

**WILLIAMSON COUNTY, TEXAS**  
**CHANGE ORDER NUMBER: 13**

<b>Contract Award Date:</b>	<u>1/11/2022</u>
<b>Project Number:</b>	<u>22IFB39</u>
<b>Funding Source:</b>	<u>P292</u>
<b>Roadway:</b>	<u>CR 111</u>
<b>CSJ Number:</b>	<u>N/A</u>

Contractor: Capital Excavation NTP Required:  Yes  No

Project Name: CR 111 Westinghouse Road

Change Order Work Limits: Sta. 10+64.50 to Sta. 208+50.00

Type of Change(on federal-aid non-exempt projects): Minor (Major/Minor)

Reasons: 1B, 2I, 4B (3 Max. - In order of importance - Primary first)

Describe the work being revised:

**1B. Design Error or Omission. Other.** This Change Order addresses the need for low fill post, concrete footing, and a driveway terminal section not accounted for in the plans. This Change order also addresses the incorrect called out sign post that were installed per plan. **2I. Differing Site Conditions. Additional safety needs.** This Change Order compensates the contractor for upsizing the stop signs at the new 4-way intersection. **4B. Third Party Accommodation. Third party requested work.** Eliminated the striping and created a right turn lane on northbound FM 1460 at CR 111 per TxDOT.

Work to be performed in accordance with Items: See attached

New or revised plan sheet(s) are attached and numbered: 2, 112A, 114A

New Special Provisions/Specifications to the contract are attached:  Yes  No

New Special Provisions to Item N/A No. N/A. Special Specification Item N/A are attached.

Each signatory hereby warrants that each has the authority to execute this Change Order (CO).

<p><small>The contractor must sign the Change Order and, by doing so, agrees to waive any and all claims for additional compensation due to any and all other expenses; additional changes for time, overhead and profit; or loss of compensation as a result of this change.</small></p> <p>THE CONTRACTOR Date <u>5/30/24</u></p> <p>By <u>[Signature]</u></p> <p>Typed/Printed Name <u>De Chen FY</u></p> <p>Typed/Printed Title <u>XP</u></p>	<p align="center"><b>The following information must be provided</b></p> <p>Time Ext. #: <u>0</u> Days added on this CO: <u>0</u></p> <p>Amount added by this change order: <u>\$15,975.61</u></p> <hr/> <p>Original Contract Amount: <u>\$21,024,332.88</u></p> <p>Total Change Orders To-Date: <u>\$1,540,228.14</u></p> <p>Percent Change in Original Contract: <u>7.33%</u></p>
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**RECOMMENDED FOR EXECUTION:**  
[Signature] 5/30/2024  
 Senior Construction Engineer Date

[Signature] 6/6/2024  
 GEC Project Manager Date

N/A  
 3rd Party Signature Date

**RECOMMENDED FOR EXECUTION:**  
[Signature] 6/6/2024  
 Department of Infrastructure Date  
 Williamson County

**APPROVED:**  
 \_\_\_\_\_ Date  
 Presiding Officer of the  
 Williamson County Commissioners Court

## WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: 13

Project # 22IFB39

**TABLE A:** Force Account Work and Materials Placed into Stock

	LABOR	HOURLY RATE			HOURLY RATE

**TABLE B:** Contract Items:

ITEM	DESCRIPTION	UNIT	UNIT PRICE	ORIGINAL + PREVIOUSLY REVISED		ADD or (DEDUCT)	NEW		OVERRUN/UNDERRUN
				QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	
420-6043	CL C CONC (FOOTING)	CY	\$1,064.64	0.00	\$0.00	5.00	5.00	\$5,323.20	\$5,323.20
540-6015	DRIVEWAY TERMINAL ANCHOR SECTION	EA	\$1,100.00	0.00	\$0.00	1.00	1.00	\$1,100.00	\$1,100.00
540-001	LOW FILL STEEL POST	EA	\$390.00	0.00	\$0.00	10.00	10.00	\$3,900.00	\$3,900.00
644-001	ADDITIONAL SIGNS AND SIGN REPLACEMENT	LS	\$3,408.98	0.00	\$0.00	1.00	1.00	\$3,408.98	\$3,408.98
677-001	STRIPING ELIMINATION (FM 1460)	LS	\$2,243.43	0.00	\$0.00	1.00	1.00	\$2,243.43	\$2,243.43
<b>TOTALS</b>					\$0.00			\$15,975.61	\$15,975.61

# CHANGE ORDER REASON(S) CODE CHART

<p>1. Design Error or Omission</p>	<p>1A. Incorrect PS&amp;E 1B. Other</p>
<p>2. Differing Site Conditions (unforeseeable)</p>	<p>2A. Dispute resolution (expense caused by conditions and/or resulting delay) 2B. Unavailable material 2C. New development (conditions changing after PS&amp;E completed) 2D. Environmental remediation 2E. Miscellaneous difference in site conditions (unforeseeable)(Item 9) 2F. Site conditions altered by an act of nature 2G. Unadjusted utility (unforeseeable) 2H. Unacquired Right-of-Way (unforeseeable) 2I. Additional safety needs (unforeseeable) 2J. Other</p>
<p>3. County Convenience</p>	<p>3A. Dispute resolution (not resulting from error in plans or differing site conditions) 3B. Public relations improvement 3C. Implementation of a Value Engineering finding 3D. Achievement of an early project completion 3E. Reduction of future maintenance 3F. Additional work desired by the County 3G. Compliance requirements of new laws and/or policies 3H. Cost savings opportunity discovered during construction 3I. Implementation of improved technology or better process 3J. Price adjustment on finished work (price reduced in exchange for acceptance) 3K. Addition of stock account or material supplied by state provision 3L. Revising safety work/measures desired by the County 3M. Other</p>
<p>4. Third Party Accommodation</p>	<p>4A. Failure of a third party to meet commitment 4B. Third party requested work 4C. Compliance requirements of new laws and/or policies (impacting third party) 4D. Other</p>
<p>5. Contractor Convenience</p>	<p>5A. Contractor exercises option to change the traffic control plan 5B. Contractor requested change in the sequence and/or method of work 5C. Payment for Partnering workshop 5D. Additional safety work/measures desired by the contractor 5E. Other</p>
<p>6. Untimely ROW/Utilities</p>	<p>6A. Right-of-Way not clear (third party responsibility for ROW) 6B. Right-of-Way not clear (County responsibility for ROW) 6C. Utilities not clear 6D. Other</p>

# Change Order Worksheet

**Contract Name** CR 111 Westinghouse

**Solicitation #:** 22IFB39

**Date awarded** 1/11/2022

**Awarded Contract Amount** \$21,024,332.88

		Percentage Change
Change order #1	\$233,364.00	1.11%
Change order #2	\$7,553.84	0.04%
Change order #3	\$20,307.20	0.10%
Change order #4	\$454,267.40	2.16%
Change order #5	\$41,134.66	0.20%
Change order #6	\$24,159.20	0.11%
Change order #7	\$28,440.00	0.14%
Change order #8	\$276,200.00	1.31%
Change order #9	\$14,282.00	0.07%
Change order #10	\$39,507.50	0.19%
Change order #11	\$81,433.12	0.39%
Change order #12	\$303,603.61	1.44%
Change order #13	<u>\$15,975.61</u>	0.08%

**Total changes to date** \$1,540,228.14 7.33%

**Adjusted contract amount** \$22,564,561.02

(Running totals here)

## Williamson County Road Bond Program

### CR 111 Westinghouse Rd Williamson County Project No. 22IFB39 Change Order No. 13

#### Reason for Change

This Change Order compensates the contractor for installing low fill metal beam guard fence posts, concrete footing, and a driveway terminal anchor section that were not called out in the plans. Due to the lack of cover over Culvert 1, the guardrail could not be installed per plan and was switched to low fill posts with a concrete footing.

This Change Order also addresses various small sign discrepancies in the plans and added signs for additional safety measures. Several sign posts had to be changed, in order to accommodate the correct sign installation. Also, a few small signs were added that were missing from the plans and the size of the stop signs was increased to improve safety at the new 4-way intersection of CR 111 and CR 110.

Lastly, the Change Order compensates the contractor for creating a right turn lane on northbound FM 1460 at CR 111, per a request from TxDOT.

The following is a list of new items required for this Change Order.

ITEM	DESCRIPTION	QTY	UNIT
420-6043	CL C CONC (FOOTING)	5	CY
540-6015	DRIVEWAY TERMINAL ANCHOR SECTION	1	EA
540-001	LOW FILL STEEL POST	10	EA
644-001	ADDITIONAL SIGNS AND SIGN REPLACEMENT	1	LS
677-001	STRIPING ELIMINATION (FM 1460)	1	LS

This Change Order results in an increase of \$15,975.61 to the Contract amount, for an adjusted Contract total of \$22,564,561.02. The original Contract amount was \$21,024,332.88. As a result of this and previous Change Orders, \$1,540,228.14 has been added to the Contract, resulting in a 7.33% increase in the Contract cost. As a result of this Change Order, zero (0) days will be added to the Contract.

#### HNTB Corporation

Oscar Salazar-Bueno, P.E.



PO Box 1301  
 Austin, TX 78767  
 Email: Estimating@CapitalExcavation.com

## Change Request # 29

Date: 3/6/2024

QuoteTo:

Project: CR 111 / 110 (1024)

Capital Project #: 1024

Description:

Item	Description	Quantity	Unit	Unit Price	Amount
540-6015	Driveway Terminal Anchor Section	1.00	EA	<del>1,200.00</del>	<del>1,200.00</del> \$1,100.00
540-001	Low Fill Steel Post	10.00	EA	<del>415.00</del> \$390.00	<del>4,150.00</del> \$3,900.00
420-6043	Footing for MBGF <b>CL C CONC (FOOTING)</b>	<del>85.00</del> 5	<del>LF</del> CY	<del>97.00</del> \$1,064.64	<del>8,245.00</del> \$5,323.20
GRAND TOTAL					\$10,323.20 <del>13,595.00</del>

**Scope:** Pricing for low fill steel posts MBGF over a culvert which requires a footing for the installation of the MBGF.

**Capital Excavation Requests an additional :** TIA day(s)

Prices have been compared to recently let projects and are in line with TxDOT Bid Averages.



PO Box 1301  
 Austin, TX 78767  
 Email: Estimating@CapitalExcavation.com

## Change Request # 31

Date: 4/10/2024

QuoteTo:

Project: CR 111 / 110 (1024)

Capital Project #: 1024

Description: Additional Signs

Item	Description	Quantity	Unit	Unit Price	Amount
<b>644-001</b>	Additional Signs	1.00	LS	<del>3,696.00</del>	<del>3,696.00</del> <b>\$3,381.00</b>
<b>677-001</b>	Striping Elimination	1.00	LS	<del>2,238.00</del>	<del>2,238.00</del> <b>\$2,215.45</b>

GRAND TOTAL ~~5,934.00~~  
**\$5,596.45**

**1% Bond: \$55.96**  
**Total: \$5,652.41**

**Scope:** Permanent DO NOT ENTER signs at both sides of the driveway at sta 86+50 as appropriate and add a no left turn sign for the WB lane east of the driveway and additional signs. Elimination of existing striping at the driveway.

Capital Excavation Requests an additional :            day(s)

**644-001 Additional Signs - \$3,381.00 + \$27.98 (1% Bond) = \$3,408.98**  
**677-001 Striping Elimination - \$2,215.45 + \$27.98 (1% Bond) = \$2,243.43**  
**\$5,652.41**

**TRP CONSTRUCTION GROUP, LLC.**

**CHANGE ORDER QUOTE**

1127 OLD BASTROP HWY  
 AUSTIN , TX 78742  
 512-990-9525 512-990-0336 FAX 512-695-4660 MOBILE  
[leev@trpconstructiongroup.com](mailto:leev@trpconstructiongroup.com)

**Job Specifications**

Bid Date: 12/15/2021  
 Project: CR 111 AND CR 110 NORTH WIDENING  
 WILLIAMSON COUNTY PRO NO. 22IFB39

ITEM	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL
1	CHANGE OUT POST FOR CENTER LANE SIGN	EA	2	\$350.00	\$700.00
2	ADD DO NOT ENTER SIGN (TWT) WS (P)	EA	2	\$385.00	\$770.00
3	ADD WING CHANNEL TO 48" STOP SIGN / STREET NAME SIGN / NEW POST	EA	4	\$400.00	\$1,600.00
	<b>*ADDITIONAL \$270.00 WILL BE BILLED FOR NEW 48" STOP SIGN.</b>				
4	ADD STREET NAME SIGN TO SUBDIVISION	EA	2	\$75.00	\$150.00
				<b>PI TOTAL</b>	<b>\$3,220.00</b>
				SUBTOTAL	\$3,220.00
				TAX	<del>\$265.65</del>

WilCo does not pay sales tax as they are Tax Exempt.

**Total: ~~\$3,485.65~~**  
**\$3,220.00**

5% Sub Mark-up \$161.00  
**Total: \$3,381.00**

**NOTES FOR PERMANENT INSTALLATIONS / SIGNAGE**

- \*Contractor shall assist in locating Utilities that may be in conflict with installations.
- \*There will be a \$125.00 Coring fee PER UNIT if Signs are to be installed in Concrete surfaces.
- \* Allow two weeks for manufacturing of signs and mounts prior to installation date.
- \*Price is based on one mobilization. Each additional will be billed at \$950.00
- \* Rate excludes flashing beacons

**GENERAL NOTES**

- \*If the Project is Tax Exempt, please provide certificate.
- \*Proposal Contingent upon both parties executing a mutually agreed upon subcontract.
- \*Proposal good for (10) working days from date of this quote.

Signature Lee Vanover 3  
 OPERATIONS MANAGER  
 TRP CONSTRUCTION GROUP,LLC.

Date 4/9/2024

Accepted by \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_





# FLASHER Equipment Co

Main Office:  
5827 W. US HWY 90  
San Antonio, Tx 78227  
Phone: 210-736-4251  
Fax: 210-736-2084  
www.flasherequipment.com

75 County Road 372  
Jarrell, TX 76537  
Phone: (512) 746-4441  
Fx: (512) 746-4444

PROJECT: CR 111 AND CR 110 NORTH WIDENING  
DATE: APRIL 15, 2024  
TERMS: 30 DAYS WITH ACCOUNT / PRE PAY WITHOUT ACCOUNT  
LOCATION: WILLIAMSON COUNTY

QUOTE # 18059B

### CHANGE ORDER

#### PAVEMENT MARKINGS

ITEM	Description	Unit	Qty.	Price	Amount
	MOBILIZATION	LS	1	\$1,250.00	\$1,250.00
677-6005	ELIM EXT PAV MRK & MRKS (12")	LF	131	\$3.51	\$459.81
677-6007	ELIM EXT PAV MRK & MRKS (24")	LF	57	\$7.02	\$400.14

\* CHANGE ORDER ITEMS ARE TAKEN FROM FLASHER EQUIPMENT WORK  
ORDER # 75407, DATED: 04/03/2024.

<b>TOTAL</b>		<b>\$2,109.95</b>
	<b>5% Sub Mark-up</b>	<b>\$105.50</b>
	<b>Total:</b>	<b>\$2,215.45</b>

#### NOTES AND EXCLUSIONS

##### PAVEMENT MARKINGS

- \* All notes and exclusions from original proposal shall apply to this change order.
- \* **Any items not specifically noted will be additional.**

##### GENERAL

- \* FLASHER EQUIPMENT WARRANTS WORKMANSHIP AND MATERIALS ONLY. REPAIRS DUE TO NORMAL WEAR, VANDALISM, OR NEGLIGENCE WILL BE PERFORMED ON AN EXTRA WORK BASIS.
- \* **BILLING FOR THE PROJECT WILL BE FOR THE TERM ITEMS ARE ON SITE, REGARDLESS OF PAYMENT FROM OWNER.**
- \* PRICES DO NOT INCLUDE TAX.
- \* **PRICES QUOTED ARE GOOD FOR 30 DAYS.**
- \* Any discrepancy between the Flasher Equipment Company bid proposal, this document, and the contract documents, this bid proposal shall supersede and prevail.
- \* **IF RETAINAGE IS NOT DEFINED BELOW, THEN ALL MONEY'S WILL BE DUE AS BILLED.**
- \* **FLASHER EQUIPMENT COMPANY DOES NOT INDEMNIFY GENERAL CONTRACTOR OR PROJECT OWNERS FOR ACCIDENTS, INJURY, OR DEATH CAUSED SOLELY BY GENERAL CONTRACTOR OR PROJECT OWNERS ACTIVE OR PASSIVE NEGLIGENCE.**

SUBMITTED David McMullen  
Estimator

ACCEPTED: \_\_\_\_\_  
Name  
\_\_\_\_\_  
Title  
\_\_\_\_\_  
Date  
\_\_\_\_\_  
Job/PO#

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SHEET NO.	DESCRIPTION
1	GENERAL
2	TITLE SHEET
3 - 8	SUPPLEMENTAL INDEX OF SHEETS
9 - 13	PROJECT LAYOUT
14A - 14Z	TYPICAL SECTIONS
15	GENERAL NOTES AND SPECIFICATIONS
16	ESTIMATE & QUANTITIES
17	SUMMARY OF TRAFFIC CONTROL QUANTITIES
18	SUMMARY OF ROADWAY QUANTITIES
19	SUMMARY OF DRAINAGE QUANTITIES
20	SUMMARY OF SIGNING, STRIPING AND DELINEATION QUANTITIES
21	SUMMARY OF TRAFFIC SIGNAL QUANTITIES
22	SUMMARY OF EROSION CONTROL QUANTITIES
23	SUMMARY OF DRIVEWAYS
24 - 25	SUMMARY OF CROSS STREETS
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26	TRAFFIC CONTROL PLAN CONSTRUCTION SEQUENCING NOTES
27	TRAFFIC CONTROL PLAN SIGNAGE
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47 - 56	TRAFFIC CONTROL PLAN PHASE III
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69	WZ(TD)-13
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71	WZ(UL)-13
72	WZ(RCD)-13
73 - 74	WZ(BTS-1)-13 THRU WZ(BTS-2)-13
75 - 77	TCP(1-1)-12 THRU TCP(1-3)-12
78 - 80	TCP(2-1)-12 THRU TCP(2-3)-12
81 - 82	TCP(3-1)-13 THRU TCP(3-2)-13
83	TCP(3-3)-14
84	TCP(3-4)-13
85	TCP(7-1)-13
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88 - 105	CR 111 PLAN & PROFILE
106 - 107	CR 110 PLAN & PROFILE
108	CR 105 SPUR PLAN & PROFILE
109	(OMITTED)
110	INTERSECTION LAYOUT - CR 110
111	DETAILS OF DRIVEWAYS
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112 - 112A	GF(31)-14 & CONCRETE FOOTING FOR MBGF
113	GF(31)MS-11
113A - 113C	TRAFFIC RAIL (TYPE T223)
114	SGT(8)31-14
115 - 118	PED-12A
118A	COLOR TEXTURED CONCRETE AND LANDSCAPE PAVERS
118B	CITY OF GEORGETOWN RIBBON CURB DETAILS
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119 - 120	DRAINAGE AREA MAP
121	HYDROLOGIC AND HYDRAULIC DESIGN DATA
122 - 125	HYDROLOGIC AND HYDRAULIC DESIGN DATA - PROPOSED CULVERTS
126 - 129	HYDROLOGIC AND HYDRAULIC DESIGN DATA - EXISTING CULVERTS
130 - 131	RIGHT DITCH DESIGN DATA
132 - 133	LEFT DITCH DESIGN DATA
134 - 145	CROSS-CULVERT LAYOUTS
146	ENERGY DISSIPATER DETAIL
147 - 148	STORM SEWER DRAINAGE AREAS
149 - 154	STORM SEWER PLAN & PROFILE
155	STORM SEWER DESIGN DATA
156	MISCELLANEOUS DRAINAGE DETAILS
	<b>DRAINAGE STANDARDS</b>
157	SCC-MD
158 - 159	SCC-5&6
160	SCP-MD
161	SCP-5
162	SCP-6
163	MC-MD
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165 - 166	MC-5-20
167	ECD
168	(OMITTED)
169	SW-0
170	FW-S
171	PW
172	CH-PW-S
173	CH-FW-0
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175	CH-FW-45
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179	SETP-PD
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182	PSET-SP
183	PSET-RP
184	PB
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SHEET NO.	DESCRIPTION
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189	PCO
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	PSL
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193 - 202	EROSION CONTROL PLAN
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205 - A-C	EC(9)-16
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216 - 217	SMALL SIGN DETAILS
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219	PROPOSED SIGNAL LAYOUT - CR 111 (WESTINGHOUSE RD) ● FM 1460
220	PROPOSED SIGNAL ELEVATION - CR 111 (WESTINGHOUSE RD) ● FM 1460
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224 - 228	TSR(1)-13 THRU TSR(5)-13
229 - 232	D&OM(1)-15 THRU D&OM(4)-15
233	D&OM(VIA)-15
234	SMD(GEN)-08
235 - 237	SMD(SLIP-1)-08 THRU SMD(SLIP-3)-08
238	SMD(TWT)-08
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243	ED(1)-14
244 - 249	ED(3)-14 THRU ED(8)-14
250	ED(11)-14
	<b>UTILITIES</b>
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262 - 380	PROPOSED CROSS SECTIONS
381 - 387	PROPOSED CROSS SECTIONS (CR 110)
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BEGINNING OF CR 110 NORTH SHEETS	
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394 - 398	GENERAL SHEETS (G1 - G5)
	QUANTITY SHEETS (Q1 - Q5)
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399	TRAFFIC CONTROL PLAN SEQUENCE OF CONSTRUCTION
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412 - 423	BARRICADE & CONSTRUCTION SHEETS (BC(1)-14 - BC(12)-14)
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424 - 427	DEMOLITION SHEETS (R1 - R4)
	<b>ROADWAY PLAN</b>
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	<b>DRIVEWAY DETAILS</b>
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	<b>DRAINAGE</b>
449	DRAINAGE AREA MAP (DR 2)
450	DITCH CAPACITY TABLE (DT 1)
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	<b>EROSION CONTROL SHEETS &amp; DETAILS</b>
465	STORMWATER POLLUTION PREVENTION PLAN (SW3P)
466 - 469	EROSION CONTROL PLAN (ES1 - ES4)
470 - 472	EROSION CONTROL DETAILS
	<b>CROSS SECTIONS</b>
473 - 494	CROSS SECTION SHEETS (X1 - X22)
	<b>MBC MANSIONS SHEETS</b>
495	OVERALL WATER PLAN
496	SANITARY SEWER LINE P PLAN & PROFILE STA. 1+00 - STA. 5+20
497	CHANNEL PLAN & PROFILE STA. 13+80-STA. 16+23
	<b>JONAH WATER PLANS</b>
498 - 527	(12/22/20): CULV & CS REVS
	(06/08/22): RFI #9
	(08/26/22): RFI #27
	(03/01/24): RFI #46
528 - 538	<b>GATEWAY WW PLANS</b>

REVISION 2, 6, 8, & 14 ONLY

THE STANDARDS AND SPECIFICATIONS IDENTIFIED HEREIN HAVE BEEN SELECTED BY ME OR UNDER MY SUPERVISION AND ARE APPLICABLE TO THIS PROJECT.

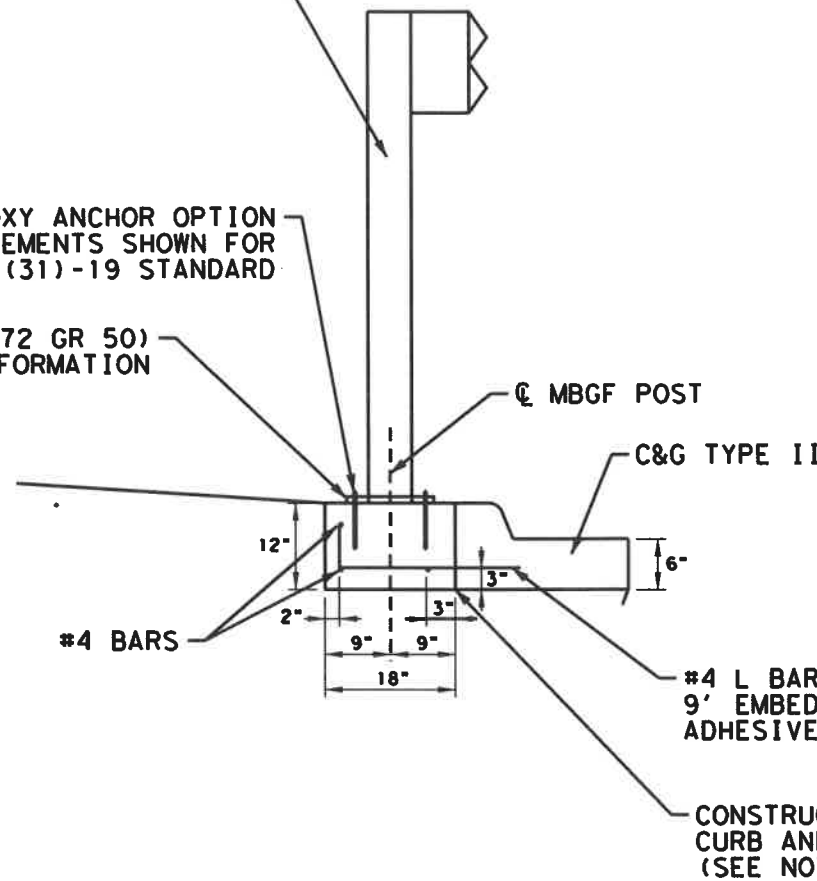
WILLIAMSON COUNTY			
CR 111 IMPROVEMENTS			
SUPPLEMENTAL INDEX OF SHEETS			
DATE: 3/1/2024	DN:	DW:	CK: AP:
FED. RD. DIV. NO. 6	FEDERAL AID PROJECT NO. ----		SHEET NO. 2
STATE TEXAS	DIST. ---	COUNTY WILLIAMSON	
CONT. ---	SECT. ---	JOB ---	HIGHWAY NO. CR 111

FILE: P:\22000-22999\22009\111\CR111 Route Study\Drawings\Plans\Roadway\Concrete Footing For MBG.dgn  
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MBGF TIM POST  
INSTALL ACCORDING TO TXDOT ITEM 540

EPOXY ANCHOR OPTION  
7/8" DIA. THREADED RODS MEETING THE REQUIREMENTS SHOWN FOR  
LOW FILL CULVERT POST (NOTE #2) ON GF (31)-19 STANDARD

12" X 12" X 7/8" STEEL PLATE (ASTM A572 GR 50)  
REFER TO GF (31)-19 STANDARD FOR ADDITIONAL INFORMATION



CONSTRUCTION JOINT (ONLY REQUIRED IF  
CURB AND GUTTER PREVIOUSLY POURED)  
(SEE NOTE 4)

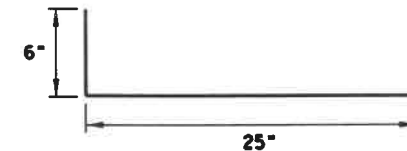
## SUPPORT CONCRETE GENERAL NOTES

- DESIGNED ACCORDING TO 2017 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (8TH EDITION) (HL93 LOADING).
- PROVIDE CLASS "C" CONCRETE
- PROVIDE GRADE 60 REINFORCING STEEL
- AT CONTRACTOR'S OPTION, SUPPORT CONCRETE FOR MBGF STEEL POST CAN BE POURED MONOLITHICALLY WITH CURB AND GUTTER TYPE II, ADJUST HORIZONTAL LEG LENGTH OF BAR L TO EXTEND THROUGH CURB AND GUTTER SECTION WITH 2" END BAR COVER.




*BEM*  
02/29/2024

## CONCRETE FOOTING FOR MBGF




BARS L



WILLIAMSON COUNTY  
1848 © 2024

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STEGER BIZZELL

ADDRESS: 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78608  
 METRO: 512.930.8412 TYPE FIRM NO. 181 TBP/LS FIRM NO. 10003700 WEB: STEGERBIZZELL.COM  
 SERVICES: >>ENGINEERS >>PLANNERS >>SURVEYORS

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WILLIAMSON COUNTY  
CR 111 IMPROVEMENTS

CONCRETE FOOTING  
FOR MBGF

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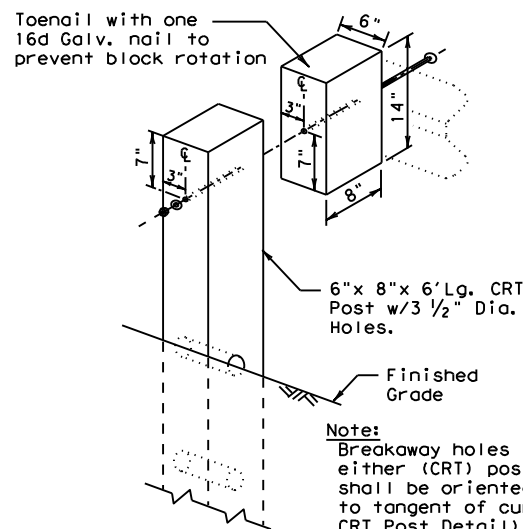
DATE: 2/29/2024	DN:	DW:	CK:	AP:
FED. RD. DIV. NO. <b>6</b>	FEDERAL AID PROJECT NO. ----	SHEET NO. 112A		
STATE <b>TEXAS</b>	DIST. ---	COUNTY <b>WILLIAMSON</b>		
CONT. ----	SECT. --	JOB ---	HIGHWAY NO. <b>CR 111</b>	

DISCLAIMER: THE USE OF THIS STANDARD IS COVERED BY THE "TEXAS ENGINEERING PRACTICE ACT". NO WARRANTY OF ANY KIND IS MADE BY TxDOT FOR ANY PURPOSE WHATSOEVER. TxDOT ASSUMES NO RESPONSIBILITY FOR THE CONVERSION OF THIS STANDARD TO OTHER FORMATS OR FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

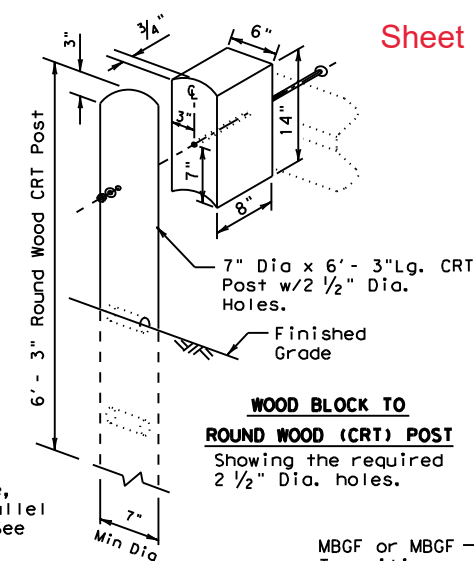
Sheet issued as part of RFI #44.

**GENERAL NOTES**

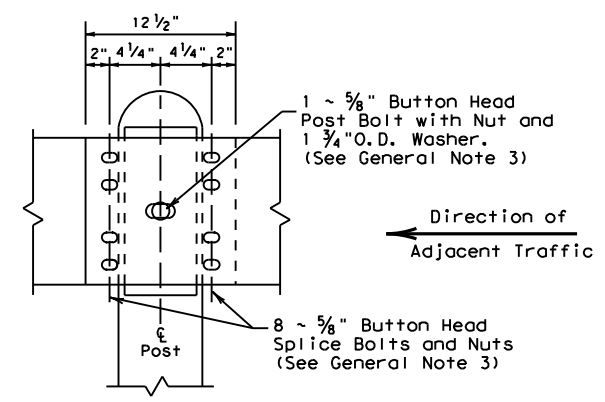
- The type of (CRT) post (round wood post, or rectangular wood post) will be shown elsewhere in the plans. The exact position of MBGF shall be shown elsewhere in the plans or as directed by the Engineer.
- Steel posts are not permitted at CRT post positions.
- Rail element shall meet the requirements of Item 540, "Metal Beam Guard Fence" except as modified on the plans. The Contractor may furnish rail elements of 12 1/2 or 25 foot nominal lengths.
- Button head "post" bolts (ASTM A307) shall be of sufficient length to extend through the full thickness of the nut (ASTM A563) and Type A (1 3/4" O.D.) washer and not more than 1" beyond it. Button head "splice" bolts (ASTM A307) are 3/8" x 1 1/4" (or 2" long at triple rail splices) with a 3/8" double recessed nut (ASTM A563).
- Fittings (bolts, nuts, and washers) shall be galvanized in accordance with Item 445, "Galvanizing." Fittings shall be subsidiary to the bid item.
- Crown shall be widened to accommodate the Metal Beam Guard Fence.
- The lateral approach to the guard fence, shall have a slope rate of not more than 1V:10H.
- Unless otherwise shown in the plans, guard fence placed in the vicinity of curbs shall be positioned so that the face of curb is located directly below or behind the face of the block. Rail placed over curbs shall be installed so that the post bolt is located approximately 21 inches above the gutter pan or roadway surface.
- If solid rock is encountered within 0 to 18" of the finished grade, drill a 22" dia. hole, 24" into the rock, or drill two 12" dia. front to back overlapping holes, 24" into the rock. If solid rock is encountered below 18", drill a 12" dia. hole, 12" into the rock or to the standard embedment depth, whichever is less. Any excess post length, after meeting these depths, may be field cut to ensure proper guardrail mounting height. Backfill with a cohesionless material.
- Guardrail posts shall not be set in concrete, of any depth.
- Special rail fabrication will be required at installations having a curvature of less than 150 ft. radius. The required radius shall be shown on the plans.
- The terminal anchor section (TAS) post shall be set in Class A concrete (unless otherwise shown in the plans) in accordance with Item 421, "Hydraulic Cement Concrete." Concrete shall be subsidiary to the bid item requiring construction of the terminal anchor section (TAS). Terminal anchor post to be galvanized in accordance with Item 445, "Galvanizing."
- Unless otherwise shown in the plans, a composite material post and/or block that meets the requirements of DMS-7210, "Composite Material Posts and Blocks for Metal Beam Guard Fence" may be substituted for posts and/or blocks of similar dimensions. The Construction Division, TxDOT maintains a Material Producer List (MPL) for producers of materials conforming to DMS-7210. Only producers on the MPL can furnish composite material posts and/or blocks.



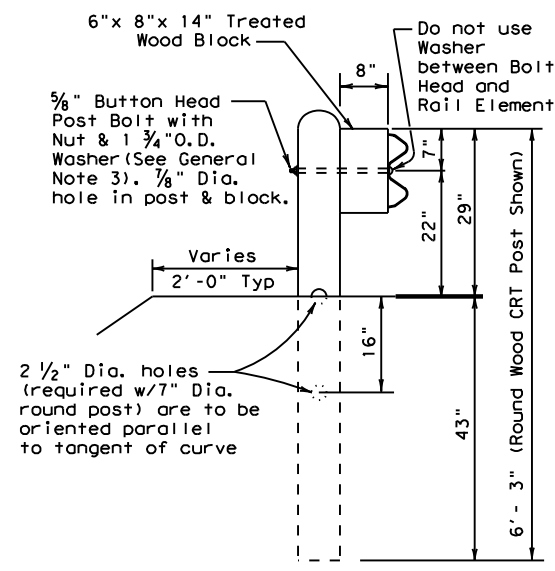
**WOOD BLOCK TO RECTANGULAR WOOD (CRT) POST**  
Showing the required 3 1/2" Dia. holes.



**WOOD BLOCK TO ROUND WOOD (CRT) POST**  
Showing the required 2 1/2" Dia. holes.

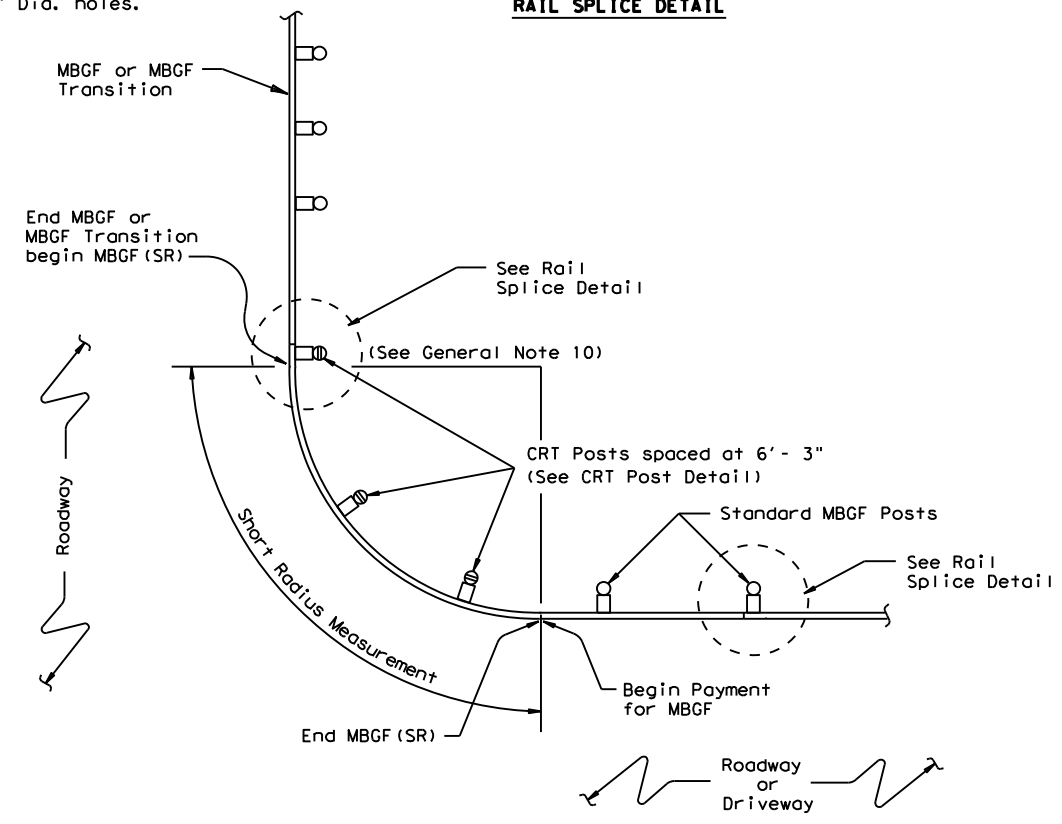


**RAIL SPLICE DETAIL**



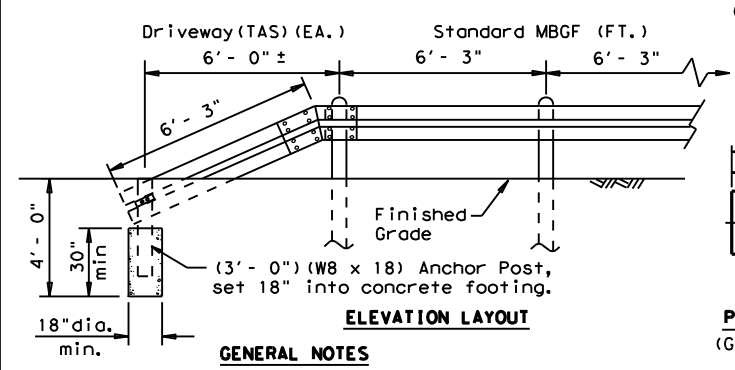
**(CRT) POST DETAIL CONTROLLED RELEASE TERMINAL POST**

Two or more wood CRT post(s) are required at any radius installation located at intersecting roadways or driveways.



**PLAN VIEW SHOWING TYPICAL RADIUS**

The required radius is shown elsewhere on the plans.



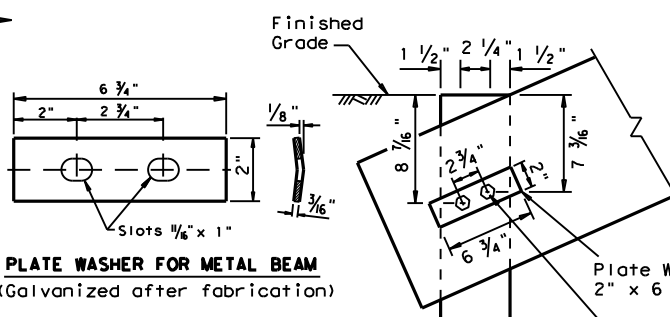
**ELEVATION LAYOUT**

**GENERAL NOTES**

- The "Driveway" Terminal Anchor Section is ONLY to be used within driveway locations, where the ROW is limited and a standard 25 ft. (TAS) Terminal Anchor Section, is too long.
- Terminal anchor post shall be set in Class A concrete.
- All steel shall be galvanized after fabrication in accordance with Item 445, "Galvanizing."

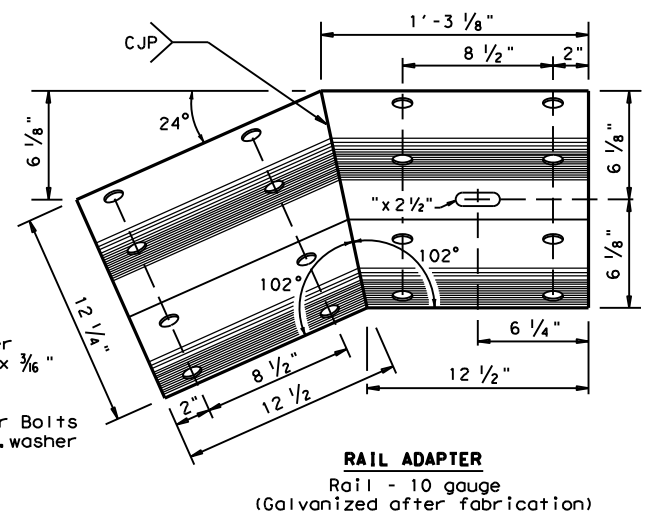
**"DRIVEWAY" TERMINAL ANCHOR SECTION**

Only for use within driveway locations, where a standard (TAS) Terminal Anchor Section can not be installed.



**PLATE WASHER FOR METAL BEAM**  
(Galvanized after fabrication)

**ANCHOR POST**  
W8 x 18 (3'-0")



**RAIL ADAPTER**  
Rail - 10 gauge  
(Galvanized after fabrication)

**ONLY FOR USE IN MAINTENANCE REPAIRS OR HIGHLY CONSTRAINED SITE CONDITIONS.**

Texas Department of Transportation  
Design Division Standard

**METAL BEAM GUARD FENCE (SHORT RADIUS) MBGF (SR) - 19**

FILE: mbgfsr19.dgn	DN: TxDOT	CK: KM	DW: BD	CK: VP
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				114A
	DIST	COUNTY		SHEET NO.

DATE: FILE: