIONS		
DESCRIPTION		DATE

HILL SIGN

W7-1 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

HILL SIGN

W7-1b 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

HILL SIGN *

W7-1S 24 x 18 3.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

BUMP SIGN

W8-1 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DIP SIGN

W8-2 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

PAVEMENT ENDS SIGN

W8-3 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SOFT SHOULDER SIGN

W8-4 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SLIPPERY WHEN WET SIGN

W8-5 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SLIPPERY WHEN WET *

W8-5S 24 x 18 3.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

TRUCK CROSSING

W8-6 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LOOSE GRAVEL SIGN

W8-7 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROUGH ROAD SIGN

W8-8 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

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BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: Harold Stanley DATE: 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS12-1 00
T-512

TRFPC36 M:\2009 Standards TC\1512.dgn 8:19:28 AM 6/2/2010 d:\usr2\flib\leroyh.pen R:\TRAF PLOT\bw.tbl

LOW SHOULDER SIGN

W8-9 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

UNEVEN LANES SIGN

W8-11 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

NO CENTER LINE SIGN

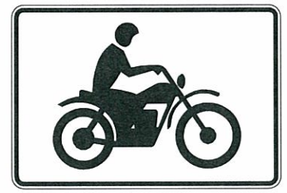
W8-12 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

GROOVED PAVEMENT SIGN

W8-15 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)



MOTORCYCLE (PLAQUE) *

W8-15P 18 x 36 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SHOULDER DROP-OFF (SYMBOL)

W8-17 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SHOULDER DROP-OFF (PLAQUE) *

W8-17P 18 x 36 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LANE ENDS MERGE LEFT SIGN

W9-2(L) 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LANE ENDS MERGE RIGHT SIGN

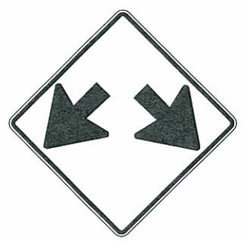
W9-2(R) 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

TRUCK CROSSING SIGN

W11-10 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)



DOUBLE ARROW SIGN

W12-1 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

CLEARANCE SIGN

W12-2 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ADVISORY SPEED SIGN *

W13-1P 18 x 18 2.25 SF
W13-1PE 24 x 24 4.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

XX FEET SIGN *

W16-2P 24 x 18 3.00 SF
W16-2PE 30 x 24 5.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

REVISIONS		
DESCRIPTION		DATE

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BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER Chad Smith DATE 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS13-1 00
T-513

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REVISIONS	
DESCRIPTION	DATE

ROAD WORK SIGN

W20-1 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DETOUR SIGN

W20-2 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROAD CLOSED SIGN

W20-3 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

STREET CLOSED SIGN

W20-3A 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ONE LANE ROAD SIGN

W20-4 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LEFT LANE CLOSED SIGN

W20-5(L) 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

RIGHT LANE CLOSED SIGN

W20-5(R) 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

FLAGGER SIGN

W20-7 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

FLAGGER SIGN

W20-7a 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

WORKERS SIGN

W21-1 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

FRESH OIL SIGN

W21-2 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROAD MACHINERY AHEAD SIGN

W21-3 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

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BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: David Stanley DATE: 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS14-1	00
	T-514

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SHOULDER WORK SIGN

W21-5 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SURVEY CREW SIGN

W21-6 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

UTILITY WORK AHEAD SIGN

W21-7 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

MOWING AHEAD SIGN

W21-8 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

BRIDGE REPAIR SIGN

W21-9 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

MATERIAL ON SHOULDER SIGN

W21-10 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

MATERIAL ON ROADWAY SIGN

W21-11 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

BLASTING ZONE AHEAD SIGN

W22-1 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

CELL TELEPHONES SIGN

W22-2 36 x 30 7.50 SF
W22-2E 42 x 36 10.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

END BLASTING ZONE SIGN

W22-3 36 x 30 7.50 SF
W22-3E 42 x 36 10.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DESCRIPTION	REVISIONS	DATE

NOTES:
WORD SIGNS MAY BE USED IF SYMBOL SIGNS ARE NOT AVAILABLE EITHER IN "STANDARD HIGHWAY SIGNS MANUAL" OR IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (CURRENT EDITION).

ALL DIAMOND SHAPE CONSTRUCTION WARNING SIGNS SHALLBE 48 INCHES X 48 INCHES UNLESS OTHERWISE NOTED IN THE PLANS.

* SUPPLEMENTAL SIGNS SHALL ONLY BE USED IN CONJUCTION WITH DIAMOND SHAPE CONSTRUCTION WARNING SIGNS . THE SIZE OF SUPPLEMENTAL SIGNS SHALL BE APPROPRIATE FOR USE WITH A 48 INCH x 48 INCH WARNING SIGN UNLESS OTHERWISE NOTED IN THE PLANS.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER Harold Smart DATE: 6/23/10

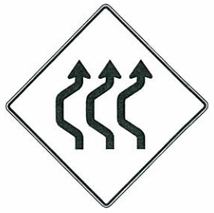
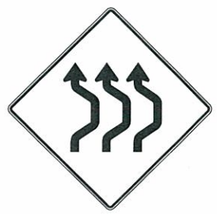
TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS15-1 | 00 | T-515

TRFPC36 M:\2009 Standards TC\t515.dgn 8:20:40 AM 6/2/2010 d:\usr2\flib\leroyh.pen R:\TRAF PLOT\bw.tbl

				
DOUBLE REVERSE CURVE (1 LANE) W24-1(L) 48 X 48 16.00 SF COLOR: LEGEND AND BORDER: BLACK (NON-REFLECTORIZED) BACKGROUND: FLUORESCENT ORANGE (REFLECTORIZED)	DOUBLE REVERSE CURVE (1 LANE) W24-1(R) 48 X 48 16.00 SF COLOR: LEGEND AND BORDER: BLACK (NON-REFLECTORIZED) BACKGROUND: FLUORESCENT ORANGE (REFLECTORIZED)	DOUBLE REVERSE CURVE (2 LANE) W24-1a(L) 48 X 48 16.00 SF COLOR: LEGEND AND BORDER: BLACK (NON-REFLECTORIZED) BACKGROUND: FLUORESCENT ORANGE (REFLECTORIZED)	DOUBLE REVERSE CURVE (2 LANE) W24-1a(R) 48 X 48 16.00 SF COLOR: LEGEND AND BORDER: BLACK (NON-REFLECTORIZED) BACKGROUND: FLUORESCENT ORANGE (REFLECTORIZED)	DOUBLE REVERSE CURVE (3 LANE) W24-1b(L) 48 X 48 16.00 SF COLOR: LEGEND AND BORDER: BLACK (NON-REFLECTORIZED) BACKGROUND: FLUORESCENT ORANGE (REFLECTORIZED)
				
DOUBLE REVERSE CURVE (3 LANE) W24-1b(R) 48 X 48 16.00 SF COLOR: LEGEND AND BORDER: BLACK (NON-REFLECTORIZED) BACKGROUND: FLUORESCENT ORANGE (REFLECTORIZED)	ALL LANES* W24-1cP 24 X 24 4.00 SF W24-1cEP 30 X 30 6.25 SF COLOR: LEGEND AND BORDER: BLACK (NON-REFLECTORIZED) BACKGROUND: FLUORESCENT ORANGE (REFLECTORIZED)			

DESCRIPTION	REVISIONS	DATE

NOTES:
WORD SIGNS MAY BE USED IF SYMBOL SIGNS ARE NOT AVAILABLE EITHER IN "STANDARD HIGHWAY SIGNS MANUAL" OR IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (CURRENT EDITION).

ALL DIAMOND SHAPE CONSTRUCTION WARNING SIGNS SHALLBE 48 INCHES X 48 INCHES UNLESS OTHERWISE NOTED IN THE PLANS.

* SUPPLEMENTAL SIGNS SHALL ONLY BE USED IN CONJUCTION WITH DIAMOND SHAPE CONSTRUCTION WARNING SIGNS . THE SIZE OF SUPPLEMENTAL SIGNS SHALL BE APPROPRIATE FOR USE WITH A 48 INCH x 48 INCH WARNING SIGN UNLESS OTHERWISE NOTED IN THE PLANS.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: Harold Smith DATE: 6/23/10

TRAFFIC STANDARD

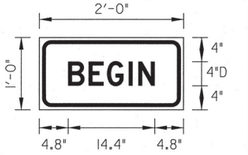
TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS16-1	00
T-516	

TRFPC36 M:\2009 Standards TC\t516.dgn 8:21:00 AM 6/2/2010 d:\usr2\lib\leroyh.pen R:\TRAF PLOT\bw.tbl

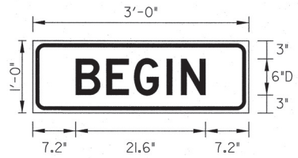
REVISIONS		
DESCRIPTION		DATE
CHANGED DECRIPTIONS		3/15/2011



Dimensions are in inches.tenths

SIGN NUMBER	CS-13
WIDTH x HGHT.	2'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	2.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)									LENGTH	SERIES/SIZE
B	E	G	I	N					D	2000
4.8	8.2	11.3	14.9	16.5				14.4		



Dimensions are in inches.tenths

SIGN NUMBER	CS-13E
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

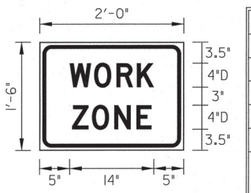
LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
B	E	G	I	N						D	2000
7.2	12.3	16.9	22.3	24.7					21.6		

Dimensions are in inches.tenths

SIGN NUMBER	CS-13F
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
B	E	G	I	N						E	2000
7.1	15.2	22.6	30.9	34.4					33.8		

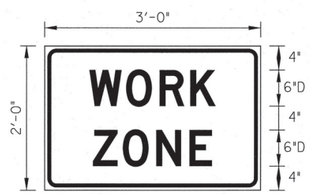
FLO* = FLUORESCENT ORANGE



Dimensions are in inches.tenths

SIGN NUMBER	CS-14
WIDTH x HGHT.	2'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

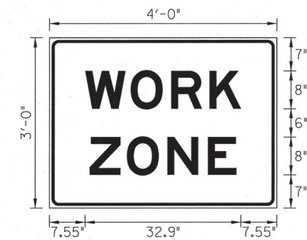
LETTER POSITIONS (X)									LENGTH	SERIES/SIZE
W	O	R	K						D	2000
5	9.1	12.8	16.2					14		
Z	O	N	E						D	2000
5.4	8.7	12.5	16.1					13.2		



Dimensions are in inches.tenths

SIGN NUMBER	CS-14E
WIDTH x HGHT.	3'-0" x 2'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

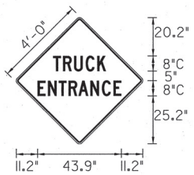
LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
W	O	R	K							D	2000
7.5	13.6	19.2	24.3						21		
Z	O	N	E							D	2000
8.1	13.1	18.7	24.2					19.8			



Dimensions are in inches.tenths

SIGN NUMBER	CS-14F
WIDTH x HGHT.	4'-0" x 3'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	12.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

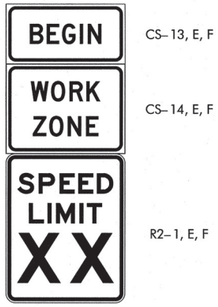
LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
W	O	R	K							E	2000
7.6	17.2	25.7	33.8						32.9		
Z	O	N	E							E	2000
8.5	16.4	24.9	33.5						31		



Dimensions are in inches.tenths

SIGN NUMBER	CS-15
WIDTH x HGHT	4'-0" x 4'-0"
BORDER WIDTH	0.75"
CORNER RADIUS	1.38"
MOUNTING	Ground
SIGN AREA	16.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Yellow
LEGEND/BORDER	TYPE: Reflective
	COLOR: Black

LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
T	R	U	C	K						C	2000
19.3	24.5	30.4	36.5	42.5					27.7		
E	N	T	R	A	N	C	E			C	2000
11.2	16.7	22.3	27.5	32.7	38.9	45	51.1		43.9		



CS-13, E, F

CS-14, E, F

R2-1, E, F

CONSTRUCTION
BEGIN WORK ZONE
SPEED LIMIT
ASSEMBLY

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 3/21/11

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

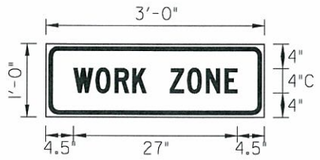
2009 SPECIFICATIONS

TCS19-1	01

T-519

$$date$$

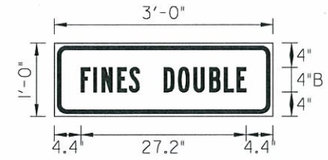
REVISIONS		
DESCRIPTION		DATE



Dimensions are in inches.tenths

SIGN NUMBER	CS-16
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Orange
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE
W	O	R	K		Z	O	N	E				C 2000
4.5	8	11.2	14.1	16.3	20.3	23.2	26.3	29.5		27		



Dimensions are in inches.tenths

SIGN NUMBER	CS-17
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
F	I	N	E	S		D	O	U	B	L	E			B 2000
4.4	6.5	7.9	10.5	12.4	14.1	18.1	20.5	23.1	25.7	28	30.1	27.2		

Dimensions are in inches.tenths

SIGN NUMBER	CS-18
WIDTH x HGHT.	3'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	4.5 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
W	H	E	N		W	O	R	K	E	R	S			B 2000
3	6.1	8.7	10.9	12.6	16.6	19.6	22.2	24.6	27	29.1	31.3	30		
A	R	E		P	R	E	S	E	N	T				B 2000
5.3	8	10.3	11.9	15.9	18.1	20.5	22.4	24.8	26.9	29.2		25.5		

Dimensions are in inches.tenths

SIGN NUMBER	CS-16E
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Orange
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE
W	O	R	K		Z	O	N	E				C 2000
3.8	9	13.8	18.2	21.5	27.5	31.8	36.5	41.2		40.5		

Dimensions are in inches.tenths

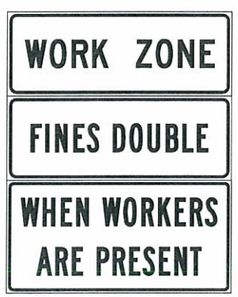
SIGN NUMBER	CS-17E
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
F	I	N	E	S	D	O	U	B	L	E				B 2000
5.1	8.2	10.3	14.2	17.1	22.7	26.2	30.1	34	37.5	40.7	37.9			

Dimensions are in inches.tenths

SIGN NUMBER	CS-18E
WIDTH x HGHT.	4'-0" x 2'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.13"
MOUNTING	Ground
SIGN AREA	8.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)												LENGTH	SERIES/SIZE
W	H	E	N	W	O	R	K	E	R	S			B 2000
3	7.7	11.6	14.9	20.4	24.9	28.8	32.4	36	39.2	42.4	41.9		
A	R	E	P	R	E	S	E	N	T				B 2000
6.4	10.5	14	19.3	22.7	26.3	29.1	32.7	35.9	39.3		35.2		



CS-16, E

CS-17, E

CS-18, E

CONSTRUCTION
FINES DOUBLE
ASSEMBLY

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER David Streb DATE 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS20-1	00
	T-520

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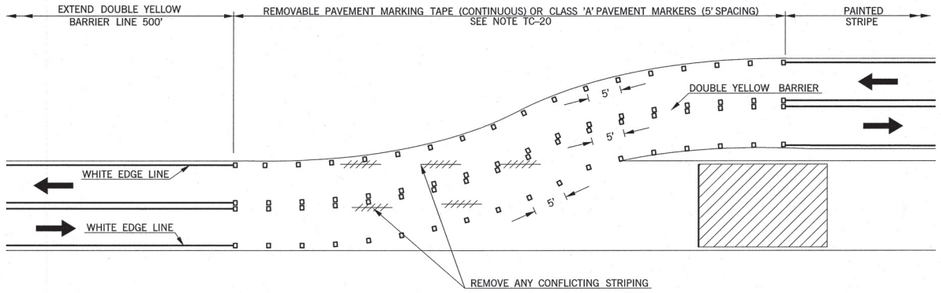
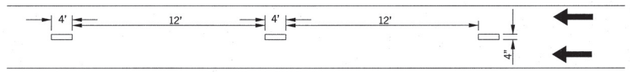


CONSTRUCTION ZONE PAVEMENT MARKINGS THRU SHOO–FLY

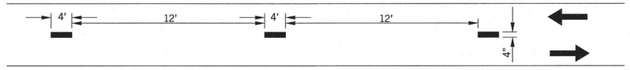


ONE–WAY PAVEMENT MARKING REMOVABLE TAPE OR PAINT

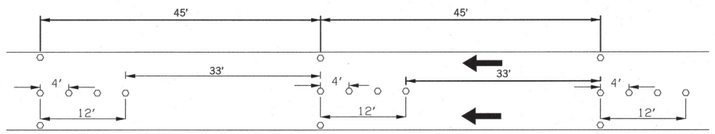
PAVEMENT MARKINGS: REMOVABLE TAPE OR PAINT

WIDTH OF STRIPED LANE LINES SHALL BE A MINIMUM OF 4".

INTERMEDIATE–TERM STATIONARY PAVEMENT MARKINGS ARE THOSE THAT MAY BE USED UNTIL THE EARLIEST DATE WHEN IT IS PRACTICAL AND POSSIBLE TO INSTALL PERMANENT PAVEMENT MARKINGS THAT MEET THE FULL OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARDS FOR PAVEMENT MARKINGS.



TWO–WAY PAVEMENT MARKING REMOVABLE TAPE OR PAINT



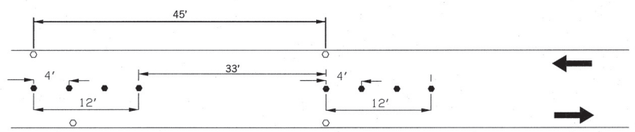
ONE–WAY PAVEMENT MARKING FLEX TABS

PAVEMENT MARKINGS: FLEX TABS

TYPE I – FLEX TAB MARKERS SHALL HAVE REFLECTORIZED MATERIAL ON BOTH SIDES.

TYPE II – FLEX TAB MARKERS SHALL HAVE REFLECTORIZED MATERIAL ON BOTH SIDES AND SHALL HAVE A CLEAR REMOVABLE COVER.

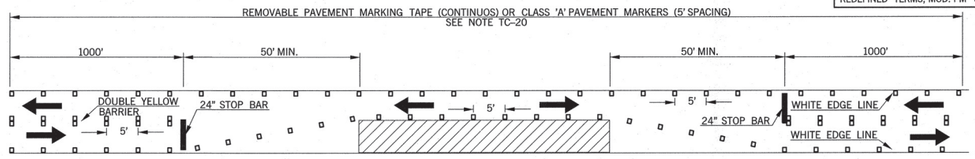
FLEX TABS MAY BE INSTALLED AS SHOWN FOR LONG–TERM STATIONARY PAVEMENT MARKINGS.



TWO–WAY PAVEMENT MARKING FLEX TABS

INTERMEDIATE–TERM STATIONARY PAVEMENT MARKINGS

REVISIONS	
DESCRIPTION	DATE
ADDED TRAFFIC STRIPE NOTES	4/10/12
REDEFINED TERMS, MOD. PM SPACING	4/2/2013



TYPICAL PAVEMENT MARKINGS FOR ONE LANE CLOSURE ON TWO LANE /TWO WAY ROADWAY REMOVABLE TAPE OR CONSTRUCTION ZONE PAVEMENT MARKERS

NOTES:

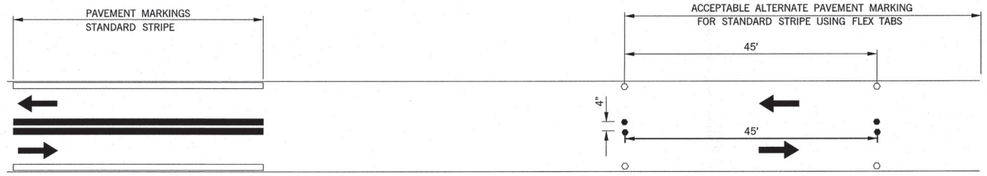
CONSTRUCTION ZONE PAVEMENT MARKINGS SHALL CONSIST OF EITHER PAINT, CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TABS) OR REMOVABLE MARKING TAPE. THERMO–PLASTIC STRIPE MAY BE USED IN CONJUNCTION WITH PAINT, FLEX TABS OR TAPE WHEN SPECIFIED IN THE PLANS.

ALL PAVEMENT MARKINGS TO BE PLACED ON TEMPORARY SURFACES OR ON SURFACES SCHEDULED TO BE REMOVED SHALL BE DONE WITH PAINT UNLESS OTHERWISE SHOWN IN THE PLANS OR STANDARD DRAWINGS. ALL FINAL OR FINISHED SURFACES SHALL BE MARKED WITH EITHER REMOVABLE PAVEMENT MARKING TAPE OR CONSTRUCTION ZONE PAVEMENT MARKERS, UNLESS OTHERWISE NOTED ON THE PLANS.

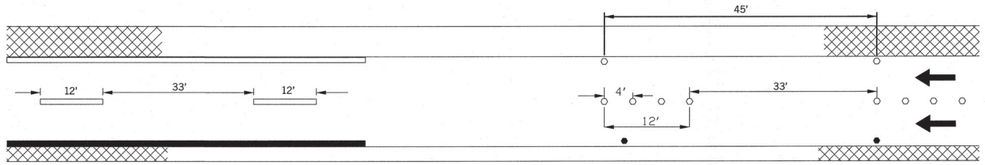
WIDTH OF STRIPED LANE LINES SHALL BE A MINIMUM OF 4".

KEY:

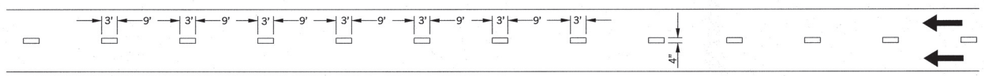
- WORK ZONE
- WHITE LANE LINE (PAINT OR TAPE)
- YELLOW LANE LINE (PAINT OR TAPE)
- WHITE FLEX TAB
- YELLOW FLEX TAB
- CLASS A PAVEMENT MARKER



TWO–LANE /TWO–WAY



4 –LANE DIVIDED ROADWAY



WHITE DOTTED LINE

LONG–TERM STATIONARY PAVEMENT MARKINGS

MUTCD DEFINITIONS OF THE FIVE CATEGORIES OF WORK DURATION, AND THEIR TIME AT A LOCATION SHALL BE:

A. LONG–TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN 3 DAYS.
B. INTERMEDIATE–TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 DAYS, OR NIGHTTIME WORK LASTING MORE THAN 1 HOUR.
C. SHORT–TERM STATIONARY IS DAYTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR WITHIN A SINGLE DAYLIGHT PERIOD.
D. SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.
E. MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 4/8/2013

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD CONSTRUCTION ZONE PAVEMENT MARKINGS

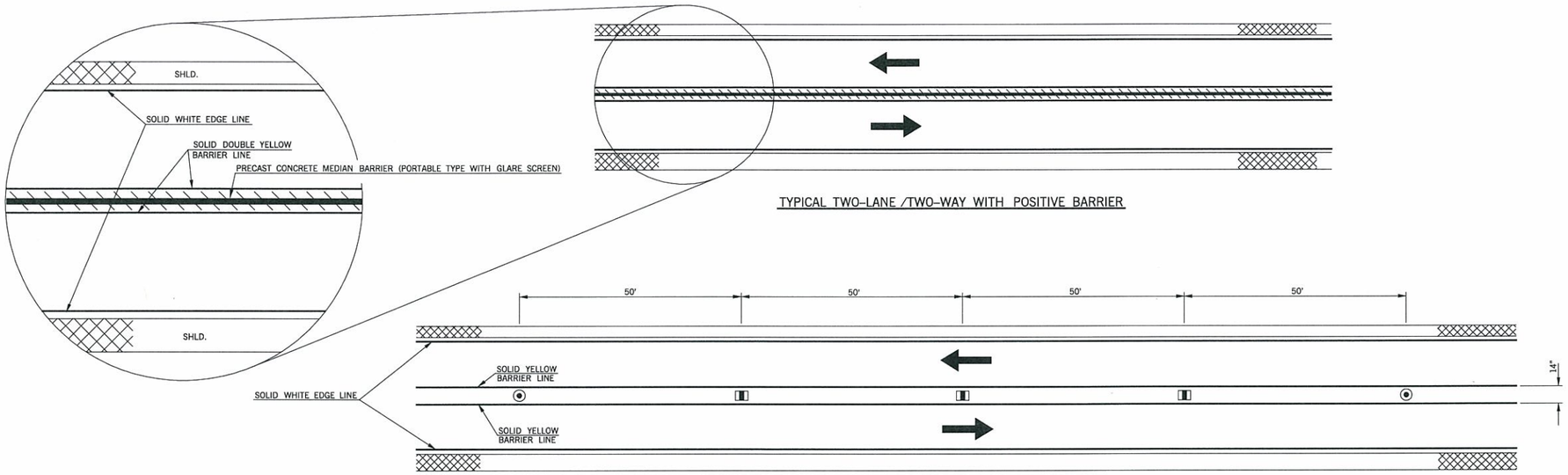
2009 SPECIFICATIONS

TCS21–1	02

T–521

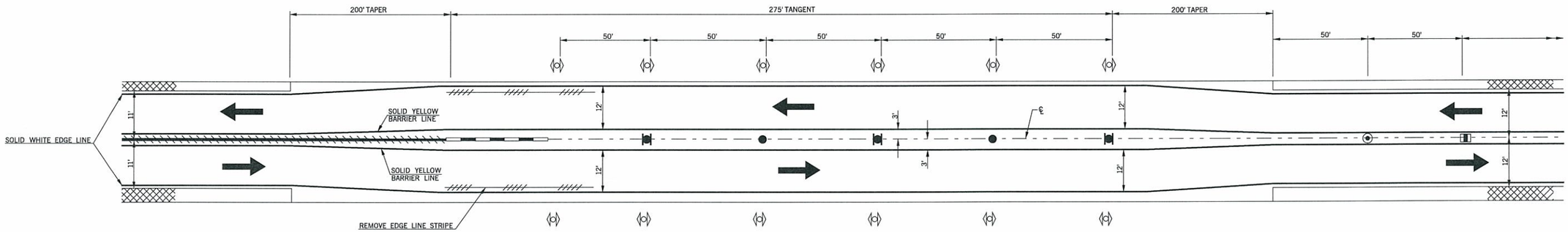
$$date$$

DESCRIPTION	REVISIONS	DATE



TYPICAL TWO–LANE /TWO–WAY WITH POSITIVE BARRIER

TYPICAL TWO–LANE /TWO–WAY WITHOUT POSITIVE BARRIER



TRANSITION INTO NARROW IMPACT ATTENUATOR

CONSTRUCTION ZONE PAVEMENT MARKINGS

KEY:

- VERTICAL PANEL W/TYPE "C" STEADY BURN LIGHT
- CENTERLINE CONST. ZONE PAVEMENT MARKER (YELLOW)
- TUBE CHANNELIZERS
- NARROW CZ IMPACT ATTENUATOR
- PRECAST CONCRETE MEDIAN BARRIER (PORTABLE TYPE WITH GLARE SCREEN)
- EXISTING PAVEMENT MARKINGS TO BE REMOVED
- DRUM
- DRUM WITH SIGNS MOUNTED ON BOTH SIDES

NOTES:

CONSTRUCTION ZONE PAVEMENT MARKINGS SHALL CONSIST OF EITHER PAINT, CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TAB) OR REMOVABLE PAVEMENT MARKING TAPE. THERMO-PLASTIC STRIPE MAY BE USED IN CONJUNCTION WITH PAINT, MARKERS OR TAPE WHEN SPECIFIED IN THE PLANS.

APPROVED BY TRAFFIC ENGINEER David Streb DATE 6/23/10

TRAFFIC STANDARD

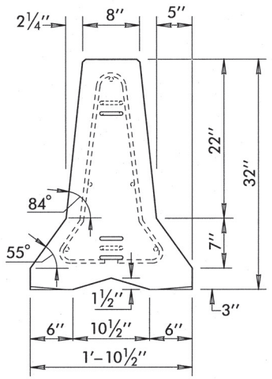
TRAFFIC CONTROL STANDARD
CONSTRUCTION ZONE PAVEMENT MARKINGS

2009 SPECIFICATIONS

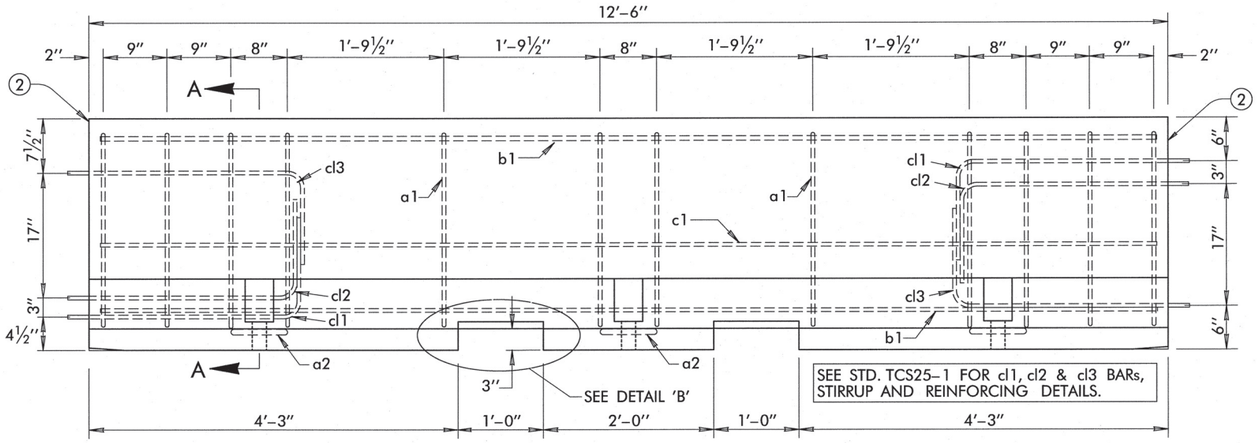
TCS22–1	00
T–522	

TRFPC36 M:\2009_Standards_TC\t522.dgn 8:28:56 AM 6/2/2010 d:\usr2\lib\leroyh.pen R:\TRAF_PLOT\bw.tbl

REVISIONS		
DESCRIPTION		DATE
CHANGED DIMENSION		2/25/2011
ADDED DELINEATORS/NOTES		11/09/2011



END VIEW



ELEVATION VIEW

DRAWING NOTES:

① 1 INCH RADIUS ALLOWED FOR EASE OF CASTING (BOTH SIDES).

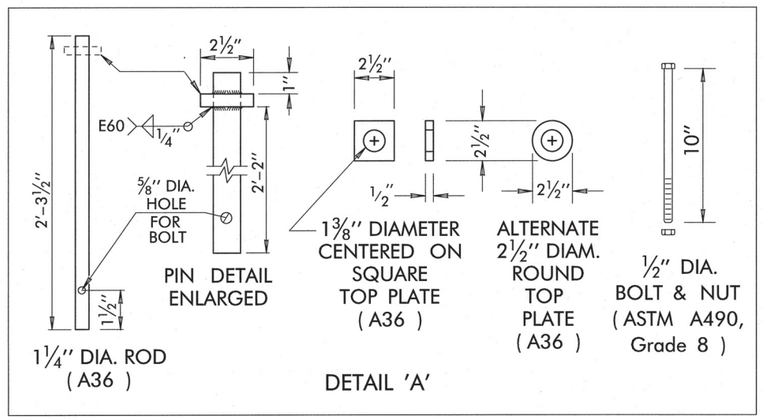
② THE TOP SURFACE OF ONE END OF EACH BARRIER UNIT SHALL BE PERMANENTLY MARKED INDICATING THE FOLLOWING INFORMATION:
- NCHRP REPORT 350 APPROVED
- TYPE F BARRIER
- MANUFACTURER IDENTIFICATION
- DATE MANUFACTURED (MONTH AND YEAR)

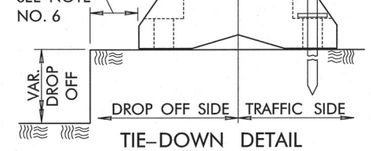
EXAMPLE: 350F–SM9/01 (SM = SMITH MATERIALS)

③ 1 INCH CHAMFER TO PREVENT SPALLING (BOTH SIDES).

GENERAL NOTES:

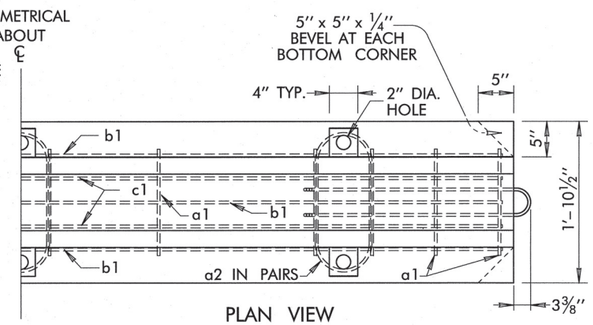
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS OF THE PORTABLE PRECAST CONCRETE MEDIAN BARRIER, PROVIDED BY THE CONTRACTOR, SHALL BE IN ACCORDANCE WITH THE 2009 ENGLISH STANDARD SPECIFICATIONS & MEET REQUIREMENTS OF NCHRP REPORT 350, TEST LEVEL 3. CONTRACTOR MAY PROVIDE ANY PORTABLE F–SHAPE BARRIER DESIGN MEETING THE REQUIREMENTS OF NCHRP REPORT 350, SO LONG AS THE MATERIAL REQUIREMENTS OF 2009 STANDARD SPECIFICATIONS ARE MET.
2. CONCRETE FOR PORTABLE PRECAST CONCRETE MEDIAN BARRIER SHALL REACH A MINIMUM OF 4000 PSI STRENGTH AFTER 28 DAYS.
3. ALL REINFORCEMENT SHALL BE DEFORMED GRADE 60, AASHTO M 31, EXCEPT FOR THE CONNECTION LOOP BAR ASSEMBLY SHALL BE SMOOTH #6 BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A MINIMUM TENSILE STRENGTH OF 80 KSI, AND PASSING A 180 DEGREE BEND TEST USING A 2¾" PIN BEND DIAMETER. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSIONS.
4. CONTRACTOR SHALL FURNISH AND INSTALL REFLECTIVE MARKERS ON BARRIER AS RECOMMENDED BY THE MANUFACTURER AND SHOWN ON THIS SHEET. DELINEATORS USED MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION QUALIFIED PRODUCTS LIST (QPL) AT http://www.okladot.state.ok.us/traffic/qpl/index.php. TWO MARKERS ON EACH SIDE OF THE BARRIER SHALL BE INSTALLED AT NOMINAL 12.5 FOOT SPACING AND FACE ONCOMING TRAFFIC. THE CONTRACTOR SHALL MAINTAIN THE MARKERS AND PROMPTLY REPAIR OR REPLACE ANY DAMAGED OR MISSING UNITS. ALL COSTS FOR FURNISHING, INSTALLING AND MAINTAINING MARKERS SHALL BE INCLUDED IN THE PRICE BID FOR THE PORTABLE LONGITUDINAL BARRIER.
5. UNLESS STATED OTHERWISE IN THE PLANS, THE BARRIER RAIL SECTIONS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AND AT THE COMPLETION OF THE WORK SHALL BE REMOVED FROM THE SITE BY CONTRACTOR.
6. WHEN TEMPORARY BARRIER RAIL IS INSTALLED WITHIN 2 FEET OF A DROPOFF, BARRIER SECTIONS SHALL BE ANCHORED WITH TIE DOWN PINS AS DESCRIBED AND SHOWN ON TIE–DOWN DETAIL, THIS SHEET. SEE ROADWAY STD. PDT–1–(LATEST REVISION) FOR PAVEMENT EDGE DROP–OFF DETAILS.
7. PAVEMENT MARKERS OR TEMPORARY FLEXIBLE–REFLECTIVE ROADWAY MARKER TABS SHALL NOT BE USED AS BARRIER DELINEATION.
8. CONTRACTOR MAY USE STEEL BARRIER INSTEAD OF CONCRETE BARRIER. THE STEEL BARRIER USED MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION QUALIFIED PRODUCTS LIST (QPL) AT http://www.okladot.state.ok.us/traffic/qpl/index.php.



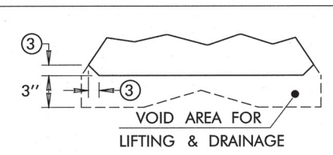


TIE–DOWN DETAIL

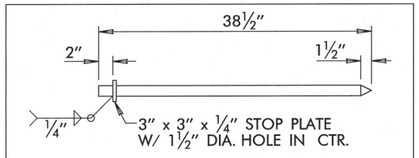
WHEN CONDITIONS REQUIRE PORTABLE BARRIER TO BE TIED DOWN, BARRIER SHALL BE ANCHORED USING 1½" DIA. STAKE AS SHOWN IN THIS DETAIL. AFTER BARRIER IS REMOVED, HOLES SHALL BE FILLED IN A MANNER APPROVED BY THE ENGINEER.



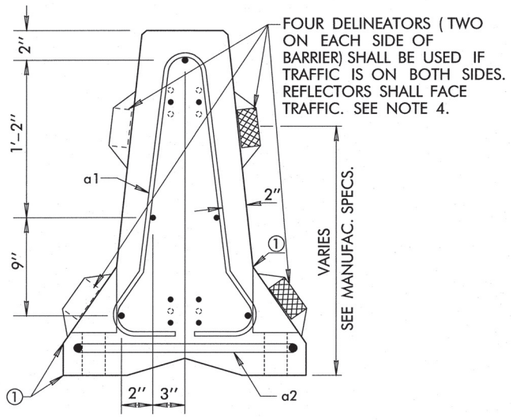
PLAN VIEW



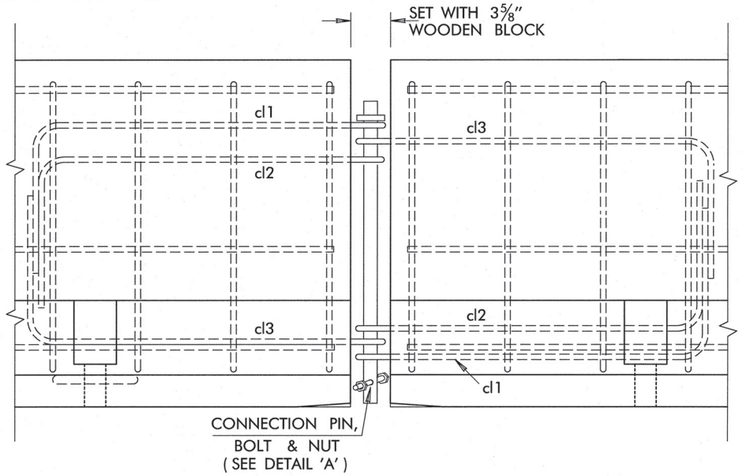
DETAIL 'B'
LIFTING & DRAINAGE SLOT DETAIL



DETAIL 'C'
1½" DIA. STAKE



SECTION A–A
TYPICAL SECTION
STIRRUP PLACEMENT



DETAILS OF BARRIER SECTION CONNECTION

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
877(A)	PORTABLE LONGITUDINAL BARRIER	L.F.
877(B)	DELIVER PORTABLE LONGITUDINAL BARRIER	L.F.
877(C)	RELOCATION OF PORT. LONGITUDINAL BARRIER	L.F.

THIS STANDARD SHALL BE USED IN CONJUNCTION WITH TCS25–1.

APPROVED BY TRAFFIC ENGINEER: Rick D. Smith DATE: 11/9/2011

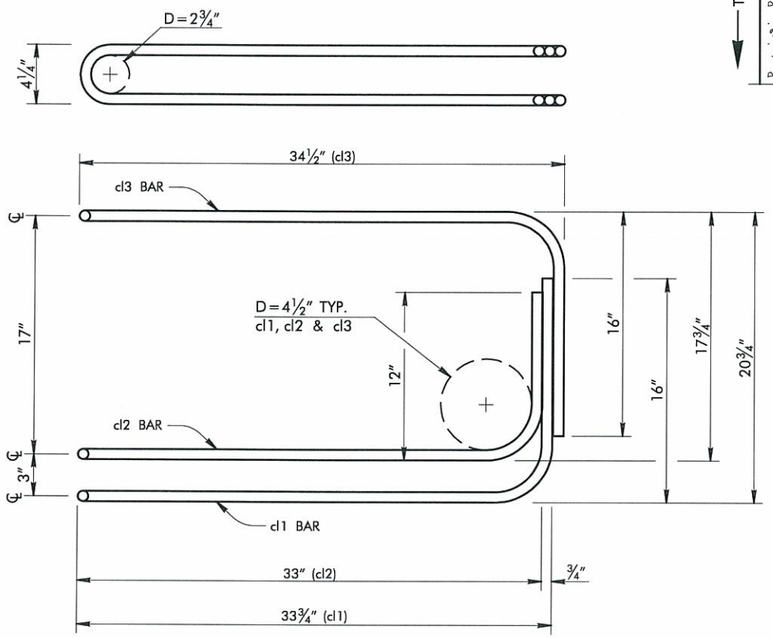
TRAFFIC STANDARD

TRAFFIC CONTROL STATNDARD
PORTABLE LONGITUDINAL BARRIER

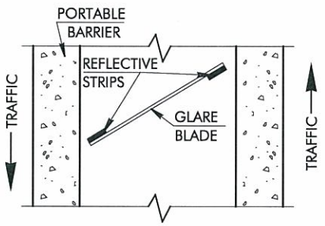
2009 SPECIFICATIONS	(NCHRP 350 F–SHAPE)	TCS24–1	02
			T–524

$$date$$

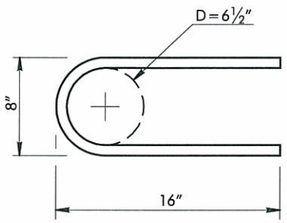
DESCRIPTION	REVISIONS	DATE



CONNECTION LOOP BAR ASSEMBLY

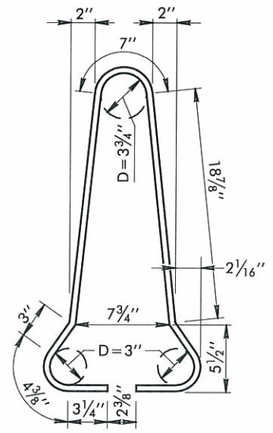


SEC. A–A

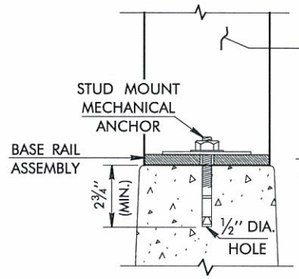


a2 STIRRUP BAR

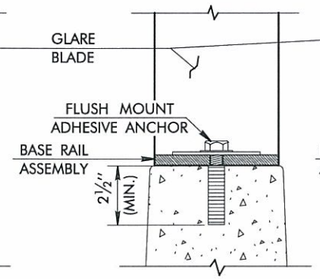
SCHEDULE OF REINFORCING BARS PER 12'– 6" BARRIER SECTION					
BAR	BAR SIZE	SHAPE	NO. of BARS	LENGTH FT.	WEIGHT LBS.
■ a1	4		11	5'–6"	40.4
■ a2	6		6	3'–1"	27.8
b1	5		3	12'–2"	38.1
c1	4		2	12'–2"	16.3
■ cl1	6		2	8'–0"	24.1
■ cl2	6		2	7'–7"	22.8
■ cl3	6		2	8'–2"	24.6
				TOTAL	194.1
■ NOTE: LENGTHS MEASURED ALONG OUTSIDE OF HOOP.					



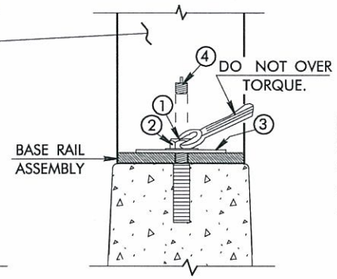
a1 STIRRUP BAR
LENGTHS MEASURED ALONG OUTSIDE OF HOOPS.



END ELEVATION
TYPICAL
STUD MOUNT–MECHANICAL
THIS ANCHORING METHOD TO BE USED FOR PERMANENT INSTALLATIONS ONLY.



END ELEVATION
TYPICAL
FLUSH MOUNT–ADHESIVE
REQUIRED DRILL DEPTH: 2–1/2"



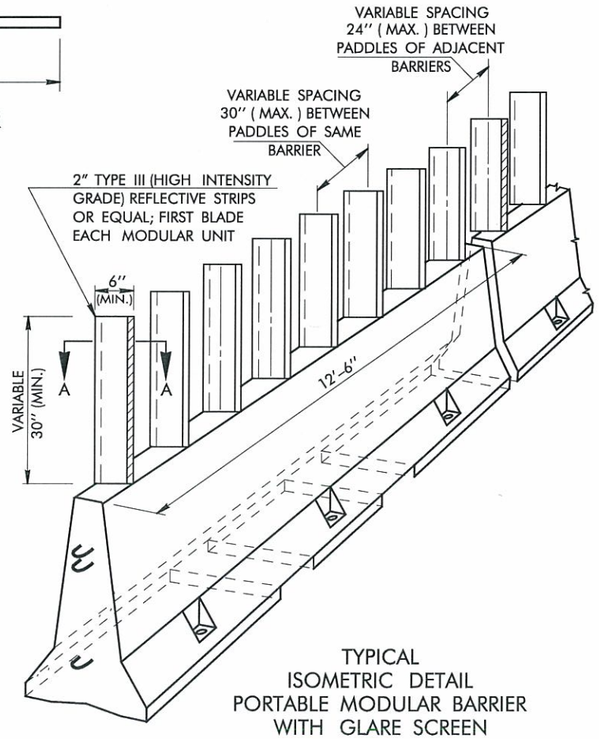
END ELEVATION
TYPICAL
BASE RAIL FASTENING
WHEN APPLICABLE

PLACE 4" WASHERS (3) OVER MOUNTING HOLES & INSERT ½" x 1½" BOLT (1) WITH ½" LOCK WASHER (2) AND TIGHTEN DOWN & TORQUE TO 20 –25 FT. LBS.

AFTER REMOVAL OF BASE RAIL ASSEMBLY, PLUG (4) SHALL BE RE–INSERTED TO PROTECT HOLE FROM THE ELEMENTS.

TYPICAL BASE RAIL ANCHORING METHODS

REQUIRED DRILL BIT: ½" DIAMETER
CARBIDE TIP – MASONARY
REQUIRED DRILL DEPTH: 2½" (MIN.) – 2¾" (MAX.)



TYPICAL
ISOMETRIC DETAIL
PORTABLE MODULAR BARRIER
WITH GLARE SCREEN

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.
2. ALL REINFORCEMENT SHALL BE DEFORMED GRADE 60, AASHTO M 31, EXCEPT FOR THE CONNECTION LOOP BAR ASSEMBLY SHALL BE SMOOTH #6 BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A MINIMUM TENSILE STRENGTH OF 80 KSI, AND PASSING A 180 DEGREE BEND TEST USING A 2¾" PIN BEND DIAMETER. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSIONS.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL SUCH LIGHTS, SIGNS, BARRICADES AND FLAGMEN THAT MAY BE NECESSARY FOR THE CONTROL, SAFETY AND MAINTENANCE OF TRAFFIC WHEN INITIALLY INSTALLING OR RELOCATING PRECAST CONCRETE MEDIAN BARRIER.
4. GLARE SCREEN SYSTEMS SHALL BE INSTALLED AS PER MANUFACTURERS SPECIFICATIONS AND UNIQUE INSTALLATION INSTRUCTIONS OR DETAILS NOT SHOWN ON THIS STANDARD SHALL BE PROVIDED TO AND APPROVED BY THE ENGINEER.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
877(A)	PORTABLE LONGITUDINAL BARRIER	LF
878(A)	MODULAR GLARE SCREEN (PERMANENT)	EA OR LF
878(B)	MODULAR GLARE SCREEN (TEMPORARY)	SD

THIS STANDARD SHALL BE USED IN CONJUNCTION WITH TCS24–1.

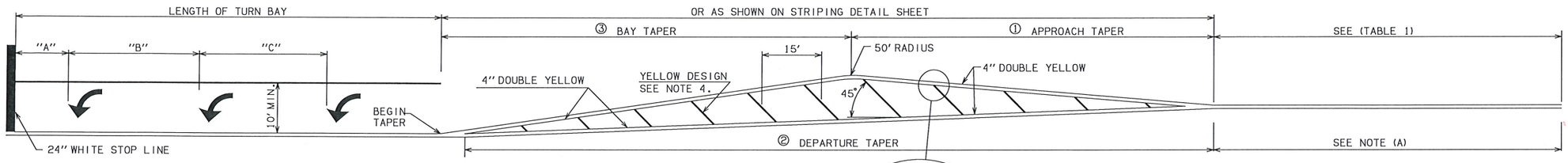
APPROVED BY TRAFFIC ENGINEER: Harold Smalley DATE: 6/23/10

TRAFFIC STANDARD
TRAFFIC CONTROL STANDARD
PORTABLE LONGITUDINAL BARRIER
REINFORCING/CONNECTION STEEL
AND GLARE SCREEN

2009 SPECIFICATIONS (NCHRP 350 F–SHAPE) TCS25–1 00 T–525

TRFPC36 M:\2009 Standards TC\t525.dgn 8:30:15 AM 6/2/2010 d:\usr2\flib\leroyh.pen R:\TRAF PLOT\bw.tbl

REVISIONS	
DESCRIPTION	DATE
ADDED GENERAL NOTE 4.	7/08/2011
UPDATED SYMBOLS	4/2/2013
CHANGE DASHED LINE DIMENSION	7/25/2019



LEFT TURN BAY AND STRIPED MEDIAN DETAIL

SEE PLANS FOR LENGTH OF LEFT TURN BAYS AND TAPERS ON STRIPED MEDIANS

① THE PREFERRED APPROACH TAPER RATE IS V:1, WHERE V IS THE DESIGN SPEED. FOR V≤40 MPH, IT IS ACCEPTABLE FOR THE APPROACH TAPER TO BE $(V^2/60):1$.

② THE PREFERRED DEPARTURE TAPER RATE IS V:1, WHERE V IS THE DESIGN SPEED. FOR V≤40 MPH, IT IS ACCEPTABLE FOR THE DEPARTURE TAPER TO BE $(V^2/60):1$.

③ SEE RECOMMENDED BAY TAPER RATES TABLE.

RECOMMENDED BAY TAPER RATES

DESIGN SPEED (MPH)	TAPER RATE
V < 30	8:1
30 ≤ V ≤ 50	10:1
50 > V	15:1

THE FOLLOWING MINIMUM VALUES MAY APPLY IN RESTRICTED LOCATIONS:
1. RIGHT-TURN LANES. A 4:1 BAY TAPER MAY BE USED WHERE PAINTED CHANNELIZATION IS USED.
2. LEFT-TURN LANES. IN SEVERELY RESTRICTED LOCATIONS, A 4:1 BAY TAPER MAY BE USED WHERE PAINTED CHANNELIZATION IS USED.

(A) NO PASS LINE ON APPROACH SIDE WITH SKIP CENTER LINE ON DEPARTURE SIDE UNLESS DOUBLE YELLOW CENTER LINE IS REQUIRED.

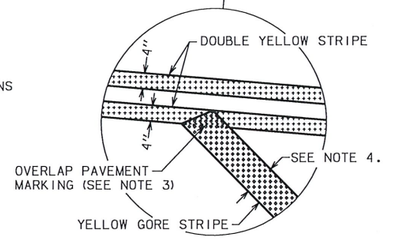


TABLE 1	
POSTED SPEED	NO PASS LENGTH (MINIMUM)
60 MPH	790'
55 MPH	725'
50 MPH	660'
45 MPH	590'
40 MPH	360'
35 MPH	260'
30 MPH	200'
25 MPH	150'

MATERIAL SPECIFICATIONS

A. UNLESS OTHERWISE SPECIFIED, RETROREFLECTIVE PAVEMENT MARKING SHALL BE APPLIED BY THE EXTRUSION METHOD.

B. THE THICKNESS OF THE PLASTIC PAVEMENT MARKING SHALL BE MEASURED FROM THE PLANE OF THE PAVEMENT SURFACE WITH A DEVICE SUPPLIED BY CONTRACTOR AND SUITABLE TO THE ENGINEER. THICKNESSES ARE AS FOLLOWS:

LANE LINES, STOP LINES, WORDS, ARROWS AND SYMBOLS.....0.120" MIN. & 0.188" MAX.
EDGE, GORE AND DIAGONAL LINES.... 0.090" MIN. & 0.188" MAX.

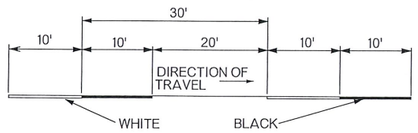
C. THE THICKNESS OF THE MULTI-POLYMER PAVEMENT MARKING SHALL BE MEASURED FROM THE PLANE OF THE PAVEMENT SURFACE WITH A DEVICE SUPPLIED BY CONTRACTOR AND SUITABLE TO THE ENGINEER. THICKNESSES ARE AS FOLLOWS:

LANE LINES, STOP LINES, WORDS, ARROWS, SYMBOLS, EDGE, GORE AND DIAGONAL LINES.... 0.020" MIN. & 0.025" MAX.

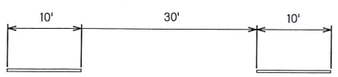
GENERAL NOTES

1. LANE WIDTH IS THE DISTANCE BETWEEN PAVEMENT MARKINGS, OR PAVEMENT MARKING AND EDGE OF PAVEMENT. LANE WIDTH IS MEASURED FROM CENTER OF STRIPE TO CENTER OF STRIPE.
2. LANE LINES SHALL BE PLACED LEFT OF THE LONGITUDINAL PAVEMENT JOINTS.
3. ALL PAVEMENT MARKING SHALL OVERLAP WHERE IT MEETS OTHER PAVEMENT MARKING.
4. WIDTH OF DIAGONALS ARE AS FOLLOWS:
≥45 MPH - 12" WIDE
<45 MPH - 8" WIDE

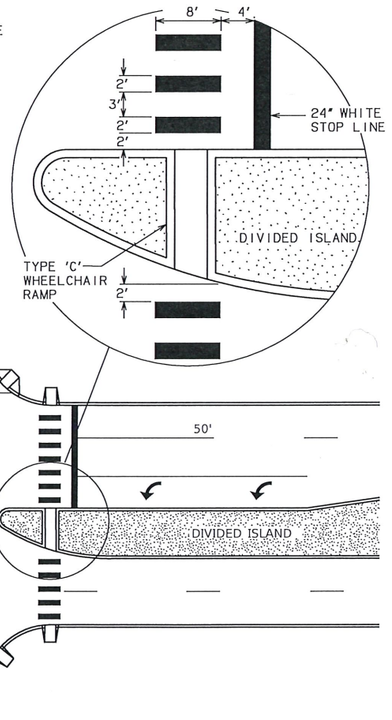
TURN BAY TABLE			
LENGTH OF BAY FT.	"A" FT.	"B" FT.	"C" FT.
75 TO 99	20	35	--
100 TO 149	20	35	35
150 TO 200	30	55	55



DASHED WHITE LANE LINE
TYPICAL CONCRETE PAVEMENT MARKING DETAILS



DASHED WHITE LANE LINE
TYPICAL ASPHALT PAVEMENT MARKING DETAILS



CROSSWALK INSTALLATIONS

FOR SPACING OF ARROWS SEE "TURN BAY TABLE"

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
854(A)	TRAFFIC STRIPE (PAINT) (4" WIDE)	LF
854(B)	TRAFFIC STRIPE (PAINT) (ARROW, WORDS, OR SYMBOLS)	EA
855(A)	TRAFFIC STRIPE (PLASTIC) (4" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (6" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (8" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (24" WIDE)	LF
855(B)	TRAFFIC STRIPE (PLASTIC) (ARROW)	EA
855(B)	TRAFFIC STRIPE (PLASTIC) (WORDS)	EA
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (4" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (6" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (8" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (24" WIDE)	LF
856(B)	TRAFFIC STRIPE (MULTI-POLYMER) (SYMBOLS, WORDS, ETC)	EA

APPROVED BY TRAFFIC ENGINEER: _____ DATE 7/31/19

CDOT

TRAFFIC STANDARD

PAVEMENT MARKING (CROSSWALKS AND LEFT TURN BAY)

2009 SPECIFICATIONS

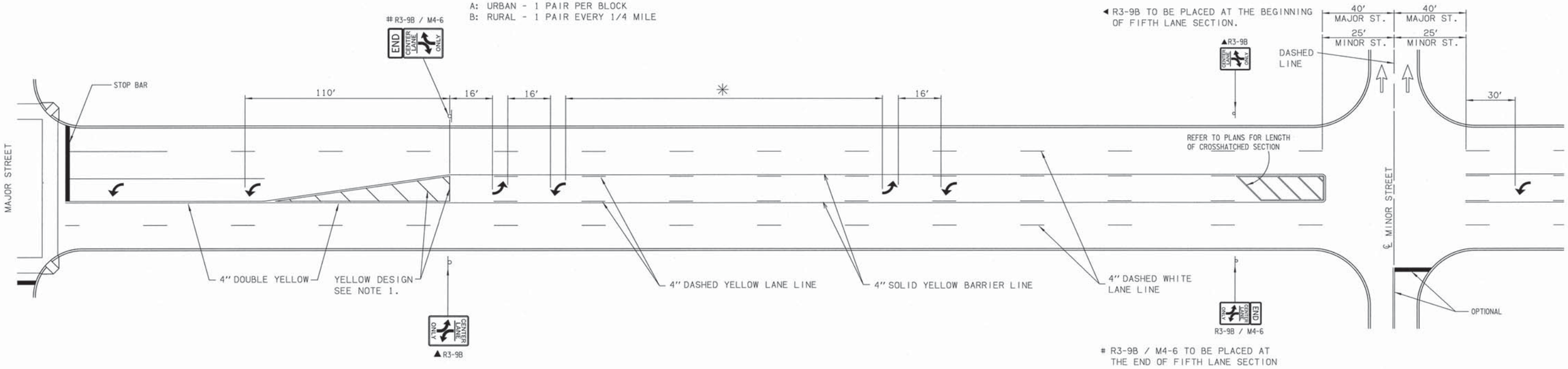
PM1-1 ~~02~~ 03

T-101

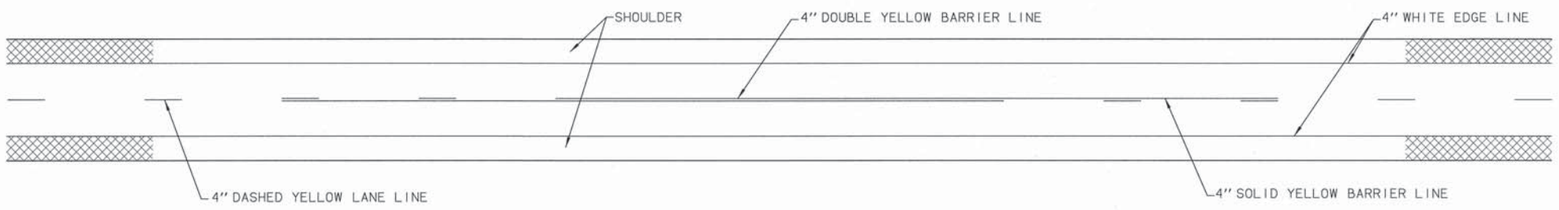
REVISIONS	
DESCRIPTION	DATE
ADDED GENERAL NOTE 1.	7/08/2011
MODIFIED SIGNS	4/10/2012

✳ ARROW SYMBOL PAIRS FOR TWO-WAY LEFT TURN LANES SHALL BE PLACED AS FOLLOWS:

A: URBAN - 1 PAIR PER BLOCK
B: RURAL - 1 PAIR EVERY 1/4 MILE



FIFTH LANE PAVEMENT MARKING DETAIL (URBAN)



TWO LANE RURAL ROADWAY PAVEMENT MARKINGS

GENERAL NOTE

1. WIDTH OF DIAGONALS ARE AS FOLLOWS:
   ≥45 MPH - 12" WIDE
   <45 MPH - 8" WIDE

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
854(A)	TRAFFIC STRIPE (PAINT) (4" WIDE)	LF
854(B)	TRAFFIC STRIPE (PAINT) (ARROW, WORDS, OR SYMBOLS)	EA
855(A)	TRAFFIC STRIPE (PLASTIC) (4" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (6" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (8" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (24" WIDE)	LF
855(B)	TRAFFIC STRIPE (PLASTIC) (ARROW)	EA
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (4" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (6" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (8" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (24" WIDE)	LF
856(B)	TRAFFIC STRIPE (MULTI-POLYMER) (SYMBOLS, WORDS, ETC)	EA

APPROVED BY TRAFFIC ENGINEER: David Smalley DATE: 4/9/12

TRAFFIC STANDARD

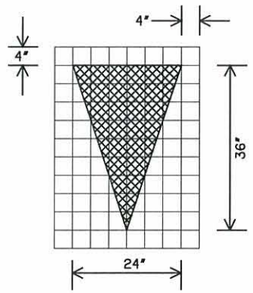
PAVEMENT MARKING
(FIFTH LANE AND TWO LANE RURAL)

2009 SPECIFICATIONS

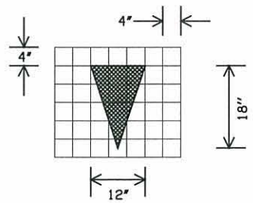
PM3-1 | 02

T-103

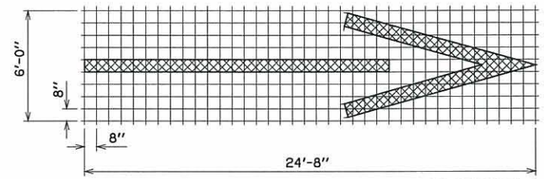
DESCRIPTION	REVISIONS	DATE



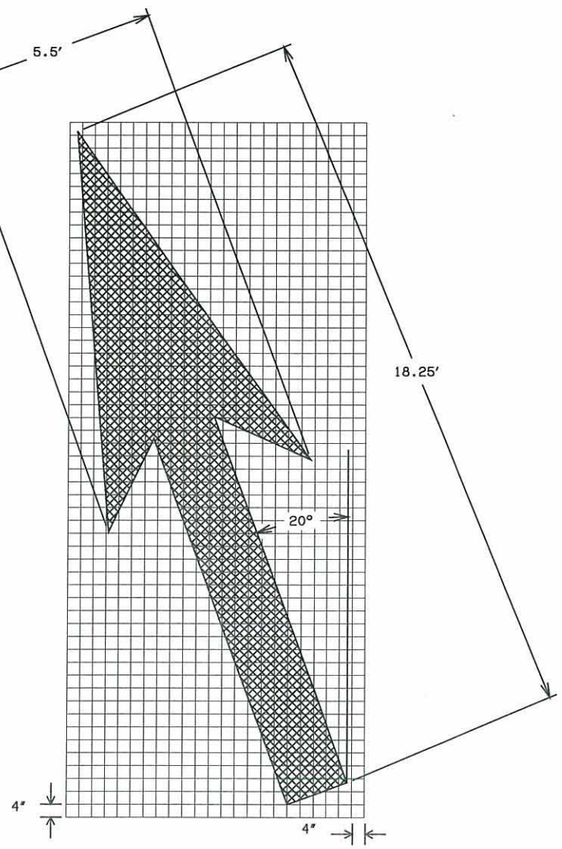
MAXIMUM
YIELD LINE TRIANGLE



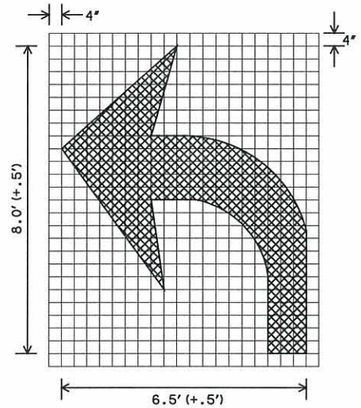
MINIMUM
YIELD LINE TRIANGLE

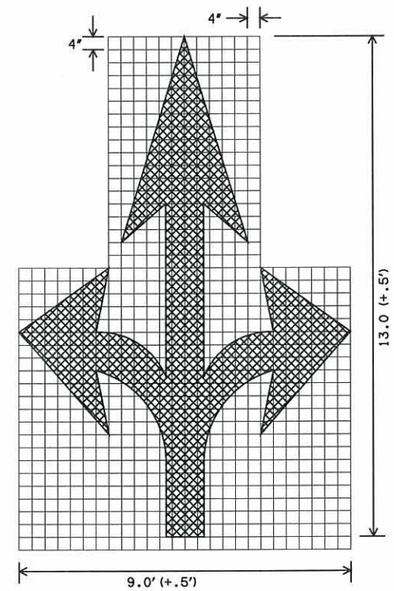


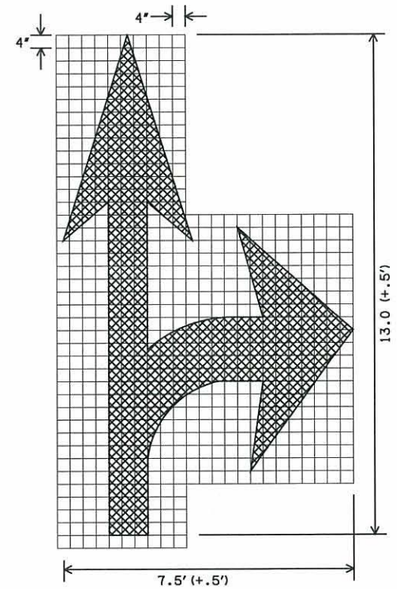
FREEWAY, EXPRESSWAY, AND RAMP PAVEMENT ARROW

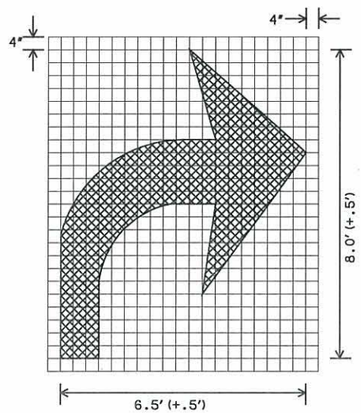


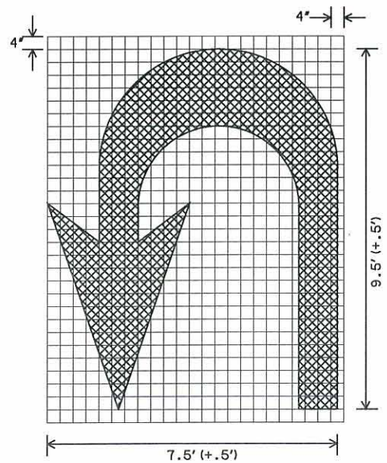
LANE–REDUCTION ARROW

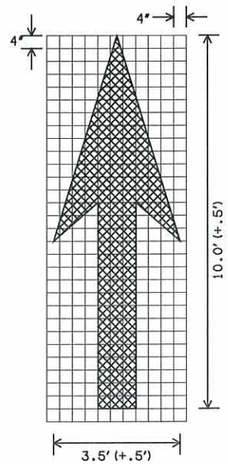












GENERAL NOTES

1. PAVEMENT MARKINGS SHALL BE WHITE RETROREFLECTORIZED PLASTIC UNLESS OTHERWISE SPECIFIED. WHEN THE MESSAGE CONSISTS OF MORE THAN ONE WORD, IT SHOULD READ "UP" I.E. THE FIRST WORD SHOULD BE NEAREST THE DRIVER. THE SPACE BETWEEN LINES SHOULD BE AT LEAST FOUR TIMES THE HEIGHT OF THE CHARACTERS.
2. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST REVISION).
3. ALL DIMENSIONS ARE TYPICAL FOR SINGLE LANE UNLESS OTHERWISE NOTED.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
854(B)	TRAFFIC STRIPE (PAINT) (ARROW, WORDS, OR SYMBOLS)	EA
855(B)	TRAFFIC STRIPE (PLASTIC) (ARROW)	EA
855(B)	TRAFFIC STRIPE (PLASTIC) (SYMBOLS)	EA
856(B)	TRAFFIC STRIPE (MULTI-POLYMER) (SYMBOLS, WORDS, ETC)	EA

APPROVED BY TRAFFIC ENGINEER David Smith DATE 8/5/10

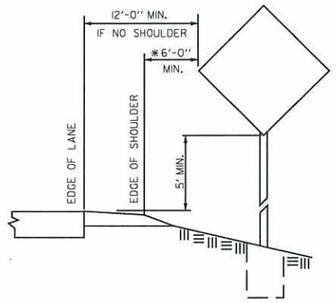
OKLAHOMA DEPARTMENT OF TRANSPORTATION

TRAFFIC STANDARD

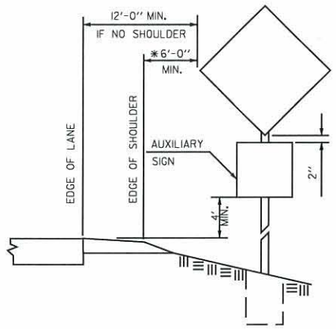
PAVEMENT MARKING
(ARROWS)

2009 SPECIFICATIONS

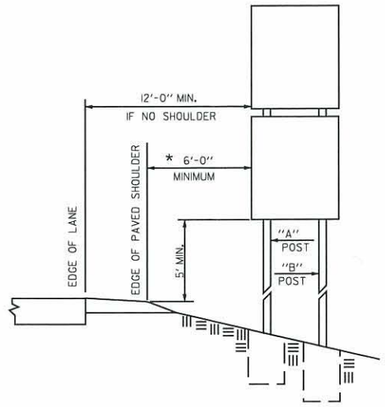
PM6-1	00
	T-106



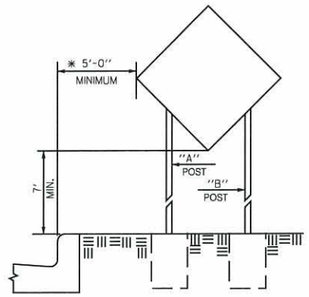
SINGLE POST (RURAL)



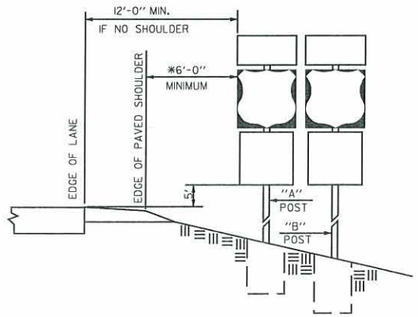
SINGLE POST WITH
AUXILIARY SIGN (RURAL)



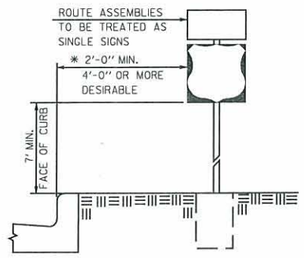
DOUBLE POST MAXIMUM &
MINIMUM SPEED LIMIT SIGNS (RURAL)



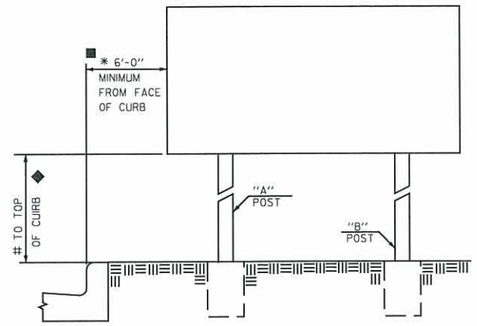
BUSINESS, COMMERCIAL OR
RESIDENTIAL AREA



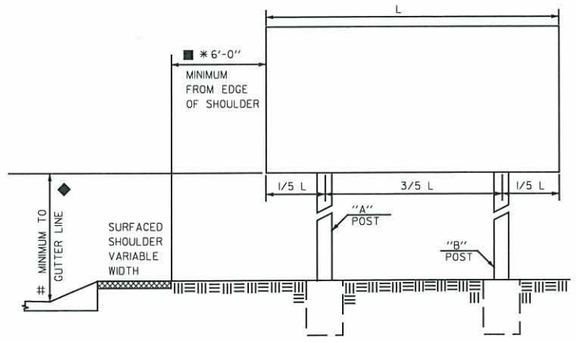
ROADSIDE ASSEMBLY
(RURAL)



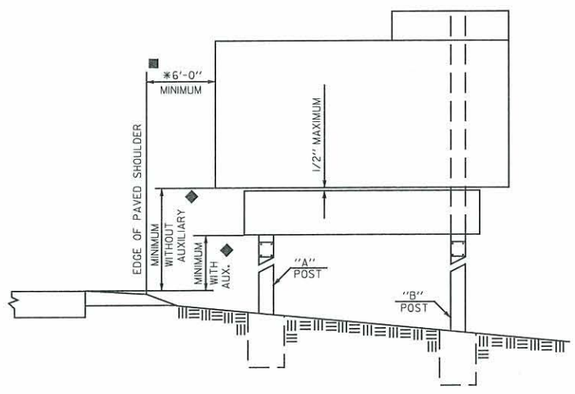
BUSINESS, COMMERCIAL OR
RESIDENTIAL AREA



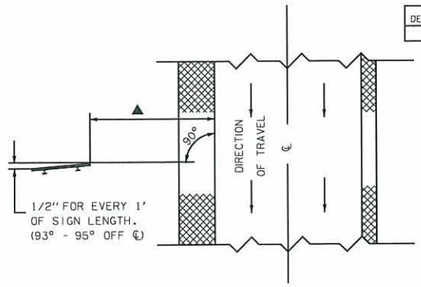
INFORMATION SIGN WITH
NON-MOUNTABLE CURB



INFORMATION SIGN WITH
MOUNTABLE CURB



FREEWAY OR EXPRESSWAY SIGN
(WITH OR WITHOUT AUXILIARY SIGN)



SIGN POSITIONING DETAIL

REVISIONS		
DESCRIPTION		DATE

*1 SIGNS SHALL BE SO POSITIONED TO ELIMINATE OR MINIMIZE SPECULAR REFLECTION. DUE TO THE NUMEROUS VARIATIONS IN ROAD CURVES AND GRADES, THIS GENERAL RULE MAY NOT ALWAYS BE APPLICABLE, AND SIGNS SHALL BE POSITIONED AS DETERMINED BY THE ENGINEER.

*2 IF FURTHER CLARIFICATION OF VERTICAL AND LATERAL CLEARANCES IS REQUIRED, SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST REVISION).

◆ WHEN LATERAL CLEARANCE OF STANDARD OR SPECIAL INFORMATION GUIDE SIGNS IS 30' OR GREATER (AS REQUIRED BY CLEAR ZONE) FROM THE EDGE LINE, THE MINIMUM VERTICAL CLEARANCE IS 7'. IF AN AUXILIARY SIGN IS MOUNTED BELOW A STANDARD OR SPECIAL INFORMATION GUIDE SIGN, THE RECOMMEND VERTICAL CLEARANCE FOR THE STANDARD OR SPECIAL INFORMATION GUIDE SIGN IS MINIMUM 8' AND THE AUXILIARY SIGN IS MINIMUM 5'.

* THE MINIMUM LATERAL CLEARANCE OF THE SIGN FROM THE EDGE OF SHOULDER OR FACE OF CURB SHALL BE AS SHOWN ON THIS STANDARD DRAWING UNLESS OTHERWISE SHOWN OR NOTED ON PLANS. WHEN SIGNS ARE NOTED TO BE PLACED 5' TO 9' FROM SHOULDER, THE TOLERANCE SHALL BE THE DISTANCE SHOWN +2'.

IN INSTANCES WHERE THE LATERAL CLEARANCE SHOWN CAUSES THE FOOTING TO BE LOCATED UNDESIREABLY, SUCH AS THE BOTTOM OF DITCHES, ETC., THE LOCATION MAY BE ADJUSTED OUTWARD FROM THE ROADWAY IF NECESSARY AT THE DISCRETION OF THE ENGINEER.

IN RURAL AREAS THERE SHALL BE A 12' MINIMUM FROM TRAVELWAY (EDGELINE) TO THE EDGE OF THE SIGN IF NO SHOULDER EXISTS.

■ NORMALLY, ON FREEWAY AND EXPRESSWAY MAINLINE, STANDARD OR SPECIAL INFORMATION SIGNS SHALL BE LOCATED WITH A LATERAL CLEARANCE OF 10' FROM THE FACE OF NON-MOUNTABLE CURBS OR GUARD RAILS, 20' FROM EDGE OF SHOULDER. IN ALL CASES EXCEPT WHEN SIGN SUPPORTS ARE PROTECTED BY BARRIERS, SIGNS SHALL HAVE A LATERAL CLEARANCE OF 30' OR GREATER (AS REQUIRED BY CLEAR ZONE) FROM EDGE OF DRIVING LANE.

ALONG INTERCHANGE RAMPS THE LATERAL CLEARANCE SHALL NORMALLY BE 10' OR GREATER (AS REQUIRED BY CLEAR ZONE).

▲ WHEN LATERAL CLEARANCE IS 30'-0" OR GREATER FROM EDGE OF PAVEMENT, THE SIGN IS TO BE APPROXIMATELY PERPENDICULAR TO ROADWAY.

APPROVED BY
TRAFFIC ENGINEER [signature] DATE 8/5/10

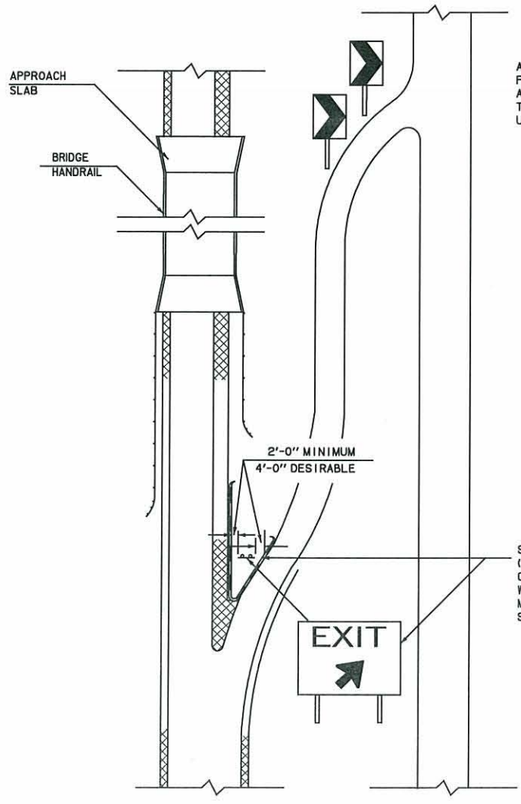
TRAFFIC STANDARD

TYPICAL INSTALLATIONS OF GROUND MOUNTED SIGNS

2009 SPECIFICATIONS

GMS1-1	00
	T-136

DESCRIPTION	REVISIONS	DATE

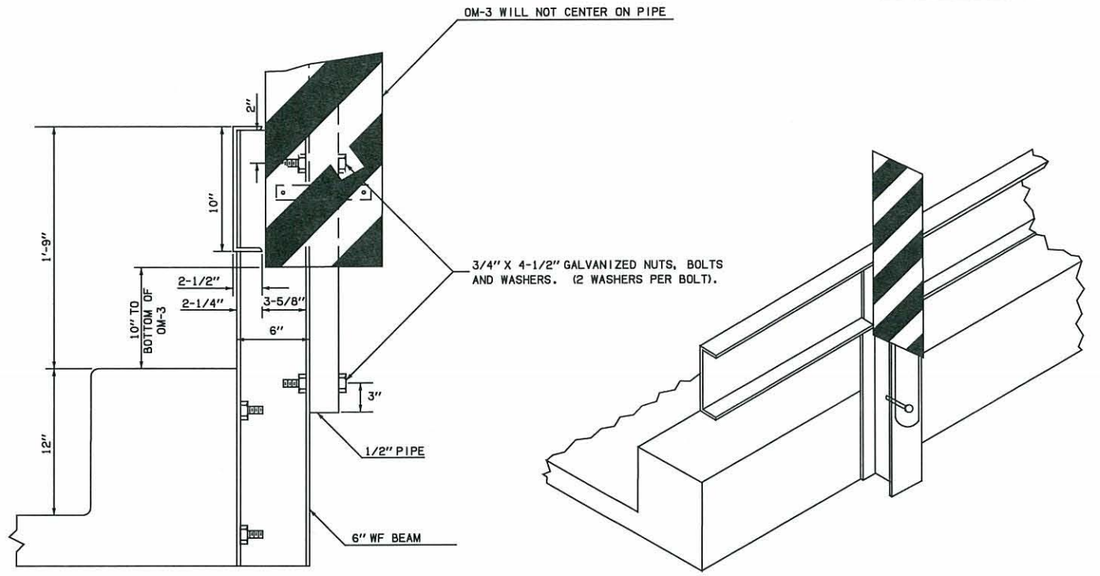


ALIGNMENT OF W1-8 MAY BE ADJUSTED FOR SIGHT DISTANCE DUE TO VERTICAL AND HORIZONTAL ALIGNMENT OF RAMP AT THE DISCRETION OF THE ENGINEER. USE ONLY WHEN SPECFIED ON PLANS.

SIGNS MOUNTED IN GORE SHALL BE 2'-0" MINIMUM (4'-0" DESIRABLE) FROM THE EDGE OF SHOULDER OR NON-MOUNTABLE CURB. WHERE MOUNTABLE CURB WITH SHOULDER EXISTS THE SIGN SHALL BE 2'-0" MINIMUM (4'-0" DESIRABLE) FROM THE EDGE OF SHOULDER LINE.

TYPICAL INSTALLATION OF:

"SIGN MOUNTED IN GORE"



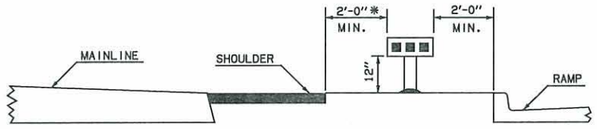
"OM-3'S IN REGARD TO BRIDGES"

MOUNTING HEIGHT FOR OBJECT MARKERS

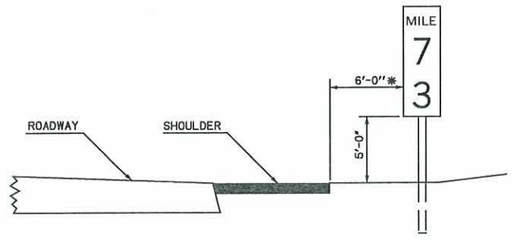
WHEN USED FOR MARKING OBJECTS 8'-0" OR LESS FROM THE SHOULDER OR CURB, THE MOUNTING HEIGHT SHOULD BE 4'-0" ABOVE NEAR TRAFFIC LANE. WHEN MORE THAN 8'-0" FROM THE SHOULDER OR CURB THE MOUNTING HEIGHT MAY BE 4'-0" ABOVE THE GROUND. THE MOUNTING HEIGHT MAY VARY AS TO NEED.

SPECIAL (TO BE USED ONLY WHEN SPECIFIED ON PROJECT.)

TYPICAL OM-3 INSTALLATION MOUNTED TO STEEL HANDRAIL



TYPICAL OM-2 INSTALLATION WHEN SPECIFIED ON PLANS



* FROM EDGE OF SHOULDER

TYPICAL D10-2F INSTALLATION

APPROVED BY TRAFFIC ENGINEER: Kristal Thomas DATE: 8/5/10

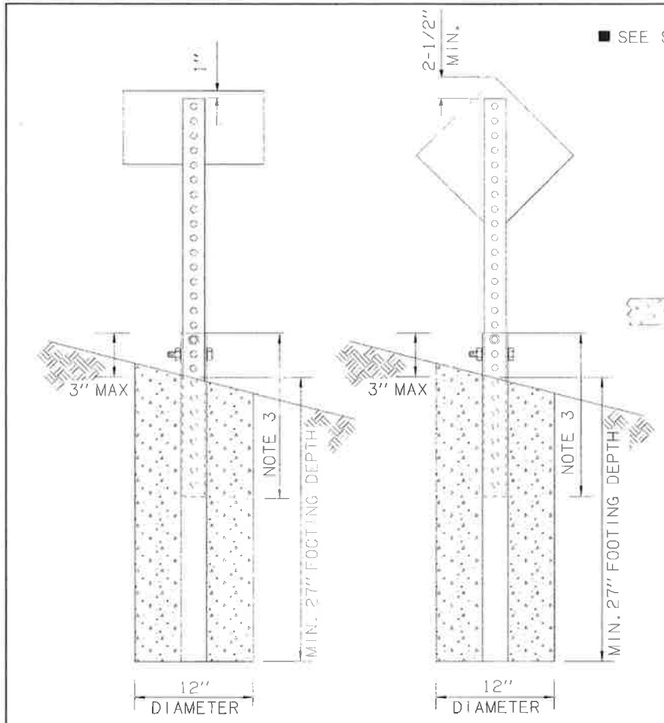
TRAFFIC STANDARD
TYPICAL INSTALLATION OF GROUND MOUNTED SIGNS AND OBJECT MARKERS

2009 SPECIFICATIONS

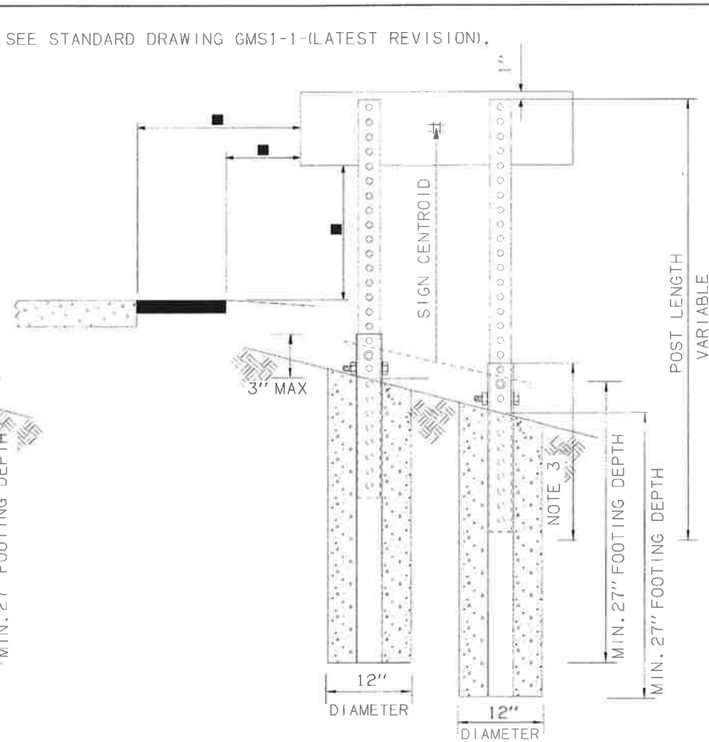
GMS2-1	00
	T-137

REVISIONS	
DESCRIPTION	DATE
MODIFIED GENERAL NOTE 4.	7/08/201
REISSUED	4/10/201

■ SEE STANDARD DRAWING GMS1-1-(LATEST REVISION).



TYPICAL SINGLE POST INSTALLATION



TYPICAL DOUBLE POST INSTALLATION

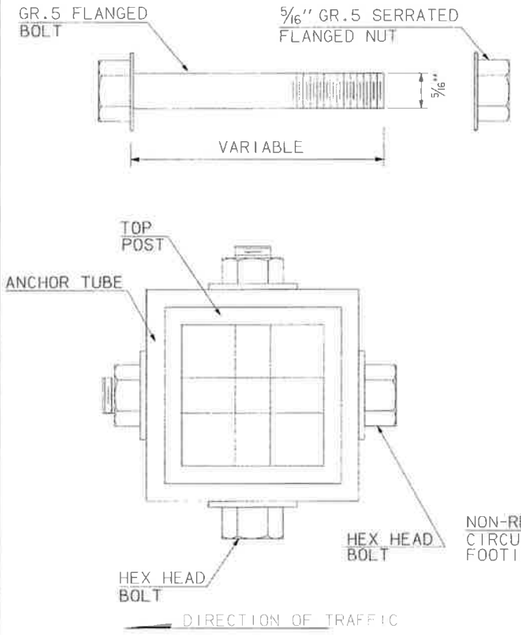
WINDLOAD COORDINATES FOR SQUARE POST AT 90 MPH

SIGN CENTROID	ALLOWABLE SIGN AREA (FT^2) PER SINGLE POST *								
	FHWA APPROVED FOR: 2 POST PER SIGN					FHWA APPROVED FOR: 1 POST PER SIGN			
	1½"x12ga perf.	1¾"x14ga perf.	1¾"x12ga perf.	2"x14ga perf.	2"x12ga perf.	2¼"x14ga perf.	2¼"x12ga perf.	2½"x12ga perf.	
16.5'	3.46	3.90	4.85	5.19	6.48	6.67	8.34	10.44	
16'	3.57	4.02	5.00	5.36	6.68	6.88	8.60	10.76	
15.5'	3.68	4.15	5.17	5.53	6.90	7.11	8.88	11.11	
15'	3.81	4.29	5.34	5.71	7.13	7.34	9.17	11.48	
14.5'	3.94	4.44	5.52	5.91	7.37	7.60	9.49	11.87	
14'	4.08	4.59	5.72	6.12	7.64	7.87	9.83	12.30	
13.5'	4.23	4.76	5.93	6.35	7.92	8.16	10.19	12.75	
13'	4.39	4.95	6.16	6.59	8.22	8.47	10.59	13.24	
12.5'	4.57	5.15	6.41	6.86	8.55	8.81	11.01	13.77	
12'	4.76	5.36	6.67	7.14	8.91	9.18	11.47	14.35	
11.5'	4.96	5.59	6.96	7.45	9.30	9.58	11.97	14.97	
11'	5.19	5.85	7.28	7.79	9.72	10.01	12.51	15.65	
10.5'	5.44	6.13	7.63	8.16	10.18	10.49	13.11	16.40	
10'	5.71	6.43	8.01	8.57	10.69	11.01	13.76	17.22	
9.5'	6.01	6.77	8.43	9.02	11.25	11.59	14.49	18.12	
9'	6.34	7.15	8.90	9.52	11.88	12.24	15.29	19.13	
8.5'	6.72	7.57	9.42	10.08	12.58	12.96	16.19	20.26	
8'	7.14	8.04	10.01	10.71	13.36	13.77	17.20	21.52	

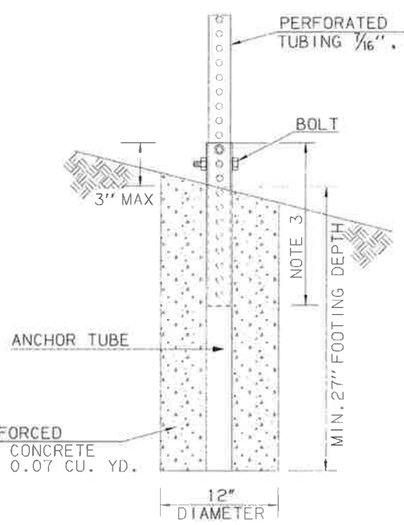
* USE A MULTIPLIER OF 2 OR 3 FOR 2 & 3 POST INSTALLATIONS.

GENERAL NOTES

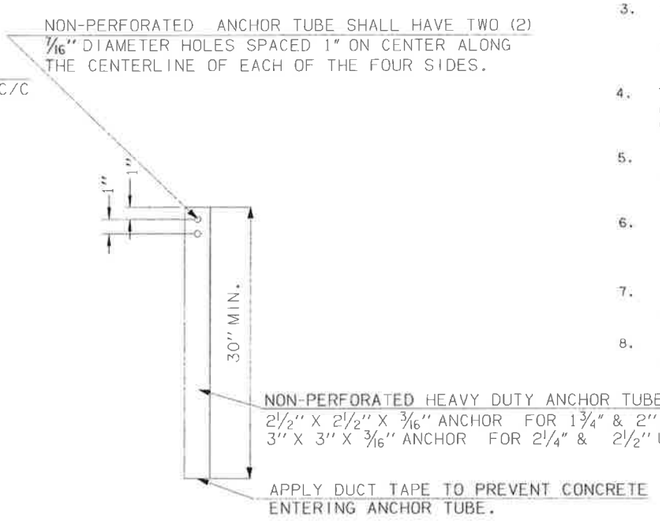
1. POST TUBE SHALL MEET ASTM A1011 GRADE 50.
   POST TUBE GALVANIZED AS PER ASTM A653 GRADE 90.
2. HEAVY DUTY ANCHOR TUBE SHALL MEET ASTM A500 GRADE B STRUCTURAL TUBE AND STEEL SHALL BE HOT DIP GALVANIZED PER ASTM A123.
3. THE UPPER SIGN POST SHALL TELESCOPE INSIDE THE ANCHOR TUBE A MINIMUM OF 12".
   ANCHOR TUBE SHALL BE MINIMUM OF 30" WITH 3" MAXIMUM AS SHOWN IN DETAILS.
4. THE CONCRETE FOOTING SHALL BE CLASS "C" CONCRETE OR AS DIRECTED BY THE ENGINEER. CONCRETE INCLUDED IN THE COST OF SQUARE TUBE POST.
5. THE NON-REINFORCED CIRCULAR CONCRETE FOOTING, ANCHOR TUBE AND HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE SQUARE TUBE POST.
6. SEE STANDARD DRAWINGS SSA1-1, MSD5-1, MSD6-1, SBS1-1, SBS2-1, AND SBS3-1 (LATEST REVISION) FOR PROPER BRACKET PLACEMENT ON THE SIGN AND POST SPACING FOR TWO POST INSTALLATION.
7. FOR VERTICAL AND LATERAL CLEARANCE, SEE STANDARD DRAWING GMS1-1-, AND GMS2-1-(LATEST REVISION).
8. SIGNS SHALL BE ATTACHED TO THE POSTS WITH BOLTS AS SHOWN ON STANDARD DRAWING SSA1-1-(LATEST REVISION).



BOLT DESIGN



ANCHOR TUBE DETAILS WITH CONCRETE FOOTING



HEAVY DUTY ANCHOR TUBE

– DRAWING NOT TO SCALE –

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
851(C)	SQUARE TUBE POST	LF

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 4/9/12

TRAFFIC STANDARD

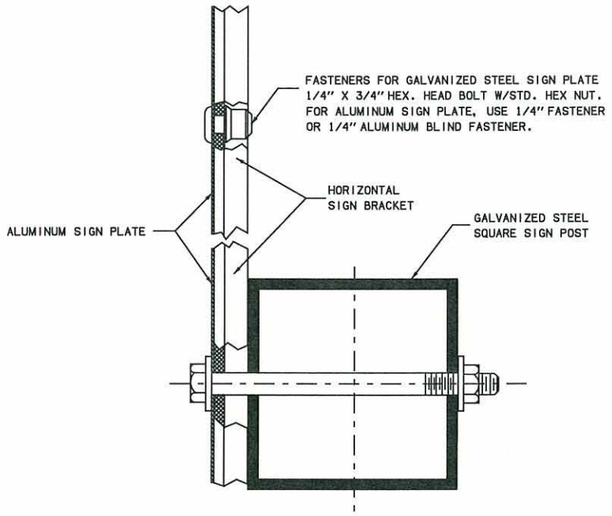
SQUARE TUBE POST DETAILS

2009 SPECIFICATIONS

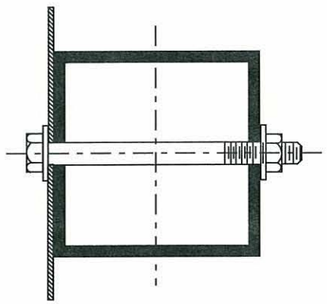
SSP1-1 | 02

T-138

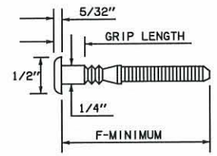
DESCRIPTION	REVISIONS	DATE

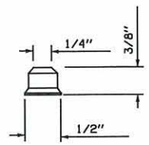


TOP VIEW



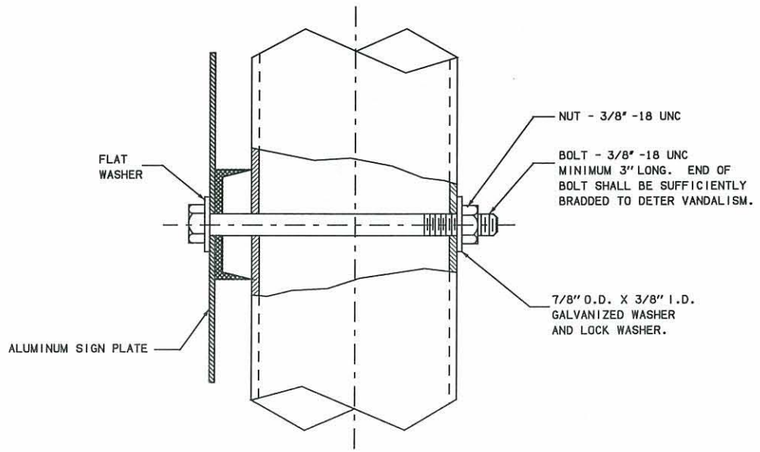
TOP VIEW





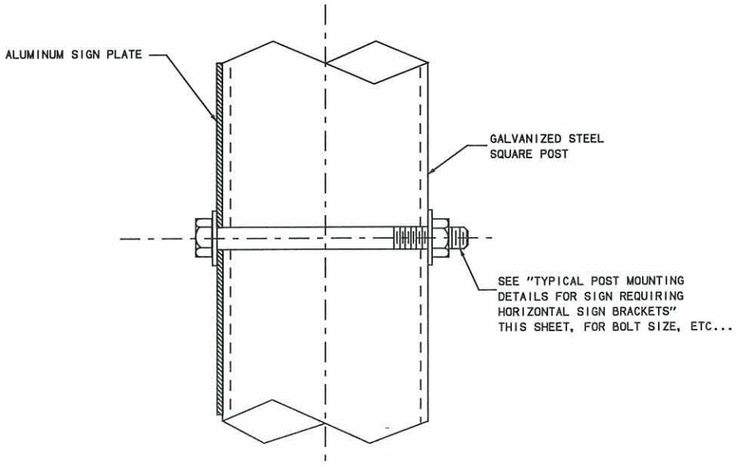
1/4" FASTENER AND 1/4" COLLAR
(TYPICAL)

GRIP NO.	GRIP LENGTH (INCHES)	F-MIN.
2	0.094 - 0.156	1-7/16"
3	0.157 - 0.218	1-1/2"
4	0.219 - 0.281	1-9/16"
5	0.282 - 0.343	1-5/8"
6	0.344 - 0.406	1-11/16"
17	0.407 - 1.093	2-3/8"



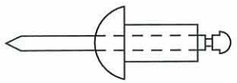
SIDE VIEW

TYPICAL POST MOUNTING DETAILS
FOR SIGN REQUIRING HORIZONTAL
SIGN BRACKETS



SIDE VIEW

TYPICAL POST MOUNTING DETAILS
FOR SIGN 18" WIDE AND UNDER



ALUMINUM ALLOY BODY AND
MANDREL. GRIP RANGE
1/16" TO 1/4".

1/4" BLIND
FASTENERS

NOTE: ALL NUTS SHALL
BE SELF-LOCKING.

APPROVED BY
TRAFFIC ENGINEER: Harold Smith DATE: 8/5/10

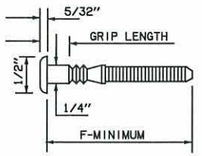
TRAFFIC STANDARD

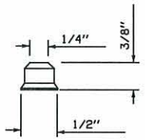
SHEET SIGN ASSEMBLY DETAILS
(SQUARE TUBE)

2009 SPECIFICATIONS

SSA1-1	00
	T-139

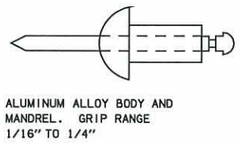
DESCRIPTION	REVISIONS	DATE





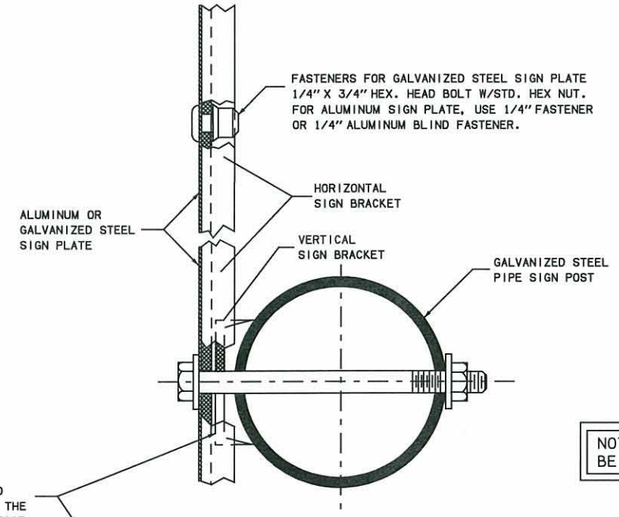
1/4" FASTENER AND 1/4" COLLAR (TYPICAL)

GRIP NO.	GRIP LENGTH	F-MIN.
2	0.094 - 0.156	1-7/16"
3	0.157 - 0.218	1-1/2"
4	0.219 - 0.281	1-9/16"
5	0.282 - 0.343	1-5/8"
6	0.344 - 0.406	1-11/16"
17	0.407 - 1.093	2-3/8"



ALUMINUM ALLOY BODY AND MANDREL. GRIP RANGE 1/16" TO 1/4"

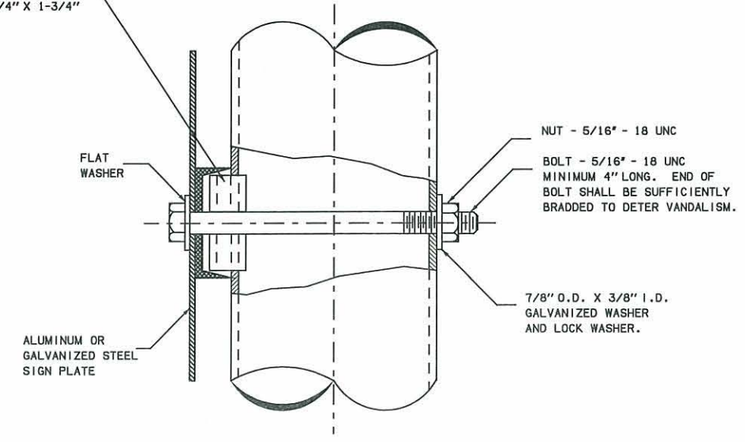
1/4" BLIND FASTENERS



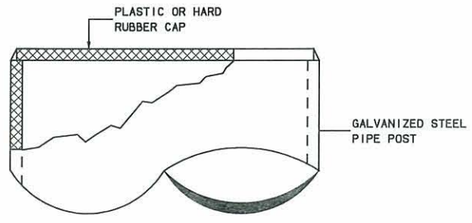
TOP VIEW

WHEN CONSTANT THICKNESS EXTRUDED ALUMINUM SIGN BRACKETS ARE USED THE HORIZONTAL SIGN BRACKET MAY CONTACT THE SIGN POST PREVENTING A SNUG AND PROPER FIT. WHEN THIS OCCURS AN ALUMINUM SPACER EITHER 1-1/4" X 1-1/4" X 1/8" THICK FOR 1-1/2" BRACKETS, OR 1-3/4" X 1-3/4" X 1/8" THICK FOR 2" BRACKETS SHALL BE USED.

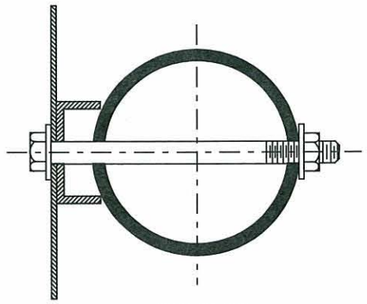
NOTE: ALL NUTS SHALL BE SELF-LOCKING.



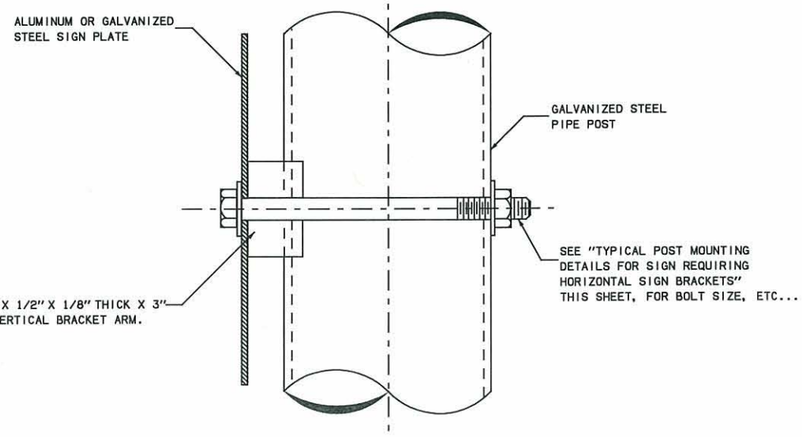
SIDE VIEW
TYPICAL POST MOUNTING DETAILS FOR SIGN REQUIRING HORIZONTAL SIGN BRACKETS



POST CAP NOT REQUIRED FOR 1-1/2" AND 2" PIPE POSTS



TOP VIEW



SIDE VIEW
TYPICAL POST MOUNTING DETAILS FOR SIGN REQUIRING VERTICAL SIGN BRACKETS ONLY

APPROVED BY TRAFFIC ENGINEER: Rudolf Smaj DATE: 8/5/10

TRAFFIC STANDARD

SHEET SIGN ASSEMBLY DETAIL (GALVANIZED PIPE)

2009 SPECIFICATIONS

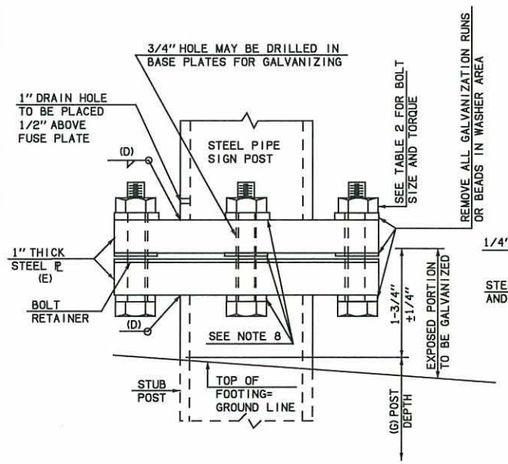
SSA2-1	00
	T-140

TRFPC## D:\usr2\2009Standards_ss\t140_SSA2-1-00.dgn 11:16:54 AM 7/28/2010 R:\TRAF_PLOT\leroyh.pen R:\TRAF_PLOT\bw.tbl

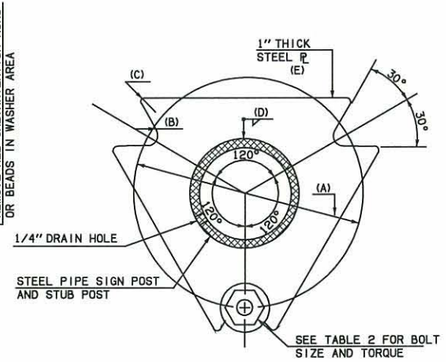
DESCRIPTION	REVISIONS	DATE

TABLE I

FTG. DES. NO.	POST SIZE REQUIRED	BASE PLATE DIMENSIONS						FOOTING DIMENSIONS					QUANTITIES	
		TRIANGLE SIZE	A	B	C	D	E	SIZE DIA.	LENGTH	POST (G) DEPTH	VERTICAL BARS	HORIZONTAL BARS	CLASS "A" CONCRETE	REINFORCING STEEL
											NO./SIZE	NO./SIZE		
A-1	1-1/2" ø 2.72 plf	NO BASE PLATE REQUIRED						12"	2'-0"	24"	NONE	NONE	.06 CY	NONE
A-2	2" ø 3.65 plf	NO BASE PLATE REQUIRED						12"	2'-0"	24"	NONE	NONE	.06 CY	NONE
A-3	2-1/2" ø 5.79 plf	9" x 9" x 9"	6-1/4"	9/16"	1/4"	1/4"	1"	18"	3'-0"	24"	4 / #5	4 #4	.20 CY	24 lbs
A-4	3" ø 7.58 plf	9" x 9" x 9"	6-1/4"	9/16"	1/4"	1/4"	1"	18"	3'-6"	24"	6 / #5	4 #4	.23 CY	32 lbs
A-5	3-1/2" ø 9.11 plf	10" x 10" x 10"	7-1/16"	11/16"	1/4"	5/16"	1"	18"	4'-0"	30"	6 / #5	5 #4	.26 CY	38 lbs
A-6	4" ø 10.79 plf	10" x 10" x 10"	7-1/16"	11/16"	1/4"	5/16"	1"	18"	4'-6"	30"	6 / #5	5 #4	.30 CY	42 lbs



STEEL PIPE POST BASE CONNECTION



NOTE : BASE PLATE FOR STUB POST SAME AS BASE PLATE FOR SIGN POST.

PIPE POST BASE PLATE

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION

1. ASSEMBLE POST TO STUB WITH BOLTS AND WASHERS. USE ONE FLAT WASHER PER BOLT AND BOLT RETAINER BETWEEN BASE PLATES.
2. SHIM AS REQUIRED TO PLUMB AND ALIGN POST(S) BEFORE OR IMMEDIATELY AFTER POURING CONCRETE FOOTING.
3. TIGHTEN ALL BOLTS, IN A SYSTEMATIC ORDER, TO THE PRESCRIBED TORQUE TO BED WASHERS AND SHIMS AND CLEAN BOLT THREADS.
4. LOOSEN AND RETIGHTEN TO PRESCRIBED TORQUE IN THE SAME ORDER AS INITIAL TIGHTENING. DO NOT OVER TIGHTEN.

NO. REQ'D. PL 9" X 9" X 9"

(3) 1/2" ø X 3-1/4" H. S. BOLT
(3) HEX. NUTS
(9) FLAT WASHERS (SEE NOTE 8)

NO. REQ'D. PL 10" X 10" X 10"

(3) 5/8" ø X 3-3/4" H. S. BOLT
(3) HEX. NUTS
(9) FLAT WASHERS (SEE NOTE 8)

TABLE 2

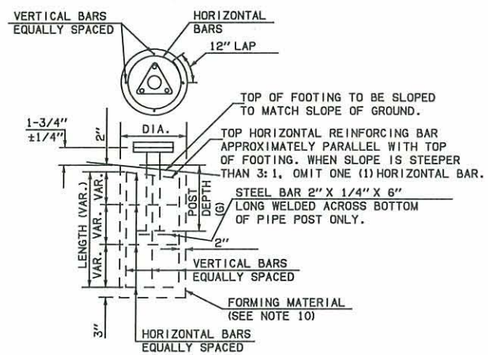
BASE PLATE CONNECTION DATA TABLE

BOLT TORQUE FOR BASE PLATES

BOLT SIZE	MINIMUM	MAXIMUM
1/2" ø X 3-1/4"	16.6 FT LBS	25.0 FT LBS
5/8" ø X 3-1/4"	37.5 FT LBS	56.6 FT LBS
3/4" ø X 3"	67.5 FT LBS	88.3 FT LBS

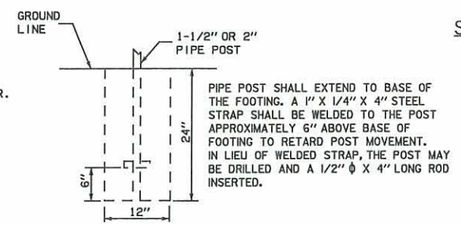
BOLT TORQUE LIMITS

THE HIGH STRENGTH BOLTS AT THE BASE CONNECTION SHOULD BE TORQUED WITHIN THE LIMITS SPECIFIED IN THE ABOVE TABLE. HOWEVER THE LOWER LIMIT SHOWN IN THE "BASE PLATE CONNECTION DATA TABLE" IS MORE DESIRABLE.



NOTE : PIPE STUB POST MAY BE INSTALLED TO THE BASE OF THE FOOTING IF DESIRED, BUT ONLY THE PIPE POST SPECIFIED IN THE FOOTING DESIGN WILL BE PAID FOR. PIPE POST EXTENDING TO THE BASE OF THE FOOTING SHALL HAVE THE STEEL BAR WELDED TO THE POST A MINIMUM OF 6" ABOVE THE BASE OF THE FOOTING.

TYPICAL "A" FOOTING DETAIL

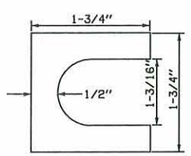


WHEN HOLE FOR FOOTING CAN BE DRILLED AND MAINTAINED AS A "NEAT LINE" HOLE IN THE OPINION OF THE ENGINEER, THE UPPER PORTION NEED NOT BE FORMED. IF FORMING IS REQUIRED, A MINIMUM OF 6" SHALL BE REQUIRED AT THE TOP OF FOOTING. FORMING MAY BE ACCOMPLISHED BY USE OF A CARDBOARD CASING OR SIMILAR MATERIAL THAT MAY BE LEFT IN PLACE. ANY VOID AROUND FINAL FOOTING SHALL BE BACK-FILLED AND FIRMLY TAMPED.

TYPICAL "A-1" & "A-2" FOOTING DETAIL

CUT FROM 30 GAUGE GALVANIZED SHEET METAL. PLACE BETWEEN BASE PLATES. SIZE---VARIES TO FIT BASE PLATES.

SHEET METAL BOLT RETAINER



FURNISH 2 ø 0.012 THICK AND 2 ø 0.32 THICK SHIMS FOR POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO ASTM-B36.

SHIM DETAIL

CONSTRUCTION NOTES

1. ALL PIPE AND WIDE FLANGE BEAM POST SHALL CONFORM TO THE 2009 STANDARD SPECIFICATIONS.
2. ALL BOLTS, NUTS AND WASHERS SHALL NOT BE GALVANIZED OR PLATED, BUT SHALL BE PAINTED, AFTER INSTALLATION, WITH A ZINC RICH PAINT.
3. STRUCTURAL STEEL TO BE GALVANIZED AFTER FABRICATION, EXCEPT AS NOTED, IN ACCORDANCE WITH THE 2009 STANDARD SPECIFICATIONS.
4. POST LENGTHS AS SHOWN ON THE PLANS INCLUDE BOTH SIGN POST AND STUB POST WHICH IS SET IN THE CONCRETE FOOTING.
5. ALL WELDING MATERIALS AND METHODS, INCLUDING QUALIFICATIONS OF WELDERS, SHALL CONFORM WITH THE REQUIREMENTS OF THE 2009 STANDARD SPECIFICATIONS.
6. STRUCTURAL EXCAVATION TO BE PAID FOR IN OTHER ITEMS OF WORK.
7. TOP AND BOTTOM WASHERS ON BASE PLATE SHALL BE 1/4" THICK. WASHERS MAY BE ROUND OR SQUARE. USE STANDARD ROUND WASHERS BETWEEN BASE PLATES. REMOVE ALL GALVANIZING RUNS OR BEADS IN WASHER AREA.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
804(A)	STRUCTURAL CONCRETE	CY
804(B)	REINFORCING STEEL	LB
851(B)	GALVANIZED STEEL PIPE POST	LF

APPROVED BY TRAFFIC ENGINEER: Arnold Oman DATE: 8/5/10

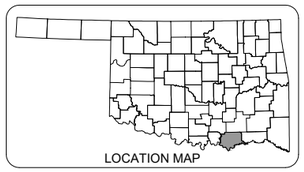
TRAFFIC STANDARD

STANDARD FOOTINGS FOR GROUND MOUNTED SIGNS (GALVANIZED PIPE)

2009 SPECIFICATIONS

FGS1-1	00
	T-141

FOR SURVEY CONTROL DATA,
SEE SURVEY DATA SHEET



LOCATION MAP

UTILITY OWNERS	
CALL OKIE	1-800-522-6543
CITY OF DURANT UTILITY DEPT.	1-580-924-3737
ONG	1-580-634-0547
OG&E	1-580-224-7358
CHEROKEE COMMUNICATIONS	1-580-434-5375
AT&T	1-918-421-1792
INDIAN NATIONS FIBER OPTICS	1-580-622-3837

DESIGN DATA		
AADT 2020	=	11,200
AADT 2040	=	22,400
K	=	0.09
D	=	55%
T (% DHV)	=	0%
T (% AADT)	=	0%
T3 (% AADT)	=	10%
V	=	30 MPH
20 YR. FLEX. ESALS	=	16,040,086

SCALES 1"

PLAN 1" = 30'

PROFILE HOR. 1" = 30'

VER. 1" = 10'

LAYOUT MAP 1" = 2640'

LEVEL DATA IS MEAN SEA LEVEL (USC&GS)
BEARINGS ARE FROM OBSERVATION OF
POLARIS.

CONVENTIONAL SYMBOLS

- PROPOSED ROAD
- RAILROADS
- RANGE & TOWNSHIP
- SECTION LINES
- QUARTER SECTION LINES
- FENCES
- GROUND LINE
- EXISTING ROADS
- BASE LINE
- GRADE LINES (+2% -2%)
- TELEPHONE & TELEGRAPH
- POWER LINES
- BUILDINGS
- DRAINAGE STRUCTURES - IN PLACE
- DRAINAGE STRUCTURES - NEW
- RIGHT-OF-WAY LINES - EXISTING (PRES. R/W)
- RIGHT-OF-WAY LINES - NEW (R/W)
- RIGHT-OF-WAY MARKERS - IN PLACE
- RIGHT-OF-WAY MARKERS - REMOVE & REPLACE
- RIGHT-OF-WAY MARKERS - NEW
- CONTROLLED ACCESS
- RIGHT-OF-WAY FENCE

2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION - ENGLISH GOVERN
APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

PLAN OF PROPOSED

ROADWAY REHABILITATION

DURANT TRANSPORTATION BOND PROJECT 4-3

UNIVERSITY BLVD. – GATES AVE. TO RADIO RD.

GRADING, DRAINAGE, SURFACING, & EROSION CONTROL PLANS IN THE CITY OF DURANT

BRYAN COUNTY

INDEX OF SHEETS

0001	TITLE SHEET
0002	LOCATION MAP
0003	TYPICAL SECTIONS
AR01	PAY QUANTITIES & NOTES (ROADWAY)
AR02-AR03	SUMMARY SHEETS (ROADWAY)
AT01	PAY QUANTITIES & NOTES (TRAFFIC)
R001	DRAINAGE MAP
R002-R003	EROSION CONTROL SHEETS
R004-R006	P&P SHEETS
R007-R008	REMOVAL SHEETS
R009-R010	JOINT LAYOUT SHEETS
R011-R013	DETAIL SHEETS
T001	TRAFFIC SIGNAL PLAN
T002	SIGNAL DETAIL
T003	SIGNAL WIRING DIAGRAM
T004-T005	STRIPING SHEETS
X000	EARTHWORK QUANTITIES
X001-X025	CROSS SECTION SHEETS

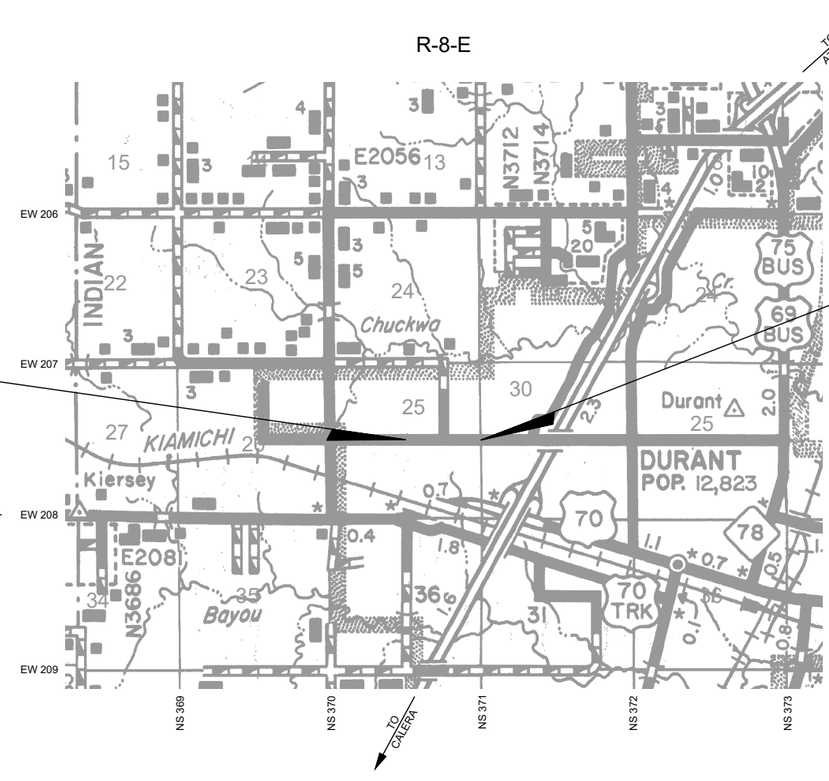
THE FOLLOWING STANDARD DRAWINGS SHALL BE REQUIRED:

ROADWAY

SSS-1-1	PCES-4-1	
TSC2-3-2	SMD-3-2	
TSD-2-0	GPI-4-0	
TFL-1-1	SSCD-3-1	
ASCD-5-2	CI-1-2	
CSCD-5-4	SSIF-4-0	
LECS-4-2	CIG-3-0	
LTU-4-0	MFC-4-1	
PR-3-0	MJB-3-2	
PCPR-3-2	SPI-4-1	
WCR-3-2	SPB-1-4	
TWD-1-1	FHTCP-3-1	
PSMD-1-0	SBI-4-2	
PCI-0-0	DC-3-2	

TRAFFIC

TCS1-1-01	TCS12-1-00	PM1-1-03
TCS2-1-00	TCS13-1-00	PM3-1-02
TCS3-1-01	TCS14-1-00	PM6-1-00
TCS4-1-01	TCS15-1-00	GMS1-1-00
TCS5-1-00	TCS16-1-00	GMS2-1-00
TCS6-1-02	TCS19-1-01	SSP1-1-02
TCS7-1-02	TCS20-1-00	SSA1-1-00
TCS8-1-00	TCS21-1-02	SSA2-1-00
TCS9-1-01	TCS22-1-00	FGS1-1-00
TCS10-1-00	TCS24-1-02	
TCS11-1-01	TCS25-1-00	



ROADWAY LENGTH	2,639.81 FT.	0.50	MI.
BRIDGE LENGTH		0	MI.
PROJECT LENGTH	2,639.81 FT.	0.50	MI.

FINAL CONSTRUCTION PLANS

PREPARED BY:

WALL ENGINEERING
PO BOX 1457, DURANT, OK 74702
OKLAHOMA CA #5413 EXP. JUNE 30, 2021

Cabbiness engineering, llc
333 12th Avenue SE, Suite 200
Norman, Oklahoma 73071
405.310.6435 Office, 405.310.6495 Fax
www.CabbinessEngineering.com
Certificate of Authorization No. CA4574 Expires June 30, 2020

REGISTERED PROFESSIONAL ENGINEER — BRANDON WALL 21108 — OKLAHOMA

BRANDON WALL
REGISTERED PROFESSIONAL ENGINEER NO. 21108

04/02/21
DATE

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TITLE SHEET BRYAN COUNTY DURANT ROADWAY REHABILITATION

LOCATION MAP

PROJECT NO. 4-3 SHEET NO. 0002

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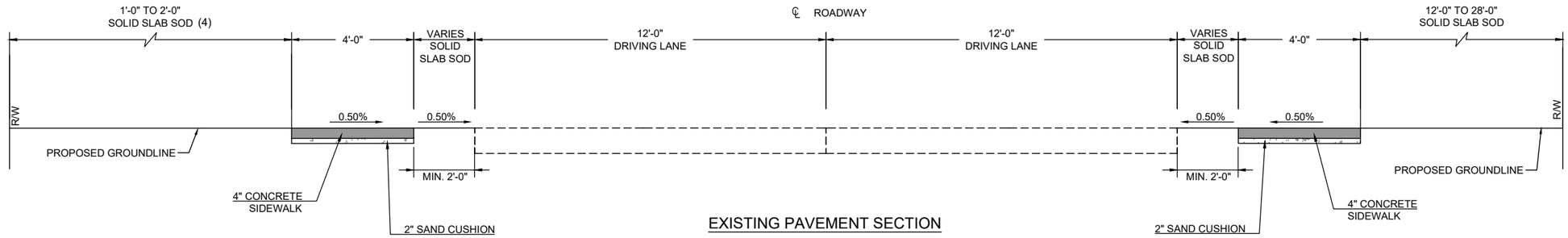
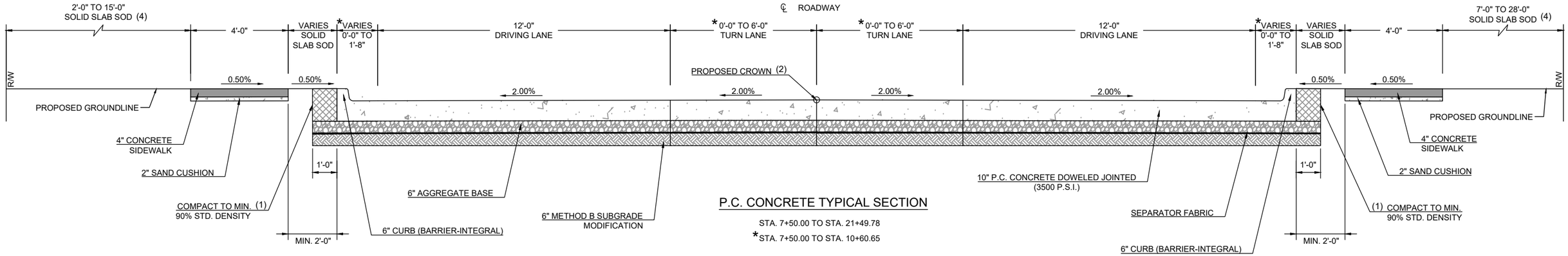
Location Map LOCATION MAP

DURANT ROADWAY REHABILITATION - BRYAN COUNTY



EXISTING PAVEMENT SECTION

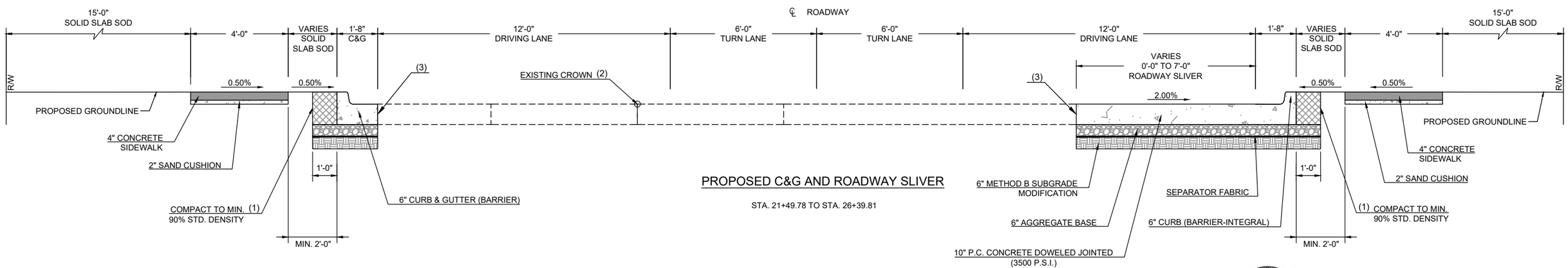
STA. 00+00.00 TO STA. 7+50.00



P.C. CONCRETE TYPICAL SECTION

STA. 7+50.00 TO STA. 21+49.78

*STA. 7+50.00 TO STA. 10+60.65



PROPOSED C&G AND ROADWAY SLIVER

STA. 21+49.78 TO STA. 26+39.81

NOTES:
(1) COST OF WORK TO BE INCLUDED IN OTHER BID ITEMS.
(2) ADJUST PROPOSED CROWN TO MATCH EXISTING CROWN.
(3) DOWEL PROPOSED CONCRETE INTO EXISTING PAVEMENT ALONG LONGITUDINAL JOINT USING NO. 5 DEFORMED REINFORCING STEEL BARS, 2'-6" LONG, AT 3'-0" CENTERS. SEE "DETAIL OF TIE BAR JOINT" ON ODOT STANDARD PCPR-3-2 FOR DETAILS.
(4) SOLID SLAB SODDING EXCEEDS LIMITS OF R/W IN CERTAIN LOCATIONS TO COVER EXTENTS OF STORM SEWER. SEE EROSION CONTROL SHEETS FOR LOCATIONS.

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

TYPICAL SECTIONS

PROJECT NO. 4-3 SHEET NO. 0003

DURANT ROADWAY REHABILITATION BRYAN COUNTY

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GENERAL CONSTRUCTION NOTES:

1. IN ACCORDANCE WITH THE OKLAHOMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT THE CONTRACTOR SHALL NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, INC 48 HOURS PRIOR TO BEGINNING EXCAVATION. OKLAHOMA ONE-CALL SYSTEM, INC. (CALL "OKIE" 1-800-522-6543 OR 811).

2. A WORK ZONE PERMIT MUST BE OBTAINED FROM THE CITY OF DURANT AT LEAST TWO (2) WORKING DAYS PRIOR TO THE START OF WORK AND/OR PLACING OR REMOVING ANY BARRICADES OR MODIFYING EXISTING TRAFFIC CONTROL DEVICES.

3. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

4. ANY CONSTRUCTION ITEMS THAT ARE NOT LISTED IN THE SUMMARY OF QUANTITIES SHALL BE CONSIDERED INCIDENTAL CONSTRUCTION ITEMS. THE COST OF INCIDENTAL CONSTRUCTION ITEMS SHALL BE INCLUDED IN THE COST OF OTHER BID ITEMS.

5. THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

6. THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING TRAFFIC ON CROSS STREETS. A MINIMUM OF ONE LANE IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES. SEE O.D.O.T. STANDARDS AND DETAIL DRAWINGS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

7. MAINTENANCE OF THROUGH TRAFFIC INCLUDES THE MAINTENANCE OF THE EXISTING ROAD IN CLOSE PROXIMITY TO THE NEW CONSTRUCTION AS SHOWN ON THE PLANS.

8. ALL TREES, BRUSH, AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER SHALL BE CLEANED OUT TO THE RIGHT-OF-WAY LINE, AT EACH STRUCTURE AND BRIDGE, IN A MANNER APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

9. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY RIGHT-OF-WAY FENCE AS REQUIRED. WHEN THE PORTION OF THE PROJECT THAT REQUIRED THIS FENCE IS COMPLETED, THE TEMPORARY FENCE SHALL BE REMOVED, AND PERMANENT RIGHT-OF-WAY FENCING SHALL BE RESTORED OR INSTALLED IN A MANNER APPROVED BY THE ENGINEER. ALL COST OF TEMPORARY FENCING SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

10. IN ORDER TO ALLEVIATE DUST CONDITIONS DURING GRADING OPERATIONS AND BEFORE PAVEMENT WORK IS COMPLETED, THE CONTRACTOR SHALL SPRINKLE GRADING AT INTERVALS APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

11. THE CONTRACTOR SHALL NOT WASTE ANY EXCESS EXCAVATION UNTIL ALL PLANNED EMBANKMENTS AND BACKFILLS ARE COMPLETED. EXCESS UNCLASSIFIED EXCAVATION MATERIAL DETERMINED BY THE ENGINEER TO BE SUITABLE FOR BACKFILL SHALL BE USED TO REDUCE ANY UNCLASSIFIED BORROW NEEDED. COST OF SECOND HANDLING SHALL BE INCLUDED IN OTHER ITEMS OF WORK. ANY REMAINING EXCESS EXCAVATION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

12. ALL WASTE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.

13. THE CONTRACTOR SHALL REMOVE AND RESET MAILBOXES AS NECESSARY. MAILBOXES ARE TO BE MAINTAINED IN AN UPRIGHT POSITION AND ACCESSIBLE TO MAIL CARRIER'S CAR DURING CONSTRUCTION. ANY DAMAGE TO BOXES OR SUPPORTS SHALL BE REPAIRED BY THE CONTRACTOR. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

14. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL PAVEMENT MARKINGS THAT WILL BE IN CONFLICT WITH THE PROPOSED WORK.

15. THE CONTRACTOR IS RESPONSIBLE FOR THE PROMPT REPLACEMENT AND/OR REPAIR OF ALL TRAFFIC CONTROL DEVICES AND APPURTENANCES DAMAGED OR DISTURBED DUE TO CONSTRUCTION.

16. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL BUILT ELEMENTS, INCLUDING BUT NOT LIMITED TO, SIDEWALKS, PARKING SPACES AND ACCESS RAMPS COMPLY WITH ADA STANDARD REQUIREMENTS. CONTRACTOR SHALL NOTIFY THE ENGINEER OR ENGINEER'S DESIGNEE OF ANY DISCREPANCIES BETWEEN DESIGN INFORMATION AND ADA STANDARD REQUIREMENTS PRIOR TO CONSTRUCTION.

17. CONTRACTOR SHALL NOT STORE MATERIALS NOR OPERATE OR PARK CONSTRUCTION EQUIPMENT WITHIN 25 FEET OF ANY WATERLINE OR FIRE HYDRANT.

18. PRIOR TO FINAL ACCEPTANCE, ALL EXPOSED CURB SURFACES SHALL BE CLEANED OF ALL DISCOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, OR OTHER DISFIGUREMENT.

19. ANY SIGNS AND/OR DELINEATORS WHICH ARE TO BE REMOVED DURING THIS PROJECT WILL BE STORED IN A PROTECTED AREA DESIGNATED BY THE RESIDENT ENGINEER. UNTIL SUCH A TIME THAT THEY ARE TO BE RESET BY THE CONTRACTOR. COST OF THIS WORK TO BE INCLUDED IN OTHER ITEMS OF WORK.

20. ANY DAMAGE CAUSED BY THE CONTRACTOR TO ANY STRUCTURES, ROADWAY SURFACES, STRIPING, RAISED PAVEMENT MARKERS, GUARDRAIL, SLOPES, AND SIGNS SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE ENGINEER.

21. ALL REMOVED SIGNS, SIGN POSTS, BOLTS, MISCELLANEOUS HARDWARE, AND DELINEATORS SHALL REMAIN THE PROPERTY OF THE STATE. THE CONTRACTOR SHALL NEATLY STACK SUCH REMOVED MATERIAL AT A LOCATION ON THE JOB SITE AS DESIGNATED BY THE ENGINEER UNTIL SUCH TIME AS DIVISION PERSONNEL CAN REMOVE THE MATERIAL FROM THE JOB SITE.

22. ALL SIGNS SHALL BE REMOVED FROM THE POSTS IN A SALVAGEABLE MANNER FOR REUSE. CARE SHALL BE TAKEN DURING REMOVAL AND TRANSPORTING TO ALLEVIATE DAMAGE OF MATERIALS. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED DURING REMOVAL OF SIGNS AND SIGN POSTS.

23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC.

24. DEPTH OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

25. ALL ITEMS THAT ARE TO BE REMOVED AND/OR RESET SHALL BE HANDLED WITH CARE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OCCURRING DURING THESE OPERATIONS.

26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH PROPERTY OWNERS TO RELOCATE SPRINKLER SYSTEMS.

27. CONTRACTOR SHALL CONTACT ALL PROPERTY AND BUSINESS OWNERS SEVEN (7) DAYS IN ADVANCE OF ANY CONSTRUCTION AFFECTING THOSE OWNERS. THE CONTRACTOR SHALL ENSURE ACCESS FOR ALL DELIVERIES TO BUSINESS DURING CONSTRUCTION AND PROVIDE ANY ADDITIONAL MATERIAL, OR EQUIPMENT OR ASSISTANCE TO ENSURE ACCESS AT ALL TIMES.

28. ALL FLOWLINES THAT ARE TO BE FILLED SHALL BE THOROUGHLY TAMPED BEFORE CONSTRUCTION OR EXTENSION OF DRAINAGE STRUCTURES. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

29. THE CONTRACTOR SHALL KEEP THE OPEN TRENCH DRAINED. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

30. SURFACING OF RETURNS, UNLESS OTHERWISE SHOWN ON PLANS, SHALL BE OF THE SAME MATERIAL (BASE AND SURFACE) AS THAT OF THE ABUTTING SHOULDER OF THE MAINLINE. BASE AND SURFACE THICKNESS SHALL BE THE THICKNESS SHOWN ON PLANS.

31. ALL FEATURES OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, CURB RAMPS AND CROSSWALK MARKINGS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT, ACCESSIBILITY GUIDELINES (ADAAG). WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THE ADAAG, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURE(S). THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK WHICH IS NOT IN FULL COMPLIANCE WITH THE ADAAG WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE ADAAG, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

32. THE CROSS SLOPE FOR PATHS, SIDEWALKS, AND RAMPS WITHIN THE LIMITS OF AN ACCESSIBLE ROUTE WILL NOT EXCEED 1:50 OR 2%.

33. RAMP SLOPES WILL NOT EXCEED 1:12 OR 8.33%.THE CONTINUOUS PATH'S CROSS SLOPE WILL NOT EXCEED 2% THROUGH DRIVEWAYS. SEE DRIVEWAY DETAIL ON O.D.O.T. STANDARD DRAWING WCR-3.

34. SIDEWALK AND RAMP LOCATIONS HAVE BEEN DEPICTED WITHOUT KNOWLEDGE OF ULTIMATE UTILITY STRUCTURES LOCATIONS. LOCATIONS WILL BE ADJUSTED TO AVOID ABOVE GRADE UTILITY STRUCTURES SUCH AS UTILITY POLES, RISERS, GUY ANCHORS, AND OTHER ABOVE GRADE APPURTENANCES.

EROSION CONTROL NOTES:

1. DURING ALL SOIL DISTURBING ACTIVITIES, THE CONTRACTOR WILL TAKE APPROPRIATE STEPS, USING ACCEPTABLE CONSTRUCTION METHODS, TO MINIMIZE THE TIME OF EXPOSURE OF UNPROTECTED SOIL AND OTHER CONSTRUCTION MATERIALS TO RAINFALL. PARTICULAR CARE MUST BE EXERCISED WHEN DEALING WITH STOCKPILES OF TOPSOIL OR FILL MATERIALS AND SOIL ON SLOPES.

2. THE CONTRACTOR WILL MAINTAIN A LOG OF THE DATES OF ALL MAJOR GRADING/SOIL DISTURBANCE ACTIVITIES AND OF THE INSTALLATION OF ALL MANAGEMENT PRACTICES OR CONTROL MEASURES.

3. PLEASE NOTE THAT PERIMETER CONTROLS ALONE MAY NOT BE SUCCESSFUL SINCE LARGE AMOUNTS OF SEDIMENT PRODUCED BY A HEAVY RAIN ON EXPOSED SOIL COULD OVERWHELM SUCH MEASURES. IN SUCH INSTANCES, TEMPORARY VEGETATION, MULCHING, OR ANCHORED EROSION CONTROL MATTING SHOULD BE USED.

4. AT THE ENGINEERS DISCRETION, ADDITIONAL TEMPORARY EROSION CONTROL PRACTICES MAY BE INSTALLED ALONG ANY DOWNSLOPE AND SIDESLOPE PERIMETER OF AREAS DISTURBED DURING EARTH-MOVING OPERATIONS TO PREVENT UNNECESSARY SEDIMENT TRANSPORT. ANCHORED EROSION CONTROL MATTING, MULCHES, OR OTHER ACCEPTABLE METHODS MAY ALSO BE INSTALLED AT THE CONTRACTOR'S DISCRETION TO STABILIZE ANY UNPROTECTED SLOPES DURING CONSTRUCTION AND TO HOLD THEM TO FINAL GRADE. AS SITE CONDITIONS WARRANT, THE CONTRACTOR MAY ALSO CHOOSE TO MODIFY THE TYPE OF ARRANGEMENT OF SPECIFIED PRACTICES TO IMPROVE THEIR EFFECTIVENESS. AS WITH ANY OTHER PROJECT CHANGES, THE CONTRACTOR MUST PRESENT ANY SUCH PROPOSED MODIFICATIONS TO THE OWNER FOR APPROVAL PRIOR TO INSTALLATION.

5. WHEN WATER IS USED FOR DUST CONTROL, CARE SHOULD BE EXERCISED TO PREVENT THE ESCAPE OF THIS WATER AND ANY SEDIMENT IT MAY CARRY FROM THE CONSTRUCTION SITE.

6. CARE MUST ALSO BE EXERCISED TO PREVENT EXCESSIVE OFF-SITE TRACKING OF MUD OR SEDIMENT BY CONSTRUCTION VEHICLES. PROPERLY GRAVELED TRANSITION AREAS SHOULD BE ESTABLISHED AT ANY TEMPORARY SITE EXITS TO ASSIST IN MUD REMOVAL FROM DEPARTING VEHICLES.

7. CARE MUST ALSO BE EXERCISED TO PREVENT EXCESSIVE OFF-SITE TRACKING OF MUD OR SEDIMENT BY CONSTRUCTION VEHICLES. PROPERLY GRAVELED TRANSITION AREAS SHOULD BE ESTABLISHED AT ANY TEMPORARY SITE EXITS TO ASSIST IN MUD REMOVAL FROM DEPARTING VEHICLES.

8. DURING THE FINAL SITE CLEAN-UP PRIOR TO THE ACCEPTANCE DATE, EACH TEMPORARY PRACTICE WILL BE COMPLETELY REMOVED AND THE AREA RESTORED TO APPROPRIATE POST-PROJECT CONDITION. THIS WILL INVOLVE FINAL GRADING AND/OR INSTALLATION OF SOD.

9. THE CONTRACTOR WILL COMPLETE AND FILE THE NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) WITH THE CITY AND DEQ.

10. THE CONTRACTOR WILL TAKE ADDITIONAL STEPS, IF NECESSARY, TO PREVENT SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM OR LEAVING THE SITE.

11. CONSTRUCTION ACTIVITIES THAT RESULT IN LAND DISTURBANCE OF EQUAL TO OR GREATER THAN ONE (1) ACRE, OR LESS THAN ONE (1) ACRE IF THEY ARE A PART OF A LARGER COMMON PLAN OF DEVELOPMENT OR SALE THAT TOTALS AT LEAST ONE (1) ACRE MUST ALSO OBTAIN A PERMIT FROM ODEQ (FORM 605-002A) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES. THIS MEANS THAT DISTURBING OF ONE (1) ACRE OR MORE MUST PERMIT WITH ODEQ STORM WATER QUALITY.

GENERAL PAY QUANTITY NOTES:

(R-7) FOR SOLID SLAB SODDING PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 40 GALLONS PER SY.

(R-8) PRICE BID TO INCLUDE COST OF SEDIMENT REMOVAL AND ALL MAINTENANCE. SEDIMENT MUST BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE DEVICE.

(R-18) ESTIMATED AT 165 LBS. PER CU. FT.

(R-31) PRICE BID TO INCLUDE COST OF 94 - 6" BARRIER CURB HOODS.

(R-32) THE PRECAST CONCRETE OPTION MAY BE USED INSTEAD, PER DIRECTION OF THE ENGINEER.

(R-36) INCLUDES REMOVAL OF ALL EXISTING ROADWAY DRAINAGE STRUCTURES, HEADWALLS (UNLESS OTHERWISE SPECIFIED), INLETS, FENCES, AND OTHER STRUCTURES WITHIN THE RIGHT OF WAY.

(R-37) TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.

(R-38) MATERIALS REMOVED SHALL NOT BE MEASURED FOR PAYMENT UNDER SECTION 202.06 UNCLASSIFIED EXCAVATION.

(TC-14) SEE STANDARD DRAWING PM1-1, PM2-1, PM3-1, PM4-1, PM5-1, PM6-1, PM7-1, PM8-1 (LATEST REVISION). A PART, OR ALL, OF THE QUANTITY SHOWN IS TO BE USED AS FINAL PAVEMENT MARKING.

(TC-16) PAINT SHALL CONFORM TO SECTION 711 "TRAFFIC STRIPE", OF THE ODOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION). IF CONSTRUCTION TRAFFIC STRIPE PAINT IS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND FAILS DURING THE FIRST SIX MONTHS OF SERVICE, REPLACEMENT WILL BE MADE AT THE CONTRACTOR'S EXPENSE AND SHALL BE ACCOMPLISHED IN A TIMELY MANNER UPON NOTIFICATION BY THE ENGINEER OF SUCH FAILURE.

(TC-25) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS REQUIRED FOR COMPLETION OF THIS PROJECT.

(TS-24) QUANTITY SHOWN INCLUDES 480.00 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 6,778.28 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF FOUR INCH (4") WIDE TRAFFIC STRIPE.

(TS-26) QUANTITY SHOWN INCLUDES 272.02 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF EIGHT INCH (8") WIDE TRAFFIC STRIPE.

(TS-28) QUANTITY SHOWN INCLUDES 698.36 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND WILL BE MEASURED BY THE LINEAR FOOT OF TWENTY-FOUR INCH (24") WIDE TRAFFIC STRIPE.

(TS-34) INCLUDED IN THIS PAY ITEM IS THE REMOVAL OF ANY EXISTING SIGNS TO BE REPLACED BY NEW ASSEMBLIES AND THE REMOVAL OF ANY EXISTING SIGNS THAT WILL BE IN CONFLICT WITH THE NEW ROADWAY OR NEW SIGNAGE.

(1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY ONLY AS SHOWN ON THE EROSION CONTROL SHEETS. ANY ADDITIONAL DISTURBED AREAS REQUIRING SOD WILL BE CONSIDERED INCIDENTAL CONSTRUCTION AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

(2) SAWING PAVEMENT TO BE INCLUDED IN REMOVALS.

(3) COST OF TWO (2) TYPE 1 2' X 2' GRATES/FRAMES TO BE INCLUDED IN THE COST OF JUNCTION BOXES.

(4) ESTIMATED QUANTITY TO BE USED FOR TEMPORARY DRIVES AT THE DISCRETION OF THE PROJECT ENGINEER.

(5) ITEM TO BE USED UNDERNEATH PAVEMENT ON ROADWAY AND TWO (2) STREET RETURNS.

SUMMARY OF PAY QUANTITIES - ROADWAY

0100 — PROJECT NO. 4-3

ITEM NO.	CODE NO.	DESCRIPTION		UNIT	QUANTITY
202(A)	0183	UNCLASSIFIED EXCAVATION		CY	452
202(D)	0184	UNCLASSIFIED BORROW		CY	2406
220	2800	SWPPP DOCUMENTATION AND MANAGEMENT		LSUM	1
221(C)	2801	TEMPORARY SILT FENCE	(R-8)	LF	4744
221(D)	2803	TEMPORARY SEDIMENT FILTER	(R-8)	EA	10
221(F)	0100	TEMPORARY SILT DIKE	(R-8)	LF	40
221(K)	0600	TEMPORARY FIBER LOG	(R-8)	LF	173
230(A)	2806	SOLID SLAB SODDING	(1)(R-7)	SY	7529
303(A)	2100	AGGREGATE BASE TYPE A	(5)	CY	1110
310(B)	0149	SUBGRADE, METHOD B	(5)	SY	6659
325	5271	SEPARATOR FABRIC	(5)	SY	6659
402(E)	0225	TRAFFIC BOUND SURFACE COURSE TYPE E	(4)(R-18)	TON	50
414(B)	5725	DOWEL JOINTED P.C. CONCRETE PAVEMENT (PLACEMENT)		SY	6276
414(G)	5275	P.C. CONCRETE FOR PAVEMENT		CY	1743
501(A)	0313	STRUCTURAL EXCAVATION UNCLASSIFIED		CY	8
509(A)	0319	CLASS AA CONCRETE		CY	15
511(A)	0332	REINFORCING STEEL		LB	1419
609(A)	0300	CONCRETE CURB (6" BARRIER-INTEGRAL)		LF	2804
609(B)	0383	COMBINED CURB & GUTTER (6" BARRIER)		LF	312
610(A)	0602	4" CONCRETE SIDEWALK		SY	2091
610(B)	0399	6" CONCRETE DRIVEWAY (H. E. S.)		SY	774
610(I)	4610	TACTILE WARNING DEVICE-NEW		SF	168
611(G)	5116	INLET CI DES. 2 (2C)	(R-31,32)	EA	2
611(G)	5122	INLET CI DES. 3 (D)	(R-31,32)	EA	1
611(G)	5124	INLET CI DES. 3 (B-D)	(R-31,32)	EA	7
611(G)	5328	INLET GPI TYPE 1 (DES. 2)		EA	1
611(G)	5340	INLET GPI TYPE 2 (DES. 14)		EA	1
611(G)	6000	INLET (SMD-TYPE 1)	(R-32)	EA	3
611(H)	5325	ADD'L DEPTH IN INLET CI DES. 2	(R-32)	VF	2
611(H)	5330	ADD'L DEPTH IN INLET CI DES. 3	(R-32)	VF	5
611(H)	5374	ADD'L DEPTH IN INLET GPI TYPE 1		VF	1
611(L)	0487	JUNCTION BOXES	(3)	CF	800
612(A)	0641	MANHOLES ADJUST TO GRADE		EA	3
612(E)	0647	VALVE BOXES ADJUST TO GRADE		EA	5
613(A)	0491	18" R.C. PIPE CLASS III		LF	129
613(A)	0492	24" R.C. PIPE CLASS III		LF	793
613(A)	0493	30" R.C. PIPE CLASS III		LF	223
613(A)	0494	36" R.C. PIPE CLASS III		LF	299
613(A)	0496	48" R.C. PIPE CLASS III		LF	8
613(B)	0688	12" CORR. GALV. STEEL PIPE		LF	20
613(L)	5738	48" PREFAB. CULVERT END SECTION, ROUND		EA	1
613(S)	1186	STANDARD BEDDING MATERIAL, CLASS B		CY	680
613(V)	1180	TRENCH EXCAVATION		CY	1288
619(A)	0920	REMOVAL OF STRUCTURES & OBSTRUCTIONS	(R-36,37)	LSUM	1
619(B)	4726	REMOVAL OF CURB AND GUTTER	(2)(R-37,38)	LF	822
619(B)	4727	REMOVAL OF CONCRETE PAVEMENT	(2)(R-37,38)	SY	397
619(B)	4728	REMOVAL OF ASPHALT PAVEMENT	(2)(R-37,38)	SY	4515
619(B)	4766	REMOVAL OF CONCRETE DRIVEWAY	(2)(R-37,38)	SY	249
619(B)	4767	REMOVAL OF ASPHALT DRIVEWAY	(2)(R-37,38)	SY	347
619(B)	4792	REMOVAL OF SIDEWALK	(2)(R-37,38)	SY	23

SUMMARY OF PAY QUANTITIES - TRAFFIC

0300 — PROJECT NO. 4-3

ITEM NO.	CODE NO.	DESCRIPTION		UNIT	QUANTITY
805(B)	8728	RESET OF PULLBOX		EA	1
805(D)	8756	REMOVE & RESET EXISITING SIGNS	(TS-34)	EA	12
856(A)	8530	TRAFFIC STRIPE(MULTI-POLYMER) (4" WIDE)	(TC-14,16)(TS-24)	LF	7259
856(A)	8540	TRAFFIC STRIPE(MULTI-POLYMER) (8" WIDE)	(TC-14,16)(TS-26)	LF	273
856(A)	8555	TRAFFIC STRIPE(MULTI-POLY.) (24" WIDE)	(TC-14,16)(TS-28)	LF	699
856(B)	8860	TRAFFIC STRIPE(MULTI-POLY.) (ARROWS)		EA	22
857(F)	8006	PAVEMENT MARKING REMOVAL (TRAFFIC STRIPE)		LF	1779
857(F)	8007	PAVEMENT MARKING REMOVAL (ARROWS)		EA	8
857(F)	8008	PAVEMENT MARKING REMOVAL (WORDS)		EA	1

SUMMARY OF PAY QUANTITIES - TRAFFIC CONTROL

0301 — PROJECT NO. 4-3

ITEM NO.	CODE NO.	DESCRIPTION		UNIT	QUANTITY
880(J)	8905	CONSTRUCTION TRAFFIC CONTROL	(TC-25)	LSUM	1

SUMMARY OF PAY QUANTITIES - STAKING

0600 — PROJECT NO. 4-3

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	QUANTITY
642(B)	0096	CONSTRUCTION STAKING (LEVEL II)	LSUM	1

SUMMARY OF PAY QUANTITIES - CONSTRUCTION

0640 — PROJECT NO. 4-3

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	QUANTITY
641	1369	MOBILIZATION	LSUM	1

REGISTERED PROFESSIONAL ENGINEER — BRANDON WALL — 21108 — OKLAHOMA

REGISTERED PROFESSIONAL ENGINEER — BRET CABBINESS — 18093 — OKLAHOMA

PAY QUANTITIES & NOTES (ROADWAY)

PROJECT NO. 4-3 SHEET NO. AR01

DURANT ROADWAY REHABILITATION BRYAN COUNTY

L:\CAB\Projects\386 - Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Notes and Quantities.dwg Pay Quant. & Gen. Notes PAY QUANT. & GEN. NOTES JMStraham 2/22/2021 1:21 PM

SUMMARY OF SURFACING QUANTITIES

Sheet No.	Station Extents	Aggregate Base Type A 303(A)	Subgrade Method B 310(B)	Separator Fabric 325	Dowel Jointed P.C. Concrete Pavement (Placement) 414(B)	P.C. Concrete for Pavement 414(G)	Concrete Curb (6" Barrier-Integral) 609(A)	Combined Curb & Gutter (6" Barrier) 609(B)	4" Concrete Sidewalk 610(A)	Tactile Warning Device-New 610(I)
		C.Y.	S.Y.	S.Y.	S.Y.	C.Y.	L.F.	L.F.	S.F.	S.F.
R004	Sta. 00+00.00 to 9+00.00	79.95	479.68	479.68	445.96	123.83	229.02	0.00	629.21	32.00
R005	Sta. 9+00.00 to 18+00.00	685.68	4114.09	4114.09	3825.28	1084.04	1603.01	0.00	777.02	56.00
R006	Sta. 18+00.00 to 27+00.00	344.13	2064.77	2064.77	1757.85	534.55	971.56	311.67	684.67	80.00
Total		**1109.76**	**6658.53**	**6658.53**	**6029.09**	**1742.42**	**2803.59**	**311.67**	**2090.90**	**168.00**

SUMMARY OF REMOVAL QUANTITIES

Sheet No.	Station Extents	Removal of Curb and Gutter (619B)	Removal of Concrete Pavement 619(B)	Removal of Asphalt Pavement (619B)	Removal of Concrete Driveway (619B)	Removal of Asphalt Driveway (619B)	Removal of Sidewalk (619B)	Pavement Marking Removal (Traffic Stripe) 857(F)	Pavement Marking Removal (Arrows) 857(F)	Pavement Marking Removal (Words) 857(F)
		L.F.	S.Y.	S.Y.	S.Y.	S.Y.	S.Y.	L.F.	EA.	EA.
R007	Sta. 00+00.00 to 9+00.00	0.00	0.00	381.26	88.03	183.15	0.00	0.00	0.00	0.00
R007	Sta. 9+00.00 to 18+00.00	0.00	46.93	2525.93	160.46	0.00	0.00	0.00	0.00	0.00
R008	Sta. 18+00.00 to 27+00.00	821.65	349.28	1607.20	0.00	163.27	22.97	1778.08	8.00	1.00
Total		**821.65**	**396.21**	**4514.39**	**248.49**	**346.42**	**22.97**	**1778.08**	**8.00**	**1.00**

SUMMARY OF DRIVES & STREET RETURNS

Sheet No.	Station	Location	Radii	6" Concrete Driveway (H.E.S) 610(B)	Dowel Jointed P.C. Concrete Pavement (Placement) 414(B)
				S.Y.	S.Y.
R004	0+00.00	9.73' RT	33.00	36.14	
R004	0+99.58	8.73' RT	5.00	41.73	
R004	1+42.47	37.27' LT	4.00	21.85	
R004	4+42.44	33.04' LT	13.00	35.94	
R004	6+28.67	35.61' LT	24.00	46.67	
R004	6+64.57	13.78' RT	32.00	101.14	
R005	10+77.88	32.89' LT	5.00	28.34	
R005	12+51.86	33.11' RT	5.00	39.32	
R005	13+19.28	44.64' LT	15.00		78.84
R005	15+84.42	32.91' LT	5.00	69.21	
R006	18+13.97	50.80' RT	15.00		167.29
R006	18+15.09	39.68' LT	15.00	78.68	
R006	19+22.61	32.90' LT	5.00	22.13	
R006	20+09.33	32.91' LT	5.00	24.55	
R006	21+04.12	32.89' LT	5.00	26.59	
R006	21+73.18	39.89' LT	5.00	36.44	
R006	22+43.66	39.89' LT	5.00	37.06	
R006	23+88.96	39.89' LT	15.00	90.01	
R006	24+98.10	39.88' LT	5.00	37.46	
Total				**773.26**	**246.13**

SUMMARY OF REMOVE & RESET/RELOCATE

Sheet No.	Station	Location	Manholes Adjust to Grade 612(A)	Valve Boxes Adjust to Grade 612(E)	Reset of Pull Box 805(B)	Remove and Reset Existing Signs 805(D)
			EA.	EA.	EA.	EA.
R004	7+28.36	2.80' RT				1.00
R004	7+52.42	1.38' RT				1.00
R004	7+67.59	30.24' LT				1.00
R005	13+25.10	25.83' LT		1.00		
R005	13+50.20	26.17' LT		1.00		
R005	15+58.59	8.70' RT				1.00
R005	16+39.76	26.98' LT				1.00
R005	17+50.32	24.72' LT				1.00
R005	17+97.82	32.04' LT				1.00
R006	18+14.64	14.43' RT	1.00			
R006	18+40.68	43.11' RT				1.00
R006	18+45.58	26.56' LT				1.00
R006	18+48.80	35.80' RT		1.00		
R006	18+50.18	35.99' RT		1.00		
R006	18+50.44	33.08' RT		1.00		
R006	18+96.19	16.55' RT				1.00
R006	19+13.91	19.75' RT	1.00			
R006	19+87.73	17.82' RT				1.00
R006	23+19.17	27.77' LT				1.00
R006	23+27.18	20.49' RT	1.00			
R006	25+93.81	28.24' LT			1.00	
Total			**3.00**	**5.00**	**1.00**	**12.00**

SUMMARY OF STRIPING

Sheet No.	Station Extents	Traffic Stripe (Multi-Poly)(4" Wide) 856(A)	Traffic Stripe (Multi-Poly)(8" Wide) 856(A)	Traffic Stripe (Multi-Poly)(24" Wide) 856(A)	Traffic Stripe (Multi-Poly)(Arrows) 856(B)
		L.F.	L.F.	L.F.	EA.
T004	Sta. 00+00.00 to 9+00.00	2002.92	9.42	97.34	0.00
T004	Sta. 9+00.00 to 18+00.00	2600.36	156.52	138.58	7.00
T005	Sta. 18+00.00 to 27+00.00	2655.00	106.08	462.44	15.00
Total		**7258.28**	**272.02**	**698.36**	**22.00**

SUMMARY OF EROSION CONTROL

Sheet No.	Station Extents	Temporary Silt Fence 221(C)	Temporary Sediment Filter 221(D)	Temporary Silt Dike 221(F)	Temporary Fiber Log 221(K)	Solid Slab Sodding 230(A)
		L.F.	EA.	L.F.	L.F.	S.Y.
R002	Sta. 00+00.00 to 9+00.00	1544.39	2.00	0.00	30.26	3111.38
R002	Sta. 9+00.00 to 18+00.00	1722.89	4.00	20.00	93.45	2232.65
R003	Sta. 18+00.00 to 27+00.00	1476.38	4.00	20.00	48.93	2184.31
Total		**4743.66**	**10.00**	**40.00**	**172.64**	**7528.34**

SUMMARY OF EARTHWORK QUANTITIES

Sheet No.	Station Extents	Unclassified Excavation 202(A)	Embankment	Embankment +15% Comp.	Unclassified Borrow 202(D)	Excess Excavation
		C.Y.	C.Y.	C.Y.	C.Y.	C.Y.
R004-R006	STA. 0+00.00 TO 26+39.81	451.80	2484.43	2857.09	2405.29	0.00
Total		**451.80**	**2484.43**	**2857.09**	**2405.29**	**0.00**

REGISTERED PROFESSIONAL ENGINEER
BRANDON WALL
21108
OKLAHOMA

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

SUMMARY SHEET (ROADWAY)
(1 OF 2)

PROJECT NO. 4-3 SHEET NO. AR02

DURANT ROADWAY REHABILITATION BRYAN COUNTY

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SUMMARY OF DRAINAGE STRUCTURES

Structure No.	Station	Offset	Description	Standard Bedding Material (Class B) 613(S)	Trench Excavation 613(V)	Class AA Concrete 509(A)	Reinforcing Steel 511(A)	Structural Excavation Unclassified 501(A)	Top of Rim or Top of Grate	Flowlines				Inlets									Junction Boxes 611(L)			RCP 613(A)					CGMP 613(B)	RCB (1)	End Sections	
														ODOT CI DES. 2 (2C) 611(G)	ODOT CI DES. 3 (D) 611(G)	ODOT CI DES. 3 (B-D) 611(G)	ODOT SMD (TYPE 1) 611(G)	Add'l Depth CI Des. 2 611(H)	Add'l Depth CI Des. 3 611(H)	ODOT GPDI (TYPE 1) 611(G)	ODOT GPDI (TYPE 2) 611(G)	Add'l Depth in Inlet GPI Type 1 611(H)	4' x 4'	6' x 6'	6' x 12'	18"	24"	30"	36"	48"	12"	2'x3'	48" Round PCES 613(L)	RCB Culvert End Section (1)
				C.Y.	C.Y.	C.Y.	LB.	C.Y.	ELEV.	FL N	FL E	FL S	FL W	EA.	EA.	EA.	EA.	V.F.	V.F.	EA.	EA.	V.F.	C.F.	C.F.	C.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	EA.
-	1+42.61	35' LT	Replace 14" CGMP w/ 20' of 12" CGMP @ 1.05%	-	-				-		704.46		704.25																		20.00			
1	6+54.96	35' LT	ODOT Type 1 SMD (SPECIAL) w/ Type 1 Grate w/ 201' of 24" RCP to Struc. 2 @ 2.24%	77.59	147.10				703.50		700.15						1.00									201.00							
2	8+55.97	34' LT	4' x 4' JB w/ 198' of 30" RCP to Struc. 5 @ 0.79%	93.85	197.49				700.25		694.52	695.62	695.65											77.90					198.00					
3	8+53.55	23' LT	ODOT 3 B-D Inlet w/ 10' of 24" RCP to Struc. 2 @ 0.33%	3.86	7.16				699.52	695.65		696.15				1.00			0.68									10.00					
4	8+55.84	3' RT	ODOT 2 2C Inlet w/ 25' of 18" RCP to Struc. 3 @ 0.13%	6.85	12.47				699.50	696.18				1.00				0.62								25.00							
5	10+53.60	30' LT	4' x 4' JB w/ 236' of 36" RCP to Struc. 7 @ 0.39%	177.24	323.58				697.69		692.86	693.67	692.95											66.43						236.00				
6	10+50.90	18' LT	ODOT 3 B-D Inlet w/ 11' of 18" RCP to Struc. 5 @ 0.82%	3.01	6.41				697.06	693.75						1.00			0.64							11.00							
7	12+89.99	29' LT	ODOT Type 2 Design 14 GPI (SPECIAL) w/ 3' of 2'x3' RCB to Existing 2'x3' RCB @ 2.29%	-	-	0.67	68.91	0.37	695.85			691.25	691.94							1.00											3.00		
8	12+88.13	18' LT	ODOT 3 B-D Inlet into Existing 2'x3' RCB from Top	-	-				696.25							1.00																	
-	-	-	Extend 11' of 2'x3' RCB to Struc. 9 @ 0.90%	-	-	2.44	252.67	1.35	-	690.88		690.78																			11.00		
9	12+90.26	18' RT	ODOT 2 2C Inlet w/ 16' of 36" RCP to Struc. 10 @ 1.37%	12.02	21.94				696.27	690.78		690.78		1.00				1.35											16.00				
10	12+90.30	35' RT	6'x6' JB w/ 47' of 36" RCP to Struc. 13 @ 1.16%	35.30	64.44				695.02	690.57	689.67														126.52				47.00				
11	13+39.26	56' LT	ODOT Type 1 Design 2 GPI w/ 25' of 30" RCP to Struc. 12 @ 0.39%	11.85	26.34				696.35			691.85								1.00		0.86						25.00					
12	13+39.22	31' LT	4' x 4' JB w/ 2' x 2' Type 1 Grate Centered on Top (SPECIAL) into Existing 2'x3' RCB from Side	-	-				696.35	691.75	692.75	691.75												55.94										
-	-	-	Extend 23' of 2'x3' RCB to Struc. 13 @ 0.09%	-	-	5.11	528.31	2.83	-	691.70		691.68																			23.00		
13	13+38.81	35' RT	6'x12' JB w/ 8' of 48" RCP to Outlet @ 0.36%	7.97	15.57				695.00	691.68		688.39	689.12													228.22					8.00			
14	13+37.82	47' RT	ODOT 48" Round Prefab. Culvert End Section	-	-				-	688.36		688.33																					1.00	
15	16+21.72	30' LT	ODOT Type 1 SMD (0.81' Add'l Depth) w/ Type 1 Grate w/ 283' of 24" RCP to Struc. 12 @ 1.52%	109.24	202.50				700.96		697.55		697.05				1.00									283.00							
16	16+53.97	30' LT	4' x 4' JB w/ 32' of 18" RCP to Struc.15 @ 1.12%	8.77	17.17				702.83			698.39	697.91											75.42			32.00							
17	16+56.58	18' LT	ODOT 3 B-D Inlet w/ 11' of 18" RCP to Struc. 16 @ 1.03%	3.01	5.80				702.16	698.50						1.00			0.97							11.00							
18	21+40.71	31' LT	4' x 4' JB w/ 203' of 24" RCP to Struc. 20 @ 0.39%	78.36	145.26				705.82		701.20	701.93												64.05				203.00					
19	21+38.06	18' LT	ODOT 3 D Inlet w/ 12' of 18" RCP to Struc. 18 @ 0.60%	3.29	6.41				705.54	702.00					1.00				0.87							12.00							
20	23+43.11	31' LT	4' x 4' JB w/ 2' x 2' Type 1 Grate Centered on Top (SPECIAL) w/ 6' of 2'x3' RCB to Existing 2'x3' RCB @ 0.71%	-	-	1.33	137.82	0.74	703.38		700.45	700.14	700.41											40.76							6.00		
21	23+42.96	18' LT	ODOT 3 B-D Inlet into Existing 2'x3' RCB from Top	-	-				704.29							1.00																	
-	-	-	Extend 2' of 2'x3' RCB to Struc. 22 @ 2.28%	-	-	0.44	45.94	0.25	-	699.51		699.49																			2.00		
22	23+42.95	18' RT	ODOT 3 B-D Inlet w/ 13' of 2'x3' RCB to Outlet @ 1.76%	-	-	2.89	298.61	1.60	703.89	699.49		699.49				1.00			0.24											13.00		
23	23+43.93	35' RT	2' x 3' RCB Culvert End Section	-	-	1.69	86.50	0.75	-	699.27		699.18																					1.00	
24	24+38.76	30' LT	ODOT Type 1 SMD (SPECIAL) w/ Type 1 Grate w/ 96' of 24" RCP to Struc. 20 @ 0.58%	37.06	68.69				703.75		701.50		701.00				1.00									96.00							
25	24+65.72	30' LT	4' x 4' JB w/ 27' of 18" RCP to Struc. 24 @ 0.85%	7.40	13.47				705.60			702.10	701.73											64.12			27.00							
26	24+68.32	18' LT	ODOT 3 B-D Inlet w/ 11' of 18" RCP to Struc. 25 @ 0.47%	3.01	5.49				705.52	702.15						1.00			0.70							11.00							
Totals				**679.66**	**1,287.29**	**14.57**	**1,418.76**	**7.88**						**2.00**	**1.00**	**7.00**	**3.00**	**1.97**	**4.10**	**1.00**	**1.00**	**0.86**	**444.62**	**126.52**	**228.22**	**129.00**	**793.00**	**223.00**	**299.00**	**8.00**	**20.00**	**58.00**	**1.00**	**1.00**

NOTES:
(1) FOR INFORMATIONAL PURPOSES ONLY. PAY FOR RCB AND RCB CULVERT END SECTION AS CLASS AA CONCRETE AND REINFORCING STEEL. SEE "STANDARD CONCRETE BOX CULVERT DETAIL SHEET" ON SHEET R011.

REGISTERED PROFESSIONAL ENGINEER — BRANDON WALL — 21108 — OKLAHOMA

REGISTERED PROFESSIONAL ENGINEER — BRET CABBINESS — 18093 — OKLAHOMA

SUMMARY SHEET (ROADWAY)
(2 OF 2)

PROJECT NO. 4-3 SHEET NO. AR03

DURANT ROADWAY REHABILITATION BRYAN COUNTY

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REVISIONS		
NO.	DESCRIPTION	DATE

GENERAL CONSTRUCTION NOTES

SYMBOLS AND LEGENDS ARE DIAGRAMMATIC ONLY AND LOCATIONS SHALL BE ADJUSTED FOR EXISTING FIELD CONDITIONS, BUT NO MAJOR ALTERATIONS OR RELOCATIONS WILL BE MADE WITHOUT FIRST CONSULTING WITH THE CITY OF DURANT PUBLIC WORKS DIVISION AT (580) 924-8358.

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

ALL BROKEN CONCRETE, WASTE MATERIAL, AND DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN AN AREA APPROVED BY THE ENGINEER. NO PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC.... PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED IN THE AREA OF CONSTRUCTION LISTED WITH THE FOLLOWING AGENCIES:
THE "OKIE" NOTIFICATION CENTER 811 OR (405)522-6543 OR WWW.CALLOKIE.COM OR THE LOCAL COUNTY CLERK'S OFFICE.

PAY QUANTITY NOTES

(TL-35) SEE SERVICE POLE SCHEDULE; FOR ADDITIONAL INFORMATION CONCERNING THE SERVICE POLE, CONTACT THE FOLLOWING PRIOR TO INSTALLATION:
PERSON'S NAME.....
WITH THE COMPANY/CITY OF.....OG&E.
COMPANY'S/CITY'S TELEPHONE NO. 800-272-9741.

(TP-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY. SEE THE 2019 SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

(1) POLYMER CONCRETE PULL BOXES SHALL BE USED.

(2) THE SIGNAL POLES FOR THIS PROJECT SHALL BE 2009 AASHTO STANDARD SPECIFICATIONS POLES PREVIOUSLY APPROVED BY ODOT IN ORDER TO MATCH THE DESIGN AND LOOK OF THE EXISTING POLES IN THE AREA.

THE HAND HOLES AT THE BASE OF THE POLES SHALL BE PLACED AT 135 DEGREES CLOCKWISE FROM THE MAST ARMS IN ORDER TO AVOID CONFLICTS WITH THE PEDESTRIAN FUSH BUTTONS AND SIGNS BEING INSTALLED ON THIS PROJECT.

(3) THE FIXTURES TO BE INSTALLED ON THIS PROJECT SHALL BE LED MONGOOSE FIXTURES MANUFACTURED BY HOLOPHANE MODEL NUMBER, MGLED-P4-40K-120-MR-VH-GRSD OR AN APPROVED EQUAL.

(4) THIS PAY ITEM IS TO BRING POWER TO THE CONTROLLER CABINET FROM THE SERVICE POLE.

(5) THE CONTROLLER(S) TO BE FURNISHED ON THIS PROJECT SHALL HAVE A NATURAL ALUMINUM FINISH AND BE VEHICLE ACTUATED SOLID STATE DIGITAL CONTROLLER(S) WITH VOLUME DENSITY FEATURES. THE CONTRACTOR SHALL FURNISH THE CONTROLLER(S) AND MOUNTING FRAMES AS FOLLOWS:

INTERSECTION	TYPE	CONFLICT & USER FLASH
UNIVERSITY BLVD. & UNIVERSITY PL.	8	ALL RED

THE CONTROLLER(S) WITH 2P - 4P CAPABILITY SHALL BE FURNISHED WITH 8 LOAD RECEPTACLE BAYS. CONTROLLER(S) WITH 5P - 8P CAPABILITY SHALL BE FURNISHED WITH 16 LOAD SWITCH RECEPTACLE BAYS. ALL CORRESPONDING RECEPTACLE WIRING IN THE CABINET AND FIELD WIRING SHALL BE INSTALLED FOR THE CONTROLLER AS REQUIRED EXCEPT FOR ADDITIONAL DETECTOR CONNECTING CABLES WHEN THE CONTROLLER IS EXPANDED. THE CONTROLLER(S) SHALL BE CAPABLE OF PERFORMING AS SHOWN ON PHASE & SEQUENCE DIAGRAMS. PEDESTRIAN ISOLATION SHALL BE PROVIDED IN THE CONTROLLER CABINET. ALL N.E.M.A. FUNCTIONS SHALL TERMINATE IN THE CONTROLLER CABINET.

CABINET SHALL HAVE A 120V RECEPTACLE INSTALLED INSIDE OF THE CABINET IN ADDITION TO OR IN LIEU OF A RECEPTACLE INSTALLED ON THE DOOR. ALSO, ALL CABINETS THAT ARE TO BE INSTALLED IN A SIGNAL INTERCONNECT SYSTEM SHALL HAVE A PULL- OUT COMPUTER SHELF AND DRAWER INSTALLED FOR LAPTOP USE AT THE CONTROLLER CABINET.

(6) THE CONTROLLER TO BE USED ON THIS PROJECT SHALL BE MCCAIN ATC EX2 IN ORDER TO BE COMPATIBLE WITH THE CONTROLLER CURRENTLY IN USE BY THE CITY. THE CONTROLLER SHALL BE IN ACCORDANCE WITH ATC CONTROLLER STANDARD V 6.25. THE CABINET SHALL BE A MCCAIN 350i ATC CABINET IN ACCORDANCE WITH ATC CABINET STANDARD V 2.02. THE MONITOR SHALL BE AN EDI CMU 2212 CONFLICT MONITOR.

(7) CONTROLLERS SHALL BE EQUIPPED WITH A TESCO BATTERY BACKUP CONTINUOUS POWER UNIT. THIS UNIT SHALL PROVIDE 400 WATTS OF CONTINUOUS POWER FOR A MINIMUM OF 8 HOURS. THIS UNIT SHALL ALSO INCLUDE BATTERIES, CABINET, WIRING AND PAD IF NECESSARY. THIS POWER UNIT SHALL INCLUDE AN INTERCHANGEABLE HARD DISK THAT IS CAPABLE OF STORING AND RETRIEVING ALL ACTIVITY DATA, SUCH AS TIME, DATE, AND DURATION OF EVENTS. ALSO THE SURGE PROTECTORS TO BE SUPPLIED ON THIS PROJECT FOR THE TRAFFIC SIGNALS SHALL BE INNOVATIVE TECHNOLOGY, INC. SURGE PROTECTORS, MODEL NO. HS-P-SP-120A-60A-RJ, OR APPROVED EQUAL.

(8) THIS PROJECT INVOLVES THE INSTALLATION OF A GRIDSMART VIDEO VEHICLE DETECTION SYSTEM. PAY ITEM SHALL INCLUDE ONE (1) BELL CAMERA, TWO (2) ADVANCED DETECTION VIDEO CAMERAS, AND ALL NECESSARY CABLES, HARNESSES, MATERIALS, FITTINGS AND MISCELLANEOUS COMPONTENTS NECESSARY TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM AT ONE (1) INTERSECTION.

(9) CONTRACTOR SHALL PROVIDE POLARA 2-WIRE NAVIGATOR ACCESSIBLE PEDESTRIAN SIGNAL PUSH BUTTON OR APPROVED EQUAL. R10-3E PEDESTRIAN PUSH BUTTON SIGNS SHALL BE USED.

(10) LED INTERNATIONAL HEADS DISPLAYING INCANDESCENT LOOKING FULLY-ILLUMINATED SYMBOLS (WALKING PERSON AND UPRAISED HAND) SHALL BE REQUIRED ON THIS PROJECT.

THESE PEDESTRIAN HEADS SHALL ALSO BE COUNTDOWN TYPE HEADS.

(11) RED, YELLOW AND GREEN LED TRAFFIC SIGNAL HEADS SHALL BE FURNISHED AND INSTALLED ON THIS PROJECT. THE LED TRAFFIC MODULES, LENSES, AND ALL ASSOCIATED MATERIAL AND EQUIPMENT SHALL CONFORM TO I.T.E. VEHICLE TRAFFIC CONTROL SIGNAL HEAD (VTCSH) STANDARDS IN EFFECT AT THE TIME THAT THE ORDER IS PLACED. LED HEADS SHALL BE CAPABLE OF OPERATING WITHOUT A REFLECTOR.

(12) PAY ITEM IS TO RUN FROM THE PEDESTRIAN PUSH BUTTONS TO THE TERMINAL STRIP AT THE BASE OF THE POLES.

(13) THIS PROJECT INVOLVES THE INSTALLATION OF A TOMAR EMERGENCY PREEMPTION SYSTEM. THE PREEMPTION CONTROL SYSTEM SHALL INTERFACE WITH THE TRAFFIC CONTROLLER TO GIVE EMERGENCY VEHICLES APPROACHING THE INTERSECTION A GREEN WITH ALL OTHER INDICATIONS BEING RED. THE SYSTEM SHALL BE CAPABLE OF TWO PRIORITY LEVELS AND LOG THE LAST 100 EVENTS WITH TIME DATE STAMP. EMITTER SHALL BE SELECTABLE TO TRANSMIT UP TO 9999 VEHICLE CODES. ALL EQUIPMENT IN THE SYSTEM SHALL MEET NEMA ENVIRONMENTAL STANDARDS.

THE MANUFACTURER OR MANUFACTURER'S REPRESENTATIVES SHALL PROVIDE ASSISTANCE TO THE CONTRACTOR OR AGENCY INSTALLING THE EQUIPMENT AS TO THE BEST LOCATION FOR THE DETECTOR PLACEMENT AT EACH INTERSECTION INVOLVED WITH THE PROJECT. ALL EQUIPMENT MUST BE PLAINLY MARKED AS TO THE MANUFACTURER OF THE EQUIPMENT TO PROVIDE CLEAR IDENTIFICATION AS TO THE MANUFACTURER'S MODEL AND SERIAL NUMBER OF EACH UNIT. NEMA CERTIFICATION, TEST REPORTS SHALL BE PROVIDED UPON REQUEST BY THE ENGINEER.

PAY QUANTITIES

0300 TRAFFIC

ITEM	DESCRIPTION		UNIT	TOTAL
802(B) 8342	2" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	(TP-1)	LF	150.00
802(B) 8344	3" PVC SCH. 40 PLASTIC CONDUIT BORED	(TP-1)	LF	175.00
802(B) 8346	3" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	(TP-1)	LF	40.00
803(A) 8065	PULL BOX (SIZE I)	(1)	EA	3.00
803(A) 8066	PULL BOX (SIZE II)	(1)	EA	1.00
804(A) 2915	STRUCTURAL CONCRETE	(TP-1)	CY	11.20
804(B) 2916	REINFORCING STEEL	(TP-1)	LB	1630.30
806(A) 8728	POLE & 30' TS MST. ARM (G.STL.)	(2)	EA	2.00
806(A) 8352	32' MH POLE, 20' TS & 10' LMA (G.STL.)	(2)	EA	1.00
806(A) 8350	32' MH POLE, 30' TS & 10' LMA (G.STL.)	(2)	EA	1.00
806(B) 8894	10' MTG. HT. TS PED. POLE (G.STL.)		EA	3.00
809(A) 8090	ROADWAY LUMINAIRE	(3)	EA	2.00
810(A) 3118	SERVICE POLE	(TL-35)	EA	1.00
811 8040	1/C NO. 6 ELECTRICAL CONDUCTOR	(TP-1)(4)	LF	200.00
811 8044	1/C NO. 10 ELECTRICAL CONDUCTOR	(TP-1)	LF	510.00
825 8550	TRAFFIC SIGNAL CONTROLLER ASSEMBLY	(5,6,7)	EA	1.00
828 8132	(PL)DETECTION SYSTEM (VIDEO)	(8)	LSUM	1.00
830 8000	PEDESTRIAN PUSH BUTTON	(9)	EA	8.00
831 8231	1WAY 3SEC. ADJ. SIG. HD. S-6	(10)	EA	8.00
831 8280	1WAY 4SEC. ADJ. SIG. HD. S-13	(11)	EA	2.00
831 8295	1WAY 2SEC. ADJ. PED. SIG. HD. S-20	(11)	EA	8.00
833 3030	BACKPLATE		EA	10.00
834(A) 8207	5/C TRAFFIC SIGNAL ELECTRICAL CABLE	(TP-1)	LF	1480.00
834(A) 8208	7/C TRAFFIC SIGNAL ELECTRICAL CABLE	(TP-1)	LF	110.00
834(A) 8213	21/C TRAFFIC SIGNAL ELECTRICAL CABLE	(TP-1)	LF	425.00
834(B) 8220	2/C SHIELDED LOOP DETECTOR LEAD-IN CABLE	(TP-1)(12)	LF	45.00
840(A) 8592	E.P.S. OPTICAL EMITTER	(13)	EA	5.00
840(B) 8593	E.P.S. OPTICAL DETECTOR	(13)	EA	2.00
840(C) 8594	E.P.S. OPTICAL DETECTOR CABLE	(TP-1)(13)	LF	345.00
840(D) 8595	E.P.S. 2 CHANNEL PHASE SELECTOR	(13)	EA	1.00
850(C) 8118	MAST ARM MOUNTED SIGNS (ALUMINUM)		SF	89.00

B. J. HAWKINS, P.E. # 25164
C.A. # 1160, RENEWAL 06-30-21
11/10/20
DATE

REGISTERED PROFESSIONAL ENGINEER B.J. HAWKINS 25164 OKLAHOMA

Traffic Engineering Consultants, Inc.
6000 S. Western Ave., Suite 300 - Oklahoma City, OK 73139,
Ph: 405-720-7721, Web: www.tecusa.com

Design	BJH	12-09-20
Drawn	MAP	12-09-20

TEC A CLEAR DIRECTION

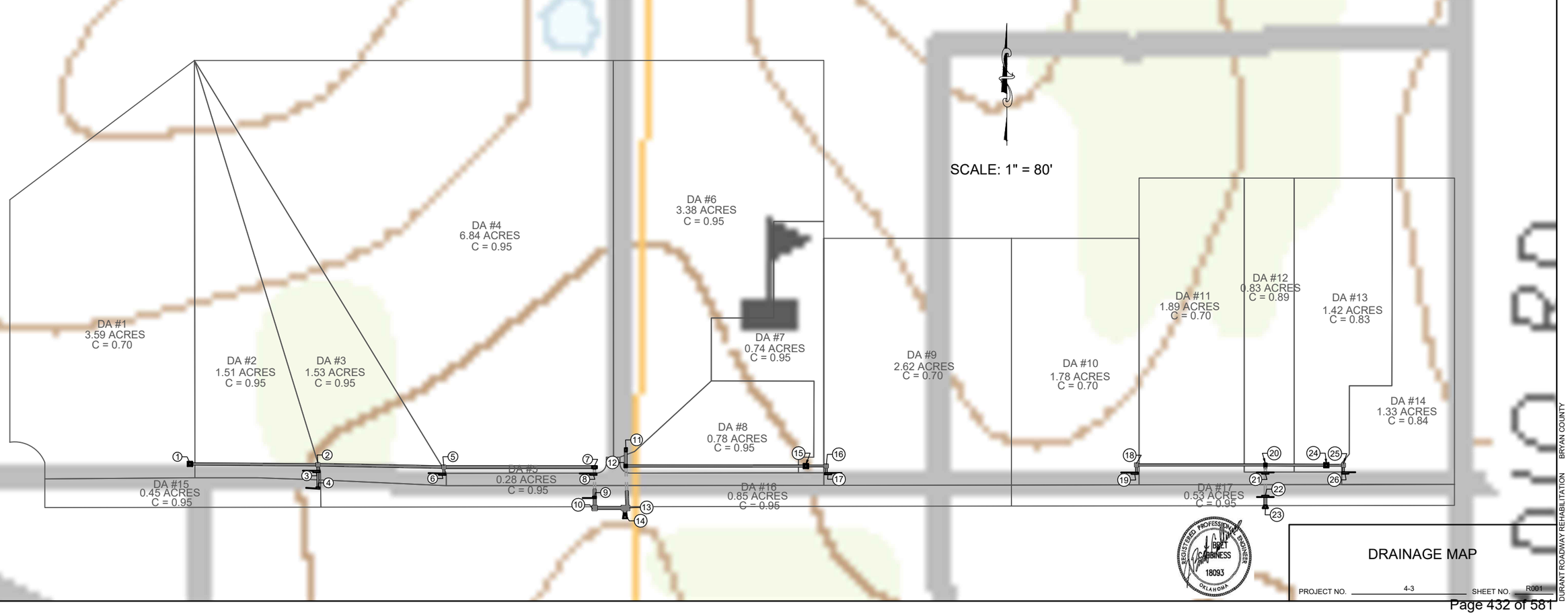
PAY QUANTITIES & NOTES

Project No. 4-3 Sheet No. AT01

12-09-20 G:\OP rojects\T-28II - Design\University Place & University - Durant\DK\CAD\PO & NOTES.dgn

DRAINAGE STRUCTURE DESIGN RECORD

Structure No.	Design Year	Station	Location	Structure Description	Drainage Area	Anticipated Land Use	Avg. Slope of Watershed	C, Runoff Coefficient Weighted (Anticipated)	Length of Overland Flow	Slope of Overland	T_c, Time of Conc.	Intensity of Design Year Rainfall						Design Year Discharge						FL Inlet	FL Outlet	Structure Slope	Outlet Velocity
												I_2	I_5	I_{10}	I_{25}	I_{50}	I_{100}	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}				V
					acre		%		ft	%	min	in/hr	in/hr	in/hr	in/hr	in/hr	in/hr	ft^3/s	ft^3/s	ft^3/s	ft^3/s	ft^3/s	ft^3/s	Elev	Elev	%	ft/s
1	50	6+54.96	35' LT	ODOT Type 1 SMD (SPECIAL) w/ Type 1 Grate w/ 201' of 24" RCP to Struc. 2 @ 2.24%	3.59	100% Residential	2.30	0.70	650	2.20	12.04	4.25	5.08	5.88	7.10	7.55	8.38	10.67	12.78	14.78	19.62	22.78	26.33	700.15	695.65	2.24	
2	10	8+55.97	34' LT	4' x 4' JB w/ 198' of 30" RCP to Struc. 5 @ 0.79%																				694.52	692.95	0.79	
3	10	8+53.55	23' LT	ODOT 3 B-D Inlet w/ 10' of 24" RCP to Struc. 2 @ 0.33%	1.51	100% Commercial	3.40	0.95	650	3.50	10.00	4.67	5.57	6.42	7.75	8.22	9.10	6.70	8.00	9.22	12.24	14.15	16.31	695.65	695.62	0.33	
4	10	8+55.84	3' RT	ODOT 2 2C Inlet w/ 25' of 18" RCP to Struc. 3 @ 0.13%	0.45	100% Commercial	1.20	0.95	450	1.20	10.33	4.53	5.41	6.24	7.53	8.00	8.86	1.94	2.31	2.67	3.54	4.10	4.73	696.18	696.15	0.13	
5	10	10+53.60	30' LT	4' x 4' JB w/ 236' of 36" RCP to Struc. 7 @ 0.39%				0.00																692.86	691.94	0.39	
6	10	10+50.90	18' LT	ODOT 3 B-D Inlet w/ 11' of 18" RCP to Struc. 5 @ 0.82%	1.53	100% Commercial	3.40	0.95	700	3.50	10.00	4.62	5.52	6.36	7.68	8.14	9.01	6.72	8.02	9.25	12.28	14.20	16.38	693.75	693.67	0.82	
7	50	12+89.99	29' LT	ODOT Type 2 Design 14 GPI (SPECIAL) w/ 3' of 2'x3' RCB to Existing 2'x3' RCB @ 2.29%	6.84	100% Commercial	3.30	0.95	875	3.20	10.86	4.44	5.30	6.13	7.39	7.85	8.70	28.83	34.46	39.80	52.84	61.25	70.70	691.25	691.18	2.29	
8	50	12+88.13	18' LT	ODOT 3 B-D Inlet into Existing 2'x3' RCB from Top	0.28	100% Commercial	2.00	0.95	275	2.00	10.00	5.04	6.00	6.90	8.32	8.79	9.70	1.34	1.60	1.83	2.44	2.81	3.23	-	-	-	
-	-	-	-	Extend 11' of 2'x3' RCB to Struc. 9 @ 0.90%																				690.88	690.78	0.90	
9	50	12+90.26	18' RT	ODOT 2 2C Inlet w/ 16' of 36" RCP to Struc. 10 @ 1.37%	0.85	100% Commercial	2.00	0.95	500	2.00	10.00	4.64	5.54	6.39	7.71	8.18	9.05	3.75	4.48	5.16	6.85	7.93	9.14	690.78	690.57	1.37	
10	10	12+90.30	35' RT	6'x6' JB w/ 47' of 36" RCP to Struc. 13 @ 1.16%				0.00																689.67	689.12	1.16	
11	50	13+39.26	56' LT	ODOT Type 1 Design 2 GPI w/ 25' of 30" RCP to Struc. 12 @ 0.39%	3.38	100% Commercial	2.10	0.95	750	2.00	11.27	4.37	5.23	6.04	7.29	7.75	8.59	14.03	16.78	19.39	25.74	29.85	34.47	691.85	691.75	0.39	
12	50	13+39.22	31' LT	4' x 4' JB w/ 2' x 2' Type 1 Grate Centered on Top (SPECIAL) into Existing 2'x3' RCB from Side	0.78	100% Commercial	2.90	0.95	250	3.00	10.00	5.25	6.23	7.15	8.63	9.10	10.03	3.89	4.62	5.30	7.04	8.10	9.29	-	-	-	
-	-	-	-	Extend 23' of 2'x3' RCB to Struc. 13 @ 0.09%																				691.70	691.68	0.09	
13	10	13+38.81	35' RT	6'x12' JB w/ 8' of 48" RCP to Outlet @ 0.36%																				688.39	688.36	0.36	9.00
14	10	13+37.82	47' RT	ODOT 48" Round Prefab. Culvert End Section																				688.36	688.33	0.36	
15	50	16+21.72	30' LT	ODOT Type 1 SMD (0.81' Add'l Depth) w/ Type 1 Grate w/ 283' of 24" RCP to Struc. 12 @ 1.52%	0.74	100% Commercial	1.90	0.95	400	2.00	10.00	4.79	5.71	6.58	7.94	8.41	9.30	3.37	4.02	4.63	6.14	7.10	8.18	697.05	692.75	1.52	
16	10	16+53.97	30' LT	4' x 4' JB w/ 32' of 18" RCP to Struc.15 @ 1.12%																				697.91	697.55	1.12	
17	10	16+56.58	18' LT	ODOT 3 B-D Inlet w/ 11' of 18" RCP to Struc. 16 @ 1.03%	2.62	100% Residential	2.00	0.70	500	2.00	11.14	4.39	5.25	6.07	7.32	7.78	8.63	8.05	9.63	11.12	14.77	17.13	19.77	698.50	698.39	1.03	
18	10	21+40.71	31' LT	4' x 4' JB w/ 203' of 24" RCP to Struc. 20 @ 0.39%																				701.20	700.41	0.39	
19	10	21+38.06	18' LT	ODOT 3 D Inlet w/ 12' of 18" RCP to Struc. 18 @ 0.60%	1.78	100% Residential	3.00	0.70	400	2.50	10.00	4.62	5.52	6.36	7.68	8.15	9.02	5.76	6.88	7.93	10.53	12.18	14.04	702.00	701.93	0.60	
20	50	23+43.11	31' LT	4' x 4' JB w/ 2' x 2' Type 1 Grate Centered on Top (SPECIAL) w/ 6' of 2'x3' RCB to Existing 2'x3' RCB@ 0.71%	0.83	75% Commercial, 25% Residential	2.20	0.89	425	1.80	10.00	4.64	5.55	6.40	7.72	8.19	9.06	3.42	4.09	4.71	6.26	7.24	8.34	700.14	700.10	0.71	
21	50	23+42.96	18' LT	ODOT 3 B-D Inlet into Existing 2'x3' RCB from Top	1.89	100% Residential	3.00	0.70	500	2.20	10.93	4.42	5.29	6.11	7.37	7.84	8.68	5.85	7.00	8.08	10.73	12.44	14.36	-	-	-	
-	-	-	-	Extend 2' of 2'x3' RCB to Struc. 22 @ 2.28%																				699.51	699.49	2.28	
22	50	23+42.95	18' RT	ODOT 3 B-D Inlet w/ 13' of 2'x3' RCB to Outlet @ 1.76%	0.53	100% Commercial	1.50	0.95	400	1.50	10.00	4.69	5.59	6.45	7.78	8.24	9.13	2.36	2.82	3.25	4.31	4.98	5.74	699.49	699.27	1.76	11.00
23	10	23+43.93	35' RT	2' x 3' RCB Culvert End Section																				699.27	699.18	1.76	
24	50	24+38.76	30' LT	ODOT Type 1 SMD (SPECIAL) w/ Type 1 Grate w/ 96' of 24" RCP to Struc. 20 @ 0.58%	1.42	50% Commercial, 50% Residential	2.00	0.83	450	1.50	10.61	4.48	5.35	6.18	7.46	7.92	8.78	5.25	6.27	7.24	9.61	11.14	12.85	701.00	700.45	0.58	
25	10	24+65.72	30' LT	4' x 4' JB w/ 27' of 18" RCP to Struc. 24 @ 0.85%																				701.73	701.50	0.85	
26	10	24+68.32	18' LT	ODOT 3 B-D Inlet w/ 11' of 18" RCP to Struc. 25 @ 0.47%	1.33	55% Commercial, 45% Residential	1.10	0.84	800	2.00	11.88	4.27	5.11	5.91	7.13	7.59	8.42	4.76	5.70	6.59	8.74	10.15	11.73	702.15	702.10	0.47	



REGISTERED PROFESSIONAL ENGINEER
BRET C. GARBINESS
18093
OKLAHOMA

DRAINAGE MAP

PROJECT NO. 4-3 SHEET NO. R001

L:\CAD\Projects\386 ~ Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Drainage Map.dwg Drainage Map DRAINAGE MAP JMStrahorn 2/16/2021 1:39 PM

DURANT ROADWAY REHABILITATION BRYAN COUNTY

LEGEND

- SOLID SLAB SODDING
- XXXX SILT FENCE
- TEMPORARY SEDIMENT FILTER
- SILT DIKE

SEC. 30, T-6-S, R-9-E

5+00

BARBARA SELLERS
BOOK 913 PAGES 470-471

MFG HIGH MEADOW, LLC
BOOK 1371 PAGES 686-689

LEGACY TITLE HO
CORPORATION
BOOK 1384 PAGE

STA. 00+00.00

STA. 9+00.00

6.58 S.Y. SOLID SLAB SODDING
26.19 L.F. SILT FENCE
46.26 S.Y. SOLID SLAB SODDING
FL 12" CGMP 703.82
FL 14" CGMP 703.29
36" PECAN
FL 14" CGMP 704.46
FL 15" CGMP 705.47
24" PECAN
FL 15" CGMP 705.80
BRYAN COUNTY BOOK 235 PAGE 259
24" PECAN
16" PECAN
26.05 S.Y. SOLID SLAB SODDING
FL 18" CGMP 702.21
FL 18" CGMP 702.01
30.26 L.F. FIBER LOG
FL 15" CGMP 702.75
FL 15" CGMP 703.18
259.07 L.F. SILT FENCE
257.56 S.Y. SOLID SLAB SODDING
BRYAN COUNTY BOOK 235 PAGE 259
Pres R/W
FOUND 1" STEEL PIN N 00°56'18" W 5.50' (NOT ACCEPTED)
11.48 S.Y. SOLID SLAB SODDING
3.06 S.Y. SOLID SLAB SODDING
57.15 S.Y. SOLID SLAB SODDING
199.70 S.Y. SOLID SLAB SODDING
276.46 L.F. SILT FENCE
UNIVERSITY BLVD.
155.23 L.F. SILT FENCE
27.44 S.Y. SOLID SLAB SODDING
58.87 S.Y. SOLID SLAB SODDING
47.65 S.Y. SOLID SLAB SODDING
SEDIMENT FILTER
SEDIMENT FILTER
CITY OF DURANT BOOK 1054 PAGE 650
TWIN 24" PECAN
16" MAPLE
FL 12" STEEL PIPE 702.23
FL 12" CGMP 703.53
80.90 L.F. SILT FENCE
CRUSHED CGMP TOP PIPE 703.90 - WATER POOLS
WELL
WELL
WELL
WELL
1613.01 S.Y. SOLID SLAB SODDING
525.68 L.F. SILT FENCE
CONTROL POINT #8
N:97351.5220
E:94168.2290
Z:707.25
CITY OF DURANT BOOK 1049 PAGE 774
CITY OF DURANT BOOK 1054 PAGE 648
CITY OF DURANT BOOK 1049 PAGE 773
CITY OF DURANT BOOK 1052 PAGE 968
220.86 L.F. SILT FENCE
139.32 S.Y. SOLID SLAB SODDING
617.25 S.Y. SOLID SLAB SODDING
UNIVERSITY MANOR, INC BOOK 651 PAGE 352
UNIVERSITY MANOR, INC BOOK 651 PAGE 352
DAVID KELLY
ROY BOATNER
BRYAN COUNTY BOOK 235 PAGE 274
YOUTH SERVICES OF BRYAN COUNTY, INC BOOK 1518 PAGE 138
YOUTH SERVICES OF BRYAN COUNTY, INC BOOK 1518 PAGE 138
LYNNWOOD ST.
NW/4 SE/4

SCALE: 1"=30'

SEC. 30, T-6-S, R-9-E
SEC. 30, T-6-S, R-9-E

10+00

15+00

OLDING
S 191-195

LEGACY TITLE HOLDING CORPORATION BOOK 1384 PAGES 191-195

MANHOLE WAS 75% FULL ON DAY OF MEASUREMENT; SO PIPE SIZES ARE UNKNOWN. DIRECTION OF SEWER PER CITY OF DURANT EMPLOYEE

LARKSPUR LN.

LEGACY TITLE HOLDING CORPORATION BOOK 1384 PAGES 196-198

LEGACY TITLE HOLDING CORPORATION, INC BOOK 1382 PAGES 79-80

CITY OF DURANT

CONTROL POINT #7
N:97410.0255
E:94997.9975
Z:697.05

MANHOLE RIM - 697.25
FL - 691.40

25.00 L.F. FIBER LOG
19.50 L.F. FIBER LOG
18.67 L.F. FIBER LOG
FL OVAL CGMP 694.69
ROCK PLANTER
344.90 S.Y. SOLID SLAB SODDING
APPARENT 33' R.O.W. - NO DOCUMENTS FOUND
18.09 S.Y. SOLID SLAB SODDING
FL 8" CGMP 698.19
FL 8" CGMP 699.91
30.28 L.F. FIBER LOG
161.05 S.Y. SOLID SLAB SODDING
20" CEDAR
FL 12" CGMP 697.50
FL 12" CGMP 697.00
172.94 S.Y. SOLID SLAB SODDING
FL 18" CGMP 696.83
FL 18" CGMP 696.61
GRAVEL
233.15 S.Y. SOLID SLAB SODDING
BRYAN COUNTY BOOK 235 PAGE 297
FL 2'X3' RCB 691.18
Pres R/W
37.37 S.Y. SOLID SLAB SODDING
169.89 L.F. SILT FENCE
UNIVERSITY BLVD.
SEDIMENT FILTER
46.77 S.Y. SOLID SLAB SODDING
222.73 L.F. SILT FENCE
UNIVERSITY BLVD.
SEDIMENT FILTER
258.92 L.F. SILT FENCE
49.90 S.Y. SOLID SLAB SODDING
53.98 S.Y. SOLID SLAB SODDING
SEDIMENT FILTER
199.96 L.F. SILT FENCE
75.48 S.Y. SOLID SLAB SODDING
4.18 S.Y. SOLID SLAB SODDING
SEDIMENT FILTER
FORCE MAIN IN VICINITY - PER CITY EMPLOYEE (NOT MARKED)
117.32 S.Y. SOLID SLAB SODDING
6.30 S.Y. SOLID SLAB SODDING
FL 18"X27" CGMP 693.89
FL 18"X2
FL 2'X3' RCB 693.59
690.88
2'X3' RCB 694.70
341.40 L.F. SILT FENCE
BRYAN COUNTY BOOK 235 PAGE 274
CITY OF DURANT BOOK 1052 PAGE 968
385.08 S.Y. SOLID SLAB SODDING
TIMOTHY BRISCOE BOOK 800 PAGE 246
TIMOTHY BRISCOE BOOK 800 PAGE 246
20.00 L.F. SILT DIKE
BRYAN COUNTY BOOK 235 PAGE 273
529.99 L.F. SILT FENCE
CHRISTIE CAROL FORD DAVIS
SUSAN SAWYER FORD WHITFIELD
BOOK 1041 PAGES 1037-1050
CITY OF DURANT BOOK 1053 PAGE 1045
526.14 S.Y. SOLID SLAB SODDING
CONTROL POINT #6
N:97327.0390
E:95497.4180
Z:706.49
NW/4 SE/4
NW/4 SE/4
SEC. 30, T-6-S, R-9-E

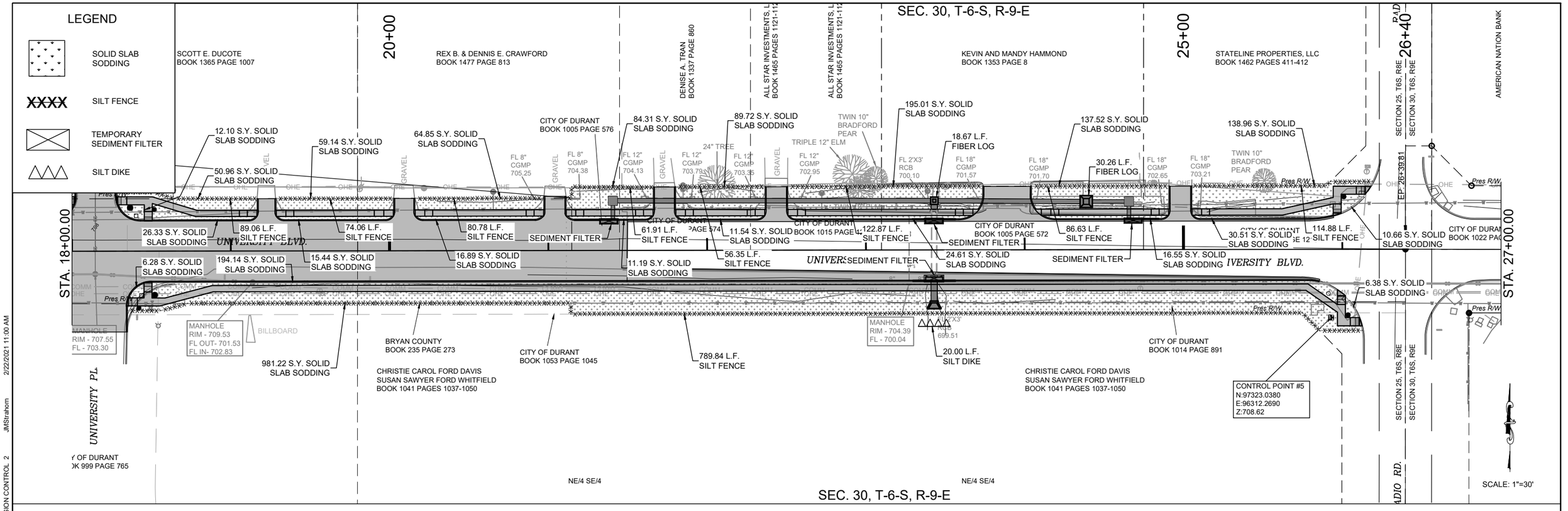
REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

EROSION CONTROL SHEET (1 OF 2)

PROJECT NO. 4-3 SHEET NO. R002

L:\CAB\Projects\386 - Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Erosion Control.dwg Erosion Control 1 JMStrahorn 2/22/2021 11:00 AM EROSION CONTROL 1

DURANT ROADWAY REHABILITATION BRYAN COUNTY



REGISTERED PROFESSIONAL ENGINEER
BRET C. GIBBINESS
18093
OKLAHOMA

EROSION CONTROL SHEET
(2 OF 2)

PROJECT NO. 4-3 SHEET NO. R003

DURANT ROADWAY REHABILITATION BRYAN COUNTY

L:\CAB\Projects\386 ~ Durant Transportaion Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Erosion Control.dwg Erosion Control 2 EROSION CONTROL 2 JMStrahorn 2/22/2021 11:00 AM

SEC. 30, T-6-S, R-9-E

5+00

PS NEPAL, LLC
BOOK 1459 PAGE 662

BARBARA SELLERS
BOOK 913 PAGES 470-471

MFG HIGH MEADOW, LLC
BOOK 1371 PAGES 686-689

LEGACY TITLE H(
CORPORATION
BOOK 1384 PAGE

+01.02~44.59' LT. GM
+03.12~40.55' LT. PP
+04.17~41.28' LT. TPD
+03.85~50.07' LT. WM
+18.49~46.28' LT. TPD
+20.00~33.00' LT. TCB
+39.30~40.40' LT. PP
+50.29~54.82' LT. TREE
+84.28~41.62' LT. PP
+08.19~55.09' LT. TREE
+16.98~41.25' LT. PP
+37.68~55.52' LT. TREE
+68.25~55.37' LT. TREE
+99.48~55.76' LT. TREE
+75.42~41.91' LT. PP
+78.72~41.74' LT. PP
+55.77~42.55' LT. TPD
+85.63~42.31' LT. PP
+67.59~30.24' LT. SIGN (REMOVE AND RELOCATE)

STUB EXISTING 15" CGMP INTO STRUCTURE 1.
COST OF WORK TO BE INCLUDED IN OTHER BID ITEMS.

CONSTRUCT 112.16 S.Y.
CONCRETE SIDEWALK

CONSTRUCT 9.42 S.Y.
CONCRETE SIDEWALK

STA. 1+42.47, 37.27 LT.
CONSTRUCT 15' WIDE
6" CONCRETE DRIVE (H.E.S.)

STA. 1+18.23
CONST. TYPE B RAMP
AND INSTALL 8 S.F. TWD

REPLACE W/ 12" CGMP

CONSTRUCT 121.61 S.Y.
CONCRETE SIDEWALK

STA. 4+42.44, 33.04 LT.
CONSTRUCT 32' WIDE
6" CONCRETE DRIVE (H.E.S.)

CONSTRUCT 66.94 S.Y.
CONCRETE SIDEWALK

STA. 6+28.67, 35.61 LT.
CONSTRUCT 30' WIDE
6" CONCRETE DRIVE (H.E.S.)

CONST. 114.36 L.F.
6" INTEGRAL CURB

FL 6" CLAY 702.30
FL 12" CGMP 703.82
FL 14" CGMP 704.25
FL 14" CGMP 704.48
705.47
FL 15"
FL 15" CGMP 708.18
FL 18" CGMP 702.01
FL 15" CGMP 702.75
FL 18" CGMP 702.21

36" PECAN
24" PECAN
16" PECAN
24" PECAN

BRYAN COUNTY
BOOK 235 PAGE 259

TYPE B RAMP
TYPE B RAMP
TYPE B RAMP
TYPE B RAMP
TYPE B RAMP

R4
R5
R13
R24
R33

Pres R/W
Pres R/W
Pres R/W

FOUND 3" STEEL PIN
N 00°56'18" W 5.50'
(NOT ACCEPTED)

STA. 00+00.00

UNIVERSITY BLVD.

UNIVERSITY BLVD.

STA. 9+00.00

STA. 7+01.67
CONST. TYPE B RAMP
AND INSTALL 8 S.F. TWD

STA. 7+50.00

R32

CONST. 114.66 L.F.
6" INTEGRAL CURB

FL 12" STEEL PIPE 702.23
FL 12" CGMP 703.53
CRUSHED CGMP TOP PIPE 703.90 - WATER POOLS
FL 18" CGMP 702.68
FL 18" CGMP 700.89

TWIN 14" PECAN
16" MAPLE

WELL
WELL
WELL
WELL

CONSTRUCT 26.51 S.Y.
CONCRETE SIDEWALK

STA. 0+23.86
CONST. TYPE B RAMP
AND INSTALL 8 S.F. TWD

STA. 0+99.58, 8.73 RT.
CONSTRUCT 42' WIDE
6" CONCRETE DRIVE (H.E.S.)

STA. 0+00.00, 9.73 RT.
CONSTRUCT 32' WIDE
6" CONCRETE DRIVE (H.E.S.)

CITY OF DURANT
BOOK 1054 PAGE 650

CONTROL POINT #8
N:97351.5220
E:94168.2290
Z:707.25

BRYAN COUNTY
BOOK 235 PAGE 274

CONSTRUCT 228.41 S.Y.
CONCRETE SIDEWALK

CITY OF DURANT
BOOK 1049 PAGE 774

STA. 6+30.78
CONST. TYPE B RAMP
AND INSTALL 8 S.F. TWD

CITY OF DURANT
BOOK 1054 PAGE 648

CITY OF DURANT
BOOK 1049 PAGE 773

CONSTRUCT 90.67 S.Y.
CONCRETE SIDEWALK

CITY OF DURANT
BOOK 1052 PAGE 968

CONSTRUCT 445.96 S.Y.
10" CONCRETE ROADWAY

UNIVERSITY MANOR, INC
BOOK 651 PAGE 352

UNIVERSITY MANOR, INC
BOOK 651 PAGE 352

DAVID KELLY
ROY BOATNER

YOUTH SERVICES OF BRYAN
COUNTY, INC
BOOK 1518 PAGE 138

YOUTH SERVICES OF BRYAN
COUNTY, INC
BOOK 1518 PAGE 138

STA. 6+64.57, 13.78 RT.
CONSTRUCT 41' WIDE
6" CONCRETE DRIVE (H.E.S.)

LYNNWOOD ST.

+13.08~21.70' RT. SIGN
+26.98~22.15' RT. PP
+31.03~14.47' RT. FH
+31.09~11.40' RT. WV
+28.81~20.08' RT. SIGN
+39.63~23.83' RT. TPD
+12.22~30.95' RT. TPD
+19.01~8.03' RT. TCB
+73.03~12.25' RT. WV
+02.97~27.57' RT. TPD
+42.01~23.04' RT. PP
+72.25~22.65' RT. PP
+14.27~19.71' RT. TREE
+16.73~16.27' RT. WV
+39.92~23.73' RT. PP
+84.59~20.66' RT. SIGN
+90.72~20.74' RT. WV
+93.39~16.04' RT. WV
+00.36~29.55' RT. TREE
+28.36~2.80' RT. SIGN (REMOVE AND RELOCATE)
+47.09~29.88' RT. TREE
+52.42~1.38' RT. SIGN (REMOVE AND RELOCATE)
+59.52~33.76' RT. SIGN

NW/4 SE/4

SEC. 30, T-6-S, R-9-E

SCALE: 1"=30'

LEGEND

DITCH BOTTOM

STA. 1+42.61, 35' LT
Replace 14" CGMP w/ 20'
of 12" CGMP @ 1.05%
FL E = 704.46
FL W = 704.25

STR. 1
STA. 6+54.96, 35' LT
CONST. ODOT Type 1 SMD (SPECIAL)
w/ Type 1 Gate w/ 20\' of 24" RCP
to Struc. 2 @ 2.24%
TG = 703.50'
FL E = 700.15'

STR. 2
STA. 8+55.97, 34' LT
CONST. 4' x 4' JB w/ 198' of
30" RCP to Struc. 5 @ 0.79%
RIM = 700.25'
FL W = 695.65'
FL S = 695.62'
FL E = 694.52'

STR. 3
STA. 8+53.55, 23' LT
CONST. ODOT 3 B-D Inlet w/ 10'
of 24" RCP to Struc. 2 @ 0.33%
TG = 699.52'
FL S = 696.15'
FL N = 695.65'

STR. 4
STA. 8+55.84, 3' RT
CONST. ODOT 2 2C Inlet w/ 25'
of 18" RCP to Struc. 3 @ 0.13%
TG = 699.50'
FL N = 696.18'

EXIST. CL SURVEY PROFILE

PI ~ STA. 7+50.00
ELEV = 701.10

PROP. CL SURVEY PROFILE

200' V.C.
K = 144

+50.00
699.39

-1.71%

24" RCP

PROP. STORM SEWER

710
705
700
695
690
685

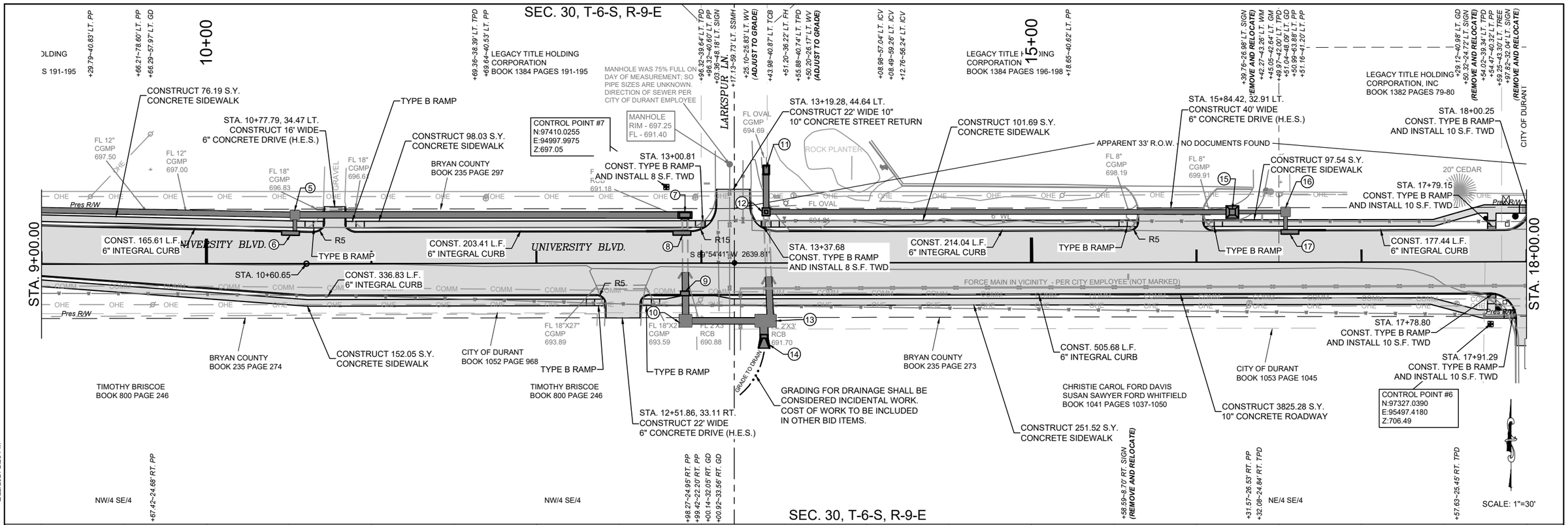
703.41 703.41
704.83 704.83
705.41 705.41
706.72 706.72
707.24 707.24
706.78 706.78
704.71 704.71
702.45 702.45
700.34 700.34
698.84 698.84

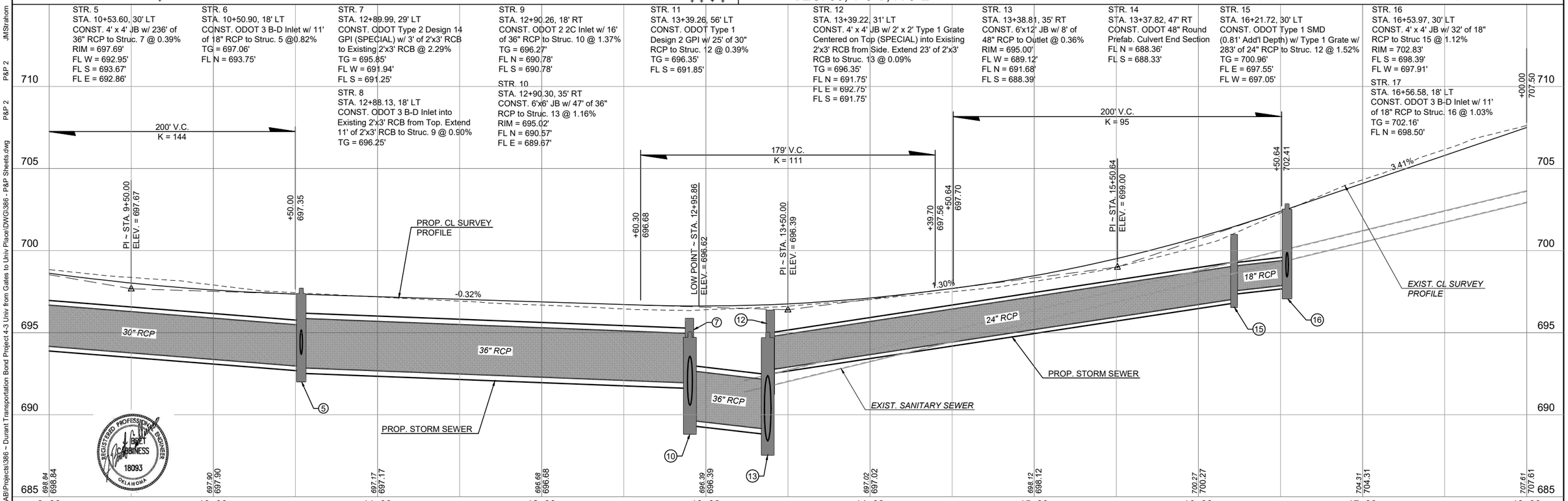
0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00

REGISTERED PROFESSIONAL ENGINEER
BRET CABINESS
18093
OKLAHOMA

COUNTY BRYAN COUNTY PROJECT NO. 4-3 SHEET NO. 2 OF 2 SHEETS

L:\CAB\Projects\386 - Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - P&P Sheets.dwg P&P 1 P&P 1 JMStrahorn 2/22/2021 1:46 PM





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SEC. 30, T-6-S, R-9-E

STA. 18+00.00

STA. 27+00.00

20+00

25+00

26+40

SCALE: 1"=30'

SEC. 30, T-6-S, R-9-E

NE/4 SE/4

NE/4 SE/4

UNIVERSITY PL

UNIVERSITY BLVD.

RADIO RD.

BOOK 891 PAGE 954

CITY OF DURANT BOOK 891 PAGE 950

CITY OF DURANT BOOK 999 PAGE 765

+45.58~26.56' LT. SIGN (REMOVE AND RELOCATE)

+63.81~38.29' LT. WM

SCOTT E. DUCOTE BOOK 1365 PAGE 1007

+81.22~38.82' LT. TPD

+82.16~40.31' LT. PP

+21.78~39.43' LT. GM

+65.32~37.00' LT. WM

REX B. & DENNIS E. CRAWFORD BOOK 1477 PAGE 813

+41.84~39.21' LT. TPD

+45.59~39.71' LT. PP

+84.88~38.56' LT. WM

+84.89~40.82' LT. WM

DENISE A. TRAN BOOK 1337 PAGE 860

+86.82~39.56' LT. GM

+06.33~41.35' LT. TREE

ALL STAR INVESTMENTS, L BOOK 1465 PAGES 1121-112

+72.22~35.88' LT. WM

ALL STAR INVESTMENTS, L BOOK 1465 PAGES 1121-112

+91.60~47.62' LT. TREE

+96.52~37.79' LT. TREE

+96.52~46.50' LT. GM

+06.39~44.83' LT. TREE

+19.17~27.77' LT. SIGN (REMOVE AND RESET)

+38.90~37.05' LT. WM

+50.17~39.59' LT. TPD

+50.41~40.92' LT. PP

+52.04~40.82' LT. GM

KEVIN AND MANDY HAMMOND BOOK 1353 PAGE 8

+78.90~42.10' LT. PP

+81.74~41.70' LT. GM

+50.95~43.14' LT. TREE

STATELINE PROPERTIES, LLC BOOK 1462 PAGES 411-412

+15.51~41.06' LT. PP

+15.49~48.93' LT. TPD.

+16.12~52.06' LT. TCB

AMERICAN NATION BANK

SECTION 25, T6S, R8E

SECTION 30, T6S, R9E

STA. 19+22.61, 32.90 LT.
CONSTRUCT 12' WIDE
6" CONCRETE DRIVE (H.E.S.)

STA. 18+15.09, 39.68 LT.
CONSTRUCT 26' WIDE
6" CONCRETE DRIVE (H.E.S.)

STA. 18+48.09
CONST. TYPE B RAMP
AND INSTALL 10 S.F. TWD

TYPE B RAMP

CONST. 68.44 L.F.
6" INTEGRAL CURB

STA. 18+30.00
CONST. TYPE B RAMP
AND INSTALL 10 S.F. TWD

STA. 18+47.87
CONST. TYPE B RAMP
AND INSTALL 10 S.F. TWD

STA. 18+36.63
CONST. TYPE B RAMP
AND INSTALL 10 S.F. TWD

STA. 18+13.97, 50.80 RT.
CONSTRUCT 42' WIDE 10"
10" CONCRETE STREET RETURN

STA. 20+09.33, 32.91 LT.
CONSTRUCT 14' WIDE
6" CONCRETE DRIVE (H.E.S.)

CONSTRUCT 33.29 S.Y.
CONCRETE SIDEWALK

TYPE B RAMP

CONST. 64.07 L.F.
6" INTEGRAL CURB

CONSTRUCT 48.26 S.Y.
CONCRETE SIDEWALK

TYPE B RAMP

CONST. 735.05 L.F.
6" INTEGRAL CURB

STA. 21+04.19, 34.05 LT.
CONSTRUCT 15' WIDE
6" CONCRETE DRIVE (H.E.S.)

CONSTRUCT 36.46 S.Y.
CONCRETE SIDEWALK

TYPE B RAMP

CONST. 70.89 L.F.
6" INTEGRAL CURB

STA. 21+73.18, 39.89 LT.
CONSTRUCT 14' WIDE
6" CONCRETE DRIVE (H.E.S.)

CITY OF DURANT
BOOK 1005 PAGE 576

CONSTRUCT 24.88 S.Y.
CONCRETE SIDEWALK

TYPE B RAMP

CONST. 33.11 L.F.
6" INTEGRAL CURB

STA. 21+49.78

CONST. 46.47 L.F. COMBINED
CURB & GUTTER (6" BARRIER)

CONSTRUCT 25.45 S.Y.
CONCRETE SIDEWALK

TWIN 10" BRADFORD PEAR
TRIPLE 12" ELM

STA. 22+43.66, 39.89 LT.
CONSTRUCT 14' WIDE
6" CONCRETE DRIVE (H.E.S.)

TYPE B RAMP

CITY OF DURANT
BOOK 1015 PAGE 574

TYPE B RAMP

CONST. 11.61 L.F. COMBINED
CURB & GUTTER (6" BARRIER)

CITY OF DURANT
BOOK 1015 PAGE 125

TYPE B RAMP

CONSTRUCT 53.05 S.Y.
CONCRETE SIDEWALK

CONST. 102.89 L.F. COMBINED
CURB & GUTTER (6" BARRIER)

STA. 23+88.96, 39.89 LT.
CONSTRUCT 31' WIDE
6" CONCRETE DRIVE (H.E.S.)

TWIN 10" BRADFORD

TYPE B RAMP

CITY OF DURANT
BOOK 1015 PAGE 125

TYPE B RAMP

CONSTRUCT 36.97 S.Y.
CONCRETE SIDEWALK

STA. 24+98.10, 39.88 LT.
CONSTRUCT 15' WIDE
6" CONCRETE DRIVE (H.E.S.)

STA. 25+96.86
CONST. TYPE B RAMP
AND INSTALL 10 S.F. TWD

TYPE B RAMP

CITY OF DURANT
BOOK 1010 PAGE 1215

CONST. 84.06 L.F. COMBINED
CURB & GUTTER (6" BARRIER)

CONST. 66.64 L.F. COMBINED
CURB & GUTTER (6" BARRIER)

CONSTRUCT 59.45 S.Y.
CONCRETE SIDEWALK

STA. 26+13.03
CONST. TYPE B RAMP
AND INSTALL 10 S.F. TWD

STA. 25+99.42
CONST. TYPE B RAMP
AND INSTALL 10 S.F. TWD

STA. 26+09.32
CONST. TYPE B RAMP
AND INSTALL 10 S.F. TWD

CONSTRUCT 366.86 S.Y.
CONCRETE SIDEWALK

CITY OF DURANT
BOOK 1014 PAGE 891

CONSTRUCT 1757.85 S.Y.
10" CONCRETE ROADWAY

BRYAN COUNTY
BOOK 235 PAGE 273

CITY OF DURANT
BOOK 1053 PAGE 1045

CHRISTIE CAROL FORD DAVIS
SUSAN SAWYER FORD WHITFIELD
BOOK 1041 PAGES 1037-1050

CHRISTIE CAROL FORD DAVIS
SUSAN SAWYER FORD WHITFIELD
BOOK 1041 PAGES 1037-1050

GRADING FOR DRAINAGE SHALL BE
CONSIDERED INCIDENTAL WORK.
COST OF WORK TO BE INCLUDED
IN OTHER BID ITEMS.

MANHOLE
RIM - 707.55
FL - 703.30

MANHOLE
RIM - 709.53
FL OUT- 701.53
FL IN- 702.83

MANHOLE
RIM - 704.39
FL - 700.04

BILLBOARD

CONTROL POINT #5
N:97323.0380
E:96312.2690
Z:708.62

FL 12" CGMP 705.25

FL 12" CGMP 704.38

FL 12" CGMP 704.13

FL 12" CGMP 703.79

FL 12" CGMP 703.35

FL 2'X3' RCB 700.10

FL 18" CGMP 701.57

FL 18" CGMP 701.70

FL 18" CGMP 702.65

FL 18" CGMP 703.2

24" TREE

GRADE TO DRAIN
FL 699.51

EP: 26+39.81

Pres R/W

+14.64~14.43' RT. SSMH (ADJUST TO GRADE)

+40.68~43.11' RT. SIGN (REMOVE AND RELOCATE)

+48.80~35.80' RT. WV (ADJUST TO GRADE)

+50.18~35.99' RT. WV (ADJUST TO GRADE)

+50.44~33.08' RT. WV (ADJUST TO GRADE)

+54.26~47.07' RT. FH

+96.19~16.55' RT. SIGN (REMOVE AND RELOCATE)

+13.91~19.75' RT. SSMH (ADJUST TO GRADE)

+56.01~25.06' RT. TPD

+57.73~26.87' RT. PP

+87.73~17.82' RT. SIGN (REMOVE AND RELOCATE)

+59.56~26.41' RT. GD

+17.16~27.42' RT. PP

+27.18~20.49' RT. SSMH (ADJUST TO GRADE)

+72.75~24.40' RT. TPD

+72.05~25.86' RT. TCB

+07.20~48.87' RT. PP

STR. 18
STA. 21+40.71, 31' LT
CONST. 4' x 4' JB w/ 203' of 24"
RCP to Struc. 20 @ 0.39%
RIM = 705.82'
FL S = 701.93'
FL E = 701.20'

STR. 19
STA. 21+38.06, 18' LT
CONST. ODOT 3 D Inlet w/ 12'
of 18" RCP to Struc. 18 @ 0.60%
TG = 705.54'
FL N = 702.00'

STR. 20
STA. 23+43.11, 31' LT
CONST. 4' x 4' JB w/ 2' x 2' Type 1 Grate
Centered on Top (SPECIAL) w/ 6' of 2'x3'
RCB to Existing 2'x3' RCB @ 0.71%
TG = 703.38'
FL W = 700.41'
FL E = 700.45'
FL S = 700.14'

STR. 21
STA. 23+42.96, 18' LT
CONST. ODOT 3 B-D Inlet into
Existing 2'x3' RCB from Top. Extend
2' of 2'x3' RCB to Struc. 22 @ 2.28%
TG = 704.29'

STR. 22
STA. 23+42.95, 18' RT
CONST. ODOT 3 B-D Inlet w/ 13'
of 2'x3' RCB to Outlet @ 1.76%
TG = 703.89'
FL N = 699.49'
FL S = 699.49'

STR. 23
STA. 23+43.93, 35' RT
CONST. 2'x3' RCB
Culvert End Section
FL N = 699.27'
FL S = 699.18'

STR. 24
STA. 24+38.76, 30' LT
CONST. ODOT Type 1 SMD (SPECIAL)
w/ Type 1 Grate w/ 96' of 24" RCP to
Struc. 20 @ 0.58%
TG = 703.75'
FL E = 701.50'
FL W = 701.00'

STR. 25
STA. 24+65.72, 30' LT
CONST. 4' x 4' JB w/ 27' of 18"
RCP to Struc. 24 @ 0.85%
TG = 705.60'
FL S = 702.10'
FL W = 701.73'

STR. 26
STA. 24+68.32, 18' LT
CONST. ODOT 3 B-D Inlet w/ 11'
of 18" RCP to Struc. 25 @ 0.47%
TG = 705.52'
FL N = 702.15'

200' V.C.
K = 36

+00.00
707.50

+00.00
708.84

PI ~ STA. 19+00.00
ELEV. = 710.91

HIGH POINT ~ STA. 19+24.34
ELEV. = 709.62

PI ~ STA. 21+49.78
ELEV. = 705.73

-2.08%

PROP. CL SURVEY PROFILE

EXIST. CL SURVEY PROFILE

EXIST. SSMH

EXIST. SSMH

EXIST. SSMH

EXIST. SANITARY SEWER

PROP. STORM SEWER

24" RCP

24" RCP

18" RCP

707.61
707.61

709.37
709.37

709.22
709.22

706.80
706.80

705.20
705.20

704.45
704.45

704.94
704.94

706.39
706.39

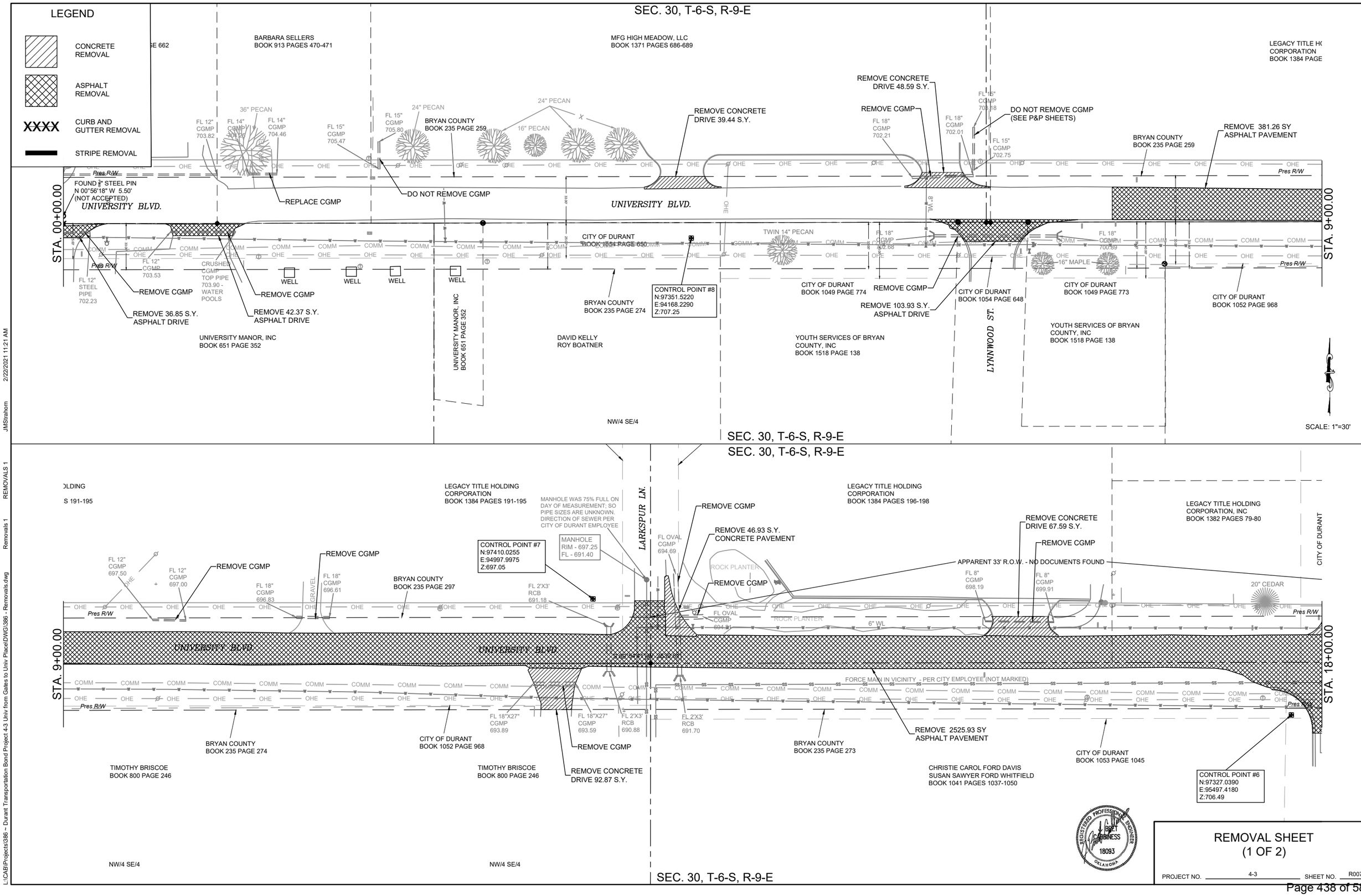
708.29
708.29

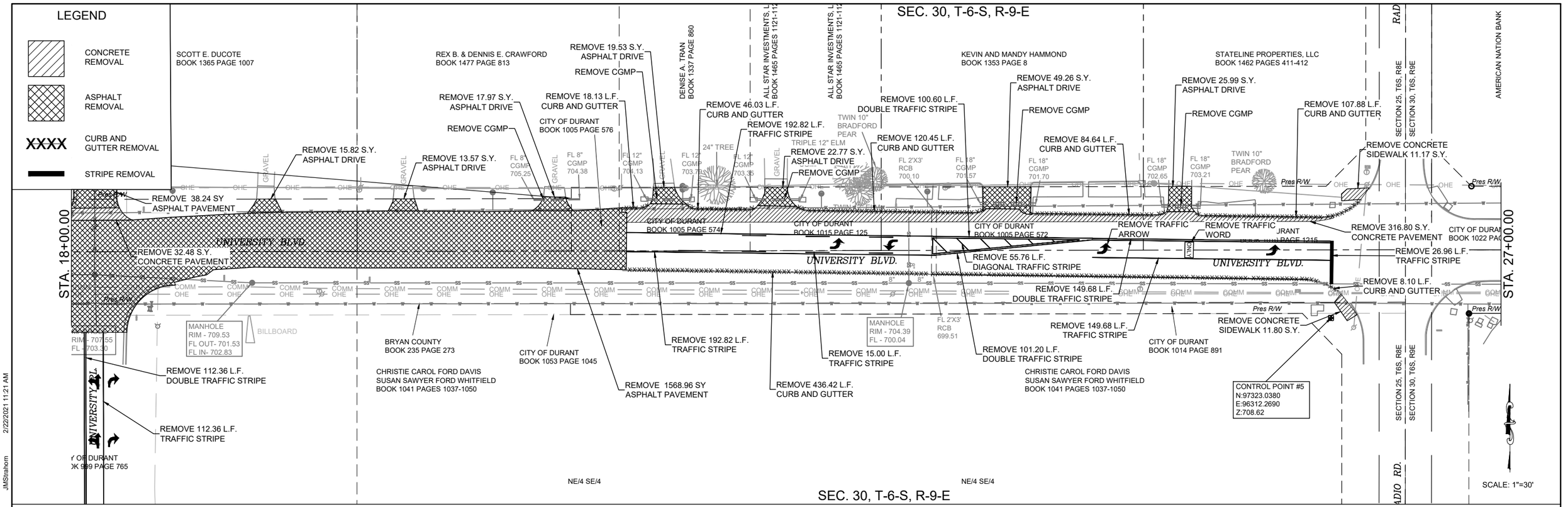
710
705
700
695
690
685

18+00
19+00
20+00
21+00
22+00
23+00
24+00
25+00
26+00
27+00

JMStrahorn
2/22/2021 2:23 PM
P&P 3
P&P 3
L:\CAB\Projects\386 - Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - P&P Sheets.dwg

COUNTY BRYAN COUNTY PROJECT NO. 4-3 SHEET 7 OF 7


LEGEND
CONCRETE REMOVAL
ASPHALT REMOVAL
XXXX CURB AND GUTTER REMOVAL
STRIPE REMOVAL
SEC. 30, T-6-S, R-9-E
BARBARA SELLERS
BOOK 913 PAGES 470-471
MFG HIGH MEADOW, LLC
BOOK 1371 PAGES 686-689
LEGACY TITLE HO
CORPORATION
BOOK 1384 PAGE
BRYAN COUNTY
BOOK 235 PAGE 259
REMOVE CONCRETE DRIVE 39.44 S.Y.
REMOVE CONCRETE DRIVE 48.59 S.Y.
REMOVE CGMP
DO NOT REMOVE CGMP (SEE P&P SHEETS)
REMOVE 381.26 SY ASPHALT PAVEMENT
FL 12" CGMP 703.82
FL 14" CGMP 704.29
FL 14" CGMP 704.46
FL 15" CGMP 705.47
FL 15" CGMP 705.80
FL 18" CGMP 702.21
FL 18" CGMP 702.01
FL 15" CGMP 703.18
FL 15" CGMP 702.75
36" PECAN
24" PECAN
16" PECAN
FOUND 1" STEEL PIN
N 00°56'18" W 5.50'
(NOT ACCEPTED)
REPLACE CGMP
DO NOT REMOVE CGMP
UNIVERSITY BLVD.
Pres R/W
STA. 00+00.00
STA. 9+00.00
FL 12" STEEL PIPE 702.23
FL 12" CGMP 703.53
CRUSHED CGMP TOP PIPE 703.90 - WATER POOLS
REMOVE 36.85 S.Y. ASPHALT DRIVE
REMOVE 42.37 S.Y. ASPHALT DRIVE
REMOVE 103.93 S.Y. ASPHALT DRIVE
WELL
CITY OF DURANT
BOOK 1054 PAGE 650
TWIN 14" PECAN
FL 18" CGMP 702.58
8" WL
CONTROL POINT #8
N:97351.5220
E:94168.2290
Z:707.25
CITY OF DURANT
BOOK 1049 PAGE 774
CITY OF DURANT
BOOK 1054 PAGE 648
CITY OF DURANT
BOOK 1049 PAGE 773
FL 18" CGMP 700.99
16" MAPLE
CITY OF DURANT
BOOK 1052 PAGE 968
BRYAN COUNTY
BOOK 235 PAGE 274
UNIVERSITY MANOR, INC
BOOK 651 PAGE 352
UNIVERSITY MANOR, INC
BOOK 651 PAGE 352
DAVID KELLY
ROY BOATNER
YOUTH SERVICES OF BRYAN COUNTY, INC
BOOK 1518 PAGE 138
YOUTH SERVICES OF BRYAN COUNTY, INC
BOOK 1518 PAGE 138
LYNNWOOD ST.
NW/4 SE/4
SCALE: 1"=30'
SEC. 30, T-6-S, R-9-E
SEC. 30, T-6-S, R-9-E
LEGACY TITLE HOLDING CORPORATION
BOOK 1384 PAGES 191-195
LEGACY TITLE HOLDING CORPORATION
BOOK 1384 PAGES 196-198
LEGACY TITLE HOLDING CORPORATION, INC
BOOK 1382 PAGES 79-80
MANHOLE WAS 75% FULL ON DAY OF MEASUREMENT; SO PIPE SIZES ARE UNKNOWN. DIRECTION OF SEWER PER CITY OF DURANT EMPLOYEE
MANHOLE
RIM - 697.25
FL - 691.40
CONTROL POINT #7
N:97410.0255
E:94997.9975
Z:697.05
LARKSPUR LN.
CITY OF DURANT
REMOVE CGMP
REMOVE 46.93 S.Y. CONCRETE PAVEMENT
REMOVE CONCRETE DRIVE 67.59 S.Y.
REMOVE CGMP
APPARENT 33' R.O.W. - NO DOCUMENTS FOUND
FL OVAL CGMP 694.69
FL OVAL CGMP 694.91
ROCK PLANTER
ROCK PLANTER
REMOVE CGMP
6" WL
FL 8" CGMP 698.19
FL 8" CGMP 699.91
20" CEDAR
FL 12" CGMP 697.50
FL 12" CGMP 697.00
REMOVE CGMP
FL 18" CGMP 696.83
GRAVEL
FL 18" CGMP 696.61
REMOVE CGMP
BRYAN COUNTY
BOOK 235 PAGE 297
FL 2'X3' RCB 691.18
UNIVERSITY BLVD
UNIVERSITY BLVD
FL 18"X27" CGMP 693.89
FL 18"X27" CGMP 693.59
FL 2'X3' RCB 690.88
FL 2'X3' RCB 691.70
FORCE MAIN IN VICINITY - PER CITY EMPLOYEE (NOT MARKED)
REMOVE CGMP
REMOVE CONCRETE DRIVE 92.87 S.Y.
REMOVE 2525.93 SY ASPHALT PAVEMENT
BRYAN COUNTY
BOOK 235 PAGE 274
CITY OF DURANT
BOOK 1052 PAGE 968
BRYAN COUNTY
BOOK 235 PAGE 273
CITY OF DURANT
BOOK 1053 PAGE 1045
TIMOTHY BRISCOE
BOOK 800 PAGE 246
TIMOTHY BRISCOE
BOOK 800 PAGE 246
CHRISTIE CAROL FORD DAVIS
SUSAN SAWYER FORD WHITFIELD
BOOK 1041 PAGES 1037-1050
CONTROL POINT #6
N:97327.0390
E:95497.4180
Z:706.49
NW/4 SE/4
NW/4 SE/4
SEC. 30, T-6-S, R-9-E
REGISTERED PROFESSIONAL ENGINEER
BRET CRABTREE
18093
OKLAHOMA
REMOVAL SHEET
(1 OF 2)
PROJECT NO. 4-3
SHEET NO. R007
JMStahorn 2/22/2021 11:21 AM
L:\CAB\Projects\386 - Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Removals.dwg Removals 1 REMOVALS 1
DURANT ROADWAY REHABILITATION BRYAN COUNTY



SEC. 30, T-6-S, R-9-E

REGISTERED PROFESSIONAL ENGINEER
BRET C. GABBINESS
18093
OKLAHOMA

REMOVAL SHEET
(2 OF 2)

PROJECT NO. 4-3 SHEET NO. R008

DURANT ROADWAY REHABILITATION BRYAN COUNTY

L:\CAB\Projects\386 – Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Removals.dwg Removals 2 REMOVALS 2 JMStahorn 2/22/2021 11:21 AM

LEGEND

EXPANSION JOINT

LONGITUDINAL JOINT

COMPACTION JOINT

SEC. 30, T-6-S, R-9-E

5+00

BARBARA SELLERS
BOOK 913 PAGES 470-471

MFG HIGH MEADOW, LLC
BOOK 1371 PAGES 686-689

LEGACY TITLE H(
CORPORATION
BOOK 1384 PAGE

BRYAN COUNTY
BOOK 235 PAGE 259

FL 12" CGMP 703.82
FL 14" CGMP 704.29
36" PECAN
FL 14" CGMP 704.46
FL 15" CGMP 705.47
FL 15" CGMP 705.80
24" PECAN
24" PECAN
16" PECAN
FL 18" CGMP 702.21
FL 18" CGMP 702.01
FL 15" CGMP 703.18
FL 15" CGMP 702.75

STA. 00+00.00

FOUND 1" STEEL PIN
N 00°56'18" W 5.50'
(NOT ACCEPTED)

UNIVERSITY BLVD.

Pres R/W

15'-0"
12'-0"
12'-0"

STA. 9+00.00

CITY OF DURANT
BOOK 1054 PAGE 650

TWIN 14" PECAN

FL 18" CGMP 702.58

FL 18" CGMP 700.99

16" MAPLE

FL 12" STEEL PIPE 702.23

FL 12" CGMP 703.53

CRUSHED CGMP TOP PIPE 703.90 - WATER POOLS

WELL
WELL
WELL
WELL

CONTROL POINT #8
N:97351.5220
E:94168.2290
Z:707.25

BRYAN COUNTY
BOOK 235 PAGE 274

CITY OF DURANT
BOOK 1049 PAGE 774

CITY OF DURANT
BOOK 1054 PAGE 648

CITY OF DURANT
BOOK 1049 PAGE 773

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YOUTH SERVICES OF BRYAN COUNTY, INC
BOOK 1518 PAGE 138

LYNNWOOD ST.

YOUTH SERVICES OF BRYAN COUNTY, INC
BOOK 1518 PAGE 138

NW/4 SE/4

SCALE: 1"=30'

SEC. 30, T-6-S, R-9-E

SEC. 30, T-6-S, R-9-E

10+00

15+00

LEGACY TITLE HOLDING CORPORATION
BOOK 1384 PAGES 191-195

LEGACY TITLE HOLDING CORPORATION
BOOK 1384 PAGES 196-198

LEGACY TITLE HOLDING CORPORATION, INC
BOOK 1382 PAGES 79-80

MANHOLE WAS 75% FULL ON DAY OF MEASUREMENT; SO PIPE SIZES ARE UNKNOWN. DIRECTION OF SEWER PER CITY OF DURANT EMPLOYEE

LARKSPUR LN.

CONTROL POINT #7
N:97410.0255
E:94997.9975
Z:697.05

MANHOLE
RIM - 697.25
FL - 691.40

FL OVAL CGMP 694.69

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APPARENT 33' R.O.W. - NO DOCUMENTS FOUND

CITY OF DURANT

FL 12" CGMP 697.50
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FL 18" CGMP 696.61
BRYAN COUNTY
BOOK 235 PAGE 297
FL 2'X3' RCB 691.18
FL 8" CGMP 698.19
FL 8" CGMP 699.91
20" CEDAR

STA. 9+00.00

Pres R/W

15'-0"
13'-8"
12'-0"
13'-8"

STA. 18+00.00

FL 18"X27" CGMP 693.89
FL 18"X2 CGMP 693.59
FL 2'X3' RCB 690.88
2'X3' RCB 691.70

BRYAN COUNTY
BOOK 235 PAGE 274

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TIMOTHY BRISCOE
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CHRISTIE CAROL FORD DAVIS
SUSAN SAWYER FORD WHITFIELD
BOOK 1041 PAGES 1037-1050

CONTROL POINT #6
N:97327.0390
E:95497.4180
Z:706.49

NW/4 SE/4

NW/4 SE/4

SEC. 30, T-6-S, R-9-E

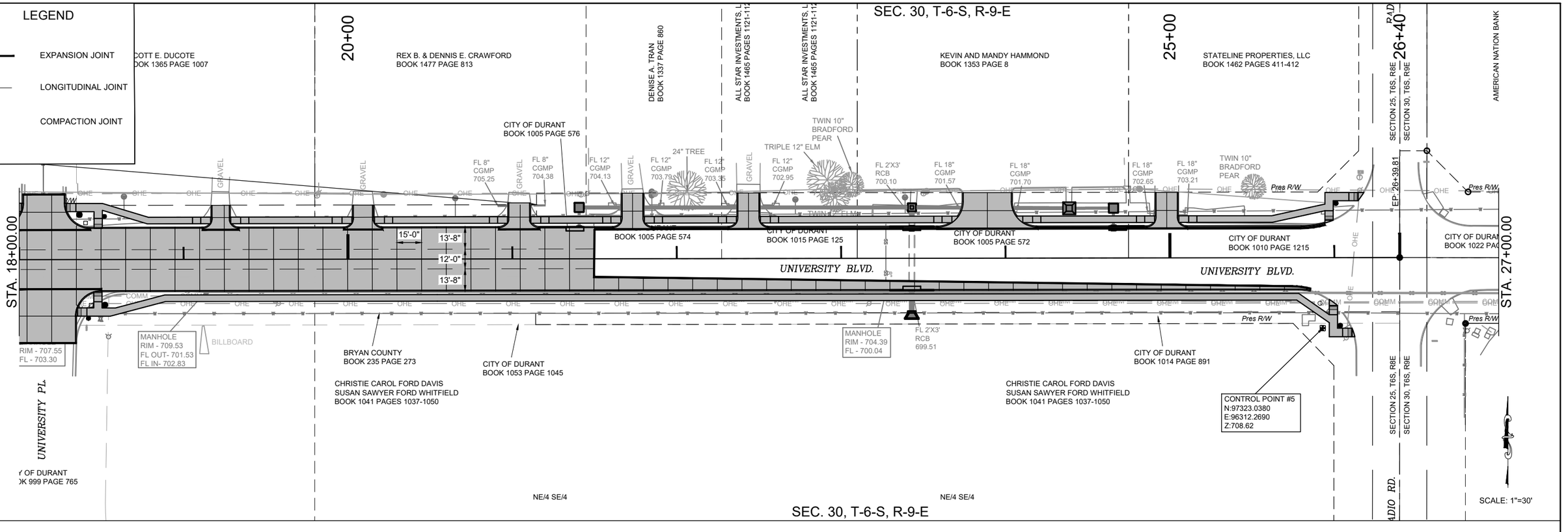
REGISTERED PROFESSIONAL ENGINEER
BRET ROBINESS
18093
OKLAHOMA

JOINT LAYOUT SHEET (1 OF 2)

PROJECT NO. 4-3 SHEET NO. R009

L:\CAB\Projects\386 - Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Joint Layout.dwg Joint Layout 1 JMStrahorn 2/22/2021 12:30 PM JOINT LAYOUT 1

DURANT ROADWAY REHABILITATION BRYAN COUNTY



JOINT LAYOUT SHEET
(2 OF 2)

PROJECT NO. 4-3 SHEET NO. R010

DURANT ROADWAY REHABILITATION BRYAN COUNTY

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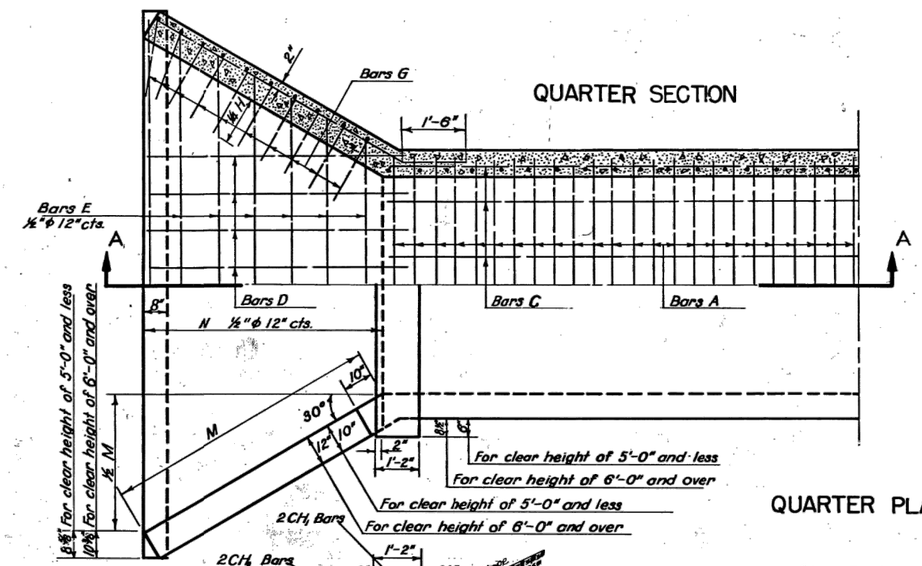
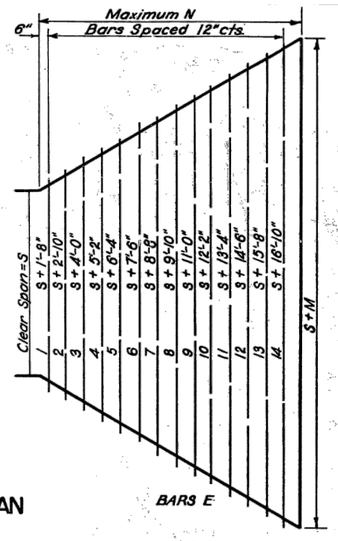
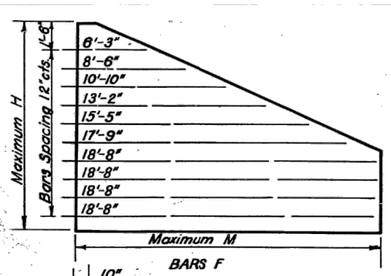
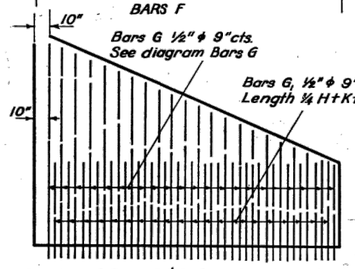
L:\CAD\Projects\386 - Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Concrete Box Culvert Detail Sheet.dwg JMStrahorn 2/16/2021 1:47 PM CONCRETE BOX CULVERT DETAIL SHEET Concrete Box Culvert Detail Sheet

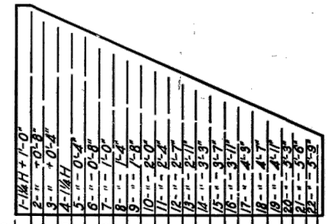




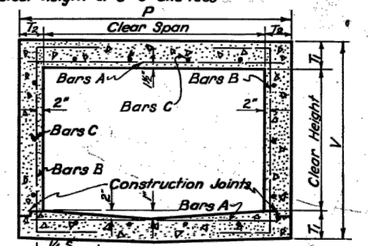




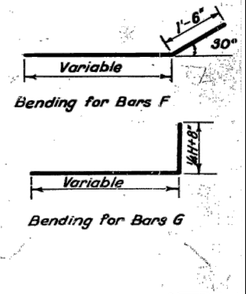
Spacing of Bars G & G, for clear height of 7'-0" and over

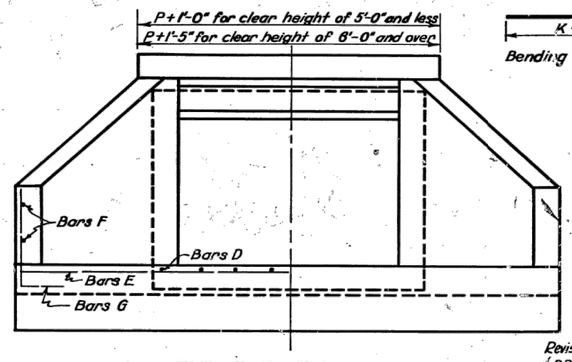


Spacing of Bars G for clear height of 8'-0" and less



TYPICAL CROSS SECTION





Span	A-Bars	Additional Steel / Lf.
2		0#
3		0#
4		0#
5	4 @ ½"	9.32#
6	4 @ ⅝"	12.47#
8	4 @ 1"	17.87#
10	4 @ 1 1/4"	25.67#

Use above on Interstate System

Revision for H-20 S16-53 & PPM 20-4 Loading

END ELEVATION

Design No.	WATERWAY Clear Span Feet	WATERWAY Clear Height Feet	WATERWAY Area of Opening Sq. Ft.	BARREL OF CULVERT Dimensions T_1	T_2	V	P	Bars A Size & Spacing	Bars A Length	Bars B Size & Spacing	Bars B Length	Bars C Size & Spacing	Bars C No.	Quantities Steel Lbs. Per Lin. Ft.	Quantities Concrete Cu. Yds. Per Lin. Ft.
1	2	2'-0"	4.0	6"	6"	3'-0"	3'-0"	⅛"ϕ -6"	2'-8"	½"ϕ -9"	3'-8"	½"ϕ -18"	8	19.34	0.185
2		2'-0"	6.0	6"	6"	3'-0"	4'-0"	⅛"ϕ -6"	3'-8"	½"ϕ -9"	4'-2"	½"ϕ -18"	8	22.97	0.222
3	3	2'-6"	7.5	6"	6"	3'-6"	4'-0"	⅛"ϕ -6"	3'-8"	½"ϕ -9"	4'-8"	½"ϕ -18"	8	23.88	0.241
4		3'-0"	9.0	6"	6"	4'-0"	4'-0"	⅛"ϕ -6"	3'-8"	½"ϕ -9"	5'-2"	½"ϕ -18"	10	26.14	0.259
5		2'-0"	8.0	7"	6"	3'-2"	5'-0"	5/16"ϕ -8"	4'-8"	½"ϕ -9"	4'-10"	½"ϕ -18"	10	30.40	0.290
6		2'-6"	10.0	7"	6"	3'-8"	5'-0"	5/16"ϕ -8"	4'-8"	½"ϕ -9"	5'-4"	½"ϕ -18"	10	31.31	0.308
7	4	3'-0"	12.0	7"	6"	4'-2"	5'-0"	5/16"ϕ -8"	4'-8"	½"ϕ -9"	5'-10"	½"ϕ -18"	12	33.58	0.327
8		4'-0"	16.0	7"	8"	5'-2"	5'-4"	5/16"ϕ -8"	5'-0"	½"ϕ -9"	6'-10"	½"ϕ -18"	12	36.45	0.428
9		2'-0"	10.0	7⅛"	6"	3'-3"	6'-0"	5/16"ϕ-7⅛"	5'-8"	½"ϕ -9"	5'-5"	½"ϕ -18"	12	37.20	0.352
10		3'-0"	15.0	7⅛"	6"	4'-3"	6'-0"	5/16"ϕ-7⅛"	5'-8"	½"ϕ -9"	6'-5"	½"ϕ -18"	14	40.38	0.389
11	5	4'-0"	20.0	7⅛"	8"	5'-3"	6'-4"	5/16"ϕ-7⅛"	6'-0"	½"ϕ -9"	7'-5"	½"ϕ -18"	14	44.32	0.490
12		5'-0"	25.0	7⅛"	10"	6'-3"	6'-8"	5/16"ϕ-7⅛"	6'-4"	½"ϕ -9"	8'-5"	½"ϕ -18"	16	47.62	0.617
13		7'-0"	35.0	7⅛"	10"	8'-3"	6'-8"	5/16"-7⅛"	6'-4"	½"ϕ -9"	10'-5"	½"ϕ -18"	18	52.80	0.741
14		2'-0"	12.0	8¼"	6"	3'-5"	7'-0"	5/16"ϕ-6½"	6'-0"	½"ϕ -9"	6'-1"	½"ϕ -18"	12	45.28	0.441
15		3'-0"	18.0	8¼"	8"	4'-5"	7'-4"	5/16"-8 ½"	7'-0"	¼"-9"	7'-1"	½"ϕ -18"	14	49.76	0.533
16	6	4'-0"	24.0	8¼"	8"	5'-5"	7'-4"	5/16"ϕ-6½"	7'-0"	¼"-9"	8'-1"	½"ϕ -18"	14	51.57	0.582
17		5'-0"	30.0	8¼"	10"	6'-5"	7'-8"	5/16"ϕ-6¼"	7'-4"	½"-9"	9'-1"	½"ϕ -18"	16	56.04	0.711
18		6'-0"	36.0	8¼"	10"	7'-5"	7'-8"	5/16"ϕ-6¼"	7'-4"	¼"-9"	10'-1"	½"ϕ -18"	18	59.22	0.772
19		3'-0"	24.0	10"	8"	4'-8"	9'-4"	¾"-7"	9'-0"	½"-9"	8'-4"	½"-18"	18	74.24	0.724
20		4'-0"	32.0	10"	8"	5'-8"	9'-4"	¾"-7"	9'-0"	½"-9"	9'-4"	½"-18"	18	76.06	0.773
21		5'-0"	40.0	10"	10"	6'-8"	9'-8"	¾"-7"	9'-4"	½"-9"	10'-4"	½"-18"	20	80.96	0.905
22	8	6'-0"	48.0	10"	10"	7'-8"	9'-8"	¾"-7"	9'-4"	½"-9"	11'-4"	½"-18"	22	84.14	0.967
23		7'-0"	56.0	10"	10"	8'-8"	9'-8"	¾"-7"	9'-4"	½"-9"	12'-4"	½"-18"	22	85.95	1.028
24		8'-0"	64.0	10"	11"	9'-8"	9'-10"	¾"-7"	9'-6"	½"-9"	13'-4"	½"-18"	24	89.99	1.150
25		3'-0"	30.0	11"	8"	4'-10"	11'-4"	¾"-6"	11'-0"	½"-9"	9'-6"	½"-18"	20	97.70	0.917
26		4'-0"	40.0	11"	8"	5'-10"	11'-4"	¾"-6"	11'-0"	½"-9"	10'-6"	½"-18"	20	99.52	0.967
27		5'-0"	50.0	11"	10"	6'-10"	11'-8"	¾"-6"	11'-4"	½"-9"	11'-6"	½"-18"	22	104.71	1.101
28	10	6'-0"	60.0	11"	10"	7'-10"	11'-8"	¾"-6"	11'-4"	½"-9"	12'-6"	½"-18"	24	107.89	1.163
29		7'-0"	70.0	11"	10"	8'-10"	11'-8"	¾"-6"	11'-4"	½"-9"	13'-6"	½"-18"	24	109.70	1.224
30		8'-0"	80.0	11"	11"	9'-10"	11'-10"	¾"-6"	11'-6"	½"-9"	14'-6"	½"-18"	26	113.89	1.347
31		9'-0"	90.0	11"	12"	10'-10"	12'-0"	¾"-6"	11'-8"	½"-9"	15'-6"	½"-18"	28	118.08	1.482
32		10'-0"	100.0	11"	12"	11'-10"	12'-0"	¾"-6"	11'-8"	½"-9"	16'-6"	½"-18"	28	119.89	1.556

Design No.	TWO WINGS & ONE APRON Dimensions H	K	M	N	Reinforcing Bars D No.	Bars D Length	Bars E No.	Bars E Length	Bars F No.	Bars F Length	Bars G No.	Bars G Length	Bars G Bars &	Quantities Steel	Quantities Class A Conc.	Concrete in one Curtain Wall C.Y. Per Ft. of depth
1	2'-10"	1'-5"	4'-2"	3'-7⅛"	4	4'-0"	4				4	6'-4"	10	69	1.18	.188
2	2'-10"	1'-5"	4'-2"	3'-7⅛"	5	4'-0"	4				4	6'-4"	10	75	1.28	.212
3	3'-4"	1'-7"	4'-4"	4'-3"	5	4'-8"	4	2	6'-3"	2	7'-1"	12		87	1.66	.231
4	3'-10"	1'-9"	5'-1"	4'-3"	5	4'-8"	4	2	6'-3"	4	7'-9"	14		117	2.05	.247
5	2'-1"	1'-5"	4'-3"	3'-6⅛"	6	4'-1"	4				4	6'-5"	10	81	1.43	.239
6	3'-5"	1'-7"	5'-0"	4'-4"	6	4'-9"	4	2	6'-3"	2	7'-2"	12		94	1.83	.258
7	3'-11"	1'-9"	5'-9"	4'-1⅜"	6	5'-5"	5	2	6'-3"	4	7'-11"	14		128	2.28	.276
8	4'-1"	2'-2"	7'-2"	6'-2⅝"	6	6'-8"	6	4	Var.	4	9'-4"	18		179	3.23	.311
9	2'-1⅛"	1'-5"	4'-4"	3'-9"	7	4'-2"	4				4	6'-6"	12	92	1.57	.266
10	3'-1⅛"	1'-10"	5'-10"	5'-0⅝"	7	5'-8"	5	2	6'-3"	4	8'-0"	18		138	2.47	.303
11	4'-1⅛"	2'-2"	7'-3"	6'-3⅜"	7	6'-8"	6	4	Var.	4	9'-5"	16		186	3.46	.338
12	5'-1⅛"	2'-6"	8'-10"	7'-7⅛"	8	6'-8"	8	4	Var.	6	10'-1"	22		262	4.67	.375
13	7'-1⅛"	3'-3"	11'-8"	10'-1⅛"	7	10'-6"	10	8	Var.	6	13'-10"	30		454	8.56	.454
14	2'-1"	1'-6"	4'-5"	3'-10"	8	4'-3"	4				4	6'-7"	12	99	1.74	.293
15	3'-0"	1'-10"	5'-11"	5'-1½"	8	5'-7"	5	2	6'-3"	4	8'-1"	16		149	2.64	.330
16	4'-0"	2'-2"	7'-5"	6'-5"	8	6'-10"	8	4	Var.	4	9'-7"	20		205	3.75	.367
17	5'-0"	2'-5"	8'-10"	7'-7⅝"	8	8'-1"	8	4	Var.	6	11'-0"	24		283	4.98	.402
18	6'-0"	2'-11"	10'-2"	8'-11⅛"	8	9'-3"	9	6	Var.	6	12'-6"	28		359	7.19	.446
19	2'-1"	1'-11"	5'-1"	4'-3"	8	5'-8"	5	2	6'-3"	4	8'-3"	16		160	3.06	.383
20	3'-0"	2'-3"	7'-7"	6'-6⅜"	10	7'-0"	7	4	Var.	4	9'-9"	20		239	4.26	.420
21	4'-0"	2'-7"	9'-0"	7'-9½"	10	8'-3"	8	6	Var.	4	11'-2"	24		309	5.56	.455
22	5'-0"	2'-11"	10'-6"	9'-1"	10	9'-6"	9	6	Var.	6	12'-8"	28		389	7.90	.499
23	6'-0"	3'-4"	12'-0"	10'-4⅜"	10	10'-10"	10	8	Var.	6	14'-2"	32		607	9.85	.536
24	6'-2"	3'-6"	13'-5"	11'-1⅜"	10	12'-1"	12	8	Var.	8	15'-7"	36		750	11.92	.571
25	3'-0"	2'-0"	8'-0"	6'-9"	12	5'-10"	5	2	6'-3"	4	8'-5"	16		183	3.68	.437
26	4'-0"	2'-3"	7'-8"	6'-7⅛"	12	7'-1"	7	4	Var.	4	9'-10"	20		260	4.71	.472
27	5'-0"	2'-7"	9'-2"	7'-11⅛"	12	8'-4"	8	6	Var.	4	11'-4"	24		333	6.17	.509
28	6'-0"	3'-0"	10'-7"	9'-2"	12	9'-7"	9	6	Var.	6	12'-9"	28		417	8.52	.531
29	7'-0"	3'-4"	12'-1"	10'-5½"	12	10'-11"	11	8	Var.	6	14'-3"	32		654	10.54	.588
30	8'-0"	3'-9"	13'-7"	11'-9"	12	12'-2"	12	8	15'-9"	36				788	12.78	.625
31	9'-0"	4'-1"	15'-0"	13'-0"	12	13'-5"	13	10	Var.	6	17'-2"	40		948	15.10	.660
32	10'-0"	4'-6"	16'-6"	14'-3½"	12	14'-9"	14	12	Var.	8	18'-8"	44		1108	17.77	.697

Variable — See Diagram

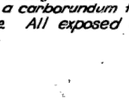
Variable — See Diagram

Design No.	TWO CURBS Class A Conc.	Steel Reinf. Steel same size as A Bars 4CH½ 4CH⅝	Steel Total for Two Curbs	TOTAL QUANTITIES 30' Roadway Steel	30' Roadway Class A Conc.	36' Roadway Steel	36' Roadway Class A Conc.	Design No.
1	.31	3'-6" 2'-8"	17	774	8.97	890	10.08	1
2	.40	4'-8" 3'-8"	23	908	10.49	1046	11.82	2
3	.40	4'-8" 3'-8"	23	961	11.89	1104	13.34	3
4	.40	4'-8" 3'-8"	23	1093	13.28	1250	14.83	4
5	.48	5'-8" 4'-8"	44	1179	13.10	1361	14.84	5
6	.48	5'-8" 4'-8"	44	1234	14.52	1422	16.36	6
7	.48	5'-8" 4'-8"	44	1371	16.05	1572	18.02	7
8	.50	6'-0" 5'-0"	47	1571	21.28	1790	23.84	8
9	.56	6'-8" 5'-8"	52	1426	15.49	1620	17.61	9
10	.56	6'-8" 5'-8"	52	1620	18.55	1862	20.89	10
11	.58	7'-0" 6'-0"	55	1817	23.86	2077	26.80	11
12	.61	7'-4" 6'-4"	58	2106	30.44	2392	34.15	12
13	.64	7'-9" 6'-8"	60	2813	42.38	3129	46.83	13
14	.64	7'-8" 6'-8"	61	1708	18.82	1980	21.47	14
15	.67	8'-0" 7'-0"	64	1954	23.67	2253	26.86	15
16	.67	8'-0" 7'-0"	64	2124	27.52	2434	31.02	16
17	.69	8'-4" 7'-4"	68	2425	34.20	2762	38.47	17
18	.72	8'-9" 7'-4"	68	2681	40.63	3036	45.33	18
19	.63	10'-0" 9'-0"	118	2824	30.89	3269	35.23	19
20	.83	10'-0" 9'-0"	116	3028	34.93	3484	39.56	20
21	.85	10'-4" 9'-4"	120	3329	41.84	3814	47.27	21
22	.85	10'-9" 9'-4"	122	3592	48.62	4097	54.43	22
23	.88	10'-8" 9'-4"	124	4086	54.55	4502	60.71	23
24	.89	10'-11" 9'-8"	124	4504	62.97	5011	69.51	24
25	.99	12'-0" 11'-0"	140	3632	38.16	4219	43.67	25
26	.99	12'-0" 11'-0"	140	3845	42.29	4442	48.10	26
27	1.02	12'-4" 11'-4"	144	4151	49.61	4789	55.22	27
28	1.05	12'-9" 11'-4"	146	4432	56.41	5080	63.36	28
29	1.05	12'-9" 11'-4"	146	4964	62.18	5623	69.82	29
30	1.06	12'-11" 11'-6"	148	5368	70.97	6052	79.06	30
31	1.07	13'-1" 11'-8"	150	5825	80.01	6533	88.91	31
32	1.07	13'-1" 11'-8"	150	6202	87.79	6922	97.13	32

Concrete Slab 6" span 8½" 106 L.L.
Dirt Fill 100 "
Paving 7" 87 "
Total D.L. 293 Lbs.

L.L.M. = 909 × 40 = 36,360 in. Lbs
I = 30% L.L. = 10,910 " "
D.L.M. = ⅛ WL² = ⅛ × 293 × 6.67² × 12 = 19,550 " "
56,820 in. Lbs.

10,000 ÷ 5.5 = 1818



GENERAL NOTES

All reinforcing steel shall be deformed round bars. The design and table are based upon net areas of bars as follows: ½"ϕ = 0.1963 sq. in. — ⅝"ϕ = 0.3068 sq. in. — ¾"ϕ = 0.442 sq. in. Other sizes may be used provided they are spaced so as to give as much net sectional area per foot width of slab. Plans showing such changed sizes and spacing must be approved. All exposed concrete surfaces shall have a carborundum finish and this shall be included in price bid per cubic yard for concrete. All exposed edges shall have ¾" chamfer.

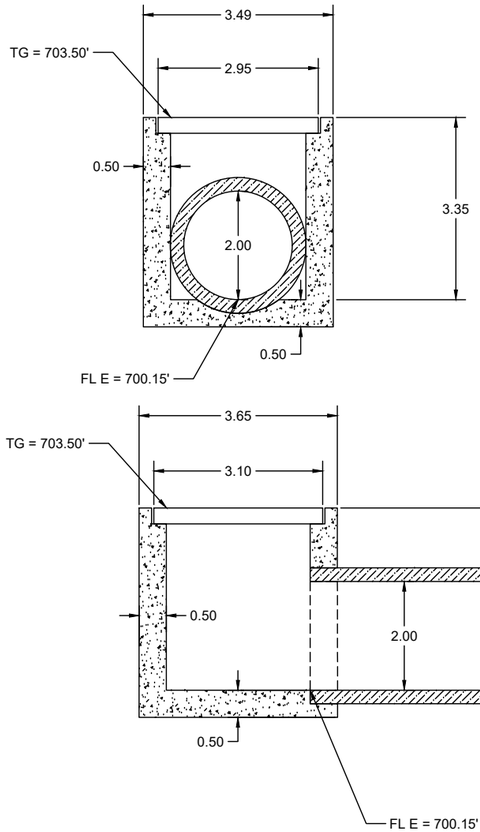
Quantities shown for reinforcing steel shall be reduced by 1 Wt% (.015) to comply with approved C.R.S.I. weights per foot for reinforcing bars.

REGISTERED PROFESSIONAL ENGINEER BRET CABBINESS 18093 OKLAHOMA

STANDARD CONCRETE BOX CULVERT DETAIL SHEET

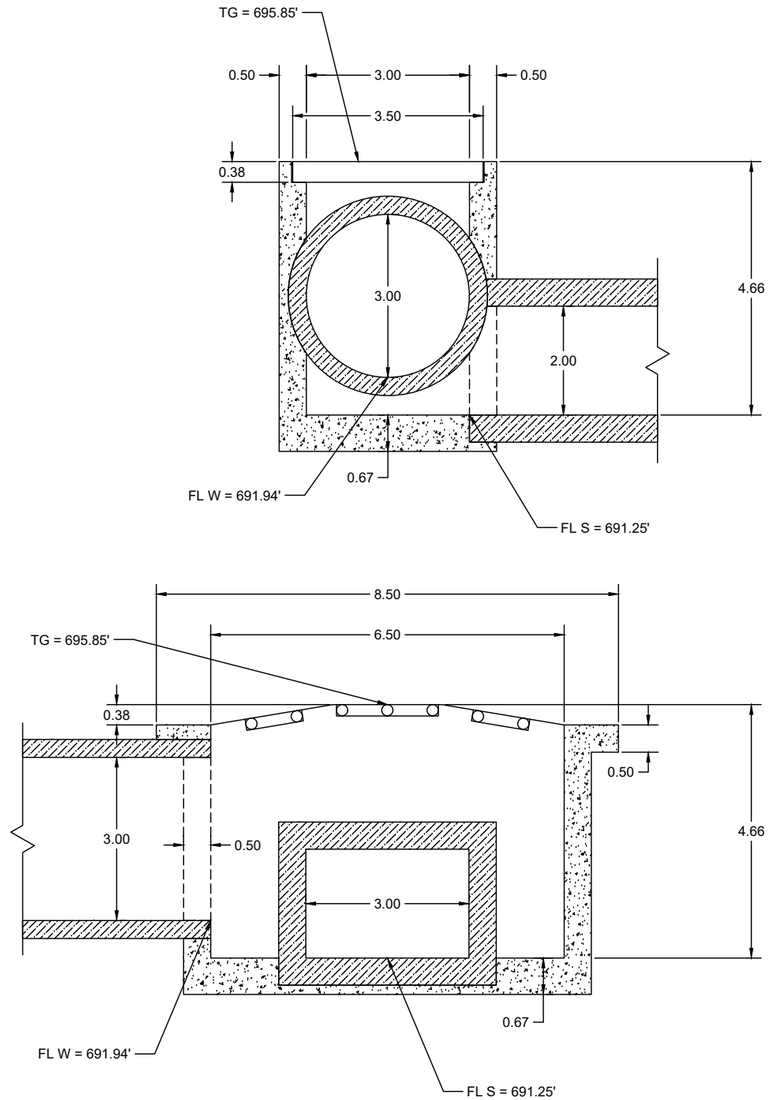
PROJECT NO. 4-3 SHEET NO. R011

DURANT ROADWAY REHABILITATION - BRYAN COUNTY



SPECIAL STRUCTURE 1

(TYPE 1 SMD W/ TYPE 1 GRATE)



SPECIAL STRUCTURE 7

(TYPE 2 DESIGN 14 GPI)

NOTES:

(1) SMD AND GPI SPECIAL STRUCTURES DO NOT SATISFY STANDARD MEDIAN DRAIN AND GRATED PIPE DROP INLET MINIMUM DEPTH REQUIREMENTS PER ODOT STANDARD DRAWINGS SMD-3-2 AND GPI-4-0. ALL OTHER DIMENSIONS AND DETAILS, BESIDES DEPTH, WILL APPLY TO THE SMD AND GPI SPECIAL STRUCTURES ACCORDING TO ODOT STANDARD DRAWINGS SMD-3-2 AND GPI-4-0.

(2) JUNCTION BOX SPECIAL STRUCTURES SHALL BE CONSTRUCTED WITH A 24" X 24" TYPE 1 GRATE/FRAME CENTERED ON THE TOP. ALL DIMENSIONS AND DETAILS WILL APPLY TO THE JUNCTION BOX SPECIAL STRUCTURES ACCORDING TO ODOT STANDARD DRAWING MJB-3-2.

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

SPECIAL STRUCTURE
DETAIL SHEET (1 OF 2)

PROJECT NO. 4-3 SHEET NO. R012

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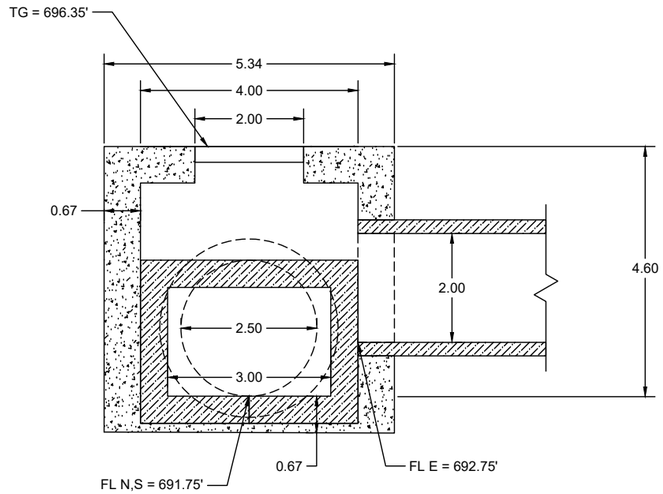

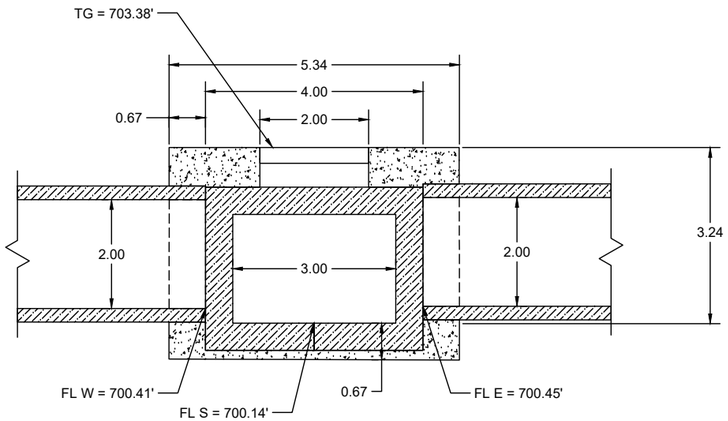

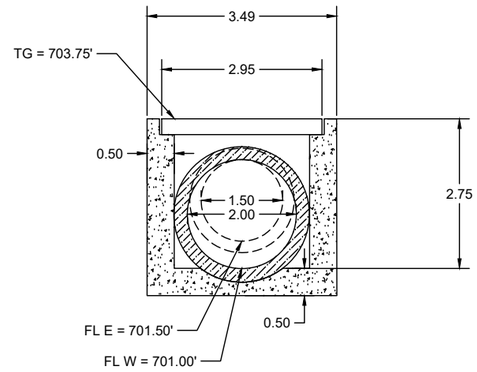

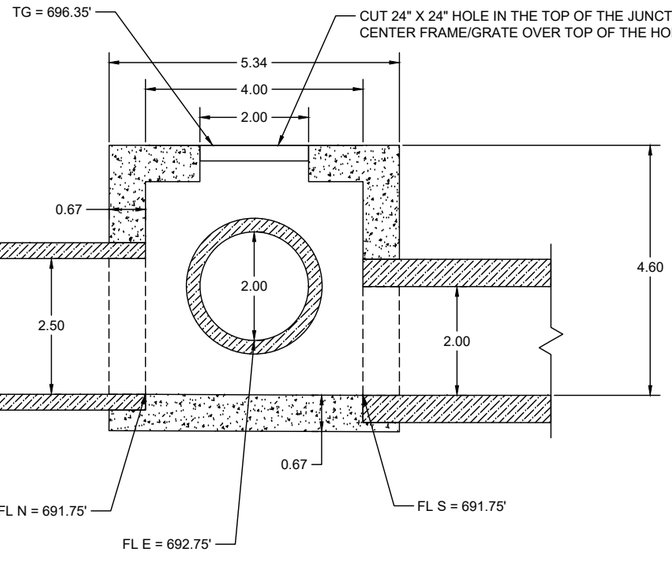

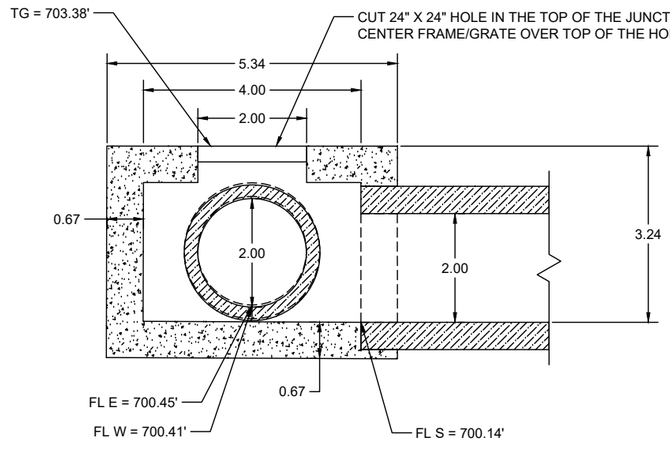

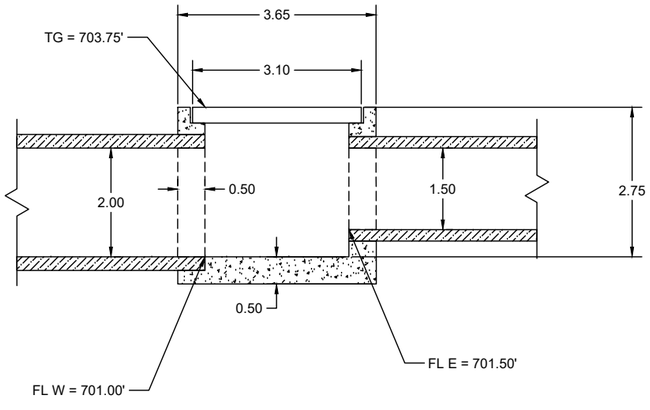

SPECIAL STRUCTURE 12

(4' X 4' JB W/ 2' X 2' TYPE 1 GRATE)

SPECIAL STRUCTURE 20

(4' X 4' JB W/ 2' X 2' TYPE 1 GRATE)

SPECIAL STRUCTURE 24

(TYPE 1 SMD W/ TYPE 1 GRATE)

NOTES:

(1) SMD AND GPI SPECIAL STRUCTURES DO NOT SATISFY STANDARD MEDIAN DRAIN AND GRATED PIPE DROP INLET MINIMUM DEPTH REQUIREMENTS PER ODOT STANDARD DRAWINGS SMD-3-2 AND GPI-4-0. ALL OTHER DIMENSIONS AND DETAILS, BESIDES DEPTH, WILL APPLY TO THE SMD AND GPI SPECIAL STRUCTURES ACCORDING TO ODOT STANDARD DRAWINGS SMD-3-2 AND GPI-4-0.

(2) JUNCTION BOX SPECIAL STRUCTURES SHALL BE CONSTRUCTED WITH A 24" X 24" TYPE 1 GRATE/FRAME CENTERED ON THE TOP. ALL DIMENSIONS AND DETAILS WILL APPLY TO THE JUNCTION BOX SPECIAL STRUCTURES ACCORDING TO ODOT STANDARD DRAWING MJB-3-2.

REGISTERED PROFESSIONAL ENGINEER
BRET C. GABBINESS
18093
OKLAHOMA

SPECIAL STRUCTURE
DETAIL SHEET (2 OF 2)

PROJECT NO. 4-3 SHEET NO. R013

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SPECIAL STRUCTURE DETAIL SHEET 2
DURANT ROADWAY REHABILITATION BRYAN COUNTY

REVISIONS		
NO.	DESCRIPTION	DATE

R10-12ML (MODIFIED LEFT)
30"X36"
LEGEND, SYMBOL & BORDER - BLACK NON-REFLECTIVE
ARROW - YELLOW REFLECTIVE
BACKGROUND - WHITE REFLECTIVE

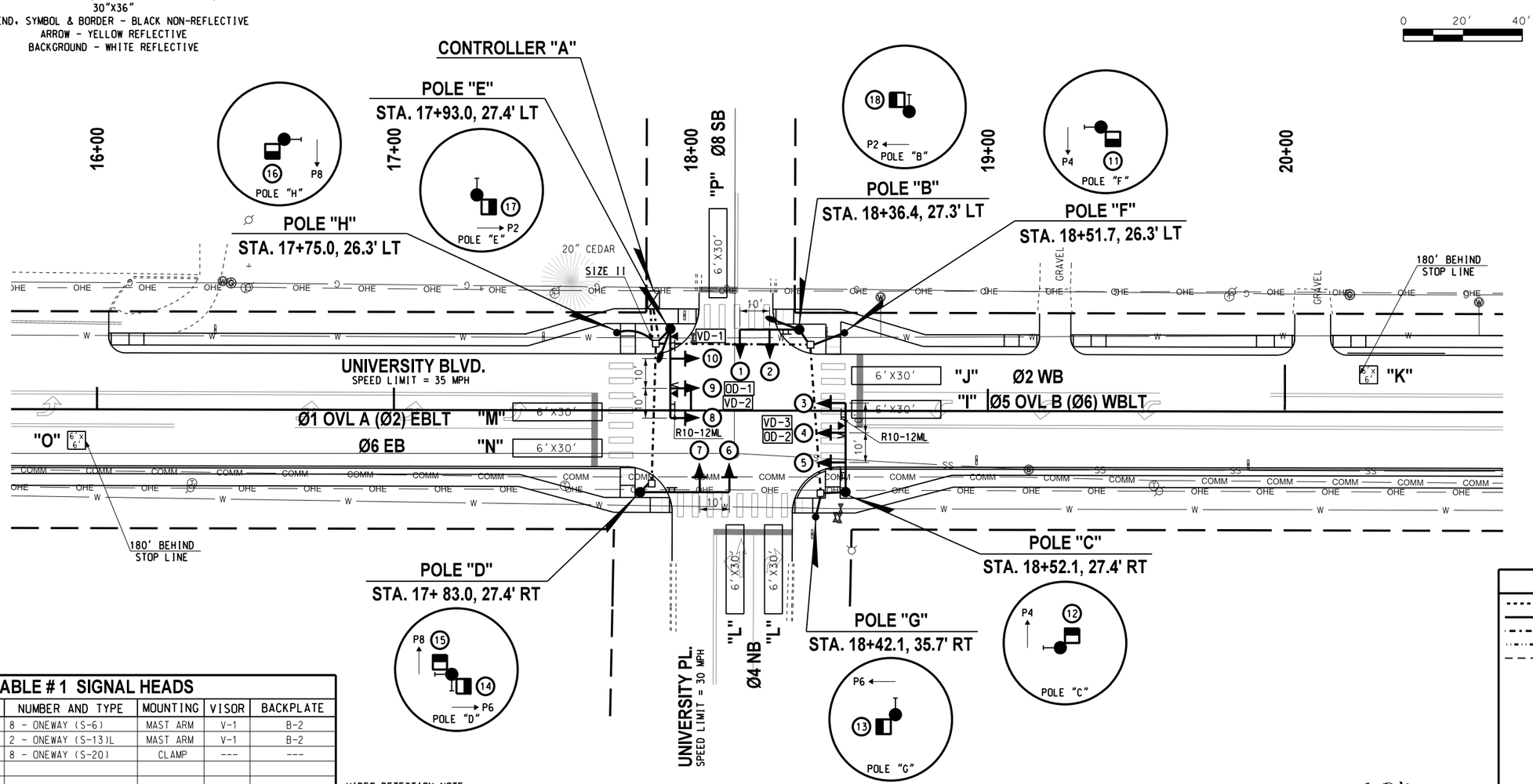


TABLE # 1 SIGNAL HEADS

SIGNAL HEAD NUMBER	NUMBER AND TYPE	MOUNTING	VISOR	BACKPLATE
1,2,4,5,6,7,9,10	8 - ONEWAY (S-6)	MAST ARM	V-1	B-2
3,8	2 - ONEWAY (S-13)L	MAST ARM	V-1	B-2
11,12,13,14,15,16,17,18	8 - ONEWAY (S-20)	CLAMP	---	---

TABLE # 2 MAST ARMS & POLES

LOCATION	MOUNTING HT.	MAST ARMS LENGTHS	FOUNDATION
B	32'	20' T.S. & 10' LUM.	S-25
C	21'	30' T.S.	S-30
D	21'	30' T.S.	S-30
E	32'	30' T.S. & 10' LUM.	S-30
F,G,H	10'	3 - PEDESTAL POLES	F-2

TABLE # 3 ELECTRICAL CABLE

ELECTRICAL CABLE TO CONTROLLER "A" LOCATION							
B-21C/5C	C-21C/5C	D-21C/5C	E-21C/5C	F-5C/5C	G-5C/5C	H-5C/5C	

VIDEO DETECTION NOTE:
VIDEO VEHICLE DETECTION WILL BE PROVIDED FOR THIS INTERSECTION. THE DETECTOR LOOPS SHOWN ON THE PAVEMENT ARE SHOWN ONLY TO DEPICT THE AREAS OF DETECTION FOR THE VIDEO DETECTION UNITS ALONG WITH THE PHASES THAT EACH VIDEO DETECTOR UNIT WILL CALL.

PUSH BUTTON NOTE:
THE POLE ENLARGEMENT DETAIL IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE PLACEMENT OF THE PEDESTRIAN PUSH BUTTONS AND SIGNAL HEADS SHALL BE INSTALLED ON THE POLES SUCH THAT THE SIGNAL HEADS ARE VISIBLE FROM THE CROSSWALK AND THE PUSH BUTTONS ARE ACCESSIBLE FROM THE ADJACENT SIDEWALK. THE HANDHOLE SHALL NOT CONFLICT WITH THE PUSH BUTTON LOCATIONS AS SHOWN.

LEGEND

- $1\frac{1}{2}$" ELECT. CONDUIT
- 2" ELECT. CONDUIT
- 3" ELECT. CONDUIT
- 4" ELECT. CONDUIT
- EXISTING CONDUIT
- SIZE I PULL BOX
- EXISTING PULL BOX
- SIZE III PULL BOX
- SERVICE POLE
- CONTROLLER
- PEDESTRIAN PUSH BUTTON
- WALK AND DON'T WALK
- SIGNAL HEAD WITH BACKPLATE
- LUMINAIRE WITH MAST ARM
- OPTICAL DETECTOR
- VIDEO DETECTION
- STREET NAME SIGN
- MAST ARM WITH POLE
- SIGNAL HEAD NO.
- MAST ARM & POLE WITH ABOVE SYMBOLS
- DETECTOR LOOP/ VIDEO DETECTION AREA

B. J. HAWKINS, P.E. # 25164
C.A. # 1160, RENEWAL 06-30-21
11/10/20
DATE

Traffic Engineering Consultants, Inc.
6000 S. Western Ave., Suite 300 - Oklahoma City, OK 73139,
Ph: 405-720-7721, Web: www.tecusa.com

Design	BJH	12-09-20
Drawn	MAP	12-09-20

TEC
A CLEAR DIRECTION

TRAFFIC SIGNAL PLAN

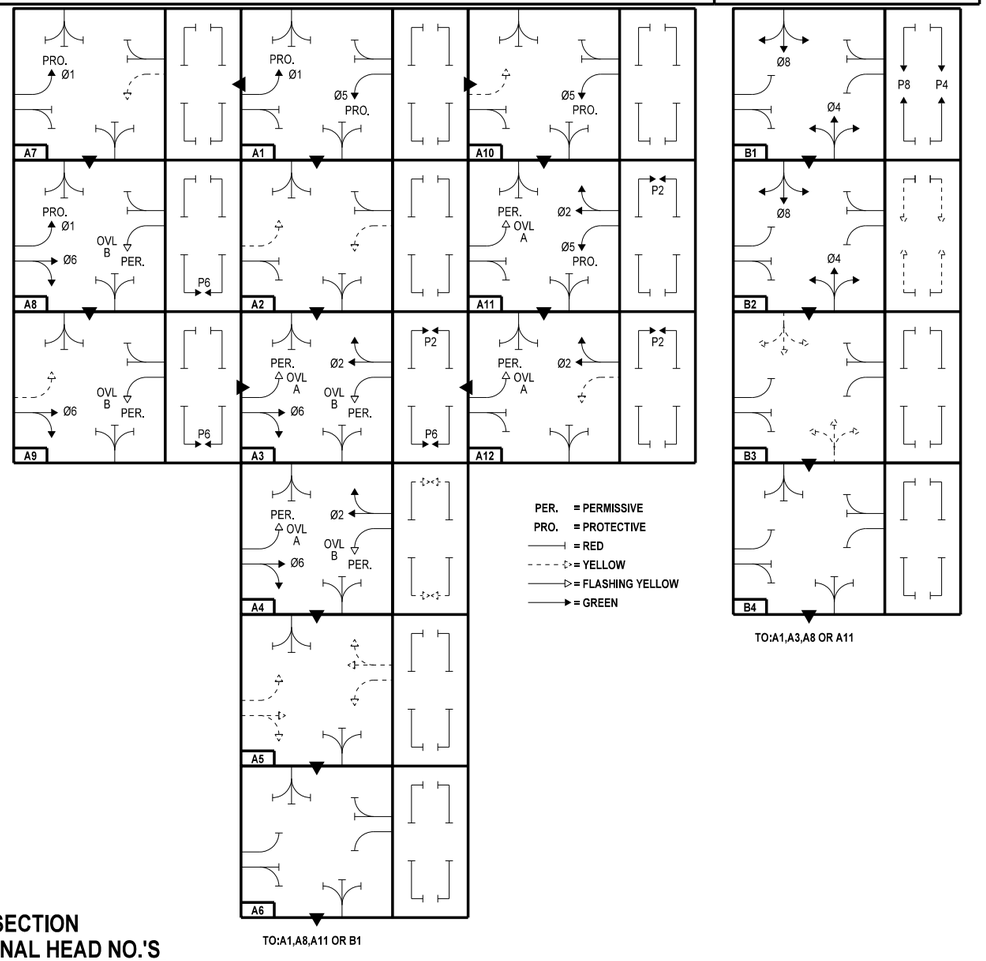
Project No. 4-3 Sheet No. T001

12-09-20 G:\0Projects\1-28ii - Design_University Place & University - Durant, OK\CAD\SIG.dgn

REVISIONS		
NO.	DESCRIPTION	DATE

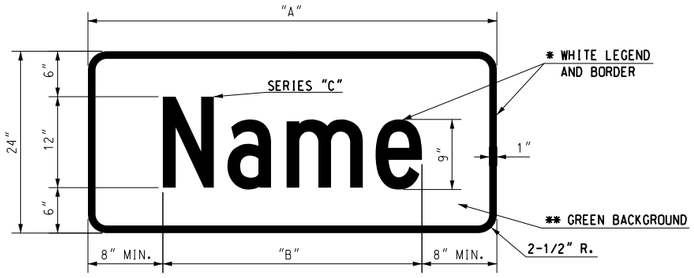
PHASING DIAGRAM

PHASE "A"	PHASE "B"
UNIVERSITY BLVD.	UNIVERSITY PL.



SEQUENCE CHART

DIRECTION	BLOCK NO.	PHASE Ø4	Ø1 OVL A	Ø6	Ø8	Ø5 OVL B	Ø2	P4	P6	P8	P2
		SIGNAL HEAD NO. 1,2	3	4,5	6,7	8	9,10	11,12	13,14	15,16	17,18
Ø1, Ø5 ROW	A1	R	~~G~~	R	R	~~G~~	R	DW	DW	DW	DW
Ø1, Ø5 CL	A2	R	~~Y~~	R	R	~~Y~~	R	DW	DW	DW	DW
Ø2,Ø6 , OVL A, OVL B, P2, P6 ROW	A3	R	F Y	G	R	F Y	G	DW	W	DW	W
Ø2, Ø6, OVL A, OVL B ROW & P2, P6 CL	A4	R	F Y	G	R	F Y	G	DW	FDW	DW	FDW
Ø2, Ø6, OVL A, OVL B CL	A5	R	~~Y~~	Y	R	~~Y~~	Y	DW	DW	DW	DW
ALL RED	A6	R	~~R~~	R	R	~~R~~	R	DW	DW	DW	DW
Ø1 ROW & Ø5 CL	A7	R	~~G~~	R	R	~~Y~~	R	DW	DW	DW	DW
Ø1, Ø6, OVL B, P6 ROW	A8	R	~~G~~	G	R	F Y	R	DW	W	DW	DW
Ø6, OVL B, P6 ROW & Ø1 CL	A9	R	~~Y~~	G	R	F Y	R	DW	W	DW	DW
Ø5 ROW & Ø1 CL	A10	R	~~Y~~	R	R	~~G~~	R	DW	DW	DW	DW
Ø2, Ø5, OVL A, P2 ROW	A11	R	F Y	R	R	~~G~~	G	DW	DW	DW	W
Ø2, OVL A, P2 ROW & Ø5 CL	A12	R	F Y	R	R	~~Y~~	G	DW	DW	DW	W
Ø4, Ø8, P4, P8 ROW	B1	G	~~R~~	R	G	~~R~~	R	W	DW	W	DW
Ø4, Ø8, ROW & P4, P8 CL	B2	G	~~R~~	R	G	~~R~~	R	FDW	DW	FDW	DW
Ø4, Ø8 CL	B3	Y	~~R~~	R	Y	~~R~~	R	DW	DW	DW	DW
ALL RED	B4	R	~~R~~	R	R	~~R~~	R	DW	DW	DW	DW
FLASHING OPERATION	–	FR	~~FR~~	FR	FR	~~FR~~	FR	–	–	–	--



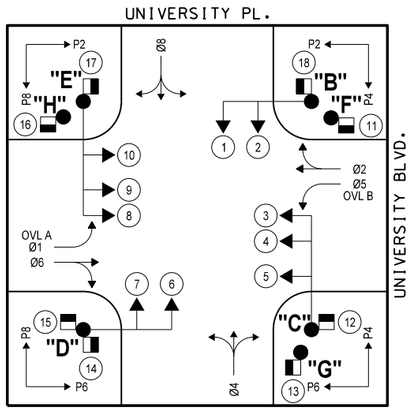
SUMMARY OF MAST ARM MOUNTED SIGNS

MESSAGE	POLE LOCATION	NO. OF SIGN	A (IN.)	HEIGHT (IN.)	B (IN.)	SIGN AREA (SQ.FT.)	TOTAL SIGN AREA (SQ.FT.)
University Blvd	B.D	2	108	24	95.3	18.00	36.00
University Place	C.E	2	114	24	102.4	19.00	38.00
R10-12ML	C.E	2	30	36	---	7.50	15.00
						TOTAL	89.00

* - TYPE VIII VIP REFLECTIVE SHEETING SHALL BE USED

** - TYPE III VIP REFLECTIVE SHEETING SHALL BE USED

INTERSECTION PHASING & SIGNAL HEAD NO.'S



B. J. HAWKINS, P.E. # 25164
C.A. # 1160, RENEWAL 06-30-21

11/10/20
DATE

Traffic Engineering Consultants, Inc.
6000 S. Western Ave., Suite 300 - Oklahoma City, OK 73139,
Ph: 405-720-7721, Web: www.tecusa.com

PROFESSIONAL ENGINEER — B.J. HAWKINS 25164 — OKLAHOMA — REGISTERED

Design	BJH	12-09-20
Drawn	MAP	12-09-20

TEC — A CLEAR DIRECTION

SIGNAL DETAIL

Project No. 4-3 Sheet No. T002

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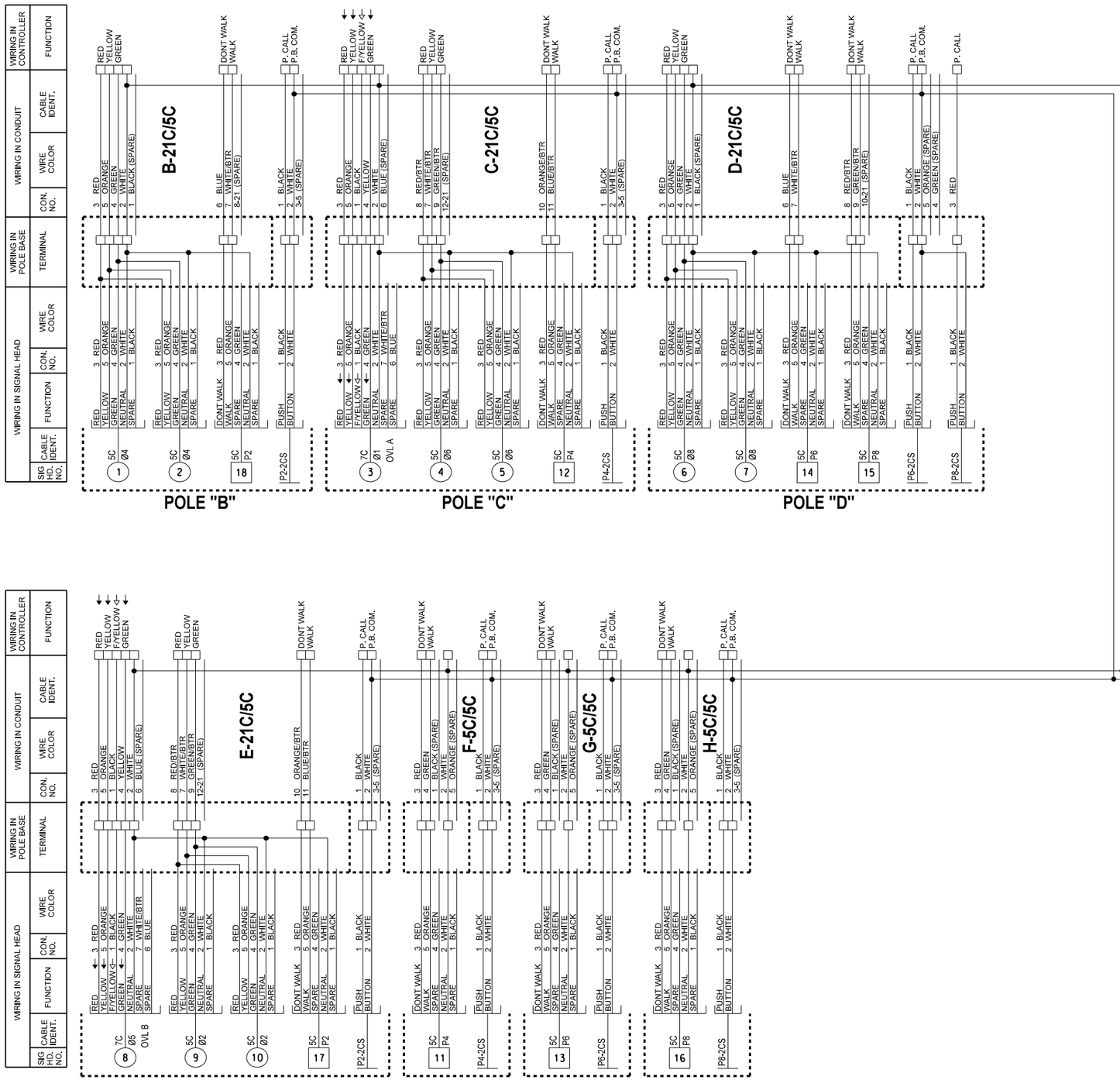
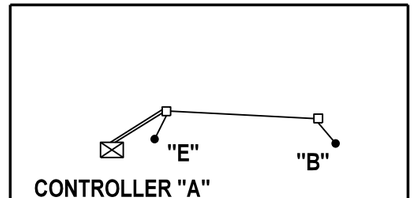
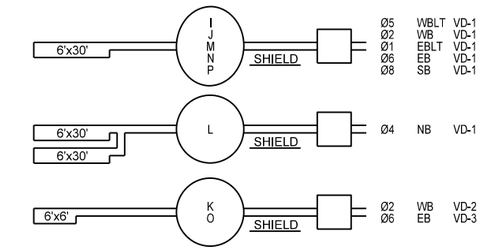
REVISIONS		
NO.	DESCRIPTION	DATE



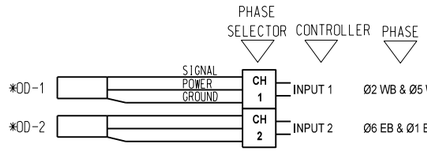


NOTE: STREET LIGHT WIRING

ONE PAIR EQUALS TWO CONDUCTORS (1/C-10AWG COPPER) ONE BLACK, ONE WHITE. CONDUCTORS SHALL BE SPLICED ONLY AT THE TERMINAL BLOCK AT EACH POLE BASE. A FUSE HOLDER SHALL BE PROVIDED IN THE HANDHOLE OF EACH COMBINATION TRAFFIC SIGNAL AND STREET LIGHT POLE. THE FUSE HOLDER SHALL BE INSTALLED IN THE LINE SIDE CONDUCTOR FOR THE LUMINAIRE. THE FUSE HOLDER SHALL BE A WATERPROOF INLINE FUSE HOLDER. IT SHALL BE SIMILAR TO BUSSMAN MFG. CO. TYPE "TRON" HEB. OR OTHER APPROVED EQUAL. COMPLETE WITH A PROPERLY SIZED TYPE KTK FUSE.



VIDEO DETECTION AREAS



PRE-EMPTOR DETAILS

NOTE:
IF JUMPERS OR OTHER CONNECTIONS ARE MADE IN THE FIELD DURING INSTALLATION, AND ARE ACCEPTED BY THE ENGINEER THIS SHOULD BE SHOWN ON THE WIRING DIAGRAM FOR FUTURE REFERENCE.

B. J. HAWKINS, P.E. # 25164
C.A. # 1160, RENEWAL 06-30-21

11/10/20
DATE

REGISTERED PROFESSIONAL ENGINEER
B.J. HAWKINS
25164
OKLAHOMA

Traffic Engineering Consultants, Inc.
6000 S. Western Ave., Suite 300 - Oklahoma City, OK 73139,
Ph: 405-720-7721, Web: www.tecusa.com

Design	BJH	12-09-20
Drawn	MAP	12-09-20

TEC
A CLEAR DIRECTION

SIGNAL WIRING DIAGRAM

Project No. 4-3 Sheet No. T003

LEGEND

TRAFFIC STRIPE (4", 8" & 24")

SEC. 30, T-6-S, R-9-E

5+00

BARBARA SELLERS
BOOK 913 PAGES 470-471

MFG HIGH MEADOW, LLC
BOOK 1371 PAGES 686-689

LEGACY TITLE HC
CORPORATION
BOOK 1384 PAGE

STA. 00+00.00

STA. 9+00.00

FOUND ½" STEEL PIN
N 00°56'18" W 5.50'
(NOT ACCEPTED)

UNIVERSITY BLVD.

Pres R/W

FL 6" CLAY 702.30

FL 12" CGMP 703.82

FL 14" CGMP 704.29

36" PECAN

FL 14" CGMP 704.46

FL 15" CGMP 705.47

FL 15" CGMP 705.80

24" PECAN

BRYAN COUNTY
BOOK 235 PAGE 259

24" PECAN

16" PECAN

606.17 L.F. 4" DOUBLE YELLOW LINE

FL 18" CGMP 702.21

FL 18" CGMP 702.01

FL 15" CGMP 702.75

FL 15" CGMP 703.18

9.42 L.F. 8" DIAGONAL YELLOW LINE

197.56 L.F. 4" DOUBLE YELLOW LINE

BRYAN COUNTY
BOOK 235 PAGE 259

8.00 L.F. 24" WHITE LINE

5.00

12.00

12.00

25.34 L.F. 24" WHITE LINE

197.73 L.F. 4" DOUBLE YELLOW LINE

FL 12" CGMP 703.53

FL 12" STEEL PIPE 702.23

CRUSHED CGMP TOP PIPE 703.90 - WATER POOLS

WELL

WELL

WELL

WELL

CITY OF DURANT
BOOK 1054 PAGE 650

CONTROL POINT #8
N:97351.5220
E:94168.2290
Z:707.25

TWIN 14" PECAN

FL 18" CGMP 702.58

FL 18" CGMP 700.99

16" MAPLE

CITY OF DURANT
BOOK 1049 PAGE 774

CITY OF DURANT
BOOK 1054 PAGE 648

CITY OF DURANT
BOOK 1049 PAGE 773

CITY OF DURANT
BOOK 1052 PAGE 968

BRYAN COUNTY
BOOK 235 PAGE 274

UNIVERSITY MANOR, INC
BOOK 651 PAGE 352

UNIVERSITY MANOR, INC
BOOK 651 PAGE 352

DAVID KELLY
ROY BOATNER

YOUTH SERVICES OF BRYAN COUNTY, INC
BOOK 1518 PAGE 138

LYNNWOOD ST.

YOUTH SERVICES OF BRYAN COUNTY, INC
BOOK 1518 PAGE 138

NW/4 SE/4

SCALE: 1"=30'

SEC. 30, T-6-S, R-9-E

SEC. 30, T-6-S, R-9-E

10+00

15+00

LEGACY TITLE HOLDING CORPORATION
BOOK 1384 PAGES 191-195

LEGACY TITLE HOLDING CORPORATION
BOOK 1384 PAGES 196-198

LEGACY TITLE HOLDING CORPORATION, INC
BOOK 1382 PAGES 79-80

CITY OF DURANT

MANHOLE WAS 75% FULL ON DAY OF MEASUREMENT; SO PIPE SIZES ARE UNKNOWN. DIRECTION OF SEWER PER CITY OF DURANT EMPLOYEE

LARKSPUR LN.

MANHOLE
RIM - 697.25
FL - 691.40

CONTROL POINT #7
N:97410.0255
E:94997.9975
Z:697.05

9.81 L.F. 24" WHITE LINE

FL OVAL CGMP 694.69

ROCK PLANTER

205.15 L.F. 4" YELLOW LINE

APPARENT 33' R.O.W. - NO DOCUMENTS FOUND

120.00 L.F. 4" DOUBLE YELLOW LINE

8.00 L.F. 24" WHITE LINE

20" CEDAR

103.48 L.F. 8" DIAGONAL YELLOW LINE

15.00 L.F. 4" DASHED YELLOW LINE

BRYAN COUNTY
BOOK 235 PAGE 297

FL 12" CGMP 697.50

FL 12" CGMP 697.00

FL 18" CGMP 696.83

GRAVEL

FL 18" CGMP 696.61

FL 2'X3' RCB 691.18

FL 8" CGMP 698.19

FL 8" CGMP 699.91

96.70 L.F. 4" DOUBLE YELLOW LINE

162.20 L.F. 4" DOUBLE YELLOW LINE

231.39 L.F. 4" YELLOW LINE

8.00 L.F. 24" WHITE LINE

5.00

12.00

12.00

12.00

25.00

15.00

231.39 L.F. 4" YELLOW LINE

FL 18"X27" CGMP 693.89

FL 18"X27" CGMP 693.59

FL 2'X3' RCB 690.88

2'X3' RCB 691.70

53.04 L.F. 8" DIAGONAL YELLOW LINE

24.77 L.F. 24" WHITE LINE

8.00 L.F. 24" WHITE LINE

162.56 L.F. 4" DOUBLE YELLOW LINE

BRYAN COUNTY
BOOK 235 PAGE 274

CITY OF DURANT
BOOK 1052 PAGE 968

205.15 L.F. 4" YELLOW LINE

BRYAN COUNTY
BOOK 235 PAGE 273

97.18 L.F. 4" DOUBLE YELLOW LINE

CITY OF DURANT
BOOK 1053 PAGE 1045

120.00 L.F. 4" WHITE LINE

CONTROL POINT #6
N:97327.0390
E:95497.4180
Z:706.49

TIMOTHY BRISCOE
BOOK 800 PAGE 246

TIMOTHY BRISCOE
BOOK 800 PAGE 246

TRAFFIC STRIPE ARROW

CHRISTIE CAROL FORD DAVIS
SUSAN SAWYER FORD WHITFIELD
BOOK 1041 PAGES 1037-1050

NW/4 SE/4

NW/4 SE/4

SEC. 30, T-6-S, R-9-E

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

STRIPING SHEET (1 OF 2)

PROJECT NO. 4-3 SHEET NO. T004

L:\CAB\Projects\386 - Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Striping Plan.dwg Striping Sheet 1 STRIPING PLAN 1 JMStrahorn 2/22/2021 9:50 AM

DURANT ROADWAY REHABILITATION BRYAN COUNTY

LEGEND

TRAFFIC STRIPE (4", 8" & 24")

SEC. 30, T-6-S, R-9-E

20+00

25+00

26+40

STA. 18+00.00

STA. 27+00.00

SCOTT E. DUCOTE
BOOK 1365 PAGE 1007

REX B. & DENNIS E. CRAWFORD
BOOK 1477 PAGE 813

DENISE A. TRAN
BOOK 1337 PAGE 860

ALL STAR INVESTMENTS, L
BOOK 1465 PAGES 1121-112

KEVIN AND MANDY HAMMOND
BOOK 1353 PAGE 8

STATELINE PROPERTIES, LLC
BOOK 1462 PAGES 411-412

AMERICAN NATION BANK

CITY OF DURANT
BOOK 891 PAGE

CITY OF DURANT
BOOK 1005 PAGE 576

CITY OF DURANT
BOOK 1005 PAGE 574

CITY OF DURANT
BOOK 1015 PAGE 125

CITY OF DURANT
BOOK 1005 PAGE 572

CITY OF DURANT
BOOK 1010 PAGE 1215

CITY OF DURANT
BOOK 1022 PAG

SECTION 25, T6S, R8E
SECTION 30, T6S, R9E

11.87 L.F. 24" WHITE LINE

8.00 L.F. 24" WHITE LINE

24.77 L.F. 24" WHITE LINE

97.18 L.F. 4" DOUBLE YELLOW LINE

120.00 L.F. 4" WHITE LINE

53.04 L.F. 8" DIAGONAL YELLOW LINE

294.74 L.F. 4" YELLOW LINE

15.00 L.F. 4" DASHED YELLOW LINE

96.70 L.F. 4" DOUBLE YELLOW LINE

120.00 L.F. 4" DOUBLE YELLOW LINE

14.38 L.F. 24" WHITE LINE

8.00 L.F. 24" WHITE LINE

8.00 L.F. 24" WHITE LINE

8.00 L.F. 24" WHITE LINE

8.00 L.F. 24" WHITE LINE

25.34 L.F. 24" WHITE LINE

120.00 L.F. 4" WHITE LINE

120.00 L.F. 4" DOUBLE YELLOW LINE

96.70 L.F. 4" DOUBLE YELLOW LINE

120.00 L.F. 4" DOUBLE YELLOW LINE

TRAFFIC STRIPE ARROW

294.74 L.F. 4" YELLOW LINE

53.04 L.F. 8" DIAGONAL YELLOW LINE

97.18 L.F. 4" DOUBLE YELLOW LINE

120.00 L.F. 4" WHITE LINE

24.91 L.F. 24" WHITE LINE

25.17 L.F. 24" WHITE LINE

FL 8" CGMP 705.25

FL 8" CGMP 704.38

FL 12" CGMP 704.13

FL 12" CGMP 703.79

FL 12" CGMP 703.35

FL 12" CGMP 702.95

FL 2'X3' RCB 700.10

FL 18" CGMP 701.57

FL 18" CGMP 701.70

FL 18" CGMP 702.65

FL 18" CGMP 703.21

FL 2'X3' RCB 699.51

24" TREE

TRIPLE 12" ELM

TWIN 10" BRADFORD PEAR

MANHOLE
RIM - 709.53
FL OUT- 701.53
FL IN- 702.83

MANHOLE
RIM - 707.55
FL - 703.30

MANHOLE
RIM - 704.39
FL - 700.04

BILLBOARD

BRYAN COUNTY
BOOK 235 PAGE 273

CITY OF DURANT
BOOK 1053 PAGE 1045

CITY OF DURANT
BOOK 1014 PAGE 891

CHRISTIE CAROL FORD DAVIS
SUSAN SAWYER FORD WHITFIELD
BOOK 1041 PAGES 1037-1050

CONTROL POINT #5
N:97323.0380
E:96312.2690
Z:708.62

UNIVERSITY BLVD.

Pres R/W

5.00

12.00

12.00

12.00

25.00

15.00

NE/4 SE/4

NE/4 SE/4

SCALE: 1"=30'

SEC. 30, T-6-S, R-9-E

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

STRIPING SHEET
(2 OF 2)

PROJECT NO. 4-3 SHEET NO. T005

DURANT ROADWAY REHABILITATION BRYAN COUNTY

L:\CAD\Projects\386 ~ Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Striping Plan.dwg Striping Sheet 2 STRIPING PLAN 2 JMStrahorn 2/22/2021 9:50 AM

EARTHWORK QUANTITIES
STA. 0+00.00 TO 7+00.00

Total Volume Table							
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol	Net Vol
0+00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0+50.00	0.00	2.96	0.00	3.16	0.00	3.16	-3.16
1+00.00	0.00	0.00	0.00	3.16	0.00	6.31	-6.31
1+50.00	0.06	5.61	0.06	5.98	0.06	12.29	-12.23
2+00.00	0.23	5.05	0.27	11.35	0.33	23.64	-23.32
2+50.00	0.00	4.73	0.21	10.42	0.54	34.06	-33.52
3+00.00	0.00	6.67	0.00	12.14	0.54	46.20	-45.66
3+50.00	0.00	7.03	0.00	14.59	0.54	60.79	-60.25
4+00.00	0.01	2.45	0.01	10.09	0.55	70.87	-70.32
4+50.00	0.00	1.70	0.01	4.41	0.56	75.29	-74.72
5+00.00	0.00	5.75	0.00	7.93	0.56	83.22	-82.65
5+50.00	0.00	20.10	0.00	27.52	0.56	110.74	-110.18
6+00.00	0.00	29.15	0.00	52.44	0.56	163.18	-162.62
6+27.62	0.01	0.27	0.01	17.31	0.57	180.49	-179.92
6+50.00	0.00	0.00	0.01	0.13	0.58	180.62	-180.05
6+54.91	3.33	1.70	0.30	0.18	0.88	180.80	-179.92
7+00.00	0.00	10.30	2.78	11.53	3.66	192.33	-188.67

EARTHWORK QUANTITIES
STA. 7+50.00 TO 10+52.59

Total Volume Table							
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol	Net Vol
7+50.00	0.14	28.93	0.00	0.00	0.00	0.00	0.00
8+00.00	0.00	49.93	0.14	83.50	0.14	83.50	-83.37
8+56.05	3.10	29.45	3.22	94.76	3.36	178.26	-174.90
9+00.00	4.22	20.97	5.96	47.19	9.32	225.45	-216.13
9+50.00	6.09	32.92	9.55	57.38	18.87	282.83	-263.96
10+00.00	8.73	33.62	13.72	70.85	32.60	353.68	-321.08
10+52.59	17.58	28.05	25.63	69.07	58.22	422.75	-364.52

EARTHWORK QUANTITIES
STA. 10+77.68 TO 26+04.97

Total Volume Table							
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol	Net Vol
10+77.88	20.83	25.26	0.00	0.00	0.00	0.00	0.00
11+00.00	15.01	35.44	14.68	28.60	14.68	28.60	-13.92
11+50.00	7.46	48.54	20.80	89.42	35.48	118.02	-82.54
12+00.00	4.39	59.57	10.97	115.12	46.45	233.14	-186.69
12+50.00	5.06	36.79	8.75	102.61	55.20	335.75	-280.54
12+90.18	4.93	98.69	7.43	115.93	62.64	451.68	-389.04
13+00.00	4.55	105.27	1.72	42.64	64.36	494.32	-429.96
13+19.28	10.23	80.05	5.28	76.08	69.64	570.40	-500.76
13+35.84	4.29	124.66	4.45	72.19	74.09	642.59	-568.50
13+40.11	4.29	129.31	0.68	23.13	74.77	665.72	-590.95
13+50.00	4.24	54.69	1.56	38.74	76.33	704.46	-628.13
14+00.00	15.82	61.19	18.58	123.38	94.91	827.85	-732.94
14+50.00	3.16	75.23	17.57	145.26	112.48	973.11	-860.63
15+00.00	1.57	67.88	4.38	152.38	116.86	1125.49	-1008.64
15+50.00	0.00	59.38	1.46	135.51	118.31	1261.00	-1142.69
15+84.42	0.86	31.76	0.55	66.81	118.86	1327.81	-1208.95
16+00.00	1.37	29.06	0.65	20.18	119.51	1347.99	-1228.48
16+21.73	2.41	28.56	1.52	26.66	121.03	1374.65	-1253.62
16+50.00	6.51	19.48	4.67	28.92	125.70	1403.57	-1277.87
16+53.90	7.06	18.20	0.98	3.13	126.68	1406.70	-1280.02

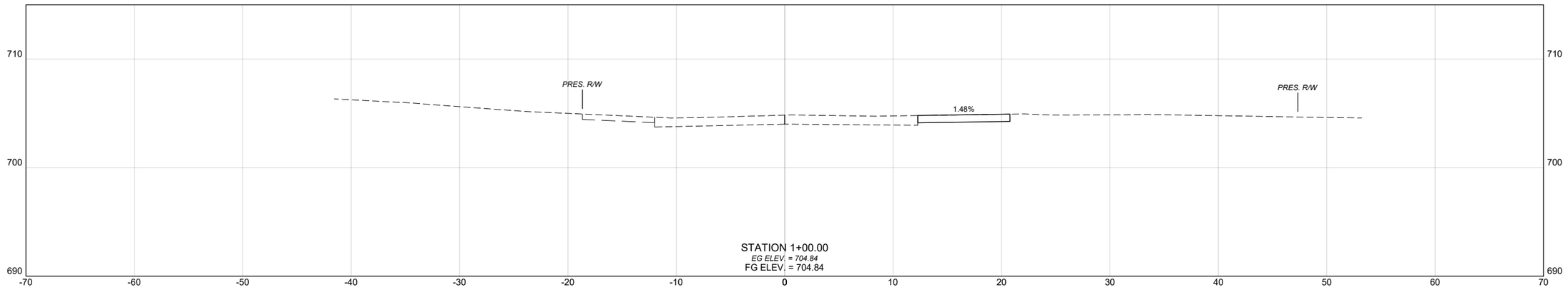
Total Volume Table							
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol	Net Vol
17+00.00	15.00	5.62	18.84	23.38	145.52	1430.08	-1284.56
17+50.00	19.62	1.01	32.06	7.06	177.58	1437.14	-1259.56
18+00.00	11.65	1.50	28.95	2.68	206.53	1439.83	-1233.30
18+14.80	6.80	4.67	5.05	1.95	211.58	1441.77	-1230.19
18+50.00	1.96	35.56	5.71	30.16	217.29	1471.93	-1254.64
19+00.00	3.40	9.53	4.96	48.01	222.25	1519.95	-1297.70
19+23.14	14.41	6.35	7.63	7.83	229.88	1527.77	-1297.89
19+50.00	16.77	6.52	15.51	7.36	245.39	1535.13	-1289.75
20+00.00	25.28	4.19	38.93	11.40	284.31	1546.53	-1262.22
20+09.33	26.32	4.42	8.92	1.71	293.23	1548.24	-1255.01
20+50.00	15.81	8.68	31.73	11.35	324.96	1559.59	-1234.63
21+00.00	9.05	13.92	23.01	24.06	347.97	1583.65	-1235.68
21+04.12	0.00	13.89	0.69	2.44	348.66	1586.09	-1237.43
21+40.71	5.99	21.88	4.06	27.88	352.72	1613.97	-1261.25
21+50.00	1.20	36.48	1.24	11.55	353.96	1625.52	-1271.56
21+73.18	3.05	18.76	1.83	27.26	355.78	1652.78	-1297.00
22+00.00	1.73	36.79	2.38	31.73	358.16	1684.51	-1326.35
22+43.66	3.49	27.15	4.22	59.45	362.38	1743.96	-1381.57
22+50.00	3.08	28.08	0.77	7.46	363.15	1751.42	-1388.26
23+00.00	1.81	46.31	4.52	79.22	367.68	1830.64	-1462.96

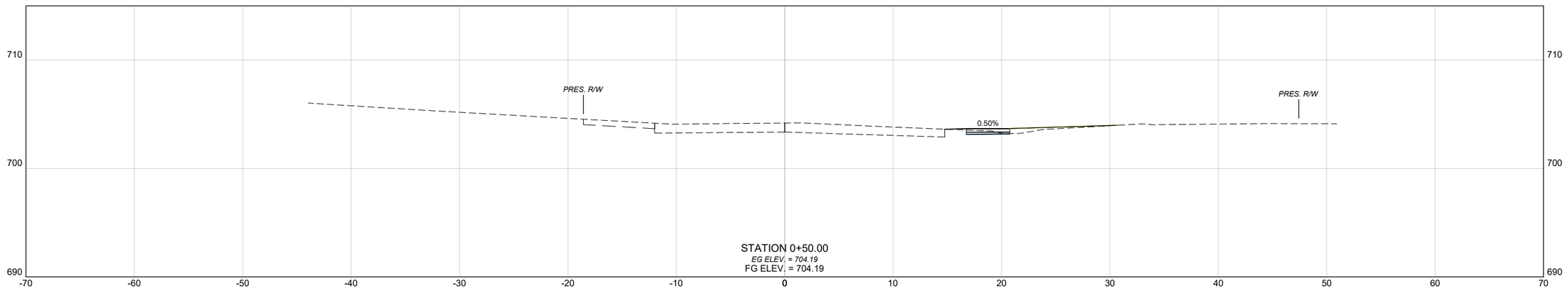
Total Volume Table							
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol	Net Vol
23+43.14	0.00	87.48	1.45	122.93	369.12	1953.56	-1584.44
23+50.00	1.10	82.37	0.14	24.80	369.26	1978.36	-1609.10
23+88.96	3.52	13.09	3.34	79.21	372.60	2057.57	-1684.97
24+00.00	3.35	13.31	1.40	6.20	374.00	2063.78	-1689.78
24+38.50	1.51	32.89	3.46	37.88	377.47	2101.66	-1724.19
24+50.00	1.42	41.07	0.62	18.11	378.09	2119.77	-1741.68
24+65.72	1.36	40.84	0.81	27.42	378.90	2147.18	-1768.29
25+00.00	5.17	5.13	4.14	33.56	383.04	2180.75	-1797.71
25+50.00	0.94	26.20	5.65	33.36	388.69	2214.11	-1825.42
26+00.00	0.34	0.00	1.18	27.90	389.88	2242.01	-1852.14
26+04.97	0.09	0.00	0.04	0.00	389.92	2242.01	-1852.10

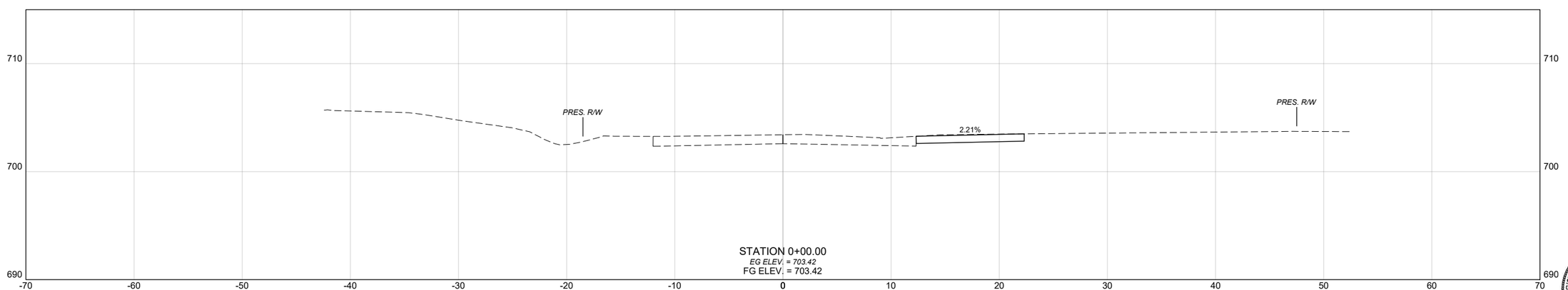
NOTE: QUANTITIES INCLUDE 15% COMP.

BRET CABBINESS 18093 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA

L:\CAB\Projects\386 - Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Cross Section Sheets.dwg JMStrahorn 2/22/2021 11:56 AM XS - (0) XS - (0)
DURANT ROADWAY REHABILITATION - BRYAN COUNTY





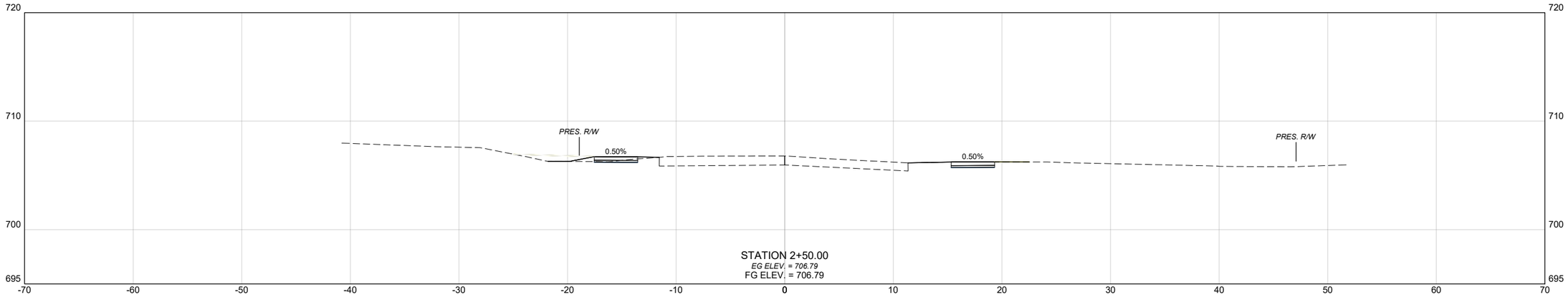


REGISTERED PROFESSIONAL ENGINEER
BRETT CABBINESS
18093
OKLAHOMA

PROJECT NO. 4-3 SHEET NO. X001

DURANT ROADWAY REHABILITATION BRYAN COUNTY

L:\CAB\Projects\386 – Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Cross Section Sheets.dwg XS - (1) JMStrahorn 2/22/2021 11:56 AM



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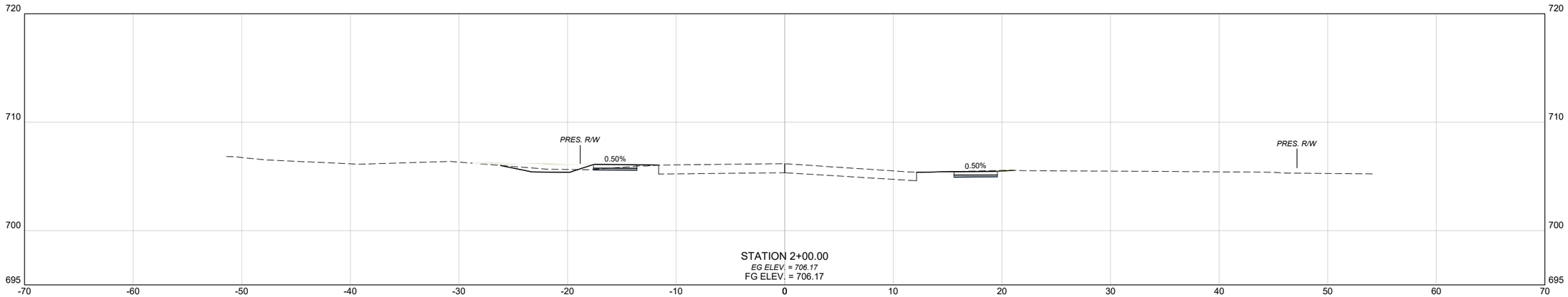
FG ELEV. = 706.79



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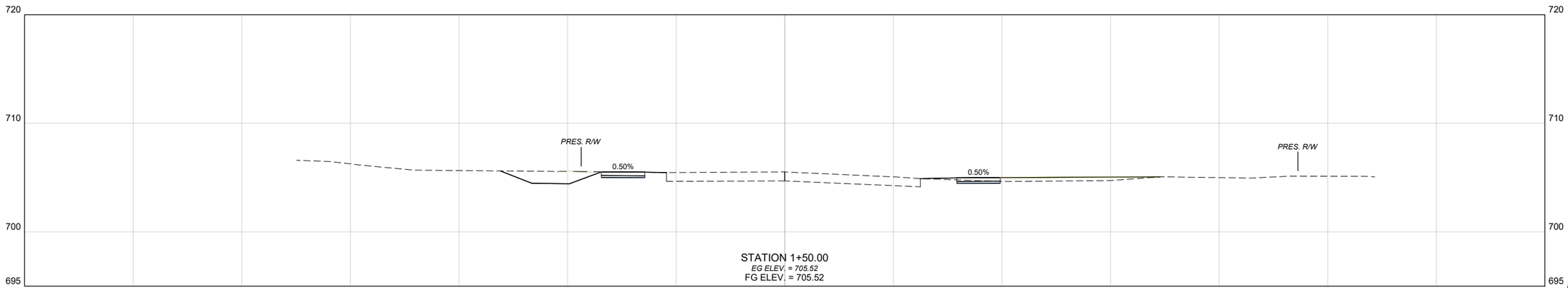
FG ELEV. = 706.17



STATION 1+50.00
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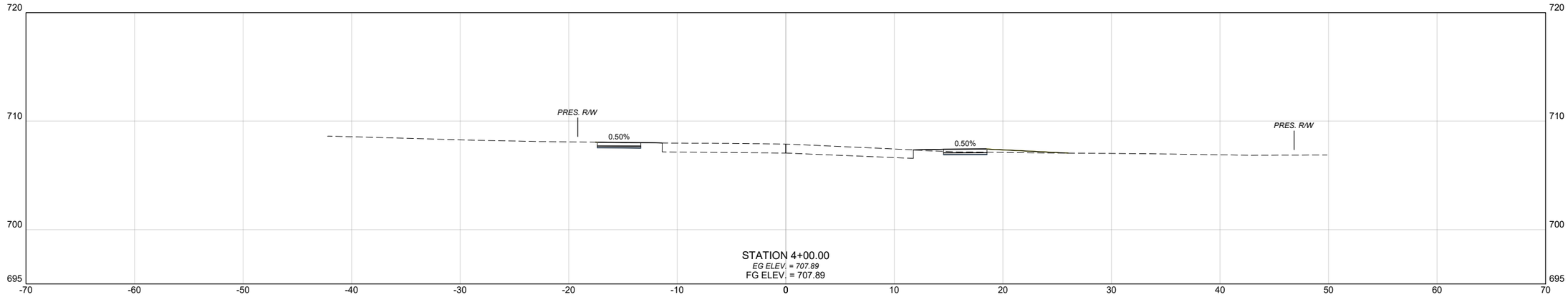
FG ELEV. = 705.52

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

L:\CAB\Projects\386 ~ Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Cross Section Sheets.dwg XS - (2) JMStrahorn 2/22/2021 11:56 AM

DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X002



STATION 4+00.00
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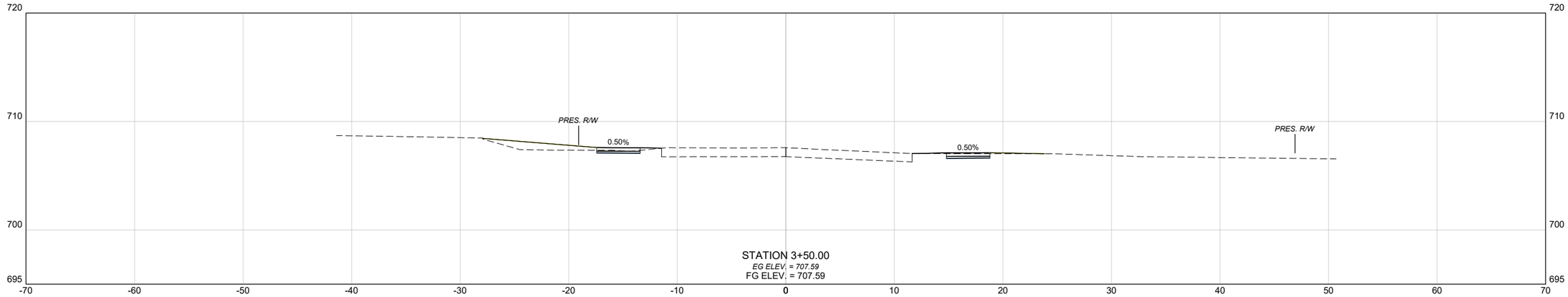
FG ELEV. = 707.89



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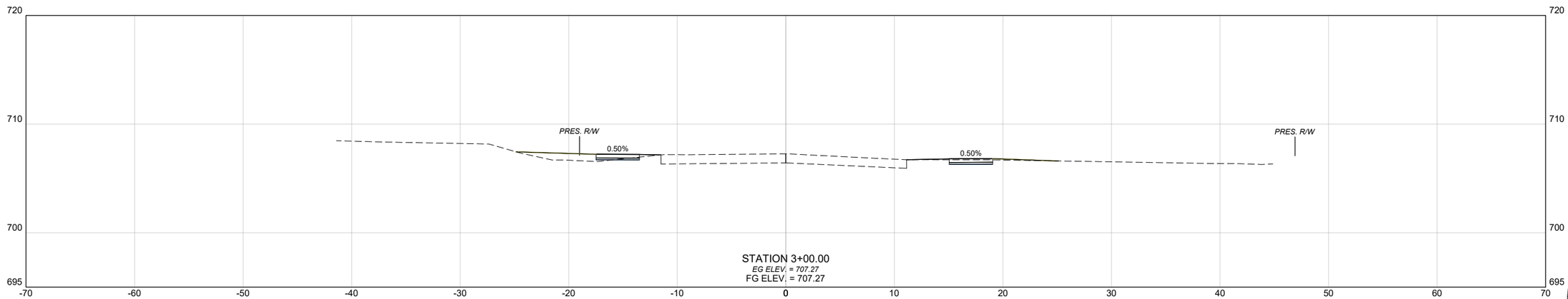


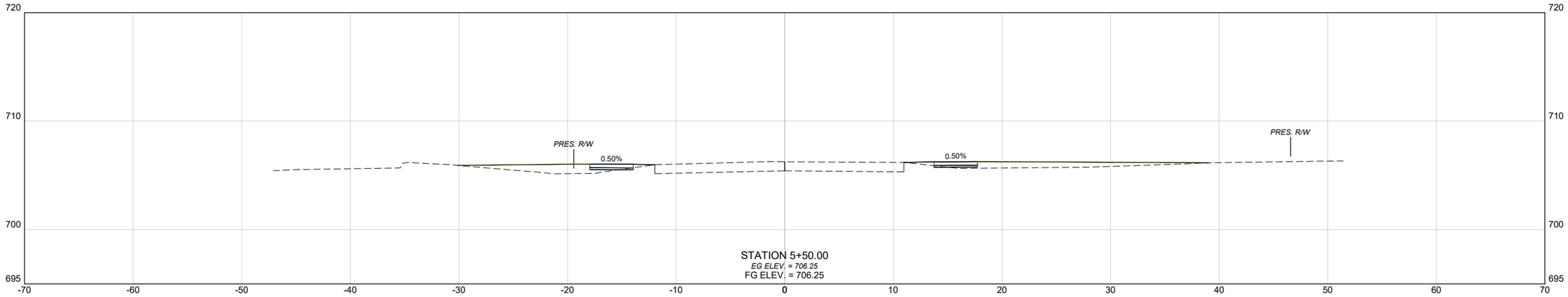
STATION 3+00.00
EG ELEV. = 707.27
FG ELEV. = 707.27

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

PROJECT NO. 4-3 SHEET NO. X003

L:\CAB\Projects\386 - Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Cross Section Sheets.dwg XS - (3) JMStrahorn 2/22/2021 11:56 AM

DURANT ROADWAY REHABILITATION BRYAN COUNTY



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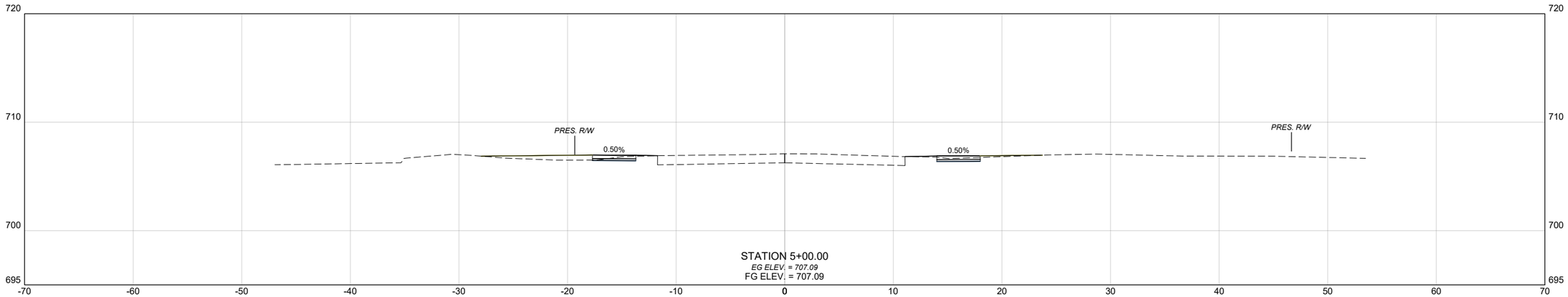
FG ELEV. = 706.25



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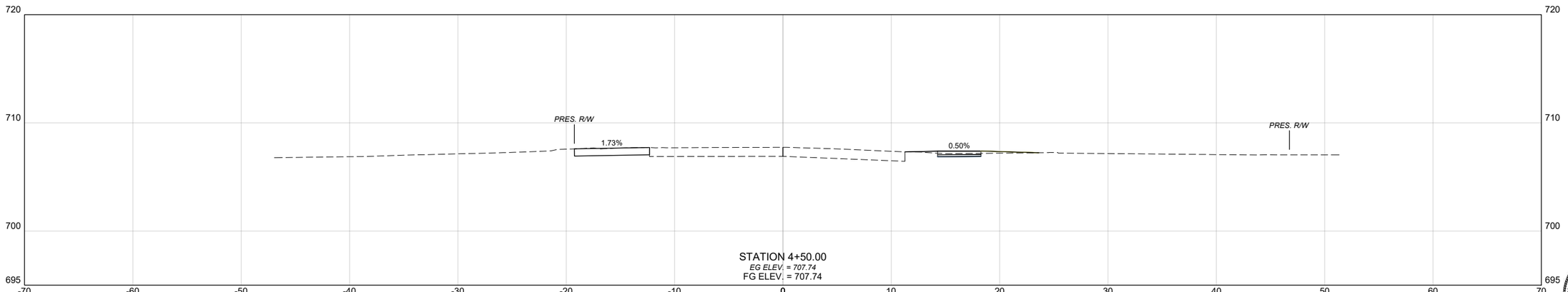

STATION 4+50.00
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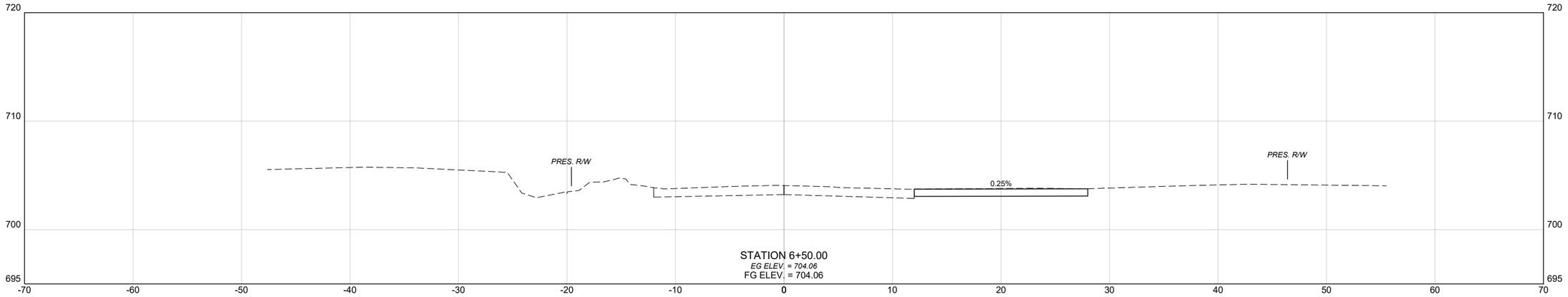
FG ELEV. = 707.74

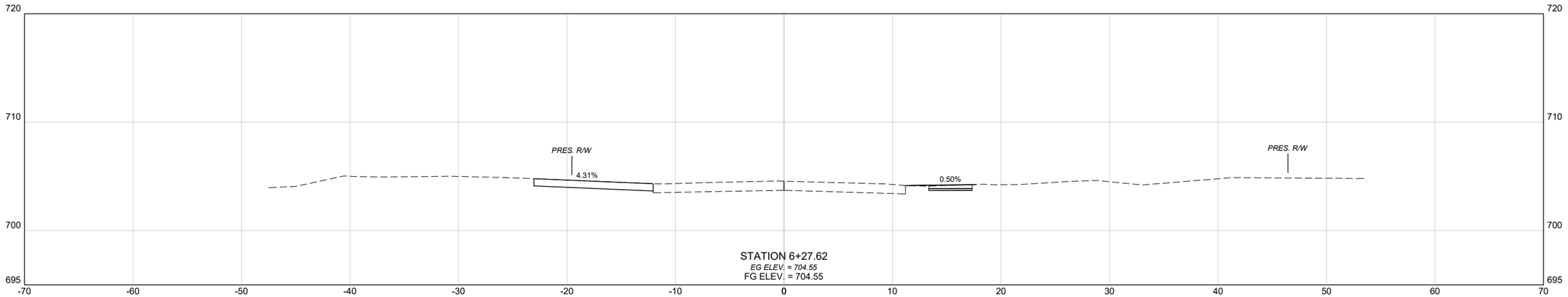
REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

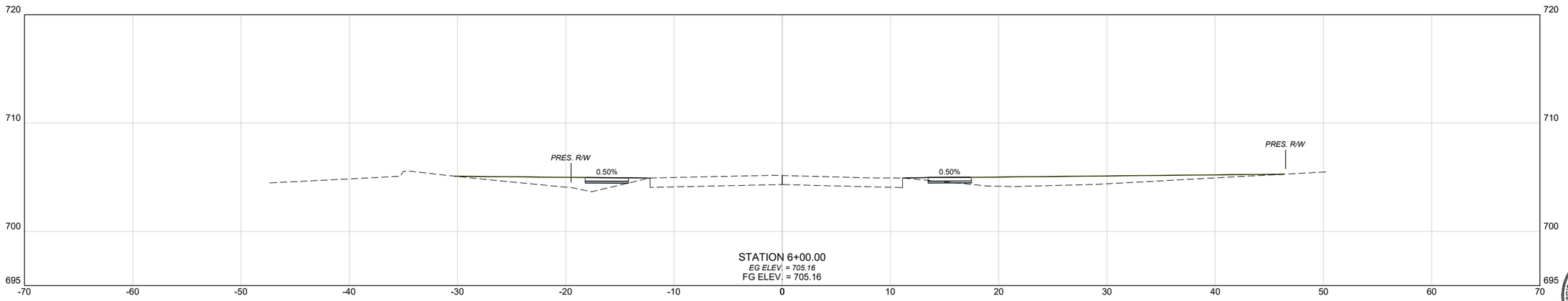
L:\CAB\Projects\386 ~ Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Cross Section Sheets.dwg XS - (4) JMStrahorn 2/22/2021 11:56 AM

DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X004







REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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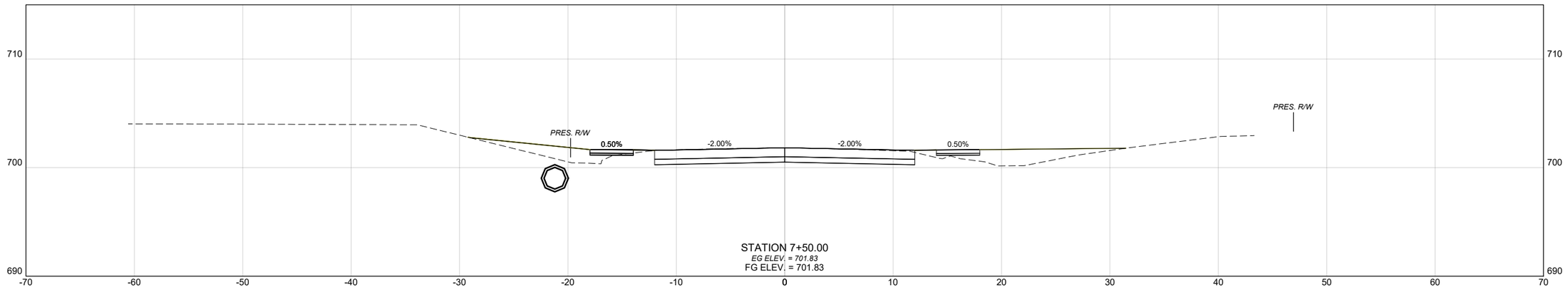
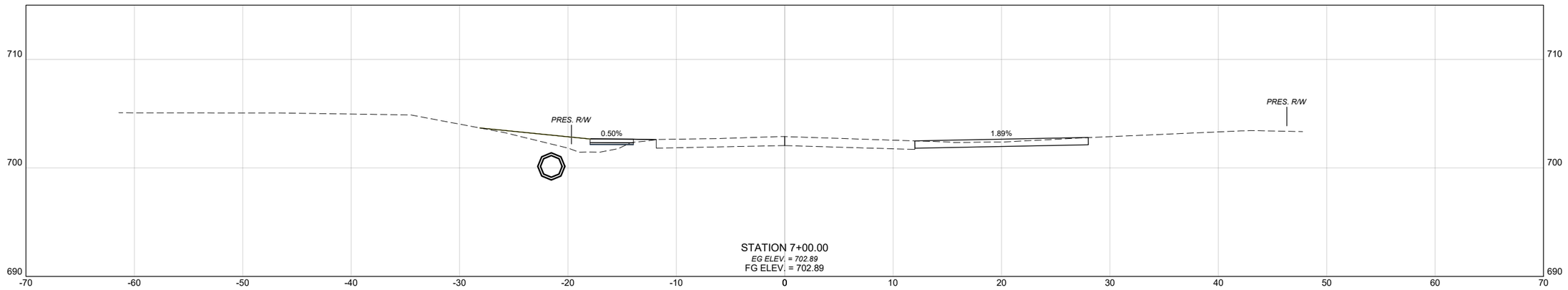
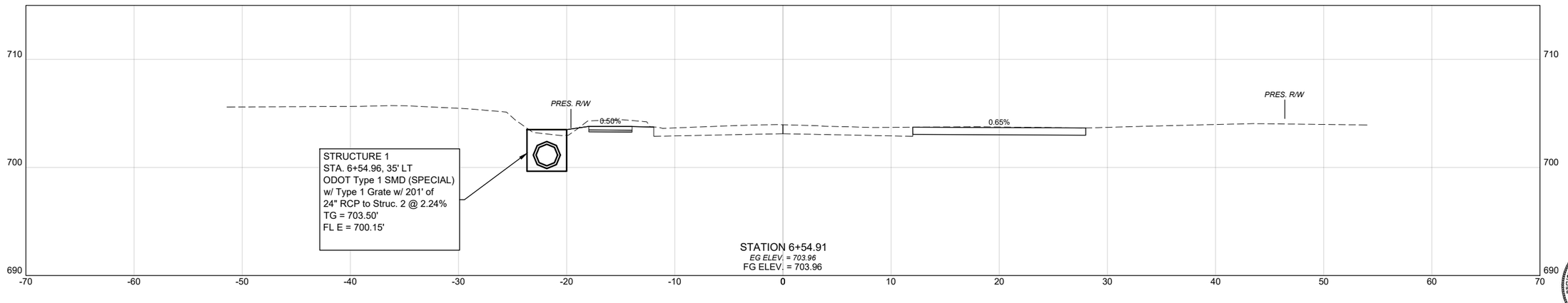
DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X005







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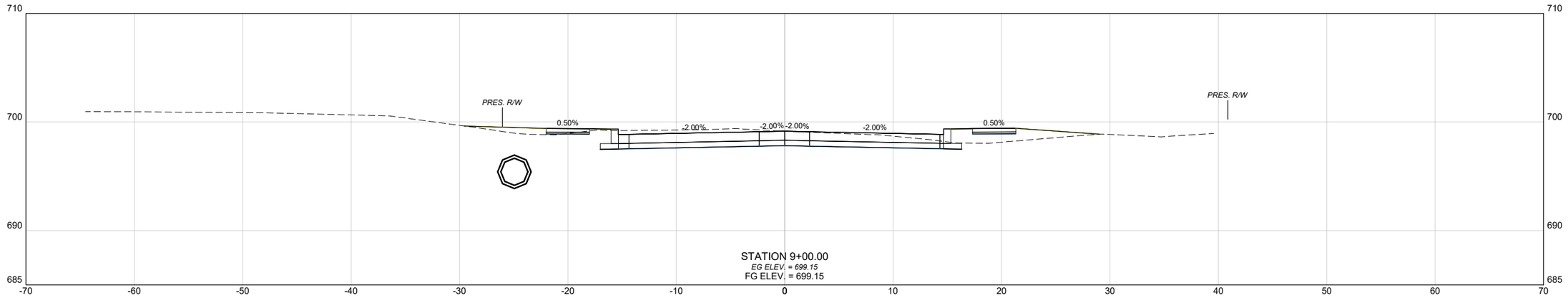
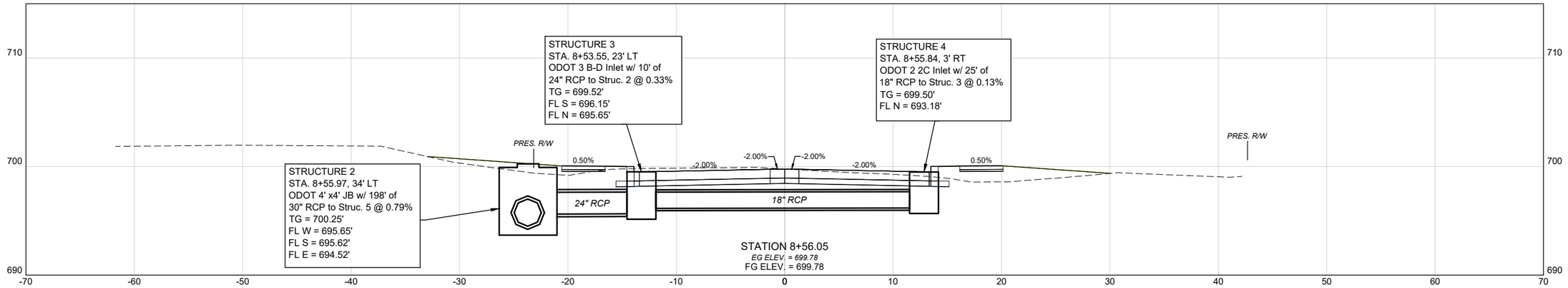
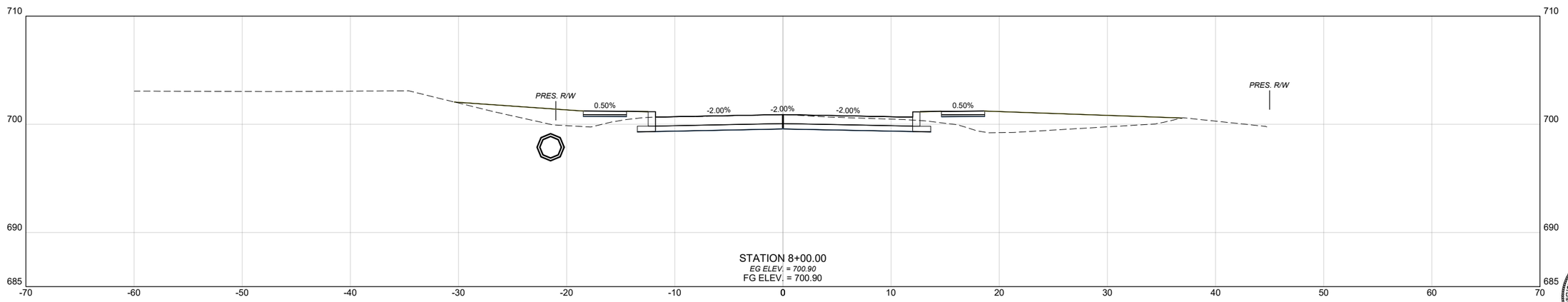
DURANT ROADWAY REHABILITATION BRYAN COUNTY

REGISTERED PROFESSIONAL ENGINEER BRET CABBINESS 18093 OKLAHOMA

PROJECT NO. 4-3 SHEET NO. X006







REGISTERED PROFESSIONAL ENGINEER
BRETT CABBINESS
18093
OKLAHOMA

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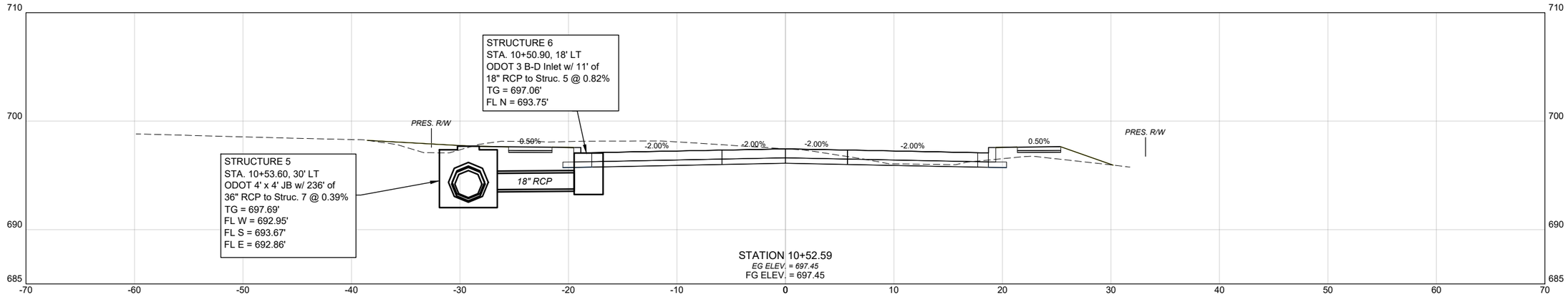
DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X007



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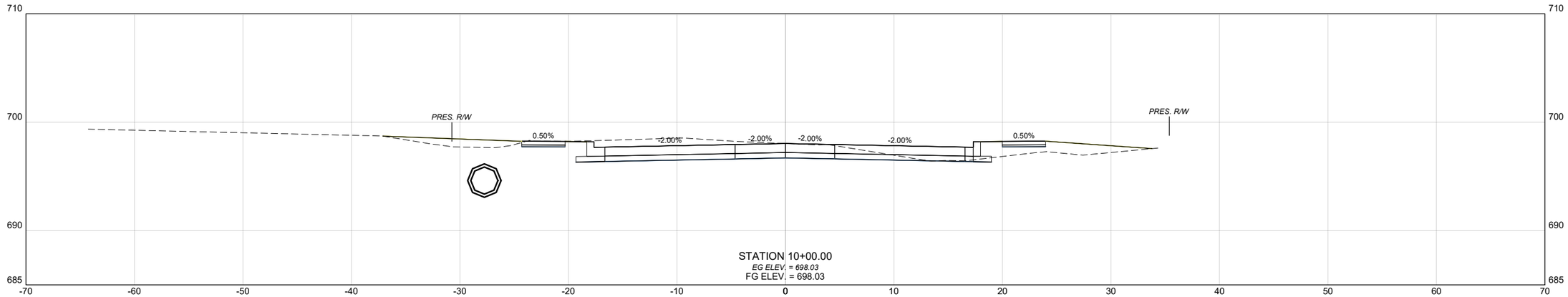

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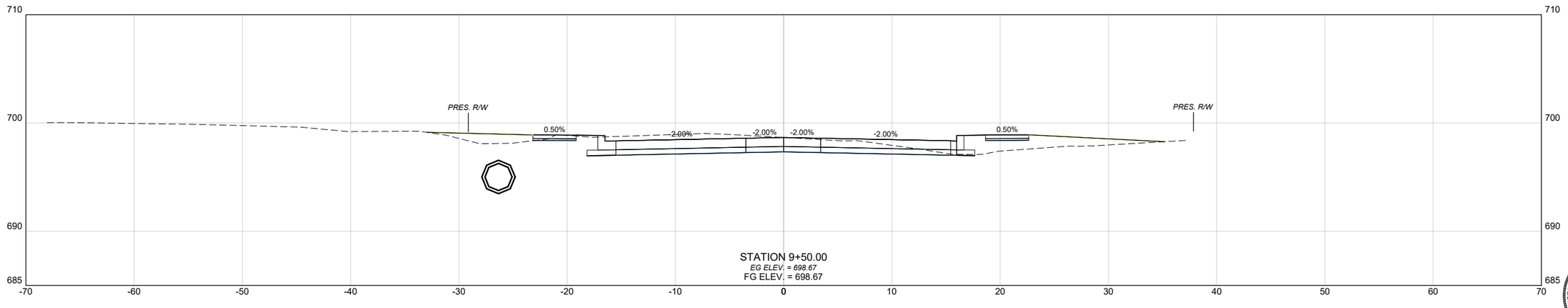
FG ELEV. = 698.03



STATION 9+50.00
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FG ELEV. = 698.67

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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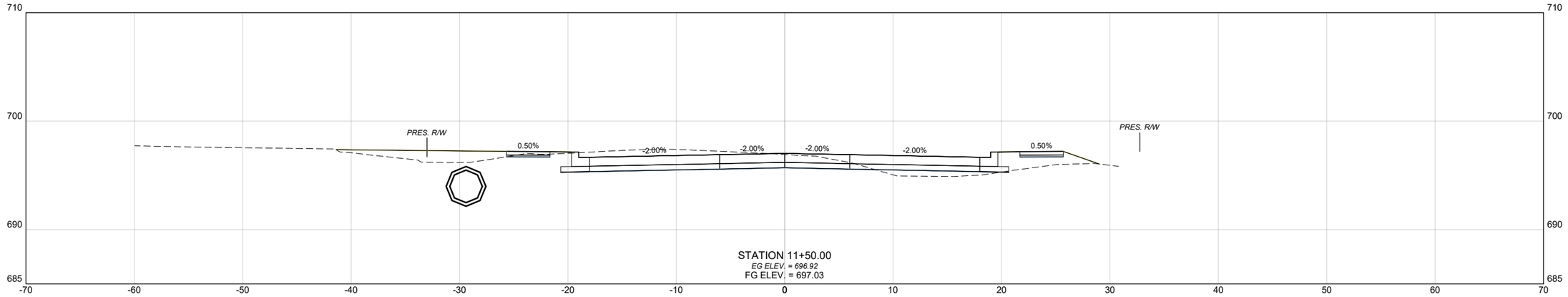
DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X008



STATION 11+50.00
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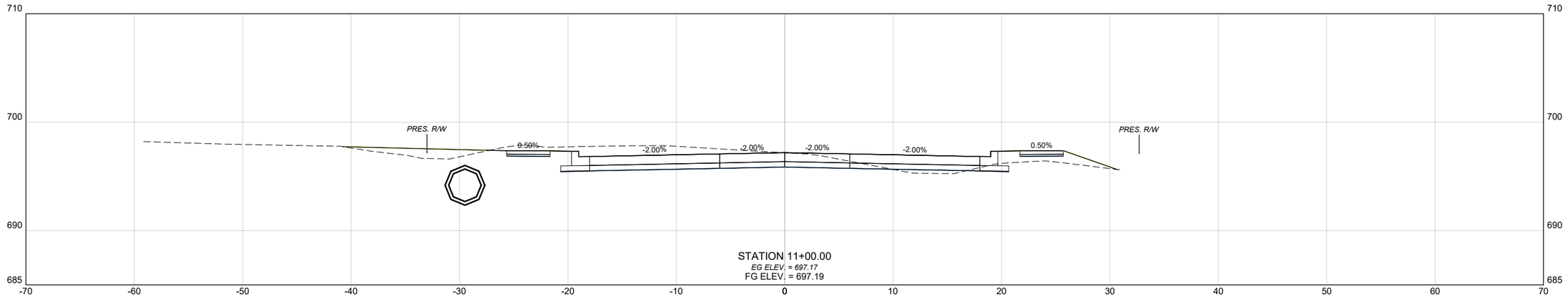
FG ELEV. = 697.03



STATION 11+00.00
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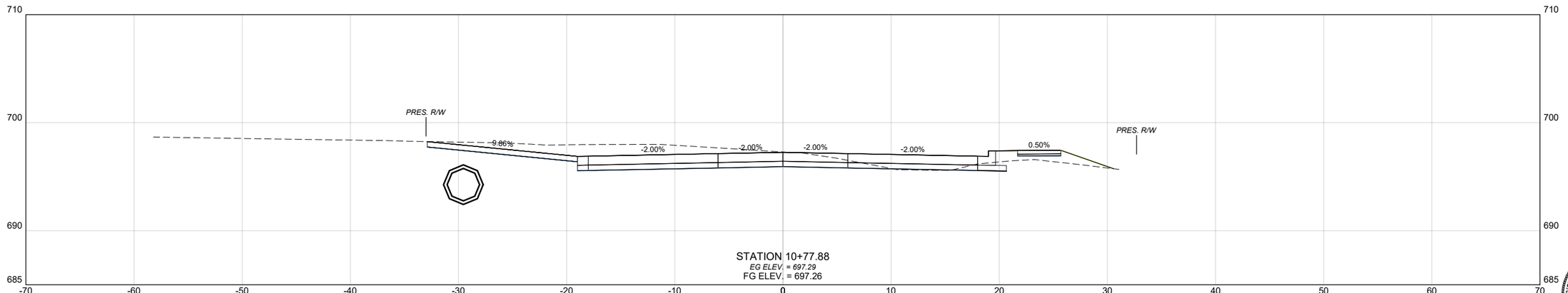

STATION 10+77.88
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FG ELEV. = 697.26

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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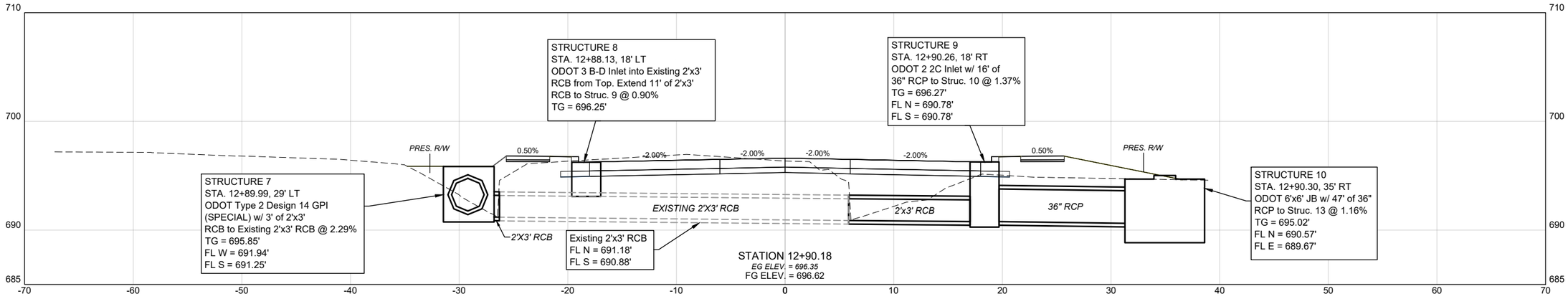
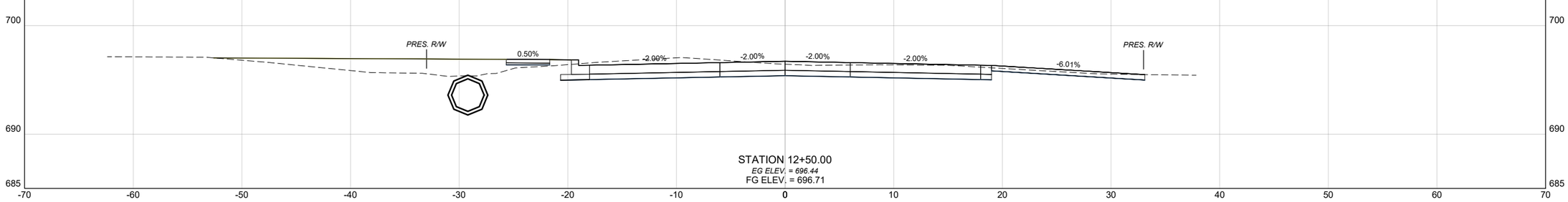
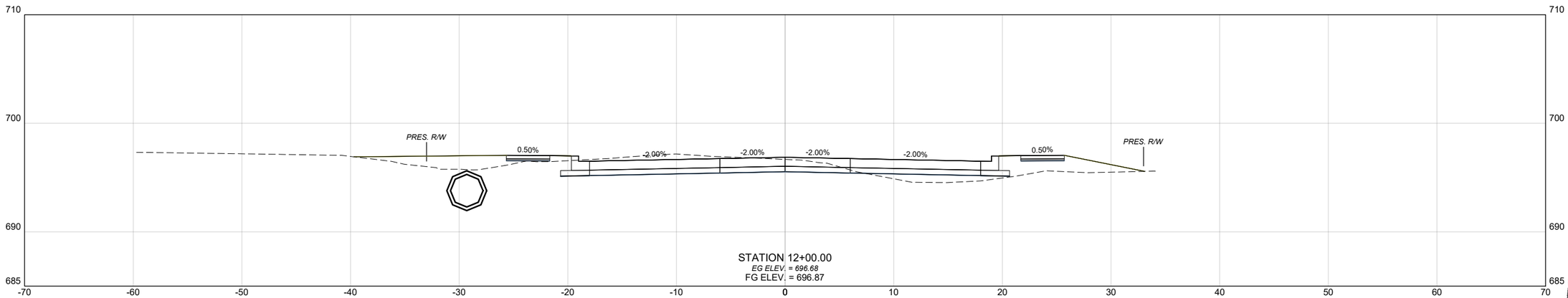
DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X009







BRET CABINESS 18093 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA

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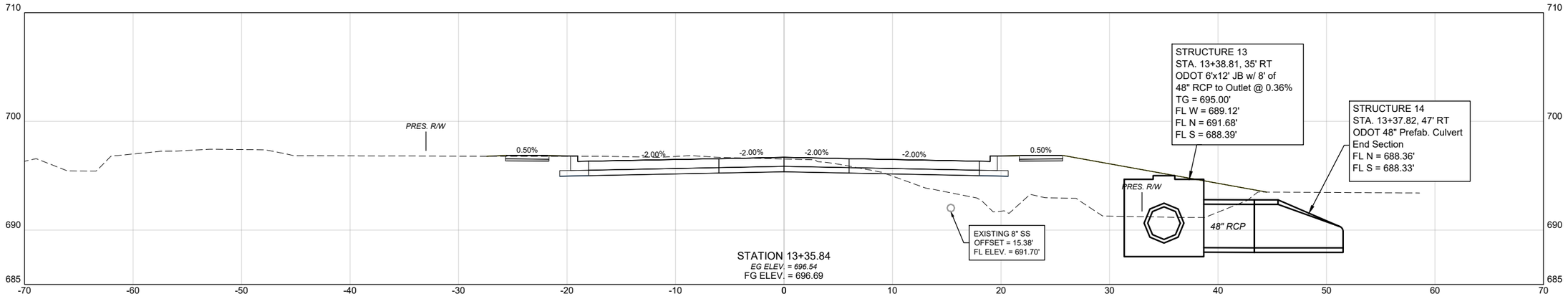
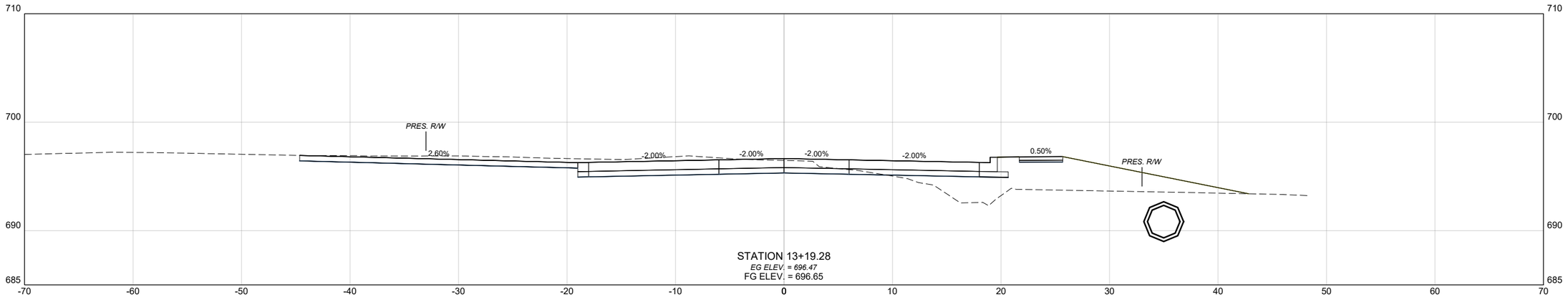
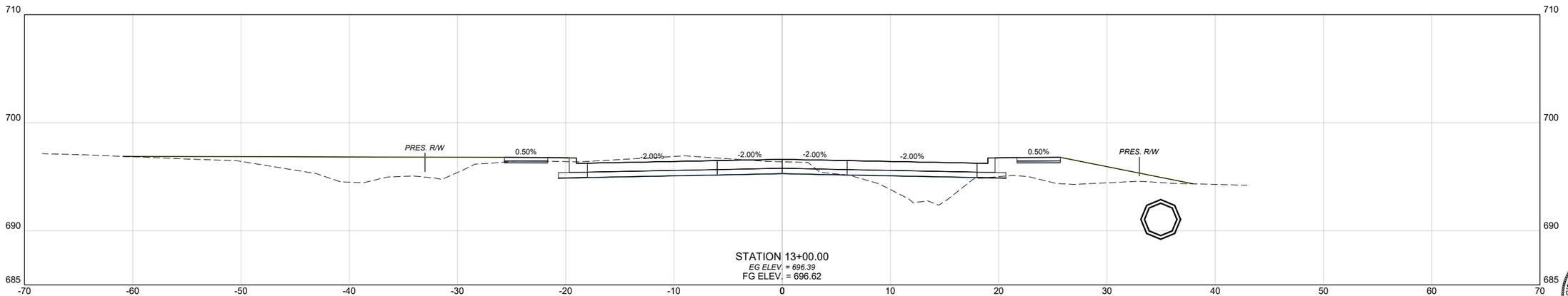
DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X010







REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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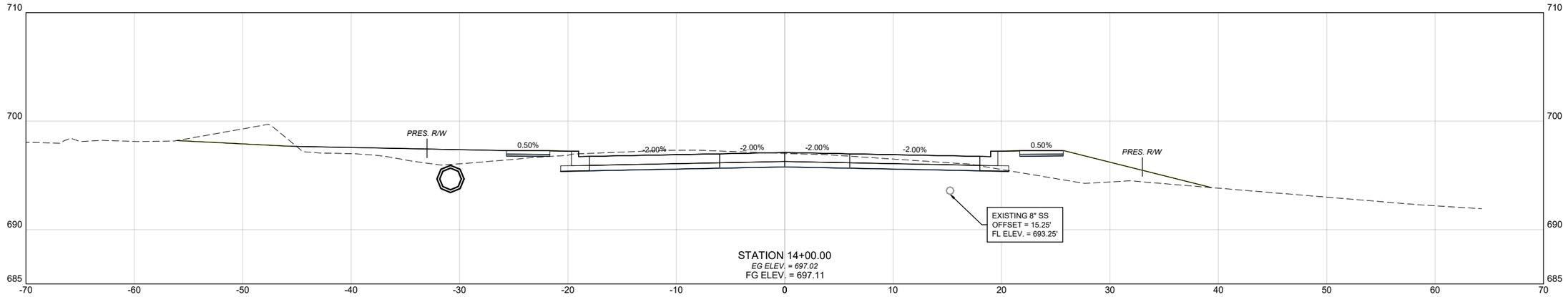
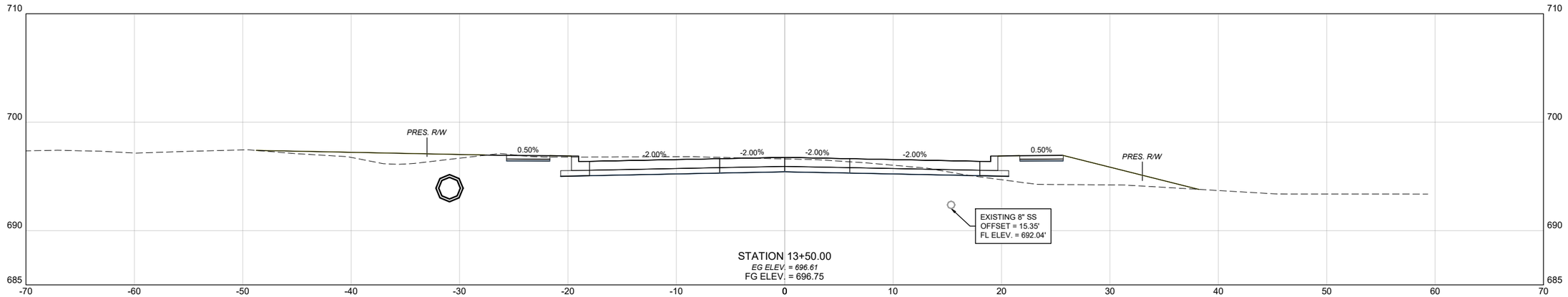
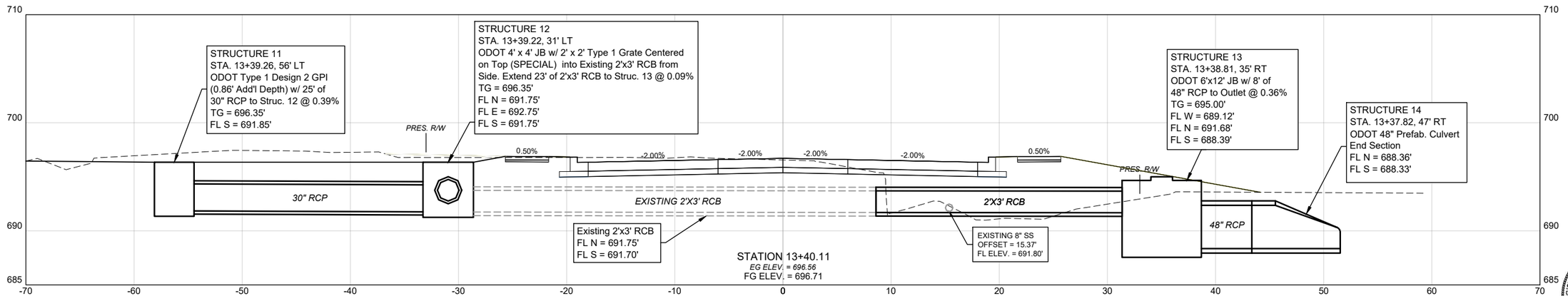
DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X011





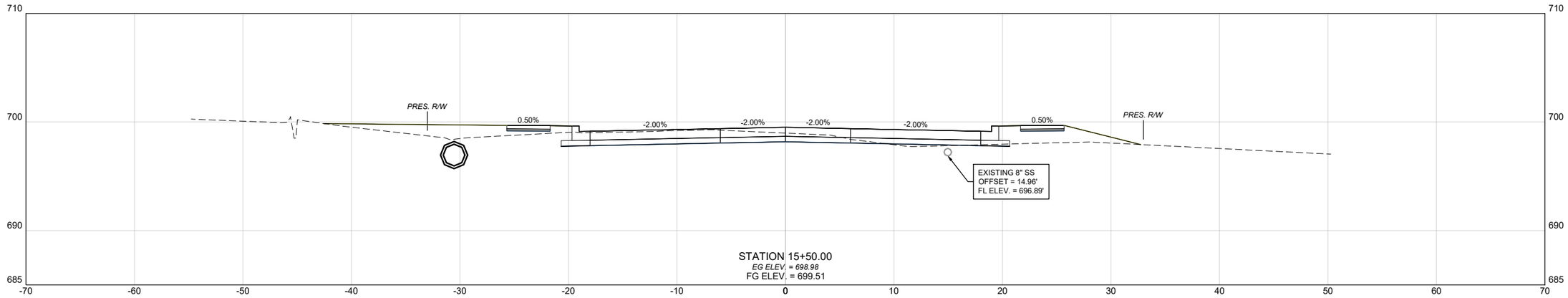


REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

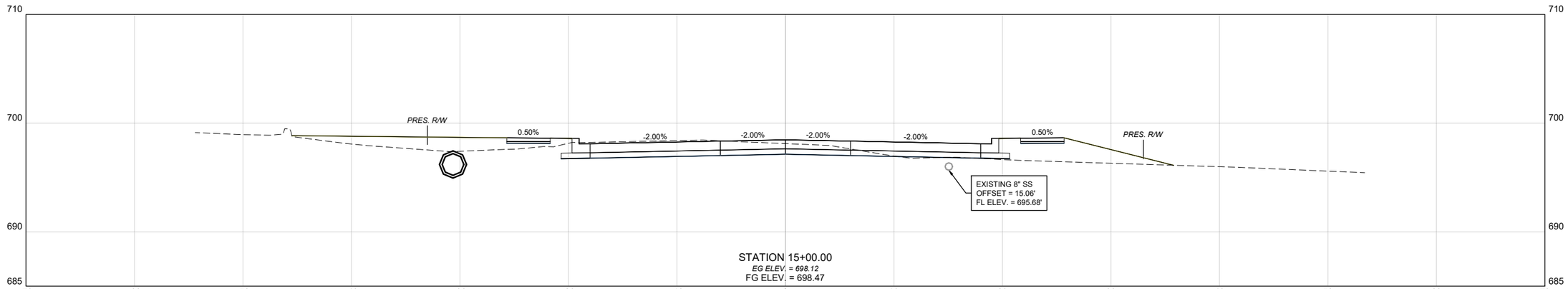
L:\CAB\Projects\386 ~ Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Cross Section Sheets.dwg XS - (12) JMStrahorn 2/22/2021 11:56 AM

DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X012



STATION 15+50.00
EG ELEV. = 698.98
FG ELEV. = 699.51



STATION 15+00.00
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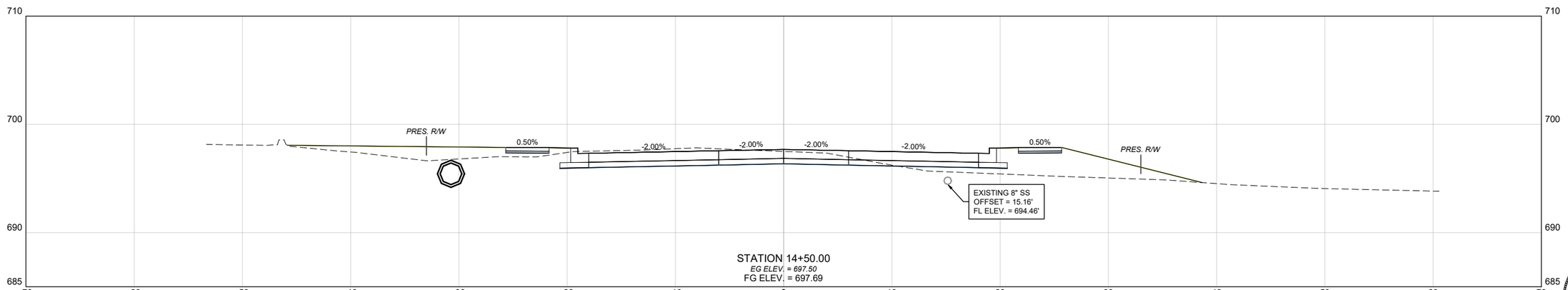
FG ELEV. = 698.47



STATION 14+50.00
EG ELEV. = 697.50
FG ELEV. = 697.69

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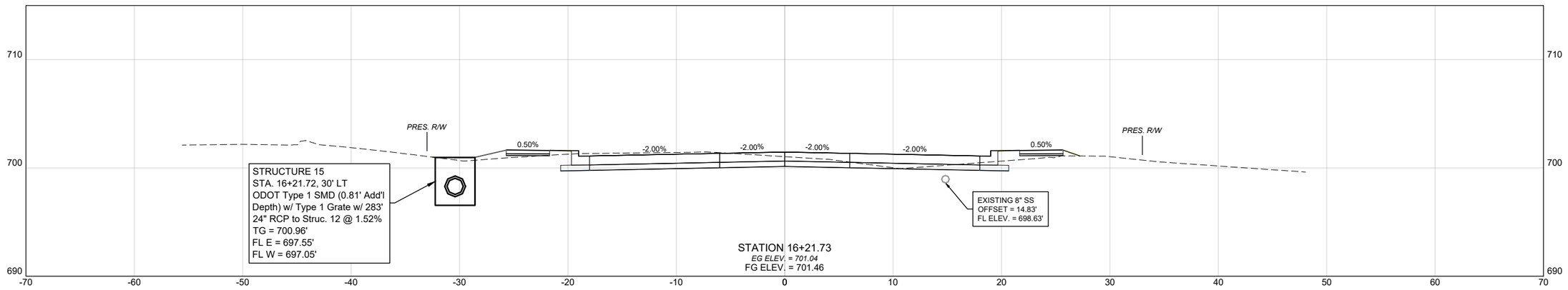
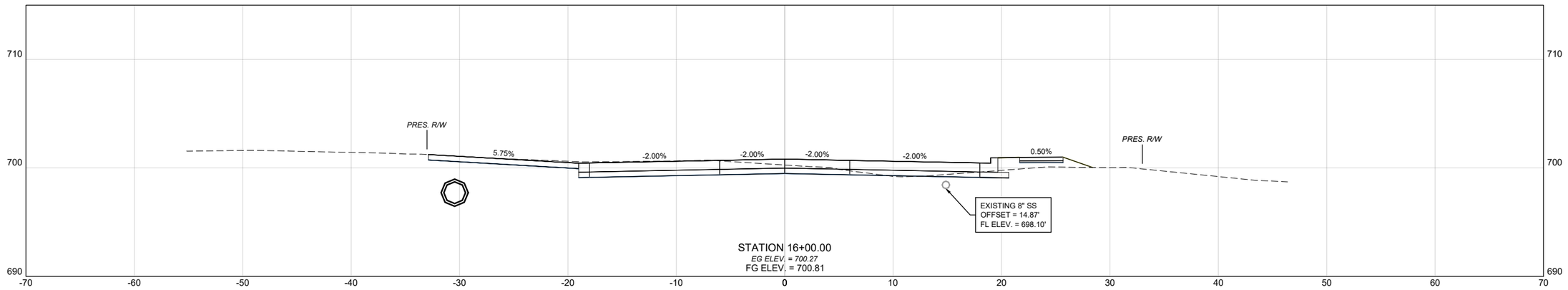
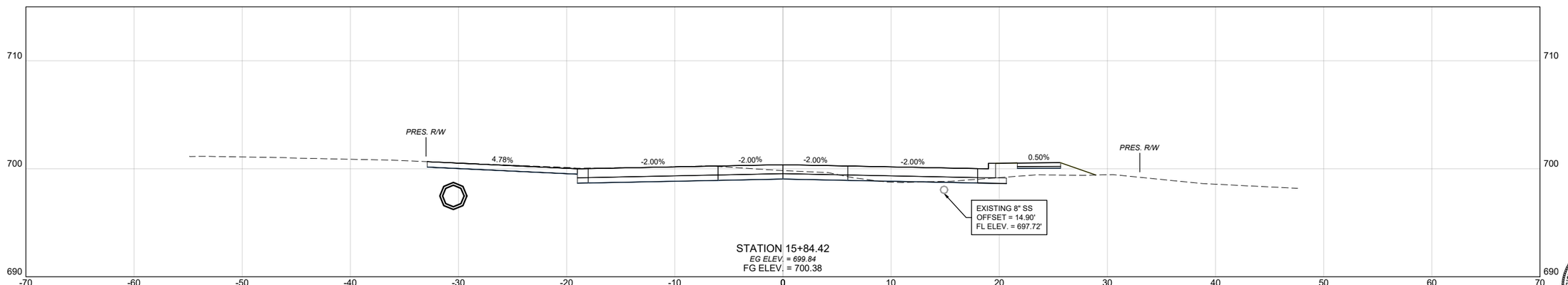
DURANT ROADWAY REHABILITATION BRYAN COUNTY

REGISTERED PROFESSIONAL ENGINEER J. BRET CABBINESS 18093 OKLAHOMA

PROJECT NO. 4-3 SHEET NO. X013







REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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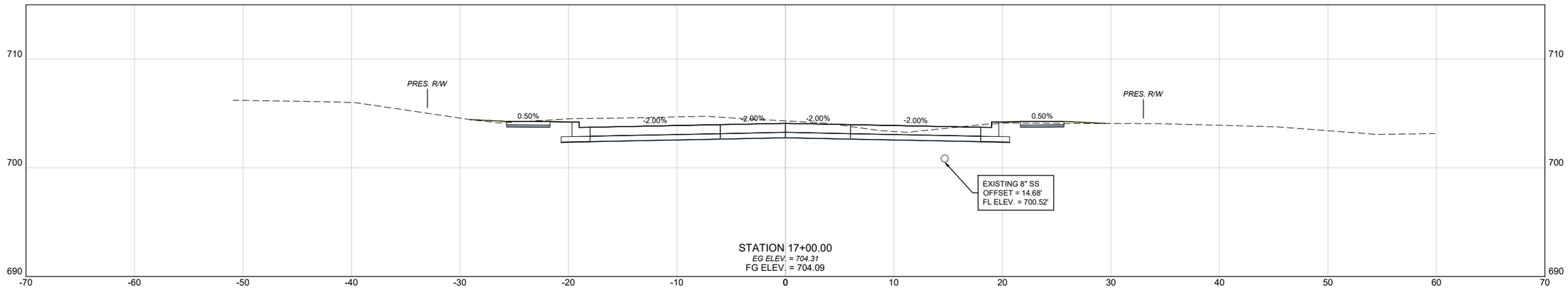
DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X014



STATION 17+00.00
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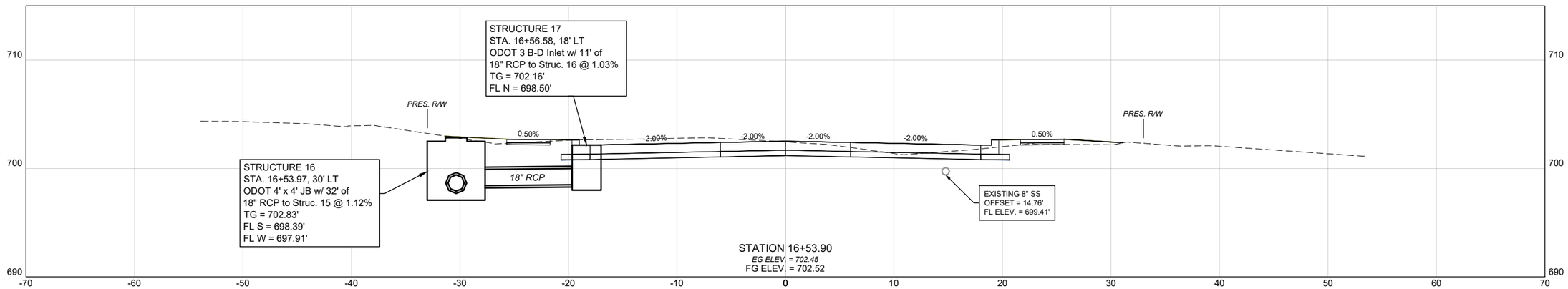
FG ELEV. = 704.09



STATION 16+53.90
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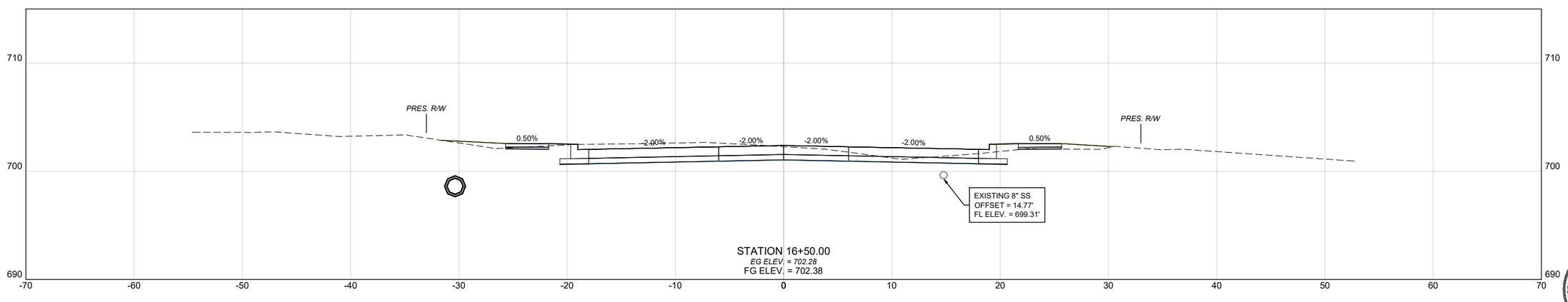
FG ELEV. = 702.52



STATION 16+50.00
EG ELEV. = 702.28
FG ELEV. = 702.38

REGISTERED PROFESSIONAL ENGINEER
BRET C. GARRISON
18093
OKLAHOMA

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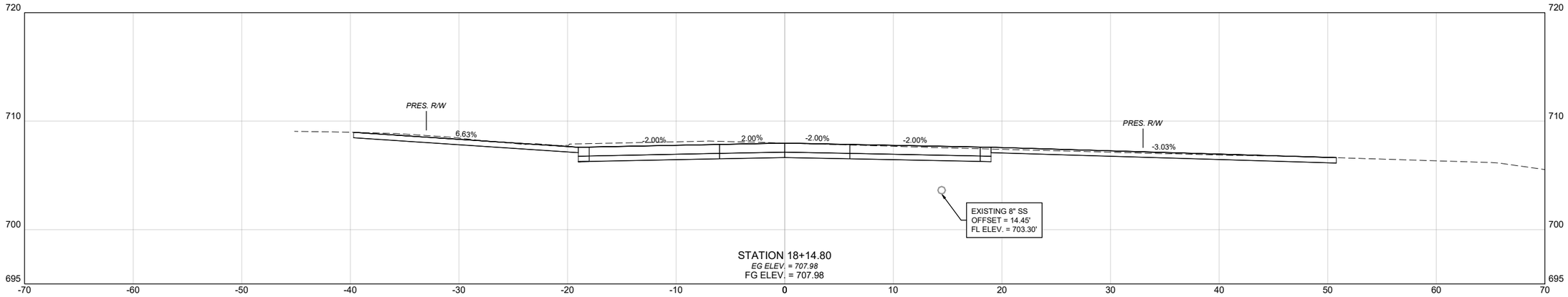
DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X015



STATION 18+14.80
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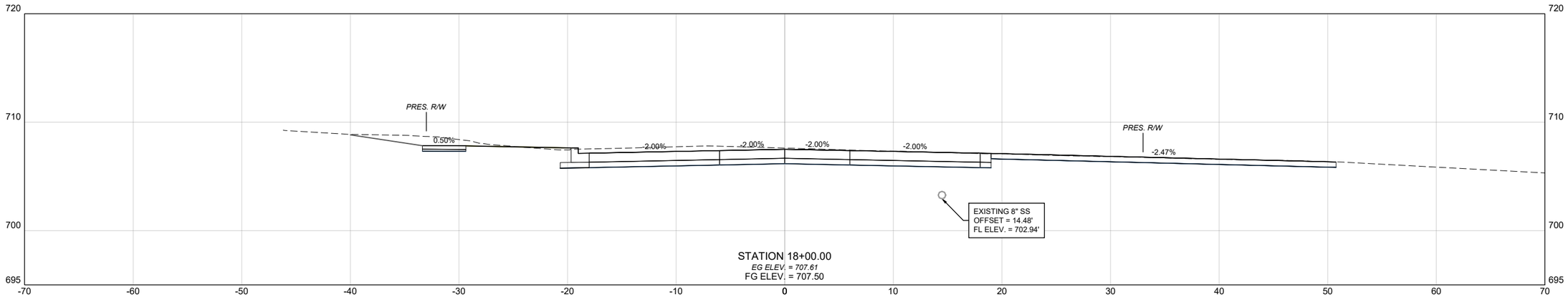
FG ELEV. = 707.98



STATION 18+00.00
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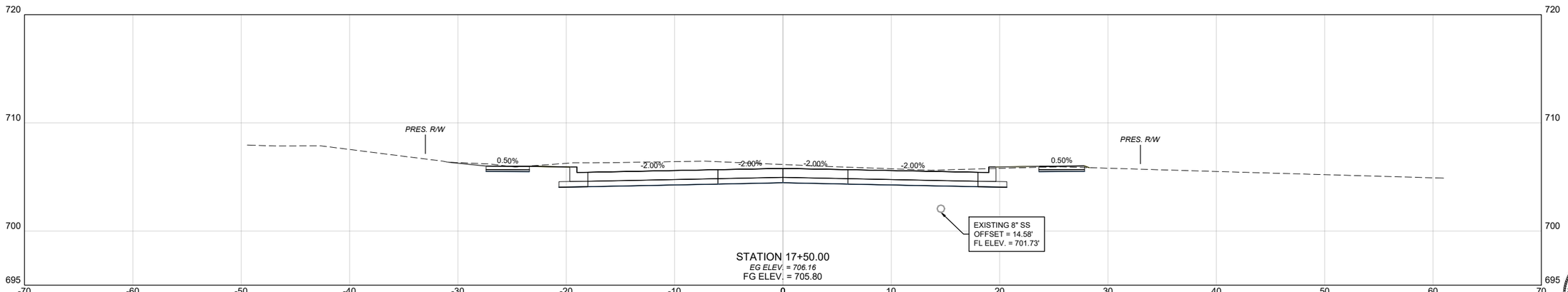
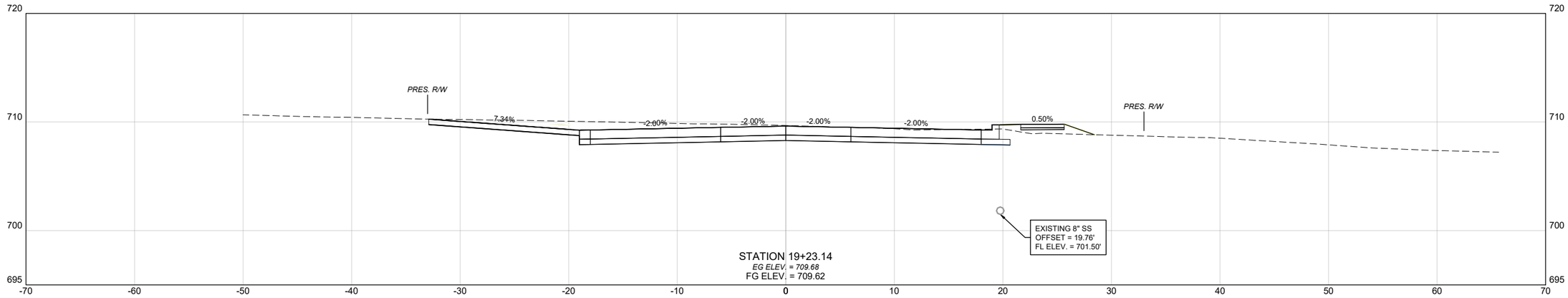
FG ELEV. = 707.50



STATION 17+50.00
EG ELEV. = 706.16
FG ELEV. = 705.80

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA



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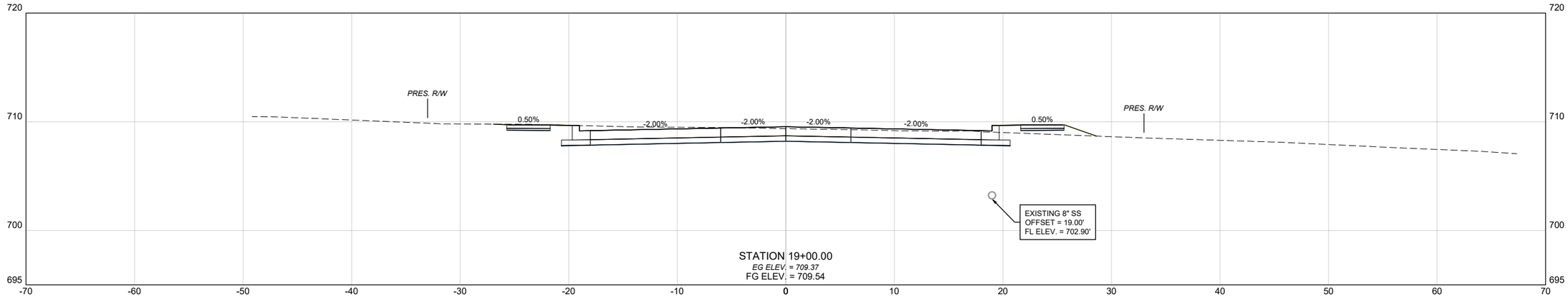

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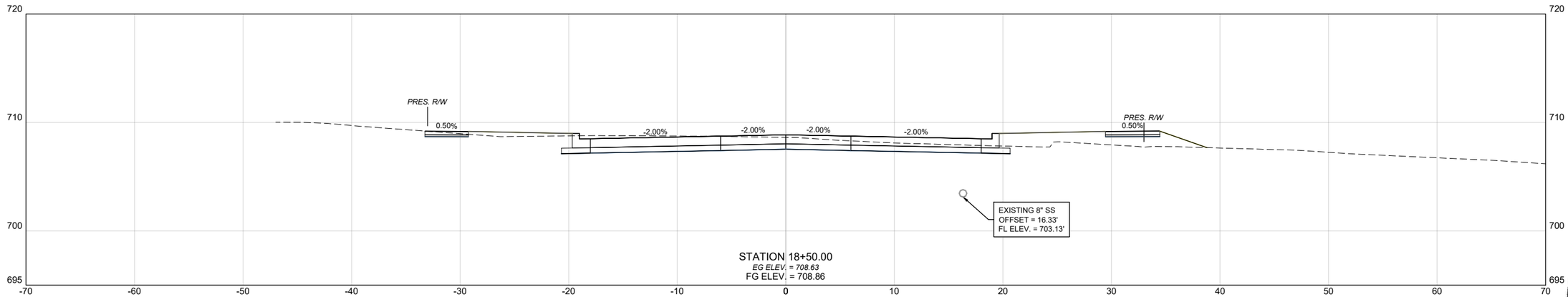

STATION 18+50.00
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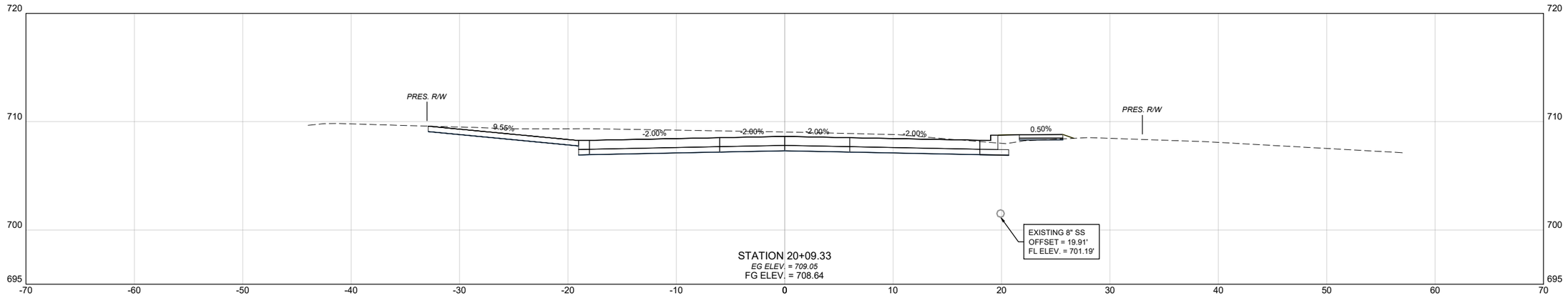
FG ELEV. = 708.86

REGISTERED PROFESSIONAL ENGINEER
BRET CRABTREE
18093
OKLAHOMA

L:\CAB\Projects\386 - Durant Transportation Bond Project 4-3 Univ from Gates to Univ Place\DWG\386 - Cross Section Sheets.dwg XS - (17) JMStrahorn 2/22/2021 11:56 AM

DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X017



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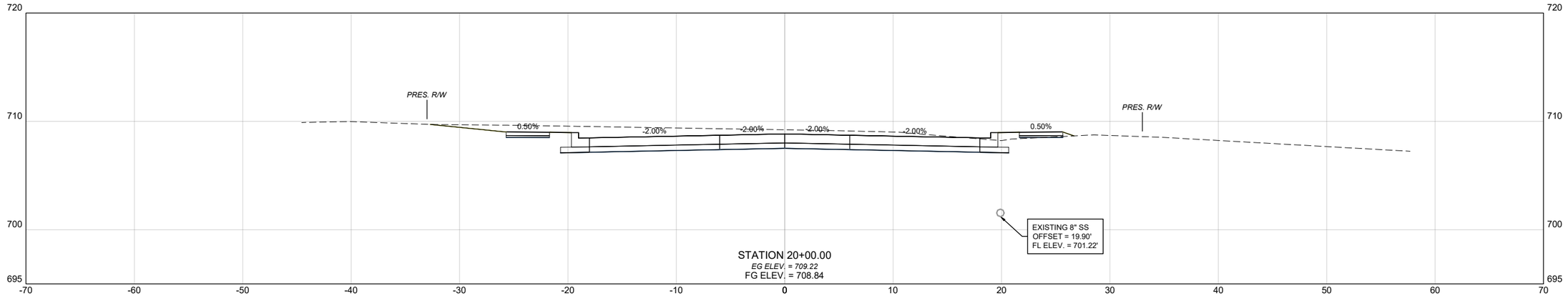

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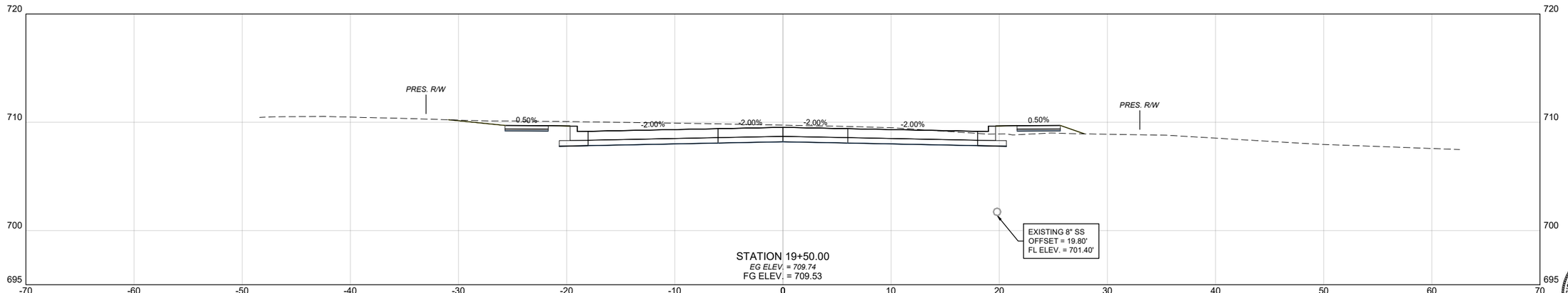

STATION 19+50.00
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REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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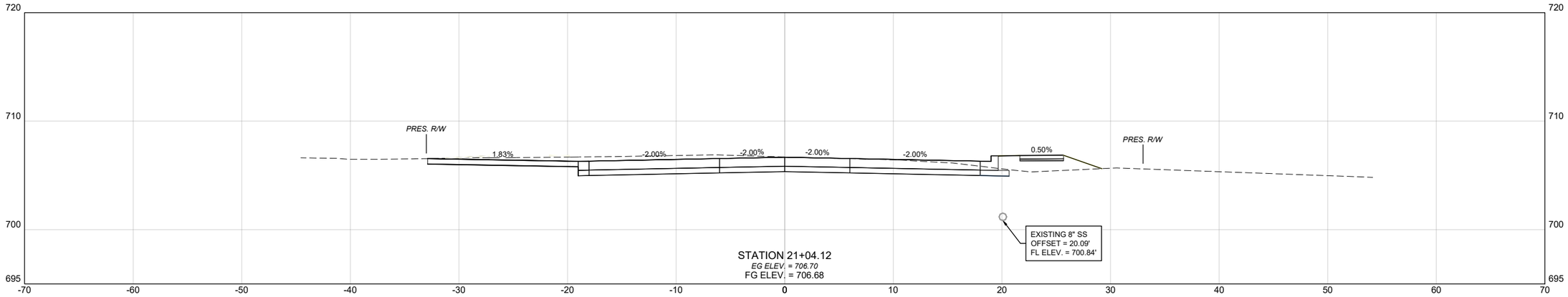
DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X018



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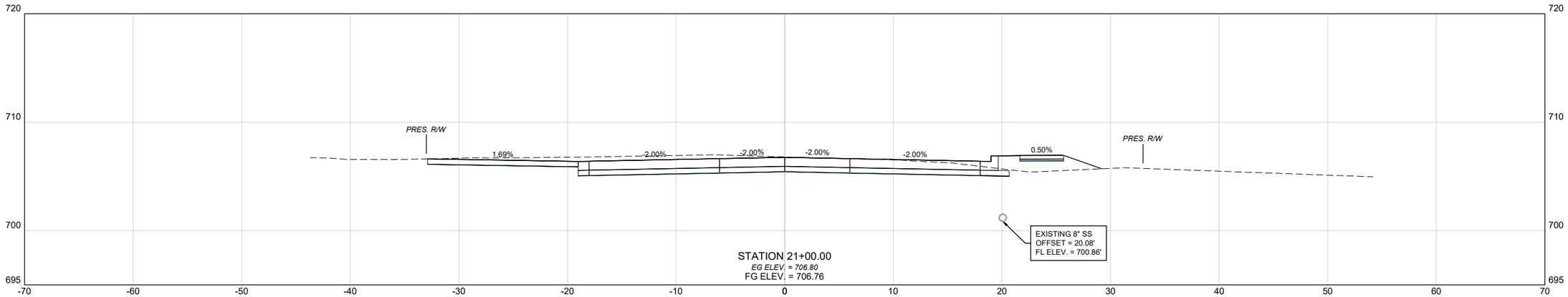

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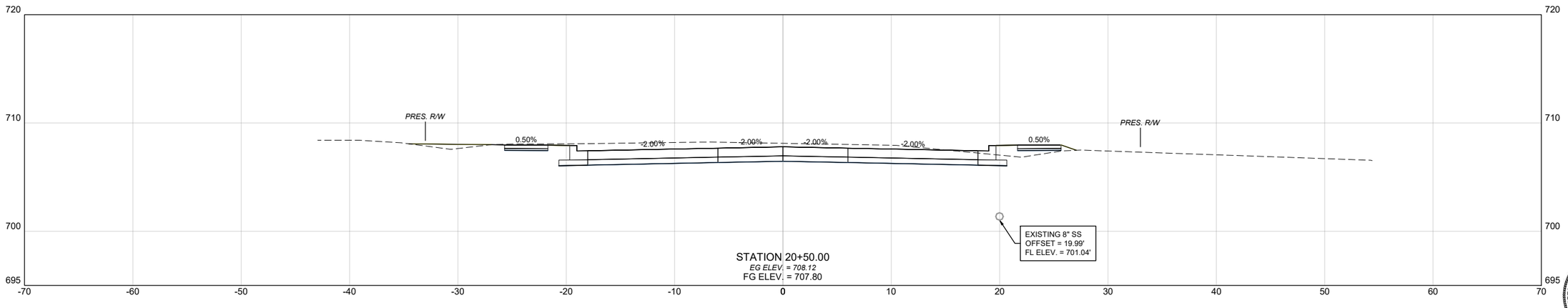

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FG ELEV. = 707.80

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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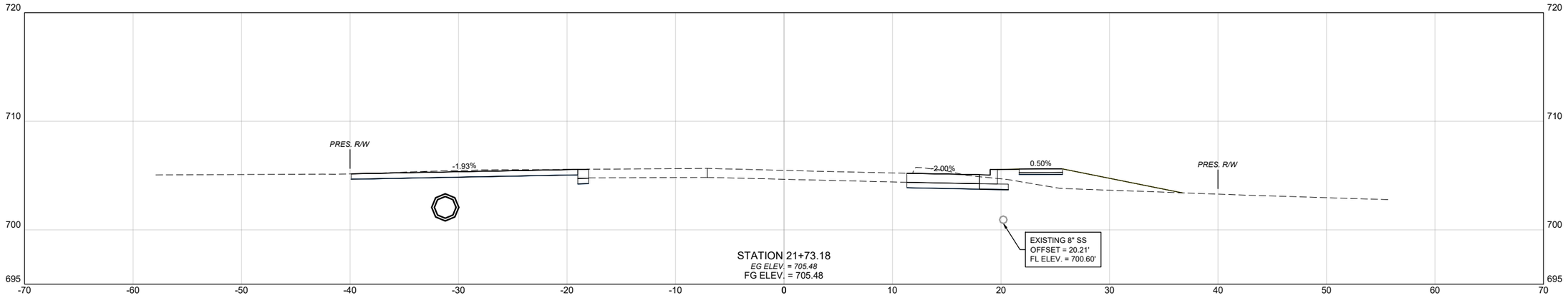
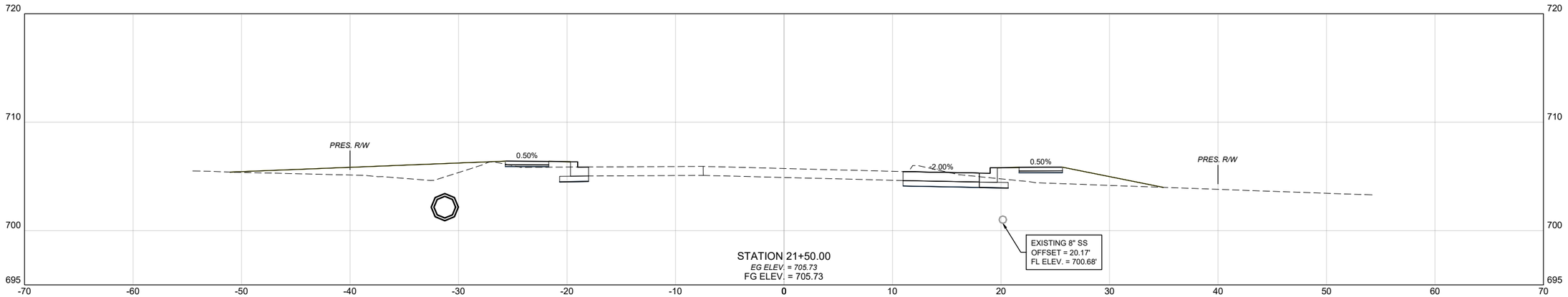
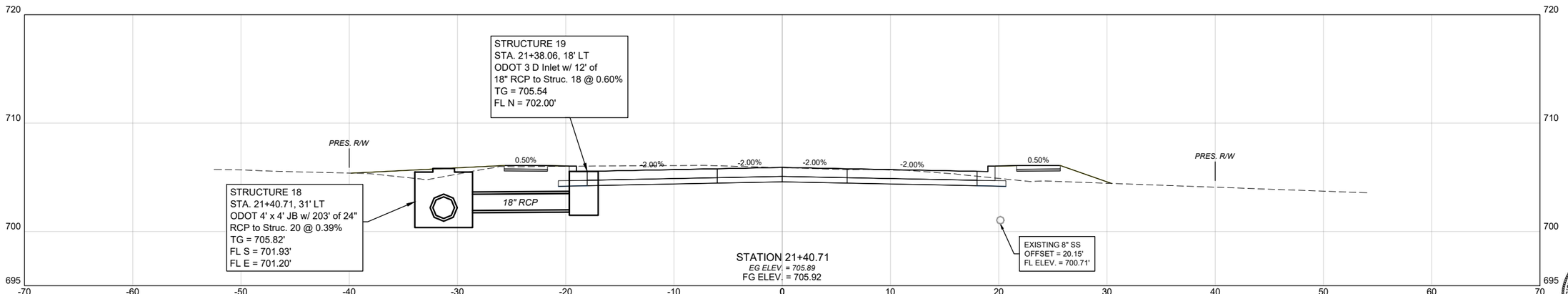
DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X019







REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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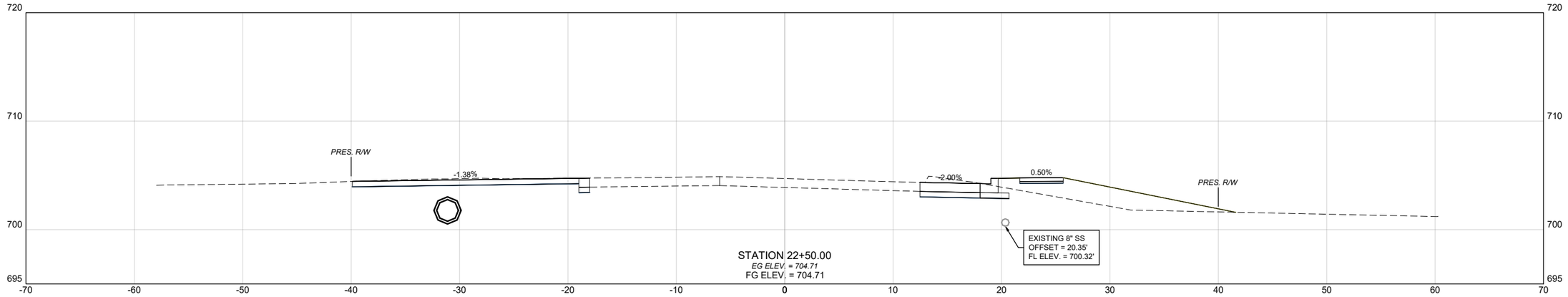

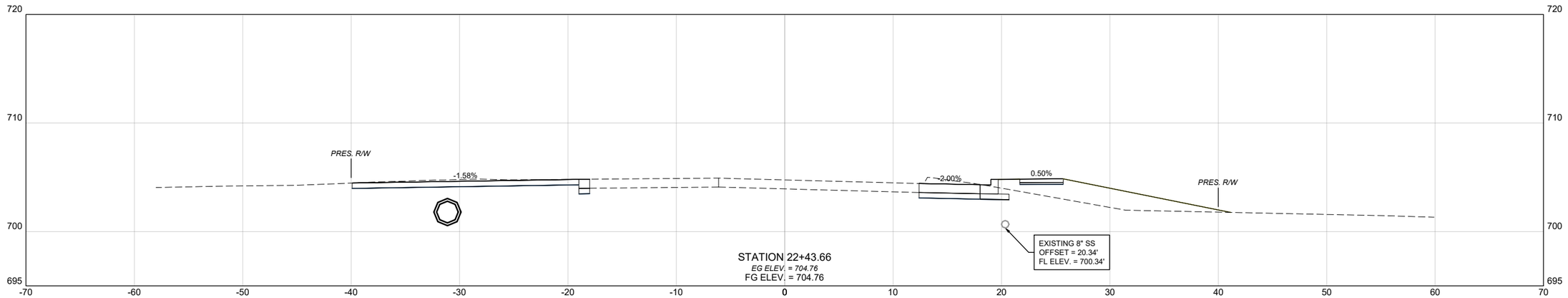

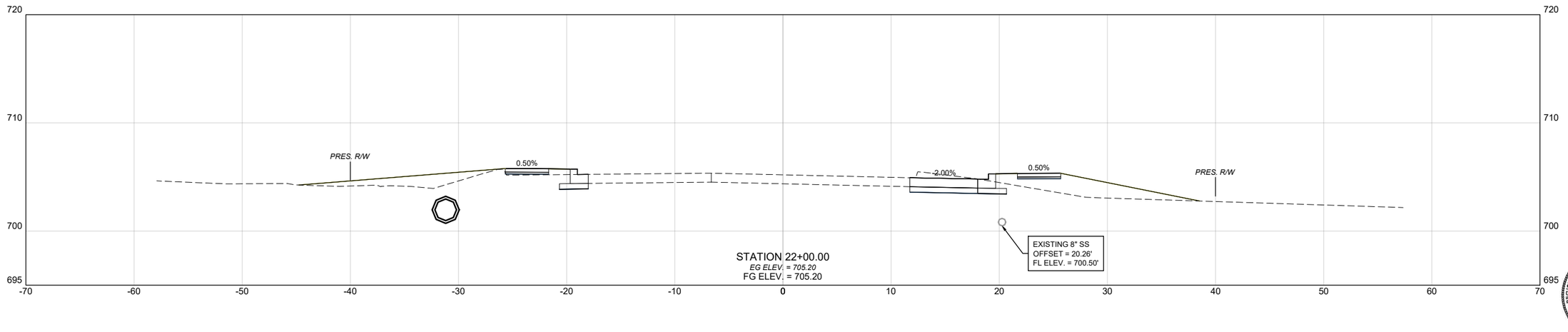

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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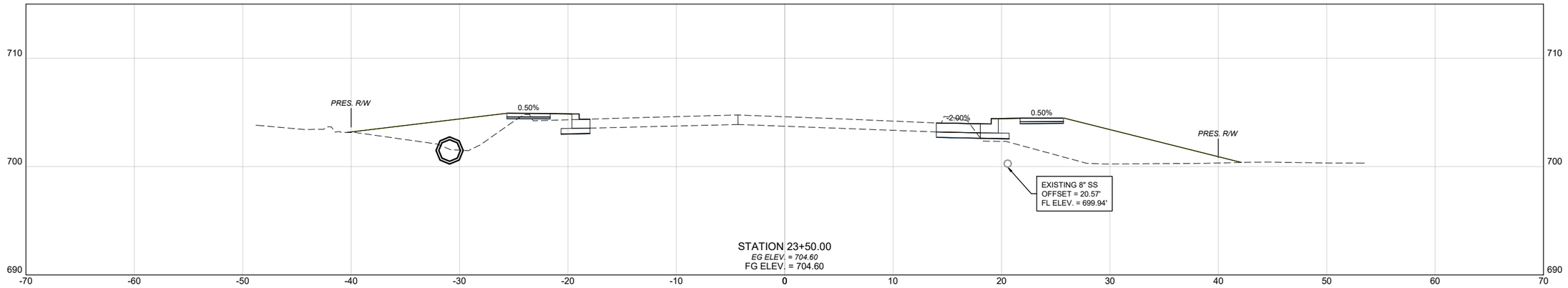
DURANT ROADWAY REHABILITATION BRYAN COUNTY

PROJECT NO. 4-3 SHEET NO. X021



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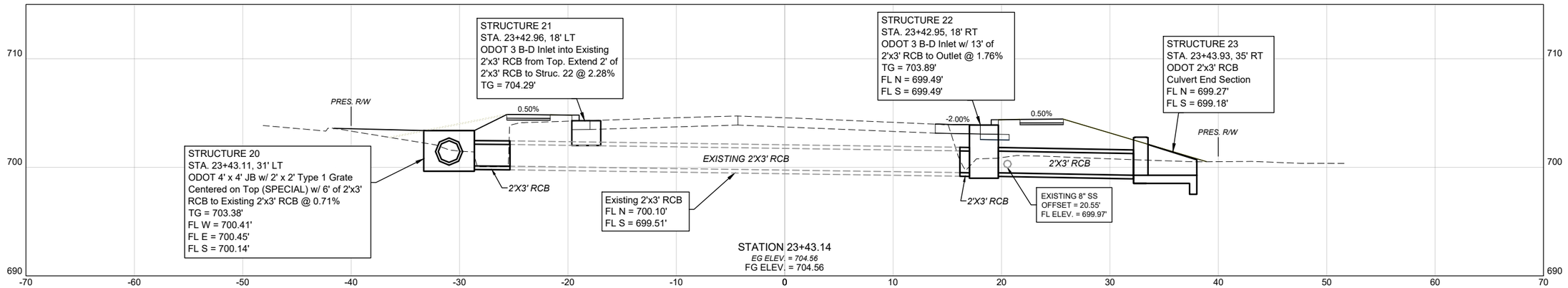

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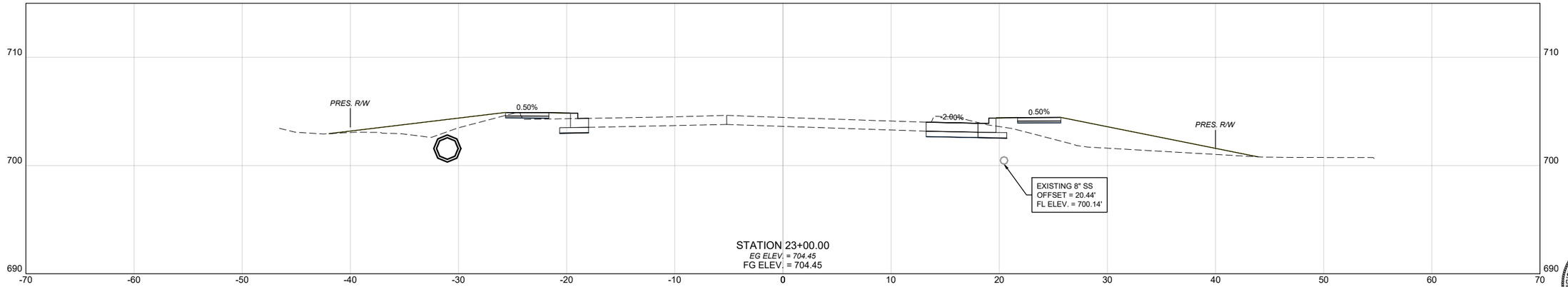

STATION 23+00.00
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REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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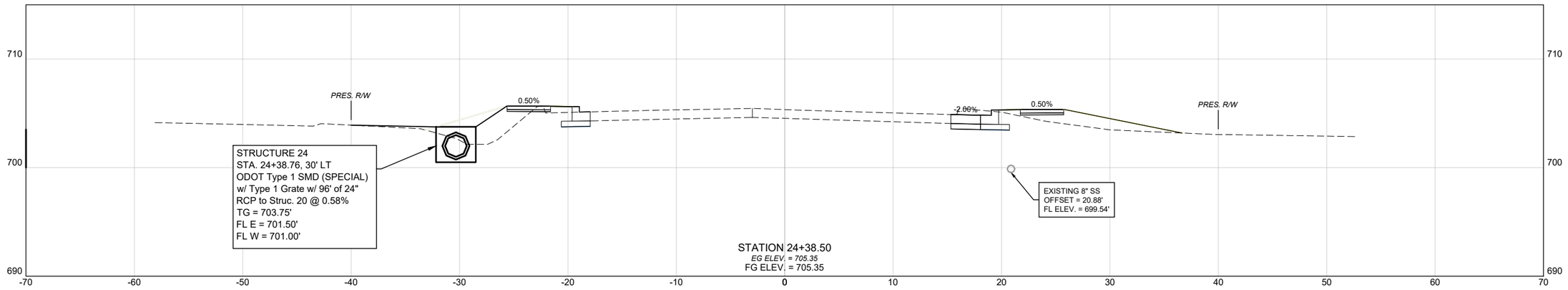
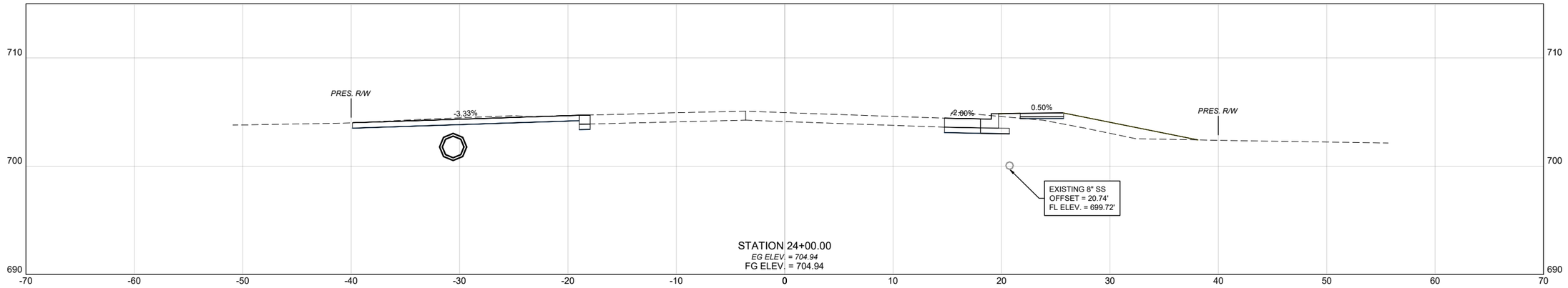
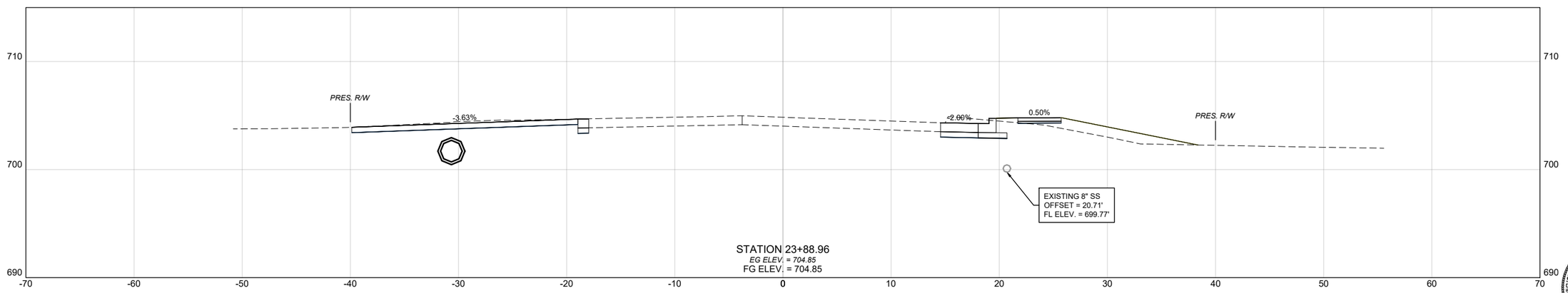
DURANT ROADWAY REHABILITATION - BRYAN COUNTY







REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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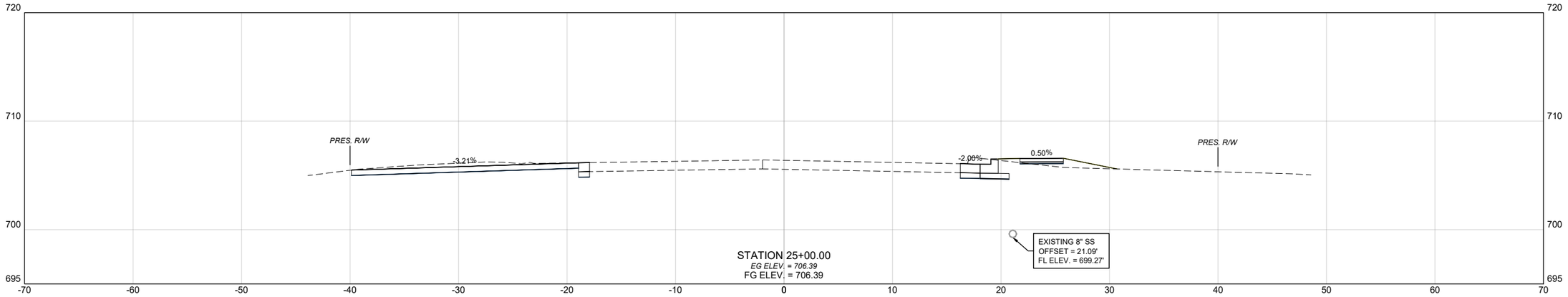

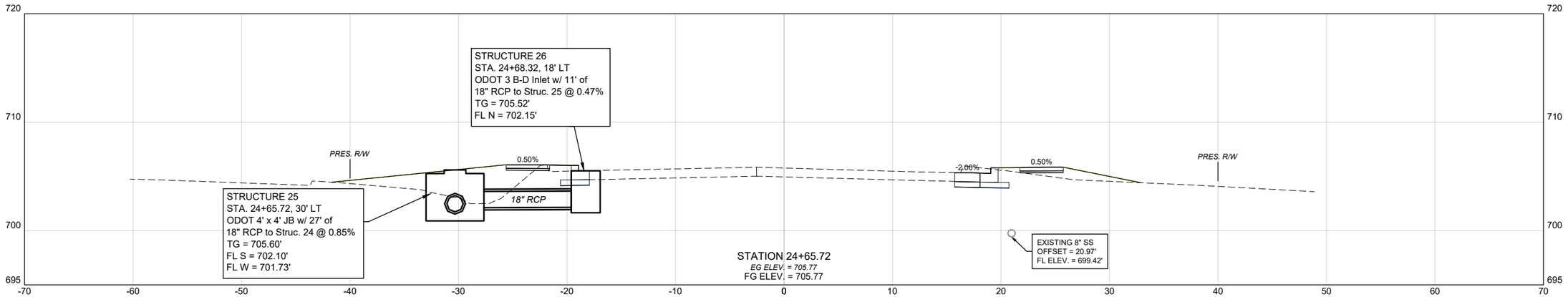

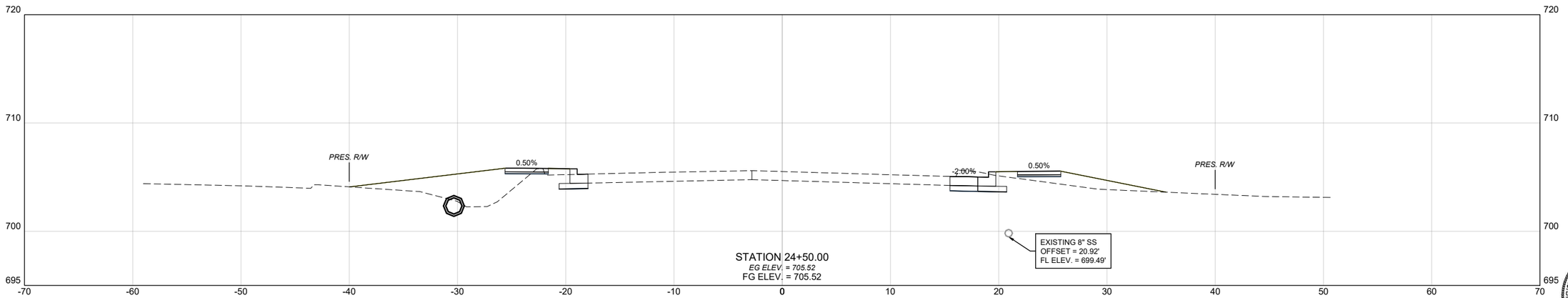

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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DURANT ROADWAY REHABILITATION BRYAN COUNTY

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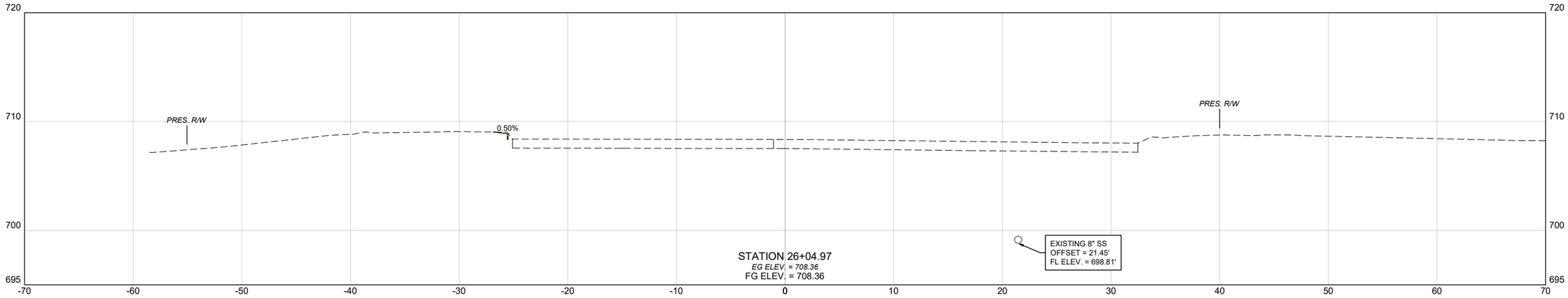

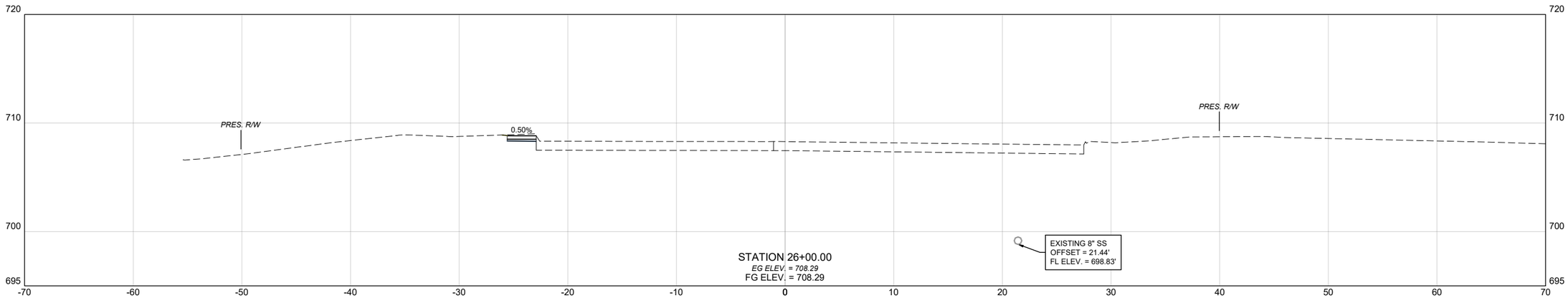

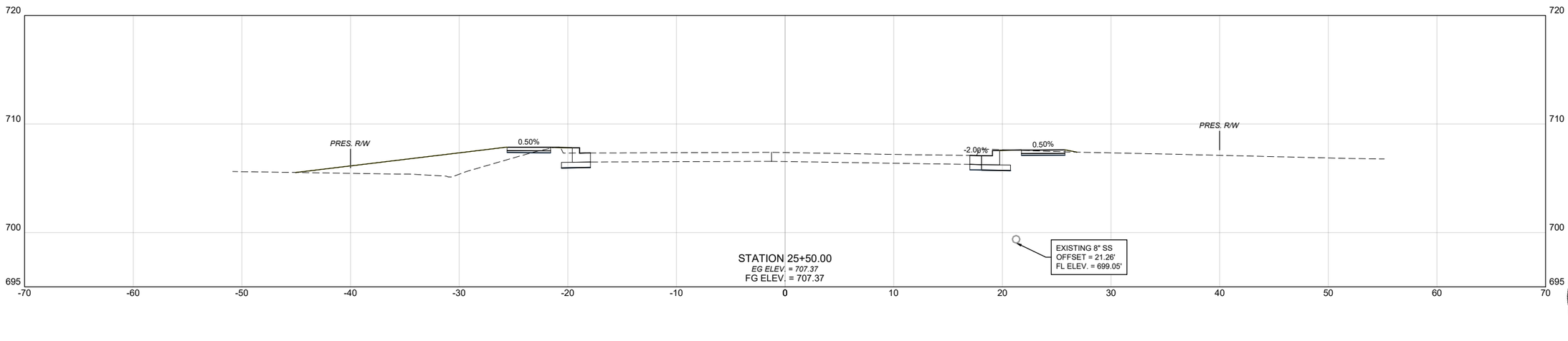

REGISTERED PROFESSIONAL ENGINEER
BRET CABBINESS
18093
OKLAHOMA

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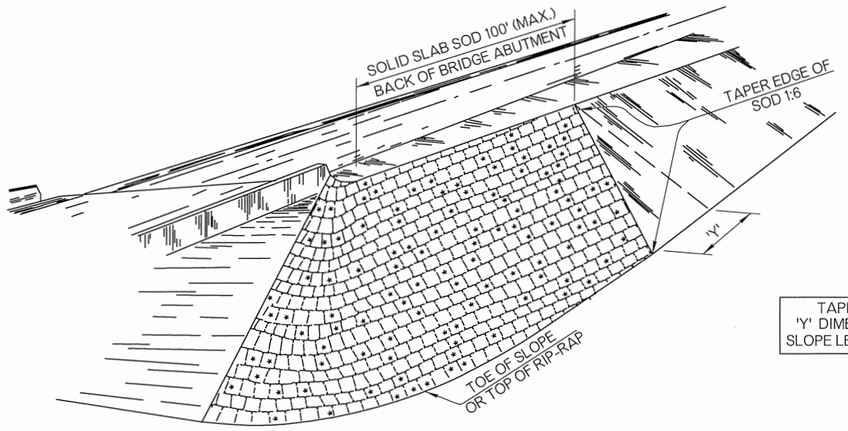
DURANT ROADWAY REHABILITATION BRYAN COUNTY

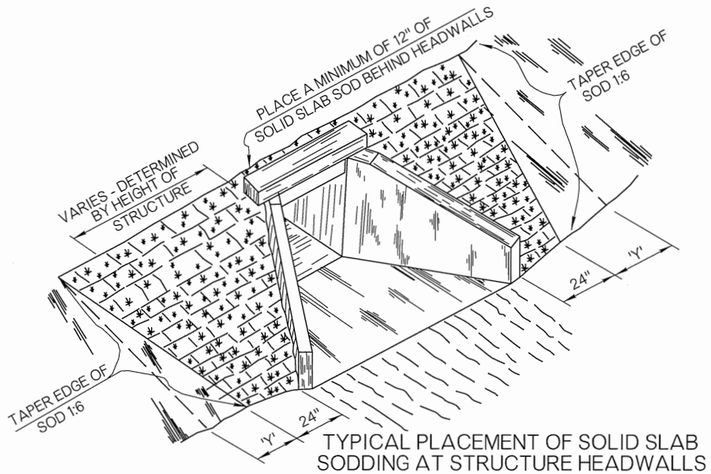
PROJECT NO. 4-3 SHEET NO. X025

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



TYPICAL PLACEMENT OF SOLID SLAB SODDING
ON FILL SLOPES, APPROACHES TO OVERPASSES AND BRIDGES.

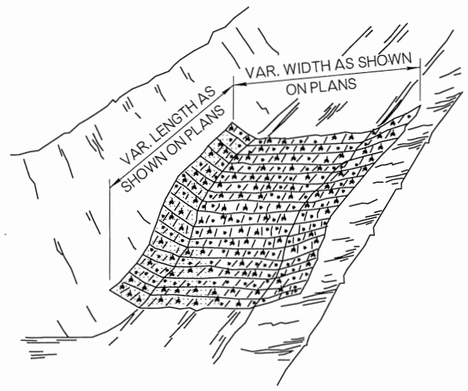
TAPER NOTE
'Y' DIMENSION =
SLOPE LENGTH x 0.17



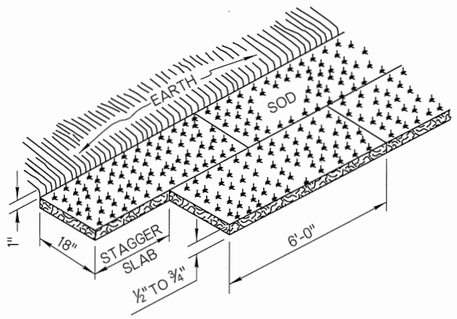
TYPICAL PLACEMENT OF SOLID SLAB
SODDING AT STRUCTURE HEADWALLS

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. SOLID SLAB SOD SHALL BE PLACED IN HORIZONTAL ROWS WITH THE LONGEST SIDE OF EACH SLAB RUNNING PARALLEL TO THE ROADWAY, AND THE SLABS IN ALTERNATE ROWS STAGGERED HALF THE LENGTH OF EACH INDIVIDUAL SLAB. ENSURE THE ROWS RUN PARALLEL TO THE ROADWAY.
3. SLABS SHALL BE CUT AND HARVESTED WITH A COMMERCIAL SOD CUTTER TO THE DIMENSIONS SHOWN, THEN LOADED, TRANSPORTED AND HANDLED ON PALLETS.
4. AFTER PLACEMENT OF SOLID SLAB SOD, EARTH AT THE OUTER EDGES OF THE PLACEMENT SHALL BE BACKFILLED AND LOOSELY COMPACTED TO AT LEAST 1" ABOVE THE TOP OF THE SOLID SLAB SODDING.
5. STAKE SOD ON ALL SLOPES 1:2 OR STEEPER, AND ON ANY AREAS THAT ARE IN SUCH CONDITION THAT THERE IS DANGER OF SOD SLIPPING. PERFORM STAKING CONCURRENTLY WITH SOD PLACEMENT AND PRIOR TO TAMPING WITH SOUND WOODEN STAKES APPROXIMATELY 1 INCH SQUARE OR 1 INCH IN DIAMETER AND NOT LESS THAN 12 INCHES IN LENGTH, OR USE METAL STAPLES IN PLACE OF WOODEN STAKES. PLACE, STAKE AND STAPLE THE SOD WHERE NECESSARY, AND AS DETERMINED BY THE ENGINEER.



TYPICAL PLACEMENT OF
SOLID SLAB SODDING IN DITCHES



SOLID SLAB SODDING
(MARCH 1 THRU AUGUST 31)

THE PLACEMENT OF SOLID SLAB SOD SHALL BE RESTRICTED TO THE PERIOD FROM MARCH 1 THRU AUGUST 31, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
230(A)	SOLID SLAB SODDING	SY

APPROVED BY
ROADWAY ENGINEER: _____ DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

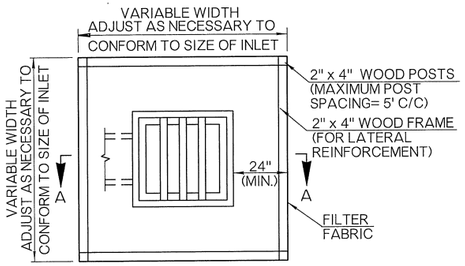
SOLID SLAB SODDING

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

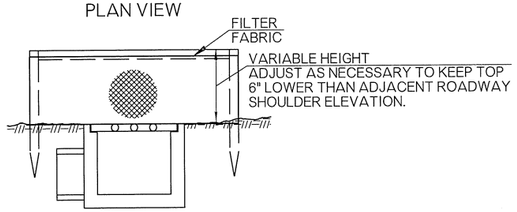
SSS-1 | 1

OKLAHOMA DEPARTMENT OF TRANSPORTATION

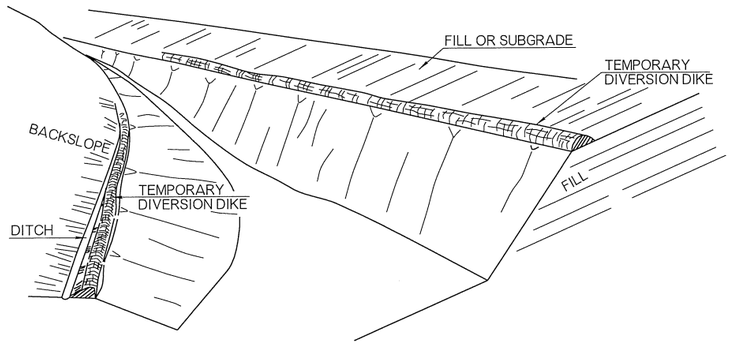
STANDARD REVISIONS	
DESCRIPTION	DATE



PLAN VIEW



SECTION A - A
SEDIMENT FILTER



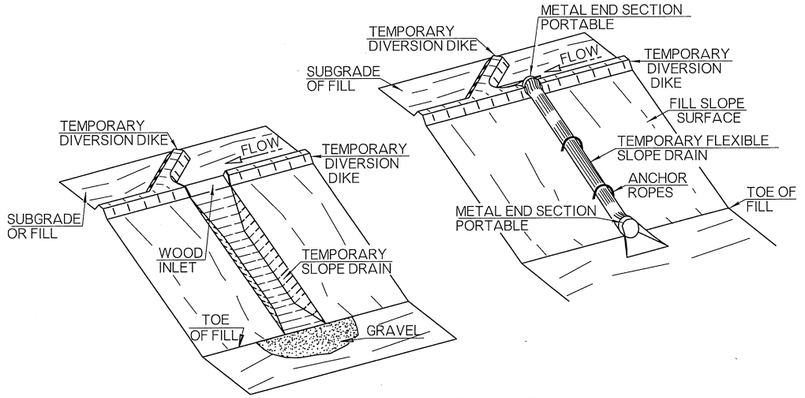
DIVERSION DIKES

TEMPORARY SEDIMENT FILTER

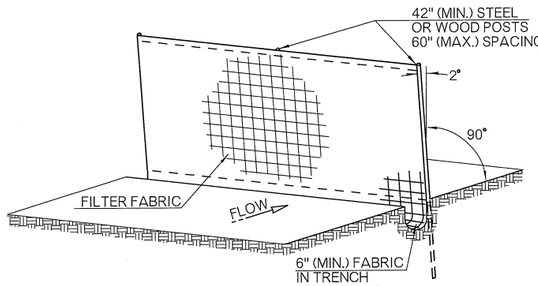
SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

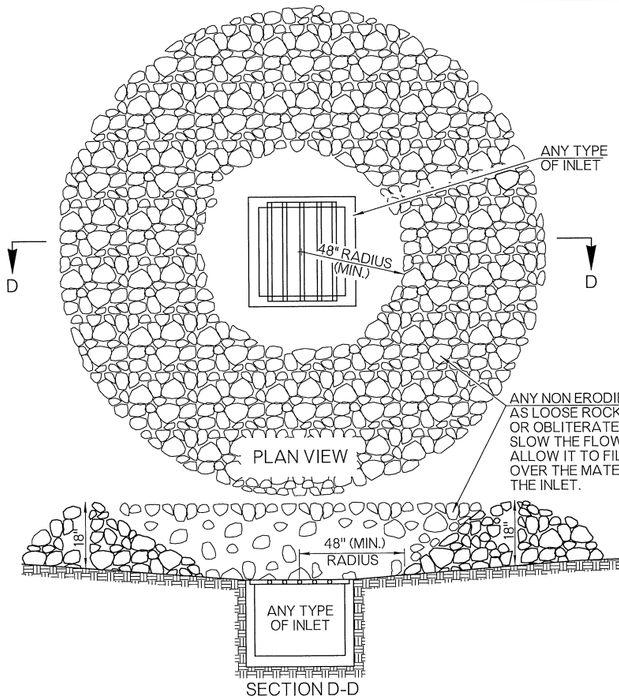
TSF
#



SLOPE DRAINS



TEMPORARY SILT FENCE
RECOMMENDED TOE-IN METHOD



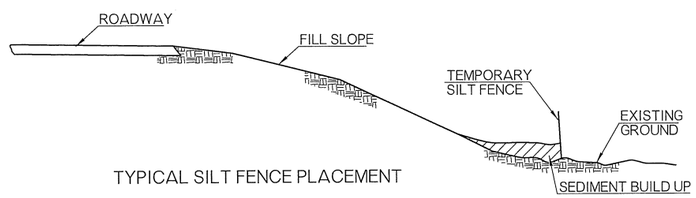
SECTION D-D

SEDIMENT FILTER
(TYPE II)

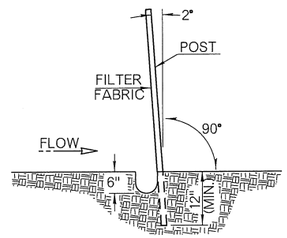
TEMPORARY SILT FENCE

SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS



TYPICAL SILT FENCE PLACEMENT



TEMPORARY SILT FENCE
SECTION

TEMPORARY SLOPE DRAIN

SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. COST OF TEMPORARY DIVERSION DIKES TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
221 (A)	TEMPORARY SLOPE DRAINS	LF
221 (C)	TEMPORARY SILT FENCE	LF
221 (D)	TEMPORARY SEDIMENT FILTER	EA

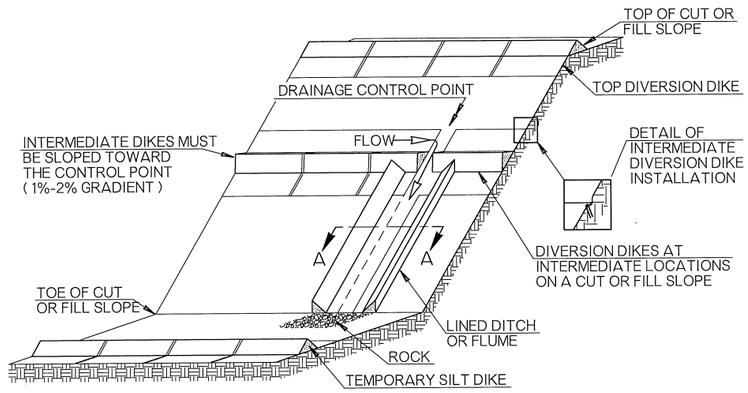
APPROVED BY
ROADWAY ENGINEER: Caleb F. H DATE 04/16/15

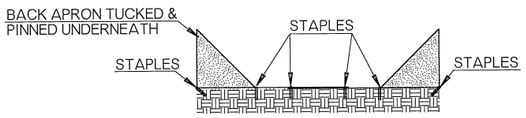
ROADWAY DESIGN DIVISION STANDARD

TEMPORARY SEDIMENT CONTROLS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

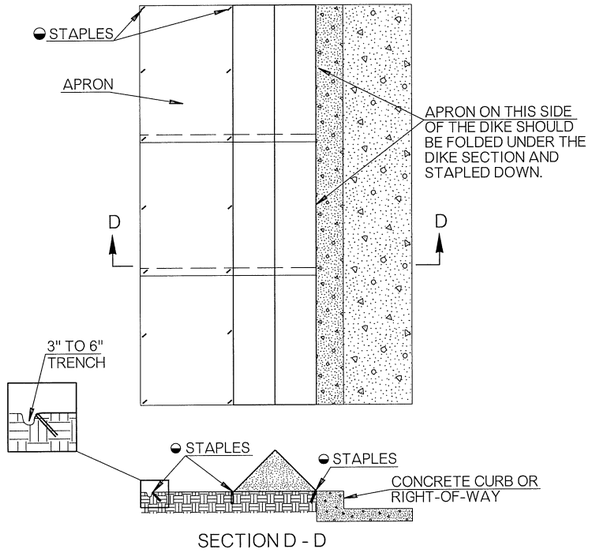
TSC2-3 | 2





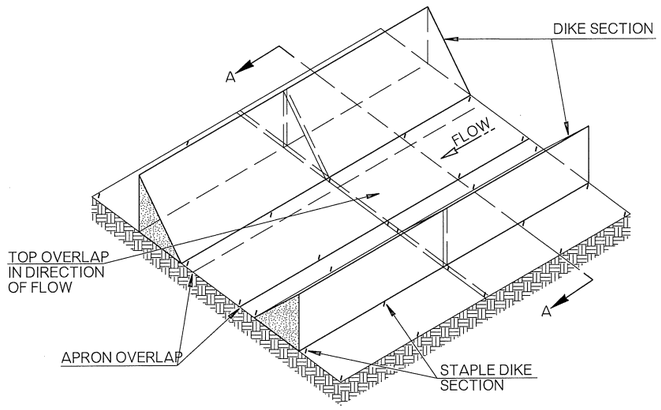
TEMPORARY DITCH LINER
SECTION A - A

TEMPORARY SILT DIKE INSTALLATION FOR DIVERSION DIKES AND / OR DITCH LINER

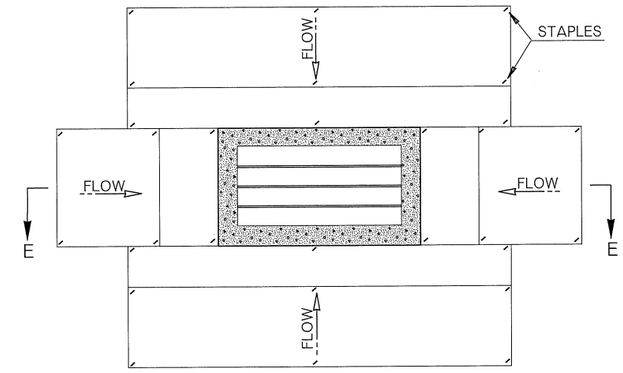


SECTION D - D

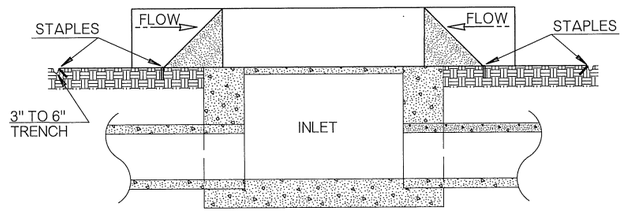
TEMPORARY SILT DIKE INSTALLATION FOR CONTINUOUS BARRIER



TEMPORARY SILT DIKE INSTALLATION FOR TEMPORARY DITCH LINER

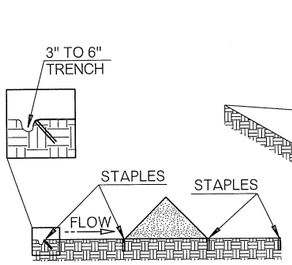


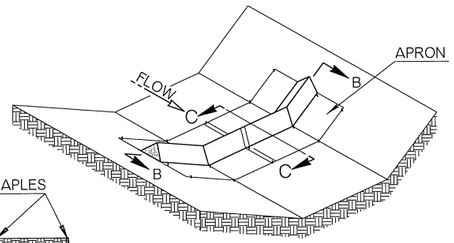
DROP INLET



SECTION E - E

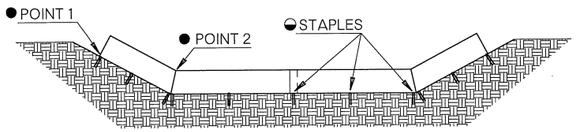
TEMPORARY SILT DIKE INSTALLATION FOR DROP INLETS





SILT DIKE UNIT
ISOMETRIC / CUT SECTION

SECTION C - C



DIKE SECTION
SECTION B - B

TEMPORARY SILT DIKE INSTALLATION FOR ROADWAY DITCH OR DRAINAGE DITCH

- ● POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
- ◒ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TEMPORARY SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.
3. TEMPORARY SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM MEETING THE REQUIREMENTS FOR ASTM D3574. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M 288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.
4. ACCEPTED TEMPORARY SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TEMPORARY SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS. FOR DROP INLETS ON GRADE, USE SEDIMENT TRAPS OR OTHER CONTROLS.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
221 (F)	TEMPORARY SILT DIKE	LF

NOTE: SILT DIKES ARE ONLY FURNISHED IN 7' INCREMENTS.

APPROVED BY ROADWAY ENGINEER: Caleb F. H DATE 04/16/15

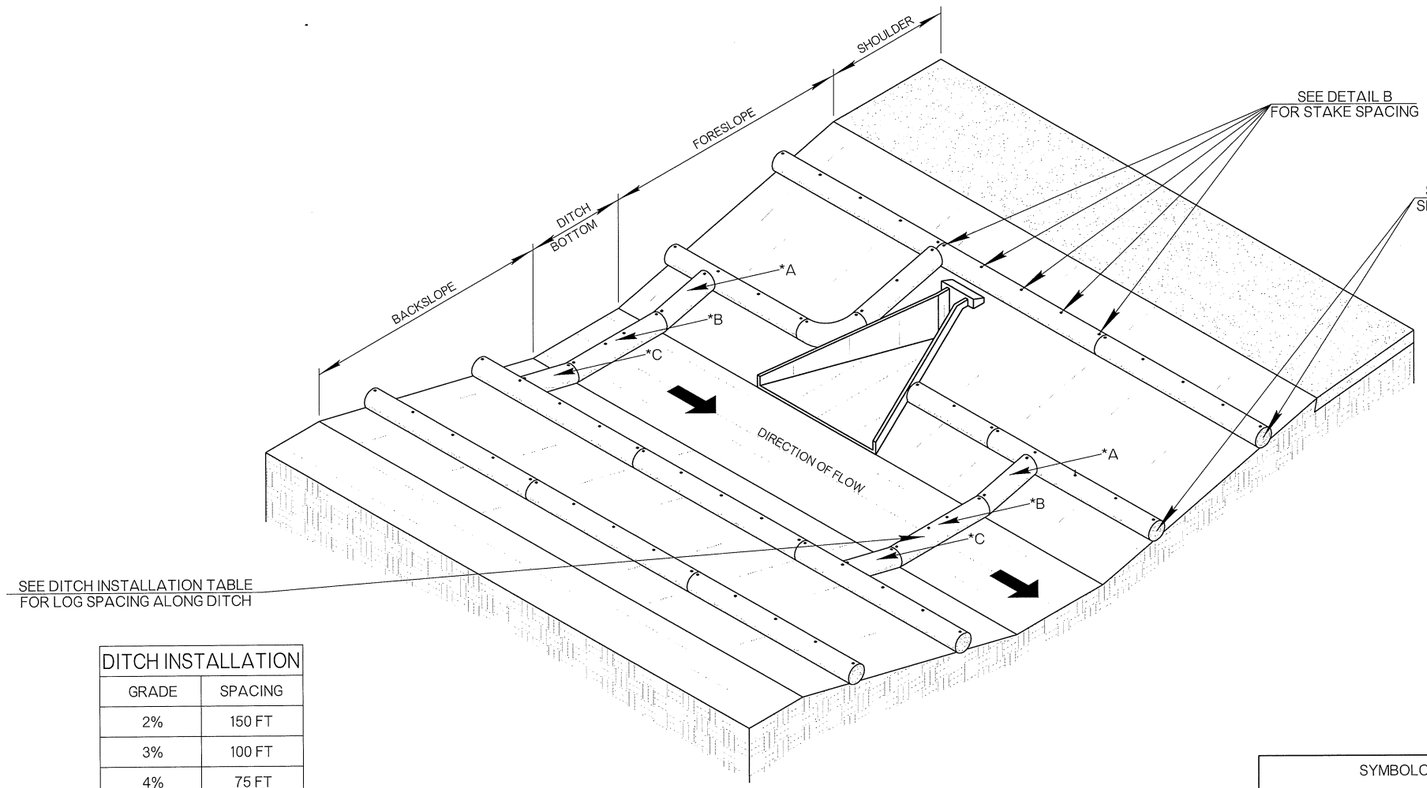
ROADWAY DESIGN DIVISION STANDARD

TEMPORARY SILT DIKE

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

TSD-2	0

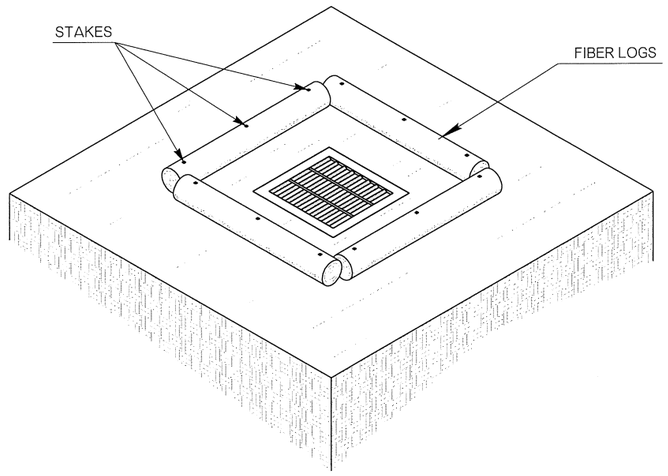
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



DITCH INSTALLATION	
GRADE	SPACING
2%	150 FT
3%	100 FT
4%	75 FT
5%	50 FT

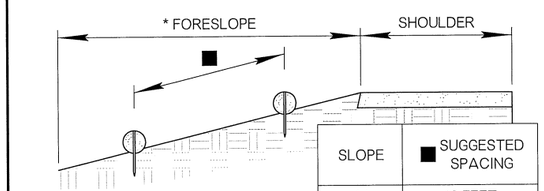
* NOTE: POINTS 'A' AND 'C' ARE HIGHER THAN POINT 'B'.

SUGGESTED PLACEMENT AROUND CROSSDRAINS, ON SLOPES, AND ACROSS DITCH BOTTOM.



TEMPORARY INLET PROTECTION

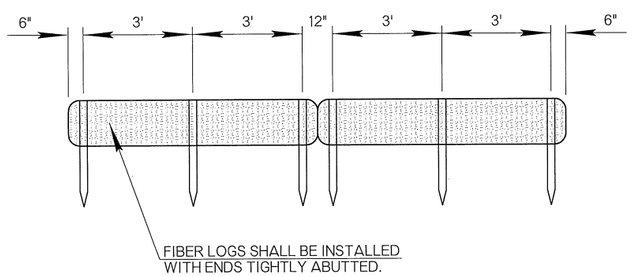
SYMBOLOGY
SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS



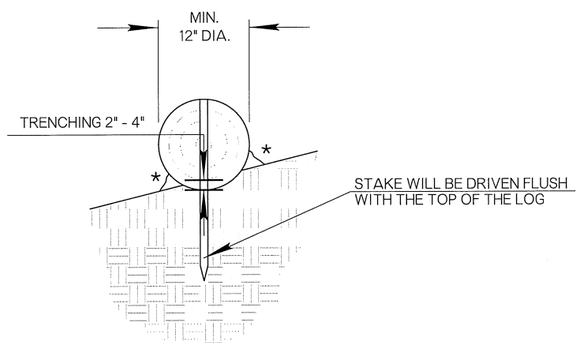
SLOPE	SUGGESTED SPACING
1:1	10 FEET
1:2	20 FEET
1:3	30 FEET
1:4	40 FEET
1:6	60 FEET

* NOTE: SPACING APPLIES FOR BACKSLOPES AS WELL AS FORESLOPES.

DETAIL A - CROSS SECTION VIEW



DETAIL B - FIBER LOG FRONT VIEW



* AREAS TO BE FILLED WITH COMPACTED SOIL TAKEN FROM THE EXCAVATED TRENCH.

DETAIL C - TRENCHING

GENERAL NOTES

1. FIBER LOGS ARE TO BE INSTALLED AND MAINTAINED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.
2. TRENCHING OF LOGS SHALL BE 2" TO 4" INTO SOIL. BEFORE TRENCHING, REMOVE ALL ROCKS, VEGETATION OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED LOGS WILL HAVE DIRECT CONTACT WITH SOIL. THERE SHALL NOT BE ANY GAPS BETWEEN THE LOGS AND THE SOIL.
3. STAKES DRIVEN INTO LOGS SHOULD BE MADE OF WOOD. METAL STAKES MAY BE USED IN PLACE OF WOOD STAKES IN AREAS WHERE WOOD STAKES ARE UNABLE TO BE DRIVEN, OR IF APPROVED BY THE ENGINEER. WOOD STAKES SHALL BE ¾" BY ¾" MINIMUM. LENGTH OF STAKES SHALL BE TWICE THE DIAMETER OF THE LOG.
4. LOGS MAY BE MADE OF STRAW, EXCELSIOR, COIR OR OTHER SIMILAR MATERIAL AS APPROVED BY THE ENGINEER. FIBER NET SURROUNDING THE LOG MAY BE SYNTHETIC MATERIAL OR A NATURAL FIBER.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
221 (K)	TEMPORARY FIBER LOG	LF

APPROVED BY ROADWAY ENGINEER _____ DATE 04/16/15

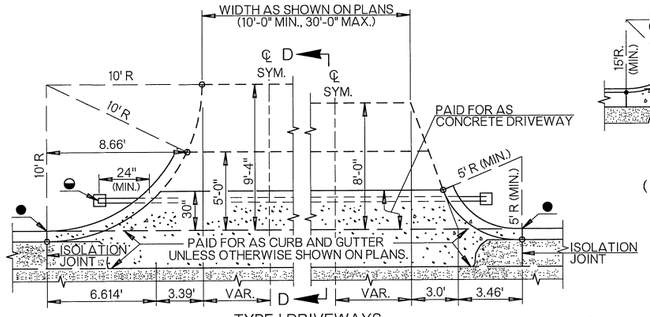
ROADWAY DESIGN DIVISION STANDARD

TEMPORARY FIBER LOG

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

TFL-1 | 1

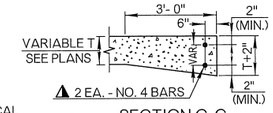
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



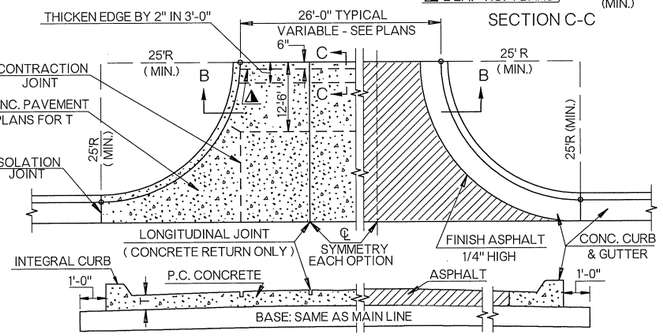
TYPE I DRIVEWAYS
(PRIVATE OR RESIDENTIAL)

◒ IF SPECIFIED IN THE PLANS, CONSTRUCT CONDUIT CROSSING OF THE SPECIFIC SIZE AND TYPE AT APPROXIMATELY 30" BELOW FINISHED GRADE OF THE RAMP. SEE GENERAL NOTES FOR DETAILS.

● BEGIN ROLL CURB. TERMINATE CURB & GUTTER.



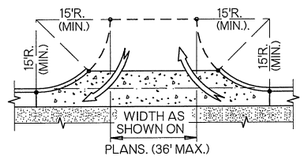
SECTION C-C



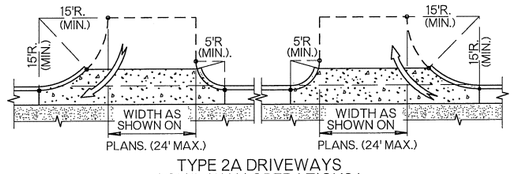
ALT. SECTION B-B
CONCRETE RETURN

ALT. SECTION B-B
ASPHALT RETURN
(WHERE CURB AND GUTTER IS USED)

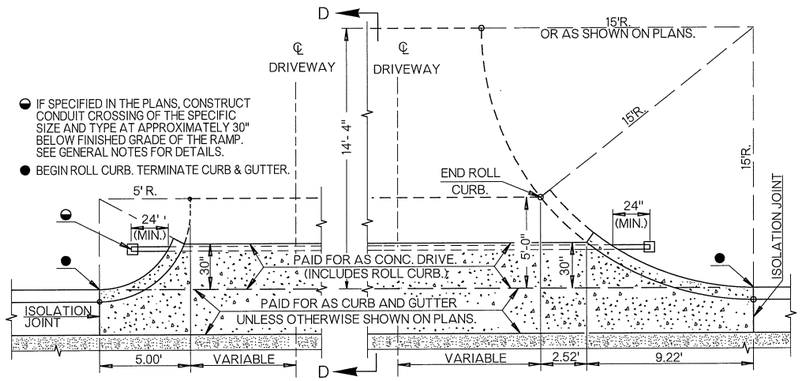
TYPICAL STREET RETURN



TYPE 2 DRIVEWAY
(TWO -WAY OPERATION)



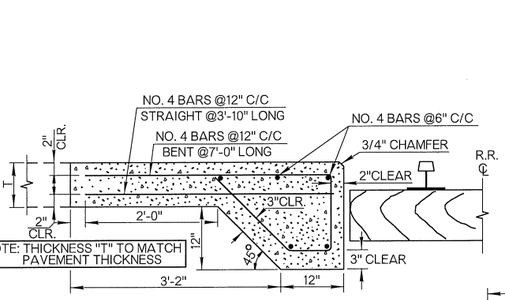
TYPE 2A DRIVEWAYS
(ONE -WAY OPERATIONS)



◒ IF SPECIFIED IN THE PLANS, CONSTRUCT CONDUIT CROSSING OF THE SPECIFIC SIZE AND TYPE AT APPROXIMATELY 30" BELOW FINISHED GRADE OF THE RAMP. SEE GENERAL NOTES FOR DETAILS.

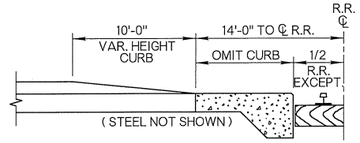
● BEGIN ROLL CURB. TERMINATE CURB & GUTTER.

TYPE 2 & 2A COMMERCIAL DRIVEWAYS

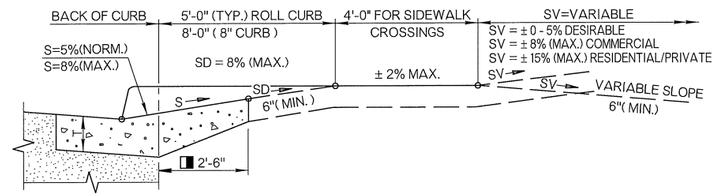


P. C. RAILROAD APPROACH SLAB WITH
THICKENED EDGE AT RAILROAD CROSSING

THICKENED EDGE OF CONCRETE RAILROAD APPROACH SLAB SHALL EXTEND FROM OUTSIDE TO OUTSIDE OF SHOULDERS. COST OF CLASS A CONCRETE & REINFORCING STEEL TO BE INCLUDED IN THE PRICE BID FOR RAILROAD APPROACH SLAB.

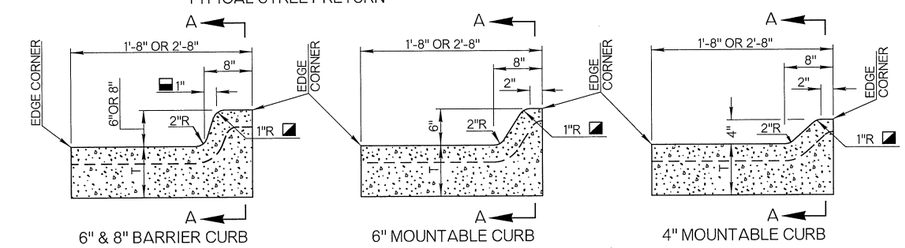


DETAIL OF CURBS ADJACENT
TO RAILROAD CROSSINGS



SECTION D-D ALONG ℄ DRIVE

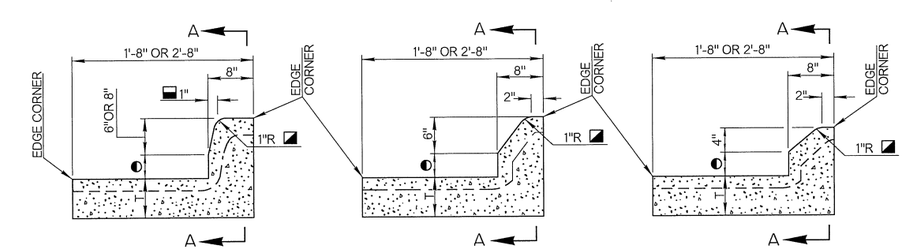
◨ WHEN SIDEWALK IS BUILT DIRECTLY BEHIND CURB, THE CONCRETE DRIVEWAY SHOULD BE CONSTRUCTED & EXTENDED TO THE BACK EDGE OF SIDEWALK.



6" & 8" BARRIER CURB

6" MOUNTABLE CURB

4" MOUNTABLE CURB



NOTCHED 6" & 8" BARRIER CURB

NOTCHED 6" MOUNTABLE CURB

NOTCHED 4" MOUNTABLE CURB

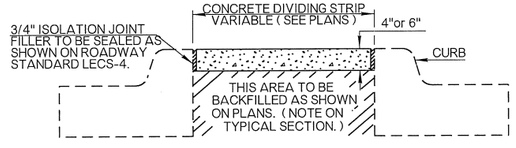
COMBINED CURB & GUTTER TYPICAL SECTIONS

NOTE: T DIMENSION EQUALS THE THICKNESS SHOWN ON TYPICAL SECTION. (MIN.=6")

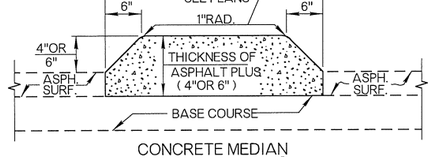
◐ DIMENSION EQUALS THE THICKNESS ASPHALT CONC. SHOWN ON TYPICAL SECTION. (MIN.=2"; MAX.=4")

◪ RADIUS OF 2" MAY BE USED IF APPROVED BY THE ENGINEER.

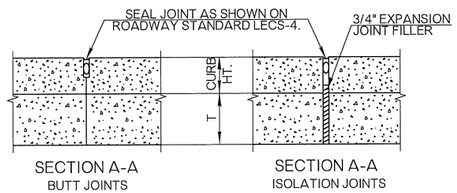
▬ BATTER OF 2" MAY BE USED IF APPROVED BY THE ENGINEER.



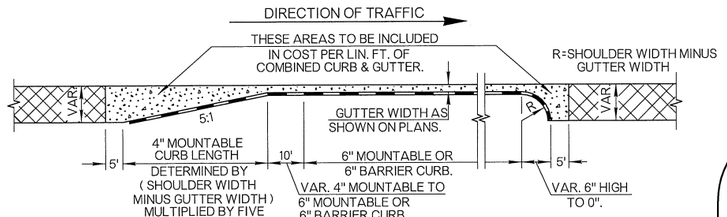
CONCRETE DIVIDING STRIP



CONCRETE MEDIAN
MOUNTABLE CURB TYPE
(TO BE PAID FOR AS CLASS A CONCRETE.)



CURB & GUTTER JOINTS
BUTT & ISOLATION JOINTS TO EXTEND THROUGH CURB & GUTTER TO BACK OF CURB



BEGINNING CURB & GUTTER

ENDING CURB & GUTTER

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. COST OF JOINT FILLERS, SEALING AND REINFORCING STEEL SHALL BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.
3. TRANSVERSE ISOLATION JOINTS FOR CONCRETE DIVIDING STRIP AND CONCRETE MEDIAN (MOUNTABLE CURB TYPE) TO BE 1/2" ISOLATION JOINT FILLER AT 50' C/C, 1/4" ISOLATION JOINT MATERIAL AT 1/3 POINTS BETWEEN 1/2" ISOLATION JOINTS. FILLER MATERIAL TO BE PREMOLDED AND JOINTS TO BE SEALED AS SHOWN ON ROADWAY STANDARD LECS-4.
4. COMBINED CURB & GUTTER SHALL HAVE 3/4" ISOLATION JOINTS AT DRAINAGE STRUCTURES, STREET CURB RETURNS AND AT THOSE LOCATIONS SHOWN ON THE PLANS. BUTT OR SAWED JOINTS SHALL BE SPACED AT 20'-0" CENTERS MAX. JOINT FILLER IN THE CURBS SHALL EXTEND TO WITHIN 2" OF THE FACE & TOP OF CURB. ALL JOINTS SHALL BE SEALED AS SHOWN ON ROADWAY STANDARD LECS-4.
5. ALL CONDUIT CROSSINGS ARE TO BE TRENCHED, PLACED, BACKFILLED AND COMPACTED PRIOR TO SURFACING. BORING OR PUSHING PROCEDURES MAY BE USED WHERE SURFACING IS ALREADY IN PLACE AND IF APPROVED BY THE ENGINEER.
6. IF CONDUIT IS NOT CONTINUOUS BETWEEN DRIVEWAYS OR RAMPS, CAP BOTH ENDS OF EACH CONDUIT CROSSING AND PLACE MARKER TO PREVENT DAMAGE DURING CONSTRUCTION.
7. CONDUIT SHALL NOT TERMINATE BELOW A SURFACED AREA, BUT SHALL EXTEND A MINIMUM OF 2'-0" PAST EDGE OF PAVING.
8. FOR PULL BOX INSTALLATION DETAILS, SEE TRAFFIC STANDARD PBD1-1 (PULL BOX DETAILS).

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
414 (H)	P. C. RAILROAD APPROACH SLABS	SY
509 (B)	CLASS A CONCRETE	CY
609 (B)	■ COMBINED CURB & GUTTER (▲)	LF
610 (B)	▼ CONCRETE DRIVEWAY	SY
610 (C)	▼ CONCRETE DIVIDING STRIP	SY
610 (H)	▼ ASPHALT DIVIDING STRIP	SY

■ WIDTH OF CURB & GUTTER WILL BE SPECIFIED.

▲ HEIGHT & TYPE OF CURB SHALL BE SPECIFIED.

▼ THICKNESS WILL BE SPECIFIED.

APPROVED BY ROADWAY ENGINEER: Caleb E-A DATE: 04/14/15

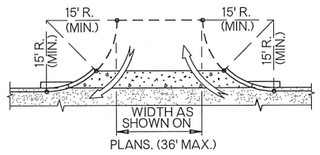
ROADWAY DESIGN DIVISION STANDARD

ASPHALT SURFACING
CONSTRUCTION DETAILS

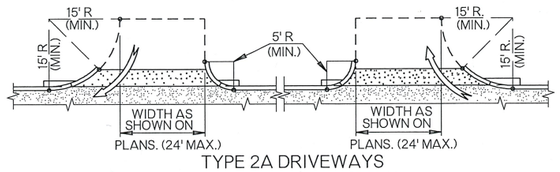
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

ASCD-5	2

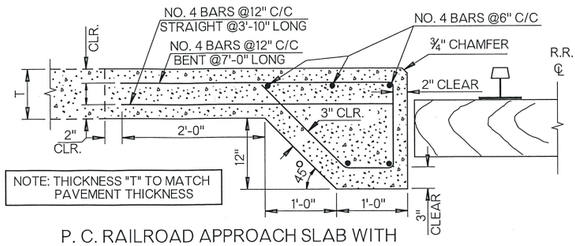
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



TYPE 2 DRIVEWAY
(TWO -WAY OPERATION)

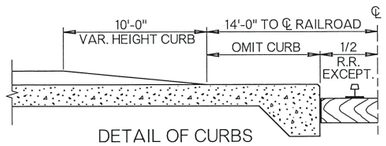


TYPE 2A DRIVEWAYS
(ONE -WAY OPERATION)

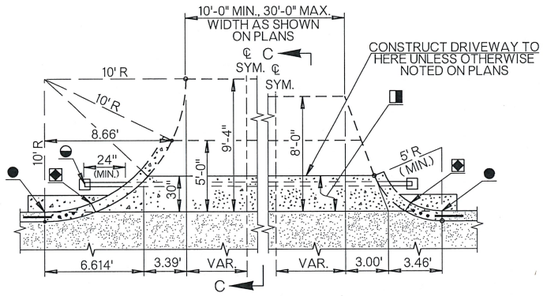


NOTE: THICKNESS "T" TO MATCH PAVEMENT THICKNESS

P. C. RAILROAD APPROACH SLAB WITH
THICKENED EDGE AT RAILROAD CROSSING

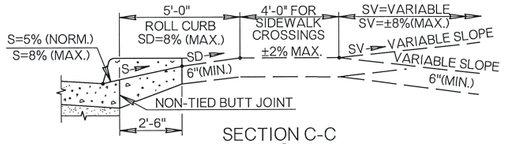


DETAIL OF CURBS
ADJACENT TO RAILROAD CROSSINGS



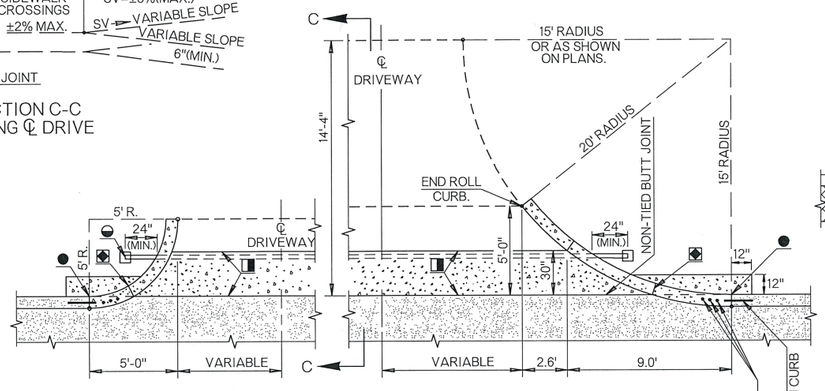
TYPE I DRIVEWAYS
(PRIVATE OR RESIDENTIAL)

◆ ¾" EXPANSION JOINT NO LOAD TRANSFER DEVICES
◧ PAID FOR AS CONCRETE DRIVEWAY (INCLUDES CURB)
● BEGIN ROLL CURB & TERMINATE INTEGRAL CURB. POUR APRON & CURB INTEGRAL WITH DRIVEWAY
◒ IF SPECIFIED IN THE PLANS, CONSTRUCT CONDUIT CROSSING OF THE SAME SIZE & TYPE SPECIFIED AT APPROXIMATELY 30" BELOW FINISHED GRADE OF RAMP. SEE GENERAL NOTES FOR DETAILS.



SECTION C-C
ALONG ℄ DRIVE

FOR STREET RETURN DETAILS SEE THE CURRENT VERSION OF ROADWAY STD. ASCD-5.

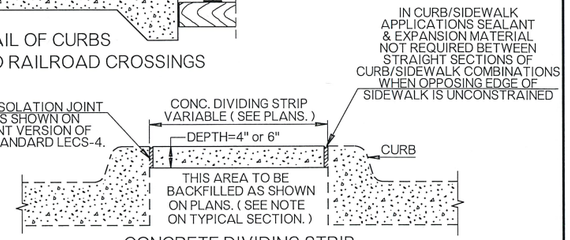


TYPE 2 & 2A COMMERCIAL DRIVEWAYS

◆ ¾" EXPANSION JOINT NO LOAD TRANSFER DEVICES
◧ PAID FOR AS CONCRETE DRIVEWAY (INCLUDES CURB)
● BEGIN ROLL CURB & TERMINATE INTEGRAL CURB. POUR APRON & CURB INTEGRAL WITH DRIVEWAY
◒ IF SPECIFIED IN THE PLANS, CONSTRUCT CONDUIT CROSSING OF THE SAME SIZE & TYPE SPECIFIED AT APPROXIMATELY 30" BELOW FINISHED GRADE OF RAMP. SEE GENERAL NOTES FOR DETAILS.

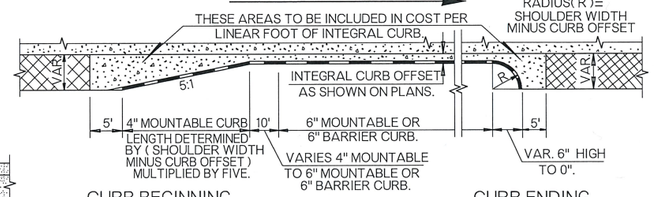
NOTE: WHEN SIDEWALK IS BUILT DIRECTLY BEHIND THE CURB THE CONCRETE DRIVEWAY SHOULD BE CONSTRUCTED AND EXTENDED TO THE BACK EDGE OF SIDEWALK.

OPTIONAL CURB CONSTRUCTION
FOR SLIP FORM PAVING



CONCRETE DIVIDING STRIP

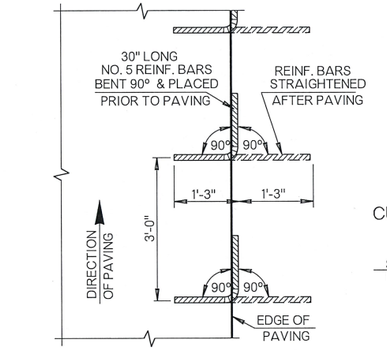
TRANSVERSE EXPANSION JOINTS TO BE 1/2" EXPAN. JOINT FILLER AT 50'-0" C/C, 1/4" EXPANSION JOINT MATERIAL AT 1/3 POINTS BETWEEN 1/2" EXPANSION JOINTS. FILLER MATERIAL TO BE PREMOLDED & JOINTS TO BE SEALED AS SHOWN ON THE CURRENT VERSION OF ROADWAY STANDARD LECS-4. JOINTS IN DIVIDING STRIP SHOULD ALIGN WITH CURB EXPANSION JOINTS.



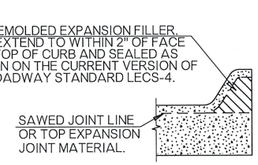
CURB BEGINNING CURB ENDING

GENERAL NOTES

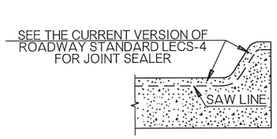
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL COST OF CLASS A CONCRETE & REINFORCING STEEL IN THICKENED EDGE AT RAILROAD CROSSINGS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR APPROACH SLAB-RAILROAD.
3. COST OF JOINT FILLERS, SEALING AND REINFORCING STEEL SHALL BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.
4. CONTRACTION JOINTS IN JOINTED P.C. PAVEMENT SHALL BE AT APPROXIMATELY 15'-0" CENTERS, UNLESS OTHERWISE SHOWN ON THE PLANS.
5. CURB & GUTTER SHALL BE PLACED INTEGRAL WITH THE PAVING SLAB UNLESS OTHERWISE SHOWN IN THE PLANS. TRANSVERSE JOINTS SHALL MATCH PAVEMENT JOINTS AND PLACED AT DRAINAGE STRUCTURES. LONGITUDINAL JOINTS SHALL BE TIED WITH #5 DEFORMED TIE BARS 2'-6" LONG AT 3'-0" CTRS. SEE TIED BUTT AND LONGITUDINAL CONSTRUCTION JOINT DETAIL ON THE CURRENT VERSION OF ROADWAY STANDARD LECS-4.
6. ALL CONDUIT CROSSINGS ARE TO BE TRENCHED, PLACED, BACKFILLED, AND COMPACTED PRIOR TO SURFACING. BORING OR PUSHING PROCEDURES MAY BE USED WHERE SURFACING IS ALREADY IN PLACE AND IF APPROVED BY THE ENGINEER.
7. IF CONDUIT IS NOT CONTINUOUS BETWEEN DRIVEWAYS/RAMPS, CAP BOTH ENDS OF EACH CONDUIT CROSSING AND PLACE MARKER TO PREVENT DAMAGE DURING CONSTRUCTION.
8. CONDUIT SHALL NOT TERMINATE BELOW A SURFACED AREA, BUT SHALL EXTEND MINIMUM OF 24" PAST EDGE OF PAVING.
9. FOR PULL BOX INSTALLATION DETAILS, SEE THE CURRENT VERSION OF TRAFFIC STANDARD PBD1-1.



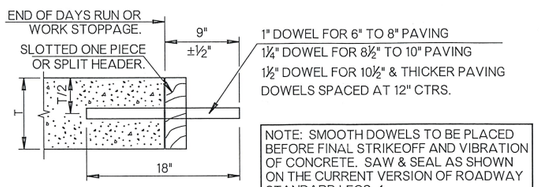
SECTION B-B



CURB JOINT WITH EXPANSION MATERIAL

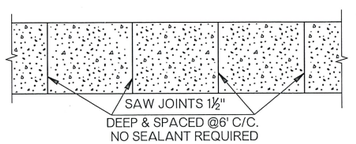


ALTERNATE CURB JOINT



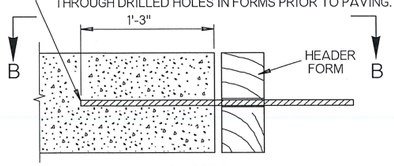
NOTE: SMOOTH DOWELS TO BE PLACED BEFORE FINAL STRIKEOFF AND VIBRATION OF CONCRETE. SAW & SEAL AS SHOWN ON THE CURRENT VERSION OF ROADWAY STANDARD LECS-4.

TRANSVERSE CONSTRUCTION JOINT
(TO BE USED AT END OF DAYS PLACEMENT OF CONCRETE OR ANY STOPPAGE OF 30 MINUTES OR MORE.)



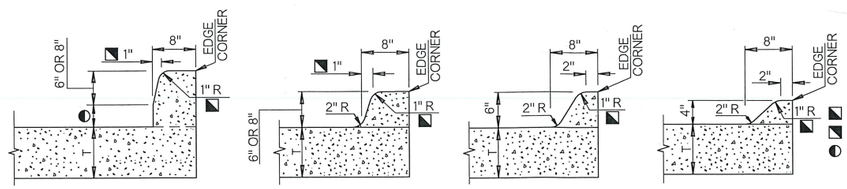
PLAN DETAIL OF CONCRETE SIDEWALK

NO. 5 DEF. TIE BAR SPACED @ 3'-0" C/C MAY BE PRE-BENT 90° AND PLACED INTO EDGE OF SLAB AND POSITIONED BEFORE OR DURING SLIP FORM OPERATIONS AND THEN STRAIGHTENED BEFORE PAVING THE ADJACENT PARALLEL LANE. STRAIGHT BARS MAY ALSO BE PLACED THROUGH DRILLED HOLES IN FORMS PRIOR TO PAVING.



SECTION
TIED LONGITUDINAL BUTT JOINT
(TO BE USED BETWEEN ADJACENT PAVING LANES)

NOTE: LONGITUDINAL BUTT JOINT TIE BAR STEEL AND PLACEMENT METHOD NOT COVERED ON THIS STANDARD SHALL BE APPROVED BY THE ENGINEER.



INTEGRAL CURB TYPICAL SECTIONS

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
414 (H)	P. C. RAILROAD APPROACH SLABS	SY
609 (A)	■ CONCRETE CURB (INTEGRAL)	LF
610 (A)	▼ CONCRETE SIDEWALK	SY
610 (B)	▼ CONCRETE DRIVEWAY	SY
610 (C)	▼ CONCRETE DIVIDING STRIP	SY

■ HEIGHT & TYPE OF CURB SHALL BE SPECIFIED.
▼ THICKNESS SHALL BE SPECIFIED IN INCHES.

◪ RADIUS OF 2" MAY BE USED IF APPROVED BY THE ENGINEER.
◪ BATTER OF 2" MAY BE USED IF APPROVED BY THE ENGINEER.
◐ DIMENSION EQUALS THICKNESS OF ASPHALT CONCRETE SHOWN ON TYPICAL SECTION ASPHALT CONCRETE THICKNESS (2" MIN. ; 4" MAX.)
T T DIMENSION EQUALS THE THICKNESS SHOWN ON TYPICAL SECTION (MIN. = 6")

APPROVED BY ROADWAY ENGINEER: _____ DATE: 01/28/19
ROADWAY DESIGN DIVISION STANDARD

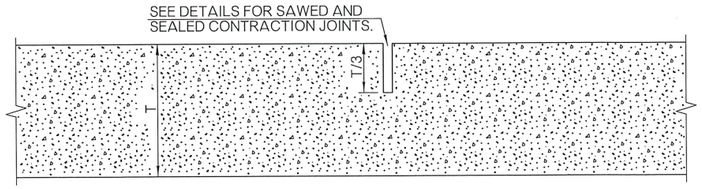
CONCRETE SURFACING CONSTRUCTION DETAILS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

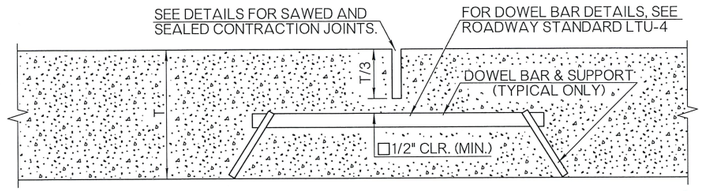
CSCD-5	4

R-12

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE

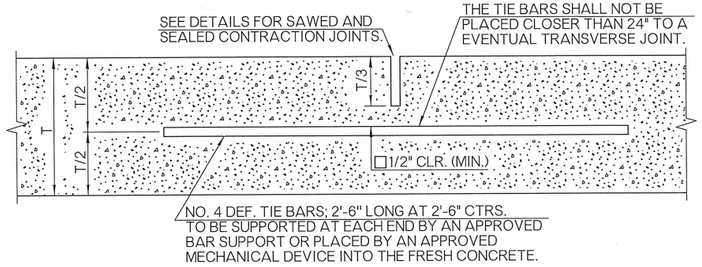


NON-DOWELED CONTRACTION JOINT

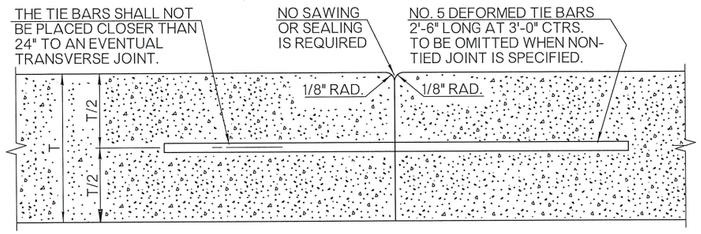


◁DOWELED CONTRACTION JOINT

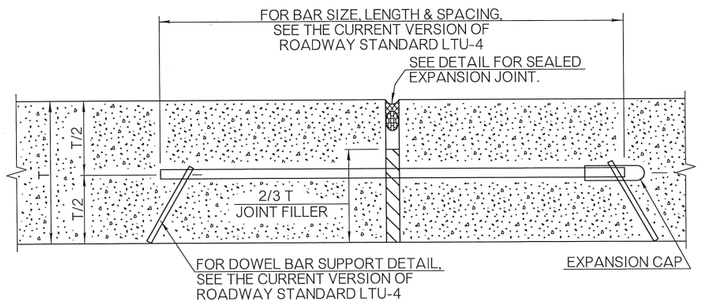
◁ ON JOINTED PORTLAND CEMENT CONCRETE PAVEMENTS, DOWELLED CONTRACTION JOINTS SHALL BE USED ON DRIVING LANES ONLY. CONCRETE SHOULDERS SHALL NOT BE DOWELLED UNLESS SPECIFIED ON THE PLANS.



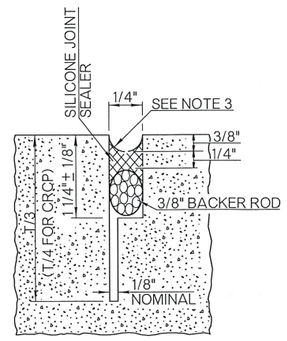
LONGITUDINAL JOINT



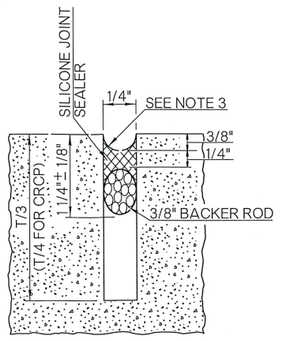
TIED BUTT JOINT AND
LONGITUDINAL CONSTRUCTION JOINT



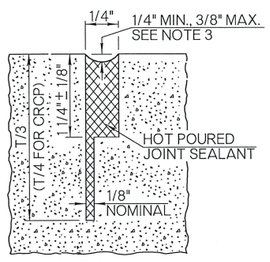
EXPANSION JOINT / ISOLATION JOINT
OMIT DOWEL BARS, CAPS & SUPPORTS FOR ISOLATION JOINTS



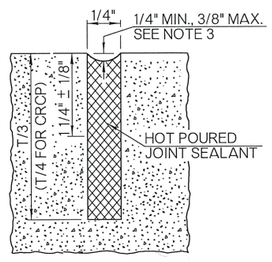
SILICONE SEALANT OPTION



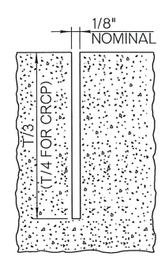
SILICONE SEALANT OPTION



HOT POUR OPTION



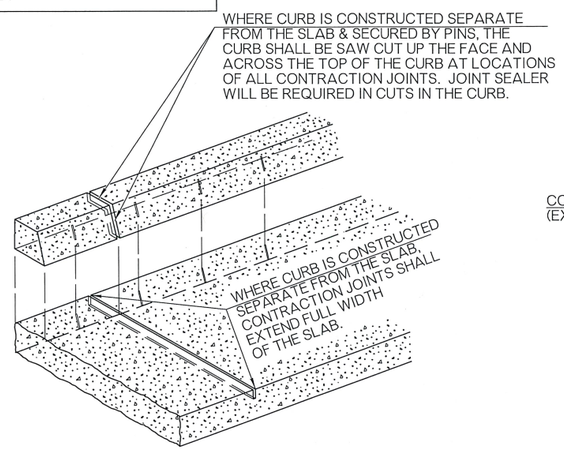
HOT POUR OPTION



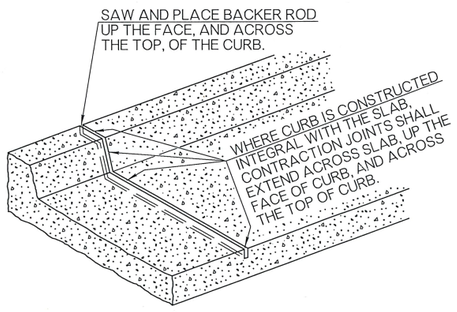
NO SEALANT OPTION

SAWED AND SEALED, CONTRACTION AND LONGITUDINAL JOINTS ALTERNATE DETAILS
UNLESS OTHERWISE SPECIFIED IN THE PLANS, ONLY THE SILICONE SEALANT OPTIONS WILL BE ALLOWED.

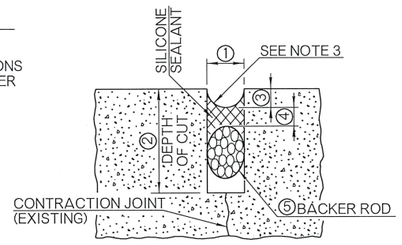
☐ NOTE: ON ALL SAWED JOINTS, THE KERF DEPTH SHALL CLEAR DOWEL BARS, TIE BARS AND/OR REINFORCING STEEL BY A MINIMUM OF 1/2".



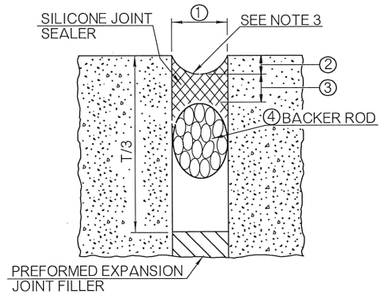
CONTRACTION JOINT WITH
SEPARATE CURB



CONTRACTION JOINT WITH
INTEGRAL CURB



JOINT REHABILITATION DETAILS



EXPANSION JOINTS / ISOLATION JOINTS
HOT POURED JOINT SEALANT MAY BE USED IN LIEU OF BACKER ROD AND SILICONE SEALANT, IF APPROVED BY THE ENGINEER

EXPANSION JOINT / ISOLATION JOINT TREATMENT TABLE			
JOINT WIDTH ①	SEALANT RECESS DEPTH ②	SILICONE SEALANT THICKNESS ③	BACKER ROD DIAMETER ④
1/2"	3/8"	1/4"	5/8"
3/4"	3/8"	3/8"	7/8"
1"	3/8"	1/2"	1 1/4"
1 1/2"	1/2"	3/4"	2"
2"	1/2"	3/4"	2 1/2"

EXPANSION OR ISOLATION JOINT WIDTH SHALL BE 1/2", UNLESS OTHERWISE SPECIFIED ON THE PLANS. TABLE VALUES, AS SHOWN IN THIS TABLE, SHALL BE USED IN THOSE SPECIFIED CASES.

JOINT REHABILITATION TREATMENT TABLE				
SILICONE SEALANT				
JOINT WIDTH ①	DEPTH OF CUT ②	SEALANT RECESS DEPTH ③	SEALANT THICKNESS ④	BACKER ROD DIAMETER ⑤
3/8"	1 1/4"	3/8"	3/16"	1/2"
1/2"	1 3/4"	3/8"	1/4"	5/8"
3/4"	1 3/4"	3/8"	3/8"	7/8"
7/8"	1 3/4"	1/2"	7/16"	1"
1"	2"	1/2"	1/2"	1 1/8"
OVER 1"	OVER 2"	1/2"	1/2"	1 1/4"

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL CONCRETE JOINT SEALING SHALL BE IN ACCORDANCE WITH SECTION 415 OF THE SPECIFICATIONS.
3. THE SHAPE FACTOR, COMBINED WITH THE JOINT CLEANLINESS, IS THE CRITICAL COMBINATION NECESSARY TO GUARANTEE DESIRED BONDING AND FUNCTION OF SEALED JOINTS. THE JOINT SHAPE FACTOR IS DEFINED AS THE FINAL PRESSED SHAPE OF THE SILICONE MATERIAL. THE TOOLING OPERATION WILL FIRMLY PRESS THE FRESHLY APPLIED MATERIAL INTIMATELY AGAINST THE CUT SIDES OF THE RECESS AND THE BACKER ROD SURFACES. THE ROUNDED SHAPE ON TOP AND BOTTOM OF THE SILICONE ALLOWS THE SEALANT TO PROPERLY FLEX BUT MAINTAIN ADHERENCE TO THE PAVING. SELF LEVELING SEALANTS WILL BE INSTALLED TO BE FLUSH WITH THE PAVEMENT SURFACE, OR BY MANUFACTURER'S RECOMMENDATION.
4. LONGITUDINAL JOINTS BETWEEN PAVEMENT AND TIED CONCRETE SHOULDERS SHALL NOT BE SAWED OR SEALED UNLESS OTHERWISE SHOWN ON THE PLANS.
5. CONTRACTION JOINTS IN JOINTED P. C. PAVEMENT SHALL BE AT APPROXIMATELY 15'-0" CENTERS, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
6. TRANSVERSE GROOVING SHALL BE CONSTRUCTED TO THE FOLLOWING DIMENSIONS: 1/8" TO 3/16" WIDE, 1/8" TO 3/16" DEEP, AND EQUALLY SPACED AT 1/2" TO 1" APART. GROOVES SHALL BE NEAT IN APPEARANCE, OF UNIFORM DEPTH, AND LOCATED 1" TO 3" FROM NEAREST CONTRACTION JOINTS.

APPROVED BY ROADWAY ENGINEER: Caitlin A DATE: 01/23/19

ROADWAY DESIGN DIVISION STANDARD

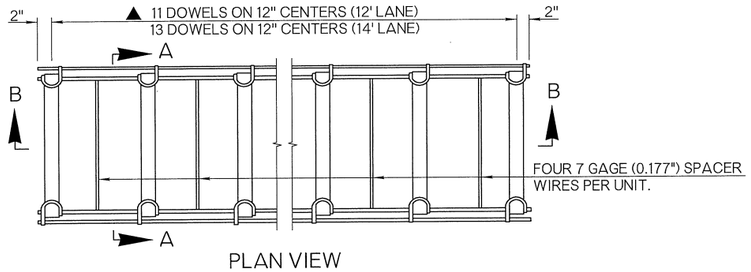
DOT JOINTS AND SEALERS - LONGITUDINAL, EXPANSION / ISOLATION, & CONTRACTION

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

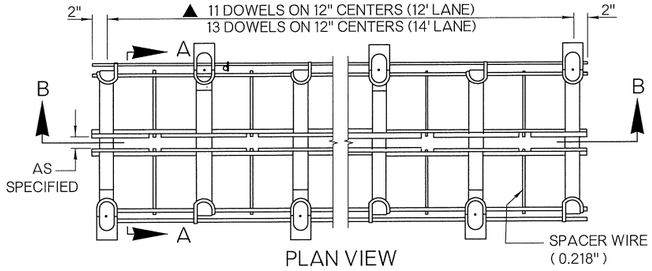
LECS-4	2

R-14

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



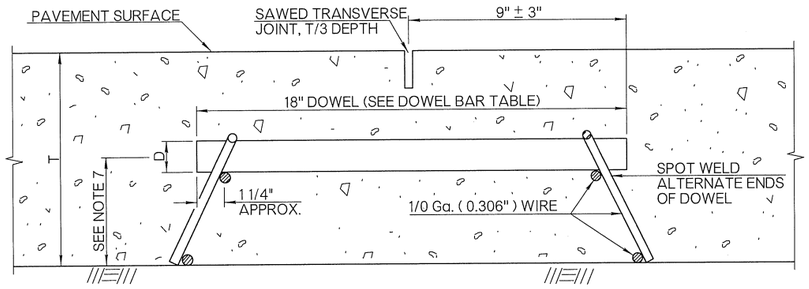
PLAN VIEW



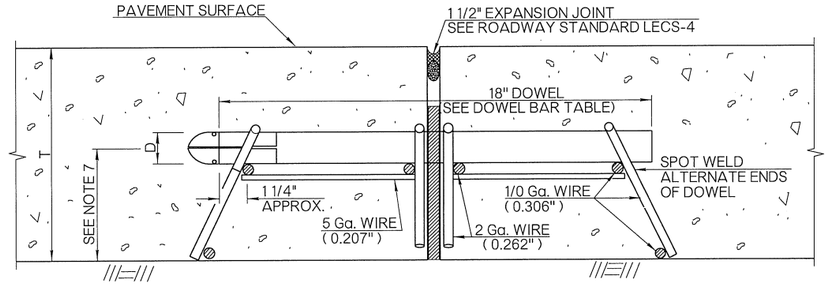
PLAN VIEW

DOWEL BAR TABLE			
▲ SPACING & SIZE DATA			
(T) SLAB DEPTH	DOWEL DIA.	TOTAL DOWEL LENGTH	C/C DOWEL SPACING
6" - 8"	1"	18"	12"
8 1/2" - 10"	1¼"	18"	12"
10 1/2" & UP	1½"	18"	12"

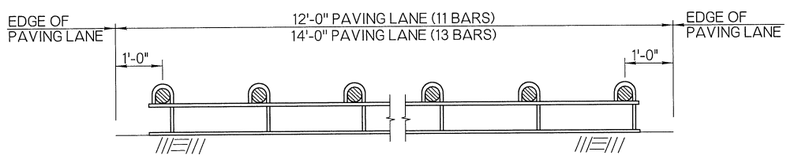
DOWEL DIAMETER WILL BE DETERMINED BY THE SLAB DEPTH (T) OR THE NOMINAL DEPTH WHEN SLAB DEPTH VARIES. WHEN NOMINAL DEPTH VALUE IS TO BE USED, THE CALCULATED NOMINAL DEPTH WILL BE SHOWN ON THE PLANS.



SECTION A - A



SECTION A - A



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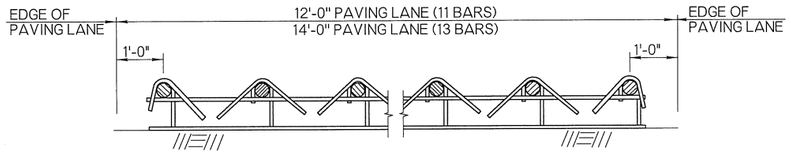

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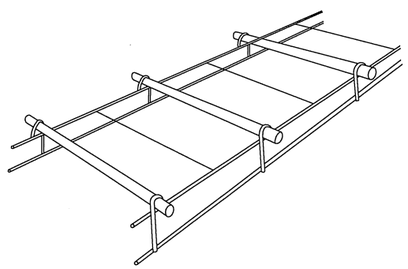
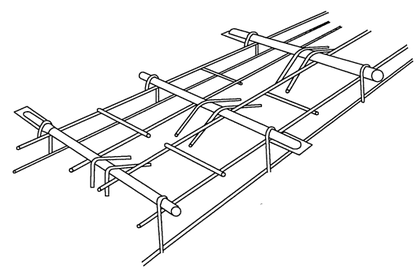


WELDED CONTRACTION JOINT ASSEMBLY



WELDED EXPANSION JOINT ASSEMBLY

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ANY DEVICE USED FOR SUPPORTING DOWELS SHALL HAVE SUFFICIENT RIGIDITY AND BE HELD IN PLACE DURING CONCRETE PLACEMENT SO THAT DOWELS WILL BE IN SPECIFIED POSITION IN THE FINISHED PAVEMENT. ANY DEVICE NOT PRODUCING THE SPECIFIED RESULTS SHALL BE REJECTED.
3. PRODUCER AND CONTRACTOR SHALL AVOID PATENT INFRINGEMENT OF THE BASKET AND SHALL SAVE THE STATE HARMLESS IN THE USE OF ANY BASKET.
4. THE CONTRACTOR MAY SELECT THE TYPE OF BASKET TO BE USED. AFTER THE SELECTION IS MADE, THE SAME TYPE BASKET SHALL BE USED THROUGHOUT THE PROJECT, UNLESS APPROVED OTHERWISE BY THE ENGINEER.
5. COLD-DRAWN STEEL WIRE, USED FOR DOWEL BASKETS, SHALL BE ACCEPTED BY VISUAL FIELD INSPECTION, AS PROVIDING SUFFICIENT DOWEL BAR SUPPORT DURING PAVING PROCESS.
- ▲ 6. DOWEL BARS SHALL BE GRADE 60 PLAIN BARS, IN ACCORDANCE WITH SECTION 723.01 OF THE SPECIFICATIONS. DOWEL BARS SHALL BE CENTERED ON THE BASKET REGARDLESS OF THE WIDTH OF THE BASKET OR THE LENGTH OF THE DOWEL BAR.
7. THE HEIGHT OF THE LOAD TRANSFER UNIT (MEASURED TO THE CENTER OF THE DOWEL BAR FROM THE PAVEMENT SURFACE) SHALL BE 1/2 THE THICKNESS OF THE PAVEMENT, PLUS OR MINUS 1/2 THE DIAMETER OF DOWEL BAR OF THE UNIT.
8. DOWEL BARS SHALL HAVE A SHOP APPLIED EPOXY COATING OVER THEIR ENTIRE LENGTH (ENDS EXCEPTED). ADDITIONALLY, DOWELS SHALL BE COMPLETELY COATED WITH A FORM RELEASE AGENT (OR APPROVED EQUIVALENT BOND BREAKER) APPLIED IN THE FIELD, IMMEDIATELY PRIOR TO PAVING. THE FORM RELEASE AGENT SHALL NOT BE ALLOWED TO EVAPORATE FROM THE BARS PRIOR TO PAVING.
9. FOR EXPANSION JOINTS, THE DOWEL BARS SHALL HAVE EXPANSION CAPS WITH A MINIMUM 1" AND A MAXIMUM 2" AIR SPACE IN THE END OF THE EXPANSION CAPS (EXPANSION JOINT ASSEMBLIES).
10. THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER A STAKING PATTERN THAT SHALL SECURE ALL DOWEL BASKETS SUCH THAT THE FINAL DOWEL POSITION IS WITHIN SPECIFICATION LIMITS.
11. FOR EXPANSION JOINTS, IN ADDITION TO THE SUPPORTS INDICATED, THE CONTRACTOR SHALL PROVIDE SUITABLE INSTALLING DEVICES AND SUCH ADDITIONAL STAKES AS MAY BE REQUIRED TO HOLD THE JOINT FILLER VERTICAL AND SECURELY IN LINE AND POSITION. THE CONTRACTOR WILL ALSO BE REQUIRED TO SATISFACTORILY FORM THE UPPER PORTION OF THE JOINT FOR RECEIVING THE SEAL. SEE ROADWAY STANDARD LECS-4.

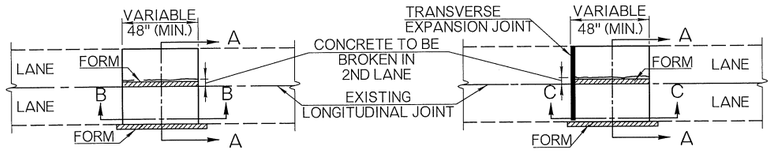
APPROVED BY ROADWAY ENGINEER: Caleb F. A DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

LOAD TRANSFER UNITS FOR CONCRETE PAVEMENT JOINTS

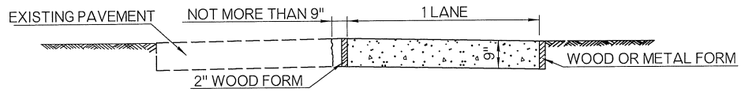
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

LTU-4	0

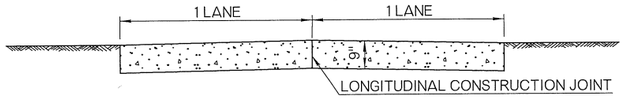


PLAN PATCH BETWEEN JOINTS

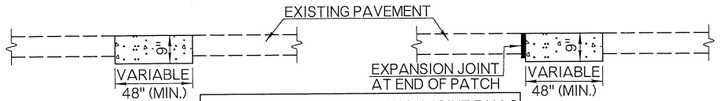
PLAN PATCH AT EXPANSION JOINT



SEC. A - A CONSTRUCTION OF FIRST LANE

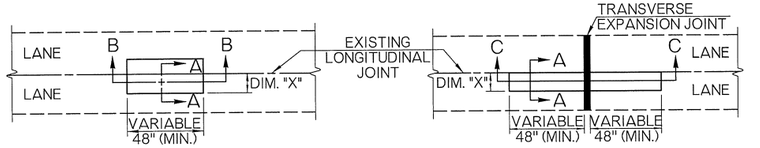


SEC. A - A CONSTRUCTION COMPLETED



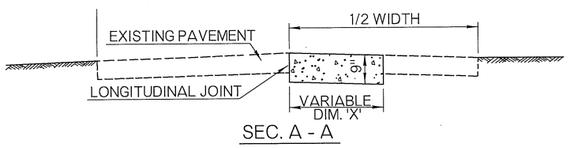
SEC. B-B SEC. C-C

MULTI LANE PATCH (CONSTRUCTED ONE LANE AT A TIME)

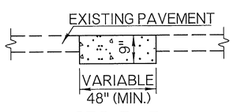


PLAN PATCH BETWEEN JOINTS

PLAN PATCH AT EXPANSION JOINTS



SEC. A - A



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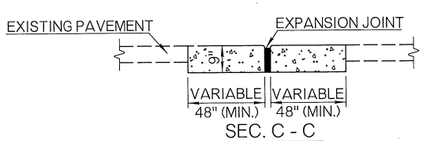
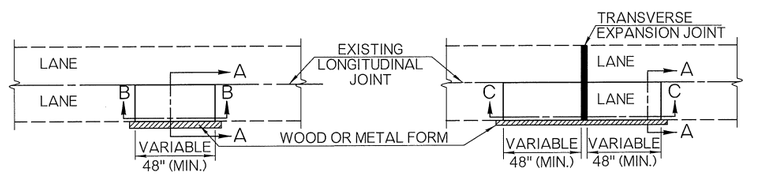


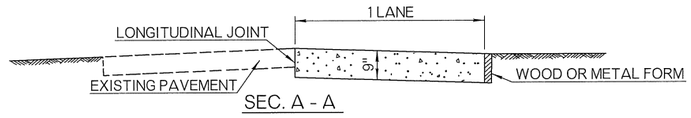
SEC. C - C

INTERIOR EDGE PATCH

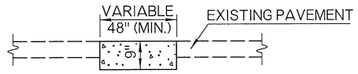


PLAN PATCH BETWEEN JOINTS

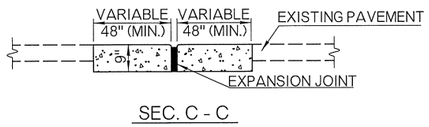
PLAN PATCH AT EXPANSION JOINT



SEC. A - A

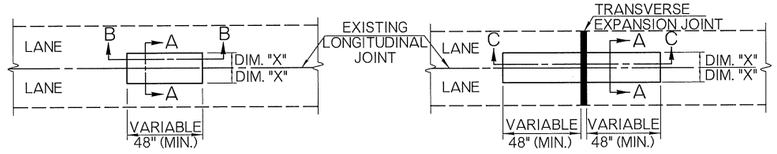


SEC. B - B



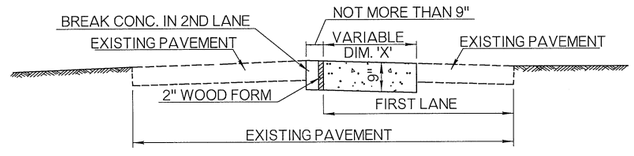
SEC. C - C

SINGLE LANE PATCH

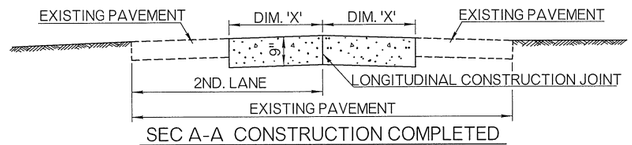


PLAN PATCH BETWEEN JOINTS

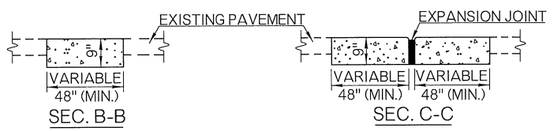
PLAN PATCH AT EXPANSION JOINT



SEC A-A CONSTRUCTION OF FIRST LANE

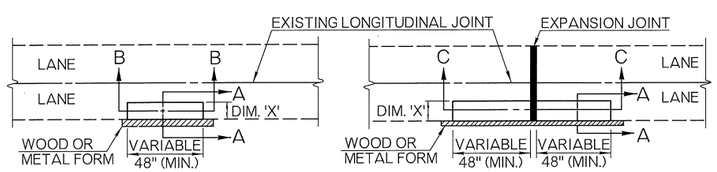


SEC A-A CONSTRUCTION COMPLETED



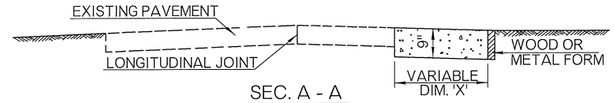
SEC. B-B SEC. C-C

RECTANGULAR PLUG PATCH

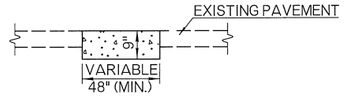


PLAN PATCH BETWEEN JOINTS

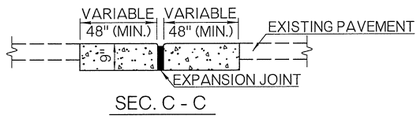
PLAN PATCH AT EXPANSION JOINT



SEC. A - A



SEC. B - B



SEC. C - C

EXTERIOR EDGE PATCH

GENERAL NOTES

1. CROWN OF PATCH TO MATCH CROWN OF EXISTING PAVEMENT.
2. EDGES OF PAVEMENT SLAB, OPEN JOINTS AND CONSTRUCTION JOINTS SHALL BE EDGED WITH AN EDGER HAVING A 1/2" RADIUS. JOINT ALONG A BROKEN EDGE OF THE EXISTING PAVEMENT SHALL NOT BE EDGED.
3. CONCRETE FOR PATCHES SHALL BE HIGH-EARLY-STRENGTH CONCRETE PAVEMENT MADE WITH THE USE OF HIGH-EARLY-STRENGTH PORTLAND CEMENT OR 25% ADDITIONAL STANDARD PORTLAND CEMENT. TRAFFIC SHALL NOT BE ALLOWED ON THE PATCH FOR THE FIRST 24 HOURS, OR FOR LONGER WHEN DIRECTED BY THE RESIDENT ENGINEER.
4. DIMENSION 'X' TO BE NOT LESS THAN 4 FEET, NOR SHALL IT EXCEED 5 FEET FOR 18 FOOT PAVEMENT OR EXCEED 6 FEET FOR 20 FOOT PAVEMENT. IF EITHER OF THESE LIMITS ARE EXCEEDED USE A HALF WIDTH PATCH.
5. PAVEMENT SECTION DEPTH TO BE SHOWN ON PLANS.
6. IN AREAS WHERE PATCHING IS REQUIRED, UNDERCUTTING AND BACK FILLING OF SUBGRADE SHALL BE DONE IN A MANNER APPROVED BY THE ENGINEER. BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 95% OF STANDARD DENSITY. COST OF UNDERCUTTING AND BACKFILLING TO BE INCLUDED IN OTHER ITEMS OF WORK.
7. FOR DETAILS OF JOINTS AND SEALERS, SEE ROADWAY STANDARD LECS-4.

OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE

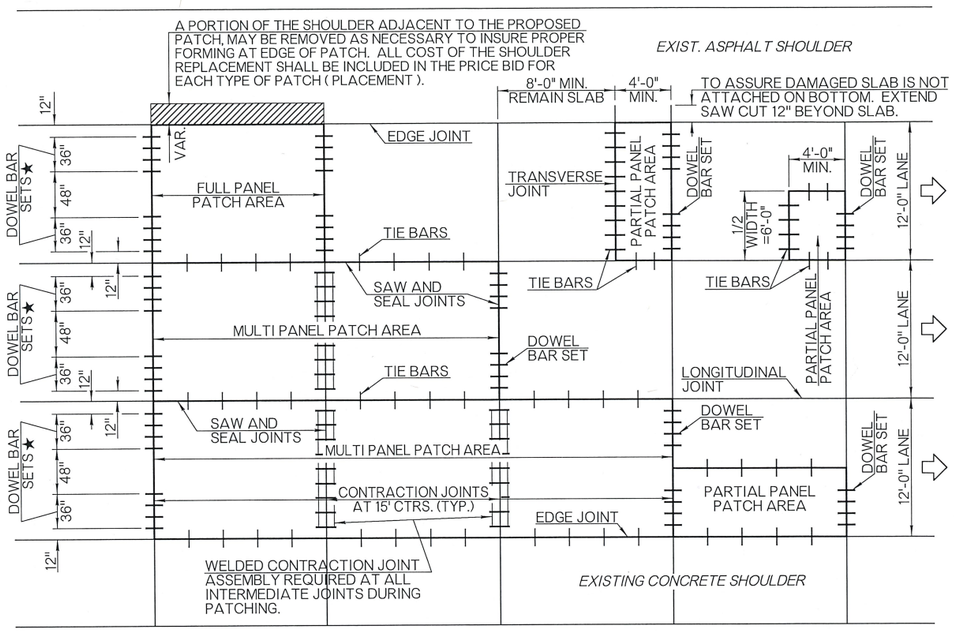
APPROVED BY ROADWAY ENGINEER: _____ DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

PAVEMENT RECONSTRUCTION DETAILS

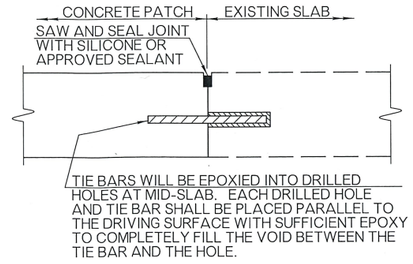
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

PR-3	0



★ DOWEL BAR SETS (FOUR BARS AT 12"CTRS.) SHALL BE USED AS SHOWN FOR ALL CONTRACTION JOINTS. IF PATCH EXTENDS IN BOTH DIRECTIONS, FROM A CONTRACTION JOINT, THEN APPROVED LOAD TRANSFER DEVICES MEETING THE REQUIREMENTS OF SECTION 414.04, AND AS SHOWN ON ROADWAY STANDARD LTU-4 SHALL BE USED IN LIEU OF DOWEL BAR SETS. IF PARTIAL PANEL PATCH IS GOING TO EXCEED 7' (FOR 15' JOINTED PAVEMENT) OR 15' (FOR 62' JOINTED PAVEMENT), THEN USE A FULL PANEL PATCH.

FULL DEPTH PATCHING DETAIL

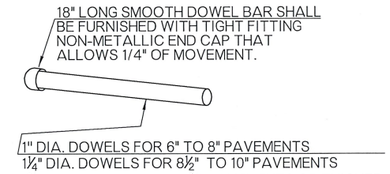


DETAIL OF TIE BAR JOINT

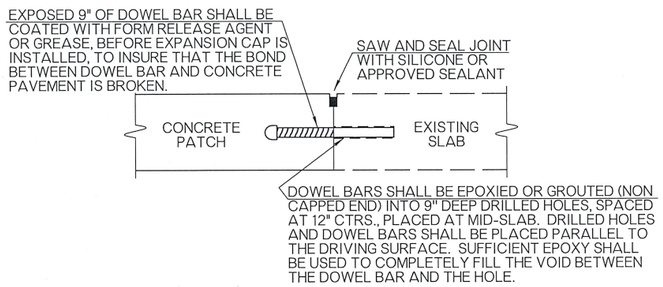
NOTE

LONGITUDINAL JOINT - TIE BARS - NO. 5 DEFORMED REINFORCING STEEL BARS, 2'-6" LONG, SHALL BE EPOXIED INTO 3/4" DIA. (MAX.) DRILLED HOLES AT 3'-0" CTRS. TIED LONGITUDINALLY. JOINT SHALL BE SAWED AND SEALED.

TRANSVERSE JOINT - TIE BARS - NO. 10 DEFORMED REINFORCING STEEL BARS, 1'-6" LONG, SHALL BE EPOXIED INTO 1 3/8" DIA. (MAX.) DRILLED HOLES AT 18" CTRS. FULL WIDTH, TRANSVERSE, TIED JOINTS SHALL NOT BE SAWED OR SEALED.



DETAIL OF DOWEL BAR WITH CAP



DETAIL OF DOWEL BAR AT CONSTRUCTION JOINT

GENERAL SEQUENCE OF PAVEMENT REPAIR

STEP 1 CONCRETE PATCHING

(1) AREAS TO BE PATCHED WILL BE DESIGNATED BY THE ENGINEER

(2) FOR REMOVAL OF FULL DEPTH PATCHES, SAWING IS TO BE FULL DEPTH. LIFT OUT DAMAGED PAVEMENT WHENEVER PRACTICAL.

(3) THE FLOW OF TRAFFIC MAY BE RESTRICTED TO ONE LANE DUE TO PATCHING OPERATION FOR A MAXIMUM DISTANCE OF ONE MILE.

STEP 2 DOWEL BAR RETROFIT INSTALLATION

(1) INSTALL DOWEL BARS AS SHOWN. BAR PLACEMENT SHALL CONSIST OF 3 BARS PER WHEEL PATH, PLACED 12" TO 15" APART, AND 18" FROM EDGE OF DRIVING LANE.

(2) DOWEL BARS SHALL NOT BE PLACED ON TOP OF A LONGITUDINAL CRACK.

(3) PAYMENT FOR 'DOWEL BAR RETROFIT' SHALL ONLY BE MADE FOR DOWELS PLACED BY THE PROCESS OF CUTTING A SLOT.

(4) IF SLOTS ARE SAWED BUT NOT RETROFITTED WITH A BAR, THE SAW CUTS SHALL BE CLEANED AND SEALED WITH AN EPOXY RESIN.

STEP 3 DIAMOND GRINDING CONCRETE PAVEMENT

(1) AFTER SLAB STABILIZATION AND/OR DOWEL BAR RETROFIT INSTALLATION, & APPROPRIATE CURE TIME HAS BEEN DETERMINED, GRINDING OPERATIONS MAY BEGIN.

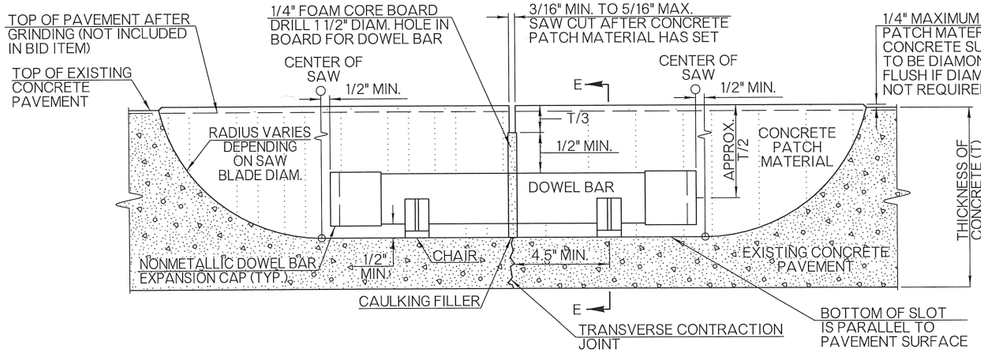
STEP 4 CONCRETE JOINT SEALING

(1) CUT SHALL BEGIN AT THE LOW EDGE OF THE DRIVING LANES AND MOVE TOWARD THE INITIAL JOINT.

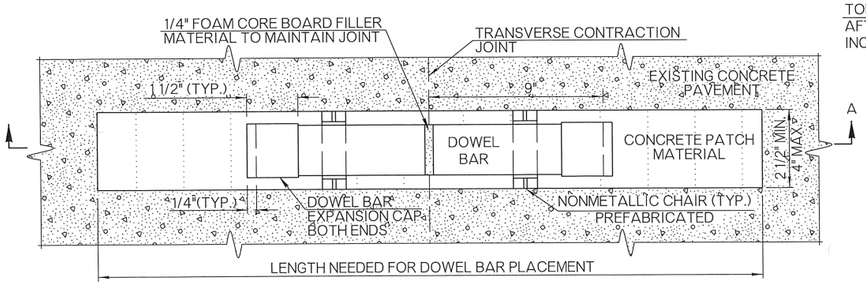
(2) INSTALLATION OF BOND BREAKER AND SILICONE JOINT SEALANT SHALL BE FROM THE END OF THE INITIAL JOINT TO THE LOW EDGE OF THE DRIVING LANES.

GENERAL NOTES

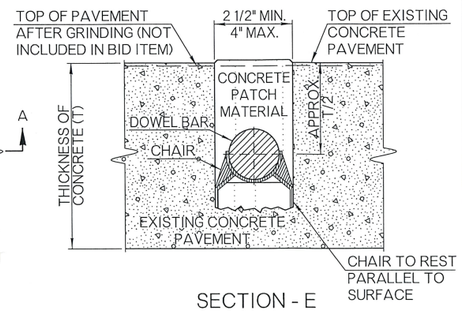
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. COST OF SAWING AND REMOVAL OF PAVEMENT FOR FULL DEPTH PATCHING, COST OF DOWEL BARS, TIE BARS AND ANY/ALL INCIDENTALS REQUIRED FOR INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR FULL DEPTH PCC PATCH (PLACEMENT), UNLESS OTHERWISE SHOWN ON THE PLANS.
3. HIGH EARLY STRENGTH (HE) CONCRETE, WHEN USED FOR FULL DEPTH PATCHING, WILL BE PAID FOR AS PC CONCRETE FOR PAVEMENT.
4. BID ITEM FOR CONCRETE JOINT SEALING (JOINT REHABILITATION) WILL INCLUDE SAWING, CLEANING OF JOINT, BACKER ROD, SILICONE SEALANT AND ANY/ALL INCIDENTALS REQUIRED TO COMPLETE THE WORK.
5. FOR SKEWED TRANSVERSE JOINTS, DOWEL BARS SHALL ALWAYS BE PLACED PARALLEL TO THE ROADWAY.
6. HOLES ARE TO BE DRILLED IN DIAMETER BASED ON DOWEL BAR SIZE AND TYPE OF GLUE USED:
   - FOR EPOXY, HOLE DIAMETER SHALL BE DOWEL DIA. + (2 x 1/8")
   - FOR CEMENT GROUT, HOLE DIAMETER SHALL BE DOWEL DIA. + (2 x 1/4")



SECTION - A
DOWEL BAR RETROFIT PLACEMENT DETAIL



PLAN VIEW
DOWEL BAR RETROFIT INSTALLATION



SECTION - E

BASE REPAIR AND PREPARATION

IN AREAS WHERE PATCHING IS REQUIRED, THE REMOVAL OF THE DAMAGED PAVEMENT SHALL BE PERFORMED IN A MANNER THAT WOULD MINIMIZE FURTHER DAMAGE TO THE UNDERLYING SUBBASE (S), SUBGRADE OR ADJACENT PAVEMENT(S). NO COMPENSATION WILL BE MADE TO CONTRACTOR FOR REPAIRING DAMAGE SUSTAINED DURING THE REMOVAL PROCESS.

COST OF ANY INCIDENTAL BASE REPAIR, LEVELING OR BACKFILLING, UP TO 2", WILL BE INCLUDED IN FULL DEPTH PCC PATCH (PLACEMENT) PAY ITEM. INCIDENTAL REPAIR, LEVELING AND BACKFILLING MATERIAL SHALL CONSIST OF SAME MATERIAL ENCOUNTERED, CRUSHED LIMESTONE OR BY THICKENING THE FULL DEPTH PATCH.

BASE REPAIR, LEVELING AND RELATED BACKFILLING OF SUBBASE (S) OR SUBGRADE IN EXCESS OF 2" SHALL BE PAID FOR AS UNCLASSIFIED EXCAVATION WITH QUANTITIES COMPUTED FROM BOTTOM OF SLAB DOWNWARD TO LIMITS OF REMOVAL.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
202 (A)	UNCLASSIFIED EXCAVATION	CY
414 (E)	FULL DEPTH P. C. C. PATCH (PLACEMENT)	SY
414 (G)	P. C. CONCRETE FOR PAVEMENT	CY
415	CONCRETE JOINT SEALING	LF
416	DOWEL BAR RETROFIT	EA
425	DIAMOND GRINDING CONCRETE PAVEMENT	SY

APPROVED BY ROADWAY ENGINEER: _____ DATE: 01/23/19

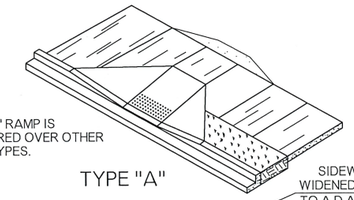
ROADWAY DESIGN DIVISION STANDARD

PORTLAND CEMENT CONCRETE PAVEMENT REPAIR

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

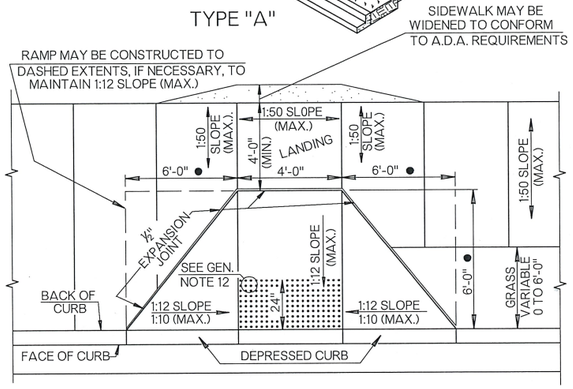
PCPR-3 | 2

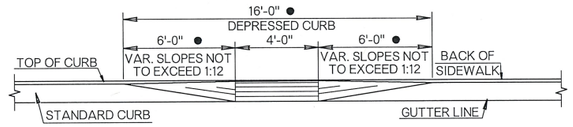
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



TYPE "A" RAMP IS PREFERRED OVER OTHER RAMP TYPES.

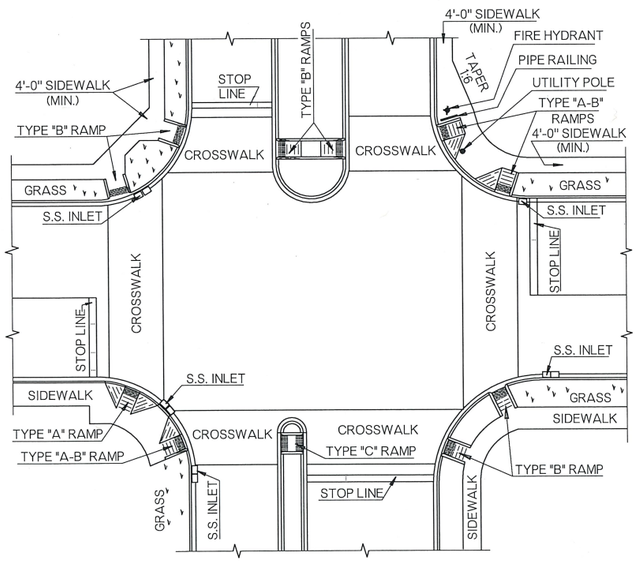
TYPE "A"



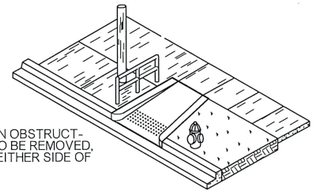


ELEVATION

● RAMP DIMENSIONS SHOWN ARE BASED ON A CURB HEIGHT OF SIX INCHES. THE DIMENSIONS SHOULD BE ADJUSTED FOR OTHER CURB HEIGHTS. THE MAXIMUM PERMISSIBLE SLOPES OF THE WHEELCHAIR RAMPS IS 8.33% (1:12). RAMP SLOPE MAY BE 1:10 (MAXIMUM) ALONG FACE OF TAPERED CURB.

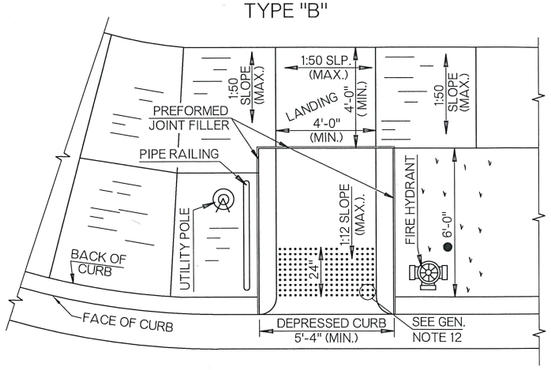


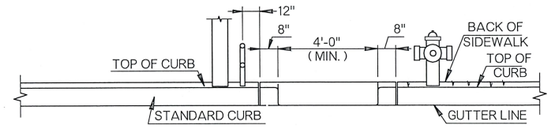
THE ABOVE EXAMPLES ARE TYPICAL ONLY AND ARE SHOWN TO ILLUSTRATE POSSIBLE RAMP TYPES, POSSIBLE RAMP LOCATIONS, POSSIBLE INLET LOCATIONS, AND HOW THE RAMP WILL BE DESIGNATED ON THE PLANS. CARE SHOULD BE EXERCISED TO ASSURE THAT MEDIAN RAMP AND CURB RAMP LINE UP AND THAT RAMPS THROUGHOUT A PROJECT ARE LOCATED WITH SOME DEGREE OF UNIFORMITY.



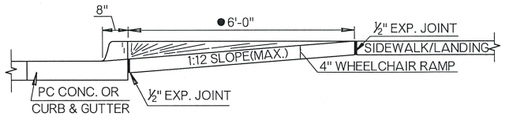
USE TYPE "B" RAMP WHEN OBSTRUCTIONS, WHICH ARE NOT TO BE REMOVED, ARE ENCOUNTERED ON EITHER SIDE OF WHEELCHAIR RAMPS.

TYPE "B"

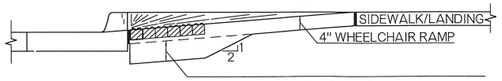




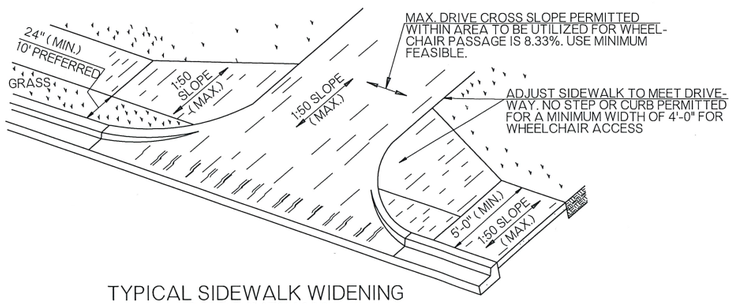
ELEVATION



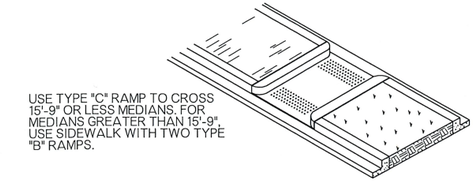
WHEELCHAIR RAMP PROFILES
(TYPE A OR B)



SIDEWALK THICKENING FOR TYPE A TACTILE WARNING DEVICES

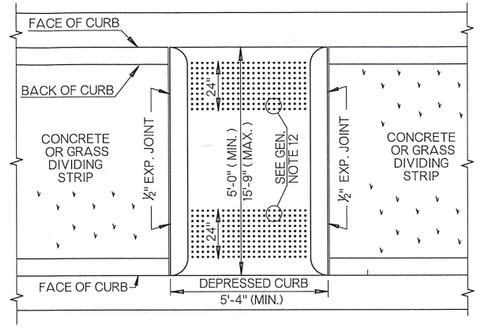


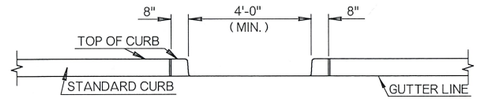
TYPICAL SIDEWALK WIDENING AT DRIVEWAY



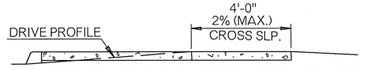
USE TYPE "C" RAMP TO CROSS 15'-9" OR LESS MEDIANS. FOR MEDIANS GREATER THAN 15'-9", USE SIDEWALK WITH TWO TYPE "B" RAMPS.

TYPE "C"

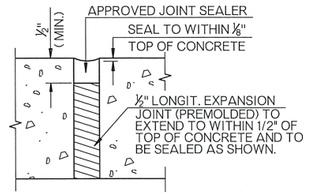




ELEVATION



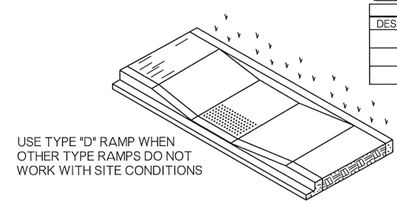
AT DRIVEWAY LOCATIONS, THE NORMAL 4'-0" SIDEWALK MUST BE WIDENED SO THAT A 4' PORTION OF SIDEWALK IS ALIGNED WITH SIDEWALK CROSSING SHELF IN THE DRIVEWAY PROFILE. A WIDER SIDEWALK (5'-0" TYP.) SHALL ALSO BE USED AT INTERVALS LESS THAN 200 FEET, TO ASSURE WHEELCHAIR PASSAGE.



1/2" EXPANSION JOINT

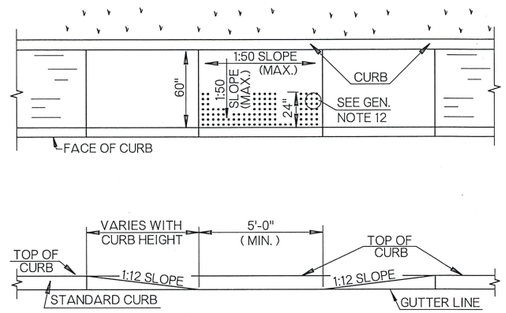
JOINT FILLER SHALL MEET THE REQUIREMENTS OF SECTION 701.08 OF THE SPECIFICATIONS.

JOINT FILLER SHALL BE USED BETWEEN SIDEWALK AND CURBS, WHEELCHAIR RAMPS, DRIVEWAYS, STREETS, RETAINING WALLS, ETC.



USE TYPE "D" RAMP WHEN OTHER TYPE RAMPS DO NOT WORK WITH SITE CONDITIONS

TYPE "D"



ELEVATION

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. THERE WILL BE NO DEDUCTION OF PAYMENT FOR CONCRETE CURB & GUTTER AND/OR INTEGRAL CURB FOR THE LENGTH OF THE DEPRESSED CURB.
3. DRAINAGE STRUCTURES SHALL NOT BE PLACED IN LINE WITH THE RAMPS.
4. THE NORMAL GUTTER LINE PROFILE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP WITH A 1:50 SLOPE (MAX.), SEE GENERAL NOTE NO. 9.
5. WHEELCHAIR RAMPS SHOULD BE LOCATED SO THAT THE RAMP WILL BE ON THE TRAFFIC APPROACH SIDE OF ANY OBSTACLE.
6. WHEELCHAIR RAMPS SHOULD BE BUILT AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE TYPE OF RAMP WILL BE DESIGNATED ON THE PLANS. IF A RAMP IS TO BE CONSTRUCTED AS A COMBINATION OF TWO TYPES, (ONE SIDE TYPE "A" AND ONE SIDE TYPE "B") THE RAMP SHALL BE DESIGNATED AS TYPE "A-B."
7. PIPE RAILING CONSTRUCTION DETAILS, WHEN REQUIRED AT TYPE "B" WHEELCHAIR RAMPS, WILL BE SHOWN ON THE PLANS.
8. EXCAVATION, BACKFILL, EXPANSION JOINT MATERIAL, SEALERS, AND OTHER RELATED MISCELLANEOUS ITEMS WILL NOT BE PAID FOR SEPARATELY BUT THE COST THEREOF SHALL BE INCLUDED IN THE COST OF THE SIDEWALK.
9. ALL FEATURES OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, CURB RAMPS AND CROSSWALK MARKINGS SHALL COMPLY WITH THE PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG). WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THE PROWAG, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURE(S). THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK WHICH IS NOT IN FULL COMPLIANCE WITH THE PROWAG WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE PROWAG, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
10. ALL WHEELCHAIR RAMP CURBS SHALL BE INCLUDED IN COST OF SIDEWALK.
11. FOR DETAILS OF TACTILE WARNING DEVICES, SEE THE CURRENT VERSION OF ROADWAY STANDARD TWD-1.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
610 (A)	■CONCRETE SIDEWALK	SY
622 (A)	PIPE RAILING	LF

■ SIDEWALK THICKNESS SHALL BE SPECIFIED IN INCHES.

APPROVED BY ROADWAY ENGINEER Caleb F A DATE 01/23/19

ROADWAY DESIGN DIVISION STANDARD

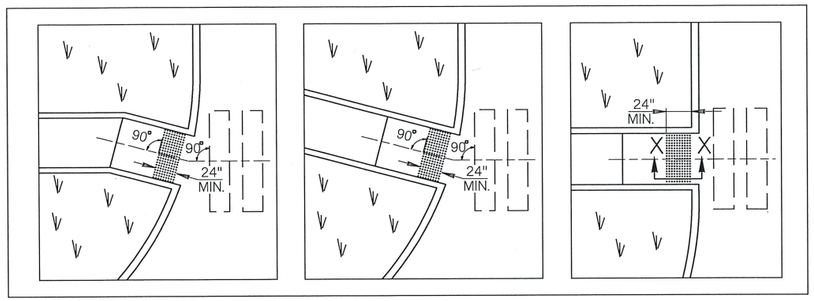
WHEELCHAIR RAMPS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

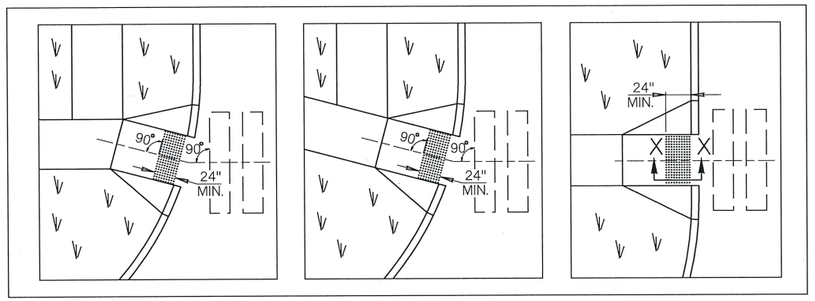
WCR-3	2

R-22

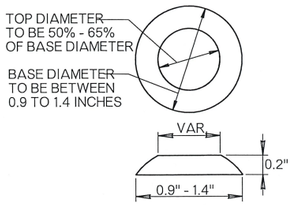
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



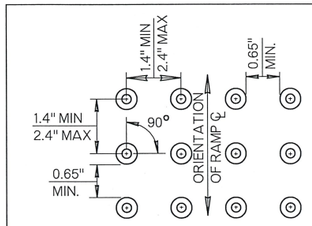
TACTILE SYSTEM ORIENTATION - TYPICAL CURBED RAMPS



TACTILE SYSTEM ORIENTATION - TYPICAL FLARED RAMPS



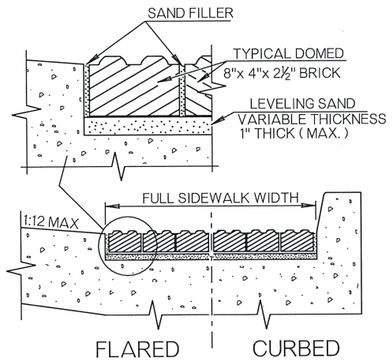
TACTILE MARKERS
TRUNCATED DOMES



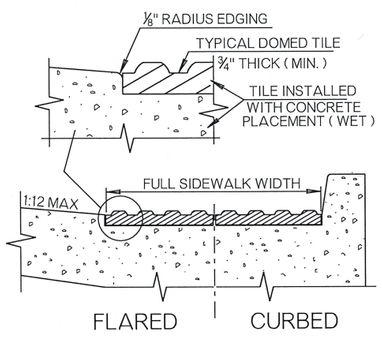
90° GRID DOME PATTERN
(SEE GENERAL NOTE NUMBER 15 & 16.)

GENERAL NOTES

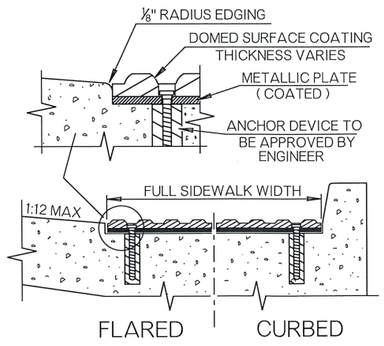
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL FEATURES OF TACTILE WARNING DEVICE DESIGN AND FINAL INSTALLATION SHALL COMPLY WITH THE PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG). WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THE PROWAG, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURE(S). THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK WHICH IS NOT IN FULL COMPLIANCE WITH THE PROWAG WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE PROWAG, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
3. TACTILE WARNING SURFACE SHALL EXTEND FROM EDGE TO EDGE OF WALKWAY ENTERING THE CROSSWALK, AT STREET LEVEL.
4. CURB IS NOT SHOWN IN THE SECTION X-X DETAIL ON THIS SHEET.
5. THICKNESS 'T' OF PAVEMENT ABUTTING SIDEWALK/RAMP VARIES.
6. SIDEWALK, RAMP AND FLARE THICKNESS SHALL BE 4" MINIMUM THICKNESS AFTER INSTALLATION OF TACTILE WARNING TREATMENT.
7. TRUNCATED DOME SURFACE SHALL CONTRAST VISUALLY WITH THE ADJOINING WALKING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE TRUNCATED SURFACE.
8. LEVELING SAND FOR DOMED BRICK SYSTEMS SHALL MEET THE REQUIREMENTS OF SECTION 703.06B(2) OF THE SPECIFICATIONS.
9. SURFACE BONDED TACTILE SYSTEMS MAY ONLY BE PLACED ON NEWLY POURED CONCRETE AFTER AN APPROPRIATE PERIOD OF CURING, IN ACCORDANCE WITH MANUFACTURE'S SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.
10. ROWS OF TACTILE DOME TREATMENT SHOULD BE ORIENTED PARALLEL WITH CENTERLINE OF SIDEWALK/RAMP OR TOWARD THE CENTERLINE OF MARKED CROSSWALK.
11. EXPANSION JOINTS DEEMED NECESSARY, BUT NOT SHOWN ON THE PLANS, MAY BE ADDED AND PLACED DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER.
12. TACTILE SYSTEMS, DOME PATTERNS OR FEATURES DIFFERING FROM THOSE SHOWN ON THIS DETAIL, BUT MEETING CURRENT PROWAG SPECIFICATIONS, SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER BEFORE INSTALLATION.
13. THE SAME TACTILE DOME PATTERN AND COLOR SHALL BE USED THROUGHOUT ANY NEW OR RETROFIT PROJECT. DOME PATTERN & LOCATION OF EXISTING RAMPS TO BE RETROFIT WITH TACTILE DEVICES SHALL BE DESIGNATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
14. RETROFIT INSTALLATIONS WILL NOT REQUIRE REPLACING EXISTING DEPRESSED CURBING. A NOMINAL 6 TO 8 INCH SETBACK FROM FACE OF CURB SHALL BE ENFORCED FOR NEAR EDGE OF TACTILE DOMES.
15. TYPES A & B TACTILE SYSTEMS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 10,000 PSI. TYPES C & D SYSTEMS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI. COMPRESSIVE TESTS MEET ASTM D695.
16. TACTILE WARNING SURFACES MAY NOT BE STAMPED IN WET CONCRETE.



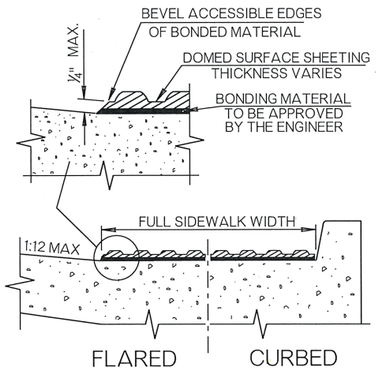
SECTION A - A



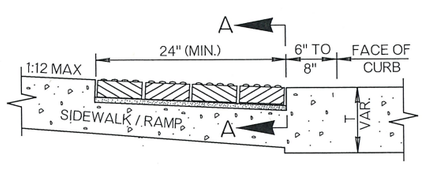
SECTION B - B



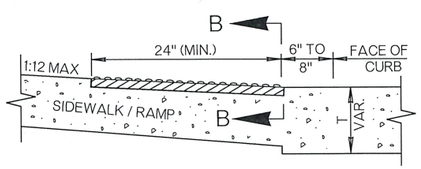
SECTION C - C



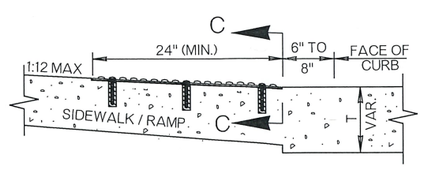
SECTION D - D



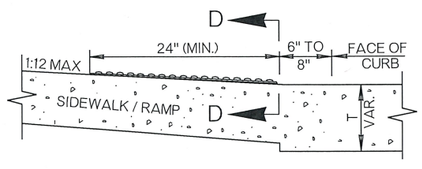
SECTION X - X
TYPE A
DOMED BRICK SYSTEM



SECTION X - X
TYPE B
DOMED TILE SYSTEM
(WET SET INLAY)



SECTION X - X
TYPE C
DOME COATED PLATE SYSTEM
(TYPICAL RETROFIT)



SECTION X - X
TYPE D
SURFACE BONDED DOMED SYSTEM
(TYPICAL RETROFIT)

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
610 (I)	TACTILE WARNING DEVICE - NEW	SF
610 (I)	TACTILE WARNING DEVICE - RETROFIT	SF

NOTE: TYPE A OR B TACTILE WARNING DEVICE SHALL BE SPECIFIED ON THE PLANS FOR NEW CONSTRUCTION & TYPE C OR D SHALL BE SPECIFIED ON THE PLANS FOR RETROFIT CONSTRUCTION.

APPROVED BY ROADWAY ENGINEER Caleb A ____ DATE: 01/23/19

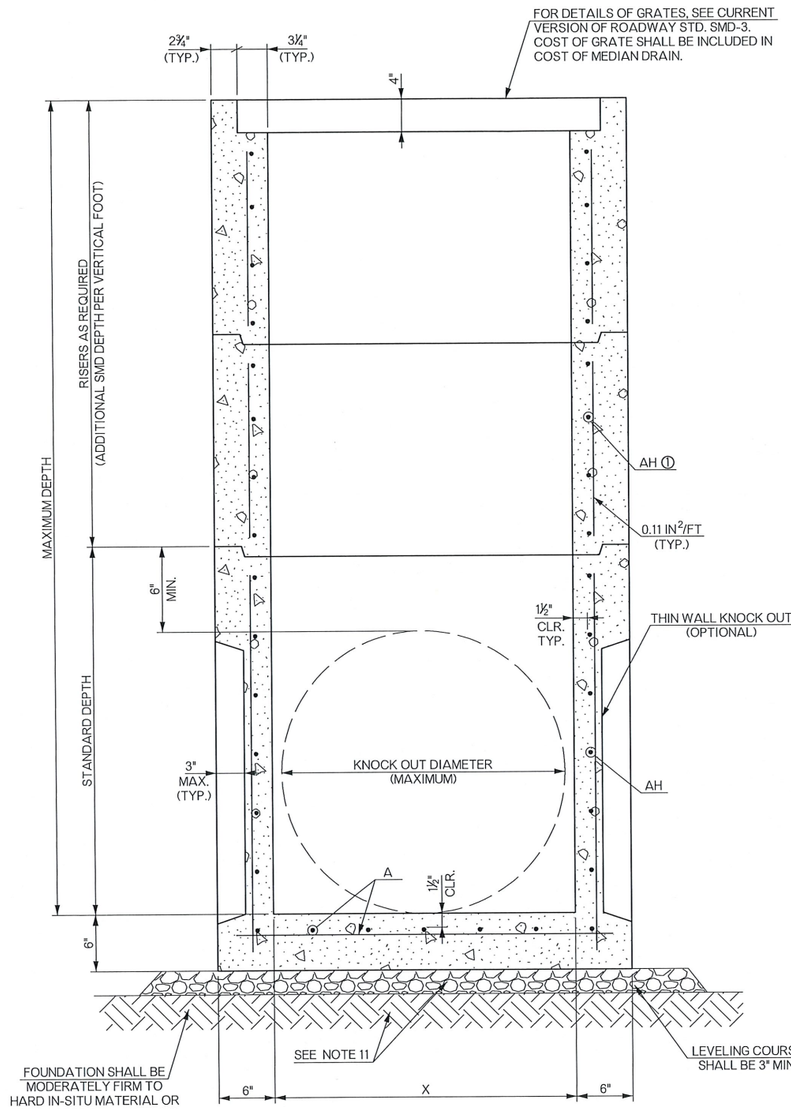
ROADWAY DESIGN DIVISION STANDARD

TACTILE WARNING DEVICES

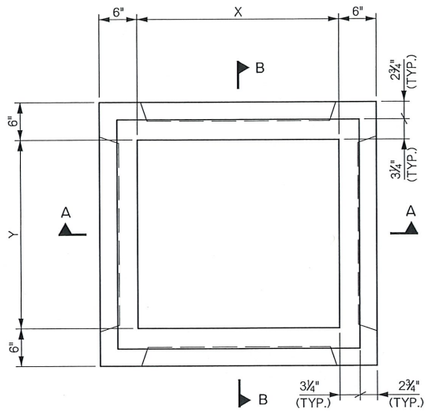
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

TWD-1	1

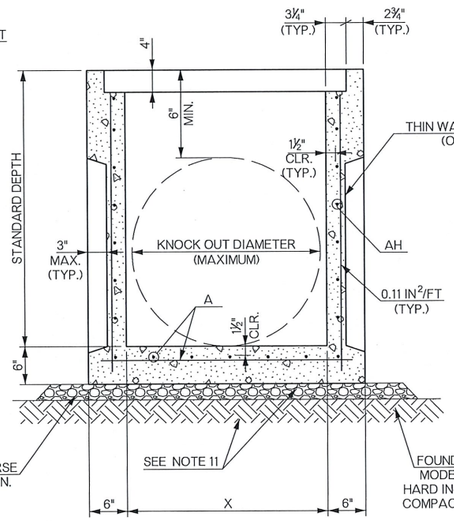
R-23



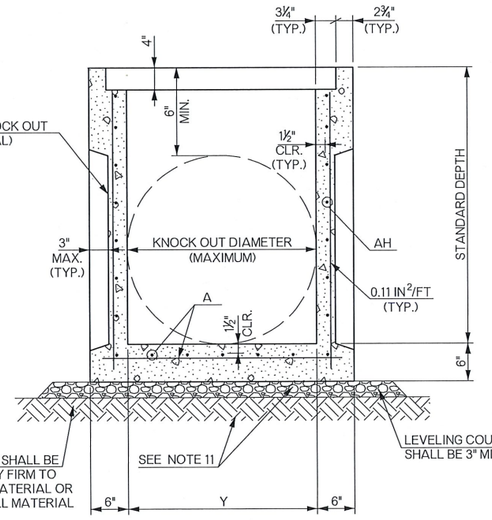
SECTION A-A
RISER OPTION



PLAN



SECTION A-A
STANDARD DEPTH INLET



SECTION B-B
STANDARD DEPTH INLET

DESIGN DATA

MATERIAL:

CLASS A CONCRETE f'c = 4 KSI
REINFORCING STEEL fy = 60 KSI

LOADING:

HL-93

DESIGN:

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION
ASTM C890
ASTM C913

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. STANDARD DEPTH IS AS SHOWN. COST OF ALL MATERIALS FOR ADDITIONAL DEPTH SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET. INLET ADDITIONAL DEPTH DATA SHALL BE NOTED ON THE PLANS.
3. THERE SHALL BE A MINIMUM VERTICAL DISTANCE OF 6" BETWEEN OPENINGS AND THE TOP EDGE.
4. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE GRADE 60 REINFORCING STEEL CONFORMING TO ASTM A615 OR EQUIVALENT AREA OF WELDED WIRE REINFORCING CONFORMING TO ASTM A1064.
6. PROVIDE A MINIMUM CLEAR COVER OF 1½" TO REINFORCING STEEL.
7. WALLS OR SLABS WITH A THICKNESS OF 8" OR GREATER REQUIRE A SECONDARY LAYER OF REINFORCING STEEL. PROVIDE AN AREA OF STEEL EQUAL TO 0.11 IN^2/FT EACH WAY.
8. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON BOTH SHOULDERS. MINIMUM SPIGOT DEPTH IS ¾".
9. SEAL TONGUE AND GROOVE JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS MAY BE GROUTED NO MORE THAN 1" BETWEEN EACH SECTIONS OR ½ THE JOINT DEPTH, WHICHEVER IS GREATER. JOINT SEALING SHALL BE INCLUDED IN COST OF STRUCTURE.
10. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT THE MANUFACTURER'S RECOMMENDATIONS.
11. THE FOUNDATION SHALL BE STABILIZED OR REMOVED AND REPLACED WITH FIRM AND STABLE FOUNDATION MATERIAL. A MINIMUM 3" THICK LEVELING COURSE SHALL BE PROVIDED BELOW THE BASE AREA OF THE INLET AND EXTEND 6" BEYOND THE BASE AREA. THE LEVELING COURSE SHALL BE CONSTRUCTED WITH AGGREGATE BASE TYPE A. COSTS ASSOCIATED WITH THE FOUNDATION AND LEVELING COURSES SHALL BE INCLUDED IN THE PRICE BID OF THE STRUCTURE.
12. THIN WALL KNOCKOUTS MAY BE CAST AT THE MANUFACTURER'S DISCRETION.
13. REFER TO PROJECT PLAN SHEETS FOR NUMBER, LOCATION, AND SIZE OF PIPE.
14. FLEXURAL REINFORCING STEEL SHALL NOT EXCEED SPACING OF 6" CENTER TO CENTER.

SCHEDULE OF DIMENSIONS AND REINFORCING STEEL

PIPE DIAMETER	STANDARD DEPTH	TYPE OF GRATE	KNOCK OUT DIAMETER	X	Y	A BARS (IN^2/FT) DEPTH			AH BARS (IN^2/FT) ① DEPTH									
						≤5'	≤10'	≤15'	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'
18" & 24"	3'-2"	TYPE 1 OR 2	2'-6"	2'-8"	2'-6"	0.17	0.21	0.26	0.12	0.12	0.12	0.13	0.14	0.15	0.17	0.18	0.20	0.21	0.23	0.24
30"	4'-3"	TYPE 2B	3'-8"	3'-8"	3'-8"	0.20	0.27	0.34	0.19	0.22	0.25	0.28	0.31	0.35	0.38	0.41	0.45	0.48	0.52	0.55

① SECTIONS WITHOUT A THIN WALL KNOCK OUT AND A MINIMUM THICKNESS OF 6" MAY USE AN AREA OF REINFORCING STEEL EQUAL TO 0.13 IN^2/FT

REINFORCING STEEL VALUES LISTED IN "SCHEDULE OF DIMENSIONS AND REINFORCING STEEL" ARE MINIMUM VALUES. STRUCTURES THAT PROVIDE VALUES LARGER THAN THOSE SHOWN WILL BE CONSIDERED ACCEPTABLE.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
611(G)	PRECAST INLET (SMD - TYPE 1)	EA.
611(G)	PRECAST INLET (SMD - TYPE 2)	EA.
611(G)	PRECAST INLET (SMD - TYPE 2B)	EA.

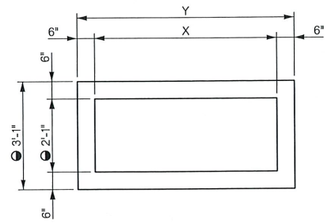
APPROVED BY ROADWAY ENGINEER: _____ DATE 03/05/19

ROADWAY STANDARD

PRECAST STANDARD MEDIAN DRAIN

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

PSMD-1 | 0



PLAN VIEW - STANDARD CURB INLET

CURB INLET SCHEDULE

DESIGNATION	STRUCTURE LENGTH		
	DESIGN 1	DESIGN 2	DESIGN 3
STD.	3'-7"	6'-2"	11'-6"
A	6'-3"	8'-10"	14'-2"
B	8'-11"	11'-6"	16'-10"
C	11'-7"	14'-2"	19'-6"
D	14'-4"	16'-11"	22'-3"
2A	8'-11"	11'-6"	16'-10"
A-B	11'-7"	14'-2"	19'-6"
A-C	14'-3"	16'-10"	22'-2"
2B	14'-3"	16'-10"	22'-2"
B-C	16'-11"	19'-6"	24'-10"
2C	19'-7"	22'-2"	27'-6"
B-D	19'-8"	22'-3"	27'-7"
2D	25'-1"	27'-8"	33'-0"

CURB INLET ADDITIONAL OPENINGS

CURB OPENING DESIGNATION	THROAT SECTION LENGTH
A	2'-8"
B	5'-4"
C	8'-0"
D	10'-9"

① STANDARD DEPTH
2'-9" FOR 18" DIA. PIPE
3'-4" FOR 24" DIA. PIPE
4'-0" FOR 30" DIA. PIPE
4'-6" FOR 36" DIA. PIPE

DESIGN DATA

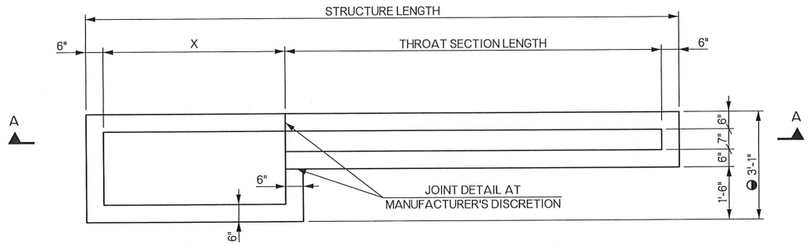
MATERIAL:
CLASS A CONCRETE f'c = 4 KSI
REINFORCING STEEL fy = 60 KSI

LOADING:
HL-93

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION
ASTM C890
ASTM C913

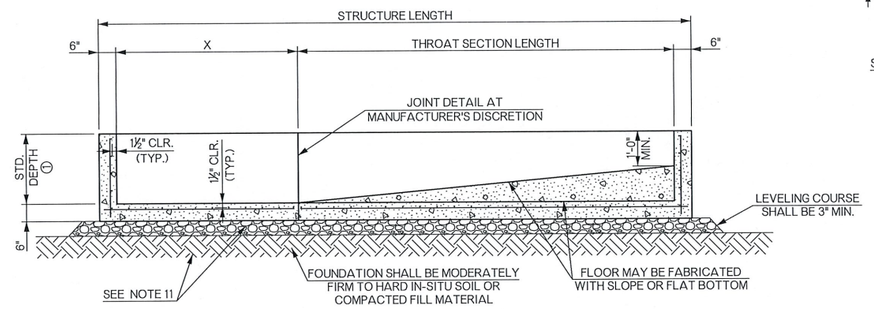
GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. FOR DETAILS OF FRAMES, GRATES AND HOODS SEE ROADWAY STANDARDS SSIF-4, CIG-3 AND CI-1. COST OF FRAMES, GRATES AND HOODS SHALL BE INCLUDED IN THE COST OF THE STRUCTURE.
3. THERE SHALL BE A MINIMUM VERTICAL DISTANCE OF 6" BETWEEN AN OPENING AND ANY EDGE.
4. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE GRADE 60 REINFORCING STEEL CONFORMING TO ASTM A615 OR EQUIVALENT AREA OF WELDED WIRE REINFORCING CONFORMING TO ASTM A1064.
6. PROVIDE A MINIMUM CLEAR COVER OF 1½" TO REINFORCING STEEL.
7. WALLS OR SLABS WITH A THICKNESS OF 8" OR GREATER REQUIRE A SECONDARY LAYER OF REINFORCING STEEL. PROVIDE AN AREA OF REINFORCING STEEL EQUAL TO 0.11 IN^2/FT EACH WAY IN THE SECONDARY LAYER.
8. BLOCKOUTS IN WALLS MAY BE FORMED FOR GRATE SUPPORT BEAMS. THE SUPPORT BEAM SHALL BE OF SIZE S4x7.7 OR AS DESCRIBED ON ROADWAY STANDARD SSIF-4.
9. MAXIMUM OPENING DIAMETER SHALL BE 4" LARGER THAN OUTSIDE DIAMETER OF PIPE.
10. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT THE MANUFACTURER'S RECOMMENDATIONS.
11. THE FOUNDATION SHALL BE STABILIZED OR REMOVED AND REPLACED WITH FIRM AND STABLE FOUNDATION MATERIAL. A MINIMUM 3" THICK LEVELING COURSE SHALL BE PROVIDED BELOW THE BASE AREA OF THE INLET AND EXTEND 6" BEYOND THE BASE AREA. THE LEVELING COURSE SHALL BE CONSTRUCTED WITH AGGREGATE BASE TYPE A. COSTS ASSOCIATED WITH THE FOUNDATION AND LEVELING COURSE SHALL BE INCLUDED IN THE PRICE BID OF THE STRUCTURE.
12. WALLS AND SLABS WILL HAVE A MINIMUM THICKNESS OF 6". A TOLERANCE OF ±3/8" WILL BE ALLOWED FOR FABRICATION.
13. FLEXURAL REINFORCING STEEL SHALL NOT EXCEED SPACING OF 6" CENTER TO CENTER

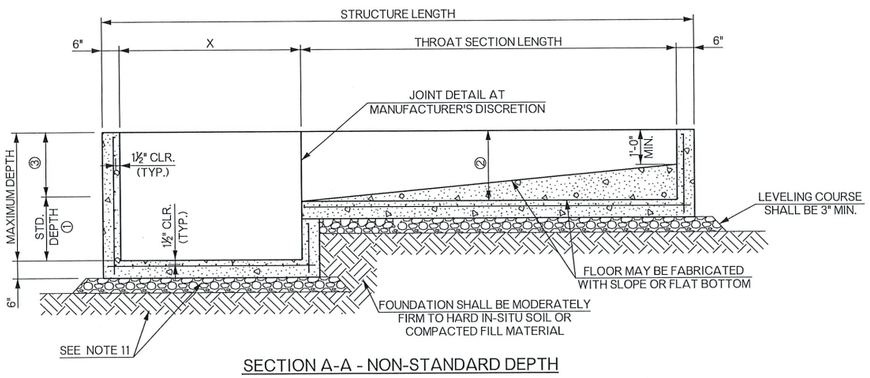


PLAN VIEW - CURB INLET WITH ADDITONAL OPENINGS

NOTE: THROAT SECTION MAY ENTER EITHER OR BOTH SIDES OF CURB INLET.

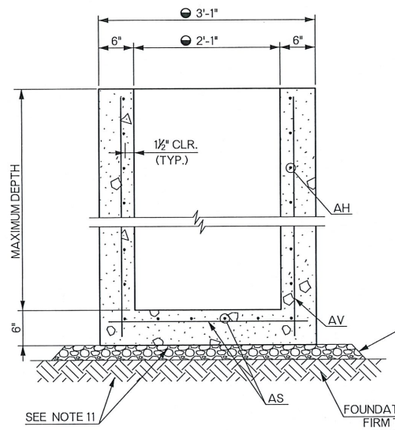


SECTION A-A - STANDARD DEPTH

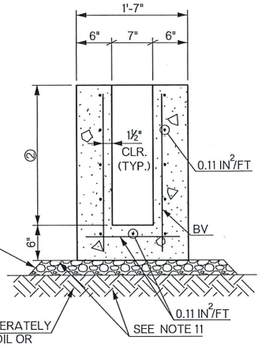


SECTION A-A - NON-STANDARD DEPTH

③ ADDITIONAL CURB INLET DEPTH PER VERTICAL FOOT



CROSS-SECTIONAL VIEW - CURB INLET



CROSS-SECTIONAL VIEW - THROAT

② STANDARD DEPTH SHALL BE AS SHOWN IN STANDARD DEPTH TABLE ABOVE. NON-STD. DEPTH SHALL BE A MINIMUM OF 2'-0" AND A MAXIMUM OF 5'-0"

SCHEDULE OF DIMENSIONS AND REINFORCING STEEL

INLET DESIGN	◒X	◒Y	AH BARS (IN^2/FT) DEPTH 3'	4'	5'	6'	7'	8'	9'	10'	AS BARS (IN^2/FT)	AV BARS (IN^2/FT)	BV BARS (IN^2/FT) DEPTH 3'	4'	5'
1	2'-7"	3'-7"	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.20	0.11			
2	5'-2"	6'-2"	0.11	0.11	0.11	0.11	0.11	0.12	0.13	0.14	0.18	0.11	0.11	0.16	0.26
3	10'-6"	11'-6"	0.20	0.25	0.29	0.33	0.37	0.41	0.46	0.50	0.13	0.17			

◒ DIMENSIONS SHOWN ARE THE MAXIMUM DIMENSIONS ALLOWED. INLET DIMENSIONS LESS THAN THOSE SHOWN ARE ACCEPTABLE FOR THE APPLICABLE INLET DESIGN NUMBER PROVIDED THE DIMENSIONS MEET GEOMETRIC REQUIREMENTS OF THE FRAMES, GRATES AND HOODS.

REINFORCING STEEL VALUES LISTED IN "SCHEDULE OF DIMENSIONS AND REINFORCING STEEL" ARE MINIMUM VALUES. STRUCTURES THAT PROVIDE VALUES LARGER THAN THOSE SHOWN WILL BE CONSIDERED ACCEPTABLE.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
611(G)	PRECAST INLET CI DES. 1 (STD)	EA.
611(G)	PRECAST INLET CI DES. 1 (A)	EA.
611(G)	PRECAST INLET CI DES. 1 (B)	EA.
611(G)	PRECAST INLET CI DES. 1 (C)	EA.
611(G)	PRECAST INLET CI DES. 1 (D)	EA.
611(G)	PRECAST INLET CI DES. 1 (2A)	EA.
611(G)	PRECAST INLET CI DES. 1 (A-B)	EA.
611(G)	PRECAST INLET CI DES. 1 (A-C)	EA.
611(G)	PRECAST INLET CI DES. 1 (2B)	EA.
611(G)	PRECAST INLET CI DES. 1 (B-C)	EA.
611(G)	PRECAST INLET CI DES. 1 (2C)	EA.
611(G)	PRECAST INLET CI DES. 2 (STD)	EA.
611(G)	PRECAST INLET CI DES. 2 (B)	EA.
611(G)	PRECAST INLET CI DES. 2 (C)	EA.
611(G)	PRECAST INLET CI DES. 2 (D)	EA.
611(G)	PRECAST INLET CI DES. 2 (2B)	EA.
611(G)	PRECAST INLET CI DES. 2 (2C)	EA.
611(G)	PRECAST INLET CI DES. 2 (B-D)	EA.
611(G)	PRECAST INLET CI DES. 2 (2D)	EA.
611(G)	PRECAST INLET CI DES. 3 (STD)	EA.
611(G)	PRECAST INLET CI DES. 3 (B)	EA.
611(G)	PRECAST INLET CI DES. 3 (D)	EA.
611(G)	PRECAST INLET CI DES. 3 (2B)	EA.
611(G)	PRECAST INLET CI DES. 3 (B-D)	EA.
611(G)	PRECAST INLET CI DES. 3 (2D)	EA.
611(G)	ADD'L DEPTH IN PRECAST INLET CI DES. 1	VF
611(G)	ADD'L DEPTH IN PRECAST INLET CI DES. 2	VF
611(G)	ADD'L DEPTH IN PRECAST INLET CI DES. 3	VF

APPROVED BY ROADWAY ENGINEER: _____ DATE: 03/05/19

ROADWAY DESIGN DIVISION STANDARD

PRECAST CURB INLET (DESIGNS 1, 2 AND 3)

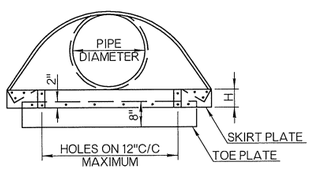
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

PCI-0 | 0

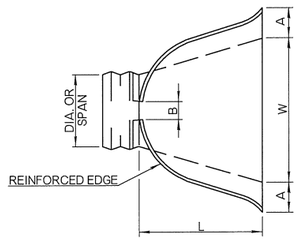
R-25

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE

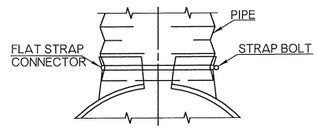
DIMENSIONS OF END SECTIONS FOR ROUND METAL PIPE								
PIPE DIA.	GA.	A	B	H	L	W	APPROX. SLOPE	BODY TYPE
12"	16	6"	6"	6"	21"	24"	1 : 2 1/2	1 PC.
15"	16	7"	8"	6"	26"	30"	1 : 2 1/2	1 PC.
18"	16	8"	10"	6"	31"	36"	1 : 2 1/2	1 PC.
21"	16	9"	12"	6"	36"	42"	1 : 2 1/2	1 PC.
24"	16	10"	13"	6"	41"	48"	1 : 2 1/2	1 PC.
30"	14	12"	16"	8"	51"	60"	1 : 2 1/2	1 PC.
36"	14	14"	19"	9"	60"	72"	1 : 2 1/2	2 PC.
42"	12	16"	22"	11"	69"	84"	1 : 2 1/2	2 PC.
48"	12	18"	27"	12"	78"	90"	1 : 2 1/4	2 PC.
54"	12	18"	30"	12"	84"	102"	1 : 2	2 PC.
60"	12	18"	33"	12"	87"	114"	1 : 1 3/4	3 PC.
66"	12	18"	36"	12"	87"	120"	1 : 1 1/2	3 PC.
72"	12	18"	39"	12"	87"	126"	1 : 1 1/3	3 PC.
78"	12	18"	42"	12"	87"	132"	1 : 1 1/4	3 PC.
84"	12	18"	45"	12"	87"	138"	1 : 1 1/6	3 PC.



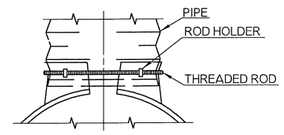
ROUND METAL PIPE END SECTION
END VIEW



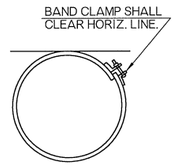
METAL END SECTION
PLAN VIEW



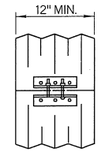
TYPE 1
FOR 12" TO 24" ROUND AND
EQUIVALENT ROUND PIPE ARCH SIZES.



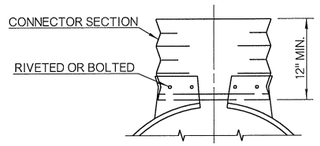
TYPE 2
FOR 30" TO 36" ROUND AND
30" TO 48" EQUIVALENT ROUND
PIPE - ARCH SIZES.



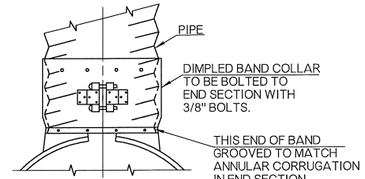
COUPLING BAND



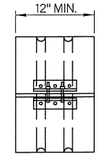
STANDARD
COUPLING BAND



TYPE 3
FOR 42" TO 84" ROUND AND
54" TO 72" EQUIVALENT ROUND
PIPE - ARCH SIZES.



TYPE 4
FOR USE WITH ALL ROUND
AND PIPE ARCH SIZES.

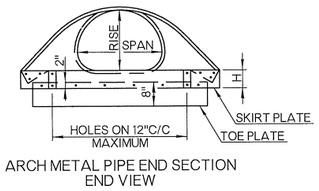


DIMPLED
COUPLING BAND

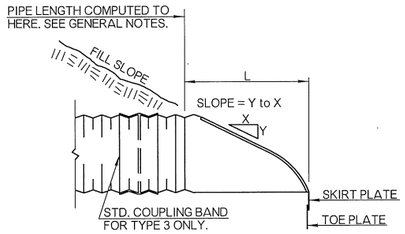
TYPICAL METAL END SECTION CONNECTIONS

DIMENSIONS OF END SECTIONS FOR METAL PIPE - ARCH									
SPAN x RISE	EQUIV. ROUND	GA.	A	B	H	L	W	APPROX. SLOPE	BODY TYPE
17" x 13"	15"	16	7"	9"	6"	19"	30"	1 : 2 1/2	1 PC.
21" x 15"	18"	16	7"	10"	6"	23"	36"	1 : 2 1/2	1 PC.
24" x 18"	21"	16	8"	12"	6"	28"	42"	1 : 2 1/2	1 PC.
28" x 20"	24"	#16	9"	14"	6"	32"	48"	1 : 2 1/2	1 PC.
35" x 24"	30"	14	10"	16"	6"	39"	60"	1 : 2 1/2	1 PC.
42" x 29"	36"	#14	12"	18"	8"	46"	75"	1 : 2 1/2	1 PC.
49" x 33"	42"	12	13"	21"	9"	53"	85"	1 : 2 1/2	2 PC.
57" x 38"	48"	12	18"	26"	12"	63"	90"	1 : 2 1/2	2 PC.
64" x 43"	54"	12	18"	30"	12"	70"	102"	1 : 2 1/4	2 PC.
71" x 47"	60"	12	18"	33"	12"	77"	114"	1 : 2 1/4	3 PC.
77" x 52"	66"	12	18"	36"	12"	77"	126"	1 : 2	3 PC.
83" x 57"	72"	12	18"	39"	12"	77"	138"	1 : 2	3 PC.

FOR ALUMINUM END SECTIONS THE 28" x 20" SHALL BE 14 GAGE AND THE 42" x 29" SHALL BE 12 GAGE.



ARCH METAL PIPE END SECTION
END VIEW

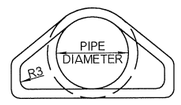


METAL END SECTION
SIDE VIEW

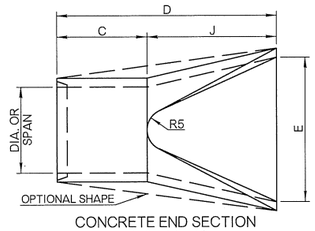
GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. CULVERT END SECTIONS SHALL BE OF THE SAME MATERIAL AND SHAPE (ROUND, ARCH, OR ELLIPTICAL) AS THE PIPE ON WHICH THEY ARE INSTALLED.
3. DIMENSIONS SHOWN FOR END SECTIONS ARE SUBJECT TO MANUFACTURER TOLERANCES.
4. TOE PLATE WILL BE REQUIRED ON ALL METAL END SECTIONS UNLESS SOLID ROCK IS ENCOUNTERED. HOLES IN TOE PLATE TO BE PUNCHED TO MATCH HOLES IN SKIRT PLATE. 3/8" BOLTS TO BE FURNISHED. LENGTH OF TOE PLATES FOR ROUND PIPE END SECTIONS SHALL BE W=10" FOR 12" TO 30" DIAMETER PIPE, W=20" FOR 36" TO 84" DIAMETER PIPE. LENGTH OF TOE PLATES FOR ARCH PIPE END SECTIONS SHALL BE W=10" FOR A RISE OF 13" TO 29" AND W=20" FOR A RISE OF 33" TO 57".
5. CONNECTOR SECTION, SKIRT PLATE, AND TOE PLATE ON METAL END SECTIONS SHALL BE THE SAME GAGE AND MATERIAL AS THE SKIRT AND SHALL BE INCLUDED IN PRICE BID FOR END SECTION.
6. IF TYPE 3 METAL END SECTION IS USED AS OPTIONAL PIPE, THE LENGTH OF PIPE TO BE REDUCED BY 12" FOR EACH END SECTION. IF CONCRETE PIPE OPTION IS USED, THE LENGTH OF PIPE TO BE REDUCED BY THE C DIMENSION FOR EACH END SECTION.

DIMENSIONS OF PRECAST END SECTIONS FOR ROUND PIPE										
DIAMETER	R3	R4	R5	T	K	J	C	D	E	SLOPE
18"	3"	3"	6"	2 1/2"	9"	2.25'	3.83'	6.08'	3.00'	1 : 3
24"	3"	3"	7"	3"	9 1/2"	3.63'	2.50'	6.12'	4.00'	1 : 3
30"	3"	3"	8"	3 1/2"	12"	4.50'	1.65'	6.16'	5.00'	1 : 3
36"	3"	3"	10 1/2"	4"	15"	5.25'	2.90'	8.15'	6.00'	1 : 3
42"	3"	3"	10 1/2"	4 1/2"	21"	5.25'	2.92'	8.17'	6.50'	1 : 3
48"	6"	6"	14"	5"	24"	6.00'	2.17'	8.17'	7.00'	1 : 3
54"	6"	6"	-	5 1/2"	27"	5.42'	2.92'	8.33'	7.50'	1 : 2 1/2
60"	6"	6"	-	6"	30"	5.00'	3.25'	8.25'	8.00'	1 : 2
66"	6"	6"	-	6 1/2"	24"	6.50'	1.75'	8.25'	8.50'	1 : 2
72"	6"	6"	-	7"	24"	6.50'	1.75'	8.25'	9.00'	1 : 2

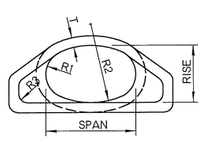


ROUND CONCRETE PIPE
END SECTION
END VIEW

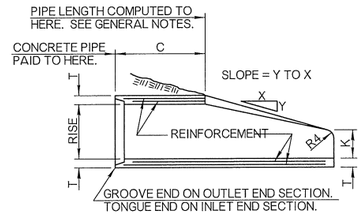


CONCRETE END SECTION
PLAN VIEW

DIMENSIONS OF PRECAST END SECTIONS FOR ELLIPTICAL PIPE													
APPROX. EQUIV. DIAMETER	RISE	SPAN	R1	R2	R3	R4	R5	T	K	J	C	D	E	SLOPE
18"	14"	23"	6"	20"	3"	3"	6"	2 3/4"	8"	2.25'	3.75'	6.00'	3.00'	1 : 3
24"	19"	30"	8 1/4"	26 1/4"	3"	3"	7"	3 1/4"	8 1/2"	3.25'	2.75'	6.00'	4.00'	1 : 3
30"	24"	38"	10 1/4"	32 3/4"	3"	3"	9"	3 3/4"	9 1/2"	4.50'	1.50'	6.00'	5.00'	1 : 3
36"	29"	45"	12 1/4"	39 1/4"	3"	3"	12"	4 1/2"	11 1/4"	5.00'	3.00'	8.00'	6.00'	1 : 3
42"	34"	53"	14 1/2"	46"	6"	6"	13"	5"	15 3/4"	5.00'	3.00'	8.00'	6.50'	1 : 3
48"	38"	60"	16 1/2"	51 1/2"	6"	6"	14"	5 1/2"	21"	5.00'	3.00'	8.00'	7.00'	1 : 3
54"	43"	68"	18 3/4"	58 1/2"	6"	6"	16"	6"	25 1/2"	5.00'	3.00'	8.00'	7.50'	1 : 3
60"	48"	76"	20 3/4"	65"	6"	6"	36 11/16"	6 1/2"	30"	5.00'	3.25'	8.25'	8.00'	1 : 2
66"	53"	83"	22 3/4"	71 1/2"	6"	6"	36 1/8"	7 1/2"	24"	6.50'	1.75'	8.25'	8.50'	1 : 2
72"	58"	91"	24 3/4"	78"	6"	6"	38"	7 1/2"	24"	6.50'	1.75'	8.25'	9.00'	1 : 2



ELLIPTICAL CONCRETE PIPE
END SECTION
END VIEW

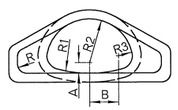


CONCRETE END SECTION
SIDE VIEW

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
613 (L)	▼ PREFAB. CULVERT END SECTION, ROUND	EA
613 (L)	▼ PREFAB. CULVERT END SECTION, ARCH	EA
613 (L)	▼ PREFAB. CULVERT END SECTION, ELLIPTICAL	EA

▼END SECTION DIMENSION(S) SHALL BE SPECIFIED.

DIMENSIONS OF PRECAST END SECTIONS FOR ARCH PIPE																	
APPROX. EQUIV. DIAMETER	SPAN	RISE	A	B	R	R1	R2	R3	R4	R5	T	K	J	C	D	E	SLOPE
18"	22"	13"	- 1/4"	5 3/4"	2"	27 1/2"	13 3/4"	5 1/4"	3"	13"	2 1/2"	7"	2.25'	3.75'	6.08'	3.00'	1 : 3
24"	28"	18"	3 7/16"	9 21/32"	3"	40 11/16"	14 9/16"	4 19/32"	3"	16 13/16"	3"	9 1/2"	3.58'	2.50'	6.08'	4.00'	1 : 3
30"	36"	22"	3 3/4"	12 3/32"	3"	51"	18 3/4"	6 1/32"	3"	18 1/2"	3 1/2"	12"	4.50'	1.58'	6.08'	5.00'	1 : 3
36"	43"	26"	4 1/8"	15 1/2"	6"	62"	22 1/2"	6 3/8"	3"	24 5/16"	4"	15"	5.25'	2.90'	8.15'	6.00'	1 : 3
42"	51"	31"	5 1/16"	18"	6"	73"	26 1/4"	7 9/16"	3"	27 1/2"	4 1/2"	21"	5.25'	2.92'	8.17'	6.50'	1 : 3
48"	58"	36"	6"	20 1/2"	6"	84"	30"	8 3/4"	3"	28 1/2"	5"	24"	6.00'	2.17'	8.17'	7.00'	1 : 3
54"	65"	40"	6 5/8"	22 11/16"	6"	92 1/2"	33 3/8"	9 13/16"	6"	33 1/8"	5 1/2"	27"	5.42'	2.92'	8.34'	7.50'	1 : 2.4
60"	73"	45"	7 1/2"	25 9/32"	6"	105"	37 1/2"	11 7/32"	6"	33 11/16"	6"	30"	5.00'	3.25'	8.25'	8.00'	1 : 2
72"	88"	54"	9"	31 7/16"	6"	126"	45"	12 9/16"	6"	38 15/16"	7"	24"	6.50'	1.75'	8.25'	9.00'	1 : 2



ARCH CONCRETE PIPE
END SECTION
END VIEW

APPROVED BY
ROADWAY ENGINEER: Caleb F. H DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

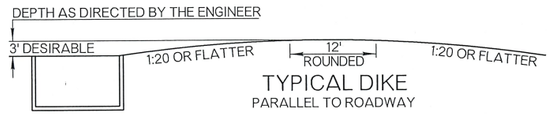
PREFABRICATED CULVERT END SECTIONS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

PCES-4	1

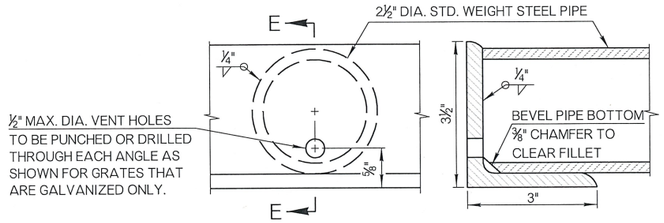
OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE

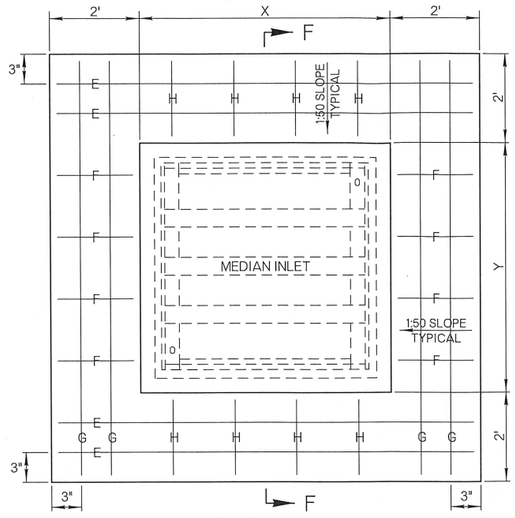


TYPICAL DIKE
PARALLEL TO ROADWAY

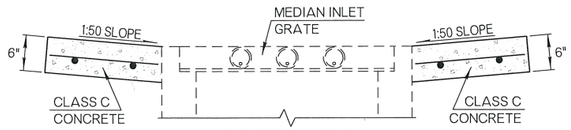
NOTE: WHEN A DIKE IS REQUIRED, IT SHALL BE CONSTRUCTED SLOPING UP FROM THE INLET ON A 1:20 SLOPE TO A DESIRABLE HEIGHT OF 3 FEET. IN NO CASE SHALL THE DIKE TOP BE HIGHER THAN 6" BELOW THE FINISHED GRADE OF THE INNER EDGE OF SURFACING AS SHOWN ON THE PLAN AND PROFILE SHEET.



VENT HOLE DETAIL — SECTION E-E



MEDIAN DRAIN CONCRETE APRON DETAIL



SECTION F-F

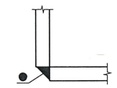
APRON REINFORCING STEEL LOCATION & LENGTHS (#4 BARS - EQUALLY SPACED @ 18" MAXIMUM)*							APRON REINF. STEEL°	APRON CLASS C CONCRETE°
DIAMETER	E - BARS	F - BARS	G - BARS	H - BARS	X	Y		
IN.	(NO.) FT. - IN.	(NO.) FT. - IN.	(NO.) FT. - IN.	(NO.) FT. - IN.	FT. - IN.	FT. - IN.	LB.	C.Y.
18 & 24	(4) 7 - 2⅞	(8) 1 - 9	(4) 7 - 4¾	(8) 1 - 9	3 - 7¾	3 - 5⅞	57	0.41
30	(4) 7 - 10	(8) 1 - 9	(4) 7 - 4¾	(8) 1 - 9	3 - 7¾	4 - 1	59	0.43
36	(4) 8 - 5	(9) 1 - 9	(4) 8 - 5	(9) 1 - 9	4 - 8	4 - 8	66	0.49

*MINIMUM 1½" COVER OVER STEEL °QUANTITIES ARE FOR ONE APRON

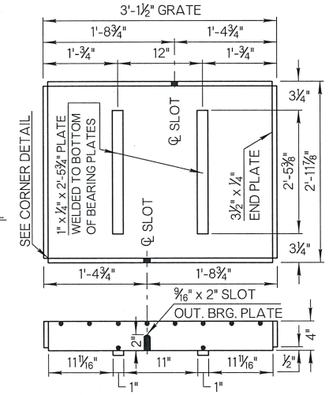
SMD BAR LIST					
BAR	SIZE	NO.	SHAPE	LENGTH	SPACE
TYPE 1 - 18" OR 24" RCP OR CGSP					
A	#4	5	BENT	11'-10"	6" C/C
B	#4	15	BENT	2'-11⅛"	9" C/C
C	#5	7	STR.	3'-1⅛"	6" C/C
D	#5	6	STR.	3'-3¾"	6" C/C
TYPE 2 - 18" OR 24" RCP OR CGSP					
A	#4	6	BENT	11'-10"	6" C/C
B	#4	16	BENT	3'-6¼"	9" C/C
C	#5	7	STR.	3'-1⅛"	6" C/C
D	#5	6	STR.	3'-3¾"	6" C/C
TYPE 2A - 18", 24" OR 30" RCP OR CGSP					
A	#4	7	BENT	12'-11⅛"	6" C/C
B	#4	18	BENT	4'-1"	9" C/C
C	#5	7	STR.	3'-3¾"	6" C/C
D	#5	7	STR.	3'-7"	6" C/C
TYPE 2B - 18",24",30" OR 36" RCP OR CGSP					
A	#4	8	BENT	16'-2"	6" C/C
B	#4	20	BENT	4'-7"	9" C/C
C	#5	7	STR.	4'-4"	6" C/C
D	#5	8	STR.	4'-4"	6" C/C

GRATES - OVERALL DIMENSIONS
TYPE 1 GRATE: 3'-1½" x 2'-11⅞"
TYPE 2 GRATE: 3'-1¼" x 2'-11¾"
TYPE 2A GRATE: 3'-1¼" x 3'-6½"
TYPE 2B GRATE: 4'-1½" x 4'-1½"
W = 8¼" FOR TYPE 2
W = 9" FOR TYPE 2A & 2B

PIPE GRATE MATERIAL
2½" I.D. STD. WEIGHT STEEL PIPE



CORNER DETAIL
● ALL CORNERS SHALL HAVE FULL 4" CORNER WELDS



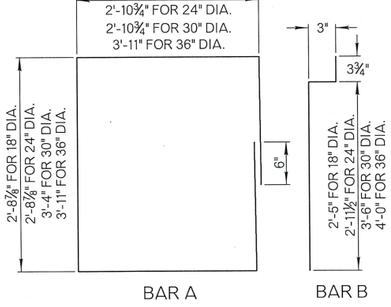
DETAIL ALTERNATE STIFFENER
TYPE 1 GRATE

■½" DIA. x 3½" STD. HEX BOLT W/ NUT (2 TOTAL)
CROSS BARS - ⅜" DIA. x 2'-11⅞" (10 TOTAL)
END PLATES - 3½" x ¼" x 2'-11⅞" (2 TOTAL)
BEARING PLATES - 4" x ¼" x 3'-1" (16 TOTAL)

ESTIMATED SMD QUANTITIES						ADD'L SMD DEPTH PER VERT. FT.	
DESIGNATED PIPE SIZE IN INLET	TYPE OF GRATE	1 PIPE CLASS A CONC.	2 PIPES CLASS A CONC.	REINF. STEEL	CLASS A CONC.	REINF. STEEL
		CY	CY	LB.	CY	LB
18" RCP	1 OR 2	0.75	0.67	115	0.23	27
24" RCP	1 OR 2	0.85	0.76	129	0.23	27
30" RCP	2A	1.06	0.96	160	0.25	29
36" RCP	2B	1.52	1.38	211	0.31	35

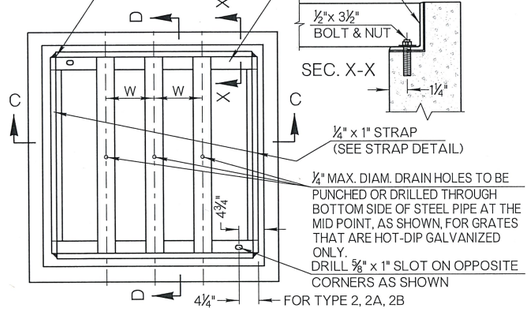
GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. VENT HOLES AND DRAIN HOLES FOR HOT DIP GALVANIZATION SHALL BE DRILLED OR PUNCHED IN GRATE AS SHOWN.
3. BICYCLE AND PEDESTRIAN SAFE GRATES, SIMILIAR TO TYPE 1 GRATES, MAY BE USED, PROVIDED THEY MEET THE MINIMUM EQUIVALENT HYDRAULIC AND STRUCTURAL REQUIREMENTS AND PROPOSED DESIGNS ARE APPROVED BY THE ENGINEER. SUBSTITUTED GRATES SHALL BE INCLUDED IN THE PRICE BID FOR THE RESPECTIVE INLET.
4. EXPOSED ROUNDED EDGING, ALL EXPOSED SURFACES SHALL BE FINISHED IN ACCORDANCE WITH SECTION 509 OF THE SPECIFICATIONS.
5. COST OF APRON MATERIALS (INCLUDING REINFORCING STEEL), LABOR, AND INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR SMD INLET.
6. AS-SHOWN ON THIS STANDARD, INLET CONCRETE DRAWINGS AND INLET REINFORCING STEEL DESIGN ARE BASED ON CAST-IN-PLACE MANUFACTURING. PRECAST CONCRETE MANUFACTURED DESIGN AND DRAWINGS ARE ON ROADWAY STANDARD PSMD-0.

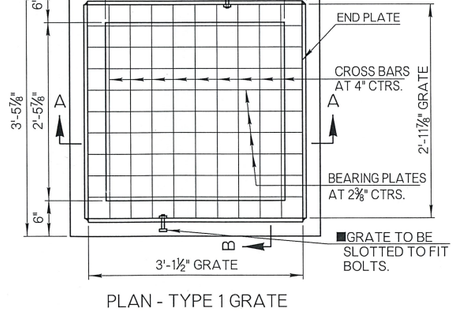


BAR A — BAR B

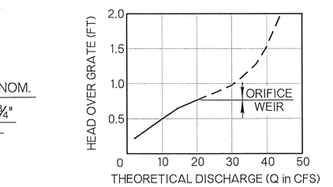
REINFORCING STEEL



PLAN - TYPE 2, 2A, 2B GRATE

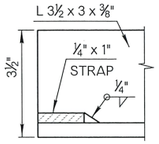


PLAN - TYPE 1 GRATE



HYDRAULIC PERFORMANCE CHART

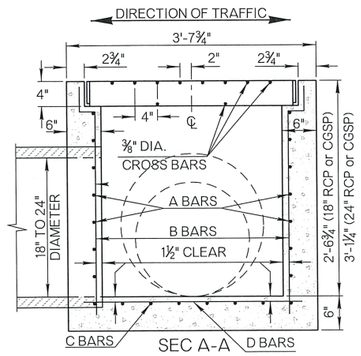
NOTE: TO ALLOW FOR CLOGGING 60% THEORETICAL DISCHARGE IS THE RECOMMENDED FACTOR TO USE IN AREAS SUBJECT TO FLOODING.



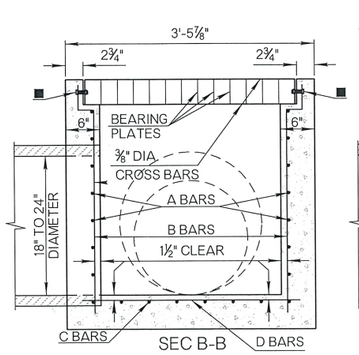
STRAP DETAIL

BASIS OF PAYMENT		
ITEM. NO.	ITEM	UNIT
611 (G)	INLET (SMD-TYPE 1)	EA
611 (G)	INLET (SMD-TYPE 2)	EA
611 (G)	INLET (SMD-TYPE 2A)	EA
611 (G)	INLET (SMD-TYPE 2B)	EA

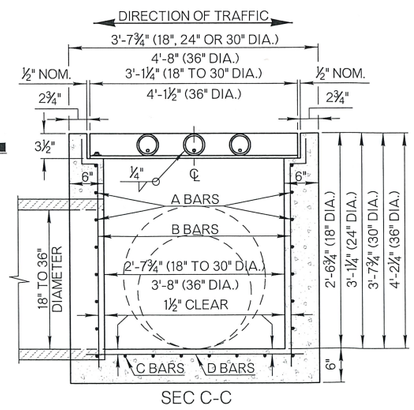
NOTE: COST OF INLET GRATE SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET. COST OF ALL CLASS A CONCRETE AND REINFORCING STEEL NECESSARY FOR ADDITIONAL DEPTH SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET. INLET ADDITIONAL DEPTH DATA SHALL BE NOTED ON THE PLANS.



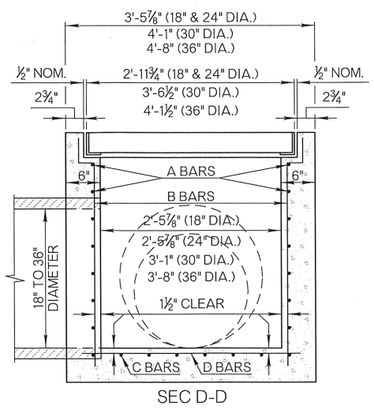
SEC A-A



SEC B-B



SEC C-C



SEC D-D

SMD INLET WITH TYPE 1 GRATE — SMD INLET WITH TYPE 2, 2A & 2B GRATE

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. VENT HOLES AND DRAIN HOLES FOR HOT DIP GALVANIZATION SHALL BE DRILLED OR PUNCHED IN GRATE AS SHOWN.
3. BICYCLE AND PEDESTRIAN SAFE GRATES, SIMILIAR TO TYPE 1 GRATES, MAY BE USED, PROVIDED THEY MEET THE MINIMUM EQUIVALENT HYDRAULIC AND STRUCTURAL REQUIREMENTS AND PROPOSED DESIGNS ARE APPROVED BY THE ENGINEER. SUBSTITUTED GRATES SHALL BE INCLUDED IN THE PRICE BID FOR THE RESPECTIVE INLET.
4. EXPOSED ROUNDED EDGING, ALL EXPOSED SURFACES SHALL BE FINISHED IN ACCORDANCE WITH SECTION 509 OF THE SPECIFICATIONS.
5. COST OF APRON MATERIALS (INCLUDING REINFORCING STEEL), LABOR, AND INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR SMD INLET.
6. AS-SHOWN ON THIS STANDARD, INLET CONCRETE DRAWINGS AND INLET REINFORCING STEEL DESIGN ARE BASED ON CAST-IN-PLACE MANUFACTURING. PRECAST CONCRETE MANUFACTURED DESIGN AND DRAWINGS ARE ON ROADWAY STANDARD PSMD-0.

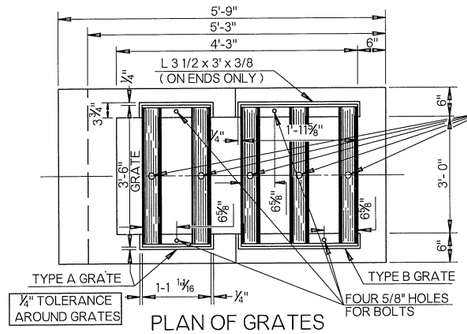
APPROVED BY ROADWAY ENGINEER: _____ DATE 01/23/19
ROADWAY DESIGN DIVISION STANDARD

STANDARD MEDIAN DRAINS
(18" TO 36" PIPES)

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

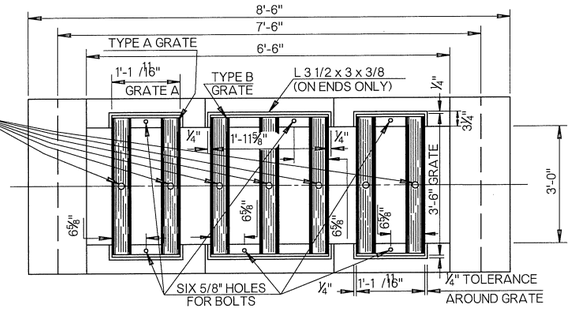
SMD-3	2
	R-36

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE

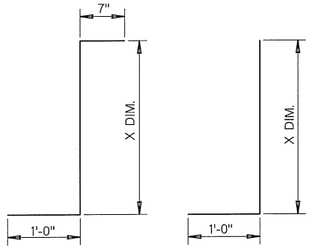


PLAN OF GRATES

1/4" DIA.(MAX.) DRAIN HOLES TO BE PUNCHED OR DRILLED THROUGH BOTTOM SIDE OF STEEL PIPE AT THE MID POINT, AS SHOWN FOR GRATES THAT ARE HOT-DIPPED GALVANIZED ONLY.



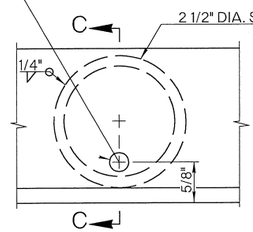
PLAN OF GRATES



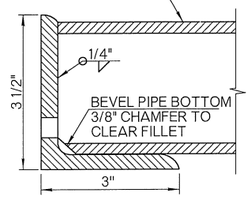
A1 BARS

A2 BARS

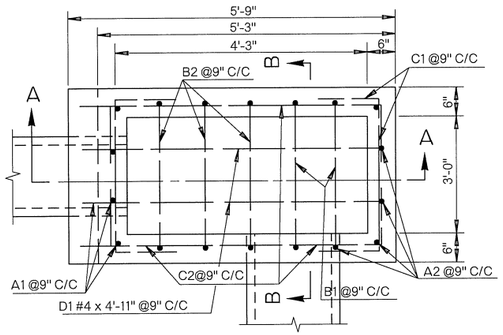
1/2" MAX. DIA. VENT HOLES TO BE PUNCHED OR DRILLED THROUGH EACH ANGLE AS SHOWN FOR GRATES THAT ARE GALVANIZED ONLY.



VENT HOLE DETAIL

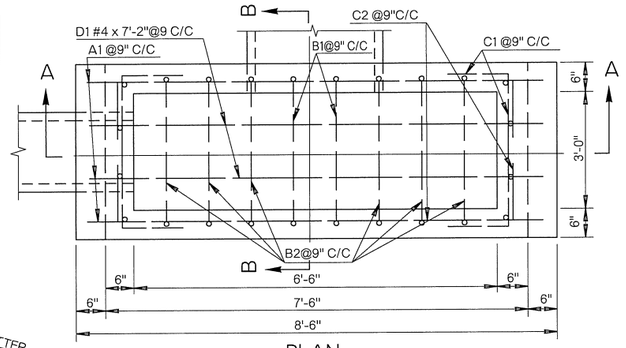


SECTION C - C

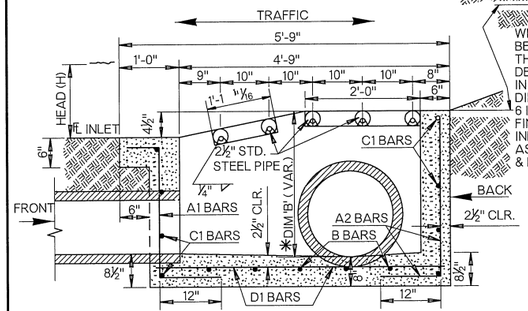


PLAN

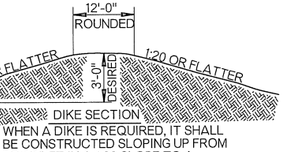
NOTE: REINF. STEEL TO BE CUT AND/OR BENT TO CLEAR PIPE IN FIELD.



PLAN

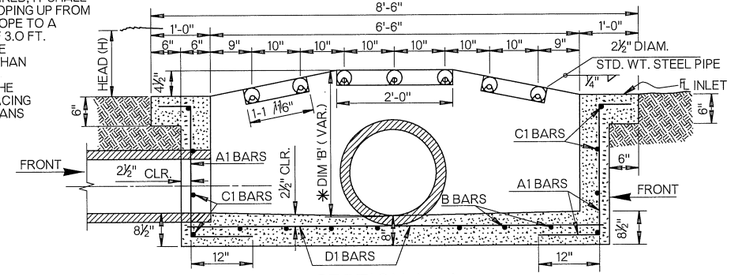


SECTION A - A
TYPE 1

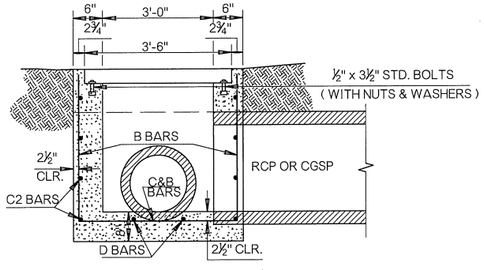


DIKE SECTION

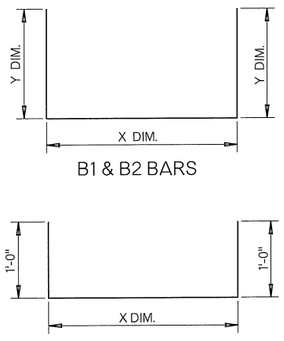
WHEN A DIKE IS REQUIRED, IT SHALL BE CONSTRUCTED SLOPING UP FROM THE INLET IN A 1:20 SLOPE TO A DESIRABLE HEIGHT OF 3.0 FT. IN NO CASE SHALL THE DIKE TOP BE HIGHER THAN 6 INCHES BELOW THE FINISHED GRADE OF THE INNER EDGE OF SURFACING AS SHOWN ON THE PLANS & PROFILE SHEET.



SECTION A - A
TYPE 2

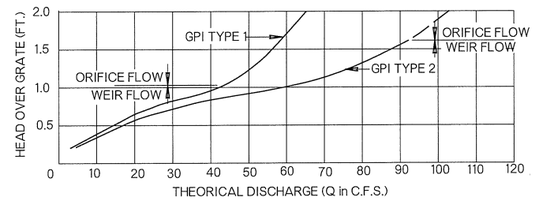


SECTION B - B



B1 & B2 BARS

C1 & C2 BARS



HYDRAULIC PERFORMANCE CHART

TO ALLOW FOR CLOGGING 60% THEORETICAL DISCHARGE IS THE RECOMMENDED FACTOR TO USE IN AREAS SUBJECT TO DEBRIS.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. VENT HOLES AND DRAIN HOLES FOR HOT-DIP GALVANIZATION SHALL BE DRILLED OR PUNCHED IN THE GRATE AS SHOWN.
3. WHEN INLET DEPTH B (✱) EXCEEDS VALUE LISTED IN TABLE SUMMARY SHOWN IN LOWER LEFT CORNER OF SHEET, THE ADDITIONAL DEPTH SHALL BE PAID FOR AS 'ADDITIONAL DEPTH IN INLET'. SPECIFIC ADDITIONAL DEPTH DATA FOR EACH STRUCTURE SHALL BE SHOWN ON THE PLANS.

		DESIGN NO.	PIPE SIZE	✱ MIN. DIM. "B"	CLASS A CONC.	REINF. STEEL	CONC. PER ADD'L FT. DEPTH	REINF. STEEL PER ADD'L FT. DEPTH	"A1" BARS BENT #4 AT 9" C/C			"A2" BARS BENT #4 AT 9" C/C			"B1" BARS BENT #4 AT 9" C/C			"B2" BARS BENT #4 AT 9" C/C			"C1" BARS BENT #4 AT 9" C/C			"C2" BARS BENT #4 AT 9" C/C			"D1" BARS STR'T. #4 AT 9" C/C	
					CY	LB	CY	LB	NO	LGTH	X DIM.	NO	LGTH	X DIM.	NO	LGTH	X DIM.	Y DIM.	NO	LGTH	X DIM.	Y DIM.	NO	LGTH	X DIM.	NO	LGTH	X DIM.	NO	LGTH
TYPE 1	PIPE AT SIDES OR BACK	1	24"	3'-1¼"	1.40	162.	.31	36.5	6	4'-5"	2'-10"	6	4'- 3"	3'- 3"	2	10'-1"	3'-7"	3'- 3"	3	9'-7" Avg.	3'-7"	2'-10" to 3'-2"	10	5'-6"	3'-6"	10	6'-9"	4'-9"	4	4'-11"
		2	30"	3'-7¾"	1.52	174.	.31	36.5	6	5'-0"	3'- 5"	6	4'- 9"	3'- 9"	2	11'-1"	3'-7"	3'- 9"	3	10'-7" Avg.	3'-7"	3'- 4" to 3'-8"	11	5'-6"	3'-6"	10	6'-9"	4'-9"	4	4'-11"
		3	36"	4'-2¼"	1.63	198.	.31	36.5	6	5'-6"	3'-11"	6	5'- 4"	4'- 4"	2	12'-3"	3'-7"	4'- 4"	3	11'-9" Avg.	3'-7"	3'-11" to 4'-3"	13	5'-6"	3'-6"	12	6'-9"	4'-9"	4	4'-11"
		4	42"	4'-8¾"	1.73	219.	.31	36.5	6	6'-1"	4'- 6"	6	5'-10"	4'-10"	2	13'-3"	3'-7"	4'-10"	3	12'-9" Avg.	3'-7"	4'- 5" to 4'-9"	14	5'-6"	3'-6"	14	6'-9"	4'-9"	4	4'-11"
	PIPE AT FRONT	5	18" or 24"	3'-7¾"	1.57	174.	.31	36.5	6	5'-0"	3'- 5"	6	4'- 9"	3'- 9"	2	11'-1"	3'-7"	3'- 9"	3	10'-7" Avg.	3'-7"	3'- 4" to 3'-8"	11	5'-6"	3'-6"	10	6'-9"	4'-9"	4	4'-11"
		6	30"	4'-2¼"	1.69	198.	.31	36.5	6	5'-6"	3'-11"	6	5'- 4"	4'- 4"	2	12'-3"	3'-7"	4'- 4"	3	11'-9" Avg.	3'-7"	3'-11" to 4'-3"	13	5'-6"	3'-6"	12	6'-9"	4'-9"	4	4'-11"
		7	36"	4'-8¾"	1.79	219.	.31	36.5	6	6'-1"	4'- 6"	6	5'-10"	4'-10"	2	13'-3"	3'-7"	4'-10"	3	12'-9" Avg.	3'-7"	4'- 5" to 4'-9"	14	5'-6"	3'-6"	14	6'-9"	4'-9"	4	4'-11"
TYPE 2	PIPE AT SIDES	8	24"	3'-1¼"	1.89	204.	.39	44.5	12	4'-5"	2'-10"				2	10'-1"	3'-7"	3'- 3"	6	9'-7" Avg.	3'-7"	2'-10" to 3'-2"	10	5'-6"	3'-6"	10	9'-0"	7'-0"	4	7'-2"
		9	30"	3'-7¾"	2.05	213.	.39	44.5	12	5'-0"	3'- 5"				2	11'-1"	3'-7"	3'- 9"	6	10'-7" Avg.	3'-7"	3'- 4" to 3'-8"	10	5'-6"	3'-6"	10	9'-0"	7'-0"	4	7'-2"
		10	36"	4'-2¼"	2.21	243.	.39	44.5	12	5'-6"	3'-11"				2	12'-3"	3'-7"	4'- 4"	6	11'-9" Avg.	3'-7"	3'-11" to 4'-3"	12	5'-6"	3'-6"	12	9'-0"	7'-0"	4	7'-2"
		11	42"	4'-8¾"	2.35	272.	.39	44.5	12	6'-1"	4'- 6"				2	13'-3"	3'-7"	4'-10"	6	12'-9" Avg.	3'-7"	4'- 5" to 4'-9"	14	5'-6"	3'-6"	14	9'-0"	7'-0"	4	7'-2"
		11A	48"	5'-3¼"	2.51	302.	.39	44.5	12	6'-7"	5'- 0"				2	14'-3"	3'-7"	5'- 0"	6	13'-9" Avg.	3'-7"	5'- 0" to 5'-4"	16	5'-6"	3'-6"	16	9'-0"	7'-0"	4	7'-2"
	PIPE AT FRONT	12	18" or 24"	3'-7¾"	2.10	213.	.39	44.5	12	5'-0"	3'- 5"				2	11'-1"	3'-7"	3'- 9"	6	10'-7" Avg.	3'-7"	3'- 4" to 3'-8"	10	5'-6"	3'-6"	10	9'-0"	7'-0"	4	7'-2"
		13	30"	4'-2¼"	2.26	243.	.39	44.5	12	5'-6"	3'-11"				2	12'-3"	3'-7"	4'- 4"	6	11'-9" Avg.	3'-7"	3'-11" to 4'-3"	12	5'-6"	3'-6"	12	9'-0"	7'-0"	4	7'-2"
		14	36"	4'-8¾"	2.42	272.	.39	44.5	12	6'-1"	4'- 6"				2	13'-3"	3'-7"	4'-10"	6	12'-9" Avg.	3'-7"	4'- 5" to 4'-9"	14	5'-6"	3'-6"	14	9'-0"	7'-0"	4	7'-2"

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
611 (G)	INLET GPI ■	EA
611 (H)	ADDITIONAL DEPTH IN INLET ●	VF

■ SPECIFY TYPE AND DESIGN, EXAMPLE: INLET GPI TYPE 1 (DESIGN 2)

● SPECIFY TYPE, EXAMPLE: ADDITIONAL DEPTH IN INLET GPI TYPE 1

NOTE: COST OF INLET PIPE GRATES (TYPES A & B) SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET.

APPROVED BY ROADWAY ENGINEER: Caleb F. H DATE: 04/16/15

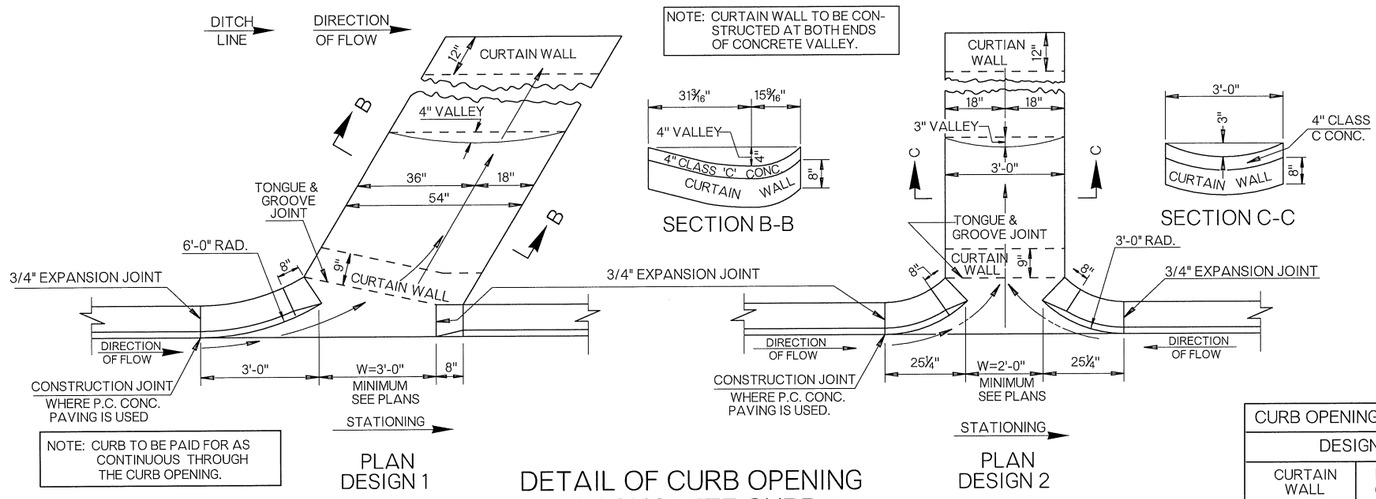
ROADWAY DESIGN DIVISION STANDARD

GRATED PIPE DROP INLET (18" TO 42" PIPE)

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

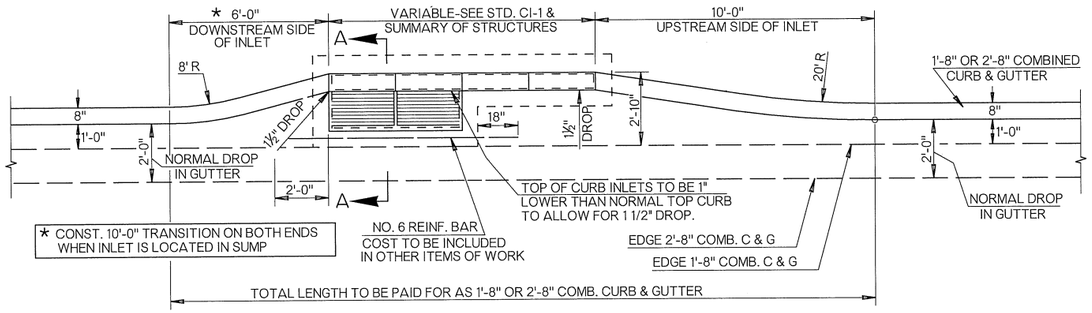
GPI-4 | 0

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



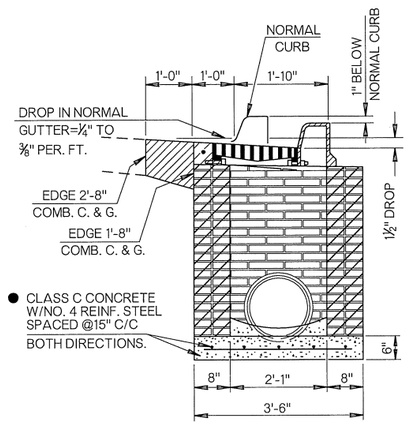
DETAIL OF CURB OPENING IN CONCRETE CURB

CURB OPENING - CLASS C CONCRETE QUANTITIES			
DESIGN 1		DESIGN 2	
CURTAIN WALL	PER FOOT OF FLUME	CURTAIN WALL	PER FOOT OF FLUME
0.096 C.Y.	0.048 C.Y.	0.074 C.Y.	0.037 C.Y.



PLAN

CURB TURNOUT FOR CURB INLET



SECTION A-A

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. INLET STRUCTURES MAY BE SUPPLIED AS PRECAST UNITS IF PROPOSED PRECAST DESIGN IS SUBMITTED TO THE ENGINEER AND APPROVED FOR USE. SEE ROADWAY STANDARD CI-1.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
509 (D)	CLASS C CONCRETE	CY

APPROVED BY ROADWAY ENGINEER: Caleb F. A DATE: 04/11/15

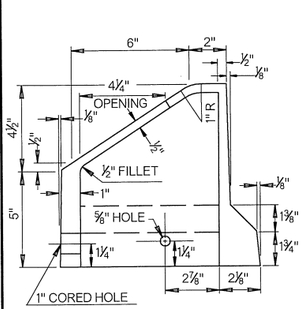
ROADWAY DESIGN DIVISION STANDARD

ODOT STORM SEWER CONSTRUCTION DETAILS

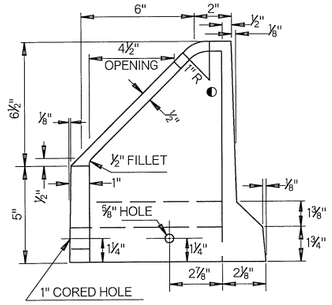
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

SSCD-3	1

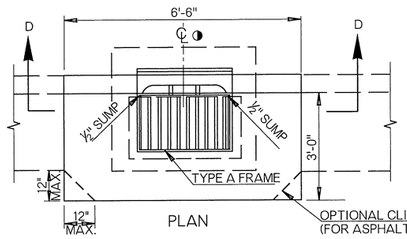
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



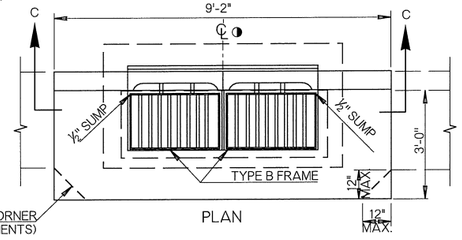
4" MOUNTABLE CURB HOOD



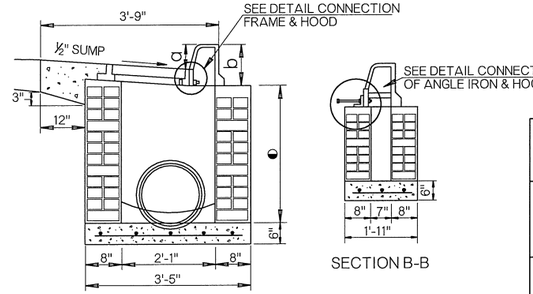
6" MOUNTABLE CURB HOOD



PLAN



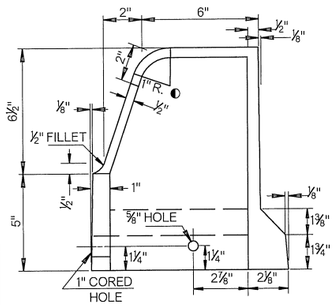
PLAN



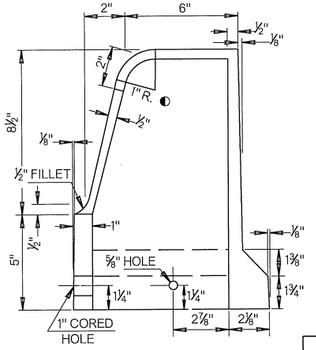
SECTION A-A

SECTION B-B

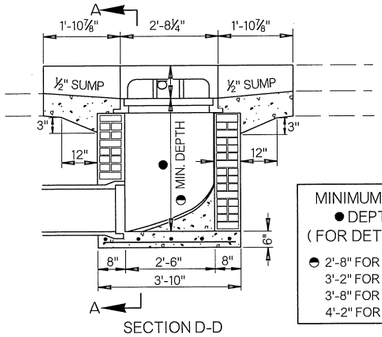
DESIGN NO.	TYPE OF CURB	DIMENSIONS a	DIMENSIONS b
1	4" MOUNTABLE	4½"	9½"
	6" MOUNTABLE	6½"	11½"
	6" BARRIER	6½"	11½"
	8" BARRIER	8½"	13½"
2	4" MOUNTABLE	4½"	9½"
	6" MOUNTABLE	6½"	11½"
	6" BARRIER	6½"	11½"
	8" BARRIER	8½"	13½"
3	4" MOUNTABLE	4½"	9½"
	6" MOUNTABLE	6½"	11½"
	6" BARRIER	6½"	11½"
	8" BARRIER	8½"	13½"



6" BARRIER CURB HOOD



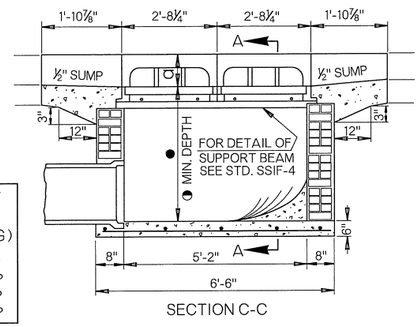
8" BARRIER CURB HOOD



SECTION D-D

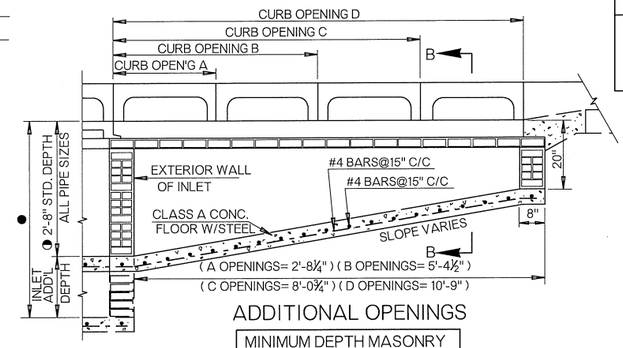
MINIMUM INLET ● DEPTH (FOR DETAILING)
◓ 2'-8" FOR 18" RCP
3'-2" FOR 24" RCP
3'-8" FOR 30" RCP
4'-2" FOR 36" RCP

DESIGN 1
(SINGLE GRATE)



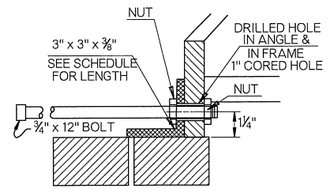
SECTION C-C

DESIGN 2 (DOUBLE GRATING)
DESIGN 3 (MULTIPLE DOUBLE GRATING)



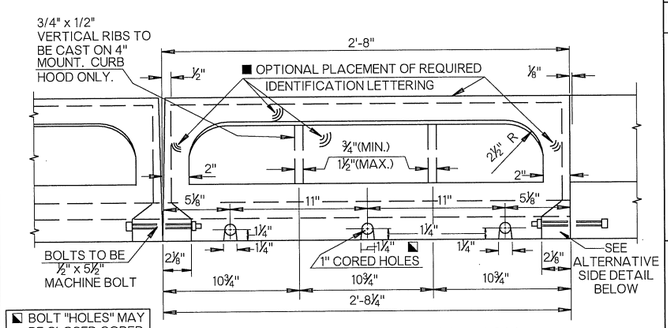
ADDITIONAL OPENINGS

MINIMUM DEPTH MASONRY OR PRECAST WALLS
2'- 3" FOR 18" RCP
2'- 9" FOR 24" RCP
3'- 3" FOR 30" RCP
3'- 9" FOR 36" RCP



DETAIL OF CONNECTION
ANGLE IRON & CAST IRON HOOD

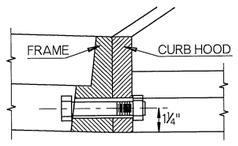
NOTE: ANGLE IRON TO BE BOLTED TO HOOD WITH 3 EACH - 3/4 " x 12" MACHINE BOLTS IN EACH HOOD SECTION.



CAST IRON HOOD ELEVATION

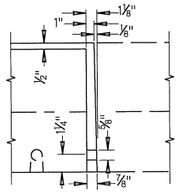
◪ BOLT "HOLES" MAY BE CLOSED CORED HOLES OR SLOTS.

■ TOP OF HOOD SHALL STATE "DUMP NO WASTE" AND "DRAINS TO RIVER" OR SIMILAR WORDING.



DETAIL OF CONNECTION
FRAME & CAST IRON HOOD

NOTE: FRAME TO BE BOLTED TO THE HOOD WITH 3 EA.- 3/4" x 4 1/2" MACHINE BOLTS. FOR FRAME DETAILS, SEE ROADWAY STANDARD SSIF-4



ALTERNATE SIDE DETAIL

QUANTITIES (FOR 18" R.C. PIPE AND MIN. DEPTH) ◓									
INLET	CURB OPENING	CLASS A CONCRETE	INLET		INLET FRAME & GRATE	CAST IRON HOOD	ANGLE IRON		
DESIGN	DESIGNATION	CU. YD.	BASE AM'T.	ADD'L. CF PER VERT FT.	EACH	EACH	NO.	LENGTH	
1	STD.	0.24	17.76	7.89	1	1	-	-	-
	A	0.34	23.84	7.89	1	2	1	2'-5⅛"	-
	B	0.43	30.11	7.89	1	3	1	5'-1⅝"	-
	C	0.53	36.38	7.89	1	4	1	7'-9⅛"	-
	D	0.63	42.66	7.89	1	5	1	10'-6¼"	-
	2A	0.43	29.91	7.89	1	3	2	2'-5⅛"	2'-5⅛"
	A-B	0.53	36.19	7.89	1	4	2	2'-5⅛"	5'-1⅝"
	A-C	0.62	42.46	7.89	1	5	2	2'-5⅛"	7'-9⅛"
	2B	0.62	42.46	7.89	1	5	2	5'-1⅝"	5'-1⅝"
	B-C	0.72	48.74	7.89	1	6	2	5'-1⅝"	7'-9⅛"
	2C	0.82	55.01	7.89	1	7	2	7'-9⅛"	7'-9⅛"
2	STD.	0.41	25.76	11.45	2	2	-	-	-
	B	0.60	38.11	11.45	2	4	1	5'-1⅝"	-
	C	0.73	44.39	11.45	2	5	1	7'-9⅛"	-
	D	0.79	50.66	11.45	2	6	1	10'-6¼"	-
	2B	0.79	50.46	11.45	2	6	2	5'-1⅝"	5'-1⅝"
	2C	0.98	63.01	11.45	2	8	2	7'-9⅛"	7'-9⅛"
	B-D	0.98	63.01	11.45	2	8	2	5'-1⅝"	10'-6¼"
	2D	1.17	75.56	11.45	2	10	2	10'-6⅛"	10'-6⅛"
◓ 3	STD.	0.74	41.27	18.34	4	4	-	-	-
	B	0.93	53.62	18.34	4	6	1	5'-1⅝"	-
	D	1.12	66.17	18.34	4	8	1	10'-6⅛"	-
	2B	1.12	65.98	18.34	4	8	1	5'-1⅝"	5'-1⅝"
	B-D	1.31	78.52	18.34	4	10	2	5'-1⅝"	10'-6⅛"
	2D	1.50	91.07	18.34	4	12	2	10'-6⅛"	10'-6⅛"

◓ DEPTH OF 2'-8" SHALL BE USED FOR STANDARD DEPTH FOR ALL PIPE SIZES AND/OR PIPE TYPES. FOR INLET DEPTHS GREATER THAN STANDARD DEPTH, A PAY ITEM FOR ADDITIONAL DEPTH, VERTICAL FEET, SHALL BE USED. TO DETERMINE TOTAL INLET QUANTITY FOR INLET DEPTHS GREATER THAN 2'-8", MULTIPLY ADDITIONAL DEPTH BY ADDITIONAL CU. FT. PER VERTICAL FOOT AND ADD TO THE BASE AMOUNT.

◪ QUANTITIES SHOWN ARE FOR 2 DOUBLE GRATED INLETS.

PAYMENT FOR ALL CLASS A CONCRETE AND ANY REINFORCING STEEL USED TO CONSTRUCT CAST IN PLACE INLET WALLS OR FLOORS SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET.

PRECAST INLET ALTERNATIVES MAY BE ACCEPTED, IN LIEU OF BRICK MASONRY OR CAST-IN-PLACE CONCRETE, IF APPROVED BY THE ENGINEER.

SPECIAL DESIGN CASTINGS, HOODS, FRAMES OR GRATES MAY BE USED, IN LIEU OF STANDARD DESIGNS SHOWN ON THIS SHEET, IF APPROVED BY THE ENGINEER.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. STANDARD SSIF-4 FRAMES AND STANDARD CIG-3 GRATES TO BE USED WITH THESE INLETS UNLESS OTHERWISE SPECIFIED. COST OF THESE ITEMS AND HOODS SHALL BE INCLUDED IN THE COST OF INLET.
3. WHEN THE INLET IS BUILT IN NEW CONCRETE PAVEMENT, THE APRON AROUND THE INLET MAY BE BUILT INTEGRAL WITH PAVEMENT OR MAY BE SEPARATE AND OF THE SIZE AS SHOWN. THE THICKNESS SHALL BE THE SAME AS THE CONCRETE PAVEMENT OR CURB AND GUTTER. IF CONSTRUCTED IN ANY OTHER AREA OR IN EXISTING PAVEMENT, THE APRON AROUND THE INLET SHALL BE THE SIZE AS SHOWN AND BUILT OF P.C. CONCRETE TO A MINIMUM 8 INCH THICKNESS.
4. THERE WILL BE NO DEDUCTION OF PAYMENT FOR CONCRETE CURB AND GUTTER OR P.C. CONCRETE THRU THE EXTENTS OF THE INLET HOODS. DEDUCTION WILL BE MADE FOR THE PAYMENT OF INTEGRAL CURB THROUGH THE EXTENTS OF THE INLET HOODS.
5. ALL LETTERING TO BE RECESSED⅛INCH AND SHALL NOT EXCEED ONE INCH IN HEIGHT. INFORMATION REQUIRED SHALL BE AS STATED IN THE SPECIFICATIONS. LOCATION OF LETTERING TO BE AS SHOWN, WITH ADDITIONAL IDENTIFICATION LETTERING AT OTHER LOCATIONS PERMITTED.
6. CAST IN PLACE CONCRETE WALLS MEETING MIX REQUIREMENTS OF CLASS A CONCRETE MAY BE BUILT IN LIEU OF THE BRICK MASONRY TO THE SAME DIMENSIONS AS SHOWN. NO. 4 REINFORCING STEEL BARS SPACED 30" VERTICALLY AND 12" HORIZONTALLY WILL BE REQUIRED FOR ALL CAST IN PLACE INLET WALLS EXCEEDING 5.0 FEET IN DEPTH (GUTTERLINE TO FLOWLINE). COST OF STEEL REINFORCING TO BE INCLUDED IN THE COST OF THE INLET.
7. ALL CAST IN PLACE CLASS A CONCRETE INLET FLOORS SHALL HAVE NO. 4 REINFORCING STEEL PLACED AT 15" MAXIMUM C/C SPACING IN BOTH DIRECTIONS.
8. THE STANDARD DRAWING, DESIGN NO., DESIGNATION NO., AND NUMBER OF ADDITIONAL OPENINGS SHALL BE INDICATED ON THE PLANS, I.E., EXAMPLE: STD. CI-1, DES. 1(A-B).
9. TYPE B & C FRAMES TO BE USED FOR MULTIPLE DOUBLE GRATES. SEE ROADWAY STD. SSIF-4 FOR DETAILS.
10. BOLT(S) WITH EXPANSION DEVICES OR EPOXY TYPE PUTTY TO BE USED TO INSTALL CAST IRON HOOD INTO CONCRETE CURB. COST OF INSTALLATION TO BE INCLUDED IN PRICE BID FOR THE CURB INLET.
11. CASTINGS AS SHOWN HERE SHALL BE CAST STEEL, DUCTILE IRON OR GRAY IRON CONFORMING TO SECTION 725 OF THE SPECIFICATIONS.

◐ 12. TWO INCH RADIUS MAY BE USED IF APPROVED BY THE ENGINEER.

◑ 13. CONSTRUCTION STATIONING OF CURB INLETS IS DETERMINED BY THE CENTERLINE (℄) OF THE SURFACE GRATES.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611 (G)	INLET (CI DES. ◭)	EA
611 (H)	ADDITIONAL DEPTH IN INLET (CI DES. ▼)	VF
611 (I)	REPLACEMENT OF INLET FRAME AND GRATE▲	EA
611 (J)	REPLACEMENT OF INLET FRAME	EA
611 (K)	REPLACEMENT OF INLET GRATE	EA
611 (M)	REPLACEMENT OF CAST IRON HOOD	EA

◭ SPECIFY INLET DESIGN & CURB OPENING DESIGNATION.

▼ SPECIFY INLET DESIGN 1, 2 OR 3.

▲ TYPE OF FRAME AND TYPE OF GRATE SHALL BE SPECIFIED.

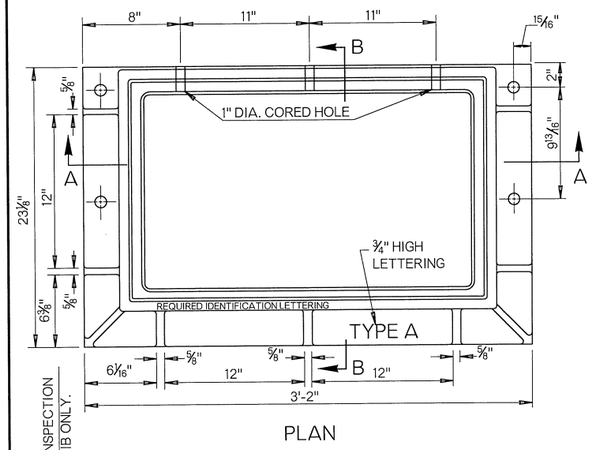
APPROVED BY ROADWAY ENGINEER: Caleb F. A DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

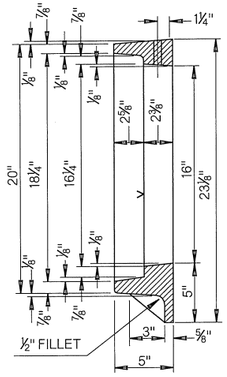
CURB INLETS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

CI-1 | 2

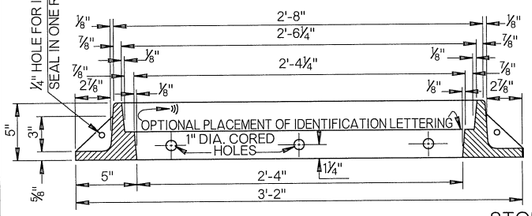


PLAN



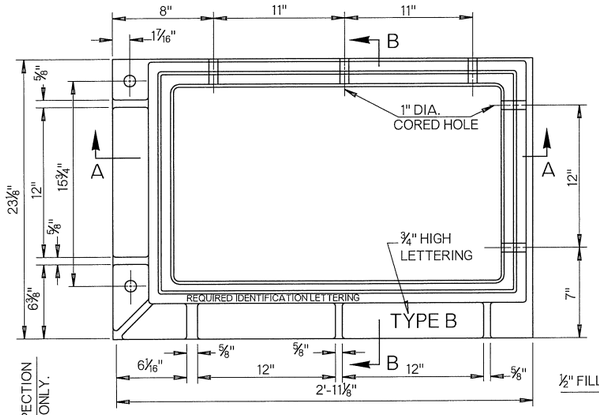
SECTION B-B

NOTE:
ONLY ONE TYPE A FRAME FOR INLET DESIGN NO. 1.

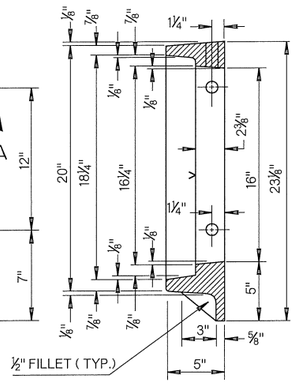


SECTION A-A

STORM SEWER INLET FRAME
TYPE A FOR INLET DESIGN NO. 1

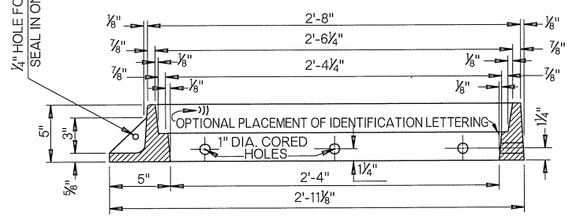


PLAN



SECTION B-B

NOTE:
MAKE ONE FRAME AS SHOWN AND ONE REVERSED FOR DOUBLE FRAMES.

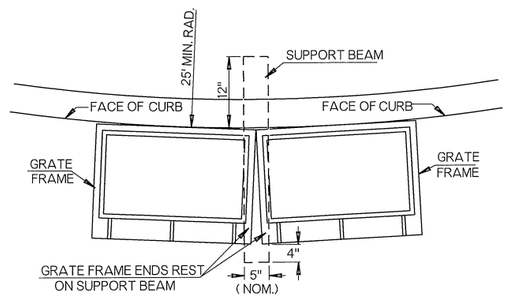


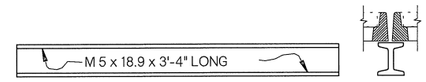
SECTION A-A

STORM SEWER INLET
FRAME TYPE B FOR
INLET DESIGN
NO. 2 AND 3

OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE



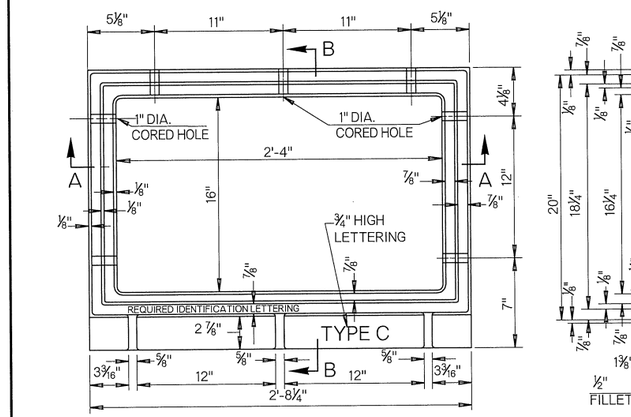


ALTERNATE SUPPORT BEAM
TO BE USED IN LIEU OF S 4 x 7.7, WHEN
STRUCTURE IS BUILT ALONG CURVED CURB

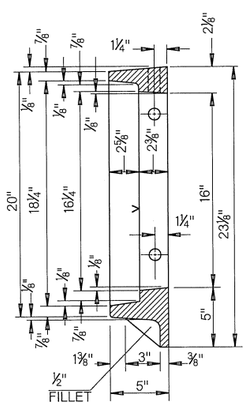
GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. INLET DESIGN NO. 1 REQUIRES ONE TYPE A FRAME.
3. INLET DESIGN NO. 2 REQUIRES TWO TYPE B FRAMES AND 2 EA.-3/4" x 5" BOLTS WITH NUTS AND ONE S 4 x 7.7 x 3'-4" LONG SUPPORT BEAM. IF BUILT ON CURVED CURB, THE INLET REQUIRES 1 EA. 3/4" x 5" BOLT WITH NUT AND 1 EA. 3/4" x 6 1/2" BOLT WITH NUT AND ONE M 5 x 18.9 x 3'-4" LONG SUPPORT BEAM .
4. INLET DESIGN NO. 3 REQUIRES THE SAME APPURTENANCES AS DESIGN NO. 2 WITH TWO OR MORE TYPE C FRAMES LOCATED BETWEEN THE TWO TYPE B FRAMES AND ONE ADDITIONAL SUPPORT BEAM AND A PAIR OF BOLTS WITH NUTS FOR EACH ADDED TYPE C FRAME, PLUS ONE ADDITIONAL PAIR OF BOLTS AND SUPPORT BEAM.
5. ALL LETTERING TO BE RECESSED 1/16" AND SHALL NOT EXCEED 1" IN HEIGHT. INFORMATION REQUIRED SHALL BE STATED IN THE SPECIFICATIONS. LOCATION OF LETTERING TO BE AS SHOWN WITH ADDITIONAL IDENTIFICATION LETTERING AT OTHER LOCATIONS ACCEPTABLE.
6. FRAMES SHALL BE CAST STEEL, DUCTILE IRON, OR GRAY IRON CONFORMING TO SECTION 725 OF THE SPECIFICATIONS.
7. INLET FRAMES AND GRATES INSTALLED DURING ORIGINAL CONSTRUCTION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF THE ORIGINAL INLET.

NOTE: MACHINING (SYMBOL ^) MAY BE ACCOMPLISHED BY MILLING OR BY LEVEL GRINDING.

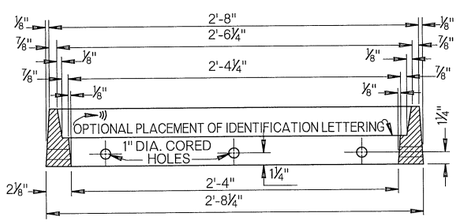


PLAN



SECTION B-B

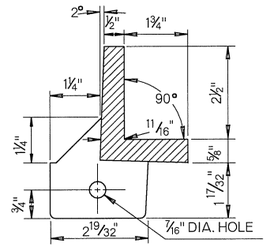
NOTE:
TWO TYPE B FRAMES AND TWO TYPE C FRAMES ARE REQUIRED FOR INLET DESIGN NO. 3.



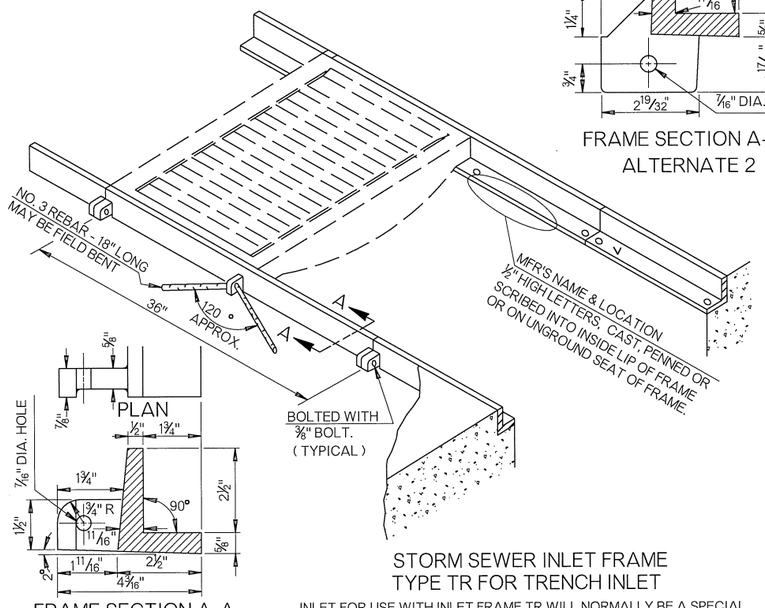
SECTION A-A

STORM SEWER INLET FRAME
TYPE C FOR INLET DESIGN NO. 3

NOTE: ONE PAY UNIT OF TYPE TR FRAME IS COMPOSED OF TWO 36" LONG SECTIONS OF FRAME. ONE TYPE TR FRAME REQUIRES TWO TRENCH TYPE GRATES (SEE ROADWAY STANDARD CIG-3). DO NOT USE FRAME TYPE GRATES IN A TRENCH INSTALLATION. COST OF BOLTS AND REBARS TO BE INCLUDED IN PRICE BID FOR INLET FRAME. FRAME MEMBERS MAY BE FURNISHED AS TWO 18" LONG PIECES, END-MATCHED, TO PROVIDE ONE 36" LONG UNIT.



FRAME SECTION A-A
ALTERNATE 2



FRAME SECTION A-A
ALTERNATE 1

STORM SEWER INLET FRAME
TYPE TR FOR TRENCH INLET

INLET FOR USE WITH INLET FRAME TR WILL NORMALLY BE A SPECIAL DESIGN REINFORCED CONCRETE BOX WITH PART(S) OF THE TOP REMOVED.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
611 (I)	REPLACEMENT OF INLET FRAME AND GRATE (■)	EA
611 (J)	REPLACEMENT OF INLET FRAME (■)	EA

■ TYPE OF FRAME AND TYPE OF GRATE SHALL BE SPECIFIED.

TYPE A, B, OR C FRAMES AS SHOWN HERE WITH GRATES FROM STD. CIG-3 (TYPE VG-F OR RVG-F) COMPRISE THE PAY ITEM. SEE NOTE THIS SHEET FOR PAY UNIT.

APPROVED BY
ROADWAY ENGINEER: _____ DATE: 04/16/15

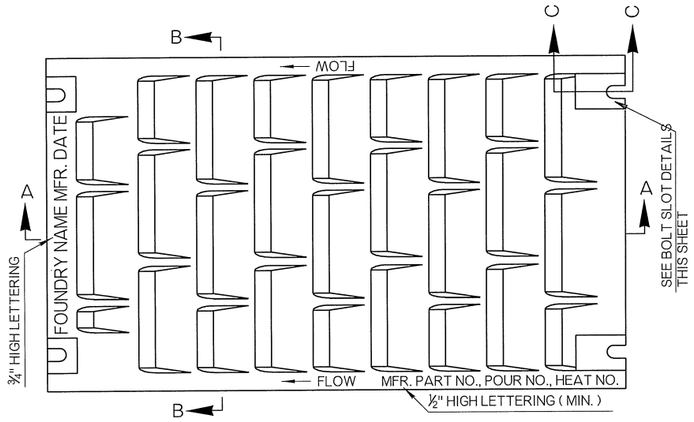
ROADWAY DESIGN DIVISION STANDARD

STORM SEWER INLET FRAMES
(CURB INLETS)

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

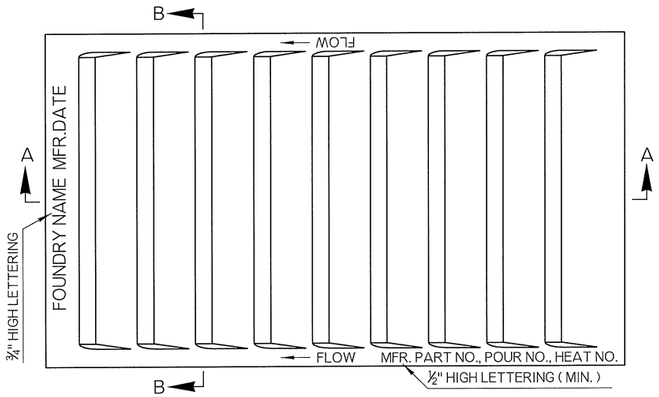
SSIF-4	0

OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



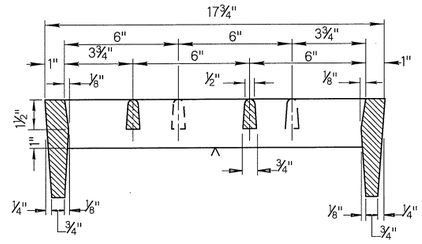
PLAN - RIBBED VANE GRATE
(SHOWN FOR TRENCH INSTALLATION)

TYPE RVG-F (FRAME INSTALLATION)
TYPE RVG-T (TRENCH INSTALLATION)

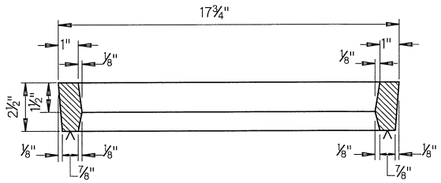


PLAN - VANE GRATE
(SHOWN FOR FRAME INSTALLATION)

TYPE VG-F (FRAME INSTALLATION)
TYPE VG-T (TRENCH INSTALLATION)



SECTION B - B (TRENCH INSTALLATION)

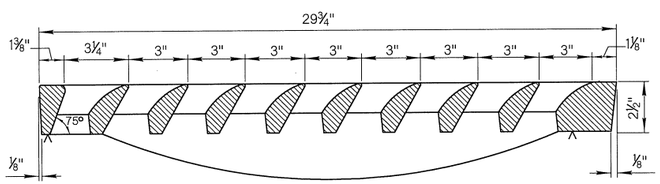


SECTION B - B (FRAME INSTALLATION)

GENERAL NOTES

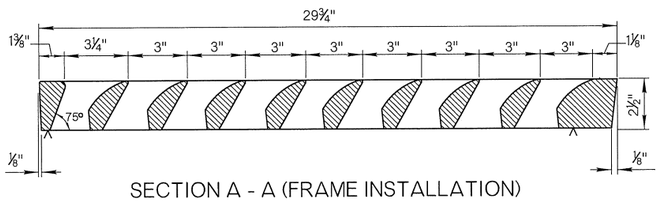
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. FRAME TYPE GRATES SHALL NOT TO BE USED IN TRENCH INSTALLATIONS.
3. GRATES SHALL BE INSTALLED IN THE FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SUMP.
4. ALL LETTERING IS TO BE RECESSED 1/16". ALL INFORMATION REQUIRED SHALL BE SUFFICIENT FOR IDENTIFICATION, AS SHOWN.
5. GRATES SHALL BE CAST STEEL, DUCTILE IRON, OR GRAY IRON CONFORMING TO SECTION 725 OF THE SPECIFICATIONS.
6. ALL GRATES INSTALLED IN A TRENCH FRAME (STD. SSIF-4) SHALL HAVE A BOLTED HOLD-DOWN FEATURE. IF INSTALLED IN AN ANGLE IRON FRAME OR RESTING ON A CONCRETE SHOULDER, A POSITIVE HOLD-DOWN FEATURE, APPROVED BY THE ENGINEER, SHALL BE USED.
7. INLET FRAMES, GRATES AND COVER GRATES INSTALLED DURING ORIGINAL CONSTRUCTION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF THE ORIGINAL INLET OR MANHOLE.

NOTE: MACHINING (SYMBOL ^) MAY BE ACCOMPLISHED BY MILLING OR BY LEVEL GRINDING.



^ MACHINING ONLY ON END BEARING AREAS.

SECTION A - A (TRENCH INSTALLATION)

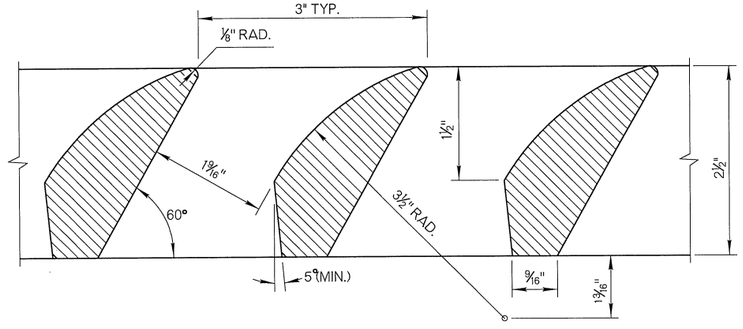


SECTION A - A (FRAME INSTALLATION)

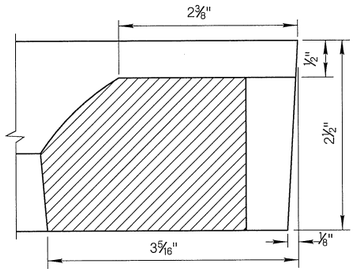
BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
▼ 611 (I)	REPLACEMENT OF INLET FRAME AND GRATE	EA
611 (K)	REPLACEMENT OF INLET GRATE (TYPE ■)	EA

▼ ANY FRAME TYPE GRATE ON THIS DRAWING INSTALLED IN A PROPER FRAME, AS SHOWN ON ROADWAY STANDARD SSIF-4 (TYPE A, B, C) WILL COMPRISE THE PAY ITEM.

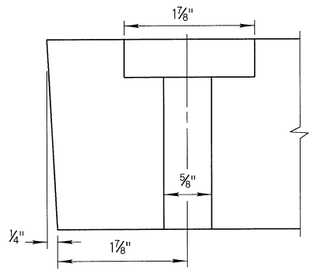
■ CAST INLET GRATE NOMENCLATURE	
TYPE VG-F	VANE GRATE - FRAME TYPE
TYPE VG-T	VANE GRATE - TRENCH TYPE
TYPE RVG-F	RIBBED VANE GRATE - FRAME TYPE
TYPE RVG-T	RIBBED VANE GRATE - TRENCH TYPE



TYPICAL SECTION THRU VANES



SECTION C - C



END VIEW

BOLT SLOT DETAILS

APPROVED BY ROADWAY ENGINEER: _____ DATE 04/16/15

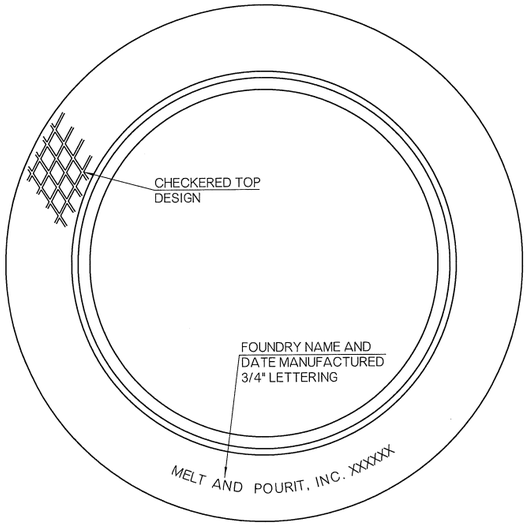
ROADWAY DESIGN DIVISION STANDARD

CAST IRON GRATES
(CURB INLETS)

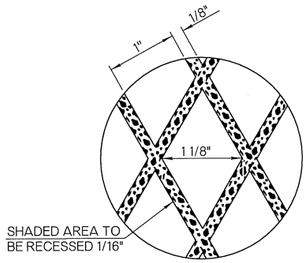
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

CIG-3	0

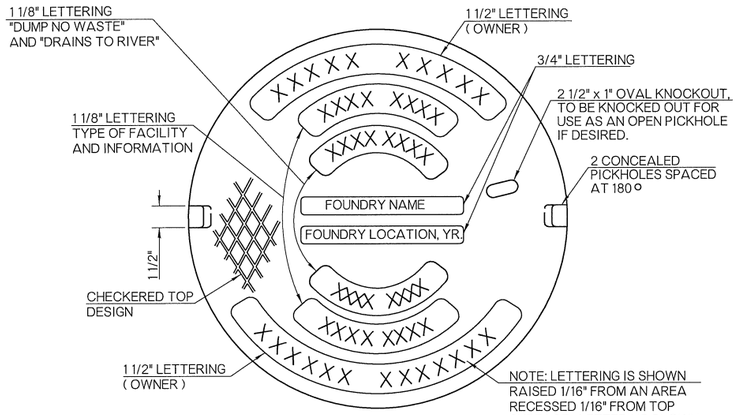
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



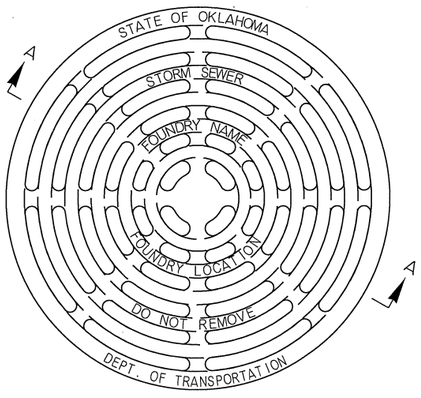
TOP SIDE OF FRAME FOR OUT OF PAVING INSTALLATION



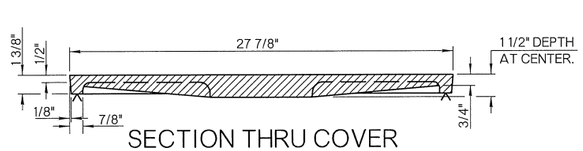
CHECKERED DESIGN DETAIL



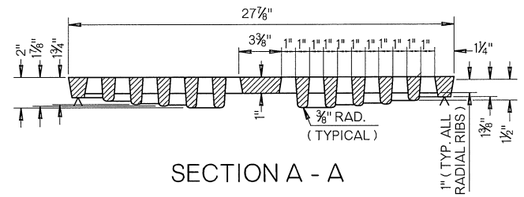
TOP SIDE OF COVER



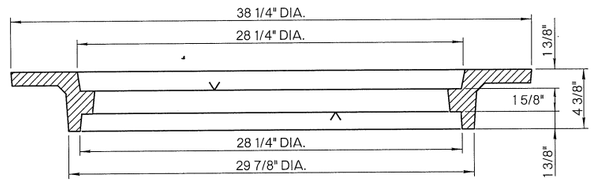
TOP SIDE OF COVER GRATE



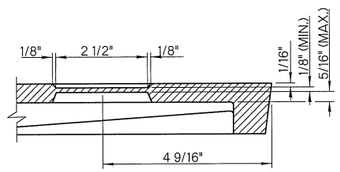
SECTION THRU COVER



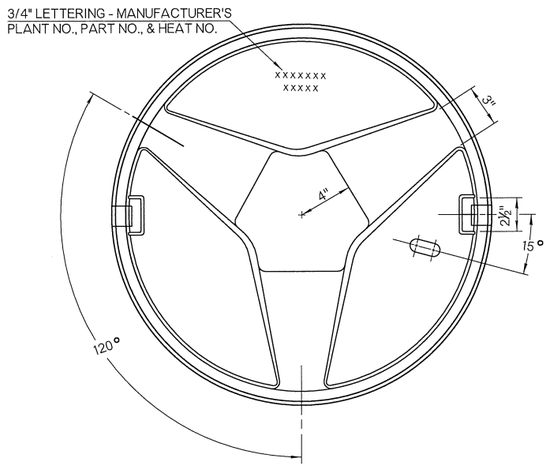
SECTION A - A



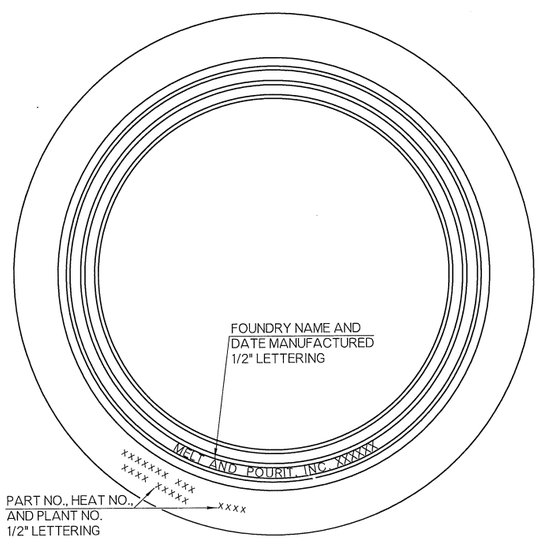
REVERSIBLE FRAME



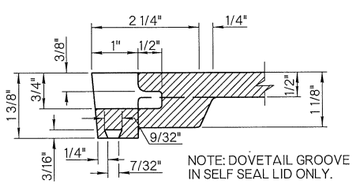
SECTION THRU OVAL KNOCKOUT



BOTTOM SIDE OF COVER



TOP SIDE OF FRAME FOR IN PAVING INSTALLATION



SECTION THRU PICKHOLE

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. COVERS WILL BE FURNISHED WITH A PLAIN SEAT, UNLESS A SELF-SEAL SEAT OR A LOCKING DEVICE IS SPECIFIED IN THE PLANS.
3. LETTERING TO DENOTE OWNERSHIP AND TYPE OF USAGE WILL BE AT THE DISCRETION OF THE OWNER.
4. FRAMES AND COVERS SHALL BE CAST STEEL, DUCTILE IRON, OR GRAY IRON CONFORMING TO SECTION 725 OF THE SPECIFICATIONS.
5. MANHOLE FRAMES, COVERS AND COVER GRATES INSTALLED DURING ORIGINAL CONSTRUCTION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF THE ORIGINAL MANHOLE.

NOTE: MACHINING (SYMBOL ^) MAY BE ACCOMPLISHED BY MILLING OR BY LEVEL GRINDING.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611 (C)	REPLACEMENT OF MANHOLE FRAME AND COVER	EA
611 (D)	REPLACEMENT MANHOLE FRAME	EA
611 (E)	REPLACEMENT OF MANHOLE COVER	EA
611 (F)	REPLACEMENT OF MANHOLE COVER GRATE	EA

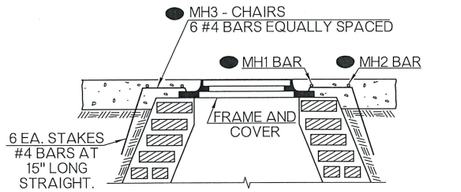
APPROVED BY ROADWAY ENGINEER: Caleb F. A DATE 04/16/15

ROADWAY DESIGN DIVISION STANDARD

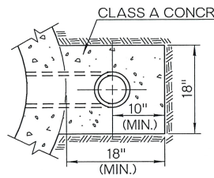
MANHOLE FRAME AND COVER

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

MFC-4	1



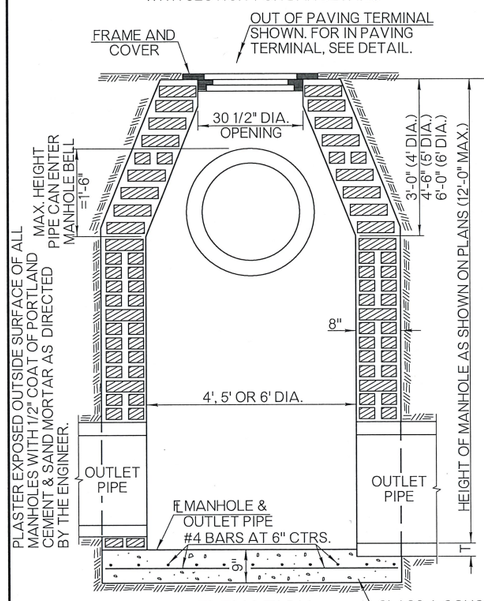
IN PAVING MANHOLE TERMINAL



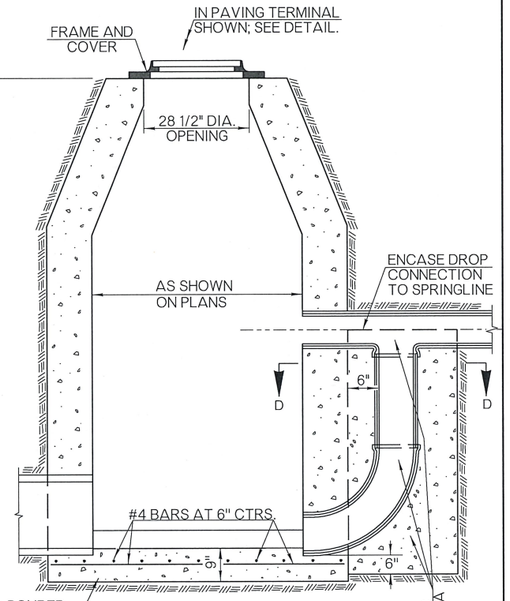
SECTION D-D

NOTE: ALL SANITARY SEWER MANHOLES SHALL BE CONSTRUCTED ONLY OF CLASS A CONCRETE OR PRECAST CONCRETE UNITS. TYPICAL BRICK MASONRY CONSTRUCTION MAY BE USED FOR STORM SEWER MANHOLES, CURB INLETS AND JUNCTION BOXES.

SEE 'BAR BENDING DIAGRAMS' AND 'PLAN WITH SECTION' FOR BAR DETAILS



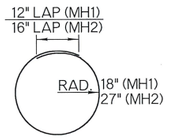
ELEVATION



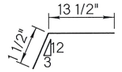
CLASS A CONC. POURED NOT LESS THAN 24 HOURS BEFORE BUILDING WALLS.

DROP INLET FOR SANITARY SEWER
WHERE DIFFERENCE IN FLOW LINES IS 4' AND OVER

COST OF "T" JOINT, 90° BEND, CLASS A CONCRETE & EXTRA PIPE TO BE INCLUDED IN PRICE BID FOR MANHOLE.

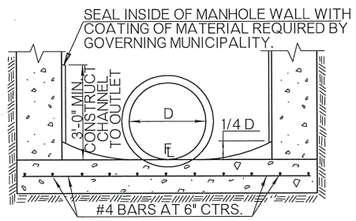


MH1 AND MH2 #4 BAR
FOR MANHOLE & JUNCTION BOX RISERS IN PAVING.

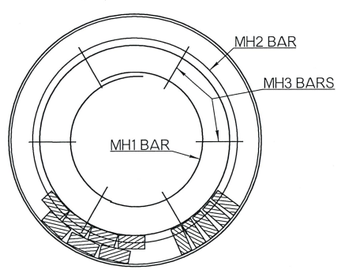


MH3 #4 BAR (CHAIR)

BAR BENDING DIAGRAMS



SECTION AT BOTTOM OF SANITARY SEWER MANHOLE

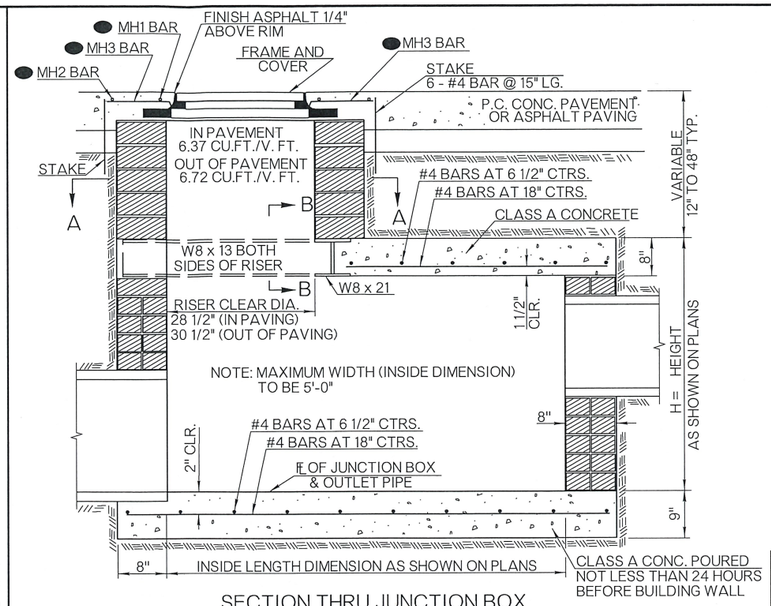


PLAN WITH SECTION
(FRAME REINFORCING SHOWN)

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611 (A)	MANHOLE (▼DIA.)	EA
611 (B)	ADDITIONAL DEPTH IN MANHOLE (▼DIA.)	VF

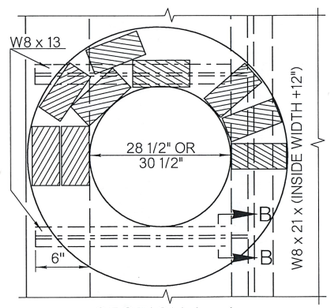
▼DIAMETER SHALL BE SPECIFIED (SEE PAY ITEM LIST)

STANDARD MANHOLES

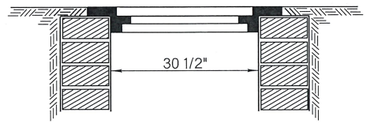


SECTION THRU JUNCTION BOX
(SHOWN IN PAVING WITH RISER)

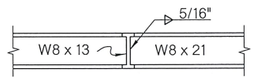
SEE 'BAR BENDING DIAGRAMS' AND 'PLAN WITH SECTION' FOR BAR DETAILS



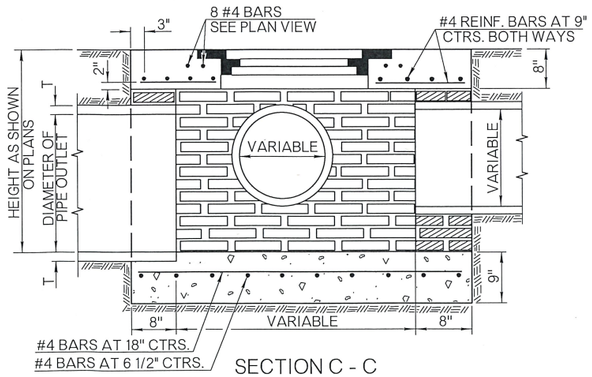
SECTION A - A



JUNCTION BOX RISER
OUT OF PAVING



SECTION B - B

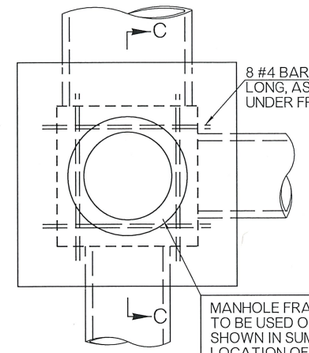


SECTION C - C
DETAIL OF JUNCTION BOX
(SHOWN OUTSIDE OF PAVING AND NO RISER)

STANDARD JUNCTION BOXES

OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE



PLAN

DEDUCTIONS FOR PIPE OPENING	
PIPE DIA.	VOLUME (CU. FT.)
18"	1.92
24"	3.24
30"	4.93
36"	6.97
42"	9.36
48"	12.11
54"	15.21
60"	18.66
66"	22.47
72"	26.62
78"	31.45
84"	36.36
90"	41.63

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL MANHOLES SHALL BE 4 FOOT DIAMETER UNLESS A LARGER DIAMETER IS REQUIRED.
3. CAST-IN-PLACE CONCRETE WALLS WITH THE SAME DIMENSIONS SHOWN ON THIS STANDARD, MAY BE USED IN LIEU OF THE BRICK MASONRY. CAST-IN-PLACE WALLS EXCEEDING 5 FEET IN DEPTH (GUTTERLINE TO FLOWLINE), WILL REQUIRE NO. 4 REINFORCING BARS SPACED AT 30 INCH CTRS. VERTICALLY AND 12 INCH CTRS. HORIZONTALLY.
4. WHERE A MORTAR COAT IS REQUIRED IT SHALL BE 1/2" THICK AND SHALL BE APPLIED WHILE BRICK MASONRY IS CLEAN AND DAMP.
5. MANHOLES UP TO 6 FEET IN HEIGHT SHALL BE PAID FOR AS 'MANHOLE' (EA.). ANY ADDITIONAL HEIGHT OF MANHOLE SHALL BE PAID FOR AS 'ADDITIONAL DEPTH IN MANHOLE' (VF).
6. JUNCTION BOXES SHALL HAVE INSIDE DIMENSIONS AND HEIGHT AS SHOWN ON THE PLANS, AND CONSTRUCTION SHALL BE MEASURED BY CF. OF WALL MATERIAL AND TO BE PAID FOR AS 'JUNCTION BOXES' (CF). DEDUCTIONS IN VOLUME WILL BE MADE FOR ALL PIPE OPENINGS 18 INCHES IN DIAMETER AND LARGER (SEE TABLE).
7. REINFORCING STEEL AND STRUCTURAL STEEL WILL BE INCLUDED AS PART OF THE COST OF THE STRUCTURE COMPLETE, AND WILL NOT BE MEASURED AS A PAY ITEM.
8. MANHOLE FRAMES, COVERS AND COVER GRATES INSTALLED DURING ORIGINAL CONSTRUCTION SHALL BE INCLUDED IN CONTRACT UNIT PRICE OF ORIGINAL MANHOLE AND JUNCTION BOX. FOR DETAILS OF FRAME AND COVER, SEE THE CURRENT VERSION OF ROADWAY STANDARD MFC-4.

OPTIONAL PRECAST MANHOLES

9. PRECAST STORM SEWER MANHOLE STRUCTURES CAN BE SUBSTITUTED FOR BRICK MASONRY OR CAST-IN-PLACE MANHOLE STRUCTURES. SEE ROADWAY STANDARDS PRM-0, PSM-0, AND PMD-0 FOR THEIR DESIGN, DETAILS AND BASIS OF PAYMENT.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
▲ 509 (C)	CLASS A CONCRETE, SMALL STRUCTURES	CY
611 (L)	JUNCTION BOXES	CF

▲ FOR QUANTITIES OF CLASS A CONCRETE LESS THAN 20.0 CY

APPROVED BY ROADWAY ENGINEER: _____ DATE 01/23/19

ROADWAY DESIGN DIVISION STANDARD

MANHOLES AND JUNCTION BOXES

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

MJB-3	2

R-43

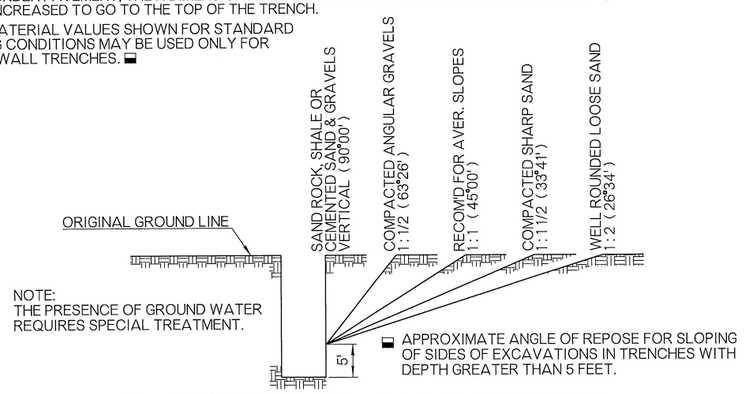
TRENCHING DIMENSIONS AND STANDARD BEDDING MATERIAL QUANTITIES

	PIPE DIAM. OR DESIGN EQUIV.	H ■	T	SINGLE PIPE STANDARD TRENCHING W	SINGLE PIPE STANDARD TRENCHING STANDARD BEDDING MATERIAL ■	DOUBLE PIPE STANDARD TRENCHING W	DOUBLE PIPE STANDARD TRENCHING STANDARD BEDDING MATERIAL ■	TRIPLE PIPE STANDARD TRENCHING W	TRIPLE PIPE STANDARD TRENCHING STANDARD BEDDING MATERIAL ■	SPECIAL TRENCHING SINGLE, DOUBLE & TRIPLE PIPE OPTIONS W+12" ADD'L STANDARD BEDDING MATERIAL
	IN.	FT.	FT.	FT.	CY/LF	FT.	CY/LF	FT.	CY/LF	CY/LF
○ ROUND PIPE	18	3.25	0.208	3.17	0.274	5.67	0.468	8.17	0.663	0.120
	24	3.83	0.25	4.00	0.386	7.00	0.629	10.00	0.873	0.142
	30	4.42	0.292	4.58	0.474	8.33	0.811	12.08	1.146	0.163
	⊠ 36	5	0.333	6.17	0.751	10.67	1.193	15.17	1.636	0.185
	⊠ 42	5.58	0.375	6.75	0.870	12.00	1.429	17.25	1.989	0.207
	⊠ 48	6.17	0.417	7.33	0.996	13.33	1.688	19.33	2.379	0.228
	⊠ 54	6.75	0.458	7.92	1.126	14.67	1.960	21.42	2.794	0.250
	⊠ 60	7.33	0.5	9.50	1.532	17.00	2.521	24.50	3.510	0.271
	⊠ 66	8.08	0.542	10.08	1.757	18.33	2.965	26.58	4.173	0.299
	⊠ 72	8.67	0.583	10.67	1.931	19.67	3.327	28.67	4.724	0.321
	⊠ 78	9.25	0.625	11.25	2.107	20.75	3.615	30.25	5.122	0.343
	⊠ 84	9.83	0.667	11.83	2.288	21.83	3.908	31.83	5.529	0.364
	⊠ 90	10.42	0.708	12.42	2.479	22.92	4.219	33.42	5.959	0.386
	⊠ 96	11	0.75	13.00	2.671	24.00	4.527	35.00	6.383	0.407
◒ ARCH PIPE	18	2.88	0.208	3.50	0.271	6.33	0.471	9.17	0.671	0.106
	21	3.08	0.229	4.12	0.338	7.29	0.567	10.46	0.796	0.114
	24	3.33	0.250	4.38	0.374	7.75	0.624	11.13	0.874	0.123
	30	3.79	0.291	6.10	0.603	10.13	0.915	14.16	1.227	0.140
	36	4.20	0.333	6.81	0.700	11.67	1.097	16.53	1.493	0.156
	42	4.69	0.375	7.50	0.813	13.17	1.308	18.83	1.802	0.173
	⊠ 48	5.17	0.416	9.21	1.180	15.71	1.842	22.21	2.504	0.191
	⊠ 54	5.58	0.458	9.83	1.243	17.05	1.946	24.28	2.649	0.207
	⊠ 60	6.08	0.500	10.58	1.392	18.69	2.228	26.81	3.064	0.225
	⊠ 66	6.75	0.542	11.00	1.488	19.56	2.365	28.11	3.242	0.250
	⊠ 72	7.00	0.583	12.00	1.690	21.78	2.803	31.55	3.917	0.259
	⊠ 78	7.83	0.625	12.42	1.854	22.64	3.071	32.86	4.288	0.272
	⊠ 84	7.83	0.667	13.33	1.983	24.67	3.385	36.00	4.788	0.290
	⊠ 90	8.92	0.708	14.50	2.382	27.08	4.131	39.67	5.881	0.330
	⊠ 96	9.46	0.750	15.17	2.625	28.33	4.549	41.50	6.473	0.350
◑ HORIZONTAL ELLIPTICAL PIPE	18	2.96	0.229	3.62	0.282	6.54	0.487	9.46	0.691	0.109
	24	3.46	0.27	4.54	0.387	8.04	0.640	11.54	0.893	0.128
	30	3.96	0.312	6.29	0.629	10.51	0.954	14.74	1.28	0.147
	36	4.50	0.375	7.00	0.743	12.00	1.153	17.00	1.564	0.167
	⊠ 42	5.00	0.416	7.75	0.862	13.64	1.379	19.53	1.896	0.185
	⊠ 48	5.42	0.458	9.42	1.170	16.08	1.788	22.75	2.406	0.200
	⊠ 54	5.92	0.5	10.17	1.311	17.72	2.050	25.28	2.789	0.219
	⊠ 60	6.42	0.541	10.92	1.478	19.36	2.368	27.81	3.259	0.238
	⊠ 66	6.91	0.583	11.58	1.626	20.81	2.648	30.03	3.67	0.256
	⊠ 72	7.41	0.625	12.33	1.807	22.44	3.004	32.56	4.201	0.275
	⊠ 78	7.91	0.667	13.00	1.962	23.89	3.305	34.78	4.649	0.293
	⊠ 84	8.58	0.708	13.75	2.239	25.53	3.850	37.31	5.462	0.318
	⊠ 90	9.00	0.75	14.42	2.364	26.83	4.062	39.25	5.759	0.333
	⊠ 96	9.5	0.791	15.17	2.570	28.25	4.408	41.33	6.245	0.352

NOTE: QUANTITIES FOR 66" & 78" EQUIV. DIAM. ARCH PIPE BASED ON METAL PIPE & ESTIMATED WALL THICKNESS.

■ FOR PIPES UNDER PAVEMENT, THE H DIMENSION AND THE STANDARD BEDDING MATERIAL QUANTITY, SHALL BE INCREASED TO GO TO THE TOP OF THE TRENCH.

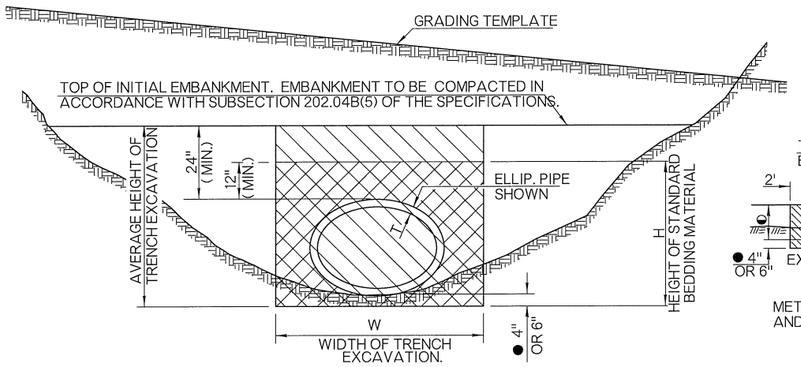
▨ BEDDING MATERIAL VALUES SHOWN FOR STANDARD TRENCHING CONDITIONS MAY BE USED ONLY FOR VERTICAL WALL TRENCHES. ⬓



⬓ APPROXIMATE ANGLE OF REPOSE FOR SLOPING OF SIDES OF EXCAVATIONS IN TRENCHES WITH DEPTH GREATER THAN 5 FEET.

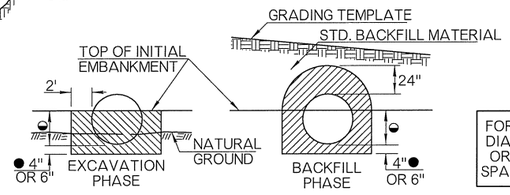
⬓ OPTIONAL TRENCHES WITH DEPTH GREATER THAN 5.0 FEET

EXCAVATION AND BEDDING MATERIAL WILL BE MEASURED AND PAID FOR AS IF SHEETING & SHORING WAS USED. (SPECIAL TRENCHING=STD. WIDTH TRENCH+12")



METHOD NO. 1

◒ EMBANKMENT HEIGHT PRIOR TO EXCAVATION
PIPE SIZES FROM 18" TO 42" =30"
PIPE SIZES FROM 48" TO 84" =2/3 DIAM.
PIPE SIZES LARGER THAN 84" =60"

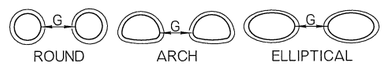


METHOD NO. 1 PAY QUANTITIES WILL BE CALCULATED AND PAID FOR WHEN METHOD NO. 2 IS USED.

METHOD NO. 2
(OPTIONAL INSTALLATION FOR R. C. PIPE)

TRENCH EXCAVATION IN EMBANKMENT SECTIONS

	CONDUIT SHAPE			DIST.
	ROUND	ARCH	ELLIPTICAL	G
FOR DIA. OR SPAN	UP TO 24"	UP TO 36"	UP TO 36"	12"
	25" TO 72"			D/2"
		37" TO 108"	37" TO 108"	D/3"
	OVER 73"	OVER 108"	OVER 108"	36"

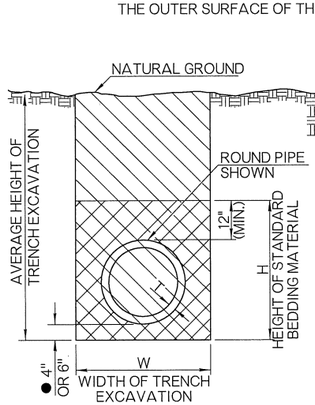


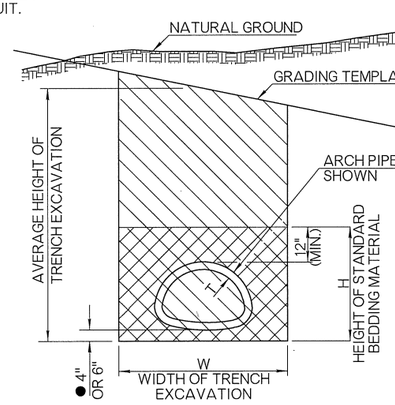
DOUBLE PIPE INSTALLATION
(USED WITH CET END TREATMENTS)

▨ LIMITS OF STANDARD BEDDING MATERIAL

QUANTITIES FOR BEDDING MATERIAL DO NOT INCLUDE THE SPACE WITHIN AND BOUNDED BY THE OUTER SURFACE OF THE PIPE CONDUIT.

▨ LIMITS OF TRENCH EXCAVATION





TRENCH EXCAVATION IN CUT SECTIONS

TABLE OF EQUIVALENT PIPES

EQUIV. DIA.	REINF. CONC. ARCH PIPE	STEEL ARCH PIPE	ALUMINUM ARCH PIPE	REINF. CONC. ELLIPTICAL PIPE ◑
18"	22" x 13"	21" x 15"	21" x 15"	14" x 23"
21"		24" x 18"	24" x 18"	
24"	28" x 18"	28" x 20"	28" x 20"	19" x 30"
27"				22" x 34"
30"	36" x 22"	35" x 24"	35" x 24"	24" x 38"
36"	43" x 26"	42" x 29"	42" x 29"	29" x 45"
42"	51" x 31"	49" x 33"	49" x 33"	34" x 53"
48"	58" x 36"	57" x 38"	57" x 38"	38" x 60"
54"	65" x 40"	64" x 43"	64" x 43"	43" x 68"
60"	73" x 45"	71" x 47"	71" x 47"	48" x 76"
66"		77" x 52"	77" x 52"	53" x 83"
72"	88" x 54"	83" x 57"	83" x 57"	58" x 91"
78"		87" x 63"	92" x 65" ▲	63" x 98"
84"	102" x 62"	95" x 67"	95" x 67" ▲	68" x 106"
90"	115" x 72"	103" x 71"	103" x 71" ▲	72" x 113"
96"	122" x 77"	112" x 75"	112" x 75" ▲	77" x 121"

▲ STRUCTURAL PLATE ARCH.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. TRENCH EXCAVATION AND BEDDING MATERIAL WILL NOT BE REQUIRED FOR PIPE INSTALLATIONS OF SIDE DRAINS UNLESS OTHERWISE NOTED ON THE PLANS.
3. FOR PIPE UNDERDRAIN INSTALLATIONS, SEE ROADWAY STANDARD PUD-3.
4. ⬓ SPECIAL TRENCHING CONDITIONS ARE THOSE AS DEFINED BY O.S.H.A. REGULATIONS, TITLE 29 CFR CHAPTER XVII, PART 1926.650, 1926.651 & 1926.652, SO DEFINED WILL APPLY UNTIL THEY ARE IN CONFLICT WITH CURRENT SPECIFICATIONS, FOR TRENCH DEPTHS OVER FIVE FEET. WHERE O.S.H.A. REGULATIONS FOR SPECIAL TRENCHING ARE APPLIED, QUANTITIES AND DIMENSIONS FOR SPECIAL TRENCHING WILL BE USED FOR COMPUTING QUANTITIES. SEE TABLE OF TRENCHING DIMENSIONS AND STANDARD BEDDING MATERIAL QUANTITIES.
5. NORMAL BACKFILLING OPERATIONS SHALL FOLLOW BEDDING AND PIPE INSTALLATION AS CLOSELY AS PRACTICAL. IN NO CASE SHALL A PIPE INSTALLATION SUBJECT TO SUDDEN FLOW DEVELOPMENT BE LEFT WITHOUT SUFFICIENT BACKFILL TO RESTRAIN THE CONDUIT AND PREVENT JOINT SEPARATION AND/OR PIPING SCOUR. PHYSICALLY RESTRAINING THE CONDUIT MAY BE USED TO AUGMENT OR REPLACE THIS IMMEDIATE BACKFILL REQUIREMENT.
6. ANY EXCESS EXCAVATION NOT USED FOR BACKFILL WILL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF, BY HIM, IN A MANNER APPROVED BY THE ENGINEER.
7. ○ STANDARD BEDDING QUANTITIES FOR ROUND PIPE ARE BASED ON AASHTO DESIGNATED CLASS III (WALL B) REINFORCED CONCRETE PIPE.
8. ⬓ WHEN REQUIRED, THE SIDES OF THE TRENCHES SHALL BE SHEETED AND SHORED OR OTHERWISE SUPPORTED WHEN THE TRENCH IS MORE THAN 5.0 FEET IN DEPTH. IN LIEU OF SHEETING, THE SIDES OF THE TRENCH ABOVE THE 5.0 FOOT LEVEL MAY BE SLOPED TO PRECLUDE COLLAPSE, SEE OPTIONAL TRENCHES DETAIL THIS SHEET.
9. ⊠ PROPER COMPACTION OF BACKFILL REQUIRES A VERTICAL WALLED TRENCH TO 24 INCHES ABOVE TOP OF PIPE, REGARDLESS OF EXCAVATION ABOVE THAT ELEVATION.
10. ● EQUIVALENT PIPE SIZES 66 INCHES AND LARGER REQUIRE 6 INCHES OF BEDDING MATERIAL BELOW PIPE CONDUIT.
11. ◑ ELLIPTICAL PIPE DIMENSIONS CONFORM TO AASHTO M 207, AS DESIGNATED RISE BY SPAN.
12. FOR COMPUTING TRENCH EXCAVATION & STANDARD BEDDING QUANTITIES, THE LENGTH OF THE CULVERT SHALL INCLUDE END SECTION AND END TREATMENT LENGTHS.
13. MULTIPLE PIPE INSTALLATIONS WILL REQUIRE A MINIMUM OF 12" BETWEEN PIPES FOR PROPER COMPACTION.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
613 (R)	STANDARD BEDDING MATERIAL, CLASS A	CY
613 (S)	STANDARD BEDDING MATERIAL, CLASS B	CY
613 (T)	STANDARD BEDDING MATERIAL, CLASS C	CY
613 (V)	TRENCH EXCAVATION	CY

APPROVED BY ROADWAY ENGINEER: Calvin F. A DATE 04/16/15

ROADWAY DESIGN DIVISION STANDARD

STANDARD PIPE INSTALLATION

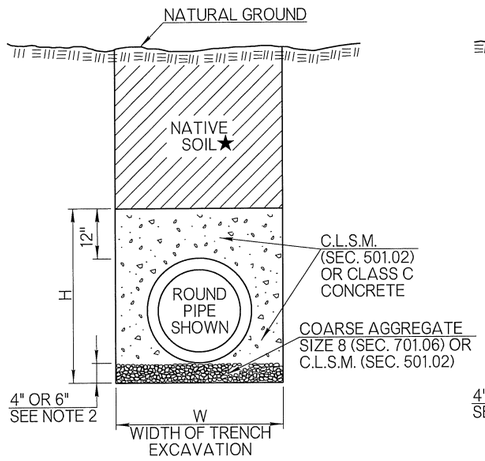
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

SPI-4 | 1

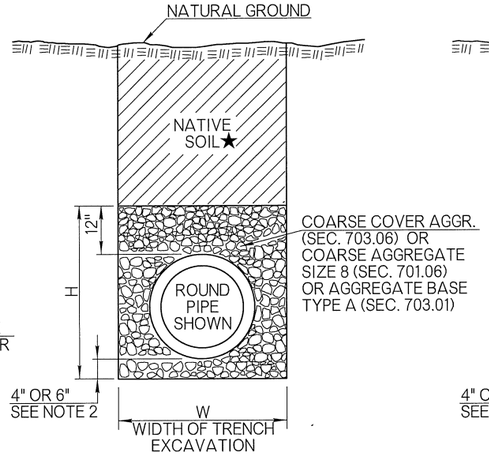
OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE

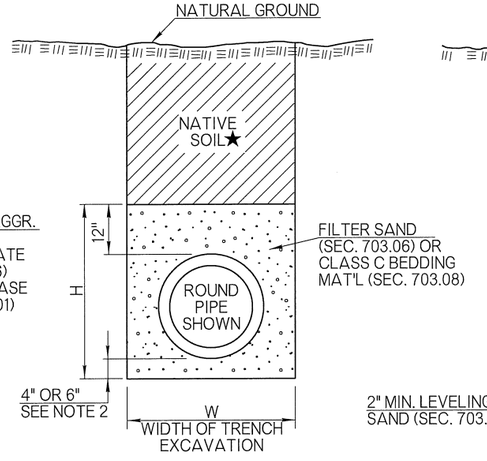
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



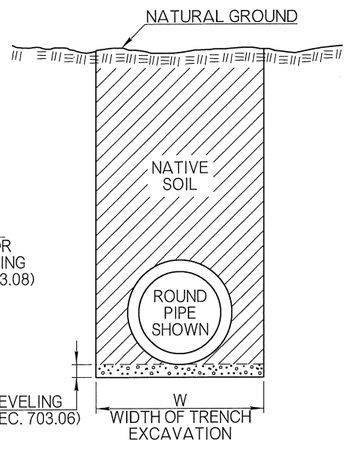
CLASS A BEDDING



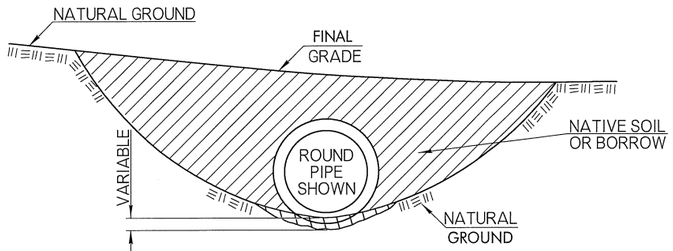
CLASS B BEDDING



CLASS C BEDDING



CLASS D BEDDING
ALTERNATE 1



NATIVE SOIL OR SAND (SEC. 703.06) MAY BE USED TO ADJUST FLOWLINE OF NATURAL DITCH TO PROVIDE SMOOTH BEDDING SURFACE FOR PIPE CONDUIT AND ATTAIN PROPER DESIGN GRADE. SEE SECTION 613.04.G

CLASS D BEDDING
ALTERNATE 2

PIPE BEDDING CLASS/DESIGN TABLE							
	■ UNDER PAVING				OUTSIDE PAVING		
TYPE OF PIPE	CROSS DRAIN (NHS OR ADT > 6000 VPD)	CROSS DRAIN (OTHER)	STORM SEWER (NHS OR ADT > 6000 VPD)	STORM SEWER (OTHER)	CROSS DRAIN	SIDE DRAIN	STORM SEWER
REINFORCED CONCRETE PIPE	B	C	B	C	C	D	C
CORRUGATED GALV. STEEL PIPE (CGSP)	NA	B	NA	B	C	D	C
MILL PRECOATED CGSP	NA	B	NA	B	C	D	C
CORRUGATED GALV. STRUCT. PLATE	NA	B	NA	B	C	D	C
ALUMINIZED TYPE II CSP	NA	B	NA	B	C	D	C
CORRUGATED POLYETHYLENE / PVC	NA	A	NA	A	B	B	B
POLYVINYL CHLORIDE (SC 40/80 PVC)	NA	NA	NA	NA	NA	NA	NA
POLYPROPYLENE PIPE (PP) ▲	NA	B	NA	B	C	D	C

■ WHEN THERE IS ANY POSSIBILITY OF THE PAVEMENT BEING WIDENED DURING THE LIFE OF THE DRAINAGE STRUCTURE, THE BEDDING SHALL MEET THE 'UNDER PAVING SECTION' CRITERIA FOR THE FULL EXTENT OF ANY ANTICIPATED EXPANSION TO THE FACILITY.

▲ BACKFILL WITH A MINIMUM OF TWO (2) FEET OF APPROVED BACKFILL MATERIAL.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. EQUIVALENT PIPE SIZES 66 INCHES AND LARGER REQUIRE 6 INCHES OF BEDDING MATERIAL BELOW PIPE CONDUIT.
3. NATIVE SOIL FOR BACKFILL, TO BE COMPACTED IN ACCORDANCE WITH SECTION 202.04 OF THE STANDARD SPECIFICATIONS.
4. A BETTER CLASS OF BEDDING MAY BY SUBSTITUTED FOR THE NEXT LOWER CLASS. EXAMPLE: CLASS A STANDARD BEDDING CAN BE USED IN LIEU OF CLASS B STANDARD BEDDING.
5. FOR TRENCH WIDTH (W), BEDDING HEIGHT (H), PIPE DATA, MULTIPLE PIPE SPACING & BEDDING DATA, SEE ROADWAY STANDARDS SPI-4 & FPI-3.
6. DATA TABLE WILL DISPLAY 'NA' WHEN PIPE MATERIALS ARE NOT ALLOWED.
7. STANDARD BEDDING CLASS D MATERIAL(S) (ALTERNATE 1) WILL BE CONSIDERED AS INCIDENTAL AND NOT BE PAID FOR SEPARATELY. COST FOR BORROW OR FILL MATERIAL, NEEDED FOR ALTERNATE 2, WILL BE INCLUDED IN THE PRICE OF THE PIPE.
8. PIPE MATERIAL(S)/PRODUCT(S) NOT SHOWN IN THE PIPE BEDDING TABLE WILL BE EVALUATED AND APPROVED ON A CASE BY CASE BASIS.
9. ALL TEMPORARY PIPES SHALL HAVE CLASS D BEDDING UNLESS OTHERWISE SHOWN IN THE PLANS.
10. BEDDING MATERIAL TYPE B, C, AND D, SHALL BE PLACED IN 6" LAYERS AND COMPACTED TO THE SPECIFIED DENSITY USING HAND OPERATED EQUIPMENT ONLY.

★11. WHEN PIPE INSTALLATION IS UNDER PAVING, IN LIEU OF BACKFILLING WITH NATIVE SOIL, PLACE BEDDING MATERIAL ALL THE WAY TO TOP OF TRENCH.

12. THE USE OF AN ALTERNATE PIPE AND ITS CORRESPONDING BEDDING MATERIAL WILL BE ACCEPTABLE PROVIDED THE CRITERIA IN THE DESIGN TABLE IS MET
13. POLYPROPYLENE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
613 (R)	STANDARD BEDDING MATERIAL, CLASS A	CY
613 (S)	STANDARD BEDDING MATERIAL, CLASS B	CY
613 (T)	STANDARD BEDDING MATERIAL, CLASS C	CY

APPROVED BY ROADWAY ENGINEER: Caleb F. H DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

STANDARD PIPE BEDDING

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

SPB-1 | 4

REQUIRED PIPE CLASS FOR REINFORCED CONCRETE ROUND PIPE IN CUT SECTIONS

PIPE DIAMETER	●MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE												
	1' TO 2'	2' THRU 10'	12'	14'	16'	18'	20'	25'	30'	35'	40'	45'	50'
12" 15" 18"	IV III III	II II II	II II II	II II II	II II II	II II II	III II II	III III III	III III III	III III III	III III III	III III III	III III III
24" 27" 30" 36"	III II II II	II II II II	II II II III	III III III III	III III III IV	III III III IV	III III III IV	IV IV IV IV	IV IV IV IV	IV IV IV/V	IV IV IV/V	IV IV IV/V	IV IV IV/V
42" 48" 54" 60"	II II II II	II II II II	III III III III	III III III III	III III III IV	IV IV IV IV	IV IV IV IV	IV IV IV IV	IV IV IV IV/V	IV/V IV/V IV/V IV/V	V V V V	IV/V IV/V IV/V V	IV/V IV/V IV/V V
66" 72" 78" 84"	II II II II	II II II II	III III III III	III III III III	IV IV III III	IV IV IV IV	IV IV IV IV	IV IV IV IV	IV/V IV/V IV/V IV/V	IV/V IV/V IV/V IV/V	V V V V	V V V V	V V V V
90" 96" 102" 108"	II II II II	II II II II	II II II II	III III III III	III III III III	IV IV IV IV	IV IV IV IV	IV IV IV IV	IV/V IV/V IV/V IV/V	IV/V IV/V IV/V IV/V	V V V V	V V V V	V V V V

REQUIRED PIPE CLASS FOR REINFORCED CONCRETE ROUND PIPE IN FILL SECTIONS

PIPE DIAMETER	●MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE												
	1' TO 2'	2' THRU 10'	12'	14'	16'	18'	20'	25'	30'	35'	40'	45'	50'
12" 15" 18"	IV III III	II II II	III III III	III III III	IV IV IV	IV IV IV	IV IV IV	IV/V IV/V IV/V	V V V	* * *	* * *	* * *	* * *
24" 27" 30" 36"	III II II II	II II II II	III III III III	III III III III	IV IV IV IV	IV IV IV IV	IV IV IV IV	IV/V IV/V IV/V IV/V	V V V V	* * * *	* * * *	* * * *	* * * *
42" 48" 54" 60"	II II II II	II II II II	III III III II	III III III III	IV IV IV III	IV IV IV IV	IV IV IV IV	IV/V IV/V IV/V IV/V	V V V V	* * * *	* * * *	* * * *	* * * *
66" 72" 78" 84"	II II II II	II II II II	II II II II	III III III III	III III III III	IV IV IV IV	IV IV IV IV	IV/V IV/V IV/V IV/V	V V V V	V V V V	* * * *	* * * *	* * * *
90" 96" 102" 108"	II II II II	II II II II	II II II II	III III III III	III III III III	IV IV IV IV	IV IV IV IV	IV/V IV/V IV/V IV/V	V V V V	V V V V	* * * *	* * * *	* * * *

* SPECIAL DESIGN PIPE. DESIGN METHOD TO CONFORM TO CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

● FILL HEIGHT MEASURED FROM TOP OF PIPE TO TOP OF SUBGRADE.

REINFORCED CONCRETE ARCH/ELLIPTICAL PIPE

▲ CLASS A - III ARCH
CLASS HE - III HORIZONTAL ELLIPTICAL
CLASS VE - IVVERTICAL ELLIPTICAL

APPROXIMATE EQUIVALENT ROUND PIPE	ARCH SIZE SPAN x RISE	HORIZONTAL ELLIPTICAL SIZE RISE x SPAN	VERTICAL ELLIPTICAL SIZE RISE x SPAN	MINIMUM COVER	MAXIMUM COVER
15"	18" x 11"			12"	10'
18"	22" x 13"	14" x 23"	23" x 14"	12"	10'
24"	28" x 18"	19" x 30"	30" x 19"	12"	10'
30"	36" x 22"	24" x 38"	38" x 24"	12"	10'
36"	43" x 26"	29" x 45"	45" x 29"	12"	10'
42"	51" x 31"	34" x 53"	53" x 34"	12"	10'
48"	58" x 36"	38" x 60"	60" x 38"	12"	10'
54"	65" x 40"	43" x 68"	68" x 43"	12"	10'
60"	73" x 45"	48" x 76"	76" x 48"	12"	10'
66"		53" x 83"	83" x 53"	12"	10'
72"	88" x 54"	58" x 91"	91" x 58"	12"	10'
78"		63" x 98"	98" x 63"	12"	10'
84"	102" x 62"	68" x 106"	106" x 68"	12"	10'
90"	115" x 72"	72" x 113"	113" x 72"	12"	10'
96"	122" x 77"	77" x 121"	121" x 77"	12"	10'
102"		82" x 128"	128" x 82"	12"	10'
108"	138" x 87"	87" x 136"	136" x 87"	12"	10'
114"		92" x 143"	143" x 92"	12"	10'
120"		97" x 151"	151" x 97"	12"	10'

▲ DIMENSIONS LISTED FOR ARCH PIPE IN PAY ITEMS SHOW TRUNCATED INCHES.

GENERAL NOTES

1. FILL HEIGHT DESIGNS ARE BASED ON A CLASS B BEDDING, NEGATIVE PROJECTION, HS-20 LIVE LOADING, AND 120 LBS/C.F. SOIL WEIGHT.
2. MINIMUM HEIGHT OF COVER FROM TOP OF PIPE TO TOP OF SUBGRADE FOR REINFORCED CONCRETE PIPE SHALL BE 12 INCHES.
3. IN THE EVENT LOADS IN EXCESS OF HS-20 ARE TO BE OPERATED OVER OR ADJACENT TO THE PIPE INSTALLATION DURING THE CONSTRUCTION PHASE, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A MINIMUM OF FOUR FEET OF COVER OVER THE PIPE AT WHEEL OR TRACK PATHS.
4. PROPER INSTALLATION PRACTICES MUST BE ADHERED TO AS SHOWN ON ROADWAY STANDARDS SPI-4, FPI-3 AND SPB-1.
5. ANY PIPE CRACKED PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE. SURFACE DISTRESS MUST BE REPAIRED TO THE SATISFACTION OF THE ENGINEER, OR REPLACED AT THE CONTRACTOR'S EXPENSE.
6. PIPE DIMENSIONS LISTED IN TABLES CONFORM TO 2005 AASHTO DESIGNATIONS.
7. CLASS IV/V REINFORCED CONCRETE PIPE SHALL MEET STRENGTH TEST REQUIREMENTS OF A MAXIMUM 2000 POUNDS FOR CLASS IV AND 3000 POUNDS FOR CLASS V PIPE - FORCE PER LINEAR FOOT PER FOOT OF DIAMETER TO PRODUCE A 0.01 INCH CRACK, CONFORMING TO TEST PROCEDURE REFERENCES IN AASHTO M 170.

APPROVED BY ROADWAY ENGINEER: Caleb F. H DATE: 04/16/15

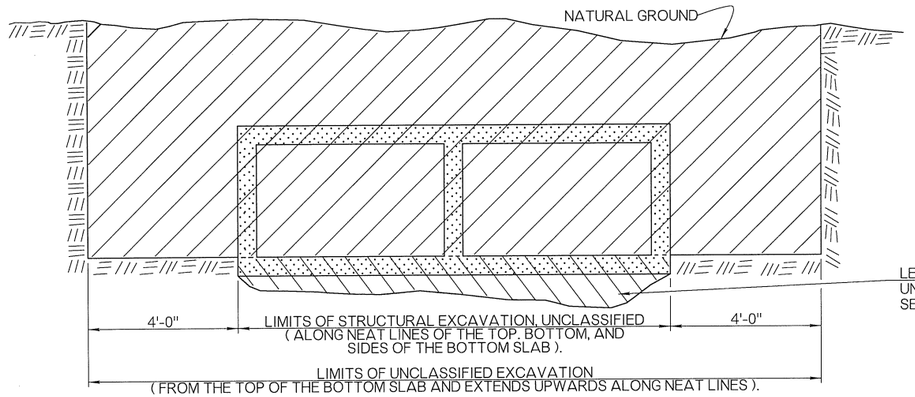
ROADWAY DESIGN DIVISION STANDARD

FILL HEIGHT TABLES
(CONCRETE PIPES)

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

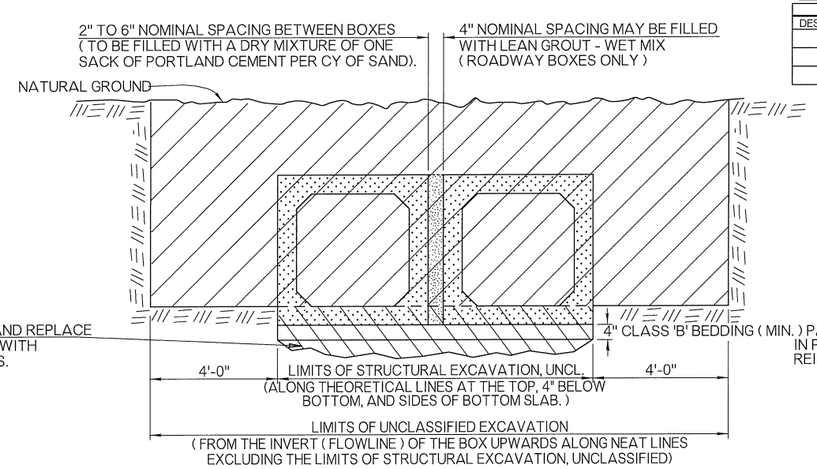
FHTCP-3 | 1

STANDARD REVISIONS	
DESCRIPTION	DATE



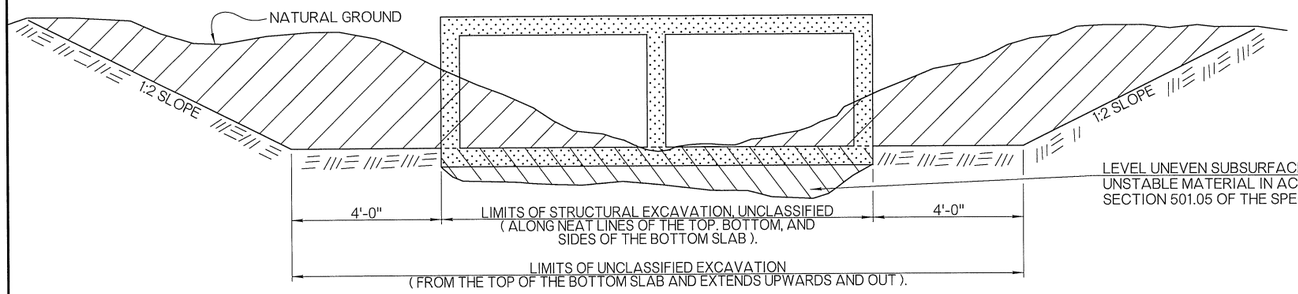
REQUIREMENTS FOR UNCLASSIFIED AND STRUCTURAL EXCAVATION OF RCB STORM SEWERS

LEVEL UNEVEN SUBSURFACE, REMOVE AND REPLACE UNSTABLE MATERIAL IN ACCORDANCE WITH SECTION 501.05 OF THE SPECIFICATIONS.



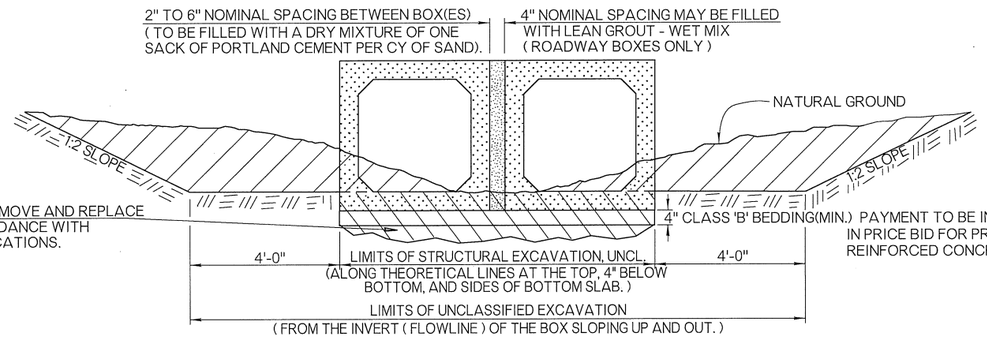
PAYMENT TO BE INCLUDED IN PRICE BID FOR PRECAST REINFORCED CONCRETE BOX.

REQUIREMENTS FOR EXCAVATION OF PRECAST RCB STORM SEWERS



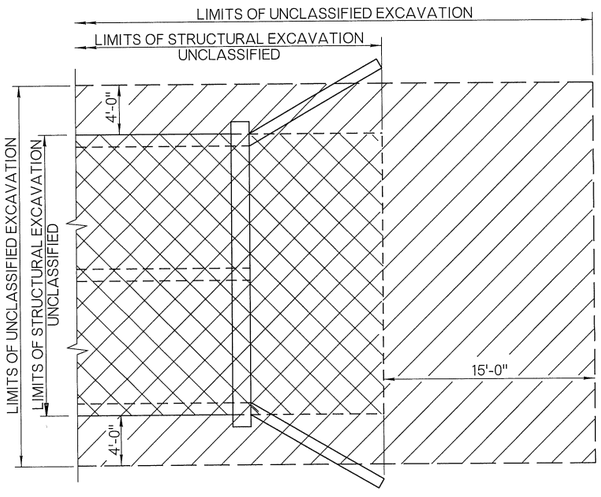
REQUIREMENTS FOR UNCLASSIFIED AND STRUCTURAL EXCAVATION OF RCB CULVERTS OF ROADWAY AND BRIDGE CLASSIFICATION

LEVEL UNEVEN SUBSURFACE, REMOVE AND REPLACE UNSTABLE MATERIAL IN ACCORDANCE WITH SECTION 501.05 OF THE SPECIFICATIONS.

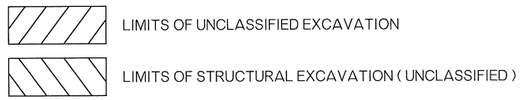


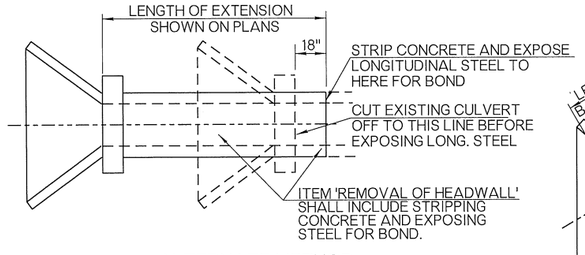
PAYMENT TO BE INCLUDED IN PRICE BID FOR PRECAST REINFORCED CONCRETE BOX.

REQUIREMENTS FOR EXCAVATION OF PRECAST RCB CULVERTS OF ROADWAY AND BRIDGE CLASSIFICATION.

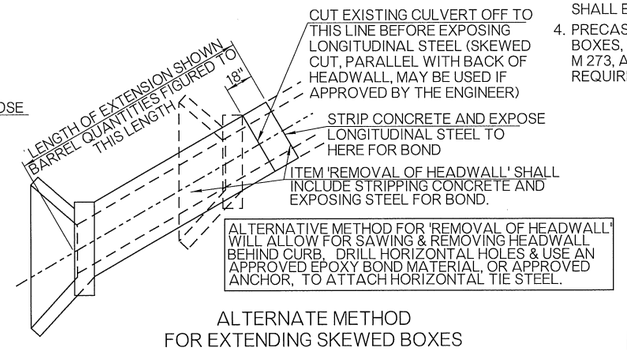


PLAN VIEW





ALTERNATE METHOD FOR EXTENDING 90° BOXES



ALTERNATE METHOD FOR EXTENDING SKEWED BOXES

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. PAYMENT FOR CAST-IN-PLACE REINFORCED CONCRETE BOXES WILL BE IN CUBIC YARDS OF CLASS A OR CLASS AA CONCRETE AND POUNDS OF REINFORCING STEEL, IN ACCORDANCE WITH SECTION 509 AND 511 OF THE SPECIFICATIONS.
3. PAYMENT FOR PRECAST CONCRETE BOX CULVERTS WILL BE MADE BASED ON THE UNIT PRICE BID FOR ITEMS AND QUANTITIES OF A CAST-IN-PLACE BOX OF THE LENGTH REQUIRED AS DETERMINED BY FIELD MEASUREMENTS, AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 508 OF THE SPECIFICATIONS.
4. PRECAST CONCRETE BOX SECTIONS, USED IN LIEU OF CAST-IN-PLACE CONCRETE BOXES, SHALL MEET MINIMUM DESIGN REQUIREMENTS OF AASHTO M 259 OR M 273, AND ASTM C1433 OR C1577, AND JOINT FILLER SHALL MEET THE REQUIREMENTS OF SUBSECTION 726.01.B OF THE SPECIFICATIONS.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
202 (A)	UNCLASSIFIED EXCAVATION	CY
501 (A)	STRUCTURAL EXCAVATION UNCLASSIFIED	CY
619 (B)	REMOVAL OF HEADWALL	EA

APPROVED BY ROADWAY ENGINEER: Caleb F. H DATE 04/16/15

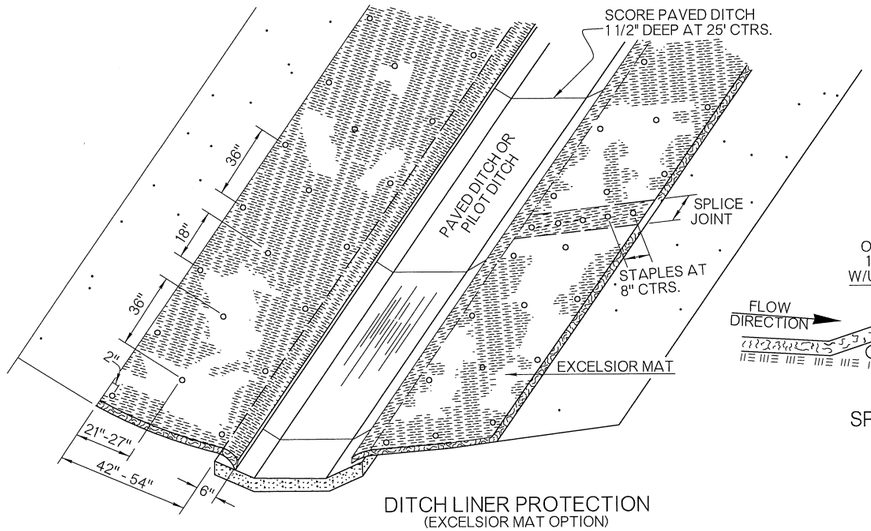
ROADWAY DESIGN DIVISION STANDARD

STANDARD BOX INSTALLATION

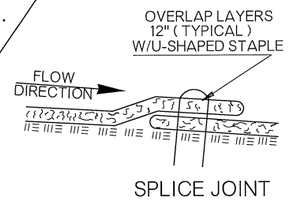
OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

SBI-4	2

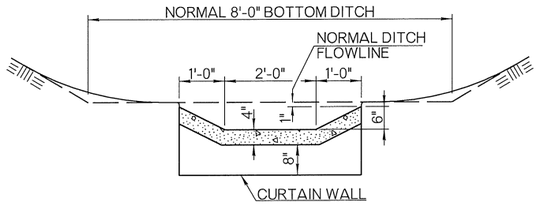
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



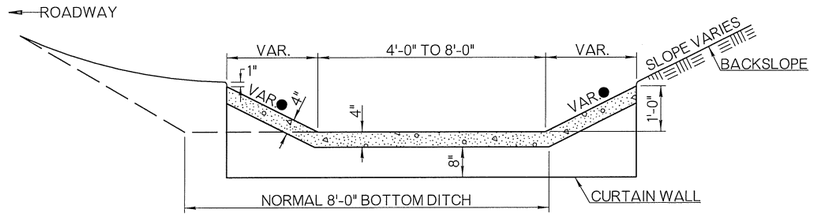
DITCH LINER PROTECTION
(EXCELSIOR MAT OPTION)



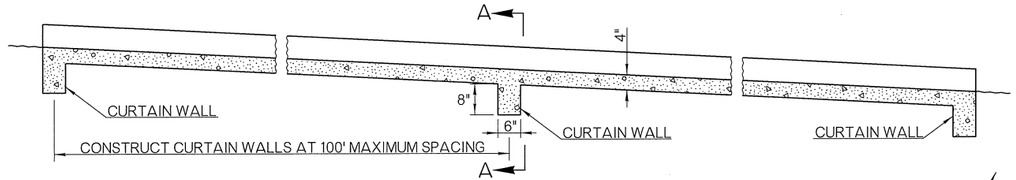
SPLICE JOINT



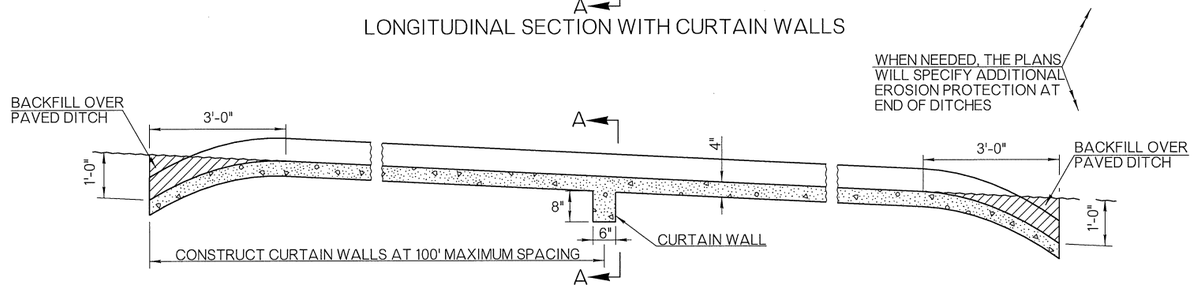
SECTION A - A
DESIGN NO. 1



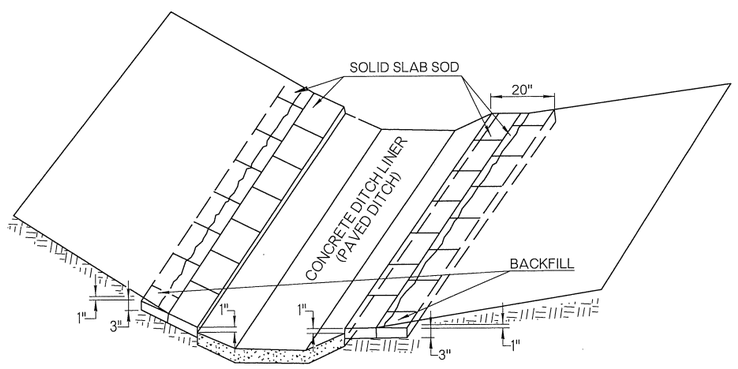
SECTION A - A
DESIGN NO. 2



LONGITUDINAL SECTION WITH CURTAIN WALLS



OPTIONAL LONGITUDINAL SECTION WITH BURIED ENDS
(BURIED ENDS SHALL NOT BE USED ADJACENT TO DRAINAGE STRUCTURES)



DITCH LINER PROTECTION
(SOLID SLAB SOD OPTION)

DESIGN NO. 1 - A PAVED PILOT DITCH TO BE PLACED 6" BELOW THE NORMAL FLOWLINE AND IN THE CENTER OF A STANDARD DITCH

DESIGN NO. 2 - A DITCH THAT IS PAVED AND HAVING THE SAME FLOWLINE AS A STANDARD UNPAVED DITCH

QUANTITIES OF CLASS C CONCRETE PER LF OF PAVED DITCH
QUANTITIES IN CUBIC YARDS

	DESIGN NO. 1					DESIGN NO. 2					
BOTTOM WIDTH	2'-0"	3'-0"	4'-0"	5'-0"	6'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	
K 1	.0522	.0645	.0769	.0892	.1016	.1274	.1397	.1521	.1644	.1768	DES. 2A
K2	.0586	.0709	.0832	.0955	.1078	.1790	.1913	.2036	.2159	.2282	
● VARIABLE AS SHOWN ON PLANS DESIGN 2A = 1:3 SLOPES DESIGN 2B = 1:2 SLOPES DESIGN 2C = 1:1 SLOPES					K1	.1045	.1168	.1292	.1415	.1539	DES. 2B
					K2	.1357	.1480	.1603	.1726	.1850	
					K1	.0923	.1048	.1172	.1295	.1479	DES. 2C
					K2	.1105	.1228	.1352	.1476	.1600	

TOTAL CLASS C CONC.= (LENGTH OF PAVED DITCH) (K1) + (NO. OF CURT. WALLS) (K2)
K1=CU. YDS. OF CONCRETE PER LINEAR FOOT
K2=CU. YDS. OF CONCRETE PER CURTAIN WALL

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL COST OF ADDITIONAL BORROW OR EXCAVATION, REQUIRED FOR INSTALLING PAVED DITCH, SHALL BE INCLUDED IN PRICE BID FOR CLASS C CONCRETE.
3. THE DITCH SHALL BE WATERED, AND COMPACTED, BEFORE PLACING CLASS C CONCRETE.
4. DITCH LINER PROTECTION MAY BE EITHER EXCELSIOR MAT, OR SOLID SLAB SOD, AND SHALL BE MEASURED BY THE LINEAR FOOT OF DITCH (PAVED DITCH), IN PLACE.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
509 (D)	CLASS C CONCRETE	CY
229	DITCH LINER PROTECTION	LF

APPROVED BY
ROADWAY ENGINEER: Caleb A. DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

PAVED DITCHES AND FLUMES

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

DC-3 | 2

REVISIONS	
DESCRIPTION	DATE
MODIFIED NOTES	3/15/2011

ALL GENERAL NOTES SHOWN BELOW SHALL APPLY
TO ALL OF THE STANDARD DRAWINGS IN TCS SERIES

CONTRACTOR

ON CONSTRUCTION PROJECTS IT WILL BE THE CONTRACTORS RESPONSIBILITY TO INSTALL THE NECESSARY TRAFFIC CONTROL BEFORE CONSTRUCTION BEGINS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL DEVICES TO ASSURE A HIGH DEGREE OF BOTH DAY AND NIGHT VISIBILITY, WHICH WILL INCLUDE ANY WASHING, REPLACEMENT AND/OR REPOSITIONING WHERE DEEMED NECESSARY BY THE ENGINEER.

THE CONTRACTOR SHALL REPAIR OR REPLACE ANY NEW OR EXISTING PERMANENT STATE OWNED SIGNS WHICH ARE DAMAGED DUE TO HIS NEGLIGENCE OR CARELESS HANDLING DURING THE CONSTRUCTION OF THIS PROJECT. THIS SHALL BE DONE AT THE CONTRACTORS EXPENSE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TEMPORARY TRAFFIC CONTROL WORK ZONE AND EXISTING PAVEMENT MARKINGS ON ALL ROADWAYS OPEN TO TRAFFIC WITHIN THE PROJECT. SUFFICIENT QUANTITIES HAVE BEEN PROVIDED FOR MAINTAINING PAVEMENT MARKINGS FOR PRESCRIBED DETOUR ROUTES WHEN DEEMED NECESSARY BY THE ENGINEER.

SIGN MATERIALS

ALL SIGN BLANK MATERIALS SHALL BE THE OPTION OF THE CONTRACTOR BUT SHALL BE OF SUCH MATERIAL THAT WILL RETAIN A SATISFACTORY APPEARANCE THROUGHOUT THE LIFE OF THE PROJECT.

ALL SIGNS, LIGHTS, FLAGS, ETC. SHALL CONFORM IN SIZE, SHAPE, COLOR, LEGENDS AND APPLICATIONS TO THE STANDARDS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND/OR OKLAHOMA STATE STANDARD DRAWINGS FOR SIGNS. STANDARD DRAWINGS ARE AVAILABLE FROM THE DEPARTMENT OF TRANSPORTATION. INTERPRETATIONS THAT MAY BE NECESSARY SHALL BE REFERRED TO THE ENGINEER.

SIGN SHEETING

REFLECTORIZATION OF TRAFFIC CONTROL DEVICES SHALL BE BY MEANS OF WIDE ANGLE, FLAT TOP REFLECTIVE SHEETING MEETING THE REQUIREMENTS OF 2009, OKLAHOMA STANDARD SPECIFICATIONS.

SIGN INSTALLATION

ALL SIGNS SHALL BE SECURELY PLACED OR WEIGHTED TO PREVENT BLOWING OVER. ROCKS, BROKEN CONCRETE OR OTHER SUCH OBJECTS SHALL NOT BE CONSIDERED AN ACCEPTABLE SUBSTITUTE FOR SAND BAGS WHEN USED TO OBTAIN ADDED STABILITY FOR MOVABLE SIGNS AND BARRICADES.

SPACING OF SIGNING, ON THE PLANS OR TCS STANDARDS, SHOULD BE NO LESS THAN THE DISTANCES SHOWN. THE DISTANCE BETWEEN SIGNS SHOULD BE INCREASED ON HIGH SPEED OR MORE HEAVILY TRAVELED HIGHWAYS, OR WHERE SIGHT DISTANCE IS RESTRICTED.

IN ALL CONSTRUCTION ZONES, THE 48 INCH X 48 INCH WARNING SIGNS SHALL HAVE ATTACHED THERETO FLORESCENT FLAGS AND TYPE "A" WARNING LIGHTS. THIS SHALL ALSO APPLY WHEN SIGNS ARE USED ON BOTH SIDES OF THE ROADWAY. ADDITIONAL FLASHING LIGHTS MAY BE REQUIRED WHEN SO DESIRED BY THE ENGINEER.

ALL DIAMOND SHAPED CONSTRUCTION WARNING SIGNS ON EXPRESSWAYS OR FREEWAYS SHALL BE 48 INCH X 48 INCH, WITH THE APPROPRIATE ADVISORY SIGN WHERE REQUIRED UNLESS OTHERWISE NOTED IN THE PLANS.

DUE TO THE TEMPORARY NATURE OF CONSTRUCTION, SIGNS WHICH ARE 33 S.F. AND OVER WILL HAVE NO REINFORCING STEEL IN THEIR FOOTINGS.

ALL SIGNS AND SIGN ASSEMBLIES WITH A TOTAL SURFACE AREA OF 10 S.F. OR MORE SHALL BE INSTALLED ON TWO (2) POSTS. THE EXCEPTION BEING SINGLE ROUTE MARKER ASSEMBLIES.

SIGNS MOUNTED ON BARRICADES SHALL BE MOUNTED AS HIGH AS NECESSARY TO BE VISIBLE.

BARRICADES

ONE (1) WING BARRICADE SHALL BE SET ON EACH SIDE OF THE ROADWAY IN ADVANCE OF THE FIRST ADVANCE WARNING SIGN. THE EXCEPTIONS ARE MINOR CROSS STREETS AND SECTION LINE ROADS WHICH INTERSECT THE WORK AREA.

WING BARRICADES SHALL BE INSTALLED ON TWO (2) BREAKAWAY POSTS.

WORK DURATION

THE FIVE CATEGORIES OF WORK DURATION AND THIER TIME AT A LOCATION SHALL BE:
A) LONG-TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN 3 DAYS.
B) INTERMEDIATE-TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 DAYS, OR NIGHTTIME WORKLASTING MORE THAN 1 HOUR.
C) SHORT-TERM STATIONARY IS DAYTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR WITHIN A SINGLE DAYLIGHT PERIOD.
D) SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.
E) MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.

LIGHTING

TYPE "A" WARNING LIGHTS SHALL BE USED ON BARRICADES (AS REQUIRED) AND WARNING SIGNS.

TYPE "C" WARNING LIGHTS MAY BE USED ON VERTICAL PANELS (OPTIONAL).

CONSTRUCTION NOTES

SHOULD THE REQUIRED WORK ON ANY PROJECT, INCLUDING ANY TRAFFIC CONTROL, OVERLAP OR OTHERWISE INTERFERE WITH THE ON-GOING WORK OR TRAFFIC CONTROL OF ANOTHER PROJECT, IT SHALL BE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTORS TO COORDINATE THEIR WORK ACTIVITIES TO FACILITATE THE SAFE MOVEMENT OF TRAFFIC THROUGHOUT OR AROUND THEIR COLLECTIVE WORK AREAS. ANY SUCH RECOMMENDED CHANGES SHALL BE SUBMITTED IN WRITING TO EACH PROJECT RESIDENT ENGINEER FOR REVIEW AND APPROVAL.

ALL TRAFFIC CONTROL DEVICES NOT REQUIRED FOR THE SAFE CONDUCT OF TRAFFIC THROUGH THE TEMPORARY TRAFFIC CONTROL ZONE SHALL BE PROMPTLY REMOVED, COMPLETELY COVERED, TURNED AWAY FROM TRAFFIC OR OTHERWISE TAKEN OUT OF SERVICE. DEVICES SHALL NOT BE STORED ALONG THE ROADWAY, WITHIN 15 FEET (15') OF AN OPEN DRIVING LANE, EITHER BEFORE OR AFTER THEY ARE TO BE USED UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. THESE DEVICES SHALL BE REMOVED FROM THE TEMPORARY TRAFFIC CONTROL ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS 15 FEET (15') SETBACK, THE CONTRACTOR SHALL DETERMINE ALTERNATE LOCATIONS AND REQUEST THE ENGINEERS APPROVAL TO USE THEM.

TRAFFIC CONTROL DEVICES, WARNING DEVICES, AND BARRIERS SHALL BE KEPT IN CORRECT POSITION, PROPERLY DIRECTED, CLEARLY VISIBLE AND CLEAN AT ALL TIMES. DAMAGED, DEFACED OR DIRTY DEVICES OR BARRICADES SHALL IMMEDIATELY BE REPAIRED, REPLACED OR CLEANED BY THE CONTRACTOR AND APPROVED FOR USE BY THE ENGINEER.

NO EQUIPMENT OR VEHICLES BELONGING TO THE CONTRACTOR, HIS SUB-CONTRACTORS OR EMPLOYEES SHALL BE PARKED OR STOPPED WITHIN 30 FEET (30') OF A LANE CARRYING TRAFFIC, AT ANY TIME, UNLESS REQUIRED BY ONGOING WORK OPERATIONS.

ALL DETOURS AND DIVERSIONS SHOULD BE IN PLACE, WITH SIGNING, STRIPING AND CHANNELIZING DEVICES, AS SHOWN IN THE PLANS OR STANDARD DRAWINGS. BEFORE THEY ARE OPENED TO TRAFFIC.

WHEN IT BECOMES NECESSARY TO CLOSE THE ROAD TO THROUGH TRAFFIC, NO LESS THAN SEVEN DAYS PRIOR TO THE CLOSURE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES DESCRIBING THE AFFECTED ROAD AND THE APPROXIMATE DURATION OF THE CLOSURE. THOSE TO BE NOTIFIED INCLUDE BUT ARE NOT LIMITED TO 1) LOCAL LAW ENFORCEMENT OFFICIALS, 2) LOCAL FIRE OFFICIALS, 3) AMBULANCE SERVICES, 4) LOCAL SCHOOL SUPERINTENDENT, 5) UNITED STATES POSTAL SERVICE, AND 6) CITY OR COUNTY ROAD SUPERINTENDENT.

ALL TEMPORARY TRAFFIC CONTROL DEVICES, AND THIER CONDITIONS THROUGHOUT THE LIFE OF THE CONSTRUCTION PROJECT, SHALL MEET O.D.O.T.'S LATEST "QUALITY STANDARDS FOR TEMPORARY TRAFFIC CONTROL DEVICES". THE O.D.O.T. RESIDENT ENGINEER WILL MAKE FINAL DECISION OF ALL TEMPORARY TRAFFIC CONTROL DEVICES BASED ON THE O.D.O.T. GUIDELINES.

NO GENDER BIAS SIGNS ARE ALLOWED.

ARROW DISPLAY

USE OF AN ARROW DISPLAY, IN THE ARROW OR CHEVRON MODE, SHALL BE LIMITED TO STATIONARY OR MOVING LANE CLOSURES.

AN ARROW DISPLAY, IN THE CAUTION MODE, SHALL BE USED ONLY FOR SHOULDER WORK, BLOCKING THE SHOULDER, ROADSIDE WORK NEAR THE SHOULDER, OR FOR MOBILE OPERATIONS (I.E. STRIPING).

AN ARROW DISPLAY IN THE ARROW OR CHEVRON MODE, SHALL NOT BE USED ON A TWO-LANE, TWO-WAY ROADWAY FOR TEMPORARY ONE-LANE OPERATION.

AN ARROW DISPLAY SHALL NOT BE USED ON A MULTI-LANE ROADWAY TO LATERALLY SHIFT TRAFFIC.

CHANNELIZING DEVICES

IN THOSE AREAS WHERE DRIVERS ARE ASKED TO MAKE A DECISION OR MUST BE GUIDED THROUGH A PRECISE MOVEMENT, BY USE OF CHANNELIZING DEVICES, IT IS ESPECIALLY IMPORTANT TO PROVIDE A CLEARLY DEFINED PATH. EXAMPLES OF THIS COULD BE IN DELINEATING A TEMPORARY GORE OR TURNING RADIUS. IN SUCH AREAS THE SPACING OF CHANNELIZING DEVICES MAY BE REDUCED TO 10 FEET FOR SPEEDS OF 40 M.P.H. OR LESS, AND 20 FEET FOR SPEEDS GREATER THAN 40 M.P.H.

WHEN CHANNELIZING DEVICES ARE USED TO DIRECT TRAFFIC ACROSS EXISTING LANE LINES OR EDGE LINES, THE SPACING BETWEEN CHANNELIZING DEVICES SHALL BE REDUCED 50%. SPACING SHOULD ALSO BE REDUCED WHEN CHANNELIZING DEVICES ARE PLACED ON CURVES, HILLS, OR NEXT TO POTENTIAL HAZARDS.

ALL TRAFFIC CONTROL CHANNELIZING DEVICES SHALL MEET MUTCD COLOR REQUIREMENTS.

FLAGGERS

FLAGGERS MUST BE CLEARLY VISIBLE TO APPROACHING TRAFFIC FOR A DISTANCE SUFFICIENT TO PERMIT PROPER RESPONSE BY MOTORISTS TO THE FLAGGING INSTRUCTIONS, AND TO PERMIT TRAFFIC TO REDUCE SPEED OR STOP BEFORE ENTERING THE TEMPORARY TRAFFIC CONTROL ZONE. FLAGGERS SHALL BE POSITIONED TO MAINTAIN MAXIMUM COLOR CONTRAST BETWEEN THE FLAGGER'S REFLECTIVE CLOTHING AND EQUIPMENT AND THE WORK AREA BACKGROUND.

DURING HOURS OF DARKNESS, FLAGGER STATIONS SHALL BE ILLUMINATED SUCH THAT THE FLAGGER WILL BE CLEARLY VISIBLE TO APPROACHING TRAFFIC. LIGHTS TO BE USED FOR ILLUMINATING THE STATION SHALL BE APPROVED BY THE ENGINEER. REFLECTORIZED PADDLES AND REFLECTORIZED VESTS, SHIRTS OR JACKETS SHALL BE USED FOR NIGHTTIME FLAGGING.

UNLESS OTHERWISE SPECIFIED IN THE PLANS, THE COST OF FLAGGING OPERATIONS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

MINIMUM STANDARDS FOR TRAFFIC CONTROL DEVICES

(1) WARNING LIGHTS (TYPE A FLASHERS AND TYPE C STEADY BURN)
- (A) NOT LESS THAN NINETY (90) PERCENT OF THE TOTAL NUMBER OF LIGHTS BEING USED AT ANY ONE TIME SHALL BE FULLY OPERATIONAL.
- (B) NOT MORE THAN THREE (3) LIGHTS ADJACENT TO ONE ANOTHER SHALL BE FAILING.

(2) ARROW DISPLAY
- (A) WHEN IN ARROW MODE, NO MORE THAN TWO (2) LAMPS IN THE STEM AND ZERO (0) LAMPS IN THE HEAD SHALL BE FAILING. THE DIMMING FUNCTION SHALL BE OPERATING PROPERLY.
- (B) WHEN IN CAUTION MODE (CORNERS), A MINIMUM OF FOUR (4) LAMPS SHALL BE OPERATIONAL. THE DIMMING FUNCTION SHALL BE OPERATING PROPERLY.
- (C) ANY LAMP WHICH IS LIGHTED BUT IMPROPERLY ALIGNED SHALL NOT BE CONSIDERED OPERATIONAL.

(3) CHANGEABLE MESSAGE SIGNS
- (A) NOT LESS THAN NINETY (90) PERCENT OF THE PIXELS SHALL BE FUNCTIONAL IN EACH CHARACTER MODULE.
- (B) NO SANDBAG BALLASTING OVER 3 FEET IN HEIGHT.

(4) PAVEMENT MARKING TAPE
- (A) NOT MORE THAN TEN (10) PERCENT OF ALL TAPE, PAINT, MESSAGE OR SYMBOL SHALL BE MISSING
- (B) NOT MORE THAN TWO (2) CONSECUTIVE DASHED LINES SHALL BE MISSING.
- (C) NOT MORE THAN FIFTY (50) CONTINUOUS FEET OF A SOLID LINE SHALL BE MISSING.

(5) CONSTRUCTION ZONE PAVEMENT MARKERS
- (A) NOT MORE THAN TEN (10) PERCENT OF THE TOTAL NUMBER OF MARKERS SHALL BE MISSING.
- (B) NOT MORE THAN THREE (3) CONSECUTIVE MARKERS SHALL BE MISSING.

STRIPING

WHENEVER THE WORK CAUSES THE OBLITERATION OF PAVEMENT MARKINGS, EITHER TEMPORARY OR PERMANENT MARKINGS SHALL BE IN PLACE PRIOR TO OPENING THE ROADWAY TO TRAFFIC. CENTERLINE PAVEMENT MARKINGS SHALL BE PROVIDED AT ALL TIMES FOR ROADWAYS OPEN TO TRAFFIC.

THE APPLICATION SURFACES FOR PAVEMENT MARKINGS SHALL BE FREE OF DUST, DIRT, MOISTURE OR OTHER FOREIGN MATTER WHICH WOULD INTERFERE WITH ADHESION. INSTALLATION OF ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED IMMEDIATELY AHEAD OF THE PERMANENT STRIPING OPERATIONS OR RE-STRIPING FOR FOLLOWING CONSTRUCTION PHASES.

WHEN REMOVABLE PAVEMENT MARKINGS TAPE IS TO BE INSTALLED ON NEW CONCRETE PAVEMENT, THE CURING COMPOUND SHALL BE REMOVED PRIOR TO INSTALLATION.

IF REMOVABLE PAVEMENT MARKING TAPE IS INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND FAILS DURING THE FIRST SIX MONTHS OF SERVICE, IT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. REPLACEMENT SHALL BE ACCOMPLISHED IN A TIMELY MANNER UPON BEING NOTIFIED, BY THE ENGINEER, OF SUCH FAILURE.

PILOT CAR

WHEN LANE CLOSURES ARE REQUIRED ON TWO-LANE / TWO-WAY ROADWAYS, THE CONTRACTOR MAY, AT HIS OPTION, UTILIZE A PILOT CAR. IF THE CONTRACTOR ELECTS TO USE A PILOT CAR, CHANNELIZING DEVICES ALONG THE CENTERLINE WILL NOT BE REQUIRED. THE PILOT CAR OPERATOR SHALL BE IN RADIO CONTACT WITH PERSONNEL IN THE TEMPORARY TRAFFIC CONTROL ZONE. MAXIMUM SPEED OF THE PILOT CAR THROUGH THE WORK AREA SHALL BE 25 M.P.H. FULL COMPENSATION FOR FURNISHING AND OPERATING THE PILOT CAR, (INCLUDING DRIVER, RADIOS, AND ANY OTHER EQUIPMENT OR LABOR REQUIRED) SHALL BE CONSIDERED AS INCLUDED IN THE COST OF OTHER ITEMS OF WORK.

MISCELLANEOUS

TRAFFIC CONDITIONS MAY NECESSITATE CHANGES IN THE USE AND/OR QUANTITIES OF THE TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS OR IN THE STANDARDS. ANY SUCH CHANGES ARE SUBJECT TO APPROVAL BY THE ENGINEER.

ALL CHANNELIZING DEVICES PROVIDED ON THIS PROJECT SHALL BE IN GOOD CONDITION AND SHALL BE APPROVED FOR USE ON THIS PROJECT BY THE ENGINEER.

THE REGULATORY SPEED LIMITS THROUGH THE WORK ZONE MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER WITH THE DOCUMENTED APPROVAL OF THE DIVISION ENGINEER IN ACCORDANCE WITH TITLE 47 OF THE OKLAHOMA MOTOR VEHICLE LAWS.

THE TERMINATION AREA EXTENDS FROM THE DOWNSTREAM END OF THE WORK AREA TO THE TEMPORARY TRAFFIC CONTROL DEVICE SUCH AS "END ROAD WORK" SIGNS, IF POSTED. A SPEED SIGN, OR OTHER SIGNS MAY BE USED TO INFORM ROAD USERS THAT THEY CAN RESUME NORMAL OPERATIONS.

THE CONSTRUCTION SIGNING AND BARRICADE CONTRACTOR SHOULD AFFIX THEIR COMPANY NAME AND/OR LOGO INCONSPICUOUSLY ON EACH TRAFFIC CONTROL DEVICE.

APPROVED BY
TRAFFIC ENGINEER: _____ DATE: 3/21/11

TRAFFIC STANDARD
TRAFFIC CONTROL STANDARD
TRAFFIC CONTROL CONSTRUCTION NOTES

2009 SPECIFICATIONS

TCS1-1	01

$$date$$

TAPER LENGTH CRITERIA FOR WORK ZONES

SPEED LIMIT M.P.H.	"L" FORMULA	"L" TAPER LENGTH (MINIMUM) (FT) 10' OFFSET	11' OFFSET	12' OFFSET	NUMBER OF CHANNELIZING DEVICES REQUIRED (MINIMUM) 10' OFFSET	11' OFFSET	12' OFFSET	SPACING CHANNELIZING DEVICES (MAXIMUM) ① THRU TAPER SECTION (FT.)	② THRU TANGENT SECTION (FT.)	MAXIMUM HORIZONTAL ALIGNMENT THRU DETOUR (DEGREE) (S=0)	SPEED LIMIT M.P.H.
20	$L = \frac{W \times S^2}{60}$	70	75	80	5	5	5	20	40	—	20
25		105	115	125	6	6	6	25	50	—	25
30		150	165	180	6	7	7	30	60	15	30
35		205	225	245	7	8	8	35	70	11	35
40		265	295	320	8	9	9	40	80	8	40
45	$L = W \times S$	450	495	540	11	12	13	45	90	6	45
50		500	550	600	11	12	13	50	100	5	50
55		550	605	660	12	14	15	50	100	4	55
60		600	660	720	13	15	16	50	100	3	60
65		650	715	780	14	16	17	50	100	2.5	65
70		700	770	840	15	17	18	50	100	2	70
75		750	825	900	16	18	19	50	100	1.8	75

NOTES:

① RECOMMENDED SIGNING TO BE USED THRU LANE TAPER IS (1) CW1-8 ON EVERY OTHER DRUM.

② RECOMMENDED SIGNING TO BE USED THRU TANGENT LANES IS (1) R4-7A(R) OR (1) R4-7A(L) (AS APPLIES) ON EVERY OTHER DRUM.

L = TAPER LENGTH IN FEET

W = WIDTH OF OFFSET IN FEET

S = POSTED SPEED OR OFF-PEAK 85 PERCENTILE SPEED IN MPH

TYPE OF TAPER	TAPER LENGTH
UPSTREAM TAPERS	
MERGING TAPER	L MINIMUM
SHIFTING TAPER	1/2 L MINIMUM
SHOULDER TAPER	1/3 L MINIMUM
TWO-WAY TRAFFIC TAPER	100 FEET MAXIMUM
DOWNSTREAM TAPERS (USE IS OPTIONAL)	100 FEET PER LANE

RECOMMENDED CLEAR ZONE DISTANCE (FT) (CONSTRUCTION WORK ZONES)

DESIGN SPEED	DESIGN ADT	FILL SLOPES 6:1 OR FLATTER	5:1 OR 4:1	3:1	CUT SLOPES 3:1	4:1 OR 5:1	6:1 OR FLATTER
40 MPH OR LESS	UNDER 750	4	4	SEE NOTE 3	4	4	4
	750-1500	5	6		5	5	5
	1500-6000	6	7		6	6	6
	OVER 6000	7	8		7	7	7
45-50 MPH	UNDER 750	5	6		4	4	5
	750-1500	7	8		5	6	7
	1500-6000	8	10		6	7	8
	OVER 6000	10	12		7	9	10
55 MPH	UNDER 750	6	7		4	5	5
	750-1500	8	10		5	7	8
	1500-6000	10	12		7	8	10
	OVER 6000	11	13		8	10	11
60 MPH	UNDER 750	8	10		5	6	7
	750-1500	10	13		6	8	10
	1500-6000	13	16 *		7	9	12
	OVER 6000	15	18 *		10	12	13
65-70 MPH	UNDER 750	9	10		5	7	7
	750-1500	12	14		6	9	10
	1500-6000	14	17 *		8	11	13
	OVER 6000	15	19 *		11	13	14

NOTES:

* THE CLEAR ZONE MAY BE LIMITED TO 15 FEET FOR PRACTICALITY AND TO PROVIDE A CONSISTENT ROADWAY TEMPLATE.

(1) ALL DISTANCES ARE MEASURED FROM EDGE OF THE TRAVEL LANE.

(2) FOR CLEAR ZONES, THE "DESIGN ADT" WILL BE THE TOTAL ADT ON TWO-WAY ROADWAYS AND DIRECTIONAL ADT ON ONE-WAY ROADWAYS (E.G., RAMPS AND ONE ROADWAY OF A DIVIDED HIGHWAY).

(3) FILL SLOPES WHICH ARE 3:1 OR STEEPER ARE CRITICAL AND MAY REQUIRE A BARRIER. THEREFORE THERE IS NOT A CLEAR ZONE APPLICATION.

FLARE RATES FOR CONCRETE MEDIAN BARRIER IN TEMPORARY TRAFFIC CONTROL ZONES

SPEED *	FLARE RATE (MINIMUM)
40 M.P.H.	9 TO 1
45 M.P.H.	10 TO 1
50 M.P.H.	11 TO 1
55 M.P.H.	12 TO 1
60 M.P.H.	13 TO 1
65 M.P.H.	14 TO 1
70 M.P.H.	15 TO 1
75 M.P.H.	16 TO 1

* POSTED SPEED LIMIT PRIOR TO CONSTRUCTION

STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

SPEED * (MPH)	LENGTH (FEET)
20 M.P.H.	115
25 M.P.H.	155
30 M.P.H.	200
35 M.P.H.	250
40 M.P.H.	305
45 M.P.H.	360
50 M.P.H.	425
55 M.P.H.	495
60 M.P.H.	570
65 M.P.H.	645
70 M.P.H.	730
75 M.P.H.	820

* POSTED SPEED, OFF-PEAK 85th PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED.

RECOMMENDED DISTANCE BETWEEN SIGNS (MIN.)			
ROAD TYPE	A (FT)	B (FT)	C (FT)
URBAN (LOW SPEED)	100	100	100
URBAN (HIGH SPEED)	350	350	350
RURAL	500	500	500
EXPRESSWAY /FREEWAY	1,000	1,500	2,640

REVISIONS DESCRIPTION	DATE

PAVEMENT MARKINGS THROUGH TEMPORARY TRAFFIC CONTROL ZONE

	DRIVING SURFACE	FLEX TAB MARKERS	TAPE (REMOVABLE)	TAPE (NON-REMOVABLE)	PAINT	CONSTRUCTION ZONE PAVEMENT MARKERS
ASPHALT	EXISTING PAVEMENT TO BE REMOVED OR OVERLAYED IN THE NEXT PHASE	X	X	X	X	X
	EXISTING PAVEMENT TO BE LEFT IN PLACE THRU THE NEXT PHASE	X	X			X
	INTERMEDIATE LIFT	X	X	X	X	X
	MILLED SURFACE	X	X	X	X	X
	FINAL LIFT	X	X			
CONCRETE	EXISTING PAVEMENT TO BE REMOVED OR OVERLAYED IN THE NEXT PHASE	X	X	X	X	X
	EXISTING PAVEMENT TO BE LEFT IN PLACE THRU THE NEXT PHASE	X	X			X
	FINAL SURFACE	X	X		X	X

NOTE:
USE OF NON-REMOVABLE TAPE (FOILBACK) SHALL BE LIMITED TO THOSE CONDITIONS SHOWN IN THE TABLE.

CROSSOVER CRITERIA FOR WORK ZONES

WIDTH OF MEDIAN (W) (FT)	LATERAL SHIFT - (P) (FT)	LENGTH OF CROSSOVER - LC * (FT) V.	30 M.P.H.	35 M.P.H.	40 M.P.H.	45 M.P.H.	50 M.P.H.	55 M.P.H.	60 M.P.H.	65 M.P.H.	70 M.P.H.	75 M.P.H.
		D.	15°	11°	8°	6°	5°	4°	3°	2.5°	2°	1.8°
		R.	382	521	716	955	1146	1433	1910	2292	2865	3183
20	32		219	256	301	348	382	427	493	541	605	637
30	42		250	293	344	398	437	489	565	619	692	730
40	52		277	325	382	443	485	543	628	688	770	812
50	62		301	354	417	483	529	593	685	751	841	886
60	72		324	381	448	519	570	638	738	809	905	955
70	82		344	405	478	554	608	681	787	863	966	1,018
80	92		363	428	505	586	643	720	833	914	1,023	1,078
90	102		381	450	531	616	676	758	877	962	1,076	1,135
100	112		398	470	555	644	708	793	918	1,007	1,127	1,189
110	122		414	489	578	672	738	827	958	1,050	1,176	1,240
120	132		429	508	601	698	767	860	995	1,092	1,223	1,290

* CROSSOVER = REVERSE CURVE CONNECTION TYING TWO (2) PARALLEL ROADWAYS.

APPROVED BY TRAFFIC ENGINEER: Chad Smart DATE: 5/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
TRAFFIC CONTROL TABLES AND CHARTS

2009 SPECIFICATIONS

TCS2-1 | 00

T-502

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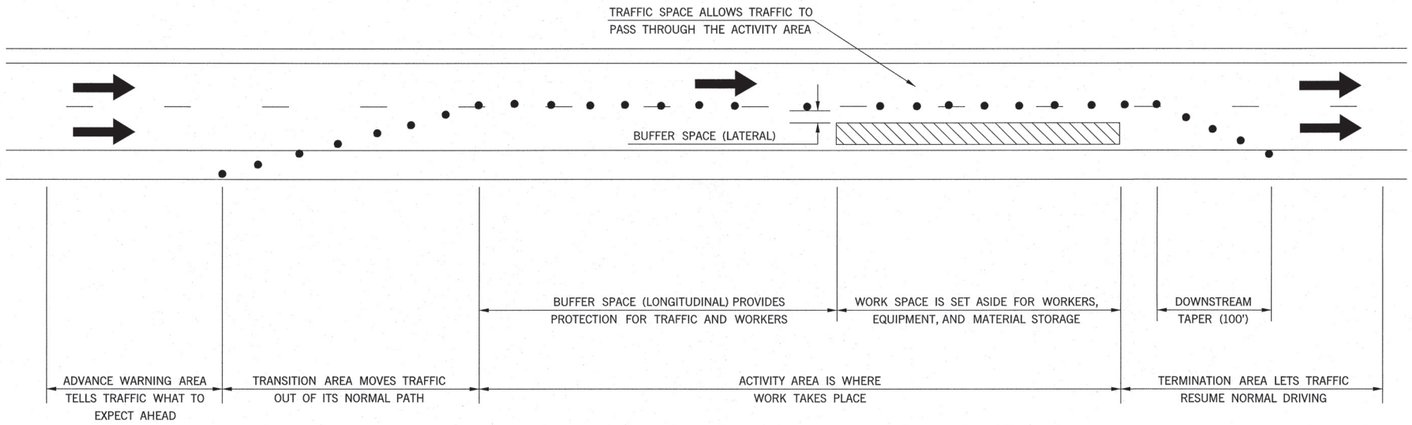
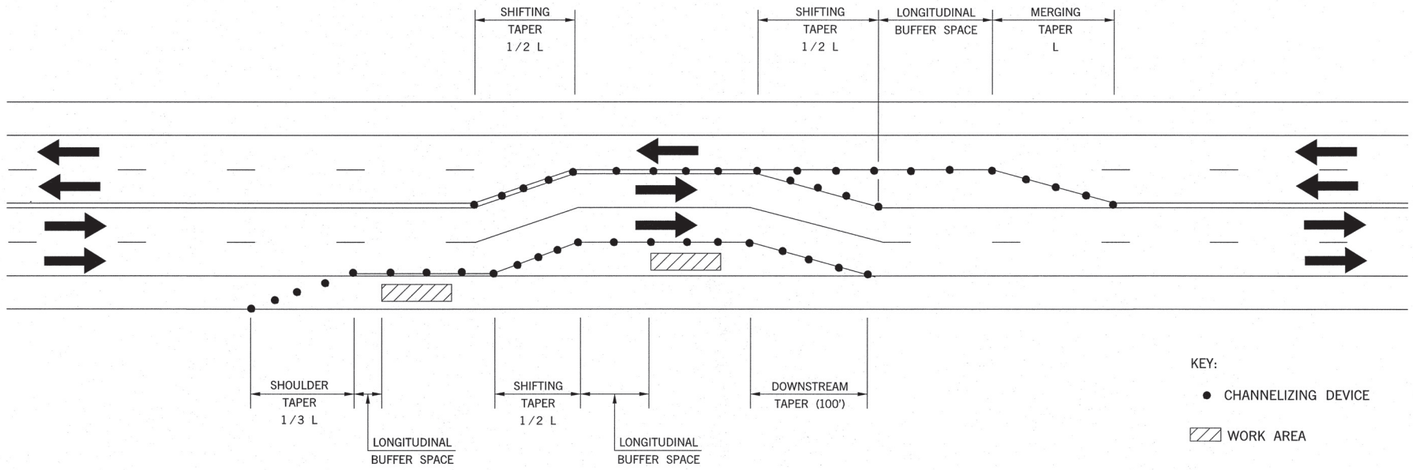
REVISIONS	
DESCRIPTION	DATE
CHANGED TRANSITION NOTATION	5/31/2011



COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL ZONE



TAPERS AND BUFFER SPACE

TEMPORARY TRAFFIC CONTROL ELEMENTS

APPROVED BY
TRAFFIC ENGINEER: _____ DATE: 5/31/2011

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
TEMPORARY TRAFFIC CONTROL ELEMENTS

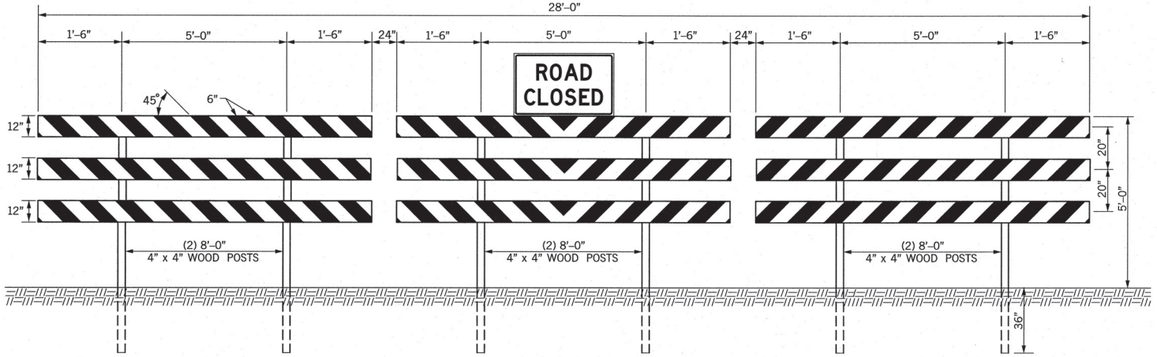
2009 SPECIFICATIONS

TCS3-1	01

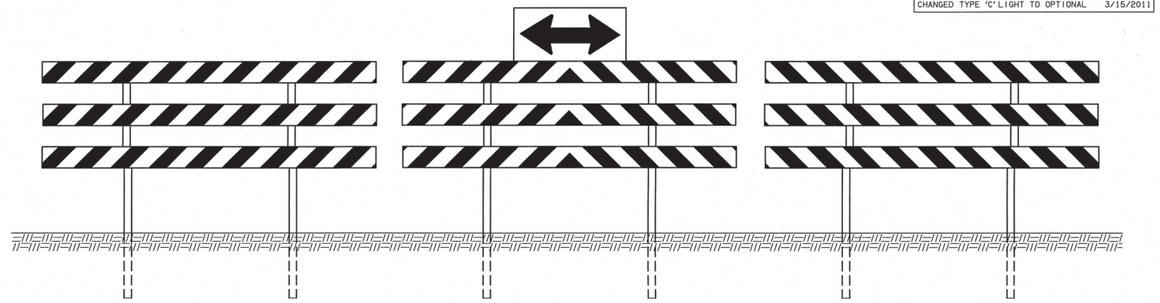
T-503

$$date$$

REVISIONS	
DESCRIPTION	DATE
CHANGED TYPE 'C' LIGHT TO OPTIONAL	3/15/2011



WHEN ROAD ENDS



FOR T-INTERSECTIONS

PERMANENT TYPE III(A/B) BARRICADE

(DIMENSIONS ARE TYPICAL FOR BOTH BARRICADES)

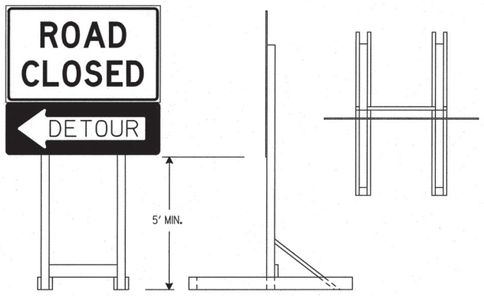
NOTES: A PERMANENT BARRICADE TYPE III(A) SHALL CONSIST OF NINE (9) PANELS AND SIX (6) POSTS.

TYPICAL INSTALLATION AS SHOWN IS FOR AN ABSOLUTE CLOSURE.

BARRICADES SHOULD NOT BE PLACED PARALLEL TO TRAFFIC IF NOT OUTSIDE OF CLEAR ZONE.

PERMANENT BARRICADE TYPE III(B) WILL BE IDENTICAL TO TYPE III(A) WITH NINE (9) ADDITIONAL REFLECTORIZED 3/4"x12" LUMBER PANELS ATTACHED TO THE BACK SIDE OF THE BARRICADE.

COLOR: BACKGROUND – WHITE (REFLECTORIZED)
DIAGONAL STRIPES – RED (REFLECTORIZED)



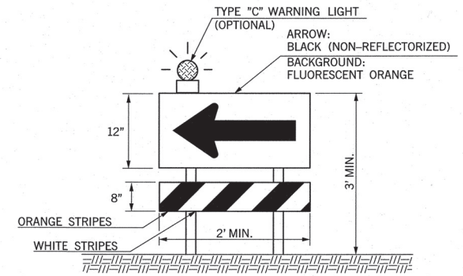
Skid-Mounted
Sign Support
with plywood sign

LONG/INTERMEDIATE TERM STATIONARY PORTABLE SIGN SUPPORTS

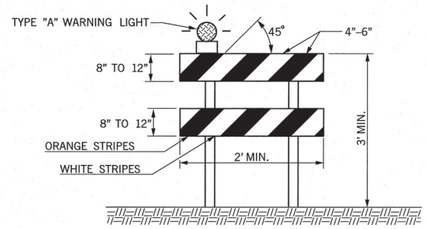
5 Foot Mounting Height

(SKID MOUNTED)

(SHALL BE PLACED BEHIND TYPE III BARRICADE)



DIRECTION INDICATOR BARRICADE



TYPE II BARRICADE

NOTES: FOR WOODEN BARRICADES NOMINAL LUMBER DIMENSIONS WILL BE SATISFACTORY.

FOR RAILS LESS THAN 3 FEET LONG, 4 INCH WIDE STRIPES SHALL BE USED.

TYPE III BARRICADES SHALL BE CONSTRUCTED USING A MINIMUM OF TWO (2) POSTS.

FOR WOODEN BARRICADES, PANEL THICKNESS SHALL NOT EXCEED ONE-HALF INCH (1/2").

BARRICADES SHOULD NOT BE PLACED PARALLEL TO TRAFFIC IF NOT OUTSIDE OF CLEAR ZONE.

PROJECTS WITH WORK LIMITS OF 2.0 MILES OR MORE IN LENGTH WILL REQUIRE THE G20-1A SIGN. THE SIGN (G20-1A) WILL BE REQUIRED ON ONE SIDE OF A 2-LANE ROADWAY AND BOTH SIDES OF A DIVIDED HIGHWAY.

ALL BARRICADE STRIPES SHALL BE RETROREFLECTIVE.

COLOR: BACKGROUND – WHITE (REFLECTORIZED)
DIAGONAL STRIPES – FLUORESCENT ORANGE (REFLECTORIZED)

IF BARRICADES ARE USED TO CHANNELIZE PEDESTRIANS, THERE SHALL BE CONTINUOUS DETECTABLE BOTTOM AND TOP RAILS WITH NO GAPS BETWEEN INDIVIDUAL BARRICADES TO BE DETECTABLE TO USERS OF LONG CANES. THE BOTTOM OF THE BOTTOM RAIL SHALL BE NO HIGHER THAN 6 INCHES ABOVE THE GROUND SURFACE. THE TOP OF THE TOP RAIL SHALL BE NO LOWER THAN 36 INCHES ABOVE THE GROUND SURFACE.

SIGNS MOUNTED ON TYPE III BARRICADES SHOULD NOT COVER MORE THAN 50 PERCENT OF THE TOP TWO RAILS OR 33 PERCENT OF THE TOTAL AREA OF THE THREE RAILS

SIGNS MOUNTED ON BARRICADES, OR OTHER PORTABLE SUPPORTS, SHALL BE NO LESS THAN 1' ABOVE THE TRAVELED WAY.

SANDBAGS MAY BE PLACED ON LOWER PARTS OF THE FRAME OR THE STAYS OF BARRICADES TO PROVIDE THE REQUIRED BALLAST.

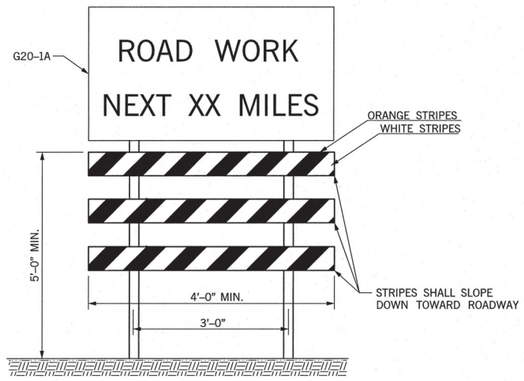
BALLAST SHALL NOT BE PLACED ON TOP OF ANY STRIPED RAIL. BARRICADES SHALL NOT BE BALLASTED BY NONDEFORMABLE OBJECTS SUCH AS ROCKS OR CHUNKS OF CONCRETE. BALLAST SHALL NOT EXTEND INTO THE ACCESSIBLE PASSAGE WIDTH OF 60".

DIRECTION INDICATOR BARRICADE SHALL CONSIST OF A ONE-DIRECTION LARGE ARROW (W1-6) SIGN MOUNTED ABOVE A DIAGONAL STRIPED, HORIZONTALLY ALIGNED, RETRO-REFLECTIVE RAIL.

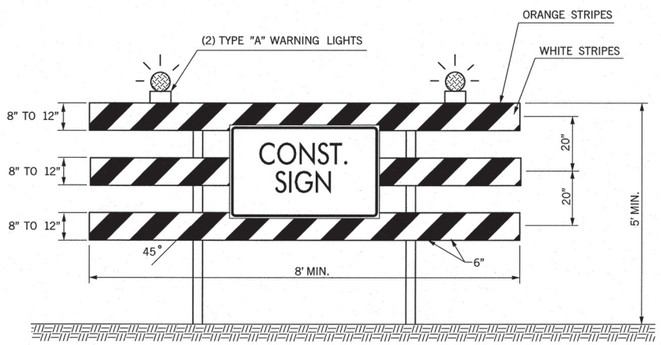
WHERE BARRICADES EXTEND ENTIRELY ACROSS A ROADWAY, THE STRIPES SHOULD SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH ROAD USERS MUST TURN.

WHERE BOTH RIGHT AND LEFT TURNS ARE PROVIDED, THE BARRICADE STRIPES SHOULD SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE OR BARRICADES.

WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD BE POSITIONED TO SLOPE DOWNWARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES.



WING BARRICADE



TYPE III BARRICADE

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD
880(C)	CONSTRUCTION BARRICADES	SD
880(E)	WARNING LIGHTS	SD

APPROVED BY
TRAFFIC ENGINEER: _____ DATE: 3/21/11

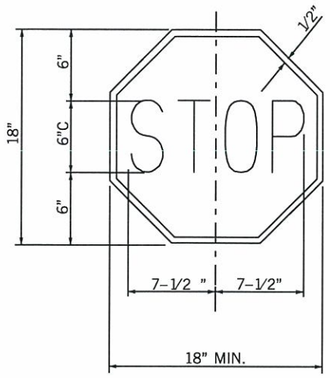
TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
TRAFFIC CONTROL DEVICES

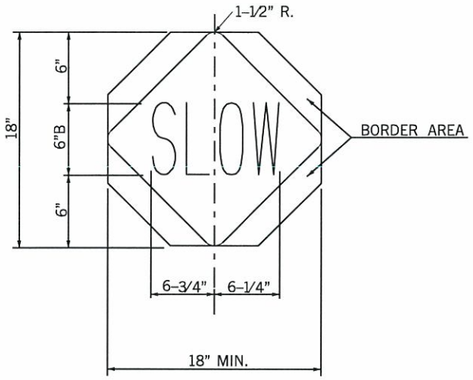
2009 SPECIFICATIONS

TCS4-1 | 01

$$date$$



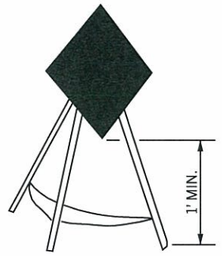
STOP:
LEGEND AND BORDER: WHITE (REFLECTORIZED)
BACKGROUND: RED (REFLECTORIZED)

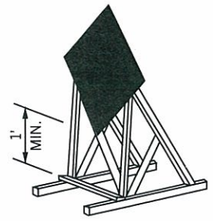


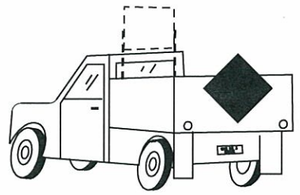
SLOW:
LEGEND AND BORDER AREA: BLACK (NON-REFLECTORIZED)
BACKGROUND: ORANGE (REFLECTORIZED)

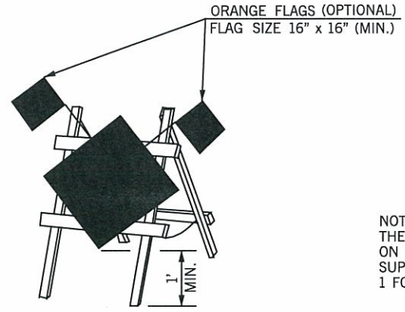
STOP–SLOW PADDLE

DESCRIPTION	REVISIONS	DATE



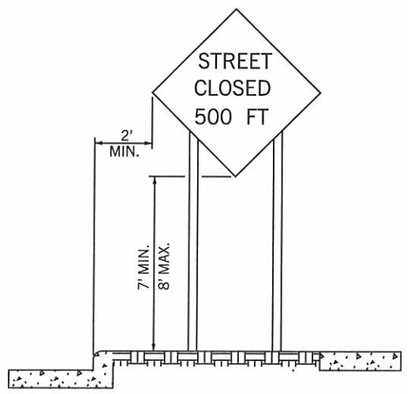




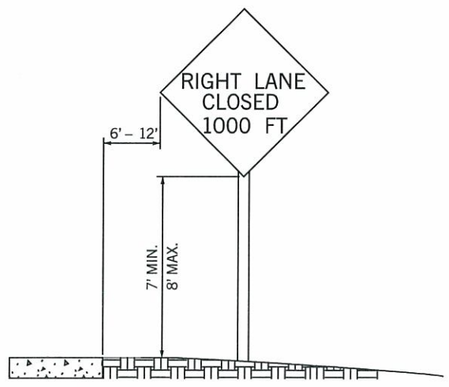


NOTE:
THE BOTTOM OF SIGNS MOUNTED ON BARRICADES OR TEMPORARY SUPPORTS SHALL NOT BE LESS THAN 1 FOOT ABOVE THE TRAVELED WAY.

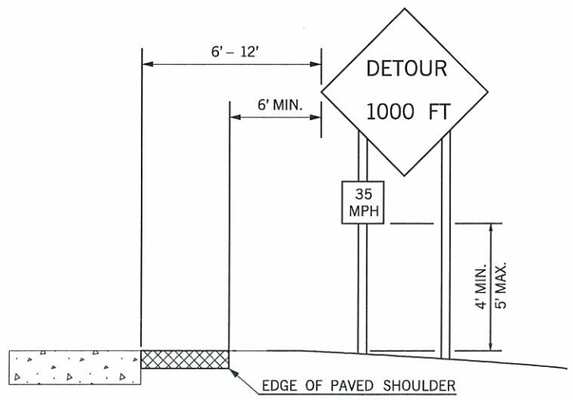
PORTABLE AND TEMPORARY MOUNTINGS
METHODS OF MOUNTING SIGNS OTHER THAN ON POSTS



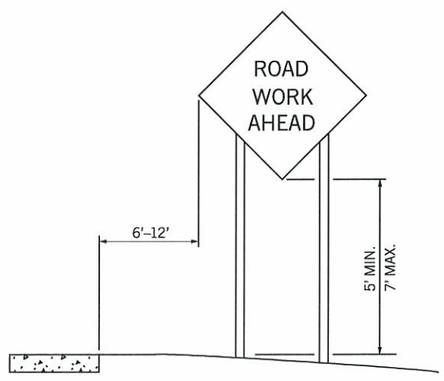
URBAN DISTRICT
(WITH CURB)



URBAN DISTRICT
(WITHOUT CURB)



RURAL DISTRICT WITH
ADVISORY SPEED PLATE



RURAL DISTRICT

HEIGHT AND LATERAL LOCATIONS OF SIGNS – TYPICAL INSTALLATIONS

APPROVED BY TRAFFIC ENGINEER: Harold Smith DATE: 6/23/10
TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
TYPICAL SIGN INSTALLATION

2009 SPECIFICATIONS

TCS5–1	00
T–505	

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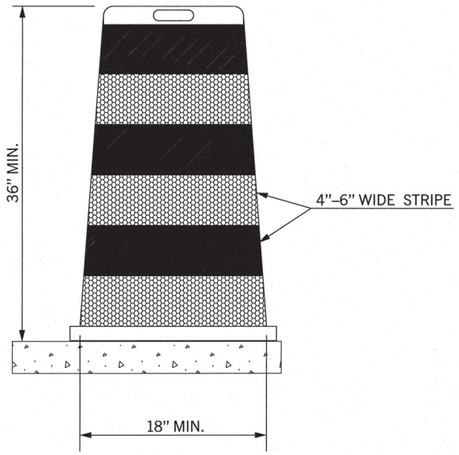
REVISIONS	
DESCRIPTION	DATE
ADD NOTE TO VERTICAL PANEL	07/19/10
CHANGED TYPE 'C' LIGHT TO OPTIONAL	3/15/2011



DRUM

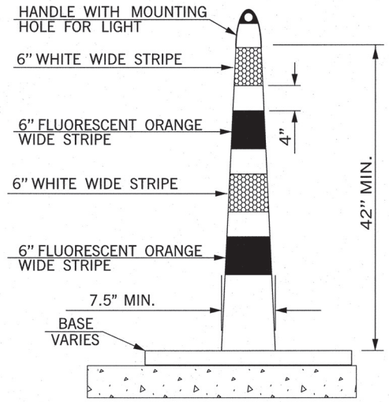
NOTES:

METAL DRUMS SHALL NOT BE USED.

EACH DRUM SHALL HAVE A MINIMUM OF TWO (2) FLUORESCENT ORANGE STRIPES ALTERNATING WITH A MINIMUM OF TWO (2) WHITE STRIPES. THESE STRIPES SHALL CONSIST OF RETROREFLECTIVE SHEETING.

BALLAST SHALL NOT BE PLACED ON TOP OF A DRUM.

DRUMS SHALL NOT BE USED TO DELINEATE AN EDGE DROP OFF IF THEY MUST BE PLACED IN THE DROP OFF AREA BELOW THE LEVEL OF THE DRIVING SURFACE.



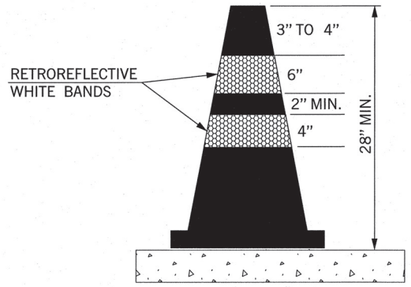
CHANNELIZER CONE

NOTES:

CHANNELIZER CONES USED ON HIGH SPEED ROADWAYS, ON ALL HIGHWAYS DURING NIGHTTIME, OR WHENEVER MORE CONSPICUOUS GUIDANCE IS NEEDED SHALL BE A MINIMUM OF 42 INCHES HIGH.

EACH CHANNELIZERS CONES SHALL HAVE A MINIMUM OF TWO (2) FLUORESCENT ORANGE STRIPES ALTERNATING WITH A MINIMUM OF TWO (2) WHITE STRIPES. THESE STRIPES SHALL CONSIST OF RETROREFLECTIVE SHEETING.

BASE SHALL WEIGH 30 LBS. OR MORE.

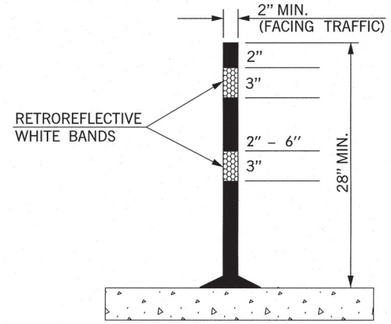


CONE

NOTES:

CONES USED ON HIGH SPEED ROADWAYS, ON ALL HIGHWAYS DURING NIGHTTIME, OR WHENEVER MORE CONSPICUOUS GUIDANCE IS NEEDED SHALL BE A MINIMUM OF 28 INCHES HIGH.

CONES SHALL BE PREDOMINANTLY ORANGE, WITH WHITE RETROREFLECTIVE SHEETING.

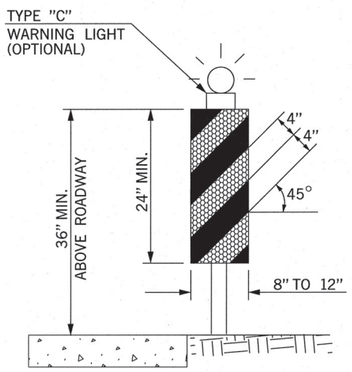


TUBE CHANNELIZER

NOTES:

TUBE CHANNELIZERS USED ON HIGH SPEED ROADWAYS, ON ALL HIGHWAYS DURING NIGHTTIME, OR WHENEVER MORE CONSPICUOUS GUIDANCE IS NEEDED SHALL BE A MINIMUM OF 28 INCHES HIGH.

TUBE CHANNELIZERS SHALL BE PREDOMINANTLY ORANGE, WITH WHITE RETROREFLECTIVE SHEETING.



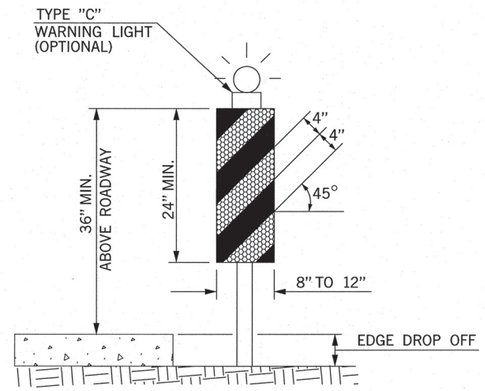
VERTICAL PANEL W/NO DROP OFF

NOTES:

PANEL STRIPE WIDTHS SHALL BE 6 INCHES EXCEPT WHERE PANELS LENGTHS ARE LESS THAN 36 INCHES, THEN 4 INCH WIDE STRIPES MAY BE USED.

MARKINGS FOR VERTICAL PANELS SHALL BE ALTERNATING FLUORESCENT ORANGE AND WHITE RETROEFLECTORIZED STRIPES (SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS).

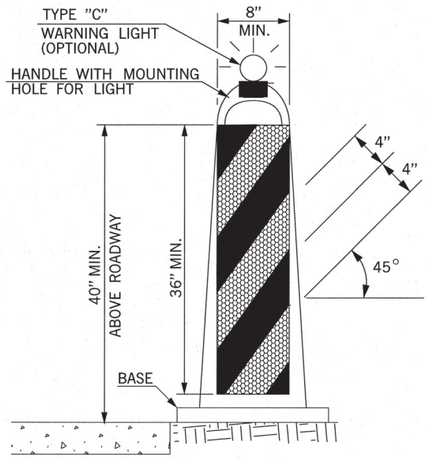
SHALL HAVE A MINIMUM OF TWO (2) FULL FLUORESCENT ORANGE STRIPES.



VERTICAL PANEL W/DROP OFF

ON UNDIVIDED HIGHWAYS, VERTICAL PANELS SHALL HAVE A MINIMUM OF 192 SQUARE INCHES OF RETROREFLECTIVE SHEETING ON EACH PANEL (FRONT AND BACK). WHEN USED ON HIGH SPEED ROADWAYS, VERTICAL PANELS SHALL HAVE MINIMUM OF 270 SQUARE INCHES OF RETROREFLECTIVE SHEETING ON EACH PANEL (FRONT AND BACK). THIS SHALL CONSTITUTE ONE (1) COMPLETE VERTICAL PANEL.

ON DIVIDED HIGHWAYS A VERTICAL PANEL MAY HAVE SHEETING ON ONLY ONE SIDE.



STACKABLE VERTICAL PANEL

NOTES:

(1) VERTICAL PANEL SIGNS SHALL BE MOUNTED BACK TO BACK WHEN USED FOR TWO–WAY TRAFFIC.

(2) BASE SHALL BE NO LARGER THAN 28" LONG BY 20" WIDE, AND 2" THICK.

(3) BASE SHALL WEIGHT 30 LBS. OR MORE.

(4) THESE DEVICES SHALL BE CONSTRUCTED OF A MATERIAL THAT CAN BE STRUCK WITHOUT DAMAGING VEHICLES ON IMPACT.

KEY:

FLUORESCENT ORANGE (REFLECTORIZED)

WHITE (REFLECTORIZED)

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(D)	VERTICAL PANEL	SD
880(E)	WARNING LIGHTS	SD
880(F)	DRUMS	SD
880(G)	TUBE CHANNELIZERS	SD
880(H)	CONES	SD
880(G)	CHANNELIZER CONES	SD

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 3/21/11

TRAFFIC STANDARD

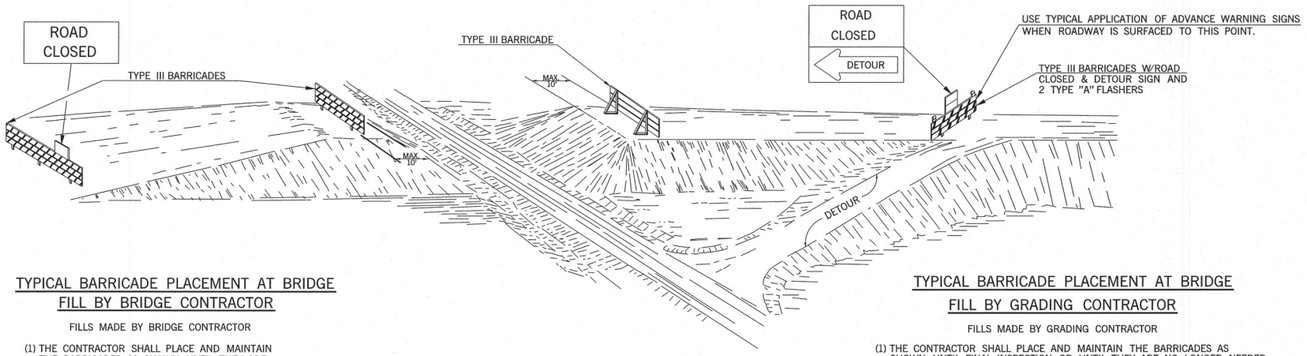
TRAFFIC CONTROL STANDARD
CHANNELIZING DEVICES

2009 SPECIFICATIONS

TCS6–1	02

$$date$$

REVISIONS	
DESCRIPTION	DATE
MODIFIED NOTE	3/15/2011
ADD "NO CELL PHONE" USAGE IN WORK ZONE, DISTANCE SIGN TO WARNING SIGNS	4/2/2013



TYPICAL BARRICADE PLACEMENT AT BRIDGE FILL BY BRIDGE CONTRACTOR

FILLS MADE BY BRIDGE CONTRACTOR

(1) THE CONTRACTOR SHALL PLACE AND MAINTAIN THE BARRICADES AS SHOWN UNTIL THEY ARE NO LONGER NEEDED.

(2) THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO REMOVAL OF THE BARRICADES.

(3) THE ENGINEER SHALL NOTIFY THE GRADING CONTRACTOR TO FURNISH AND ERECT HIS BARRICADES "IMMEDIATELY" AFTER THE BRIDGE CONTRACTOR REMOVES HIS BARRICADES. THE GRADING CONTRACTOR SHALL MAINTAIN HIS BARRICADES UNTIL FINAL INSPECTION OR UNTIL THEY ARE NO LONGER NEEDED.

(4) BARRICADES AT BRIDGE FILL SHALL BE IN PLACE AND MAINTAINED AT ALL TIMES UNTIL OPENED TO TRAFFIC, HOWEVER, BARRICADES MAY BE REMOVED OR ADJUSTED, AS NEEDED, TO ALLOW ACCESS TO THE WORK AREA.

TYPICAL BARRICADE PLACEMENT AT BRIDGE FILL BY GRADING CONTRACTOR

FILLS MADE BY GRADING CONTRACTOR

(1) THE CONTRACTOR SHALL PLACE AND MAINTAIN THE BARRICADES AS SHOWN UNTIL FINAL INSPECTION OR UNTIL THEY ARE NO LONGER NEEDED.

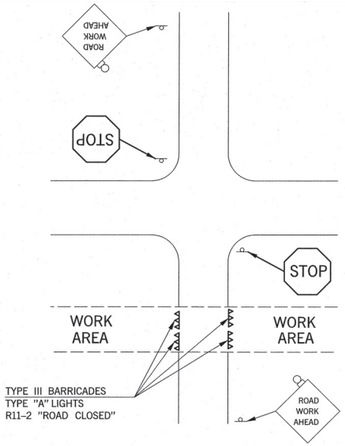
(2) THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO REMOVAL OF THE BARRICADES.

(3) IF THE BRIDGE WORK ORDER IS ISSUED PRIOR TO COMPLETION OF THE GRADING CONTRACT, THE BRIDGE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE GRADING CONTRACTOR TO ASSUME RESPONSIBILITY FOR PROTECTION OF THE BRIDGE WORK AREA. THIS WILL INCLUDE FURNISHING, INSTALLING, AND MAINTAINING ALL BARRICADES AND SIGNS NECESSARY TO PROVIDE THAT PROTECTION UNTIL THE BRIDGE IS COMPLETED AND THE FINAL INSPECTION IS COMPLETED.

(4) IF THE BRIDGE WORK ORDER HAS NOT BEEN ISSUED PRIOR TO THE FINAL INSPECTION OF THE GRADING, THEN THE GRADING CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OKLAHOMA DEPARTMENT OF TRANSPORTATION FOR STATE FORCES TO SUPPLY, INSTALL AND MAINTAIN ANY NECESSARY TRAFFIC CONTROL DEVICES NEEDED TO PROTECT THE WORK AREA. THESE STATE OWNED DEVICES SHALL REMAIN IN PLACE UNTIL SUCH TIME THAT THE BRIDGE WORK ORDER IS ISSUED. AT THAT TIME THE BRIDGE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR TRAFFIC CONTROL AND REPLACE THE STATE OWNED DEVICES WITH HIS OWN.

(5) SUFFICENT NUMBER OF TYPE II BARRICADES WITH SIGNS SHALL BE USED TO COMPLETELY CLOSE THE WORK AREA TO THROUGH TRAFFIC.

(6) BARRICADES AT BRIDGE FILL SHALL BE IN PLACE AND MAINTAINED AT ALL TIMES UNTIL OPENED TO TRAFFIC, HOWEVER, BARRICADES MAY BE REMOVED OR ADJUSTED, AS NEEDED, TO ALLOW ACCESS TO THE WORK AREA.



TYPICAL SIGN PLACEMENT FOR INTERSECTING ROADS AND STREETS

NOTES:

(1) SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.

(2) FLASHING WARNING LIGHTS SHALL BE USED TO CALL ATTENTION TO THE EARLY WARNING SIGNS.

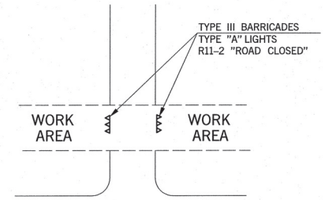
(3) WARNING LIGHTS SHOULD BE USED TO MARK CHANNELIZING DEVICES AT NIGHT AS NEEDED.

(4) PLACEMENT OF TYPE III BARRICADES SHALL BE APPROVED BY THE ENGINEER.

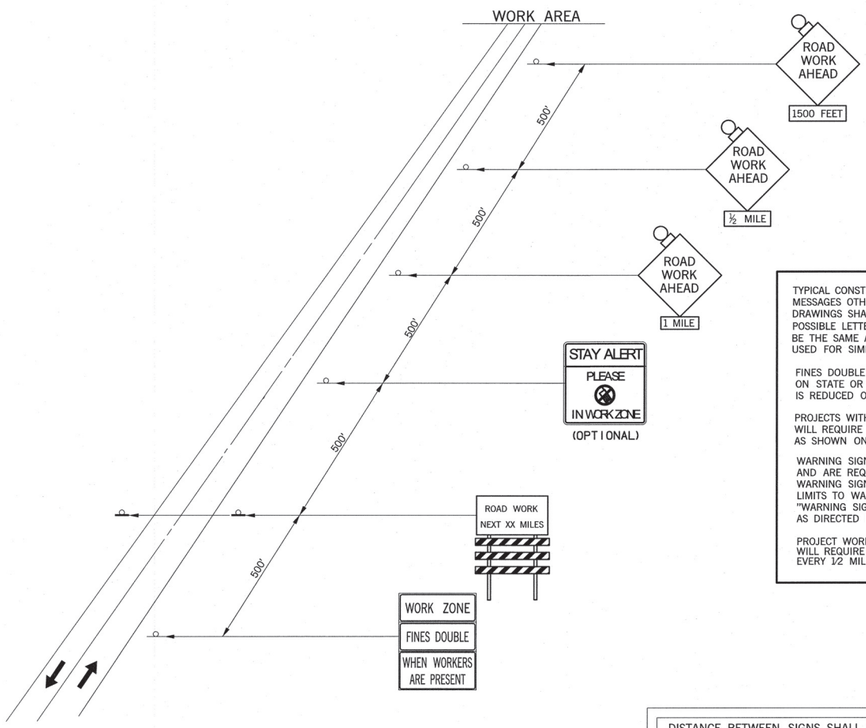
(5) TYPE II BARRICADES, DRUMS AND/OR VERTICAL PANELS MAY BE SUBSTITUTED FOR TYPE III BARRICADES TO AVOID OBSTRUCTING THE MOTORISTS VIEW.

(6) IF TWO OR MORE DRIVEWAYS ARE IN CLOSE PROXIMITY, THE BARRICADES BETWEEN THE DRIVEWAYS MAY BE OMITTED AT THE DISCRETION OF THE ENGINEER.

(7) THE "ROAD WORK AHEAD" SIGN, WHICH SERVES AS A GENERAL WARNING OF OBSTRUCTIONS OR RESTRICTIONS, SHALL BE LOCATED ON ALL INTERSECTING ROADS AND STREETS.



TYPICAL SIGN PLACEMENT FOR PRIVATE DRIVE OR RESIDENCE



TYPICAL APPLICATION ADVANCE WARNING SIGNS ON 2-LANE HIGHWAY

TYPICAL CONSTRUCTION WARNING SIGNS WITH MESSAGES OTHER THAN DETAILED ON STANDARD DRAWINGS SHALL BE CONSTRUCTED USING THE LARGEST POSSIBLE LETTER SIZE. SIGN SIZE AND COLOR SHALL BE THE SAME AS OTHER CONSTRUCTION WARNING SIGNS USED FOR SIMILAR CONDITIONS.

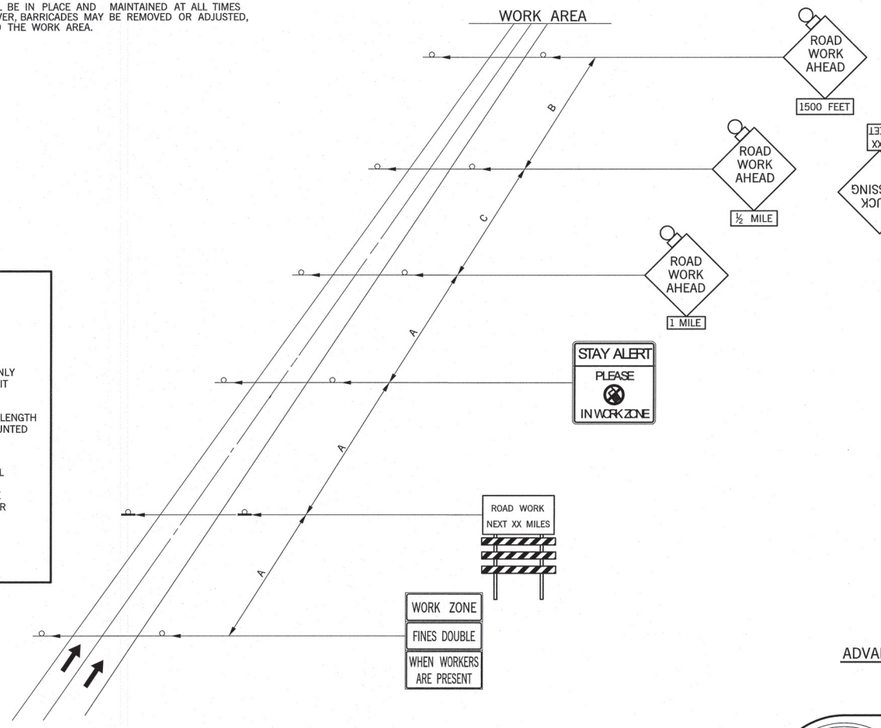
FINES DOUBLE IN WORK ZONE SIGNS ARE TO BE USED ONLY ON STATE OR FEDERAL HIGHWAYS WHERE THE SPEED LIMIT IS REDUCED OR AS DIRECTED BY THE ENGINEER.

PROJECTS WITH WORK LIMITS OF 1.0 MILES OR MORE IN LENGTH WILL REQUIRE THE G20-1A SIGN. THE SIGN SHALL BE MOUNTED AS SHOWN ON TCS4-1-(LATEST REVISION).

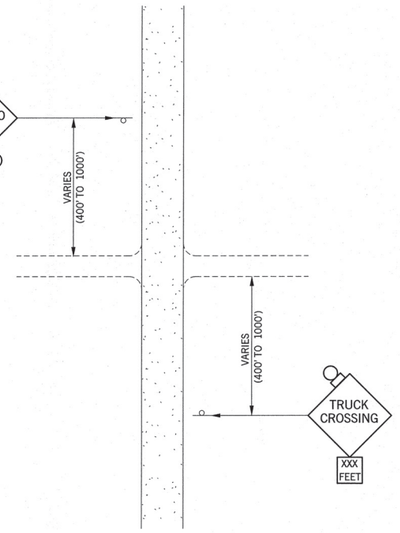
WARNING SIGNS SHOWN ARE "ADVANCE" WARNING SIGNS AND ARE REQUIRED ON ALL STATE HIGHWAYS. ADDITIONAL WARNING SIGNS MAY BE REQUIRED WITHIN THE PROJECT LIMITS TO WARN DRIVERS OF SPECIFIC HAZARDS. ADVANCE "WARNING SIGNS" MAY CHANGE AS CONDITIONS CHANGE OR AS DIRECTED BY THE ENGINEER.

PROJECT WORK OF 1.0 MILE OR MORE IN LENGTH WILL REQUIRE SIGNS CS-14 AND R2-1 TO BE PLACED EVERY 1/2 MILE THROUGH WORK ZONE.

DISTANCE BETWEEN SIGNS SHALL BE A (MIN.)			
ROAD TYPE	A (FT)	B (FT)	C (FT)
URBAN (LOW SPEED)	100	100	100
URBAN (HIGH SPEED)	350	350	350
RURAL	500	500	500
EXPRESSWAY /FREEWAY	1,000	1,500	2,640



TYPICAL APPLICATION ADVANCE WARNING SIGNS ON A DIVIDED HIGHWAY



TYPICAL APPLICATION ADVANCE SIGNING WHERE TRUCKS ARE CROSSING

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 4/8/2013

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD PLACEMENT OF ADVANCE WARNING SIGNS

2009 SPECIFICATIONS

TCS7-1	02
	T-507

$$date$$

STOP

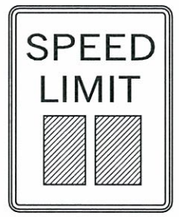
R1-1	30 x 30	5.18 SF
R1-1E	36 x 36	7.46 SF
R1-1F	48 x 48	13.26 SF

COLOR:
LEGEND AND BORDER:
WHITE (REFLECTORIZED)
BACKGROUND:
RED (TRANSPARENT REFLECTORIZED)

YIELD

R1-2	36 x 36 x 36	3.90 SF
R1-2E	48 x 48 x 48	6.93 SF
R1-2F	60 x 60 x 60	10.83 SF

COLOR:
LEGEND AND BORDER:
RED (TRANSPARENT REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



SPEED LIMIT

R2-1( ) (SPEED)	24 x 30	5.00 SF
R2-1E( )	36 x 48	12.00 SF
R2-1F( )	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

NO RIGHT TURN

R3-1	24 x 24	4.00 SF
R3-1E	36 x 36	9.00 SF
R3-1F	48 x 48	16.00 SF

COLOR:
ARROW AND BORDER:
BLACK (NON-REFLECTORIZED)
CIRCLE AND DIAGONAL:
RED (TRANSPARENT REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

NO LEFT TURN

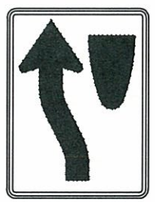
R3-2	24 x 24	4.00 SF
R3-2E	36 x 36	9.00 SF
R3-2F	48 x 48	16.00 SF

COLOR:
ARROW AND BORDER:
BLACK (NON-REFLECTORIZED)
CIRCLE AND DIAGONAL:
RED (TRANSPARENT REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

KEEP RIGHT SIGN

R4-7	24 x 30	5.00 SF
R4-7E	36 x 48	12.00 SF
R4-7F	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



KEEP LEFT SIGN

R4-8	24 x 30	5.00 SF
R4-8E	36 x 48	12.00 SF
R4-8F	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

KEEP RIGHT

R4-7a(R)	24 x 30	5.00 SF
R4-7a(R)E	36 x 48	12.00 SF
R4-7a(R)F	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

KEEP LEFT

R4-7a(L)	24 x 30	5.00 SF
R4-7a(L)E	36 x 48	12.00 SF
R4-7a(L)F	48 x 60	20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

DO NOT ENTER

R5-1	30 x 30	6.25 SF
R5-1E	36 x 36	9.00 SF
R5-1F	48 x 48	16.00 SF

COLOR:
SYMBOL: :
RED (TRANSPARENT REFLECTORIZED)
LEGEND AND BACKGROUND: :
WHITE (REFLECTORIZED)

ONE WAY

R6-1(L)	36 x 12	3.00 SF
R6-1E(L)	54 x 18	6.75 SF
R6-1F(L)	54 x 18	6.75 SF

COLOR:
ARROW AND BORDER:
WHITE (NON-REFLECTORIZED)
LEGEND AND BACKGROUND:
BLACK (REFLECTORIZED)

ONE WAY

R6-1(R)	36 x 12	3.00 SF
R6-1E(R)	54 x 18	6.75 SF
R6-1F(R)	54 x 18	6.75 SF

COLOR:
ARROW AND BORDER:
WHITE (NON-REFLECTORIZED)
LEGEND AND BACKGROUND:
BLACK (REFLECTORIZED)

STOP HERE ON RED

R10-6	24 x 36	6.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

NOTES:
WORD SIGNS MAY BE USED IF SYMBOL SIGNS ARE NOT AVAILABLE EITHER IN "STANDARD HIGHWAY SIGNS MANUAL" OR IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (CURRENT EDITION).

REVISIONS		
DESCRIPTION		DATE

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER Arnold Umach DATE 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS8-1	00
T-508	

TRFPC36 M:\2009 Standards TC\t508.dgn 8:18:06 AM 6/2/2010 d:\usr2\flib\leroyh.pen R:\TRAF PLOT\bw.tbl

DESCRIPTION	REVISIONS	DATE
CHANGED SIGN DESIGNATION		3/15/2011

ROAD CLOSED

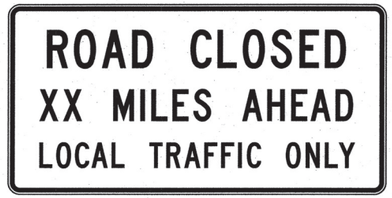
R11-2 48 x 30 10.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

LANE CLOSED

R11-2(LANE) 48 x 30 10.00 SF

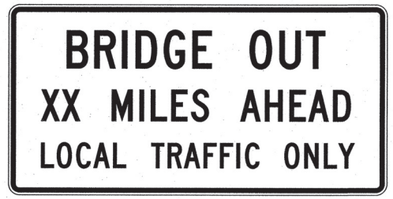
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



ROAD CLOSED XX MILES AHEAD

R11-3a 60 x 30 12.50 SF

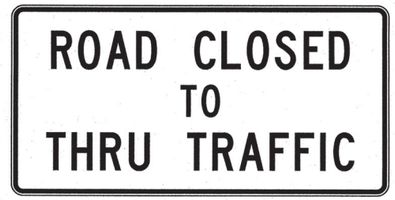
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



BRIDGE OUT XX MILES AHEAD

R11-3b 60 x 30 12.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



ROAD CLOSED TO THRU TRAFFIC

R11-4 60 x 30 12.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

DETOUR SIGN

M4-8 24 x 12 2.00 SF
M4-8E 30 x 15 3.13 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(R) 30 x 24 5.00 SF
M4-9(R)E 48 x 36 12.00 SF
M4-9(R)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(L) 30 x 24 5.00 SF
M4-9(L)E 48 x 36 12.00 SF
M4-9(L)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(V) 30 x 24 5.00 SF
M4-9(V)E 48 x 36 12.00 SF
M4-9(V)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

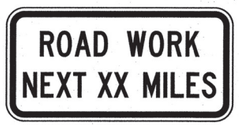
M4-10(R) 48 x 18 6.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-10(L) 48 x 18 6.00 SF

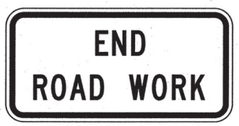
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



ROAD WORK NEXT XX MILES SIGN

G20-1A 36 x 18 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



END ROAD WORK SIGN

G20-2A 36 x 18 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

PILOT CAR FOLLOW ME SIGN

G20-4 36 x 18 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

NOTES:
WORD SIGNS MAY BE USED IF SYMBOL SIGNS ARE NOT AVAILABLE EITHER IN "STANDARD HIGHWAY SIGNS MANUAL" OR IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (CURRENT EDITION).

ALL DIAMOND SHAPE CONSTRUCTION WARNING SIGNS SHALL BE 48 INCHES X 48 INCHES UNLESS OTHERWISE NOTED IN THE PLANS.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: David Streb DATE: 3/21/11

TRAFFIC STANDARD

TRAFFIC CONTROL STANARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS9-1	01

$$date$$

TURN LEFT

W1-1(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

TURN RIGHT

W1-1(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

CURVE LEFT

W1-2(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

CURVE RIGHT

W1-2(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE TURN

W1-3(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE TURN

W1-3(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE CURVE

W1-4(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE CURVE

W1-4(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE CURVE

W1-4B(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE CURVE

W1-4B(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE CURVE

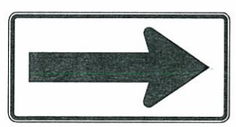
W1-4C(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE CURVE

W1-4C(R) 48 x 48 16.00 SF

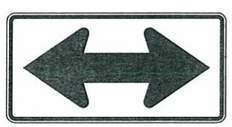
COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



ARROW

W1-6 48 x 24 8.00 SF
W1-6E 60 x 30 12.50 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



DOUBLE ARROW

W1-7 48 x 24 8.00 SF
W1-7E 60 x 30 12.50 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

REVISIONS		
DESCRIPTION		DATE

NOTES:
WORD SIGNS MAY BE USED IF SYMBOL SIGNS ARE NOT AVAILABLE EITHER IN "STANDARD HIGHWAY SIGNS MANUAL" OR IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (CURRENT EDITION).

ALL DIAMOND SHAPE CONSTRUCTION WARNING SIGNS SHALLBE 48 INCHES X 48 INCHES UNLESS OTHERWISE NOTED IN THE PLANS.

* SUPPLEMENTAL SIGNS SHALL ONLY BE USED IN CONJUCTION WITH DIAMOND SHAPE CONSTRUCTION WARNING SIGNS . THE SIZE OF SUPPLEMENTAL SIGNS SHALL BE APPROPRIATE FOR USE WITH A 48 INCH x 48 INCH WARNING SIGN UNLESS OTHERWISE NOTED IN THE PLANS.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: Arnold Smarr DATE: 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS10-1 00
T-510

TRFPC36 M:\2009 Standards TC\t510.dgn 8:18:46 AM 6/2/2010 d:\usr2\flib\leroyh.pen R:\TRAF PLOT\bw.tbl

CHEVRON

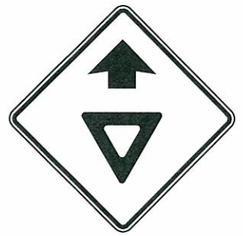
W1-8	18 x 24	3.00 SF
W1-8E	30 x 36	7.50 SF
W1-8F	36 x 48	12.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

STOP AHEAD

W3-1 48 x 48 16.00 SF

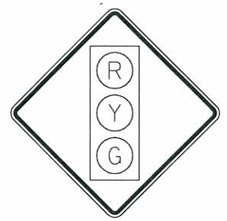
COLOR:
BORDER AND ARROW:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
SYMBOL:
WHITE BORDER ON RED BACKGROUND
(REFLECTORIZED)



YIELD AHEAD

W3-2 48 x 48 16.00 SF

COLOR:
BORDER AND ARROW:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
SYMBOL:
WHITE BORDER ON RED BACKGROUND
(REFLECTORIZED)



SIGNAL AHEAD

W3-3 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
R = RED (REFLECTORIZED)
Y = YELLOW (REFLECTORIZED)
G = GREEN (REFLECTORIZED)

BE PREPARED TO STOP SIGN

W3-4 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SPEED REDUCTION

W3-5 48 x 48 16.00 SF

COLOR:
BORDER AND ARROW:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
SYMBOL:
BLACK BORDER AND TEXT ON
WHITE BACKGROUND (REFLECTORIZED)

LEFT LANE ENDS

W4-2(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

RIGHT LANE ENDS

W4-2(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROAD NARROWS

W5-1 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

NARROW BRIDGE

W5-2 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ONE LANE BRIDGE

W5-3 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DIVIDED HIGHWAY

W6-1 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DIVIDED HIGHWAY

W6-2 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

TWO WAY TRAFFIC SIGN

W6-3 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

REVISIONS	
DESCRIPTION	DATE
CHANGE DESIGN NUMBER	07/19/10

NOTES:
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BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 3/6/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS11-1 01

T-511

TRFPC36 U:\Traffic\TRAFFIC_STD_CURRENT\2009\DRAWINGS\TCS11-1-01 t511.dgn 10:38:39 AM 7/19/2010 R:\TRAF PLOT\leroyh.pen R:\TRAF PLOT\bw.tbl

REVISIONS		
DESCRIPTION		DATE

HILL SIGN

W7-1 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

HILL SIGN

W7-1b 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

HILL SIGN *

W7-1S 24 x 18 3.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

BUMP SIGN

W8-1 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DIP SIGN

W8-2 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

PAVEMENT ENDS SIGN

W8-3 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SOFT SHOULDER SIGN

W8-4 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SLIPPERY WHEN WET SIGN

W8-5 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SLIPPERY WHEN WET *

W8-5S 24 x 18 3.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

TRUCK CROSSING

W8-6 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LOOSE GRAVEL SIGN

W8-7 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROUGH ROAD SIGN

W8-8 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

NOTES:
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BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: Harold Smith DATE: 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS12-1 00
T-512

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LOW SHOULDER SIGN

W8-9 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

UNEVEN LANES SIGN

W8-11 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

NO CENTER LINE SIGN

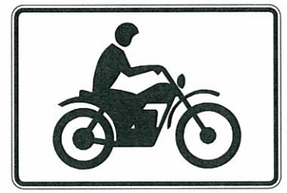
W8-12 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

GROOVED PAVEMENT SIGN

W8-15 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)



MOTORCYCLE (PLAQUE) *

W8-15P 18 x 36 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SHOULDER DROP-OFF (SYMBOL)

W8-17 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SHOULDER DROP-OFF (PLAQUE) *

W8-17P 18 x 36 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LANE ENDS MERGE LEFT SIGN

W9-2(L) 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LANE ENDS MERGE RIGHT SIGN

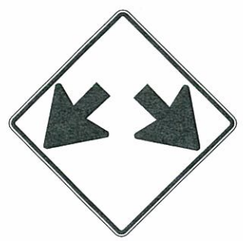
W9-2(R) 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

TRUCK CROSSING SIGN

W11-10 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)



DOUBLE ARROW SIGN

W12-1 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

CLEARANCE SIGN

W12-2 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ADVISORY SPEED SIGN *

W13-1P 18 x 18 2.25 SF
W13-1PE 24 x 24 4.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

XX FEET SIGN *

W16-2P 24 x 18 3.00 SF
W16-2PE 30 x 24 5.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

REVISIONS		
DESCRIPTION		DATE

NOTES:
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BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER Chad Smith DATE 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS13-1 00
T-513

TRFPC36 M:\2009 Standards TC\t513.dgn 8:19:50 AM 6/2/2010 d:\usr2\fitb\leroyh.pen R:\TRAF PLOT\bw.tbl

REVISIONS	
DESCRIPTION	DATE

ROAD WORK SIGN

W20-1 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DETOUR SIGN

W20-2 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROAD CLOSED SIGN

W20-3 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

STREET CLOSED SIGN

W20-3A 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ONE LANE ROAD SIGN

W20-4 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LEFT LANE CLOSED SIGN

W20-5(L) 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

RIGHT LANE CLOSED SIGN

W20-5(R) 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

FLAGGER SIGN

W20-7 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

FLAGGER SIGN

W20-7a 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

WORKERS SIGN

W21-1 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

FRESH OIL SIGN

W21-2 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROAD MACHINERY AHEAD SIGN

W21-3 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

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BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: David G. Smith DATE: 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS14-1	00
	T-514

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SHOULDER WORK SIGN

W21-5 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SURVEY CREW SIGN

W21-6 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

UTILITY WORK AHEAD SIGN

W21-7 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

MOWING AHEAD SIGN

W21-8 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

BRIDGE REPAIR SIGN

W21-9 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

MATERIAL ON SHOULDER SIGN

W21-10 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

MATERIAL ON ROADWAY SIGN

W21-11 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

BLASTING ZONE AHEAD SIGN

W22-1 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

CELL TELEPHONES SIGN

W22-2 36 x 30 7.50 SF
W22-2E 42 x 36 10.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

END BLASTING ZONE SIGN

W22-3 36 x 30 7.50 SF
W22-3E 42 x 36 10.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

REVISIONS		
DESCRIPTION		DATE

NOTES:
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BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER Arvid Grant DATE: 5/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS15-1 00

T-515

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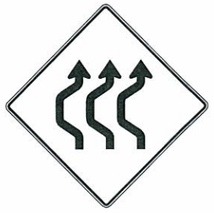
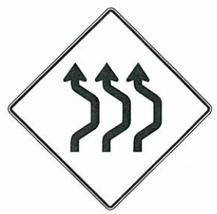
				
DOUBLE REVERSE CURVE (1 LANE) W24-1(L) 48 X 48 16.00 SF COLOR: LEGEND AND BORDER: BLACK (NON-REFLECTORIZED) BACKGROUND: FLUORESCENT ORANGE (REFLECTORIZED)	DOUBLE REVERSE CURVE (1 LANE) W24-1(R) 48 X 48 16.00 SF COLOR: LEGEND AND BORDER: BLACK (NON-REFLECTORIZED) BACKGROUND: FLUORESCENT ORANGE (REFLECTORIZED)	DOUBLE REVERSE CURVE (2 LANE) W24-1a(L) 48 X 48 16.00 SF COLOR: LEGEND AND BORDER: BLACK (NON-REFLECTORIZED) BACKGROUND: FLUORESCENT ORANGE (REFLECTORIZED)	DOUBLE REVERSE CURVE (2 LANE) W24-1a(R) 48 X 48 16.00 SF COLOR: LEGEND AND BORDER: BLACK (NON-REFLECTORIZED) BACKGROUND: FLUORESCENT ORANGE (REFLECTORIZED)	DOUBLE REVERSE CURVE (3 LANE) W24-1b(L) 48 X 48 16.00 SF COLOR: LEGEND AND BORDER: BLACK (NON-REFLECTORIZED) BACKGROUND: FLUORESCENT ORANGE (REFLECTORIZED)
				
DOUBLE REVERSE CURVE (3 LANE) W24-1b(R) 48 X 48 16.00 SF COLOR: LEGEND AND BORDER: BLACK (NON-REFLECTORIZED) BACKGROUND: FLUORESCENT ORANGE (REFLECTORIZED)	ALL LANES* W24-1cP 24 X 24 4.00 SF W24-1cEP 30 X 30 6.25 SF COLOR: LEGEND AND BORDER: BLACK (NON-REFLECTORIZED) BACKGROUND: FLUORESCENT ORANGE (REFLECTORIZED)			

DESCRIPTION	REVISIONS	DATE

NOTES:
WORD SIGNS MAY BE USED IF SYMBOL SIGNS ARE NOT AVAILABLE EITHER IN "STANDARD HIGHWAY SIGNS MANUAL" OR IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (CURRENT EDITION).

ALL DIAMOND SHAPE CONSTRUCTION WARNING SIGNS SHALLBE 48 INCHES X 48 INCHES UNLESS OTHERWISE NOTED IN THE PLANS.

* SUPPLEMENTAL SIGNS SHALL ONLY BE USED IN CONJUCTION WITH DIAMOND SHAPE CONSTRUCTION WARNING SIGNS . THE SIZE OF SUPPLEMENTAL SIGNS SHALL BE APPROPRIATE FOR USE WITH A 48 INCH x 48 INCH WARNING SIGN UNLESS OTHERWISE NOTED IN THE PLANS.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: Harold Smith DATE: 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS16-1	00
T-516	

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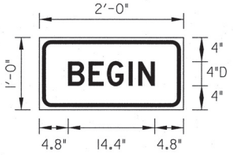
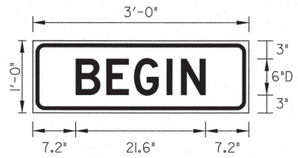
REVISIONS		
DESCRIPTION		DATE
CHANGED DECRIPTIONS		3/15/2011



Dimensions are in inches.tenths

SIGN NUMBER	CS-13
WIDTH x HGHT.	2'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	2.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)									LENGTH	SERIES/SIZE
B	E	G	I	N					D	2000
4.8	8.2	11.3	14.9	16.5				14.4		



Dimensions are in inches.tenths

SIGN NUMBER	CS-13E
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

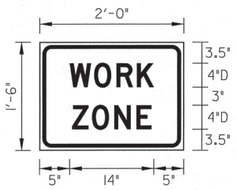
LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
B	E	G	I	N						D	2000
7.2	12.3	16.9	22.3	24.7					21.6		

Dimensions are in inches.tenths

SIGN NUMBER	CS-13F
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
B	E	G	I	N						E	2000
7.1	15.2	22.6	30.9	34.4					33.8		

FLO* = FLUORESCENT ORANGE



Dimensions are in inches.tenths

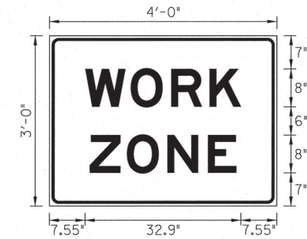
SIGN NUMBER	CS-14
WIDTH x HGHT.	2'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)									LENGTH	SERIES/SIZE
W	O	R	K						D	2000
5	9.1	12.8	16.2					14		
Z	O	N	E						D	2000
5.4	8.7	12.5	16.1					13.2		

Dimensions are in inches.tenths

SIGN NUMBER	CS-14E
WIDTH x HGHT.	3'-0" x 2'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

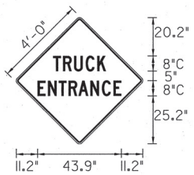
LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
W	O	R	K							D	2000
7.5	13.6	19.2	24.3						21		
Z	O	N	E							D	2000
8.1	13.1	18.7	24.2					19.8			



Dimensions are in inches.tenths

SIGN NUMBER	CS-14F
WIDTH x HGHT.	4'-0" x 3'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	12.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

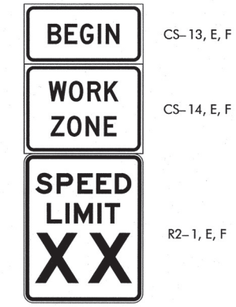
LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
W	O	R	K							E	2000
7.6	17.2	25.7	33.8						32.9		
Z	O	N	E							E	2000
8.5	16.4	24.9	33.5						31		



Dimensions are in inches.tenths

SIGN NUMBER	CS-15
WIDTH x HGHT	4'-0" x 4'-0"
BORDER WIDTH	0.75"
CORNER RADIUS	1.38"
MOUNTING	Ground
SIGN AREA	16.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Yellow
LEGEND/BORDER	TYPE: Reflective
	COLOR: Black

LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
T	R	U	C	K						C	2000
19.3	24.5	30.4	36.5	42.5					27.7		
E	N	T	R	A	N	C	E			C	2000
11.2	16.7	22.3	27.5	32.7	38.9	45	51.1		43.9		



CS-13, E, F

CS-14, E, F

R2-1, E, F

CONSTRUCTION
BEGIN WORK ZONE
SPEED LIMIT
ASSEMBLY

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY
TRAFFIC ENGINEER: _____ DATE: 3/21/11

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

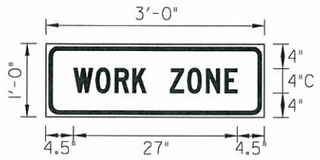
2009 SPECIFICATIONS

TCS19-1	01

T-519

$$date$$

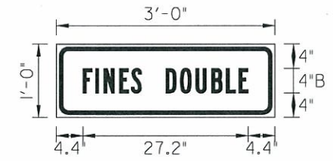
REVISIONS		
DESCRIPTION		DATE



Dimensions are in inches.tenths

SIGN NUMBER	CS-16
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Orange
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE
W	O	R	K		Z	O	N	E				C 2000
4.5	8	11.2	14.1	16.3	20.3	23.2	26.3	29.5		27		



Dimensions are in inches.tenths

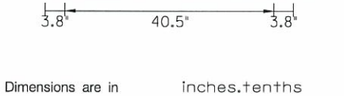
SIGN NUMBER	CS-17
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
F	I	N	E	S		D	O	U	B	L	E			B 2000
4.4	6.5	7.9	10.5	12.4	14.1	18.1	20.5	23.1	25.7	28	30.1	27.2		

Dimensions are in inches.tenths

SIGN NUMBER	CS-18
WIDTH x HGHT.	3'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	4.5 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

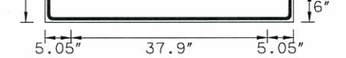
LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
W	H	E	N		W	O	R	K	E	R	S			B 2000
3	6.1	8.7	10.9	12.6	16.6	19.6	22.2	24.6	27	29.1	31.3	30		
A	R	E		P	R	E	S	E	N	T				B 2000
5.3	8	10.3	11.9	15.9	18.1	20.5	22.4	24.8	26.9	29.2		25.5		



Dimensions are in inches.tenths

SIGN NUMBER	CS-16E
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Orange
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE
W	O	R	K		Z	O	N	E				C 2000
3.8	9	13.8	18.2	21.5	27.5	31.8	36.5	41.2		40.5		



Dimensions are in inches.tenths

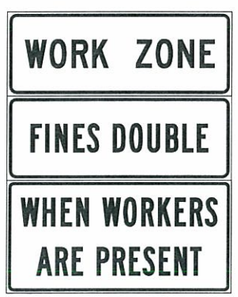
SIGN NUMBER	CS-17E
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
F	I	N	E	S	D	O	U	B	L	E				B 2000
5.1	8.2	10.3	14.2	17.1	22.7	26.2	30.1	34	37.5	40.7	37.9			

Dimensions are in inches.tenths

SIGN NUMBER	CS-18E
WIDTH x HGHT.	4'-0" x 2'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.13"
MOUNTING	Ground
SIGN AREA	8.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
W	H	E	N	W	O	R	K	E	R	S				B 2000
3	7.7	11.6	14.9	20.4	24.9	28.8	32.4	36	39.2	42.4	41.9			
A	R	E	P	R	E	S	E	N	T					B 2000
6.4	10.5	14	19.3	22.7	26.3	29.1	32.7	35.9	39.3		35.2			



CS-16, E

CS-17, E

CS-18, E

CONSTRUCTION
FINES DOUBLE
ASSEMBLY

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER David Streb DATE 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS20-1	00
	T-520

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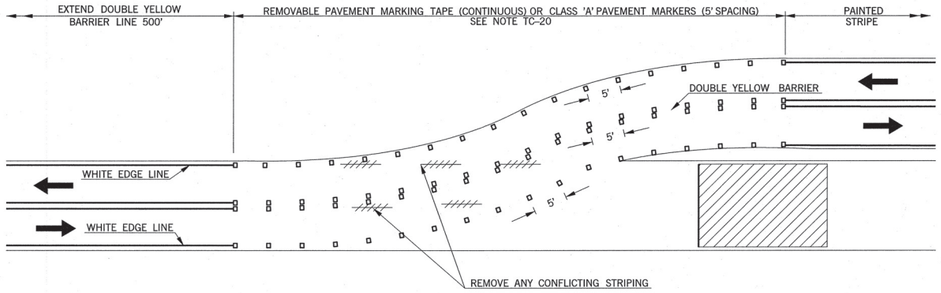
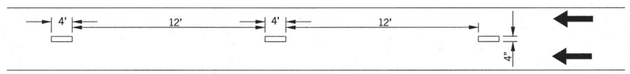
REVISIONS		
DESCRIPTION		DATE
ADDED TRAFFIC STRIPE NOTES		4/10/12
REDEFINED TERMS, MOD. PM SPACING		4/2/2013



CONSTRUCTION ZONE PAVEMENT MARKINGS THRU SHOO–FLY

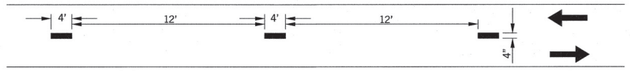


ONE–WAY PAVEMENT MARKING REMOVABLE TAPE OR PAINT

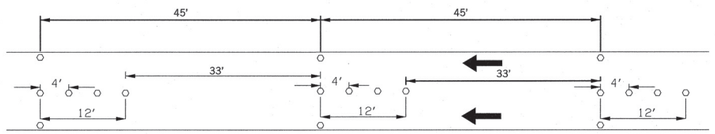
PAVEMENT MARKINGS: REMOVABLE TAPE OR PAINT

WIDTH OF STRIPED LANE LINES SHALL BE A MINIMUM OF 4".

INTERMEDIATE–TERM STATIONARY PAVEMENT MARKINGS ARE THOSE THAT MAY BE USED UNTIL THE EARLIEST DATE WHEN IT IS PRACTICAL AND POSSIBLE TO INSTALL PERMANENT PAVEMENT MARKINGS THAT MEET THE FULL OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARDS FOR PAVEMENT MARKINGS.



TWO–WAY PAVEMENT MARKING REMOVABLE TAPE OR PAINT



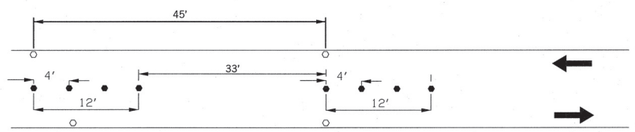
ONE–WAY PAVEMENT MARKING FLEX TABS

PAVEMENT MARKINGS: FLEX TABS

TYPE I – FLEX TAB MARKERS SHALL HAVE REFLECTORIZED MATERIAL ON BOTH SIDES.

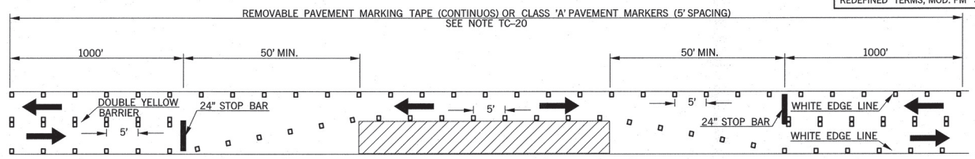
TYPE II – FLEX TAB MARKERS SHALL HAVE REFLECTORIZED MATERIAL ON BOTH SIDES AND SHALL HAVE A CLEAR REMOVABLE COVER.

FLEX TABS MAY BE INSTALLED AS SHOWN FOR LONG–TERM STATIONARY PAVEMENT MARKINGS.



TWO–WAY PAVEMENT MARKING FLEX TABS

INTERMEDIATE–TERM STATIONARY PAVEMENT MARKINGS



TYPICAL PAVEMENT MARKINGS FOR ONE LANE CLOSURE ON TWO LANE /TWO WAY ROADWAY REMOVABLE TAPE OR CONSTRUCTION ZONE PAVEMENT MARKERS

NOTES:

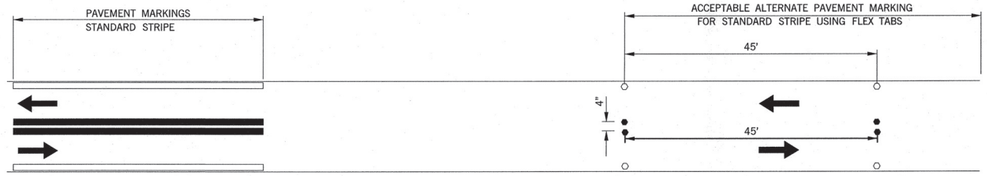
CONSTRUCTION ZONE PAVEMENT MARKINGS SHALL CONSIST OF EITHER PAINT, CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TABS) OR REMOVABLE MARKING TAPE. THERMO–PLASTIC STRIPE MAY BE USED IN CONJUNCTION WITH PAINT, FLEX TABS OR TAPE WHEN SPECIFIED IN THE PLANS.

ALL PAVEMENT MARKINGS TO BE PLACED ON TEMPORARY SURFACES OR ON SURFACES SCHEDULED TO BE REMOVED SHALL BE DONE WITH PAINT UNLESS OTHERWISE SHOWN IN THE PLANS OR STANDARD DRAWINGS. ALL FINAL OR FINISHED SURFACES SHALL BE MARKED WITH EITHER REMOVABLE PAVEMENT MARKING TAPE OR CONSTRUCTION ZONE PAVEMENT MARKERS, UNLESS OTHERWISE NOTED ON THE PLANS.

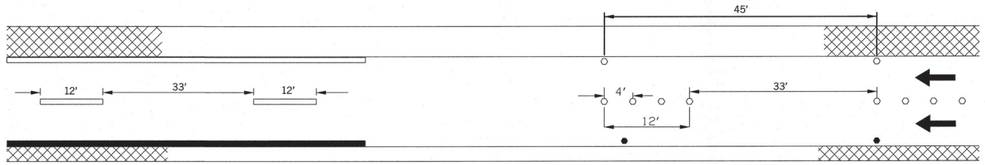
WIDTH OF STRIPED LANE LINES SHALL BE A MINIMUM OF 4".

KEY:

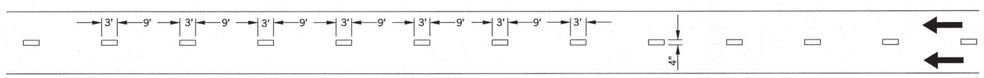
- WORK ZONE
- WHITE LANE LINE (PAINT OR TAPE)
- YELLOW LANE LINE (PAINT OR TAPE)
- WHITE FLEX TAB
- YELLOW FLEX TAB
- CLASS A PAVEMENT MARKER



TWO–LANE /TWO–WAY



4 –LANE DIVIDED ROADWAY



WHITE DOTTED LINE

LONG–TERM STATIONARY PAVEMENT MARKINGS

MUTCD DEFINITIONS OF THE FIVE CATEGORIES OF WORK DURATION, AND THEIR TIME AT A LOCATION SHALL BE:

A. LONG–TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN 3 DAYS.
B. INTERMEDIATE–TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 DAYS, OR NIGHTTIME WORK LASTING MORE THAN 1 HOUR.
C. SHORT–TERM STATIONARY IS DAYTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR WITHIN A SINGLE DAYLIGHT PERIOD.
D. SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.
E. MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 4/8/2013

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD CONSTRUCTION ZONE PAVEMENT MARKINGS

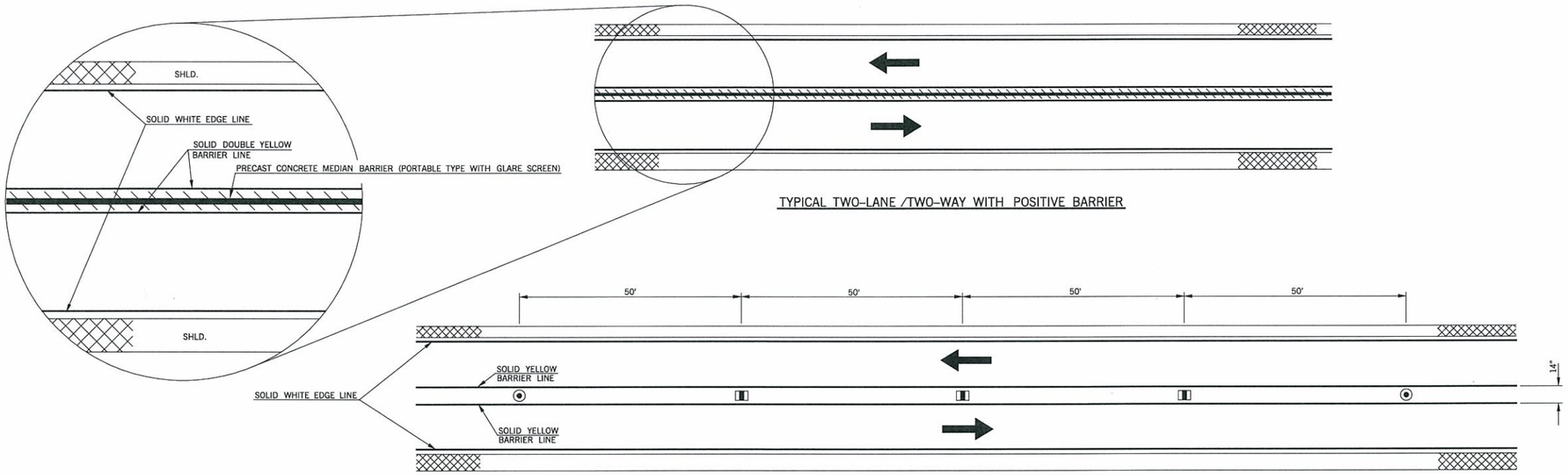
2009 SPECIFICATIONS

TCS21–1	02

T–521

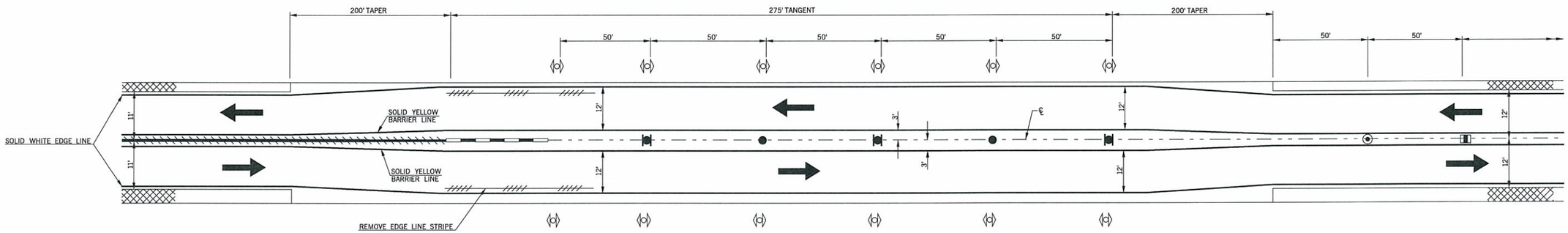
$$date$$

DESCRIPTION	REVISIONS	DATE



TYPICAL TWO–LANE /TWO–WAY WITH POSITIVE BARRIER

TYPICAL TWO–LANE /TWO–WAY WITHOUT POSITIVE BARRIER



TRANSITION INTO NARROW IMPACT ATTENUATOR

CONSTRUCTION ZONE PAVEMENT MARKINGS

KEY:

- VERTICAL PANEL W/TYPE "C" STEADY BURN LIGHT
- CENTERLINE CONST. ZONE PAVEMENT MARKER (YELLOW)
- TUBE CHANNELIZERS
- NARROW CZ IMPACT ATTENUATOR
- PRECAST CONCRETE MEDIAN BARRIER (PORTABLE TYPE WITH GLARE SCREEN)
- EXISTING PAVEMENT MARKINGS TO BE REMOVED
- DRUM
- DRUM WITH SIGNS MOUNTED ON BOTH SIDES

NOTES:

CONSTRUCTION ZONE PAVEMENT MARKINGS SHALL CONSIST OF EITHER PAINT, CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TAB) OR REMOVABLE PAVEMENT MARKING TAPE. THERMO-PLASTIC STRIPE MAY BE USED IN CONJUNCTION WITH PAINT, MARKERS OR TAPE WHEN SPECIFIED IN THE PLANS.

APPROVED BY TRAFFIC ENGINEER David Streb DATE 6/23/10

TRAFFIC STANDARD

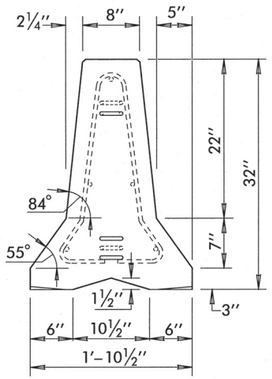
TRAFFIC CONTROL STANDARD
CONSTRUCTION ZONE PAVEMENT MARKINGS

2009 SPECIFICATIONS

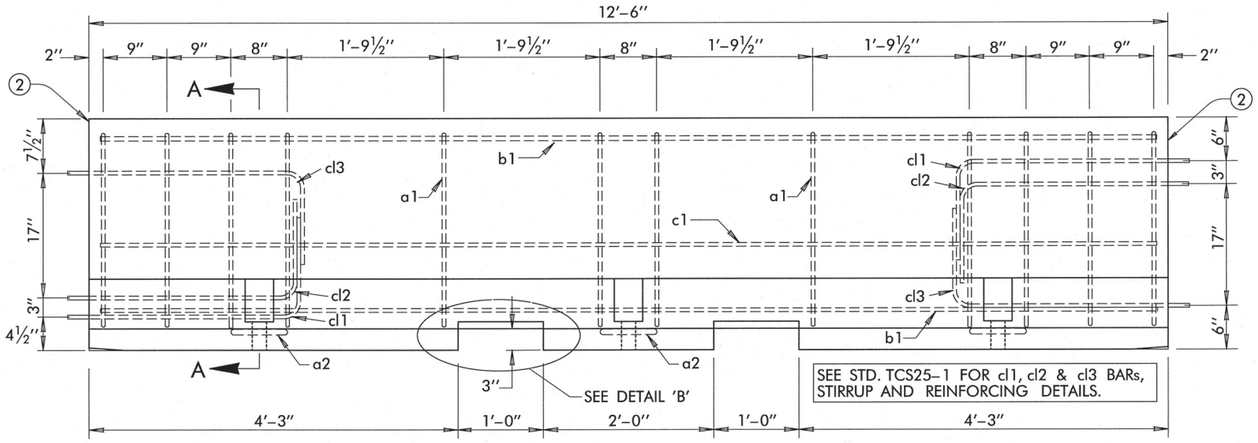
TCS22–1	00
T–522	

TRFPC36 M:\2009_Standards_TC\t522.dgn 8:28:56 AM 6/2/2010 d:\usr2\lib\leroyh.pen R:\TRAF_PLOT\bw.tbl

REVISIONS		
DESCRIPTION		DATE
CHANGED DIMENSION		2/25/2011
ADDED DELINEATORS/NOTES		11/09/2011



END VIEW



ELEVATION VIEW

DRAWING NOTES:

① 1 INCH RADIUS ALLOWED FOR EASE OF CASTING (BOTH SIDES).

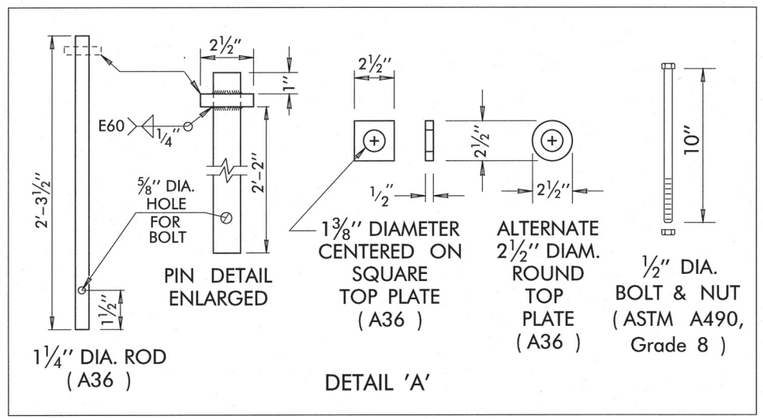
② THE TOP SURFACE OF ONE END OF EACH BARRIER UNIT SHALL BE PERMANENTLY MARKED INDICATING THE FOLLOWING INFORMATION:
- NCHRP REPORT 350 APPROVED
- TYPE F BARRIER
- MANUFACTURER IDENTIFICATION
- DATE MANUFACTURED (MONTH AND YEAR)

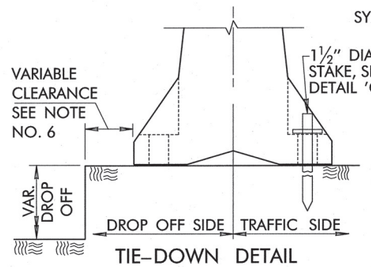
EXAMPLE: 350F–SM9/01 (SM = SMITH MATERIALS)

③ 1 INCH CHAMFER TO PREVENT SPALLING (BOTH SIDES).

GENERAL NOTES:

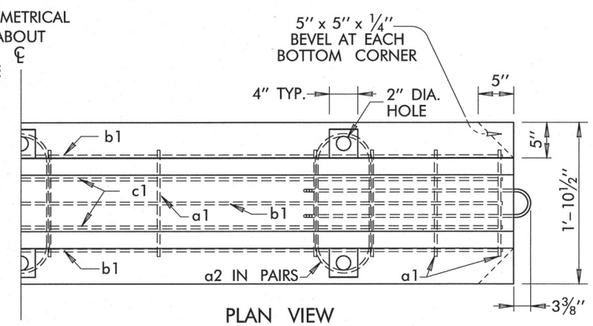
1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS OF THE PORTABLE PRECAST CONCRETE MEDIAN BARRIER, PROVIDED BY THE CONTRACTOR, SHALL BE IN ACCORDANCE WITH THE 2009 ENGLISH STANDARD SPECIFICATIONS & MEET REQUIREMENTS OF NCHRP REPORT 350, TEST LEVEL 3. CONTRACTOR MAY PROVIDE ANY PORTABLE F–SHAPE BARRIER DESIGN MEETING THE REQUIREMENTS OF NCHRP REPORT 350, SO LONG AS THE MATERIAL REQUIREMENTS OF 2009 STANDARD SPECIFICATIONS ARE MET.
2. CONCRETE FOR PORTABLE PRECAST CONCRETE MEDIAN BARRIER SHALL REACH A MINIMUM OF 4000 PSI STRENGTH AFTER 28 DAYS.
3. ALL REINFORCEMENT SHALL BE DEFORMED GRADE 60, AASHTO M 31, EXCEPT FOR THE CONNECTION LOOP BAR ASSEMBLY SHALL BE SMOOTH #6 BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A MINIMUM TENSILE STRENGTH OF 80 KSI, AND PASSING A 180 DEGREE BEND TEST USING A 2¾" PIN BEND DIAMETER. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSIONS.
4. CONTRACTOR SHALL FURNISH AND INSTALL REFLECTIVE MARKERS ON BARRIER AS RECOMMENDED BY THE MANUFACTURER AND SHOWN ON THIS SHEET. DELINEATORS USED MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION QUALIFIED PRODUCTS LIST (QPL) AT http://www.okladot.state.ok.us/traffic/qpl/index.php. TWO MARKERS ON EACH SIDE OF THE BARRIER SHALL BE INSTALLED AT NOMINAL 12.5 FOOT SPACING AND FACE ONCOMING TRAFFIC. THE CONTRACTOR SHALL MAINTAIN THE MARKERS AND PROMPTLY REPAIR OR REPLACE ANY DAMAGED OR MISSING UNITS. ALL COSTS FOR FURNISHING, INSTALLING AND MAINTAINING MARKERS SHALL BE INCLUDED IN THE PRICE BID FOR THE PORTABLE LONGITUDINAL BARRIER.
5. UNLESS STATED OTHERWISE IN THE PLANS, THE BARRIER RAIL SECTIONS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AND AT THE COMPLETION OF THE WORK SHALL BE REMOVED FROM THE SITE BY CONTRACTOR.
6. WHEN TEMPORARY BARRIER RAIL IS INSTALLED WITHIN 2 FEET OF A DROPOFF, BARRIER SECTIONS SHALL BE ANCHORED WITH TIE DOWN PINS AS DESCRIBED AND SHOWN ON TIE–DOWN DETAIL, THIS SHEET. SEE ROADWAY STD. PDT–1–(LATEST REVISION) FOR PAVEMENT EDGE DROP–OFF DETAILS.
7. PAVEMENT MARKERS OR TEMPORARY FLEXIBLE–REFLECTIVE ROADWAY MARKER TABS SHALL NOT BE USED AS BARRIER DELINEATION.
8. CONTRACTOR MAY USE STEEL BARRIER INSTEAD OF CONCRETE BARRIER. THE STEEL BARRIER USED MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION QUALIFIED PRODUCTS LIST (QPL) AT http://www.okladot.state.ok.us/traffic/qpl/index.php.



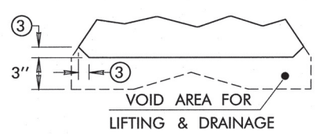


TIE–DOWN DETAIL

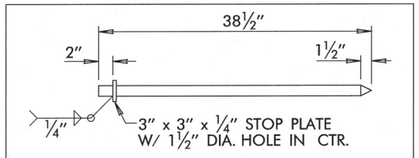
WHEN CONDITIONS REQUIRE PORTABLE BARRIER TO BE TIED DOWN, BARRIER SHALL BE ANCHORED USING 1½" DIA. STAKE AS SHOWN IN THIS DETAIL. AFTER BARRIER IS REMOVED, HOLES SHALL BE FILLED IN A MANNER APPROVED BY THE ENGINEER.



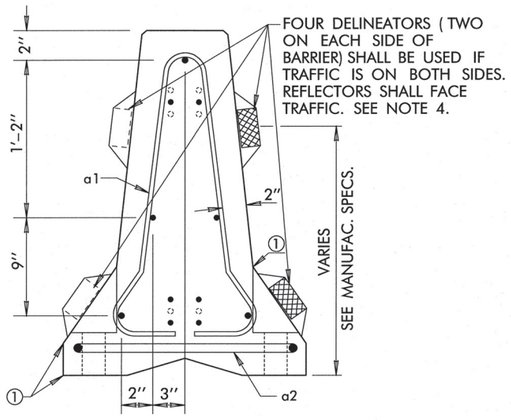
PLAN VIEW



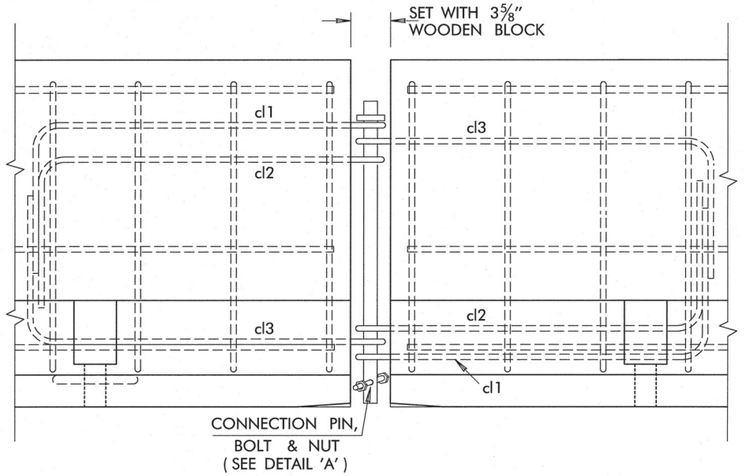
DETAIL 'B'
LIFTING & DRAINAGE SLOT DETAIL



DETAIL 'C'
1½" DIA. STAKE



SECTION A–A
TYPICAL SECTION
STIRRUP PLACEMENT



DETAILS OF BARRIER SECTION CONNECTION

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
877(A)	PORTABLE LONGITUDINAL BARRIER	L.F.
877(B)	DELIVER PORTABLE LONGITUDINAL BARRIER	L.F.
877(C)	RELOCATION OF PORT. LONGITUDINAL BARRIER	L.F.

THIS STANDARD SHALL BE USED IN CONJUNCTION WITH TCS25–1.

APPROVED BY TRAFFIC ENGINEER: Rick D. Smith DATE: 11/9/2011

TRAFFIC STANDARD

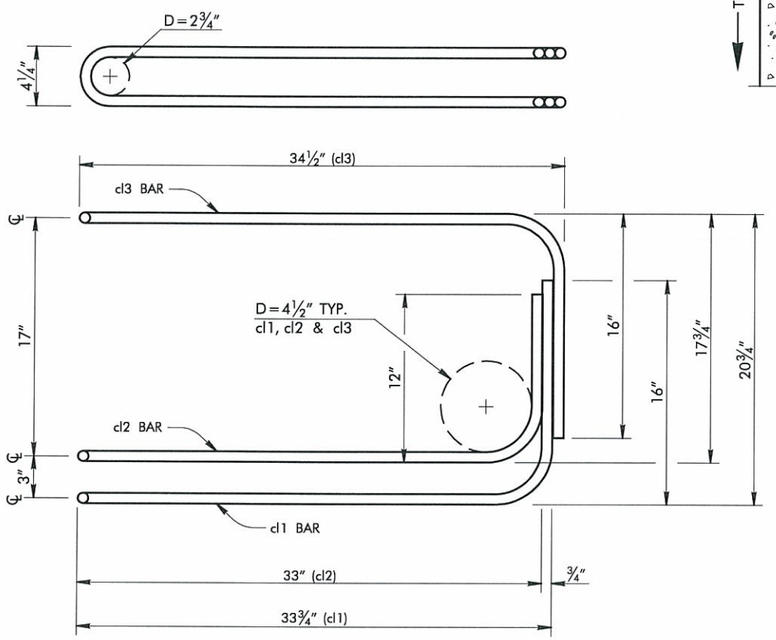
TRAFFIC CONTROL STATNDARD
PORTABLE LONGITUDINAL BARRIER

2009 SPECIFICATIONS	(NCHRP 350 F–SHAPE)	TCS24–1	02

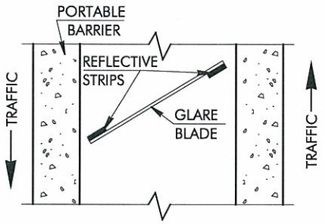
T–524

$$date$$

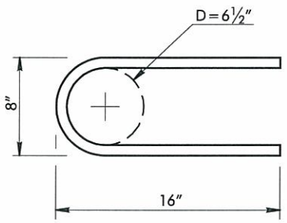
DESCRIPTION	REVISIONS	DATE



CONNECTION LOOP BAR ASSEMBLY

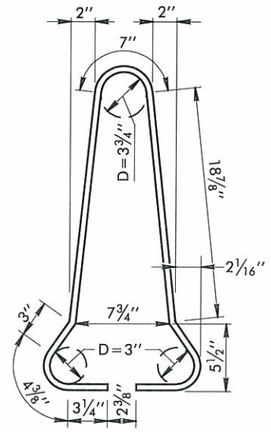


SEC. A–A

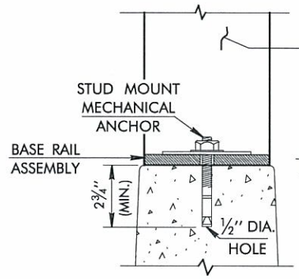


a2 STIRRUP BAR

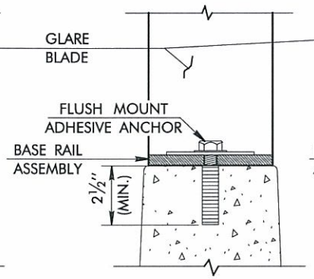
SCHEDULE OF REINFORCING BARS PER 12'– 6" BARRIER SECTION					
BAR	BAR SIZE	SHAPE	NO. of BARS	LENGTH FT.	WEIGHT LBS.
■ a1	4		11	5'–6"	40.4
■ a2	6		6	3'–1"	27.8
b1	5		3	12'–2"	38.1
c1	4		2	12'–2"	16.3
■ cl1	6		2	8'–0"	24.1
■ cl2	6		2	7'–7"	22.8
■ cl3	6		2	8'–2"	24.6
				TOTAL	194.1
■ NOTE: LENGTHS MEASURED ALONG OUTSIDE OF HOOP.					



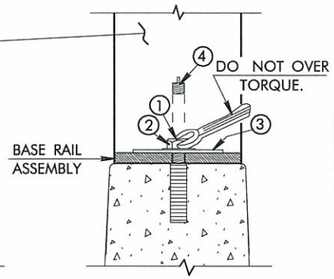
a1 STIRRUP BAR
LENGTHS MEASURED ALONG OUTSIDE OF HOOPS.



END ELEVATION
TYPICAL
STUD MOUNT–MECHANICAL
THIS ANCHORING METHOD TO BE USED FOR PERMANENT INSTALLATIONS ONLY.



END ELEVATION
TYPICAL
FLUSH MOUNT–ADHESIVE
REQUIRED DRILL DEPTH: 2–1/2"



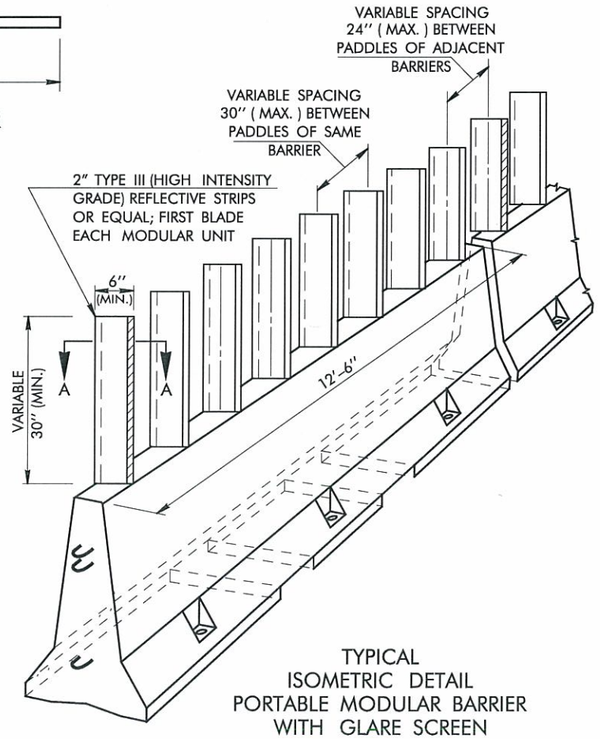
END ELEVATION
TYPICAL
BASE RAIL FASTENING
WHEN APPLICABLE

PLACE 4" WASHERS (3) OVER MOUNTING HOLES & INSERT ½" x 1½" BOLT (1) WITH ½" LOCK WASHER (2) AND TIGHTEN DOWN & TORQUE TO 20 –25 FT. LBS.

AFTER REMOVAL OF BASE RAIL ASSEMBLY, PLUG (4) SHALL BE RE–INSERTED TO PROTECT HOLE FROM THE ELEMENTS.

TYPICAL BASE RAIL ANCHORING METHODS

REQUIRED DRILL BIT: ½" DIAMETER
CARBIDE TIP – MASONARY
REQUIRED DRILL DEPTH: 2½" (MIN.) – 2¾" (MAX.)



TYPICAL
ISOMETRIC DETAIL
PORTABLE MODULAR BARRIER
WITH GLARE SCREEN

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.
2. ALL REINFORCEMENT SHALL BE DEFORMED GRADE 60, AASHTO M 31, EXCEPT FOR THE CONNECTION LOOP BAR ASSEMBLY SHALL BE SMOOTH #6 BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A MINIMUM TENSILE STRENGTH OF 80 KSI, AND PASSING A 180 DEGREE BEND TEST USING A 2¾" PIN BEND DIAMETER. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSIONS.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL SUCH LIGHTS, SIGNS, BARRICADES AND FLAGMEN THAT MAY BE NECESSARY FOR THE CONTROL, SAFETY AND MAINTENANCE OF TRAFFIC WHEN INITIALLY INSTALLING OR RELOCATING PRECAST CONCRETE MEDIAN BARRIER.
4. GLARE SCREEN SYSTEMS SHALL BE INSTALLED AS PER MANUFACTURERS SPECIFICATIONS AND UNIQUE INSTALLATION INSTRUCTIONS OR DETAILS NOT SHOWN ON THIS STANDARD SHALL BE PROVIDED TO AND APPROVED BY THE ENGINEER.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
877(A)	PORTABLE LONGITUDINAL BARRIER	LF
878(A)	MODULAR GLARE SCREEN (PERMANENT)	EA OR LF
878(B)	MODULAR GLARE SCREEN (TEMPORARY)	SD

THIS STANDARD SHALL BE USED IN CONJUNCTION WITH TCS24–1.

APPROVED BY TRAFFIC ENGINEER: Harold Smalley DATE: 6/23/10

TRAFFIC STANDARD
TRAFFIC CONTROL STANDARD
PORTABLE LONGITUDINAL BARRIER
REINFORCING/CONNECTION STEEL
AND GLARE SCREEN

2009 SPECIFICATIONS (NCHRP 350 F–SHAPE) TCS25–1 00 T–525

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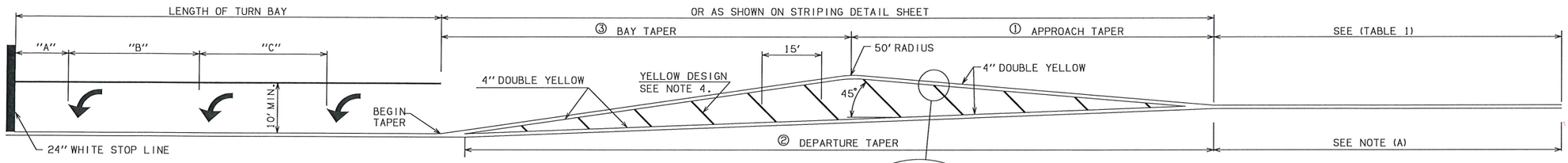
REVISIONS	
DESCRIPTION	DATE
ADDED GENERAL NOTE 4.	7/08/2011
UPDATED SYMBOLS	4/2/2013
CHANGE DASHED LINE DIMENSION	7/25/2019



LEFT TURN BAY AND STRIPED MEDIAN DETAIL

SEE PLANS FOR LENGTH OF LEFT TURN BAYS AND TAPERS ON STRIPED MEDIANS

① THE PREFERRED APPROACH TAPER RATE IS V:1, WHERE V IS THE DESIGN SPEED. FOR V≤40 MPH, IT IS ACCEPTABLE FOR THE APPROACH TAPER TO BE $(V^2/60):1$.

② THE PREFERRED DEPARTURE TAPER RATE IS V:1, WHERE V IS THE DESIGN SPEED. FOR V≤40 MPH, IT IS ACCEPTABLE FOR THE DEPARTURE TAPER TO BE $(V^2/60):1$.

③ SEE RECOMMENDED BAY TAPER RATES TABLE.

RECOMMENDED BAY TAPER RATES

DESIGN SPEED (MPH)	TAPER RATE
V < 30	8:1
30 ≤ V ≤ 50	10:1
50 > V	15:1

THE FOLLOWING MINIMUM VALUES MAY APPLY IN RESTRICTED LOCATIONS:
1. RIGHT-TURN LANES. A 4:1 BAY TAPER MAY BE USED WHERE PAINTED CHANNELIZATION IS USED.
2. LEFT-TURN LANES. IN SEVERELY RESTRICTED LOCATIONS, A 4:1 BAY TAPER MAY BE USED WHERE PAINTED CHANNELIZATION IS USED.

(A) NO PASS LINE ON APPROACH SIDE WITH SKIP CENTER LINE ON DEPARTURE SIDE UNLESS DOUBLE YELLOW CENTER LINE IS REQUIRED.

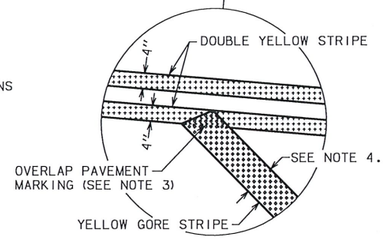


TABLE 1	
POSTED SPEED	NO PASS LENGTH (MINIMUM)
60 MPH	790'
55 MPH	725'
50 MPH	660'
45 MPH	590'
40 MPH	360'
35 MPH	260'
30 MPH	200'
25 MPH	150'

MATERIAL SPECIFICATIONS

A. UNLESS OTHERWISE SPECIFIED, RETROREFLECTIVE PAVEMENT MARKING SHALL BE APPLIED BY THE EXTRUSION METHOD.

B. THE THICKNESS OF THE PLASTIC PAVEMENT MARKING SHALL BE MEASURED FROM THE PLANE OF THE PAVEMENT SURFACE WITH A DEVICE SUPPLIED BY CONTRACTOR AND SUITABLE TO THE ENGINEER. THICKNESSES ARE AS FOLLOWS:

LANE LINES, STOP LINES, WORDS, ARROWS AND SYMBOLS.....0.120" MIN. & 0.188" MAX.
EDGE, GORE AND DIAGONAL LINES.... 0.090" MIN. & 0.188" MAX.

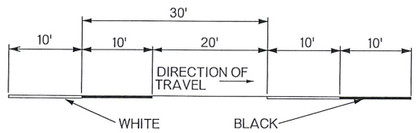
C. THE THICKNESS OF THE MULTI-POLYMER PAVEMENT MARKING SHALL BE MEASURED FROM THE PLANE OF THE PAVEMENT SURFACE WITH A DEVICE SUPPLIED BY CONTRACTOR AND SUITABLE TO THE ENGINEER. THICKNESSES ARE AS FOLLOWS:

LANE LINES, STOP LINES, WORDS, ARROWS, SYMBOLS, EDGE, GORE AND DIAGONAL LINES.... 0.020" MIN. & 0.025" MAX.

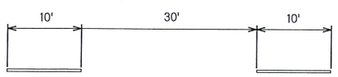
GENERAL NOTES

1. LANE WIDTH IS THE DISTANCE BETWEEN PAVEMENT MARKINGS, OR PAVEMENT MARKING AND EDGE OF PAVEMENT. LANE WIDTH IS MEASURED FROM CENTER OF STRIPE TO CENTER OF STRIPE.
2. LANE LINES SHALL BE PLACED LEFT OF THE LONGITUDINAL PAVEMENT JOINTS.
3. ALL PAVEMENT MARKING SHALL OVERLAP WHERE IT MEETS OTHER PAVEMENT MARKING.
4. WIDTH OF DIAGONALS ARE AS FOLLOWS:
≥45 MPH - 12" WIDE
<45 MPH - 8" WIDE

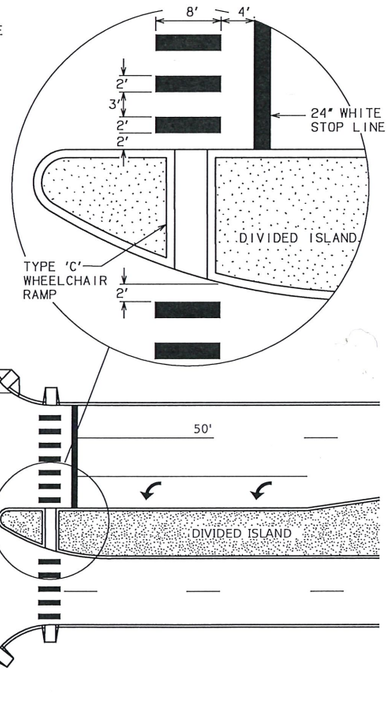
TURN BAY TABLE			
LENGTH OF BAY FT.	"A" FT.	"B" FT.	"C" FT.
75 TO 99	20	35	--
100 TO 149	20	35	35
150 TO 200	30	55	55



DASHED WHITE LANE LINE
TYPICAL CONCRETE PAVEMENT MARKING DETAILS



DASHED WHITE LANE LINE
TYPICAL ASPHALT PAVEMENT MARKING DETAILS



CROSSWALK INSTALLATIONS

FOR SPACING OF ARROWS SEE "TURN BAY TABLE"

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
854(A)	TRAFFIC STRIPE (PAINT) (4" WIDE)	LF
854(B)	TRAFFIC STRIPE (PAINT) (ARROW, WORDS, OR SYMBOLS)	EA
855(A)	TRAFFIC STRIPE (PLASTIC) (4" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (6" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (8" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (24" WIDE)	LF
855(B)	TRAFFIC STRIPE (PLASTIC) (ARROW)	EA
855(B)	TRAFFIC STRIPE (PLASTIC) (WORDS)	EA
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (4" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (6" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (8" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (24" WIDE)	LF
856(B)	TRAFFIC STRIPE (MULTI-POLYMER) (SYMBOLS, WORDS, ETC)	EA

APPROVED BY TRAFFIC ENGINEER: _____ DATE 7/31/19

CDOT

TRAFFIC STANDARD

PAVEMENT MARKING (CROSSWALKS AND LEFT TURN BAY)

2009 SPECIFICATIONS

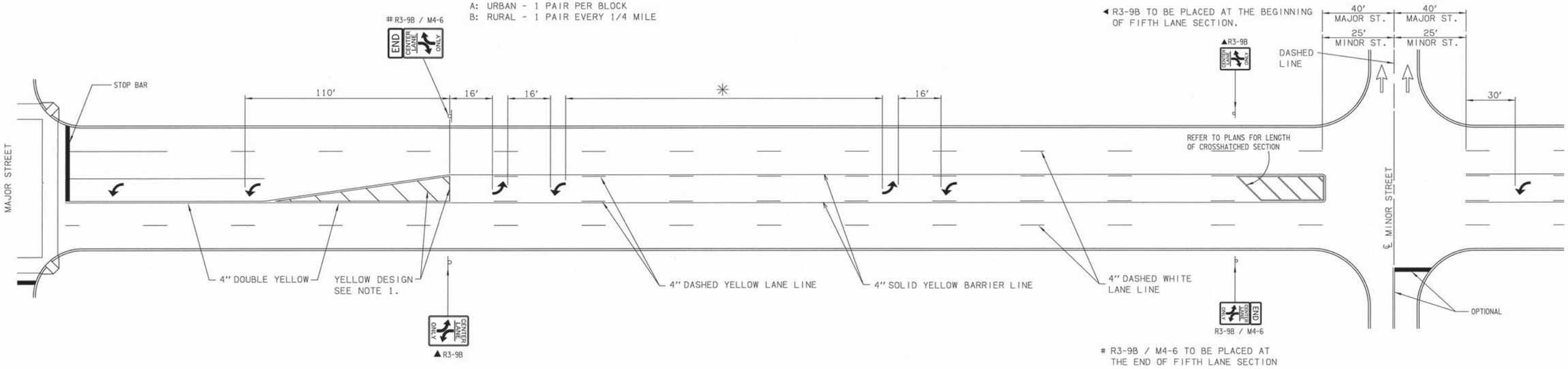
PM1-1 ~~02~~ 03

T-101

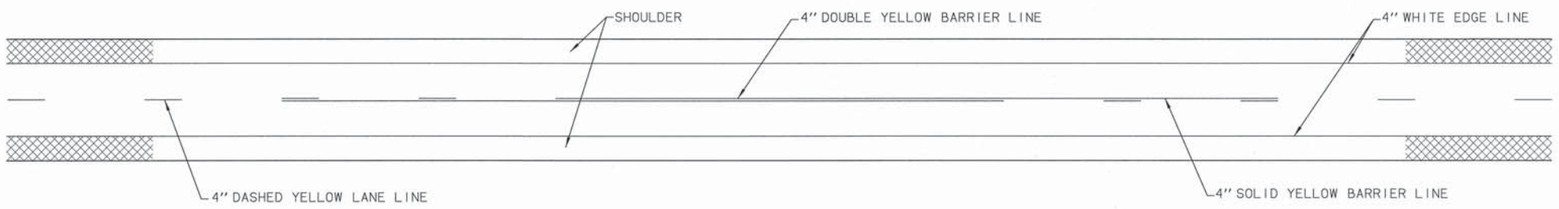
REVISIONS	
DESCRIPTION	DATE
ADDED GENERAL NOTE 1.	7/08/2011
MODIFIED SIGNS	4/10/2012

✳ ARROW SYMBOL PAIRS FOR TWO-WAY LEFT TURN LANES SHALL BE PLACED AS FOLLOWS:

A: URBAN - 1 PAIR PER BLOCK
B: RURAL - 1 PAIR EVERY 1/4 MILE



FIFTH LANE PAVEMENT MARKING DETAIL (URBAN)



TWO LANE RURAL ROADWAY PAVEMENT MARKINGS

GENERAL NOTE

1. WIDTH OF DIAGONALS ARE AS FOLLOWS:
   ≥45 MPH - 12" WIDE
   <45 MPH - 8" WIDE

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
854(A)	TRAFFIC STRIPE (PAINT) (4" WIDE)	LF
854(B)	TRAFFIC STRIPE (PAINT) (ARROW, WORDS, OR SYMBOLS)	EA
855(A)	TRAFFIC STRIPE (PLASTIC) (4" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (6" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (8" WIDE)	LF
855(A)	TRAFFIC STRIPE (PLASTIC) (24" WIDE)	LF
855(B)	TRAFFIC STRIPE (PLASTIC) (ARROW)	EA
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (4" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (6" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (8" WIDE)	LF
856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (24" WIDE)	LF
856(B)	TRAFFIC STRIPE (MULTI-POLYMER) (SYMBOLS, WORDS, ETC)	EA

APPROVED BY TRAFFIC ENGINEER: David Smalley DATE: 4/9/12

TRAFFIC STANDARD

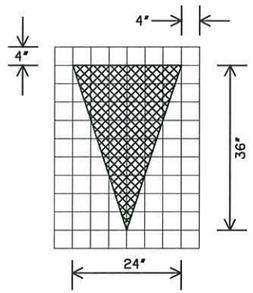
PAVEMENT MARKING
(FIFTH LANE AND TWO LANE RURAL)

2009 SPECIFICATIONS

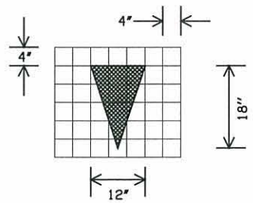
PM3-1 | 02

T-103

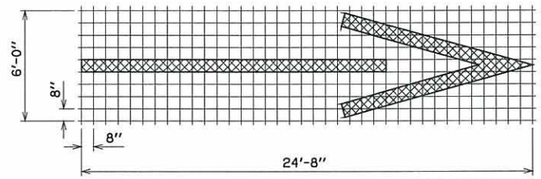
DESCRIPTION	REVISIONS	DATE



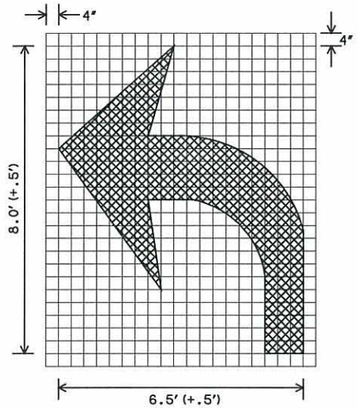
MAXIMUM
YIELD LINE TRIANGLE

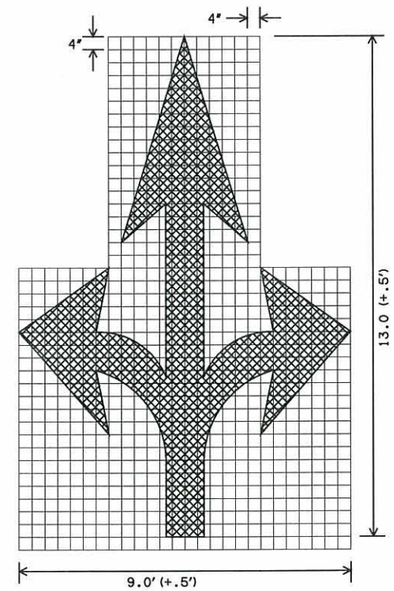


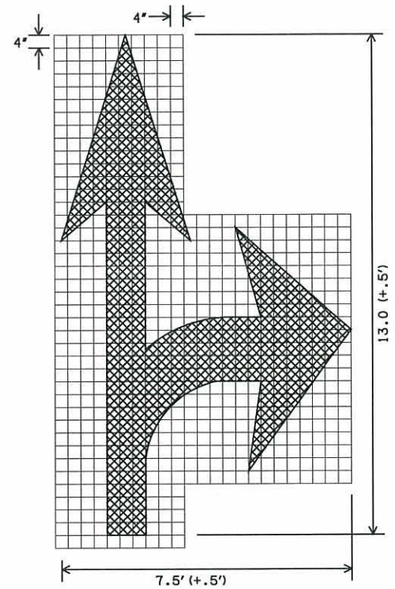
MINIMUM
YIELD LINE TRIANGLE

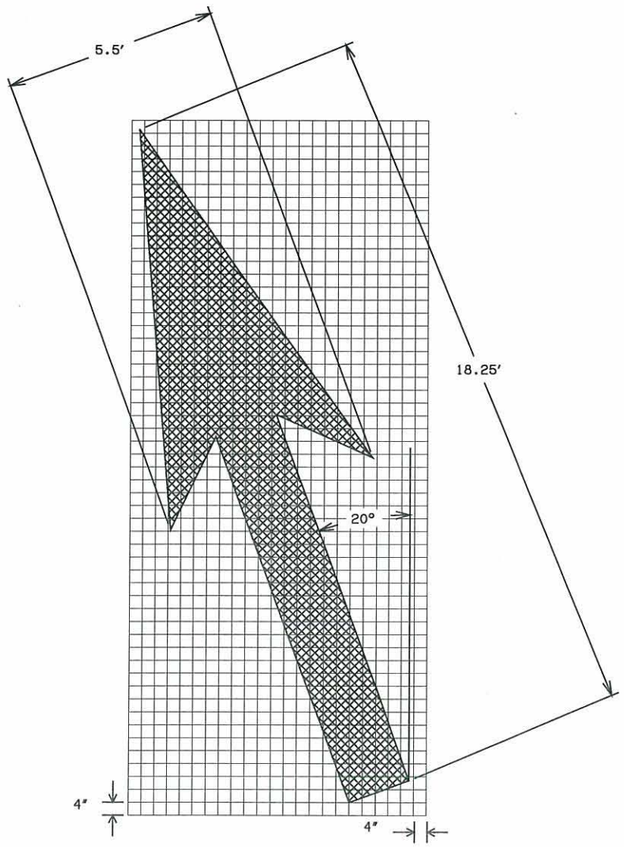


FREEWAY, EXPRESSWAY, AND RAMP PAVEMENT ARROW

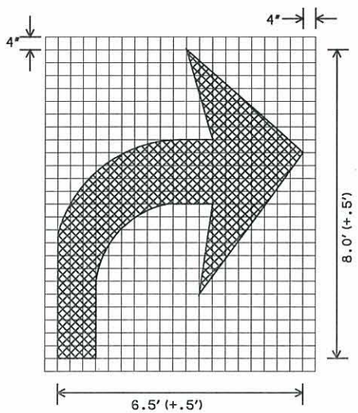


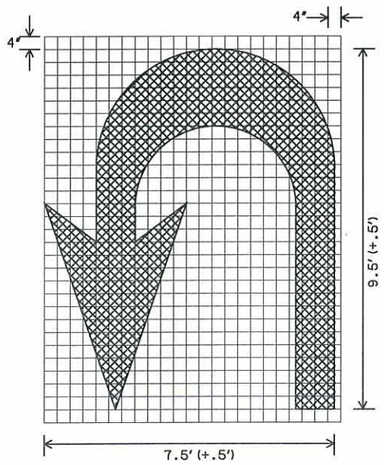


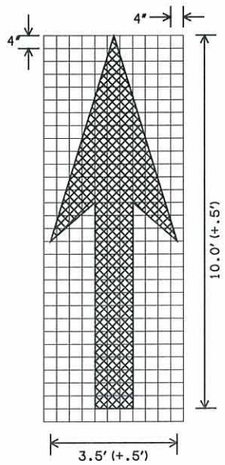




LANE–REDUCTION ARROW







BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
854(B)	TRAFFIC STRIPE (PAINT) (ARROW, WORDS, OR SYMBOLS)	EA
855(B)	TRAFFIC STRIPE (PLASTIC) (ARROW)	EA
855(B)	TRAFFIC STRIPE (PLASTIC) (SYMBOLS)	EA
856(B)	TRAFFIC STRIPE (MULTI-POLYMER) (SYMBOLS, WORDS, ETC)	EA

GENERAL NOTES

1. PAVEMENT MARKINGS SHALL BE WHITE RETROREFLECTORIZED PLASTIC UNLESS OTHERWISE SPECIFIED. WHEN THE MESSAGE CONSISTS OF MORE THAN ONE WORD, IT SHOULD READ "UP" I.E. THE FIRST WORD SHOULD BE NEAREST THE DRIVER. THE SPACE BETWEEN LINES SHOULD BE AT LEAST FOUR TIMES THE HEIGHT OF THE CHARACTERS.
2. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST REVISION).
3. ALL DIMENSIONS ARE TYPICAL FOR SINGLE LANE UNLESS OTHERWISE NOTED.

APPROVED BY TRAFFIC ENGINEER: David Streb DATE: 8/5/10

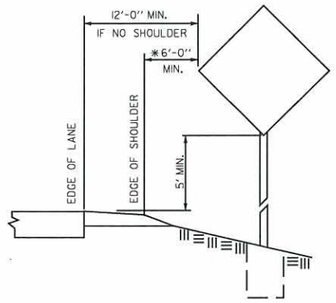
OKLAHOMA DEPARTMENT OF TRANSPORTATION

TRAFFIC STANDARD

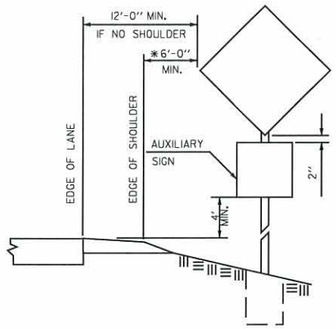
PAVEMENT MARKING
(ARROWS)

2009 SPECIFICATIONS

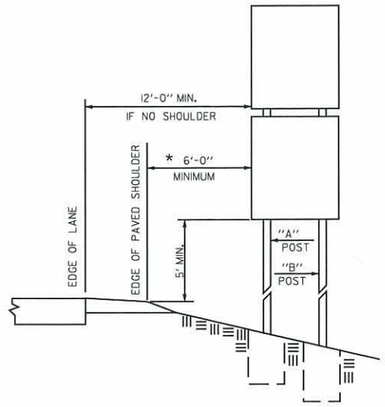
PM6-1	00
	T-106



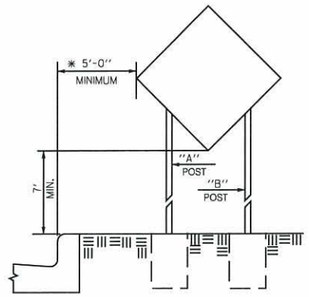
SINGLE POST (RURAL)



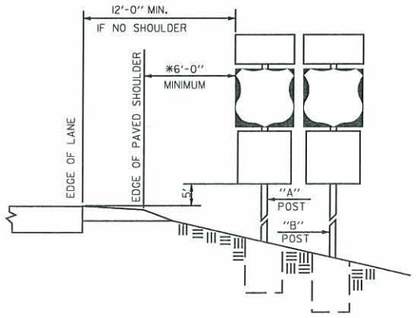
SINGLE POST WITH AUXILIARY SIGN (RURAL)



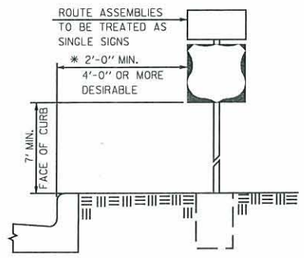
DOUBLE POST MAXIMUM & MINIMUM SPEED LIMIT SIGNS (RURAL)



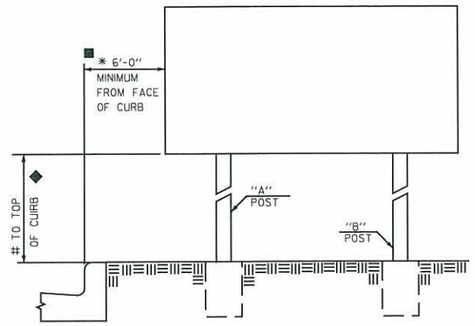
BUSINESS, COMMERCIAL OR RESIDENTIAL AREA



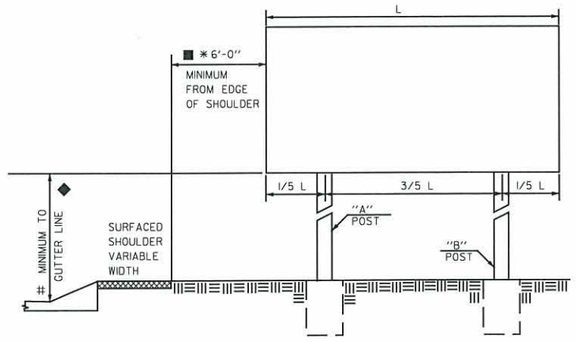
ROADSIDE ASSEMBLY (RURAL)



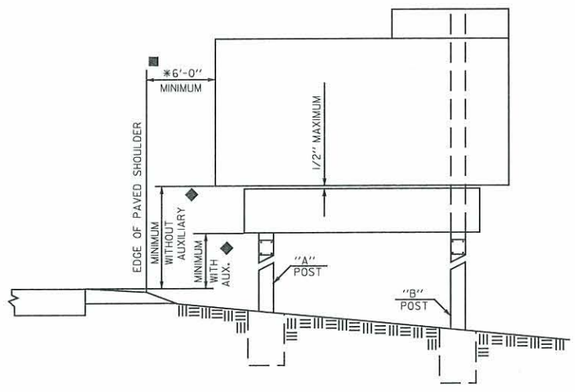
BUSINESS, COMMERCIAL OR RESIDENTIAL AREA



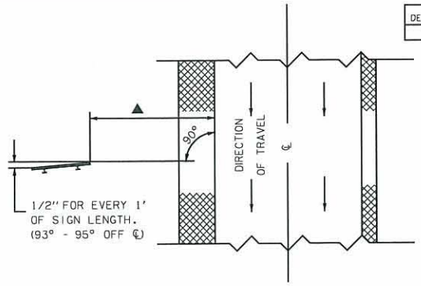
INFORMATION SIGN WITH NON-MOUNTABLE CURB



INFORMATION SIGN WITH MOUNTABLE CURB



FREEWAY OR EXPRESSWAY SIGN (WITH OR WITHOUT AUXILIARY SIGN)



SIGN POSITIONING DETAIL

REVISIONS		
DESCRIPTION		DATE

*1 SIGNS SHALL BE SO POSITIONED TO ELIMINATE OR MINIMIZE SPECULAR REFLECTION. DUE TO THE NUMEROUS VARIATIONS IN ROAD CURVES AND GRADES, THIS GENERAL RULE MAY NOT ALWAYS BE APPLICABLE, AND SIGNS SHALL BE POSITIONED AS DETERMINED BY THE ENGINEER.

*2 IF FURTHER CLARIFICATION OF VERTICAL AND LATERAL CLEARANCES IS REQUIRED, SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST REVISION).

◆ WHEN LATERAL CLEARANCE OF STANDARD OR SPECIAL INFORMATION GUIDE SIGNS IS 30' OR GREATER (AS REQUIRED BY CLEAR ZONE) FROM THE EDGE LINE, THE MINIMUM VERTICAL CLEARANCE IS 7'. IF AN AUXILIARY SIGN IS MOUNTED BELOW A STANDARD OR SPECIAL INFORMATION GUIDE SIGN, THE RECOMMEND VERTICAL CLEARANCE FOR THE STANDARD OR SPECIAL INFORMATION GUIDE SIGN IS MINIMUM 8' AND THE AUXILIARY SIGN IS MINIMUM 5'.

* THE MINIMUM LATERAL CLEARANCE OF THE SIGN FROM THE EDGE OF SHOULDER OR FACE OF CURB SHALL BE AS SHOWN ON THIS STANDARD DRAWING UNLESS OTHERWISE SHOWN OR NOTED ON PLANS. WHEN SIGNS ARE NOTED TO BE PLACED 5' TO 9' FROM SHOULDER, THE TOLERANCE SHALL BE THE DISTANCE SHOWN +2'.

IN INSTANCES WHERE THE LATERAL CLEARANCE SHOWN CAUSES THE FOOTING TO BE LOCATED UNDESIREABLY, SUCH AS THE BOTTOM OF DITCHES, ETC., THE LOCATION MAY BE ADJUSTED OUTWARD FROM THE ROADWAY IF NECESSARY AT THE DISCRETION OF THE ENGINEER.

IN RURAL AREAS THERE SHALL BE A 12' MINIMUM FROM TRAVELWAY (EDGELINE) TO THE EDGE OF THE SIGN IF NO SHOULDER EXISTS.

■ NORMALLY, ON FREEWAY AND EXPRESSWAY MAINLINE, STANDARD OR SPECIAL INFORMATION SIGNS SHALL BE LOCATED WITH A LATERAL CLEARANCE OF 10' FROM THE FACE OF NON-MOUNTABLE CURBS OR GUARD RAILS, 20' FROM EDGE OF SHOULDER. IN ALL CASES EXCEPT WHEN SIGN SUPPORTS ARE PROTECTED BY BARRIERS, SIGNS SHALL HAVE A LATERAL CLEARANCE OF 30' OR GREATER (AS REQUIRED BY CLEAR ZONE) FROM EDGE OF DRIVING LANE.

ALONG INTERCHANGE RAMPS THE LATERAL CLEARANCE SHALL NORMALLY BE 10' OR GREATER (AS REQUIRED BY CLEAR ZONE).

▲ WHEN LATERAL CLEARANCE IS 30'-0" OR GREATER FROM EDGE OF PAVEMENT, THE SIGN IS TO BE APPROXIMATELY PERPENDICULAR TO ROADWAY.

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 8/5/10

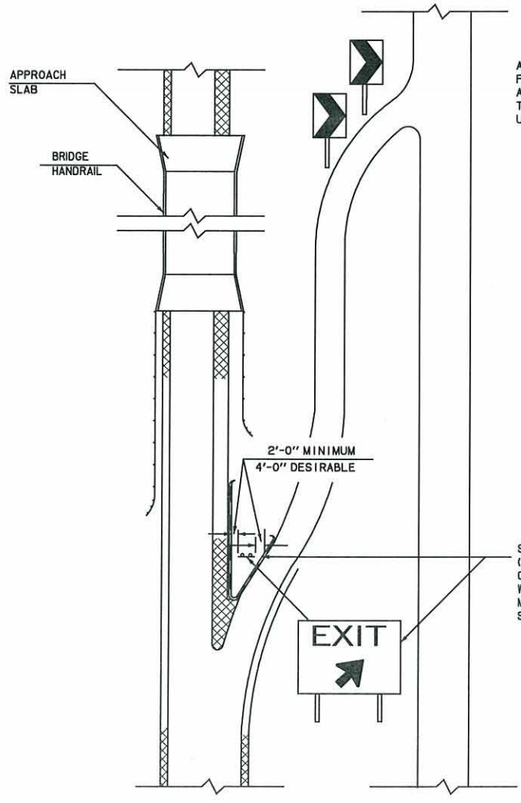
TRAFFIC STANDARD

TYPICAL INSTALLATIONS OF GROUND MOUNTED SIGNS

2009 SPECIFICATIONS

GMS1-1	00
	T-136

DESCRIPTION	REVISIONS	DATE

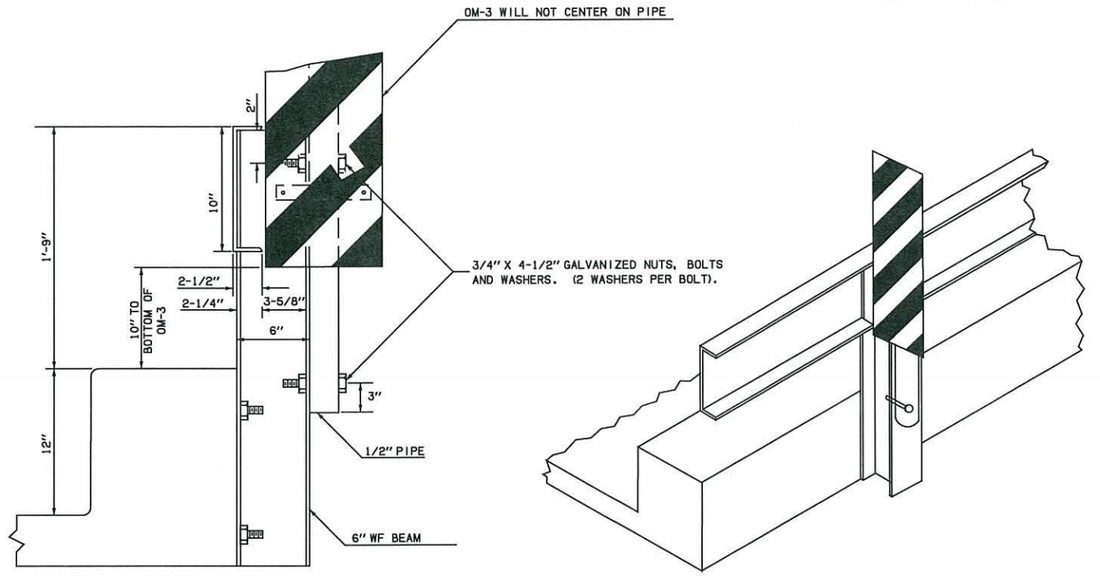


ALIGNMENT OF W1-8 MAY BE ADJUSTED FOR SIGHT DISTANCE DUE TO VERTICAL AND HORIZONTAL ALIGNMENT OF RAMP AT THE DISCRETION OF THE ENGINEER. USE ONLY WHEN SPECFIED ON PLANS.

SIGNS MOUNTED IN GORE SHALL BE 2'-0" MINIMUM (4'-0" DESIRABLE) FROM THE EDGE OF SHOULDER OR NON-MOUNTABLE CURB. WHERE MOUNTABLE CURB WITH SHOULDER EXISTS THE SIGN SHALL BE 2'-0" MINIMUM (4'-0" DESIRABLE) FROM THE EDGE OF SHOULDER LINE.

TYPICAL INSTALLATION OF:

"SIGN MOUNTED IN GORE"



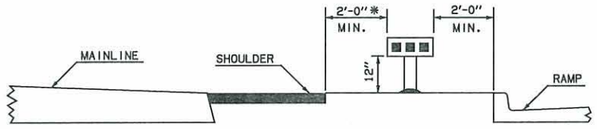
"OM-3'S IN REGARD TO BRIDGES"

MOUNTING HEIGHT FOR OBJECT MARKERS

WHEN USED FOR MARKING OBJECTS 8'-0" OR LESS FROM THE SHOULDER OR CURB, THE MOUNTING HEIGHT SHOULD BE 4'-0" ABOVE NEAR TRAFFIC LANE. WHEN MORE THAN 8'-0" FROM THE SHOULDER OR CURB THE MOUNTING HEIGHT MAY BE 4'-0" ABOVE THE GROUND. THE MOUNTING HEIGHT MAY VARY AS TO NEED.

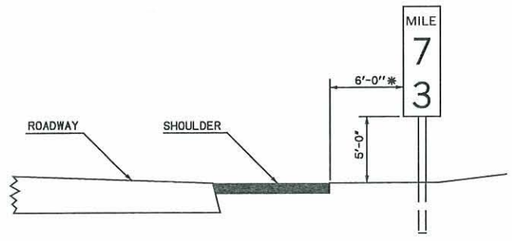
SPECIAL (TO BE USED ONLY WHEN SPECIFIED ON PROJECT.)

TYPICAL OM-3 INSTALLATION MOUNTED TO STEEL HANDRAIL



TYPICAL OM-2 INSTALLATION WHEN SPECIFIED ON PLANS

* FROM EDGE OF SHOULDER



TYPICAL D10-2F INSTALLATION

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 8/5/10

TRAFFIC STANDARD

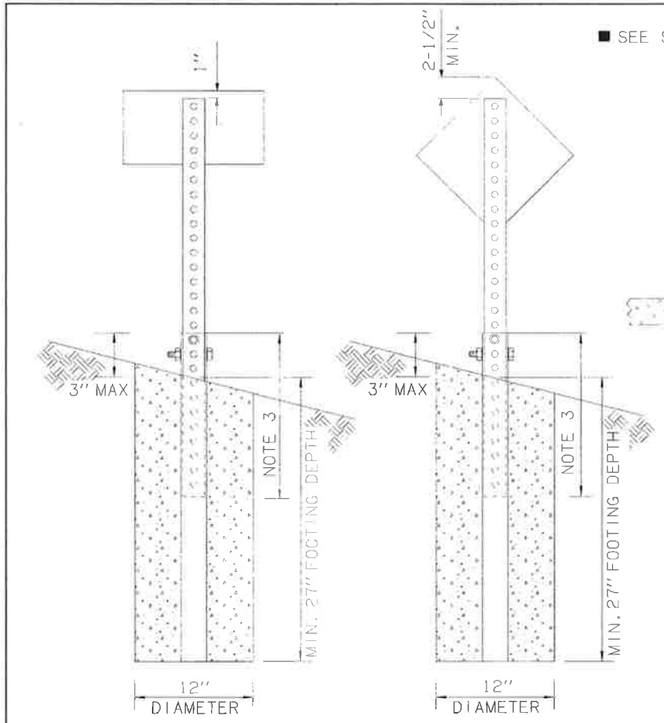
TYPICAL INSTALLATION OF GROUND MOUNTED SIGNS AND OBJECT MARKERS

2009 SPECIFICATIONS

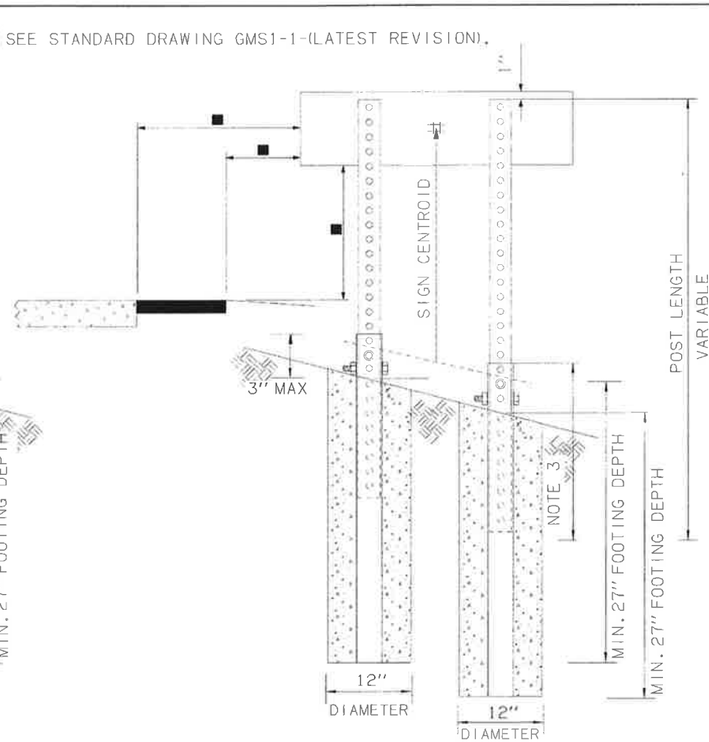
GMS2-1	00
	T-137

REVISIONS	
DESCRIPTION	DATE
MODIFIED GENERAL NOTE 4.	7/08/201
REISSUED	4/10/201

■ SEE STANDARD DRAWING GMS1-1-(LATEST REVISION).



TYPICAL SINGLE POST INSTALLATION



TYPICAL DOUBLE POST INSTALLATION

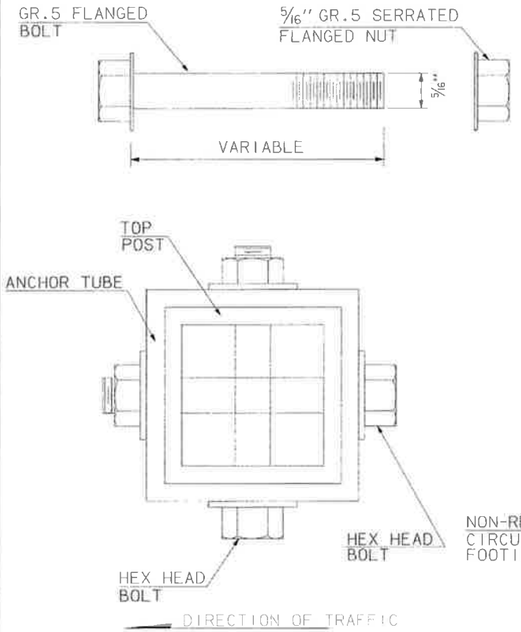
WINDLOAD COORDINATES FOR SQUARE POST AT 90 MPH

SIGN CENTROID	ALLOWABLE SIGN AREA (FT^2) PER SINGLE POST *								
	FHWA APPROVED FOR: 2 POST PER SIGN					FHWA APPROVED FOR: 1 POST PER SIGN			
	1½"x12ga perf.	1¾"x14ga perf.	1¾"x12ga perf.	2"x14ga perf.	2"x12ga perf.	2¼"x14ga perf.	2¼"x12ga perf.	2½"x12ga perf.	
16.5'	3.46	3.90	4.85	5.19	6.48	6.67	8.34	10.44	
16'	3.57	4.02	5.00	5.36	6.68	6.88	8.60	10.76	
15.5'	3.68	4.15	5.17	5.53	6.90	7.11	8.88	11.11	
15'	3.81	4.29	5.34	5.71	7.13	7.34	9.17	11.48	
14.5'	3.94	4.44	5.52	5.91	7.37	7.60	9.49	11.87	
14'	4.08	4.59	5.72	6.12	7.64	7.87	9.83	12.30	
13.5'	4.23	4.76	5.93	6.35	7.92	8.16	10.19	12.75	
13'	4.39	4.95	6.16	6.59	8.22	8.47	10.59	13.24	
12.5'	4.57	5.15	6.41	6.86	8.55	8.81	11.01	13.77	
12'	4.76	5.36	6.67	7.14	8.91	9.18	11.47	14.35	
11.5'	4.96	5.59	6.96	7.45	9.30	9.58	11.97	14.97	
11'	5.19	5.85	7.28	7.79	9.72	10.01	12.51	15.65	
10.5'	5.44	6.13	7.63	8.16	10.18	10.49	13.11	16.40	
10'	5.71	6.43	8.01	8.57	10.69	11.01	13.76	17.22	
9.5'	6.01	6.77	8.43	9.02	11.25	11.59	14.49	18.12	
9'	6.34	7.15	8.90	9.52	11.88	12.24	15.29	19.13	
8.5'	6.72	7.57	9.42	10.08	12.58	12.96	16.19	20.26	
8'	7.14	8.04	10.01	10.71	13.36	13.77	17.20	21.52	

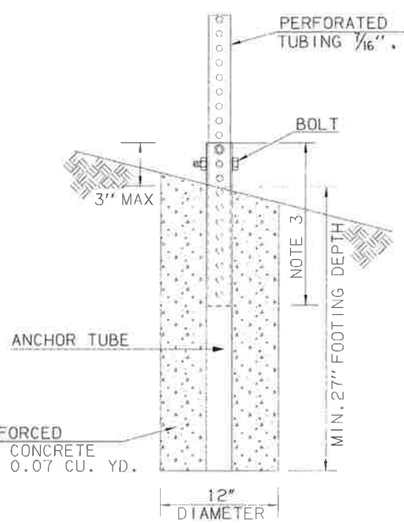
* USE A MULTIPLIER OF 2 OR 3 FOR 2 & 3 POST INSTALLATIONS.

GENERAL NOTES

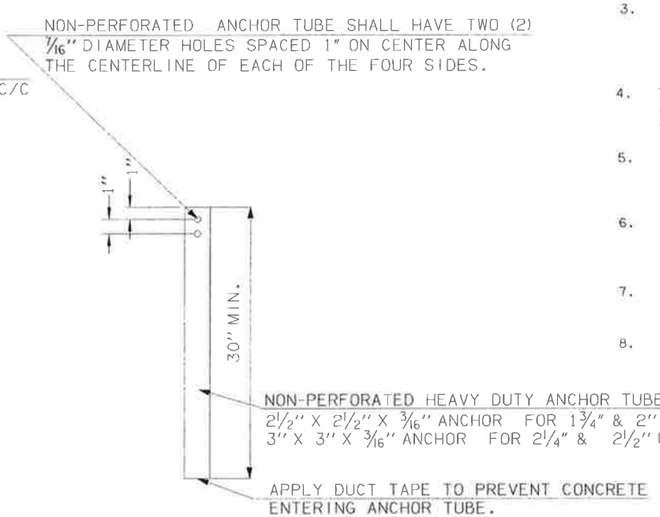
1. POST TUBE SHALL MEET ASTM A1011 GRADE 50.
   POST TUBE GALVANIZED AS PER ASTM A653 GRADE 90.
2. HEAVY DUTY ANCHOR TUBE SHALL MEET ASTM A500 GRADE B STRUCTURAL TUBE AND STEEL SHALL BE HOT DIP GALVANIZED PER ASTM A123.
3. THE UPPER SIGN POST SHALL TELESCOPE INSIDE THE ANCHOR TUBE A MINIMUM OF 12".
   ANCHOR TUBE SHALL BE MINIMUM OF 30" WITH 3" MAXIMUM AS SHOWN IN DETAILS.
4. THE CONCRETE FOOTING SHALL BE CLASS "C" CONCRETE OR AS DIRECTED BY THE ENGINEER. CONCRETE INCLUDED IN THE COST OF SQUARE TUBE POST.
5. THE NON-REINFORCED CIRCULAR CONCRETE FOOTING, ANCHOR TUBE AND HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE SQUARE TUBE POST.
6. SEE STANDARD DRAWINGS SSA1-1, MSD5-1, MSD6-1, SBS1-1, SBS2-1, AND SBS3-1 (LATEST REVISION) FOR PROPER BRACKET PLACEMENT ON THE SIGN AND POST SPACING FOR TWO POST INSTALLATION.
7. FOR VERTICAL AND LATERAL CLEARANCE, SEE STANDARD DRAWING GMS1-1-, AND GMS2-1-(LATEST REVISION).
8. SIGNS SHALL BE ATTACHED TO THE POSTS WITH BOLTS AS SHOWN ON STANDARD DRAWING SSA1-1-(LATEST REVISION).



BOLT DESIGN



ANCHOR TUBE DETAILS WITH CONCRETE FOOTING



HEAVY DUTY ANCHOR TUBE

– DRAWING NOT TO SCALE –

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
851(C)	SQUARE TUBE POST	LF

APPROVED BY TRAFFIC ENGINEER: David Gomez DATE: 4/9/12

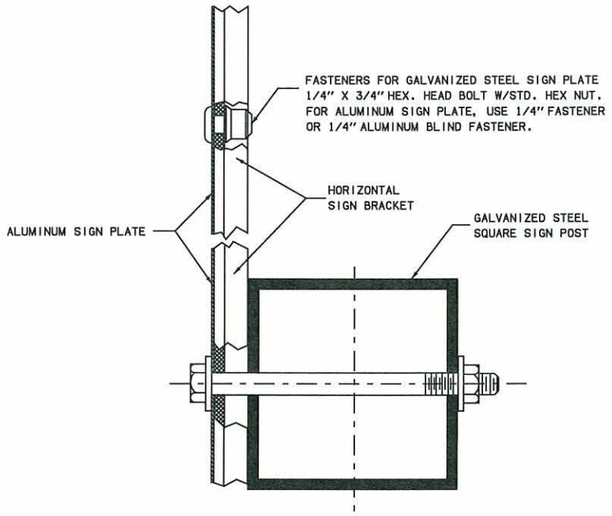
TRAFFIC STANDARD

SQUARE TUBE POST DETAILS

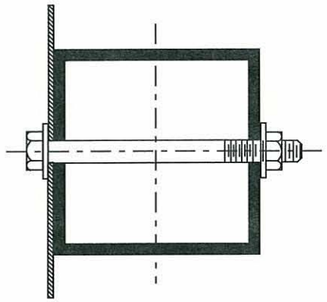
2009 SPECIFICATIONS

SSP1-1	02
	T-138

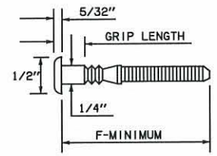
DESCRIPTION	REVISIONS	DATE

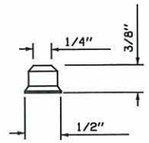


TOP VIEW



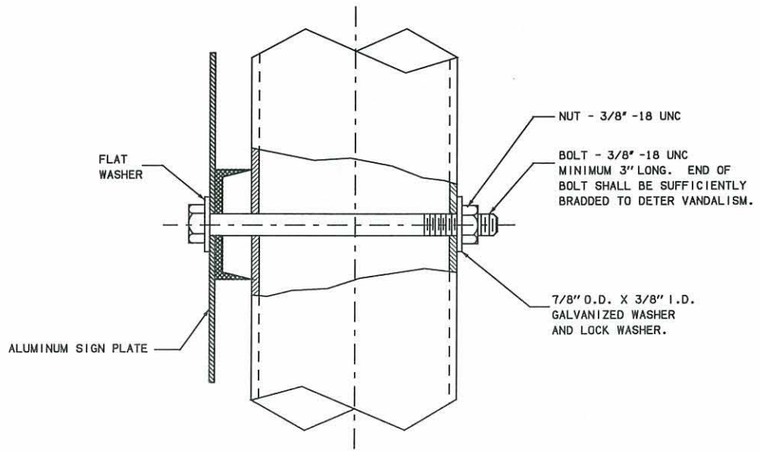
TOP VIEW





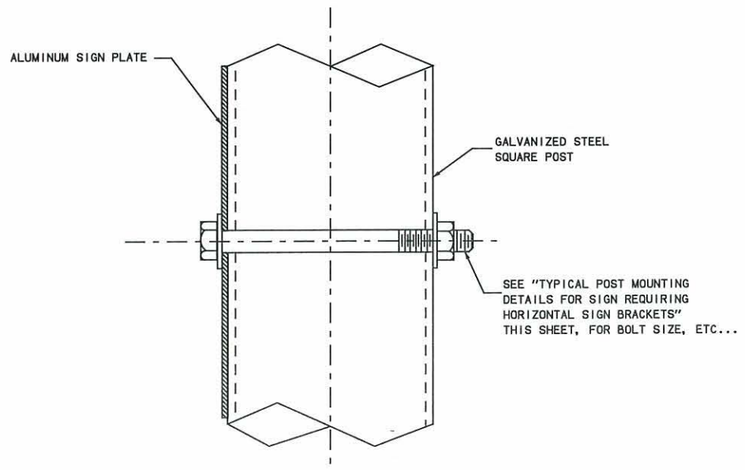
1/4" FASTENER AND 1/4" COLLAR
(TYPICAL)

GRIP NO.	GRIP LENGTH (INCHES)	F-MIN.
2	0.094 - 0.156	1-7/16"
3	0.157 - 0.218	1-1/2"
4	0.219 - 0.281	1-9/16"
5	0.282 - 0.343	1-5/8"
6	0.344 - 0.406	1-11/16"
17	0.407 - 1.093	2-3/8"



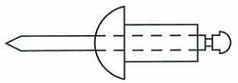
SIDE VIEW

TYPICAL POST MOUNTING DETAILS
FOR SIGN REQUIRING HORIZONTAL
SIGN BRACKETS



SIDE VIEW

TYPICAL POST MOUNTING DETAILS
FOR SIGN 18" WIDE AND UNDER



ALUMINUM ALLOY BODY AND
MANDREL. GRIP RANGE
1/16" TO 1/4".

1/4" BLIND
FASTENERS

NOTE: ALL NUTS SHALL
BE SELF-LOCKING.

APPROVED BY
TRAFFIC ENGINEER: Harold Smith DATE: 8/5/10

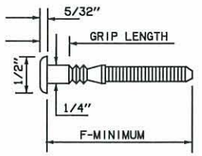
TRAFFIC STANDARD

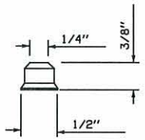
SHEET SIGN ASSEMBLY DETAILS
(SQUARE TUBE)

2009 SPECIFICATIONS

SSA1-1	00
	T-139

DESCRIPTION	REVISIONS	DATE





1/4" FASTENER AND 1/4" COLLAR (TYPICAL)

GRIP NO.	GRIP LENGTH	F-MIN.
2	0.094 - 0.156	1-7/16"
3	0.157 - 0.218	1-1/2"
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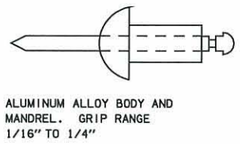
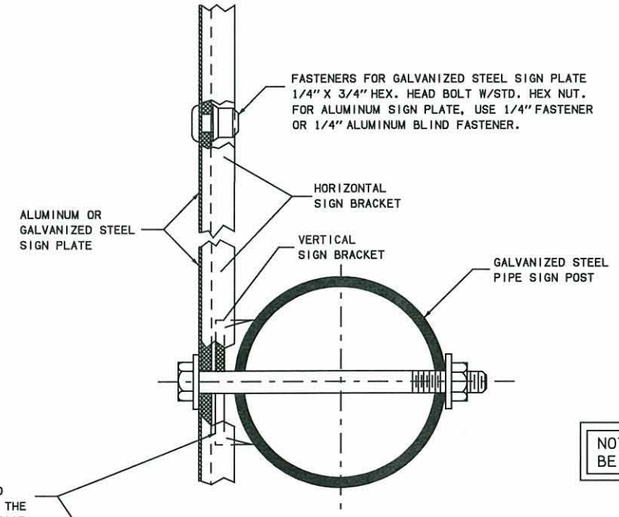


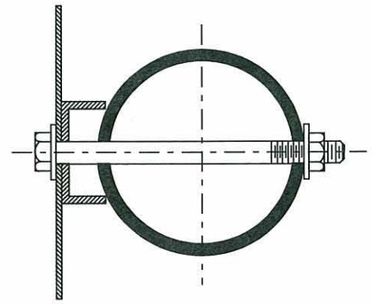
ALUMINUM ALLOY BODY AND MANDREL. GRIP RANGE 1/16" TO 1/4"

1/4" BLIND FASTENERS

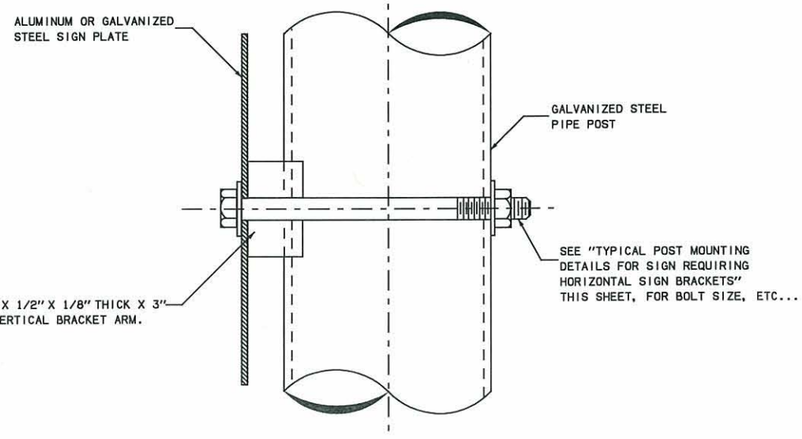


TOP VIEW

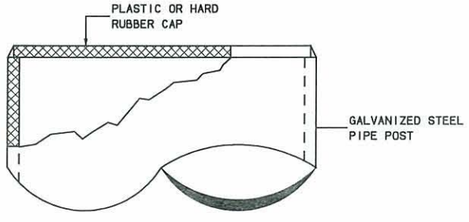
NOTE: ALL NUTS SHALL BE SELF-LOCKING.



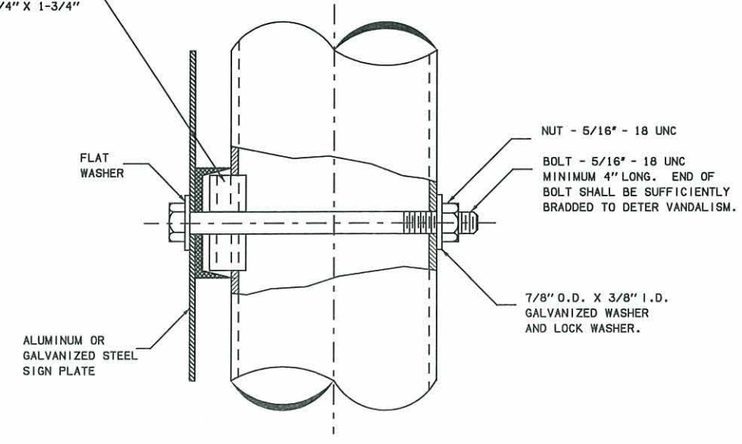
TOP VIEW



SIDE VIEW
TYPICAL POST MOUNTING DETAILS FOR SIGN REQUIRING VERTICAL SIGN BRACKETS ONLY



POST CAP NOT REQUIRED FOR 1-1/2" AND 2" PIPE POSTS



SIDE VIEW
TYPICAL POST MOUNTING DETAILS FOR SIGN REQUIRING HORIZONTAL SIGN BRACKETS

APPROVED BY TRAFFIC ENGINEER: Rudolf Smaj DATE: 8/5/10

TRAFFIC STANDARD

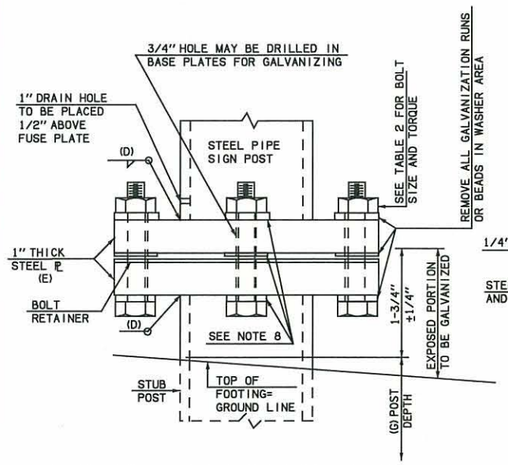
SHEET SIGN ASSEMBLY DETAIL (GALVANIZED PIPE)

2009 SPECIFICATIONS

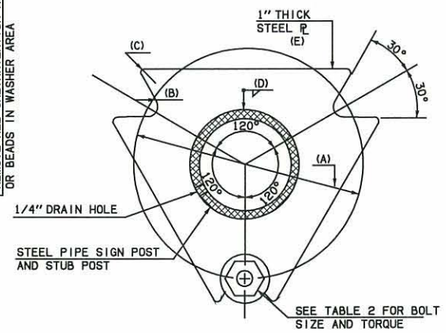
SSA2-1	00
	T-140

TRFPC## D:\usr2\2009Standards_ss\t140_SSA2-1-00.dgn 11:16:54 AM 7/28/2010 R:\TRAF_PLOT\leroyh.pen R:\TRAF_PLOT\bw.tbl

TABLE I														
FTG. DES. NO.	POST SIZE REQUIRED	BASE PLATE DIMENSIONS						FOOTING DIMENSIONS					QUANTITIES	
		TRIANGLE SIZE	A	B	C	D	E	SIZE DIA.	LENGTH	POST (G) DEPTH	VERTICAL BARS	HORIZONTAL BARS	CLASS "A" CONCRETE	REINFORCING STEEL
											NO./SIZE	NO./SIZE		
A-1	1-1/2" ø 2.72 plf	NO BASE PLATE REQUIRED						12"	2'-0"	24"	NONE	NONE	.06 CY	NONE
A-2	2" ø 3.65 plf	NO BASE PLATE REQUIRED						12"	2'-0"	24"	NONE	NONE	.06 CY	NONE
A-3	2-1/2" ø 5.79 plf	9" x 9" x 9"	6-1/4"	9/16"	1/4"	1/4"	1"	18"	3'-0"	24"	4 / #5	4 #4	.20 CY	24 lbs
A-4	3" ø 7.58 plf	9" x 9" x 9"	6-1/4"	9/16"	1/4"	1/4"	1"	18"	3'-6"	24"	6 / #5	4 #4	.23 CY	32 lbs
A-5	3-1/2" ø 9.11 plf	10" x 10" x 10"	7-1/16"	11/16"	1/4"	5/16"	1"	18"	4'-0"	30"	6 / #5	5 #4	.26 CY	38 lbs
A-6	4" ø 10.79 plf	10" x 10" x 10"	7-1/16"	11/16"	1/4"	5/16"	1"	18"	4'-6"	30"	6 / #5	5 #4	.30 CY	42 lbs



STEEL PIPE POST BASE CONNECTION



NOTE : BASE PLATE FOR STUB POST SAME AS BASE PLATE FOR SIGN POST.

PIPE POST BASE PLATE

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION

1. ASSEMBLE POST TO STUB WITH BOLTS AND WASHERS. USE ONE FLAT WASHER PER BOLT AND BOLT RETAINER BETWEEN BASE PLATES.
2. SHIM AS REQUIRED TO PLUMB AND ALIGN POST(S) BEFORE OR IMMEDIATELY AFTER POURING CONCRETE FOOTING.
3. TIGHTEN ALL BOLTS, IN A SYSTEMATIC ORDER, TO THE PRESCRIBED TORQUE TO BED WASHERS AND SHIMS AND CLEAN BOLT THREADS.
4. LOOSEN AND RETIGHTEN TO PRESCRIBED TORQUE IN THE SAME ORDER AS INITIAL TIGHTENING. DO NOT OVER TIGHTEN.

NO. REQ'D. PL 9" X 9" X 9"

(3) 1/2" ø X 3-1/4" H. S. BOLT
(3) HEX. NUTS
(9) FLAT WASHERS (SEE NOTE 8)

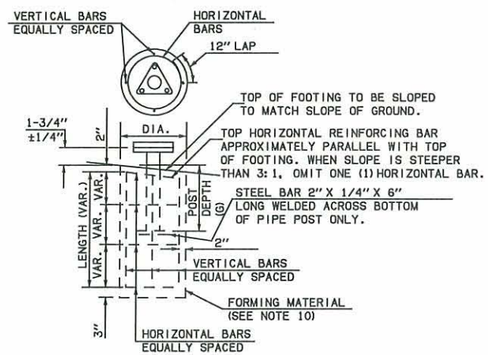
NO. REQ'D. PL 10" X 10" X 10"

(3) 5/8" ø X 3-3/4" H. S. BOLT
(3) HEX. NUTS
(9) FLAT WASHERS (SEE NOTE 8)

TABLE 2		
BASE PLATE CONNECTION DATA TABLE		
BOLT TORQUE FOR BASE PLATES		
BOLT SIZE	MINIMUM	MAXIMUM
1/2" ø X 3-1/4"	16.6 FT LBS	25.0 FT LBS
5/8" ø X 3-1/4"	37.5 FT LBS	56.6 FT LBS
3/4" ø X 3"	67.5 FT LBS	88.3 FT LBS

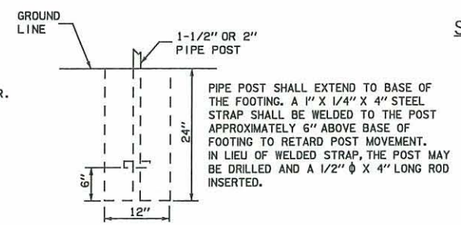
BOLT TORQUE LIMITS

THE HIGH STRENGTH BOLTS AT THE BASE CONNECTION SHOULD BE TORQUED WITHIN THE LIMITS SPECIFIED IN THE ABOVE TABLE. HOWEVER THE LOWER LIMIT SHOWN IN THE "BASE PLATE CONNECTION DATA TABLE" IS MORE DESIRABLE.



NOTE : PIPE STUB POST MAY BE INSTALLED TO THE BASE OF THE FOOTING IF DESIRED, BUT ONLY THE PIPE POST SPECIFIED IN THE FOOTING DESIGN WILL BE PAID FOR. PIPE POST EXTENDING TO THE BASE OF THE FOOTING SHALL HAVE THE STEEL BAR WELDED TO THE POST A MINIMUM OF 6" ABOVE THE BASE OF THE FOOTING.

TYPICAL "A" FOOTING DETAIL

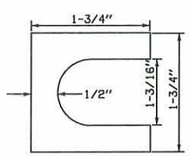


WHEN HOLE FOR FOOTING CAN BE DRILLED AND MAINTAINED AS A "NEAT LINE" HOLE IN THE OPINION OF THE ENGINEER, THE UPPER PORTION NEED NOT BE FORMED. IF FORMING IS REQUIRED, A MINIMUM OF 6" SHALL BE REQUIRED AT THE TOP OF FOOTING. FORMING MAY BE ACCOMPLISHED BY USE OF A CARDBOARD CASING OR SIMILAR MATERIAL THAT MAY BE LEFT IN PLACE. ANY VOID AROUND FINAL FOOTING SHALL BE BACK-FILLED AND FIRMLY TAMPED.

TYPICAL "A-1" & "A-2" FOOTING DETAIL

CUT FROM 30 GAUGE GALVANIZED SHEET METAL. PLACE BETWEEN BASE PLATES. SIZE---VARIES TO FIT BASE PLATES.

SHEET METAL BOLT RETAINER



FURNISH 2 ø 0.012 THICK AND 2 ø 0.32 THICK SHIMS FOR POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO ASTM-B36.

SHIM DETAIL

REVISIONS		
DESCRIPTION		DATE

CONSTRUCTION NOTES

1. ALL PIPE AND WIDE FLANGE BEAM POST SHALL CONFORM TO THE 2009 STANDARD SPECIFICATIONS.
2. ALL BOLTS, NUTS AND WASHERS SHALL NOT BE GALVANIZED OR PLATED, BUT SHALL BE PAINTED, AFTER INSTALLATION, WITH A ZINC RICH PAINT.
3. STRUCTURAL STEEL TO BE GALVANIZED AFTER FABRICATION, EXCEPT AS NOTED, IN ACCORDANCE WITH THE 2009 STANDARD SPECIFICATIONS.
4. POST LENGTHS AS SHOWN ON THE PLANS INCLUDE BOTH SIGN POST AND STUB POST WHICH IS SET IN THE CONCRETE FOOTING.
5. ALL WELDING MATERIALS AND METHODS, INCLUDING QUALIFICATIONS OF WELDERS, SHALL CONFORM WITH THE REQUIREMENTS OF THE 2009 STANDARD SPECIFICATIONS.
6. STRUCTURAL EXCAVATION TO BE PAID FOR IN OTHER ITEMS OF WORK.
7. TOP AND BOTTOM WASHERS ON BASE PLATE SHALL BE 1/4" THICK. WASHERS MAY BE ROUND OR SQUARE. USE STANDARD ROUND WASHERS BETWEEN BASE PLATES. REMOVE ALL GALVANIZING RUNS OR BEADS IN WASHER AREA.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
804(A)	STRUCTURAL CONCRETE	CY
804(B)	REINFORCING STEEL	LB
851(B)	GALVANIZED STEEL PIPE POST	LF

APPROVED BY TRAFFIC ENGINEER: Arnold Umanzor DATE: 8/5/10

TRAFFIC STANDARD

STANDARD FOOTINGS FOR GROUND MOUNTED SIGNS (GALVANIZED PIPE)

2009 SPECIFICATIONS

FGS1-1	00
	T-141

The City of Durant

Memorandum

Date:	6/8/2021
To:	Mayor and City Council
From:	Rebecca Payne, Grants Coordinator
Re:	**15421 CDBG-ED 12 Closeout for PharmcareOK of Durant, Inc. (C-2013-05)**

1. Consideration to Accept the Waldron Drive Industrial Roadway Infrastructure Improvements Partially Funded by 15421 CDBG-ED 12 Serving PharmcareOK of Durant, Inc. as Successfully Complete.
2. Consideration to Approve Resolution R-2021-11 Referring to the Public Hearing for Closeout of the 15421 CDBG-ED 12 Project
3. Consideration to Approve the Closeout Documents for 15421 CDBG-ED 12 Completion.

SEE ATTACHMENTS:
Resolution R-2021-11
Closeout Documents;
Final Expenditure Report
Contract Closeout Certification
Final Wage Compliance Report(s)
Section 3 Summary Report

Council Information / Action Requested

1. Accept the Waldron Drive Industrial Roadway Infrastructure Improvements Partially Funded by 15421 CDBG-ED 12 Serving PharmcareOK of Durant, Inc. as Successfully Complete.
2. Approve Resolution R-2021-11 Referring to the Public Hearing for Closeout of the 15421 CDBG-ED 12 Project
3. Approve the Closeout Documents for 15421 CDBG-ED 12 Completion.

City Staff Information / Action Follow-up, if Council authorizes this action:

Becca will complete and submit the closeout documents for 15421 CDBG-ED 12 to ODOC by June 30, 2021.

ATTACHMENTS:

1. 15421 CDBG ED Closeout Resolution 2021-11
2. Pharmcare - Final Report 15421
3. Pharmcare - Closeout Certification 15421
4. Pharmcare - Final Wage Complaince 15421 Direct Traffic
5. Pharmcare - Final Wage Compliance - 15421 Overland
6. Pharmcare - Section 3 Summary 15421

RESOLUTION No. R-2021-11

A RESOLUTION FOR CLOSEOUT PUBLIC HEARING Oklahoma Department of Commerce 2012 COMMUNITY DEVELOPMENT BLOCK GRANT – ECONOMIC DEVELOPMENT INFRASTRUCTURE IMPROVEMENTS (CDBG-ED) 15421 CDBG – ED 12

WHEREAS, the City of Durant has completed the 2012 Community Development Block Grant through the CDBG – Economic Development Program project 15421 CDBG – ED 12 (C-2013-05) for public infrastructure improvements and new job creations benefitting the PharmcareOK of Durant, Inc. facility located at 102 Waldron Drive, Durant, OK; and

WHEREAS, the performance period for the 15421 CDBG – ED 12 (C-2013-05) was January 31, 2013 through December 31, 2016; and

WHEREAS, as required by the CDBG grant program guidelines and the City's 2012 through 2021 Citizen Participation Plans, a public hearing was conducted on this date within a regular scheduled council meeting to provide project and program information; and

WHEREAS, the public hearing notice was posted in eight public view locations, as well as posted on the City of Durant's website page, and identified as an agenda item within the official agenda sent to approximately 12 media outlets, with public invitation to attend the public hearing or connect via a live stream option; and

WHEREAS, the City's on-staff Grants Coordinator conducted the public hearing during today's City Council meeting on June 8, 2021 at 6:00 PM and provided information about the 2012 Community Development Block Grant Economic Development (CDBG–ED) program and completed project as outlined per grant guidelines and Citizen Participation Plans; and

WHEREAS, the City's on-staff Grants Coordinator will include all Public Hearing documentation and approved closeout items to be submitted to Oklahoma Department of Commerce.

NOW THEREFORE, BE IT RESOLVED by the Durant City Council that the City of Durant confirms the public hearing was held on today's date, as stated in this Resolution as required for the 15421 CDBG–ED 12 closeout.

PASSED AND APPROVED by the Mayor and City Council of the City of Durant, Oklahoma this June 8, 2021, at a regular called meeting of the governing body, in compliance with the Open Meeting Act, 25 O.S. § 301 et seq.

_____
Oden Grube, Mayor

ATTEST:

_____
Cynthia Price, City Clerk

EDIF-2012-DURANT CI-00019

Durant, City of **EDIF-EXP-2012-DURANT CI-00368**

Expenditure Report

Contractor Name: Durant, City of	Contract #: 15421 CDBG ED 12	Month	Year
		June	2021

Type of Expenditure Report

Monthly ✔ Final Revised

INTEREST RECONCILIATION		CASH RECONCILIATION	
Total Interest Earned (YTD):	$0	Cash Received (YTD):	$500,000.00
Less Interest Expended (YTD):	$0	Cash Expended (YTD):	$500,000.00
Interest Earned Cash Balance:	$0	Unexpended Cash Balance:	$0

Category	Current Expenditures	YTD Expenditures	Budget	Remaining Balance
Construction	$0	$500,000.00	$500,000.00	$0
Engineering/Architect	$0	$0	$0	$0
Inspection	$0	$0	$0	$0
Planning	$0	$0	$0	$0
Direct Grantee Admin	$0	$0	$0	$0
Public Facilities Admin	$0	$0	$0	$0
Other	$0	$0	$0	$0
TOTAL CDBG COSTS	$0	$500,000.00	$500,000.00	$0
Leverage/Match	$12,700.00	$1,614,585.79	$1,781,062.10	$166,476.31

By submitting this report, I hereby certify that the expenditures reported are taken from the original Books of Account and that such expenditures are valid and consistent with the terms of the contract.

Revision Explanation:

STATE OF OKLAHOMA

OKGRANTS

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My Training Materials | My Organization(s) | My Profile | Logout

SAVE | CHECK GLOBAL ERRORS

Back

Document Information: EDIF-2012-DURANT CI-00019

Details

You are here: > ODOC Application Menu > Forms Menu

CLOSEOUT CERTIFICATION PAGE

Applicant: City of Durant

Contract #: 15421 CDBG ED 12

☐ ***Please check this box if you did NOT utilize all your contracted funds.***

I. FINAL CASH RECONCILIATION

A. Total cash received under this contract (include cash in transit) $500,000.00

B. Less: Total accrued Expenditures this contract $500,000.00

C. Excess Cash on Hand to be refunded to ODOC

D. I certify that the expenditures reported are taken from the original books of account and that such expenditures are valid and consistent with the terms of this contract.

E. I further certify that the attached check in the amount of [ ] (Same as Line C above) fully represents all the money received for but not expended in performance of this Contract.

F. This amount is refunded to ODOC in accordance with the terms of the contract.

II. RELEASE

A. Pursuant to the terms of this contract and in consideration of the Total Accrued Expenditures referred to in Line B above which have been paid or will be paid to the Contractor under this contract, Contractor, upon payment of any remaining balance by ODOC, does remise, release and discharge the State of Oklahoma, ODOC and their officers, agents and employees of and from all liabilities, obligations, claims and demands whatsoever under or arising from the performance of this contract.

B. I understand that the Total Accrued Expenditures certified in I.D. above will become the final total obligated amount of this contract.

III. ASSIGNMENT OF REFUNDS, REBATES AND CREDIT

Pursuant to the terms of this contract and in consideration of payment of costs as provided in said contract, Contractor does hereby:

A. Assign, transfer, set over and release to the Oklahoma Department of Commerce all right, title and interest to all refunds, rebates and credits or other amounts, including any interest thereon, arising out of the performance of this contract, together with all rights of action accrued or which may accrue thereunder.

B. Agree to take whatever action may be necessary to effect prompt collection of all such refunds, rebates, credits or other amounts, including any interest theron, due or which may become due and to forward promptly by check made payable to the Oklahoma Department of Commerce any proceeds so collected.

C. Agree to cooperate fully with the Oklahoma Department of Commerce as to any claim or suit in connection with such refunds, rebates, credits or other amounts due, including any interest theron; to execute any protest, pleading, application, power of attorney or doceuments in connection therewith; and to permit the Oklahoma Department of Commerce to represent it at any hearing, trial or other proceeding arising out of such claim or suit.

Submitted By:

[ ]
Name

[ ]
Title

Navigation Links

Status	Page Name	Note	Created By	Last Modified By

FINAL WAGE COMPLIANCE REPORT

Grant Recipient Name: **City of Durant**	Contract Number: **15421 CDBG ED 12**
Contact Person: **Rebecca Payne, Grants Coordinator**	Telephone No.: **(580) 931.6623**
Project Name: **Industrial Roadway Improvements**	Project Location: **Waldron Drive - Eaker Field Industrial Airpark**
Construction Completion Date: **August 28, 2015**	Contract Amount: **$ 7,992.40**
Prime Contractor: **Direct Traffic Control, Inc** **601 S 45th St. E, PO Box 602** **Muskogee, OK 74402**	
Subcontractors: **N/A**	

1. Were any workers paid less than the specified Davis-Bacon rates that applied to this project?
   □ Yes X No

2. If YES:

a. What was the total amount of restitution paid? $_____

b. What was the method of restitution?
   - □ Paid by the Contractor
   - □ Paid by Grant Recipient with funds withheld from payment to the Contractor

Firm	Affected Employees	Amount of Restitution Paid	Nature of Violations

(Attach additional pages if necessary.)

3. Were any workers not paid the correct overtime payments? □ Yes ☒ No

If YES: Liquidated damages at the rate of $10 for each calendar day for each worker must be calculated and the Contractor notified of his liability, and

4. Provide information concerning the nature of the overtime violations. This should include:

   a. Firm's Name, Address and Phone Number: _____

   b. Date Contractor was notified in writing of the amount of liquidated damages which could be assessed:
   _____

   c. Date the Contractor responded to the written notice: (must be within 30 days of the receipt of notification):
   _____

   d. Did the Contractor seek a reduction or waiver of the liquidated damages?

   □ Yes □ No

e. If YES: Was the requested approved and for what

□ Yes - Reduction. □ Yes - Waiver. □ No.

f. On what grounds was HUD's or USDOL's response based? _____

_____

g. Total amount of Liquidated Damages paid: $_____

h. What was the method of payment of the Liquidated Damages?

□ Paid by the Contractor

□ Paid by the Grant Recipient with funds withheld from payment to the Contractor.

i. Did the Contractor appeal the final decision to assess Liquidated Damages to the Wage Appeals Board?

□ Yes □ No

j. Attach copies of all correspondence relative to any Liquidated Damages.

5. If appropriate, attach a recommendation of and justification for sanctions against the Contractor.

Submitted by:

Rebecca Payne
Signature

June 4 2021
Date

Rebecca Payne, Grants Coordinator
Typed Name/Title

Form 9.2

FINAL WAGE COMPLIANCE REPORT

Grant Recipient Name: **City of Durant**	Contract Number: **15421 CDBG ED 12**
Contact Person: **Rebecca Payne, Grants Coordinator**	Telephone No.: **(580) 931.6623**
Project Name: **Industrial Roadway Improvements**	Project Location: **Waldron Drive - Eaker Field Industrial Airpark**
Construction Completion Date: **June 17, 2015**	Contract Amount: **$ 250,525.60**
Prime Contractor: **Overland Corporation** **534 US-77, PO Box 1947** **Ardmore, OK 73402**	
Subcontractors: **N/A**	

1. Were any workers paid less than the specified Davis-Bacon rates that applied to this project?
   □ Yes X No

2. If YES:

a. What was the total amount of restitution paid? $_____

b. What was the method of restitution?
   □ Paid by the Contractor
   □ Paid by Grant Recipient with funds withheld from payment to the Contractor

Firm	Affected Employees	Amount of Restitution Paid	Nature of Violations

(Attach additional pages if necessary.)

3. Were any workers not paid the correct overtime payments? □ Yes ☒ No

If YES: Liquidated damages at the rate of $10 for each calendar day for each worker must be calculated and the Contractor notified of his liability, and

4. Provide information concerning the nature of the overtime violations. This should include:

   a. Firm's Name, Address and Phone Number: _____

   b. Date Contractor was notified in writing of the amount of liquidated damages which could be assessed:
   _____

   c. Date the Contractor responded to the written notice: (must be within 30 days of the receipt of notification):
   _____

   d. Did the Contractor seek a reduction or waiver of the liquidated damages?

   □ Yes □ No

e. If YES: Was the requested approved and for what

□ Yes - Reduction. □ Yes - Waiver. □ No.

f. On what grounds was HUD's or USDOL's response based? _____

_____

g. Total amount of Liquidated Damages paid: $_____

h. What was the method of payment of the Liquidated Damages?

□ Paid by the Contractor

□ Paid by the Grant Recipient with funds withheld from payment to the Contractor.

i. Did the Contractor appeal the final decision to assess Liquidated Damages to the Wage Appeals Board?

□ Yes □ No

j. Attach copies of all correspondence relative to any Liquidated Damages.

5. If appropriate, attach a recommendation of and justification for sanctions against the Contractor.

Submitted by:

Rebecca Payne
Signature

JUNE 4, 2021
Date

Rebecca Payne, Grants Coordinator
Typed Name/Title

Section 3 Summary Report

Economic Opportunities for
Low – and Very Low-Income Persons
And Eligible Businesses

U.S. Department of Housing
and Urban Development

Office of Fair Housing
And Equal Opportunity

OMB Approval No: 2529-0043
(exp. 8/13/20XX)

Oklahoma City, OK

Public Reporting Burden statement printed below

1. Recipient Name & Address: (street, city, state, zip)	2. Tax Identification Number (TIN): 73-6005186	3. Total Amount Expended: $1,193,604.82
City of Durant 300 West Evergreen Durant, OK 74701	4. Contact Person Rebecca Payne, Grants Coordinator	5. Telephone Number: (Include area code) (580) 931-6623
	6. Start Date of Reporting Period: 01-31-2013	7. End Date of Reporting Period: 12-31-2016
	8. Program Code and Name: (A separate report must be submitted for each source of covered funding) CDBG State Administrated	15421 CDBG – ED 12

Part I: Employment and Training Opportunities (** Columns B, C and F are mandatory fields. Only include New Hires in these fields)

A Job Category	B Number of New Hires	C Number of New Hires that are Section 3 Residents	D Aggregate Number of all Staff Hours Worked (Optional)	E Total Staff Hours Worked by all Section 3 Employees (Optional)	F Percentage of Staff Hours Worked by Section 3 Employees Column E/ Column D (Optional, but must be completed if columns D & E are completed	G Number of Section 3 Trainees
Professionals – Accountant						
Clerical – Office and Clerical						
Administrative						
Case Management						
Facilities Management						
Technical (Bookkeeping, IT, etc.)						
Carpentry						
Painting						
Masonry						
Plumbing						
Electrical						
Janitorial						
Security						
Other: Describe						
Total	0	0	0	0	0	0

form HUD 60002 (7/2015)
Ref 24 CFR 135

Part II: Contracting Opportunities

1. **Construction Contracts**	**HUD Amount**	**Leveraged Amount**	**Total** (HUD Amount + Leveraged Amount)
A. Total dollar amount of construction contracts awarded with covered funds expended during the reporting period	$113,603.67	$144,914.33	$258,518.00
B. Total dollar amount of contracts awarded to Section 3 businesses during the reporting period			
C. Percentage of the total dollar amount of construction contracts that were awarded to Section 3 businesses during the reporting period (i.e., Item B/ Item A= %)			
D. Total number of Section 3 businesses receiving construction contracts during the reporting period			
2. **Non-Construction Contracts**			
A. Total dollar amount of non-construction contracts awarded with covered funds expended during the reporting period	$386,396.33	$548,690.50	$935,086.83
B. Total dollar amount of non-contracts awarded to Section 3 businesses during the reporting period			
C. Percentage of the total dollar amount of non-construction contracts that were awarded to Section 3 businesses during the reporting period (i.e., Item B/ Item A= %)			
D. Total number of Section 3 businesses receiving non-construction contracts during the reporting period			

Part III: Summary of Efforts

Indicate the efforts made to direct the employment and other economic opportunities generated by HUD financial assistance for housing and community development programs, to the greatest extent feasible, toward low-and very low-income persons, particularly those who are recipients of government assistance for housing. (Check all that apply and maintain copies of all documentation as evidence of the actions checked below)

___X__ Attempted to recruit low-income residents through: local advertising media, signs prominently displayed at the project site, contracts with the community organizations and public or private agencies operating within the metropolitan area (or nonmetropolitan county) in which the Section 3 covered program or project is located, or similar methods.

_____ Participated in a HUD program or other program which promotes the training or employment of Section 3 residents.

_____ Participated in a HUD program or other program which promotes the award of contracts to business concerns which meet the definition of Section 3 business concerns.

_____ Coordinated with Youthbuild Programs administered in the metropolitan area in which the Section 3 covered project is located.

_____ Entered into "first source" hiring agreements with organizations representing Section 3 residents.

_____ Established training programs, which are consistent with the requirements of the Department of Labor.

_____ Posted job postings within public housing developments(s) for employment opportunities available which identify the positions to be filled, the qualifications required, and where to obtain additional information about the application process.

_____ Advertised and/or issued print or electronic notices of employment opportunities to Section 3 residents.

_____ Advertised the jobs to be filled through the local media, such as community television networks, newspapers of general circulation, and/or radio advertising.

_____ Contacted public housing resident councils, resident management corporations, or other resident organizations, to request the assistance of these organizations in notifying Section 3 residents of the training and employment positions to be filled.

_____ Provided contractors a list of Work force development, social service, community based organizations, etc. that the recipient contacted to assist them with notifying Section 3 residents about employment and training opportunities.

_____ Initiated targeted community group meetings and mailings to recruit/attract Section 3 residents and Section 3 businesses.

_____ Conducted speaking presentations and or trainings to Section 3 residents and/or businesses.

_____ Employed Section 3 residents directly on either a permanent or a temporary basis to perform work generated by Section 3 assistance ("force account labor").

_____ Maintained a file of eligible qualified Section 3 residents for future employment positions.

_____ Utilized Payroll Certification, Worker Utilization Forms, and other types of data to identify potential employment and contracting opportunities.

_____ Maintained documentation of training provided to Section 3 residents.

_____ Provided contractors a list of Section 3 Residents that applied for jobs that were advertised (name, address and phone numbers).

_____ Contacted business development agencies, minority contractors associations, chambers of commerce, local Small Business Administration (SBA) and/or other similar community organizations to request their assistance in identifying section 3 businesses to be notified about HUD funded contracts.

_____ Used HUD's Section 3 Business Registry to locate local Section 3 businesses.

_____ Advertised and/or issued print or electronic notices of contracting opportunities to prospective Section 3 businesses.

_____ Provided contractors a list of Section 3 businesses to be notified about subcontracting opportunities (names, address and phone numbers).

_____ Advertised contracting opportunities by posting notices, which provide general information about the work to be contracted and where to obtain additional information at job sites.

_____ Initiated targeted community business group meetings and mailings to notify Section 3 business of contracting opportunities.

____ Other efforts to achieve compliance (Please describe below).

Describe other Efforts to achieve compliance:

Attempted to recruit low-income residents through: local advertising media, signs prominently displayed at the project site, contracts with the community organizations and public or private agencies operating within the metropolitan area (or nonmetropolitan county) in which the Section 3 covered program or project is located, or similar methods.

Covered Recipients are required to either meet all three minimum numerical goals for employment and contracting (see below), or provide a description of the steps taken to meet the goals, barriers encountered, and actions that will be taken to address them If your agency failed to meet all three Section 3 minimum numerical goals, please provide an explanation:

NOTE: The Section 3 minimum numerical goals are as follows:

Employment Opportunities:
30% of the aggregate number of **new hires** shall be Section 3 Residents

Contracting Opportunities:
Construction contract—10% of the aggregate dollar amount of **construction** contracts shall be awarded to Section 3 Businesses
Construction contract—3% of the aggregate dollar amount of **non-construction** contracts shall be awarded to Section 3 Businesses

Please review the Section 3 FAQs for definitions of Section 3 Residents and Business Concerns.

Public reporting for this collection of information is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. This agency may not collect this information, and you are not required to complete this form, unless it displays a currently valid OMB number.

Section 3 of the Housing and Urban Development Act of 1968, 12 U.S.C. 1701u,and the implementing regulation at 24 CFR § 135 mandates that HUD shall ensure that employment, training, contracting, and other economic opportunities generated by its housing and community development assistance programs are directed toward low- and very-low income persons, particularly those who are recipients of government assistance housing and businesses that substantially employ these persons. Please visit www.hud.gov/section3 to learn more about the regulatory requirements of Section 3.

The information will be used by the Department to monitor program recipients' compliance with Section 3, to assess the results of the Department's efforts to meet the statutory objectives of Section 3, to prepare reports to Congress. The report may also be used by recipients as self-monitoring tool. The data shall be entered into a database and will be analyzed and made available to the public by HUD staff. The collection of information is restricted to direct recipients of Federal financial assistance for housing and community development programs covered by Section 3. The information will be collected annually to assist HUD in meeting its reporting requirements under Section 3 of the Housing and Urban Development Act and Section 916 of the HCDA of 1992. An assurance of confidentiality is not applicable to this form. The Privacy Act of 1974 and OMB Circular A-108 are not applicable. The reporting requirements do not contain sensitive questions. Data is cumulative; personal identifying information is not included.

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From: Rebecca Payne, Grants Coordinator
Re: **16246 CDBG-ED 14 Closeout for Overland Corporation, Inc. – Materials and Manufacturing Asphalt Plant (C-2015-05)**

---

1. Consideration to Accept the Country Club Road Industrial Roadway Infrastructure Improvements Partially Funded by 16246 CDBG-ED 14 Serving Overland Corporation, Inc. Materials and Manufacturing Asphalt Plant Facility as Successfully Complete.
2. Consideration to Approve Resolution R-2021-12 Referring to the Public Hearing for Closeout of the 16246 CDBG-ED 14 Project
3. Consideration to Approve the Closeout Documents for 16246 CDBG-ED 14 Completion.

SEE ATTACHMENTS:
Resolution R-2021-12
Closeout Documents;
Final Expenditure Report
Contract Closeout Certification
Final Wage Compliance Report(s)
Section 3 Summary Report

Council Information / Action Requested

1. Accept the Country Club Road Industrial Roadway Infrastructure Improvements Partially Funded by 16246 CDBG-ED 14 Serving Overland Corporation, Inc. Materials and Manufacturing Asphalt Plant Facility as Successfully Complete.
2. Approve Resolution R-2021-12 Referring to the Public Hearing for Closeout of the 16246 CDBG-ED 14 Project
3. Approve the Closeout Documents for 16246 CDBG-ED 14 Completion.

City Staff Information / Action Follow-up, if Council authorizes this action:

Becca will complete and submit the closeout documents for 16246 CDBG-ED 14 to ODOC by June 30, 2021

ATTACHMENTS:

1. 16246 CDBG ED Closeout Resolution 2021-12
2. Overland Final Expenditure Report 16246
3. Overland Closeout Certification 16246
4. Overland Final Wage Compliance 16246 - Direct Traffic
5. Overland Final Wage Compliance 16246 - Rocking O
6. Overland Section 3 Summary 16246

RESOLUTION No. R-2021-12

A RESOLUTION FOR CLOSEOUT PUBLIC HEARING Oklahoma Department of Commerce 2014 COMMUNITY DEVELOPMENT BLOCK GRANT – ECONOMIC DEVELOPMENT INFRASTRUCTURE IMPROVEMENTS (CDBG-ED) 16246 CDBG – ED 14

WHEREAS, the City of Durant has completed the 2014 Community Development Block Grant through the CDBG – Economic Development Program project 16246 CDBG – ED 14 (C-2015-05) for public infrastructure improvements and new job creations benefiting the Overland, Inc. – Materials and Manufacturing Asphalt Plant facility at 868 Country Club Road.; and

WHEREAS, the performance period for the 16246 CDBG – ED 14 (C-2015-05) was February 23, 2015 through August 23, 2018; and

WHEREAS, as required by the CDBG grant program guidelines and the City's 2014 through 2021 Citizen Participation Plans, a public hearing was conducted on this date within a regular scheduled council meeting to provide project and program information; and

WHEREAS, the public hearing notice was posted in eight public view locations, as well as posted on the City of Durant's website page, and identified as an agenda item within the official agenda sent to approximately 12 media outlets, with public invitation to attend the public hearing or connect via a live stream option; and

WHEREAS, the City's on-staff Grants Coordinator conducted the public hearing during today's City Council meeting on June 8, 2021 at 6:00 PM and provided information about the 2014 Community Development Block Grant Economic Development (CDBG–ED) program and completed project as outlined per grant guidelines and Citizen Participation Plans; and

WHEREAS, the City's on-staff Grants Coordinator will include all Public Hearing documentation and approved closeout items to be submitted to Oklahoma Department of Commerce.

NOW THEREFORE, BE IT RESOLVED by the Durant City Council that the City of Durant confirms the public hearing was held on today's date, as stated in this Resolution as required for the 16246 CDBG–ED 14 closeout.

PASSED AND APPROVED by the Mayor and City Council of the City of Durant, Oklahoma this June 8, 2021, at a regular called meeting of the governing body, in compliance with the Open Meeting Act, 25 O.S. § 301 et seq.

_____
Oden Grube, Mayor

ATTEST:

_____
Cynthia Price, City Clerk

EDIF-2014-DURANT CI-00049

Durant, City of **EDIF-EXP-2014-DURANT CI-00477**

Expenditure Report

Contractor Name: Durant, City of	Contract #: 16246 CDBG ED 14	Month	Year
		June	2021

Type of Expenditure Report

Monthly ✔ Final Revised

INTEREST RECONCILIATION		CASH RECONCILIATION	
Total Interest Earned (YTD):	$0	Cash Received (YTD):	$525,000.00
Less Interest Expended (YTD):	$0	Cash Expended (YTD):	$525,000.00
Interest Earned Cash Balance:	$0	Unexpended Cash Balance:	$0

Category	Current Expenditures	YTD Expenditures	Budget	Remaining Balance
Construction	$0	$525,000.00	$525,000.00	$0
Engineering/Architect	$0	$0	$0	$0
Inspection	$0	$0	$0	$0
Planning	$0	$0	$0	$0
Direct Grantee Admin	$0	$0	$0	$0
Public Facilities Admin	$0	$0	$0	$0
Other	$0	$0	$0	$0
TOTAL CDBG COSTS	$0	$525,000.00	$525,000.00	$0
Leverage/Match	$846,984.20	$1,296,949.78	$1,075,000.00	($221,949.78)

By submitting this report, I hereby certify that the expenditures reported are taken from the original Books of Account and that such expenditures are valid and consistent with the terms of the contract.

Revision Explanation:

STATE OF OKLAHOMA

OKGRANTS

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My Training Materials | My Organization(s) | My Profile | Logout

CHECK GLOBAL ERRORS

Back

Document Information: EDIF-2014-DURANT CI-00049

Details

You are here: > ODOC Application Menu > Forms Menu

CLOSEOUT CERTIFICATION PAGE

Applicant: City of Durant

Contract #: 16246 CDBG ED 14

☐ ***Please check this box if you did NOT utilize all your contracted funds.***

I. FINAL CASH RECONCILIATION

A. Total cash received under this contract (include cash in transit) $525.000.00

B. Less: Total accrued Expenditures this contract $525.000.00

C. Excess Cash on Hand to be refunded to ODOC

D. I certify that the expenditures reported are taken from the original books of account and that such expenditures are valid and consistent with the terms of this contract.

E. I further certify that the attached check in the amount of _____ (Same as Line C above) fully represents all the money received for but not expended in performance of this Contract.

F. This amount is refunded to ODOC in accordance with the terms of the contract.

II. RELEASE

A. Pursuant to the terms of this contract and in consideration of the Total Accrued Expenditures referred to in Line B above which have been paid or will be paid to the Contractor under this contract, Contractor, upon payment of any remaining balance by ODOC, does remise, release and discharge the State of Oklahoma, ODOC and their officers, agents and employees of and from all liabilities, obligations, claims and demands whatsoever under or arising from the performance of this contract.

B. I understand that the Total Accrued Expenditures certified in I.D. above will become the final total obligated amount of this contract.

III. ASSIGNMENT OF REFUNDS, REBATES AND CREDIT

Pursuant to the terms of this contract and in consideration of payment of costs as provided in said contract, Contractor does hereby:

A. Assign, transfer, set over and release to the Oklahoma Department of Commerce all right, title and interest to all refunds, rebates and credits or other amounts, including any interest thereon, arising out of the performance of this contract, together with all rights of action accrued or which may accrue thereunder.

B. Agree to take whatever action may be necessary to effect prompt collection of all such refunds, rebates, credits or other amounts, including any interest theron, due or which may become due and to forward promptly by check made payable to the Oklahoma Department of Commerce any proceeds so collected.

C. Agree to cooperate fully with the Oklahoma Department of Commerce as to any claim or suit in connection with such refunds, rebates, credits or other amounts due, including any interest theron; to execute any protest, pleading, application, power of attorney or doceuments in connection therewith; and to permit the Oklahoma Department of Commerce to represent it at any hearing, trial or other proceeding arising out of such claim or suit.

Submitted By:

Name

Title

Navigation Links

Status	Page Name	Note	Created By	Last Modified By

FINAL WAGE COMPLIANCE REPORT

Grant Recipient Name: **City of Durant**	Contract Number: **16246 CDBG 14**
Contact Person: **Rebecca Payne, Grants Coordinator**	Telephone No.: **(580) 931.6623**
Project Name: **Industrial Roadway Improvements**	Project Location: **Country Club Road**
Construction Completion Date: 2/16/18	Contract Amount: **$ 8,279.00**
Prime Contractor: **Direct Traffic Control, Inc** **601 S 45th St. E, PO Box 602** **Muskogee, OK 74402**	
Subcontractors: N/A	

1. Were any workers paid less than the specified Davis-Bacon rates that applied to this project?
   □ Yes x No

2. If YES:

a. What was the total amount of restitution paid? $_____

b. What was the method of restitution?
   □ Paid by the Contractor
   □ Paid by Grant Recipient with funds withheld from payment to the Contractor

Firm	Affected Employees	Amount of Restitution Paid	Nature of Violations

(Attach additional pages if necessary.)

3. Were any workers not paid the correct overtime payments? □ Yes ☒ No

If YES: Liquidated damages at the rate of $10 for each calendar day for each worker must be calculated and the Contractor notified of his liability, and

4. Provide information concerning the nature of the overtime violations. This should include:

   a. Firm's Name, Address and Phone Number: _____

   b. Date Contractor was notified in writing of the amount of liquidated damages which could be assessed:
   _____

   c. Date the Contractor responded to the written notice: (must be within 30 days of the receipt of notification):
   _____

   d. Did the Contractor seek a reduction or waiver of the liquidated damages?

   □ Yes □ No

e. If YES: Was the requested approved and for what

□ Yes - Reduction. □ Yes - Waiver. □ No.

f. On what grounds was HUD's or USDOL's response based? _____

_____

g. Total amount of Liquidated Damages paid: $_____

h. What was the method of payment of the Liquidated Damages?

□ Paid by the Contractor

□ Paid by the Grant Recipient with funds withheld from payment to the Contractor.

i. Did the Contractor appeal the final decision to assess Liquidated Damages to the Wage Appeals Board?

□ Yes □ No

j. Attach copies of all correspondence relative to any Liquidated Damages.

5. If appropriate, attach a recommendation of and justification for sanctions against the Contractor.

Submitted by:

Rebecca Payne
Signature

June 4, 2021
Date

Rebecca Payne, Grants Coordinator
Typed Name/Title

FINAL WAGE COMPLIANCE REPORT

Grant Recipient Name: **City of Durant**	Contract Number: **16246 CDBG-14**
Contact Person: **Rebecca Payne, Grants Coordinator**	Telephone No.: **(580) 931.6623**
Project Name: **Industrial Roadway Improvements**	Project Location: **Country Club Road**
Construction Completion Date: 12/07/2016	Contract Amount: **$ 237,052.93**
Prime Contractor: **Rocking O Construction, LLC** **1287 S. Chisolm Rd** **Caddo, OK 74727**	
Subcontractors **OCAP Construction**	

1. Were any workers paid less than the specified Davis-Bacon rates that applied to this project?
   □ Yes X No

2. If YES:

a. What was the total amount of restitution paid? $_____

b. What was the method of restitution?
   □ Paid by the Contractor
   □ Paid by Grant Recipient with funds withheld from payment to the Contractor

Firm	Affected Employees	Amount of Restitution Paid	Nature of Violations

(Attach additional pages if necessary.)

3. Were any workers not paid the correct overtime payments? □ Yes ☒ No

If YES: Liquidated damages at the rate of $10 for each calendar day for each worker must be calculated and the Contractor notified of his liability, and

4. Provide information concerning the nature of the overtime violations. This should include:

   a. Firm's Name, Address and Phone Number: _____

   b. Date Contractor was notified in writing of the amount of liquidated damages which could be assessed:
   _____

   c. Date the Contractor responded to the written notice: (must be within 30 days of the receipt of notification):
   _____

   d. Did the Contractor seek a reduction or waiver of the liquidated damages?

   □ Yes □ No

e. If YES: Was the requested approved and for what

□ Yes - Reduction. □ Yes - Waiver. □ No.

f. On what grounds was HUD's or USDOL's response based? _____

_____

g. Total amount of Liquidated Damages paid: $_____

h. What was the method of payment of the Liquidated Damages?

□ Paid by the Contractor

□ Paid by the Grant Recipient with funds withheld from payment to the Contractor.

i. Did the Contractor appeal the final decision to assess Liquidated Damages to the Wage Appeals Board?

□ Yes □ No

j. Attach copies of all correspondence relative to any Liquidated Damages.

5. If appropriate, attach a recommendation of and justification for sanctions against the Contractor.

Submitted by:

Rebecca Payne _____ June 4, 2021

Signature Date

Rebecca Payne, Grants Coordinator

Typed Name/Title

Section 3 Summary Report

Economic Opportunities for
Low – and Very Low-Income Persons
And Eligible Businesses

U.S. Department of Housing
and Urban Development

Office of Fair Housing
And Equal Opportunity

OMB Approval No: 2529-0043
(exp. 8/13/20XX)

Oklahoma City, OK

Public Reporting Burden statement printed below

1. Recipient Name & Address: (street, city, state, zip)	2. Tax Identification Number (TIN): 73-6005186	3. Total Amount Expended: $974,965.58
City of Durant 300 West Evergreen Durant, OK 74701	4. Contact Person Rebecca Payne, Grants Coordinator	5. Telephone Number: (Include area code) (580) 931-6600
	6. Start Date of Reporting Period: 02-23-15	7. End Date of Reporting Period: 08-23-2018
	8. Program Code and Name: (A separate report must be submitted for each source of covered funding) CDBG State Administrated	16246 CDBG – ED 14

Part I: Employment and Training Opportunities (** Columns B, C and F are mandatory fields. Only include New Hires in these fields)

A Job Category	B Number of New Hires	C Number of New Hires that are Section 3 Residents	D Aggregate Number of all Staff Hours Worked (Optional)	E Total Staff Hours Worked by all Section 3 Employees (Optional)	F Percentage of Staff Hours Worked by Section 3 Employees Column E/ Column D (Optional, but must be completed if columns D & E are completed	G Number of Section 3 Trainees
Professionals – Officials and Managers						
Clerical						
Administrative						
Case Management						
Facilities Management						
Technical (Bookkeeping, IT, etc.)						
Carpentry						
Painting						
Masonry						
Plumbing						
Electrical						
Janitorial						
Security						
Other: Describe						
Total	0	0	0	0	0	0

form HUD 60002 (7/2015)
Ref 24 CFR 135

Part II: Contracting Opportunities

1. **Construction Contracts**	**HUD Amount**	**Leveraged Amount**	**Total** (HUD Amount + Leveraged Amount)
A. Total dollar amount of construction contracts awarded with covered funds expended during the reporting period	$158,249.34	$87,082.59	$245,331.93
B. Total dollar amount of contracts awarded to Section 3 businesses during the reporting period			
C. Percentage of the total dollar amount of construction contracts that were awarded to Section 3 businesses during the reporting period (i.e., Item B/ Item A= %)			
D. Total number of Section 3 businesses receiving construction contracts during the reporting period			
2. **Non-Construction Contracts**			
A. Total dollar amount of non-construction contracts awarded with covered funds expended during the reporting period	$366,750.66	$362,882.99	$729,633.65
B. Total dollar amount of non-contracts awarded to Section 3 businesses during the reporting period			
C. Percentage of the total dollar amount of non-construction contracts that were awarded to Section 3 businesses during the reporting period (i.e., Item B/ Item A= %)			
D. Total number of Section 3 businesses receiving non-construction contracts during the reporting period			

Part III: Summary of Efforts

Indicate the efforts made to direct the employment and other economic opportunities generated by HUD financial assistance for housing and community development programs, to the greatest extent feasible, toward low-and very low-income persons, particularly those who are recipients of government assistance for housing. (Check all that apply and maintain copies of all documentation as evidence of the actions checked below)

___X___ Attempted to recruit low-income residents through: local advertising media, signs prominently displayed at the project site, contracts with the community organizations and public or private agencies operating within the metropolitan area (or nonmetropolitan county) in which the Section 3 covered program or project is located, or similar methods.

_____ Participated in a HUD program or other program which promotes the training or employment of Section 3 residents.

_____ Participated in a HUD program or other program which promotes the award of contracts to business concerns which meet the definition of Section 3 business concerns.

_____ Coordinated with Youthbuild Programs administered in the metropolitan area in which the Section 3 covered project is located.

_____ Entered into "first source" hiring agreements with organizations representing Section 3 residents.

_____ Established training programs, which are consistent with the requirements of the Department of Labor.

_____ Posted job postings within public housing developments(s) for employment opportunities available which identify the positions to be filled, the qualifications required, and where to obtain additional information about the application process.

_____ Advertised and/or issued print or electronic notices of employment opportunities to Section 3 residents.

_____ Advertised the jobs to be filled through the local media, such as community television networks, newspapers of general circulation, and/or radio advertising.

_____ Contacted public housing resident councils, resident management corporations, or other resident organizations, to request the assistance of these organizations in notifying Section 3 residents of the training and employment positions to be filled.

_____ Provided contractors a list of Work force development, social service, community based organizations, etc. that the recipient contacted to assist them with notifying Section 3 residents about employment and training opportunities.

_____ Initiated targeted community group meetings and mailings to recruit/attract Section 3 residents and Section 3 businesses.

_____ Conducted speaking presentations and or trainings to Section 3 residents and/or businesses.

_____ Employed Section 3 residents directly on either a permanent or a temporary basis to perform work generated by Section 3 assistance ("force account labor").

_____ Maintained a file of eligible qualified Section 3 residents for future employment positions.

_____ Utilized Payroll Certification, Worker Utilization Forms, and other types of data to identify potential employment and contracting opportunities.

_____ Maintained documentation of training provided to Section 3 residents.

_____ Provided contractors a list of Section 3 Residents that applied for jobs that were advertised (name, address and phone numbers).

_____ Contacted business development agencies, minority contractors associations, chambers of commerce, local Small Business Administration (SBA) and/or other similar community organizations to request their assistance in identifying section 3 businesses to be notified about HUD funded contracts.

_____ Used HUD's Section 3 Business Registry to locate local Section 3 businesses.

_____ Advertised and/or issued print or electronic notices of contracting opportunities to prospective Section 3 businesses.

_____ Provided contractors a list of Section 3 businesses to be notified about subcontracting opportunities (names, address and phone numbers).

_____ Advertised contracting opportunities by posting notices, which provide general information about the work to be contracted and where to obtain additional information at job sites.

_____ Initiated targeted community business group meetings and mailings to notify Section 3 business of contracting opportunities.

____ Other efforts to achieve compliance (Please describe below).

Describe other Efforts to achieve compliance:

Attempted to recruit low-income residents through: local advertising media, signs prominently displayed at the project site, contracts with the community organizations and public or private agencies operating within the metropolitan area (or nonmetropolitan county) in which the Section 3 covered program or project is located, or similar methods.

Covered Recipients are required to either meet all three minimum numerical goals for employment and contracting (see below), or provide a description of the steps taken to meet the goals, barriers encountered, and actions that will be taken to address them If your agency failed to meet all three Section 3 minimum numerical goals, please provide an explanation:

NOTE: The Section 3 minimum numerical goals are as follows:

Employment Opportunities:
30% of the aggregate number of **new hires** shall be Section 3 Residents

Contracting Opportunities:
Construction contract—10% of the aggregate dollar amount of **construction** contracts shall be awarded to Section 3 Businesses
Construction contract—3% of the aggregate dollar amount of **non-construction** contracts shall be awarded to Section 3 Businesses

Please review the Section 3 FAQs for definitions of Section 3 Residents and Business Concerns.

Public reporting for this collection of information is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. This agency may not collect this information, and you are not required to complete this form, unless it displays a currently valid OMB number.

Section 3 of the Housing and Urban Development Act of 1968, 12 U.S.C. 1701u,and the implementing regulation at 24 CFR § 135 mandates that HUD shall ensure that employment, training, contracting, and other economic opportunities generated by its housing and community development assistance programs are directed toward low- and very-low income persons, particularly those who are recipients of government assistance housing and businesses that substantially employ these persons. Please visit www.hud.gov/section3 to learn more about the regulatory requirements of Section 3.

The information will be used by the Department to monitor program recipients' compliance with Section 3, to assess the results of the Department's efforts to meet the statutory objectives of Section 3, to prepare reports to Congress. The report may also be used by recipients as self-monitoring tool. The data shall be entered into a database and will be analyzed and made available to the public by HUD staff. The collection of information is restricted to direct recipients of Federal financial assistance for housing and community development programs covered by Section 3. The information will be collected annually to assist HUD in meeting its reporting requirements under Section 3 of the Housing and Urban Development Act and Section 916 of the HCDA of 1992. An assurance of confidentiality is not applicable to this form. The Privacy Act of 1974 and OMB Circular A-108 are not applicable. The reporting requirements do not contain sensitive questions. Data is cumulative; personal identifying information is not included.

The City of Durant

Memorandum

Date:	6/8/2021
To:	Mayor and City Council
From:	Rebecca Payne, Grants Coordinator
Re:	**16802 CDBG-ED 16 Closeout for Commercial Metals Company – CMC Steel Oklahoma, LLC. Facility (C-2016-86).**

1. Consideration to Accept the Water, Wastewater and Roadway Infrastructure Improvements Partially Funded by 16802 CDBG-ED 16 Serving Commercial Metals Company, Inc. – CMC Steel Oklahoma, LLC. facility Inc. as Successfully Complete.
2. Consideration to Approve Resolution R-2021-13 Referring to the Public Hearing for Closeout of the 16802 CDBG-ED 16 Project
3. Consideration to Approve the Closeout Documents for 16802 CDBG-ED 16 Completion.

SEE ATTACHMENTS:
Resolution R-2021-13
Closeout Documents;
Final Expenditure Report
Contract Closeout Certification
Final Wage Compliance Report(s)
Section 3 Summary Report

Council Information / Action Requested

1. Accept the Water, Wastewater and Roadway Infrastructure Improvements Partially Funded by 16802 CDBG-ED 16 Serving Commercial Metals Company, Inc. – CMC Steel Oklahoma, LLC. facility Inc. as Successfully Complete.
2. Approve Resolution R-2021-13 Referring to the Public Hearing for Closeout of the 16802 CDBG-ED 16 Project
3. Approve the Closeout Documents for 16802 CDBG-ED 16 Completion.

City Staff Information / Action Follow-up, if Council authorizes this action:

Becca will complete and submit the closeout documents for 16802 CDBG-ED 16 to ODOC by June 30, 2021

ATTACHMENTS:

1. 16802 CDBG ED Closeout Resolution 2021-13
2. CMC Final Expenditure Report 16802
3. CMC Closeout Certification 16802
4. CMC Final Wage Compliance 16802
5. CMC Section 3 Summary 16802

RESOLUTION No. R-2021-13

A RESOLUTION FOR CLOSEOUT PUBLIC HEARING Oklahoma Department of Commerce 2016 COMMUNITY DEVELOPMENT BLOCK GRANT – ECONOMIC DEVELOPMENT INFRASTRUCTURE IMPROVEMENTS (CDBG-ED) 16802 CDBG – ED 16

WHEREAS, the City of Durant has completed the 2016 Community Development Block Grant through the CDBG – Economic Development Program project 16802 CDBG – ED 16 (C-2016-86) for public infrastructure improvements and new job creations benefitting the Commercial Metals Company, Inc. – CMC Steel Oklahoma, LLC. facility at 584 Old Highway 70, Durant, OK.; and

WHEREAS, the performance period for the 16802 CDBG – ED 16 (C-2016-86) was October 14, 2016 through January 31, 2020; and

WHEREAS, as required by the CDBG grant program guidelines and the City's 2016 through 2021 Citizen Participation Plans, a public hearing was conducted on this date within a regular scheduled council meeting to provide project and program information; and

WHEREAS, the public hearing notice was posted in eight public view locations, as well as posted on the City of Durant's website page, and identified as an agenda item within the official agenda sent to approximately 12 media outlets, with public invitation to attend the public hearing or connect via a live stream option; and

WHEREAS, the City's on-staff Grants Coordinator conducted the public hearing during today's City Council meeting on June 8, 2021 at 6:00 PM and provided information about the 2016 Community Development Block Grant Economic Development (CDBG–ED) program and completed project as outlined per grant guidelines and Citizen Participation Plans; and

WHEREAS, the City's on-staff Grants Coordinator will include all Public Hearing documentation and approved closeout items to be submitted to Oklahoma Department of Commerce.

NOW THEREFORE, BE IT RESOLVED by the Durant City Council that the City of Durant confirms the public hearing was held on today's date, as stated in this Resolution as required for the 16802 CDBG–ED 16 closeout.

PASSED AND APPROVED by the Mayor and City Council of the City of Durant, Oklahoma this June 8, 2021, at a regular called meeting of the governing body, in compliance with the Open Meeting Act, 25 O.S. § 301 et seq.

_____
Oden Grube, Mayor

ATTEST:

_____
Cynthia Price, City Clerk

Durant, City of

EDIF-EXP-2016-DURANT CI-01700

Contractor Name: Durant, City of | Contract #: 16802 CDBG 16 | Month: April | Year: 2020

Type of Expenditure Report

Monthly ✔ Final Revised

INTEREST RECONCILIATION		CASH RECONCILIATION	
Total Interest Earned (YTD):	$0	Cash Received (YTD):	$972,302.51
Less Interest Expended (YTD):	$0	Cash Expended (YTD):	$972,302.51
Interest Earned Cash Balance:	$0	Unexpended Cash Balance:	$0

Category	Current Expenditures	YTD Expenditures	Budget	Remaining Balance
Construction	$0	$838,060.65	$865,758.14	$27,697.49
Engineering/Architect	$0	$66,850.00	$66,850.00	$0
Inspection	$0	$22,069.00	$22,069.00	$0
Planning	$0	$0	$0	$0
Direct Grantee Admin	$0	$0	$0	$0
Public Facilities Admin	$0	$0	$0	$0
Other	$0	$45,322.86	$45,322.86	$0
TOTAL CDBG COSTS	$0	$972,302.51	$1,000,000.00	$27,697.49
Leverage/Match	$37,452,736.00	$37,452,736.00	$25,000,000.00	($12,452,736.00)

By submitting this report, I hereby certify that the expenditures reported are taken from the original Books of Account and that such expenditures are valid and consistent with the terms of the contract.

Revision Explanation:

Document Information: EDIF-2016-DURANT CI-00007

Details

CLOSEOUT CERTIFICATION PAGE

Applicant: City of Durant

Contract #: 16802 CDBG-ED 16

☑ ***Please check this box if you did NOT utilize all your contracted funds.***

I. FINAL CASH RECONCILIATION

A.	Total cash received under this contract (include cash in transit)	$972,302.51
B.	Less: Total accrued Expenditures this contract	$972,302.51
C.	Excess Cash on Hand to be refunded to ODOC	
D.	I certify that the expenditures reported are taken from the original books of account and that such expenditures are valid and consistent with the terms of this contract.	
E.	I further certify that the attached check in the amount of _____ (Same as Line C above) fully represents all the money received for but not expended in performance of this Contract.	
F.	This amount is refunded to ODOC in accordance with the terms of the contract.	

II. RELEASE

A. Pursuant to the terms of this contract and in consideration of the Total Accrued Expenditures referred to in Line B above which have been paid or will be paid to the Contractor under this contract, Contractor, upon payment of any remaining balance by ODOC, does remise, release and discharge the State of Oklahoma, ODOC and their officers, agents and employees of and from all liabilities, obligations, claims and demands whatsoever under or arising from the performance of this contract.

B. I understand that the Total Accrued Expenditures certified in I.D. above will become the final total obligated amount of this contract.

III. ASSIGNMENT OF REFUNDS, REBATES AND CREDIT

Pursuant to the terms of this contract and in consideration of payment of costs as provided in said contract, Contractor does hereby:

A. Assign, transfer, set over and release to the Oklahoma Department of Commerce all right, title and interest to all refunds, rebates and credits or other amounts, including any interest thereon, arising out of the performance of this contract, together with all rights of action accrued or which may accrue thereunder.

B. Agree to take whatever action may be necessary to effect prompt collection of all such refunds, rebates, credits or other amounts, including any interest theron, due or which may become due and to forward promptly by check made payable to the Oklahoma Department of Commerce any proceeds so collected.

C. Agree to cooperate fully with the Oklahoma Department of Commerce as to any claim or suit in connection with such refunds, rebates, credits or other amounts due, including any interest theron; to execute any protest, pleading, application, power of attorney or doceuments in connection therewith; and to permit the Oklahoma Department of Commerce to represent it at any hearing, trial or other proceeding arising out of such claim or suit.

Submitted By:

_____

Name

_____

Title

Navigation Links

Status	Page Name	Note	Created By	Last Modified By

FINAL WAGE COMPLIANCE REPORT

Grant Recipient Name: **City of Durant**	Contract Number: **16802 CDBG – ED 16**
Contact Person: **Rebecca Payne, Grants Coordinator**	Telephone No.: **(580) 931.6623**
Project Name: **Water, Wastewater and Roadway Infrastructure Improvements**	Project Location: 584 Old Highway 70, Durant, OK
Construction Completion Date: 05/27/2017	Contract Amount: **$ 609,419.00**
Prime Contractor: **CD Brown Construction., Inc** **PO Box 675** **Sulphur, OK 73086**	
Subcontractors **Ramsey Ward Electric Company** **Tim Mills Fence Company**	

1. Were any workers paid less than the specified Davis-Bacon rates that applied to this project?
   X Yes No

2. If YES:

a. What was the total amount of restitution paid? $ 11,172.15

b. What was the method of restitution?
   X Paid by the Contractor
   □ Paid by Grant Recipient with funds withheld from payment to the Contractor

Firm	Affected Employees	Amount of Restitution Paid	Nature of Violations
CD Brown Construction., Inc	Douglas Franklin	$3,514.68	Fringe Benefits
CD Brown Construction., Inc	Cameron Lunsford	$3,840.91	Fringe Benefits
CD Brown Construction., Inc	David Meeks	$3,816.56	Fringe Benefits

3. Were any workers not paid the correct overtime payments? □ Yes ☒ No

If YES: Liquidated damages at the rate of $10 for each calendar day for each worker must be calculated and the Contractor notified of his liability, and

4. Provide information concerning the nature of the overtime violations. This should include:

   a. Firm's Name, Address and Phone Number: _____

   b. Date Contractor was notified in writing of the amount of liquidated damages which could be assessed:
   _____

   c. Date the Contractor responded to the written notice: (must be within 30 days of the receipt of notification):
   _____

   d. Did the Contractor seek a reduction or waiver of the liquidated damages?
   □ Yes □ No

e. If YES: Was the requested approved and for what

□ Yes - Reduction. □ Yes - Waiver. □ No.

f. On what grounds was HUD's or USDOL's response based? _____

_____

g. Total amount of Liquidated Damages paid: $_____

h. What was the method of payment of the Liquidated Damages?

□ Paid by the Contractor

□ Paid by the Grant Recipient with funds withheld from payment to the Contractor.

i. Did the Contractor appeal the final decision to assess Liquidated Damages to the Wage Appeals Board?

□ Yes □ No

j. Attach copies of all correspondence relative to any Liquidated Damages.

5. If appropriate, attach a recommendation of and justification for sanctions against the Contractor.

Submitted by:

Rebecca Payne
Signature

JUNE 3, 2021
Date

Rebecca Payne, Grants Coordinator
Typed Name/Title

Section 3 Summary Report

Economic Opportunities for
Low – and Very Low-Income Persons
And Eligible Businesses

U.S. Department of Housing
and Urban Development

Office of Fair Housing
And Equal Opportunity

OMB Approval No: 2529-0043
(exp. 8/13/20XX)

Oklahoma City, OK

Public Reporting Burden statement printed below

1. Recipient Name & Address: (street, city, state, zip)	2. Tax Identification Number (TIN): 73-6005186	3. Total Amount Expended: $972,302.51
City of Durant 300 West Evergreen Durant, OK 74701	4. Contact Person Rebecca Payne, Grants Coordinator	5. Telephone Number: (Include area code) (580) 931-6600
	6. Start Date of Reporting Period: 10/25/2016	7. End Date of Reporting Period: 01/31/2020
	8. Program Code and Name: (A separate report must be submitted for each source of covered funding) CDBG State Administrated	16802 CDBG – ED 16

Part I: Employment and Training Opportunities (** Columns B, C and F are mandatory fields. Only include New Hires in these fields)

A Job Category	B Number of New Hires	C Number of New Hires that are Section 3 Residents	D Aggregate Number of all Staff Hours Worked (Optional)	E Total Staff Hours Worked by all Section 3 Employees (Optional)	F Percentage of Staff Hours Worked by Section 3 Employees Column E/ Column D (Optional, but must be completed if columns D & E are completed	G Number of Section 3 Trainees
Professionals – Officials and Managers						
Clerical						
Administrative						
Case Management						
Facilities Management						
Technical (Bookkeeping, IT, etc.)						
Carpentry – Construction	0	0	0	26%		
Painting						
Masonry						
Plumbing						
Electrical						
Janitorial						
Security						
Other: Describe						
Total	0	0	0	26%	0	0

form HUD 60002 (7/2015)
Ref 24 CFR 135

Part II: Contracting Opportunities

1. **Construction Contracts**	**HUD Amount**	**Leveraged Amount**	**Total** (HUD Amount + Leveraged Amount)
A. Total dollar amount of construction contracts awarded with covered funds expended during the reporting period	$609,419.00	0	$609,419.00
B. Total dollar amount of contracts awarded to Section 3 businesses during the reporting period			
C. Percentage of the total dollar amount of construction contracts that were awarded to Section 3 businesses during the reporting period (i.e., Item B/ Item A= %)			
D. Total number of Section 3 businesses receiving construction contracts during the reporting period			
2. **Non-Construction Contracts**			
A. Total dollar amount of non-construction contracts awarded with covered funds expended during the reporting period	$362,883.51	0	$362,883.51
B. Total dollar amount of non-contracts awarded to Section 3 businesses during the reporting period			
C. Percentage of the total dollar amount of non-construction contracts that were awarded to Section 3 businesses during the reporting period (i.e., Item B/ Item A= %)			
D. Total number of Section 3 businesses receiving non-construction contracts during the reporting period			

Part III: Summary of Efforts

Indicate the efforts made to direct the employment and other economic opportunities generated by HUD financial assistance for housing and community development programs, to the greatest extent feasible, toward low-and very low-income persons, particularly those who are recipients of government assistance for housing. (Check all that apply and maintain copies of all documentation as evidence of the actions checked below)

_____ Attempted to recruit low-income residents through: local advertising media, signs prominently displayed at the project site, contracts with the community organizations and public or private agencies operating within the metropolitan area (or nonmetropolitan county) in which the Section 3 covered program or project is located, or similar methods.
_____ Participated in a HUD program or other program which promotes the training or employment of Section 3 residents.
_____ Participated in a HUD program or other program which promotes the award of contracts to business concerns which meet the definition of Section 3 business concerns.
_____ Coordinated with Youthbuild Programs administered in the metropolitan area in which the Section 3 covered project is located.
_____ Entered into "first source" hiring agreements with organizations representing Section 3 residents.
_____ Established training programs, which are consistent with the requirements of the Department of Labor.
_____ Posted job postings within public housing developments(s) for employment opportunities available which identify the positions to be filled, the qualifications required, and where to obtain additional information about the application process.
_____ Advertised and/or issued print or electronic notices of employment opportunities to Section 3 residents.
_____ Advertised the jobs to be filled through the local media, such as community television networks, newspapers of general circulation, and/or radio advertising.
_____ Contacted public housing resident councils, resident management corporations, or other resident organizations, to request the assistance of these organizations in notifying Section 3 residents of the training and employment positions to be filled.
_____ Provided contractors a list of Work force development, social service, community based organizations, etc. that the recipient contacted to assist them with notifying Section 3 residents about employment and training opportunities.
_____ Initiated targeted community group meetings and mailings to recruit/attract Section 3 residents and Section 3 businesses.
_____ Conducted speaking presentations and or trainings to Section 3 residents and/or businesses.
_____ Employed Section 3 residents directly on either a permanent or a temporary basis to perform work generated by Section 3 assistance ("force account labor").
_____ Maintained a file of eligible qualified Section 3 residents for future employment positions.
_____ Utilized Payroll Certification, Worker Utilization Forms, and other types of data to identify potential employment and contracting opportunities.
_____ Maintained documentation of training provided to Section 3 residents.
_____ Provided contractors a list of Section 3 Residents that applied for jobs that were advertised (name, address and phone numbers).
_____ Contacted business development agencies, minority contractors associations, chambers of commerce, local Small Business Administration (SBA) and/or other similar community organizations to request their assistance in identifying section 3 businesses to be notified about HUD funded contracts.
_____ Used HUD's Section 3 Business Registry to locate local Section 3 businesses.
_____ Advertised and/or issued print or electronic notices of contracting opportunities to prospective Section 3 businesses.
_____ Provided contractors a list of Section 3 businesses to be notified about subcontracting opportunities (names, address and phone numbers).
_____ Advertised contracting opportunities by posting notices, which provide general information about the work to be contracted and where to obtain additional information at job sites.
_____ Initiated targeted community business group meetings and mailings to notify Section 3 business of contracting opportunities.

__X__ Other efforts to achieve compliance (Please describe below).

Describe other Efforts to achieve compliance:

CD Brown Construction., Inc used current employees which included Two (2) Section 3 employees.

Covered Recipients are required to either meet all three minimum numerical goals for employment and contracting (see below), or provide a description of the steps taken to meet the goals, barriers encountered, and actions that will be taken to address them If your agency failed to meet all three Section 3 minimum numerical goals, please provide an explanation:

NOTE: The Section 3 minimum numerical goals are as follows:

Employment Opportunities:
30% of the aggregate number of **new hires** shall be Section 3 Residents

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Construction contract—10% of the aggregate dollar amount of **construction** contracts shall be awarded to Section 3 Businesses
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The information will be used by the Department to monitor program recipients' compliance with Section 3, to assess the results of the Department's efforts to meet the statutory objectives of Section 3, to prepare reports to Congress. The report may also be used by recipients as self-monitoring tool. The data shall be entered into a database and will be analyzed and made available to the public by HUD staff. The collection of information is restricted to direct recipients of Federal financial assistance for housing and community development programs covered by Section 3. The information will be collected annually to assist HUD in meeting its reporting requirements under Section 3 of the Housing and Urban Development Act and Section 916 of the HCDA of 1992. An assurance of confidentiality is not applicable to this form. The Privacy Act of 1974 and OMB Circular A-108 are not applicable. The reporting requirements do not contain sensitive questions. Data is cumulative; personal identifying information is not included.

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From: John Dean, City Manager
Re: (1) Public Hearing on Proposed FY 2021-2022 Budget (Resolution R-2021-10)
(2) Discussion, Consideration and Possible Action on Resolution R-2021-10 Adopting the Budget for Fiscal Year 2021-2022

Council Information / Action Requested
Approval of Resolution 2021-10 Adopting the Budget for Fiscal Year 2021-2022

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:
1. Notice of Public Hearing
2. Resolution 2021-10

NOTICE OF PUBLIC HEARING
City of Durant, Oklahoma

A public hearing will be held to consider the proposed budgets for all funds of the City of Durant for 2021-22 fiscal year. **The public hearing will be held at 6:00 p.m., on Tuesday, June 8 , 2021, at Durant City Hall, 300 W. Evergreen St., in the Roscoe J. Hatfield Council Chambers.** Citizens of Durant are encouraged to attend the public hearing, where opportunity will be given to ask questions and/or voice concerns about the budget proposal. A PDF copy of the proposal can be found on the city's website at www.durant.org.

General Fund

City Administration	$693,428
City Clerk	$159,371
City Treasurer	$357,289
City Attorney	$238,050
Police Department	$5,460,073
Animal Control	$0
Neighborhood Services	$341,419
Fire Department	$3,669,688
Parks, Recreation & General Services Department	$960,690
Swimming Pool	$152,812
Municipal Court	$169,864
Community Development	$343,257
Public Library	$675,235
Street Department	$3,667,296
Economic Development	$184,831
Civil Emergency Management	$327,479
General Government	$3,064,590
City Garage	$348,789
Senior Citizens Center	$115,977
Total	**$20,930,138**

Durant City Utilities Authority

Public Works Administration	$462,360
Utility Billing	$589,872
Water and Sewer Line Maintenance	$1,155,574
Water Treatment Plant	$1,214,127
Wastewater Treatment Plant	$1,000,399
Solid Waste Collection	$1,056,058
Utility General Administration	$6,501,569
Lake Durant	$45,850
Solid Waste Disposal	$1,720,447
Economic Development/Infrastructure	$0
Total	**$13,746,255**

Durant City Airport Authority

Eaker Field	**$1,277,485**

Durant Industrial Authority

Econ Dev Administration	$102,434
Industrial Projects	$1,206,139
Total	**$1,308,573**

Durant Community Facilities Authority

Gen Gov & Debt Service	**$3,618,135**

Other Funds

1/4% Sales Tax Economic Development Fund	$3,264,642
1/4% Sales Tax SOSU Improvements Fund	$1,018,980
1/4% Sales Tax Multi-Sports Improvements Fund	$1,018,980
1% Sales Tax Revenue Fund	$4,075,920
5/8% Sales Tax Education Fund	$2,835,450
5% Lodging Tourism Tax	$805,800
Capital Improvements Fund	$2,421,612
Cemetery Operations Fund	$132,390
Cemetery Care Fund	$152,400
Special 911 Tax Fund	$1,105,985
Employee Health Insurance Fund	$3,104,494
Workers' Compensation-Risk Management Fund	$397,400
Information Technology Service Fund	$870,584
Durant Multi-Sports Complex Fund	$541,212
PD Drug Enforcement Fund	$525
R.L. Williams Library Fund	$0
Holiday Lighting Fund	$1,020
Insurance Cash Fund	$414,000
Federal Building Enterprise Fund	$0
Beautification Fund	$112,600
CDBG Grant Fund	$0
HOME/FEMA Grant Fund	$0
Utilities Authority Bonds Sinking Fund	$26,389,639
Durant Tax Increment Authority	$2,532,738
DWRF Community Ctr & Library Fund	$989,910
Other Funds Total	**$52,186,281**

Oden Grube, Mayor
City of Durant, Oklahoma

RESOLUTION NO. 2021-10

A RESOLUTION APPROVING THE CITY OF DURANT, OKLAHOMA BUDGET FOR THE FISCAL YEAR 2021-22 AND ESTABLISHING BUDGET AMENDMENT AUTHORITY

Whereas, The City of Durant has adopted the provisions of the Oklahoma Municipal Budget Act (the Act) in 11 O.S. Sections 17-201 through 17-218 (Resolution No 2009-17 effective July 1, 2010); and

Whereas, The City Manager has prepared a budget for the fiscal year ending June 30, 2022 (FY 2021-22) consistent with the Act; and

Whereas, The Act in section 17-215 provides for the City Manager of the City, or designee, as authorized by the governing body, to transfer any unexpended and unencumbered appropriation from one department to another within the same fund without further approval by the Durant City Council; and

Whereas, The proposed budget has been presented to the Durant City Council at least 30 days prior to the start of the fiscal year in compliance with Section 17-205; and

Whereas, The Durant City Council has conducted a Public Hearing at least 15 days prior to the start of the fiscal year, and published notice of the Public Hearing in compliance with Section 17-208 of the Act; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DURANT, OKLAHOMA:

SECTION 1. The City Council of the City of Durant does hereby adopt the FY 2021-22 Budget on the 08th day of June 2021. Legal appropriations are hereby established as follows:

Fund	FY 2019/20 ACTUALS	FY 2020/21 BUDGET	FY 2020/21 PROJECTIONS	FY 2021/22 BUDGET
General Fund Revenue Summary:				
Balance Forward		1,598,839		3,500,000
Taxes	11,250,719	10,606,204	12,688,368	11,435,340
Licenses & Permits	243,049	419,200	426,356	428,500
Recreation Activities	79,304	47,500	30,471	71,250
Charges for Services	19,037	18,000	25,680	33,850
Municipal Court Revenue	361,522	338,941	453,158	434,000
Miscellaneous Revenue	3,299,504	6,855,628	7,767,225	5,027,198
Adj to Revenue	13	0	-1	0
Total	**15,253,149**	**19,884,312**	**21,391,257**	**20,930,138**
General Fund Expense Summary:				
City Administration	519,095	643,948	537,507	693,428
City Clerk	126,912	99,301	71,176	159,371
City Treasurer	411,481	366,970	380,247	357,289
City Attorney	60,357	100,000	15,781	238,050
Police Department	5,083,536	5,555,498	5,045,326	5,460,073
Animal Control	98,651	118,561	103,310	0
Neighborhood Services	0	0	0	341,419
Fire Department	3,419,812	3,498,533	3,639,985	3,669,688
Parks, Rec. & Gen Services D	819,702	965,423	756,307	960,690
Swimming Pool	114,012	121,139	129,085	152,812
Municipal Court	136,169	150,732	168,845	169,864
Community Development	562,191	597,875	576,289	343,257
Public Library	660,608	669,979	654,878	675,235
Street Department	1,130,734	1,477,627	1,060,367	3,667,296
Economic Development	81,593	204,473	198,443	184,831
Emergency Management	259,509	346,974	309,158	327,479
General Government	904,528	4,548,578	4,623,664	3,064,590
City Garage	306,238	341,102	292,349	348,789
Senior Citizens Center	10,362	77,600	20,068	115,977
Total	14,705,490	19,884,312	18,582,785	20,930,138

Fund	FY 2019/20 ACTUALS	FY 2020/21 BUDGET	FY 2020/21 PROJECTIONS	FY 2021/22 BUDGET
Capital Improvements Fund Expense:				
Police Department	118,211	443,012	188,931	237,455
Animal Control	14,472	141,618	7800	25,000
Communication Ctr.(PD)	2,500	359,181	50,556	174,750
Fire Department	1,060,993	557,832	836,477	140,000
Parks, Rec. & Gen Services	179,894	403,122	222,829	117,000
Swimming Pool	0	0	0	0
Community Development	0	31,500	0	25,000
Street Department	570,734	870,061	204,098	403,000
Economic Development	0	30,000	18,198	0
Emergency Management	33,720	338,800	83,186	25,000
General Government	497,676	1,734,065	769,502	371,215
Information Technology	0	214,500	37,067	0
City Garage	9,295	30,000	43,184	70,000
Senior Citizens Center	35,855	726,000	90,696	0
Public Works Administration	5,790	21,510	0	33,192
Water & Sewer Line Maint.	379,852	5,716,426	2,231,181	43,000
Water Treatment Plant	382,974	210,440	47,067	245,000
Wastewater Treatment Plant	135,458	2,388,361	342,336	18,000
Solid Waste Collection	299,900	224,995	46,494	50,000
Solid Waste Disposal	286,969	234,437	235,440	400,000
Eaker Field Airport	0	110,120	63,173	44,000
Multi-Sports Complex	0	0	0	0
2007 U.S.S.T.R.N	0	0	0	0
2009A U.S.S.T.R.N	0	0	0	0
2009B U.S.S.T.R.N	0	0	0	0
2010 U.S.S.T.R.N.	0	0	0	0
2012 U.S.S.T.R.N.	0	0		0
2013 U.S.S.T.R.N.	0	0	0	0
2020 U.S.S.T.R.N	135,881	12,865,519	3,396,358	0
2020 CWSRF	0	12,670,800	266,969	0
Total	**4,150,174**	**40,322,299**	**9,181,541**	**2,421,612**
Other Funds:				
1/4% Sales Tax Econ. Dev.	176,177	3,642,719	1,626,780	3,264,642
1/4% Sales Tax SOSU	990,541	943,500	950,220	1,018,980
1/4% Sales Tax Multi-Sports	990,541	943,500	950,220	1,018,980
1% Sales Tax Revenue Fund	3,962,165	3,774,000	3,800,881	4,075,920
5% Lodging Tourism Tax	168,691	533,500	196,543	805,800
5/8% Sales Tax Education	2,784,060	2,625,417	3,098,069	2,835,450
Cemetery Operations Fund	124,100	145,667	130,546	132,390
Cemetery Care Fund	36,663	245,100	71,642	152,400
Special 911 Tax Fund	819,242	1,108,890	980,086	1,105,985
Employee Health Insurance	2,899,326	3,283,712	3,308,948	3,104,494
Risk Management Fund	267,647	397,500	242,294	397,400
Information Technology	540,349	980,296	815,563	870,584
Durant Multi-Sports Complex	531,302	593,628	486,824	541,212
PD Drug Enforcement Fund	14,035	525	0	525
R.L. Williams Library Fund	3,900	150	308	0
Holiday Lighting Fund	4,343	1,017	0	1,020
Insurance Cash Fund	303,698	400,000	451,862	414,000
Beautification Fund	0	111,843	0	112,600
CDBG Grant Fund	942,377	732,958	296,945	0
Utilities Authority Sinking Fun	4,749,999	29,954,815	3,666,183	26,389,639
DWRF Community Ctr & Lib.	135,881	1,019,152	42,574	989,910

SECTION 2. The Durant City Council does establish the legal level of control for the 2021-22 fiscal year budget at the departmental level.

SECTION 3. The Durant City Council does hereby authorize the Durant City Manager to transfer any unexpended and unencumbered appropriations, at any time throughout the 2021-22 fiscal year, from one line item to another, one object category to another within a department, or one department to another within a fund, without further approval by the Durant City Council with the exception of a transfer over $50,000.

SECTION 4. All supplemental appropriations or decrease in the total appropriations of a fund shall be adopted at a meeting of the Durant City Council and filed with the State Auditor and Inspector.

SECTION 5. No funds are deemed necessary to inactive.

Passed and Approved by the City Council of the City of Durant this 08th day of June, 2021.

_____
Oden Grube, Mayor

ATTEST:

_____
Cynthia Price, City Clerk

The City of Durant

Memorandum

Date:	6/8/2021
To:	Mayor and City Council
From:	Rebecca Payne, Grants Coordinator
Re:	**Public Hearing for 15421 CDBG-ED 12 (C-2013-05) Closeout - Industrial roadway infrastructure improvements on Waldron Drive for PharmcareOK of Durant, Inc.**

Public Hearing for Closeout of 15421 CDBG-ED 12 Community Development Block Grant Economic Development Infrastructure Grant (C-2013-05) in the Amount of $500,000 for Industrial Roadway Infrastructure Improvements Benefitting the PharmcareOK of Durant, Inc. Facility, Located at 102 Waldron Drive in Durant and the Creation of New Jobs Related to the Grant Project for the Durant Community.

Public hearing for the 15421 CDBG-ED 12 (C-2013-05) closeout will be led by Rebecca Payne, Grants Coordinator. Upon completion of the Public Hearing, closeout documents will be presented for approval consideration.

ATTACHMENTS
Public Hearing Notice

Council Information / Action Requested
No action required

City Staff Information / Action Follow-up, if Council authorizes this action:
Becca will complete and submit the closeout documents to ODOC by June 30, 2021.

ATTACHMENTS:
1. Public Hearing Notice - 15421 CDBG-ED 12 Closeout PH notice

NOTICE OF PUBLIC HEARING

TO DISCUSS THE CLOSEOUT FOR A COMMUNITY DEVELOPMENT BLOCK GRANT

15421 CDBG-ED 12 Program

City of Durant, OK

The City of Durant successfully completed the Waldron Drive roadway improvements benefitting the PharmcareOK of Durant, Inc. facility, located at 102 Waldron Drive - Durant, OK. The publicly owned infrastructure project, necessary for creating new jobs, was partially funded by Oklahoma Department of Commerce through the 2012 Community Development Block Grant Economic Development Infrastructure Finance Program.

The City of Durant will hold a Closeout Public Hearing, as required by the grant guidelines.

Tuesday • June 8, 2021 at 6:00 PM
City Council Chambers at Durant City Hall
300 West Evergreen • Durant, Oklahoma.
Public Hearing will also be live-streamed through the
City of Durant website at www.durant.org
within the GOVERNMENT tab: Live Stream - Youtube Channel
link▪ OR connect directly at - https://durant.org/live ▪

The purpose of the public hearing is to provide a clear explanation of the completed project and to give an opportunity for citizens to discuss the CDBG-ED project with city officials and fellow citizens. To adhere to the Oklahoma Department of Commerce's Income guidelines, new job creations were made available to low to moderately low income persons and the roadway project continues to benefit the PharmcareOK facility in Durant.

All interested citizens are invited to attend the Public Hearing. Topics of discussion will include: OK State CDBG Program purpose, design and emphasis; the completed 2012 CDBG Project to include project purpose and description.

If you are unable to attend the Public Hearing at the scheduled time, and you would like more information, please write or call the City Clerk, 300 West Evergreen, Durant, Oklahoma 74071 (580) 931.6645 to comment on the completed project. A City of Durant official attending the Public Hearing will answer your comments or questions.

Posted Wednesday, May 26, 2021 before 5:00 PM on the City of Durant website (www.durant.org), at Durant City Hall, Durant County Courthouse and Annex, Donald W. Reynolds Public Library, and Durant Chamber Of Commerce.

The City of Durant

Memorandum

Date:	6/8/2021
To:	Mayor and City Council
From:	Rebecca Payne, Grants Coordinator
Re:	**Public Hearing for 16246 CDBG-ED 14 (C-2015-05) Closeout -** Industrial roadway infrastructure improvements on Country Club Road for Overland Corporation, Inc. – Materials and Manufacturing Asphalt Plant, Inc.

Public Hearing for Closeout of 16246 CDBG-ED 14 Community Development Block Grant Economic Development Infrastructure Grant (C-2015-05) in the Amount of $525,000 for Industrial Roadway Infrastructure Improvements Benefitting the Overland Corporation, Inc. - Materials and Manufacturing Asphalt Plant Facility, Located at 868 Country Club Road in Durant and the Creation of New Jobs Related to the Grant Project for the Durant Community.

Public hearing for the 16246 CDBG-ED 14 (C-2015-05) closeout will be led by Rebecca Payne, Grants Coordinator. Upon completion of the Public Hearing, closeout documents will be presented for approval consideration.

ATTACHMENTS
Public Hearing Notice

Council Information / Action Requested
No action

City Staff Information / Action Follow-up, if Council authorizes this action:
Becca will complete and submit the closeout documents to ODOC by June 30, 2021.

ATTACHMENTS:
1. Public Hearing Notice - 16246 CDBG-ED 14 Closeout

NOTICE OF PUBLIC HEARING

TO DISCUSS THE CLOSEOUT FOR A COMMUNITY DEVELOPMENT BLOCK GRANT

16246 CDBG-ED 14 Program

City of Durant, OK

The City of Durant successfully completed the Country Club Road improvements benefitting the **Overland Asphalt Plant** facility, located at 868 Country Club Road - Durant, OK. The publicly owned infrastructure project, necessary for creating new jobs, was partially funded by Oklahoma Department of Commerce through the 2014 Community Development Block Grant Economic Development Infrastructure Finance Program.

The City of Durant will hold a Closeout Public Hearing, as required by the grant guidelines.

Tuesday • June 8, 2021 at 6:00 PM
City Council Chambers at Durant City Hall
300 West Evergreen • Durant, Oklahoma.
Public Hearing will also be live-streamed through the City of Durant website at www.durant.org within the GOVERNMENT tab: Live Stream - Youtube Channel link▪ OR connect directly at - https://durant.org/live ▪

The purpose of the public hearing is to provide a clear explanation of the completed project and to give an opportunity for citizens to discuss the CDBG-ED project with city officials and fellow citizens. To adhere to the Oklahoma Department of Commerce's Income guidelines, new job creations were made available to low to moderately low income persons and the roadway project continues to benefit the Overland Asphalt Plant facility in Durant.

All interested citizens are invited to attend the Public Hearing. Topics of discussion will include: OK State CDBG Program purpose, design and emphasis; the completed 2014 CDBG Project to include project purpose and description.

If you are unable to attend the Public Hearing at the scheduled time, and you would like more information, please write or call the City Clerk, 300 West Evergreen, Durant, Oklahoma 74071 (580) 931.6645 to comment on the completed project. A City of Durant official attending the Public Hearing will answer your comments or questions.

Posted Wednesday, May 26, 2021 before 5:00 PM on the City of Durant website (www.durant.org), at Durant City Hall, Durant County Courthouse and Annex, Donald W. Reynolds Public Library, and Durant Chamber Of Commerce.

The City of Durant

Memorandum

Date:	6/8/2021
To:	Mayor and City Council
From:	Rebecca Payne, Grants Coordinator
Re:	**Public Hearing for 16802 CDBG-ED 16 (C-2016-86) Closeout -** Water, Wastewater and Roadway Infrastructure Improvements for Commercial Metals Company, Inc. – CMC Steel Oklahoma, LLC. facility

Public Hearing for Closeout of 16802 CDBG-ED 16 Community Development Block Grant Economic Development Infrastructure Grant (C-2016-86) in the Amount of $ 1,000,000 for Water, Wastewater and Roadway Infrastructure Improvements Benefitting the Commercial Metals Company, Inc. – CMC Steel of Oklahoma Facility, Located at 584 Old Highway 70 and the Creation of New Jobs Related to the Grant Project for the Durant community.

Public hearing for the 16802 CDBG-ED 12 (C-2016-86) closeout will be led by Rebecca Payne, Grants Coordinator. Upon completion of the Public Hearing, closeout documents will be presented for approval consideration.

ATTACHMENTS
Public Hearing Notice

Council Information / Action Requested
No action.

City Staff Information / Action Follow-up, if Council authorizes this action:
Becca will complete and submit the closeout documents to ODOC by June 30, 2021.

ATTACHMENTS:
1. Public Hearing Notice -16802 CDBG-ED 16 Closeout

NOTICE OF PUBLIC HEARING

TO DISCUSS THE CLOSEOUT FOR A COMMUNITY DEVELOPMENT BLOCK GRANT

16802 CDBG-ED 16 Program

City of Durant, OK

The City of Durant successfully completed the water, wastewater and roadway improvements benefitting the **Commercial Metals Company (CMC)** facility, located at 584 Old Highway 70 - Durant, OK. The publicly owned infrastructure project, necessary for creating new jobs, was partially funded by Oklahoma Department of Commerce through the 2016 Community Development Block Grant Economic Development Infrastructure Finance Program.

The City of Durant will hold a Closeout Public Hearing, as required by the grant guidelines.

Tuesday • June 8, 2021 at 6:00 PM
City Council Chambers at Durant City Hall
300 West Evergreen • Durant, Oklahoma.
Public Hearing will also be live-streamed through the City of Durant website at www.durant.org within the GOVERNMENT tab: Live Stream - Youtube Channel link▪ OR connect directly at - https://durant.org/live ▪

The purpose of the public hearing is to provide a clear explanation of the completed project and to give an opportunity for citizens to discuss the CDBG-ED project with city officials and fellow citizens. To adhere to the Oklahoma Department of Commerce's Income guidelines, new job creations were made available to low to moderately low income persons and the infrastructure project continues to benefit the Commercial Metals Company facility in Durant.

All interested citizens are invited to attend the Public Hearing. Topics of discussion will include: OK State CDBG Program purpose, design and emphasis; the completed 2016 CDBG Project to include project purpose and description.

If you are unable to attend the Public Hearing at the scheduled time, and you would like more information, please write or call the City Clerk, 300 West Evergreen, Durant, Oklahoma 74071 (580) 931.6645 to comment on the completed project. A City of Durant official attending the Public Hearing will answer your comments or questions.

Posted Wednesday, May 26, 2021 before 5:00 PM on the City of Durant website (www.durant.org), at Durant City Hall, Durant County Courthouse and Annex, Donald W. Reynolds Public Library, and Durant Chamber Of Commerce.

The City of Durant

Memorandum

Date:	6/8/2021
To:	Mayor and City Council
From:	Cynthia Price, City Clerk
Re:	Consider Executive Session to Discuss and Consider Durant Industrial Authority Land Purchase Related to Project 3T (This Executive Session Authorized by Title 25, Section 307 B(3) of the Oklahoma State Statutes)

Council Information / Action Requested

Executive Session to Discuss and Consider Durant Industrial Authority Land Purchase

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS:

The City of Durant

Memorandum

Date: 6/8/2021
To: Mayor and City Council
From: Cynthia Price, City Clerk
Re: Consider Action Pursuant to Item 6(a)

Council Information / Action Requested

City Staff Information / Action Follow-up, if Council authorizes this action:

ATTACHMENTS: