

WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: 1

Received

MAR 23 2020

- 1. CONTRACTOR: James Construction Group, LLC.
- 2. Change Order Work Limits: Sta. 370+00 to Sta. 450+00
- 3. Type of Change(on federal-aid non-exempt projects): Major (Major/Minor)
- 4. Reasons: 3F, 3E, 3H, 2C (3 Max. - In order of importance - Primary first)

Project:	<u>1803-219</u>
Roadway:	<u>SW Bypass Segment 2</u>
CSJ Number:	

PNB Corporation Round Rock

5. Describe the work being revised:

3F: County Convenience. Additional work desired by the County. A ROW agreement with Texas Crushed Stone (TCS) required that 6 driveways be installed on the project and the locations and details were added to the plans after construction began. In addition to the driveways, per Williamson County's request, the southbound frontage road will be converted to two-way to allow eastbound SW Bypass traffic to access the inner Loop directly. 3E & 3H: County Convenience. Reduction of future maintenance. Cost savings opportunity discovered during construction. Elimination of Wall 6 is safer for the travelling public and will reduce future maintenance costs. 2C: Differing Site Conditions (unforeseeable). New development (conditions changing after PS&E completed). Excavation adjacent to the ROW required the placement of additional metal beam guard fence (MBGF) to protect the travelling public. Also, during construction, excavation near the pond diverted water across a driveway, therefore it was necessary to place concrete pipe (RCP) to channel the water into the pond.

- 6. Work to be performed in accordance with Items: See attached.
- 7. New or revised plan sheet(s) are attached and numbered: See below.
2-4, 10, 12A, 12B, 13K, 14-16, 19-21, 23-24, 30, 50, 52, 54-59, 60A, 60B, 60C, 90, 94, 105A, 108A, 108B, 108C, 115A, 115B, 117A, 117B, 117C, 213, 218, 219, 222-224, 230A, 230B, 259-262, 264. XS: 6, 39-73, 111-112. Details: SGT(12S), (13S) & (14W)31-18.
- 8. New Special Provisions/Specifications to the contract are attached: Yes No
- 9. 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><i>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</i></p> <p>THE CONTRACTOR Date <u>3-23-20</u></p> <p>By <u>[Signature]</u></p> <p>Typed/Printed Name <u>Breck Lewis</u></p> <p>Typed/Printed Title <u>Div. Mgr</u></p>	<p>The following information must be provided</p> <p>Time Ext. #: <u>1</u> Days added on this CO: <u>65</u></p> <p>Amount added by this change order: <u>\$300,284.59</u></p>
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RECOMMENDED FOR EXECUTION:

[Signature] P.E. 3/23/20
Project Manager Date

N/A
Design Engineer Date

[Signature] 3/25/2020
Program Manager Date

Design Engineer's Seal:

see attached plan sheets

County Commissioner Precinct 1 Date

APPROVED REQUEST APPROVAL

County Commissioner Precinct 2 Date

APPROVED REQUEST APPROVAL

County Commissioner Precinct 3 Date

APPROVED REQUEST APPROVAL

County Commissioner Precinct 4 Date

APPROVED REQUEST APPROVAL

County Judge Date

APPROVED

[Signature] 4/19/20
County Commissioner Precinct 3 Date

WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: 1

Project # 1803-219

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	
110-6001	EXCAVATION (ROADWAY)	CY	\$4.88	171,443.00	\$836,641.84	1,087.00	172,530.00	\$841,946.40	\$5,304.56
132-6005	EMBANKMENT (FINAL)(ORD COMP)(TY C)	CY	\$2.71	123,229.00	\$333,950.59	3,163.00	126,392.00	\$342,522.32	\$8,571.73
132-6006	EMBANKMENT (FINAL)(DENS CONT)(TY C)	CY	\$3.89	37,034.00	\$144,062.26	1,116.00	38,150.00	\$148,403.50	\$4,341.24
161-6017	COMPOST MANUF TOPSOIL (4")	SY	\$0.94	42,306.00	\$39,767.64	(145.00)	42,161.00	\$39,631.34	(\$136.30)
164 6009	BROADCAST SEED (TEMP) (WARM)	SY	\$0.12	21,154.00	\$2,538.48	(72.00)	21,082.00	\$2,529.84	(\$8.64)
164 6011	BROADCAST SEED (TEMP) (COOL)	SY	\$0.12	21,154.00	\$2,538.48	(72.00)	21,082.00	\$2,529.84	(\$8.64)
164 6023	CELL FBR MLCH SEED(PERM) (RURAL)(CLAY)	SY	\$0.22	42,306.00	\$9,307.32	(145.00)	42,161.00	\$9,275.42	(\$31.90)
168 6001	VEGETATIVE WATERING	MG	\$22.87	6,982.00	\$159,678.34	(24.00)	6,958.00	\$159,129.46	(\$548.88)
169 6001	SOIL RETENTION BLANKETS (CL 1) (TY A)	SY	\$1.20	17,219.00	\$20,662.80	(145.00)	17,074.00	\$20,488.80	(\$174.00)
247 6041	FL BS (CMP IN PLC) (TYA GR1&2) (FNAL POS)	CY	\$36.83	9,891.00	\$364,285.53	831.00	10,722.00	\$394,891.26	\$30,605.73
310 6027	PRIME COAT(MC-30 OR AE-P)	GAL	\$3.60	5,455.00	\$19,638.00	535.00	5,990.00	\$21,564.00	\$1,926.00
341 6008	D-GR HMA TY-B PG64-22	TON	\$59.19	4,703.00	\$278,370.57	460.00	5,163.00	\$305,597.97	\$27,227.40
341 6042	D-GR HMA TY-D SAC-B PG70-22	TON	\$79.26	6,451.00	\$511,306.26	845.00	7,296.00	\$578,280.96	\$66,974.70
354 6021	PLANE ASPH CONC PAV(0" TO 2")	SY	\$1.50	8,882.00	\$13,323.00	4,565.00	13,447.00	\$20,170.50	\$6,847.50
401 6001	FLOWABLE BACKFILL	CY	\$123.50	167.00	\$20,624.50	114.00	281.00	\$34,703.50	\$14,079.00
402 6001	TRENCH EXCAVATION PROTECTION	LF	\$5.75	0.00	\$0.00	185.00	185.00	\$1,063.75	\$1,063.75
423 RW06	RETAINING WALL 6 (MSE) (ASHLAR STONE FIN)	SF	\$51.85	2,416.00	\$125,269.60	(2,416.00)	0.00	\$0.00	(\$125,269.60)
432 6001	RIPRAP (CONC)(4 IN)	CY	\$350.00	82.00	\$28,700.00	(18.80)	63.20	\$22,120.00	(\$6,580.00)
432 6033	RIPRAP (STONE PROTECTION)(18 IN)	CY	\$60.00	184.00	\$11,040.00	98.00	282.00	\$16,920.00	\$5,880.00
TOTALS					\$2,921,705.21			\$2,961,768.86	\$40,063.65

WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: 1

Project # 1803-219

TABLE B: Contract Items (Continued)

ITEM	DESCRIPTION	UNIT	UNIT PRICE	ORIGINAL + PREVIOUSLY REVISED		ADD or (DEDUCT)	NEW		OVERRUN/ UNDERRUN
				QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	
432 6045	RIPRAP (MOW STRIP)(4 IN)	CY	\$687.17	33.00	\$22,676.61	32.00	65.00	\$44,666.05	\$21,989.44
432 8001	RIPRAP (STONE PROTECTION)(8 IN) (TY I)	CY	\$34.68	877.00	\$30,414.36	(131.00)	746.00	\$25,871.28	(\$4,543.08)
432 8002	RIPRAP (STONE PROTECTION)(8 IN) (TY II)	CY	\$25.49	9,178.00	\$233,947.22	(127.00)	9,051.00	\$230,709.99	(\$3,237.23)
450 6023	RAIL (TY SSTR)	LF	\$45.77	1,782.00	\$81,562.14	(114.00)	1,668.00	\$76,344.36	(\$5,217.78)
464 6008	RC PIPE (CL III)(36 IN)	LF	\$73.36	360.00	\$26,409.60	248.00	608.00	\$44,602.88	\$18,193.28
464 6018	RC PIPE (CL IV)(24 IN)	LF	\$74.83	310.00	\$23,197.30	215.00	525.00	\$39,285.75	\$16,088.45
464 6026	RC PIPE (CL V)(24 IN)	LF	\$84.90	264.00	\$22,413.60	(264.00)	0.00	\$0.00	(\$22,413.60)
466 6130	HEADWALL (CH - PW - S) (DIA= 24 IN)	EA	\$2,036.00	1.00	\$2,036.00	(1.00)	0.00	\$0.00	(\$2,036.00)
467 6394	SET (TY II) (24 IN) (RCP) (6: 1) (C)	EA	\$1,080.00	2.00	\$2,160.00	(1.00)	1.00	\$1,080.00	(\$1,080.00)
467 6395	SET (TY II) (24 IN) (RCP) (6: 1) (P)	EA	\$3,605.65	0.00	\$0.00	8.00	8.00	\$28,845.22	\$28,845.22
467 6454	SET (TY II) (36 IN) (RCP) (6: 1) (P)	EA	\$5,209.68	0.00	\$0.00	2.00	2.00	\$10,419.37	\$10,419.37
502 6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	\$3,780.00	14.00	\$52,920.00	2.00	16.00	\$60,480.00	\$7,560.00
506 6002	ROCK FILTER DAMS (INSTALL) (TY 2)	LF	\$19.50	200.00	\$3,900.00	(15.00)	185.00	\$3,607.50	(\$292.50)
506 6011	ROCK FILTER DAMS (REMOVE)	LF	\$6.00	387.00	\$2,322.00	(15.00)	372.00	\$2,232.00	(\$90.00)
529 6007	CONC CURB & GUTTER (TY I)	LF	\$17.50	4,940.00	\$86,450.00	168.00	5,108.00	\$89,390.00	\$2,940.00
530 6004	DRIVEWAYS (CONC)	SY	\$155.69	0.00	\$0.00	762.00	762.00	\$118,633.49	\$118,633.49
540 6001	MTL W-BEAM GD FEN (TIM POST)	LF	\$21.90	237.50	\$5,201.25	600.00	837.50	\$18,341.25	\$13,140.00
540 6016	DOWNSTREAM ANCHOR TERMINAL SECTION	EA	\$890.00	1.00	\$890.00	1.00	2.00	\$1,780.00	\$890.00
544 6001	GUARDRAIL END TREATMENT (INSTALL)	EA	\$2,296.00	3.00	\$6,888.00	(3.00)	0.00	\$0.00	(\$6,888.00)
544 WC01	GUARDRAIL END TREATMENT (INSTALL)(NEW SPEC)	EA	\$3,329.45	0.00	\$0.00	4.00	4.00	\$13,317.78	\$13,317.78
550 6001	CHAIN LINK FENCE (INSTALL) (6')	LF	\$50.00	116.00	\$5,800.00	(116.00)	0.00	\$0.00	(\$5,800.00)
552 8001	WIRE FENCE	LF	\$8.00	15,416.00	\$123,328.00	378.00	15,794.00	\$126,352.00	\$3,024.00
552 8002	GALVANIZED TUBE GATE	EA	\$1,500.00	5.00	\$7,500.00	1.00	6.00	\$9,000.00	\$1,500.00
644 6001	IN SM RD SN SUP&AM TY10BWG(1) SA(P)	EA	\$320.00	16.00	\$5,120.00	1.00	17.00	\$5,440.00	\$320.00
644 6004	IN SM RD SN SUP&AM TY10BWG(1) SA(T)	EA	\$425.00	20.00	\$8,500.00	(3.00)	17.00	\$7,225.00	(\$1,275.00)
644 6007	IN SM RD SN SUP&AM TY10BWG(1)SA(U)	EA	\$817.14	0.00	\$0.00	1.00	1.00	\$817.14	\$817.14
644 6012	IN SM RD SN SUP&AM TY10BWG(1)SB(T)	EA	\$425.00	1.00	\$425.00	(1.00)	0.00	\$0.00	(\$425.00)
644 6030	IN SM RD SN SUP&AM TYS80(1)SA(T)	EA	\$520.00	10.00	\$5,200.00	3.00	13.00	\$6,760.00	\$1,560.00
644 6042	IN SM RD SN SUP&AM TYS80(1)SB(T)	EA	\$927.00	0.00	\$0.00	2.00	2.00	\$1,854.01	\$1,854.01
The "Totals" from Table B of the previous work sheet:						\$2,921,705.21		\$2,961,768.86	\$40,063.65
TOTALS						\$3,680,966.29		\$3,928,823.93	\$247,857.64

WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: 1

Project # 1803-219

TABLE B: Contract Items (Continued)

ITEM	DESCRIPTION	UNIT	UNIT PRICE	ORIGINAL + PREVIOUSLY REVISED		ADD or (DEDUCT)	NEW		OVERRUN/ UNDERRUN
				QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	
644 6066	IN SM RD SN SUP&AM (RAIL MOUNT)	EA	\$2,738.46	5.00	\$13,692.30	1.00	6.00	\$16,430.76	\$2,738.46
644 6076	REMOVE SM RD SN SUP&AM	EA	\$65.00	10.00	\$650.00	2.00	12.00	\$780.00	\$130.00
644 8001	IN SM RD SN SUP&AM (WOOD SKID)	EA	\$460.00	0.00	\$0.00	0.00	0.00	\$0.00	\$0.00
658 6004	INSTL DEL ASSM (D-SW)SZ 1(FLX)SRF	EA	\$48.74	37.00	\$1,803.38	1.00	38.00	\$1,852.12	\$48.74
658 6014	INSTL DEL ASSM (D-SW)SZ (BR)CTB (BI)	EA	\$9.75	112.00	\$1,092.00	(35.00)	77.00	\$750.75	(\$341.25)
658 6047	INSTL OM ASSM (OM-2Y)(WC)GND	EA	\$13.49	7.00	\$94.43	4.00	11.00	\$148.39	\$53.96
658 6061	INSTL DEL ASSM (D-SW)SZ 1(BRF)GF2	EA	\$40.99	29.00	\$1,188.71	(3.00)	26.00	\$1,065.74	(\$122.97)
666 6006	REFL PAV MRK TY I (W)4"(DOT) (100MIL)	LF	\$0.84	56.00	\$47.04	201.00	257.00	\$215.88	\$168.84
666 6036	REFL PAV MRK TY I (W)8"(SLD) (100MIL)	LF	\$0.63	4,176.00	\$2,630.88	2,878.00	7,054.00	\$4,444.02	\$1,813.14
666 6048	REFL PAV MRK TY I (W)24"(SLD) (100MIL)	LF	\$5.26	202.00	\$1,062.52	591.00	793.00	\$4,171.18	\$3,108.66
666 6054	REFL PAV MRK TY I (W)(ARROW) (100MIL)	EA	\$105.23	28.00	\$2,946.44	7.00	35.00	\$3,683.05	\$736.61
666 6078	REFL PAV MRK TY I (W)(WORD) (100MIL)	EA	\$126.27	28.00	\$3,535.56	3.00	31.00	\$3,914.37	\$378.81
666 6147	REFL PAV MRK TY I (Y) 24"(SLD) (100MIL)	LF	\$5.26	164.00	\$862.64	250.00	414.00	\$2,177.64	\$1,315.00
666 6168	REFL PAV MRK TY II (W) 4" (DOT)	LF	\$0.68	56.00	\$38.08	13.00	69.00	\$46.92	\$8.84
666 6170	REFL PAV MRK TY II (W) 4" (SLD)	LF	\$0.47	4,130.00	\$1,941.10	(772.00)	3,358.00	\$1,578.26	(\$362.84)
666 6178	REFL PAV MRK TY II (W) 8" (SLD)	LF	\$0.84	422.00	\$354.48	(135.00)	287.00	\$241.08	(\$113.40)
666 6184	REFL PAV MRK TY II (W) (ARROW)	EA	\$42.09	1.00	\$42.09	1.00	2.00	\$84.18	\$42.09
666 6192	REFL PAV MRK TY II (W) (WORD)	EA	\$47.35	1.00	\$47.35	(1.00)	0.00	\$0.00	(\$47.35)
666 6207	REFL PAV MRK TY II (Y) 4" (SLD)	LF	\$0.53	936.00	\$496.08	2,422.00	3,358.00	\$1,779.74	\$1,283.66
666 6214	REFL PAV MRK TY II (Y) 24" (SLD)	LF	\$3.16	89.00	\$281.24	(89.00)	0.00	\$0.00	(\$281.24)
666 6282	REF PROF PAV MRK TY I(W)4"(SLD)(060MIL)	LF	\$0.74	15,518.00	\$11,483.32	1,204.00	16,722.00	\$12,374.28	\$890.96
666 6287	REF PROF PAV MRK TY I(Y)4"(SLD)(090MIL)	LF	\$0.79	16,301.00	\$12,877.79	238.00	16,539.00	\$13,065.81	\$188.02
666 6303	RE PM W/RET REQ TY I (W)4"(SLD) (100MIL)	LF	\$0.38	4,749.00	\$1,804.62	(450.00)	4,299.00	\$1,633.62	(\$171.00)
666 6315	RE PM W/RET REQ TY I (Y)4"(SLD) (100MIL)	LF	\$0.38	5,457.00	\$2,073.66	929.00	6,386.00	\$2,426.68	\$353.02
672 6007	REFL PAV MRKR TY I-C	EA	\$3.16	564.00	\$1,782.24	298.00	862.00	\$2,723.92	\$941.68
672 6009	REFL PAV MRKR TY II-A-A	EA	\$3.16	582.00	\$1,839.12	11.00	593.00	\$1,873.88	\$34.76
672 6010	REFL PAV MRKR TY II-C-R	EA	\$3.16	95.00	\$300.20	12.00	107.00	\$338.12	\$37.92
677 6001	ELIM EXT PAV MRK & MRKS (4")	LF	\$1.05	1,745.00	\$1,832.25	(1,153.00)	592.00	\$621.60	(\$1,210.65)
6049 6001	LONG CHANNEL MOUNT CURB SYS (INSTALL)	LF	\$101.81	0.00	\$0.00	396.00	396.00	\$40,316.56	\$40,316.56
S2 BD	BOULDER DELINEATION	LF	\$4.56	8,051.00	\$36,712.56	107.00	8,158.00	\$37,200.48	\$487.92
The "Totals" from Table B of the previous work sheet:					\$3,680,966.29			\$3,928,823.93	\$247,857.64
TOTALS					\$3,784,478.37			\$4,084,762.96	\$300,284.59

CHANGE ORDER REASON(S) CODE CHART

<p>1. Design Error or Omission</p>	<p>1A. Incorrect PS&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&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>

Williamson County Road Bond Program

Southwest Bypass Segment 2 Williamson County Project No. 1803-219 Change Order No. 1

Reason for Change

This Change Order includes the following items of work: 1) adds six driveways to the adjacent quarry property and adds acceleration and deceleration lanes to the two driveways in the quarry base, 2) deletes Retaining Wall 6 from the project, 3) adds metal beam guard fence (MBGF) along the roadway for quarry protection, and upgrades MBGF end treatments to new crash specifications, 4) adds Drainage Culvert 10 to channel water to the pond, and 5) provides for additional striping and signing for the IH 35 southbound frontage road (SBFR).

Driveways and Acceleration/Deceleration Lanes

The right-of-way (ROW) agreement with Texas Crushed Stone (TCS) requires that 6 driveways be installed on the project, however the location determination was not finalized with TCS until after the project was awarded.

To enhance the safety to the two main access driveways that are being installed in the bottom of the quarry, it was determined that acceleration and deceleration lanes would be provided. The driveways are directly across from each other and are planned to be the main entrances into the quarry. In this section of the roadway, the pavement will be widened, and the shoulders reduced to accommodate the lanes. Extra time will be added to the Contract for this work.

Retaining Wall 6

Wall 6 has been deleted from the project. The original plan required the construction of Wall 6 to keep the roadway embankment within the ROW. However, once construction began in the area of the wall, the County and TCS determined the elimination of Wall 6 would be safer for the travelling public and would reduce future maintenance costs. A triangular section of ROW was obtained from the quarry to allow for slope construction.

Metal Beam Guard Fence

During the project, the quarry excavated adjacent to the ROW requiring the placement of additional MBGF to protect the travelling public and to meet the requirements of the Pit and Quarry Safety Act.

Additionally, during the project, the specifications for MBGF end treatments changed. To utilize the latest crash tested material, we negotiated with the contractor to add the material cost difference to the existing item.

Drainage Culvert 10

During construction, the quarry excavated north and west of the project detention pond diverting the water to the east end of the pond. Therefore, it was necessary to place concrete pipe (RCP) to channel the water into the pond on the east end.

Southbound Frontage Road Signing and Striping

Per Williamson County's request, the southbound frontage road will be converted to two-way from the intersection with Southwest Bypass to the north. This allows eastbound Southwest Bypass traffic to make a left turn and directly access Inner Loop.

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

ITEM	DESCRIPTION	UNIT	QTY
402 6001	TRENCH EXCAVATION PROTECTION	LF	185
467 6395	SET (TY II) (24 IN) (RCP) (6: 1) (P)	EA	8
467 6454	SET (TY II) (36 IN) (RCP) (6: 1) (P)	EA	2
530 6004	DRIVEWAYS (CONC)	SY	762
544 WC01	GUARDRAIL END TREATMENT (INSTALL)(NEW SPEC)	EA	4
644 6007	IN SM RD SN SUP&AM TY10BWG(1)SA(U)	EA	1
644 6042	IN SM RD SN SUP&AM TYS80(1)SB(T)	EA	2
6049 6001	LONG CHANNEL MOUNT CURB SYS (INSTALL)	LF	396

This Change Order results in an increase of \$300,284.59 to the Contract amount. The original Contract amount was \$8,087,943.77. The new contract amount is \$8,495,589.61 which is a 5.04% increase to the project cost. As a result of this change order, sixty-five (65) additional days will be added to the Contract.

HNTB Corporation

James Klotz, P.E.

Southwest Bypass: Segment 2
Change Order Quantities
3/3/2020

Multiply unit rates for all new items (8) in this Change order by 1.15, per meeting with JCG on 2/24/2020.
 ERC

ITEM	DESCRIPTION	UNIT	BID QTY	DRIVEWAY QTY	RW06 QTY	MBGF QTY	Culvert 10 QTY	SBFR S&S QTY	REVISED QTY	DELTA QTY	BID UNIT PRICE	CHANGE ORDER COST	NOTES
110 6001	EXCAVATION (ROADWAY)	CY	171,443	683.0	-	329.0	75.0	-	172,530.00	1,087.00	\$ 4.88	\$ 5,304.56	
132 6005	EMBANKMENT (FINAL)(ORD COMP)(TY C)	CY	123,229	1,889.0	1,080.0	186.0	8.0	-	126,392.00	3,163.00	\$ 2.71	\$ 8,571.73	
132 6006	EMBANKMENT (FINAL)(DENS CONT)(TY C)	CY	37,034	1,116.0	-	-	-	-	38,150.00	1,116.00	\$ 3.89	\$ 4,341.24	
161 6017	COMPOST MANUF TOPSOIL (4")	SY	42,306	(145.0)	-	-	-	-	42,161.00	(145.00)	\$ 0.94	\$ (136.30)	
164 6009	BROADCAST SEED (TEMP) (WARM)	SY	21,154	(72.0)	-	-	-	-	21,082.00	(72.00)	\$ 0.12	\$ (8.64)	
164 6011	BROADCAST SEED (TEMP) (COOL)	SY	21,154	(72.0)	-	-	-	-	21,082.00	(72.00)	\$ 0.12	\$ (8.64)	
164 6023	CELL FBR MLCH SEED(PERM) (RURAL)(CLAY)	SY	42,306	(145.0)	-	-	-	-	42,161.00	(145.00)	\$ 0.22	\$ (31.90)	
168 6001	VEGETATIVE WATERING	MG	6,982	(24.0)	-	-	-	-	6,958.00	(24.00)	\$ 22.87	\$ (548.88)	
169 6001	SOIL RETENTION BLANKETS (CL 1) (TY A)	SY	17,219	(145.0)	-	-	-	-	17,074.00	(145.00)	\$ 1.20	\$ (174.00)	
247 6041	FL BS (CMP IN PLC) (TYA GR1&2) (FNAL POS)	CY	9,891	831.0	-	-	-	-	10,722.00	831.00	\$ 36.83	\$ 30,605.73	
310 6027	PRIME COAT(MC-30 OR AE-P)	GAL	5,455	535.0	-	-	-	-	5,990.00	535.00	\$ 3.60	\$ 1,926.00	
341 6008	D-GR HMA TY-B PG64-22	TON	4,703	460.0	-	-	-	-	5,163.00	460.00	\$ 59.19	\$ 27,227.40	
341 6042	D-GR HMA TY-D SAC-B PG70-22	TON	6,451	459.0	-	-	-	386.0	7,296.00	845.00	\$ 79.26	\$ 66,974.70	
354 6021	PLANE ASPH CONC PAV(0" TO 2")	SY	8,882	-	-	-	-	4,565.0	13,447.00	4,565.00	\$ 1.50	\$ 6,847.50	
401 6001	FLOWABLE BACKFILL	CY	167	114.0	-	-	-	-	281.00	114.00	\$ 123.50	\$ 14,079.00	
402 6001	TRENCH EXCAVATION PROTECTION	LF	0				185.0		185.00	185.00	\$ 5.75	\$ 1,063.75	New Item. Contractor price provided.
423 RW06	RETAINING WALL 6 (MSE) (ASHLAR STONE FIN)	SF	2,416	-	(2,416.0)	-	-	-	-	(2,416.00)	\$ 51.85	\$ (125,269.60)	
432 6001	RIPRAP (CONC)(4 IN)	CY	82	5.0	(28.0)	-	4.2	-	63.20	(18.80)	\$ 350.00	\$ (6,580.00)	
432 6033	RIPRAP (STONE PROTECTION)(18 IN)	CY	184	123.0	(25.0)	-	-	-	282.00	98.00	\$ 60.00	\$ 5,880.00	
432 6045	RIPRAP (MOW STRIP)(4 IN)	CY	33	3.0	-	29.0	-	-	65.00	32.00	\$ 687.17	\$ 21,989.44	
432 8001	RIPRAP (STONE PROTECTION)(8 IN) (TY I)	CY	877	(26.0)	-	(105.0)	-	-	746.00	(131.00)	\$ 34.68	\$ (4,543.08)	
432 8002	RIPRAP (STONE PROTECTION)(8 IN) (TY II)	CY	9,178	(222.0)	38.0	57.0	-	-	9,051.00	(127.00)	\$ 25.49	\$ (3,237.23)	
450 6023	RAIL (TY SSTR)	LF	1,782	-	(114.0)	-	-	-	1,668.00	(114.00)	\$ 45.77	\$ (5,217.78)	
464 6008	RC PIPE (CL III)(36 IN)	LF	360	-	-	-	248.0	-	608.00	248.00	\$ 73.36	\$ 18,193.28	Extra rock ex to be paid via Force Acct.
464 6018	RC PIPE (CL IV)(24 IN)	LF	310	215.0	-	-	-	-	525.00	215.00	\$ 74.83	\$ 16,088.45	
464 6026	RC PIPE (CL V)(24 IN)	LF	264	-	(264.0)	-	-	-	-	(264.00)	\$ 84.90	\$ (22,413.60)	
466 6130	HEADWALL (CH - PW - S) (DIA= 24 IN)	EA	1	-	(1.0)	-	-	-	-	(1.00)	\$ 2,036.00	\$ (2,036.00)	
467 6394	SET (TY II) (24 IN) (RCP) (6: 1) (C)	EA	2	-	(1.0)	-	-	-	1.00	(1.00)	\$ 1,080.00	\$ (1,080.00)	
467 6395	SET (TY II) (24 IN) (RCP) (6: 1) (P)	EA	0	8.0	-	-	-	-	8.00	8.00	\$ 3,605.65	\$ 28,845.22	New Item. Contractor price provided. Added 2, per JCG spreadsheet dated 2/25/20.
467 6454	SET (TY II) (36 IN) (RCP) (6: 1) (P)	EA	0				2.0		2.00	2.00	\$ 5,209.68	\$ 10,419.37	New Item. Contractor price provided.
502 6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	14	2.0	-	-	-	-	16.00	2.00	\$ 3,780.00	\$ 7,560.00	
506 6002	ROCK FILTER DAMS (INSTALL) (TY 2)	LF	200	-	(15.0)	-	-	-	185.00	(15.00)	\$ 19.50	\$ (292.50)	
506 6011	ROCK FILTER DAMS (REMOVE)	LF	387	-	(15.0)	-	-	-	372.00	(15.00)	\$ 6.00	\$ (90.00)	
529 6007	CONC CURB & GUTTER (TY I)	LF	4,940	168.0	-	-	-	-	5,108.00	168.00	\$ 17.50	\$ 2,940.00	
530 6004	DRIVEWAYS (CONC)	SY	0	762.0	-	-	-	-	762.00	762.00	\$ 155.69	\$ 118,633.49	New Item. Contractor price provided. Added 108, per JCG spreadsheet dated 2/25/20.
540 6001	MTL W-BEAM GD FEN (TIM POST)	LF	237.5	75.0	-	525.0	-	-	837.50	600.00	\$ 21.90	\$ 13,140.00	
540 6016	DOWNSTREAM ANCHOR TERMINAL SECTION	EA	1	-	-	1.0	-	-	2.00	1.00	\$ 890.00	\$ 890.00	
544 6001	GUARDRAIL END TREATMENT (INSTALL)	EA	3	-	-	(3.0)	-	-	-	(3.00)	\$ 2,296.00	\$ (6,888.00)	

ITEM	DESCRIPTION	UNIT	BID QTY	DRIVEWAY QTY	RW06 QTY	MBGF QTY	Culvert 10 QTY	SBFR S&S QTY	REVISED QTY	DELTA QTY	BID UNIT PRICE	CHANGE ORDER COST	NOTES
544 WC01	GUARDRAIL END TREATMENT (INSTALL)(NEW SPEC)	EA	0			4.0			4.00	4.00	\$ 3,329.45	\$ 13,317.78	New Item. Contractor price provided.
550 6001	CHAIN LINK FENCE (INSTALL) (6')	LF	116	-	(116.0)	-		-	-	(116.00)	\$ 50.00	\$ (5,800.00)	
552 8001	WIRE FENCE	LF	15,416	271.0	107.0	-		-	15,794.00	378.00	\$ 8.00	\$ 3,024.00	
552 8002	GALVANIZED TUBE GATE	EA	5	1.0	-	-		-	6.00	1.00	\$ 1,500.00	\$ 1,500.00	
644 6001	IN SM RD SN SUP&AM TY10BWG(1) SA(P)	EA	16	4.0	-	-		(3.0)	17.00	1.00	\$ 320.00	\$ 320.00	
644 6004	IN SM RD SN SUP&AM TY10BWG(1) SA(T)	EA	20	1.0	-	-		(4.0)	17.00	(3.00)	\$ 425.00	\$ (1,275.00)	
644 6007	IN SM RD SN SUP&AM TY10BWG(1)SA(U)	EA	0	-	-	-		1.0	1.00	1.00	\$ 817.14	\$ 817.14	New Item. Contractor price provided.
644 6012	IN SM RD SN SUP&AM TY10BWG(1)SB(T)	EA	1	-	-	-		(1.0)	-	(1.00)	\$ 425.00	\$ (425.00)	
644 6030	IN SM RD SN SUP&AM TYS80(1)SA(T)	EA	10	-	-	-		3.0	13.00	3.00	\$ 520.00	\$ 1,560.00	
644 6042	IN SM RD SN SUP&AM TYS80(1)SB(T)	EA	0	-	-	-		2.0	2.00	2.00	\$ 927.00	\$ 1,854.01	New Item. Contractor price provided.
644 6066	IN SM RD SN SUP&AM (RAIL MOUNT)	EA	5	1.0	-	-		-	6.00	1.00	\$ 2,738.46	\$ 2,738.46	
644 6076	REMOVE SM RD SN SUP&AM	EA	10	-	-	-		2.0	12.00	2.00	\$ 65.00	\$ 130.00	
658 6004	INSTL DEL ASSM (D-SW)SZ 1(F LX)SRF	EA	37	-	-	-		1.0	38.00	1.00	\$ 48.74	\$ 48.74	
658 6014	INSTL DEL ASSM (D-SW)SZ (BR)CTB (BI)	EA	112	(35.0)	-	-		-	77.00	(35.00)	\$ 9.75	\$ (341.25)	
658 6047	INSTL OM ASSM (OM-2Y)(WC)GND	EA	7	2.0	-	-		2.0	11.00	4.00	\$ 13.49	\$ 53.96	
658 6061	INSTL DEL ASSM (D-SW)SZ 1(BRF)GF2	EA	29	(3.0)	-	-		-	26.00	(3.00)	\$ 40.99	\$ (122.97)	
666 6006	REFL PAV MRK TY I (W)4"(DOT) (100MIL)	LF	56	257.0	-	-		(56.0)	257.00	201.00	\$ 0.84	\$ 168.84	
666 6036	REFL PAV MRK TY I (W)8"(SLD) (100MIL)	LF	4,176	2,555.0	-	-		323.0	7,054.00	2,878.00	\$ 0.63	\$ 1,813.14	
666 6048	REFL PAV MRK TY I (W)24"(SLD) (100MIL)	LF	202	399.0	-	-		192.0	793.00	591.00	\$ 5.26	\$ 3,108.66	
666 6054	REFL PAV MRK TY I (W)(ARROW) (100MIL)	EA	28	8.0	-	-		(1.0)	35.00	7.00	\$ 105.23	\$ 736.61	
666 6078	REFL PAV MRK TY I (W)(WORD) (100MIL)	EA	28	4.0	-	-		(1.0)	31.00	3.00	\$ 126.27	\$ 378.81	
666 6147	REFL PAV MRK TY I (Y) 24"(SLD) (100MIL)	LF	164	-	-	-		250.0	414.00	250.00	\$ 5.26	\$ 1,315.00	
666 6168	REFL PAV MRK TY II (W) 4" (DOT)	LF	56	69.0	-	-		(56.0)	69.00	13.00	\$ 0.68	\$ 8.84	
666 6170	REFL PAV MRK TY II (W) 4" (SLD)	LF	4,130	-	-	-		(772.0)	3,358.00	(772.00)	\$ 0.47	\$ (362.84)	
666 6178	REFL PAV MRK TY II (W) 8" (SLD)	LF	422	95.0	-	-		(230.0)	287.00	(135.00)	\$ 0.84	\$ (113.40)	
666 6184	REFL PAV MRK TY II (W) (ARROW)	EA	1	2.0	-	-		(1.0)	2.00	1.00	\$ 42.09	\$ 42.09	
666 6192	REFL PAV MRK TY II (W) (WORD)	EA	1	-	-	-		(1.0)	-	(1.00)	\$ 47.35	\$ (47.35)	
666 6207	REFL PAV MRK TY II (Y) 4" (SLD)	LF	936	1,520.0	-	-		902.0	3,358.00	2,422.00	\$ 0.53	\$ 1,283.66	
666 6214	REFL PAV MRK TY II (Y) 24" (SLD)	LF	89	-	-	-		(89.0)	-	(89.00)	\$ 3.16	\$ (281.24)	
666 6282	REF PROF PAV MRK TY I(W)4"(SLD)(060MIL)	LF	15,518	93.0	-	-		1,111.0	16,722.00	1,204.00	\$ 0.74	\$ 890.96	
666 6287	REF PROF PAV MRK TY I(Y)4"(SLD)(090MIL)	LF	16,301	-	-	-		238.0	16,539.00	238.00	\$ 0.79	\$ 188.02	
666 6303	RE PM W/RET REQ TY I (W)4"(SLD) (100MIL)	LF	4,749	-	-	-		(450.0)	4,299.00	(450.00)	\$ 0.38	\$ (171.00)	
666 6315	RE PM W/RET REQ TY I (Y)4"(SLD) (100MIL)	LF	5,457	136.0	-	-		793.0	6,386.00	929.00	\$ 0.38	\$ 353.02	
672 6007	REFL PAV MRKR TY I-C	EA	564	233.0	-	-		65.0	862.00	298.00	\$ 3.16	\$ 941.68	
672 6009	REFL PAV MRKR TY II-A-A	EA	582	-	-	-		11.0	593.00	11.00	\$ 3.16	\$ 34.76	
672 6010	REFL PAV MRKR TY II-C-R	EA	95	-	-	-		12.0	107.00	12.00	\$ 3.16	\$ 37.92	
677 6001	ELIM EXT PAV MRK & MRKS (4")	LF	1,745	-	-	-		(1,153.0)	592.00	(1,153.00)	\$ 1.05	\$ (1,210.65)	
6049 6001	LONG CHANNEL MOUNT CURB SYS (INSTALL)	LF	0	-	-	-		396.0	396.00	396.00	\$ 101.81	\$ 40,316.56	New Item. Contractor price provided.
S2 BD	BOULDER DELINEATION	LF	8,051	-	107.0	-		-	8,158.00	107.00	\$ 4.56	\$ 487.92	

TOTAL \$ 300,284.59

Multiply unit rates for all new items (8) in this Change order by 1.15, per meeting with JCG on 2/24/2020.
ERC

ITEM	DESCRIPTION	UNIT	QTY
402 6001	TRENCH EXCAVATION PROTECTION	LF	185
467 6395	SET (TY II) (24 IN) (RCP) (6: 1) (P)	EA	8
467 6454	SET (TY II) (36 IN) (RCP) (6: 1) (P)	EA	2
530 6004	DRIVEWAYS (CONC)	SY	762
544 WC01	GUARDRAIL END TREATMENT (INSTALL)(NEW SPEC)	EA	4
644 6007	IN SM RD SN SUP&AM TY10BWG(1)SA(U)	EA	1
644 6042	IN SM RD SN SUP&AM TYS80(1)SB(T)	EA	2
6049 6001	LONG CHANNEL MOUNT CURB SYS (INSTALL)	LF	396

Multiply unit rates for all new items (8) in this Change order by 1.15, per meeting with JCG on 2/24/2020.
ERC

Eddie R. Church

From: James Klotz
Sent: Thursday, December 12, 2019 10:24 AM
To: Eddie R. Church
Cc: 62811_1803-219_SWBypassSegment2
Subject: FW: CO#2

Fyi

James Klotz, P.E.

Sr. Project Manager

Tel (512)527-6721 Cell (512)745-3670 E-mail jklotz@hntb.com

HNTB CORPORATION

101 E. Old Settlers Blvd.; Round Rock, Texas 78664

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From: Matt Milliet <MMilliet@prim.com>

Sent: Wednesday, December 11, 2019 12:08 PM

To: James Klotz <jklotz@HNTB.com>

Cc: Richard Lewis <rlewis@prim.com>; Jessie Anderson <jessie.anderson@prim.com>; Kayla Williams <kwilliams@prim.com>; Joey Williams <JoeyWilliams@prim.com>

Subject: CO#2

Mr. Klotz,

Thanks for taking the time to chat with me today regarding the Culvert # 10 on SW Bypass. If you will let your guys know, I will let my guys know that we reached an agreement on the concern JCG had with culvert #10. Namely, in our review of the installation and regrading necessary for Culvert #10 it became apparent that without some consideration for the excavation of the rock necessary to install culvert #10 we would not be able to use the existing original contract bid price.

As we discussed, we will track the excavation necessary to dig through the rock to get to flow line on culvert #10 via force account. Once summarized and compiled (blue book sheets, payroll, etc...), JCG will turn in that force account amount to be included in a later CO. Therefore the CO that is going to WILCO now won't have to be stopped just to address a NEW 36" number that includes the rock excavation to get to flow line. The existing UP for the 36" is good now that we are addressing the excavation portion for the 36" pipe with the Force Account.

No need to involve engineering to estimate a rock excav qty, no need to re-price previous items; a good solution for us both. Thanks again. Please let your side know.

Kindest Regards,
Matthew C Milliet

Eddie R. Church

From: Jessie Anderson <jessie.anderson@prim.com>
Sent: Friday, December 6, 2019 10:42 AM
To: Eddie R. Church
Cc: 62811_1803-219_SWBypassSegment2; James Klotz; Patrick De Los Santos
Subject: RE: 1803-219 SW Bypass 2 - Draft Change Order #1
Attachments: RE: CO #2

The attached CO#1 proposal deviates from what was agreed to in your email RE: CO #2, dated 11-21-19 in several areas. This CO was supposed to include the items listed as Exhibit 1 in your attachment, along with the subtraction of the Wall 6 and associated items (plan sheet# 22) (Deduct \$168,260.14 per contract plans) all per your email RE: CO #2.

- ✓ • Days – Agreed to 65 days on 11-21-19. This CO only includes 56 days. Please Correct to previous agreement and return.
- ✓ • Barricades – Agreed to 4 months on 11-21-19. Barricades run along with time extension and need to be increased. Please Revise and return.
 - Culvert 10 – Redline sheets provided on 10-31-19 show 18” RCP and end treatments for this location. JCG priced those with revised redlines. This version (12/4/2019) of CO is first mention of 36” RCP in that location. Please remove from this CO. JCG will price the 36” RCP and End Treatments under separate cover for this NEW location.
 - Guardrail addition for the north pond cannot be completed using existing items. It needs to be repriced to include additional MOB as the rest of the guardfence has already been completed on the contract. When it was discussed in the field in October, we said it could be completed with existing items if we received the plan sheet before the sub came out to complete the item in early November. As that did not occur, JCG will contact our subcontractor for revised pricing and forward it along with allowed markups and support costs.

If we need to meet to discuss and move this along timely we are available any time. JCG has proceeded in good faith after confirmation of agreement to our proposal in November as indicated in the attached email.

Jessie Anderson
Project Engineer
James Construction Group
5880 W HWY 190
Belton TX 76513
254.346.9024
254.366.3765



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Heavy Civil

“No business objective is so important that it will be pursued at the sacrifice of safety.”

From: Eddie R. Church <erchurch@HNTB.com>
Sent: Wednesday, December 4, 2019 2:55 PM
To: Jessie Anderson <jessie.anderson@prim.com>
Cc: 62811_1803-219_SWBypassSegment2 <62811_1803-219_SWBypassSegment2@HNTB.com>; James Klotz

<jklotz@HNTB.com>; Patrick De Los Santos <pdelossantos@HNTB.com>

Subject: 1803-219 SW Bypass 2 - Draft Change Order #1

EXTERNAL EMAIL

Jessie,

Please review the attached draft SW Bypass Segment 2 Change Order #1 summary and language. This draft includes the revised sheets for the MBGF and the proposed Box Culvert 10. Please provide pricing and backup for the 2 new items highlighted in yellow. Once that is provided, I can finalize the Change Order with all the revised sheets and pricing backup. If you have any questions, please contact James or me.

402 6001	TRENCH EXCAVATION PROTECTION	LF	185
467 6454	SET (TY II) (36 IN) (RCP) (6: 1) (P)	EA	2

Thank you,

Eddie R. Church, PE

Project Manager

Tel (512) 527-6723 Email erchurch@hntb.com

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Note!: This email originated from outside our organization. Be cautious when opening Links and Attachments that you were not expecting.

Eddie R. Church

From: James Klotz
Sent: Thursday, November 21, 2019 4:44 PM
To: Matt Milliet
Cc: Eddie R. Church; Jessie Anderson; Patrick De Los Santos; Joey Williams; Richard Lewis; 62811_1803-219_SWBypassSegment2; Christen Eschberger
Subject: RE: CO #2

Mr. Milliet,

I have reviewed your letter dated November 20, 2019 and will address each of your issues. I agree with your timeline for the meeting and the requests for the change order. During the meeting we discussed the change order for the addition of the driveways to the adjacent property and the widening for the acceleration/deceleration lanes for the driveways in the quarry bottom. The County is requesting this work be added in accordance with Section 6.03 Added Work of the General Conditions of Agreement.

During the meeting, we discussed the change order pricing, the request for additional overhead, and the request for time based on your TIA. I am in agreement with utilizing the existing work item pricing and the pricing provided for the new items of work. The additional overhead was discussed and I indicated that I would review the request. No agreement was made on the overhead. During our discussions, I indicated that the overall 86 days seemed excessive and noted several items in particular that were inflated, such as striping, prime coat, and hot-mix. I requested that you review the predecessors, successors and the durations to come to a more accurate determination days needed for completion. After further discussion on the overall days, I agreed with your offer to reduce the requested days to 65 for the added work, but requested you review the schedule for a more accurate time determination.

Additionally, you indicated I had not responded back to your request for the days and overhead. On Monday November 18th, I emailed Jessie that I had reviewed the request for days and asked for verification of them, and that the overhead is not allowed based on Section 6.03. After sending this email, I saw that Jessie had sent me a Friday meeting summary, to which I responded to each of the items listed. I apologize I did not send to you, but at the time I did not have your email address.

In summary, we will agree with the days requested for added work and the pricing for the added work which. This work includes the accel/decel widening for the two driveways in the quarry bottom, and the additional four driveways outside the quarry limits. We will process this CO and get it to you next week.

We will also include the elimination of Wall #6 in this CO.

Additionally there are other items that need to be addressed:

- 1) Added MBGF for quarry protection – we have previously supplied plan sheets indicating the location of this addition. You can complete this work as an extension to existing items, and we will process a change order for it. This work can be completed utilizing existing items.
- 2) Additional striping at the intersection of I-35 frontage road – you should have plans for this. We are waiting on pricing for the LONG CHANNEL MOUNT CURB SYS (INSTALL). This will also be addressed in a change order.
- 3) New MBGF end treatments – pricing has been accepted and change order will be processed.
- 4) Added 24" pipe to drain to the pond – this was to be agreed to in the field and red-lined on the plans, however I am having the engineer get some plans for this work. Should be available tomorrow or early next week and we will process a change order for the work. This work can be completed utilizing existing items.

Let me know if you have questions or need to discuss any items above.

James Klotz, P.E.

Sr. Project Manager

Tel (512)527-6721 Cell (512)745-3670 E-mail jklotz@hntb.com

HNTB CORPORATION

101 E. Old Settlers Blvd.; Round Rock, Texas 78664

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From: Matt Milliet <MMilliet@prim.com>

Sent: Wednesday, November 20, 2019 1:43 PM

To: James Klotz <jklotz@HNTB.com>

Cc: Eddie R. Church <erchurch@HNTB.com>; Jessie Anderson <jessie.anderson@prim.com>; Patrick De Los Santos <pdelossantos@HNTB.com>; Joey Williams <JoeyWilliams@prim.com>; Richard Lewis <rlewis@prim.com>

Subject: CO #2

Please See Attached

Matthew C. Milliet
Senior Project Manager
Primoris Services Corporation
5880 W Hwy 190
Belton, Texas 76513

O: (254)939-8610

C: (225)241-3253

www.prim.com



"No business objective is so important that it will be pursued at the sacrifice of safety."

EXHIBIT #1

CO #2 1803-219 - Southwest Bypass Segment 2

Line No.	Item	Desc Code	Item Description	UOM	Bid Qty	Bid Price	CO Price	Change Order Qty	Total Revised Qty.	Proposed Change Order Amount
5	0110	6001	Exc. Roadway	CY	171,443.00	\$ 4.88		1,789.00	173,232.00	\$ 8,730.32
6	0132	6005	Emb. Ord Comp	CY	123,229.00	\$ 2.71		1,889.00	125,118.00	\$ 5,119.19
7	0132	6006	Emb. Dens Control	CY	37,034.00	\$ 3.89		1,116.00	38,150.00	\$ 4,341.24
9	0161	6017	COMPOST MANUF TOPSOIL (4")	SY	42,306.00	\$ 0.94		(363.00)	41,943.00	\$ (341.22)
10	0164	6009	BROADCAST SEED (TEMP)(Warm)	SY	21,154.00	\$ 0.12		(181.00)	20,973.00	\$ (21.72)
11	0164	6011	BROADCAST SEED (TEMP)(COOL)	SY	21,154.00	\$ 0.12		(181.00)	20,973.00	\$ (21.72)
12	0164	6023	CELL FBR MLCH SEED (PERM)(RURAL)(CLAY)	SY	42,306.00	\$ 0.22		(363.00)	41,943.00	\$ (79.86)
13	0168	6001	VEG WATERING	MG	6,982.00	\$ 22.87		(60.00)	6,922.00	\$ (1,372.20)
14	0168	6001	Soil Retention Blanket (CL 1)(TY A)	SY	17,219.00	\$ 1.20		(363.00)	16,856.00	\$ (435.60)
15	0247	6041	FL BS (CMP IN PLC) (TYA GR1&2) (FNAL POS)	CY	9,891.00	\$ 36.83		1,117.00	11,008.00	\$ 41,139.11
16	0310	6027	Prime	GL	5,455.00	\$ 3.60		535.00	5,990.00	\$ 1,926.00
18	0341	6008	TY B HMA 64-22	TN	4,703.00	\$ 59.19		460.00	5,163.00	\$ 27,227.40
19	0341	6042	TY D HMA 70-22	TN	6,451.00	\$ 79.28		459.00	6,910.00	\$ 36,380.34
22	0401	6001	Flow Fill	CY	167.00	\$ 123.50		114.00	281.00	\$ 14,079.00
38	0432	6045	4" Conc Riprap	CY	82.00	\$ 350.00		5.00	87.00	\$ 1,750.00
40	0432	6045	4" Mowstrip	CY	33.00	\$ 687.17		3.00	36.00	\$ 2,061.51
39	0432	6033	18" Stone Riprap	CY	184.00	\$ 60.00		123.00	307.00	\$ 7,380.60
41	0432	8001	8" TY1 Rock Riprap	CY	877.00	\$ 34.68		(45.00)	832.00	\$ (1,560.60)
42	0432	8002	8" TY2 Rock Riprap	CY	9,178.00	\$ 25.49		(153.00)	9,025.00	\$ (3,899.97)
48	0464	6018	24" RCP (CL IV)	LF	310.00	\$ 74.83		215.00	525.00	\$ 16,088.45
63	0502	6001	Banquettes	MO	14.00	\$ 3,780.00		4.00	18.00	\$ 15,120.00
72	0529	6007	Curb and Gutter TY1	LF	4,940.00	\$ 17.50		168.00	5,108.00	\$ 2,940.00
75	0540	6001	MBGF (Tim Post)	LF	237.50	\$ 21.90		74.50	312.00	\$ 1,631.55
81	0552	8001	Wire Fence	LF	15,416.00	\$ 8.00		284.00	15,700.00	\$ 2,272.00
82	0552	8002	Galv. Tube Gate	EA	5.00	\$ 1,500.00		1.00	6.00	\$ 1,500.00
102	0644	6004	RD SN SUP&AM TY 10BWG(1) SA(P)	EA	10.00	\$ 320.00		4.00	20.00	\$ 1,280.00
103	0644	6004	RD SN SUP&AM TY 10BWG(1) SA(T)	EA	20.00	\$ 425.00		1.00	21.00	\$ 425.00
106	0644	6066	RD SN SUP&AM (Rail Mount)	EA	5.00	\$ 2,738.46		1.00	6.00	\$ 2,738.46
110	0658	6014	Inst Del Assm (D-SW) SZ (BR) CTB (BI)	EA	112.00	\$ 9.75		(35.00)	77.00	\$ (341.25)
111	0658	6047	Inst OM Assm (OM-2Y)(WC)GND	EA	7.00	\$ 13.49		2.00	9.00	\$ 26.98
112	0658	6061	Inst Del Assm (D-SW) SZ (BR) CTB (BI)	EA	29.00	\$ 40.99		(3.00)	26.00	\$ (122.97)
113	0666	6006	Refl Pav Mrk TY 1 (W)4"(DOT)(100MIL)	LF	56.00	\$ 0.84		257.00	313.00	\$ 215.88
114	0666	6036	Refl Pav Mrk TY 1 (W)8"(DOT)(100MIL)	LF	4,176.00	\$ 0.63		2,555.00	6,731.00	\$ 1,609.65
115	0666	6048	Refl Pav Mrk TY 1 (W)24"(DOT)(100MIL)	LF	202.00	\$ 5.26		399.00	601.00	\$ 2,098.74
116	0666	6054	Refl Pav Mrk TY 1 (W)(Arrow)(100MIL)	EA	28.00	\$ 105.23		8.00	36.00	\$ 841.84
117	0666	6078	Refl Pav Mrk TY 1 (W)(Word)(100MIL)	EA	28.00	\$ 126.27		4.00	32.00	\$ 505.08
120	0666	6168	Refl Pav Mrk TY 2 (W)4"(DOT)	LF	56.00	\$ 0.68		69.00	125.00	\$ 46.92
122	0666	6178	Refl Pav Mrk TY 2 (W)8"(DOT)	LF	422.00	\$ 0.84		95.00	517.00	\$ 79.80
123	0666	6184	Refl Pav Mrk TY 2 (W)(Arrow)	EA	1.00	\$ 42.09		2.00	3.00	\$ 84.18
125	0666	6207	Refl Pav Mrk TY 2 (W)4"(SLD)	LF	936.00	\$ 0.53		1,520.00	2,456.00	\$ 805.60
127	0666	6282	Refl Prof Pav Mrk TY 1 (W)4"(SLD)(060MIL)	LF	15,518.00	\$ 0.74		93.00	15,611.00	\$ 68.82
130	0666	6315	RE PM W/RET REQ TY 1 (Y)4"(SLD)(100MIL)	LF	5,457.00	\$ 0.38		136.00	5,593.00	\$ 51.68
131	0672	6007	REFL PAV MRKR TY 1-C	EA	564.00	\$ 3.16		233.00	797.00	\$ 736.28
NEW	150	0644	IN SM RD SN SUP&AM (WOOD SKID)	EA			\$ 400.00	2.00	2.00	\$ 800.00
NEW	151	0464	RCP (CL IV)18"	LF			\$ 170.32	405.00	405.00	\$ 68,979.60
NEW	154	0467	SET (TY II)(18")(RCP)(6:1)(P)	EA			\$ 2,717.72	4.00	4.00	\$ 10,870.88
NEW	155	0467	SET (TY II) (24")(RCP)(6:1)(P)	EA			\$ 3,135.35	6.00	6.00	\$ 18,812.10
NEW	158	0530	DRIVEWAYS (CONC)	SY			\$ 135.38	654.00	654.00	\$ 88,538.52
NEW	159	***	Extended Time OH	DY			TBD	65.00	65.00	TBD

Subtotal This

	Change Order	\$ 381,105.01
	Original Contract Amount	\$ 8,087,943.77
	Revised Contract Total	\$ 8,469,048.78
	Previous Change Orders:	
	Change Order #1 Wall 6 Delition	\$ (168,260.14)
	Current Contract Amount	\$ 8,300,788.64

Multiply unit rates for all new items (8) in this Change order by 1.15, per meeting with JCG on 2/24/2020.
ERC

Pending Change Orders:	
Change Order #3 Revised Striping at IH-35 SBFR	TBD
Change Order #4 MASH Guardrail End Treatments	TBD
Change Order #5 SAFETY Delimitation and Chanell Elevation Changes	TBD
Change Order #6 Added Guardrail Locations per HNTB	TBD

5880 WEST US HWY 190
BELTON, TX 76513
PHONE (254) 939-8610



November 20, 2019

James Klotz, PE
HNTB
3151 SE Inner Loop
Georgetown, TX 78626

Subject: 1803-219 – Williamson Co Southwest Bypass Segment 2

Regarding: CO #2 Acceleration / Deceleration Lanes

Dear Mr. Klotz,

James Construction Group (JCG) met at the HNTB offices in Round Rock, TX on Friday November 15, 2019 to discuss the resolution of Change Order #2 on the subject project. JCG had submitted pricing and a Time Impact Analysis (TIA) for the work requested on September 26, 2019. On November 1, 2019, when the Arch Pipe option was determined to be cost prohibitive, JCG once again submitted revised pricing that eliminated the Arch Pipe and a revised TIA showing the current anticipated impacts for the requested work. JCG's submission of pricing and the TIA's are in strict compliance with Sections 4.02 Section 11 General Conditions of the Contract and Section 12 XXXVI Type B Schedule (6) Contract requirements.

During the November 15, 2019 meeting JCG, represented by Matthew Milliet, Jessie Anderson, and Tommy Crabb along with The Construction Observer Pat De' Los Santos and yourself as the General Engineering Consultant (GEC) held discussions where all direct unit pricing was agreed to but opinions were expressed by the GEC that the requested 86 days were more than needed to complete the work. JCG argued that the duration listed represented not only the impact from new items in the change order but also the overruns to the existing items to complete the additional acceleration and deceleration lanes, piping, and grading.

In a compromise to the TIA submitted, JCG offered 65 calendar days of extended time and received acknowledgement and acceptance from the Construction Observer that those days seem to be a reasonable extension given the work required for the Change Order, and previous TIA submittals. Under 4.02 of the General Conditions the Construction Observer, for "changes ordered in the Work" shall grant the agreed upon time to complete the work. Relying on the agreements reached in the November 15, 2019 meeting JCG, recognizing Time is of the Essence and acting in Good Faith and reliance that the change order would be submitted to back to JCG by the GEC without further delay, for signature and subsequent submission to the County for final approval, JCG worked Saturday, Nights, and continues to work on the items of the Change order.

5880 WEST US HWY 190
BELTON, TX 76513
PHONE (254) 939-8610



Page 2 of 2

In addition to the Time needed to complete the work, and in accordance with section 6.03 Extra Work where Extra Work creates a need for a contractor to maintain and operate the Contractor's camp and field office, JCG submitted an overhead unit daily rate to the GEC for review and approval. JCG asked for the review and approval of the unit rate, or for further discussions as to any questions concerning the amounts listed in JCG's daily rate so that the CO#2 could be a complete and fully priced resolution.

As of this date JCG has not heard from the GEC specifically regarding the daily rate. Therefore, **JCG is requesting that the GEC process the change order shown on EXHIBIT #1 attached hereto as is, including the agreed to unit pricing and days of contract time extension.** Furthermore, let this letter serve as NOTICE that JCG hereby reserves its rights to request and seek reimbursement for the full costs of maintaining and operating its Contractor's camp or field office due to the added work of Change Order #2.

Sincerely,
James Construction Group, LLC

A handwritten signature in blue ink, appearing to read 'Matthew C. Milliet'.

Matthew C. Milliet
Senior Project Manager

CC: Jessie Anderson

Eddie R. Church

From: Jessie Anderson <jessie.anderson@prim.com>
Sent: Thursday, December 19, 2019 2:13 PM
To: Eddie R. Church; James Klotz
Cc: 62811_1803-219_SWBypassSegment2
Subject: RE: New Package Is Waiting

Package is received. In order to expedite the executed copy of the CO JCG will accept 5\$/LF on the trench excavation protection, the 36" SETs JCG will accept the average low bid price of 4,530.16, and the Guardrail MOB charge will be 550\$ (referenced on PDF sheet 12, and James Klotz email RE: 1803-219 SW Bypass 2 - Draft Change Order #1 from 12-10).

			AUSTIN		
			14		
			3 Month		
District: ALL			DISTRICT14 - 3M COUNT	DISTRICT14 - 3M QUANTITY	DISTRICT14 - 3M AVG
ITEM CODE	ITEM DESCRIPTION	ITEM UNIT			
04676454	SET (TY II) (36 IN) (RCP) (6: 1) (P)	EA			

UPDATED :: 11/18/2019

6049 6001	LONG CHANNEL MOUNT CURB SYS (INSTALL)	LF	396
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This Change Order results in an increase of \$249,454.19 to the Contract amount. The original Contract amount was \$8,087,943.77. The new contract amount is \$8,337,397.96 which is a 3.08% increase to the project cost. As a result of this change order, fifty-six (65) additional days will be added to the Contract.

Fix
HNTB Corporation

 James Klotz, P.E.

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</p> <p>By _____</p> <p>Typed/Printed Name _____</p> <p>Typed/Printed Title _____</p>	<p>The following information must be provided</p> <p>Time Ext. #: <u>1</u> Days added on this CO: <u>65</u></p> <p>Amount added by this change order: <u>\$249,454.19</u></p> <p>Date _____</p>
--	--

OH to be address Later. qty var at end

RECOMMENDED FOR EXECUTION: _____

This paragraph should be revised to show that JCG does not waive its rights to claims regarding OH and quantity variances. These items will be addressed at the end of the project.

Jessie Anderson
Project Engineer
James Construction Group
5880 W HWY 190
Belton TX 76513
254.346.9024
254.366.3765



"No business objective is so important that it will be pursued at the sacrifice of safety."

From: Edwin R. Church <erchurch@HNTB.com>
Sent: Wednesday, December 18, 2019 12:11 PM
To: Jessie Anderson <jessie.anderson@prim.com>
Subject: New Package Is Waiting

EXTERNAL EMAIL

New Package Notification

Welcome to HNTB! A new package has been posted for you.

Subject: 1803-219 SW Bypass Segment 2 - Change Order #1

Your account information is as follows:

Username: jessie.anderson@prim.com
Password: vtiqsl

If site policy requires it, at sign on you will be guided through additional steps to secure your account.

Please use the following URL and your username/password to login and view this package. You will also be given the opportunity to compose a secure reply to this package.

(
<https://hntbtransfer.hntb.com/human.aspx?OrgID=5851&Arg12=message&Arg06=633076219&Arg08=ozs377tso4nl8797&username=jessie.anderson%40prim.com>)

Regards,

HNTB File Transfer Service

This e-mail and any files transmitted with it are confidential and are intended solely for the use of the individual or entity to whom they are addressed. If you are NOT the intended recipient and receive this communication, please delete this message and any attachments. Thank you.

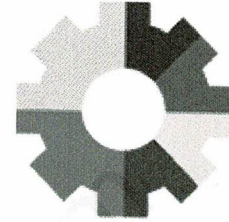
Note!: This email originated from outside our organization. Be cautious when opening Links and Attachments that you were not expecting.

Rental Rate Blue Book®

August 26, 2019

Ford F-250

On-Highway Light Duty Trucks

 Size Class:
300 HP & Over
 Weight:
HP

Configuration for F-250

Axle Configuration	4.0 X 4.0	Cab Type	Crew
Horsepower	385.0 hp	Power Mode	Gasoline
Ton Rating	3.0 / 4.0		

Blue Book Rates

** FHWA Rate is equal to the monthly ownership cost divided by 176 plus the hourly estimated operating cost.

	Ownership Costs				Estimated Operating Costs Hourly	FHWA Rate** Hourly
	Monthly	Weekly	Daily	Hourly		
Published Rates	\$1,030.00	\$290.00	\$73.00	\$11.00	\$22.82	\$28.67
Adjustments						
Region (Texas: 91.4%)	(\$88.58)	(\$24.94)	(\$6.28)	(\$0.95)		
Model Year (2019: 100%)	-	-	-	-		
Adjusted Hourly Ownership Cost (100%)	-	-	-	-		
Hourly Operating Cost (100%)					-	
Total:	\$941.42	\$265.06	\$66.72	\$10.05	\$22.82	\$28.17

Non-Active Use Rates

	Hourly
Standby Rate	\$3.80
Idling Rate	\$23.71

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	54%	\$556.20/mo
Overhaul (ownership)	29%	\$298.70/mo
CFC (ownership)	7%	\$72.10/mo
Indirect (ownership)	10%	\$103.00/mo
Fuel (operating) @ 2.51	80%	\$18.36/hr

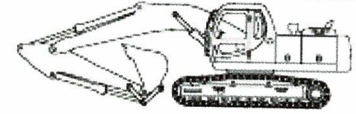
Revised Date: 2nd half 2019

These are the most accurate rates for the selected Revision Date(s). However, due to more frequent online updates, these rates may not match Rental Rate Blue Book Print. Visit the Cost Recovery Product Guide on our Help page for more information.

The equipment represented in this report has been exclusively prepared for Devin Smith (devin.smith@kniferiver.com)

Rental Rate Blue Book®

August 26, 2019

Caterpillar 336E L (disc. 2017)
 Crawler Mounted Hydraulic Excavators

 Size Class:
33.1 - 40.0 MTons
 Weight:
80620 MT
Configuration for 336E L (disc. 2017)

Bucket Capacity - Heaped	2.98 cu yd	Net Horsepower	291.0 hp
Operating Weight	36.6 mt	Power Mode	Diesel

Blue Book Rates

** FHWA Rate is equal to the monthly ownership cost divided by 176 plus the hourly estimated operating cost.

	Ownership Costs				Estimated Operating Costs Hourly	FHWA Rate** Hourly
	Monthly	Weekly	Daily	Hourly		
Published Rates	\$13,965.00	\$3,910.00	\$980.00	\$150.00	\$80.76	\$160.11
Adjustments						
Region (Texas: 90.6%)	(\$1,312.71)	(\$367.54)	(\$92.12)	(\$14.10)		
Model Year (2017: 100%)	-	-	-	-		
Adjusted Hourly Ownership Cost (100%)	-	-	-	-		
Hourly Operating Cost (100%)					-	
Total:	\$12,652.29	\$3,542.46	\$887.88	\$135.90	\$80.76	\$152.65

Non-Active Use Rates

	Hourly
Standby Rate	
Idling Rate	\$38.10
	\$109.41

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	37%	\$5,167.05/mo
Overhaul (ownership)	47%	\$6,563.55/mo
CFC (ownership)	10%	\$1,396.50/mo
Indirect (ownership)	6%	\$837.90/mo
Fuel (operating) @ 3.07	46%	\$37.52/hr

Revised Date: 2nd half 2019

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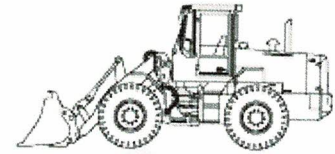
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Rental Rate Blue Book®

August 26, 2019

Caterpillar 950M

4-Wd Articulated Wheel Loaders

 Size Class:
225 - 249 HP
 Weight:
HP

Configuration for 950M

Bucket Capacity - Heaped	12.0 cu yd	Net Horsepower	230.0 hp
Operator Protection	ROPS/FOPS	Power Mode	Diesel

Blue Book Rates

** FHWA Rate is equal to the monthly ownership cost divided by 176 plus the hourly estimated operating cost.

	Ownership Costs				Estimated Operating Costs Hourly	FHWA Rate** Hourly
	Monthly	Weekly	Daily	Hourly		
Published Rates	\$8,325.00	\$2,330.00	\$585.00	\$88.00	\$44.38	\$91.68
Adjustments						
Region (Texas: 88.9%)	(\$924.08)	(\$258.63)	(\$64.93)	(\$9.77)		
Model Year (2019: 100%)	-	-	-	-		
Adjusted Hourly Ownership Cost (100%)	-	-	-	-		
Hourly Operating Cost (100%)					-	
Total:	\$7,400.92	\$2,071.37	\$520.07	\$78.23	\$44.38	\$86.43

Non-Active Use Rates

	Hourly
Standby Rate	
Idling Rate	\$26.49
	\$64.79

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	41%	\$3,413.25/mo
Overhaul (ownership)	37%	\$3,080.25/mo
CFC (ownership)	12%	\$999.00/mo
Indirect (ownership)	10%	\$832.50/mo
Fuel (operating) @ 3.07	51%	\$22.74/hr

Revised Date: 2nd half 2019

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Rental Rate Blue Book®

August 26, 2019

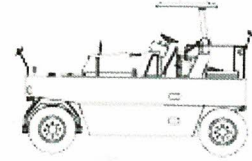
Caterpillar CW34

Self Propelled Pneumatic Compactors

Size Class:

3.5 MTons & Over

Weight:

MT

Configuration for CW34

Net Horsepower	102.0 hp	Number Of Speeds	1.0
Number Of Wheels	8.0	Power Mode	Diesel

Blue Book Rates

** FHWA Rate is equal to the monthly ownership cost divided by 176 plus the hourly estimated operating cost.

	Ownership Costs				Estimated Operating Costs Hourly	FHWA Rate** Hourly
	Monthly	Weekly	Daily	Hourly		
Published Rates	\$10,510.00	\$2,945.00	\$735.00	\$110.00	\$24.95	\$84.67
Adjustments						
Region (Texas: 89.4%)	(\$1,114.06)	(\$312.17)	(\$77.91)	(\$11.66)		
Model Year (2019: 100%)	-	-	-	-		
Adjusted Hourly Ownership Cost (100%)	-	-	-	-		
Hourly Operating Cost (100%)						
Total:	\$9,395.94	\$2,632.83	\$657.09	\$98.34	\$24.95	\$78.34

Non-Active Use Rates

	Hourly
Standby Rate	
Idling Rate	\$23.49
	\$62.00

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	24%	\$2,522.40/mo
Overhaul (ownership)	55%	\$5,780.50/mo
CFC (ownership)	10%	\$1,051.00/mo
Indirect (ownership)	10%	\$1,051.00/mo
Fuel (operating) @ 3.07	35%	\$8.61/hr

Revised Date: 2nd half 2019

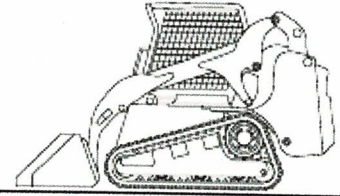
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Rental Rate Blue Book®

August 26, 2019

Kubota SVL75 (disc. 2016)
 Compact Track Loaders

 Size Class:
2201 - 2500 lbs
 Weight:
9039 lbs

Configuration for SVL75 (disc. 2016)

Net Horsepower	74.3 hp	Oper. Cap. (35% Of Tip Load)	2282.0 lbs
Operator Protection	ROPS	Power Mode	Diesel

Blue Book Rates

** FHWA Rate is equal to the monthly ownership cost divided by 176 plus the hourly estimated operating cost.

	Ownership Costs				Estimated Operating Costs Hourly	FHWA Rate** Hourly
	Monthly	Weekly	Daily	Hourly		
Published Rates	\$3,350.00	\$940.00	\$235.00	\$35.00	\$16.85	\$35.88
Adjustments						
Region (Texas: 88.9%)	(\$371.85)	(\$104.34)	(\$26.08)	(\$3.88)		
Model Year (2016: 100%)	-	-	-	-		
Adjusted Hourly Ownership Cost (100%)	-	-	-	-		
Hourly Operating Cost (100%)					-	
Total:	\$2,978.15	\$835.66	\$208.91	\$31.11	\$16.85	\$33.77

Non-Active Use Rates

	Hourly
Standby Rate	\$8.46
Idling Rate	\$25.36

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	34%	\$1,139.00/mo
Overhaul (ownership)	50%	\$1,675.00/mo
CFC (ownership)	7%	\$234.50/mo
Indirect (ownership)	9%	\$301.50/mo
Fuel (operating) @ 3.07	50%	\$8.44/hr

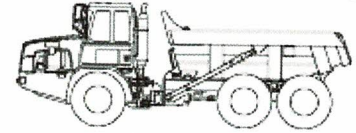
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Rental Rate Blue Book®

August 26, 2019

Caterpillar 730 (disc. 2014)
 Articulated Rear Dumps

 Size Class:
26 - 29 MTons
 Weight:
50376 MT
Configuration for 730 (disc. 2014)

Axle Configuration	6 X 6	Body Capacity (Struck-Heaped)	16.9 - 22.1 cu yd
Net Horsepower	317.0 hp	Power Mode	Diesel
Rated Payload	28.1 mt		

Blue Book Rates

** FHWA Rate is equal to the monthly ownership cost divided by 176 plus the hourly estimated operating cost.

	Ownership Costs				Estimated Operating Costs Hourly	FHWA Rate** Hourly
	Monthly	Weekly	Daily	Hourly		
Published Rates	\$11,095.00	\$3,105.00	\$775.00	\$115.00	\$51.79	\$114.83
Adjustments						
Region (Texas: 91.4%)	(\$954.17)	(\$267.03)	(\$66.65)	(\$9.89)		
Model Year (2014: 100%)	-	-	-	-		
Adjusted Hourly Ownership Cost (100%)	-	-	-	-		
Hourly Operating Cost (100%)						
Total:	\$10,140.83	\$2,837.97	\$708.35	\$105.11	\$51.79	\$109.41

Non-Active Use Rates

	Hourly
Standby Rate	
Idling Rate	\$31.11
	\$77.08

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	37%	\$4,105.15/mo
Overhaul (ownership)	46%	\$5,103.70/mo
CFC (ownership)	9%	\$998.55/mo
Indirect (ownership)	8%	\$887.60/mo
Fuel (operating) @ 3.07	38%	\$19.46/hr

Revised Date: 2nd half 2019

These are the most accurate rates for the selected Revision Date(s). However, due to more frequent online updates, these rates may not match Rental Rate Blue Book Print. Visit the Cost Recovery Product Guide on our Help page for more information.

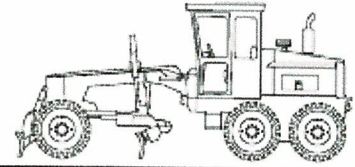
The equipment represented in this report has been exclusively prepared for Devin Smith (devin.smith@kniferiver.com)

Rental Rate Blue Book®

August 26, 2019

Caterpillar 140M

Articulated Frame Graders

 Size Class:
170 - 199 HP
 Weight:
35708 HP

Configuration for 140M

Moldboard Size	12.0 ft	Net Horsepower	183.0 hp
Operator Protection	EROPS	Power Mode	Diesel

Blue Book Rates

** FHWA Rate is equal to the monthly ownership cost divided by 176 plus the hourly estimated operating cost.

	Ownership Costs				Estimated Operating Costs Hourly	FHWA Rate** Hourly
	Monthly	Weekly	Daily	Hourly		
Published Rates	\$7,770.00	\$2,175.00	\$545.00	\$82.00	\$39.53	\$83.68
Adjustments						
Region (Texas: 88.9%)	(\$862.47)	(\$241.43)	(\$60.49)	(\$9.10)		
Model Year (2019: 100%)	-	-	-	-		
Adjusted Hourly Ownership Cost (100%)	-	-	-	-		
Hourly Operating Cost (100%)					-	
Total:	\$6,907.53	\$1,933.57	\$484.51	\$72.90	\$39.53	\$78.78

Non-Active Use Rates

	Hourly
Standby Rate	\$21.59
Idling Rate	\$57.23

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	34%	\$2,641.80/mo
Overhaul (ownership)	45%	\$3,496.50/mo
CFC (ownership)	11%	\$854.70/mo
Indirect (ownership)	10%	\$777.00/mo
Fuel (operating) @ 3.07	45%	\$17.98/hr

Revised Date: 2nd half 2019

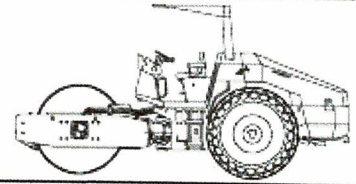
These are the most accurate rates for the selected Revision Date(s). However, due to more frequent online updates, these rates may not match Rental Rate Blue Book Print. Visit the Cost Recovery Product Guide on our Help page for more information.

The equipment represented in this report has been exclusively prepared for Devin Smith (devin.smith@kniferiver.com)

Rental Rate Blue Book®

August 26, 2019

Caterpillar CS-54 (disc. 2012)
 Single Drum Vibratory Compactors

 Size Class:
8.0 - 11.9 MTons
 Weight:
23120 MT

Configuration for CS-54 (disc. 2012)

Drum Type	Smooth	Drum Width	84.0 in
Net Horsepower	120.3 hp	Power Mode	Diesel

Blue Book Rates

** FHWA Rate is equal to the monthly ownership cost divided by 176 plus the hourly estimated operating cost.

	Ownership Costs				Estimated Operating Costs Hourly	FHWA Rate** Hourly
	Monthly	Weekly	Daily	Hourly		
Published Rates	\$4,810.00	\$1,345.00	\$335.00	\$50.00	\$35.41	\$62.74
Adjustments						
Region (Texas: 89.4%)	(\$509.86)	(\$142.57)	(\$35.51)	(\$5.30)		
Model Year (2012: 100%)	-	-	-	-		
Adjusted Hourly Ownership Cost (100%)	-	-	-	-		
Hourly Operating Cost (100%)						
Total:	\$4,300.14	\$1,202.43	\$299.49	\$44.70	\$35.41	\$59.84

Non-Active Use Rates

Standby Rate	Hourly
Idling Rate	\$17.84
	\$34.03

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	49%	\$2,356.90/mo
Overhaul (ownership)	27%	\$1,298.70/mo
CFC (ownership)	13%	\$625.30/mo
Indirect (ownership)	11%	\$529.10/mo
Fuel (operating) @ 3.07	27%	\$9.60/hr

Revised Date: 2nd half 2019

These are the most accurate rates for the selected Revision Date(s). However, due to more frequent online updates, these rates may not match Rental Rate Blue Book Print. Visit the Cost Recovery Product Guide on our Help page for more information.

The equipment represented in this report has been exclusively prepared for Devin Smith (devin.smith@kniferiver.com)



REMIT TO:

HOLT CAT
P.O. Box 650345
DALLAS, TX 75265-0345

RENTAL INVOICE

INVOICE NUMBER: **RIMA44921040**
Invoice Date: 04/11/19

Total Due \$9,344.99

Bill To:

JAMES CONSTRUCTION GROUP LLC
PO BOX 90022
BATON ROUGE LA 70879-9022

Ship To:

4300 IH 35
GEORGETOWN, TX

Due Date	Payment Terms Below
Make	AA
Model	DB HMR
Serial #	W9B00446
Ship Via	WILL CALL
Machine ID	HGA029582
Meter Reading	.00
Agreement Inv #	A4492104

For questions regarding your invoice-Call your rep or our Sales Manager at 512-282-2011

Customer #	Customer Order #	Doc Date	Sales Representative	Division	Store	Account Status
0623975	8042-10725	12/13/18	797	R	MA	2

Quantity	Item	Description	Unit Price / Rate	Extension
	CUSTOMER CONTACT: BOBBY ROGERS			
	EQUIPMENT RENTAL FROM 03/14/19 THRU 04/13/19			
	CATERPILLAR INC MODEL DB HMR			
	EXCAVATOR HAMMER 336 (MODEL=X)			
1.0	ID NO: HGA029582	SERIAL NO: 0W9B00446		8500.00
1.0	ENVIRONMENTAL FEE			15.00
	1.5% TERP TAX			127.50
	HOLT RENTAL SERVICES APPRECIATES YOUR BUSINESS			
	ELIZABETH CHAPA / KARI BRYAN			
	ANY QUESTIONS? PLEASE CALL (512)282-2011			
		TX SALES TAX -AUSTIN		532.19
		CITY SALES TAX (1%)		85.15
		MTA SALES TAX (1%)		85.15
	DUE ON RECEIPT OF INVOICE			

Rent	\$8,500.00
Misc.	\$15.00
Tax	\$829.99

TOTAL \$9,344.99

Fuel service charges do not include Texas State motor fuel taxes. * - NOT RETURNABLE

Your business is important to us and we strive to be your dealership of choice. Our goal is to provide legendary customer service. If we did not score a 10 on a scale of 1 to 10, please contact cx.manager@holtcat.com.

Terms of Payment: Unless specific terms of payment are stated above, which shall then be the governing terms hereof, this invoice shall otherwise be due and payable as follows: Parts and Service 30 days from the invoice date; Equipment Sales in advance, prior to delivery of the equipment; Rentals due and payable upon receipt of invoice. A service charge of 1.5% per month will be charged on the unpaid balance if not paid within terms.



QUOTE

Quote Number 00002724 Created Date 8/16/2019
 Account Name All Bidders Bid Date 8/16/2019
 Prepared By Stefan Hilbert Bid Time

Job Name Williamson SW Bypass - Change Order
 Job Site City Williamson County
 Job Site State TX

Product	Quantity	Unit of Measure	List Price	Total Price
18" C506 CL3 T&G RCAP 6:1 S.E.T.	2.00	Each	\$2,640.00	\$5,280.00
18" C506 CL4 T&G RCAP	330.00	LF	\$158.00	\$52,140.00
18" C76 CL3 SCORED PIPE SET 6:1	1.00	Pair	\$830.00	\$830.00
18" C76 CL4 T&G RCP	75.00	LF	\$43.00	\$3,225.00
24" C506 CL3 T&G RCAP S.E.T. 6:1	2.00	Each	\$3,020.00	\$6,040.00
24" C506 CL4 T&G RCAP	49.00	LF	\$181.00	\$8,869.00
24" C76 CL3 SCORED PIPE SET 6:1	2.00	Pair	\$1,152.00	\$2,304.00
24" C76 CL4 T&G RCP	166.00	LF	\$58.00	\$9,628.00

Subtotal \$88,316.00
 Total Price \$88,316.00
 Grand Total \$88,316.00

***Unless otherwise noted, all pipe is CLIII and does not include any prefab fittings or jack and bore pipe. **Pipe runners, baffle blocks and energy dissipators are not included with scored pipe or box S.E.T.s.** All box sections are based on joint lengths as per AmeriTex Pipe & Product, LLC published price list. ***

Terms are Net 30.

Price quotes are valid for this project only and do not include any sales or use taxes. Quantities are estimated from preliminary plans and are subject to change. Prices quoted are valid for 30 days from date of bid. Delivery dates to be determined are time of actual order. Accepted quotes constitute a binding contract between AmeriTex Pipe & Products, LLC and contractor/purchaser.

Accepted By: _____
 For: _____
 Date: _____

Jessie Anderson

From: Tod Alderman <talderman@ameritexpipe.com>
Sent: Monday, August 26, 2019 11:55 AM
To: Jessie Anderson
Subject: Re: Williamson SW Bypass - Change Order_V1.pdf

EXTERNAL EMAIL

Yes. I make that work.

Tod Alderman
AmeriTex Pipe & Products, LLC
Seguin, Texas - Conroe, Texas

Phone: (830) 372-2300
Cell: (512) 942-9201

talderman@ameritexpipe.com
www.ameritexpipe.com

•

On Aug 26, 2019, at 11:20 AM, Jessie Anderson <jessie.anderson@prim.com> wrote:

Tod,
On the 166 LF of 24" RCP (CL4) we had an original PO price of \$37.80 vs. this quoted price of \$58.00. Is this an item we can keep at original PO price?

Jessie Anderson
Project Engineer
James Construction Group
5880 W HWY 190
Belton TX 76513

<image001.jpg>

Heavy Civil

"No business objective is so important that it will be pursued at the sacrifice of safety."

From: Tod Alderman <talderman@ameritexpipe.com>
Sent: Friday, August 16, 2019 4:02 PM

Contract & Proposal Copy

Quote No.: S030147-2

 1900 Rilling Road
 San Antonio, TX 78214

 Telephone.: 210-923-4523
 Fax.....: 210-921-0473

oldcastleinfrastructure.com

Quote To ...: Estimator
 1900 RILLING RD
 SAN ANTONIO, TX 78214 3240

Ship To ...: Southwest Bypass Seg 2
 Southwest Bypass
 Georgetown, TX 78628

Reference.:
Contact:
Phone:

Order No	Date	Customer No	Terms	Cash discount	Delivery terms	Quote valid for:
S030147	8/27/2019	002000	Net 30 Days		FOB Job Site	30 days

Group: 467 6363

Qty	Unit	Item	Description	Mark	Unit price	Amount
2.00	Ea	9700900	467 6363 SET (TY II) (18 IN) (RCP) (6:1) (P) Note: Price excludes rail package.		535.00	1,070.00

Group: 467 6395

Qty	Unit	Item	Description	Mark	Unit price	Amount
4.00	Ea	9700900	467 6395 SET (TY II) (24 IN) (RCP) (6:1) (P) Note: Price excludes rail package.		855.00	3,420.00

Group: 467 6519

Qty	Unit	Item	Description	Mark	Unit price	Amount
2.00	Ea	9700900	467 6519 SET (TY II) (DES I) (RCP) (6:1) (P) Note: Price excludes rail package.		860.00	1,720.00

Group: 467 6545

Qty	Unit	Item	Description	Mark	Unit price	Amount
2.00	Ea	9700900	467 6545 SET (TY II) (DES 3) (RCP) (6:1) (P) Note: Price excludes rail package.		1,300.00	2,600.00

Contract & Proposal Copy

Quote No.: S030147-2

 1900 Rilling Road
 San Antonio, TX 78214

 Telephone...: 210-923-4523
 Fax.....: 210-921-0473

oldcastleinfrastructure.com

Quote To ...: Estimator
 1900 RILLING RD
 SAN ANTONIO, TX 78214 3240

Ship To ...: Southwest Bypass Seg 2
 Southwest Bypass
 Georgetown, TX 78628

Reference.:
Contact:
Phone:

Order No	Date	Customer No	Terms	Cash discount	Delivery terms	Quote valid for:
S030147	8/27/2019	002000	Net 30 Days		FOB Job Site	30 days

Group: Notes

Qty	Unit	Item	Description	Mark	Unit price	Amount
1.00	Ea	0000003	NOTE: FOB Jobsite. Price includes delivery in full truckloads with contractor off-loading. One hour maximum. Price includes up to 60 days free storage past agreed upon delivery date. For every following month after 60 days a fee 2.5% of the value of product will be invoiced. Price excludes all taxes. Thank You for Choosing Oldcastle Precast.			

All products and services listed on this Quotation are provided under the Standard Terms and Conditions located at <https://oldcastleinfrastructure.com/customer-support/terms-conditions/material-sales/>

QUOTATION TOTAL US 8,810.00

IMPORTANT: This proposal is based on standard terms and conditions. Items and quantities shown are the basis for the quotation, and we are not responsible for any discrepancies between this list and actual items or quantities.

 (Accepted by)

Sales Person: Paul Vargas

Telephone:

 (Position)

 (Date)

By: _____

**BID FORM
WILLIAMSON COUNTY, TEXAS**

PROJECT: 1803-219 Southwest Bypass: Segment 2

BIDDER: James Construction Group, LLC.

Full compensation for compliance with each and every provision of the Request for Bids, the Bid, the Specifications, and the Contract will be considered as included in the unit prices for the work set forth below, and no separate payment will be made for compliance with each and every provision of the Request for Bids, the Bid, the Specifications, and the Contract, unless separate payment is expressly provided for therein.

BID ITEM	TECH SPEC ¹	DESCRIPTION	BID QUANTITY	UNIT MEASURE	UNIT COST	AMOUNT BID
65	506-6011	ROCK FILTER DAMS (REMOVE)	387	LF	6.00	\$ 2,322.00
66	506-6020	CONSTRUCTION EXITS (INSTALL) (TY 1)	160	SY	13.50	\$ 2,160.00
67	506-6024	CONSTRUCTION EXITS (REMOVE)	160	SY	6.00	\$ 960.00
68	506-6038	TEMP SEDMT CONT FENCE (INSTALL)	5,297	LF	2.05	\$ 10,858.85
69	506-6039	TEMP SEDMT CONT FENCE (REMOVE)	8,539	LF	0.10	\$ 853.90
70	506-8002	REMOVE ROCK	7,383	SY	1.00	\$ 7,383.00
71	512-6005	PORT CTB (FUR & INST)(F-SHAPE)(TY 1)	1,440	LF	8.32	\$ 11,980.80
72	529-6007	CONC CURB & GUTTER (TY I)	4,940	LF	17.50	\$ 86,450.00
73	529-6008	CONC CURB & GUTTER (TY II)	429	LF	17.25	\$ 7,400.25
74	531-6017	CURB RAMPS (TY 22)	4	EA	2,500.00	\$ 10,000.00
75	540-6001	MTL W-BEAM GD FEN (TIM POST)	237.5	LF	21.90	\$ 5,201.25
76	540-6006	MTL BEAM GD FEN TRANS (THRIE-BEAM)	4	EA	1,500.00	\$ 6,000.00
77	540-6016	DOWNSTREAM ANCHOR TERMINAL SECTION	1	EA	890.00	\$ 890.00
78	544-6001	GUARDRAIL END TREATMENT (INSTALL)	3	EA	2,296.00	\$ 6,888.00
79	550-6001	CHAIN LINK FENCE (INSTALL) (6')	116	LF	50.00	\$ 5,800.00
80	550-6006	GATE (REMOVE)	2	EA	343.66	\$ 687.32

Item 544-6001:
2,296.00 = original price
2,895.17 = New Price
599.17 = difference
\$1,797.51 = 3 Total

Additional Quantities:
Item 544-6001 = -3 EA X \$2,296.00
(New) 544-WC01 = +3 EA X \$2,895.17

¹Refer to the Technical Specifications section for a description of the specific reference number.

James Construction Group, LLC

Contractor's Basis of Estimate

Date: 11/4/2019
CO Pricing Good Through: 11/18/2019
Description: DRIVEWAYS (CONC)
Estimated Qty: 3 ea.

Project: 1803-219
Control: 2103-01-034
Original Contract: Net CO:
Narrative:

County: Williamson
Highway: FM 2243
Revised Contract:

Material Change to MASH approved End Treatments

<u>Labor</u>	<u>Reg Hrs</u>	<u>OT Hrs</u>	<u>UM</u>	<u>Reg Rate</u>	<u>OT Rate (x1.5)</u>	<u>Extended</u>
					25% Profit	\$ -
					55% Burdens	\$ -
					Subtotal	\$ -

<u>Equipment</u>	<u>QTY</u>	<u>UM</u>	<u>Rate</u>	<u>Extended</u>
				\$ -
			15% Profit	\$ -
			Subtotal	\$ -

<u>Subcontractors</u>	<u>QTY</u>	<u>UM</u>	<u>Price</u>	<u>Extended</u>
				\$ -
MASH Approved	3.00	EA	\$2,730.00	\$ 8,190.00
			5% Profit	\$ 409.50
			Subtotal	\$ 8,599.50

<u>Material</u>	<u>QTY</u>	<u>UM</u>	<u>Price</u>	<u>Extended</u>
			25% Markup	\$ -
			Subtotal	\$ -

<u>Additional Work Items</u>	<u>QTY</u>	<u>Units</u>	<u>Price</u>	<u>Extended</u>
	0.00	DOL	\$0.00	\$ -
			Subtotal	\$ -

TOTAL OF WORK PERFORMED \$ 8,599.50

BOND FEE (ADD 1%) \$ 86.00

TOTAL COST \$ 8,685.50

UNIT PRICE (TOTAL COST/EST. QTY) \$ 2,895.17

ROADWAY SPECIALTIES, INC.

P.O. BOX 90309, AUSTIN, TEXAS 78709
512-280-6666 PHONE 512-280-6066 FAX
CERTIFIED DBE/HUB

CHANGE ORDER PROPOSAL

Project: SW BYPASS SEGMENT 2
WILLIAMSON COUNTY

Date: October 31, 2019
RSI Job #: 5638

For: JAMES CONSTRUCTION GROUP
JESSIE ANDERSON

Proposal No.: 101933P

We propose to furnish all labor, materials, equipment and supervision to perform the following scope of work that we have been requested to perform at the above referenced project.

Item	Change Order Item Description	Unit	C. O. Quantity	Unit Price	Amount
5446001	GUARDRAIL END TREATMENT (INSTL)(TY 1)	EA	3.00	-2,496.00	-7,488.00
5446001	GUARDRAIL END TREATMENT (INSTL)(MSKT)	EA	3.00	2,730.00	8,190.00
Total Amount of Change Order:					\$702.00

If any additional information is required, please feel free to contact us at (512) 280-6666.

Sincerely,

Lenny Bobrowski

PLEASE NOTE: ALL NOTES AND EXCLUSIONS OF SUBCONTRACT APPLY.

Respectfully submitted by: Danette Shelton, President

Accepted by: _____

Date: _____

TEXAS CORRUGATORS

P.O. Box 938
 Round Rock, TX 78680
 (512)388-0588
 (512)388-0417 Fax
 www.txcorr.com

Quotation

Grates
 Sign Posts
 Geotextiles
 Bridge Railing
 Metal Fabrication
 Safety Pipe Runners
 Corrugated Steel Pipe
 Cast Iron Rings & Covers
 Metal Beam Guard Fence

ROADWAY SPECIALTIES, INC.

PROJECT

ATTN: TERESA

SOUTHWEST BYPASS SEGMENT 2

QUANTITY	DESCRIPTION	UNIT PRICE
237.5 LF	METAL BEAM GUARD FENCE (12 GA)(TIMBER POST)(BLOCK OUT)	10.90 LF +10 ⁼
4 EA	MTL BEAM GD FEN TRANS (THRIE BEAM)	845.00 EA +375 ⁼
1 EA	DOWNSTREAM ANCHOR TERMINAL	590.00 EA +350 ⁼
3 EA	GUADRAIL END TREATMENT (TY I)	1,496.00 EA +1,000 ⁼
16 EA	10BWG(1)SA(P)	131.00 EA
20 EA	10BWG(1)SA(T)	166.00 EA
1 EA	10BWG(1)SB(T)	186.00 EA
10 EA	S80(1)SA(T)	235.00 EA
5 EA	RAIL MOUNT <i>2 specimen 3P2U</i>	1,400.00 EA +1200

NOTE: PRICES ARE FOR SIGN POSTS WHICH INCLUDE: POSTS, T & U BRACKETS, WINGED CHANNEL POSTS, S3 STIFFENERS FOR (EXAL), CASTINGS W/3 SET SCREWS, STUBS, KEEPER PLATES, FRICTION CAPS, BOLTS, NUTS, & WASHERS. SIGN CLAMPS & EXTRUDED ALUMINUM ARE NOT INCLUDED. POSTS, WINGED CHANNEL POSTS AND T & U BRACKETS WILL BE SHIPPED IN STOCK LENGTHS TO BE FIELD CUT & ASSEMBLED BY INSTALLER REFLECTIVE SHEETING NOT INCLUDED.

AS REQ'D	2 3/8" U-BOLT ASSEM	1 88 EA
AS REQ'D	2 7/8" U-BOLT ASSEM	1 93 EA

DUE TO STEEL PRICE VOLATILITY, TEXAS CORRUGATORS MAY NOT BE ABLE TO HOLD PRICES AFTER 30 DAYS FROM QUOTE. CALL FOR REVISED PRICING IF ORDERING MATERIAL AFTER THE 30 DAYS.

TERMS OF PAYMENT: NET 30 DAYS
 PRICES VALID FOR 30 DAYS
 SALES TAX NOT INCLUDED

DELIVERY: 4-5 WEEKS
 F.O.B. POINT: JOBSITE - OUR TRUCKS

Subject to being awarded the contract, we accept your proposal to furnish the job requirements at the unit prices quoted above

PRICES INCLUDE FREIGHT FOR 1 LOAD DELIVERED TO JOBSITE. ADDITIONAL LOADS DUE TO CUSTOMER REQUESTING LESS THAN TRUCKLOAD QUANTITIES WILL BE CHARGED AT \$75.00 PER LOAD.

Company Name Roadway Specialties, Inc.
 Print Name Lenny Bobrowski
 Signature Lenny Bobrowski Date 7-23-18

Respectfully submitted,
 TEXAS CORRUGATORS-AUSTIN DIVISION, INC
 BY COURTNEY YOUNG Date: 05/03/2018

TEXAS CORRUGATORS Quotation

P.O. Box 938
Round Rock, TX 78680
(512)388-0588
(512)388-0417 Fax
www.txcorr.com

Grates
Sign Posts
Geotextiles
Bridge Railing
Metal Fabrication
Safety Pipe Runners
Corrugated Steel Pipe
Cast Iron Rings & Covers
Metal Beam Guard Fence

ROADWAY SPECIALTIES

ATTN: LENNY

PROJECT

SOUTHWEST BYPASS SEGMENT 2

QUANTITY	DESCRIPTION	UNIT PRICE
3 EA	GUARDRAIL END TREATMENT (MSKT)	1,730.00 EA

TERMS OF PAYMENT: NET 30 DAYS
PRICES VALID FOR 30 DAYS
SALES TAX NOT INCLUDED

Subject to being awarded the contract, we accept your proposal to furnish the job requirements at the unit prices quoted above

DELIVERY: 1-2 WEEKS
F.O.B. POINT: OUR YARD

PRICES INCLUDE FREIGHT FOR 0 LOAD DELIVERED TO JOBSITE. ADDITIONAL LOADS DUE TO CUSTOMER REQUESTING LESS THAN TRUCKLOAD QUANTITIES WILL BE CHARGED AT \$.00 PER LOAD.

Company Name _____

Print Name _____

Signature _____ Date _____

Respectfully submitted
TEXAS CORRUGATORS-AUSTIN DIVISION, INC

BY RYAN COLE Date: 10/31/19

ITEM	DESCRIPTION	UNIT	QTY DIFF	BID PRICE	QTY			COST			TOTAL COST	NOTES	
					DW01 & DW03	DW02	ACCEL/DECEL	DW01 & DW03	DW02	ACCEL/DECEL			
110 6001	EXCAVATION (ROADWAY)	CY	683	\$ 4.88	397	286	-	\$ 1,937.36	\$ 1,395.68	\$ -	\$ 3,333.04		
132 6005	EMBANKMENT (FINAL)(ORD COMP)(TY C)	CY	1,889	\$ 2.71	-	668	1,221	\$ -	\$ 1,810.28	\$ 3,308.91	\$ 5,119.19		
132 6006	EMBANKMENT (FINAL)(DENS CONT)(TY C)	CY	1,116	\$ 3.89	460	128	528	\$ 1,789.40	\$ 497.92	\$ 2,053.92	\$ 4,341.24		
161 6017	COMPOST MANUF TOPSOIL (4")	SY	(145)	\$ 0.94	(145)	-	-	\$ (136.30)	\$ -	\$ -	\$ (136.30)		
164 6009	BROADCAST SEED (TEMP) (WARM)	SY	(72)	\$ 0.12	(72)	-	-	\$ (8.64)	\$ -	\$ -	\$ (8.64)		
164 6011	BROADCAST SEED (TEMP) (COOL)	SY	(72)	\$ 0.12	(72)	-	-	\$ (8.64)	\$ -	\$ -	\$ (8.64)		
164 6023	CELL FBR MLCH SEED(PERM) (RURAL)(CLAY)	SY	(145)	\$ 0.22	(145)	-	-	\$ (31.90)	\$ -	\$ -	\$ (31.90)		
168 6001	VEGETATIVE WATERING	MG	(24)	\$ 22.87	(24)	-	-	\$ (548.88)	\$ -	\$ -	\$ (548.88)		
169 6001	SOIL RETENTION BLANKETS (CL 1) (TY A)	SY	(145)	\$ 1.20	(145)	-	-	\$ (174.00)	\$ -	\$ -	\$ (174.00)		
247 6041	FL BS (CMP IN PLC)(TYA GR1-2)(FNAL POS)	CY	831	\$ 36.83	-	514	317	\$ -	\$ 18,930.62	\$ 11,675.11	\$ 30,605.73		
310 6027	PRIME COAT(MC-30 OR AE-P)	GAL	535	\$ 3.60	-	322	213	\$ -	\$ 1,159.20	\$ 766.80	\$ 1,926.00		
341 6008	D-GR HMA TY-B PG64-22	TON	460	\$ 59.19	-	277	183	\$ -	\$ 16,395.63	\$ 10,831.77	\$ 27,227.40		
341 6042	D-GR HMA TY-D SAC-B PG70-22	TON	459	\$ 79.26	-	276	183	\$ -	\$ 21,875.76	\$ 14,504.58	\$ 36,380.34		
401 6001	FLOWABLE BACKFILL	CY	114	\$ 123.50	-	114	-	\$ -	\$ 14,079.00	\$ -	\$ 14,079.00		
432 6001	RIPRAP (CONC)(4 IN)	CY	5	\$ 350.00	-	4	1	\$ -	\$ 1,400.00	\$ 350.00	\$ 1,750.00		
432 6033	RIPRAP (STONE PROTECTION)(18 IN)	CY	123	\$ 60.00	123	-	-	\$ 7,380.00	\$ -	\$ -	\$ 7,380.00		
432 6045	RIPRAP (MOW STRIP)(4 IN)	CY	3	\$ 687.17	-	-	3	\$ -	\$ -	\$ 2,061.51	\$ 2,061.51		
432 8001	RIPRAP (STONE PROTECTION)(8 IN) TYI	CY	(26)	\$ 34.68	-	(19)	(7)	\$ -	\$ (658.92)	\$ (242.76)	\$ (901.68)		
432 8002	RIPRAP (STONE PROTECTION)(8 IN) TYII	CY	(222)	\$ 25.49	-	(203)	(19)	\$ -	\$ (5,174.47)	\$ (484.31)	\$ (5,658.78)		
464 6018	RC PIPE (CL IV)(24 IN)	LF	215	\$ 74.83	215	-	-	\$ 16,088.45	\$ -	\$ -	\$ 16,088.45		
467 6395	SET (TY II) (24 IN) (RCP) (6: 1) (P)	EA	8	\$ 3,605.65	8	-	-	\$ 28,845.22	\$ -	\$ -	\$ 28,845.22	New Item. Contractor price provided. Added 2, per JCG spreadsheet dated 2/25/20.	
502 6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	2	\$ 3,780.00	1	-	1	\$ 3,780.00	\$ -	\$ 3,780.00	\$ 7,560.00		
529 6007	CONC CURB & GUTTER (TY I)	LF	168	\$ 17.50	-	168	-	\$ -	\$ 2,940.00	\$ -	\$ 2,940.00		
530 6004	DRIVEWAYS (CONC)	SY	762	\$ 155.69	762	-	-	\$ 118,633.49	\$ -	\$ -	\$ 118,633.49	New Item. Contractor price provided. Added 108, per JCG spreadsheet dated 2/25/20.	
540 6001	MTL W-BEAM GD FEN (TIM POST)	LF	75	\$ 21.90	-	-	75	\$ -	\$ -	\$ 1,642.50	\$ 1,642.50		
552 8001	WIRE FENCE	LF	271	\$ 8.00	-	271	-	\$ -	\$ 2,168.00	\$ -	\$ 2,168.00		
552 8002	GALVANIZED TUBE GATE	EA	1	\$ 1,500.00	-	1	-	\$ -	\$ 1,500.00	\$ -	\$ 1,500.00		
644 6001	IN SM RD SN SUP&AM TY10BWG(1) SA(P)	EA	4	\$ 320.00	-	-	4	\$ -	\$ -	\$ 1,280.00	\$ 1,280.00	May have contractor install foundation and stockpile sign with City.	
644 6004	IN SM RD SN SUP&AM TY10BWG(1) SA(T)	EA	1	\$ 425.00	-	-	1	\$ -	\$ -	\$ 425.00	\$ 425.00	May have contractor install foundation and stockpile sign with City.	
644 6066	IN SM RD SN SUP&AM (RAIL MOUNT)	EA	1	\$ 2,738.46	-	-	1	\$ -	\$ -	\$ 2,738.46	\$ 2,738.46		
658 6014	INSTL DEL ASSM (D-SW)SZ (BR)CTB (BI)	EA	(35)	\$ 9.75	-	-	(35)	\$ -	\$ -	\$ (341.25)	\$ (341.25)		
658 6047	INSTL OM ASSM (OM-2Y)(WC)GND	EA	2	\$ 13.49	-	-	2	\$ -	\$ -	\$ 26.98	\$ 26.98		
658 6061	INSTL DEL ASSM (D-SW)SZ 1(BRF)GF2	EA	(3)	\$ 40.99	-	-	(3)	\$ -	\$ -	\$ (122.97)	\$ (122.97)		
666 6006	REFL PAV MRK TY I (W)4"(DOT) (100MIL)	LF	257	\$ 0.84	-	-	257	\$ -	\$ -	\$ 215.88	\$ 215.88		
666 6036	REFL PAV MRK TY I (W)8"(SLD) (100MIL)	LF	2,555	\$ 0.63	-	-	2,555	\$ -	\$ -	\$ 1,609.65	\$ 1,609.65		
666 6048	REFL PAV MRK TY I (W)24"(SLD) (100MIL)	LF	399	\$ 5.26	-	-	399	\$ -	\$ -	\$ 2,098.74	\$ 2,098.74		
666 6054	REFL PAV MRK TY I (W)(ARROW) (100MIL)	EA	8	\$ 105.23	-	-	8	\$ -	\$ -	\$ 841.84	\$ 841.84		
666 6078	REFL PAV MRK TY I (W)(WORD) (100MIL)	EA	4	\$ 126.27	-	-	4	\$ -	\$ -	\$ 505.08	\$ 505.08		
666 6168	REFL PAV MRK TY II (W) 4" (DOT)	LF	69	\$ 0.68	-	-	69	\$ -	\$ -	\$ 46.92	\$ 46.92		
666 6178	REFL PAV MRK TY II (W) 8" (SLD)	LF	95	\$ 0.84	-	-	95	\$ -	\$ -	\$ 79.80	\$ 79.80		
666 6184	REFL PAV MRK TY II (W) (ARROW)	EA	2	\$ 42.09	-	-	2	\$ -	\$ -	\$ 84.18	\$ 84.18		
666 6207	REFL PAV MRK TY II (Y) 4" (SLD)	LF	1,520	\$ 0.53	-	-	1,520	\$ -	\$ -	\$ 805.60	\$ 805.60		
666 6282	REF PROF PAV MRK TY I(W)4"(SLD)(060MIL)	LF	93	\$ 0.74	-	-	93	\$ -	\$ -	\$ 68.82	\$ 68.82		
666 6315	RE PM W/RET REQ TY I (Y)4"(SLD) (100MIL)	LF	136	\$ 0.38	-	-	136	\$ -	\$ -	\$ 51.68	\$ 51.68		
672 6007	REFL PAV MRKR TY I-C	EA	233	\$ 3.16	-	-	233	\$ -	\$ -	\$ 736.28	\$ 736.28		
								Total	\$ 177,545.56	\$ 78,318.70	\$ 61,398.72	\$ 317,262.98	

654 135.38
1.15
155.687

Multiply unit rates for all new items (8) in this Change order by 1.15, per meeting with JCG on 2/24/2020.
ERC

SHEET NO. GENERAL

- 1 TITLE SHEET
- 2 - 3 INDEX OF SHEETS
- 4 - 5 ¹ PROJECT LAYOUT
- 6 - ^{12A} TYPICAL SECTIONS
- 13 - 13K GENERAL NOTES
- 14 - 22 SUMMARY OF QUANTITIES
- 23 - 24 SUMMARY OF SMALL SIGN
- 25 - 26 BORE HOLE LAYOUT
- 27 - 29 BORING LOGS

SHEET NO. TRAFFIC CONTROL PLANS

- 30 TRAFFIC CONTROL PLAN - SBFR I-35
- 31 - 32 TRAFFIC CONTROL PLAN - RM 2243
- * 33 - 44 BC(1)-14 THRU BC(12)-14
- * 45 TCP(1-3)-18
- * 46 TCP(1-5)-18

SHEET NO. ROADWAY PLANS

- 47 - 47A SURVEY CONTROL
- 48 SW BYPASS PANEL LAYOUT
- 49 - 50 ALIGNMENT DATA
- 51 REMOVAL PLAN
- ¹ 52 - 59 PLAN AND PROFILE - WBFR
- 60 PLAN AND PROFILE - RM 2243
- ¹ 60A - 60C DRIVEWAY PLAN AND PROFILE
- 61 INTERSECTION DETAIL - RM 2243
- 62 INTERSECTION DETAIL POINT TABLE
- 63 ISLAND DETAIL - RM 2243
- # 64 BED-14
- # 65 CCCG-12
- # 66 CONCRETE DRIVEWAYS, SIDEWALKS AND RIPRAP MEDIANS (AUSTIN DISTRICT)
- # 67 CONCRETE RIPRAP AND VEGETATIVE CONTROL (AUSTIN DISTRICT)
- # 68 GF(31)-14
- # 69 GF(31) LS-17
- # 70 GF(31) TR-14
- # 71 SGT (8) 31-17
- # 72 SGT (8S) 31-17
- # 73 - 76 PED-18

SHEET NO. RETAINING WALLS

- 77 ¹ RETAINING WALL RW-05 PLAN AND PROFILE
- 78 OMITTED
- # 79 RW(MSE)DD
- # 80 RM(EM)
- # 81 - 82 RW(MSE)
- 83 - 84 RW(TRF) (MOD)
- # 85 CRR

SHEET NO. FENCING AND GRADING

- 86 - 87 GRADING ALIGNMENT DATA
- 88 - 93 FENCING AND GRADING PLAN
- 94 GRADING POINTS TABLE
- 95 - 99 ROCK CUT CONTROL POINTS
- 100 - 101 FENCING DETAILS
- 102 GRADING DETAILS

SHEET NO. DRAINAGE PLANS

- 103 CULVERT ALIGNMENT DATA
- 104 HYDROLOGY COMPUTATION
- 105 HYDRAULIC COMPUTATION
- ¹ 105A DRIVEWAY DRAIN HYDROLOGY & HYDRAULIC COMPUTATIONS
- 106 - 108 PROPOSED DRAINAGE AREA MAP
- ¹ 108A - 108C PROPOSED DRIVEWAY DRAIN DRAINAGE AREA MAP
- 109 DRAINAGE CULVERT NO. 6 LAYOUT
- 110 DRAINAGE CULVERT NO. 7 LAYOUT
- 111 - 112 ¹ DRAINAGE CULVERT NO. 8 LAYOUT
- 113 - 114 OMITTED
- 115 DRAINAGE CULVERT NO. 9 LAYOUT
- ** 116 - 117 SETP-CD
- ** 117A SETP-PD
- ** 117B - 117C SETP-PD-A
- ** 118 - 119 SRR
- ** 120 CH-FW-0
- ** 121 CH-PW-S

SHEET NO. BRIDGE PLANS

- 122 - 123 BRIDGE LAYOUT
- 124 - 125 BORING LOGS
- 126 ESTIMATED QUANTITIES
- 127 - 128 ABUTMENT NO. 1
- 129 - 130 ABUTMENT NO. 7
- 131 INTERIOR BENT NOS. 2, 5-6
- 132 INTERIOR BENT NOS. 3-4
- 133 - 134 FRAMING PLAN
- 135 360.00' PRESTRESSED CONCRETE GIRDER UNIT 1
- 136 360.00' PRESTRESSED CONCRETE GIRDER UNIT 2
- 137 IGND (MOD)
- % 138 BAS-A
- % 139 - 140 BL (MOD)
- % 141 CSAB
- % 142 - 143 FD
- % 144 - 145 IGD
- % 146 - 148 IGEB
- % 149 - 150 IGMS
- 151 IGTS (MOD)
- % 152 - 153 MEBR(C)
- % 154 - 157 PCP
- % 158 PCP-FAB
- % 159 - 160 PMDF
- % 161 - 162 SEJ-A
- % 163 - 164 SSTR

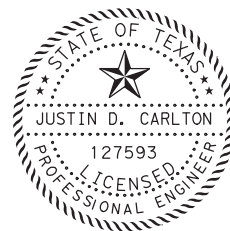
REV 1 ONLY



Jacob E. Walker, PE

07/31/2019

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY JUSTIN D. CARLTON P.E. 127593 ON 3/26/2018.



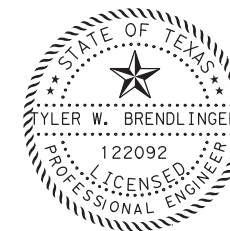
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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY PHAISARN CWATANAPHOL P.E. 89252 ON 3/26/2018.



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% THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ABOVE HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

1	7/30/19	DRIVEWAY ADDITION	JW
NO.	DATE	REVISION	APPROVED
		HDR Engineering, Inc. 810 Hesters Crossing, Suite 120 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754	
SOUTHWEST BYPASS SEGMENT 2			
INDEX OF SHEETS			
SHEET 1 OF 2			
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
JC	6		
GRAPHICS	STATE	DISTRICT	COUNTY
LG	TEXAS	AUS	WILLIAMSON
CHECK	CONTROL	SECTION	JOB
JW	2103	01	034
CHECK			
JC			
			2

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SHEET NO. TRAFFIC SIGNAL

165	SW BYPASS AND RM 2243 EXISTING INTERSECTION LAYOUT
166	SW BYPASS AND RM 2243 PROPOSED (INTERIM) SIGNAL LAYOUT
167	SW BYPASS AND RM 2243 CONDUIT AND CONDUCTOR SCHEDULES (INTERIM)
168	SW BYPASS AND RM 2243 ELEVATIONS (INTERIM)
169	SW BYPASS AND RM 2243 PROPOSED (ULTIMATE) SIGNAL LAYOUT
170	SW BYPASS AND RM 2243 SIGNING AND PHASING (ULTIMATE)
171	SW BYPASS AND RM 2243 CONDUIT AND CONDUCTOR SCHEDULES (ULTIMATE)
172	SW BYPASS AND RM 2243 ELEVATIONS (ULTIMATE)
173	SW BYPASS AND RM 2243 VEHICLE DETECTION DETAILS (ULTIMATE)
\$ 174	TS-FD-12
\$ 175	SMA-80(1)-12
\$ 176	WV & IZ-14
\$ 177	ED(1)-14
\$ 178	ED(2)-14
\$ 179	ED(3)-14
\$ 180	ED(4)-14
\$ 181	ED(5)-14
\$ 182	ED(6)-14
\$ 183	ED(8)-14
\$ 184	ED(9)-14
\$ 185	ED(12)-14
\$ 186	SNS-95
\$ 187	SMA-80(2)-12
\$ 188	MA-C-12
\$ 189	MA-C (ILSN)-12
\$ 190	MA-D-12
\$ 191	LUM-A-12
\$ 192	CFA-12
\$ 193	TS-CF-04
\$ 194	MA-DPD-12
\$ 195	MAD-14(AUS)
\$ 196	BBU-14(AUS)
\$ 197	CITY OF GEORGETOWN SIGNAL DETAILS

SHEET NO. ILLUMINATION

198 - 201	ILLUMINATION LAYOUTS
202	ILLUMINATION UNDERPASS LAYOUTS
203 - 204	ILLUMINATION DETAILS
205	ILLUMINATION SCHEMATICS
## 206	RID(1)-17
## 207	RID(2)-17
## 208	RID(3)-17
## 209	RIP(1)-17
## 210	RIP(2)-17
## 211	RIP(3)-17
## 212	RIP(4)-17

SHEET NO. SIGNING & STRIPING

213	STRIPING REMOVAL PLAN - SBFR I-35
214 - 216	STRIPING REMOVAL PLAN - RM 2243
217	STRIPING REMOVAL PLAN - RAMPNB2
218	SIGNING AND STRIPING - SBFR I-35
219 - 226	SIGNING AND STRIPING - WBFR
227 - 229	SIGNING AND STRIPING - RM 2243
230	SIGNING DETAIL WBFR
* 230A	D&OM(1)-15
* 230B	D&OM(2)-15
* 231	D&OM(3)-15B
* 232	D&OM(5)-15
* 233	D&OM (VIA)-15
* 234	PM(1)-12
* 235	PM(2)-12
* 236	PM(3)-12
* 237	SMD (GEN)-08
* 238	SMD (SLIP-1)-08
* 239	SMD (SLIP-2)-08
* 240	TSR(4)-13
* 241	SMD (BR-1)-14
* 242	SMD (BR-2)-14
* 243	SMD (BR-3)-14
* 244	SPRFBA(1)-13

SHEET NO. ENVIRONMENTAL ITEMS

245	STORMWATER POLLUTION PREVENTION PLAN (SW3P)
246	EPIC
247	TCEQ REQUIREMENTS FOR RECHARGE ZONE OF THE EDWARDS AQUIFER
248	TEMPORARY EROSION GENERAL NOTES
249 - 256	TEMPORARY EROSION CONTROL PLAN
257 - 264	PERMANENT EROSION CONTROL PLAN
* 265	EC(1)-16
* 266	EC(2)-16
* 267	EC(3)-16
* 268	TREE PROTECTION STANDARD

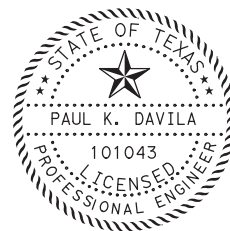
SHEET NO. UTILITIES

269 - 276	UTILITY LAYOUT
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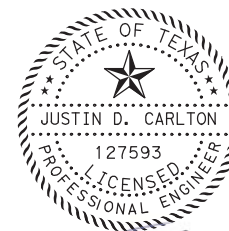
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY TIMOTHY GRIMES P.E. 100107 ON 3/26/2018.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY PAUL K. DAVILA P.E. 101043 ON 3/26/2018.



REV 1 ONLY



07/30/2019

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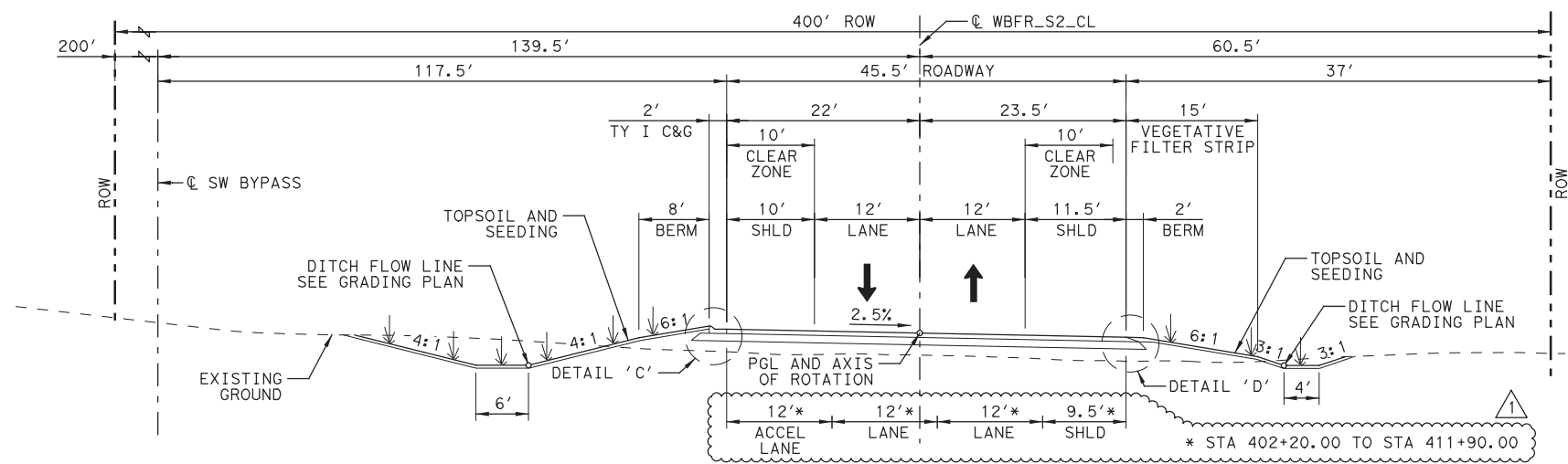
THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ABOVE HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

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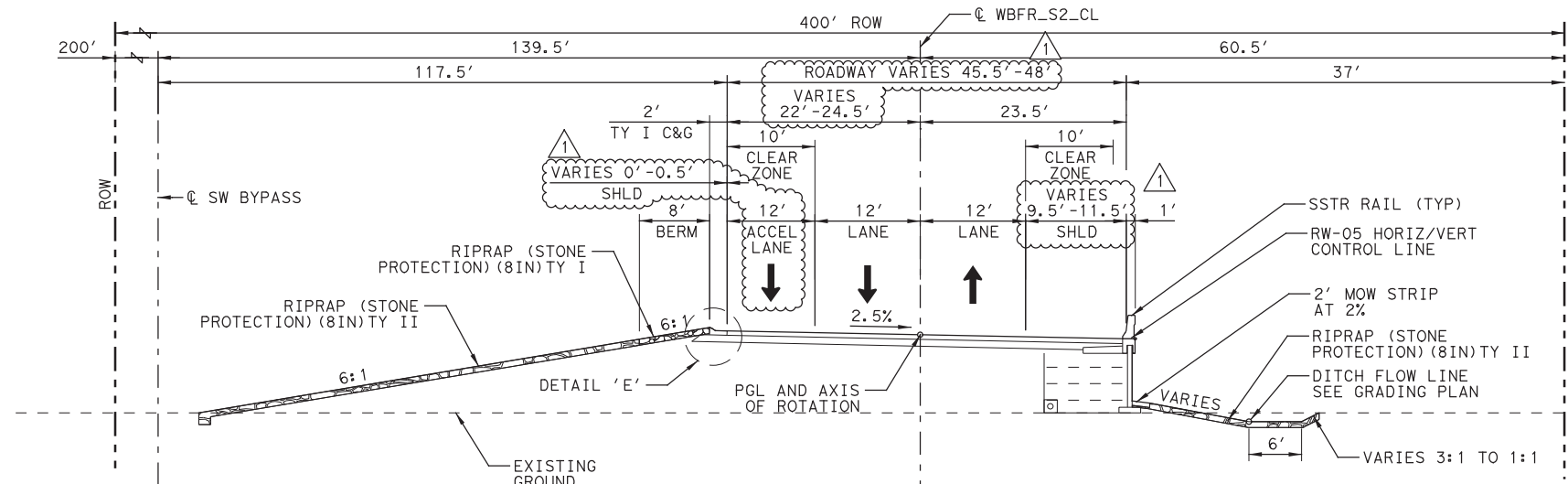
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NO.	DATE	REVISION	APPROVED
		HDR Engineering, Inc. 810 Hesters Crossing, Suite 120 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754	
<h2>SOUTHWEST BYPASS SEGMENT 2</h2> <h3>INDEX OF SHEETS</h3>			
SHEET 2 OF 2			
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
JC	6		
GRAPHICS	STATE	DISTRICT	COUNTY
LG	TEXAS	AUS	WILLIAMSON
CHECK	CONTROL	SECTION	JOB
JW	JC	2103	01 034
CHECK			3

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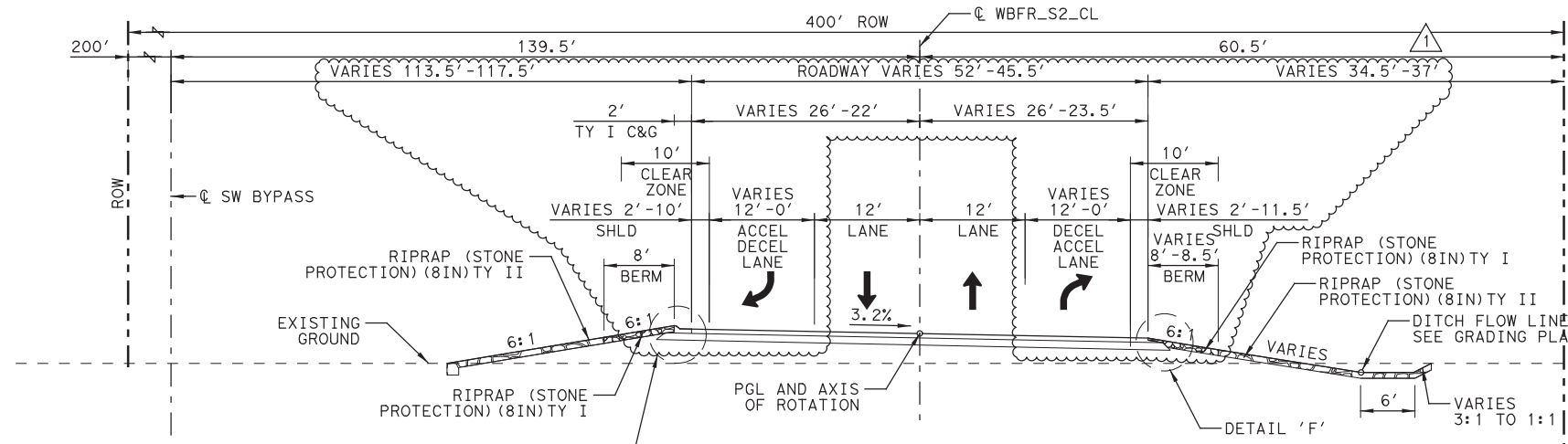
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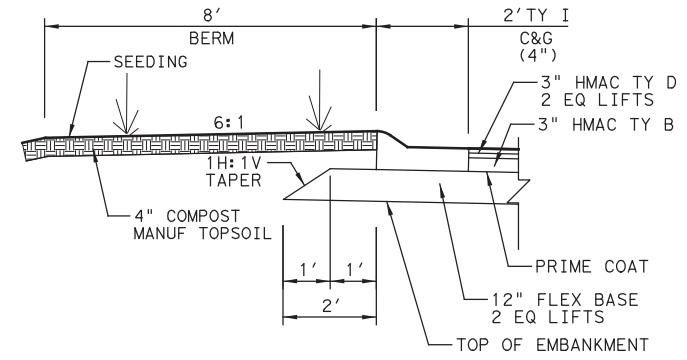
SW BYPASS WBFR
 STA 394+90 TO STA 404+50.00
 STA 404+50.00 TO STA 411+70.00 (BRIDGE LIMITS)



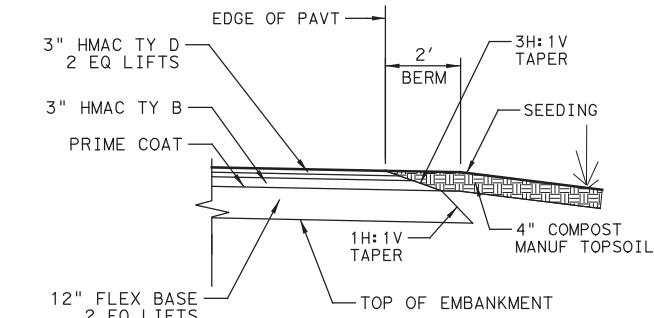
SW BYPASS WBFR
 STA 411+70.00 TO STA 413+50.00



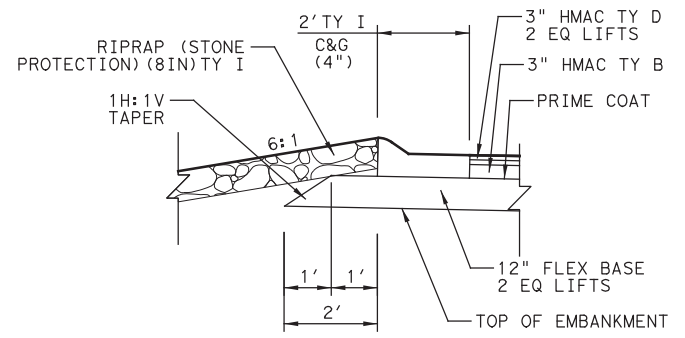
SW BYPASS WBFR
 STA 413+50.00 TO STA 434+05.15



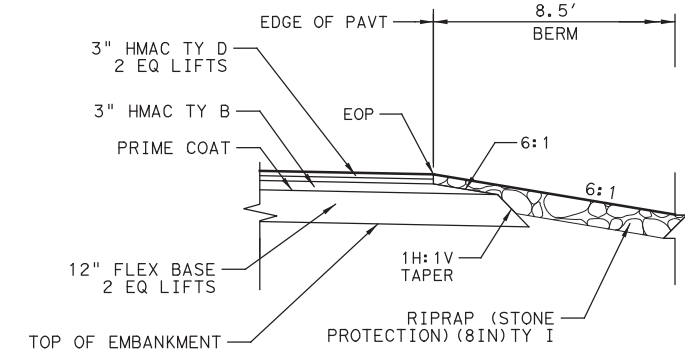
DETAIL "C"



DETAIL "D"



DETAIL "E"



DETAIL "F"

- GENERAL NOTES:**
1. THE HMAC TAPERED EDGE SHALL BE PRODUCED BY USE OF A SCREED ATTACHMENT CAPABLE OF PRODUCING A SMOOTH COMPACTED SURFACE.
 2. ALL LOCATIONS OF VEGETATION FILTER STRIPS ARE TO HAVE SIDE SLOPES NO STEEPER THAN 5:1.
 3. 15' VEGETATIVE FILTER STRIP MEASURED FROM OUTER MOST EDGE OF PAVED SURFACE INCLUDING MOW STRIP.
 4. SEE EROSION CONTROL SHEETS FOR TOPSOIL AND SEEDING LIMITS.
 5. SEE RETAINING WALL LAYOUT SHEETS FOR WALL LIMITS.
 6. 2' BERM AND MOW STRIP CROSS-SLOPES TO MATCH ROADWAY CROSS-SLOPES UNLESS OTHERWISE NOTED.
 7. SEE GRADING PLAN FOR SITE GRADING AND DITCH FLOW LINES.
 8. BACKFILL NEW PAVEMENT EDGE WITH TOPSOIL AND SEEDING. COST TO BE SUBSIDIARY TO OVERLAY BID ITEMS.

STATE OF TEXAS
 JACOB E. WALKER
 122057
 LICENSED PROFESSIONAL ENGINEER
 07/31/2019

1	7/30/19	DRIVEWAY ADDITION	JW
NO.	DATE	REVISION	APPROVED

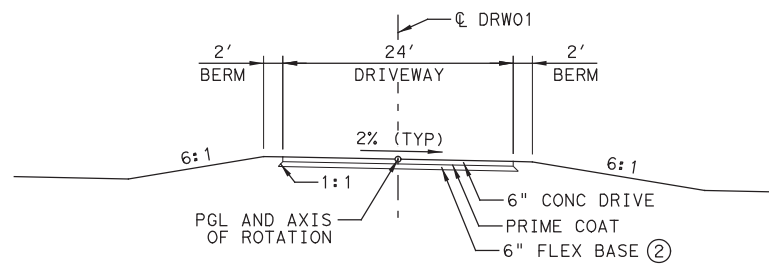
WILLIAMSON COUNTY
 HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

SOUTHWEST BYPASS SEGMENT 2
TYPICAL SECTIONS

SCALE: N. T. S. SHEET 5 OF 7

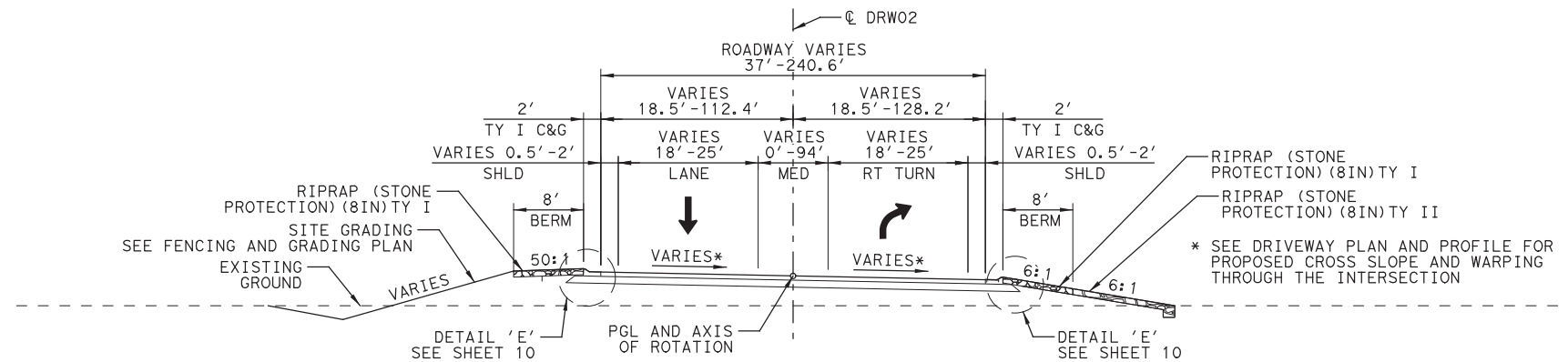
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GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	SECTION	JOB			10
CHECK	JC		2103		01		034

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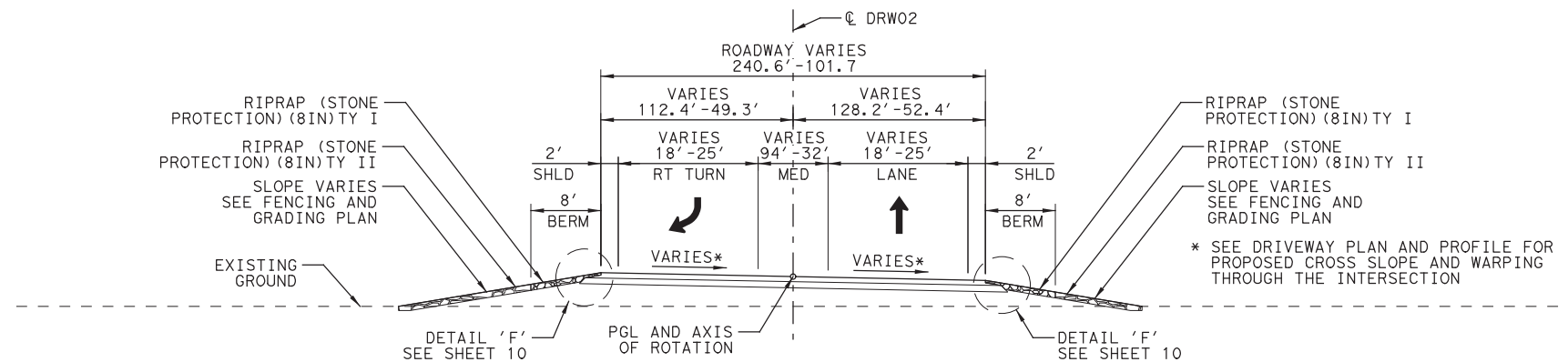


DRW01
 STA 9+13.00 TO STA 9+78.00
 STA 10+23.50 TO STA 10+60.50

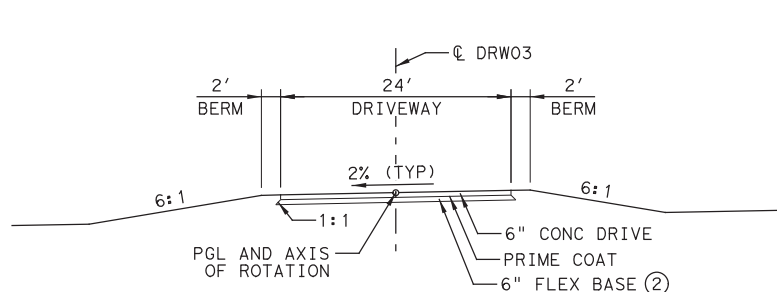
② PLACE FLEX BASE USING ORDINARY COMPACTION. FLEX BASE AND PRIME COAT CONSIDERED SUBSIDIARY TO ITEM 530.



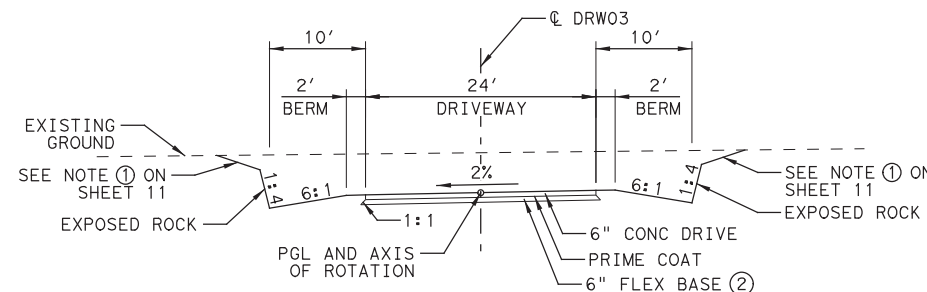
DRW02
 STA 8+22.00 TO STA 9+74.00



DRW02
 STA 10+26.00 TO STA 10+60.00



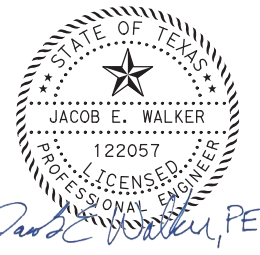
DRW03
 STA 9+28.00 TO STA 9+72.63
 STA 10+32.92 TO STA 10+63.50



DRW03
 STA 10+63.50 TO STA 11+25.00

GENERAL NOTES:

1. THE HMAC TAPERED EDGE SHALL BE PRODUCED BY USE OF A SCREED ATTACHMENT CAPABLE OF PRODUCING A SMOOTH COMPACTED SURFACE.
2. ALL LOCATIONS OF VEGETATION FILTER STRIPS ARE TO HAVE SIDE SLOPES NO STEEPER THAN 5:1.
3. 15' VEGETATIVE FILTER STRIP MEASURED FROM OUTER MOST EDGE OF PAVED SURFACE INCLUDING MOW STRIP.
4. SEE EROSION CONTROL SHEETS FOR TOPSOIL AND SEEDING LIMITS.
5. SEE RETAINING WALL LAYOUT SHEETS FOR WALL LIMITS.
6. 2' BERM AND MOW STRIP CROSS-SLOPES TO MATCH ROADWAY CROSS-SLOPES UNLESS OTHERWISE NOTED.
7. SEE GRADING PLAN FOR SITE GRADING AND DITCH FLOW LINES.
8. BACKFILL NEW PAVEMENT EDGE WITH TOPSOIL AND SEEDING. COST TO BE SUBSIDIARY TO OVERLAY BID ITEMS.



07/31/2019

1	7/30/19	DRIVEWAY ADDITION (NEW SHEET)	JW
NO.	DATE	REVISION	APPROVED



HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2
 TYPICAL SECTIONS**

SCALE: N. T. S. SHEET 8 OF 8

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL		SECTION	01	JOB	034
CHECK	JC						

SHEET NO. 12A

SUMMARY OF TRAFFIC CONTROL QUANTITIES

LOCATION	502 6001	S2 GA
	BARRICADES, SIGNS AND TRAFFIC HANDLING	GATE ATTENDANT
	MO	HR
SOUTHWEST BYPASS: SEGMENT 2		
TRAFFIC CONTROL PLAN SBFR I-35 - SHEET 1 of 1		2,800
CSJ: 2103-01-034	14	
TRAFFIC CONTROL PLAN RM 2243- SHEET 1 of 2		2,800
TRAFFIC CONTROL PLAN RM 2243- SHEET 2 of 2		
Total	14	5,600

SUMMARY OF ROADWAY QUANTITIES

LOCATION	100 6002	104 6001	104 6013	105 6011	110 6001	132 6005 #	132 6006##	247 6041	310 6027	340 6242	341 6008	341 6042	354 6021	432 6001	432 6045	496 6039	496 6043	529 6007
	PREPARING ROW	REMOVING CONC (PAV)	REMOVING CONC (FOUNDATIONS)	REMOVING STAB BASE AND ASPH PAV (2"-6")	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL) (ORD COMP) (TY C)	EMBANKMENT (FINAL) (DENS CONT) (TY C)	FL BS (CMP IN PLC) (TYA GR1&2) (FNAL POS)	PRIME COAT (MC-30 OR AE-P)	D-GR HMA (SQ) TY-B OR D PG64-22 (LVL -UP)	D-GR HMA TY-B PG64-22	D-GR HMA TY-D SAC-B PG70-22	PLANE ASPH CONC PAV (0" TO 2")	RIPRAP (CONC) (4 IN)	RIPRAP (MOW STRIP) (4 IN)	REMOV STR (BUILDING)	REMOV STR (SMALL FENCE)	CONC CURB & GUTTER (TY I)
	STA	SY	SY	SY	CY	CY	CY	CY	GAL	TON	TON	TON	SY	CY	CY	EA	LF	LF
SOUTHWEST BYPASS: SEGMENT 2																		
PLAN AND PROFILE WBFR - SHEET 1 OF 8	12	5	582	715	-	-	-	-	-	-	-	290	-	-	-	2	617	-
PLAN AND PROFILE WBFR - SHEET 2 OF 8	11	-	-	-	-	-	-	-	-	-	-	373	-	-	-	-	-	-
PLAN AND PROFILE WBFR - SHEET 3 OF 8	11	-	-	-	2,166	212	1,021	1,247	689	590	773	-	-	-	-	-	-	661
PLAN AND PROFILE WBFR - SHEET 4 OF 8	11	-	-	-	4,400	4,803	1,327	631	348	299	297	-	-	-	15	-	-	347
PLAN AND PROFILE WBFR - SHEET 5 OF 8	11	-	-	-	842	6,823	10,140	2,339	1,327	1,139	1,129	-	-	1	16	-	-	937
PLAN AND PROFILE WBFR - SHEET 6 OF 8	11	-	-	-	6,895	103,729	23,772	2,113	1,169	1,001	985	-	-	-	-	-	-	1,108
PLAN AND PROFILE WBFR - SHEET 7 OF 8	11	-	-	-	86,270	100	515	2,114	1,170	1,001	986	-	-	-	-	-	-	1,109
PLAN AND PROFILE WBFR - SHEET 8 OF 8	8	-	-	-	7,658	79	787	1,497	846	239	725	857	1,217	9	-	-	-	583
DRIVEWAY PLAN AND PROFILE - SHEET 1 OF 3	-	-	-	-	6	-	221	-	-	-	-	-	-	-	-	-	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 2 OF 3	-	-	-	-	245	28	128	514	322	-	277	276	-	4	-	-	-	336
DRIVEWAY PLAN AND PROFILE - SHEET 3 OF 3	-	-	-	-	391	-	239	-	-	-	-	-	-	-	-	-	-	-
CSJ: 2103-01-034																		
PLAN AND PROFILE RM 2243 - SHEET 1 OF 1	8	-	-	-	951	224	-	267	119	590	131	944	7,665	43	-	-	-	27
Total	94	5	582	715	109,824	115,998	38,150	10,722	5,990	829	5,163	6,910	8,882	57	31	2	617	5,108

ZONE 1 EMBANKMENT SEE GENERAL NOTES
ZONE 2 EMBANKMENT SEE GENERAL NOTES

SUMMARY OF ROADWAY QUANTITIES CONT

LOCATION	529 6008	530 6004	531 6017	540 6001	540 6006	540 6016	544 6001
	CONC CURB & GUTTER (TY II)	DRIVEWAYS (CONC)	CURB RAMPS (TY 22)	MTL W-BEAM GD FEN (TIM POST)	MTL BEAM GD FEN TRANS (THRIE-BEAM)	DOWNSTREAM ANCHOR TERMINAL SECTION	GUARDRAIL END TREATMENT (INSTALL)
	LF	SY	EA	LF	EA	EA	EA
SOUTHWEST BYPASS: SEGMENT 2							
PLAN AND PROFILE WBFR - SHEET 1 OF 8	-	-	-	-	-	-	-
PLAN AND PROFILE WBFR - SHEET 2 OF 8	-	-	-	-	-	-	-
PLAN AND PROFILE WBFR - SHEET 3 OF 8	-	-	-	-	-	-	-
PLAN AND PROFILE WBFR - SHEET 4 OF 8	-	-	-	75	3	-	2
PLAN AND PROFILE WBFR - SHEET 5 OF 8	-	-	-	237.5	1	1	1
PLAN AND PROFILE WBFR - SHEET 6 OF 8	-	-	-	-	-	-	-
PLAN AND PROFILE WBFR - SHEET 7 OF 8	-	-	-	-	-	-	-
PLAN AND PROFILE WBFR - SHEET 8 OF 8	155	-	-	-	-	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 1 OF 3	-	281	-	-	-	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 2 OF 3	-	-	-	-	-	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 3 OF 3	-	373	-	-	-	-	-
CSJ: 2103-01-034							
PLAN AND PROFILE RM 2243 - SHEET 1 OF 1	274	-	4	-	-	-	-
Total	429	654	4	312.5	4	1	3

SUMMARY OF RETAINING WALL QUANTITIES

LOCATION	420 6007	423 RW05	423 RW06	432 6001	432 6045	450 6023	556 6006	740 6005
	CL A CONC (FLUME)	RETAINING WALL (MSE) (ASHLAR STONE FIN)	RETAINING WALL (MSE) (ASHLAR STONE FIN)	RIPRAP (CONC) (4 IN)	RIPRAP (MOW STRIP) (4 IN)	RAIL (TY SSTR)	PIPE UNDERDRAINS (TY 6) (6")	ANTI - GRAFFITI COATING (PERMNET-TY III)
	CY	SF	SF	CY	CY	LF	LF	SF
SOUTHWEST BYPASS: SEGMENT 2								
RW-05 - SHEET 1 OF 1	1	2,690	-	-	5	180	215	2,690
RW-06 - SHEET 1 OF 1	-	-	2,416	28	-	114	-	-
Total	1	2,690	2,416	28	5	294	215	2,690

2	7/30/19	DRIVEWAY ADDITION	JW
1	4/25/19	REVISED FOR PENINSULA REMOVAL	JW
NO.	DATE	REVISION	APPROVED

SOUTHWEST BYPASS SEGMENT 2 SUMMARY OF QUANTITIES

SHEET 1 OF 9

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL		SECTION		JOB	
CHECK	JC		2103		01		034
							14

PLOT DRIVER: TxDOT_PDF_BW.plt
USER: LGONZALEZ
FILE: \

PENITABLE: S2-0000201070718.tbl
TIME: 10:31 PM
SCALE: 1:1

WBFR EARTHWORK QUANTITIES #

STATION	ITEM 110 6001	ITEM 132 6005	ITEM 132 6006 *
	EXCAVATION (ROADWAY) (CY)	EMBANKMENT (FINAL) (ORD COMP) (TY C) (CY)	EMBANKMENT (FINAL) (DENS CONT) (TY C) (CY)
394+90.00	0	0	0
395+00.00	34	4	0
395+50.00	85	16	258
396+00.00	77	16	375
396+50.00	153	16	185
397+00.00	187	16	83
397+50.00	187	16	47
398+00.00	156	16	47
398+50.00	127	16	21
399+00.00	131	16	4
399+50.00	174	16	0
400+00.00	189	16	1
400+50.00	185	16	0
401+00.00	223	16	0
401+50.00	258	16	0
402+00.00	275	16	0
402+50.00	322	16	0
403+00.00	747	22	0
403+50.00	776	40	0
404+00.00	427	38	0
404+50.00	568	20	0
405+00.00	997	0	0
405+50.00	257	0	0
406+00.00	0	0	0
406+50.00	0	0	0
407+00.00	0	0	0
407+50.00	0	0	0
408+00.00	0	0	0
408+50.00	0	0	0
409+00.00	0	0	0
409+50.00	0	0	0
410+00.00	0	0	0
410+50.00	0	0	0
411+00.00	0	0	0
411+50.00	0	0	0
412+00.00	10	2,634	431
412+50.00	21	2,017	896
413+00.00	23	1,520	906
413+50.00	29	953	905
414+00.00	36	156	919
414+50.00	29	27	844
415+00.00	17	12	822
415+50.00	13	12	694
416+00.00	14	9	564
416+50.00	22	8	438
417+00.00	17	5	265
417+50.00	12	0	71
418+00.00	12	0	26
418+50.00	2	0	124
419+00.00	8	7	322
419+50.00	23	9	362
420+00.00	47	93	365
420+50.00	82	285	343
421+00.00	73	367	317
421+50.00	81	366	339
422+00.00	82	444	237
422+50.00	163	653	157
423+00.00	49	844	315
423+50.00	8	1,053	805
424+00.00	5	1,539	1,199
424+50.00	5	2,871	1,213
425+00.00	5	5,085	1,213
425+50.00	5	6,705	1,214
426+00.00	4	8,090	1,214
426+50.00	5	8,990	1,211
427+00.00	5	10,312	1,146
427+50.00	3	11,074	988

WBFR EARTHWORK QUANTITIES CONT. #

STATION	ITEM 110 6001	ITEM 132 6005	ITEM 132 6006*
	EXCAVATION (ROADWAY) (CY)	EMBANKMENT (FINAL) (ORD COMP) (TY C) (CY)	EMBANKMENT (FINAL) (DENS CONT) (TY C) (CY)
428+00.00	64	10,495	981
428+50.00	285	10,152	980
429+00.00	593	9,070	1,453
429+50.00	828	7,901	984
430+00.00	948	4,945	990
430+50.00	881	1,898	997
431+00.00	597	518	1,004
431+50.00	297	186	1,013
432+00.00	142	271	1,022
432+50.00	91	468	1,025
433+00.00	58	617	1,022
433+50.00	43	826	1,020
434+00.00	97	1,033	1,015
434+50.00	1,934	683	868
435+00.00	3,963	96	498
435+50.00	4,155	4	17
436+00.00	4,150	0	0
436+50.00	4,342	0	0
437+00.00	4,670	0	0
437+50.00	4,898	0	0
438+00.00	4,921	0	0
438+50.00	4,873	0	0
439+00.00	4,799	0	0
439+50.00	4,703	0	0
440+00.00	4,530	0	0
440+50.00	4,310	0	0
441+00.00	4,156	0	0
441+50.00	3,984	0	0
442+00.00	3,804	0	0
442+50.00	3,641	0	0
443+00.00	3,478	0	0
443+50.00	3,292	0	0
444+00.00	2,966	0	0
444+50.00	2,609	0	0
445+00.00	2,250	0	0
445+50.00	1,776	0	0
446+00.00	1,250	0	0
446+50.00	824	0	0
447+00.00	628	0	14
447+50.00	667	0	156
448+00.00	758	3	219
448+50.00	684	8	201
449+00.00	543	8	125
449+50.00	512	9	55
450+00.00	550	21	16
450+50.00	603	9	1
451+07.54	639	21	0
TOTAL	108,231	115,746	37,562

* DENSITY CONTROLLED EMBANKMENT IS REQUIRED UP TO 8' BENEATH THE PAVEMENT SURFACE. SEE GENERAL NOTES FOR MORE INFORMATION.



TABLES INCLUDE WBFR EARTHWORK ONLY. SEE FENCING AND GRADING PLAN FOR ADDITIONAL EARTHWORK FOR SITE GRADING REQUIRED.

RM 2243 EARTHWORK QUANTITIES

STATION	ITEM 110 6001	ITEM 132 6005
	EXCAVATION (ROADWAY) (CY)	EMBANKMENT (FINAL) (ORD COMP) (TY C) (CY)
475+07.12	0	0
475+50.00	11	0
476+00.00	37	5
476+50.00	65	12
477+00.00	108	20
477+50.00	171	30
478+00.00	193	30
478+50.00	166	30
479+00.00	97	31
479+50.00	76	30
480+00.00	0	0
480+50.00	0	21
481+00.00	0	0
481+50.00	0	15
482+00.00	0	0
482+50.00	11	0
483+00.00	16	0
TOTAL	951	224

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
 TIME: 10:34 PM
 SCALE: 1:1
 FILE: \

2	7/30/19	DRIVEWAY ADDITION	JW
1	4/25/19	REVISED FOR PENINSULA REMOVAL	JW
NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

SOUTHWEST BYPASS SEGMENT 2

SUMMARY OF QUANTITIES

SHEET 2 OF 9

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL		SECTION	01	JOB	034
CHECK	JC						15

SUMMARY OF FENCING AND GRADING

LOCATION	110 6001 EXCAVATION (ROADWAY) CY	132 6005 EMBANKMENT (FINAL) (ORD COMP) (TY C) CY	431 8001 PNEUMATICALLY PLACED CONC (ROCK FACIA) SY	496 6043 REMOV STR (SMALL FENCE) LF	512 6005 PORT CTB (FUR & INST) (F-SHAP E) (TY 1) LF	550 6001 CHAIN LINK FENCE (INSTALL) (6') LF	550 6006 GATE (REMOVE) EA	552 8001 WIRE FENCE LF	552 8002 GALVANIZED TUBE GATE EA	S2 BD BOULDER DELINEATION LF	S2 RC ROCK CUT SF
SOUTHWEST BYPASS: SEGMENT 2											
FENCING AND GRADING PLAN - SHEET 1 OF 6	-	-	2	391	-	-	1	164	-	2	-
FENCING AND GRADING PLAN - SHEET 2 OF 6	26,443	461	-	-	1,440	-	-	3,507	3	1,852	-
FENCING AND GRADING PLAN - SHEET 3 OF 6	12,919	867	-	-	-	-	-	4,237	3	2,860	-
FENCING AND GRADING PLAN - SHEET 4 OF 6	23,845	7,792	31	-	-	116	-	4,025	-	2,699	496
FENCING AND GRADING PLAN - SHEET 5 OF 6	-	-	540	-	-	-	-	2,716	-	699	48,578
FENCING AND GRADING PLAN - SHEET 6 OF 6	201	-	54	558	-	-	1	1,051	-	-	4,900
Total	63,408	9,120	625	949	1,440	116	2	15,700	6	8,110	53,974

SUMMARY OF DRAINAGE QUANTITIES

LOCATION	401 6001 FLOWABLE BACKFILL CY	432 6033 RIPRAP (STONE PROTECTION) (18 IN) CY	464 6005 RC PIPE (CL III) (24 IN) LF	464 6007 RC PIPE (CL III) (30 IN) LF	464 6008 RC PIPE (CL III) (36 IN) LF	464 6018 RC PIPE (CL IV) (24 IN) LF	464 6026 RC PIPE (CL V) (24 IN) LF	466 6005 HEADWALL (CH - FW - 0) (DIA= 24 IN) EA	466 6130 HEADWALL (CH - PW - S) (DIA= 24 IN) EA	467 6001 SET (PIPE RUNNER ASSEMBLY) EA	467 6388 SET (TY II) (24 IN) (RCP) (3: 1) (C) EA	467 6390 SET (TY II) (24 IN) (RCP) (4: 1) (C) EA	467 6394 SET (TY II) (24 IN) (RCP) (6: 1) (C) EA	467 6419 SET (TY II) (30 IN) (RCP) (4: 1) (C) EA	467 6422 SET (TY II) (30 IN) (RCP) (6: 1) (C) EA	467 6448 SET (TY II) (36 IN) (RCP) (3: 1) (C) EA	467 6453 SET (TY II) (36 IN) (RCP) (6: 1) (C) EA	464 6017 RC PIPE (CL IV) (18 IN) LF
SOUTHWEST BYPASS: SEGMENT 2																		
CULVERT NO. 6 LAYOUT - SHEET 1 OF 1	21	53	84	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-
CULVERT NO. 7 LAYOUT - SHEET 1 OF 1	30	35	-	168	-	-	-	-	-	-	-	-	-	2	2	-	-	-
CULVERT NO. 8 LAYOUT - SHEET 1 OF 2	-	30	-	-	-	200	-	-	-	-	-	-	1	-	-	-	-	-
CULVERT NO. 8 LAYOUT - SHEET 2 OF 2	-	-	-	-	-	110	-	1	-	-	-	-	-	-	-	-	-	-
CULVERT NO. 8B LAYOUT - SHEET 1 OF 2	-	25	-	-	-	-	94	-	-	-	-	-	1	-	-	-	-	-
CULVERT NO. 8B LAYOUT - SHEET 2 OF 2	-	-	-	-	-	-	170	-	1	-	-	-	-	-	-	-	-	-
CULVERT NO. 9 LAYOUT - SHEET 1 OF 1	116	41	-	-	360	-	-	-	-	1	-	-	-	-	-	3	3	-
DRIVEWAY PLAN AND PROFILE - SHEET 1 OF 3	-	69	-	-	-	58	107	-	-	-	-	-	-	-	-	-	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 2 OF 3	114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 3 OF 3	-	54	-	-	-	108	-	-	-	-	-	-	-	-	-	-	-	75
Total	281	307	84	168	360	476	264	1	1	1	1	1	2	2	2	3	3	75

SUMMARY OF DRAINAGE QUANTITIES

LOCATION	464 6046 RC PIPE (ARCH) (CL IV) (DES 3) LF	464 6050 RC PIPE (ARCH) (CL V) (DES 1) LF	467 6363 SET (TY II) (18 IN) (RCP) (6: 1) (P) EA	467 6395 SET (TY II) (24 IN) (RCP) (6: 1) (P) EA	467 6519 SET (TY II) (DES 1) (RCP) (6: 1) (P) EA	467 6545 SET (TY II) (DES 3) (RCP) (6: 1) (P) EA
SOUTHWEST BYPASS: SEGMENT 2						
CULVERT NO. 6 LAYOUT - SHEET 1 OF 1	-	-	-	-	-	-
CULVERT NO. 7 LAYOUT - SHEET 1 OF 1	-	-	-	-	-	-
CULVERT NO. 8 LAYOUT - SHEET 1 OF 2	-	-	-	-	-	-
CULVERT NO. 8 LAYOUT - SHEET 2 OF 2	-	-	-	-	-	-
CULVERT NO. 8B LAYOUT - SHEET 1 OF 2	-	-	-	-	-	-
CULVERT NO. 8B LAYOUT - SHEET 2 OF 2	-	-	-	-	-	-
CULVERT NO. 9 LAYOUT - SHEET 1 OF 1	-	-	-	-	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 1 OF 3	49	-	-	24	-	20
DRIVEWAY PLAN AND PROFILE - SHEET 2 OF 3	-	330	-	-	20	-
DRIVEWAY PLAN AND PROFILE - SHEET 3 OF 3	-	-	2	2	-	-
Total	49	330	2	46	20	20

= 2

~~464 6025
RC PIPE
(CL V) (18
IN)
LF
DR 1
DR 2 330
DR 3
Total 330~~

2	7/30/19	DRIVEWAY ADDITION	JW
1	4/25/19	REVISED FOR PENINSULA REMOVAL	JW
NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
810 Hesters Crossing Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
SEGMENT 2**

SUMMARY OF QUANTITIES

SHEET 3 OF 9

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL		SECTION	01	JOB	034
CHECK	JC						

16

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZGONDATE
 TIME: 1:00:36 PM
 SCALE: 1/8"=1'-0"
 FILE: \

SUMMARY OF FENCING AND GRADING

LOCATION	110 6001	132 6005	431 8001	496 6043	512 6005	550 6001	550 6006	552 8001	552 8002	S2 BD	S2 RC
	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL) (ORD COMP) (TY C)	PNEUMATICALLY PLACED CONC (ROCK FACIA)	REMOV STR (SMALL FENCE)	PORT CTB (FUR & INST) (F-SHAP E) (TY 1)	CHAIN LINK FENCE (INSTALL) (6')	GATE (REMOVE)	WIRE FENCE	GALVANIZED TUBE GATE	BOULDER DELINEATION	ROCK CUT
	CY	CY	SY	LF	LF	LF	EA	LF	EA	LF	SF
SOUTHWEST BYPASS: SEGMENT 2											
FENCING AND GRADING PLAN - SHEET 1 OF 6	-	-	2	391	-	-	1	164	-	2	-
FENCING AND GRADING PLAN - SHEET 2 OF 6	26,443	461	-	-	1,440	-	-	3,507	3	1,852	-
FENCING AND GRADING PLAN - SHEET 3 OF 6	12,919	867	-	-	-	-	-	4,237	3	2,860	-
FENCING AND GRADING PLAN - SHEET 4 OF 6	23,845	7,792	31	-	-	116	-	4,025	-	2,699	496
FENCING AND GRADING PLAN - SHEET 5 OF 6	-	-	540	-	-	-	-	2,716	-	699	48,578
FENCING AND GRADING PLAN - SHEET 6 OF 6	201	-	54	558	-	-	1	1,051	-	-	4,900
Total	63,408	9,120	625	949	1,440	116	2	15,700	6	8,110	53,974

SUMMARY OF DRAINAGE QUANTITIES

LOCATION	401 6001	432 6033	464 6005	464 6007	464 6008	464 6018	464 6026	466 6005	466 6130	467 6001	467 6388	467 6390	467 6394	467 6419	467 6422	467 6448	467 6453	464 6017	
	FLOWABLE BACKFILL	RIPRAP (STONE PROTECTION) (18 IN)	RC PIPE (CL III) (24 IN)	RC PIPE (CL III) (30 IN)	RC PIPE (CL III) (36 IN)	RC PIPE (CL IV) (24 IN)	RC PIPE (CL V) (24 IN)	HEADWALL (CH - FW - 0) (DIA= 24 IN)	HEADWALL (CH - PW - S) (DIA= 24 IN)	SET (PIPE RUNNER ASSEMBLY)	SET (TY II) (24 IN) (RCP) (3: 1) (C)	SET (TY II) (24 IN) (RCP) (4: 1) (C)	SET (TY II) (24 IN) (RCP) (6: 1) (C)	SET (TY II) (30 IN) (RCP) (4: 1) (C)	SET (TY II) (30 IN) (RCP) (6: 1) (C)	SET (TY II) (36 IN) (RCP) (3: 1) (C)	SET (TY II) (36 IN) (RCP) (6: 1) (C)	RC PIPE (CL IV) (18 IN)	
	CY	CY	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
SOUTHWEST BYPASS: SEGMENT 2																			
CULVERT NO. 6 LAYOUT - SHEET 1 OF 1	21	53	84	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-
CULVERT NO. 7 LAYOUT - SHEET 1 OF 1	30	35	-	168	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-
CULVERT NO. 8 LAYOUT - SHEET 1 OF 2	-	30	-	-	-	200	-	-	-	-	-	1	-	-	-	-	-	-	-
CULVERT NO. 8 LAYOUT - SHEET 2 OF 2	-	-	-	-	-	110	-	1	-	-	-	-	-	-	-	-	-	-	-
CULVERT NO. 8B LAYOUT - SHEET 1 OF 2	-	25	-	-	-	-	94	-	-	-	-	1	-	-	-	-	-	-	-
CULVERT NO. 8B LAYOUT - SHEET 2 OF 2	-	-	-	-	-	-	170	-	1	-	-	-	-	-	-	-	-	-	-
CULVERT NO. 9 LAYOUT - SHEET 1 OF 1	116	41	-	-	360	-	-	-	-	1	-	-	-	-	-	3	3	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 1 OF 3	-	69	-	-	-	58	-	-	-	-	-	-	-	-	-	-	-	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 2 OF 3	114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 3 OF 3	-	54	-	-	-	108	-	-	-	-	-	-	-	-	-	-	-	-	75
Total	281	307	84	168	360	476	264	1	1	1	1	1	2	2	2	3	3	75	75

SUMMARY OF DRAINAGE QUANTITIES

LOCATION	464 6046	464 6050	467 6363	467 6395	467 6519	467 6545
	RC PIPE (ARCH) (CL IV) (DES 3)	RC PIPE (ARCH) (CL V) (DES 1)	SET (TY II) (18 IN) (RCP) (6: 1) (P)	SET (TY II) (24 IN) (RCP) (6: 1) (P)	SET (TY II) (DES 1) (RCP) (6: 1) (P)	SET (TY II) (DES 3) (RCP) (6: 1) (P)
	LF	LF	EA	EA	EA	EA
SOUTHWEST BYPASS: SEGMENT 2						
CULVERT NO. 6 LAYOUT - SHEET 1 OF 1	-	-	-	-	-	-
CULVERT NO. 7 LAYOUT - SHEET 1 OF 1	-	-	-	-	-	-
CULVERT NO. 8 LAYOUT - SHEET 1 OF 2	-	-	-	-	-	-
CULVERT NO. 8 LAYOUT - SHEET 2 OF 2	-	-	-	-	-	-
CULVERT NO. 8B LAYOUT - SHEET 1 OF 2	-	-	-	-	-	-
CULVERT NO. 8B LAYOUT - SHEET 2 OF 2	-	-	-	-	-	-
CULVERT NO. 9 LAYOUT - SHEET 1 OF 1	-	-	-	-	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 1 OF 3	49	-	-	2	-	2
DRIVEWAY PLAN AND PROFILE - SHEET 2 OF 3	-	330	-	-	2	-
DRIVEWAY PLAN AND PROFILE - SHEET 3 OF 3	-	-	2	2	-	-
Total	49	330	2	4	2	2

2	7/30/19	DRIVEWAY ADDITION	JW
1	4/25/19	REVISED FOR PENINSULA REMOVAL	JW
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY

HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
SEGMENT 2**

SUMMARY OF QUANTITIES

SHEET 3 OF 9

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AND PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	SECTION	JOB			
CHECK	JC	2103	01	034			16

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
 TIME: 10:36 PM
 SCALE: 1:1
 FILE: \

SUMMARY OF SIGN AND PAVEMENT MARKINGS QUANTITIES


LOCATION	644 6001	644 6004	644 6012	644 6030	644 6066	644 6076	644 8001	658 6004	658 6005	658 6014	658 6047	658 6061	666 6006	666 6036	666 6048
	IN SM RD SN SUP&M TY10BWG (1) SA (P)	IN SM RD SN SUP&M TY10BWG (1) SA (T)	IN SM RD SN SUP&M TY10BWG (1) SB (T)	IN SM RD SN SUP&M TYS80 (1) SA (T)	IN SM RD SN SUP&M (RAIL MOUNT)	REMOVE SM RD SN SUP&M	IN SM RD SN SUP&M (WOOD SKID)	INSM DEL ASSM (D-SW) SZ 1 (FLX) SRF	INSM DEL ASSM (D-SW) SZ 1 (FLX) SRF (BI)	INSM DEL ASSM (D-SW) SZ (BR) CTB (BI)	INSM OM ASSM (OM-2Y) (WC) GND	INSM DEL ASSM (D-SW) SZ 1 (BRF) GF2	REFL PAV MRK TY I (W) 4" (DOT) (100MIL)	REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)
	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF
SOUTHWEST BYPASS: SEGMENT 2															
SIGNING AND STRIPING SBFR I-35 - SHEET 1 OF 1	1	7	1	2	-	-	-	25	-	-	-	-	56	230	16
SIGNING AND STRIPING WBFR - SHEET 1 OF 8	3	1	-	-	2	-	-	-	31	29	-	6	-	-	-
SIGNING AND STRIPING WBFR - SHEET 2 OF 8	-	-	-	-	2	-	-	-	-	37	-	6	-	-	-
SIGNING AND STRIPING WBFR - SHEET 3 OF 8	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
SIGNING AND STRIPING WBFR - SHEET 4 OF 8	-	-	-	1	2	-	-	-	-	-	2	-	-	-	-
SIGNING AND STRIPING WBFR - SHEET 5 OF 8	4	2	-	-	-	-	2	-	-	10	-	8	99	205	-
SIGNING AND STRIPING WBFR - SHEET 6 OF 8	-	1	-	-	-	-	-	-	-	-	3	6	91	2,350	399
SIGNING AND STRIPING WBFR - SHEET 7 OF 8	1	2	-	2	-	-	-	-	-	-	-	-	67	-	-
SIGNING AND STRIPING WBFR - SHEET 8 OF 8	4	1	-	1	-	-	-	-	-	-	2	-	-	760	-
SIGNING AND STRIPING RM 2243 - SHEET 2 OF 3	2	4	-	2	-	1	-	4	-	-	-	-	-	868	90
CSJ: 2103-01-034															
SIGNING AND STRIPING RM 2243 - SHEET 1 OF 3	2	1	-	1	-	2	-	-	-	-	-	-	-	473	-
SIGNING AND STRIPING RM 2243 - SHEET 2 OF 3	3	-	-	-	-	5	-	8	-	-	-	-	-	1,247	96
SIGNING AND STRIPING RM 2243 - SHEET 3 OF 3	-	1	-	1	-	2	-	-	-	-	-	-	-	598	-
Total	20	21	1	10	6	10	2	37	31	77	9	26	313	6,731	601

SUMMARY OF SIGN AND PAVEMENT MARKINGS QUANTITIES CONT.

LOCATION	666 6054	666 6078	666 6102	666 6147	666 6168	666 6170	666 6178	666 6184	666 6192	666 6207	666 6214	666 6282	666 6287	666 6303
	REFL PAV MRK TY I (W) (ARROW) (100MIL)	REFL PAV MRK TY I (W) (WORD) (100MIL)	REF PAV MRK TY I (W) 36" (YLD TRI) (100MIL)	REFL PAV MRK TY I (Y) 24" (SLD) (100MIL)	REFL PAV MRK TY II (W) 4" (DOT)	REFL PAV MRK TY II (W) 4" (SLD)	REFL PAV MRK TY II (W) 8" (SLD)	REFL PAV MRK TY II (W) (ARROW)	REFL PAV MRK TY II (W) (WORD)	REFL PAV MRK TY II (Y) 4" (SLD)	REFL PAV MRK TY II (Y) 24" (SLD)	REF PROF PAV MRK TY I (W) 4" (SLD) (06 OMIL)	REF PROF PAV MRK TY I (Y) 4" (SLD) (09 OMIL)	RE PM W/RET REQ TY I (W) 4" (SLD)
	EA	EA	EA	LF	LF	LF	LF	EA	EA	LF	LF	LF	LF	LF
SOUTHWEST BYPASS: SEGMENT 2														
SIGNING AND STRIPING SBFR I-35 - SHEET 1 OF 1	2	2	-	89	56	772	230	1	1	936	89	-	-	1,057
SIGNING AND STRIPING WBFR - SHEET 1 OF 8	1	1	-	-	-	1,218	-	-	-	-	-	1,899	1,900	-
SIGNING AND STRIPING WBFR - SHEET 2 OF 8	-	-	-	-	-	620	-	-	-	-	-	2,401	2,402	-
SIGNING AND STRIPING WBFR - SHEET 3 OF 8	-	-	-	-	-	-	-	-	-	-	-	2,201	2,200	-
SIGNING AND STRIPING WBFR - SHEET 4 OF 8	2	-	-	-	69	1,520	95	2	-	1,520	-	2,200	2,200	-
SIGNING AND STRIPING WBFR - SHEET 5 OF 8	5	4	-	-	-	-	-	-	-	-	-	2,295	2,200	-
SIGNING AND STRIPING WBFR - SHEET 6 OF 8	1	-	-	-	-	-	-	-	-	-	-	2,198	2,200	-
SIGNING AND STRIPING WBFR - SHEET 7 OF 8	-	-	-	68	-	-	-	-	-	-	-	2,104	2,199	96
SIGNING AND STRIPING WBFR - SHEET 8 OF 8	8	8	-	7	-	-	192	-	-	-	-	313	700	435
SIGNING AND STRIPING RM 2243 - SHEET 2 OF 3	6	6	10	-	-	-	-	-	-	-	-	-	300	642
CSJ: 2103-01-034														
SIGNING AND STRIPING RM 2243 - SHEET 1 OF 3	3	3	-	-	-	-	-	-	-	-	-	-	-	959
SIGNING AND STRIPING RM 2243 - SHEET 2 OF 3	4	4	10	-	-	-	-	-	-	-	-	-	-	655
SIGNING AND STRIPING RM 2243 - SHEET 3 OF 3	4	4	-	-	-	-	-	-	-	-	-	-	-	905
Total	36	32	20	164	125	4,130	517	3	1	2,456	89	15,611	16,301	4,749

SUMMARY OF SIGN AND PAVEMENT MARKINGS QUANTITIES CONT.

LOCATION	666 6315	672 6007	672 6009	672 6010	685 6004
	RE PM W/RET REQ TY I (Y) 4" (SLD) (100MIL)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R	INSM RSD FLSH BCN ASSM (SOLAR PWRD)
	LF	EA	EA	EA	EA
SOUTHWEST BYPASS: SEGMENT 2					
SIGNING AND STRIPING SBFR I-35 - SHEET 1 OF 1	1,182	-	48	7	-
SIGNING AND STRIPING WBFR - SHEET 1 OF 8	-	-	94	-	-
SIGNING AND STRIPING WBFR - SHEET 2 OF 8	-	-	30	-	-
SIGNING AND STRIPING WBFR - SHEET 3 OF 8	-	-	28	-	-
SIGNING AND STRIPING WBFR - SHEET 4 OF 8	-	11	28	-	-
SIGNING AND STRIPING WBFR - SHEET 5 OF 8	136	222	28	-	-
SIGNING AND STRIPING WBFR - SHEET 6 OF 8	-	-	28	-	-
SIGNING AND STRIPING WBFR - SHEET 7 OF 8	539	-	48	-	-
SIGNING AND STRIPING WBFR - SHEET 8 OF 8	172	14	60	24	-
SIGNING AND STRIPING RM 2243 - SHEET 2 OF 3	244	205	28	13	2
CSJ: 2103-01-034					
SIGNING AND STRIPING RM 2243 - SHEET 1 OF 3	1,276	7	62	16	1
SIGNING AND STRIPING RM 2243 - SHEET 2 OF 3	817	323	40	20	-
SIGNING AND STRIPING RM 2243 - SHEET 3 OF 3	1,227	15	60	15	1
Total	5,593	797	582	95	4

1	7/30/19	DRIVEWAY ADDITION	JDC
NO.	DATE	REVISION	APPROVED
			
HDR Engineering, Inc. 810 Hesters Crossing, Suite 120 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754			
SOUTHWEST BYPASS SEGMENT 2			
SUMMARY OF QUANTITIES			
SHEET 7 OF 9			
DESIGN LG	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS LG	6		
CHECK JC	STATE	DISTRICT	COUNTY
CHECK JW	TEXAS	AUS	WILLIAMSON
	CONTROL	SECTION	JOB
	2103	01	034
			20

NOTES:

- QUANTITIES WITHIN TXDOT ROW (CSJ:2103-01-034) ARE SEPARATED FOR ADMINISTRATIVE PURPOSES, EVEN THOUGH THEY MAY BE CALLED OUT ON THE SAME SHEET.

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGWZCOMDATE: 7/30/2019
 TIME: 10:38 PM
 SCALE: 1:20
 FILE: \

SUMMARY OF EROSION CONTROL QUANTITIES

LOCATION	160 6005	161 6017	164 6009	164 6011	164 6023	166 6002 *	168 6001	169 6001	432 8001	432 8002	506 6002	506 6011	506 6020	506 6024	506 6038	506 6039	506 8002	432 6033
	FURNISHING AND PLACING TOPSOIL	COMPOST MANUF TOPSOIL (4")	BROADCAST SEED (TEMP) (WARM)	BROADCAST SEED (TEMP) (COOL)	CELL FBR MLCH SEED (PERM) (RURAL) (CLAY)	FERTILIZER	VEGETATIVE WATERING	SOIL RETENTION BLANKETS (CL 1) (TY A)	RIPRAP (STONE PROTECTION) (8 IN) (TY I)	RIPRAP (STONE PROTECTION) (8 IN) (TY II)	ROCK FILTER DAMS (INSTALL) (TY 2)	ROCK FILTER DAMS (REMOVE)	CONSTRUCTION EXITS (INSTALL) (TY 1)	CONSTRUCTION EXITS (REMOVE)	TEMP SEDMT CONT FENCE (INSTALL)	TEMP SEDMT CONT FENCE (REMOVE)	REMOVE ROCK	RIPRAP (STONE PROTECTION) (18 IN)
	CY	SY	SY	SY	SY	TON	MG	SY	CY	CY	LF	LF	SY	SY	LF	LF	SY	CY
SOUTHWEST BYPASS: SEGMENT 2																		
TEMPORARY EROSION CONTROL PLAN - SHEET 1 OF 8	-	-	-	-	-	-	-	-	-	-	-	26	-	-	963	2,335	-	-
TEMPORARY EROSION CONTROL PLAN - SHEET 2 OF 8	-	-	-	-	-	-	-	-	-	-	161	-	-	-	381	1,803	-	-
TEMPORARY EROSION CONTROL PLAN - SHEET 3 OF 8	-	-	-	-	-	-	-	-	-	-	30	30	80	80	1,781	2,229	1,814	-
TEMPORARY EROSION CONTROL PLAN - SHEET 4 OF 8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	454	454	-	-
TEMPORARY EROSION CONTROL PLAN - SHEET 5 OF 8	-	-	-	-	-	-	-	-	-	-	15	15	-	-	-	-	-	-
TEMPORARY EROSION CONTROL PLAN - SHEET 6 OF 8	-	-	-	-	-	-	-	-	-	-	60	60	-	-	-	-	-	-
TEMPORARY EROSION CONTROL PLAN - SHEET 7 OF 8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	875	875	3,299	-
TEMPORARY EROSION CONTROL PLAN - SHEET 8 OF 8	-	-	-	-	-	-	-	-	-	-	65	65	80	80	699	699	2,270	-
CSJ: 2103-01-034																		
TEMPORARY EROSION CONTROL PLAN - SHEET 8 OF 8	-	-	-	-	-	-	-	-	-	-	30	30	-	-	144	144	-	-
SOUTHWEST BYPASS: SEGMENT 2																		
PERMANENT EROSION CONTROL PLAN - SHEET 1 OF 8	-	3,466	1,733	1,733	3,466	0.13	572	-	-	-	-	-	-	-	-	-	-	-
PERMANENT EROSION CONTROL PLAN - SHEET 2 OF 8	-	60	30	30	60	-	10	-	-	-	-	-	-	-	-	-	-	-
PERMANENT EROSION CONTROL PLAN - SHEET 3 OF 8	482	8,851	4,426	4,426	8,851	0.34	1,461	5,455	-	-	-	-	-	-	-	-	-	-
PERMANENT EROSION CONTROL PLAN - SHEET 4 OF 8	1,510	8,698	4,349	4,349	8,698	0.34	1,435	1,782	14	688	-	-	-	-	-	-	-	-
PERMANENT EROSION CONTROL PLAN - SHEET 5 OF 8	-	-	-	-	-	-	-	-	371	2,417	-	-	-	-	-	-	-	-
PERMANENT EROSION CONTROL PLAN - SHEET 6 OF 8	-	-	-	-	-	-	-	-	443	5,695	-	-	-	-	-	-	-	78
PERMANENT EROSION CONTROL PLAN - SHEET 7 OF 8	2,043	14,029	7,015	7,015	14,029	0.54	2,315	4,949	4	146	-	-	-	-	-	-	-	-
PERMANENT EROSION CONTROL PLAN - SHEET 8 OF 8	327	6,214	3,107	3,107	6,214	0.24	1,026	4,241	-	79	-	-	-	-	-	-	-	-
CSJ: 2103-01-034																		
PERMANENT EROSION CONTROL PLAN - SHEET 8 OF 8	-	625	313	313	625	0.02	103	429	-	-	-	-	-	-	-	-	-	-
Total	4,362	41,943	20,973	20,973	41,943	1.61	6,922	16,856	832	9,025	200	387	160	160	5,297	8,539	7,383	78

* FOR CONTRACTOR'S INFORMATION ONLY

NOTES:
 1. QUANTITIES WITHIN TXDOT ROW (CSJ:2103-01-034) ARE SEPARATED FOR ADMINISTRATIVE PURPOSES, EVEN THOUGH THEY MAY BE CALLED OUT ON THE SAME SHEET.

2	7/30/19	DRIVEWAY ADDITION	JDC
1	4/25/19	REVISED FOR PENINSULA REMOVAL	JDC
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY
HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2
 SUMMARY OF QUANTITIES**

SHEET 8 OF 9

DESIGN LG	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS LG	6			
CHECK JC	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK JW	TEXAS	AUS	WILLIAMSON	21
	CONTROL	SECTION	JOB	
	2103	01	034	

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ
 PENTABLE: S2-0000201070718.tbl
 TIME: 10:41 PM
 SCALE: 1:20
 FILE: \

SUMMARY OF SMALL SIGNS

DISCLAIMER: The use of this standard is governed 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.

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)	
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		TY = TYPE
218	1	D3-2	SW BYPASS NEXT RIGHT	78 x 36	X		S80	1	SA	T		
	2	R3-7R	RIGHT LANE MUST TURN RIGHT	36 x 36	X		10BWG	1	SA	P		
	3	W4-1R	MERGEING TRAFFIC	48 x 48	X		10BWG	1	SA	T		
	4	5-1a	WRONG WAY	42 x 30	X		10BWG	1	SA	T		
	5	R5-1	DO NOT ENTER	36 x 36	X		10BWG	1	SA	T		
	6	W1-6R	RIGHT ARROW	48 x 24	X		10BWG	1	SA	T		
	7	R6-1R	ONE WAY	54 x 18	X		10BWG	1	SA	T		
	8	5-1a	WRONG WAY	42 x 30	X		10BWG	1	SA	T		
	9	W1-2R	CURVE ADVISORY SPEED 35	48 x 48	X		10BWG	1	SA	T		
	10	R3-5R R5-1	RIGHT TURN ONLY DO NOT ENTER	30 x 36 36 x 36	X		S80	1	SA	T		
	11	R1-1	STOP	48 x 48	X		10BWG	1	SB	T		
219	1	M3-3B M1-1B M6-1B	SOUTH INTERSTATE 35 RIGHT ARROW	24 x 12 24 x 24 21 x 15	X		10BWG	1	SA	P		
	2	R3-5R	RIGHT TURN ONLY	30 x 36	X		10BWG	1	SA	P		
	3	W3-1	STOP AHEAD	48 x 48	X			1	RM	TYPE 3		
	4	M2-1B M3-3B M1-1B	JCT SOUTH INTERSTATE 35	21 x 15 12 x 24 24 x 24	X			1	RM	TYPE 1		
	5	W8-13aT	BRIDGE MAY ICE IN COLD WEATHER	48 x 48	X		10BWG	1	SA	T		
	6	R2-1	SPEED LIMIT 50	30 x 36	X		10BWG	1	SA	P		
220	1	W1-2L	CURVE ADVISORY SPEED 40	48 x 48	X			1	RM	TYPE 1		
	2	W8-13aT	BRIDGE MAY ICE IN COLD WEATHER	48 x 48	X			1	RM	TYPE 1		
222	1	W8-13aT	BRIDGE MAY ICE IN COLD WEATHER	48 x 48	X		10BWG	1	SA	T		
	2	R16-4 (MOD)	ACTIVE QUARRY ZONE / CELL PHONE USE PROHIBITED	72 x 42	X		S80	1	SA	T		
	3	R8-3a	NO PARKING	48 x 48	X			1	RM	TYPE 3		
	4	W9-2TL	LANE ENDS MERGE LEFT	48 x 48	X			1	RM	TYPE 1		
223	1	W8-13aT	BRIDGE MAY ICE IN COLD WEATHER	48 x 48	X		10BWG	1	SA	T		
	2	R3-5R	RIGHT TURN ONLY	30 x 36	X		10BWG	1	SA	P		
	3	R3-7R	RIGHT LANE MUST TURN RIGHT	36 x 36	X		10BWG	1	SA	P		
	4	R3-7R	RIGHT LANE MUST TURN RIGHT	36 x 36	X		10BWG	1	SA	P		
	5	R3-5R	RIGHT TURN ONLY	30 x 36	X		10BWG	1	SA	P		
	6	W9-2TL	LANE ENDS MERGE LEFT	48 x 48	X		10BWG	1	SA	T		
	7	CW20-5TR	RIGHT LANE CLOSED	36 x 36	X			1	WOOD SKID			
	8	CW20-5TR	RIGHT LANE CLOSED	36 x 36	X			1	WOOD SKID			
224	1	R8-3a	NO PARKING	48 x 48	X		10BWG	1	SA	T		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.
<http://www.txdot.gov/>

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 - For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).



07/30/2019

1	7/30/19	DRIVEWAY ADDITION	JDC
NO.	DATE	REVISION	APPROVED



SUMMARY OF SMALL SIGNS

SOSS SHEET 1 OF 2

FILE: sum16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	2103	01	034	
4-16	DIST	COUNTY	SHEET NO.	
8-16	AUS	WILLIAMSON	23	

DATE: 7/30/2019 12:20:02 PM
 FILE: c:\pwworking\da\0910664\sums01.dgn

SUMMARY OF SMALL SIGNS

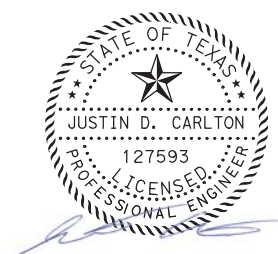
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)	
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		TY = TYPE
225	1	R16-4 (MOD)	ACTIVE QUARRY ZONE / CELL PHONE USE PROHIBITED	72 x 42	X		S80	1	SA	T		
	2	M2-1 M1-6R	JCT TEXAS RANCH ROAD	21 x 15 24 x 24	X		10BWG	1	SA	P		
	3	W3-1	STOP AHEAD	48 x 48	X		10BWG	1	SA	T		
	4	D3-2	LEANDER RD NEXT INTERSECTION	102 x 36	X		S80	1	SA	T		
	5	R3-8b	ADVANCE INTERSECTION LANE CONTROL	48 x 30	X		10BWG	1	SA	T		
226	1	R2-1	SPEET LIMIT 50	30 x 36	X		10BWG	1	SA	P		
	2	R3-7R	RIGHT LANE MUST TURN RIGHT	36 x 36	X		10BWG	1	SA	P		
	3	D3-2	LEANDER RD NEXT INTERSECTION	102 x 36	X		S80	1	SA	T		
	4	R3-8b	ADVANCE INTERSECTION LANE CONTROL	48 x 30	X		10BWG	1	SA	T		
	5	R3-7R	RIGHT LANE MUST TURN RIGHT	36 x 36	X		10BWG	1	SA	P		
	6	R2-1	SPEET LIMIT 50	30 x 36	X		10BWG	1	SA	P		
227	1	W2-1	INTERSECTION WARNING	48 x 48	X		10BWG	1	SA	T	SPRFBA(1)-13	
	2	D3-2	SW BYPASS NEXT INTERSECTION	102 x 36	X		S80	1	SA	T		
	3	R2-1	SPEET LIMIT 55	24 x 30	X		10BWG	1	SA	P		
	4	R3-7R	RIGHT LANE MUST TURN RIGHT	36 x 36	X		10BWG	1	SA	P		
228	1	R1-2	YIELD	48 x 48 x 48	X		10BWG	1	SA	T		
	2	R1-1 W4-4	STOP CROSS TRAFFIC DOES NOT STOP	48 x 48 36 x 18	X		S80	1	SA	T	SPRFBA(1)-13	
	3	R3-5R	RIGHT TURN ONLY	30 x 36	X		10BWG	1	SA	P		
	4	R1-2	YIELD	48 x 48 x 48	X		10BWG	1	SA	T		
	5	M1-6R M6-4	TEXAS RANCH ROAD DIRECTIONAL ARROW	24 x 24 21 x 15	X		10BWG	1	SA	P		
	6	R3-5R	RIGHT TURN ONLY	30 x 36	X		10BWG	1	SA	P		
	7	R3-5R	RIGHT TURN ONLY	30 x 36	X		10BWG	1	SA	P		
	8	R1-2	YIELD	48 x 48 x 48	X		10BWG	1	SA	T		
	9	R1-2	YIELD	48 x 48 x 48	X		10BWG	1	SA	T		
	10	R1-1 W4-4	STOP CROSSING TRAFFIC DOES NOT STOP	48 x 48 36 x 18	X		S80	1	SA	T	SPRFBA(1)-13	
	11	R3-5R	RIGHT TURN ONLY	30 x 36	X		10BWG	1	SA	P		
229	1	D3-2	SW BYPASS NEXT INTERSECTION	102 x 36	X		S80	1	SA	T		
	2	W2-1	INTERSECTION WARNING	48 x 48	X		10BWG	1	SA	T	SPRFBA(1)-13	

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
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07/30/2019

1	7/30/19	DRIVEWAY ADDITION	JDC
NO.	DATE	REVISION	APPROVED



SUMMARY OF SMALL SIGNS

SOSS SHEET 2 OF 2

FILE: sum16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	2103	01	034	
4-16	DIST	COUNTY	SHEET NO.	
8-16	AUS	WILLIAMSON	24	

DATE: 7/30/2019 12:20:04 PM
 FILE: c:\pwworking\da\0910664\sums02.dgn

RM 2243 "C RM 2243"

	STATION	NORTHING	EASTING
9 Element: Circular			
POB ()	472+30.64	10195918.838	3120958.604
PI ()	474+25.67	10196023.288	3121123.312
CC ()		10186240.810	3127095.979
PT ()	476+20.67	10196122.074	3121291.479
Radius:	11460.00		
Design Speed(mph):	55.00		
Superelevation:	6.000%		
Delta:	1°57'00"	Right	
Degree of Curvature(Arc):	0°30'00"		
Length:	390.03		
Tangent:	195.04		
Chord:	390.01		
Middle Ordinate:	1.66		
External:	1.66		
Tangent Direction:	N 57°37'08" E		
Radial Direction:	N 32°22'52" W		
Chord Direction:	N 58°35'38" E		
Radial Direction:	N 30°25'52" W		
Tangent Direction:	N 59°34'08" E		
Element: Linear			
PT ()	476+20.67	10196122.074	3121291.479
POE ()	503+38.95	10197498.885	3123635.288
Tangent Direction:	N 59°34'08" E		
Tangent Length:	2718.28		

RAMP "B RAMPNB2"

	STATION	NORTHING	EASTING
Element: Linear			
POB ()	10+00.00	10196320.392	3121693.514
PC ()	10+99.93	10196406.516	3121642.827
Tangent Direction:	N 30°28'43" W		
Tangent Length:	99.93		
10 Element: Circular			
PC ()	10+99.93	10196406.516	3121642.827
PI ()	12+54.89	10196540.063	3121564.229
CC ()		10195138.479	3119488.278
PT ()	14+09.46	10196662.882	3121469.740
Radius:	2500.00		
Design Speed(mph):	50.00		
Superelevation:	3.800%		
Delta:	7°05'38"	Left	
Degree of Curvature(Arc):	2°17'31"		
Length:	309.52		
Tangent:	154.96		
Chord:	309.33		
Middle Ordinate:	4.79		
External:	4.80		
Tangent Direction:	N 30°28'43" W		
Radial Direction:	N 59°31'17" E		
Chord Direction:	N 34°01'31" W		
Radial Direction:	N 52°25'40" E		
Tangent Direction:	N 37°34'20" W		
Element: Linear			
PT ()	14+09.46	10196662.882	3121469.740
PC ()	20+49.75	10197170.370	3121079.314
Tangent Direction:	N 37°34'20" W		
Tangent Length:	640.29		

SBFR I-35 "C SBFR"

	STATION	NORTHING	EASTING
Element: Linear			
POB ()	900+00.00	10196124.67	3129679.95
PC ()	901+68.10	10196022.82	3129546.22
Tangent Direction:	S 52°42'24" W		
Tangent Length:	168.10		
11 Element: Circular			
PC ()	901+68.10	10196022.82	3129546.22
PI ()	905+90.59	10195766.83	3129210.11
CC ()		10195492.19	3129950.35
PT ()	909+21.32	10195353.56	3129297.92
Radius:	667.00		
Delta:	64°42'08"	Left	
Degree of Curvature(Arc):	8°35'24"		
Length:	753.22		
Tangent:	422.49		
Chord:	713.83		
Middle Ordinate:	103.53		
External:	122.55		
Tangent Direction:	S 52°42'24" W		
Radial Direction:	N 37°17'36" W		
Chord Direction:	S 20°21'20" W		
Radial Direction:	S 78°00'16" W		
Tangent Direction:	S 11°59'44" E		
Element: Linear			
PT ()	909+21.32	10195353.56	3129297.92
PC ()	910+00.56	10195276.06	3129314.39
Tangent Direction:	S 11°59'44" E		
Tangent Length:	79.24		
12 Element: Circular			
PC ()	910+00.56	10195276.06	3129314.39
PI ()	913+66.08	10194918.52	3129390.35
CC ()		10194878.67	3127444.11
PT ()	917+22.88	10194558.17	3129329.08
Radius:	1912.02		
Delta:	21°38'42"	Right	
Degree of Curvature(Arc):	2°59'48"		
Length:	722.32		
Tangent:	365.52		
Chord:	718.03		
Middle Ordinate:	34.01		
External:	34.62		
Tangent Direction:	S 11°59'44" E		
Radial Direction:	S 78°00'16" W		
Chord Direction:	S 1°10'23" E		
Radial Direction:	N 80°21'01" W		
Tangent Direction:	S 9°38'59" W		

SOUTHWEST BYPASS WBFR "WBFR_I_SPUR"

	STATION	NORTHING	EASTING
5 Element: Linear			
POB ()	367+25.00	10195772.351	3129264.678
PC ()	371+04.92	10195502.013	3128997.739
Tangent Direction:	N 44°38'15" E		
Tangent Length:	379.92		
Element: Circular			
PC ()	371+04.92	10195502.013	3128997.739
PI ()	374+73.77	10195239.551	3128738.576
CC ()		10196340.238	3128148.840
PT ()	378+20.38	10195169.162	3128376.503
Radius:	1193.00		
Design Speed(mph):	50.00		
Superelevation:	5.600%		
Delta:	34°21'40"	Right	
Degree of Curvature(Arc):	4°48'10"		
Length:	715.46		
Tangent:	368.85		
Chord:	704.79		
Middle Ordinate:	53.23		
External:	55.72		
Tangent Direction:	N 44°38'15" E		
Radial Direction:	N 45°21'45" W		
Chord Direction:	N 61°49'05" E		
Radial Direction:	N 11°00'05" W		
Tangent Direction:	N 78°59'55" E		
Element: Linear			
PT ()	378+20.38	10195169.162	3128376.503
POE ()	387+03.24	10195000.684	3127509.869
Tangent Direction:	N 78°59'55" E		
Tangent Length:	882.86		

DRIVEWAY 01 "C DRW01"

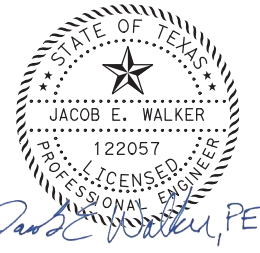
	STATION	NORTHING	EASTING
Element: Linear			
POB ()	6+30.00	10194480.628	3126556.902
POE ()	11+00.00	10194948.389	3126511.084
Tangent Direction:	N 5°35'39.63" W		
Tangent Length:	470.00		

DRIVEWAY 02 "C DRW02"

	STATION	NORTHING	EASTING
Element: Linear			
POB ()	1+00.00	10193838.034	3124461.632
POE ()	16+00.00	10195338.028	3124457.318
Tangent Direction:	N 0°09'53.19" W		
Tangent Length:	1500.00		

DRIVEWAY 03 "C DRW03"

	STATION	NORTHING	EASTING
Element: Linear			
POB ()	0+00.00	10195339.048	3121132.577
POE ()	17+00.00	10196339.155	3122507.272
Tangent Direction:	N 53°57'49.19" E		
Tangent Length:	1700.00		



Jacob E. Walker, PE

07/31/2019

NO.	DATE	REVISION	APPROVED
1	7/30/19	DRIVEWAY ADDITION	JW



HR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754




**SOUTHWEST BYPASS
SEGMENT 2**

ALIGNMENT DATA

SHEET 2 OF 2

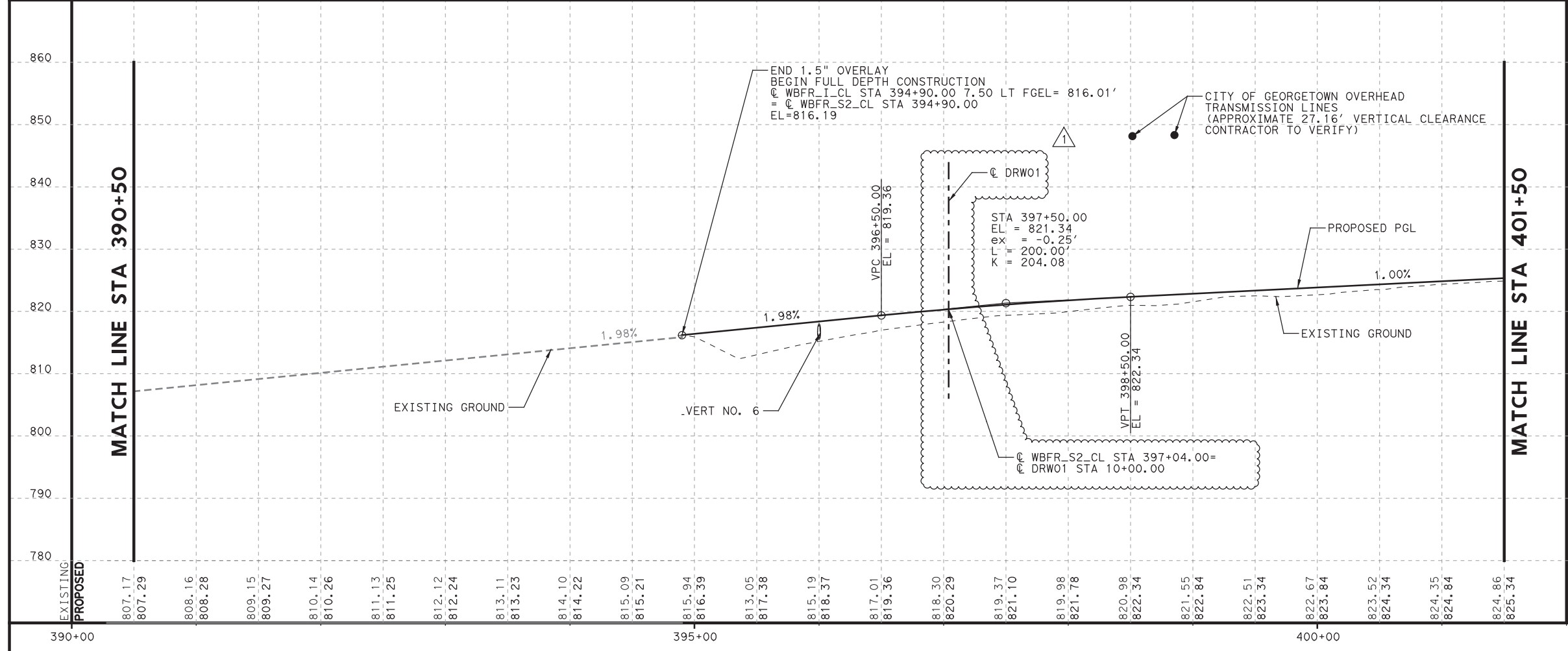
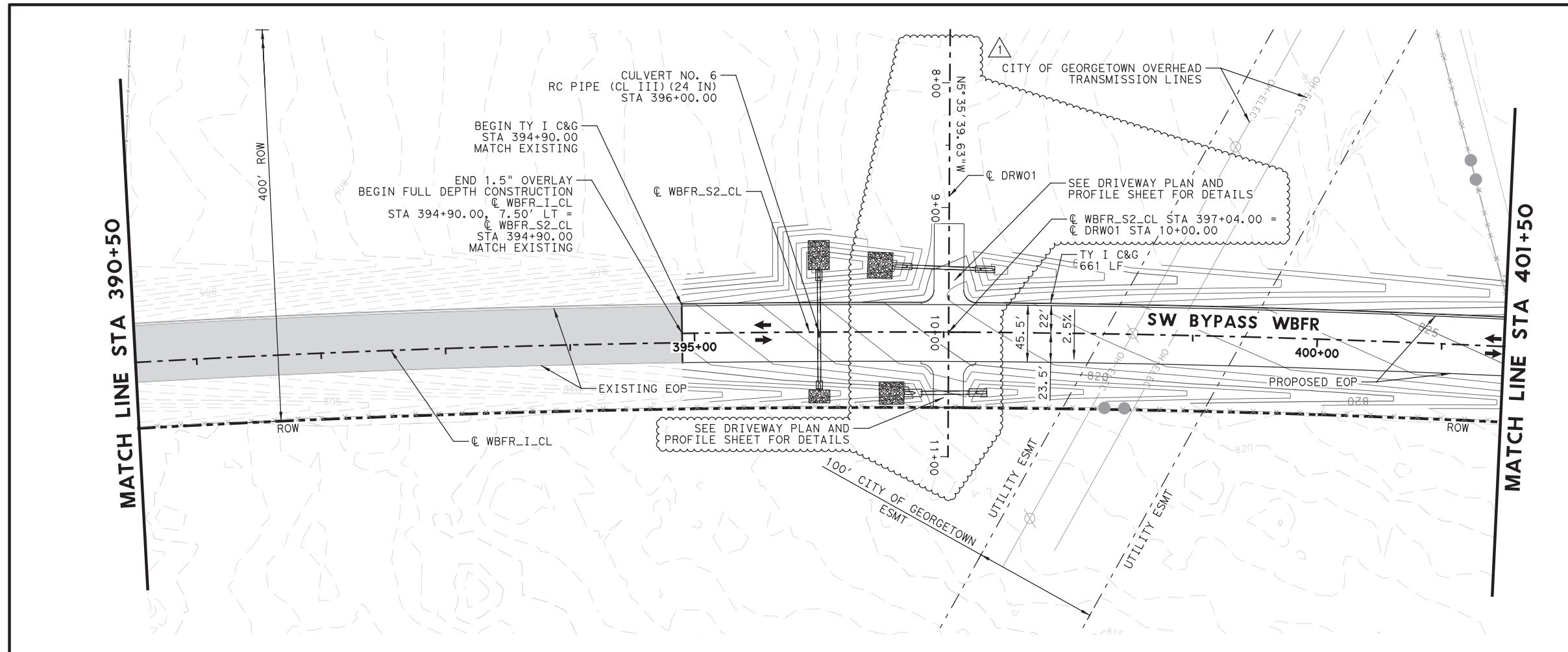
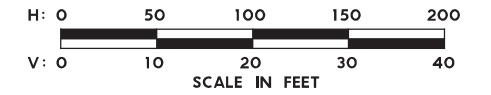
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JC	6			
GRAPHICS		STATE	DISTRICT	COUNTY
LG		TEXAS	AUS	WILLIAMSON
CHECK		CONTROL	SECTION	JOB
JW				
JC	2103	01	034	50

LEGEND

-  OVERLAY
-  PAVEMENT WIDENING
-  MILL AND OVERLAY



- NOTES:**
1. ALL STATION AND OFFSET ARE FROM "WBFR_S2_CL" UNLESS OTHERWISE INDICATED.
 2. ALL DIMENSIONS ARE FROM LIP OF GUTTER OR EDGE OF PAVEMENT UNLESS OTHERWISE INDICATED.
 3. SEE "INTERSECTION DETAILS" SHEETS FOR INTERSECTION AND MEDIAN INFORMATION NOT SHOWN.



Jacob E. Walker, PE
07/31/2019

1	7/30/19	DRIVEWAY ADDITION	JW
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY
HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
SEGMENT 2**

**PLAN AND PROFILE
WBFR
390+50 TO STA 401+50**

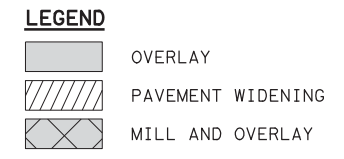
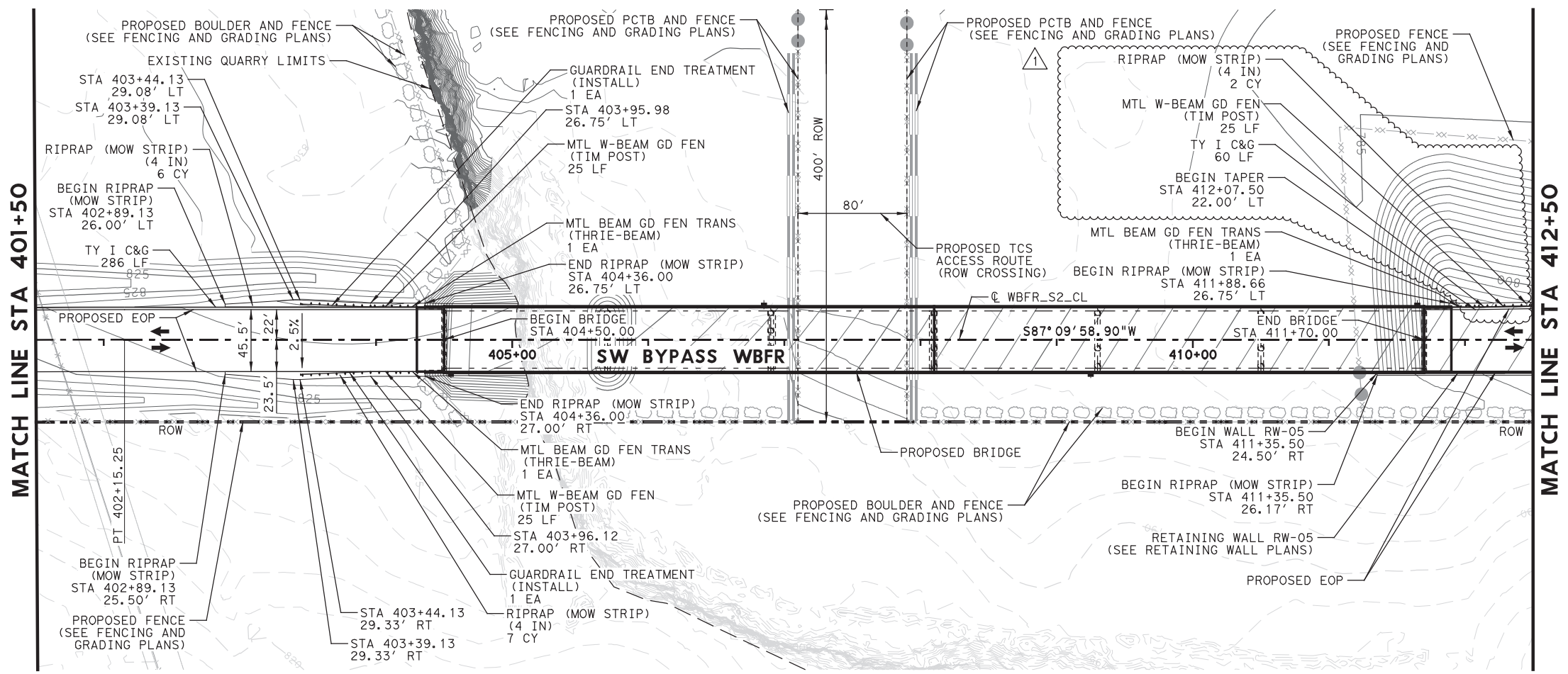
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SHEET 3 OF 8

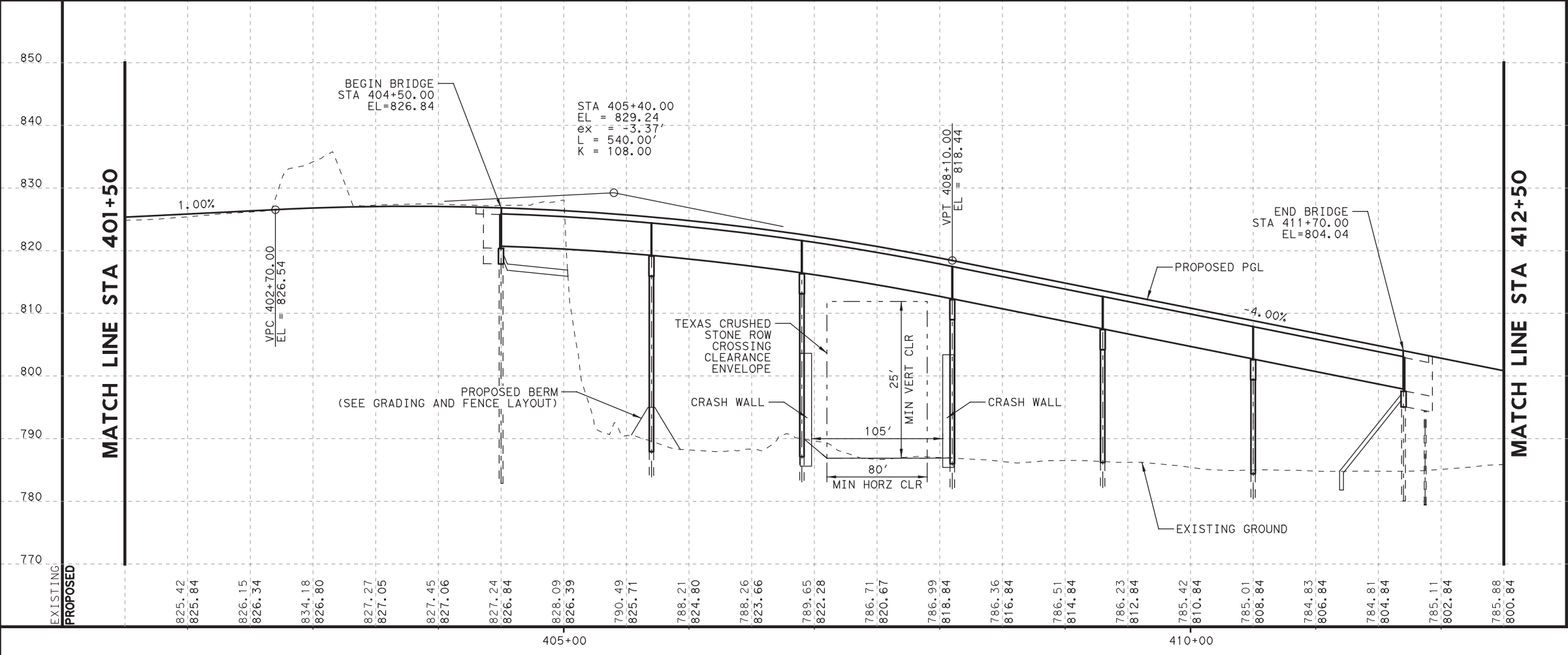
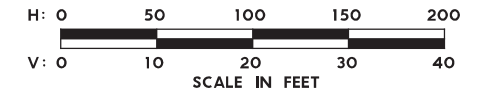
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CHECK	JW	CONTROL		SECTION	01	JOB	034
CHECK	JC						54

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TIME: 12:20:10 PM
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NO.	DATE	REVISION	APPROVED
1	7/30/19	DRIVEWAY ADDITION	JW

**SOUTHWEST BYPASS
 SEGMENT 2**

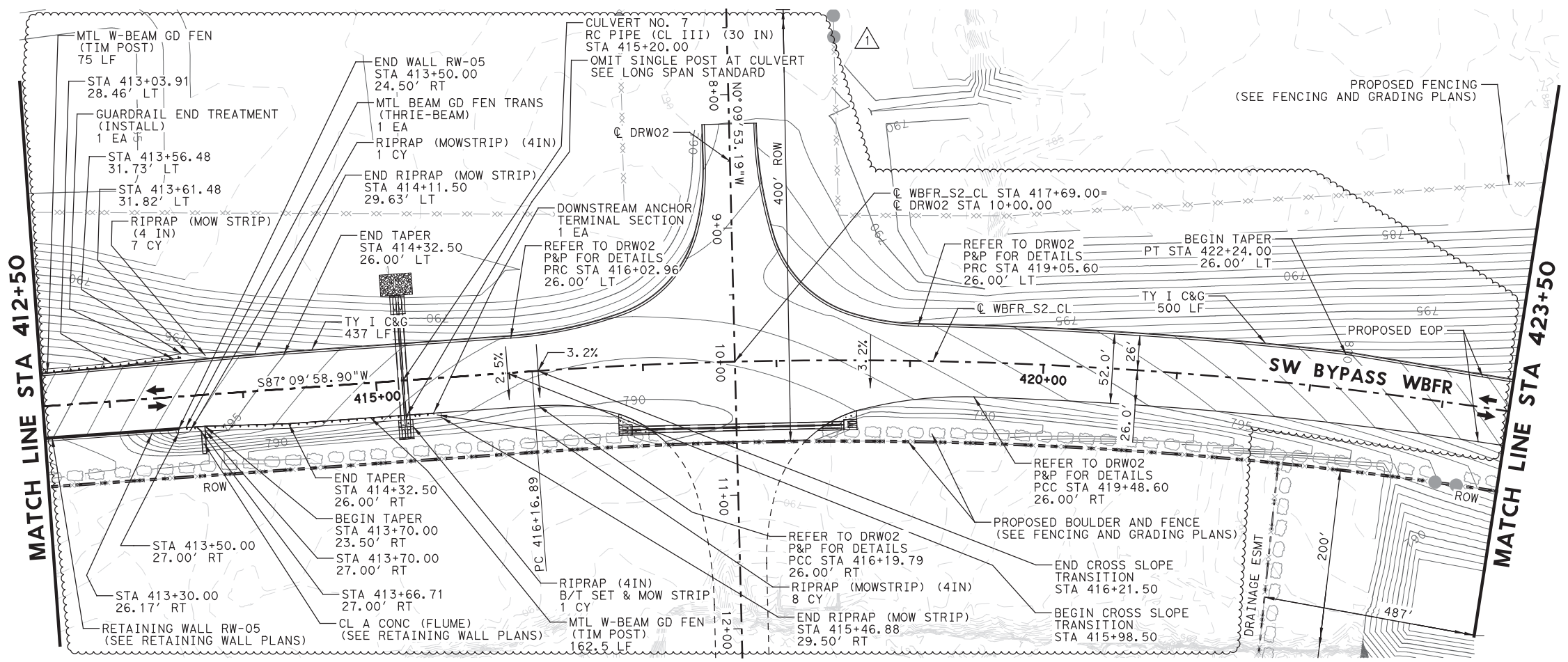
**PLAN AND PROFILE
 WBFR**

STA 401+50 TO STA 412+50

SCALE: 1"=100'-H
 1"=20'-V

SHEET 4 OF 8

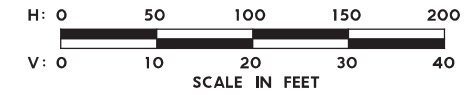
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CHECK	JW	CONTROL		SECTION	01	JOB	034
CHECK	JC						55



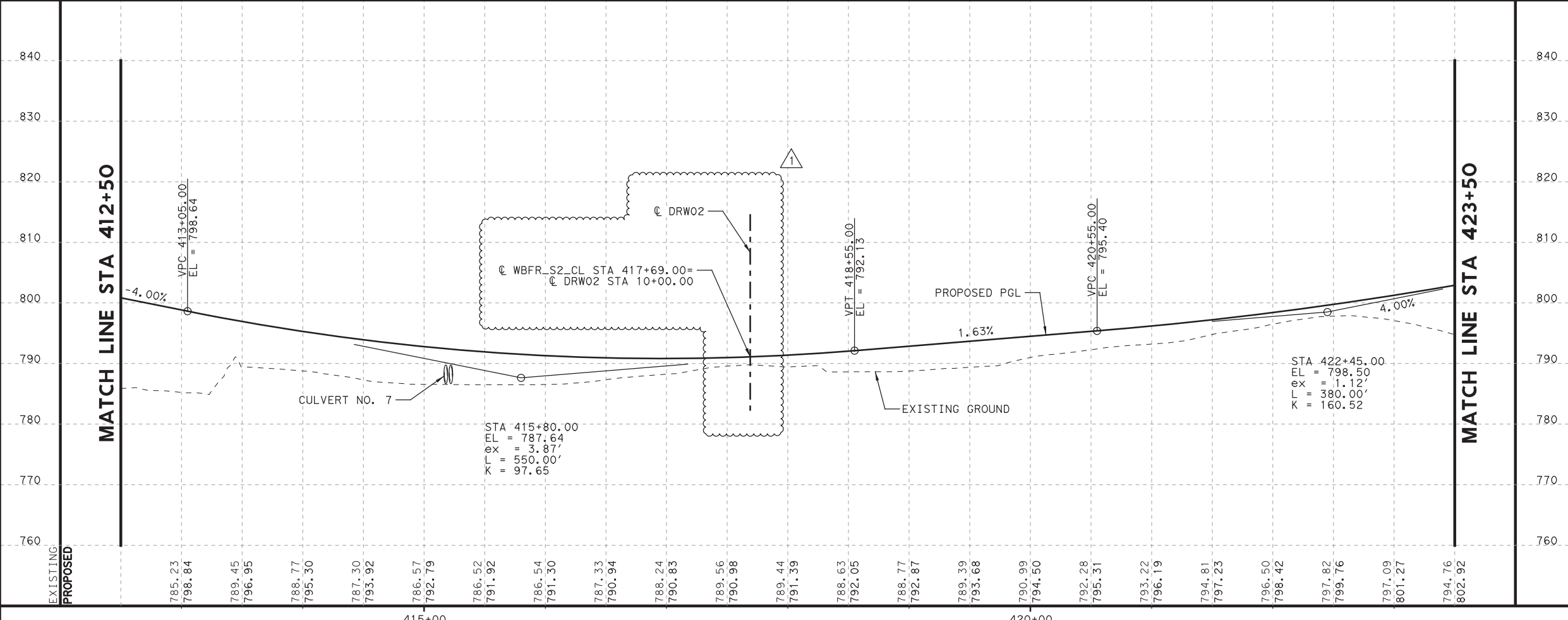
LEGEND

- OVERLAY
- PAVEMENT WIDENING
- MILL AND OVERLAY

- NOTES:**
1. ALL STATION AND OFFSET ARE FROM "WBFR_S2_CL" UNLESS OTHERWISE INDICATED.
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 3. SEE "INTERSECTION DETAILS" SHEETS FOR INTERSECTION AND MEDIAN INFORMATION NOT SHOWN.



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 USER: LGOMEZ
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 TIME: 12:20:18 PM
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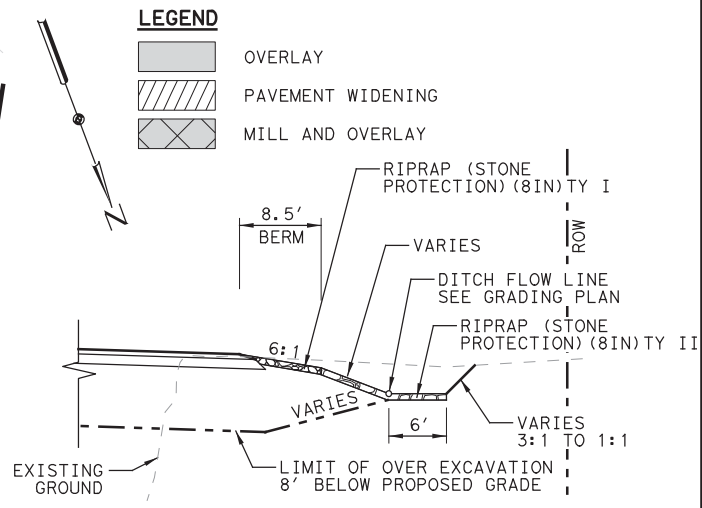
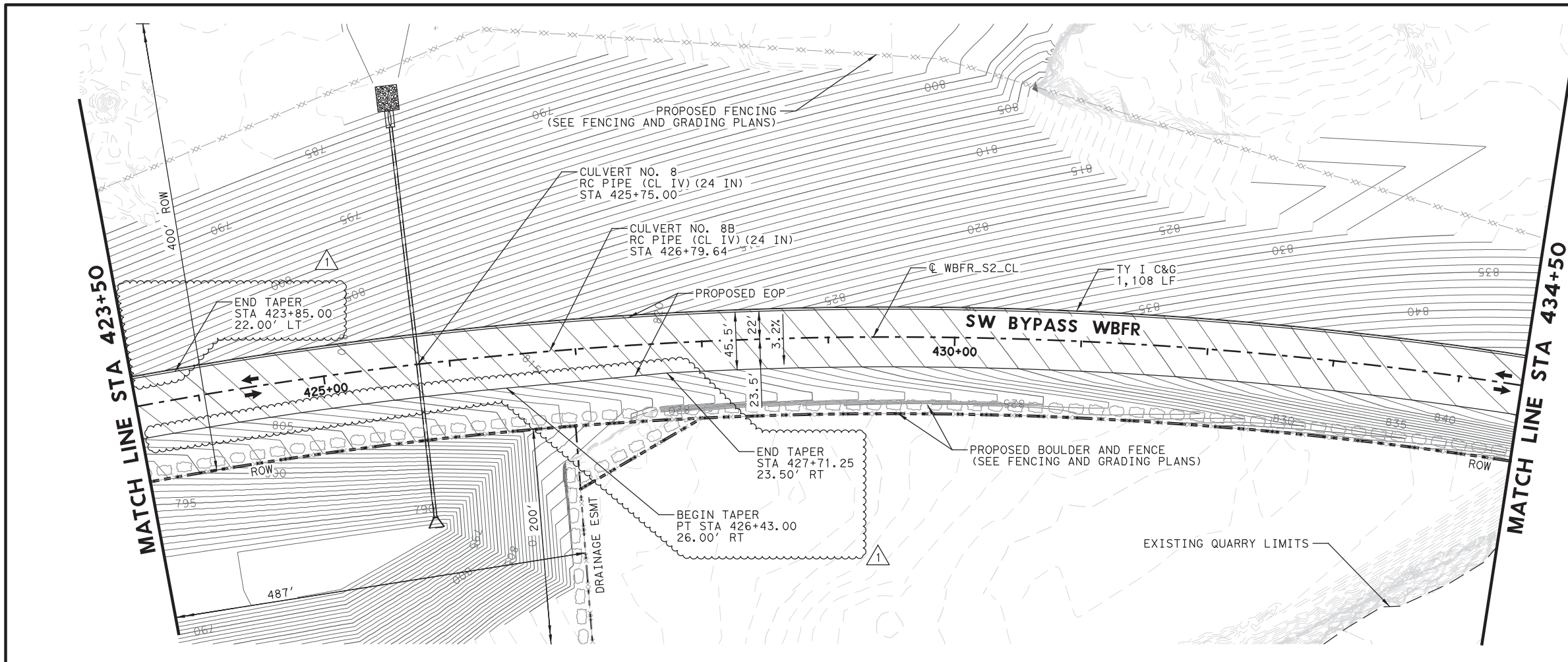
Jacob E. Walker, PE
07/31/2019

NO.	DATE	REVISION	APPROVED
1	7/30/19	DRIVEWAY ADDITION	JW

WILLIAMSON COUNTY

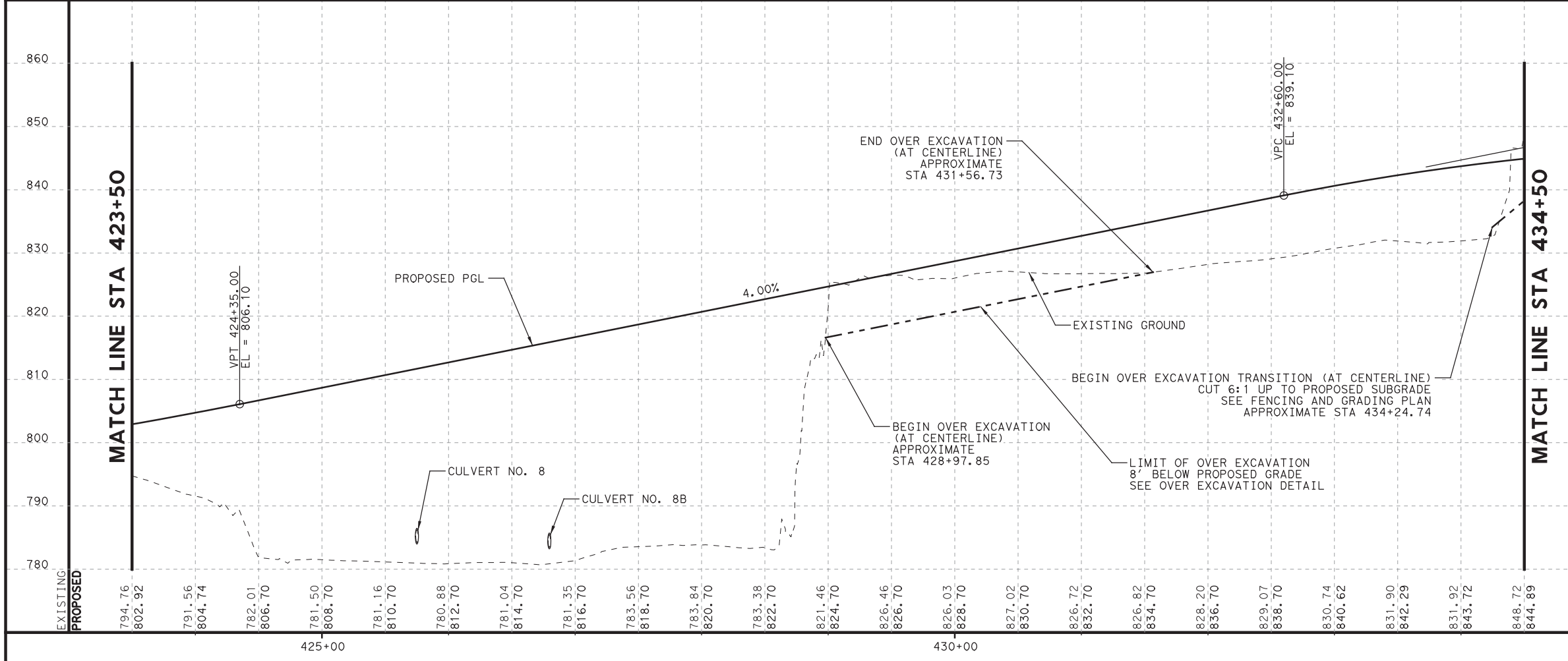
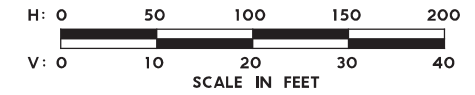
HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

SOUTHWEST BYPASS SEGMENT 2				
PLAN AND PROFILE WBFR				
STA 412+50 TO STA 423+50				
SCALE: 1"=100'-H 1"=20'-V				
SHEET 5 OF 8				
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
JC	6			
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
KB	TEXAS	AUS	WILLIAMSON	
CHECK	CONTROL	SECTION	JOB	56
JW	JC	2103	01 034	



OVER EXCAVATION DETAIL
APPROXIMATE STA 427+90.00 TO STA 432+85.00

- NOTES:**
1. ALL STATION AND OFFSET ARE FROM "WBFR_S2_CL" UNLESS OTHERWISE INDICATED.
 2. ALL DIMENSIONS ARE FROM LIP OF GUTTER OR EDGE OF PAVEMENT UNLESS OTHERWISE INDICATED.
 3. SEE "INTERSECTION DETAILS" SHEETS FOR INTERSECTION AND MEDIAN INFORMATION NOT SHOWN.



Jacob E. Walker, PE
07/31/2019

1	7/30/19	DRIVEWAY ADDITION	JW
NO.	DATE	REVISION	APPROVED

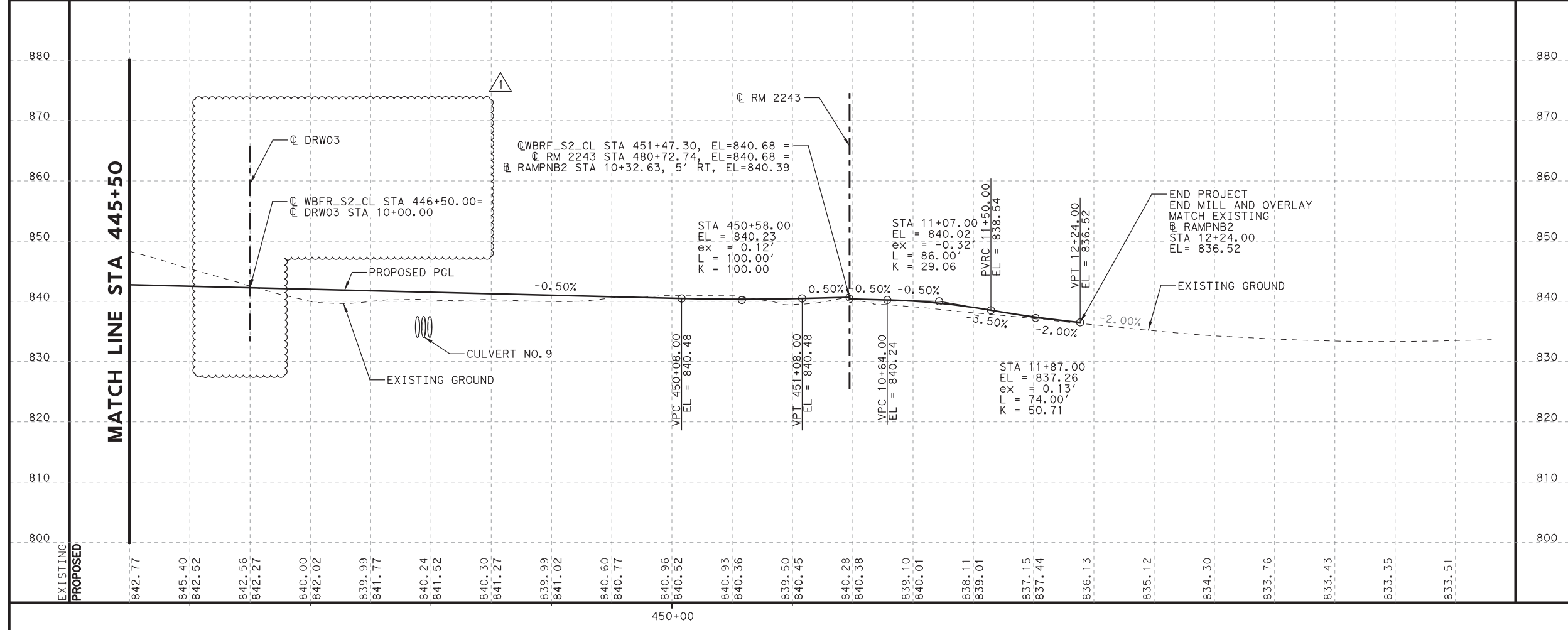
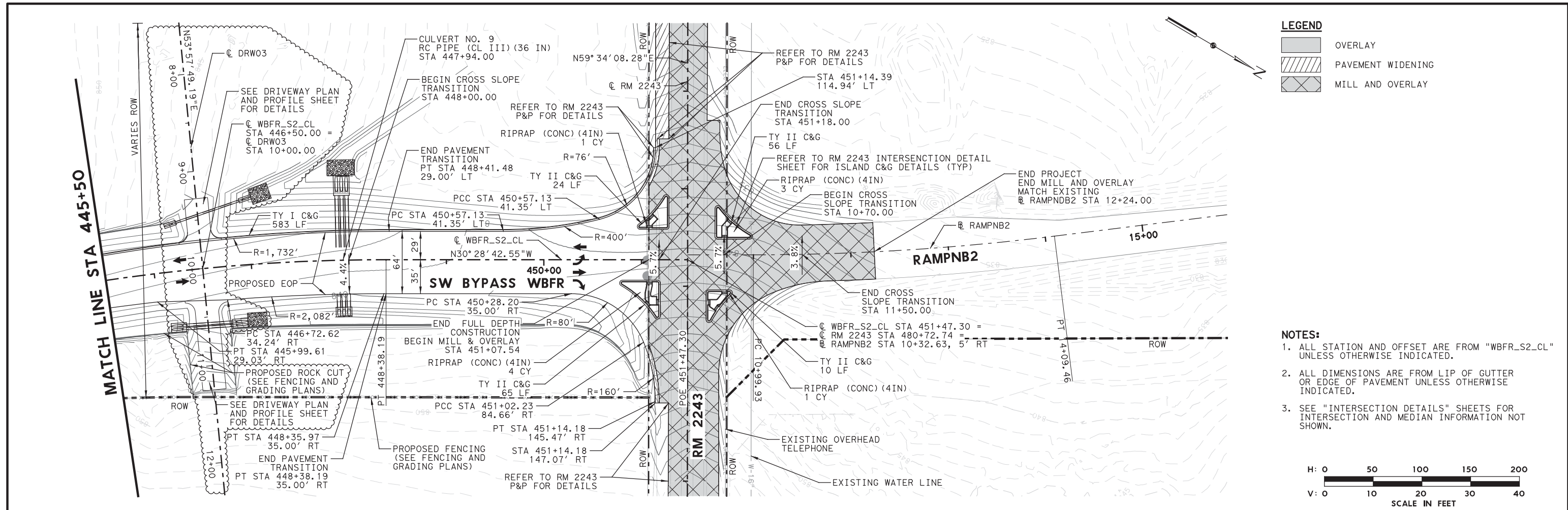
SOUTHWEST BYPASS SEGMENT 2

PLAN AND PROFILE WBFR
STA 423+50 TO STA 434+50
SCALE: 1"=100'-H
1"=20'-V
SHEET 6 OF 8

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	KB	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL		SECTION	01	JOB	034
CHECK	JC						57

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PENTABLE: S2-000020107018.tbl
USER: LGOMEZCOMDATE: 7/30/2019
TIME: 12:20:22 PM
SCALE: 1:400
FILE: \

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 USER: LGONZALEZ DATE: 7/30/2019 TIME: 12:20:26 PM SCALE: 1/400
 FILE: \



STATE OF TEXAS
 JACOB E. WALKER
 122057
 LICENSED PROFESSIONAL ENGINEER
 Jacob Walker, PE 07/31/2019

NO.	DATE	REVISION	APPROVED
1	7/30/19	DRIVEWAY ADDITION	JW

WILLIAMSON COUNTY **HDR** HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

SOUTHWEST BYPASS SEGMENT 2

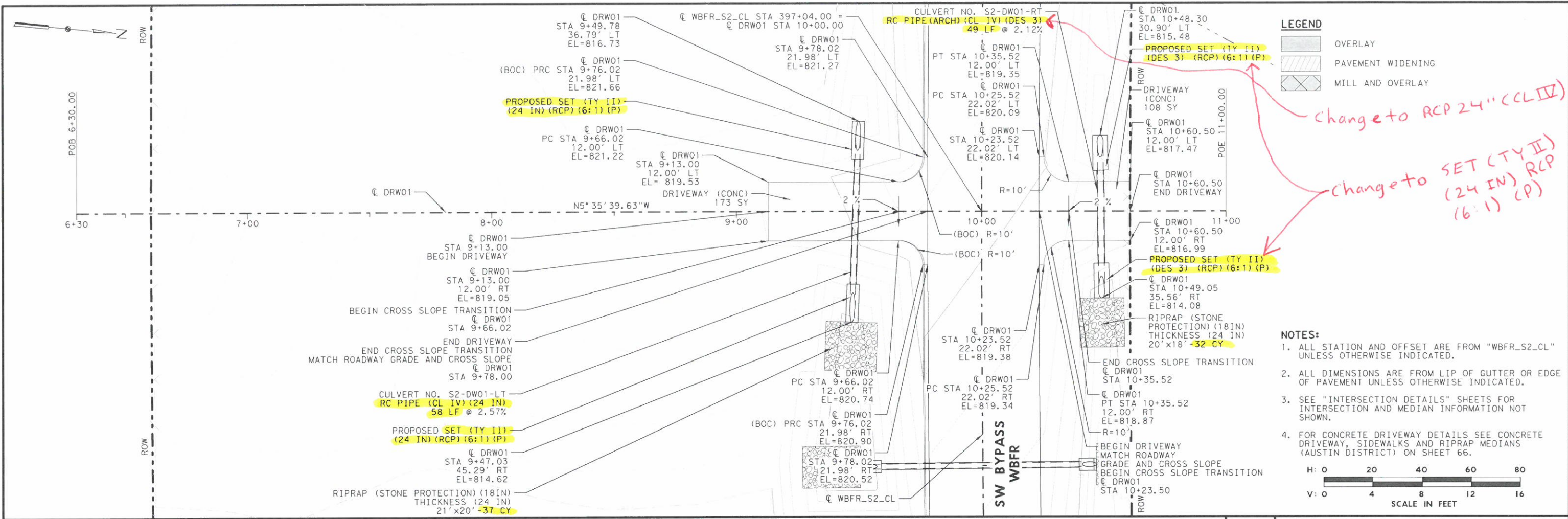
PLAN AND PROFILE WBFR STA 445+50 TO END

SCALE: 1"=100'-H
 1"=20'-V

SHEET 8 OF 8

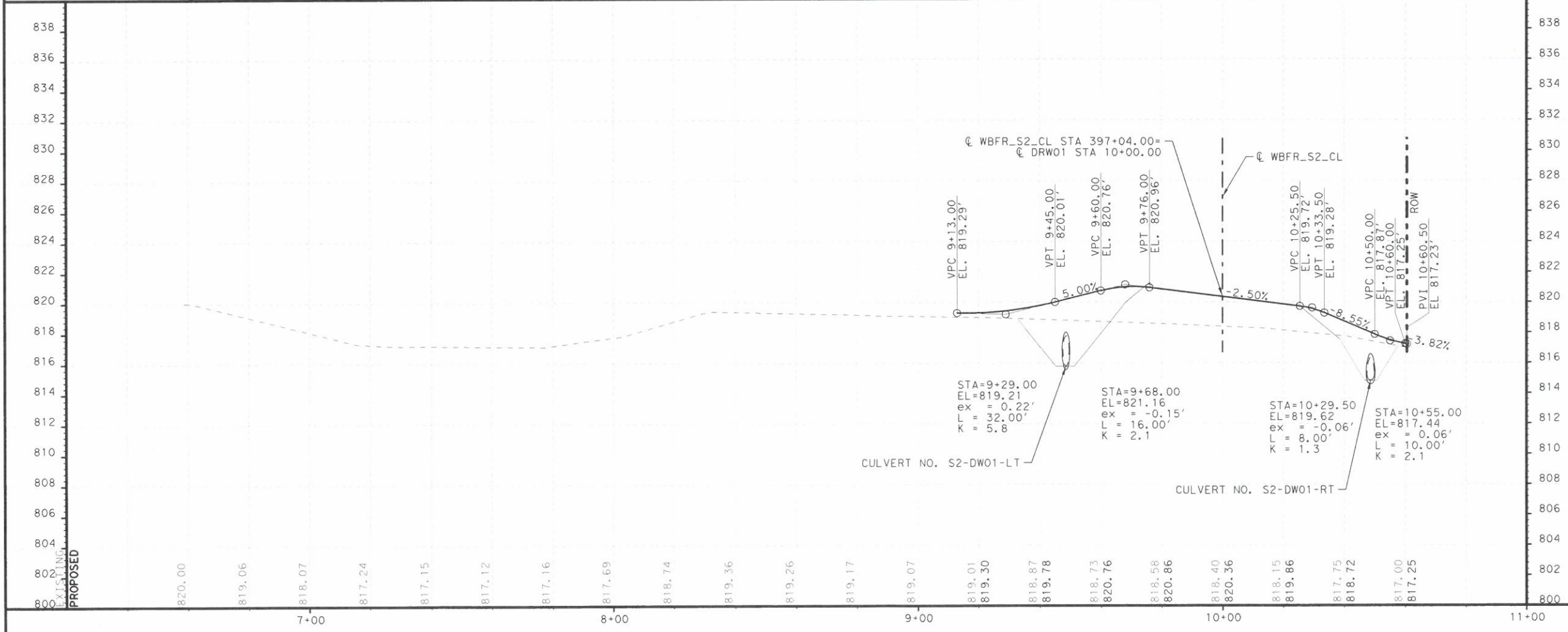
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GRAPHICS	KB	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	SECTION	JOB			
CHECK	JC	2103	01	034			59

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 TIME: 10:33:30 PM
 SCALE: 1/40
 FILE: A



change to RCP 24" (CL IV)

change to SET (TY II) (24 IN) RCP (6:1) (P)



STATE OF TEXAS
 JACOB E. WALKER
 122057
 LICENSED PROFESSIONAL ENGINEER
 07/31/2019

NO.	DATE	REVISION	APPROVED
1	7/30/19	DRIVEWAY ADDITION (NEW SHEET)	JW

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

WILLIAMSON COUNTY

**SOUTHWEST BYPASS
 SEGMENT 2**

**DRIVEWAY PLAN AND PROFILE
 DRW01**

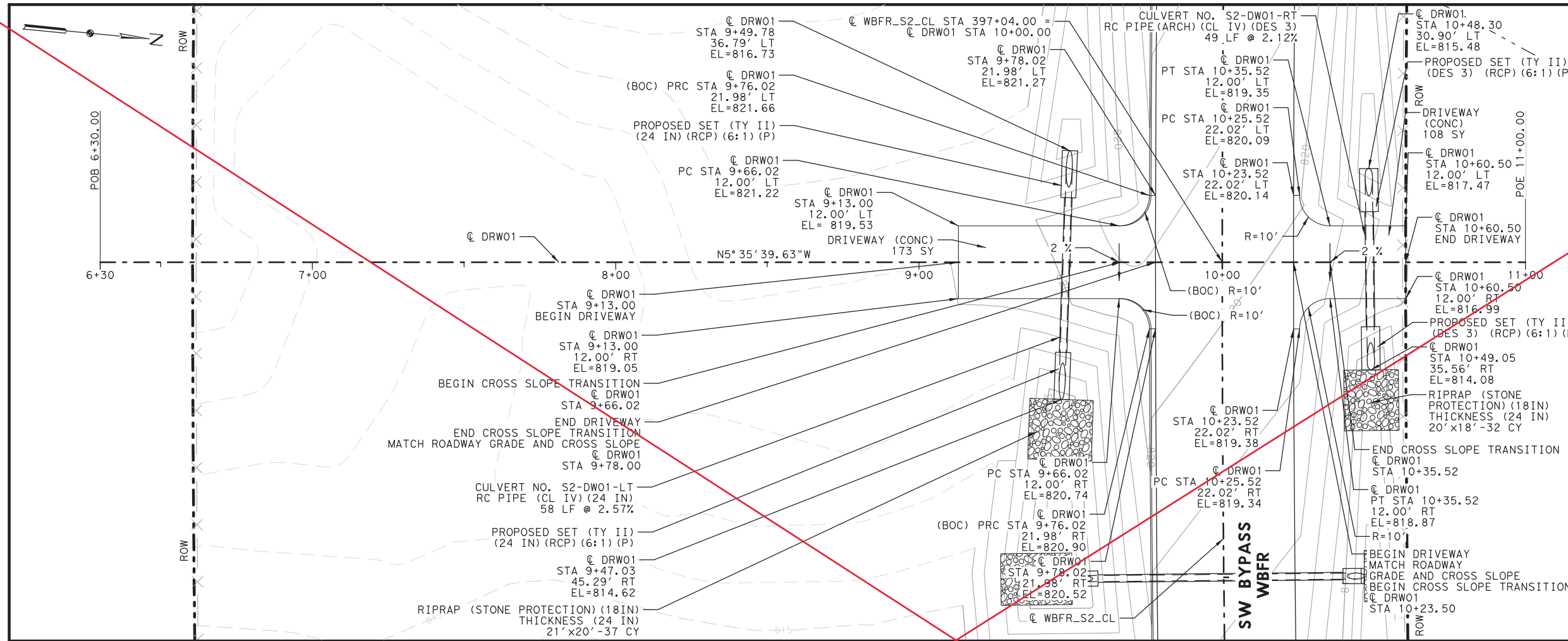
SCALE: 1"=40'-H
 1"=8'-V

SHEET 1 OF 3

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	2103	SECTION	01	JOB	034

SHEET NO. 1
60A

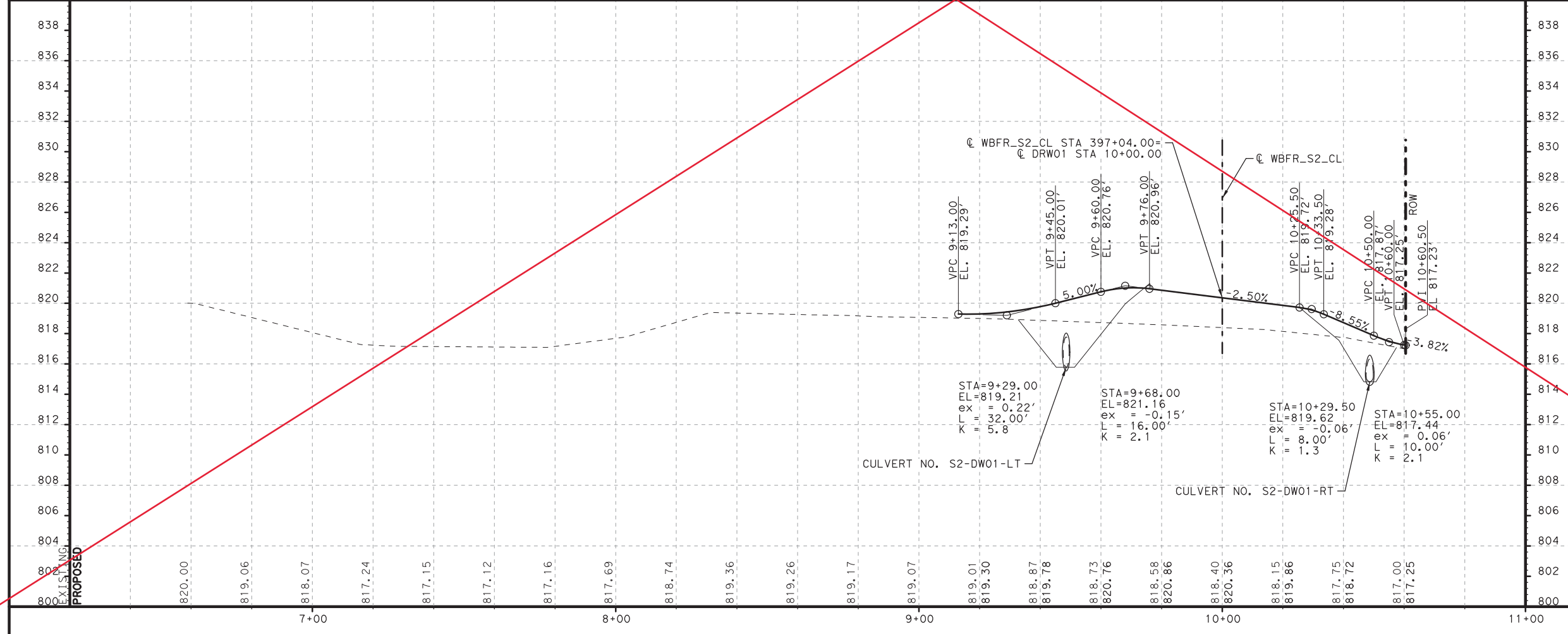
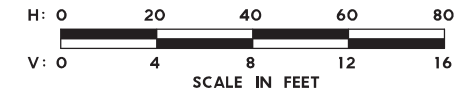
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 FILE: 1



LEGEND

- OVERLAY
- PAVEMENT WIDENING
- MILL AND OVERLAY

- NOTES:**
- ALL STATION AND OFFSET ARE FROM "WBFR_S2_CL" UNLESS OTHERWISE INDICATED.
 - ALL DIMENSIONS ARE FROM LIP OF GUTTER OR EDGE OF PAVEMENT UNLESS OTHERWISE INDICATED.
 - SEE "INTERSECTION DETAILS" SHEETS FOR INTERSECTION AND MEDIAN INFORMATION NOT SHOWN.
 - FOR CONCRETE DRIVEWAY DETAILS SEE CONCRETE DRIVEWAY, SIDEWALKS AND RIPRAP MEDIANS (AUSTIN DISTRICT) ON SHEET 66.



STATE OF TEXAS
 JACOB E. WALKER
 122057
 LICENSED PROFESSIONAL ENGINEER
 07/31/2019

1	7/30/19	DRIVEWAY ADDITION (NEW SHEET)	JW
NO.	DATE	REVISION	APPROVED

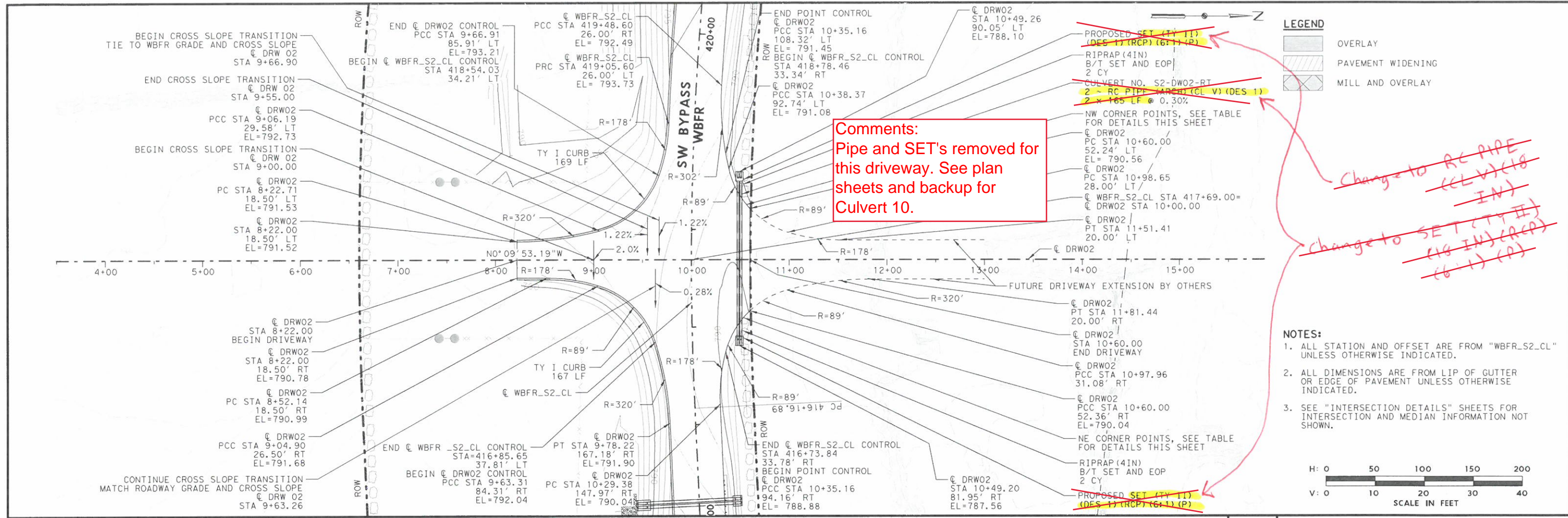
WILLIAMSON COUNTY
 HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2
 DRIVEWAY PLAN AND PROFILE
 DRW01**

SCALE: 1"=40' -H
 1"=8' -V
 SHEET 1 OF 3

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	2103	SECTION	01	JOB	034
CHECK	JC						





Change to RC PIPE (CL V) (18 IN)

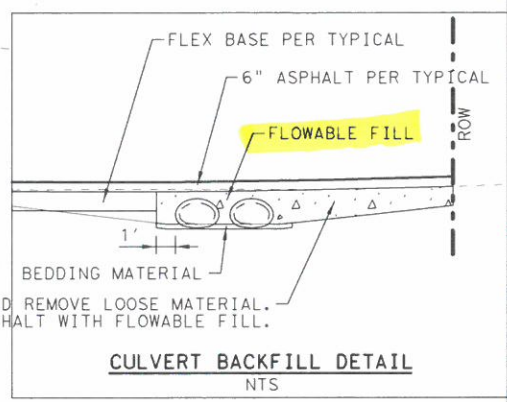
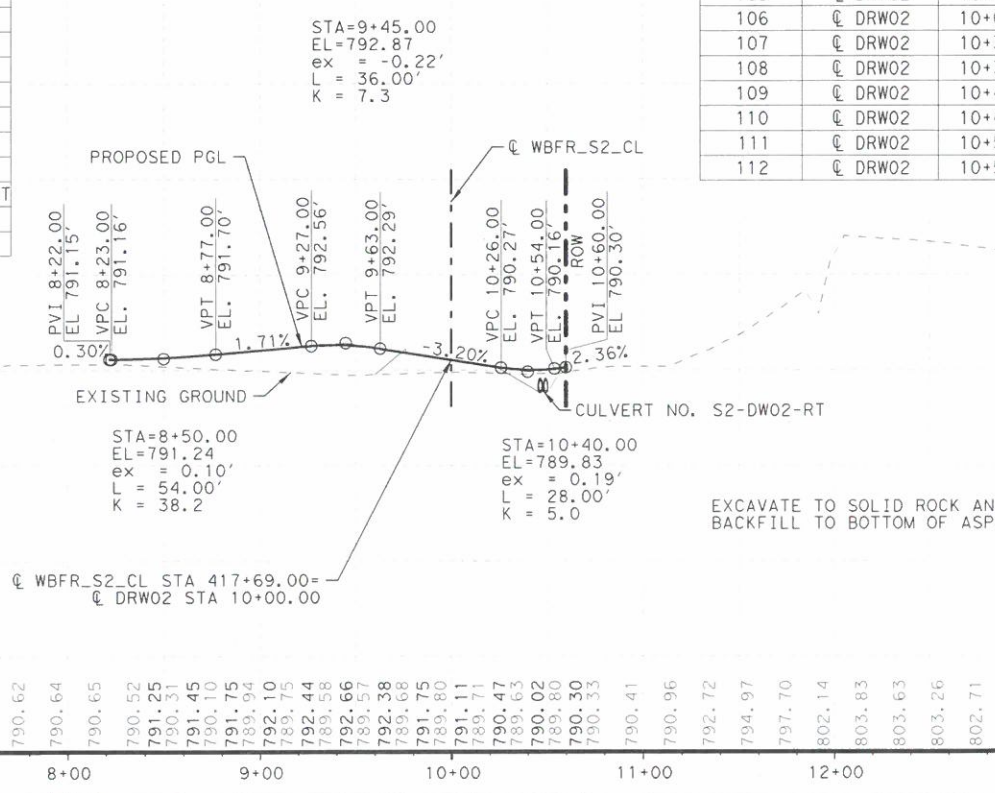
Change to SET (TY II) (18 IN) (A) (6-1) (A)

TABLE OF NW POINTS

POINT	BASELINE	STATION	OFFSET	ELEVATION	DESCRIPTION
200	© DRW02	10+35.16	108.32' LT	791.45	EOP
201	© DRW02	10+36.25	102.52' LT	791.31	EOP
202	© DRW02	10+38.37	92.74' LT	791.08	EOP
203	© DRW02	10+39.49	88.45' LT	790.98	EOP
204	© DRW02	10+42.78	79.01' LT	790.75	EOP
205	© DRW02	10+47.11	70.00' LT	790.52	EOP
206	© DRW02	10+52.42	61.54' LT	790.43	EOP SAG PT
207	© DRW02	10+58.65	53.72' LT	790.52	EOP
208	© DRW02	10+60.00	52.24' LT	790.56	EOP
209	© DRW02	10+30.42	52.24' LT	790.69	ASPH SURFACE
210	© DRW02	10+32.37	52.24' LT	790.63	ASPH SURFACE
211	© DRW02	10+37.37	52.24' LT	790.51	ASPH SURFACE
212	© DRW02	10+42.37	52.24' LT	790.43	ASPH SURFACE
213	© DRW02	10+47.37	52.24' LT	790.41	ASPH SURF SAG PT
214	© DRW02	10+52.37	52.24' LT	790.43	ASPH SURFACE
215	© DRW02	10+57.37	52.24' LT	790.51	ASPH SURFACE

TABLE OF NE POINTS

POINT	BASELINE	STATION	OFFSET	ELEVATION	DESCRIPTION
100	© DRW02	10+35.16	94.16' RT	789.77	EOP
101	© DRW02	10+35.94	91.40' RT	789.74	EOP
102	© DRW02	10+39.35	82.00' RT	789.63	EOP
103	© DRW02	10+43.79	73.05' RT	789.56	EOP SAG PT
104	© DRW02	10+49.20	64.65' RT	789.63	EOP
105	© DRW02	10+55.53	56.91' RT	789.84	EOP
106	© DRW02	10+60.00	52.36' RT	790.04	EOP
107	© DRW02	10+31.09	52.36' RT	789.87	ASPH SURFACE
108	© DRW02	10+36.39	52.36' RT	789.74	ASPH SURFACE
109	© DRW02	10+41.39	52.36' RT	789.70	ASPH SURF SAG PT
110	© DRW02	10+46.39	52.36' RT	789.74	ASPH SURFACE
111	© DRW02	10+51.39	52.36' RT	789.85	ASPH SURFACE
112	© DRW02	10+56.39	52.36' RT	789.96	ASPH SURFACE



Jacob E. Walker, PE
07/31/2019

1	7/30/19	DRIVEWAY ADDITION (NEW SHEET)	JW
NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

SOUTHWEST BYPASS SEGMENT 2

DRIVEWAY PLAN AND PROFILE DRW02

SCALE: 1" = 100' - H
1" = 20' - V

SHEET 2 OF 3

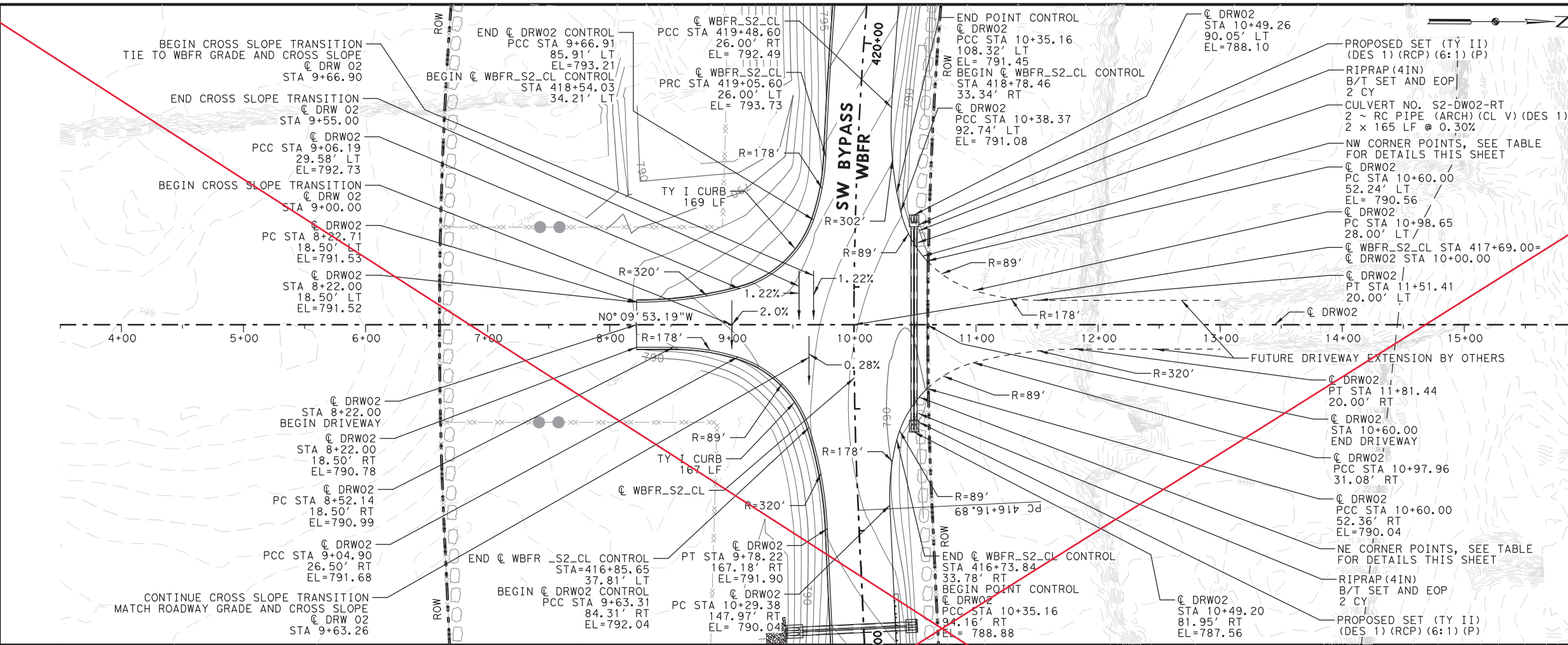
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JC	6		
GRAPHICS	LG	STATE	DISTRICT
JW	JC	TEXAS	AUS
CHECK	JC	CONTROL	SECTION
JC	JC	2103	01

SHEET NO.

60B

PLOT DRIVER: TxDOT_PDF_BW_W_LEVELS.plt
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 FILE: A

PLOT DRIVER: TXDOT_PDF_BW_M_LEVELS.plt
 USER: LGOMEZ@DATE: 7/30/2019 TIME: 2:08:52 PM SCALE: 1:400
 FILE:



LEGEND

- OVERLAY
- PAVEMENT WIDENING
- MILL AND OVERLAY

- NOTES:**
- ALL STATION AND OFFSET ARE FROM "WBFR_S2_CL" UNLESS OTHERWISE INDICATED.
 - ALL DIMENSIONS ARE FROM LIP OF GUTTER OR EDGE OF PAVEMENT UNLESS OTHERWISE INDICATED.
 - SEE "INTERSECTION DETAILS" SHEETS FOR INTERSECTION AND MEDIAN INFORMATION NOT SHOWN.

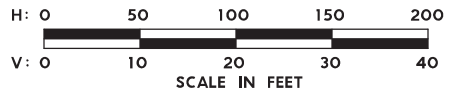
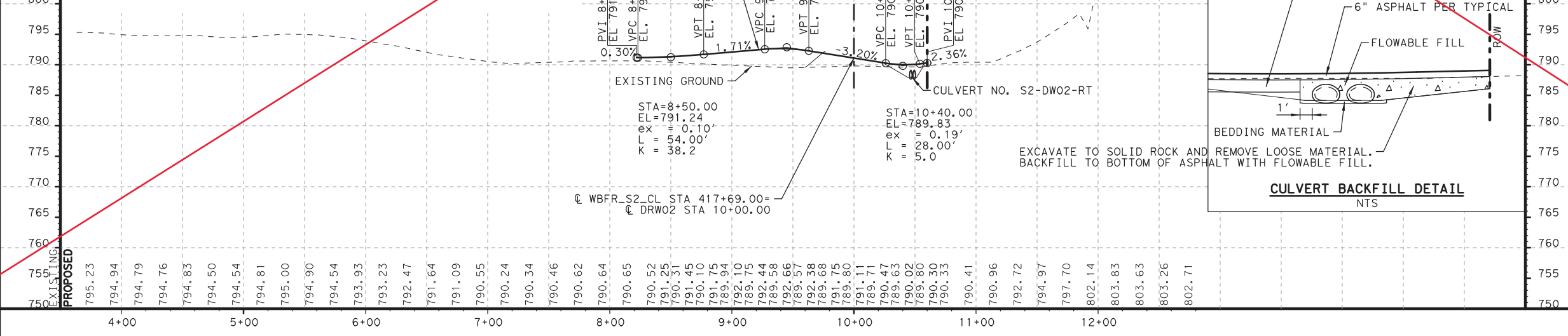


TABLE OF NW POINTS

POINT	BASELINE	STATION	OFFSET	ELEVATION	DESCRIPTION
200	Q DRW02	10+35.16	108.32' LT	791.45	EOP
201	Q DRW02	10+36.25	102.52' LT	791.31	EOP
202	Q DRW02	10+38.37	92.74' LT	791.08	EOP
203	Q DRW02	10+39.49	88.45' LT	790.98	EOP
204	Q DRW02	10+42.78	79.01' LT	790.75	EOP
205	Q DRW02	10+47.11	70.00' LT	790.52	EOP
206	Q DRW02	10+52.42	61.54' LT	790.43	EOP SAG PT
207	Q DRW02	10+58.65	53.72' LT	790.52	EOP
208	Q DRW02	10+60.00	52.24' LT	790.56	EOP
209	Q DRW02	10+30.42	52.24' LT	790.69	ASPH SURFACE
210	Q DRW02	10+32.37	52.24' LT	790.63	ASPH SURFACE
211	Q DRW02	10+37.37	52.24' LT	790.51	ASPH SURFACE
212	Q DRW02	10+42.37	52.24' LT	790.43	ASPH SURFACE
213	Q DRW02	10+47.37	52.24' LT	790.41	ASPH SURF SAG PT
214	Q DRW02	10+52.37	52.24' LT	790.43	ASPH SURFACE
215	Q DRW02	10+57.37	52.24' LT	790.51	ASPH SURFACE

TABLE OF NE POINTS

POINT	BASELINE	STATION	OFFSET	ELEVATION	DESCRIPTION
100	Q DRW02	10+35.16	94.16' RT	789.77	EOP
101	Q DRW02	10+35.94	91.40' RT	789.74	EOP
102	Q DRW02	10+39.35	82.00' RT	789.63	EOP
103	Q DRW02	10+43.79	73.05' RT	789.56	EOP SAG PT
104	Q DRW02	10+49.20	64.65' RT	789.63	EOP
105	Q DRW02	10+55.53	56.91' RT	789.84	EOP
106	Q DRW02	10+60.00	52.36' RT	790.04	EOP
107	Q DRW02	10+31.09	52.36' RT	789.87	ASPH SURFACE
108	Q DRW02	10+36.39	52.36' RT	789.74	ASPH SURFACE
109	Q DRW02	10+41.39	52.36' RT	789.70	ASPH SURF SAG PT
110	Q DRW02	10+46.39	52.36' RT	789.74	ASPH SURFACE
111	Q DRW02	10+51.39	52.36' RT	789.85	ASPH SURFACE
112	Q DRW02	10+56.39	52.36' RT	789.96	ASPH SURFACE



STATE OF TEXAS
 JACOB E. WALKER
 122057
 LICENSED PROFESSIONAL ENGINEER
 07/31/2019

1	7/30/19	DRIVEWAY ADDITION (NEW SHEET)	JW
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY
HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

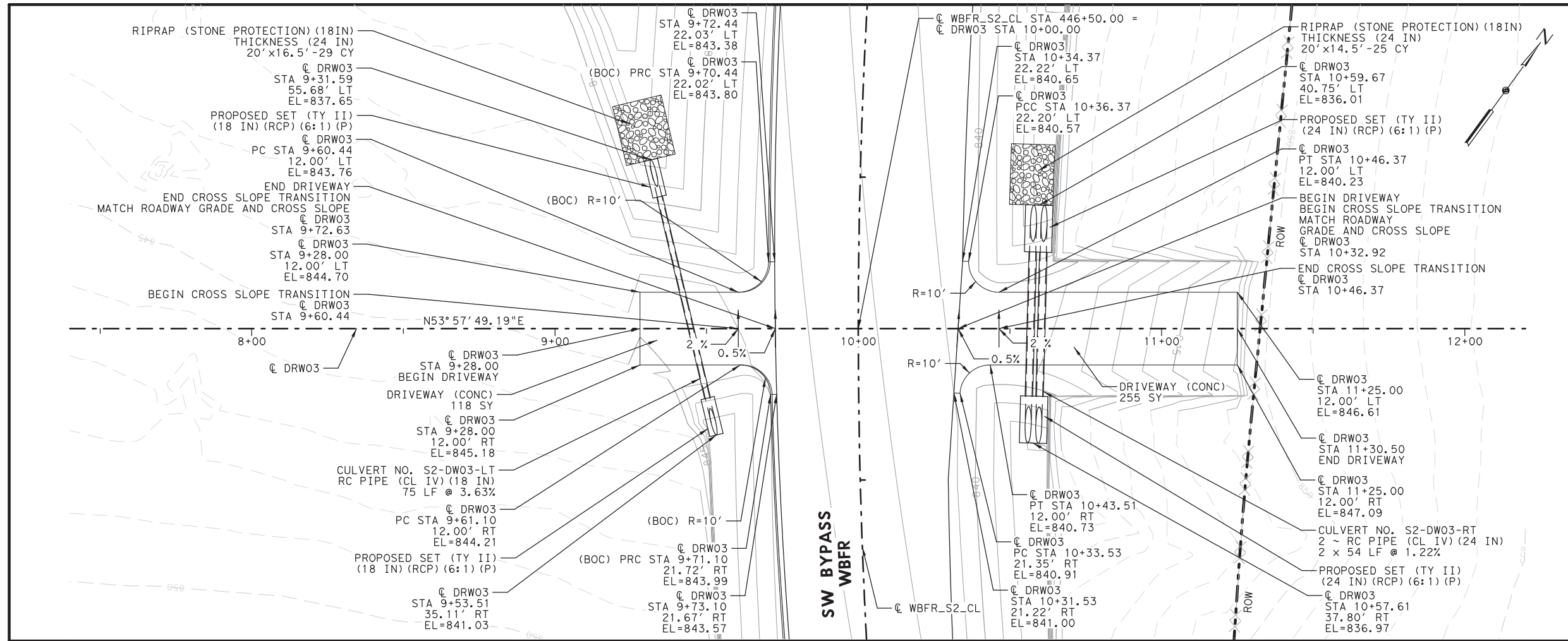
**SOUTHWEST BYPASS
 SEGMENT 2
 DRIVEWAY PLAN AND PROFILE
 DRW02**

SCALE: 1"=100'-H
 1"=20'-V
 SHEET 2 OF 3

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	SECTION			JOB	
CHECK	JC		2103		01		034

SHEET NO. **6QB**

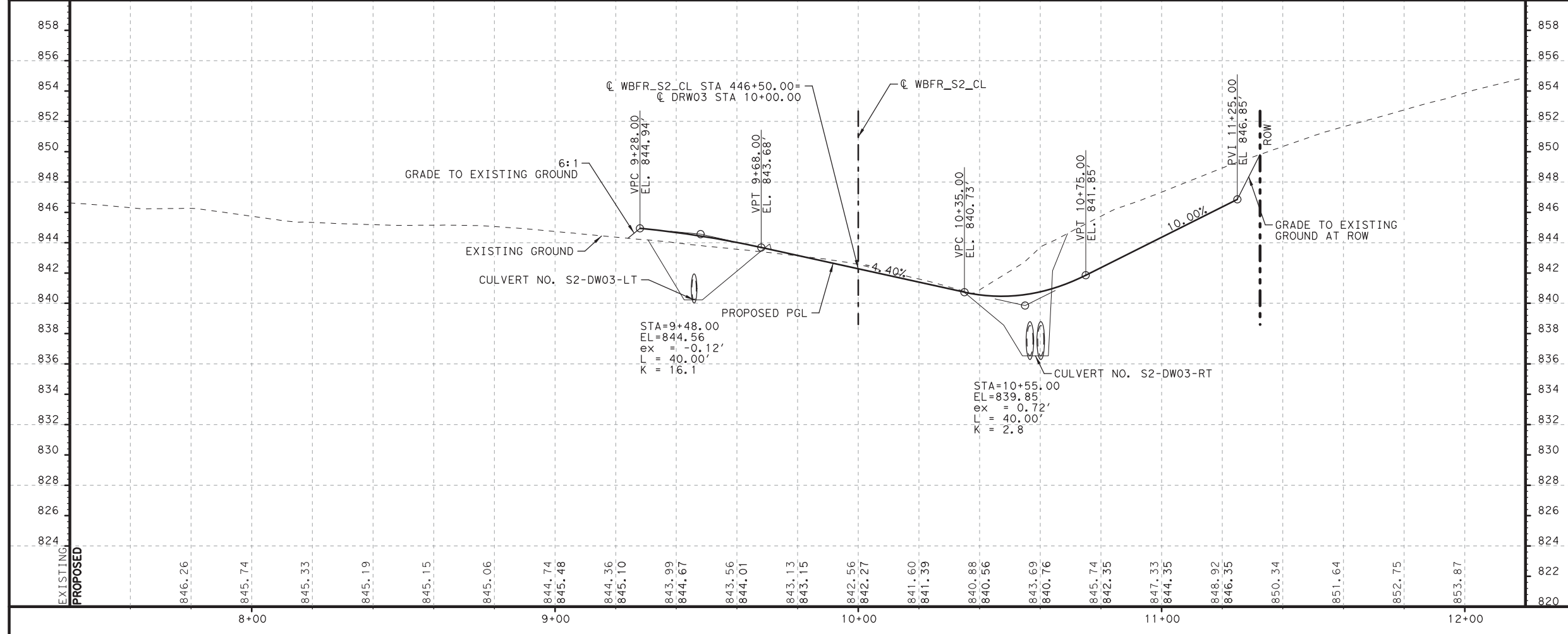
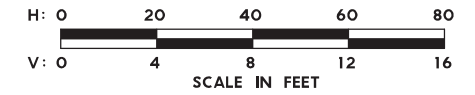
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 USER: LGOMEZ@DATE: 7/30/2019
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LEGEND

- OVERLAY
- PAVEMENT WIDENING
- MILL AND OVERLAY

- NOTES:**
- ALL STATION AND OFFSET ARE FROM "WBFR_S2_CL" UNLESS OTHERWISE INDICATED.
 - ALL DIMENSIONS ARE FROM LIP OF GUTTER OR EDGE OF PAVEMENT UNLESS OTHERWISE INDICATED.
 - SEE "INTERSECTION DETAILS" SHEETS FOR INTERSECTION AND MEDIAN INFORMATION NOT SHOWN.
 - FOR CONCRETE DRIVEWAY DETAILS SEE CONCRETE DRIVEWAY, SIDEWALKS AND RIPRAP MEDIANS (AUSTIN DISTRICT) ON SHEET 66.



STATE OF TEXAS
 JACOB E. WALKER
 122057
 LICENSED PROFESSIONAL ENGINEER
 07/31/2019

1	7/30/19	DRIVEWAY ADDITION (NEW SHEET)	JW
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY
 HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2
 DRIVEWAY PLAN AND PROFILE
 DRW03**

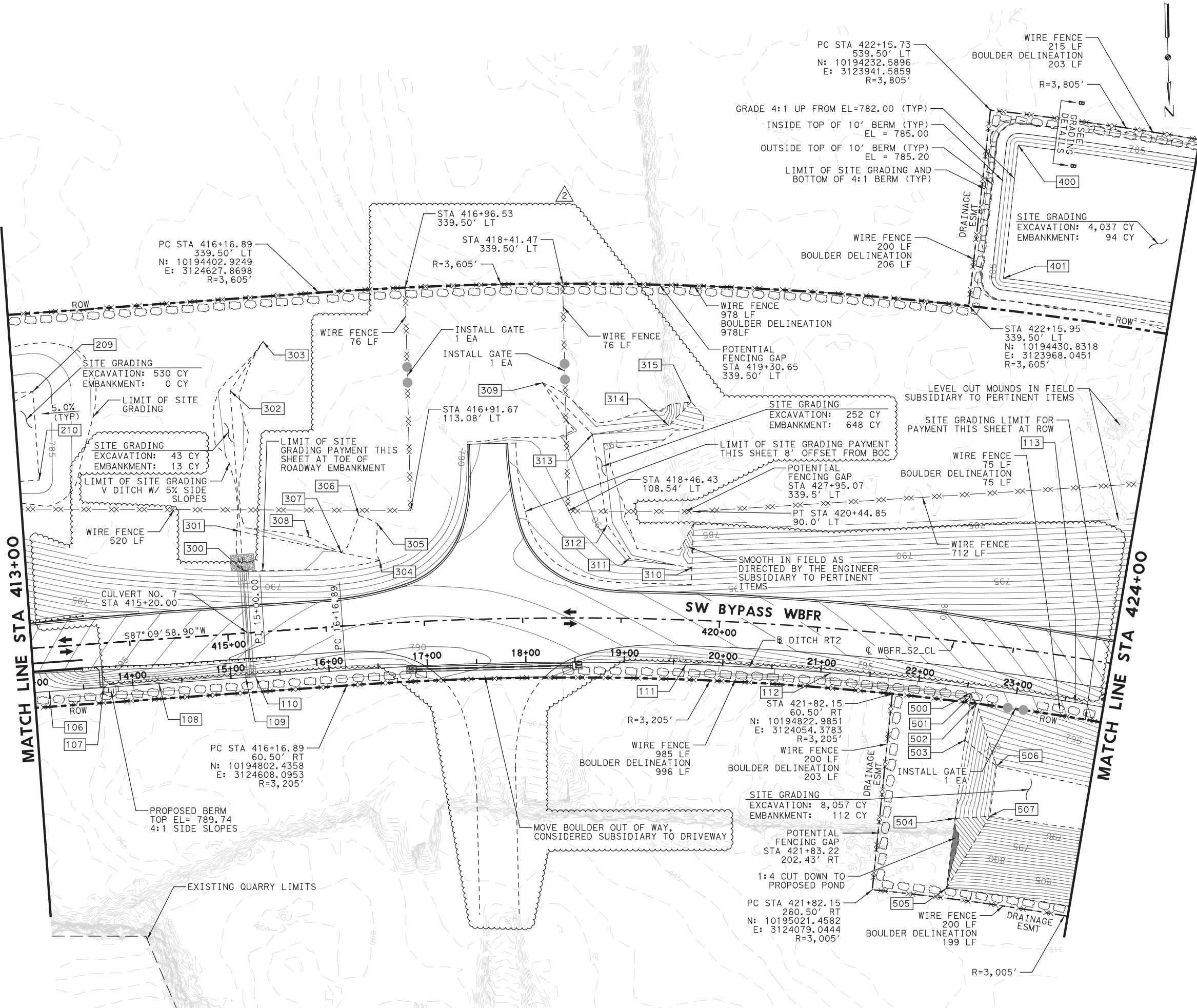
SCALE: 1"=40'-H
 1"=8'-V

SHEET 3 OF 3

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	2103	SECTION	01	JOB	034
CHECK	JC						

SHEET NO. 60C

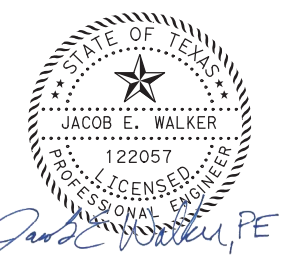
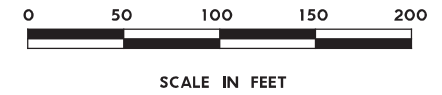
PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ\DATE: 7/30/2019
 FILE: \



LEGEND

- X — EXISTING WIRE FENCE
- X X — PROPOSED WIRE FENCE
- o — CHAIN LINK FENCE
- ○ ○ BOULDER DELINEATION
- - - - ROW
- PCTB
- - - - GRADE BREAK
- ● GATE
- ### GRADING AND ROCK CUT POINT

- NOTES:**
- POTENTIAL FENCING GAPS: IF SLOPES ARE GREATER THAN 2:1 OR ELEVATION CHANGE GREATER THAN 4 FT, COORDINATE FENCE AND BOULDER PLACEMENT WITH ENGINEER.
 - SEE DRAINAGE SHEETS FOR CULVERT INFORMATION.
 - SEE ROADWAY SHEETS FOR GEOMETRIC INFORMATION INFORMATION.
 - SEE GRADING POINT TABLE SHEET FOR GRADING POINT INFORMATION.
 - SEE ROCK CUT CONTROL POINTS SHEETS FOR ROCK CUT POINT INFORMATION.
 - COORDINATES ARE SURFACE VALUES. TO OBTAIN GRID VALUES, DIVIDE BY A COMBINED SURFACE ADJUSTMENT FACTOR OF 1.00014.



2	7/30/19	DRIVEWAY ADDITION	JW
1	10/4/18	ADDED ROW DATA	JW
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY **HDR** HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2
 FENCING AND GRADING PLAN
 STA 413+00 TO STA 424+00**

SCALE: 1"=100' SHEET 3 OF 6

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	RR	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL		SECTION	01	JOB	034
CHECK	JC						90

TABLE OF GRADING POINTS (100'S)					
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
SHEET 1 OF 6					
100	WBFR_S2_CL	394+87.00	47.68' RT	810.27	DITCH FL
101	WBFR_S2_CL	398+00.00	44.90' RT	816.84	DITCH FL
SHEET 3 OF 6					
102	WBFR_S2_CL	404+30.00	45.90' RT	824.40	END DITCH FL
103	DITCH RT2	11+35.49	0.00'	785.48	DITCH FL
104	DITCH RT2	12+00.00	0.00'	785.67	DITCH FL
105	DITCH RT2	12+70.00	0.00'	787.29	DITCH FL
SHEET 3 OF 6					
106	DITCH RT2	13+15.00	0.00'	788.31	DITCH FL
107	DITCH RT2	13+70.00	0.00'	788.76	DITCH FL
108	DITCH RT2	14+26.54	0.00'	787.37	DITCH FL
109	DITCH RT2	15+15.00	0.00'	787.10	DITCH FL
110	DITCH RT2	15+25.00	0.00'	787.10	DITCH FL
111	DITCH RT2	19+62.88	0.00'	788.41	DITCH FL
112	DITCH RT2	21+10.29	0.00'	791.00	DITCH FL
113	DITCH RT2	23+60.17	0.00'	799.50	DITCH FL
SHEET 4 OF 6					
114	DITCH RT2	28+59.43	0.00'	819.73	DITCH FL
115	DITCH RT2	30+79.79	0.00'	825.76	DITCH FL
116	DITCH RT2	31+60.00	0.00'	826.56	DITCH FL
117	DITCH RT2	32+40.00	0.00'	828.75	DITCH FL
118	DITCH RT2	34+34.25	0.00'	831.18	DITCH FL
119	DITCH RT2	34+74.65	0.00'	841.67	DITCH FL

TABLE OF GRADING POINTS (200'S)					
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
SHEET 2 OF 6					
200	WBFR_S2_CL	410+02.46	86.05' LT	785.38	BREAKLINE
201	WBFR_S2_CL	410+32.18	193.91' LT	785.01	BREAKLINE
202	WBFR_S2_CL	411+18.95	260.00' LT	784.66	BREAKLINE
203	WBFR_S2_CL	411+18.95	170.00' LT	784.79	FLOWLINE
204	WBFR_S2_CL	411+21.20	23.66' LT	785.21	FLOWLINE
205	WBFR_S2_CL	411+25.21	24.00' RT	785.35	FLOWLINE
206	WBFR_S2_CL	411+35.17	23.16' RT	785.38	BREAKLINE
207	WBFR_S2_CL	411+31.17	24.50' LT	785.23	BREAKLINE
208	WBFR_S2_CL	411+31.16	156.82' LT	785.39	EXISTING
SHEET 3 OF 6					
209	WBFR_S2_CL	413+20.00	260.00' LT	784.06	FLOWLINE
210	WBFR_S2_CL	413+20.00	170.00' LT	784.33	BREAKLINE

TABLE OF GRADING POINTS (300'S)					
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
SHEET 3 OF 6					
300	WBFR_S2_CL	415+20.00	63.25' LT	786.80	FLOW LINE
301	WBFR_S2_CL	415+20.00	103.25' LT	786.71	FLOW LINE
302	WBFR_S2_CL	415+20.00	246.50' LT	786.38	FLOW LINE
303	WBFR_S2_CL	415+56.85	294.16' LT	786.32	FLOW LINE
304	WBFR_S2_CL	416+85.40	63.90' LT	787.30	ROADWAY TOE
305	WBFR_S2_CL	416+58.22	101.46' LT	787.84	TIE
306	WBFR_S2_CL	416+40.66	110.99' LT	787.86	TIE
307	WBFR_S2_CL	416+20.74	74.92' LT	787.04	TIE
308	WBFR_S2_CL	415+89.48	92.62' LT	787.36	TIE
309	WBFR_S2_CL	418+22.13	238.90' LT	789.35	FLOW LINE
310	WBFR_S2_CL	419+70.00	53.21' LT	790.81	FLOW LINE
311	WBFR_S2_CL	419+07.48	61.20' LT	789.65	FLOW LINE
312	WBFR_S2_CL	418+84.91	94.93' LT	789.45	FLOW LINE
313	WBFR_S2_CL	418+69.70	186.55' LT	788.98	FLOW LINE
314	WBFR_S2_CL	419+42.97	196.73' LT	788.59	FLOW LINE
315	WBFR_S2_CL	419+63.54	221.43' LT	782.94	FLOW LINE

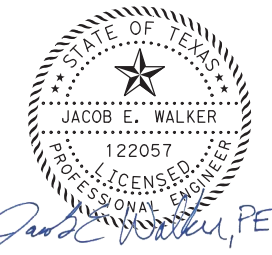
TABLE OF GRADING POINTS (400'S)					
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
SHEET 3 OF 6					
400	WBFR_S2_CL	422+43.46	507.53' LT	782.00	POND BOTTOM
401	WBFR_S2_CL	422+44.64	371.50' LT	782.00	POND BOTTOM
SHEET 4 OF 6					
402	WBFR_S2_CL	424+89.53	519.50' LT	785.00	10' BERM TOP
403	WBFR_S2_CL	426+11.36	517.50' LT	784.50	14' BERM TOP
404	WBFR_S2_CL	426+39.91	507.50' LT	782.00	POND BOTTOM
405	WBFR_S2_CL	426+48.52	497.04' LT	784.50	END OF BERM
406	WBFR_S2_CL	426+38.88	371.50' LT	782.00	POND BOTTOM
407	WBFR_S2_CL	425+97.45	371.50' LT	782.00	POND BOTTOM
408	WBFR_S2_CL	425+75.00	346.50' LT	782.00	FLOW LINE
409	WBFR_S2_CL	425+52.55	371.50' LT	782.00	POND BOTTOM
410	WBFR_S2_CL	425+42.53	359.51' LT	785.00	10' BERM TOP
411	WBFR_S2_CL	425+51.73	243.22' LT	783.18	TIE
412	WBFR_S2_CL	425+75.00	204.35' LT	782.94	FLOW LINE
413	WBFR_S2_CL	425+95.55	243.20' LT	783.12	TIE
414	WBFR_S2_CL	426+16.14	263.00' LT	784.04	TIE
415	WBFR_S2_CL	426+05.40	302.87' LT	783.20	TIE
416	WBFR_S2_CL	426+45.07	371.44' LT	783.73	TIE

TABLE OF GRADING POINTS (500'S)					
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
SHEET 3 OF 6					
500	WBFR_S2_CL	422+62.01	50.97' RT	795.86	FLOW LINE
501	WBFR_S2_CL	422+62.00	54.95' RT	797.23	TIE
502	WBFR_S2_CL	422+77.00	60.50' RT	795.70	BREAKLINE
503	WBFR_S2_CL	422+62.72	98.81' RT	797.13	TIE
504	WBFR_S2_CL	422+62.99	179.04' RT	795.08	TIE
505	WBFR_S2_CL	422+63.24	250.50' RT	809.93	TIE
506	WBFR_S2_CL	422+99.63	120.93' RT	786.69	POND BOTTOM
507	WBFR_S2_CL	422+99.57	172.24' RT	786.68	POND BOTTOM
SHEET 4 OF 6					
508	WBFR_S2_CL	424+89.32	167.47' RT	785.55	POND BOTTOM
509	WBFR_S2_CL	425+09.06	250.50' RT	812.81	TIE
510	WBFR_S2_CL	425+69.27	130.12' RT	785.00	POND BOTTOM
511	WBFR_S2_CL	425+80.73	130.12' RT	785.00	POND BOTTOM
512	WBFR_S2_CL	426+55.00	60.50' RT	810.54	TIE
513	WBFR_S2_CL	426+80.00	60.50' RT	811.69	TIE
514	WBFR_S2_CL	426+85.27	88.18' RT	814.63	TIE
515	WBFR_S2_CL	426+84.85	188.55' RT	821.34	TIE

TABLE OF GRADING POINTS (600'S)					
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
SHEET 2 OF 6					
600	WBFR_S2_CL	404+36.00	26.75' LT	828.07	TOP OF MOW STRIP
601	WBFR_S2_CL	404+57.38	26.51' LT	817.26	BREAKLINE
602	WBFR_S2_CL	405+00.00	26.51' LT	816.41	BREAKLINE
603	WBFR_S2_CL	405+70.00	19.50' LT	795.00	TOP OF BERM
604	WBFR_S2_CL	404+36.00	27.00' RT	826.19	TOP OF MOW STRIP
605	WBFR_S2_CL	404+55.00	26.51' RT	817.26	BREAKLINE
606	WBFR_S2_CL	405+00.00	26.51' RT	816.36	BREAKLINE
607	WBFR_S2_CL	405+70.00	19.50' RT	795.00	TOP OF BERM
608	WBFR_S2_CL	407+10.00	40.00' LT	786.24	EXIST GROUND
609	WBFR_S2_CL	407+10.00	25.00' RT	789.04	BREAKLINE
610	WBFR_S2_CL	407+10.00	60.50' RT	790.56	EXIST GROUND
611	WBFR_S2_CL	407+90.00	40.00' LT	786.38	EXIST GROUND
612	WBFR_S2_CL	407+90.00	25.00' RT	787.41	BREAKLINE
613	WBFR_S2_CL	407+90.00	60.50' RT	789.11	EXIST GROUND

TABLE OF GRADING POINTS (700'S)					
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
SHEET 4 OF 6					
700	WBFR_S2_CL	430+48.86	214.14' LT	800.00	FLOWLINE
701	WBFR_S2_CL	429+76.60	242.05' LT	797.21	FLOWLINE
702	WBFR_S2_CL	434+14.30	190.16' LT	829.31	FLOWLINE
703	WBFR_S2_CL	432+21.27	115.10' LT	826.00	FLOWLINE

TABLE OF GRADING POINTS (900'S)					
POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
SHEET 1 OF 6					
900	WBFR_S2_CL	395+98.00	51.16' LT	813.14	DITCH FL
901	WBFR_S2_CL	396+02.00	51.07' LT	813.24	DITCH FL
902	WBFR_S2_CL	398+50.00	41.52' LT	819.56	DITCH FL
SHEET 2 OF 6					
903	WBFR_S2_CL	402+66.00	38.20' LT	824.55	DITCH FL
904	WBFR_S2_CL	404+05.00	38.21' LT	825.25	END DITCH FL
SHEET 3 OF 6					
905	WBFR_S2_CL	446+34.69	47.13' LT	840.96	DITCH FL
906	WBFR_S2_CL	447+83.66	87.62' LT	833.82	DITCH FL
907	WBFR_S2_CL	447+83.60	98.62' LT	833.82	DITCH FL
908	WBFR_S2_CL	447+94.01	88.53' LT	833.81	DITCH FL
909	WBFR_S2_CL	448+07.98	114.75' LT	833.63	DITCH FL
910	WBFR_S2_CL	449+37.99	205.21' LT	832.68	TIE TO EXIST
911	RM 2243	479+48.83	43.87' RT	831.78	DITCH FL
912	RM 2243	477+07.00	58.05' RT	826.62	DITCH TIE
913	RM 2243	477+07.00	48.79' RT	824.30	DITCH FL
914	RM 2243	477+07.00	42.79' RT	824.30	DITCH FL
915	RM 2243	477+07.00	33.00' RT	825.64	EOP
916	RM 2243	476+59.12	43.19' RT	825.26	DITCH TIE
917	RM 2243	476+59.63	38.93' RT	823.93	DITCH FL
918	RM 2243	476+60.34	32.98' RT	823.93	DITCH FL
919	RM 2243	476+61.00	27.48' RT	825.19	EOP
920	RM 2243	476+35.00	37.75' RT	825.09	DITCH TIE
921	RM 2243	476+35.00	33.32' RT	823.78	DITCH FL
922	RM 2243	476+35.00	29.50' RT	823.78	DITCH FL
923	RM 2243	476+35.00	24.38' RT	825.06	EOP
924	RM 2243	475+07.12	37.74' RT	823.95	DITCH TIE
925	RM 2243	475+07.12	31.13' RT	822.82	DITCH FL
926	RM 2243	475+07.12	22.75' RT	824.73	MOW STRIP



07/31/2019

NO.	DATE	REVISION	APPROVED
2	7/30/19	DRIVEWAY ADDITION	JW
1	4/25/19	REVISED FOR PENINSULA REMOVAL	JW

WILLIAMSON COUNTY
HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2
 GRADING POINTS TABLE**

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
JC	6			
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
LG	TEXAS	AUS	WILLIAMSON	94
CHECK	CONTROL	SECTION	JOB	
JW	2103	01	034	

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 FILE: \

PLOT DRIVER: TXDOT_WIN_LASER.plt
 USER: QLUU
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 SCALE: 1:1
 DATE: 7/30/2019

HY-8 DRIVEWAY DRAIN INPUT DATA

CULVERT DATA										TAILWATER DATA						
NAME	SHAPE	SIZE (IN)	n	INLET CONFIGURATION	OVERALL LENGTH (FT)	INLET ELEVATION (FT)	OUTLET ELEVATION (FT)	SLOPE (FT/FT)	NUMBER OF BARRELS	ALLOWABLE HEADWATER (FT)	CHANNEL TYPE	BOTTOM WIDTH (FT)	SIDE SLOPE	CHANNEL SLOPE (FT/FT)	n	25-YR TAILWATER ELEVATION (FT)
S2-DW01-RT	ARCH Circular	28.5 X 18 24	0.013	SET (TY II) (DES 3) (RCP) (6:1) (P) -UPSTREAM SET (TY II) (DES 3) (RCP) (6:1) (P) -DOWNSTREAM SET (TY II) (18 IN) (RCP) (6:1) (P) -UPSTREAM SET (TY II) (18 IN) (RCP) (6:1) (P) -DOWNSTREAM	66.00	815.48	814.08	0.0212	1	817.55	IRREGULAR CHANNEL	4	3	0.0076	0.045	813.54
S2-DW01-LT	CIRCULAR	24	0.013	SET (TY II) (18 IN) (RCP) (6:1) (P) -UPSTREAM SET (TY II) (18 IN) (RCP) (6:1) (P) -DOWNSTREAM	82.00	816.73	814.62	0.0257	1	819.40	IRREGULAR CHANNEL	6	4	0.0181	0.045	815.14
S2-DW02-RT	ARCH Circular	22 X 13.5 18	0.013	SET (TY II) (DES 1) (RCP) (6:1) (P) -UPSTREAM SET (TY II) (DES 1) (RCP) (6:1) (P) -DOWNSTREAM SET (TY II) (24 IN) (RCP) (6:1) (P) -UPSTREAM SET (TY II) (24 IN) (RCP) (6:1) (P) -DOWNSTREAM	178.00	788.10	787.56	0.0030	2	790.41	IRREGULAR CHANNEL	6	3	0.0065	0.045	789.36
S2-DW03-RT	CIRCULAR	24	0.013	SET (TY II) (24 IN) (RCP) (6:1) (P) -UPSTREAM SET (TY II) (24 IN) (RCP) (6:1) (P) -DOWNSTREAM	79.00	836.97	836.01	0.0122	2	840.73	IRREGULAR CHANNEL	4	3	0.0076	0.030	837.35
S2-DW03LT	CIRCULAR	18	0.013	SET (TY II) (18 IN) (RCP) (6:1) (P) -UPSTREAM SET (TY II) (18 IN) (RCP) (6:1) (P) -DOWNSTREAM	93.00	841.03	837.65	0.0363	1	844.00	IRREGULAR CHANNEL	6	3	0.043	0.030	837.81

~~SET (TY II) (18 IN) (RCP) (6:1) (P)~~

DRIVEWAY DRAIN HYDRAULIC COMPUTATIONS

NAME	*Q25 (CFS)	Q100 (CFS)	OUTLET V25 (FT/S)	OUTLET V100 (FT/S)	TW V25 (FT/S)	TW V100 (FT/S)	HW25	HW100	TW25	TW100	USGS FLOW TYPE 25	USGS FLOW TYPE 100
S2-DW01-RT	9.00	13.00	8.37	9.24	-	-	816.82	817.36	813.54	813.71	1-S2n	5-S2n
S2-DW01-LT	11.00	16.00	9.86	10.76	-	-	818.59	819.29	815.14	815.83	1-S2n	5-S2n
S2-DW02-RT	12.00	18.00	3.63	2.95	-	-	790.29	790.61	789.36	789.99	4-FFf	4-FFf
S2-DW03-RT	42.00	63.00	9.00	9.25	3.91	4.35	840.47	841.10	837.35	837.64	5-S2n	5-S2n
S2-DW03LT	3.00	4.00	8.67	9.42	2.87	3.19	842.03	842.20	837.81	837.84	1-S2n	1-S2n

DRIVEWAY DRAIN PEAK FLOW CALCULATIONS TABLE

DRAINAGE ID	DRAINAGE AREA (AC)	COMPOSITE C	*TC	I5	Q5	I10	Q10	I25	Q25	I50	Q50	I100	Q100
			(MIN)	(IN/HR)	(CFS)	(IN/HR)	(CFS)	(IN/HR)	(CFS)	(IN/HR)	(CFS)	(IN/HR)	(CFS)
SEGMENT 2 PROPOSED CONDITIONS													
S2-DW01-RT	1.46	0.72	10.8	5.66	6	6.58	7	7.70	9	8.90	11	9.97	13
S2-DW01-LT	3.38	0.39	12.0	5.43	7	6.32	8	7.41	11	8.59	14	9.63	16
S2-DW02-RT	2.50	0.56	10.0	5.81	8	6.75	9	7.88	12	9.11	15	10.20	18
S2-DW03-RT	13.70	0.44	17.8	4.56	28	5.33	32	6.31	42	7.36	53	8.29	63
S2-DW03-LT	0.85	0.39	12.5	5.34	2	6.21	2	7.30	3	8.46	3	9.50	4

DESIGN YEAR = 25-YR
 * PER WILLIAMSON COUNTY DESIGN CRITERIA MANUAL AND TXDOT HYDRAULIC DESIGN MANUAL, A 10 MINUTE MINIMUM TIME OF CONCENTRATION WAS USED FOR RATIONAL METHOD CALCULATIONS.
 * RAINFALL INTENSITIES REFERENCE THE ATLAS OF DEPTH-DURATION FREQUENCY OF PRECIPITATION OF ANNUAL MAXIMA FOR TEXAS (TXDOT 5-1301-01-1) PER TXDOT HYDRAULIC MANUAL.



Phaisarn Cwatanaphol, P.E. 7/30/19

1	7/30/19	DRIVEWAY ADDITION (NEW SHEET)	PC
NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2
 DRIVEWAY DRAIN HYDROLOGY
 &
 HYDRAULIC COMPUTATIONS**

SHEET OF

DESIGN	QL	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	QL	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	PC	CONTROL		SECTION		JOB	
CHECK	QL		2103		01		034

105A


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HY-8 DRIVEWAY DRAIN INPUT DATA																
CULVERT DATA											TAILWATER DATA					
NAME	SHAPE	SIZE (IN)	n	INLET CONFIGURATION	OVERALL LENGTH (FT)	INLET ELEVATION (FT)	OUTLET ELEVATION (FT)	SLOPE (FT/FT)	NUMBER OF BARRELS	ALLOWABLE HEADWATER (FT)	CHANNEL TYPE	BOTTOM WIDTH (FT)	SIDE SLOPE	CHANNEL SLOPE (FT/FT)	n	25-YR TAILWATER ELEVATION (FT)
S2-DW01-RT	ARCH	28.5 X 18	0.013	SET (TY II) (DES 3) (RCP) (6:1) (P) -UPSTREAM SET (TY II) (DES 3) (RCP) (6:1) (P) -DOWNSTREAM	66.00	815.48	814.08	0.0212	1	817.55	IRREGULAR CHANNEL	4	3	0.0076	0.045	813.54
S2-DW01-LT	CIRCULAR	24	0.013	SET (TY II) (18 IN) (RCP) (6:1) (P) -UPSTREAM SET (TY II) (18 IN) (RCP) (6:1) (P) -DOWNSTREAM	82.00	816.73	814.62	0.0257	1	819.40	IRREGULAR CHANNEL	6	4	0.0181	0.045	815.14
S2-DW02-RT	ARCH	22 X 13.5	0.013	SET (TY II) (DES 1) (RCP) (6:1) (P) -UPSTREAM SET (TY II) (DES 1) (RCP) (6:1) (P) -DOWNSTREAM	178.00	788.10	787.56	0.0030	2	790.41	IRREGULAR CHANNEL	6	3	0.0065	0.045	789.36
S2-DW03-RT	CIRCULAR	24	0.013	SET (TY II) (24 IN) (RCP) (6:1) (P) -UPSTREAM SET (TY II) (24 IN) (RCP) (6:1) (P) -DOWNSTREAM	79.00	836.97	836.01	0.0122	2	840.73	IRREGULAR CHANNEL	4	3	0.0076	0.030	837.35
S2-DW03LT	CIRCULAR	18	0.013	SET (TY II) (18 IN) (RCP) (6:1) (P) -UPSTREAM SET (TY II) (18 IN) (RCP) (6:1) (P) -DOWNSTREAM	93.00	841.03	837.65	0.0363	1	844.00	IRREGULAR CHANNEL	6	3	0.043	0.030	837.81

DRIVEWAY DRAIN HYDRAULIC COMPUTATIONS												
NAME	*Q25 (CFS)	Q100 (CFS)	OUTLET V25 (FT/S)	OUTLET V100 (FT/S)	TW V25 (FT/S)	TW V100 (FT/S)	HW25	HW100	TW25	TW100	USGS FLOW TYPE 25	USGS FLOW TYPE 100
S2-DW01-RT	9.00	13.00	8.37	9.24	-	-	816.82	817.36	813.54	813.71	1-S2n	5-S2n
S2-DW01-LT	11.00	16.00	9.86	10.76	-	-	818.59	819.29	815.14	815.83	1-S2n	5-S2n
S2-DW02-RT	12.00	18.00	3.63	2.95	-	-	790.29	790.61	789.36	789.99	4-FFf	4-FFf
S2-DW03-RT	42.00	63.00	9.00	9.25	3.91	4.35	840.47	841.10	837.35	837.64	5-S2n	5-S2n
S2-DW03LT	3.00	4.00	8.67	9.42	2.87	3.19	842.03	842.20	837.81	837.84	1-S2n	1-S2n


DRAINAGE ID	DRAINAGE AREA (AC)	COMPOSITE C	DRIVEWAY DRAIN PEAK FLOW CALCULATIONS TABLE										
			*TC (MIN)	I5 (IN/HR)	Q5 (CFS)	I10 (IN/HR)	Q10 (CFS)	I25 (IN/HR)	Q25 (CFS)	I50 (IN/HR)	Q50 (CFS)	I100 (IN/HR)	Q100 (CFS)
SEGMENT 2 PROPOSED CONDITIONS													
S2-DW01-RT	1.46	0.72	10.8	5.66	6	6.58	7	7.70	9	8.90	11	9.97	13
S2-DW01-LT	3.38	0.39	12.0	5.43	7	6.32	8	7.41	11	8.59	14	9.63	16
S2-DW02-RT	2.50	0.56	10.0	5.81	8	6.75	9	7.88	12	9.11	15	10.20	18
S2-DW03-RT	13.70	0.44	17.8	4.56	28	5.33	32	6.31	42	7.36	53	8.29	63
S2-DW03-LT	0.85	0.39	12.5	5.34	2	6.21	2	7.30	3	8.46	3	9.50	4


DESIGN YEAR = 25-YR
 * PER WILLIAMSON COUNTY DESIGN CRITERIA MANUAL AND TXDOT HYDRAULIC DESIGN MANUAL, A 10 MINUTE MINIMUM TIME OF CONCENTRATION WAS USED FOR RATIONAL METHOD CALCULATIONS.
 RAINFALL INTENSITIES REFERENCE THE ATLAS OF DEPTH-DURATION FREQUENCY OF PRECIPITATION OF ANNUAL MAXIMA FOR TEXAS (TXDOT 5-1301-01-1) PER TXDOT HYDRAULIC MANUAL.



Phaisarn Cwatanaphol, P.E. 7/30/19

1	7/30/19	DRIVEWAY ADDITION (NEW SHEET)	PC
NO.	DATE	REVISION	APPROVED





HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

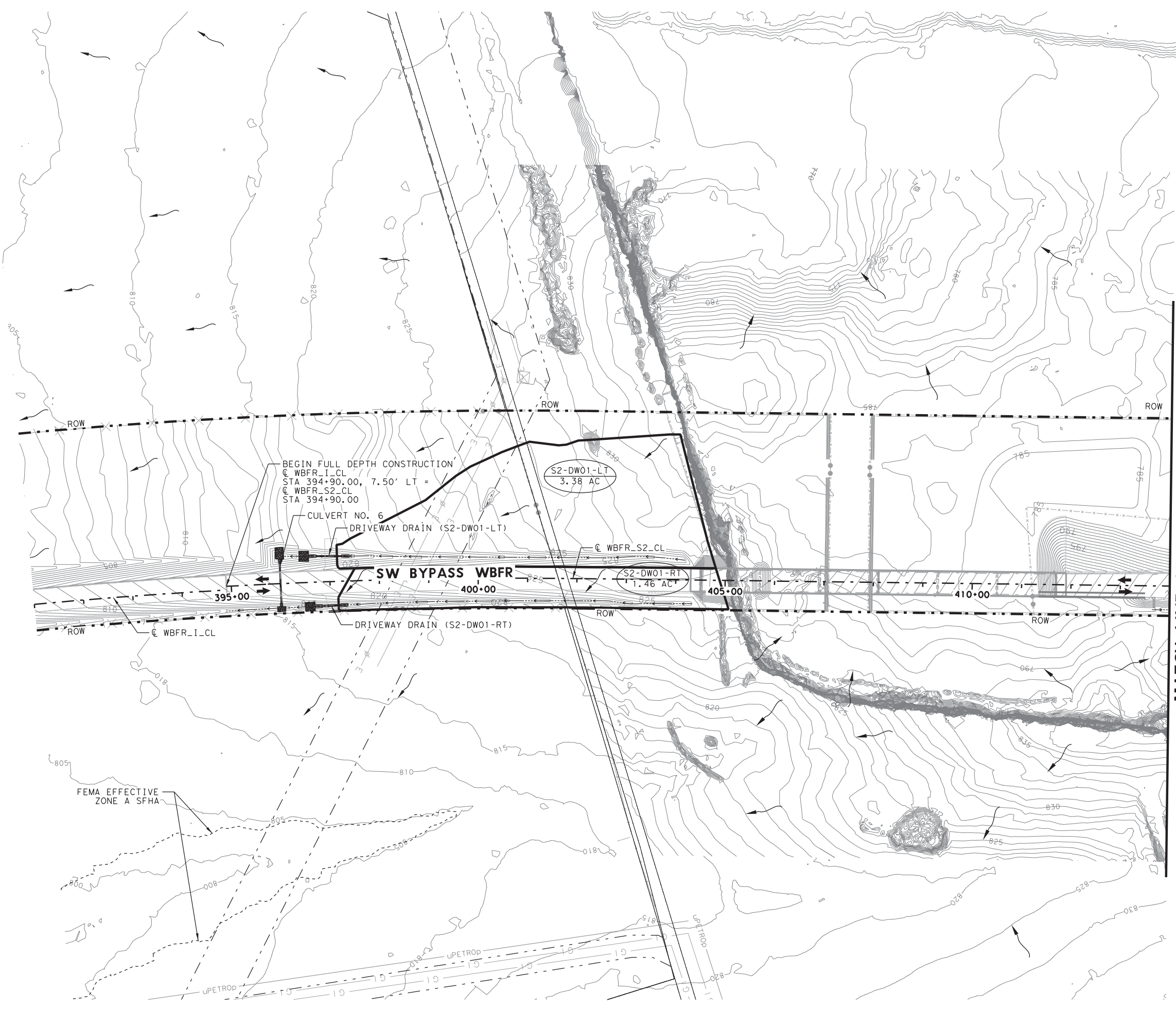
SOUTHWEST BYPASS SEGMENT 2 DRIVEWAY DRAIN HYDROLOGY & HYDRAULIC COMPUTATIONS

SHEET OF

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
QL	6			
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
QL	TEXAS	AUS	WILLIAMSON	
CHECK	CONTROL	SECTION	JOB	
PC				
QL	2103	01	034	

105A

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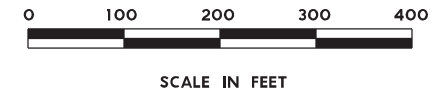


MATCH LINE STA 414+00

LEGEND

	PROPOSED DRAINAGE AREA BOUNDARY
	MAJOR CONTOURS
	MINOR CONTOURS
	PROPOSED DITCH
	FLOW ARROW
	DRAINAGE AREA ID
	DRAINAGE AREA

- NOTES:**
- DRAINAGE ANALYSIS PER WILLIAMSON COUNTY DRAINAGE CRITERIA MANUAL.
 - SEE DRAINAGE REPORT FOR EXISTING AND OVERALL PROPOSED DRAINAGE AREA.



Phaisarn Cwatanaphol, P.E. 7/30/19

1	7/30/19	DRIVEWAY ADDITION (NEW SHEET)	PC
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2**

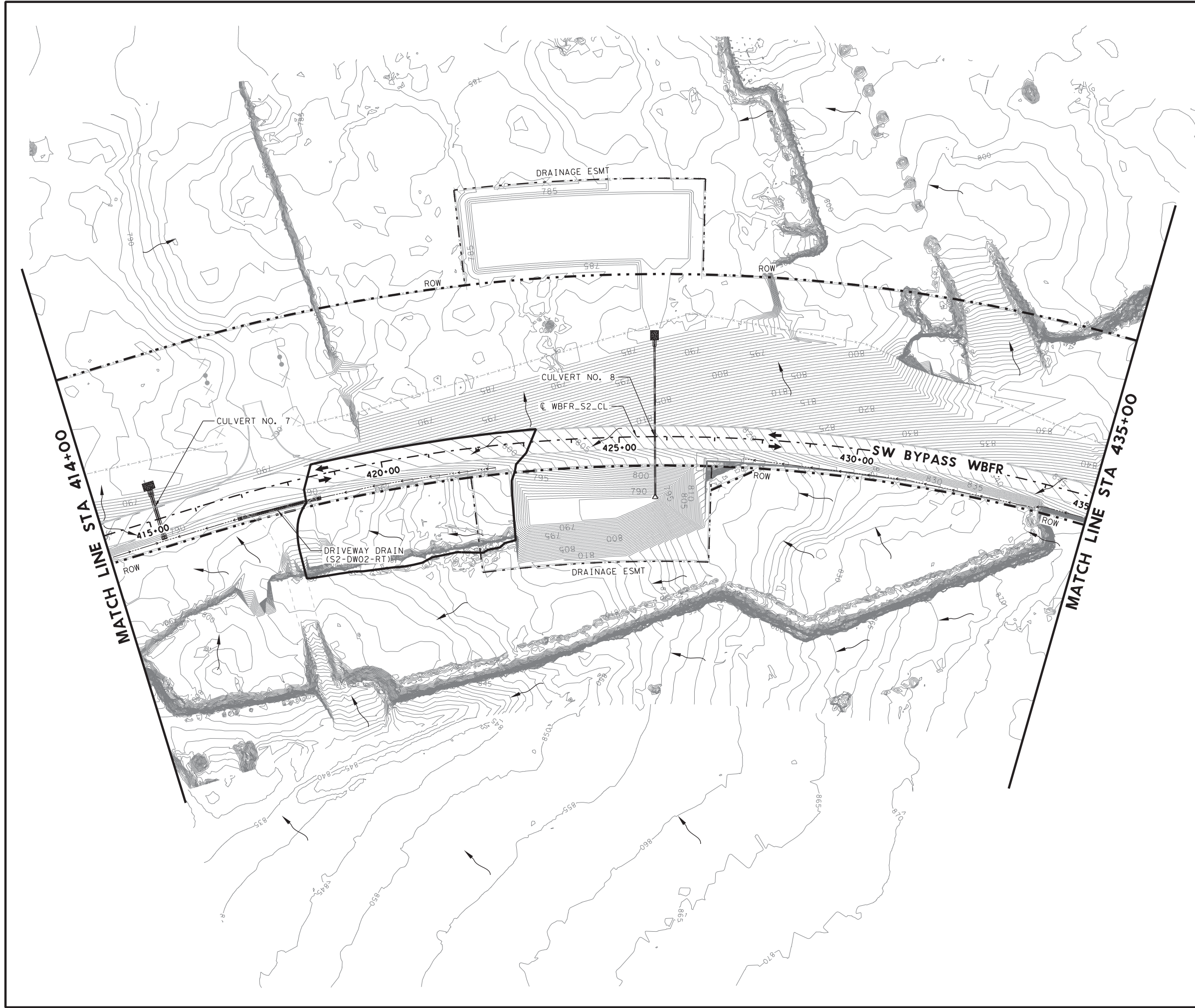
**PROPOSED DRIVEWAY DRAIN
 DRAINAGE AREA MAP
 BEGIN TO STA 414+00**

SCALE: 1"=200' SHEET 1 OF 3

DESIGN	QL	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	QL	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	PC	CONTROL	2103	SECTION	01	JOB	034
CHECK	QL						

108A

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LEGEND

- PROPOSED DRAINAGE AREA BOUNDARY
- MAJOR CONTOURS
- MINOR CONTOURS
- PROPOSED DITCH
- FLOW ARROW
- DRAINAGE AREA ID
- DRAINAGE AREA

- NOTES:**
- DRAINAGE ANALYSIS PER WILLIAMSON COUNTY DRAINAGE CRITERIA MANUAL.
 - SEE DRAINAGE REPORT FOR EXISTING AND OVERALL PROPOSED DRAINAGE AREA.



Phaisarn Cwatanaphol, P.E. 7/30/19

1	7/30/19	DRIVWAY ADDITION (NEW SHEET)	PC
NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2**

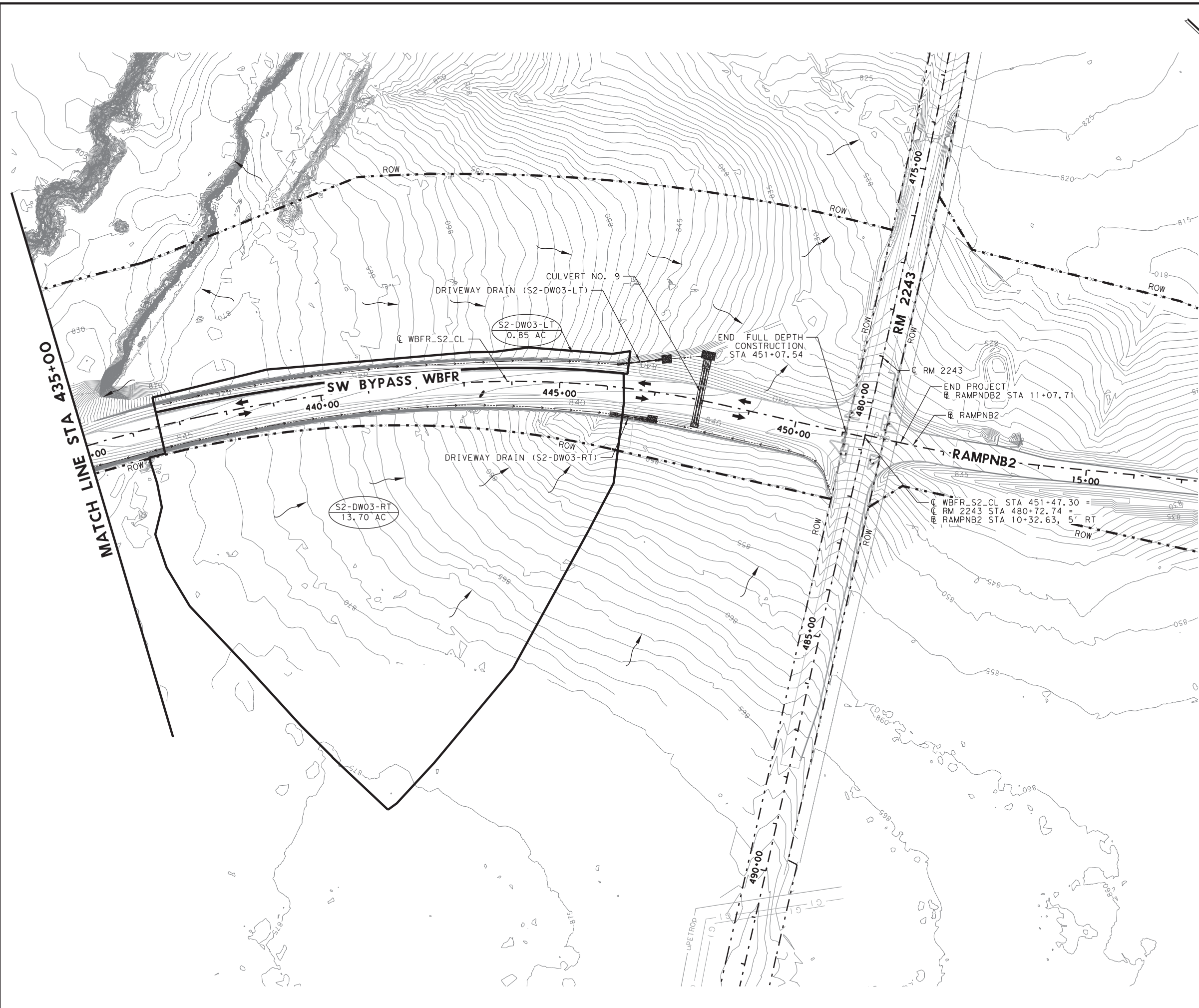
**PROPOSED DRIVEWAY DRAIN
 DRAINAGE AREA MAP
 STA 414+00 TO STA 435+00**

SCALE: 1" = 200' SHEET 2 OF 3

DESTN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
QL	6			
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
LG	TEXAS	AUS	WILLIAMSON	
CHECK	CONTROL	SECTION	JOB	
PC	2103	01	034	
CHECK				
QL				

108B

PLOT DRIVER: TXDOT_MIN_LASER.plt
 USER: QLUU
 FILE: Williamson_County\SH29_SW_Bypass_2243_to_JH35_V6_0_CAD_BIM\6.2_Work_In_Progress\6.2.2_Contract_Files\Sheet_Files\06_WA_5_Segment_2\Drainage\WBFR_S2_DRN_DW-PROPO3.dgn



LEGEND

- PROPOSED DRAINAGE AREA BOUNDARY
- MAJOR CONTOURS
- MINOR CONTOURS
- PROPOSED DITCH
- FLOW ARROW
- DRAINAGE AREA ID
- DRAINAGE AREA

- NOTES:**
- DRAINAGE ANALYSIS PER WILLIAMSON COUNTY DRAINAGE CRITERIA MANUAL.
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Phaisarn Cwatanaphol, P.E. 7/30/19

1	7/30/19	DRIVEWAY ADDITION (NEW SHEET)	PC
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY **HDR** HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2**

**PROPOSED DRIVEWAY DRAIN
 DRAINAGE AREA MAP
 STA 435+00 TO ENDC**

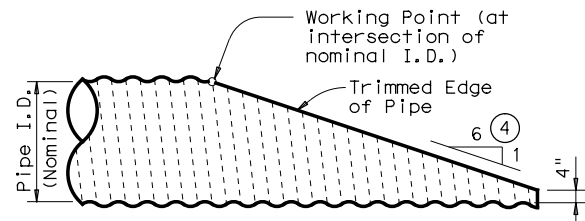
SCALE: 1"=200' SHEET 3 OF 3

DESIGN	QL	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	QL	6			
CHECK	PC	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	QL	TEXAS	AUS	WILLIAMSON	
		CONTROL	SECTION	JOB	
		2103	01	034	

108C

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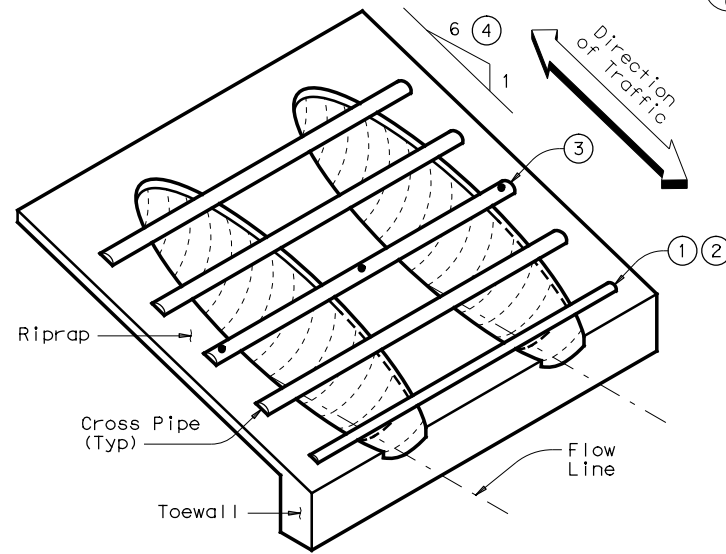
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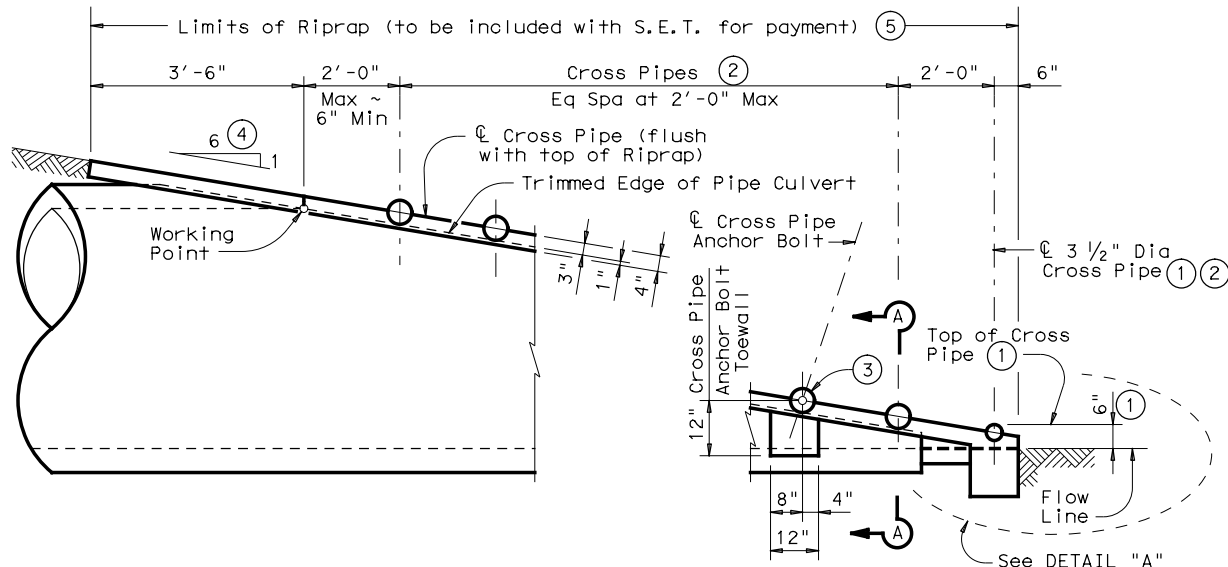
NOTE: All Cross Pipes, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing Corrugated Metal Pipe Culvert.)
 (Details at Concrete Pipe Culvert are similar.)

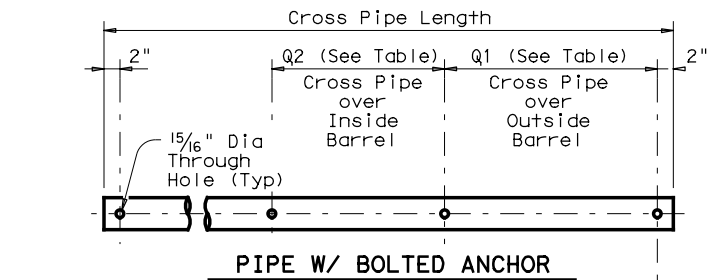


ISOMETRIC VIEW OF TYPICAL INSTALLATION

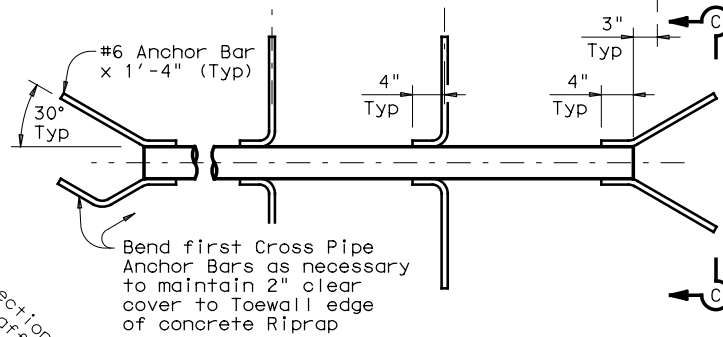


SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

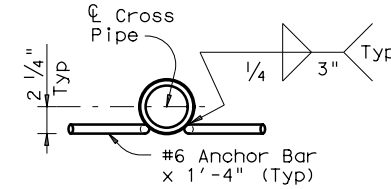
(Showing Concrete Pipe Culvert.)
 (Details at Corrugated Metal Pipe Culvert are similar.)



PIPE W/ BOLTED ANCHOR



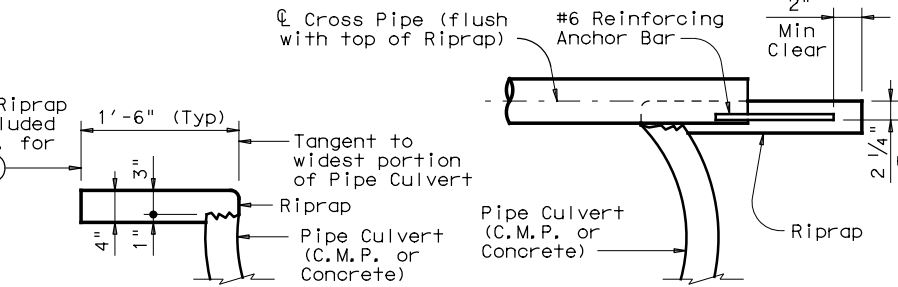
PIPE W/ ANCHOR BARS



SECTION C-C

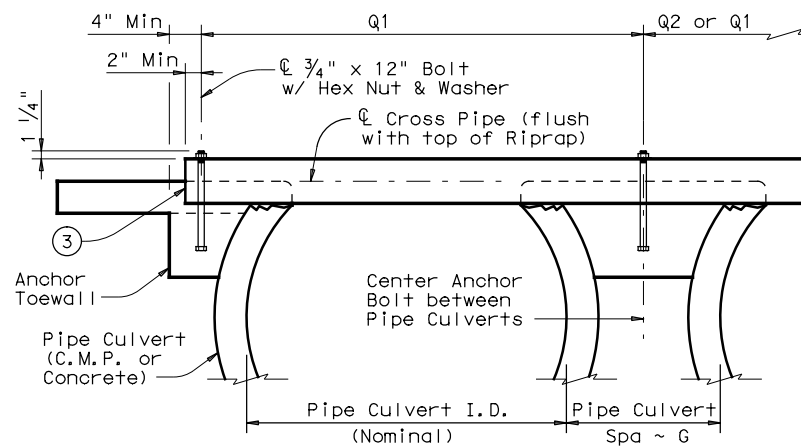
CROSS PIPE DETAILS

Limits of Riprap (to be included with S.E.T. for payment) ⑤



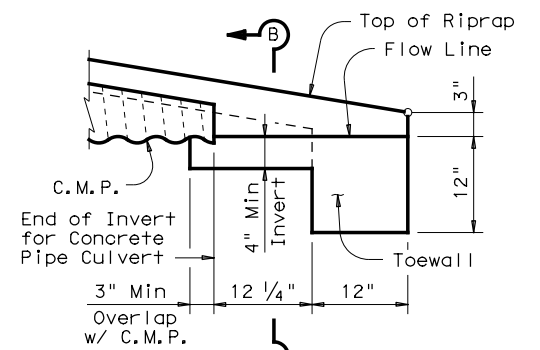
SHOWING TYPICAL PIPE CULVERT & RIPRAP

SHOWING CROSS PIPE WITH ANCHOR BAR



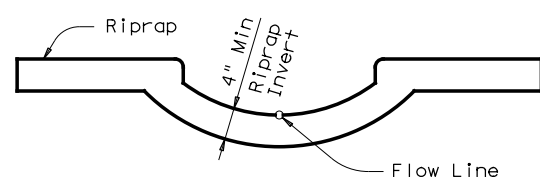
SECTION A-A

SECTION A-A



DETAIL "A"

(Showing Invert with Corrugated Metal Pipe Culvert. Concrete Pipe Culvert details are similar. Cross Pipes not shown for clarity.)



SECTION B-B

(Cross Pipes not shown for clarity.)

CROSS PIPE LENGTHS, REQUIRED PIPE SIZES, & RIPRAP QUANTITIES ②

Nominal Culvert I.D.	Conc Riprap (CY) ⑥	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi-Barrel ~ Q1	Q2	Conditions for use of Cross Pipes	Cross Pipe Size
12"	0.6	9"	N/A	2'-1"	1'-9"	3 or more Pipe Culverts	3" Std (3.500" O.D.)
15"	0.7	11"	N/A	2'-5"	2'-2"		
18"	0.8	1'-2"	N/A	2'-10"	2'-8"		
21"	0.9	1'-4"	N/A	3'-2"	3'-1"		
24"	0.9	1'-7"	N/A	3'-6"	3'-7"	3 or more Pipe Culverts	3 1/2" Std (4.000" O.D.)
27"	1.0	1'-8"	N/A	3'-10"	3'-11"		
30"	1.1	1'-10"	N/A	4'-2"	4'-4"	2 or more Pipe Culverts	3 1/2" Std (4.000" O.D.)
33"	1.2	1'-11"	4'-2"	4'-5"	4'-8"	All Pipe Culverts	
36"	1.3	2'-1"	4'-5"	4'-9"	5'-1"	All Pipe Culverts	4" Std (4.500" O.D.)
42"	1.5	2'-4"	4'-11"	5'-5"	5'-10"		
48"	1.7	2'-7"	5'-5"	6'-0"	6'-7"	All Pipe Culverts	5" Std (5.563" O.D.)
54"	2.0	3'-0"	5'-11"	6'-9"	7'-6"		
60"	2.2	3'-3"	6'-5"	7'-4"	8'-3"		
66"	2.4	3'-3"	6'-11"	7'-10"	8'-9"		
72"	2.7	3'-4"	7'-5"	8'-5"	9'-4"		

- ① The proper installation of the first Cross Pipe is critical for vehicle safety. The top of the first Cross Pipe must be placed at no more than 6" above the flow line.
- ② Size of Cross Pipes, except the first bottom pipe, shall be as shown in the PIPE SIZE table. The first bottom pipe shall be 3 1/2" Standard Pipe (4" O.D.).
- ③ The third Cross Pipe from the bottom of the Culvert shall always be installed using a bolted connection. Care shall be taken to ensure that Riprap concrete does not flow into the Cross Pipe so as to permit disassembly of the bolted connection to allow cleanout access. At the Contractor's option, all other Cross Pipes may also be installed using the bolted connection details.
- ④ Match Cross Slope as shown elsewhere in the plans. Cross Slope of 6:1 or flatter is required for vehicle safety.
- ⑤ Riprap placed beyond the limits shown will be paid as Concrete Riprap in accordance with Item 432, "Riprap".
- ⑥ Quantities shown are for one end of one reinforced Concrete Pipe Culvert. For multiple pipe culverts or for Corrugated Metal Pipe Culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.

GENERAL NOTES:

Cross Pipes are designed for a traversing load of 10,000 pounds at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.

Safety End Treatments shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the Cross Pipes.

Riprap and all necessary inverts shall be Concrete Riprap conforming to the requirements of Item 432, "Riprap". Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.

Payment for riprap and toewall is included in the Price Bid for each Safety End Treatment.

Cross Pipes shall conform to the requirements of ASTM A53 (Type E or S, Grade B), ASTM A500 (Grade B), or API 5LX52. Bolts and nuts shall conform to ASTM A307.

All steel components, except concrete reinforcing, shall be galvanized after fabrication. Galvanizing damaged during transport or construction shall be repaired in accordance with the specifications.

Texas Department of Transportation Bridge Division Standard

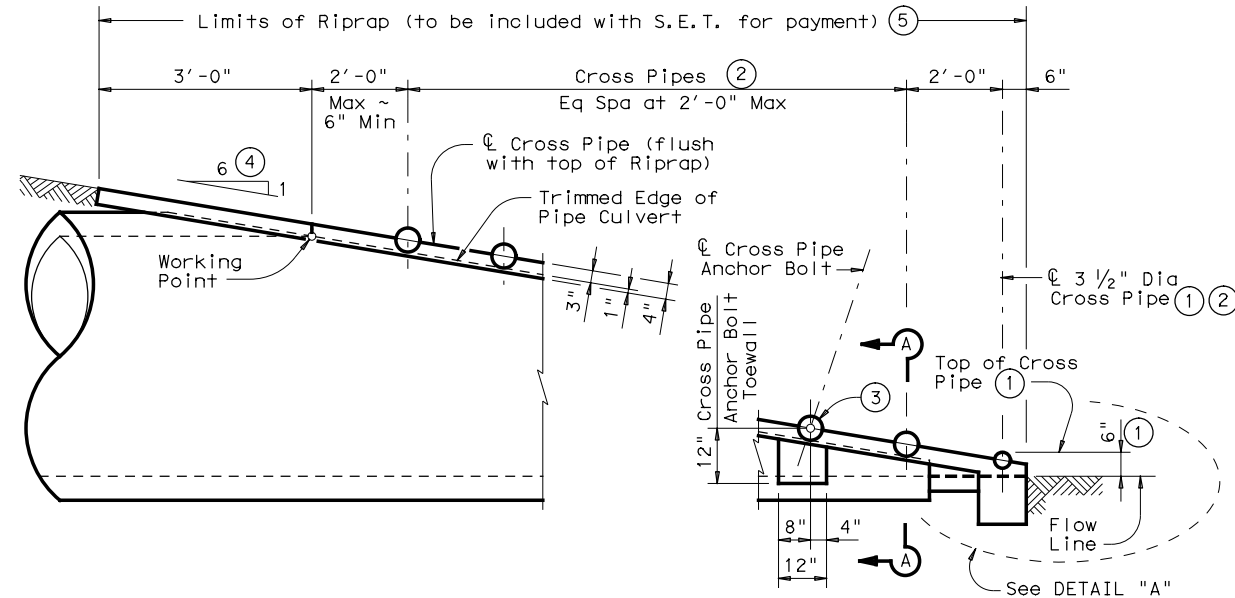
SAFETY END TREATMENT FOR 12" DIA TO 72" DIA PIPE CULVERTS TYPE II ~ PARALLEL DRAINAGE

SETP-PD

FILE: setppdse.dgn	DN: GAF	CK: CAT	DW: JRP	CK: GAF
©TxDOT February 2010	CONT	SECT	JOB	HIGHWAY
REVISIONS	2103	01	034	
11-10: Add note for synthetic fibers.	DIST	COUNTY	SHEET NO.	
	AUS	WILLIAMSON	117A	

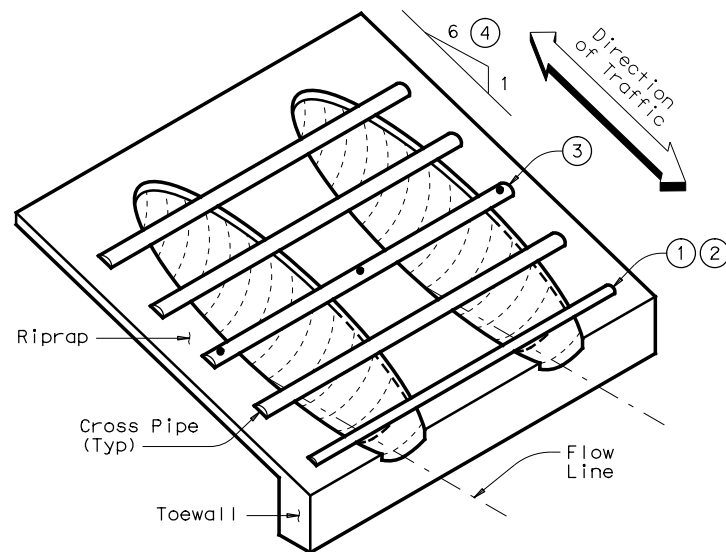
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

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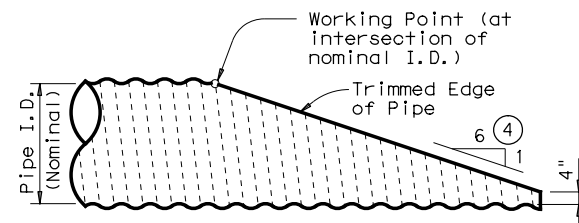


SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing Concrete Pipe Culvert.)
 (Details at Corrugated Metal Pipe Culvert are similar.)



ISOMETRIC VIEW OF TYPICAL INSTALLATION



NOTE: All Cross Pipes, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing Corrugated Metal Pipe Culvert.)
 (Details at Concrete Pipe Culvert are similar.)

CROSS PIPE LENGTHS & REQUIRED PIPE SIZES ②

CORRUGATED METAL PIPE CULVERTS									
Design	Conc Riprap (CY) ⑥	Pipe Culvert Span	Pipe Culvert Rise	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi-Barrel ~ Q1	Q2	Conditions for use of Cross Pipes	Cross Pipe Size
1	0.6	17"	13"	1'-0"	N/A	2'-8"	2'-5"	3 or more Pipe Culverts	3" Std (3.500" O.D.)
2	0.7	21"	15"	1'-2"	N/A	3'-1"	2'-11"		3 1/2" Std (4.000" O.D.)
3	0.9	28"	20"	1'-5"	N/A	3'-9"	3'-9"		All Pipe Culverts
4	1.0	35"	24"	1'-8"	4'-4"	4'-6"	4'-7"	All Pipe Culverts	4" Std (4.500" O.D.)
5	1.2	42"	29"	1'-11"	4'-11"	5'-2"	5'-5"		5" Std (5.563" O.D.)
6	1.4	49"	33"	2'-2"	5'-6"	5'-11"	6'-3"		
7	1.6	57"	38"	2'-5"	6'-2"	6'-8"	7'-2"	All Pipe Culverts	5" Std (5.563" O.D.)
8	1.8	64"	43"	2'-10"	6'-9"	7'-6"	8'-2"		
9	1.9	71"	47"	3'-2"	7'-4"	8'-3"	9'-1"		

CONCRETE PIPE CULVERTS									
Design	Conc Riprap (CY) ⑥	Pipe Culvert Span	Pipe Culvert Rise	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi-Barrel ~ Q1	Q2	Conditions for use of Cross Pipes	Cross Pipe Size
1	0.6	22"	13 1/2"	1'-0"	N/A	3'-1"	2'-10"	3 or more Pipe Culverts	3" Std (3.500" O.D.)
2	0.7	26"	15 1/2"	1'-2"	N/A	3'-6"	3'-4"		3 1/2" Std (4.000" O.D.)
3	0.9	28 1/2"	18"	1'-5"	N/A	3'-10"	3'-9 1/2"		All Pipe Culverts
4	1.0	36 1/4"	22 1/2"	1'-8"	4'-5"	4'-7"	4'-8 1/4"	All Pipe Culverts	4" Std (4.500" O.D.)
5	1.2	43 3/4"	26 5/8"	1'-11"	5'-1"	5'-4"	5'-6 3/4"		5" Std (5.563" O.D.)
6	1.4	51 1/8"	31 5/16"	2'-2"	5'-8"	6'-1"	6'-5 1/4"		
7	1.6	58 1/2"	36"	2'-5"	6'-4"	6'-10"	7'-3 1/2"	All Pipe Culverts	5" Std (5.563" O.D.)
8	1.8	65"	40"	2'-10"	6'-10"	7'-7"	8'-3"		
9	1.9	73"	45"	3'-2"	7'-6"	8'-5"	9'-3"		

- ① The proper installation of the first Cross Pipe is critical for vehicle safety. The top of the first Cross Pipe must be placed at no more than 6" above the flow line.
- ② Size of Cross Pipes, except the first bottom pipe, shall be as shown in the PIPE SIZE table. The first bottom pipe shall be 3 1/2" Standard Pipe (4" O.D.).
- ③ The third Cross Pipe from the bottom of the Culvert shall always be installed using a bolted connection. Care shall be taken to ensure that Riprap concrete does not flow into the Cross Pipe so as to permit disassembly of the bolted connection to allow cleanout access. At the Contractor's option, all other Cross Pipes may also be installed using the bolted connection details.
- ④ Match Cross Slope as shown elsewhere in the plans. Cross Slope of 6:1 or flatter is required for vehicle safety.
- ⑤ Riprap placed beyond the limits shown will be paid as Concrete Riprap in accordance with Item 432, "Riprap".
- ⑥ Quantities shown are for one end of one Pipe Culvert. For multiple Pipe Culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.

GENERAL NOTES:

Cross Pipes are designed for a traversing load of 10,000 pounds at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.

Safety End Treatments shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the Cross Pipes.

Riprap and all necessary inverts shall be Concrete Riprap conforming to the requirements of Item 432, "Riprap".

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.

Payment for riprap and toewall is included in the Price Bid for each Safety End Treatment.

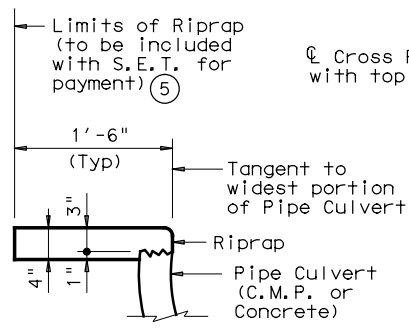
Cross Pipes shall conform to the requirements of ASTM A53 (Type E or S, Grade B), ASTM A500 (Grade B), or API 5LX52.

Bolts and nuts shall conform to ASTM A307.

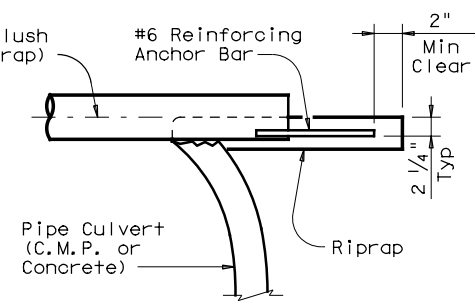
All steel components, except concrete reinforcing, shall be galvanized after fabrication. Galvanizing damaged during transport or construction shall be repaired in accordance with the specifications.

		Bridge Division Standard	
SAFETY END TREATMENT FOR DESIGN 1 TO 9 ARCH PIPE CULVERTS TYPE II ~ PARALLEL DRAINAGE			
SETP-PD-A			
FILE: setppase.dgn	DN: GAF	CK: TxDOT	DW: JRP
©TxDOT February 2010	CONT SECT	JOB	HIGHWAY
REVISIONS	2103 01	034	
11-10: Add note for synthetic fibers.	DIST	COUNTY	SHEET NO.
	AUS	WILLIAMSON	117B

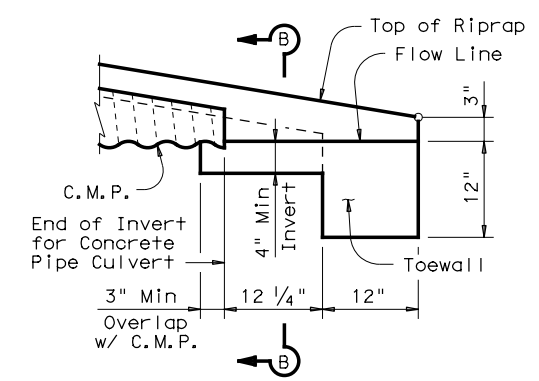
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SHOWING TYPICAL PIPE CULVERT & RIPRAP

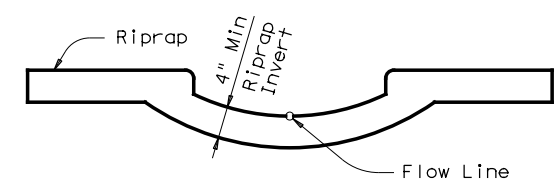


SHOWING CROSS PIPE WITH ANCHOR BAR



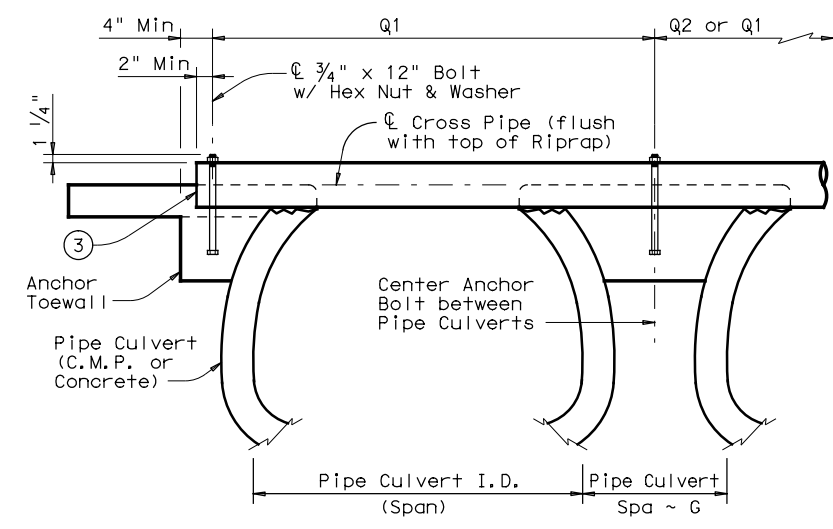
DETAIL "A"

(Showing Invert with Corrugated Metal Pipe Culvert. Concrete Pipe Culvert details are similar. Cross Pipes not shown for clarity.)



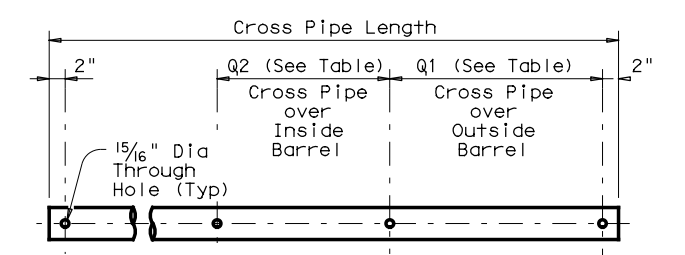
SECTION B-B

(Cross Pipes not shown for clarity.)

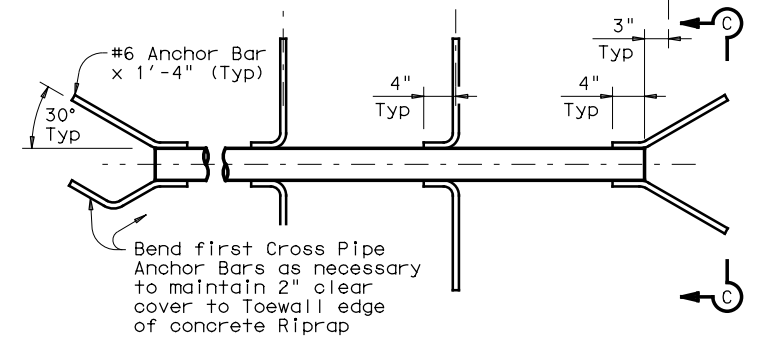


SHOWING CROSS PIPE WITH BOLTED ANCHOR

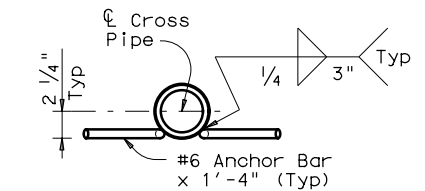
SECTION A-A



PIPE W/ BOLTED ANCHOR



PIPE W/ ANCHOR BARS



SECTION C-C

CROSS PIPE DETAILS

SHEET 2 OF 2



SAFETY END TREATMENT FOR DESIGN 1 TO 9 ARCH PIPE CULVERTS TYPE II ~ PARALLEL DRAINAGE

SETP-PD-A

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©TxDOT February 2010	CONTRACT	SECTION	JOB	HIGHWAY
REVISIONS	2103	01	034	
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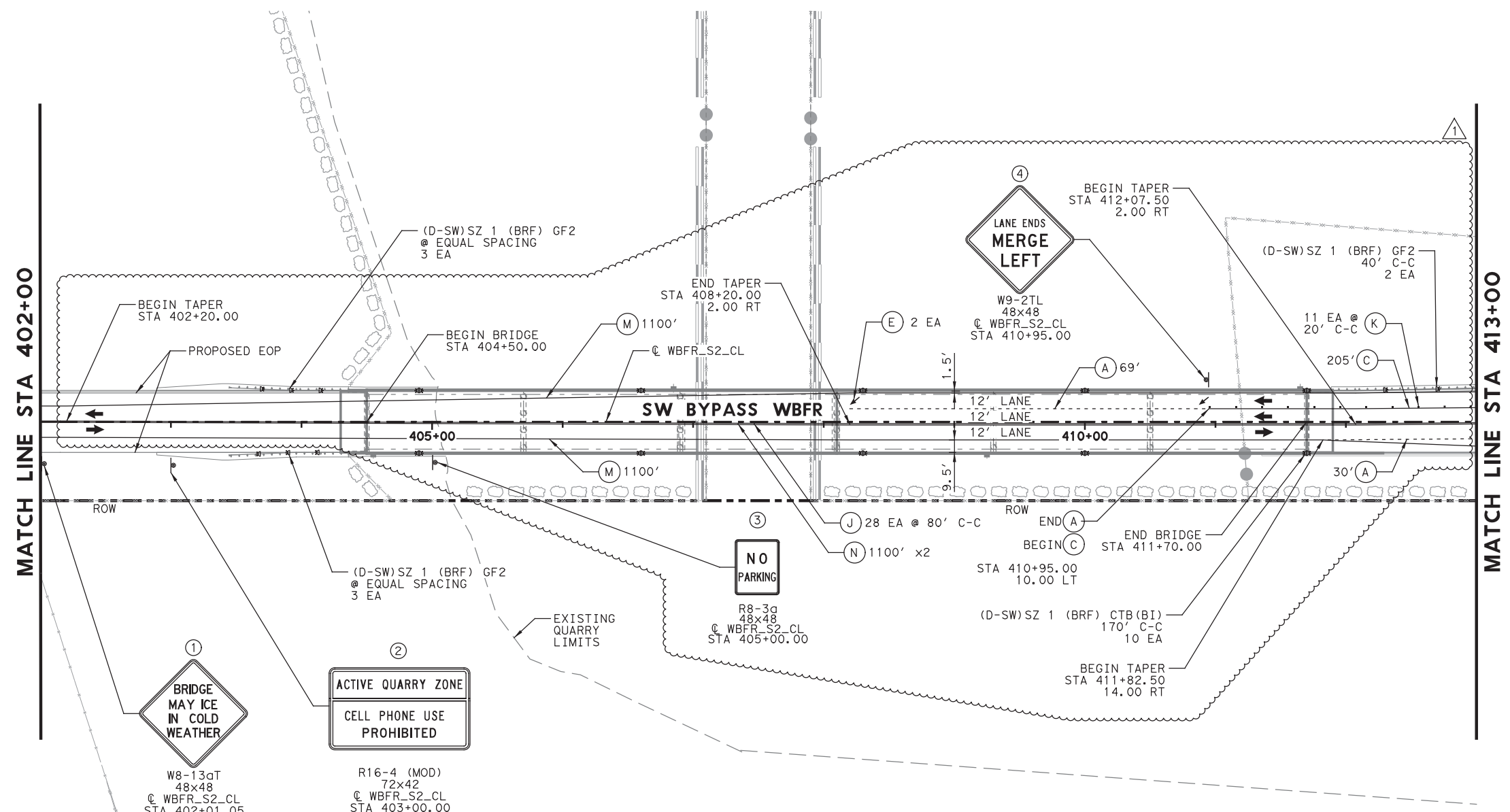
PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
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 SCALE: 1/8"=100'

LEGEND

- (A) REFL PAV MRK TY I (W) 4" (DOT) (100MIL)
- (B) RE PM W/RET REQ TY I (W) 4" (SLD) (100MIL)
- (C) REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- (D) REFL PAV MRK TY I (W) 24" (SLD) (100MIL)
- (E) REFL PAV MRK TY I (W) (ARROW) (100MIL)
- (F) REFL PAV MRK TY I (W) (WORD) (100MIL)
- (G) REFL PAV MRK TY I (W) 36" (YLD TRI) (100MIL)
- (H) RE PM W/RET REQ TY I (Y) 4" (SLD) (100MIL)
- (I) REFL PAV MRK TY I (Y) 24" (SLD) (100MIL)
- (J) REFL PAV MRK TY II-A-A
- (K) REFL PAV MRK TY I-C
- (L) REFL PAV MRK TY II-C-R
- (M) REF PROF PAV MRK TY I (W) 4" (SLD) (060MIL)
- (N) REF PROF PAV MRK TY I (Y) 4" (SLD) (090MIL)
- SIGN (1 SIDE)
- SIGN (2 SIDE)
- ⊕ DELINEATOR
- ⊕ DELINEATOR (BI)
- ⊕ ASSM (OM-2Y) (WC) GND
- ⊗ EXISTING SIGN TO BE REMOVED
- EXISTING SIGN TO REMAIN
- PROPOSED SIGN

NOTES:

- REFER TO SUMMARY OF SMALL SIGNS FOR SIGN QUANTITIES.
- ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
- ALL PAVEMENT MARKINGS ARE TY I (100MIL) UNLESS OTHERWISE SPECIFIED.
- RESPECTIVE "REFL PAV MRK TY II" ITEM INCLUDED IN QUANTITIES AS SEALER FOR TY I MARKINGS APPLIED TO ALL CONCRETE SURFACES AS WELL AS ASPHALT SURFACES OLDER THEN 3 YEARS.
- ALL STATIONS AND OFFSETS REFER TO WBFR_S2_CL UNLESS OTHERWISE NOTED.



07/30/2019

1	7/30/19	DRIVEWAY ADDITION	JDC
NO.	DATE	REVISION	APPROVED

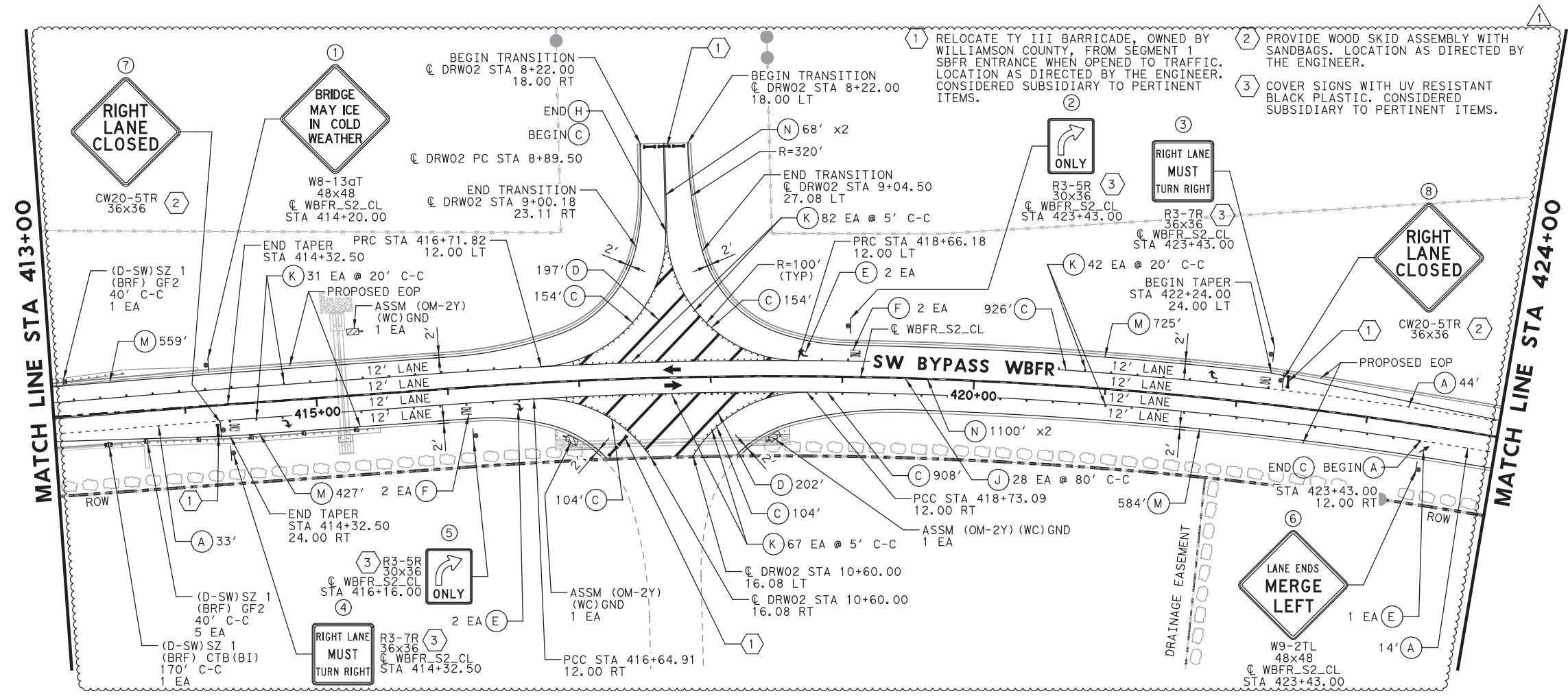
WILLIAMSON COUNTY **HDR** HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2
 SIGNING AND STRIPING
 WBFR
 STA 402+00 TO STA 413+00**

SCALE: 1"=100' SHEET 4 OF 8

DESTN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	2103	SECTION	01	JOB	034
CHECK	JC						222

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ@DATE: 7/30/2019
 TIME: 12:21:21 PM
 SCALE: 1:100
 FILE: \



- LEGEND**
- (A) REFL PAV MRK TY I (W) 4" (DOT) (100MIL)
 - (B) RE PM W/RET REQ TY I (W) 4" (SLD) (100MIL)
 - (C) REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
 - (D) REFL PAV MRK TY I (W) 24" (SLD) (100MIL)
 - (E) REFL PAV MRK TY I (W) (ARROW) (100MIL)
 - (F) REFL PAV MRK TY I (W) (WORD) (100MIL)
 - (G) REFL PAV MRK TY I (W) 36" (YLD TRI) (100MIL)
 - (H) RE PM W/RET REQ TY I (Y) 4" (SLD) (100MIL)
 - (I) REFL PAV MRK TY I (Y) 24" (SLD) (100MIL)
 - (J) REFL PAV MRK TY II-A-A
 - (K) REFL PAV MRK TY I-C
 - (L) REFL PAV MRK TY II-C-R
 - (M) REF PROF PAV MRK TY I (W) 4" (SLD) (060MIL)
 - (N) REF PROF PAV MRK TY I (Y) 4" (SLD) (090MIL)

- SIGN (1 SIDE)
- SIGN (2 SIDE)
- ⊕ DELINEATOR
- ⊕ DELINEATOR (BI)
- ⊕ ASSM (OM-2Y) (WC) GND
- ⊗ EXISTING SIGN TO BE REMOVED
- EXISTING SIGN TO REMAIN
- PROPOSED SIGN

- NOTES:**
- REFER TO SUMMARY OF SMALL SIGNS FOR SIGN QUANTITIES.
 - ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
 - ALL PAVEMENT MARKINGS ARE TY I (100MIL) UNLESS OTHERWISE SPECIFIED.
 - RESPECTIVE "REFL PAV MRK TY II" ITEM INCLUDED IN QUANTITIES AS SEALER FOR TY I MARKINGS APPLIED TO ALL CONCRETE SURFACES AS WELL AS ASPHALT SURFACES OLDER THEN 3 YEARS.
 - ALL STATIONS AND OFFSETS REFER TO WBFR_S2_CL UNLESS OTHERWISE NOTED.



07/30/2019

1	7/30/19	DRIVEWAY ADDITION	JDC
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY **HDR** HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2**

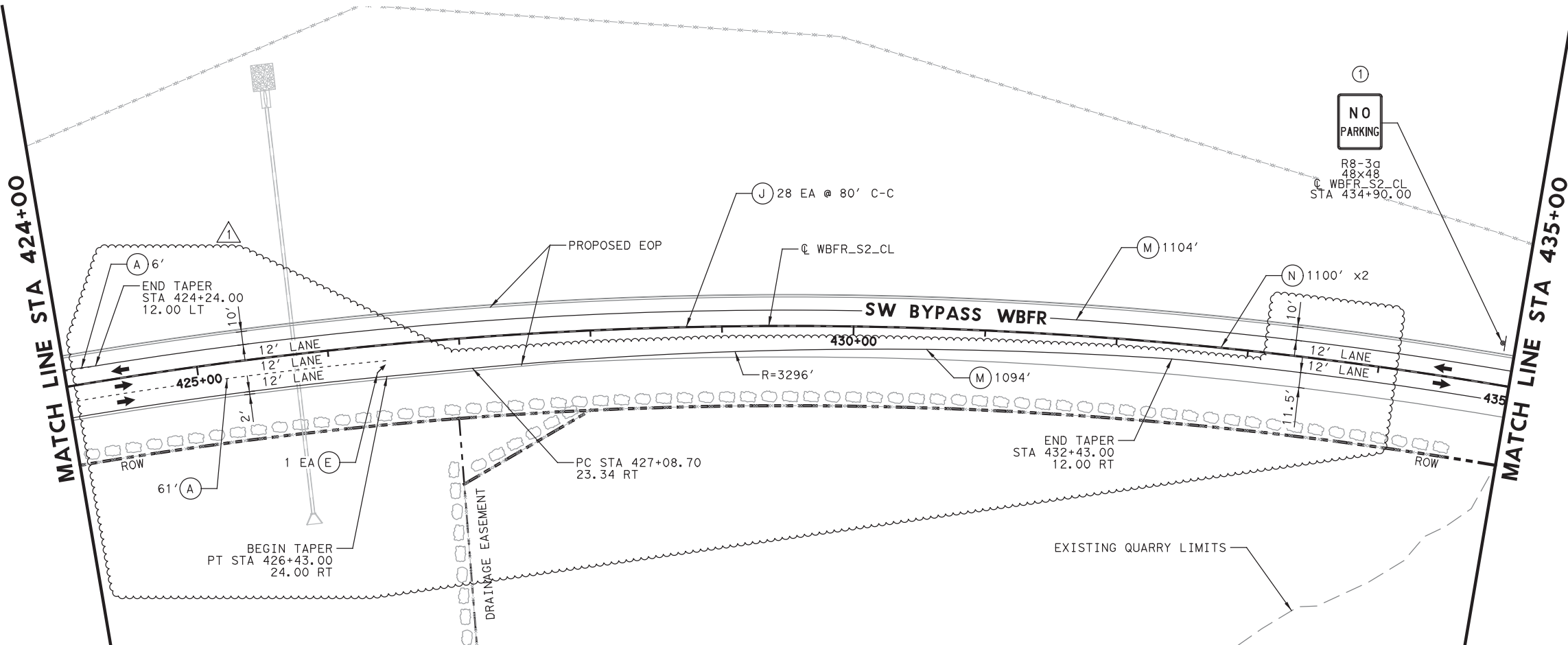
**SIGNING AND STRIPING
 WBFR**

STA 413+00 TO STA 424+00

SCALE: 1"=100' SHEET 5 OF 8

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	2103	SECTION	01	JOB	034
CHECK	JC						223

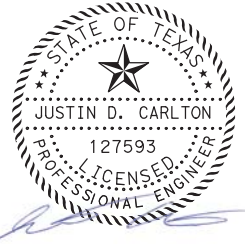
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 USER: LGOMEZ
 DATE: 7/30/2019
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- LEGEND**
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 - (C) REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
 - (D) REFL PAV MRK TY I (W) 24" (SLD) (100MIL)
 - (E) REFL PAV MRK TY I (W) (ARROW) (100MIL)
 - (F) REFL PAV MRK TY I (W) (WORD) (100MIL)
 - (G) REFL PAV MRK TY I (W) 36" (YLD TRI) (100MIL)
 - (H) RE PM W/RET REQ TY I (Y) 4" (SLD) (100MIL)
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 - (J) REFL PAV MRK TY II-A-A
 - (K) REFL PAV MRK TY I-C
 - (L) REFL PAV MRK TY II-C-R
 - (M) REF PROF PAV MRK TY I (W) 4" (SLD) (060MIL)
 - (N) REF PROF PAV MRK TY I (Y) 4" (SLD) (090MIL)

- SIGN (1 SIDE)
- SIGN (2 SIDE)
- ⊕ DELINEATOR
- ⊕⊕ DELINEATOR (BI)
- ⊕ ASSM (OM-2Y) (WC)GND
- ⊗ EXISTING SIGN TO BE REMOVED
- EXISTING SIGN TO REMAIN
- PROPOSED SIGN

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07/30/2019

1	7/30/19	DRIVEWAY ADDITION	JDC
NO.	DATE	REVISION	APPROVED



HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

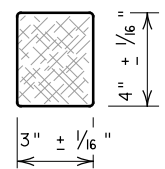
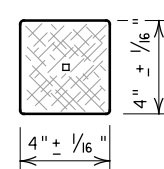
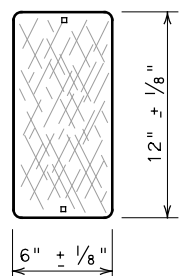
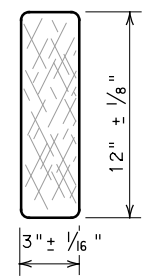
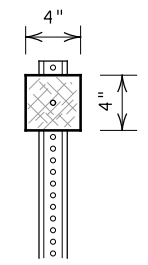
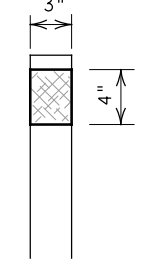
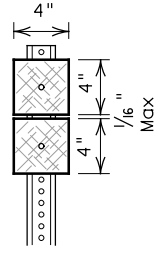
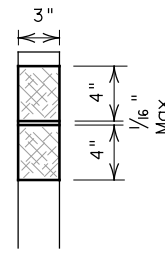
**SOUTHWEST BYPASS
 SEGMENT 2
 SIGNING AND STRIPING
 WBFR
 STA 424+00 TO STA 435+00**

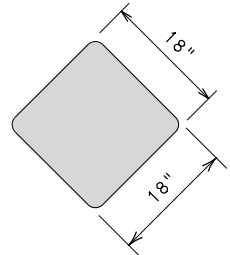
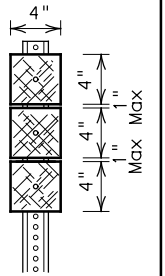
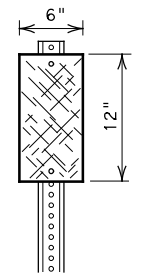
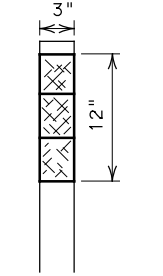
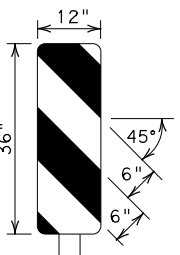
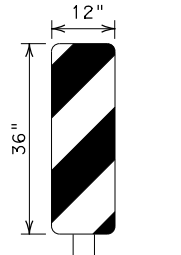
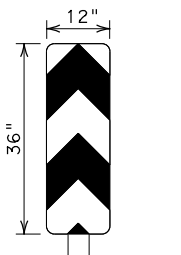
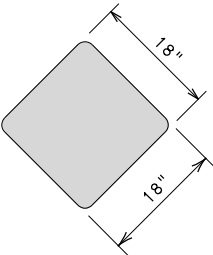
SCALE: 1"=100' SHEET 6 OF 8

DESTN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	2103	SECTION	01	JOB	034
CHECK	JC						224

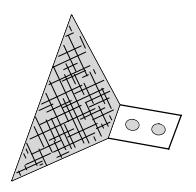

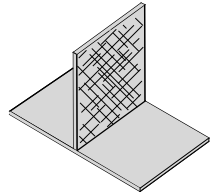
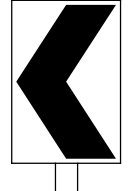
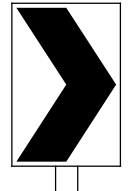
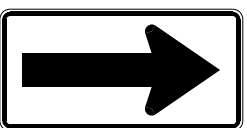
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REFLECTOR UNIT SIZES FOR DELINEATORS AND OBJECT MARKERS				DELINEATORS				D & OM DESCRIPTIVE CODES		
DEVICE	SIZE 1	SIZE 2	SIZE 3	SIZE 4	SINGLE		DOUBLE		INSTL DEL ASSM (D-XX)SZ X (XXX)XXX(XX) NUMBER OF REFLECTORS S = Single D = Double COLOR OF REFLECTORS W = White Y = Yellow R = Red REFLECTOR UNIT SIZE 1 or 2 TYPE OF POST OR DELINEATOR WC = Wing Channel Post FLX = Flexible Post BRF = Barrier Reflector TYPE OF MOUNT GND = Embedded (drivable or set in concrete) CTB = Concrete Barrier Mount GF1 or GF2 = Guard Fence Attachment SRF = Surface Mount DIRECTION If Required BI = Bi-Directional BR = Bi-Directional with red on back	
										
SHEETING	Yellow, White or Red Type B or C reflective sheeting				Yellow, White or Red Type B or C Reflective Sheeting					
NOTE	1. Size 1 and 4 - Direct applied reflective sheeting for use on flexible post (flx). 2. Size 2 and 3 - For use on wing channel (wc) post only. Use approved metal, plastic or fiberglass backplate with 17/64" mounting holes.				POST TYPE	WC	FLX	WC	FLX	INSTL OM ASSM (OM-XX) (XXX)XXX(XX) TYPE OF OBJECT MARKER 1, 2, 3, or 4 NUMBER OF REFLECTORS OR DIRECTION X = 3-Size 2 reflector units (Type 2 only) Y = 1-Size 3 reflector unit (Type 2 only) Z = 3-Size 1 or 1-Size 4 reflector unit(s) (Type 2 only) L = Left Side (Type 3 Object Marker only) R = Right Side (Type 3 Object Marker only) C = Center (Type 3 Object Marker only) TYPE OF POST WC = Wing Channel Post FLX = Flexible Post TWT = Thin Walled Tubing TYPE OF MOUNT GND = Embedded (drivable) SRF = Surface Mount WAS = Wedge Anchor Steel WAP = Wedge Anchor Plastic DIRECTION If Required BI = Bi-Directional
					MOUNT TYPE	GND	GND, SRF	GND	GND, SRF	

OBJECT MARKERS								
DEVICE	Type 1 (OM-1)	Type 2 (OM-2)			Type 3 (OM-3)			Type 4 (OM-4)
	OM-1	OM-2X	OM-2Y	OM-2Z	OM-3L	OM-3R	OM-3C	OM-4
								
SHEETING	Yellow-Type B _{FL} or C _{FL} Sheeting	Yellow - Type B or C Sheeting			Alternating acrylic black and retroreflective yellow - Type B _{FL} or C _{FL} Sheeting			Red -Type B _{FL} or C _{FL} Sheeting
POST TYPE	TWT	WC	WC	FLX	TWT			TWT
MOUNT TYPE	WAS, WAP	GND	GND	GND, SRF	WAS, WAP			WAS, WAP

DEPARTMENTAL MATERIAL SPECIFICATIONS	
FLEXIBLE DELINEATOR & OBJECT MARKER POSTS (EMBEDDED & SURFACE MOUNT TYPES)	DMS-4400
SIGN FACE MATERIALS	DMS-8300
DELINEATORS, OBJECT MARKERS AND BARRIER REFLECTORS	DMS-8600

BARRIER REFLECTORS (BRF)			CHEVRONS				ONE DIRECTION LARGE ARROW		NOTE: Delineator and object marker backplates and sign substrates shall be 0.080" Aluminum sign blank to conform to ASTM B-209 Alloy 6061-T6 or approved alternative.		
DEVICE	GF1	GF2	CTB	W1-8		W1-6					
											
SHEETING	Yellow, White, Red			NOTE		1. CHEVRON (W1-8) signs and ONE DIRECTION LARGE ARROW (W1-6) Signs shall be installed per Sign Mounting Details (SMD) Standard Sheets and paid under Item 644 (Small Roadside Sign Assemblies). 2. The Texas version of the ONE DIRECTION LARGE ARROW sign (W1-9T) may be used instead of the ONE DIRECTIONAL LARGE ARROW (W1-6).					
NOTE	1. Minimum 9 square inches of reflective surface area.			SIZE (W x L)	18" x 24" (Conventional)	24" x 30" (Conventional Oversize)	30" x 36" (Expressway)	36" x 48" (Freeway)	SIZE (W x L)	48" x 24" (Conventional)	60" x 30" (Expressway & Freeway)
				MOUNTING HEIGHT	4'-0" or 7'-0"		7'-0" Only	MOUNTING HEIGHT	7'-0"		


 Traffic Operations Division Standard

DELINEATOR & OBJECT MARKER MATERIAL DESCRIPTION

D & OM(1)-15

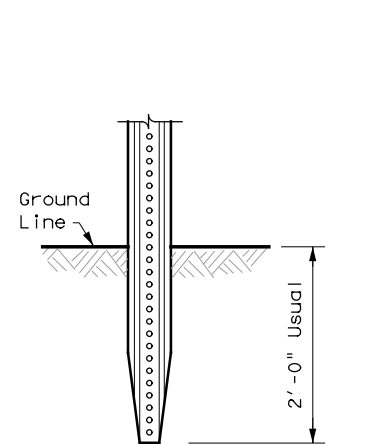
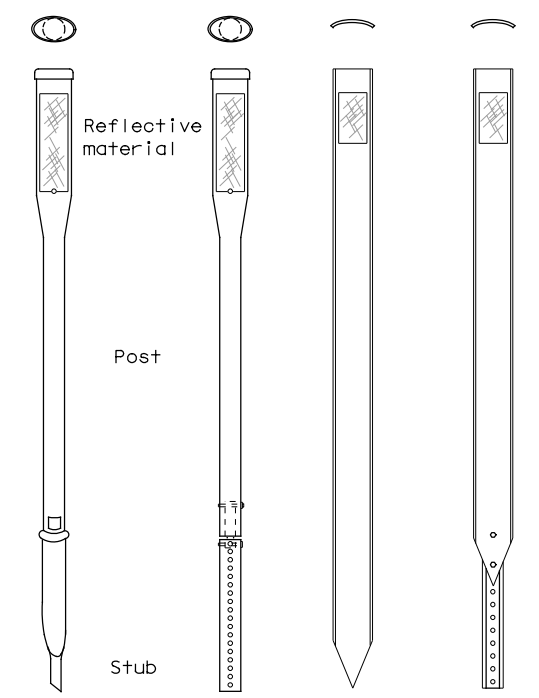
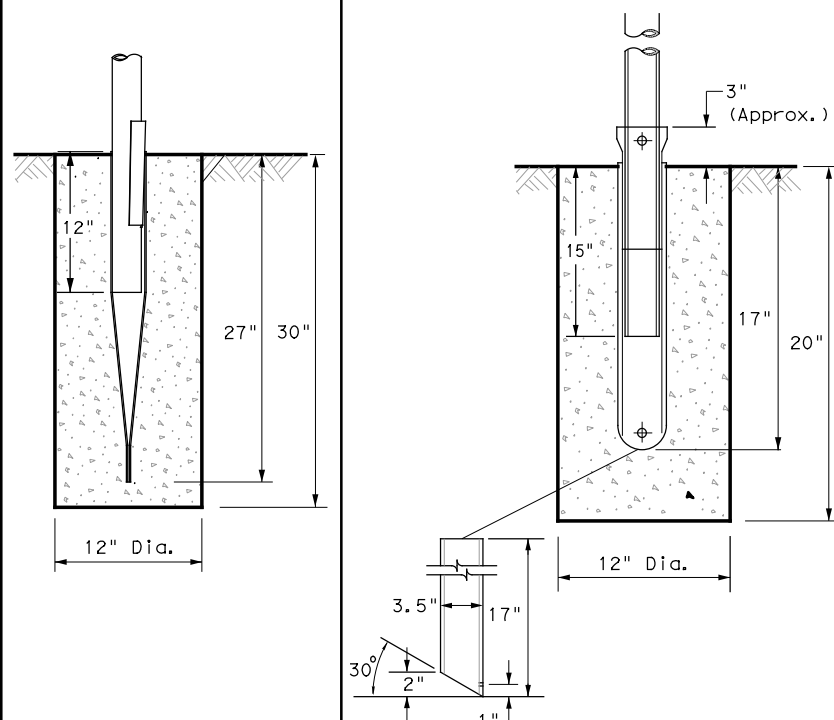
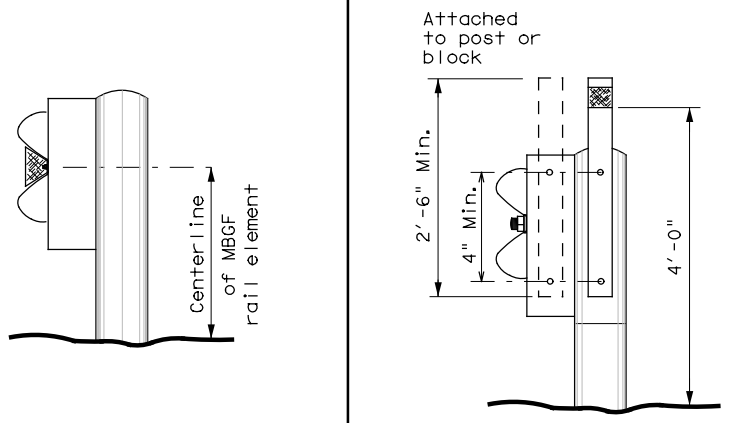
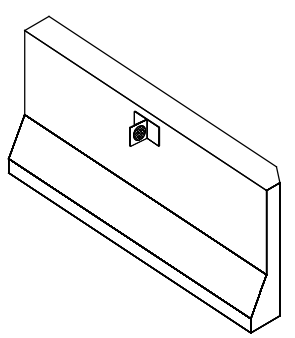
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© TXDOT August 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS	2103	01	034	
10-09 3-15	DIST	COUNTY	SHEET NO.	
4-10	AUS	WILLIAMSON	230A	

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POST TYPE AND SUPPORT FOUNDATION DETAILS

TYPE OF BARRIER MOUNTS

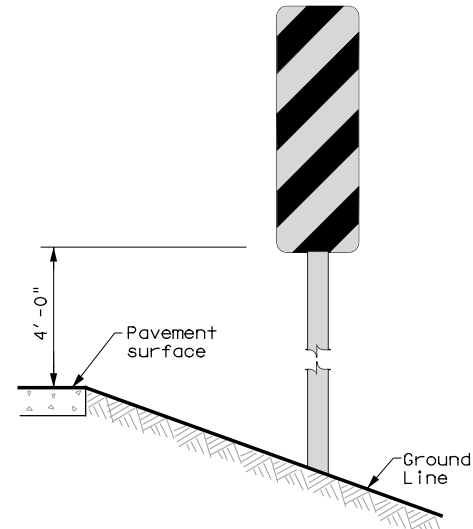
WING CHANNEL (WC)	FLEXIBLE POSTS (FLX)		WEDGE ANCHOR SYSTEMS		GUARD FENCE ATTACHMENT	
GND	GND	SRF	WAS	WAP	GF1	GF2
						
	EMBEDDED		SURFACE MOUNT		STEEL	
NOTES 1. Embedded Wing Channel (WC) post option may be used for Type 2 Object Markers and Delineators only. 2. 1.12 lbs/ft steel per ASTM A 1011 SS Gr. 50, or ASTM A499.			NOTES 1. See "Flexible Delineator and Object Marker Posts" Material Producer List for approved devices. 2. Install per manufacturer's recommendations. 3. Post length may vary to meet field conditions.		NOTE 1. Install per manufacturer's recommendations.	
CONCRETE BARRIER / BRIDGE RAIL CTB 						

TYPES 1, 3, AND 4 OBJECT MARKERS AND CHEVRONS

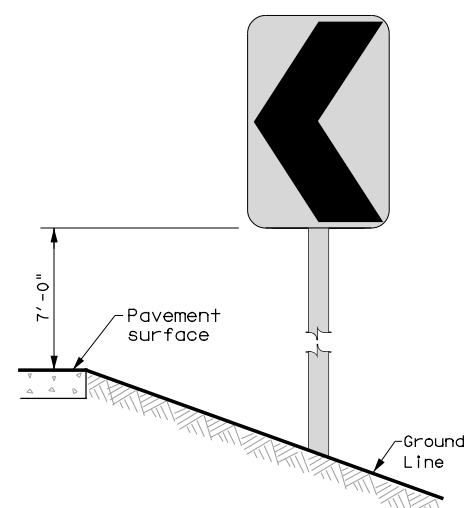
CHEVRONS AND ONE DIRECTION LARGE ARROW SIGN

DELINEATORS AND TYPE 2 OBJECT MARKERS

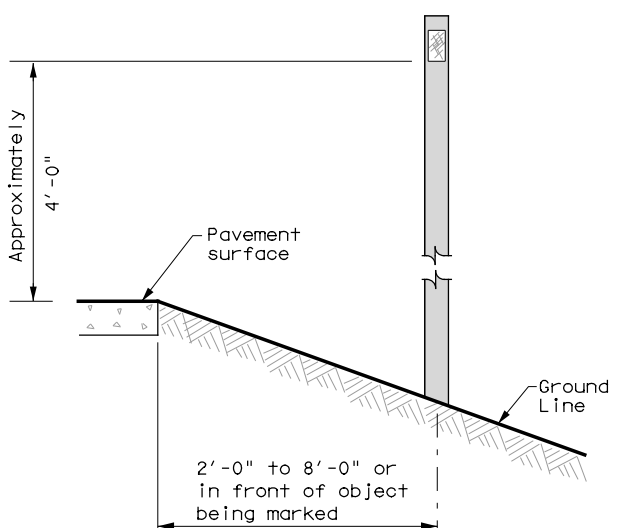
- GENERAL NOTES**
- Place delineators on a section of roadway at a consistent distance from the edge of pavement.
 - Where a restriction prevents consistent placement from the pavement edge, place the affected object markers in line with the innermost edge of the obstruction.
 - When Type 2 object markers and delineators are more than 8'-0" from the edge of the pavement, it may not be possible to maintain a height of approximately 4'-0". If this is the case, place the object marker or delineator as close to the desired height as possible.
 - Install all delineators, object markers and barrier reflectors in accordance with the manufacturer's recommendation.
 - Barrier reflectors should be installed a minimum of 18 inches above the edge of the pavement surface.




NOTE
 Mounting at 4 feet to the bottom of the chevron is permitted for chevrons that will not exceed a height of 6'-6" to the top of the chevron (sizes 24" x 30" and smaller)



NOTE
 Chevrons 30" x 36" and larger shall be mounted at a height of 7' to the bottom of the chevron. Chevron sign and ONE DIRECTIONAL LARGE ARROW sign (W1-9T) shall be installed per SMD standard sheets and paid under item 644.



See general notes 1, 2 and 3.



Texas Department of Transportation
 Traffic Operations Division Standard

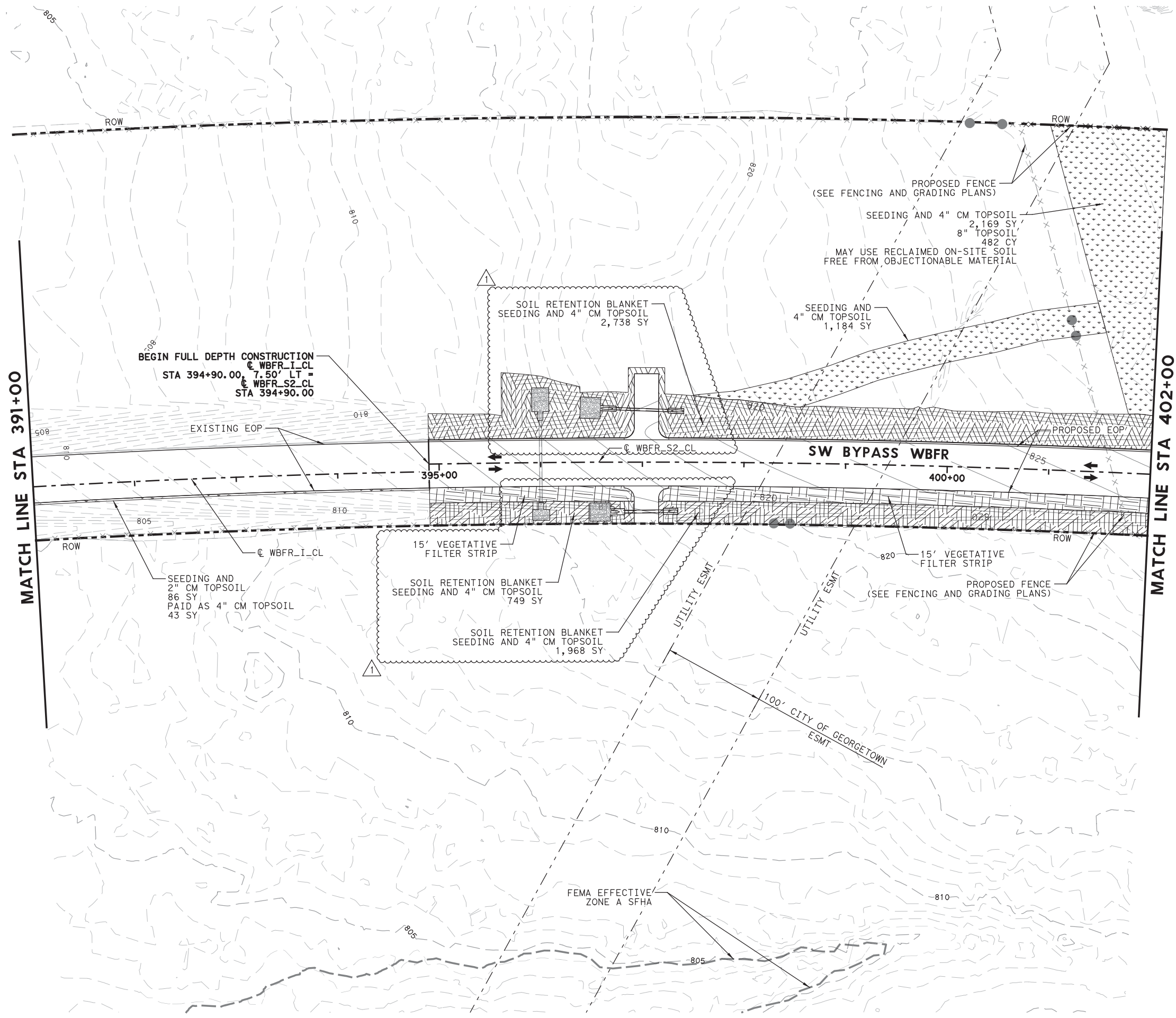
DELINEATOR & OBJECT MARKER INSTALLATION

D & OM(2)-15

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© TxDOT August 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS	2103	01	034	
10-09 3-15	DIST	COUNTY	SHEET NO.	
4-10	AUS	WILLIAMSON	230B	

20B

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZCOMDATE: 7/30/2019
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LEGEND

- PROPOSED CONSTRUCTION
- VEGETATIVE FILTER STRIP
- SOIL RETENTION BLANKET (CL 1) (TY A)
- SEEDING AND 4" COMPOST MANUF TOPSOIL
- SEEDING AND 4" COMPOST MANUF TOPSOIL
- RIPRAP (STONE PROTECTION) (8IN) TY I
- RIPRAP (STONE PROTECTION) (8IN) TY II

- NOTES:**
- DETAILED INFORMATION FOR SENSITIVE FEATURES IS PROVIDED IN THE GEOLOGIC ASSESSMENT SECTION OF THE WPAP.
 - THE MINIMUM VEGETATIVE COVER FOR ALL VEGETATIVE FILTER STRIPS IS 95% PRIOR TO PROJECT ACCEPTANCE.
 - CONTRACTOR TO NOTIFY INSPECTOR OR ENGINEER PRIOR TO PLACING BLANKETS, SEEDING, OR TOPSOIL ON SOLID ROCK OR UNDISTURBED AREAS.
 - QUANTITY FOR VEGETATIVE FILTER STRIPS, ARE INCLUDED IN SOIL RETENTION BLANKET, SEEDING, AND TOPSOIL QUANTITIES.
 - CONTRACTOR RESPONSIBLE TO VEGETATE ANY ADDITIONAL DISTURBED AREAS NOT CALLED OUT IN PLANS. PROVIDE SEEDING AND TOPSOIL FOR THESE AREAS. SUBSIDIARY TO PERTINENT ITEMS.
 - ALL 8" RIPRAP SHALL HAVE A THICKNESS OF 8" UNLESS OTHERWISE SPECIFIED. SEE GENERAL NOTES FOR GRADATION REQUIREMENTS.



07/30/2019

1	7/30/19	DRIVEWAY ADDITION	JDC
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY **HDR** HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

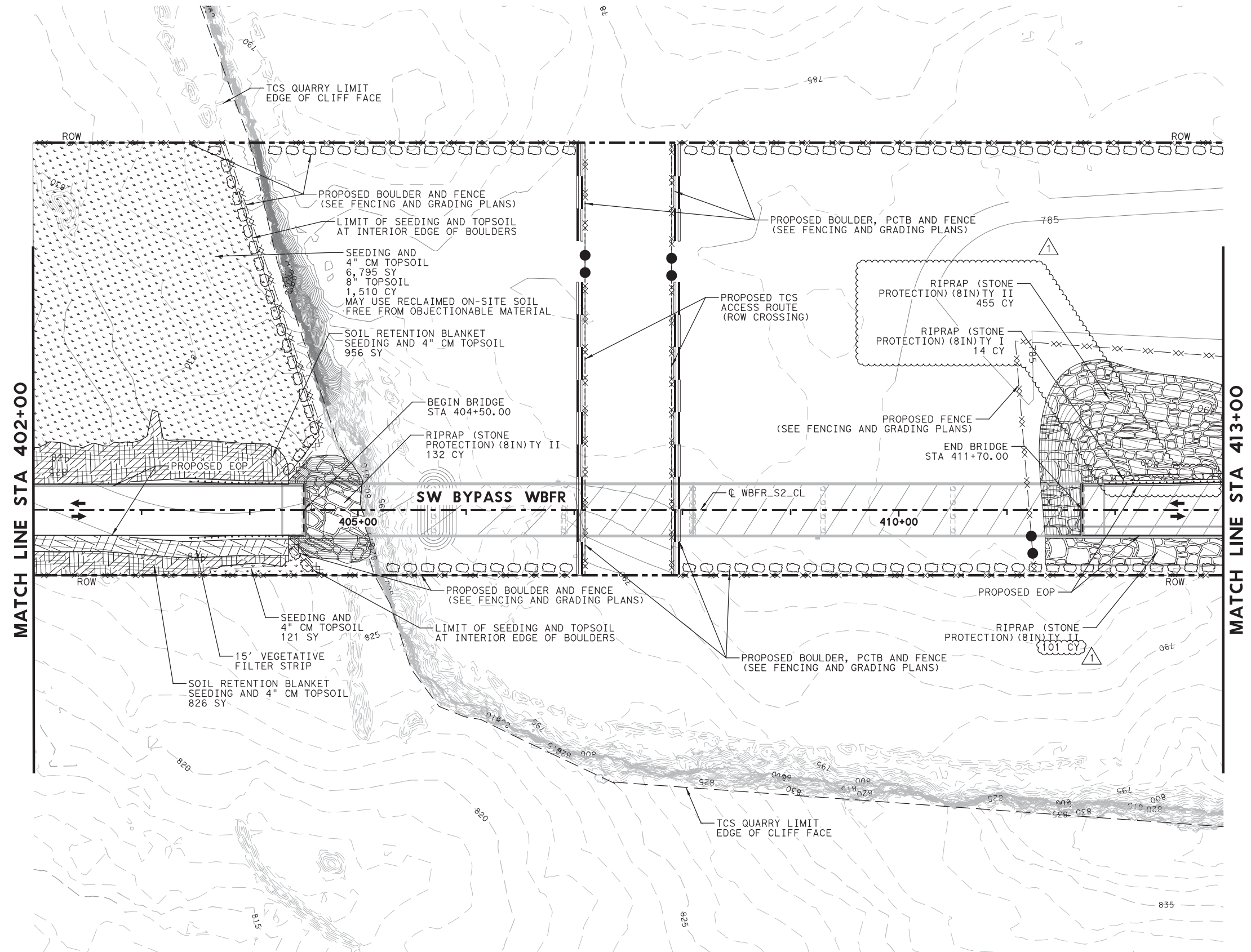
**SOUTHWEST BYPASS
 SEGMENT 2
 PERMANENT EROSION
 CONTROL PLAN**

STA 391+00 TO STA 402+00

SCALE: 1"=100' SHEET 3 OF 8

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	SECTION	JOB			
CHECK	JC	2103	01	034			259

PLOT DRIVER: TXDOT_PDF_BW.plt
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 DATE: 7/30/2019
 TIME: 12:21:37 PM
 SCALE: 1:100
 FILE: \



LEGEND

- PROPOSED CONSTRUCTION
- VEGETATIVE FILTER STRIP
- SOIL RETENTION BLANKET (CL 1) (TY A) SEEDING AND 4" COMPOST MANUF TOPSOIL
- SEEDING AND 4" COMPOST MANUF TOPSOIL
- RIPRAP (STONE PROTECTION) (8IN)TY I
- RIPRAP (STONE PROTECTION) (8IN)TY II

- NOTES:**
1. DETAILED INFORMATION FOR SENSITIVE FEATURES IS PROVIDED IN THE GEOLOGIC ASSESSMENT SECTION OF THE WPAP.
 2. THE MINIMUM VEGETATIVE COVER FOR ALL VEGETATIVE FILTER STRIPS IS 95% PRIOR TO PROJECT ACCEPTANCE.
 3. CONTRACTOR TO NOTIFY INSPECTOR OR ENGINEER PRIOR TO PLACING BLANKETS, SEEDING, OR TOPSOIL ON SOLID ROCK OR UNDISTURBED AREAS.
 4. QUANTITY FOR VEGETATIVE FILTER STRIPS ARE INCLUDED IN SOIL RETENTION BLANKET, SEEDING, AND TOPSOIL QUANTITIES.
 5. CONTRACTOR RESPONSIBLE TO VEGETATE ANY ADDITIONAL DISTURBED AREAS NOT CALLED OUT IN PLANS. PROVIDE SEEDING AND TOPSOIL FOR THESE AREAS. SUBSIDIARY TO PERTINENT ITEMS.
 6. ALL 8" RIPRAP SHALL HAVE A THICKNESS OF 8" UNLESS OTHERWISE SPECIFIED. SEE GENERAL NOTES FOR GRADATION REQUIREMENTS.



07/30/2019

1	7/30/19	DRIVEWAY ADDITION	JDC
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY **HDR** HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

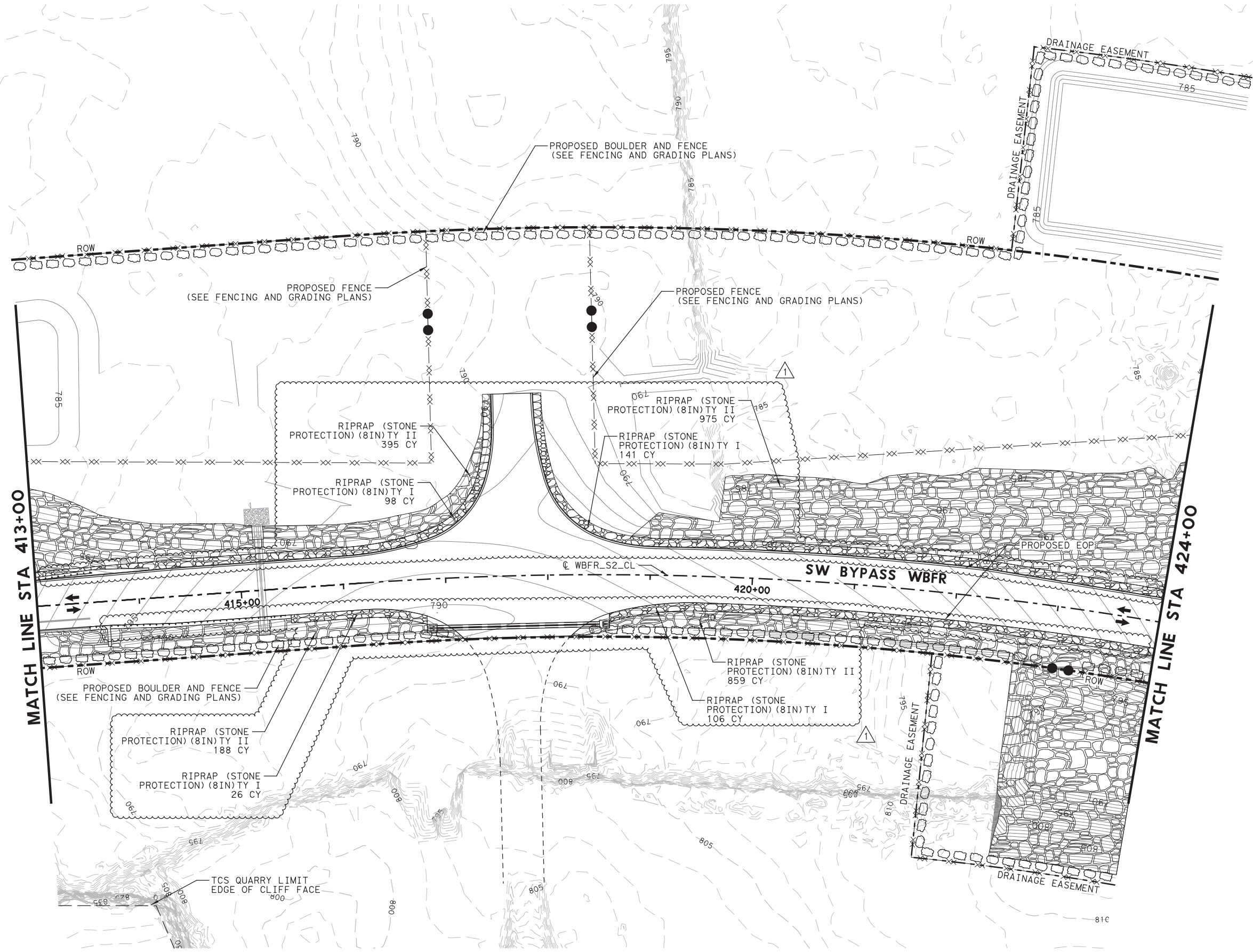
**SOUTHWEST BYPASS
 SEGMENT 2
 PERMANENT EROSION
 CONTROL PLAN**

STA 402+00 TO STA 413+00

SCALE: 1"=100' SHEET 4 OF 8

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	SECTION	JOB			
CHECK	JC	2103	01	034			260

PLOT DRIVER: TXDOT_PDF_BW.plt
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 DATE: 7/30/2019
 TIME: 12:21:41 PM
 SCALE: 1:100
 FILE: \



LEGEND

	PROPOSED CONSTRUCTION
	VEGETATIVE FILTER STRIP
	SOIL RETENTION BLANKET (CL 1) (TY A)
	SEEDING AND 4" COMPOST MANUF TOPSOIL
	RIPRAP (STONE PROTECTION) (8IN) TY I
	RIPRAP (STONE PROTECTION) (8IN) TY II

- NOTES:**
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07/30/2019

1	7/30/19	DRIVEWAY ADDITION	JDC
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

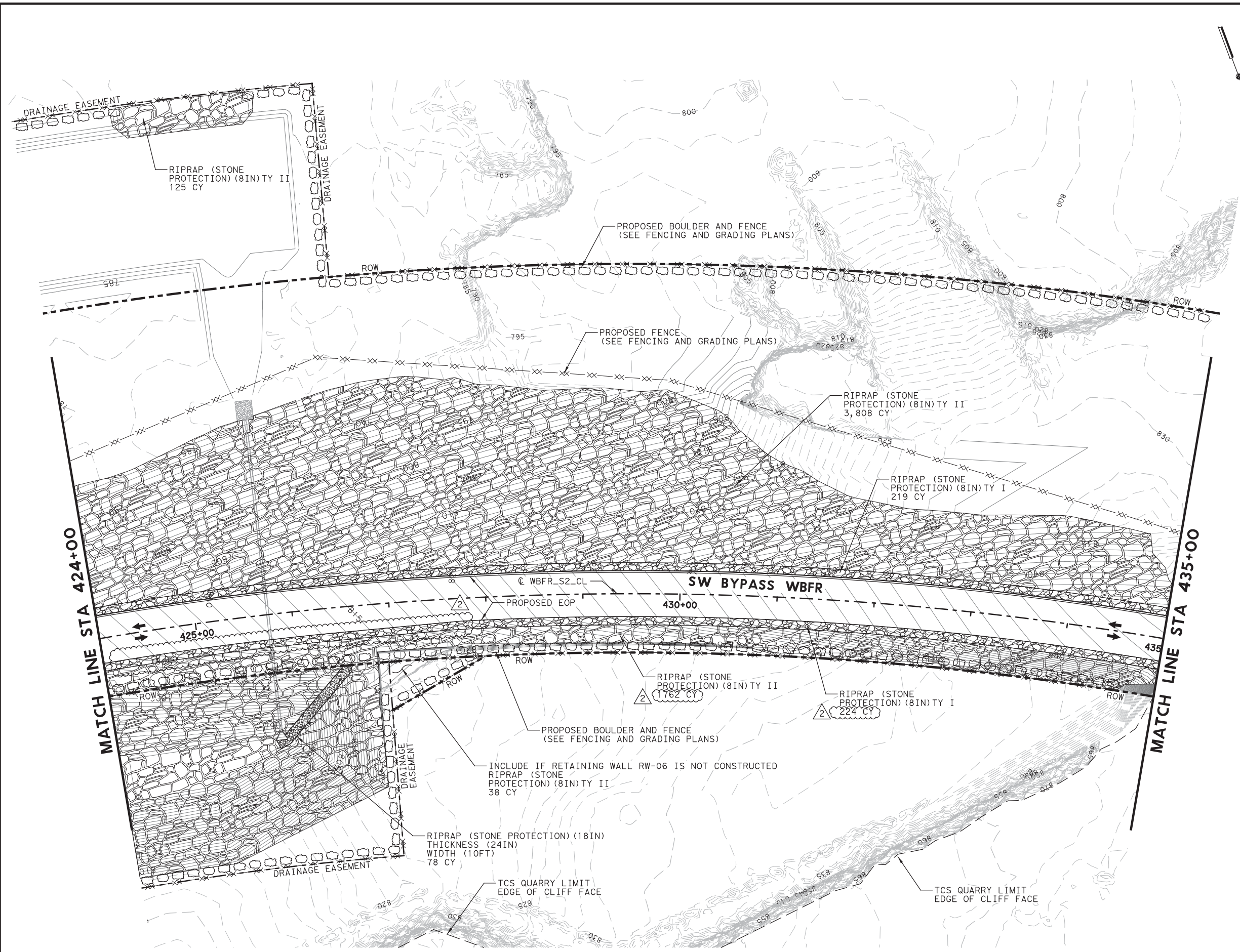
**SOUTHWEST BYPASS
 SEGMENT 2
 PERMANENT EROSION
 CONTROL PLAN**

STA 413+00 TO STA 424+00

SCALE: 1"=100' SHEET 5 OF 8

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	SECTION	JOB			
CHECK	JC	2103	01	034			261

PLOT DRIVER: TXDOT_PDF_BW.plt
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 TIME: 12:21:47 PM
 SCALE: 1:100
 FILE: \



LEGEND

- PROPOSED CONSTRUCTION
- VEGETATIVE FILTER STRIP
- SOIL RETENTION BLANKET (CL 1) (TY A) SEEDING AND 4" COMPOST MANUF TOPSOIL
- SOIL RETENTION BLANKET (CL 1) (TY B) SEEDING AND 4" COMPOST MANUF TOPSOIL
- RIPRAP (STONE PROTECTION) (8IN) TY I
- RIPRAP (STONE PROTECTION) (8IN) TY II

- NOTES:**
- DETAILED INFORMATION FOR SENSITIVE FEATURES IS PROVIDED IN THE GEOLOGIC ASSESSMENT SECTION OF THE WPAP.
 - THE MINIMUM VEGETATIVE COVER FOR ALL VEGETATIVE FILTER STRIPS IS 95% PRIOR TO PROJECT ACCEPTANCE.
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 - ALL 8" RIPRAP SHALL HAVE A THICKNESS OF 8" UNLESS OTHERWISE SPECIFIED. SEE GENERAL NOTES FOR GRADATION REQUIREMENTS.



07/30/2019

2	7/30/19	DRIVEWAY ADDITION	JDC
1	4/25/19	REVISED PENINSULA REMOVAL	JDC
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY **HR** HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

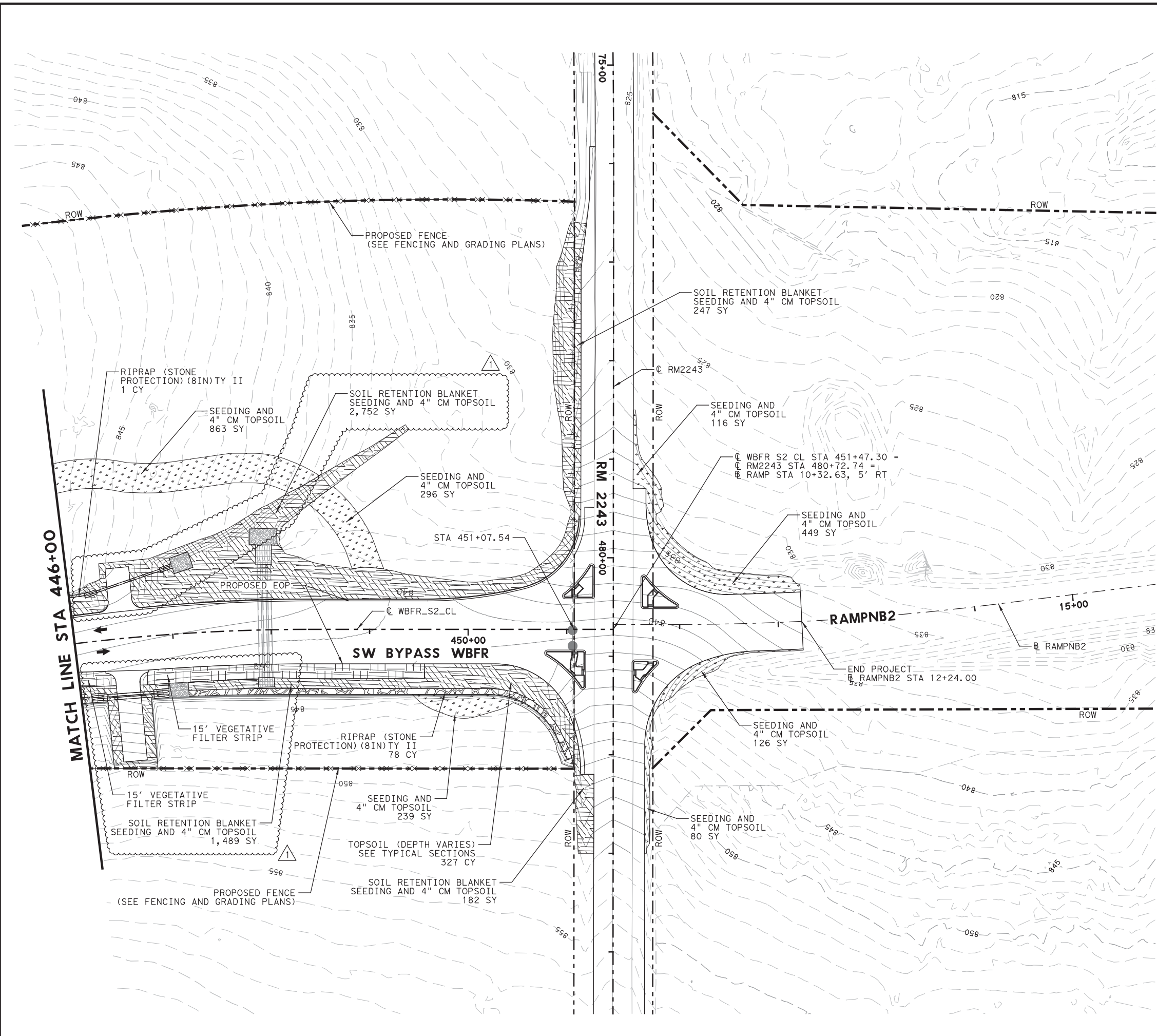
**SOUTHWEST BYPASS
 SEGMENT 2
 PERMANENT EROSION
 CONTROL PLAN**

STA 424+00 TO STA 435+00

SCALE: 1"=100' SHEET 6 OF 8

DESTN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
JC	6			
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
LG	TEXAS	AUS	WILLIAMSON	262
CHECK	CONTROL	SECTION	JOB	
JW	2103	01	034	

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZCOMDATE: 7/30/2019
 FILE: \



LEGEND

	PROPOSED CONSTRUCTION
	VEGETATIVE FILTER STRIP
	SOIL RETENTION BLANKET (CL 1) (TY A) SEEDING AND 4" COMPOST MANUF TOPSOIL
	SEEDING AND 4" COMPOST MANUF TOPSOIL
	RIPRAP (STONE PROTECTION) (8IN) TY I
	RIPRAP (STONE PROTECTION) (8IN) TY II

- NOTES:**
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07/30/2019

1	7/30/19	DRIVEWAY ADDITION	JDC
NO.	DATE	REVISION	APPROVED

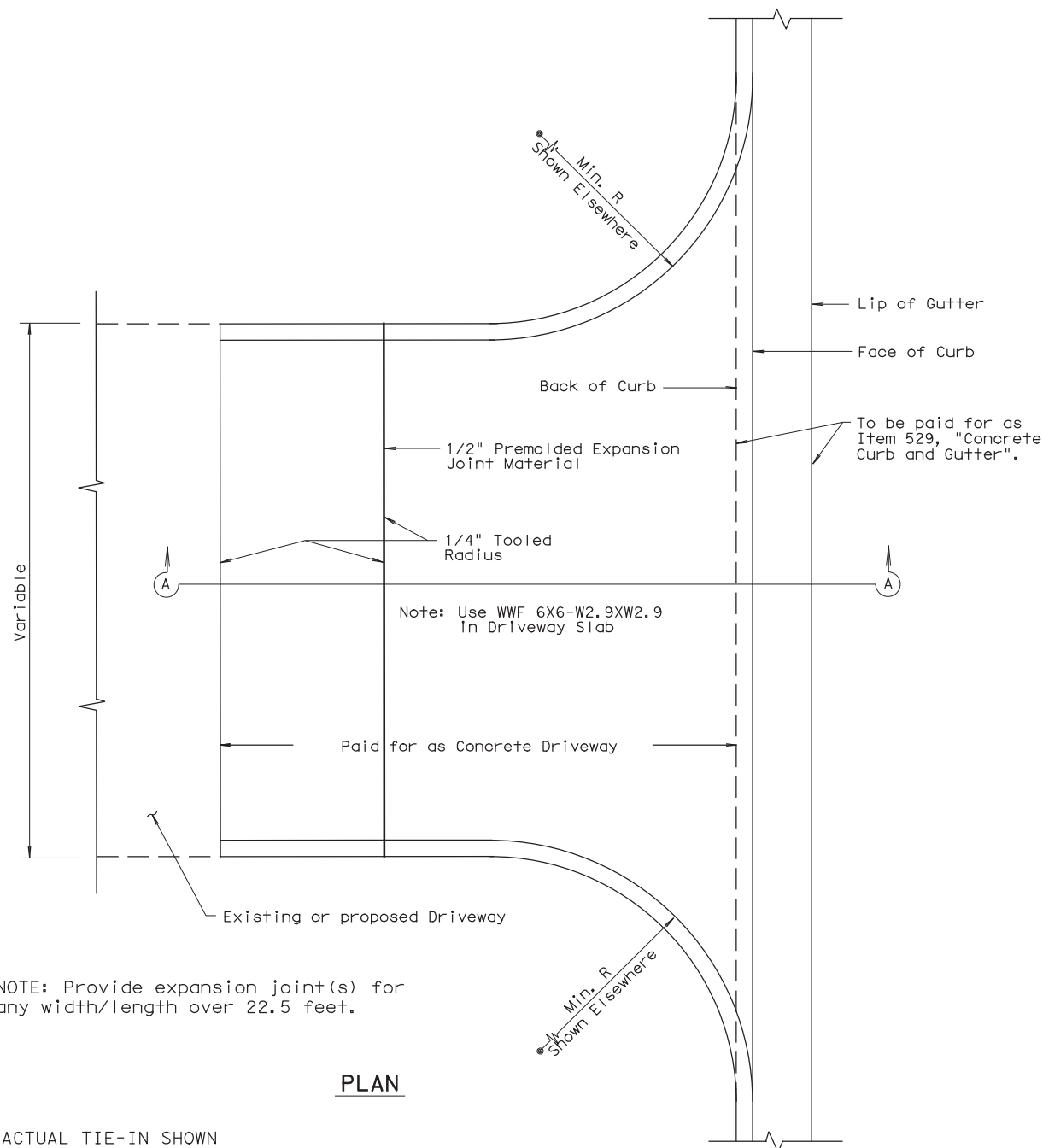
WILLIAMSON COUNTY **HDR** HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2
 PERMANENT EROSION
 CONTROL PLAN**

STA 446+00 TO END

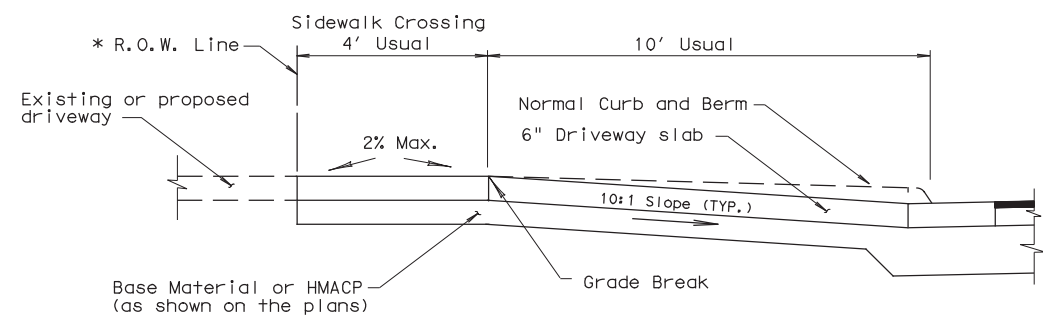
SCALE: 1"=100' SHEET 8 OF 8

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL		SECTION	01	JOB	034
CHECK	JC						264



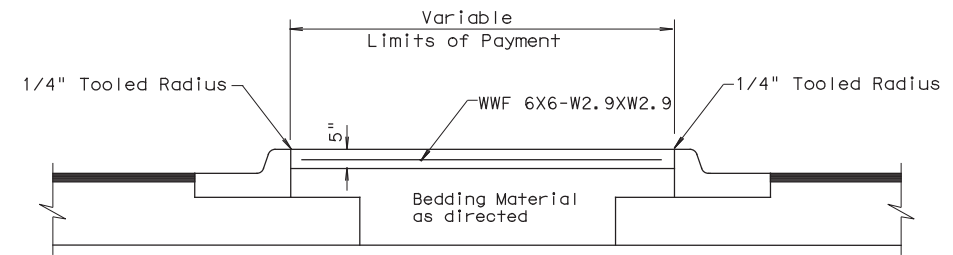
NOTE: Provide expansion joint(s) for any width/length over 22.5 feet.

* ACTUAL TIE-IN SHOWN ELSEWHERE IN PLANS OR AS DIRECTED.

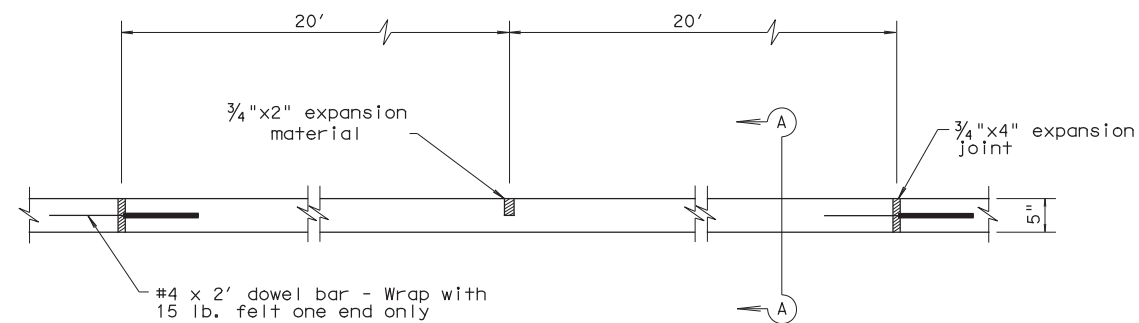


CONCRETE DRIVEWAY DETAILS

Payment for Driveways will be in accordance with Item 530, "Driveways".
 Ensure grade break does not exceed 8% unless otherwise directed.
 Provide absolute minimum sidewalk crossing width of 3' for driveway width of 20' or less.



Use Class B Concrete for Riprap.
 Payment of Riprap Median will be in accordance with Item 432, "Riprap".



SIDEWALK DETAILS

Place a 3/4" expansion joint at 40' (max.) intervals and at sidewalk ends. Expansion joints will be continuous with adjacent curb and gutter joints. Place a 1/4" tooled radius at all joints. Ensure the cross slope of the sidewalk does not exceed 2%. Payment for sidewalk will be in accordance with Item 531, "Sidewalks". See Statewide PED standard for additional pedestrian element criteria.



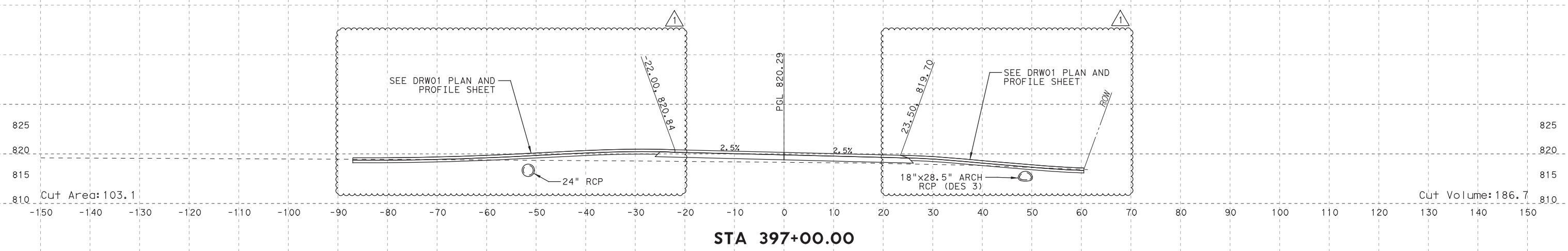
CONCRETE DRIVEWAYS, SIDEWALKS AND RIPRAP MEDIANS AUSTIN DISTRICT STANDARD

© TxDOT 2002	DIST	FED REG	FEDERAL AID PROJECT	SHEET
REVISIONS	AUS	6		66
4/03 District Update	COUNTY	CONTROL	SECT	JOB
9/04 2004 Update	WILLIAMSON	2103	01	034



Jacob E. Walker, PE

07/31/2019



STA 397+00.00

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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 397+00.00

SCALE: HORIZ: 1"=20'
VERT: 1"=20'

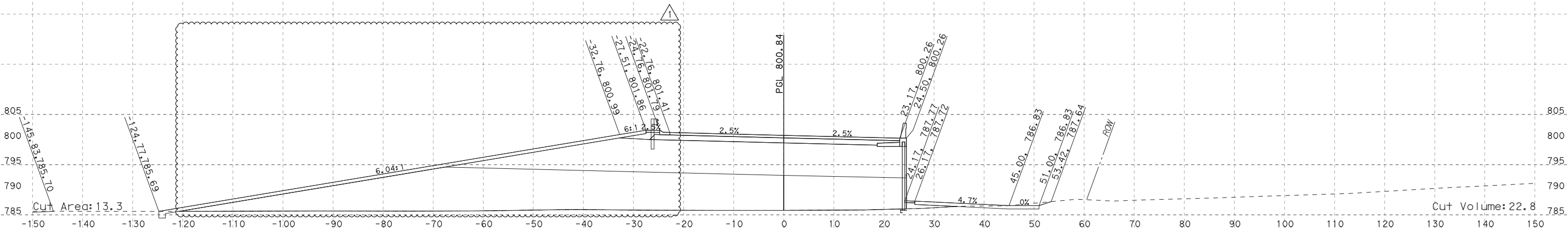
**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

SHEET NO.
XS-06



Jacob E. Walker, PE

07/31/2019



STA 412+50.00

SEE FENCING AND GRADING PLAN

PLOT DRIVER: TXDOT_PDF_BW.plt
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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 412+50.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

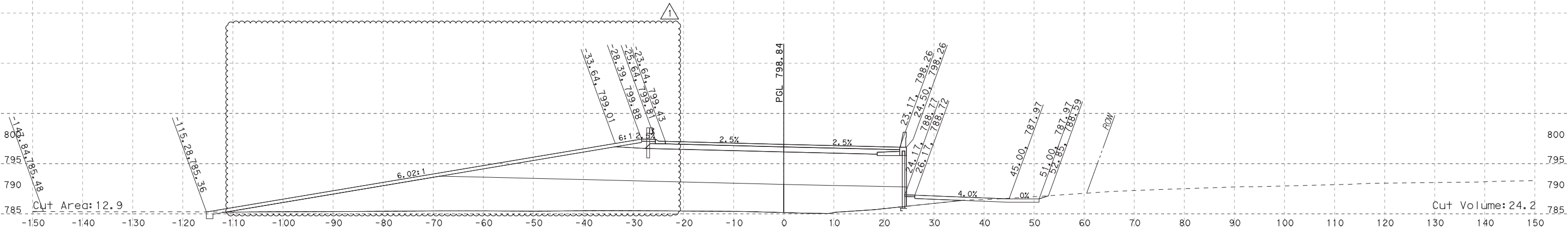
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-39

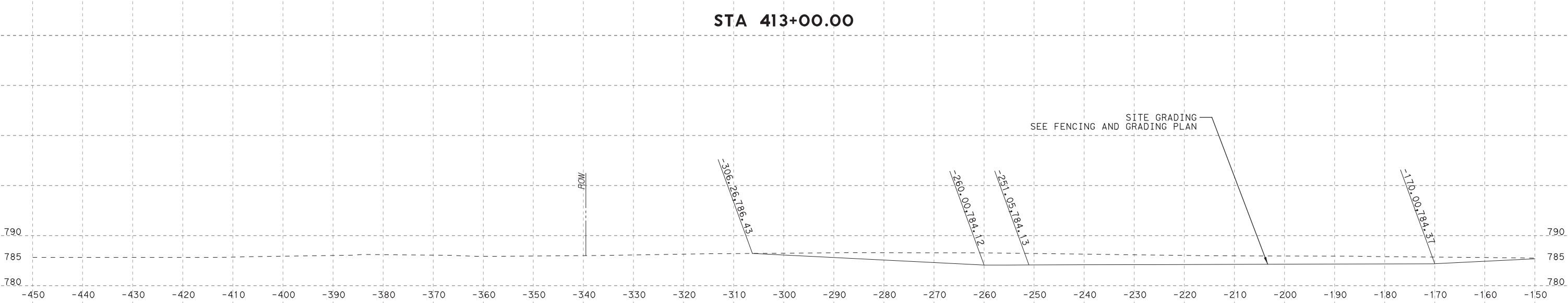


Jacob E. Walker, PE

07/31/2019



STA 413+00.00



STA 413+00.00

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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

SCALE: HORIZ: 1"=20'
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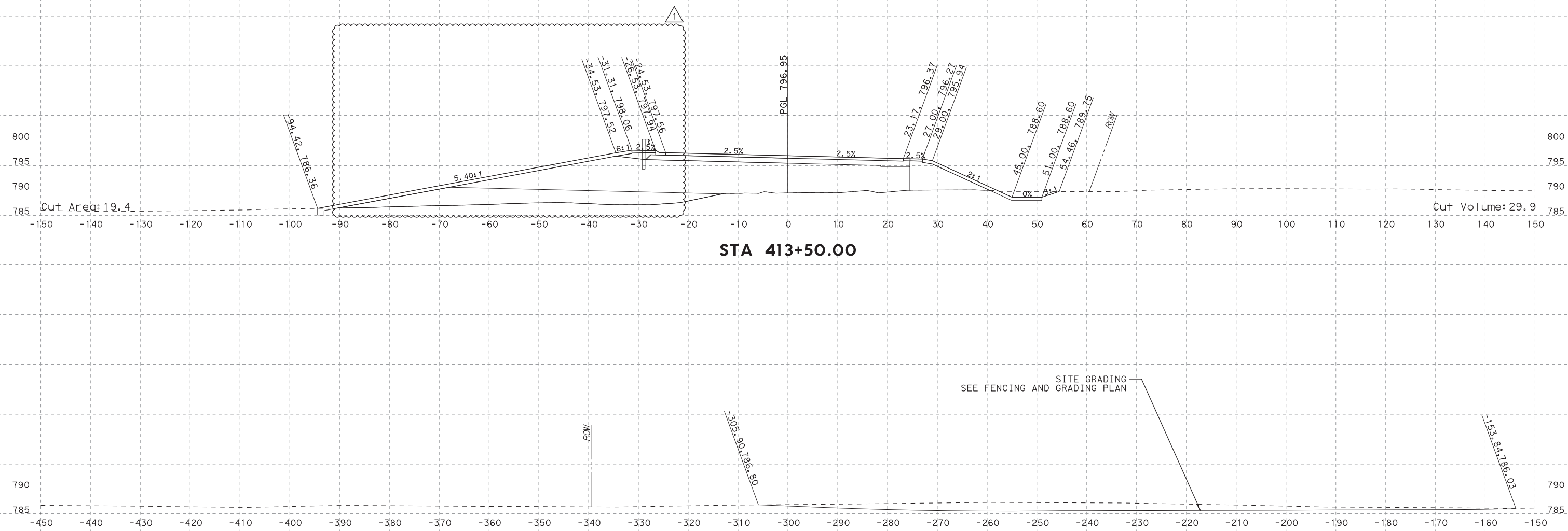
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-40



Jacob E. Walker, PE

07/31/2019



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 DATE: 7/30/2019
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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 413+50.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

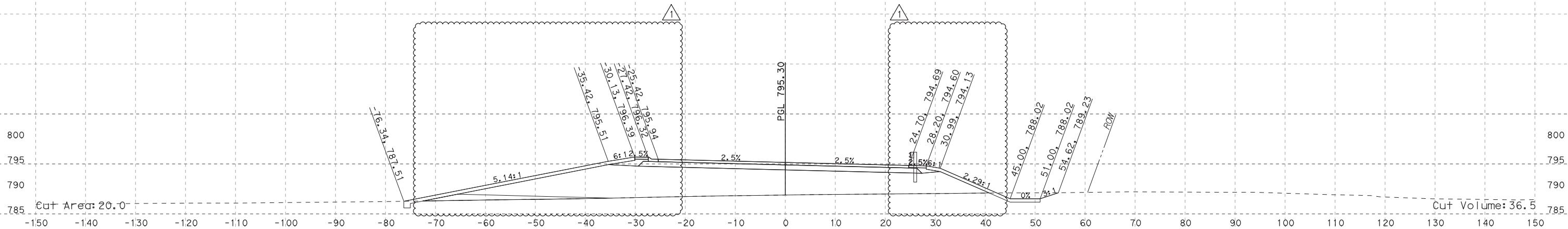
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-41



Jacob E. Walker, PE

07/31/2019



STA 414+00.00

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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 414+00.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

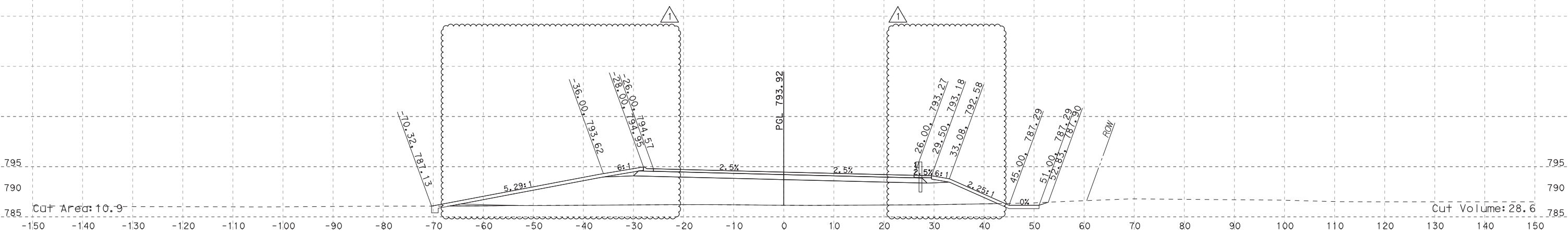
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-42



Jacob E. Walker, PE

07/31/2019



STA 414+50.00

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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 414+50.00

SCALE: HORIZ: 1"=20'
VERT: 1"=20'

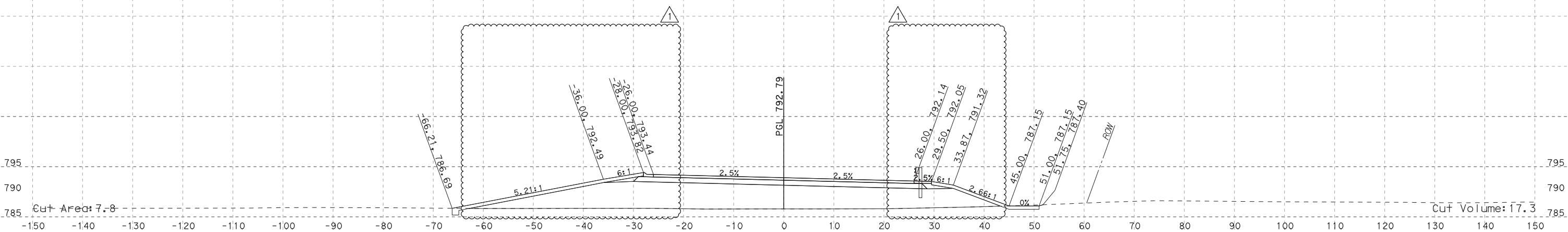
**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

SHEET NO.
XS-43



Jacob E. Walker, PE

07/31/2019



STA 415+00.00

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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 415+00.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

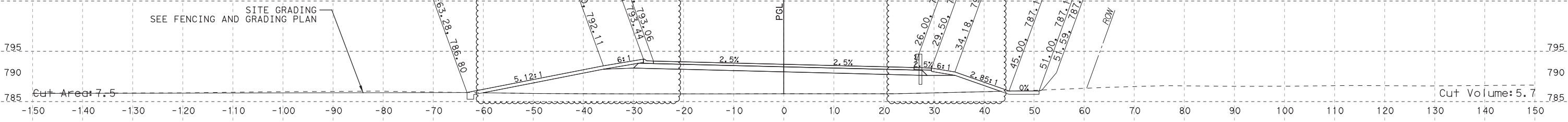
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-44



Jacob E. Walker, PE

07/31/2019



STA 415+20.00

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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 415+20.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

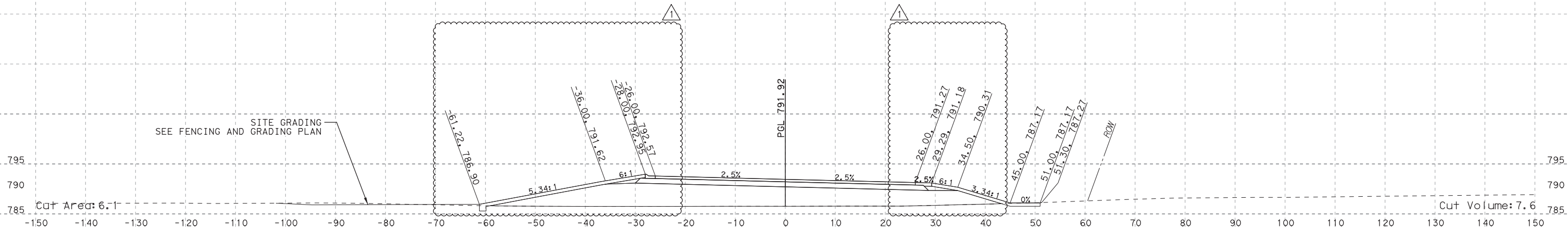
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-45



Jacob E. Walker, PE

07/31/2019



STA 415+50.00

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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 415+50.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

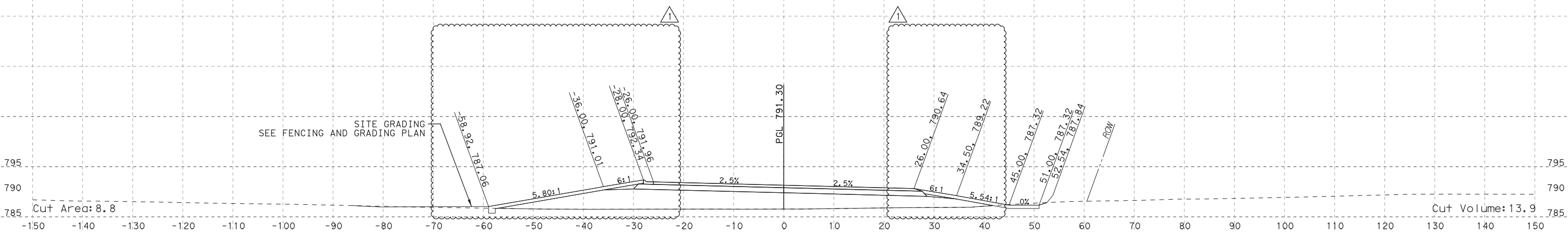
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-46



Jacob E. Walker, PE

07/31/2019



STA 416+00.00

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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 416+00.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

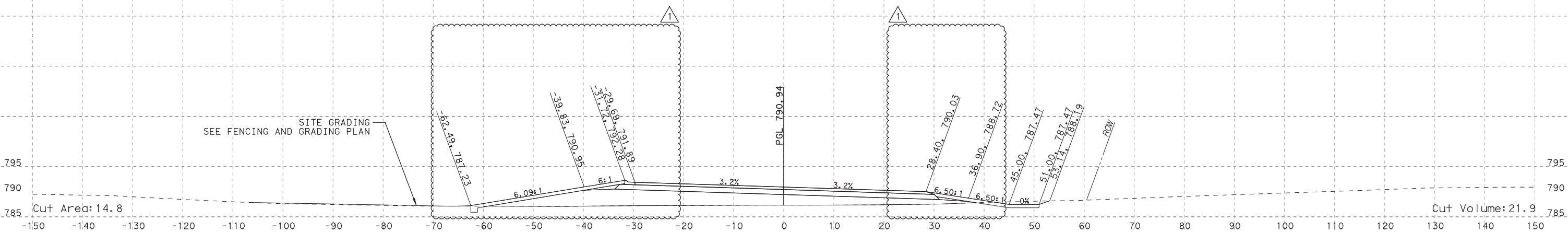
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-47



Jacob E. Walker, PE

07/31/2019



STA 416+50.00

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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 416+50.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

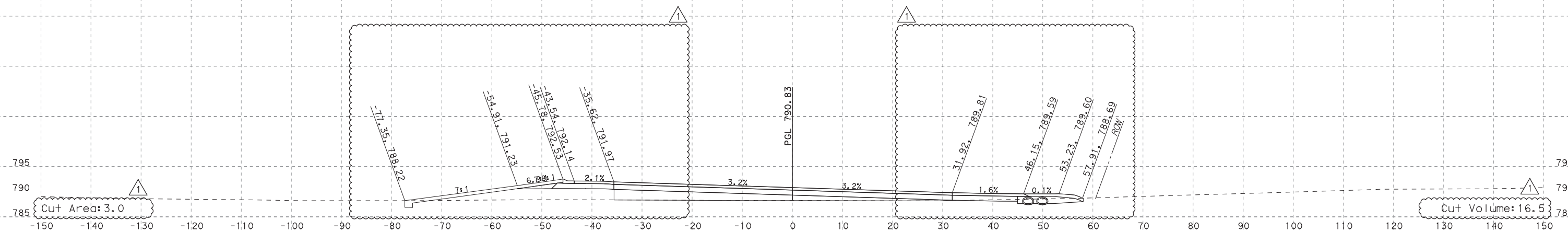
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-48



Jacob E. Walker, PE

07/31/2019



PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
 TIME: 12:22:34 PM
 SCALE: 1:20
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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 417+00.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

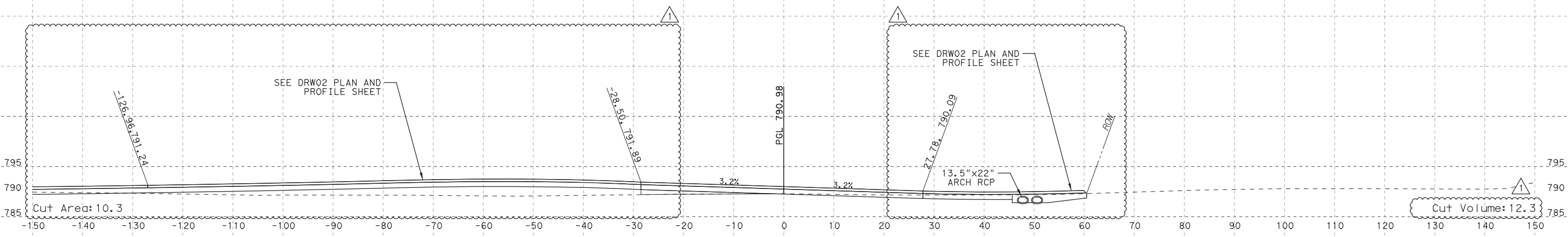
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-49

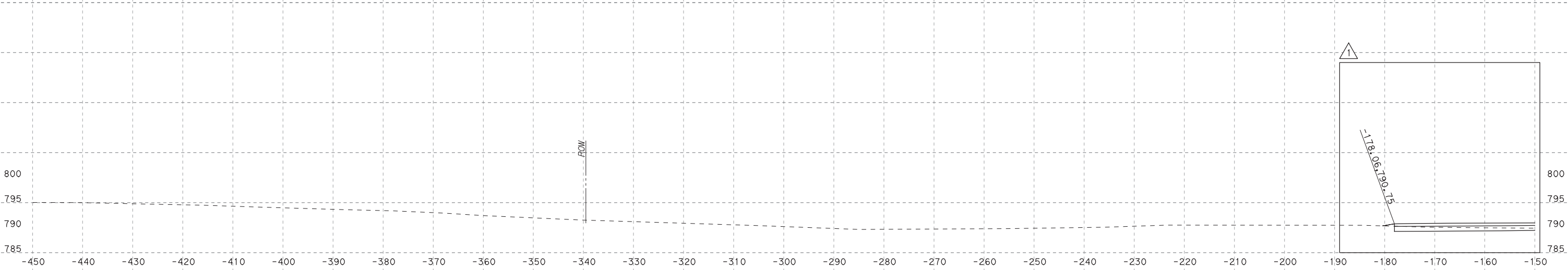


Jacob E. Walker, PE

07/31/2019



STA 417+50.00



PLOT DRIVER: TXDOT_PDF_BW.plt
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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 417+50.00

SCALE: HORIZ: 1"=20'
VERT: 1"=20'

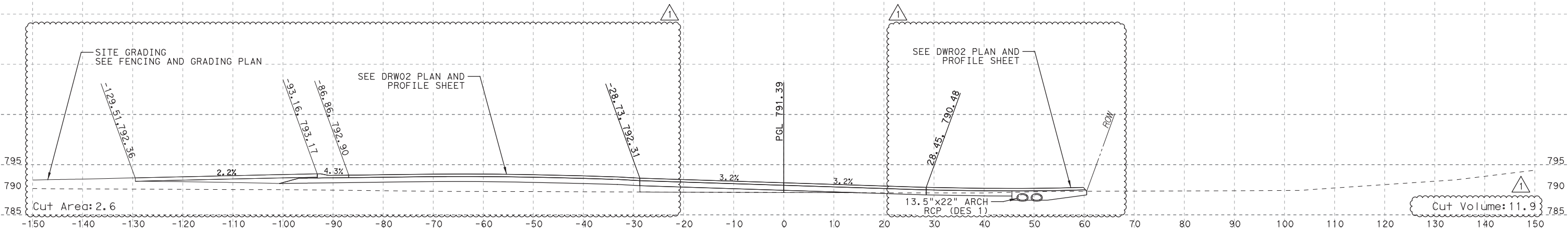
**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

SHEET NO.
XS-50

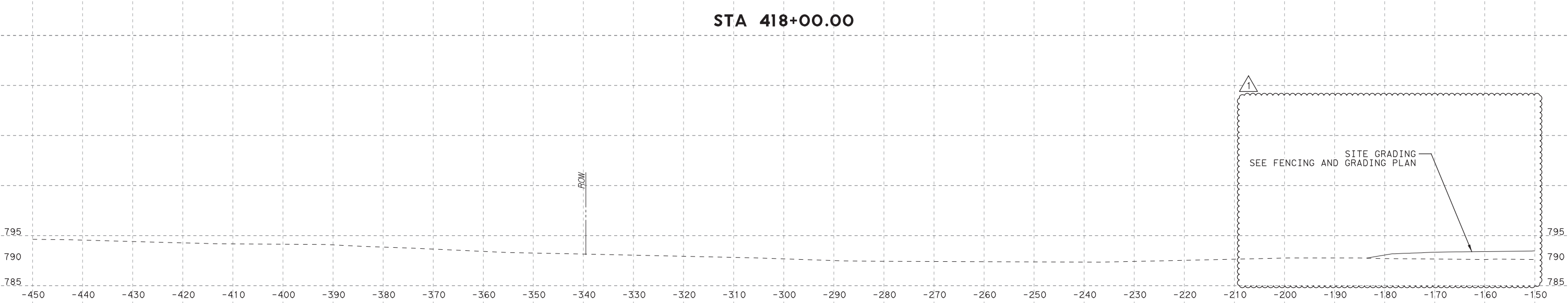


Jacob E. Walker, PE

07/31/2019



STA 418+00.00



PLOT DRIVER: TXDOT_PDF_BW.plt
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 DATE: 7/30/2019
 TIME: 12:22:40 PM
 SCALE: 1:20
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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 418+00.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

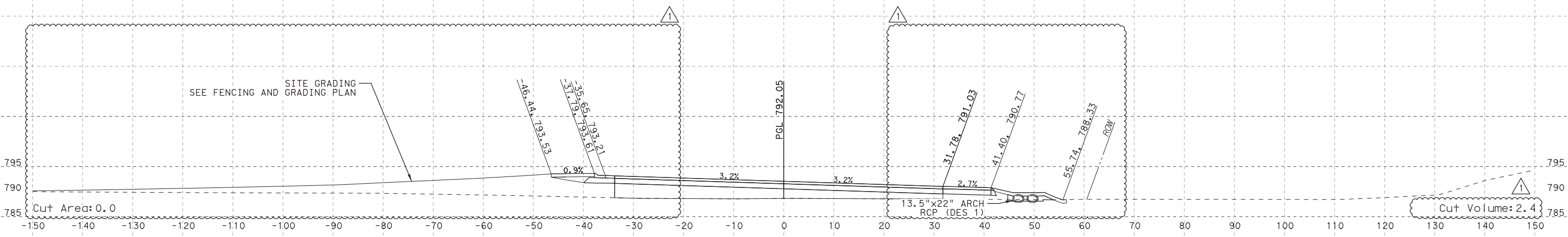
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-51

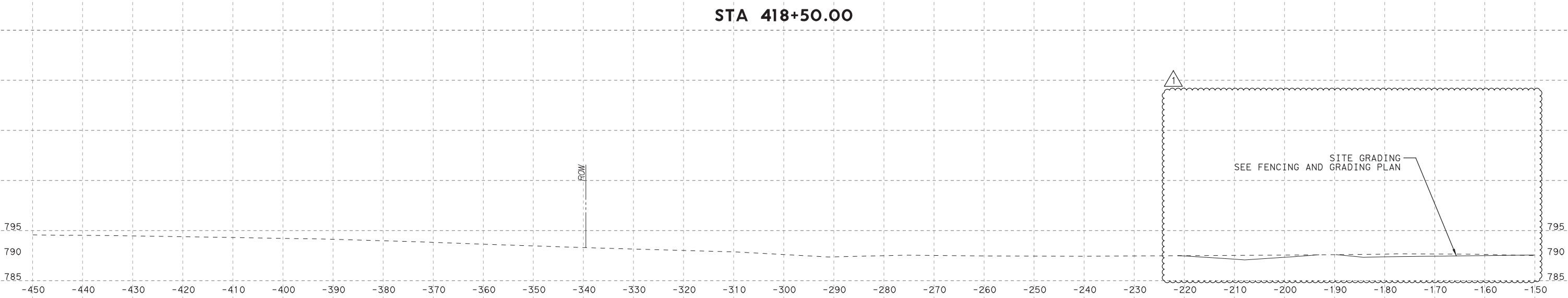


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07/31/2019



STA 418+50.00



NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 418+50.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

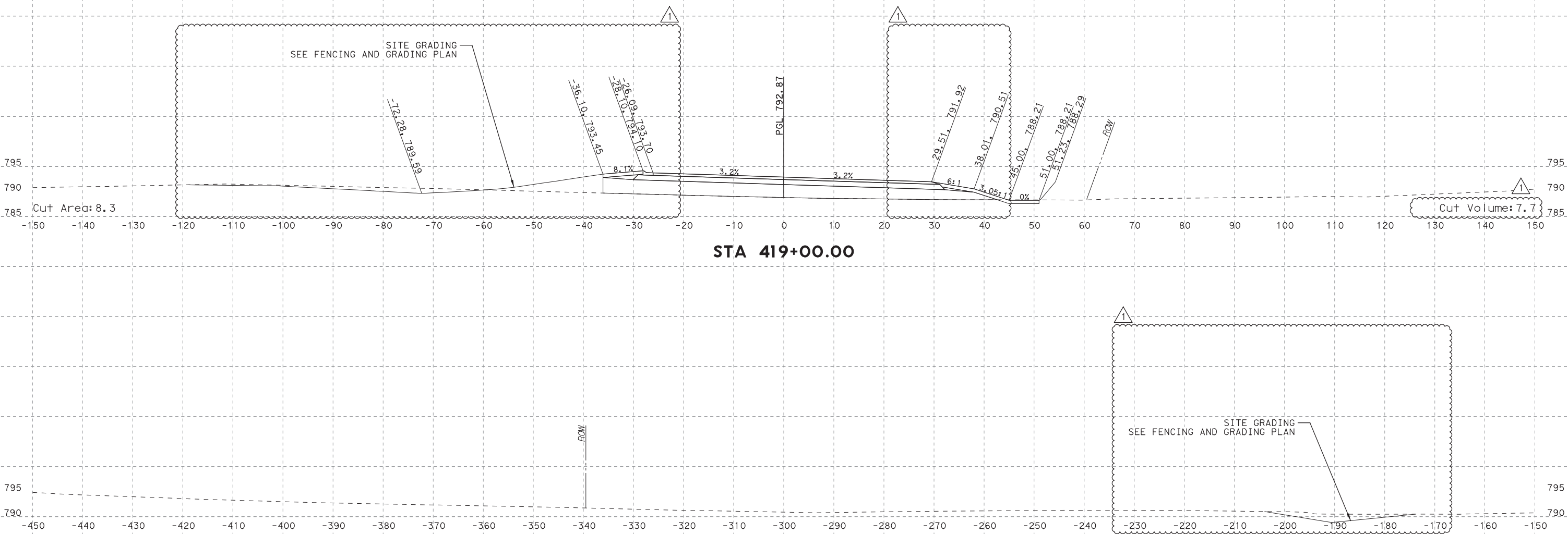
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-52

PLOT DRIVER: TxDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
 TIME: 12:22:43 PM
 SCALE: 1:20



Jacob E. Walker, PE
07/31/2019



PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
 TIME: 12:22:46 PM
 SCALE: 1:20
 FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 419+00.00

SCALE: HORIZ: 1"=20'
VERT: 1"=20'

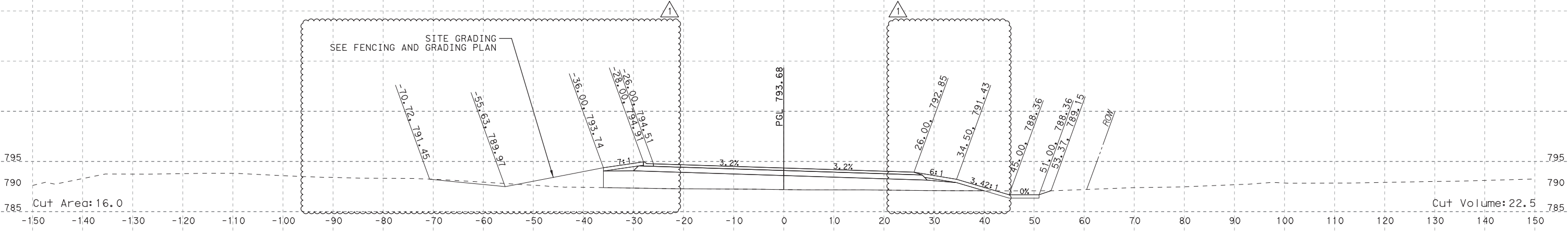
**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

SHEET NO.
XS-53

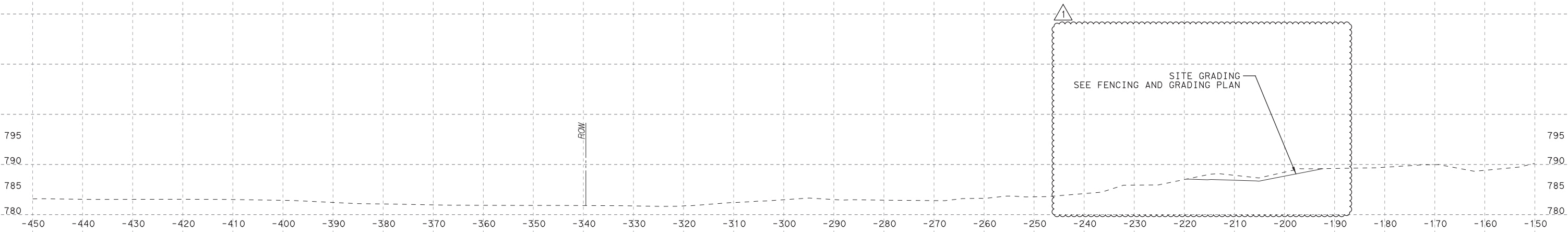


Jacob E. Walker, PE

07/31/2019



STA 419+50.00



STA 419+50.00

SCALE: HORIZ: 1"=20'
VERT: 1"=20'

**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

SHEET NO.
XS-54

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

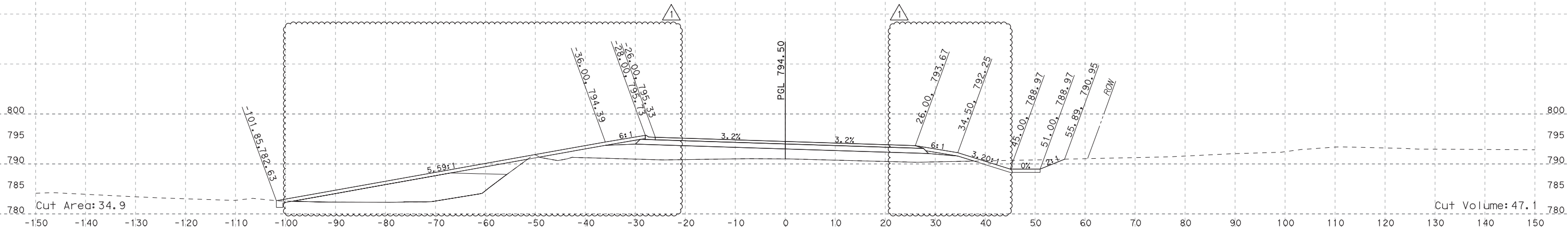
PLOT DRIVER: TxDOT_PDF_BW.plt
USER: LGOMEZ
DATE: 7/30/2019
TIME: 12:22:50 PM
SCALE: 1:20
FILE: \

PENTABLE: S2-000002070718.tbl



Jacob E. Walker, PE

07/31/2019



STA 420+00.00

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
 TIME: 12:22:53 PM
 SCALE: 1:20
 FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 420+00.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

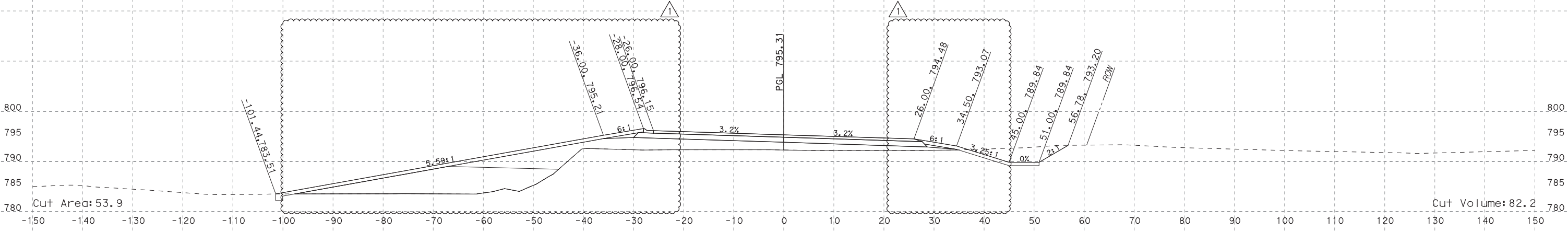
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-55



Jacob E. Walker, PE

07/31/2019



STA 420+50.00

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
 TIME: 12:22:56 PM
 SCALE: 1:20
 FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 420+50.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

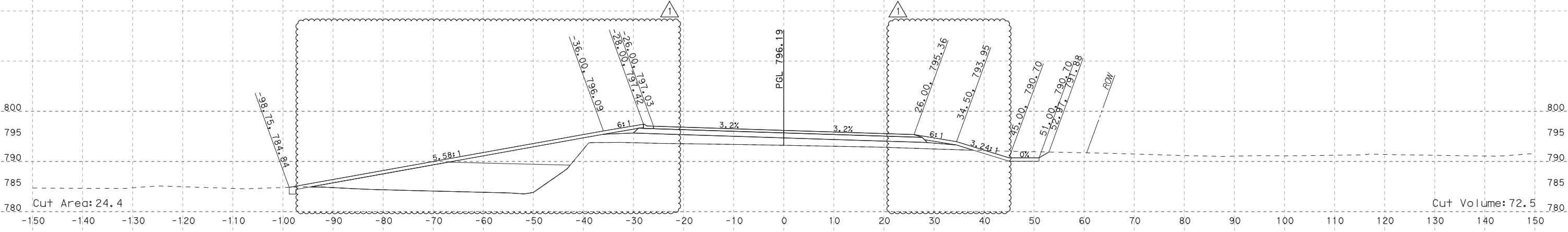
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-56



Jacob E. Walker, PE

07/31/2019



STA 421+00.00

PLOT DRIVER: TxDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
 TIME: 12:22:59 PM
 SCALE: 1:20
 FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 421+00.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

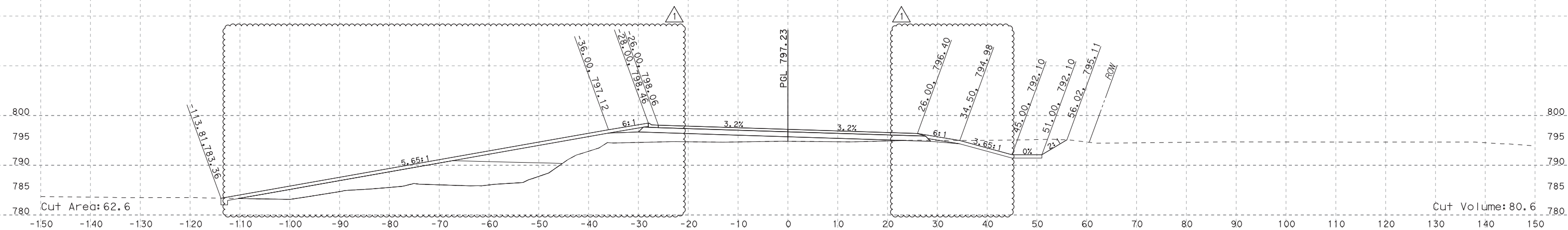
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-57



Jacob E. Walker, PE

07/31/2019



STA 421+50.00

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
 TIME: 12:23:02 PM
 SCALE: 1:20
 FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 421+50.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

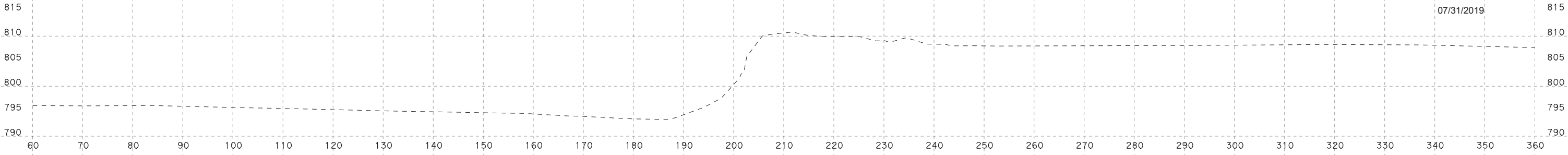
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-58

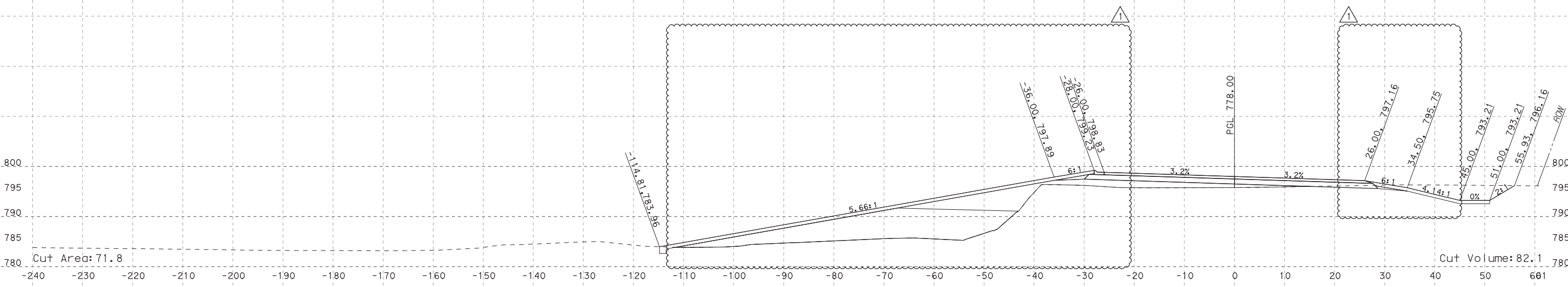


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07/31/2019



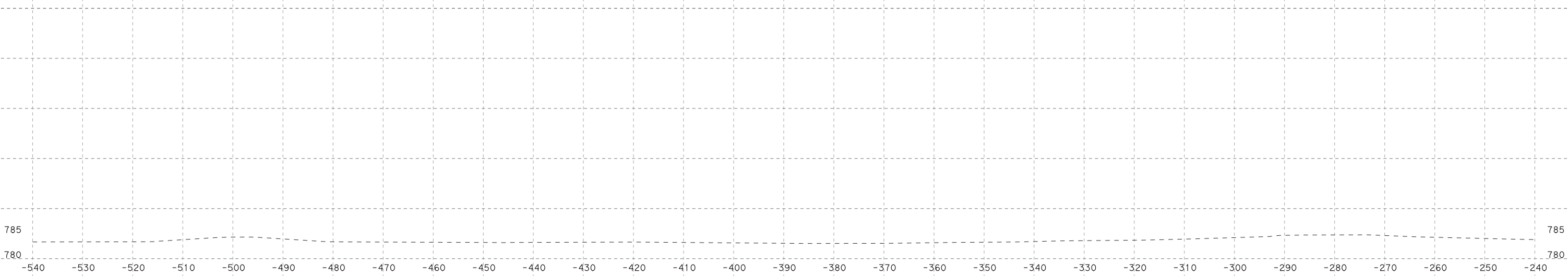
STA 421+83.00



Cut Area: 71.8

Cut Volume: 82.1

STA 421+83.00



PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
 TIME: 12:23:05 PM
 SCALE: 1:20
 FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 421+83.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

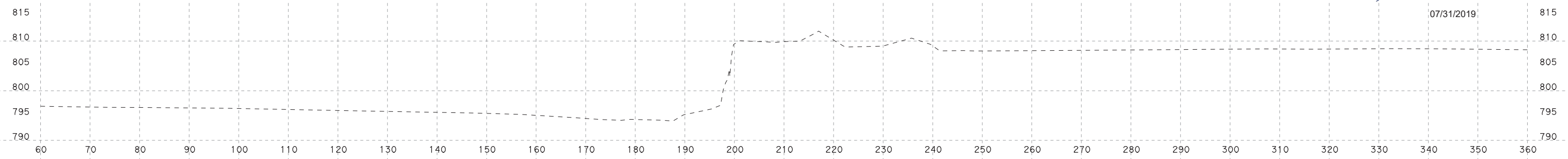
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-59

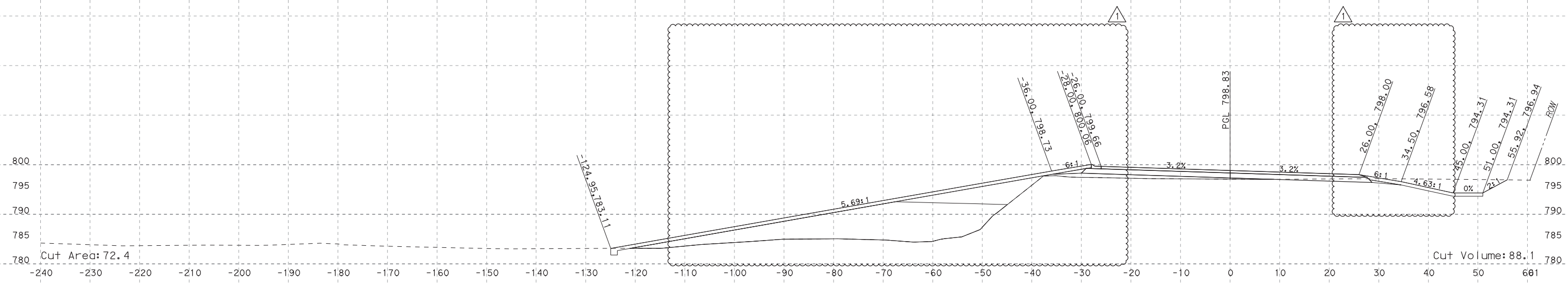


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07/31/2019



STA 422+16.00



STA 422+16.00

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
 TIME: 12:23:09 PM
 SCALE: 1:20
 FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 422+16.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

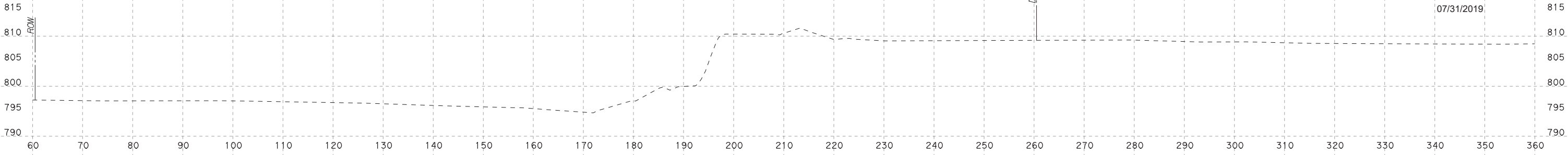
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-60

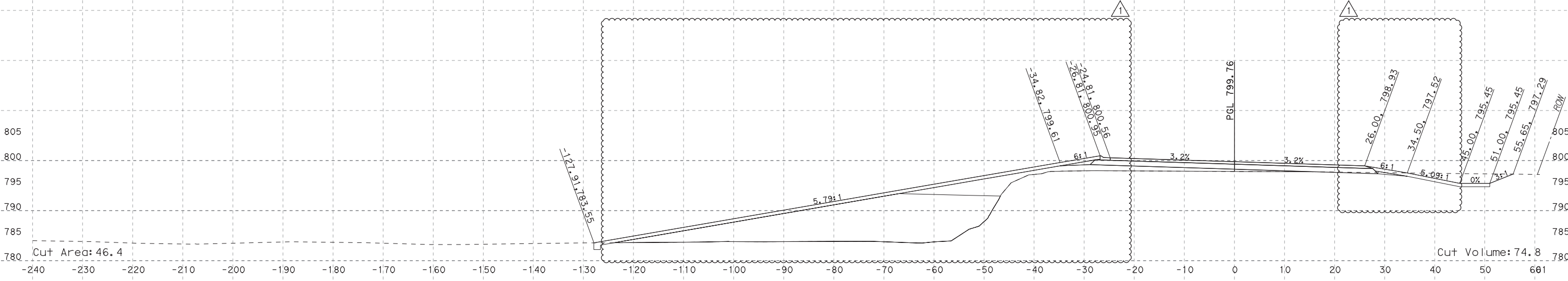


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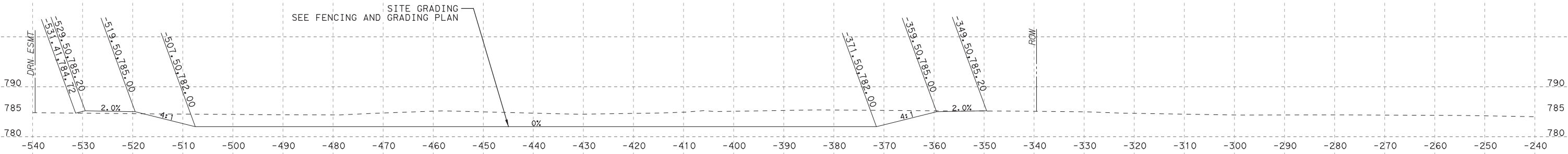
07/31/2019



STA 422+50.00



STA 422+50.00



PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
 TIME: 12:23:42 PM
 SCALE: 1:20
 FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 422+50.00

SCALE: HORIZ: 1"=20'
VERT: 1"=20'

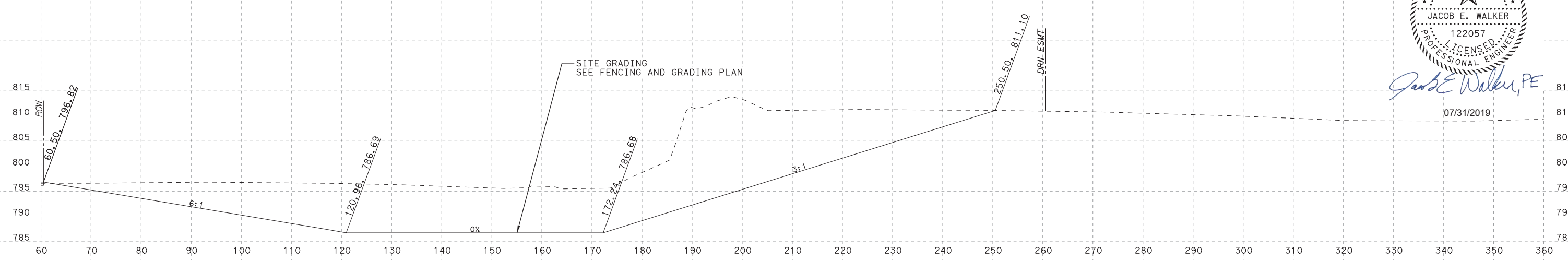
**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

SHEET NO.
XS-61

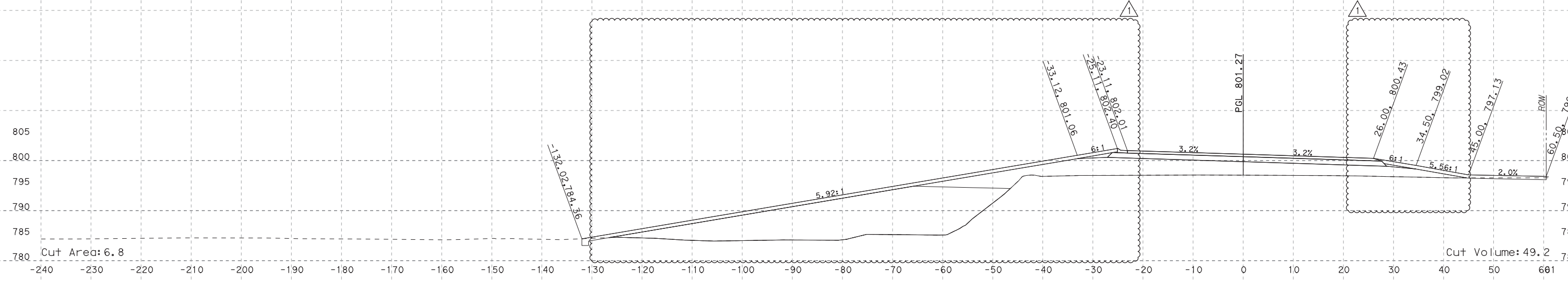


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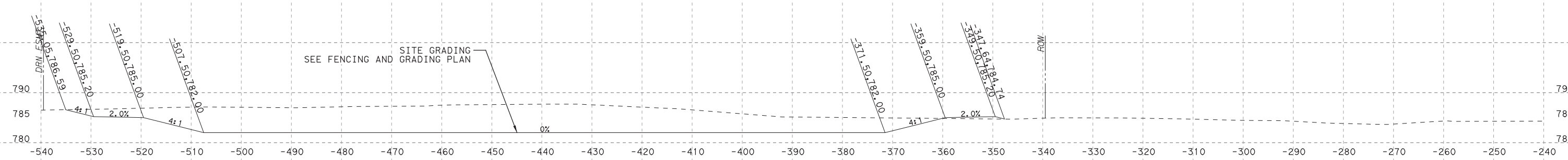
07/31/2019



STA 423+00.00



STA 423+00.00



STA 423+00.00

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
 TIME: 12:23:45 PM
 SCALE: 1:20
 FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

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 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

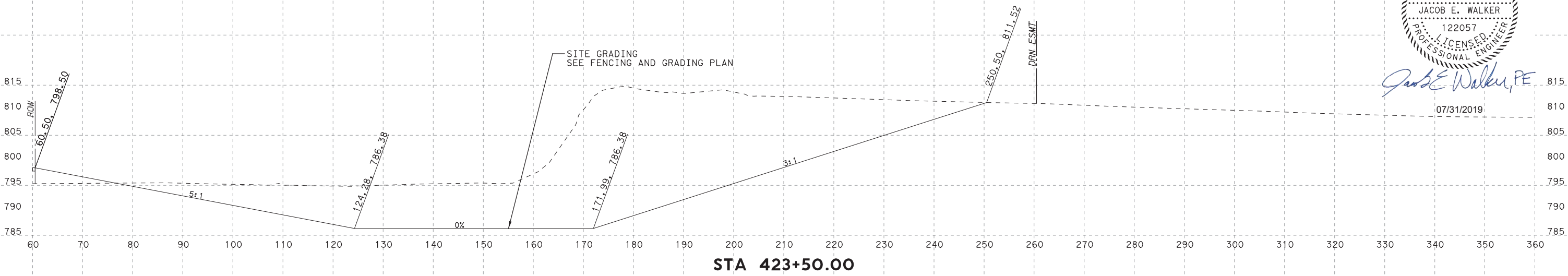
SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

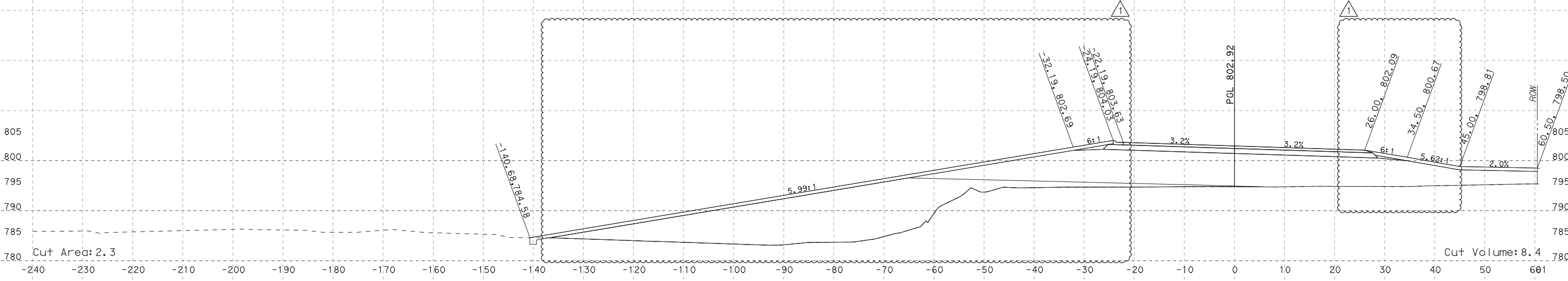
SHEET NO.
XS-62



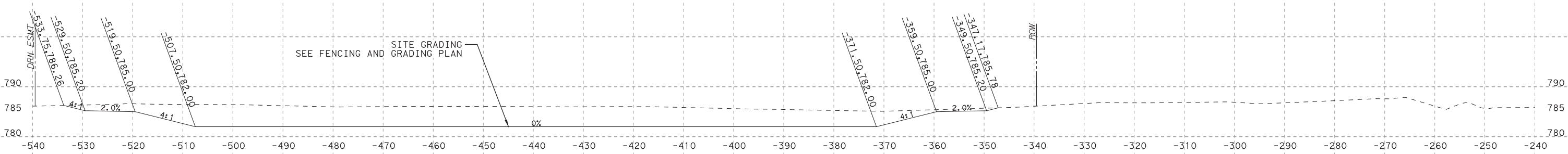
Jacob E. Walker, PE
07/31/2019



STA 423+50.00



STA 423+50.00



STA 423+50.00

PLOT DRIVER: TXDOT_PDF_BW.plt
USER: LGOMEZ
DATE: 7/30/2019
TIME: 12:23:18 PM
SCALE: 1:20

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

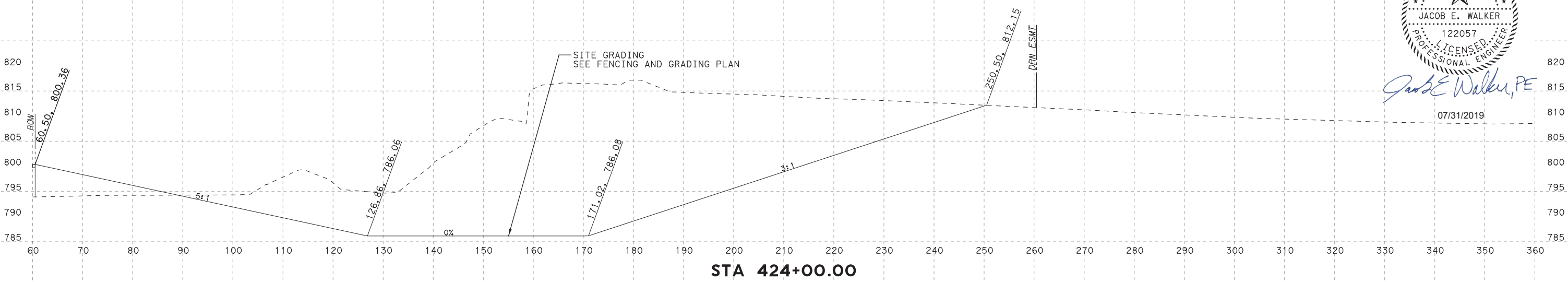
SCALE: HORIZ: 1"=20'
VERT: 1"=20'

**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

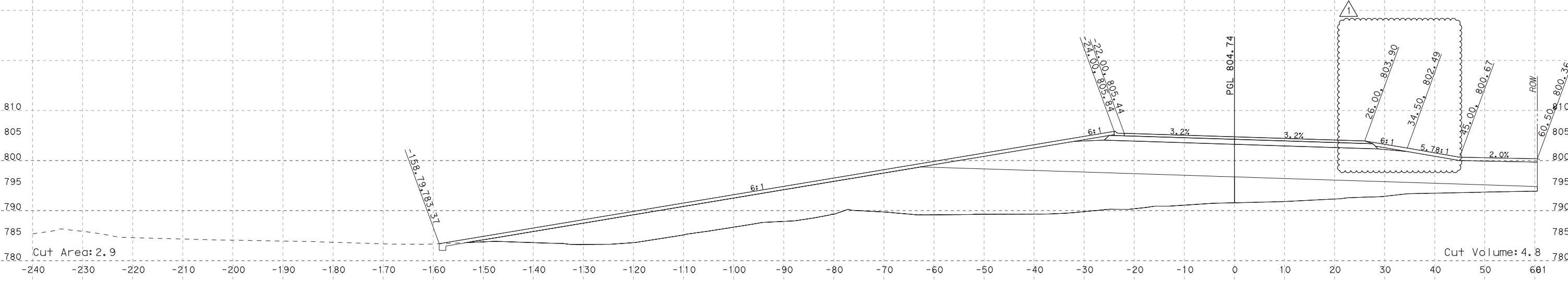
SHEET NO.
XS-63



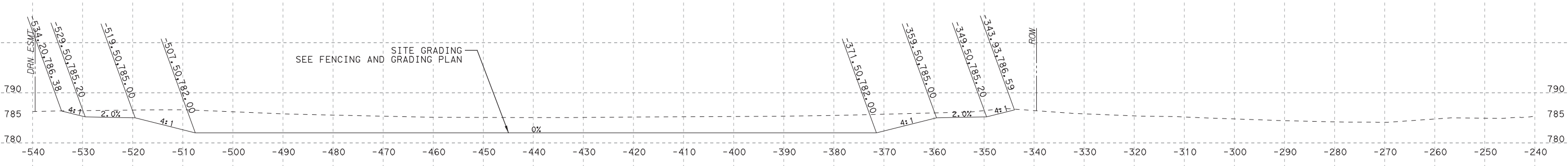
Jacob E. Walker, PE
07/31/2019



STA 424+00.00



STA 424+00.00



STA 424+00.00

PLOT DRIVER: TXDOT_PDF_BW.plt
USER: LGOMEZ
DATE: 7/30/2019
TIME: 12:23:21 PM
SCALE: 1:20
FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
810 Heesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

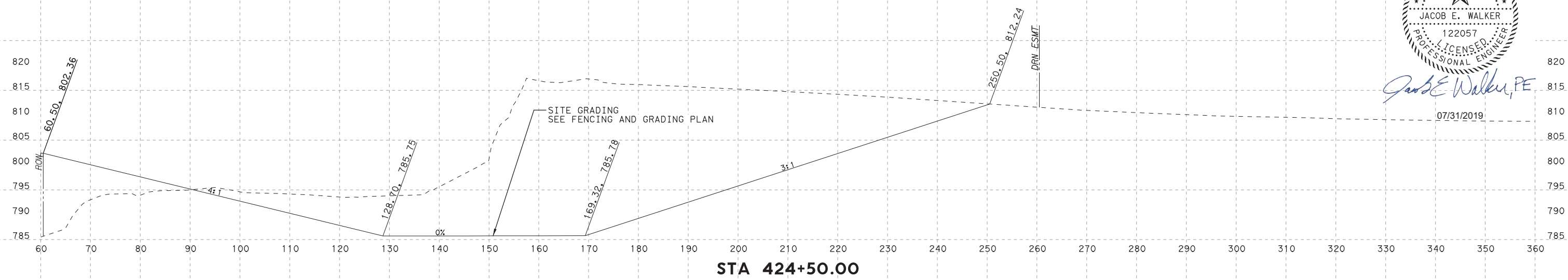
SCALE: HORIZ: 1"=20'
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**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

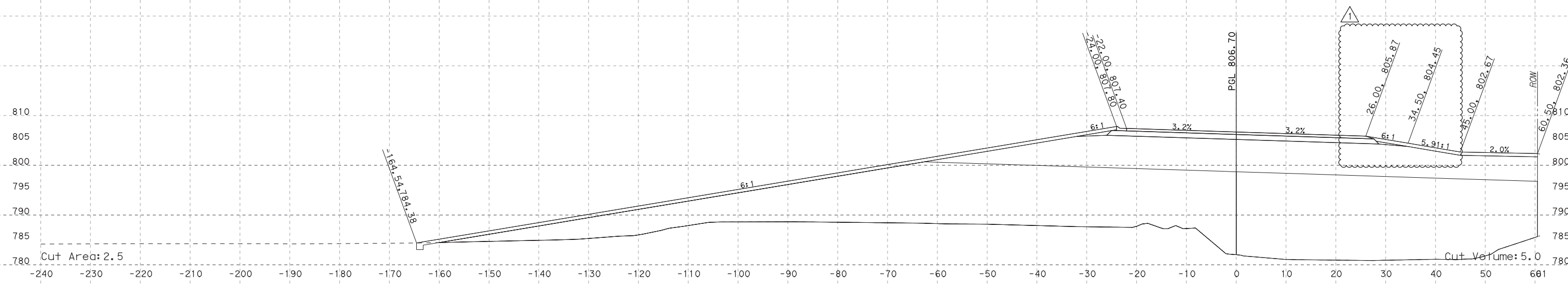
SHEET NO.
XS-64



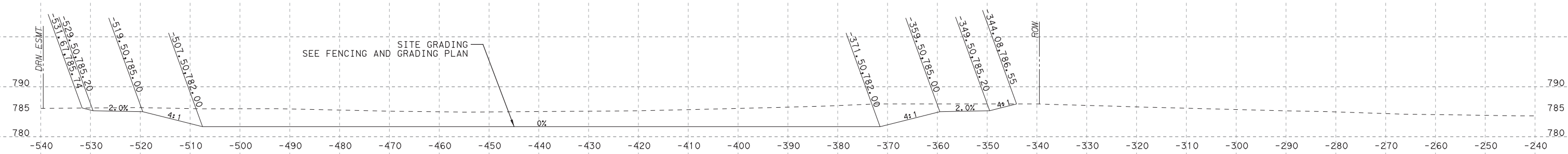
Jacob E. Walker, PE
07/31/2019



STA 424+50.00



STA 424+50.00



SITE GRADING
SEE FENCING AND GRADING PLAN

STA 424+50.00

PLOT DRIVER: TXDOT_PDF_BW.plt
USER: LGOMEZ
DATE: 7/30/2019
TIME: 12:23:24 PM
SCALE: 1:20
FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

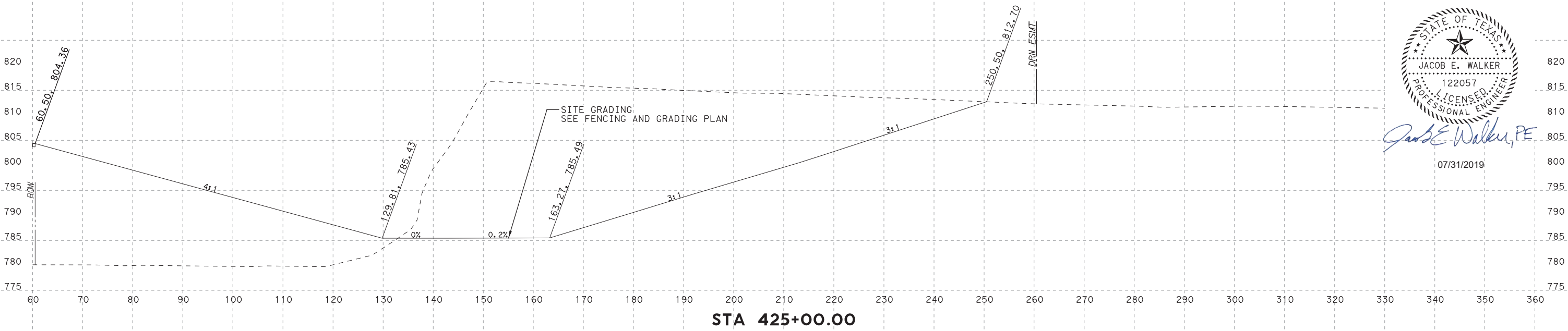
SCALE: HORIZ: 1"=20'
VERT: 1"=20'

**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

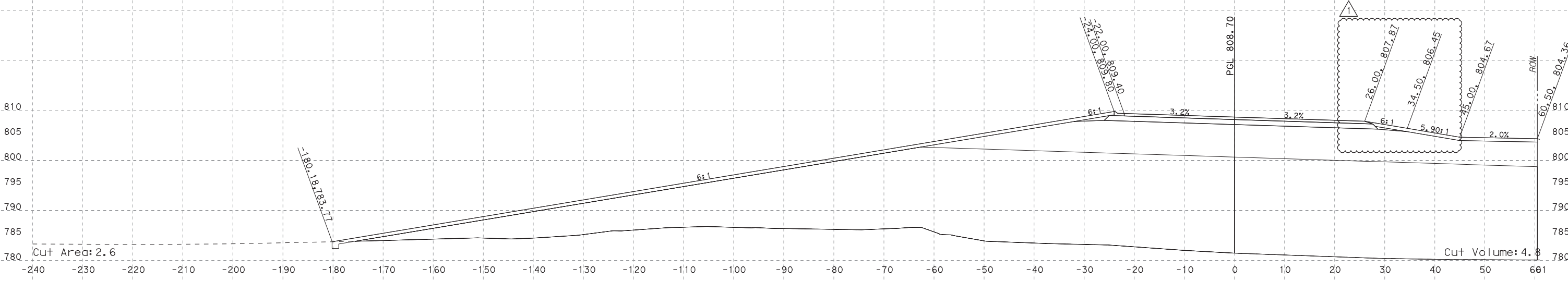
SHEET NO.
XS-65



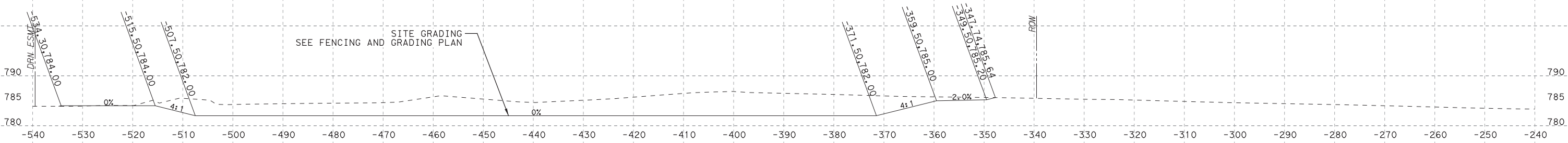
Jacob E. Walker, PE
07/31/2019



STA 425+00.00



STA 425+00.00



STA 425+00.00

PLOT DRIVER: TXDOT_PDF_BW.plt
USER: LGOMEZ
DATE: 7/30/2019
TIME: 12:23:28 PM
SCALE: 1:20
FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

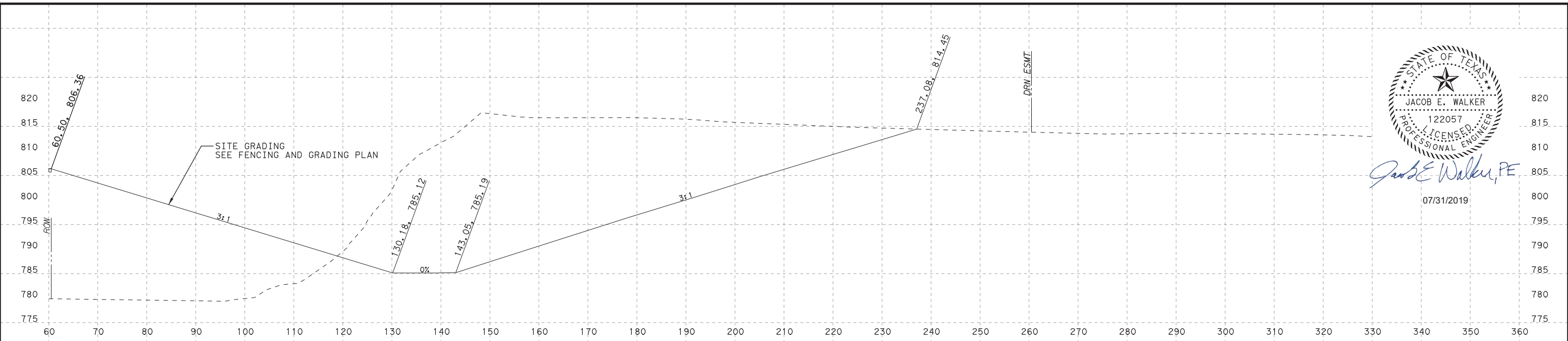
SCALE: HORIZ: 1"=20'
VERT: 1"=20'

**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

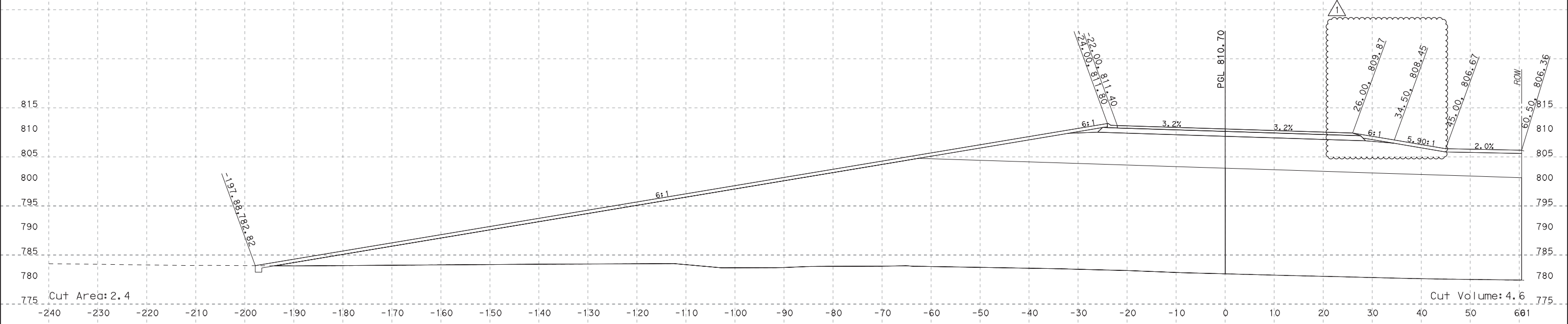
SHEET NO.
XS-66



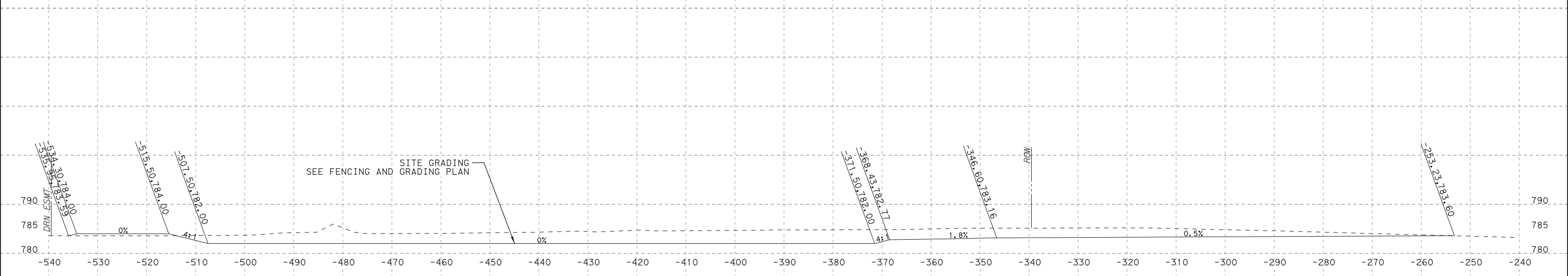
Jacob E. Walker, PE
07/31/2019



STA 425+50.00



STA 425+50.00



PLOT DRIVER: TXDOT_PDF_BW.plt
USER: LGOMEZ
DATE: 7/30/2019
TIME: 12:23:31 PM
SCALE: 1:20
FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

STA 425+50.00

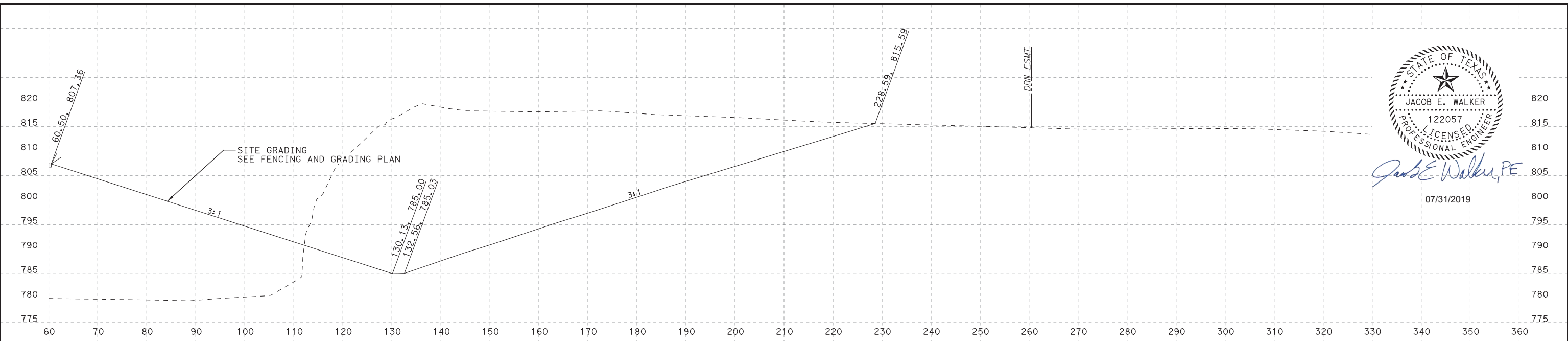
SCALE: HORIZ: 1"=20'
VERT: 1"=20'

**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

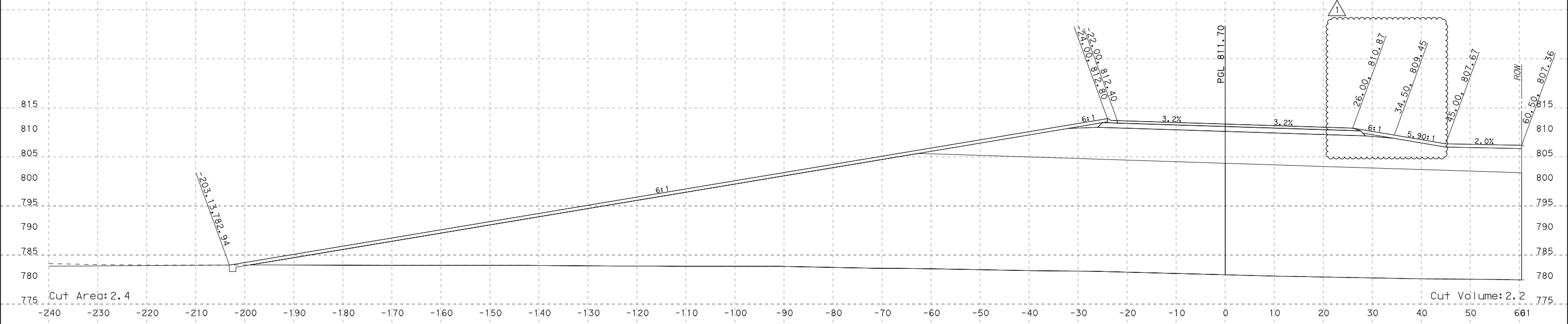
SHEET NO.
XS-67



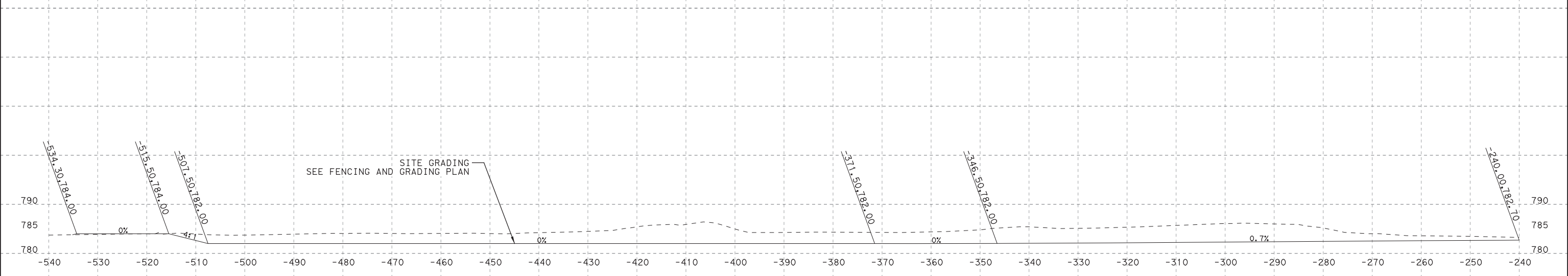
Jacob E. Walker, PE
07/31/2019



STA 425+75.00



STA 425+75.00



STA 425+75.00

PLOT DRIVER: TXDOT_PDF_BW.plt
USER: LGOMEZ
DATE: 7/30/2019
TIME: 12:23:34 PM
SCALE: 1:20
FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
810 Heesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

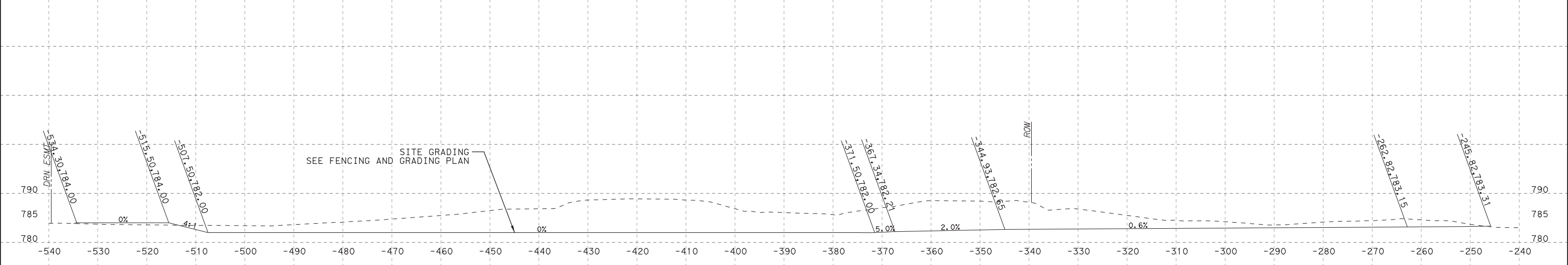
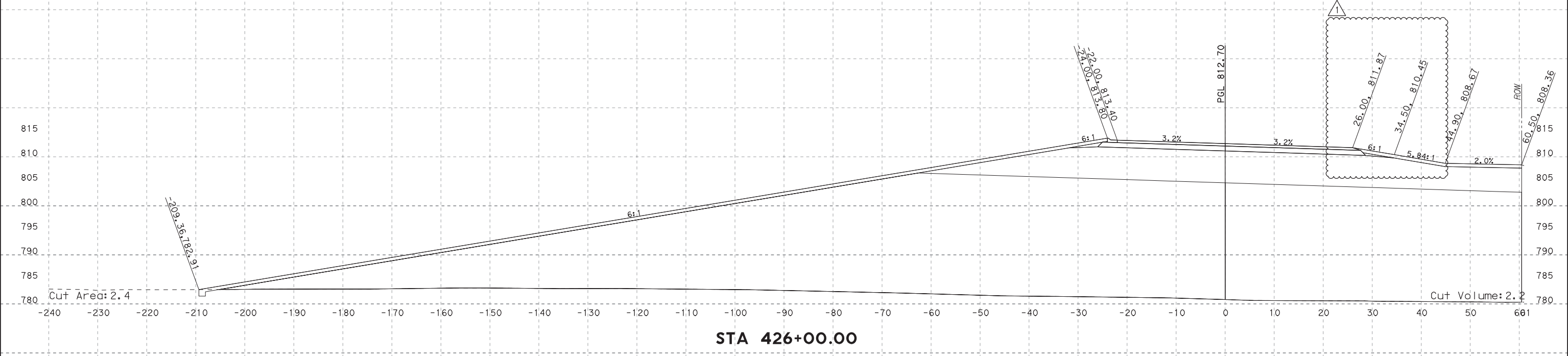
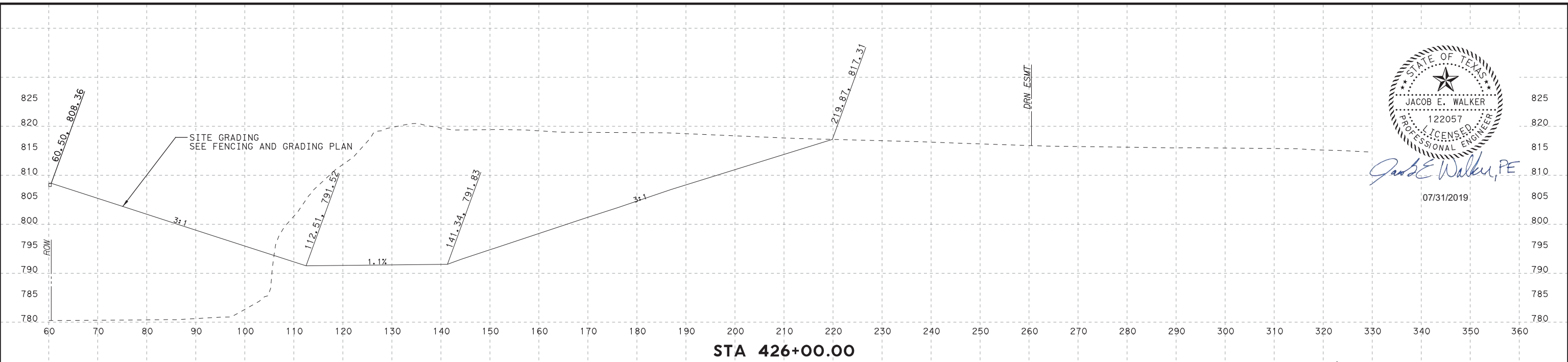
SCALE: HORIZ: 1"=20'
VERT: 1"=20'

**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

SHEET NO.
XS-68



Jacob E. Walker, PE
07/31/2019



PLOT DRIVER: TXDOT_PDF_BW.plt
PENTABLE: S2-000002070718.tbl
USER: LGOMEZ
DATE: 7/30/2019
TIME: 12:23:37 PM
SCALE: 1:20
FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

STA 426+00.00

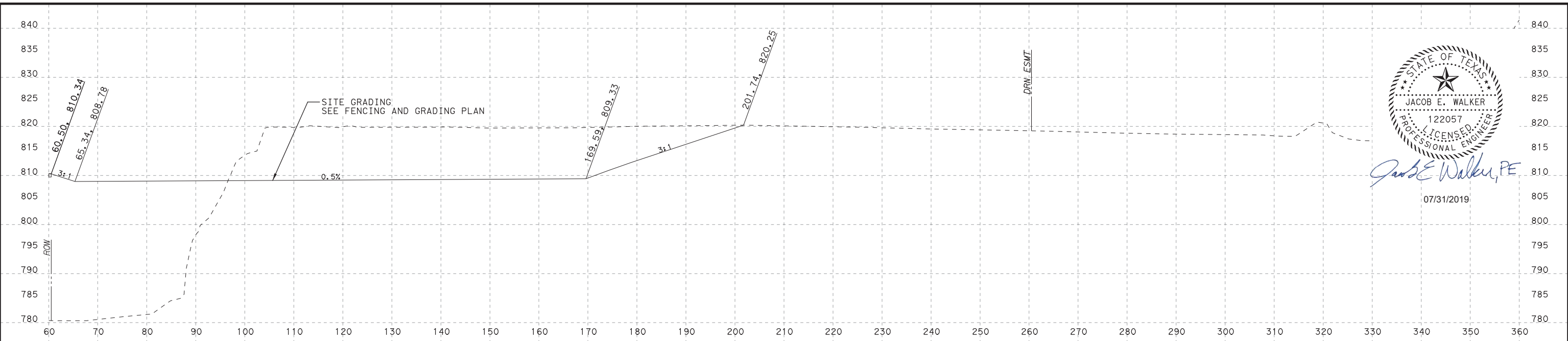
SCALE: HORIZ: 1"=20'
VERT: 1"=20'

**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

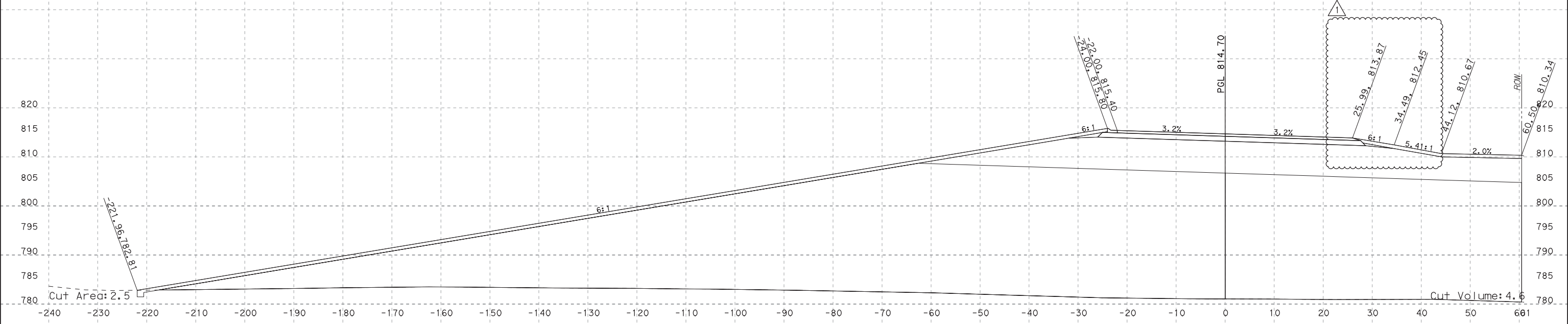
SHEET NO.
XS-69



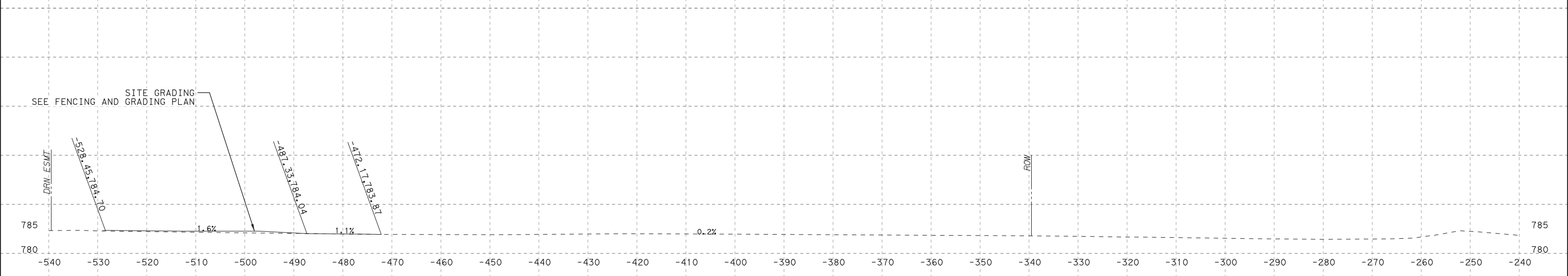
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07/31/2019



STA 426+50.00



STA 426+50.00



PLOT DRIVER: TXDOT_PDF_BW.plt
USER: LGOMEZ
DATE: 7/30/2019
TIME: 12:23:40 PM
SCALE: 1:20
FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

STA 426+50.00

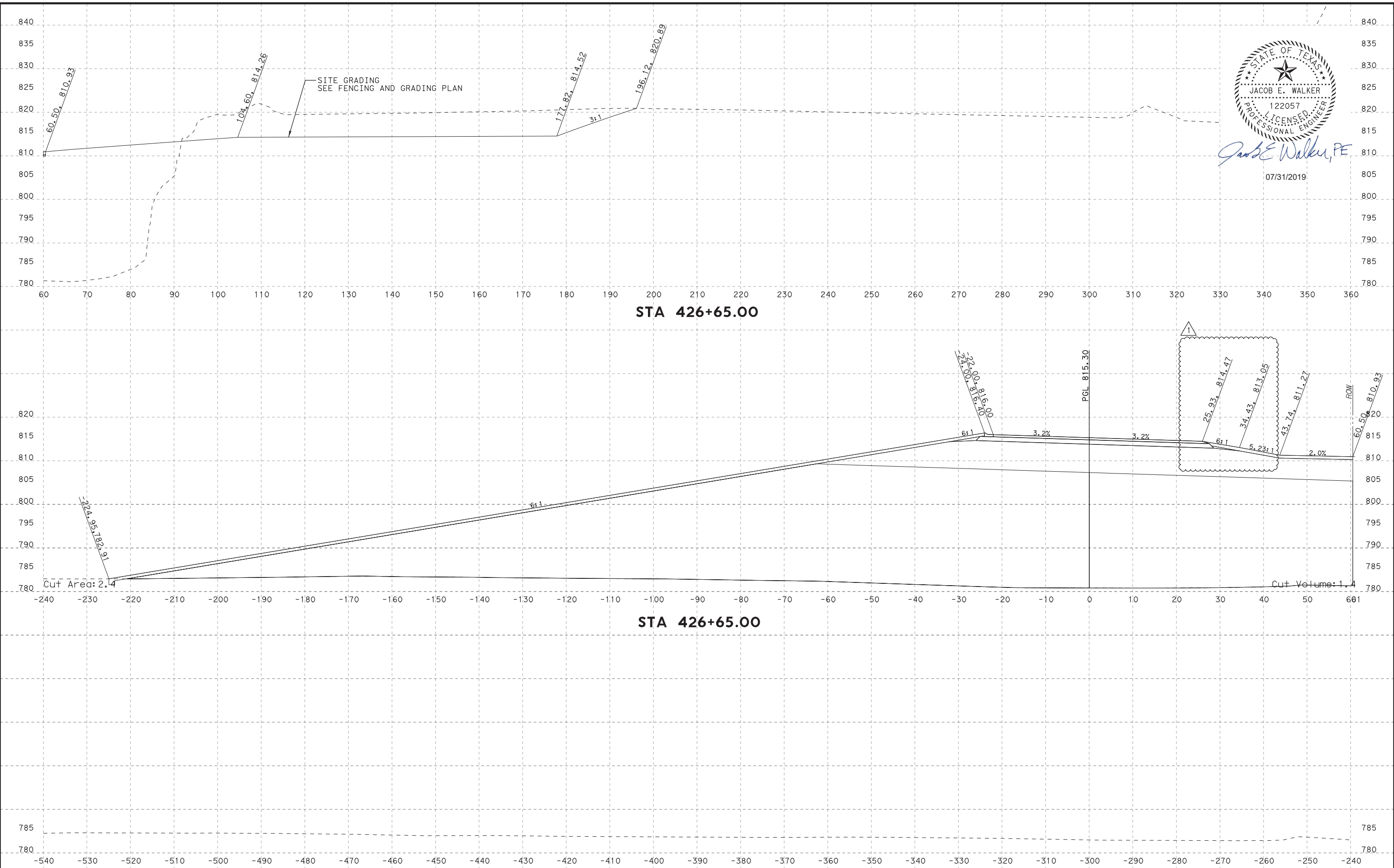
SCALE: HORIZ: 1"=20'
VERT: 1"=20'

**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

SHEET NO.
XS-70



Jacob E. Walker, PE
07/31/2019



PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ
 DATE: 7/30/2019
 TIME: 12:23:44 PM
 SCALE: 1:20
 FILE: \

NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 426+65.00

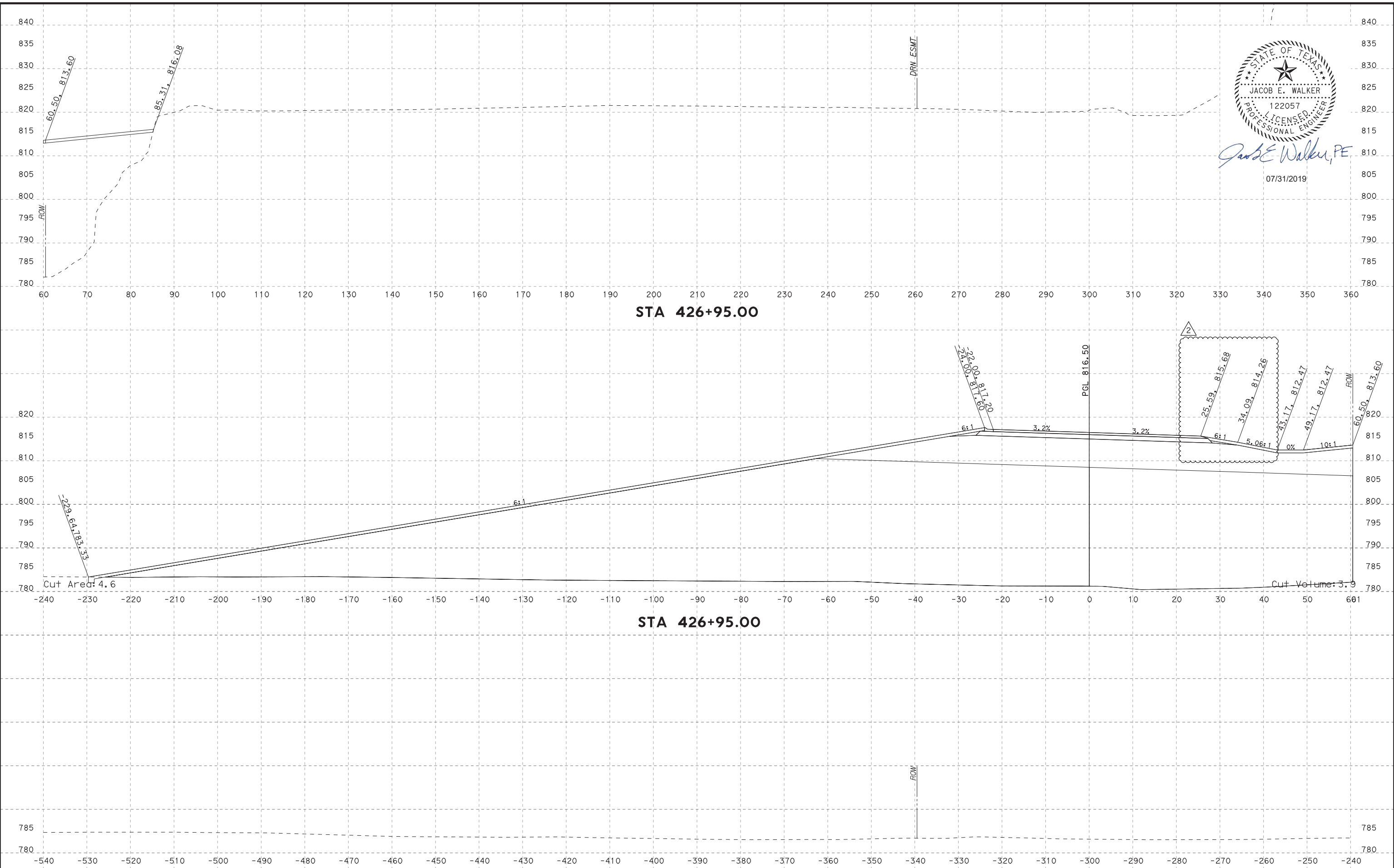
SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-71



Jacob E. Walker, PE
07/31/2019



STA 426+95.00

STA 426+95.00

STA 426+95.00

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FILE: \

NO.	DATE	REVISION	APPROVED
1	1/24/19	REMOVED RETAINING WALL RW-06	JW
2	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

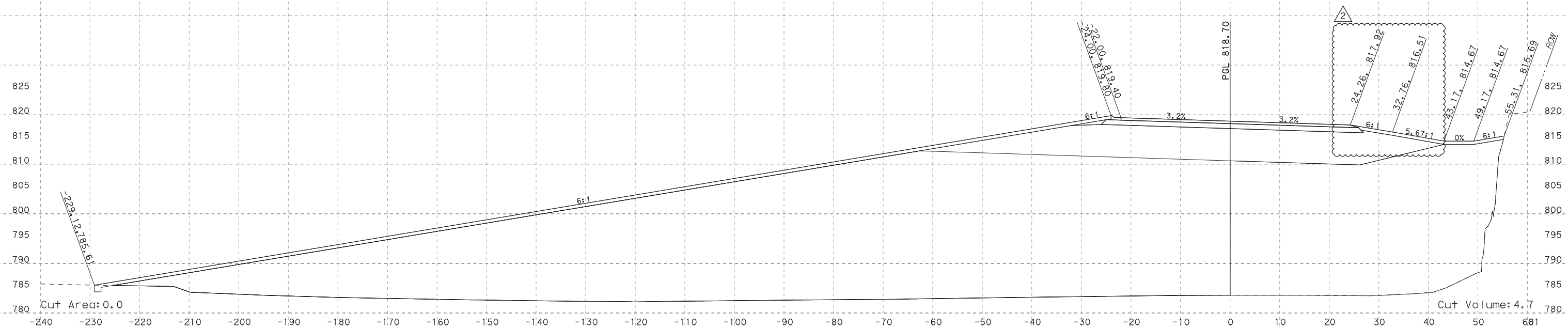
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**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

SHEET NO.
XS-72



Jacob E. Walker, PE
07/31/2019



STA 427+50.00

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NO.	DATE	REVISION	APPROVED
1	1/24/19	REMOVED RETAINING WALL RW-06	JW
2	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

STA 427+50.00

SCALE: HORIZ: 1"=20'
VERT: 1"=20'

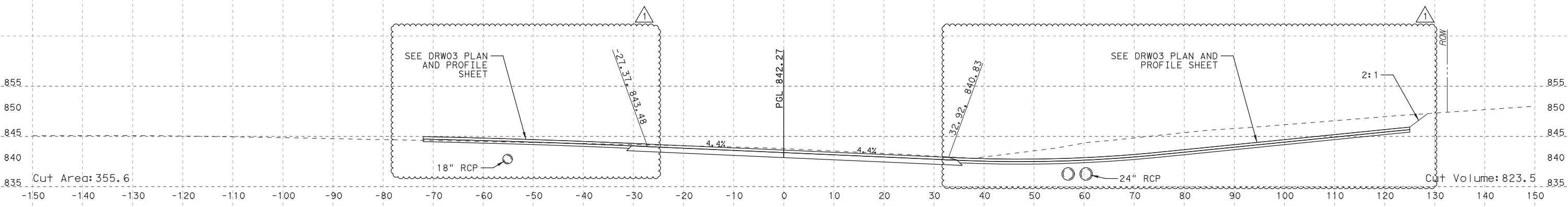
**SOUTHWEST BYPASS
SEGMENT 2 - WBFR**

SHEET NO.
XS-73



Jacob E. Walker, PE

07/31/2019



STA 446+50.00

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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 446+50.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

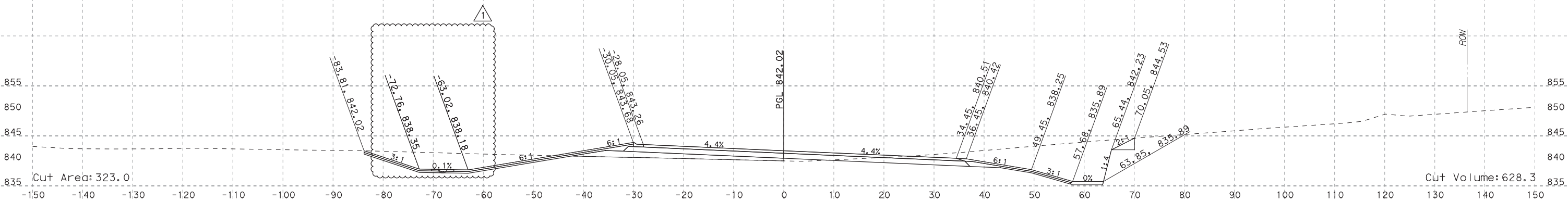
**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-111



Jacob E. Walker, PE

07/31/2019



STA 447+00.00

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NO.	DATE	REVISION	APPROVED
1	7/24/19	DRIVEWAY ADDITION	JW

HDR HDR Engineering, Inc.
 810 Heesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 447+00.00

SCALE: HORIZ: 1"=20'
 VERT: 1"=20'

**SOUTHWEST BYPASS
 SEGMENT 2 - WBFR**

SHEET NO.
XS-112

ITEM	DESCRIPTION	UNIT	QTY	BID PRICE	COST	NOTES
132 6005	EMBANKMENT (FINAL)(ORD COMP)(TY C)	CY	1,080.0	\$ 2.71	\$ 2,926.80	
423 RW06	RETAINING WALL (MSE) (ASHLAR STONE FIN)	SF	(2,416)	\$ 51.85	\$ (125,269.60)	
432 6001	RIPRAP (CONC)(4 IN)	CY	(28)	\$ 350.00	\$ (9,800.00)	
432 6033	RIPRAP (STONE PROTECTION)(18 IN)	CY	(25)	\$ 60.00	\$ (1,500.00)	
432 8002	RIPRAP (STONE PROTECTION)(8 IN) (TY II)	CY	38	\$ 25.49	\$ 968.62	
450 6023	RAIL (TY SSTR)	LF	(114)	\$ 45.77	\$ (5,217.78)	
464 6026	RC PIPE (CL V)(24 IN)	LF	(264)	\$ 84.90	\$ (22,413.60)	
466 6130	HEADWALL (CH - PW - S) (DIA= 24 IN)	EA	(1)	\$ 2,036.00	\$ (2,036.00)	
467 6394	SET (TY II) (24 IN) (RCP) (6: 1) (C)	EA	(1)	\$ 1,080.00	\$ (1,080.00)	
506 6002	ROCK FILTER DAMS (INSTALL) (TY 2)	LF	(15)	\$ 19.50	\$ (292.50)	
506 6011	ROCK FILTER DAMS (REMOVE)	LF	(15)	\$ 6.00	\$ (90.00)	
550 6001	CHAIN LINK FENCE (INSTALL) (6')	LF	(116)	\$ 50.00	\$ (5,800.00)	
552 8001	WIRE FENCE	LF	107	\$ 8.00	\$ 856.00	
S2 BD	BOULDER DELINEATION	LF	107	\$ 4.56	\$ 487.92	
				Total: \$	(168,260.14)	

Southwest Bypass: Segment 2

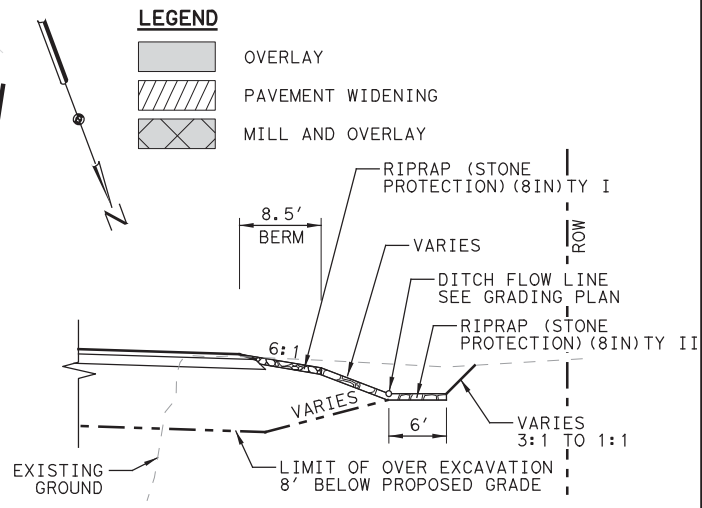
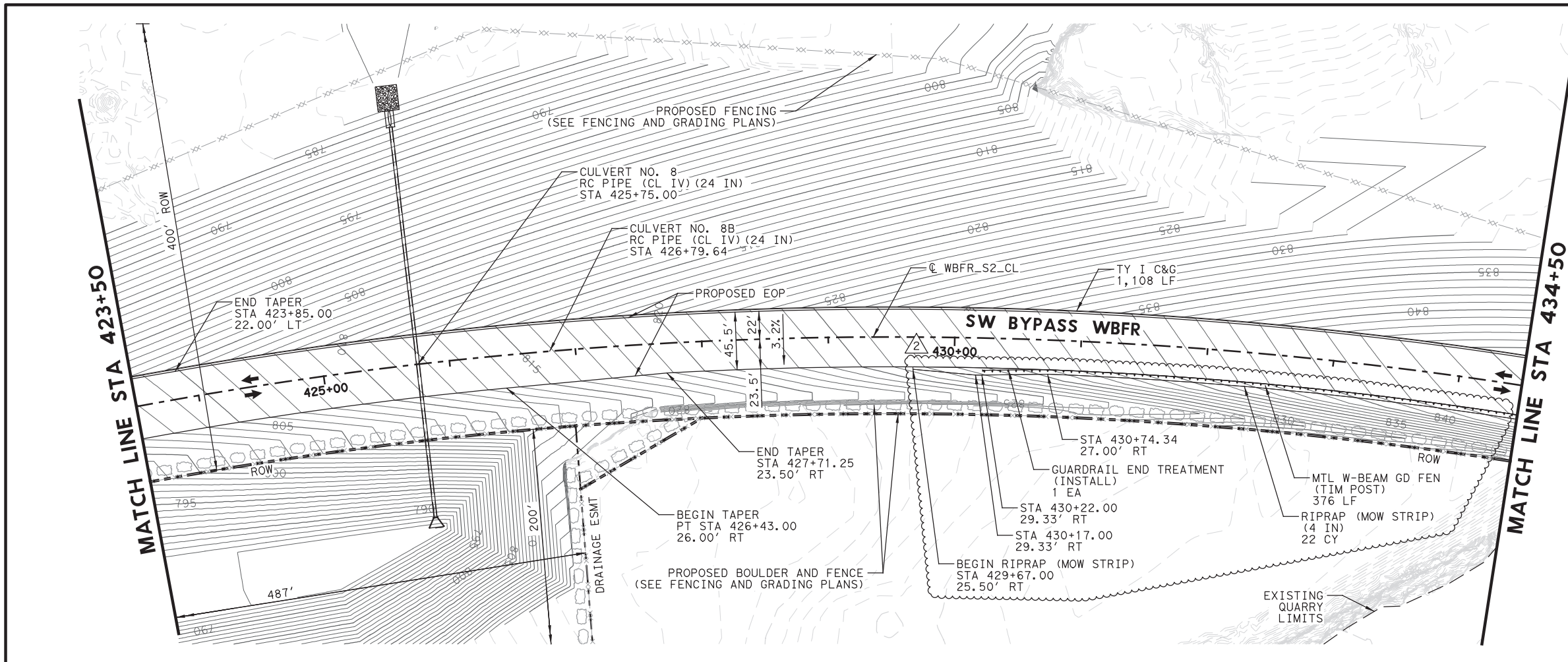
Change Order Estimate

MBGF For New Quarry Drop-off

Date: October 29, 2019

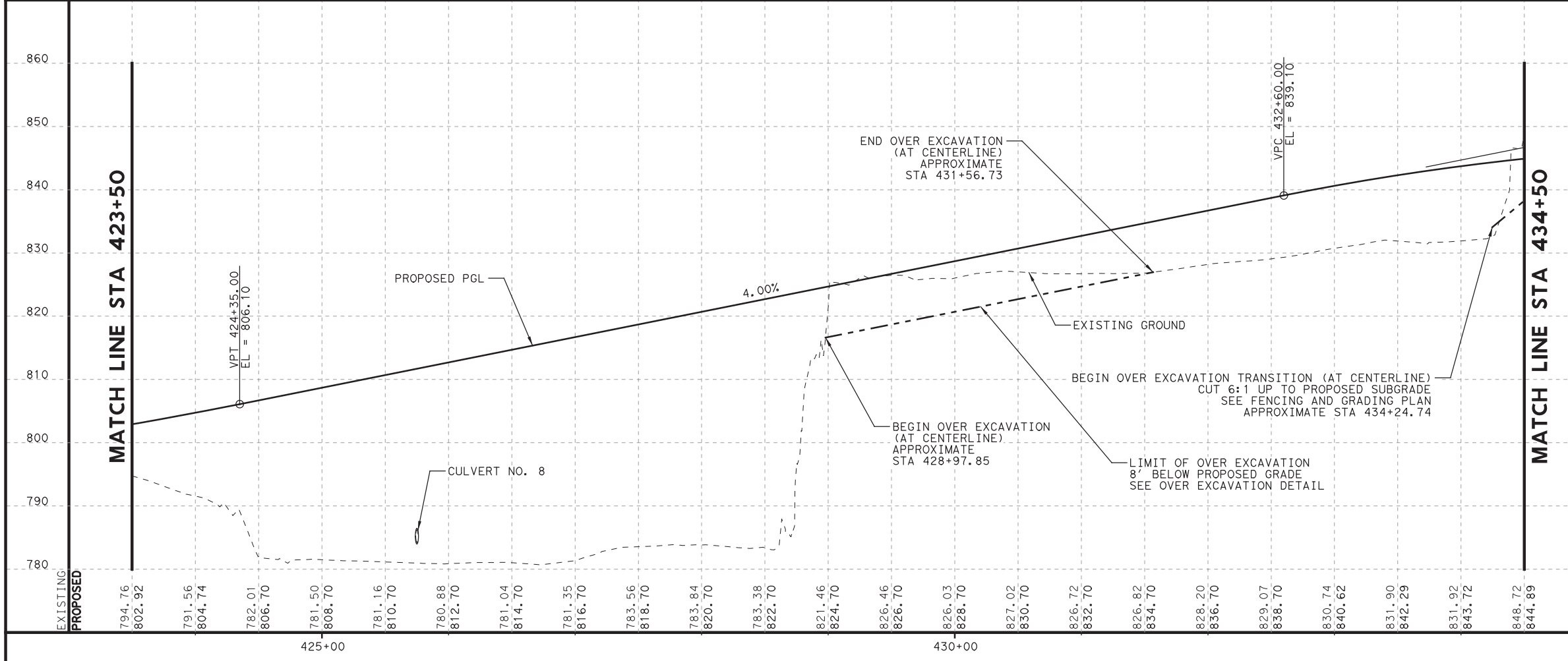
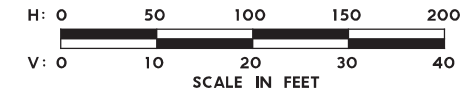
ITEM	DESCRIPTION	UNIT	QTY DIFF	BID PRICE	COST	NOTES
110 6001	EXCAVATION (ROADWAY)	CY	329.0	\$ 4.88	\$ 1,605.52	End area volume from Sta 431+00 to Sta 435+00 based on adjusting observed existing field conditions to single slope.
132 6005	EMBANKMENT (FINAL)(ORD COMP)(TY C)	CY	186.0	\$ 2.71	\$ 504.06	End area volume from Sta 431+00 to Sta 435+00 based on adjusting observed existing field conditions to single slope.
432 6045	RIPRAP (MOW STRIP)(4 IN)	CY	29.0	\$ 687.17	\$ 19,927.93	
432 8001	RIPRAP (STONE PROTECTION)(8 IN) (TY I)	CY	(105.0)	\$ 34.68	\$ (3,641.40)	
432 8002	RIPRAP (STONE PROTECTION)(8 IN) (TY II)	CY	57.0	\$ 25.49	\$ 1,452.93	
540 6001	MTL W-BEAM GD FEN (TIM POST)	LF	525.0	\$ 21.90	\$ 11,497.50	
540 6016	DOWNSTREAM ANCHOR TERMINAL SECTION	EA	1.0	\$ 890.00	\$ 890.00	
544 6001	GUARDRAIL END TREATMENT (INSTALL)	EA	(3.0)	\$ 2,296.00	\$ (6,888.00)	
544 WC01	GUARDRAIL END TREATMENT (INSTALL)(NEW SPEC)	EA	4.0	\$ 3,329.45	\$ 13,317.78	New Item. Contractor price provided.
				Total:	\$ 38,666.32	

Multiply unit rates for all
new items (8) in this
Change order by 1.15,
per meeting with JCG on
2/24/2020.
ERC



OVER EXCAVATION DETAIL
APPROXIMATE STA 427+90.00 TO STA 432+85.00

- NOTES:**
1. ALL STATION AND OFFSET ARE FROM "WBFR_S2_CL" UNLESS OTHERWISE INDICATED.
 2. ALL DIMENSIONS ARE FROM LIP OF GUTTER OR EDGE OF PAVEMENT UNLESS OTHERWISE INDICATED.
 3. SEE "INTERSECTION DETAILS" SHEETS FOR INTERSECTION AND MEDIAN INFORMATION NOT SHOWN.



STATE OF TEXAS
JACOB E. WALKER
122057
LICENSED PROFESSIONAL ENGINEER
Jacob Walker, PE
10/29/2019

2	10/29/19	ADDED MBGF	JW
1	7/30/19	DRIVEWAY ADDITION	JW
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY
HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
SEGMENT 2**

**PLAN AND PROFILE
WBFR**

STA 423+50 TO STA 434+50

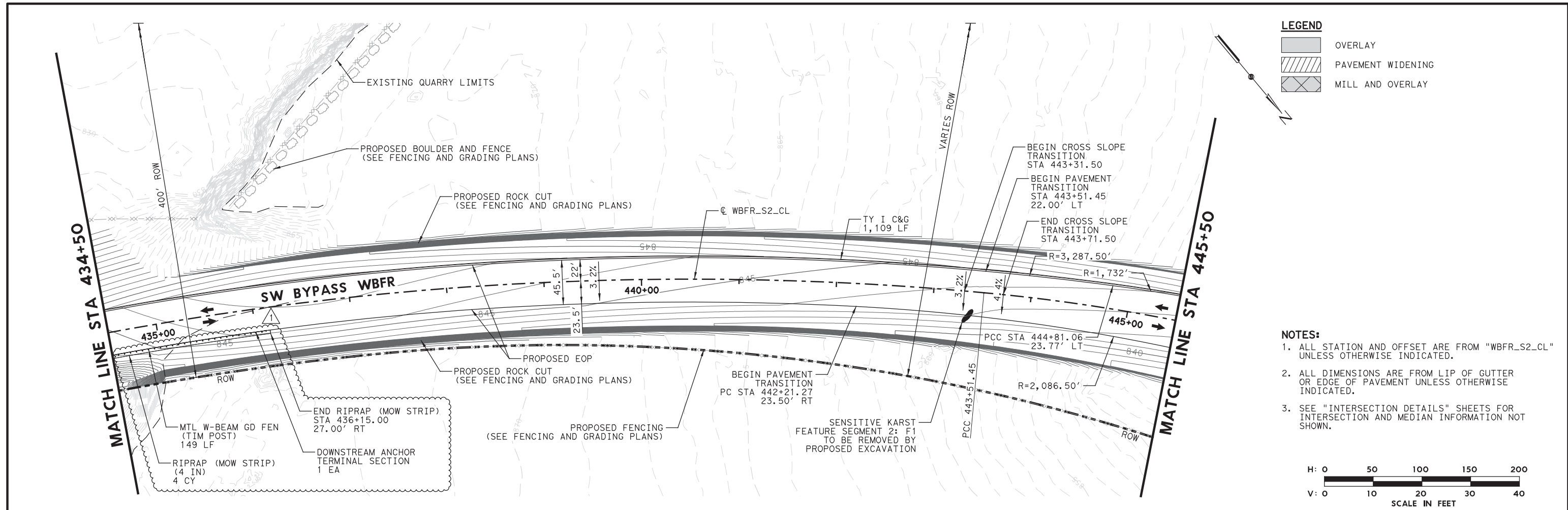
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1"=20'-V

SHEET 6 OF 8

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	KB	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	SECTION	JOB			57
CHECK	JC		2103	01	034		

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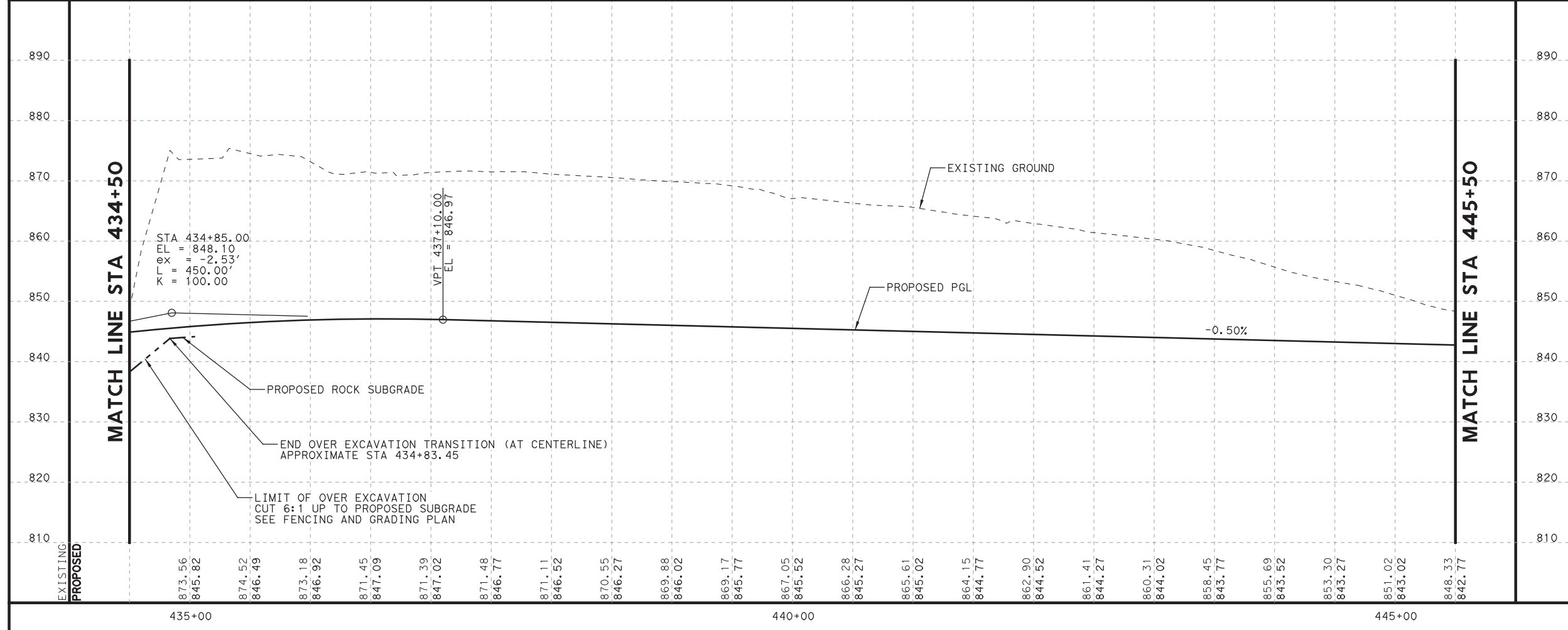
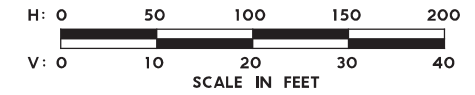
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LEGEND

	OVERLAY
	PAVEMENT WIDENING
	MILL AND OVERLAY

- NOTES:**
1. ALL STATION AND OFFSET ARE FROM "WBFR_S2_CL" UNLESS OTHERWISE INDICATED.
 2. ALL DIMENSIONS ARE FROM LIP OF GUTTER OR EDGE OF PAVEMENT UNLESS OTHERWISE INDICATED.
 3. SEE "INTERSECTION DETAILS" SHEETS FOR INTERSECTION AND MEDIAN INFORMATION NOT SHOWN.



STATE OF TEXAS
 JACOB E. WALKER
 122057
 LICENSED PROFESSIONAL ENGINEER
Jacob Walker, PE
 10/29/2019

1	10/29/19	ADDED MBGF	JW
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY
HDR HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2**

**PLAN AND PROFILE
 WBFR**

STA 434+50 TO STA 445+50

SCALE: 1"=100'-H
 1"=20'-V

SHEET 7 OF 8

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	KB	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	2103	SECTION	01	JOB	034
CHECK	JC						58



MEMO

April 25, 2018

To: District Engineers

From: Camille Thomason, P.E.
Director, Design Division

Subject: Revised Roadway Standards

The following changes have been made to the roadway standards sheets.

The standard sheets will be applicable to all new construction projects beginning with the July 2018 letting. The use of these sheets prior to that date is at the option of the district. The new standards are available from the Roadway Standards web page in Microstation® "dgn" and Adobe "pdf" format. See <http://www.dot.state.tx.us/insdtdot/orgchart/cmd/cserve/standard/rdwylse.htm>.

Please distribute this information to the appropriate district staff and area offices, as well as consulting engineers working on TxDOT projects.

The following represents the standard sheets changed.

SGT(12S)31-18 The MSKT end terminal is a new standard sheet which depicts a steel post MBGF end terminal system which can be attached to wood or steel post MBGF systems. The system is a re-directive, gating, end terminal system that is proprietary. The system is extruding; meaning the rail panels extrude or spool outwards on the field side upon impact.

This end terminal system is MASH TL-3 compliant, meaning it is available for use for high-speed roadway conditions.

SGT(13S)31-18 This new standard is a **retrofit** system that retrofits an existing SKT 31" standard steel post system to MASH TL-3 compliance. The existing SKT 31" standard steel post system must be NCHRP 350 compliant and free of any damage or defects before retrofitting.

SGT(14W)31-18 This new standard is a **retrofit** system that retrofits an existing SKT 31" standard wood post system to MASH TL-3 compliance. The existing SKT 31" standard wood post system must be NCHRP 350 compliant and free of any damage or defects before retrofitting.

The following non-MASH compliant standards are removed from the list of available standards:

SGT(8)31-17 This 31" end terminal system is removed from the list of available standards.

SGT(8S)31-17 This 31" end terminal system is removed from the list of available standards.

SGT(8)-17 This 28" end terminal system is removed from the list of available standards.

SGT(8S)-17 This 28" end terminal system is removed from the list of available standards.

SGT(9S)28-14 This 28" end terminal system is removed from the list of available standards.

OUR GOALS

MAINTAIN A SAFE SYSTEM ▪ ADDRESS CONGESTION ▪ CONNECT TEXAS COMMUNITIES ▪ BEST IN CLASS STATE AGENCY

An Equal Opportunity Employer

If you have questions or need additional information concerning these standard details, please contact Kenneth Mora, P.E., Roadway Design Section Director, at (512) 416-2678.

CC: William L. Hale, P.E., ADM
Randy C. Hopmann, P.E., ADM
Brian R. Barth, P.E., ADM
C. Michael Lee, P.E., ADM
Gregg A. Freeby, P.E., BRG
Gina Gallegos, P.E., CST
Daniel I. Stacks, P.E., MNT
Peter Smith, P.E., TPP
Michael A. Chacon, P.E., TRF
James Stevenson, P.E., MNT
George Villareal, P.E., TRF
Ujval Patel, FHWA
Steve Ratke, FHWA
Procurement Division
Thomas Bohuslav, P.E., AGC

Metal Beam Guard Fence Rail Element Manufacturers

Reference

Refer to the Spec Book for information on the following.

- Item 540, “Metal Beam Guard Fence”

Manufacturers

The following manufacturers are qualified to furnish metal beam guard fence rail elements for use on TxDOT projects per Standard Specification Item 540, “Metal Beam Guard Fence.”

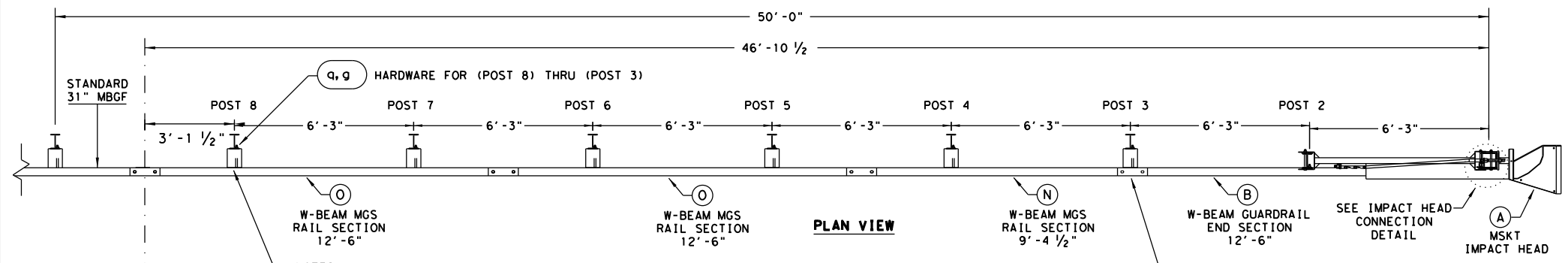
Metal Beam Guard Fence Rail Element Manufacturers

Producer Code	Manufacturer	Location
99394	Gregory Industries, Inc. (formerly Gregory Highway Products)	Canton, OH
98386	Highway Safety Corp.	Glastonbury, CT
98073	R.G. Steel Corp.	Pulaski, PA
98229	SPIG Industry, LLC	Bristol, VA
99807	Trinity Highway Products, LLC (formerly Trinity Industries, Inc.)	Fort Worth, TX
99412	Universal Industrial Sales, Inc.	Pleasant Grove, UT

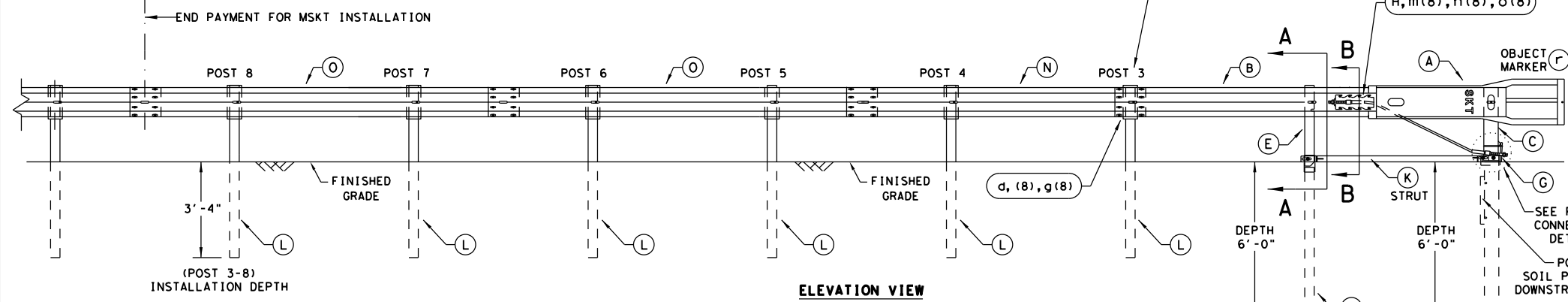
Refer to the following pages for each manufacturer’s brand description and where on the metal beam guard fence rail element it is located.

For more information, contact the Materials and Tests Division’s (MTD) Prefabricated Structural Materials Section at (512) 506-5924.

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

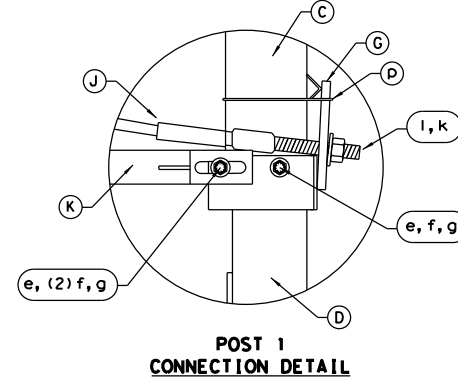
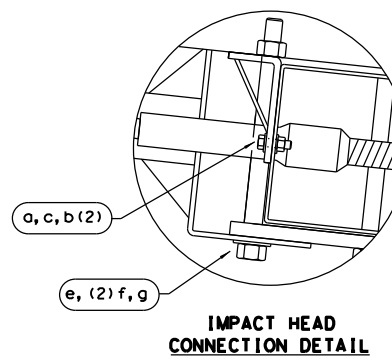
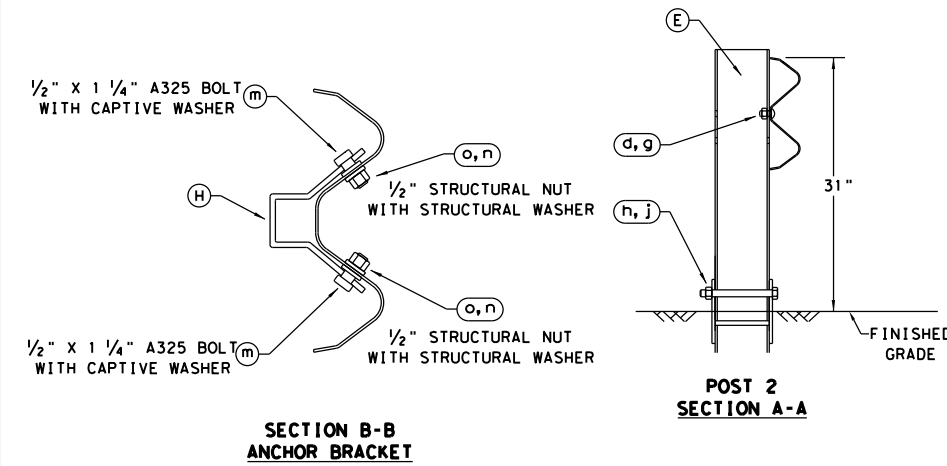


- * NOTES:
- ITEM (M) COMPOSITE BLOCKOUTS INSTALLED AT LINE POST (8) THRU LINE POST (3).
 - ITEM (P) WOOD BLOCKOUTS CAN BE USED AS ALTERNATE.

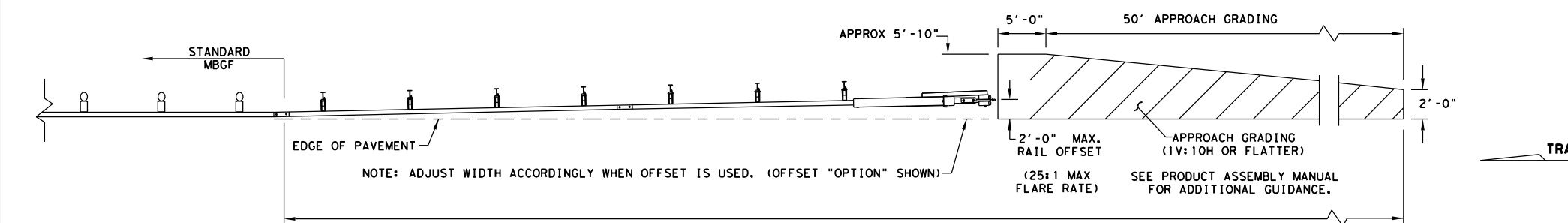


- GENERAL NOTES**
- FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: ROAD SYSTEMS, INC. (432)263-2435. 3616 OLD HOWARD COUNTY AIRPORT, BIG SPRING, TX 79720
 - FOR INSTALLATION, REPAIR AND MAINTENANCE REFER TO THE: MSKT END TERMINAL, PRODUCT DESCRIPTION ASSEMBLY MANUAL (PUBLICATION-062717).
 - APPLY HIGH INTENSITY REFLECTIVE SHEETING, "OBJECT MARKER" ON THE FRONT FACE OF THE DEVICE PER MANUFACTURER'S RECOMMENDATIONS. OBJECT MARKER SHALL CONFORM TO THE STANDARDS REQUIRED IN TEXAS MUTCD.
 - FOR POST (LEAVE-OUT) INSTALLATION AND GUIDANCE SEE TxDOT'S LATEST ROADWAY MOW STRIP STANDARD.
 - HARDWARE (BOLTS, NUTS, & WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING". FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
 - SYSTEM SHOWN USING STEEL WIDE FLANGE POSTS WITH COMPOSITE BLOCKOUTS.
 - A COMPOSITE MATERIAL BLOCKOUTS THAT MEETS THE REQUIREMENTS OF DMS-7210, MAY BE SUBSTITUTED FOR BLOCKOUTS OF SIMILAR DIMENSIONS. SEE CONSTRUCTION DIVISION MATERIAL PRODUCER LIST (MPL) FOR CERTIFIED PRODUCERS.
 - IF SOLID ROCK IS ENCOUNTERED IN THE AREA OF (POST 1) AND / OR (POST 2) CONTACT THE MANUFACTURER, & REFER TO THE LATEST ROADWAY MOW STRIP STANDARD FOR INSTALLATION GUIDANCE.
 - POSTS SHALL NOT BE SET IN CONCRETE.
 - SYSTEM MUST BE ATTACHED TO STANDARD 31" MBGF.
 - UNDER NO CIRCUMSTANCES SHALL THE GUARDRAIL WITHIN THE MSKT SYSTEM BE CURVED.
 - A FLARE RATE OF UP TO 25:1 MAY BE USED TO PREVENT THE TERMINAL HEAD FROM ENCRANCHING ON THE SHOULDER. THE FLARE MAY BE DECREASED OR ELIMINATED FOR SPECIFIC INSTALLATIONS, IF DIRECTED BY THE ENGINEER.
 - THE SYSTEM IS SHOWN WITH TWO 12'-6" MBGF PANELS, ONE 25'-0" MBGF PANEL IS ALSO ALLOWED IN ITS PLACE.
 - A DRIVING CAP WITH A TIMBER OR PLASTIC INSERT SHALL BE USED WHEN DRIVING POSTS 3-8 TO PREVENT DAMAGE TO THE GALVANIZING ON TOP OF THE POST. SPECIAL DRIVING CAP TO BE USED ON LOWER POSTS 1 & 2 TO PREVENT DAMAGE TO THE WELDED PLATES.

ITEM	QTY	MAIN SYSTEM COMPONENTS	ITEM NUMBERS
A	1	MSKT IMPACT HEAD	MS3000
B	1	W-BEAM GUARDRAIL END SECTION, 12 Go.	SF1303
C	1	POST 1 - TOP (6" X 6" X 1/8" TUBE)	MTPHP1A
D	1	POST 1 - BOTTOM (6' W6X15)	MTPHP1B
E	1	POST 2 - ASSEMBLY TOP	UHP2A
F	1	POST 2 - ASSEMBLY BOTTOM (6' W6X9)	HP2B
G	1	BEARING PLATE	E750
H	1	CABLE ANCHOR BOX	S760
J	1	BCT CABLE ANCHOR ASSEMBLY	E770
K	1	GROUND STRUT	MS785
L	6	W6X9 OR W6X8.5 STEEL POST	P621
M	6	COMPOSITE BLOCKOUTS	CBSP-14
N	1	W-BEAM MGS RAIL SECTION (9'-4 1/2")	G12025
O	2	W-BEAM MGS RAIL SECTION (12'-6")	G1203A
P	6	WOOD BLOCKOUT 6" X 8" X 14"	P675
Q	1	W-BEAM MGS RAIL SECTION (25'-0")	G1209
SMALL HARDWARE			
o	2	5/8" x 1" HEX BOLT (GRD 5)	B5160104A
b	4	5/8" WASHER	W0516
c	2	5/8" HEX NUT	N0516
d	25	5/8" Dia. x 1 1/4" SPLICE BOLT (POST 2)	B580122
e	2	5/8" Dia. x 9" HEX BOLT (GRD A449)	B580904A
f	3	5/8" WASHER	W050
g	33	5/8" Dia. H.G.R NUT	N050
h	1	3/4" Dia. x 8 1/2" HEX BOLT (GRD A449)	B340854A
j	1	3/4" Dia. HEX NUT	N030
k	2	1 ANCHOR CABLE HEX NUT	N100
l	2	1 ANCHOR CABLE WASHER	W100
m	8	1/2" x 1 1/4" A325 BOLT WITH CAPTIVE WASHER	SB12A
n	8	1/2" STRUCTURAL NUTS	N012A
o	8	1 1/8" O.D. x 3/8" I.D. STRUCTURAL WASHERS	W012A
p	1	BEARING PLATE RETAINER TIE	CT-100ST
q	6	5/8" x 10" H.G.R. BOLT	B581002
r	1	OBJECT MARKER 18" X 18"	E3151



ALTERNATIVE ITEMS NOT SHOWN. *
 * ITEM (P) 8" WOOD-BLOCKOUT
 ** ITEM (Q) 25' GUARD FENCE PANEL



NOTE: TxDOT GENERIC APPROACH GRADING LAYOUT USED FOR ALL TANGENT TYPE END TREATMENTS.

NOTE: THIS STANDARD IS A BASIC REPRESENTATION OF THE MSKT END TERMINAL, IT IS NOT INTENDED TO REPLACE THE PRODUCT DESCRIPTION ASSEMBLY MANUAL.

Design Division Standard

SINGLE GUARDRAIL TERMINAL

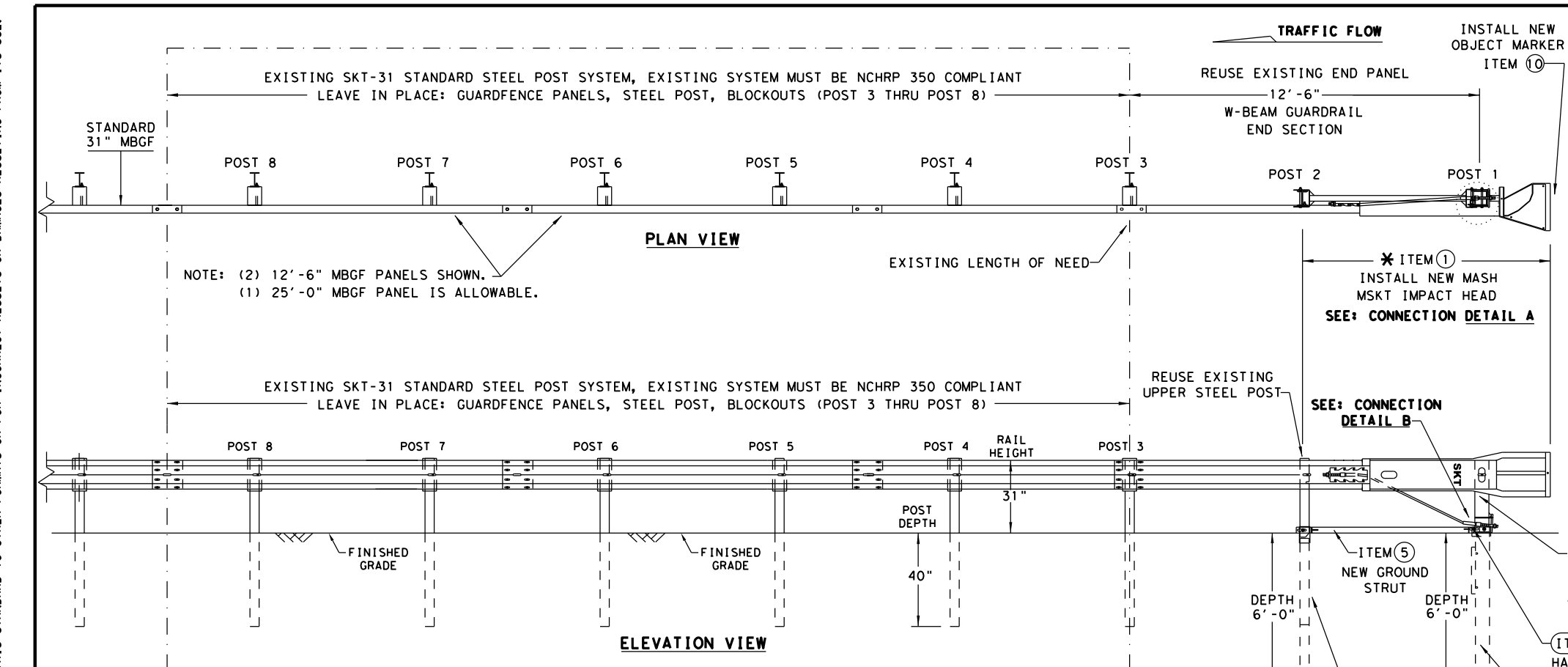
MSKT-MASH-TL-3

SGT (12S) 31-18

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© TxDOT: APRIL 2018	CONT	SECT	JOB	HIGHWAY
REVISIONS				
DIST	COUNTY			SHEET NO.

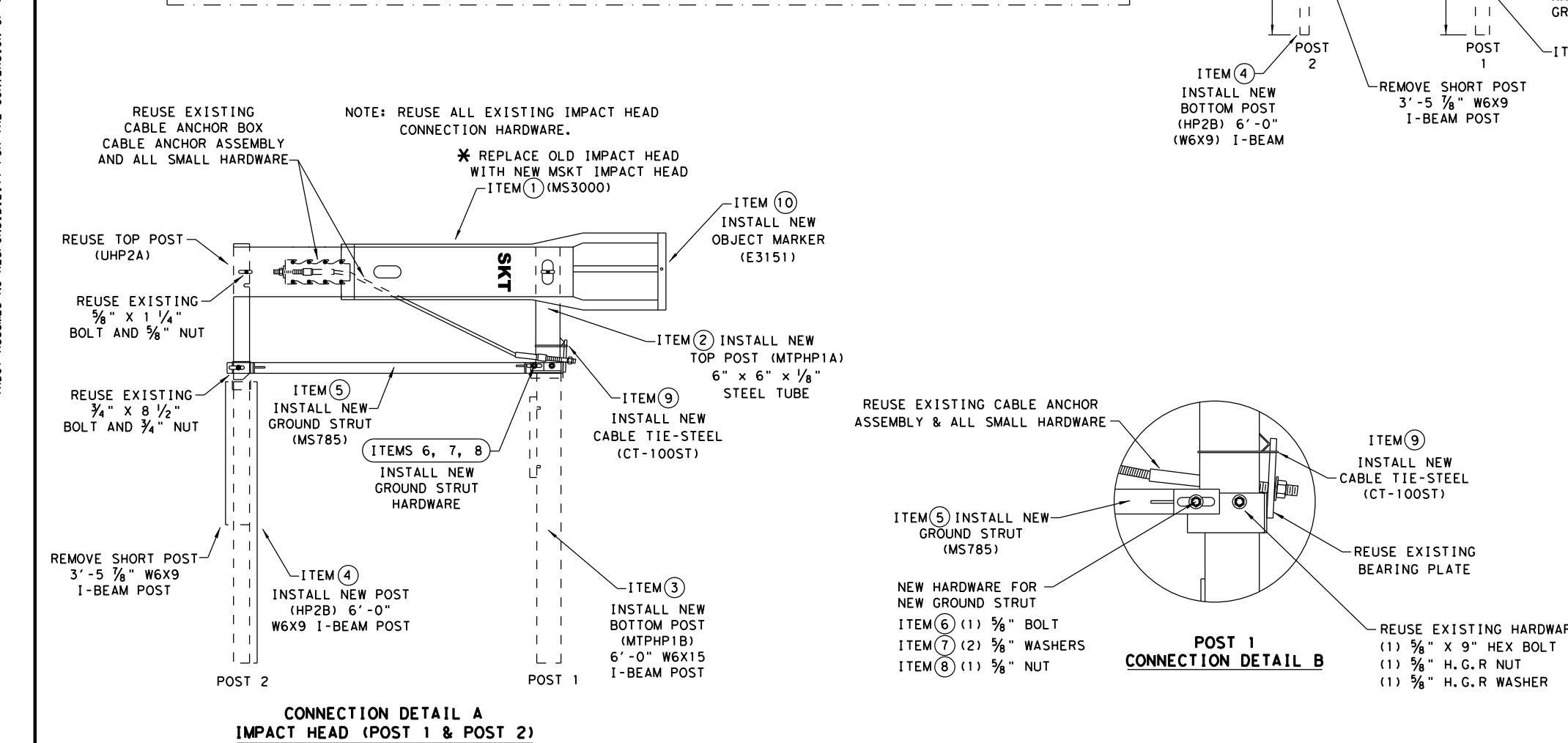
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GENERAL NOTES

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- APPLY HIGH INTENSITY REFLECTIVE SHEETING, "OBJECT MARKER" ON THE FRONT FACE OF THE DEVICE PER MANUFACTURER'S RECOMMENDATIONS. OBJECT MARKER SHALL CONFORM TO THE STANDARDS REQUIRED IN TEXAS MUTCD.
- FOR POST (LEAVE-OUT) INSTALLATION AND GUIDANCE SEE TxDOT'S LATEST ROADWAY MOW STRIP STANDARD.
- HARDWARE (BOLTS, NUTS, & WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING". FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
- IF SOLID ROCK IS ENCOUNTERED IN THE AREA OF (POST 1) AND / OR (POST 2) CONTACT THE MANUFACTURER, AND REFER TO THE LATEST ROADWAY MBGF STANDARD FOR INSTALLATION GUIDANCE.
- POSTS SHALL NOT BE SET IN CONCRETE.
- THE EXISTING SKT 31" STANDARD STEEL POST SYSTEM MUST BE THOROUGHLY INSPECTED, AND DETERMINED TO BE INTACT, AND FREE OF ANY DAMAGE OR DEFECTS BEFORE RETROFITTING. THIS INSPECTION INCLUDES COMPLETING THE MSKT RETROFIT INSPECTION CHECKLIST FOR THE EXISTING SKT 31" STEEL POST NCHRP 350 SYSTEM. ALL EXISTING, AND REUSABLE PARTS MUST BE FREE OF ANY DAMAGE FOR A MASH COMPLIANT RETROFIT.
- UNDER NO CIRCUMSTANCES SHALL THE GUARDFEIL WITHIN THE MSKT SYSTEM BE CURVED.
- A FLARE RATE OF UP TO 25:1 MAY BE USED TO PREVENT THE TERMINAL HEAD FROM ENCRDACHING ON THE SHOULDER. THE FLARE MAY BE DECREASED OR ELIMINATED FOR SPECIFIC INSTALLATIONS, IF DIRECTED BY THE ENGINEER.
- SPECIAL DRIVING CAP TO BE USED WHEN DRIVING (LOWER POSTS 1 & 2) TO PREVENT DAMAGE TO THE WELDED PLATES.



ITEMS	QTY	MAIN SYSTEM COMPONENTS	PART NUMBERS
*	1	MSKT IMPACT HEAD	MS3000
	1	POST 1 - TOP (6" X 6" X 1/8" TUBE)	MTPHP1A
	1	POST 1 - BOTTOM (6' W6X15)	MTPHP1B
	1	POST 2 - ASSEMBLY BOTTOM (6' W6X9)	HP2B
	1	GROUND STRUT	MS785
	1	5/8" X 9" HEX BOLT (GRD A449)	B580904A
	2	5/8" WASHERS	W050
	1	5/8" H.G.R NUT	N050
	1	CABLE TIE-STEEL	CT-100ST
*	1	OBJECT MARKER 18" X 18"	E3151

COMPONENTS REQUIRED TO RETROFIT: EXISTING 31" STEEL POST (NCHRP 350) SKT GUARDFEIL TERMINAL WITH THE NEW 31" (MASH COMPLIANT) MSKT IMPACT HEAD.

* IF THE EXISTING NCHRP 350 (31" STEEL POST SKT) ALREADY HAS THE MSKT IMPACT HEAD THERE IS NO NEED TO REPLACE THE IMPACT HEAD OR OBJECT MARKER AS LONG AS IT IS NOT DAMAGED.

Design Division Standard

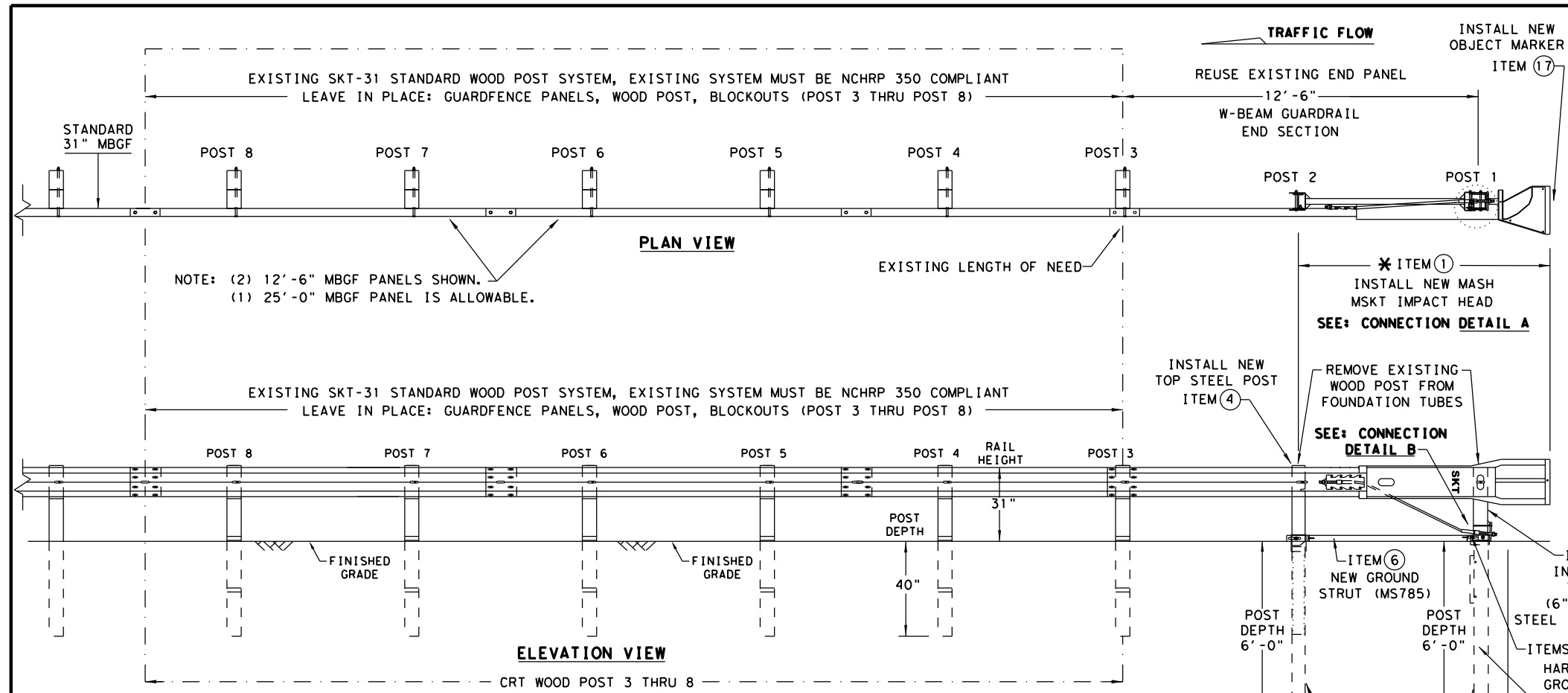
RETROFIT STANDARD SKT 31" STEEL POST SYSTEM TO MASH MSKT SGT (13S) 31-18

FILE: sgt13s3118.dgn	DN: TxDOT	CK: KM	DW: VP	CK: CL
© TxDOT: APRIL 2018	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY	SHEET NO.	

NOTE: THIS STANDARD IS A BASIC REPRESENTATION OF THE EXISTING; SKT END TERMINAL RETROFITTED TO THE MSKT MASH COMPLIANT TERMINAL, IT IS NOT INTENDED TO REPLACE THE PRODUCT DESCRIPTION ASSEMBLY MANUAL.

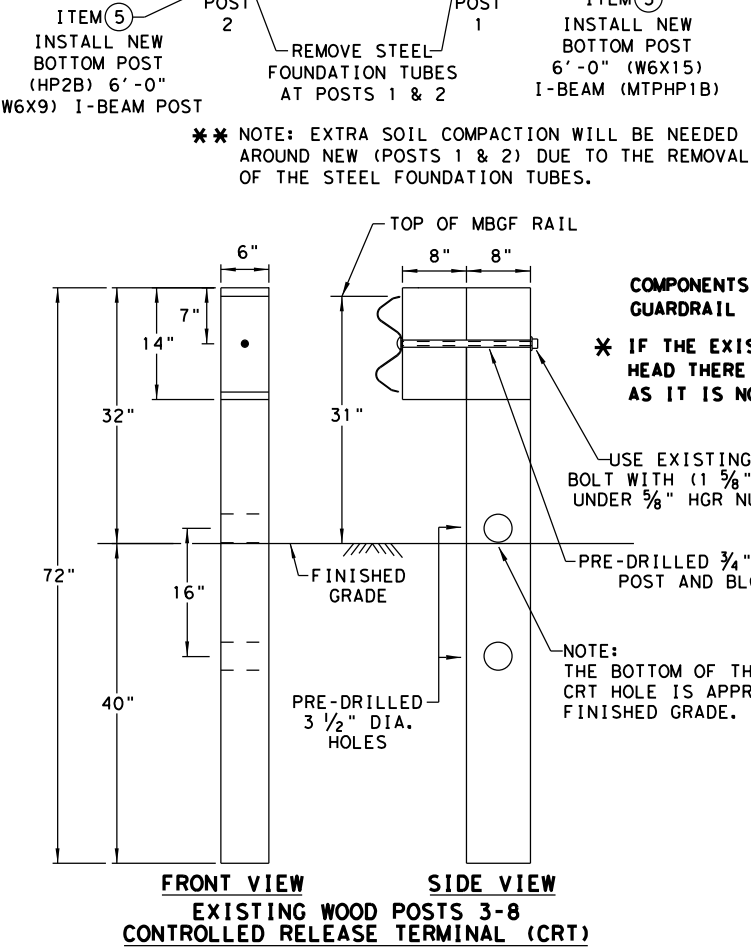
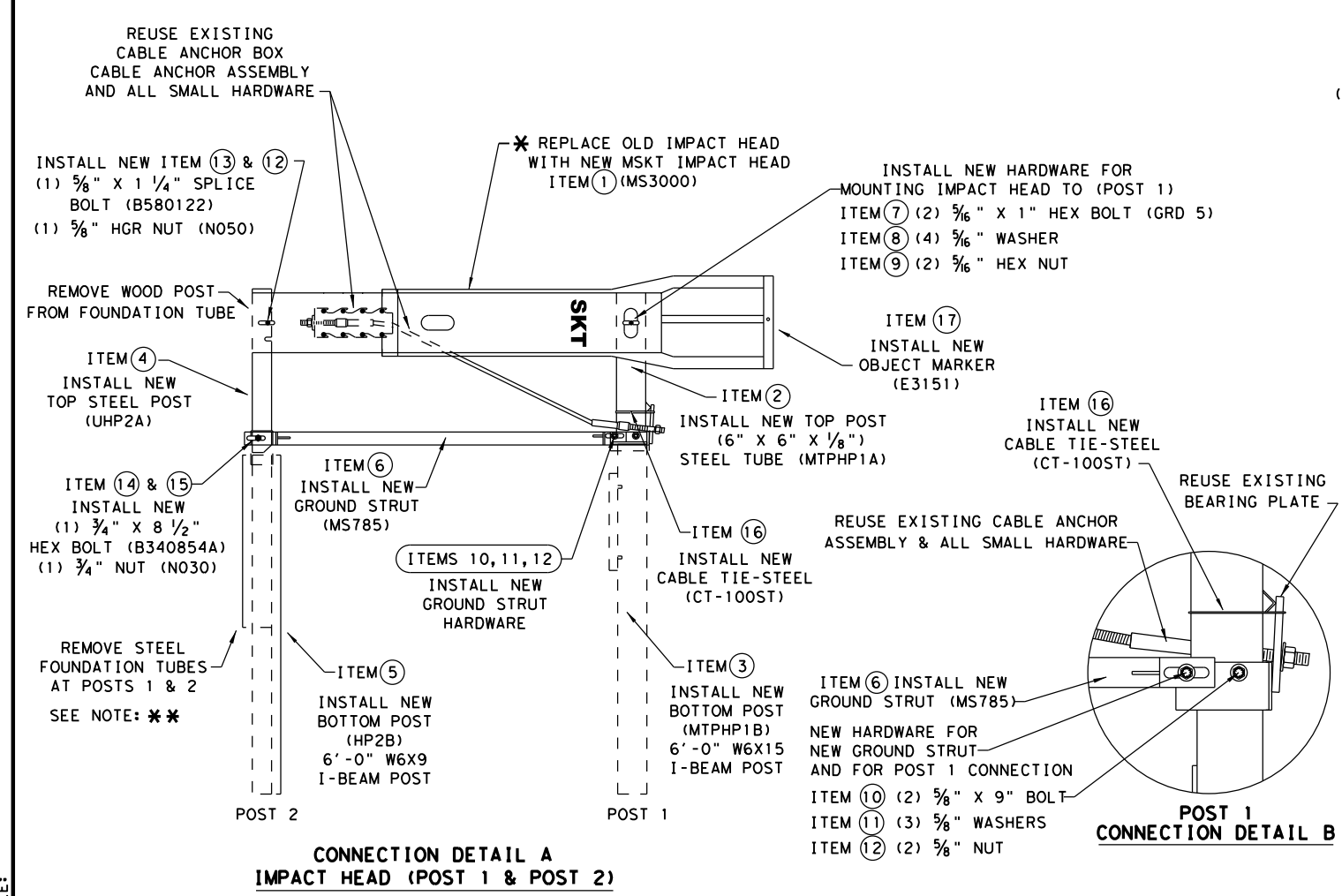
DATE:
FILE:

DISCLAIMER: THE USE OF THIS STANDARD IS GOVERNED 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.



- ### GENERAL NOTES
- FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: ROAD SYSTEMS, INC. (432) 263-2435. 3616 OLD HOWARD COUNTY AIRPORT, BIG SPRING, TX 79720
 - FOR INSTALLATION, REPAIR AND MAINTENANCE REFER TO: MSKT END TERMINAL, PRODUCT DESCRIPTION ASSEMBLY MANUAL (PUBLICATION-062717).
 - APPLY HIGH INTENSITY REFLECTIVE SHEETING, "OBJECT MARKER" ON THE FRONT FACE OF THE DEVICE PER MANUFACTURER'S RECOMMENDATIONS. OBJECT MARKER SHALL CONFORM TO THE STANDARDS REQUIRED IN TEXAS MUTCD.
 - FOR POST (LEAVE-OUT) INSTALLATION AND GUIDANCE SEE TXDOT'S LATEST ROADWAY MOW STRIP STANDARD.
 - HARDWARE (BOLTS, NUTS, & WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING". FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
 - IF SOLID ROCK IS ENCOUNTERED IN THE AREA OF (POST 1) AND / OR (POST 2) CONTACT THE MANUFACTURER, AND REFER TO THE LATEST ROADWAY MBGF STANDARD FOR INSTALLATION GUIDANCE.
 - POSTS SHALL NOT BE SET IN CONCRETE.
 - THE EXISTING SKT 31" STANDARD WOOD POST SYSTEM MUST BE THOROUGHLY INSPECTED, AND DETERMINED TO BE INTACT, AND FREE OF ANY DAMAGE OR DEFECTS BEFORE RETROFITTING. THIS INSPECTION INCLUDES COMPLETING THE MSKT RETROFIT INSPECTION CHECKLIST FOR THE EXISTING SKT 31" WOOD POST NCHRP 350 SYSTEM. ALL EXISTING, AND REUSABLE PARTS MUST BE FREE OF ANY DAMAGE FOR A MASH COMPLIANT RETROFIT.
 - UNDER NO CIRCUMSTANCES SHALL THE GUARDRAIL WITHIN THE MSKT SYSTEM BE CURVED.
 - A FLARE RATE OF UP TO 25:1 MAY BE USED TO PREVENT THE TERMINAL HEAD FROM ENCRANCHING ON THE SHOULDER. THE FLARE MAY BE DECREASED OR ELIMINATED FOR SPECIFIC INSTALLATIONS, IF DIRECTED BY THE ENGINEER.
 - SPECIAL DRIVING CAP TO BE USED WHEN DRIVING (LOWER POSTS 1 & 2) TO PREVENT DAMAGE TO THE WELDED PLATES.

ITEMS	QTY	MAIN SYSTEM COMPONENTS	PART NUMBERS
1	1	MSKT IMPACT HEAD	MS3000
2	1	POST 1 - TOP (6" X 6" X 1/8" TUBE)	MTPHP1A
3	1	POST 1 - BOTTOM (6' W6X15)	MTPHP1B
4	1	POST 2 - ASSEMBLY TOP	UHP2A
5	1	POST 2 - ASSEMBLY BOTTOM (6' W6X9)	HP2B
6	1	GROUND STRUT	MS785
7	2	5/16" X 1" HEX BOLT (GRD 5)	B516014A
8	4	5/16" WASHERS	W0516
9	2	5/8" HEX NUT	N0516
10	2	5/8" X 9" HEX BOLT (GRD A449)	B580904A
11	3	5/8" WASHERS	W050
12	3	5/8" H.G.R NUT	N050
13	1	5/8" X 1 1/4" SPLICE BOLT	B580122
14	1	3/4" X 8 1/2" HEX BOLT (GRD 5)	B340854A
15	1	3/4" HEX NUT	N030
16	1	CABLE TIE-STEEL	CT-100ST
17	1	OBJECT MARKER 18" X 18"	E3151



COMPONENTS REQUIRED TO RETROFIT: EXISTING 31" WOOD POST (NCHRP 350 SKT) GUARDRAIL TERMINAL WITH THE NEW 31" (MASH COMPLIANT MSKT IMPACT HEAD).

* IF THE EXISTING NCHRP 350 (31" WOOD POST SKT) ALREADY HAS THE MSKT IMPACT HEAD THERE IS NO NEED TO REPLACE THE IMPACT HEAD OR OBJECT MARKER AS LONG AS IT IS NOT DAMAGED.

Texas Department of Transportation

Design Division Standard

RETROFIT STANDARD SKT 31" WOOD POST SYSTEM TO MASH MSKT SGT (14W) 31-18

FILE: sgt14w3118.dgn	DN: TxDOT	CK: KM	DW: VP	CK: CL
© TXDOT: APRIL 2018	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY	SHEET NO.	

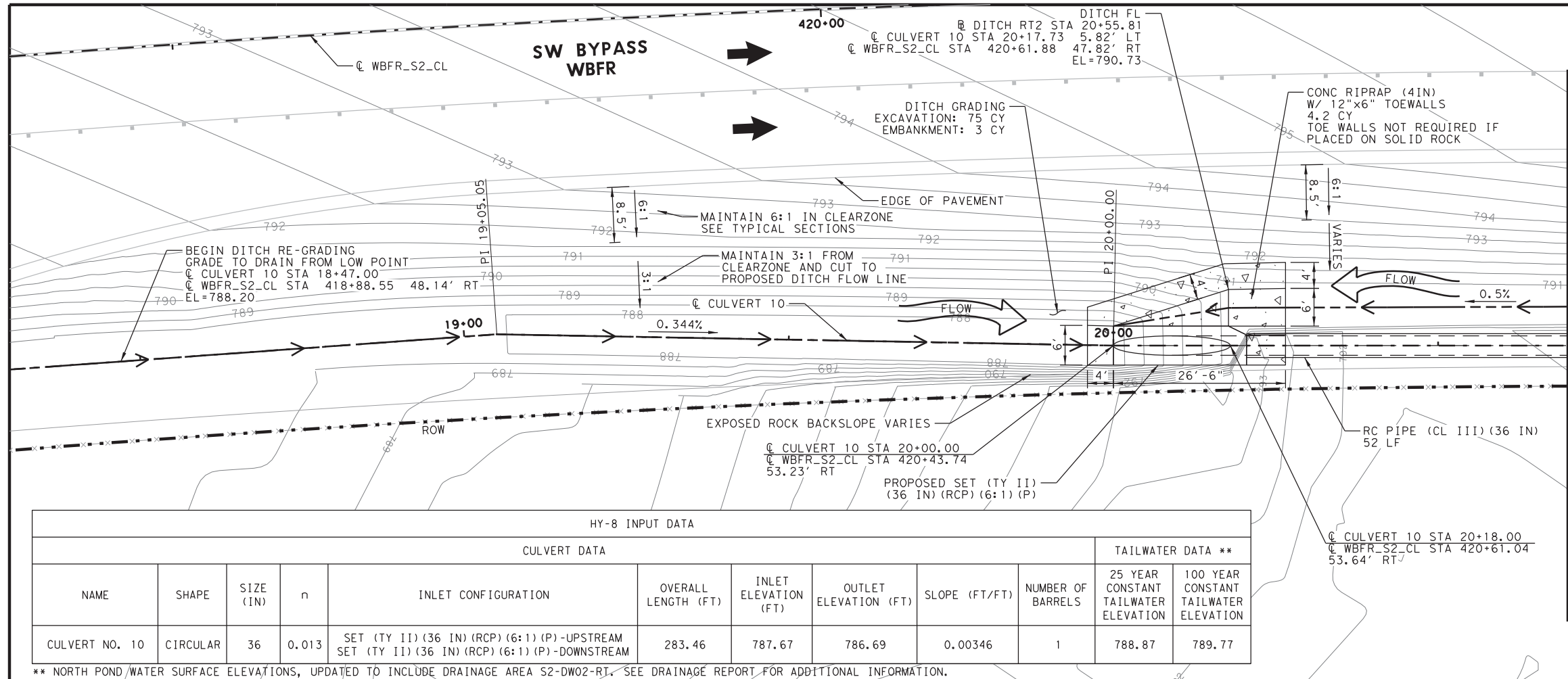
NOTE: THIS STANDARD IS A BASIC REPRESENTATION OF THE EXISTING; SKT END TERMINAL RETROFITTED TO THE MSKT MASH COMPLIANT TERMINAL, IT IS NOT INTENDED TO REPLACE THE PRODUCT DESCRIPTION ASSEMBLY MANUAL.

DATE: FILE:

Southwest Bypass: Segment 2
 Change Order Estimate
 New Culvert to North Pond
 Date: November 25, 2019

ITEM	DESCRIPTION	UNIT	QTY DIFF	BID PRICE	COST	NOTES
110 6001	EXCAVATION (ROADWAY)	CY	75	\$ 4.88	\$ 366.00	For side slope and ditch regrading only. Does not include trench earthwork for new culvert.
132 6005	EMBANKMENT (FINAL)(ORD COMP)(TY C)	CY	8	\$ 2.71	\$ 21.68	For side slope and ditch regrading only. Does not include trench earthwork for new culvert.
402 6001	TRENCH EXCAVATION PROTECTION	LF	185	\$ 5.75	\$ 1,063.75	New Item. Contractor price provided.
432 6001	RIPRAP (CONC)(4 IN)	CY	4.2	\$ 350.00	\$ 1,470.00	
464 6008	RC PIPE (CL III)(36 IN)	LF	248	\$ 73.36	\$ 18,193.28	
467 6454	SET (TY II) (36 IN) (RCP) (6: 1) (P)	EA	2	\$ 5,209.68	\$ 10,419.37	New Item. Contractor price provided.
				<u>\$ 31,534.08</u>		

Multiply unit rates for all new items (8) in this Change order by 1.15, per meeting with JCG on 2/24/2020.
 ERC



HYDRAULIC DATA	
DESIGN FREQ.	= 25-YR
Q25	= 12 CFS*
Q100	= 18 CFS*
HW ALLOW.	= 790.43
HW 25	= 789.41
HW 100	= 790.18
TW 25	= 788.87
TW 100	= 789.77
V25	= 2.18 FT/S
V100	= 2.55 FT/S
USGS FLOW 25	= 3-M1f
USGS FLOW 100	= 3-M1f

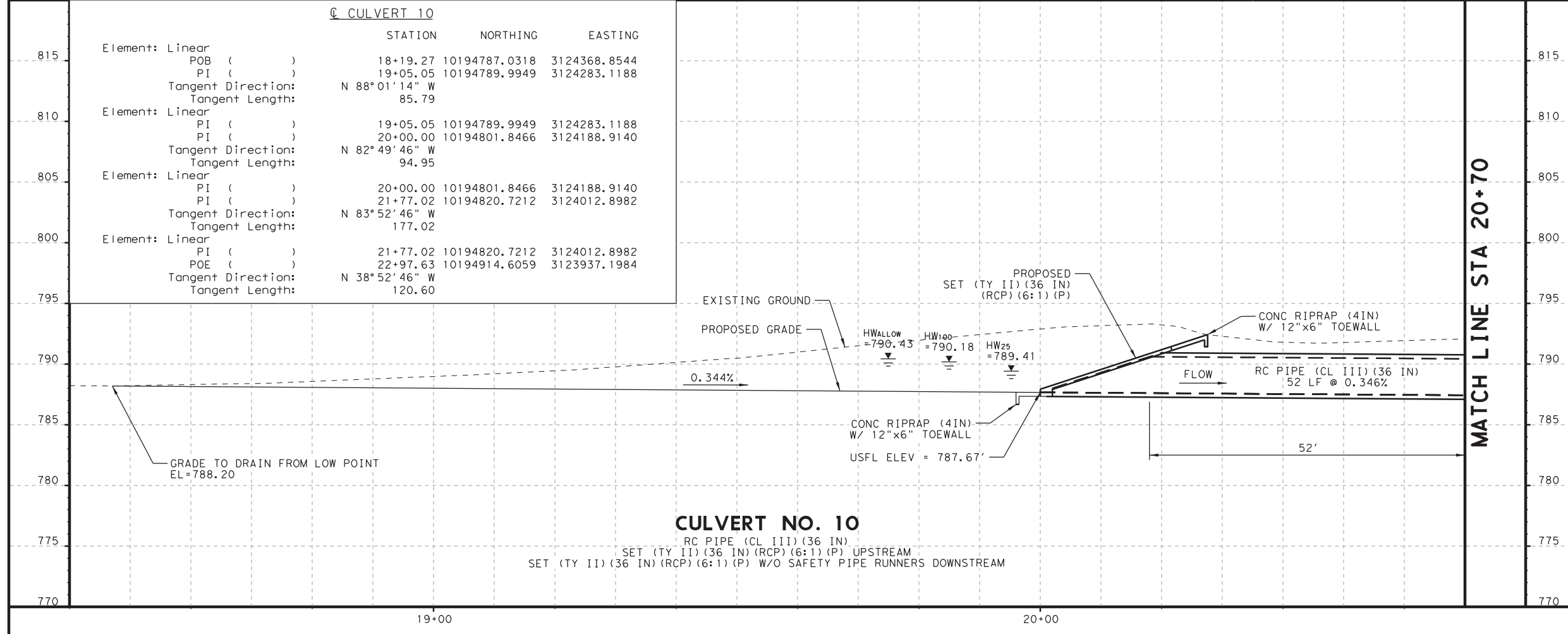
* FLOWS FROM DRAINAGE AREA S2-DW02-RT

LEGEND	
	796.00 PROPOSED CONTOURS
	PROPOSED ROW
	RIPRAP (STONE PROTECTION)
	CONC RIPRAP (4IN)

- NOTES:
- CONTRACTOR TO NOTIFY INSPECTOR OR ENGINEER PRIOR TO PLACING RIPRAP ON SOLID ROCK OR UNDISTURBED AREAS.

HY-8 INPUT DATA											
CULVERT DATA							TAILWATER DATA **				
NAME	SHAPE	SIZE (IN)	n	INLET CONFIGURATION	OVERALL LENGTH (FT)	INLET ELEVATION (FT)	OUTLET ELEVATION (FT)	SLOPE (FT/FT)	NUMBER OF BARRELS	25 YEAR CONSTANT TAILWATER ELEVATION	100 YEAR CONSTANT TAILWATER ELEVATION
CULVERT NO. 10	CIRCULAR	36	0.013	SET (TY II) (36 IN) (RCP) (6:1) (P) -UPSTREAM SET (TY II) (36 IN) (RCP) (6:1) (P) -DOWNSTREAM	283.46	787.67	786.69	0.00346	1	788.87	789.77

** NORTH POND/WATER SURFACE ELEVATIONS, UPDATED TO INCLUDE DRAINAGE AREA S2-DW02-RT. SEE DRAINAGE REPORT FOR ADDITIONAL INFORMATION.



Phaisarn Cwatanaphol, P.E. 11/26/2019

NO.	DATE	REVISION	APPROVED
1	11/26/19	CULVERT TO NORTH POND (NEW SHEET)	PC

HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

SOUTHWEST BYPASS SEGMENT 2

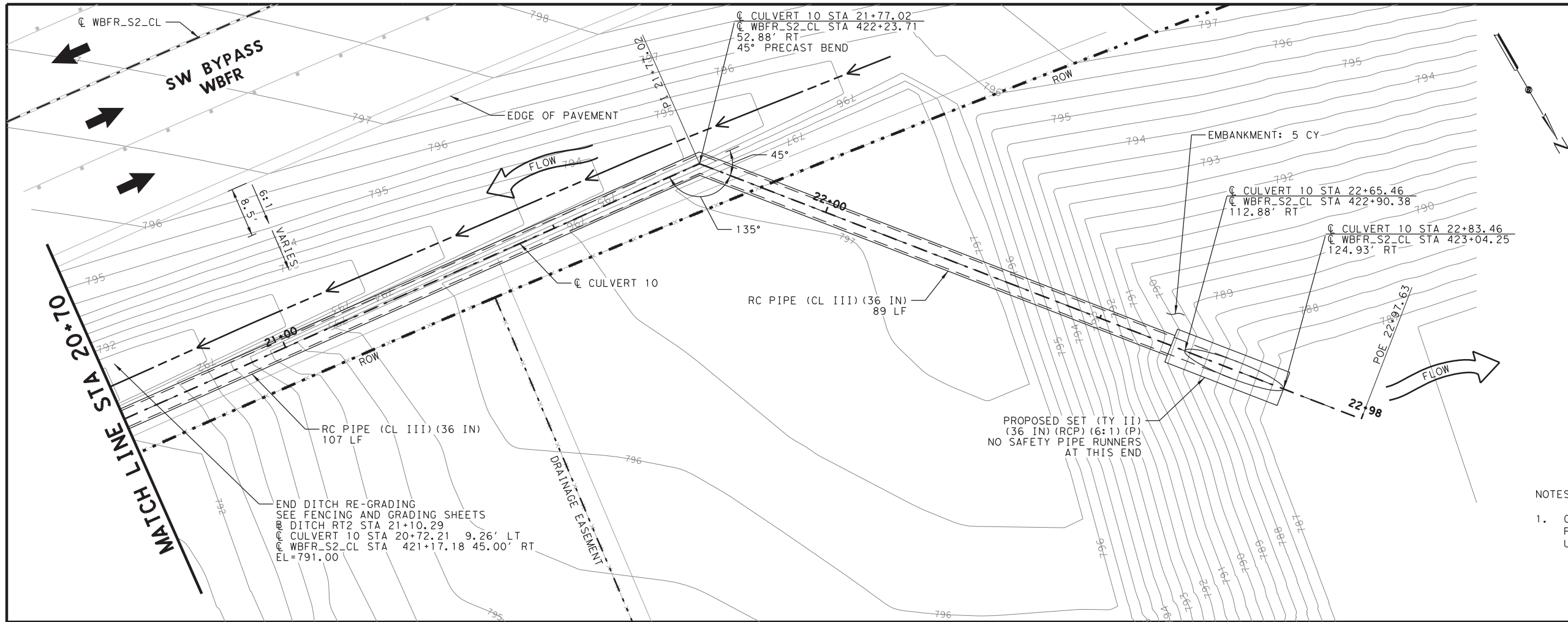
DRAINAGE CULVERT NO. 10 LAYOUT

SCALE: 1" = 20' - H
1" = 10' - V

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
JC			
GRAPHICS	STATE	DISTRICT	COUNTY
JC	TEXAS	AUS	WILLIAMSON
CHECK	CONTROL	SECTION	JOB
PF	2103	01	034

SHEET 1 OF 2

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: JCARLTON DATE: 11/25/2019 TIME: 7:34:55 PM SCALE: 1:20
 FILE: \



HYDRAULIC DATA

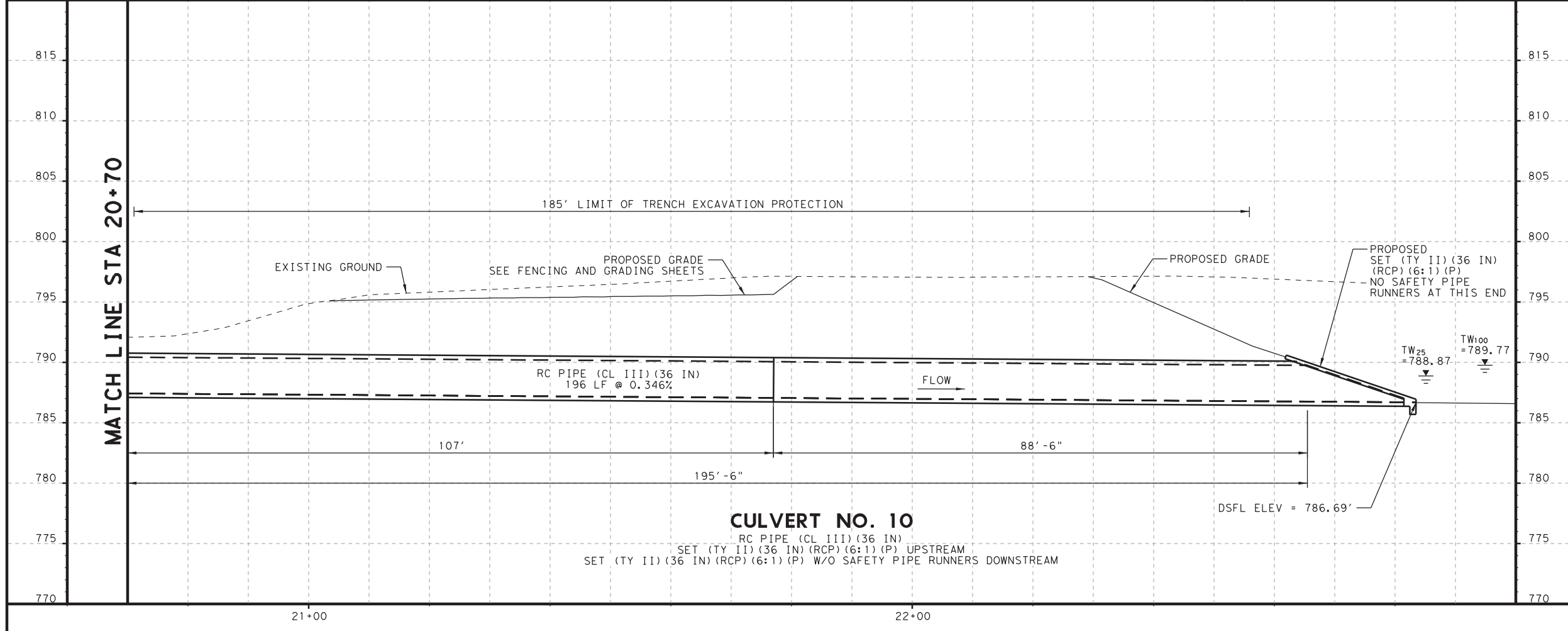
DESIGN FREQ.	= 25-YR
Q25	= 12 CFS*
Q100	= 18 CFS*
HW ALLOW.	= 790.43
HW 25	= 789.41
HW 100	= 790.18
TW 25	= 788.87
TW 100	= 789.77
V25	= 2.18 FT/S
V100	= 2.55 FT/S
USGS FLOW 25	= 3-M1+
USGS FLOW 100	= 3-M1+

* FLOWS FROM DRAINAGE AREA S2-DW02-RT

LEGEND

—796.00—	PROPOSED CONTOURS
- - - - -	PROPOSED ROW
	RIPRAP (STONE PROTECTION)
	CONC RIPRAP (4IN)

- NOTES:**
- CONTRACTOR TO NOTIFY INSPECTOR OR ENGINEER PRIOR TO PLACING RIPRAP ON SOLID ROCK OR UNDISTURBED AREAS.



Phaisarn Cwatanaphol, P.E. 11/26/2019

NO.	DATE	REVISION	APPROVED
1	11/26/19	CULVERT TO NORTH POND (NEW SHEET)	PC

WILLIAMSON COUNTY

HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

SOUTHWEST BYPASS SEGMENT 2

DRAINAGE CULVERT NO. 10 LAYOUT

SCALE: 1" = 20' - H
1" = 10' - V

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
JC				
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
JC	TEXAS	AUS	WILLIAMSON	115B
CHECK	CONTROL	SECTION	JOB	
PF	2103	01	034	

SHEET 2 OF 2

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: JCARLTON DATE: 11/25/2019 TIME: 7:47:53 PM SCALE: 1:20
 FILE: \

ITEM	DESCRIPTION	UNIT	QTY DIFF	BID PRICE	COST	NOTES
341 6042	D-GR HMA TY-D SAC-B PG70-22	TON	386.0	\$ 79.26	\$ 30,594.36	
354 6021	PLANE ASPH CONC PAV(0" TO 2")	SY	4,565.0	\$ 1.50	\$ 6,847.50	
644 6001	IN SM RD SN SUP&AM TY10BWG(1) SA(P)	EA	(3.0)	\$ 320.00	\$ (960.00)	
644 6004	IN SM RD SN SUP&AM TY10BWG(1) SA(T)	EA	(4.0)	\$ 425.00	\$ (1,700.00)	
644 6007	IN SM RD SN SUP&AM TY10BWG(1)SA(U)	EA	1.0	\$ 817.14	\$ 817.14	New Item. Contractor price provided.
644 6012	IN SM RD SN SUP&AM TY10BWG(1)SB(T)	EA	(1.0)	\$ 425.00	\$ (425.00)	
644 6030	IN SM RD SN SUP&AM TYS80(1)SA(T)	EA	3.0	\$ 520.00	\$ 1,560.00	
644 6042	IN SM RD SN SUP&AM TYS80(1)SB(T)	EA	2.0	\$ 927.00	\$ 1,854.01	New Item. Contractor price provided.
644 6076	REMOVE SM RD SN SUP&AM	EA	2.0	\$ 65.00	\$ 130.00	
658 6004	INSTL DEL ASSM (D-SW)SZ 1(FLX)SRF	EA	1.0	\$ 48.74	\$ 48.74	
658 6047	INSTL OM ASSM (OM-2Y)(WC)GND	EA	2.0	\$ 13.49	\$ 26.98	
666 6006	REFL PAV MRK TY I (W)4"(DOT) (100MIL)	LF	(56.0)	\$ 0.84	\$ (47.04)	
666 6036	REFL PAV MRK TY I (W)8"(SLD) (100MIL)	LF	323.0	\$ 0.63	\$ 203.49	
666 6048	REFL PAV MRK TY I (W)24"(SLD) (100MIL)	LF	192.0	\$ 5.26	\$ 1,009.92	
666 6054	REFL PAV MRK TY I (W)(ARROW) (100MIL)	EA	(1.0)	\$ 105.23	\$ (105.23)	
666 6078	REFL PAV MRK TY I (W)(WORD) (100MIL)	EA	(1.0)	\$ 126.27	\$ (126.27)	
666 6147	REFL PAV MRK TY I (Y) 24"(SLD) (100MIL)	LF	250.0	\$ 5.26	\$ 1,315.00	
666 6168	REFL PAV MRK TY II (W) 4" (DOT)	LF	(56.0)	\$ 0.68	\$ (38.08)	
666 6170	REFL PAV MRK TY II (W) 4" (SLD)	LF	(772.0)	\$ 0.47	\$ (362.84)	
666 6178	REFL PAV MRK TY II (W) 8" (SLD)	LF	(230.0)	\$ 0.84	\$ (193.20)	
666 6184	REFL PAV MRK TY II (W) (ARROW)	EA	(1.0)	\$ 42.09	\$ (42.09)	
666 6192	REFL PAV MRK TY II (W) (WORD)	EA	(1.0)	\$ 47.35	\$ (47.35)	
666 6207	REFL PAV MRK TY II (Y) 4" (SLD)	LF	902.0	\$ 0.53	\$ 478.06	
666 6214	REFL PAV MRK TY II (Y) 24" (SLD)	LF	(89.0)	\$ 3.16	\$ (281.24)	
666 6282	REF PROF PAV MRK TY I(W)4"(SLD)(060MIL)	LF	1,111.0	\$ 0.74	\$ 822.14	
666 6287	REF PROF PAV MRK TY I(Y)4"(SLD)(090MIL)	LF	238.0	\$ 0.79	\$ 188.02	
666 6303	RE PM W/RET REQ TY I (W)4"(SLD) (100MIL)	LF	(450.0)	\$ 0.38	\$ (171.00)	
666 6315	RE PM W/RET REQ TY I (Y)4"(SLD) (100MIL)	LF	793.0	\$ 0.38	\$ 301.34	
672 6007	REFL PAV MRKR TY I-C	EA	65.0	\$ 3.16	\$ 205.40	
672 6009	REFL PAV MRKR TY II-A-A	EA	11.0	\$ 3.16	\$ 34.76	
672 6010	REFL PAV MRKR TY II-C-R	EA	12.0	\$ 3.16	\$ 37.92	
677 6001	ELIM EXT PAV MRK & MRKS (4")	LF	(1,153.0)	\$ 1.05	\$ (1,210.65)	
6049 6001	LONG CHANNEL MOUNT CURB SYS (INSTALL)	LF	396.0	\$ 101.81	\$ 40,316.56	New Item. Contractor price provided. Item specifically requested by TxDOT.

\$ 81,081.35

Multiply unit rates for all new items (8) in this Change order by 1.15, per meeting with JCG on 2/24/2020. ERC

SHEET NO. GENERAL

- 1 TITLE SHEET
- 2 - 3 INDEX OF SHEETS
- 4 - 5 ² PROJECT LAYOUT
- 6 - ^{12B} TYPICAL SECTIONS
- 13 - 13K GENERAL NOTES
- 14 - 22 SUMMARY OF QUANTITIES
- 23 - 24 SUMMARY OF SMALL SIGN
- 25 - 26 BORE HOLE LAYOUT
- 27 - 29 BORING LOGS

SHEET NO. TRAFFIC CONTROL PLANS

- 30 TRAFFIC CONTROL PLAN - SBFR I-35
- 31 - 32 TRAFFIC CONTROL PLAN - RM 2243
- * 33 - 44 BC(1)-14 THRU BC(12)-14
- * 45 TCP(1-3)-18
- * 46 TCP(1-5)-18

SHEET NO. ROADWAY PLANS

- 47 - 47A SURVEY CONTROL
- 48 SW BYPASS PANEL LAYOUT
- 49 - 50 ALIGNMENT DATA
- 51 REMOVAL PLAN
- 52 - 59 PLAN AND PROFILE - WBFR
- 60 PLAN AND PROFILE - RM 2243
- 60A - 60C DRIVEWAY PLAN AND PROFILE
- 61 INTERSECTION DETAIL - RM 2243
- 62 INTERSECTION DETAIL POINT TABLE
- 63 ISLAND DETAIL - RM 2243
- # 64 BED-14
- # 65 CCCG-12
- # 66 CONCRETE DRIVEWAYS, SIDEWALKS AND RIPRAP MEDIANS (AUSTIN DISTRICT)
- # 67 CONCRETE RIPRAP AND VEGETATIVE CONTROL (AUSTIN DISTRICT)
- # 68 GF(31)-14
- # 69 GF(31) LS-17
- # 70 GF(31) TR-14
- # 71 SGT (8) 31-17
- # 72 SGT (8S) 31-17
- # 73 - 76 PED-18

SHEET NO. RETAINING WALLS

- 77 RETAINING WALL RW-05 PLAN AND PROFILE
- 78 OMITTED
- # 79 RW(MSE)DD
- # 80 RM(EM)
- # 81 - 82 RW(MSE)
- 83 - 84 RW(TRF) (MOD)
- # 85 CRR

SHEET NO. FENCING AND GRADING

- 86 - 87 GRADING ALIGNMENT DATA
- 88 - 93 FENCING AND GRADING PLAN
- 94 GRADING POINTS TABLE
- 95 - 99 ROCK CUT CONTROL POINTS
- 100 - 101 FENCING DETAILS
- 102 GRADING DETAILS

SHEET NO. DRAINAGE PLANS

- 103 CULVERT ALIGNMENT DATA
- 104 HYDROLOGY COMPUTATION
- 105 HYDRAULIC COMPUTATION
- 105A DRIVEWAY DRAIN HYDROLOGY & HYDRAULIC COMPUTATIONS
- 106 - 108 PROPOSED DRAINAGE AREA MAP
- 108A - 108C PROPOSED DRIVEWAY DRAIN DRAINAGE AREA MAP
- 109 DRAINAGE CULVERT NO.6 LAYOUT
- 110 DRAINAGE CULVERT NO.7 LAYOUT
- 111 - 112 DRAINAGE CULVERT NO.8 LAYOUT
- 113 - 114 OMITTED
- 115 DRAINAGE CULVERT NO.9 LAYOUT
- ** 116 - 117 SETP-CD
- ** 117A SETP-PD
- ** 117B - 117C SETP-PD-A
- ** 118 - 119 SRR
- ** 120 CH-FW-O
- ** 121 CH-PW-S

SHEET NO. BRIDGE PLANS

- 122 - 123 BRIDGE LAYOUT
- 124 - 125 BORING LOGS
- 126 ESTIMATED QUANTITIES
- 127 - 128 ABUTMENT NO. 1
- 129 - 130 ABUTMENT NO. 7
- 131 INTERIOR BENT NOS. 2, 5-6
- 132 INTERIOR BENT NOS. 3-4
- 133 - 134 FRAMING PLAN
- 135 360.00' PRESTRESSED CONCRETE GIRDER UNIT 1
- 136 360.00' PRESTRESSED CONCRETE GIRDER UNIT 2
- 137 IGND (MOD)
- % 138 BAS-A
- % 139 - 140 BL (MOD)
- % 141 CSAB
- % 142 - 143 FD
- % 144 - 145 IGD
- % 146 - 148 IGEB
- % 149 - 150 IGMS
- 151 IGTS (MOD)
- % 152 - 153 MEBR(C)
- % 154 - 157 PCP
- % 158 PCP-FAB
- % 159 - 160 PMDF
- % 161 - 162 SEJ-A
- % 163 - 164 SSTR

REV 1 & 2 ONLY

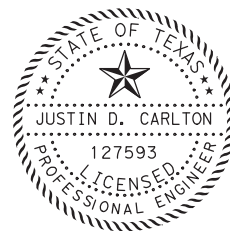


Jacob E. Walker, PE

08/23/2019

* THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ABOVE HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY JUSTIN D. CARLTON P.E. 127593 ON 3/26/2018.



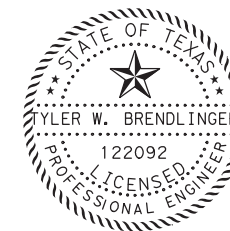
* THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ABOVE HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY PHAISARN CWATANAPHOL P.E. 89252 ON 3/26/2018.



** THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ABOVE HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY TYLER W. BRENDLINGER P.E. 122092 ON 3/26/2018.



% THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ABOVE HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

2	8/23/19	1-35 SBFR S&S LAYOUT CHANGE	JW
1	7/30/19	DRIVEWAY ADDITION	JW
NO.	DATE	REVISION	APPROVED



HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

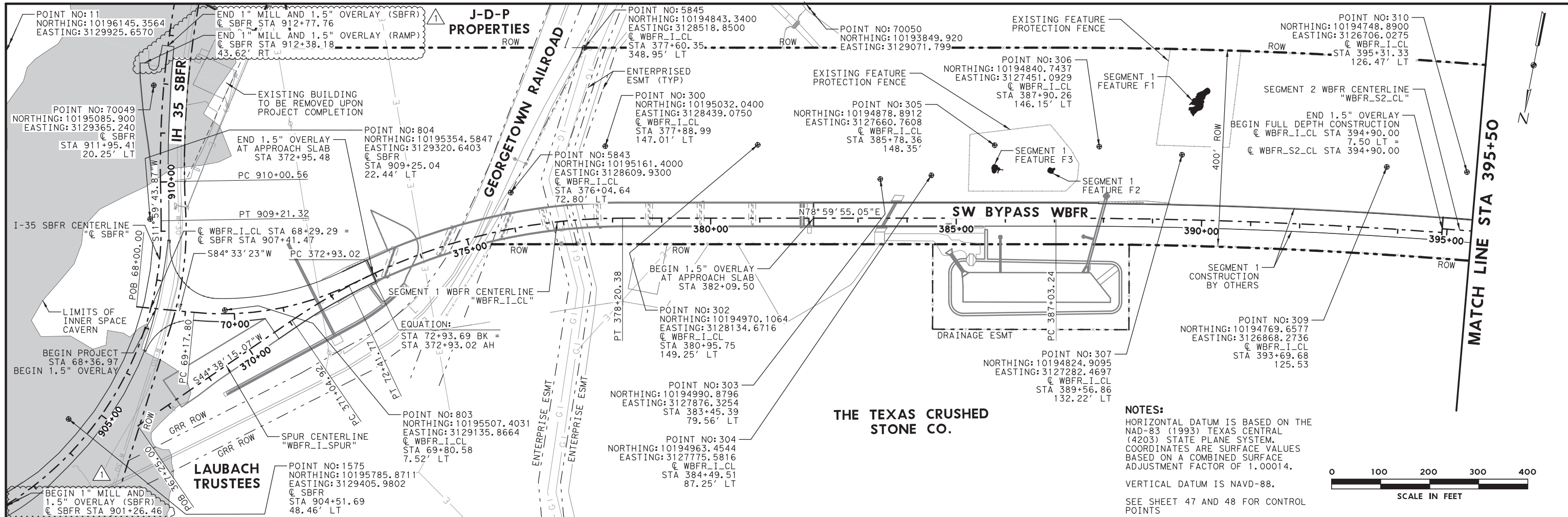
**SOUTHWEST BYPASS
SEGMENT 2**

INDEX OF SHEETS

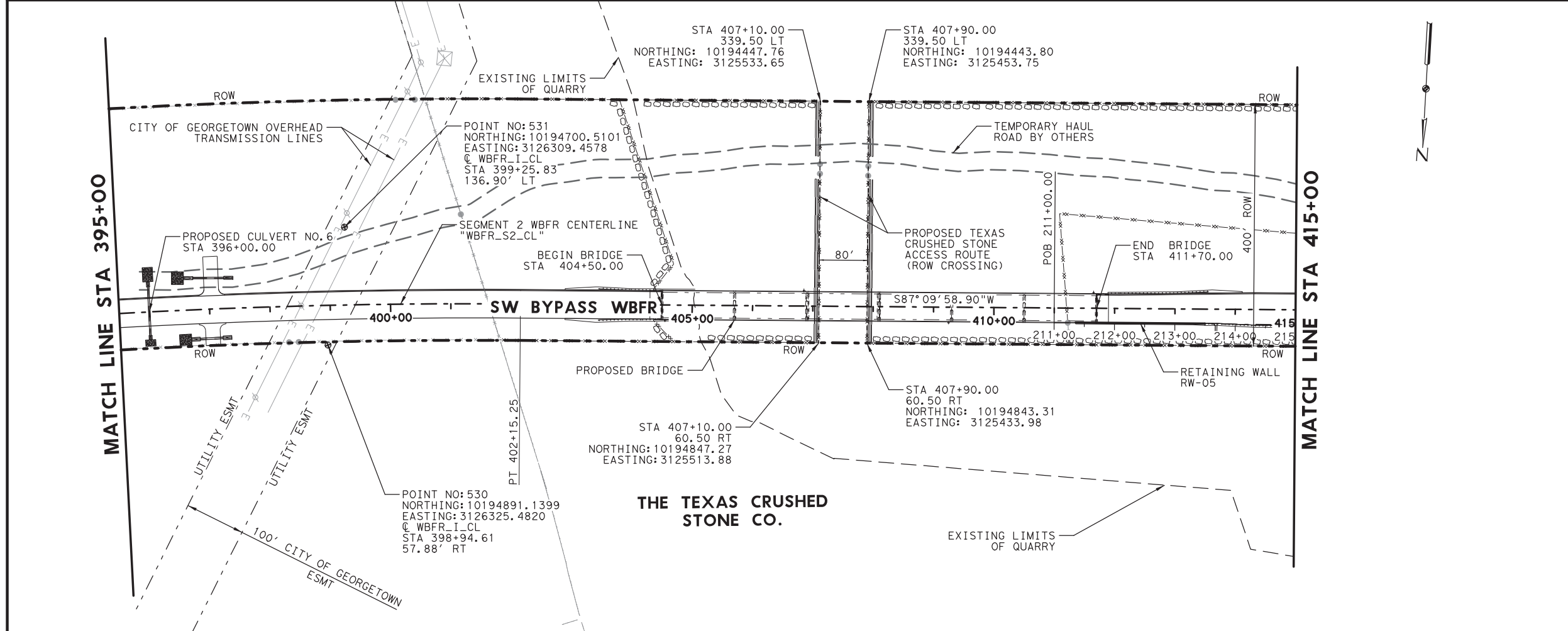
SHEET 1 OF 2

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL		SECTION	01	JOB	034
CHECK	JC						2

PLOT DRIVER: TxDOT_PDF_BW.plt
USER: LGOMEZCOMDATE: 8/23/2019
PENTABLE: S2-00000201070718.tbl
TIME: 10:02:53 AM
SCALE: 1:1
FILE: 1



NOTES:
 HORIZONTAL DATUM IS BASED ON THE NAD-83 (1993) TEXAS CENTRAL (4203) STATE PLANE SYSTEM. COORDINATES ARE SURFACE VALUES BASED ON A COMBINED SURFACE ADJUSTMENT FACTOR OF 1.00014.
 VERTICAL DATUM IS NAVD-88.
 SEE SHEET 47 AND 48 FOR CONTROL POINTS



Jacob E. Walker, PE
08/23/2019

NO.	DATE	REVISION	APPROVED
1	8/23/19	I-35 SBFR S&S LAYOUT CHANGE	JW

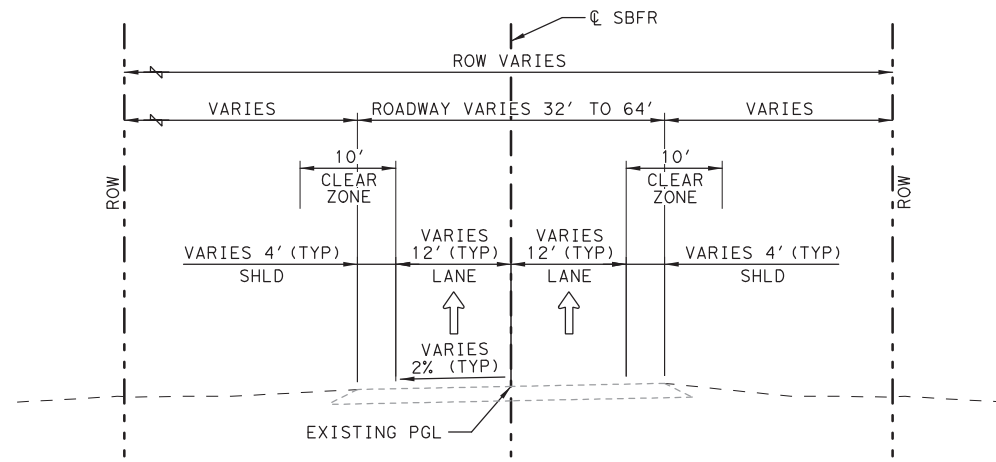
HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

SOUTHWEST BYPASS SEGMENT 2

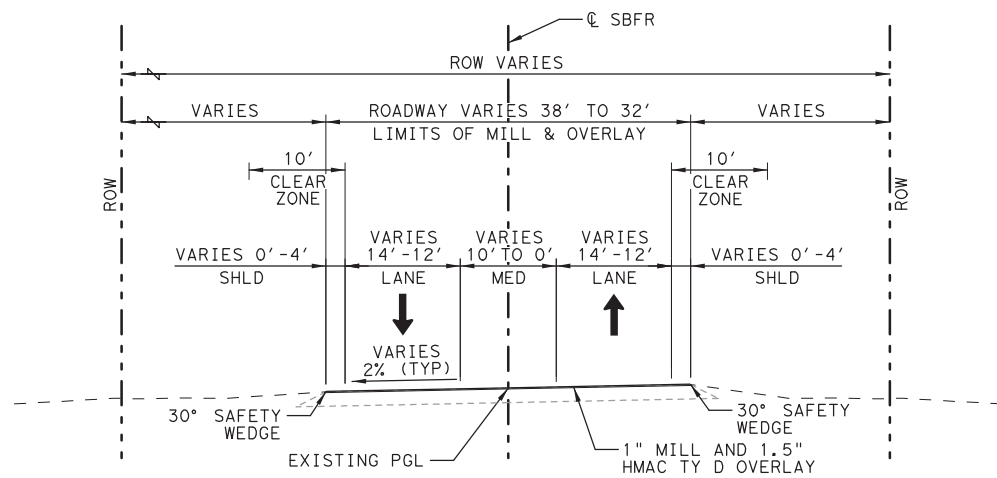
PROJECT LAYOUT BEGIN TO STA 415+00

SCALE: 1"=200'		SHEET 1 OF 2	
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
JC	6		
GRAPHICS	STATE	DISTRICT	COUNTY
LG	TEXAS	AUS	WILLIAMSON
CHECK	CONTROL	SECTION	JOB
JW			
CHECK	JC	2103	01 034

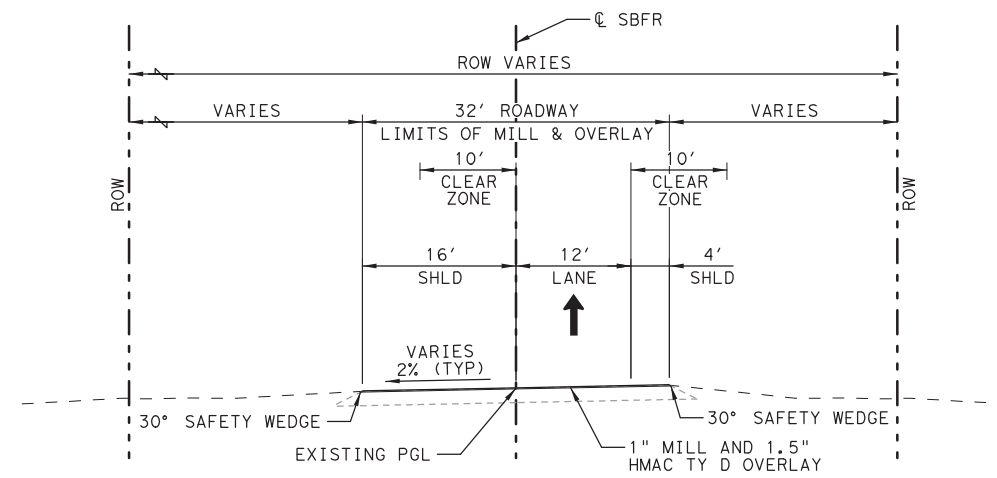
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 USER: LGONEZCOMDATE: 8/23/2019
 TIME: 10:08:39 AM
 SCALE: 1:200
 FILE: \



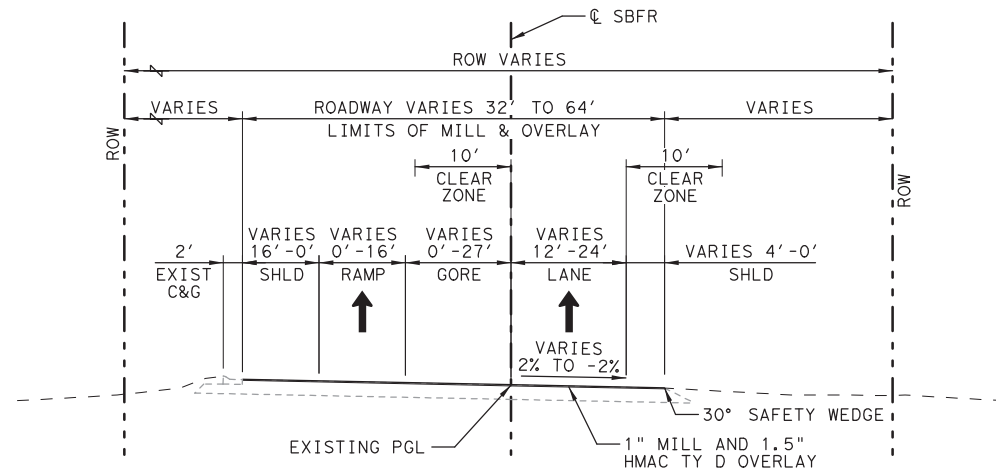
I-35 SBFR EXISTING TYPICAL SECTION
 STA 901+26.46 TO STA 912+77.76



I-35 SBFR TYPICAL SECTION
 STA 901+26.46 TO STA 907+40.90



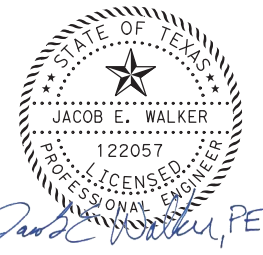
I-35 SBFR TYPICAL SECTION
 STA 907+40.90 TO STA 909+12.32



I-35 SBFR TYPICAL SECTION
 STA 909+12.32 TO STA 912+77.76

GENERAL NOTES:

1. THE HMAC TAPERED EDGE SHALL BE PRODUCED BY USE OF A SCREED ATTACHMENT CAPABLE OF PRODUCING A SMOOTH COMPACTED SURFACE.
2. ALL LOCATIONS OF VEGETATION FILTER STRIPS ARE TO HAVE SIDE SLOPES NO STEEPER THAN 5:1.
3. 15' VEGETATIVE FILTER STRIP MEASURED FROM OUTER MOST EDGE OF PAVED SURFACE INCLUDING MOW STRIP.
4. SEE EROSION CONTROL SHEETS FOR TOPSOIL AND SEEDING LIMITS.
5. SEE RETAINING WALL LAYOUT SHEETS FOR WALL LIMITS.
6. 2' BERM AND MOW STRIP CROSS-SLOPES TO MATCH ROADWAY CROSS-SLOPES UNLESS OTHERWISE NOTED.
7. SEE GRADING PLAN FOR SITE GRADING AND DITCH FLOW LINES.
8. BACKFILL NEW PAVEMENT EDGE WITH TOPSOIL AND SEEDING. COST TO BE SUBSIDIARY TO OVERLAY BID ITEMS.



Jacob E. Walker, PE

08/23/2019

NO.	DATE	REVISION	APPROVED
1	8/23/19	I-35 SBFR S&S LAYOUT CHANGE (NEW SHEET)	JW



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**SOUTHWEST BYPASS
 SEGMENT 2
 TYPICAL SECTIONS**

SCALE: N. T. S. SHEET 8 OF 8

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
JC	6			
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
LG	TEXAS	AUS	WILLIAMSON	12B
CHECK	CONTROL	SECTION	JOB	
JW	2103	01	034	

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ DATE: 8/23/2019
 TIME: 10:06:24 AM SCALE: 1:240
 FILE: \

ITEM 685 - ROADSIDE FLASHING BEACON ASSEMBLIES

Sign considered subsidiary to flashing beacon assembly.

ITEM 686 – TRAFFIC SIGNAL POLE ASSEMBLIES (STEEL)

Provide and install damping plates on all mast arms of 40 ft. and over. For mast arms less than 40 ft., refer to SMA and DMA Vibration Notes for guidance. Consider the cost for the provision and installation of damping plates as subsidiary to the various bid Items found within this project.

Provide double nuts on top and bottom of the base plate as shown on the standards.

Provide signal pole assemblies as shown on plans. Luminaire lamps and the installation of the arms and lamps are considered subsidiary to the pertinent Items.

When luminaires are to be installed on mast arm poles, provide a separate terminal strip in the signal pole access compartment. The terminal strip shall be a 4-circuit Buchanan-Type 104SN, Kulka-Type 985-GP-4 CU, or equivalent.

Provide a 10-amp time-delay fuse for traffic signal poles onto which luminaires are to be installed. Place the fuse in the fuse block indicated within note #4 found on State standard MA-D-12.

Furnish mast arms to the City of Georgetown for future installation, as noted in the plans.

ITEM 730 – ROADSIDE MOWING

Perform roadside mowing along the Roadway for the length of the project, as directed.

Complete spot mowing, as directed.

ITEM 734 – LITTER REMOVAL

Litter Removal, as defined below, is subsidiary to Roadside Mowing.

Complete Litter Removal Cycles along the Roadway for the length of the project, as directed.

Complete Litter Removal cycles prior to any mowing cycles.

Remove all litter on the right of way, within project limits.

ITEM 738 – CLEANING AND SWEEPING HIGHWAYS

Complete cleaning and sweeping cycles at regular intervals, as directed. Complete one cycle at the end of construction and prior to final acceptance. Subsidiary to pertinent items.

ITEM 6049 – LONGITUDINAL CHANNELIZING MOUNTABLE CURB SYSTEM

Provide "FG 300 Interstate Grade Curb System" by Pexco or equivalent as approved by the CONSTRUCTION OBSERVER.

ITEM 6090 – LED INTERNALLY ILLUMINATED STREET NAME SIGNS

Coordinate with City of Georgetown for fabrication of Internally Illuminated Street Name Signs.

S2 RC – ROCK CUT

Place PPC on unstable areas as determined and directed by the CONSTRUCTION OBSERVER. Paid for under Item 431, "Pneumatically Placed Concrete".

Refer to the "BLASTING" section of the general notes for notes pertaining to blasting activities.

Alternate methods to achieve a smooth rock face must be approved by the CONSTRUCTION OBSERVER and will be subject to site testing sufficient to substantiate the method to the satisfaction of the CONSTRUCTION OBSERVER prior to implementation. No additional payment will be made for alternate methods.

S2 GA - GATE ATTENDANT

Provide 2 (two) full time gate attendants, one located at the project entrance at RM 2243 and the other at the Segment 1 I-35 SBFR entrance, during working hours for the duration of the project, or as directed by the CONSTRUCTION OBSERVER. Gate attendants shall keep a log of all personnel and vehicles entering and exiting the site. Gate attendants shall be paid for by the hour. Contract assumes 10 hours per workday (5,600 total hours).

RETAINING WALL RW-06

If the CONSTRUCTION OBSERVER directs the CONTRACTOR not to build Retaining Wall RW-06, omit Sheets 22, 78, 113, and 114 from the plan set. Adjust contract quantities as shown on sheet 22.

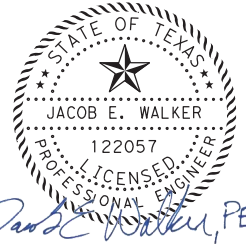
The list of material below is for the CONTRACTOR's information only.

It is the responsibility of the CONTRACTOR to verify all items and quantities listed below.

**LIST OF MATERIAL/LABOR
SUBSIDIARY TO ITEM 680**



DESCRIPTION	UNIT	QUANTITY
TRAFFIC SIGNAL CONTROLLER FOUNDATION	EA	1
LED LUMINAIRE	EA	4
R9-3 (18" x 18")	EA	4

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: JCARLTON DATE: 8/29/2019
 PENTABLE: 0000000025492.tbl
 TIME: 1:07:19 PM SCALE: 1/1
 FILE: \



Jacob E. Walker, PE
08/29/2019

1	8/23/19	1-35 SBFR S&S LAYOUT CHANGE	JW
NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
SEGMENT 2**

GENERAL NOTES

SHEET 12 OF 12

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
JC	6			
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
LG	TEXAS	AUS	WILLIAMSON	13K
CHECK	CONTROL	SECTION	JOB	
JW	JC	2103	01 034	

SUMMARY OF TRAFFIC CONTROL QUANTITIES

LOCATION	502 6001	S2 GA
	BARRICADES, SIGNS AND TRAFFIC HANDLING	GATE ATTENDANT
	MO	HR
SOUTHWEST BYPASS: SEGMENT 2		
TRAFFIC CONTROL PLAN SBFR I-35 - SHEET 1 of 1		2,800
CSJ: 2103-01-034	14	
TRAFFIC CONTROL PLAN RM 2243- SHEET 1 of 2		2,800
TRAFFIC CONTROL PLAN RM 2243- SHEET 2 of 2		
Total	14	5,600

SUMMARY OF ROADWAY QUANTITIES

LOCATION	100 6002	104 6001	104 6013	105 6011	110 6001	132 6005 #	132 6006##	247 6041	310 6027	340 6242	341 6008	341 6042	354 6021	432 6001	432 6045	496 6039	496 6043	529 6007
	PREPARING ROW	REMOVING CONC (PAV)	REMOVING CONC (FOUNDATIONS)	REMOVING STAB BASE AND ASPH PAV (2"-6")	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL) (ORD COMP) (TY C)	EMBANKMENT (FINAL) (DENS CONT) (TY C)	FL BS (CMP IN PLC) (TYA GR1&2) (FNAL POS)	PRIME COAT (MC-30 OR AE-P)	D-GR HMA (SQ) TY-B OR D PG64-22 (LVL -UP)	D-GR HMA TY-B PG64-22	D-GR HMA TY-D SAC-B PG70-22	PLANE ASPH CONC PAV (0" TO 2")	RIPRAP (CONC) (4 IN)	RIPRAP (MOW STRIP) (4 IN)	REMOV STR (BUILDING)	REMOV STR (SMALL FENCE)	CONC CURB & GUTTER (TY I)
	STA	SY	SY	SY	CY	CY	CY	CY	GAL	TON	TON	TON	SY	CY	CY	EA	LF	LF
CSJ: 0015-09-199																		
PLAN AND PROFILE WBFR - SHEET 1 OF 8	-	-	-	-	-	-	-	-	-	-	-	449	4,565	-	-	-	-	-
SOUTHWEST BYPASS: SEGMENT 2																		
PLAN AND PROFILE WBFR - SHEET 1 OF 8	12	5	582	715	-	-	-	-	-	-	-	227	3	-	-	2	617	-
PLAN AND PROFILE WBFR - SHEET 2 OF 8	11	-	-	-	-	-	-	-	-	-	-	373	-	-	-	-	-	-
PLAN AND PROFILE WBFR - SHEET 3 OF 8	11	-	-	-	2,166	212	1,021	1,247	689	-	590	773	-	-	-	-	-	661
PLAN AND PROFILE WBFR - SHEET 4 OF 8	11	-	-	-	4,400	4,803	1,327	631	348	-	299	297	-	-	15	-	-	347
PLAN AND PROFILE WBFR - SHEET 5 OF 8	11	-	-	-	842	6,823	10,140	2,339	1,327	-	1,139	1,129	-	1	16	-	-	937
PLAN AND PROFILE WBFR - SHEET 6 OF 8	11	-	-	-	6,895	103,729	23,772	2,113	1,169	-	1,001	985	-	-	-	-	-	1,108
PLAN AND PROFILE WBFR - SHEET 7 OF 8	11	-	-	-	86,270	100	515	2,114	1,170	-	1,001	986	-	-	-	-	-	1,109
PLAN AND PROFILE WBFR - SHEET 8 OF 8	8	-	-	-	7,658	79	787	1,497	846	239	725	857	1,217	9	-	-	-	583
DRIVEWAY PLAN AND PROFILE - SHEET 1 OF 3	-	-	-	-	6	-	221	-	-	-	-	-	-	-	-	-	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 2 OF 3	-	-	-	-	245	28	128	514	322	-	277	276	-	4	-	-	-	336
DRIVEWAY PLAN AND PROFILE - SHEET 3 OF 3	-	-	-	-	391	-	239	-	-	-	-	-	-	-	-	-	-	-
CSJ: 2103-01-034																		
PLAN AND PROFILE RM 2243 - SHEET 1 OF 1	8	-	-	-	951	224	-	267	119	590	131	944	7,665	43	-	-	-	27
Total	94	5	582	715	109,824	115,998	38,150	10,722	5,990	829	5,163	7,296	13,447	57	31	2	617	5,108

SUMMARY OF ROADWAY QUANTITIES CONT

LOCATION	529 6008	530 6004	531 6017	540 6001	540 6006	540 6016	544 6001
	CONC CURB & GUTTER (TY I)	DRIVEWAYS (CONC)	CURB RAMPS (TY 22)	MTL W-BEAM GD FEN (TIM POST)	MTL BEAM GD FEN TRANS (THRIE-BEAM)	DOWNSTREAM ANCHOR TERMINAL SECTION	GUARDRAIL END TREATMENT (INSTALL)
	LF	SY	EA	LF	EA	EA	EA
CSJ: 0015-09-199							
PLAN AND PROFILE WBFR - SHEET 1 OF 8	-	-	-	-	-	-	-
SOUTHWEST BYPASS: SEGMENT 2							
PLAN AND PROFILE WBFR - SHEET 1 OF 8	-	-	-	-	-	-	-
PLAN AND PROFILE WBFR - SHEET 2 OF 8	-	-	-	-	-	-	-
PLAN AND PROFILE WBFR - SHEET 3 OF 8	-	-	-	-	-	-	-
PLAN AND PROFILE WBFR - SHEET 4 OF 8	-	-	-	75	3	-	2
PLAN AND PROFILE WBFR - SHEET 5 OF 8	-	-	-	237.5	1	1	1
PLAN AND PROFILE WBFR - SHEET 6 OF 8	-	-	-	-	-	-	-
PLAN AND PROFILE WBFR - SHEET 7 OF 8	-	-	-	-	-	-	-
PLAN AND PROFILE WBFR - SHEET 8 OF 8	155	-	-	-	-	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 1 OF 3	-	281	-	-	-	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 2 OF 3	-	-	-	-	-	-	-
DRIVEWAY PLAN AND PROFILE - SHEET 3 OF 3	-	373	-	-	-	-	-
CSJ: 2103-01-034							
PLAN AND PROFILE RM 2243 - SHEET 1 OF 1	274	-	4	-	-	-	-
Total	429	654	4	312.5	4	1	3

SUMMARY OF RETAINING WALL QUANTITIES

LOCATION	420 6007	423 RW05	423 RW06	432 6001	432 6045	450 6023	556 6006	740 6005
	CL A CONC (FLUME)	RETAINING WALL (MSE) (ASHLAR STONE FIN)	RETAINING WALL (MSE) (ASHLAR STONE FIN)	RIPRAP (CONC) (4 IN)	RIPRAP (MOW STRIP) (4 IN)	RAIL (TY SSTR)	PIPE UNDERDRAINS (TY 6) (6")	ANTI - GRAFFITI COATING (PERMNET-TY III)
	CY	SF	SF	CY	CY	LF	LF	SF
SOUTHWEST BYPASS: SEGMENT 2								
RW-05 - SHEET 1 OF 1	1	2,690	-	-	5	180	215	2,690
RW-06 - SHEET 1 OF 1	-	-	2,416	28	-	114	-	-
Total	1	2,690	2,416	28	5	294	215	2,690

3	8/22/19	I-35 SBFR S&S LAYOUT CHANGE	JW
2	7/30/19	DRIVEWAY ADDITION	JW
1	4/25/19	REVISED FOR PENINSULA REMOVAL	JW
NO.	DATE	REVISION	APPROVED

SOUTHWEST BYPASS SEGMENT 2 SUMMARY OF QUANTITIES

SHEET 1 OF 9				
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
JC	6			
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
LG	TEXAS	AUS	WILLIAMSON	14
CHECK	CONTROL	SECTION	JOB	
JW	2103	01	034	
CHECK	JC			

NOTES:
 1. QUANTITIES WITHIN TXDOT ROW (CSJ:0015-09-199 & CSJ:2103-01-034) ARE SEPARATED FOR ADMINISTRATIVE PURPOSES, EVEN THOUGH THEY MAY BE CALLED OUT ON THE SAME SHEET.

PLOT DRIVER: TxDOT_PDF_BW.plt
 USER: LGOMEZDATE: 8/23/2019
 PENTABLE: S2-000020107018.tbl
 TIME: 10:45:59 AM
 SCALE: 1:1
 FILE: \

SUMMARY OF ILLUMINATION QUANTITIES

LOCATION	416 6029 DRILL SHAFT (RDWY ILL POLE) (30 IN)	432 6001 RIPRAP (CONC) (4 IN)	610 6105 IN RD IL (U/P) (TY 1) (250W EQ) LED	610 6290 IN RD IL (TY SA) 50T-12 (400W EQ) LED	610 6291 IN RD IL (TY SA) 50T-12 (40 OW EQ) LED	618 0002*** CONT (LFMC) (1-1/4)	618 6023 CONDT (PVC) (SCH 40) (2")	618 6024 CONDT (PVC) (SCH 40) (2") (BORE)	618 6025 CONDT (PVC) (SCH 40) (2") (CONC ENCSE)	618 6066 CONDT (RM) (1 1/4")	620 6007 ELEC CONDR (NO. 8) BARE	620 6008 ELEC CONDR (NO. 8) INSULATED	624 6002 GROUND BOX TY A (122311) W/APRON	628 6044 ELC SRV TY A 240/480 060 (NS) SS (E) PS (U)
	LF	CY	EA	EA	EA	LF	LF	LF	LF	LF	LF	LF	EA	EA
ILLUMINATION LAYOUT BEGIN TO STA 379+00	32	2	-	2	2	-	755	-	-	-	951	1,902	-	-
STA 396+00 TO STA 407+50	-	-	-	-	-	-	2,985	-	-	-	361	722	4	1
STA 407+50 TO STA 417+00	-	-	-	-	-	-	2,977	-	-	-	72	144	4	-
STA 445+68 TO END	-	-	-	-	-	-	115	778	398	-	-	-	4	1
ILLUMINATION UNDERPASS LAYOUT TCS QUARRY BRIDGE	-	-	8	-	-	24	-	-	-	161	240	480	-	-
Total	32	2	8	2	2	24	6,832	778	398	161	1,624	3,248	12	2

*** FOR CONTRACTOR'S INFORMATION ONLY.

**SUMMARY OF REMOVAL
PAVEMENT MARKINGS QUANTITIES**

LOCATION	677 6001 ELIM EXT PAV MRK & MRKS (4")	677 6007 ELIM EXT PAV MRK & MRKS (24")	677 6008 ELIM EXT PAV MRK & MRKS (ARROW)	677 6012 ELIM EXT PAV MRK & MRKS (WORD)
	LF	LF	EA	EA
SOUTHWEST BYPASS: SEGMENT 2	-	-	-	-
SBFR I-35 Sheet 1 of 1	-	-	-	-
RM 2243 Sheet 2 of 3	-	-	-	-
RAMPNB2 Sheet 1 of 1	592	199	1	1
CSJ: 2103-01-034	-	-	-	-
RM 2243 Sheet 1 of 3	-	-	-	-
RM 2243 Sheet 2 of 3	-	-	-	-
RM 2243 Sheet 3 of 3	-	-	-	-
Total	592	199	1	1

NOTES:

1. QUANTITIES WITHIN TXDOT ROW (CSJ:0015-09-199 & CSJ:2103-01-034) ARE SEPARATED FOR ADMINISTRATIVE PURPOSES, EVEN THOUGH THEY MAY BE CALLED OUT ON THE SAME SHEET.

1	8/22/19	1-35 SBFR S&S LAYOUT CHANGE	JDC
NO.	DATE	REVISION	APPROVED



HDR HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
SEGMENT 2**

SUMMARY OF QUANTITIES

SHEET 6 OF 9

DESIGN LG	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS LG	6			
CHECK JC	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK JW	TEXAS	AUS	WILLIAMSON	19
	CONTROL	SECTION	JOB	
	2103	01	034	

SUMMARY OF SIGN AND PAVEMENT MARKINGS QUANTITIES

LOCATION	644 6001 IN SM RD SN SUP&AM TY10BWG (1) SA (P)	644 6004 IN SM RD SN SUP&AM TY10BWG (1) SA (T)	644 6007 IN SM RD SN SUP&AM TY10BWG (1) SA (U)	644 6012 IN SM RD SN SUP&AM TY10BWG (1) SB (T)	644 6030 IN SM RD SN SUP&AM TYS80 (1) SA (T)	644 6042 IN SM RD SN SUP&AM TYS80 (1) SB (T)	644 6066 IN SM RD SN SUP&AM (RAIL MOUNT)	644 6076 REMOVE SM RD SN SUP&AM	644 8001 IN SM RD SN SUP&AM (WOOD SKID)	658 6004 INSTL DEL ASSM (D-SW) SZ 1 (FLX) SRF	658 6005 INSTL DEL ASSM (D-SW) SZ 1 (FLX) SRF (B1)	658 6014 INSTL DEL ASSM (D-SW) SZ (BR) CTB (B1)	658 6047 INSTL OM ASSM (OM-2Y) (WC) GND	658 6061 INSTL DEL ASSM (D-SW) SZ 1 (BRF) GF2	6049 6001 LONG CHANNEL MOUNT CURB SYS (INSTALL)
	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF
CSJ: 0015-09-199															
SIGNING AND STRIPING SBFR I-35 - SHEET 1 OF 1 SOUTHWEST BYPASS: SEGMENT 2	-	2	1	-	4	2	-	2	-	15	-	-	2	-	396
SIGNING AND STRIPING SBFR I-35 - SHEET 1 OF 1	-	1	-	-	-	-	-	-	-	11	2	-	-	-	-
SIGNING AND STRIPING WBFR - SHEET 1 OF 8	1	1	-	-	1	-	2	-	-	-	31	29	-	6	-
SIGNING AND STRIPING WBFR - SHEET 2 OF 8	-	-	-	-	-	-	2	-	-	-	-	37	2	6	-
SIGNING AND STRIPING WBFR - SHEET 3 OF 8	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
SIGNING AND STRIPING WBFR - SHEET 4 OF 8	-	1	-	-	1	-	2	-	-	-	-	10	-	8	-
SIGNING AND STRIPING WBFR - SHEET 5 OF 8	4	2	-	-	-	-	-	-	2	-	-	1	3	6	-
SIGNING AND STRIPING WBFR - SHEET 6 OF 8	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
SIGNING AND STRIPING WBFR - SHEET 7 OF 8	1	2	-	-	2	-	-	-	-	-	-	-	-	-	-
SIGNING AND STRIPING WBFR - SHEET 8 OF 8	4	1	-	-	1	-	-	-	-	-	-	-	2	-	-
SIGNING AND STRIPING RM 2243 - SHEET 2 OF 3	2	4	-	-	2	-	-	1	-	4	-	-	-	-	-
CSJ: 2103-01-034															
SIGNING AND STRIPING RM 2243 - SHEET 1 OF 3	2	1	-	-	1	-	-	2	-	-	-	-	-	-	-
SIGNING AND STRIPING RM 2243 - SHEET 2 OF 3	3	-	-	-	-	-	-	5	-	8	-	-	-	-	-
SIGNING AND STRIPING RM 2243 - SHEET 3 OF 3	-	1	-	-	-	-	-	2	-	-	-	-	-	-	-
Total	17	17	1	-	13	2	6	12	2	38	31	77	11	26	396

SUMMARY OF SIGN AND PAVEMENT MARKINGS QUANTITIES CONT.

LOCATION	666 6006 REFL PAV MRK TY I (W) 4" (DOT) (100MIL)	666 6036 REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	666 6048 REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	666 6054 REFL PAV MRK TY I (W) (ARROW) (100MIL)	666 6078 REFL PAV MRK TY I (W) (WORD) (100MIL)	666 6102 REF PAV MRK TY I (W) 36" (YLD TRI) (100MIL)	666 6147 REFL PAV MRK TY I (Y) 24" (SLD) (100MIL)	666 6168 REFL PAV MRK TY II (W) 4" (DOT)	666 6170 REFL PAV MRK TY II (W) 4" (SLD)	666 6178 REFL PAV MRK TY II (W) 8" (SLD)	666 6184 REFL PAV MRK TY II (W) (ARROW)	666 6192 REFL PAV MRK TY II (W) (WORD)	666 6207 REFL PAV MRK TY II (Y) 4" (SLD)	666 6214 REFL PAV MRK TY II (Y) 24" (SLD)
	LF	LF	LF	EA	EA	EA	LF	LF	LF	LF	EA	EA	LF	LF
CSJ: 0015-09-199														
SIGNING AND STRIPING SBFR I-35 - SHEET 1 OF 1 SOUTHWEST BYPASS: SEGMENT 2	-	512	208	2	-	-	339	-	-	-	-	-	-	-
SIGNING AND STRIPING SBFR I-35 - SHEET 1 OF 1	-	41	-	-	2	-	-	-	-	-	-	-	-	-
SIGNING AND STRIPING WBFR - SHEET 1 OF 8	-	-	-	-	-	-	-	-	1,218	-	-	-	1,218	-
SIGNING AND STRIPING WBFR - SHEET 2 OF 8	-	-	-	-	-	-	-	-	620	-	-	-	620	-
SIGNING AND STRIPING WBFR - SHEET 3 OF 8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SIGNING AND STRIPING WBFR - SHEET 4 OF 8	99	205	-	2	-	-	69	1,520	95	2	-	-	1,520	-
SIGNING AND STRIPING WBFR - SHEET 5 OF 8	91	2,350	399	5	4	-	-	-	-	-	-	-	-	-
SIGNING AND STRIPING WBFR - SHEET 6 OF 8	67	-	-	1	-	-	-	-	-	-	-	-	-	-
SIGNING AND STRIPING WBFR - SHEET 7 OF 8	-	-	-	-	-	-	68	-	-	-	-	-	-	-
SIGNING AND STRIPING WBFR - SHEET 8 OF 8	-	760	-	8	8	-	7	-	192	-	-	-	-	-
SIGNING AND STRIPING RM 2243 - SHEET 2 OF 3	-	868	90	6	6	10	-	-	-	-	-	-	-	-
CSJ: 2103-01-034														
SIGNING AND STRIPING RM 2243 - SHEET 1 OF 3	-	473	-	3	3	-	-	-	-	-	-	-	-	-
SIGNING AND STRIPING RM 2243 - SHEET 2 OF 3	-	1,247	96	4	4	10	-	-	-	-	-	-	-	-
SIGNING AND STRIPING RM 2243 - SHEET 3 OF 3	-	598	-	4	4	-	-	-	-	-	-	-	-	-
Total	257	7,054	793	35	31	20	414	69	3,358	287	2	-	3,358	-

SUMMARY OF SIGN AND PAVEMENT MARKINGS QUANTITIES CONT.

LOCATION	666 6282 REF PROF PAV MRK TY I (W) 4" (SLD) (06 OMIL)	666 6287 REF PROF PAV MRK TY I (Y) 4" (SLD) (09 OMIL)	666 6303 RE PM W/RET REQ TY I (W) 4" (SLD) (100MIL)	666 6315 RE PM W/RET REQ TY I (Y) 4" (SLD) (100MIL)	672 6007 REFL PAV MRKR TY I-C	672 6009 REFL PAV MRKR TY II-A-A	672 6010 REFL PAV MRKR TY II-C-R	685 6004 INSTL RDS FLSH BCN ASSM (SOLAR PWRD)
	LF	LF	LF	LF	EA	EA	EA	EA
CSJ: 0015-09-199								
SIGNING AND STRIPING SBFR I-35 - SHEET 1 OF 1 SOUTHWEST BYPASS: SEGMENT 2	969	93	607	1,975	33	88	19	-
SIGNING AND STRIPING SBFR I-35 - SHEET 1 OF 1	142	145	-	-	18	17	-	-
SIGNING AND STRIPING WBFR - SHEET 1 OF 8	1,899	1,900	-	-	14	48	-	-
SIGNING AND STRIPING WBFR - SHEET 2 OF 8	2,401	2,402	-	-	-	30	-	-
SIGNING AND STRIPING WBFR - SHEET 3 OF 8	2,201	2,200	-	-	-	28	-	-
SIGNING AND STRIPING WBFR - SHEET 4 OF 8	2,200	2,200	-	-	11	28	-	-
SIGNING AND STRIPING WBFR - SHEET 5 OF 8	2,295	2,200	-	136	222	28	-	-
SIGNING AND STRIPING WBFR - SHEET 6 OF 8	2,198	2,200	-	-	-	28	-	-
SIGNING AND STRIPING WBFR - SHEET 7 OF 8	2,104	2,199	96	539	-	48	-	-
SIGNING AND STRIPING WBFR - SHEET 8 OF 8	313	700	435	172	14	60	24	-
SIGNING AND STRIPING RM 2243 - SHEET 2 OF 3	-	300	642	244	205	28	13	2
CSJ: 2103-01-034								
SIGNING AND STRIPING RM 2243 - SHEET 1 OF 3	-	-	959	1,276	7	62	16	1
SIGNING AND STRIPING RM 2243 - SHEET 2 OF 3	-	-	655	817	323	40	20	-
SIGNING AND STRIPING RM 2243 - SHEET 3 OF 3	-	-	905	1,227	15	60	15	1
Total	16,722	16,539	4,299	6,386	862	593	107	4

NOTES:
1. QUANTITIES WITHIN TXDOT ROW (CSJ:0015-09-199 & CSJ:2103-01-034) ARE SEPARATED FOR ADMINISTRATIVE PURPOSES, EVEN THOUGH THEY MAY BE CALLED OUT ON THE SAME SHEET.

2	8/23/19	1-35 SBFR S&S LAYOUT CHANGE	JDC
1	7/30/19	DRIVEWAY ADDITION	JDC
NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

SOUTHWEST BYPASS SEGMENT 2

SUMMARY OF QUANTITIES

SHEET 7 OF 9

DESIGN LG	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
LG	6			
GRAPHICS LG	STATE	DISTRICT	COUNTY	SHEET NO.
LG	TEXAS	AUS	WILLIAMSON	20
CHECK JC	CONTROL	SECTION	JOB	
JC	2103	01	034	

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: JCARLTON DATE: 8/29/2019 TIME: 1:23:59 PM SCALE: 1:20
 FILE: \

SUMMARY OF SMALL SIGNS

DISCLAIMER: The use of this standard is governed 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.

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)	
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		TY = TYPE
218	1	D3-2	SW BYPASS NEXT RIGHT	78 x 36	X		S80	1	SA	T		
	2	W1-7T	CROSS TRAFFIC WARNING SIGN	96 x 36	X		S80	1	SA	T		
	3	W1-7T	CROSS TRAFFIC WARNING SIGN	96 x 36	X		S80	1	SA	T		
	4	R1-1 W4-4P	STOP CROSS TRAFFIC DOES NOT STOP	48 x 48 36 x 18	X		S80	1	SA	T		
	5	R1-1 W4-4P	STOP CROSS TRAFFIC DOES NOT STOP	48 x 48 36 x 18	X		S80	1	SB	T		
	6	R1-1 W4-4P	STOP CROSS TRAFFIC DOES NOT STOP	48 x 48 36 x 18	X		S80	1	SB	T		
	7	W6-3	TWO WAY TRAFFIC WARNING SIGN	48 x 48	X		10BWG	1	SA	T		
	8	W6-3	TWO WAY TRAFFIC WARNING SIGN	48 x 48	X		10BWG	1	SA	T		
	9	M3-1B M1-1T M6-1B (L) M3-3B M1-1T M6-1B (R)	NORTH INTERSTATE 35 LEFT ARROW SOUTH INTERSTATE 35 RIGHT ARROW	24 x 12 24 x 24 21 x 15 24 x 12 24 x 24 21 x 15	X		10BWG	1	SA	U		
	10	R3-8 LR	ADVANCE INTERSECTION LANE CONTROL	36 x 30	X		10BWG	1	SA	T		
219	2	D3-2	SE INNER LOOP NEXT LEFT	96 x 36	X		S80	1	SA	T		
	3	W3-1	STOP AHEAD	48 x 48	X			1	RM	TYPE 3		
	4	M2-1B M1-1T	JCT INTERSTATE 35	21 x 15 24 x 24	X			1	RM	TYPE 1		
	5	W8-13aT	BRIDGE MAY ICE IN COLD WEATHER	48 x 48	X		10BWG	1	SA	T		
	6	R2-1	SPEED LIMIT 50	30 x 36	X		10BWG	1	SA	P		
220	1	W1-2L	CURVE ADVISORY SPEED 40	48 x 48	X			1	RM	TYPE 1		
	2	W8-13aT	BRIDGE MAY ICE IN COLD WEATHER	48 x 48	X			1	RM	TYPE 1		
222	1	W8-13aT	BRIDGE MAY ICE IN COLD WEATHER	48 x 48	X		10BWG	1	SA	T		
	2	R16-4 (MOD)	ACTIVE QUARRY ZONE / CELL PHONE USE PROHIBITED	72 x 42	X		S80	1	SA	T		
	3	R8-3a	NO PARKING	48 x 48	X			1	RM	TYPE 3		
	4	W9-2TL	LANE ENDS MERGE LEFT	48 x 48	X			1	RM	TYPE 1		
223	1	W8-13aT	BRIDGE MAY ICE IN COLD WEATHER	48 x 48	X		10BWG	1	SA	T		
	2	R3-5R	RIGHT TURN ONLY	30 x 36	X		10BWG	1	SA	P		
	3	R3-7R	RIGHT LANE MUST TURN RIGHT	36 x 36	X		10BWG	1	SA	P		
	4	R3-7R	RIGHT LANE MUST TURN RIGHT	36 x 36	X		10BWG	1	SA	P		
	5	R3-5R	RIGHT TURN ONLY	30 x 36	X		10BWG	1	SA	P		
	6	W9-2TL	LANE ENDS MERGE LEFT	48 x 48	X		10BWG	1	SA	T		
	7	CW20-5TR	RIGHT LANE CLOSED	36 x 36	X			1	WOOD SKID			
	8	CW20-5TR	RIGHT LANE CLOSED	36 x 36	X			1	WOOD SKID			
224	1	R8-3a	NO PARKING	48 x 48	X		10BWG	1	SA	T		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.
<http://www.txdot.gov/>

- NOTE:**
- Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
 - For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS) Standard Sheet.
 - For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).



08/23/2019

2	8/23/19	I-35 SBFR S&S LAYOUT CHANGE	JDC
1	7/30/19	DRIVEWAY ADDITION	JDC
NO.	DATE	REVISION	APPROVED



SUMMARY OF SMALL SIGNS

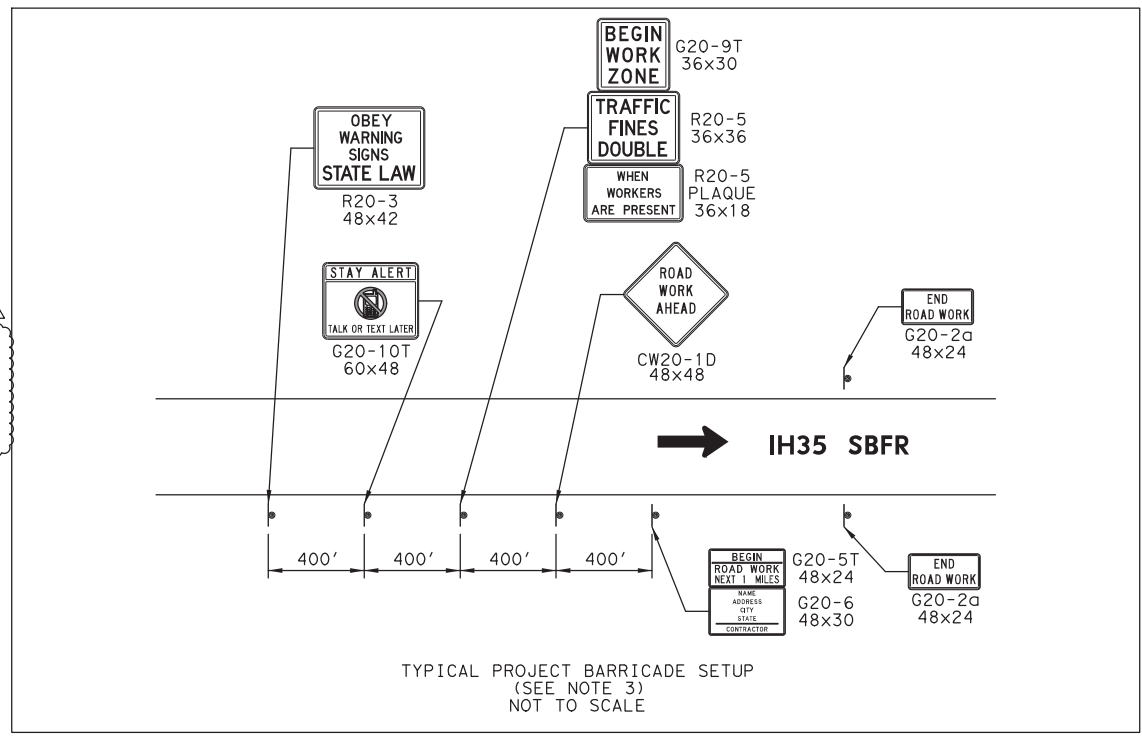
SOSS SHEET 1 OF 2

FILE: sum16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	2103	01	034	
4-16	DIST	COUNTY	SHEET NO.	
8-16	AUS	WILLIAMSON	23	

DATE: 8/23/2019 10:12:12 AM
 FILE: c:\pwworking\da\0910664\sums01.dgn

PROJECT TRAFFIC CONTROL NARRATIVE:

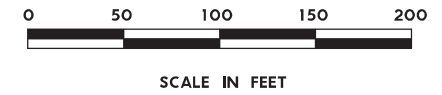
1. PLACE ADVANCED WARNING SIGNS AND BARRICADES AT PROJECT LIMITS PER CURRENT TXDOT STANDARDS, TMUTCD, AND AS DELINEATED IN THE PLANS.
2. PLACE TEMPORARY BMP'S FOR EROSION CONTROL.
3. BEGIN CONSTRUCTION OF SW BYPASS SEGMENT 2 WITHIN THE CITY ROW SOUTH OF RM 2243.
 - A. PERFORM EARTHWORK ASSOCIATED WITH CUT SECTIONS AND ANY NECESSARY BLASTING ACTIVITIES. BEGIN BRIDGE CONSTRUCTION.
 - B. CONSTRUCT REMAINDER OF PROJECT WITHIN CITY ROW INCLUDING: BRIDGE, RETAINING WALLS, CULVERTS, EMBANKMENT, PAVEMENT, AND INCIDENTALS.
4. CONSTRUCT ALL WORK WITHIN TXDOT & CITY ROW FOR RM 2243 AND I-35 SBFR USING DAILY LANE SHIFTS AS NEEDED. WORK INCLUDES: SIGNAL POLES, CONDUIT, ILLUMINATION, CURB AND GUTTER, PAVEMENT WIDENING, MILL, OVERLAY, AND INCIDENTALS. COMPLETION OF WORK ON RM 2243 AND I-35 SBFR SHOULD CORRESPOND TO COMPLETION OF REMAINDER OF PROJECT. SEE TCP (1-5a)-18.
5. REMOVE STRUCTURE (TOPS BUILDING)
6. COMPLETE SEEDING AND PERMANENT EROSION CONTROL.
7. PLACE FINAL LIFT OF ASPHALT ON ENTIRE PROJECT FROM IH35 TO RM 2243. BACKFILL AND SEED PAVEMENT EDGES.
8. PLACE SIGNING AND STRIPING.
9. REMOVE TEMPORARY BMP'S.
10. COMPLETE FINAL SITE CLEAN UP.
11. REMOVE ADVANCED WARNING SIGNS AND BARRICADES. COORDINATE WITH THE ENGINEER PRIOR TO OPENING THE ROAD TO PUBLIC TRAFFIC.



LEGEND

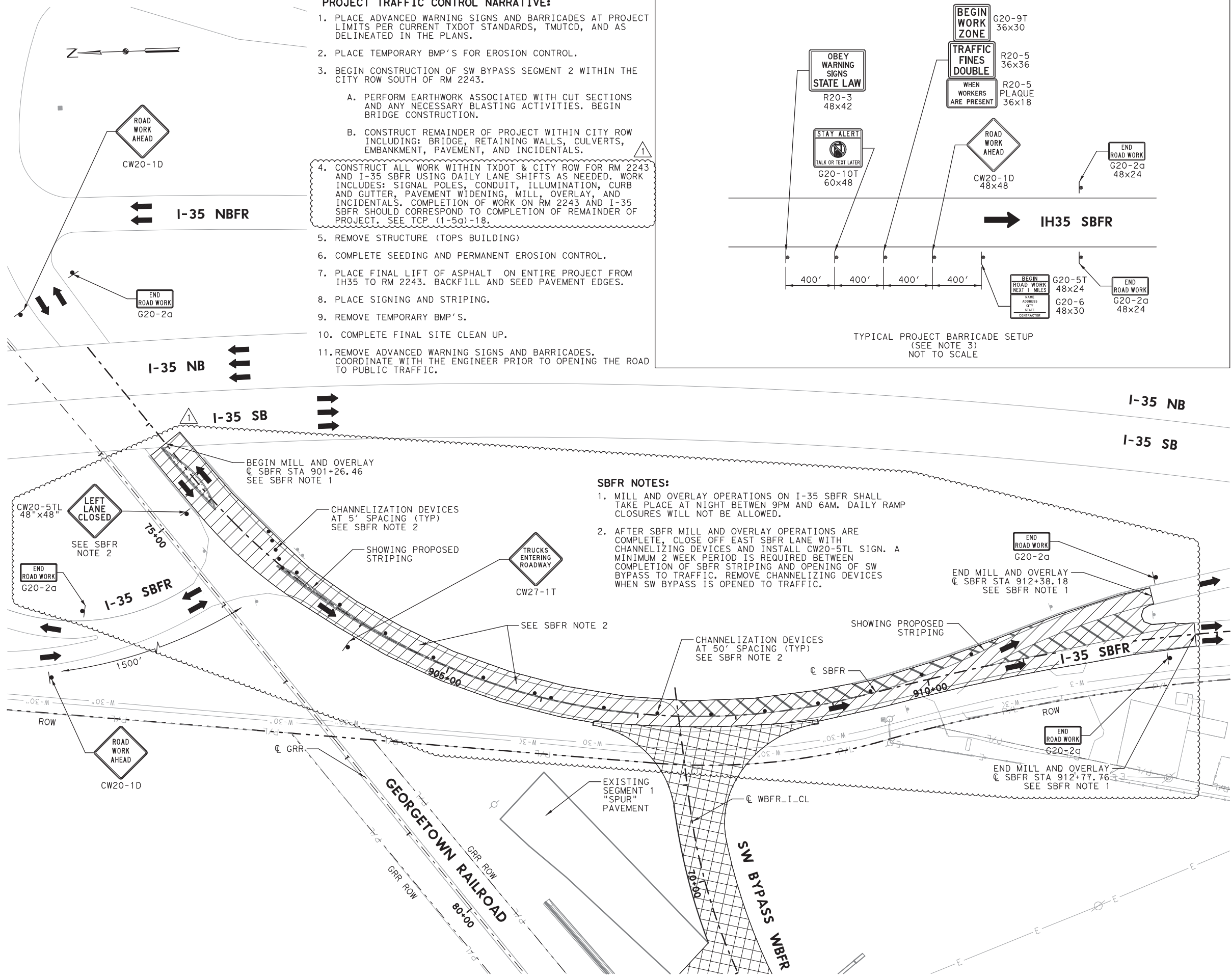
- PLASTIC DRUMS
- TRAFFIC FLOW
- ⊙ SIGN POST
- ⊥ TY III BARRICADE
- ▨ WORK ZONE
- ▧ MILL AND OVERLAY

- NOTES:**
1. SEE TCP(1-5a)-18 FOR ANY ADDITIONAL INFORMATION NOT SHOWN, INCLUDING SIGN PLACEMENT.
 2. TRAFFIC CONTROL PLANS SHALL CONFORM TO THE CURRENT TXDOT STANDARDS AND THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
 3. ADVANCED WARNING SIGNS SHALL REMAIN UNTIL COMPLETION OF THE WORK.
 4. SEE BC(2)-14 FOR SIGN SPACING AND LOCATIONS OF TYPICAL CROSSROAD SIGNS.
 5. LANE SHALL ONLY BE CLOSED WHEN CONTRACTOR IS READY TO WORK ON I-35 SBFR, NOT FOR THE ENTIRE DURATION OF PROJECT.



SBFR NOTES:

1. MILL AND OVERLAY OPERATIONS ON I-35 SBFR SHALL TAKE PLACE AT NIGHT BETWEEN 9PM AND 6AM. DAILY RAMP CLOSURES WILL NOT BE ALLOWED.
2. AFTER SBFR MILL AND OVERLAY OPERATIONS ARE COMPLETE, CLOSE OFF EAST SBFR LANE WITH CHANNELIZING DEVICES AND INSTALL CW20-5TL SIGN. A MINIMUM 2 WEEK PERIOD IS REQUIRED BETWEEN COMPLETION OF SBFR STRIPING AND OPENING OF SW BYPASS TO TRAFFIC. REMOVE CHANNELIZING DEVICES WHEN SW BYPASS IS OPENED TO TRAFFIC.



08/23/2019

1	8/23/19	I-35 SBFR S&S LAYOUT CHANGE	JDC
NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
810 Hesters Crossing, Suite 120
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

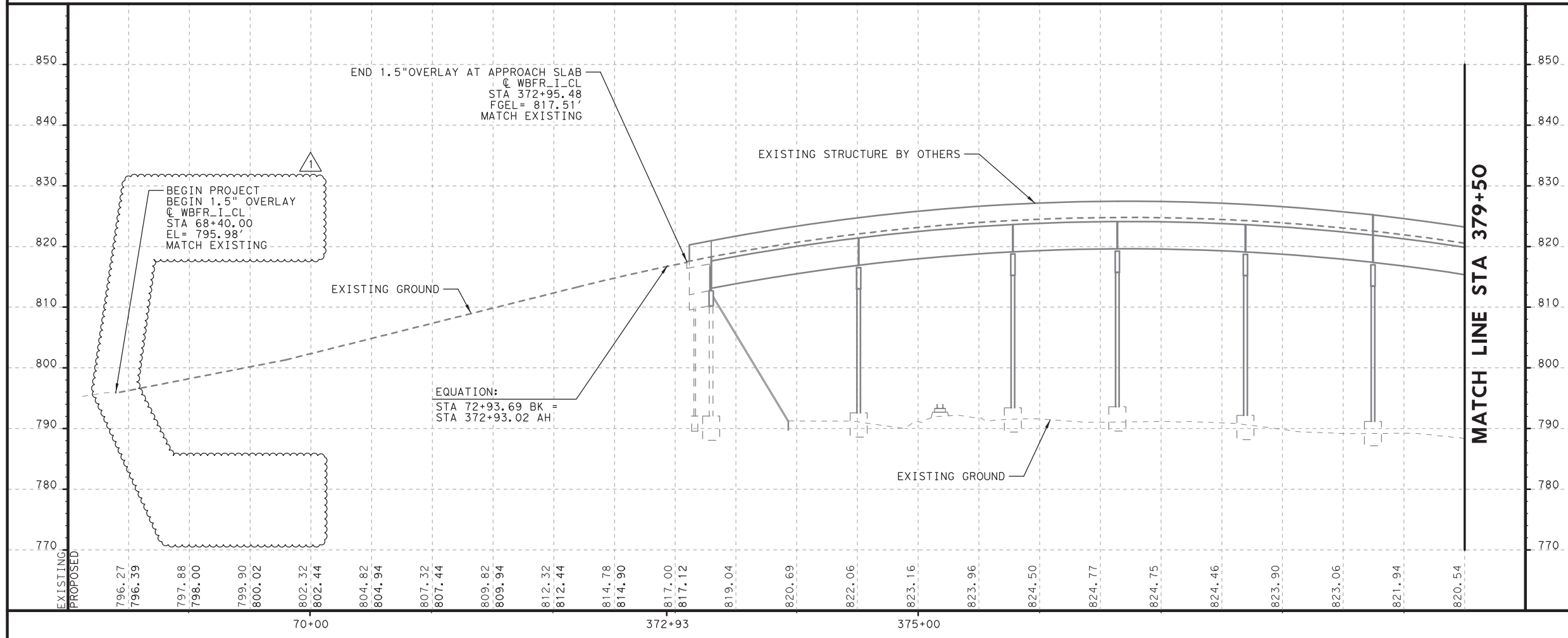
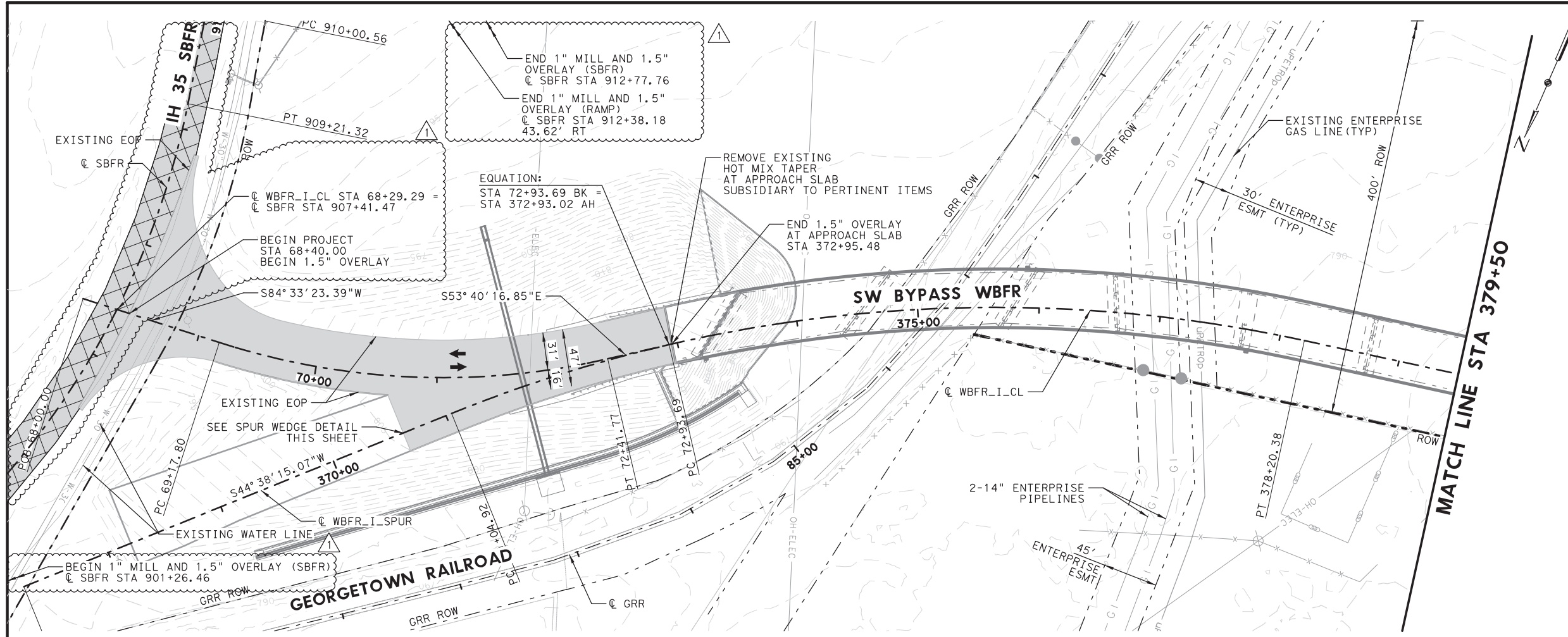
SOUTHWEST BYPASS SEGMENT 2

TRAFFIC CONTROL PLAN SBFR I-35

SCALE: 1"=100' SHEET 1 OF 1

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS	LG	STATE	AUS	DISTRICT	WILLIAMSON
CHECK	JW	TEXAS	01	COUNTY	30
CHECK	JC	CONTROL	034	SECTION	JOB

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZCOMDATE: 8/23/2019
 TIME: 10:13:49 AM
 SCALE: 1:100
 FILE: \



STATE OF TEXAS

JACOB E. WALKER
 122057
 LICENSED PROFESSIONAL ENGINEER

Jacob Walker, PE 08/23/2019

NO.	DATE	REVISION	APPROVED
1	8/23/19	I-35 SBFR S&S LAYOUT CHANGE	JW

WILLIAMSON COUNTY

HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

SOUTHWEST BYPASS SEGMENT 2

PLAN AND PROFILE WBFR

BEGIN TO STA 379+50

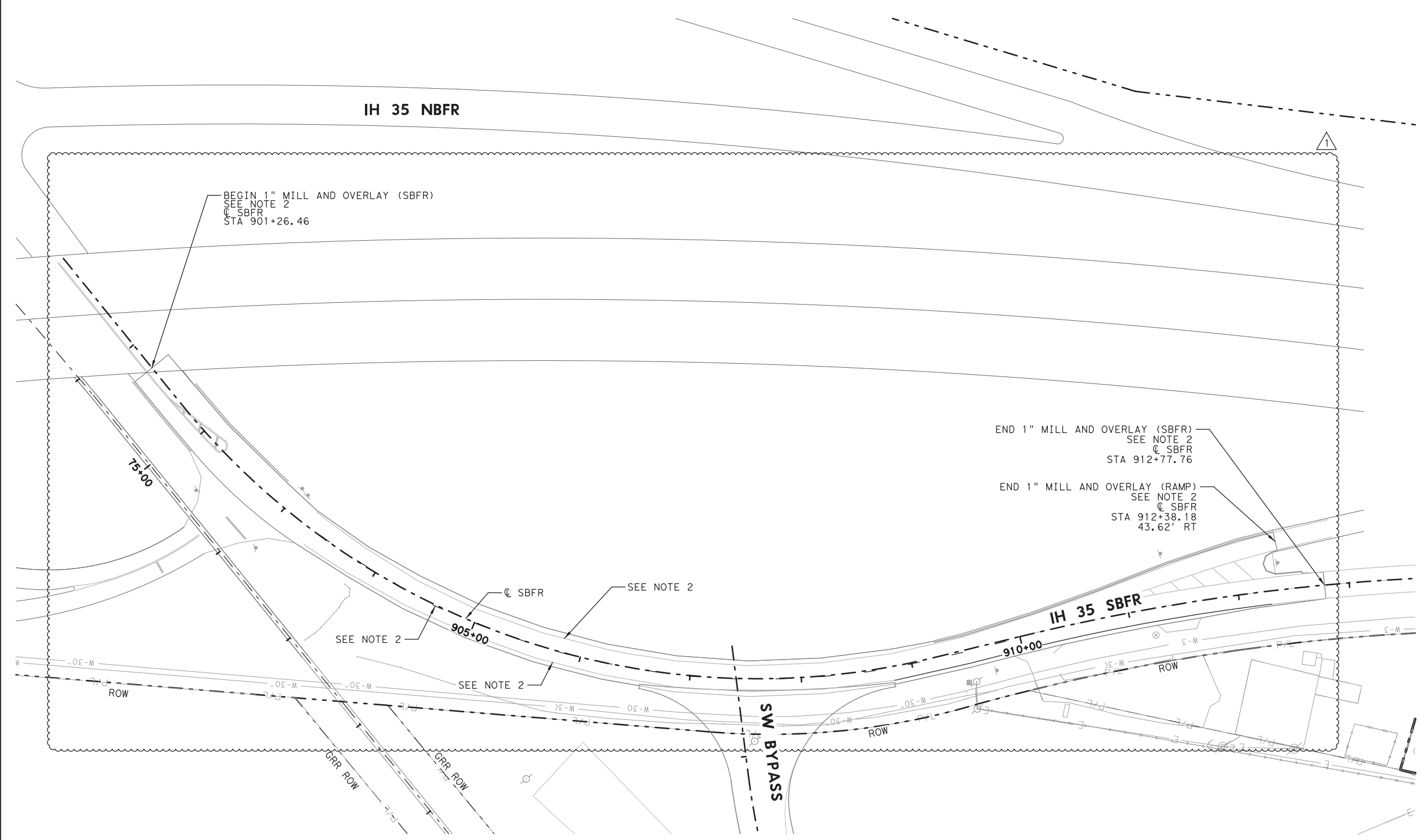
SCALE: 1"=100'-H
1"=20'-V

SHEET 1 OF 8

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	2103	SECTION	01	JOB	034
CHECK	JC						52

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 USER: LGOMEZ@DATE: 8/23/2019
 PENTABLE: S2-000020107018.tbl
 TIME: 10:51:19 AM
 SCALE: 1:400
 FILE: \

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ DATE: 8/23/2019
 PENTABLE: S2-000020107018.tbl
 TIME: 10:19:00 AM SCALE: 1:100
 FILE: \



- NOTES:**
1. REMOVAL OF RPMS SHALL BE CONSIDERED SUBSIDIARY TO ELIM PAV MARK & MARKS (4").
 2. EXISTING STRIPING WITHIN THE LIMITS OF MILL AND OVERLAY IS NOT DIRECTLY CALLED OUT FOR REMOVAL. ANY NECESSARY REMOVAL OF THESE STRIPES IS CONSIDERED SUBSIDIARY TO PERTINENT ITEMS. FLAIL MILLING IS NOT REQUIRED IN THIS CASE.



08/23/2019

1	8/23/19	I-35 SBFR S&S LAYOUT CHANGE	JDC
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY **HDR** HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2**

**STRIPING REMOVAL PLAN
 SBFR I-35**

SCALE: 1" = 100' SHEET 1 OF 1

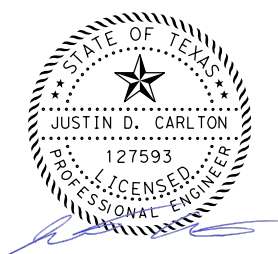
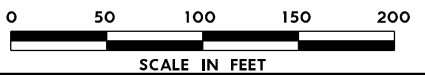
DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	2103	SECTION	01	JOB	034
CHECK	JC						213

PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: JCARLTON DATE: 8/30/2019
 FILE: \

LEGEND

- (A) REFL PAV MRK TY I (W)4" (DOT) (100MIL)
- (B) RE PM W/RET REQ TY I (W)4" (SLD) (100MIL)
- (C) REFL PAV MRK TY I (W)8" (SLD) (100MIL)
- (D) REFL PAV MRK TY I (W)24" (SLD) (100MIL)
- (E) REFL PAV MRK TY I (W) (ARROW) (100MIL)
- (F) REFL PAV MRK TY I (W) (WORD) (100MIL)
- (G) REFL PAV MRK TY I (W)36" (YLD TRI) (100MIL)
- (H) RE PM W/RET REQ TY I (Y)4" (SLD) (100MIL)
- (I) REFL PAV MRK TY I (Y)24" (SLD) (100MIL)
- (J) REFL PAV MRK TY II-A-A
- (K) REFL PAV MRK TY I-C
- (L) REFL PAV MRK TY II-C-R
- (M) REF PROF PAV MRK TY I (W)4" (SLD) (060MIL)
- (N) REF PROF PAV MRK TY I (Y)4" (SLD) (090MIL)
- SIGN (1 SIDE)
- SIGN (2 SIDE)
- ⊕ DELINEATOR
- ⊕ DELINEATOR (BI)
- ⊕ ASSM (OM-2Y) (WC)GND
- ⊗ EXISTING SIGN TO BE REMOVED
- EXISTING SIGN TO REMAIN
- PROPOSED SIGN

- NOTES:**
- REFER TO SUMMARY OF SMALL SIGNS FOR SIGN QUANTITIES.
 - ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
 - ALL PAVEMENT MARKINGS ARE TY I (100MIL) UNLESS OTHERWISE SPECIFIED.
 - RESPECTIVE "REFL PAV MRK TY II" ITEM INCLUDED IN QUANTITIES AS SEALER FOR TY I MARKINGS APPLIED TO ALL CONCRETE SURFACES AS WELL AS ASPHALT SURFACES OLDER THEN 3 YEARS.
 - ALL STATIONS AND OFFSETS REFER TO WBFR_S2.CL UNLESS OTHERWISE NOTED.



08/30/2019

NO.	DATE	REVISION	APPROVED
1	8/23/19	I-35 SBFR S&S LAYOUT CHANGE	JDC

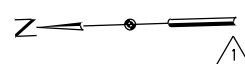
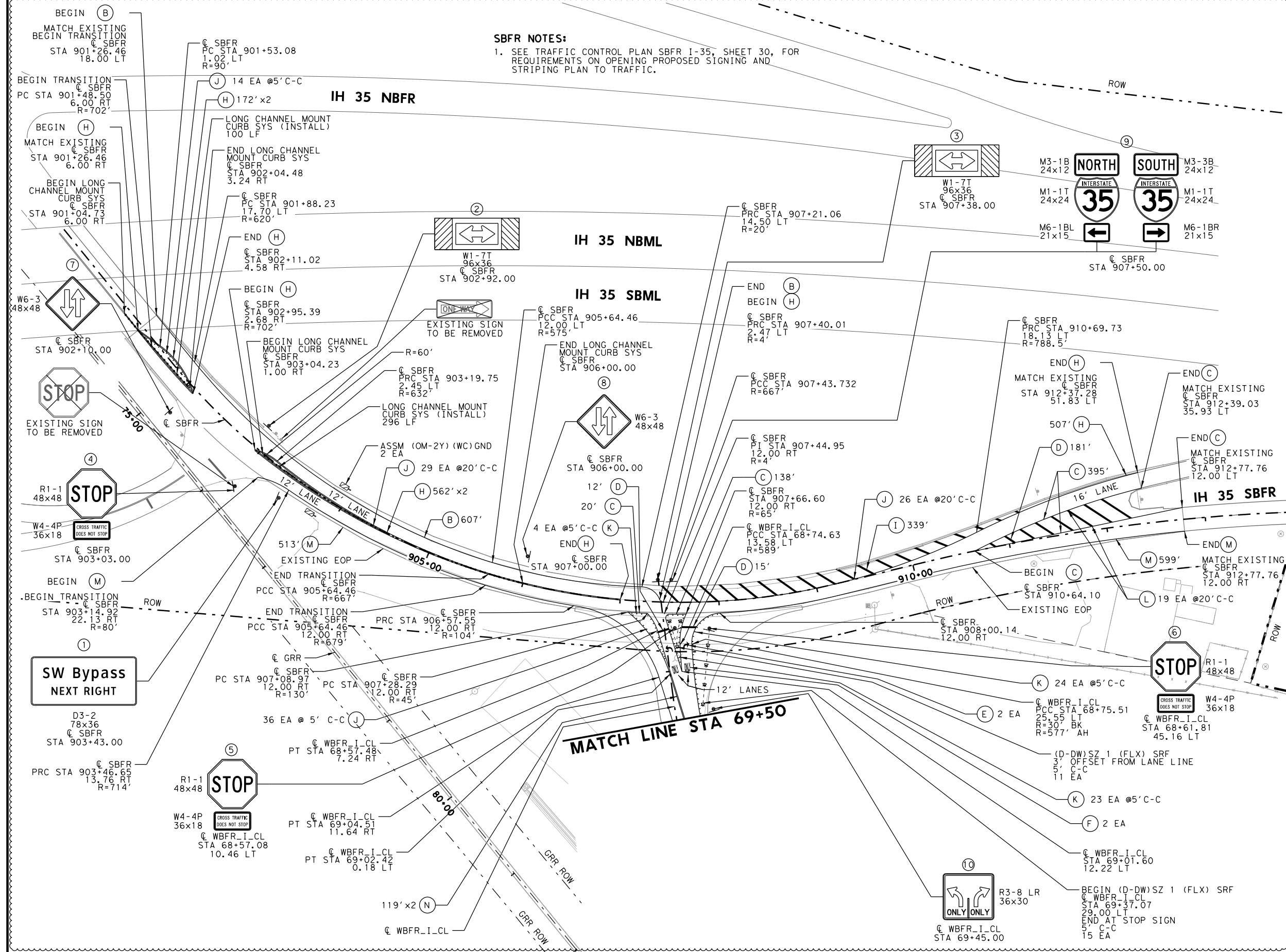
WILLIAMSON COUNTY **HDR** HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2
 SIGNING AND STRIPING
 SBFR I-35
 STA 901+00 TO STA 913+00**

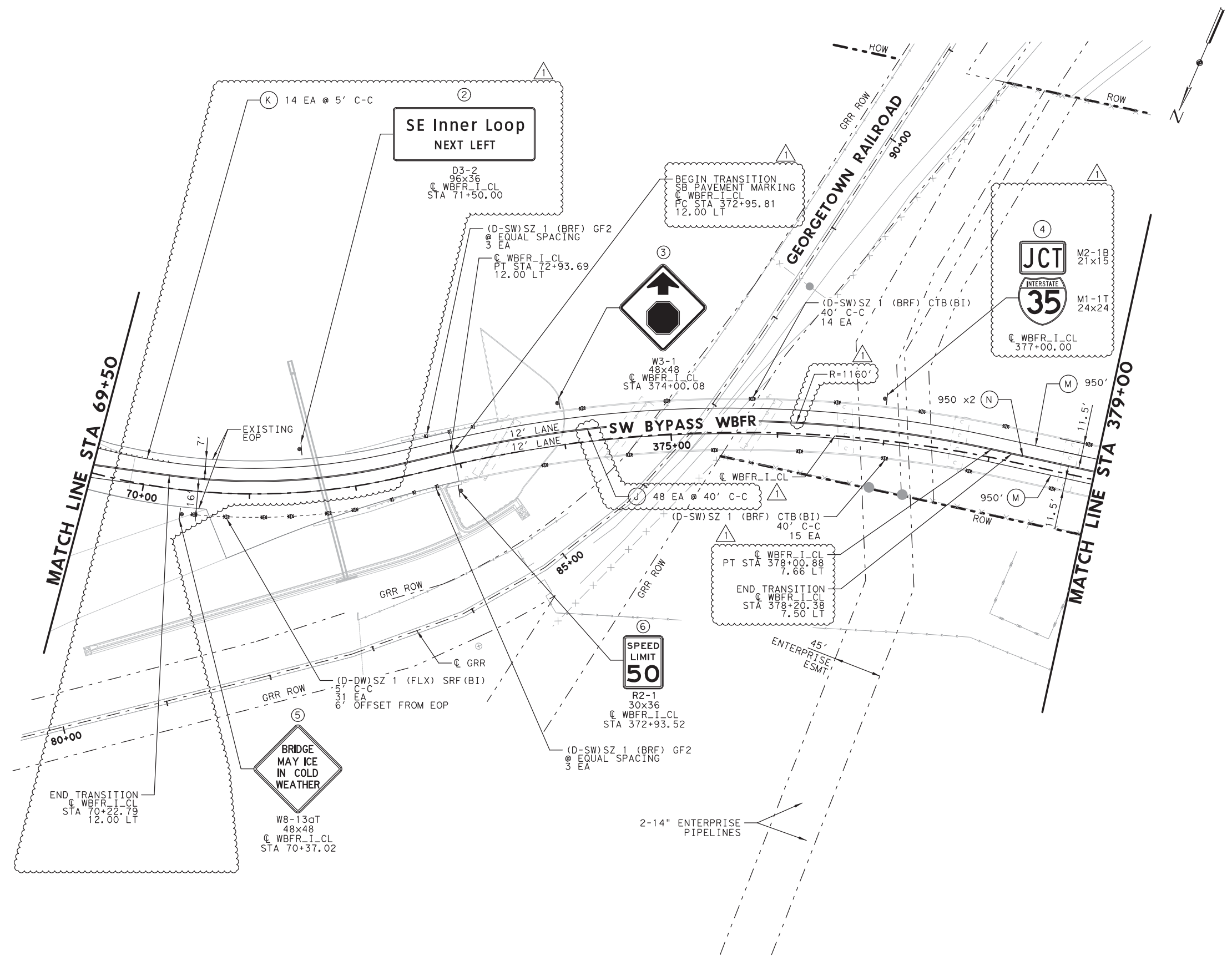
SCALE: 1"=100' SHEET 1 OF 1

DESIGN	JC	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
GRAPHICS	LG	STATE	TEXAS	DISTRICT	AUS	COUNTY	WILLIAMSON
CHECK	JW	CONTROL	2103	SECTION	01	JOB	034
CHECK	JC						218

SBFR NOTES:
 1. SEE TRAFFIC CONTROL PLAN SBFR I-35, SHEET 30, FOR REQUIREMENTS ON OPENING PROPOSED SIGNING AND STRIPING PLAN TO TRAFFIC.



PLOT DRIVER: TXDOT_PDF_BW.plt
 USER: LGOMEZ DATE: 8/23/2019
 TIME: 10:21:19 AM SCALE: 1:100
 FILE: \



- LEGEND**
- (A) REFL PAV MRK TY I (W) 4" (DOT) (100MIL)
 - (B) RE PM W/RET REQ TY I (W) 4" (SLD) (100MIL)
 - (C) REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
 - (D) REFL PAV MRK TY I (W) 24" (SLD) (100MIL)
 - (E) REFL PAV MRK TY I (W) (ARROW) (100MIL)
 - (F) REFL PAV MRK TY I (W) (WORD) (100MIL)
 - (G) REFL PAV MRK TY I (W) 36" (YLD TRI) (100MIL)
 - (H) RE PM W/RET REQ TY I (Y) 4" (SLD) (100MIL)
 - (I) REFL PAV MRK TY I (Y) 24" (SLD) (100MIL)
 - (J) REFL PAV MRK TY II-A-A
 - (K) REFL PAV MRK TY I-C
 - (L) REFL PAV MRK TY II-C-R
 - (M) REF PROF PAV MRK TY I (W) 4" (SLD) (060MIL)
 - (N) REF PROF PAV MRK TY I (Y) 4" (SLD) (090MIL)

- SIGN (1 SIDE)
- SIGN (2 SIDE)
- ⊕ DELINEATOR
- ⊕ DELINEATOR (BI)
- ⊕ ASSM (OM-2Y) (WC) GND
- ⊗ EXISTING SIGN TO BE REMOVED
- EXISTING SIGN TO REMAIN
- PROPOSED SIGN

- NOTES:**
- REFER TO SUMMARY OF SMALL SIGNS FOR SIGN QUANTITIES.
 - ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
 - ALL PAVEMENT MARKINGS ARE TY I (100MIL) UNLESS OTHERWISE SPECIFIED.
 - RESPECTIVE "REFL PAV MRK TY II" ITEM INCLUDED IN QUANTITIES AS SEALER FOR TY I MARKINGS APPLIED TO ALL CONCRETE SURFACES AS WELL AS ASPHALT SURFACES OLDER THEN 3 YEARS.
 - ALL STATIONS AND OFFSETS REFER TO WBFR_S2.CL UNLESS OTHERWISE NOTED.



NO.	DATE	REVISION	APPROVED
1	8/23/19	I-35 SBFR S&S LAYOUT CHANGE	JDC

WILLIAMSON **HDR** HDR Engineering, Inc.
 810 Hesters Crossing, Suite 120
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

**SOUTHWEST BYPASS
 SEGMENT 2**

**SIGNING AND STRIPING
 WBFR**

STA 69+50 TO STA 379+00

SCALE: 1" = 100' SHEET 1 OF 8

DESTGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
JC	6			
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
LG	TEXAS	AUS	WILLIAMSON	219
CHECK	CONTROL	SECTION	JOB	
JW	2103	01	034	