DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
NE	6	F 2024(737), ETC.		IH35E
GRAPHICS NE	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK MN	TEXAS	DALLAS	ELLIS, ETC	701
CHECK GG	CONTROL 0442	SECTION 03	JOB 042, ETC.	

FINAL PLANS

NAME OF CONTRACTOR: ____________________

DATE OF LETTING: ____________________

DATE WORK BEGAN: ____________________

DATE WORK COMPLETED: ____________________

DATE WORK ACCEPTED: ____________________

SUMMARY OF CHANGE ORDERS:

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED STATE HIGHWAY IMPROVEMENT

FEDERAL AID PROJECT
F 2024(737), ETC.
CSJ: 0442-03-042, ETC.

IH 35E
VOLUME II
ELLIS COUNTY, ETC

LIMITS:
- CSJ 0442-03-042 : AT FM 664
- CSJ 0442-03-044 : REESE DRIVE TO DALLAS COUNTY LINE
- CSJ 0442-02-162 : ELLIS COUNTY LINE TO BEAR CREEK ROAD

TOTAL LENGTH OF PROJECT =

CSJ		Length (FT.)	Length (MI.)
CSJ 0442-03-042	ROADWAY	6,852.12FT.	1.298 MI.
	BRIDGE	333.88FT.	0.063 MI.
CSJ 0442-03-044	ROADWAY	3,371.00FT.	0.638 MI.
	BRIDGE	449.68FT.	0.086 MI.
CSJ 0442-02-162	ROADWAY	3,424.00FT.	0.648 MI.
	BRIDGE	225.32FT.	0.047 MI.
	TOTAL	14,686.00FT.	2.780 MI.

FOR THE CONSTRUCTION OF: INTERCHANGE (NEW OR RECONSTRUCTED)

CONSISTING OF: RECONSTRUCT INTERCHANGE & CONSTRUCT INTERCHANGE AT LOOP 9 AND IH 35E

DESIGN SPEEDS
- 70 MPH IH 35E MAINLANES
- 50 MPH RAMPS (ENTRANCE & EXIT)
- 40 MPH FRONTAGE ROADS
- 40 MPH RAMPS (SPUI)
- 30 MPH SIDE STREETS
- 20 MPH JUGHANDLES
- 40 MPH FM 664

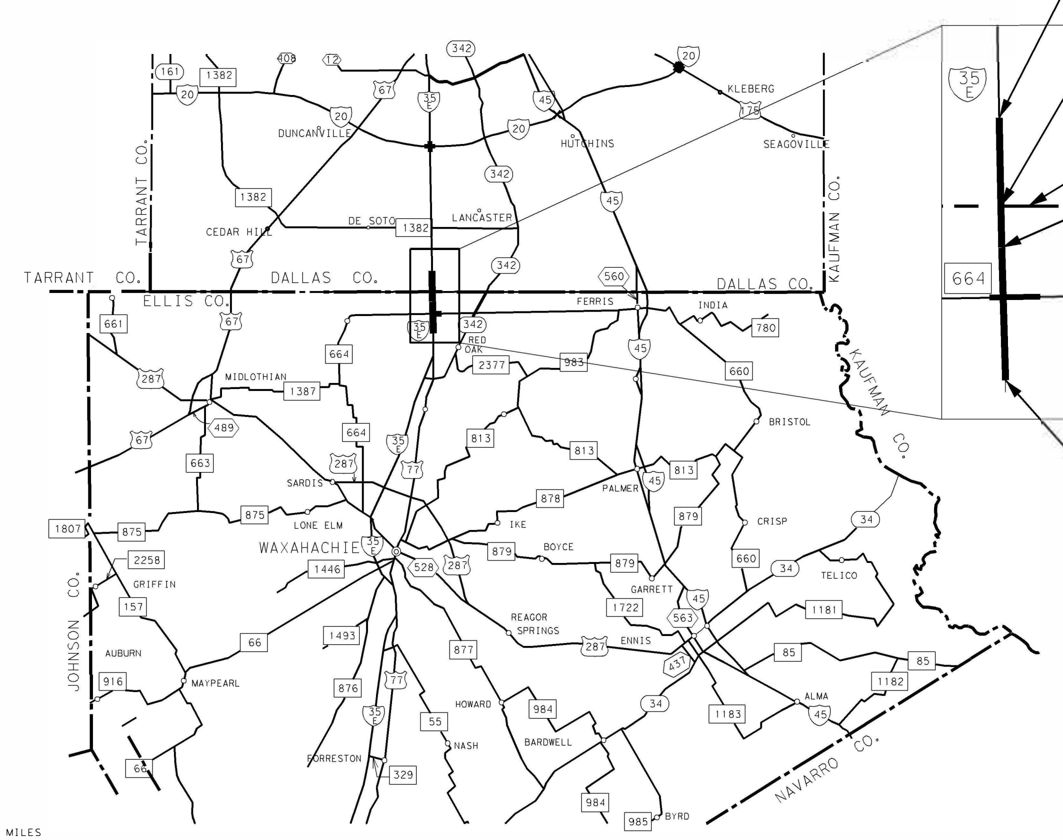
2024 ADT = 87,300 VPD
2044 ADT = 123,200 VPD

FUNCTIONAL CLASSIFICATION
URBAN INTERSTATE

NOTE:

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, NOVEMBER 1, 2014, AND THE CONTRACT PROVISIONS LISTED AND DATED AS FOLLOWS SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, OCTOBER 23, 2023)

Registered Accessibility Specialist (RAS) inspection required. TDLR No. TABS# TABS2023008314



DALLAS DISTRICT
ELLIS & DALLAS COUNTIES

EQUATIONS: NONE
EXCEPTIONS: NONE
RAILROAD CROSSINGS: NONE

TEXAS DEPARTMENT OF TRANSPORTATION

SUBMITTED FOR LETTING: 11/30/2023
DocuSigned by: Morgan Neill, P.E.
DESIGN ENGINEER

RECOMMENDED FOR LETTING: 11/30/2023
DocuSigned by: James P. Campbell, P.E.
DIRECTOR OF TRANSPORTATION PLANNING & DEVELOPMENT

RECOMMENDED FOR LETTING: 11/30/2023
DocuSigned by: Juan A. Paredes, P.E., P.E.
AREA ENGINEER

APPROVED FOR LETTING: 12/1/2023
DocuSigned by: Ceason Clemens, P.E.
DISTRICT ENGINEER

WORK WAS COMPLETED ACCORDING TO THE PLANS AND CONTRACT.

______________, P.E.
Signature of Registrant & Date

DATE: 11/29/2023 6:19:29 PM

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NOTES:
1. VOLUME I CONTAINS PLANS FOR CSJ : 0442-03-042.
2. VOLUME II CONTAINS PLANS FOR CSJ'S : 0442-02-162 & 0442-03-044.
3. VOLUME III CONTAINS COMBINED ILLUMINATION, ITS, TCP AND ENVIRONMENTAL FOR ALL CSJ'S.

STATE OF TEXAS
MORGAN A. NEILL
115916
LICENSED
PROFESSIONAL ENGINEER

_____, P.E.
Signature of Registrant & Date

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

INDEX OF SHEETS
VOLUME I

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NE	6	(SEE TITLE SHEET)		IH 35E
GRAPHICS NE	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK GTG	TEXAS	DAL	ELLIS/DALLAS	702
CHECK MAN	CONTROL	SECTION	JOB	
	0442	03	042,ETC.	

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11/30/2023

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VOLUME I INDEX

NOTES:
1. VOLUME I CONTAINS PLANS FOR CSJ : 0442-03-042.
2. VOLUME II CONTAINS PLANS FOR CSJ'S : 0442-02-162 & 0442-03-044.
3. VOLUME III CONTAINS COMBINED ILLUMINATION, ITS, TCP AND ENVIRONMENTAL FOR ALL CSJ'S.

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STATE OF TEXAS
MORGAN A. NEILL
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INDEX OF SHEETS
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NE	6	(SEE TITLE SHEET)		IH 35E
GRAPHICS NE	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK GTG	TEXAS	DAL	ELLIS/DALLAS	703
CHECK MAN	CONTROL	SECTION	JOB	
	0442	03	042,ETC.	

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11/29/2023

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VOLUME II INDEX

NOTES:
1. VOLUME I CONTAINS PLANS FOR CSJ : 0442-03-042.
2. VOLUME II CONTAINS PLANS FOR CSJ'S : 0442-02-162 & 0442-03-044.
3. VOLUME III CONTAINS COMBINED ILLUMINATION, ITS, TCP AND ENVIRONMENTAL FOR ALL CSJ'S.

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883 IH35E SBML OVERPASS AT STATE LOOP 9 ABUTMENT MISC. DETAILS
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890 IH35E SBML OVERPASS AT STATE LOOP 9 FRAMING PLAN ~UNIT 2
891 IH35E SBML OVERPASS AT STATE LOOP 9 SLAB DETAILS, UNIT 2
892 IH35E SBML OVERPASS AT STATE LOOP 9 FRAMING PLAN ~UNIT 3
893 IH35E SBML OVERPASS AT STATE LOOP 9 SLAB DETAILS, UNIT 3
894 IH35E SBML OVERPASS AT STATE LOOP 9 TYPICAL TRANSVERSE SECTION
895 IGND

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REFER TO VOLUME 1 FOR ADDITIONAL STANDARDS
> 896-897 CSAB
> 898-899 PBC-RC
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REFER TO VOLUME 1 FOR ADDITIONAL STANDARDS
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927-929 NB FRONTAGE ROAD PAVEMENT MARKINGS
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REFER TO VOLUME 1 FOR STANDARDS

STATE OF TEXAS
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139489
LICENSED PROFESSIONAL ENGINEER

Mona Lotfi, P.E. 11/29/23
Signature of Registrant & Date

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VOLUME II

SHEET 3 OF 4

DESIGN CB	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS CB	6	(SEE TITLE SHEET)		IH35E
CHECK ML	STATE	DISTRICT	COUNTY	SHEET NO.
	TEXAS	DAL	ELLIS, ETC.	704
CHECK MAN	CONTROL	SECTION	JOB	
	0442	03	042,ETC	

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NOTES:
1. VOLUME I CONTAINS PLANS FOR CSJ : 0442-03-042.
2. VOLUME II CONTAINS PLANS FOR CSJ'S : 0442-02-162 & 0442-03-044.
3. VOLUME III CONTAINS COMBINED ILLUMINATION, ITS, TCP AND ENVIRONMENTAL FOR ALL CSJ'S.

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935-938 INDEX OF SHEETS

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963-964 TCP ALIGNMENT DATA
965-969 TCP PROFILES
970-982 IH 35E PHASE 1 STAGE 1
983-995 IH 35E PHASE 1 STAGE 2
996-1008 IH 35E PHASE 1 STAGE 3
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1112-1116 FM 664 PHASE 4 STAGE 2
1117-1129 IH 35E PHASE 4 STAGE 3
1130-1142 IH 35E PHASE 5 STAGE 1
1143-1155 IH 35E PHASE 5 STAGE 2
1156-1160 FM 664 PHASE 5 STAGE 2
1161 IH 35E PHASE 6 STAGE 1
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> 1206 TCP (6-8)-14
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1312 RECEIVING WATERS SITE MAP
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STATE OF TEXAS
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GRAPHICS CB	6	(SEE TITLE SHEET)		IH35E
CHECK ML	STATE	DISTRICT	COUNTY	SHEET NO.
	TEXAS	DAL	ELLIS, ETC.	705
CHECK MAN	CONTROL	SECTION	JOB	
	0442	03	042,ETC	

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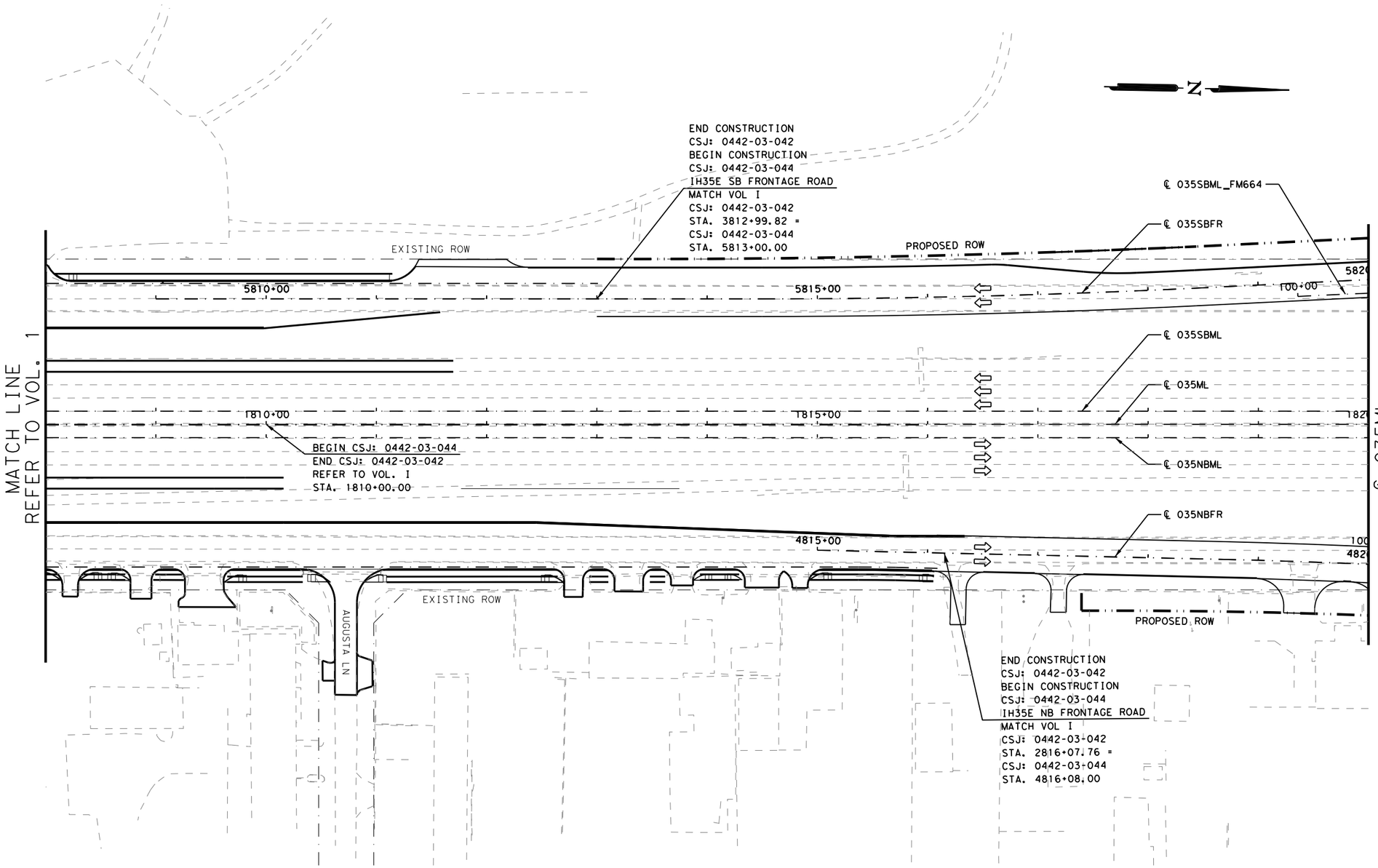

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11.10.23

Texas Department of Transportation

IH35E
PROJECT LAYOUT

SCALE: 1"=100'

SHEET 1 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
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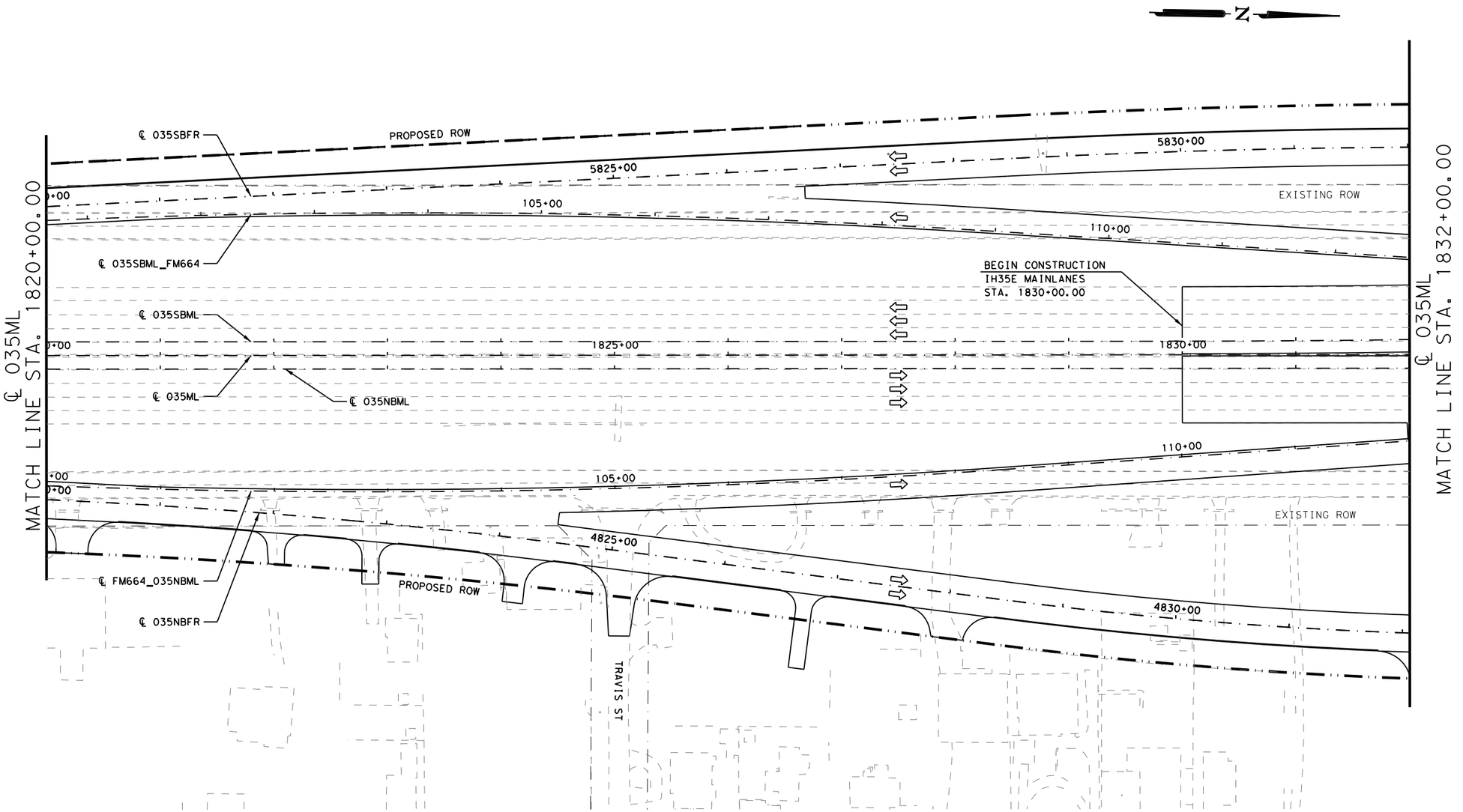

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IH35E
PROJECT LAYOUT

SCALE: 1"=100' SHEET 2 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
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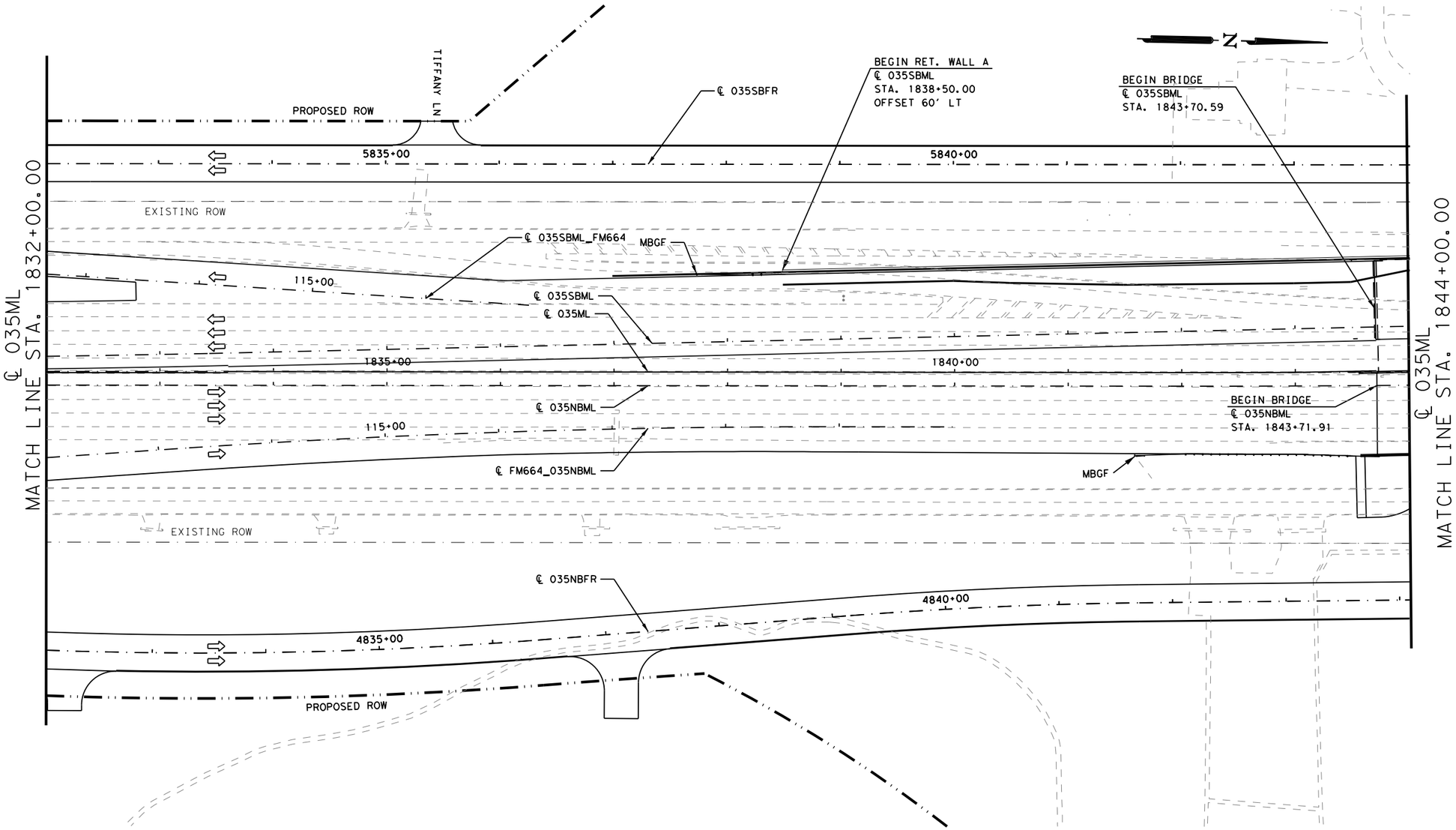

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IH35E
PROJECT LAYOUT

SCALE: 1"=100'
SHEET 3 OF 7

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
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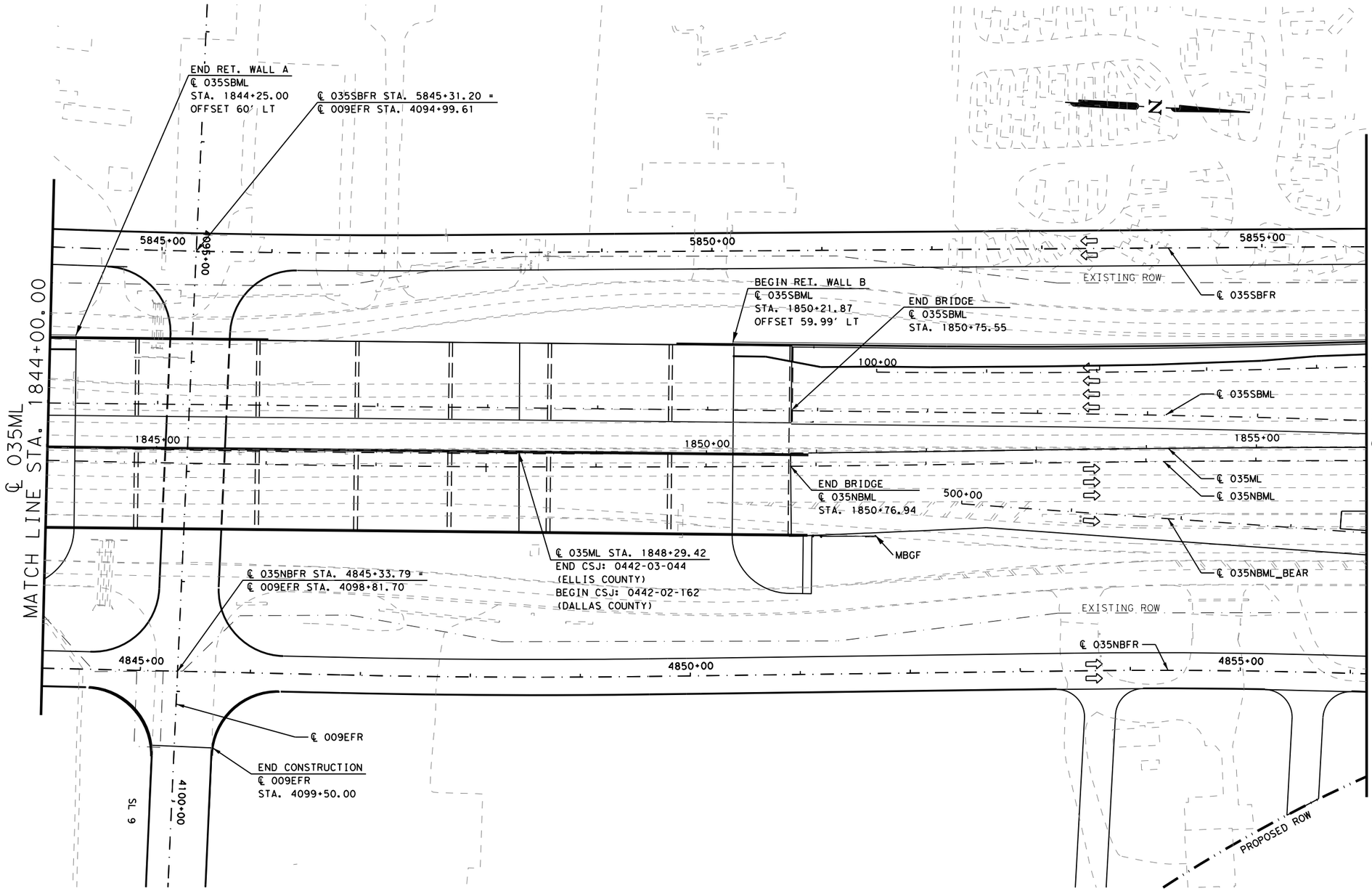

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IH35E
PROJECT LAYOUT

SCALE: 1"=100'

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
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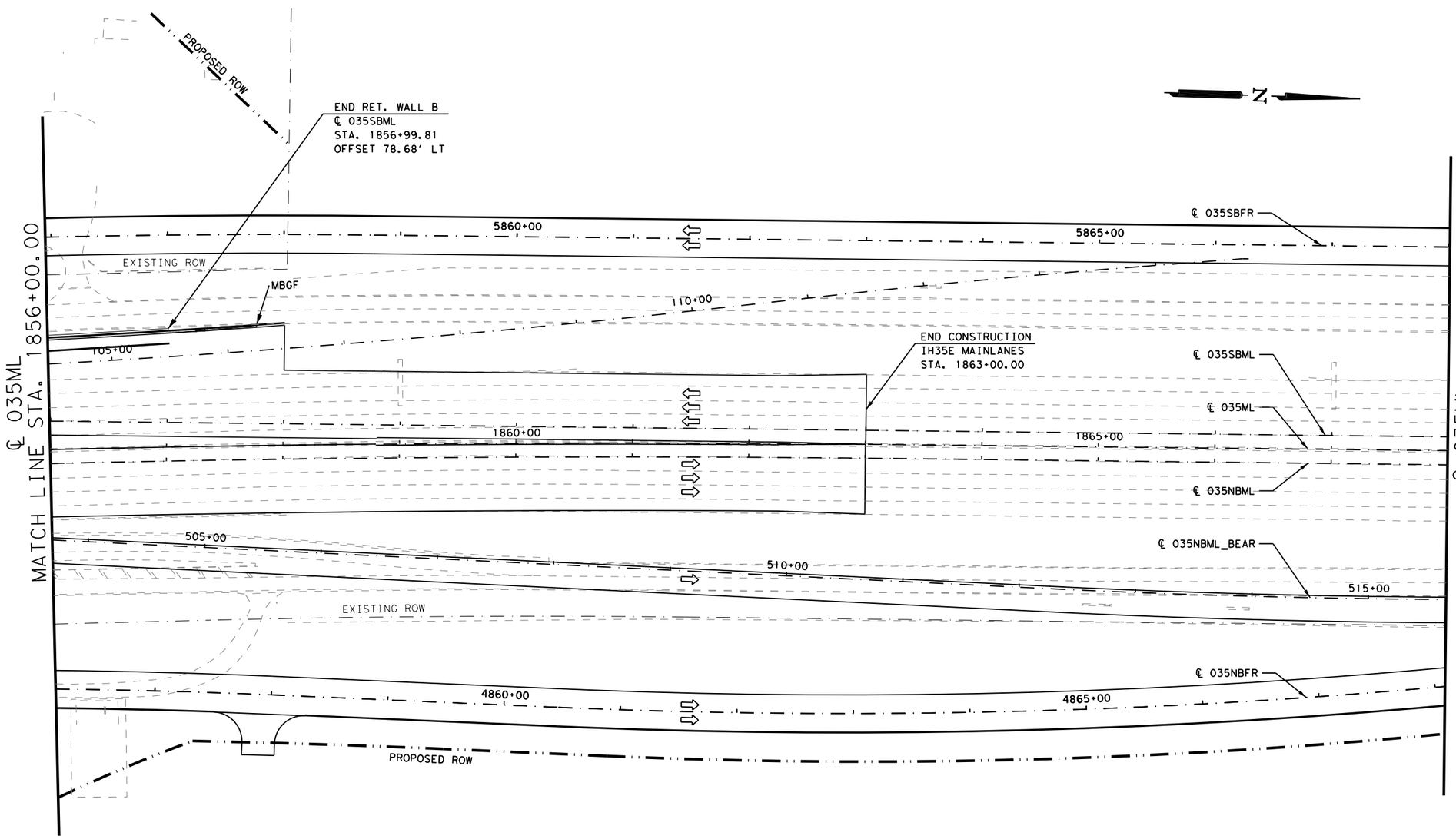

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IH35E
PROJECT LAYOUT

SCALE: 1"=100' SHEET 5 OF 7

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	710
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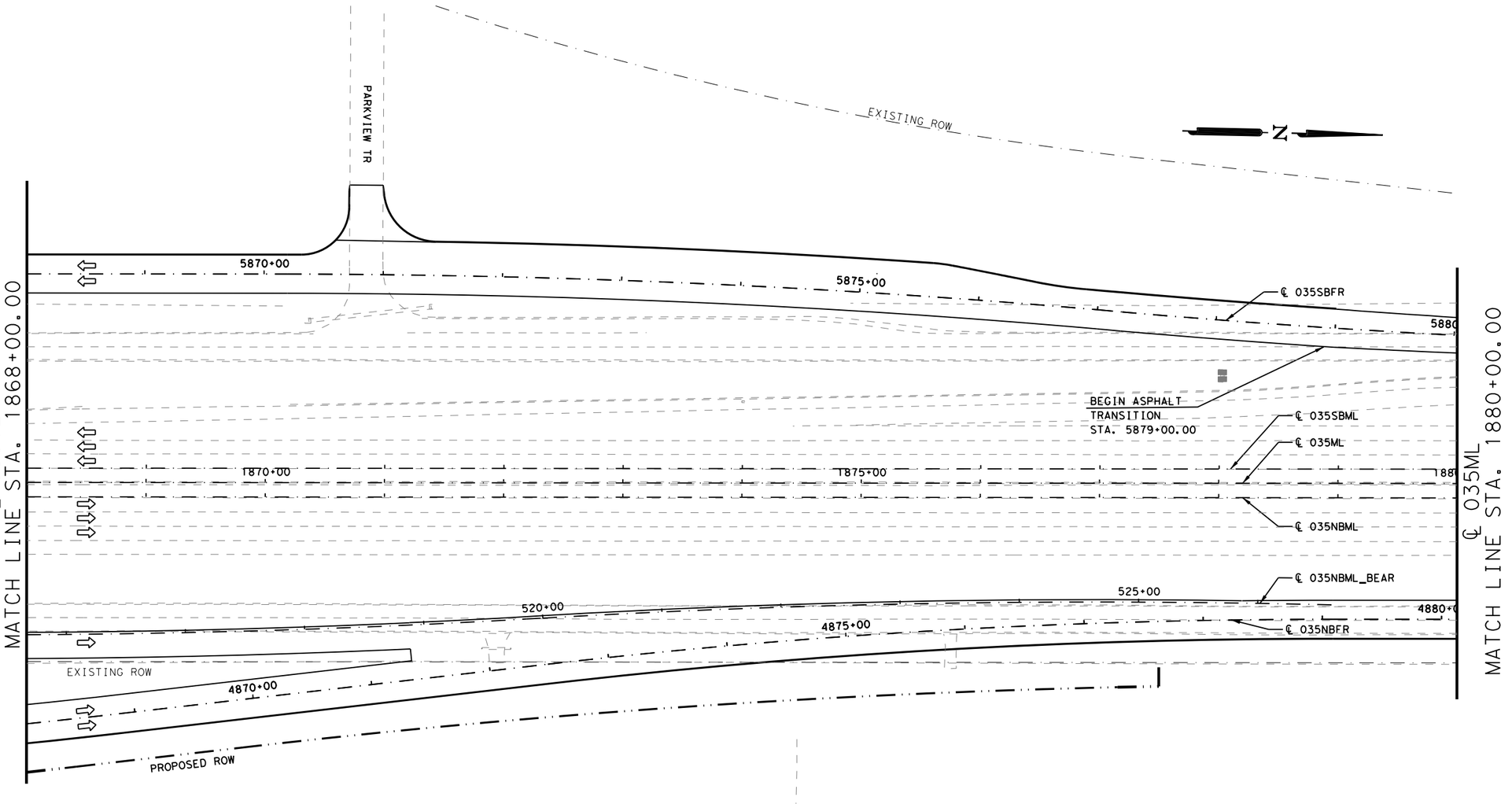

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Texas Department of Transportation

IH35E
PROJECT LAYOUT

SCALE: 1"=100'

SHEET 6 OF 7

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS: ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK: MPM	CONTROL	SECTION	JOB	711
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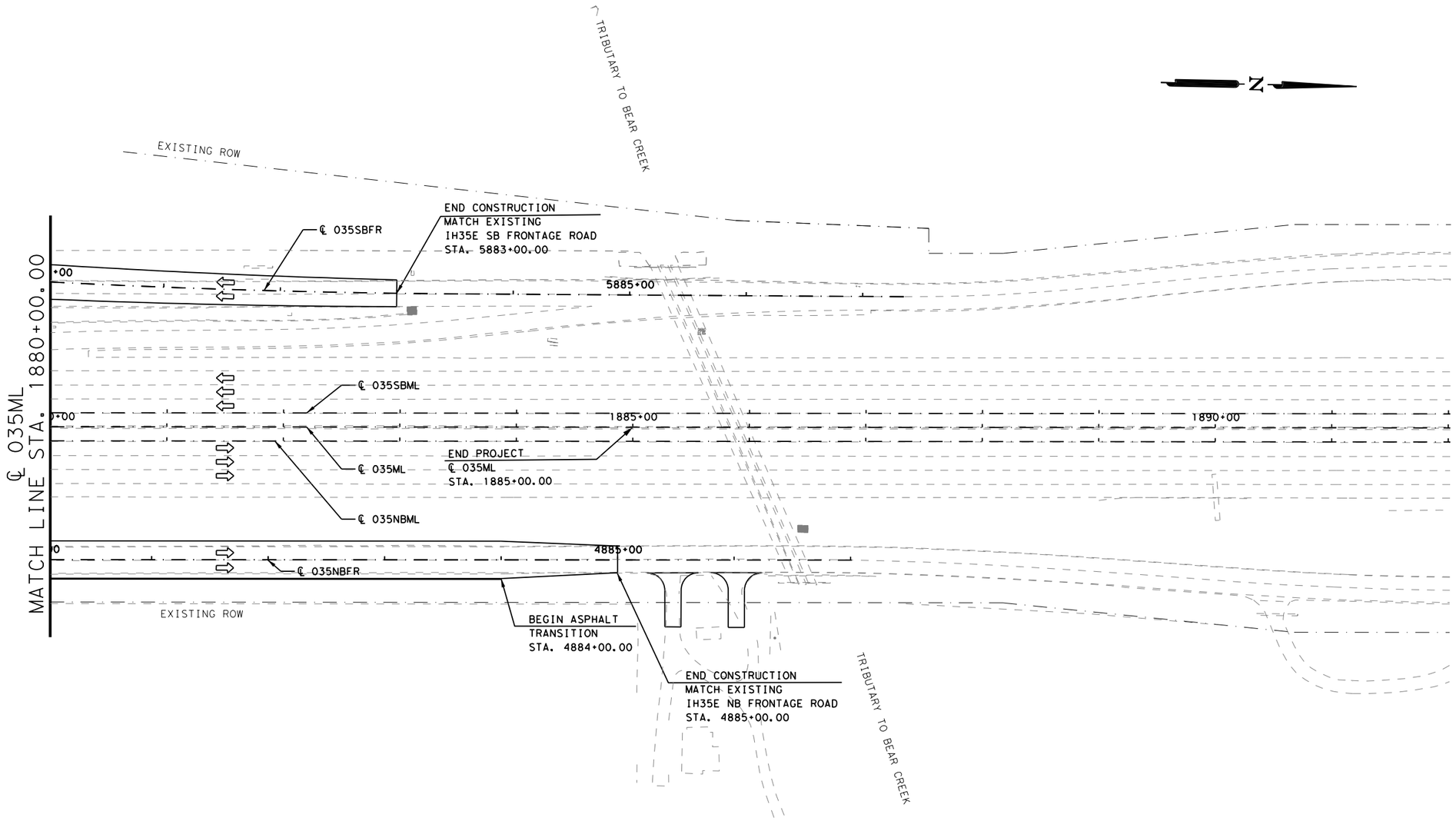

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IH35E
PROJECT LAYOUT

SCALE: 1"=100'

SHEET 7 OF 7

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
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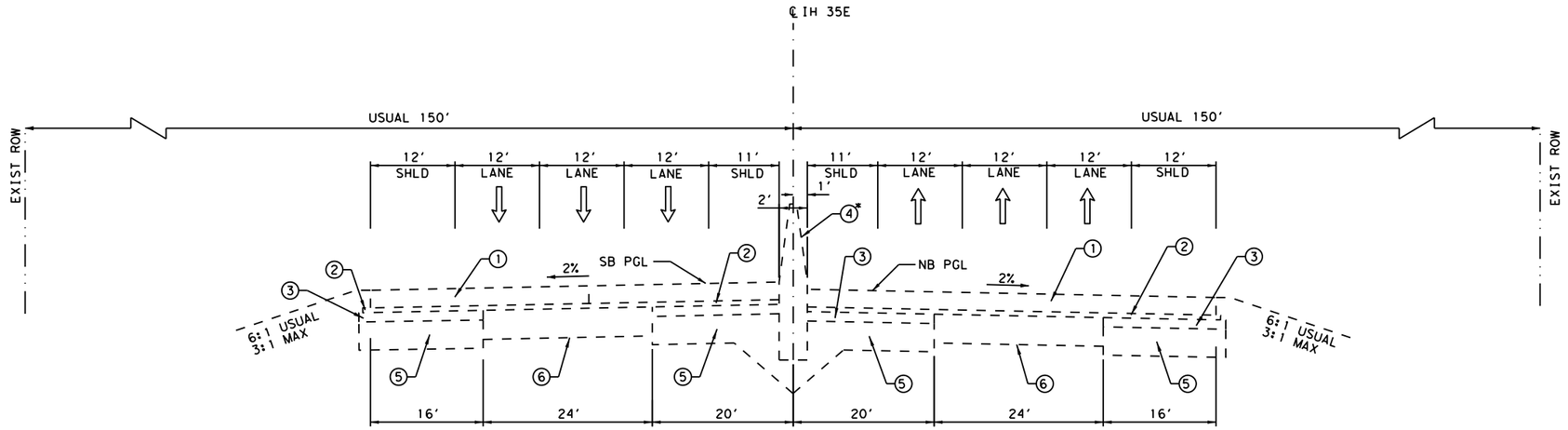


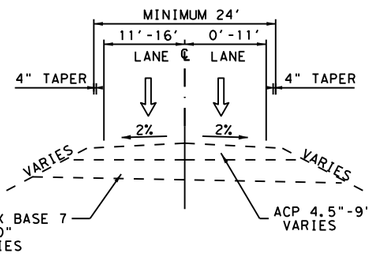
N.B./S.B. MAINLANE SPLIT PROFILE

EXISTING TYPICAL SECTION

STA 1830+00 TO STA 1863+00

LEGEND

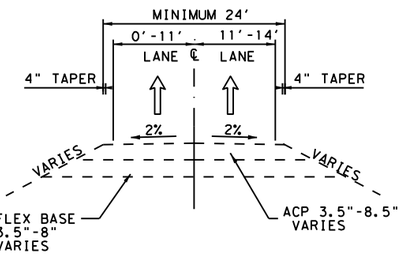
1. 15" CRCP
2. 4" ACP/BONDBREAKER
3. 8" LIME TREATED SUBGRADE
4. MEDIAN BARRIERS
5. SELECT FILL TY C CL 3
6. RUBBLIZE CONCRETE PAVEMENT
7. 2" SUPERPAVE MIXTURES SP-C SAC-B PG 70-22
8. 4" SUPERPAVE SP-B PG64-22
9. 12" FL BS TY-D GR1-2 WITH PRIME COAT
10. 12" LIME TREATED SUBGRADE



IH35E SBFR

EXISTING TYPICAL SECTION

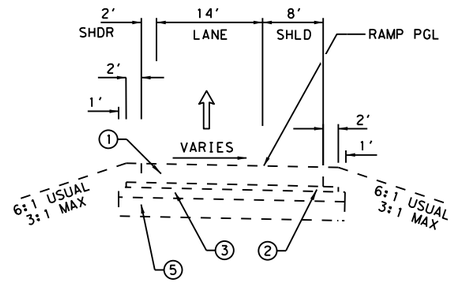
STA 5810+20 TO STA 5822+90
STA 5825+50 TO STA 5883+60



IH35E NBFR

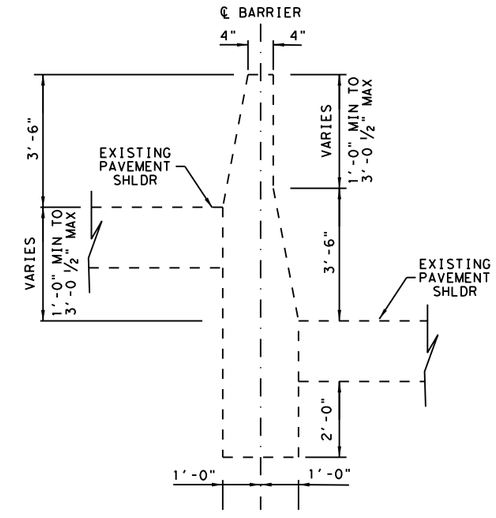
EXISTING TYPICAL SECTION

STA 4815+00 TO STA 4885+00

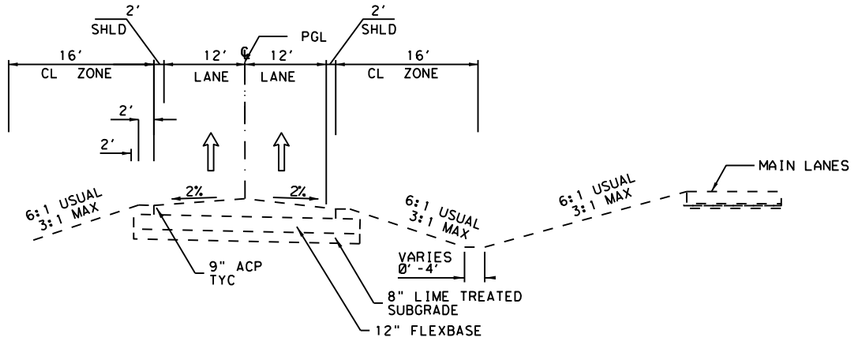


EXISTING TYPICAL SECTION

EXISTING RAMP



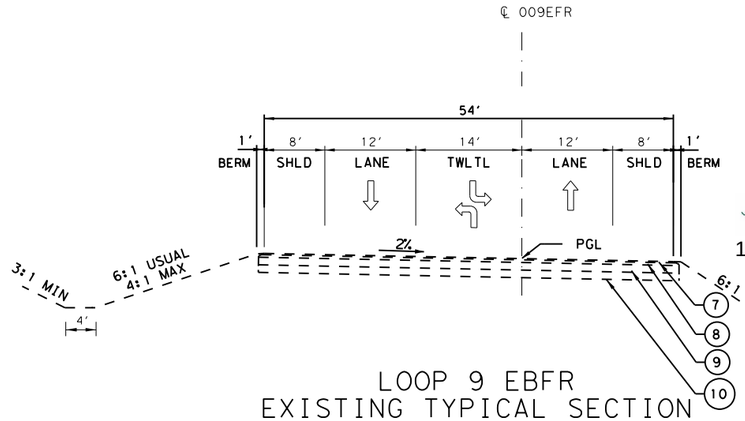
*EXISTING SSCB (MOD) TY I



IH35E SBFR

EXISTING TYPICAL SECTION

STA 5822+90 TO STA 5825+50



LOOP 9 EBFR

EXISTING TYPICAL SECTION

STA 4099+50 TO STA 4103+00

STATE OF TEXAS
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M Pauline Morrel P.E.
11.10.23

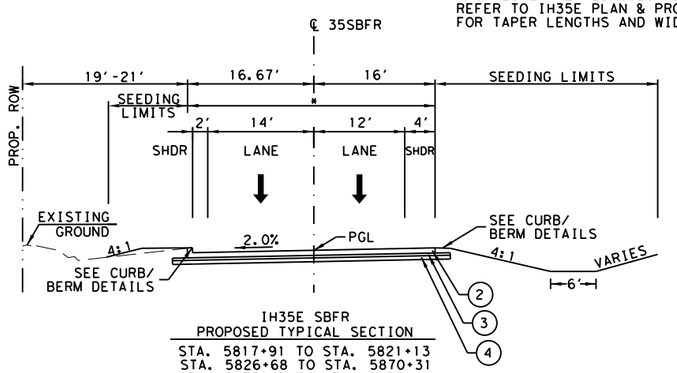
IH 35E
EXISTING TYPICAL SECTIONS

N. T. S.

SHEET 1 OF 1

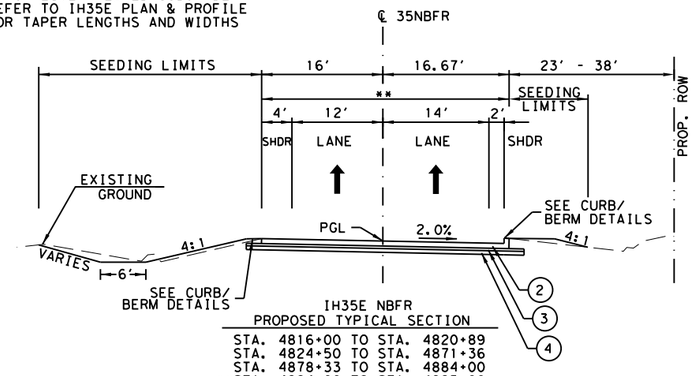
DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	713
	0442	03	042,ETC.	

* 2" SUPERPAVE TY C
4" SUPERPAVE TY B
8" FLEXBASE
8" LIME TREATED SUBGRADE
REFER TO IH35E PLAN & PROFILE
FOR TAPER LENGTHS AND WIDTHS



IH35E SBFR
PROPOSED TYPICAL SECTION
STA. 5817+91 TO STA. 5821+13
STA. 5826+68 TO STA. 5870+31
STA. 5875+13 TO STA. 5879+00
*STA. 5879+00 TO STA. 5883+00

** 2" SUPERPAVE TY C
4" SUPERPAVE TY B
8" FLEXBASE
8" LIME TREATED SUBGRADE
REFER TO IH35E PLAN & PROFILE
FOR TAPER LENGTHS AND WIDTHS

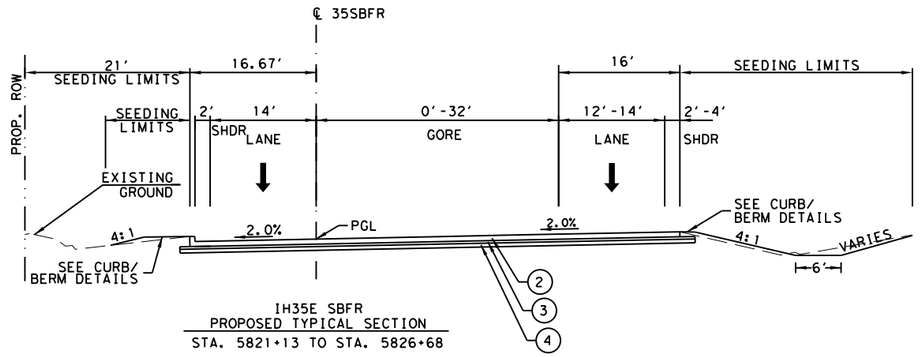


IH35E NBFR
PROPOSED TYPICAL SECTION
STA. 4816+00 TO STA. 4820+89
STA. 4824+50 TO STA. 4871+36
STA. 4878+33 TO STA. 4884+00
**STA. 4884+00 TO STA. 4885+00

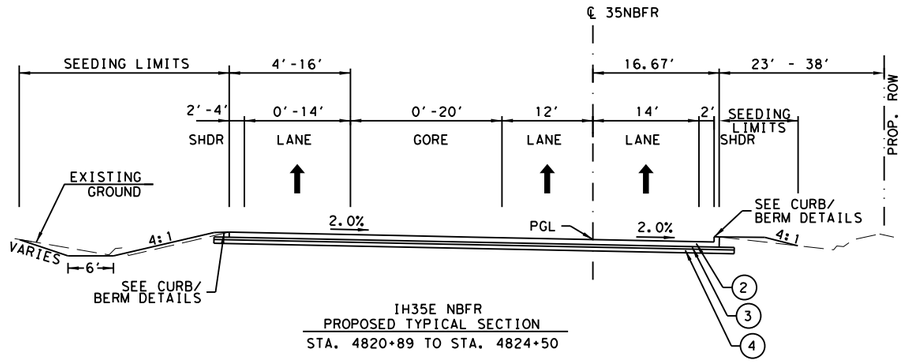
LEGEND

1. 15" CONCRETE PAVEMENT (CRCP)
2. 8" CONCRETE PAVEMENT (CRCP)
3. 4" SUPERPAVE SP-B PG64-22
4. 8" LIME TREATED EXISTING SUBGRADE (4% BY WT.)
5. 2" SUPERPAVE SP-C PG 70-22
6. 12" FL BS TY-D GR1-2 WITH PRIME COAT
7. 12" LIME TREATED EXISTING SUBGRADE (8% BY WT.)
8. TACK COAT

NOTE: 1) REFER TO CONTOUR AND DRAINAGE LAYOUTS FOR DITCH ELEVATIONS.
2) FOR BARRIER TRANSITIONS REFER TO SSCB (MOD) STANDARD.



IH35E SBFR
PROPOSED TYPICAL SECTION
STA. 5821+13 TO STA. 5826+68



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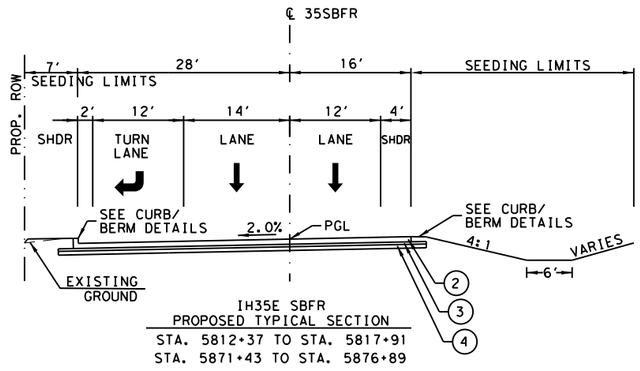
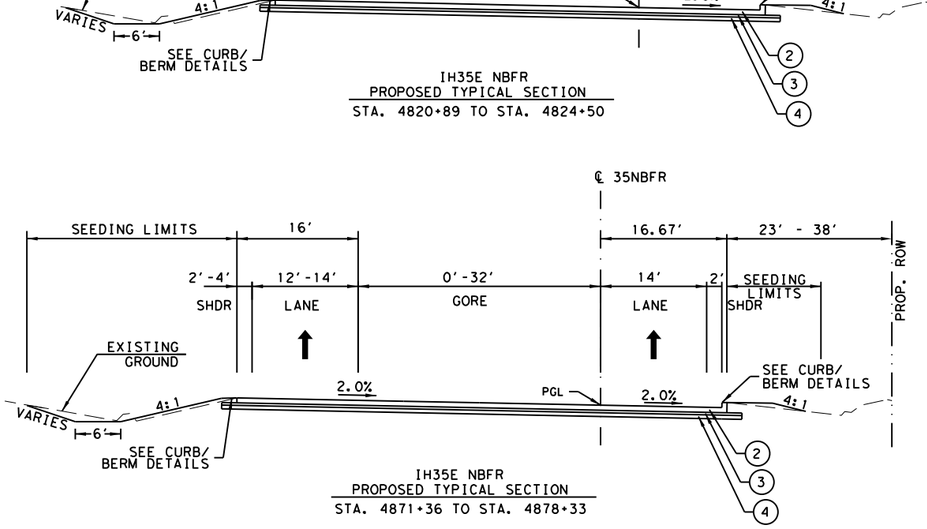
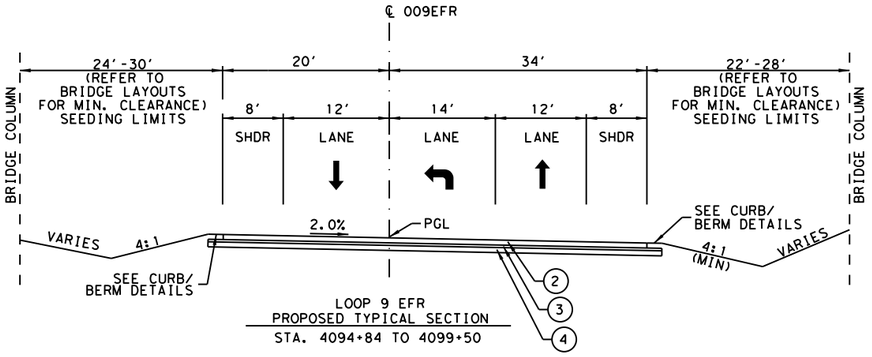
PROPOSED TYPICAL SECTION
STA. 4820+89 TO STA. 4824+50



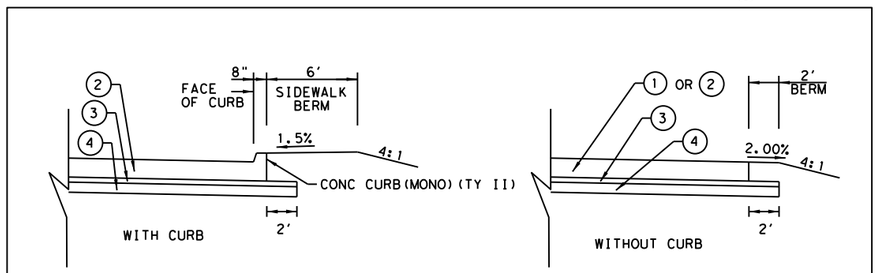
IH35E SBFR
PROPOSED TYPICAL SECTION
STA. 5812+37 TO STA. 5817+91
STA. 5871+43 TO STA. 5876+89



IH35E NBFR
PROPOSED TYPICAL SECTION
STA. 4871+36 TO STA. 4878+33



LOOP 9 EFR
PROPOSED TYPICAL SECTION
STA. 4094+84 TO STA. 4099+50



CURB/BERM DETAILS
N.T.S.

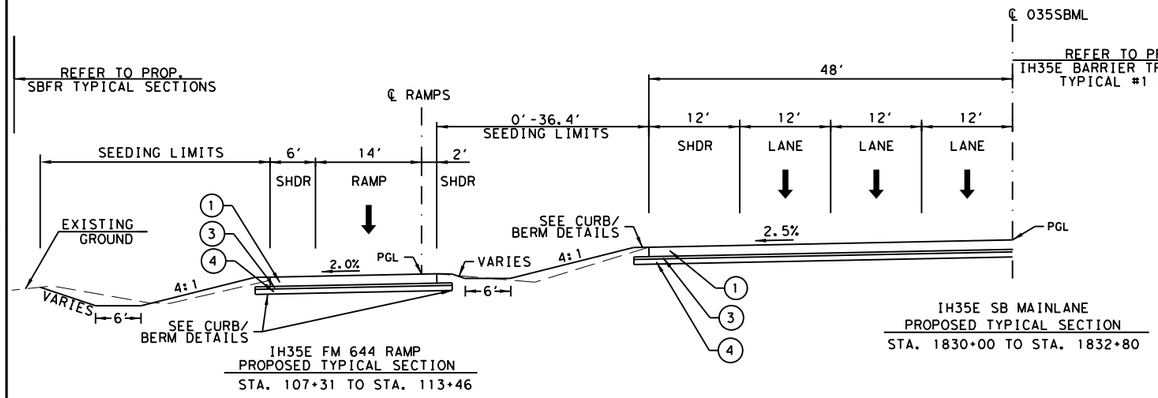
M. Pauline Morrel
P.E. 94443
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

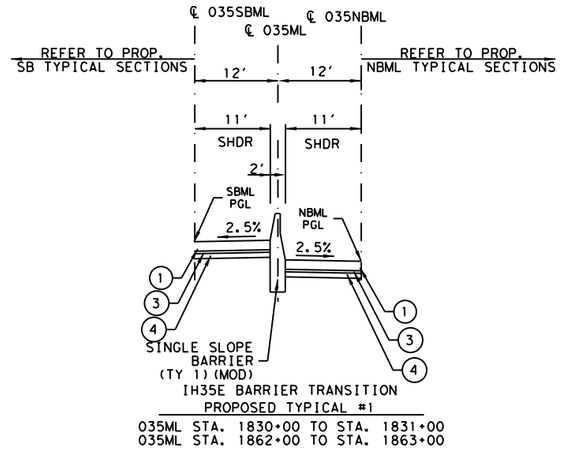
M Pauline Morrel P.E. 11.10.23

IH35E
PROPOSED TYPICAL SECTIONS

N. T. S. SHEET 1 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	714
	0442	03	042,ETC.	

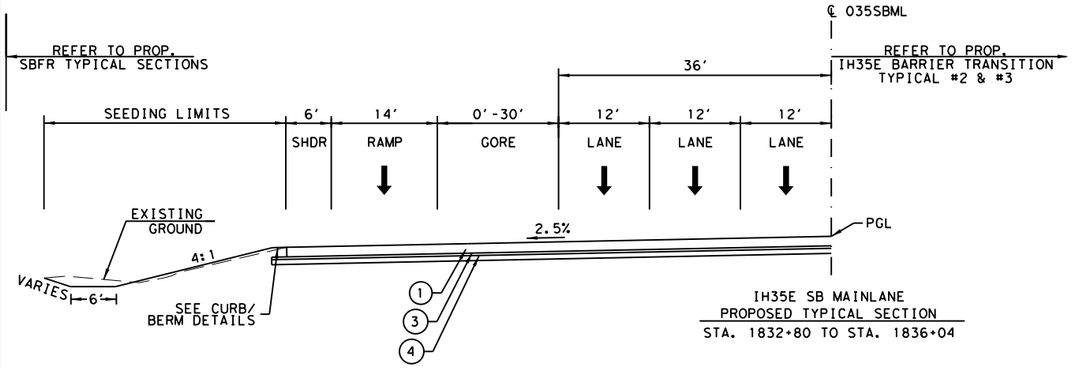


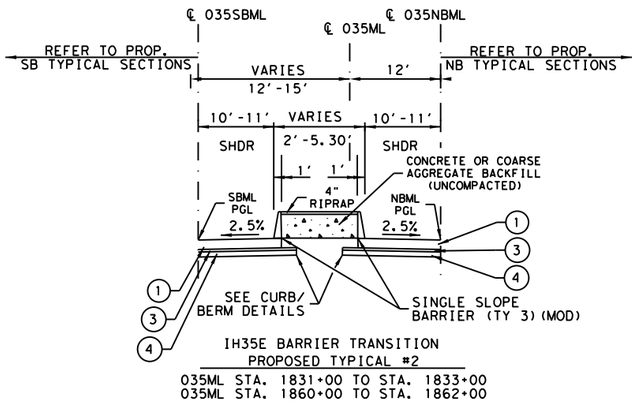


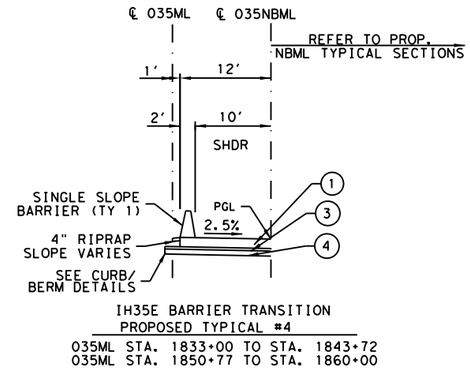
LEGEND

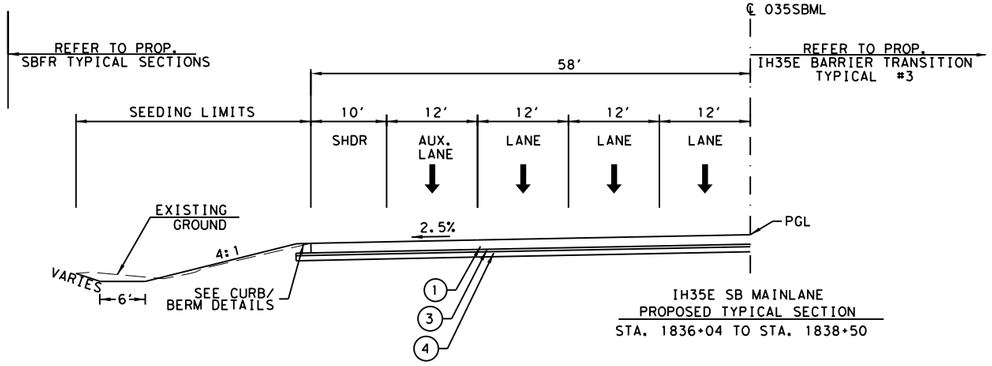
1. 15" CONCRETE PAVEMENT (CRCP)
2. 8" CONCRETE PAVEMENT (CRCP)
3. 4" SUPERPAVE SP-B PG64-22
4. 8" LIME TREATED EXISTING SUBGRADE (4% BY WT.)
5. 2" SUPERPAVE SP-C PG 70-22
6. 12" FL BS TY-D GR1-2 WITH PRIME COAT
7. 12" LIME TREATED EXISTING SUBGRADE (8% BY WT.)
8. TACK COAT

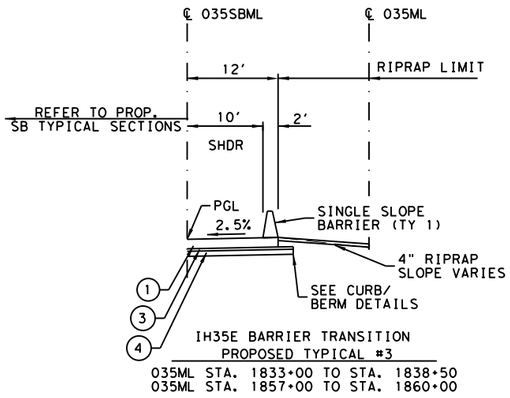
NOTE: 1) REFER TO CONTOUR AND DRAINAGE LAYOUTS FOR DITCH ELEVATIONS.
2) FOR BARRIER TRANSITIONS REFER TO SSCB (MOD) STANDARD.
3) ROW LIMITS SHOWN ON FRONTAGE ROAD TYPICAL SECTION SHEET.











STATE OF TEXAS
M. Pauline Morrel
P.E. 94443
LICENSED PROFESSIONAL ENGINEER

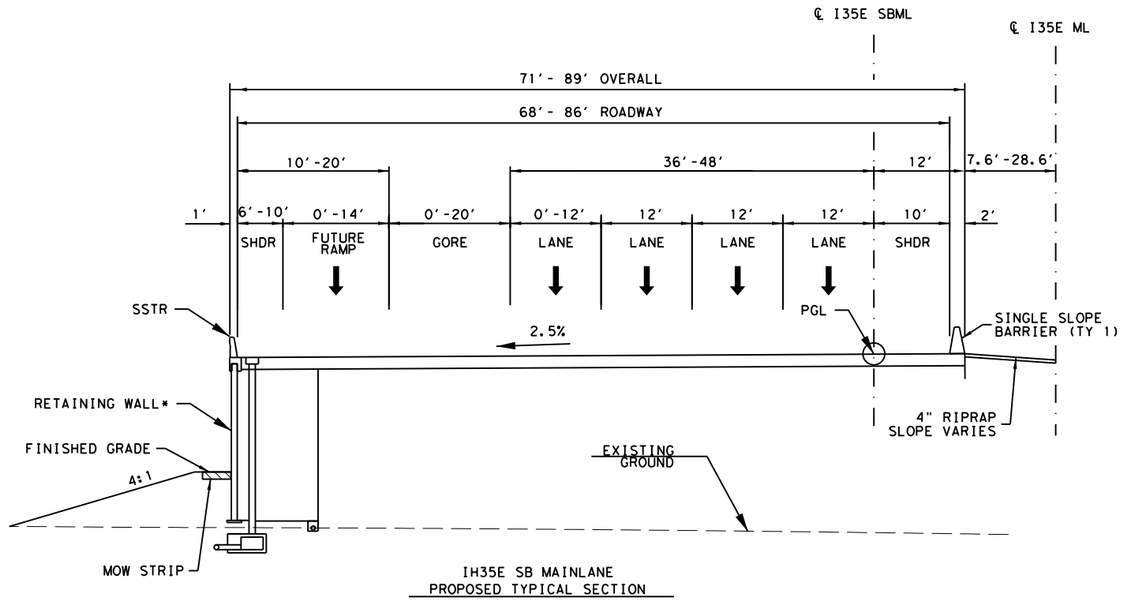
M Pauline Morrel P.E. 11.10.23

IH35E
PROPOSED TYPICAL SECTIONS

N. T. S.

SHEET 2 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	715
	0442	03	042, ETC.	



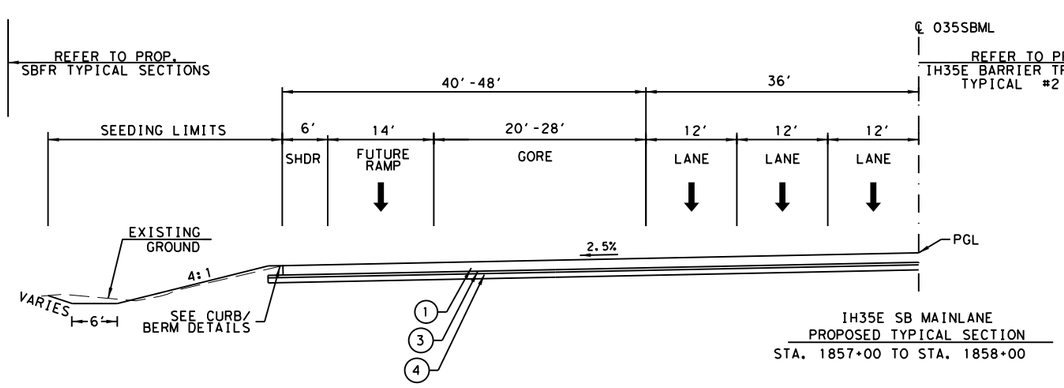
IH35E SB MAINLANE
PROPOSED TYPICAL SECTION

BEGIN RW - STA. 1838+50 TO STA. 1843+51 (BEGIN BRIDGE APPROACH SLAB)
(END BRIDGE APPROACH SLAB) STA. 1850+96 TO 1857+00 - END RW
*RW A STA 1838+50 TO STA 1844+25
*RW B STA 1850+22 TO STA 1857+00

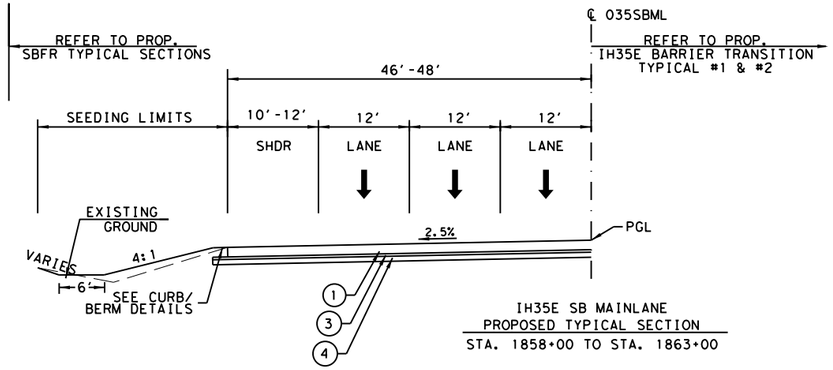
LEGEND

1. 15" CONCRETE PAVEMENT (CRCP)
2. 8" CONCRETE PAVEMENT (CRCP)
3. 4" SUPERPAVE SP-B PG64-22
4. 8" LIME TREATED EXISTING SUBGRADE (4% BY WT.)
5. 2" SUPERPAVE SP-C PG 70-22
6. 12" FL BS TY-D GR1-2 WITH PRIME COAT
7. 12" LIME TREATED EXISTING SUBGRADE (8% BY WT.)
8. TACK COAT

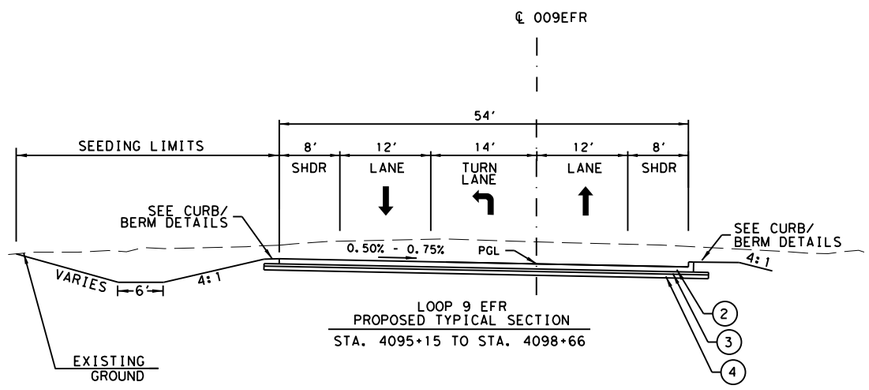
NOTE: 1) REFER TO CONTOUR AND DRAINAGE LAYOUTS FOR DITCH ELEVATIONS.
2) FOR BARRIER TRANSITIONS REFER TO SSCB (MOD) STANDARD.
3) ROW LIMITS SHOWN ON FRONTAGE ROAD TYPICAL SECTION SHEET.



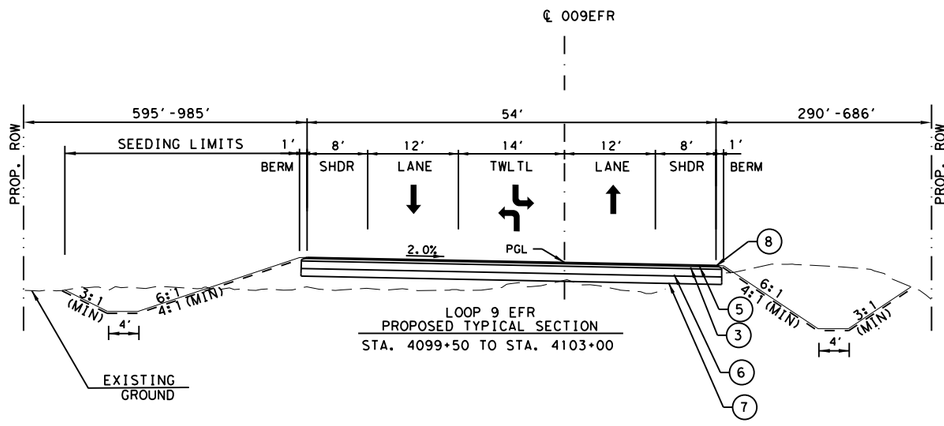
IH35E SB MAINLANE
PROPOSED TYPICAL SECTION
STA. 1857+00 TO STA. 1858+00



IH35E SB MAINLANE
PROPOSED TYPICAL SECTION
STA. 1858+00 TO STA. 1863+00



LOOP 9 EFR
PROPOSED TYPICAL SECTION
STA. 4095+15 TO STA. 4098+66



LOOP 9 EFR
PROPOSED TYPICAL SECTION
STA. 4099+50 TO STA. 4103+00

STATE OF TEXAS
M. Pauline Morrel
P.E. 94443
LICENSED PROFESSIONAL ENGINEER

M Pauline Morrel P.E.
11.10.23

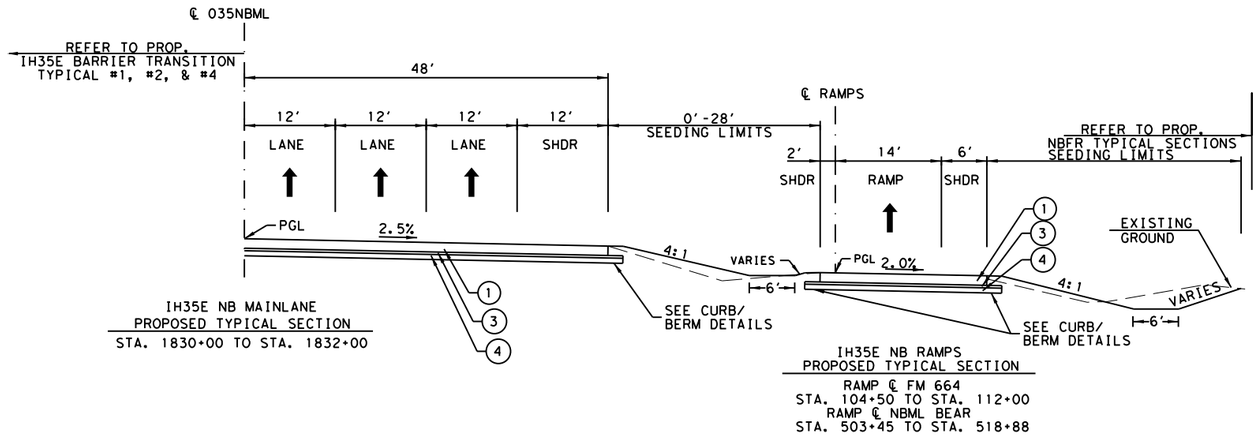
Texas Department of Transportation

IH35E
PROPOSED TYPICAL SECTIONS

N. T. S.

SHEET 3 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	716
	0442	03	042,ETC.	



IH35E NB MAINLANE
PROPOSED TYPICAL SECTION
STA. 1830+00 TO STA. 1832+00

IH35E NB RAMPS
PROPOSED TYPICAL SECTION
RAMP ℄ FM 664
STA. 104+50 TO STA. 112+00
RAMP ℄ NBML BEAR
STA. 503+45 TO STA. 518+88

LEGEND

1. 15" CONCRETE PAVEMENT (CRCP)
2. 8" CONCRETE PAVEMENT (CRCP)
3. 4" SUPERPAVE SP-B PG64-22
4. 8" LIME TREATED EXISTING SUBGRADE (4% BY WT.)
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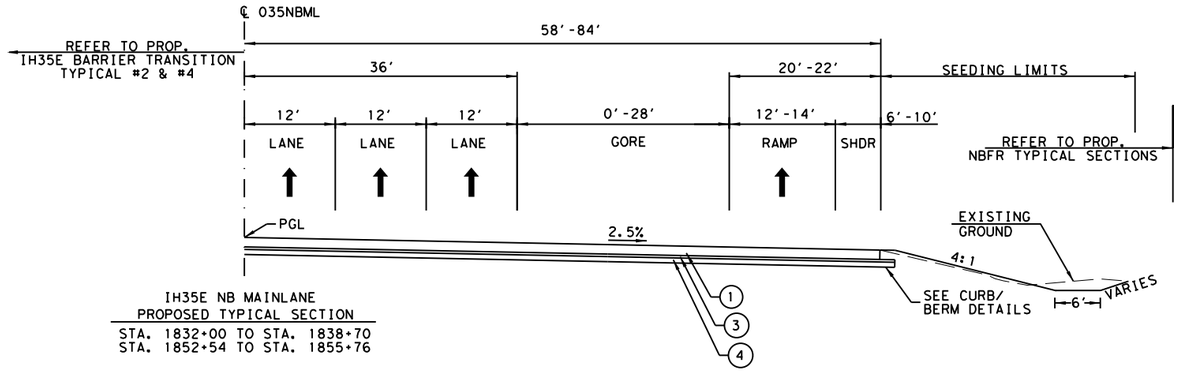
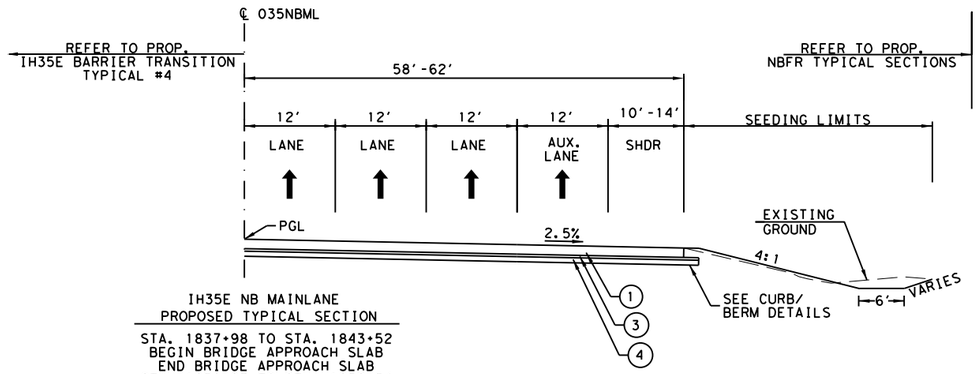
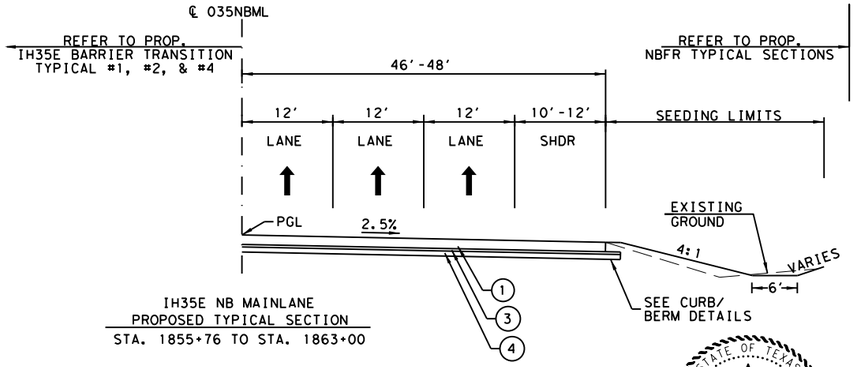
NOTE: 1) REFER TO CONTOUR AND DRAINAGE LAYOUTS FOR DITCH ELEVATIONS.
2) FOR BARRIER TRANSITIONS REFER TO SSCB (MOD) STANDARD.
3) ROW LIMITS SHOWN ON FRONTAGE ROAD TYPICAL SECTION SHEET.



IH35E NB MAINLANE
PROPOSED TYPICAL SECTION
STA. 1832+00 TO STA. 1838+70
STA. 1852+54 TO STA. 1855+76



IH35E NB MAINLANE
PROPOSED TYPICAL SECTION
STA. 1837+98 TO STA. 1843+52
BEGIN BRIDGE APPROACH SLAB
END BRIDGE APPROACH SLAB
STA. 1850+97 TO STA. 1852+54



IH35E NB MAINLANE
PROPOSED TYPICAL SECTION
STA. 1855+76 TO STA. 1863+00

STATE OF TEXAS
M. Pauline Morrel
P.E. 94443
LICENSED PROFESSIONAL ENGINEER

M Pauline Morrel P.E.
11.10.23

IH35E
PROPOSED TYPICAL SECTIONS

N. T. S.

SHEET 4 OF 4

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	717
	0442	03	042, ETC.	

SUMMARY OF REMOVAL ITEMS

LOCATION	104 6001 REMOVING CONC (PAV) SY	104 6009 REMOVING CONC (RIPRAP) SY	104 6017 REMOVING CONC (DRIVEWAYS) SY	104 6023 REMOVING CONC (CTB) LF	104 6024 REMOVING CONC (RETAINING WALLS) SY	104 6037 REMOVE CONC (RAIL) LF	105 6011 REMOVING STAB BASE AND ASPH PAV (2"-6") SY	105 6141 REMOVE STAB BASE & ASPH PAV(8"-22") SY	496 6002 REMOV STR (INLET) EA	496 6004 REMOV STR (SET) EA	496 6006 REMOV STR (HEADWALL) EA	496 6007 REMOV STR (PIPE) LF	542 6001 REMOVE METAL BEAM GUARD FENCE LF	542 6002 REMOVE TERMINAL ANCHOR SECTION EA	542 6003 REMOVE DOWNSTREAM ANCHOR TERMINAL EA	542 6004 RM MTL BM GD FENCE TRANS (THRIE-BEAM) EA	544 6003 GUARDRAIL END TREATMENT (REMOVE) EA
SHEET 1 STA. 1808+00 TO STA. 1820+00			54				71	2941		4		70					
SHEET 2 STA. 1820+00 TO STA. 1832+00	2632		197	200				9454		10		421					
SHEET 3 STA. 1832+00 TO STA. 1844+00	17859	1159	22	1200	442	722	197	24903	3	15		1091	666	2			3
SHEET 4 STA. 1844+00 TO STA. 1848+29.42	5634	386	179	430	13	22		8112	3	2	4	1064	303	1		1	2
SL9 EBFR UNDERPASS								3726									
CSJ 0442-03-044 SUBTOTAL	**26125**	**1545**	**452**	**1830**	**455**	**744**	**268**	**45410**	**6**	**31**	**4**	**2646**	**969**	**3**	**0**	**1**	**5**
SHEET 4 STA. 1848+29.42 TO STA. 1856+00	11644	643	444	770		230		16117		2		171	290		1	2	2
SHEET 5 STA. 1856+00 TO STA. 1868+00	10008	487		724		201		16756		2		122	138	1			1
SHEET 6 STA. 1868+00 TO STA. 1880+00	408							7034		2		142					
SHEET 7 STA. 1880+00 TO END								2045				60	25		1		
CSJ 0442-02-162 SUBTOTAL	**22060**	**1130**	**444**	**1494**	**0**	**431**	**0**	**39907**	**0**	**6**	**0**	**495**	**453**	**1**	**2**	**2**	**3**
VOLUME 2 TOTALS	**48185**	**2675**	**896**	**3324**	**455**	**1175**	**268**	**85317**	**6**	**37**	**4**	**3141**	**1422**	**4**	**2**	**3**	**8**

IH35E
QUANTITY SUMMARY
(REMOVAL)

SHEET 1 OF 1

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	718
	0442	03	042, ETC.	

SUMMARY OF ROADWAY ITEMS

LOCATION	110 6001 EXCAVATION (ROADWAY) CY	132 6025 EMBANKMENT (FINAL) (DENS CONT) (TY C1) CY	132 6026 EMBANKMENT (FINAL) (DENS CONT) (TY C2) CY
CSJ: 0442-03-044			
IH 35E NBFR			
4815+00.00	0	0	
4815+50.00	0	0	
4816+00.00	0	0	
4816+50.00	29	27	
4817+00.00	56	46	
4817+50.00	78	33	
4818+00.00	103	31	
4818+50.00	105	40	
4819+00.00	103	45	
4819+50.00	113	30	
4820+00.00	121	19	
4820+50.00	89	26	
4821+00.00	74	26	
4821+50.00	100	24	
4822+00.00	142	11	
4822+50.00	169	6	
4823+00.00	197	7	
4823+50.00	246	1	
4824+00.00	265	4	
4824+50.00	256	6	
4825+00.00	248	3	
4825+50.00	278	2	
4826+00.00	280	13	
4826+50.00	247	27	
4827+00.00	227	39	
4827+50.00	194	59	
4828+00.00	194	82	
4828+50.00	192	104	
4829+00.00	205	120	
4829+50.00	209	147	
4830+00.00	155	94	
4830+50.00	121	19	
4831+00.00	100	25	
4831+50.00	101	31	
4832+00.00	159	21	
4832+50.00	251	14	
4833+00.00	332	12	
4833+50.00	378	8	
4834+00.00	399	6	
4834+50.00	406	6	
4835+00.00	403	6	
4835+50.00	403	5	
4836+00.00	425	6	
4836+50.00	424	7	
4837+00.00	392	5	
4837+50.00	372	2	
4838+00.00	322	3	
4838+50.00	316	2	
4839+00.00	348	0	
4839+50.00	319	4	
4840+00.00	256	9	
4840+50.00	206	12	
4841+00.00	182	15	
4841+50.00	223	9	
4842+00.00	312	1	
4842+50.00	360	0	
4843+00.00	332	0	
4843+50.00	300	0	
4844+00.00	328	0	
4844+50.00	287	0	
4845+00.00	204	0	
4845+50.00	175	0	
4846+00.00	158	0	
4846+50.00	295	0	
4847+00.00	428	0	
4847+50.00	390	0	
4848+00.00	331	0	

SUMMARY OF ROADWAY ITEMS

LOCATION	110 6001 EXCAVATION (ROADWAY) CY	132 6025 EMBANKMENT (FINAL) (DENS CONT) (TY C1) CY	132 6026 EMBANKMENT (FINAL) (DENS CONT) (TY C2) CY
CSJ: 0442-03-044			
IH 35E SBFR			
5810+00.00	0	0	
5810+50.00	0	0	
5811+00.00	0	0	
5811+50.00	0	0	
5812+00.00	0	0	
5812+50.00	0	0	
5813+00.00	0	0	
5813+50.00	344	6	
5814+00.00	363	6	
5814+50.00	361	6	
5815+00.00	341	7	
5815+50.00	306	11	
5816+00.00	285	14	
5816+50.00	281	12	
5817+00.00	245	19	
5817+50.00	181	35	
5818+00.00	133	42	
5818+50.00	117	35	
5819+00.00	115	19	
5819+50.00	106	25	
5820+00.00	91	45	
5820+50.00	73	58	
5821+00.00	57	89	
5821+50.00	48	131	
5822+00.00	41	176	
5822+50.00	32	229	
5823+00.00	24	277	
5823+50.00	16	313	
5824+00.00	6	354	
5824+50.00	0	409	
5825+00.00	0	468	
5825+50.00	0	517	
5826+00.00	0	577	
5826+50.00	0	609	
5827+00.00	0	636	
5827+50.00	0	688	
5828+00.00	0	728	
5828+50.00	0	764	
5829+00.00	0	782	
5829+50.00	0	766	
5830+00.00	0	533	
5830+50.00	0	307	
5831+00.00	0	279	
5831+50.00	0	244	
5832+00.00	0	214	
5832+50.00	0	193	
5833+00.00	0	156	
5833+50.00	4	113	
5834+00.00	14	82	
5834+50.00	16	68	
5835+00.00	13	72	
5835+50.00	8	100	
5836+00.00	4	131	
5836+50.00	5	118	
5837+00.00	46	49	
5837+50.00	106	2	
5838+00.00	142	0	
5838+50.00	180	0	
5839+00.00	212	0	
5839+50.00	251	0	
5840+00.00	291	0	
5840+50.00	326	0	
5841+00.00	370	0	
5841+50.00	413	0	
5842+00.00	453	0	
5842+50.00	504	0	
5843+00.00	519	0	
5843+50.00	487	0	
5844+00.00	546	0	
5844+50.00	635	0	
5845+00.00	493	19	
5845+50.00	351	19	
5846+00.00	453	0	
5846+50.00	623	0	
5847+00.00	677	0	
5847+50.00	581	0	
5848+00.00	484	1	

SUMMARY OF ROADWAY ITEMS

LOCATION	110 6001 EXCAVATION (ROADWAY) CY	132 6025 EMBANKMENT (FINAL) (DENS CONT) (TY C1) CY	132 6026 EMBANKMENT (FINAL) (DENS CONT) (TY C2) CY
CSJ: 0442-03-044			
IH35E ML			
1824+50.00	0	0	
1825+00.00	0	0	
1825+50.00	0	0	
1826+00.00	0	0	
1826+50.00	0	0	
1827+00.00	0	0	
1827+50.00	0	0	
1828+00.00	0	0	
1828+50.00	0	0	
1829+00.00	0	0	
1829+50.00	0	0	
1830+00.00	0	0	
1830+50.00	396	565	
1831+00.00	368	561	
1831+50.00	334	548	
1832+00.00	313	559	
1832+50.00	297	575	
1833+00.00	284	556	
1833+50.00	261	490	
1834+00.00	229	442	
1834+50.00	190	425	
1835+00.00	138	440	
1835+50.00	88	541	
1836+00.00	41	706	
1836+50.00	8	946	
1837+00.00	0	1273	
1837+50.00	0	1704	
1838+00.00	0	2200	
1838+50.00	1	2551	
1839+00.00	1	2710	110
1839+50.00	0	3051	222
1840+00.00	0	3641	269
1840+50.00	0	4209	361
1841+00.00	0	4689	448
1841+50.00	99	5061	574
1842+00.00	190	5426	696
1842+50.00	174	5823	787
1843+00.00	154	6221	880
1843+50.00	144	6517	1037
1844+00.00	148	3302	749
1844+50.00	75	0	
1845+00.00	0	0	
1845+50.00	0	0	
1846+00.00	0	0	
1846+50.00	0	0	
1847+00.00	0	0	
1847+50.00	0	0	
1848+00.00	0	0	

STATE OF TEXAS
M. Pauline Morrel
P.E. 94443
LICENSED PROFESSIONAL ENGINEER

11.29.23
M Pauline Morrel P.E.

Texas Department of Transportation

IH35E
QUANTITY SUMMARY
(EARTHWORK)

SHEET 1 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL 0442	SECTION 03	JOB 042, ETC.	719

SUMMARY OF ROADWAY ITEMS

LOCATION	110 6001 EXCAVATION (ROADWAY) CY	132 6025 EMBANKMENT (FINAL) (DENS CONT) (TY C1) CY	132 6026 EMBANKMENT (FINAL) (DENS CONT) (TY C2) CY
CSJ:0442-02-162			
IH 35E NBFR			
4848+50.00	267	0	
4849+00.00	268	0	
4849+50.00	276	0	
4850+00.00	245	0	
4850+50.00	221	0	
4851+00.00	189	0	
4851+50.00	205	0	
4852+00.00	237	0	
4852+50.00	269	0	
4853+00.00	249	0	
4853+50.00	209	0	
4854+00.00	209	0	
4854+50.00	201	0	
4855+00.00	251	0	
4855+50.00	316	0	
4856+00.00	337	0	
4856+50.00	351	0	
4857+00.00	334	0	
4857+50.00	304	0	
4858+00.00	307	0	
4858+50.00	299	0	
4859+00.00	267	0	
4859+50.00	269	0	
4860+00.00	303	0	
4860+50.00	336	0	
4861+00.00	307	2	
4861+50.00	282	2	
4862+00.00	312	4	
4862+50.00	287	11	
4863+00.00	231	23	
4863+50.00	140	38	
4864+00.00	56	69	
4864+50.00	42	117	
4865+00.00	60	132	
4865+50.00	71	134	
4866+00.00	59	131	
4866+50.00	61	131	
4867+00.00	70	139	
4867+50.00	51	128	
4868+00.00	32	107	
4868+50.00	29	87	
4869+00.00	31	53	
4869+50.00	44	26	
4870+00.00	52	20	
4870+50.00	69	9	
4871+00.00	73	17	
4871+50.00	81	49	
4872+00.00	93	39	
4872+50.00	84	22	
4873+00.00	91	27	
4873+50.00	99	16	
4874+00.00	78	14	
4874+50.00	53	19	
4875+00.00	35	27	
4875+50.00	15	47	
4876+00.00	6	76	
4876+50.00	6	99	
4877+00.00	9	111	
4877+50.00	13	110	
4878+00.00	17	109	
4878+50.00	23	107	
4879+00.00	35	103	
4879+50.00	46	93	
4880+00.00	48	80	
4880+50.00	42	80	
4881+00.00	40	83	
4881+50.00	40	88	
4882+00.00	40	95	
4882+50.00	39	94	
4883+00.00	37	83	
4883+50.00	40	79	
4884+00.00	49	48	
4884+50.00	62	9	
4885+00.00	59	3	

SUMMARY OF ROADWAY ITEMS

LOCATION	110 6001 EXCAVATION (ROADWAY) CY	132 6025 EMBANKMENT (FINAL) (DENS CONT) (TY C1) CY	132 6026 EMBANKMENT (FINAL) (DENS CONT) (TY C2) CY
CSJ:0442-02-162			
IH35E SBFR			
5848+50.00	447	1	
5849+00.00	419	0	
5849+50.00	382	2	
5850+00.00	384	2	
5850+50.00	390	5	
5851+00.00	329	12	
5851+50.00	315	17	
5852+00.00	348	10	
5852+50.00	288	1	
5853+00.00	205	0	
5853+50.00	171	3	
5854+00.00	151	6	
5854+50.00	145	5	
5855+00.00	161	2	
5855+50.00	227	0	
5856+00.00	285	1	
5856+50.00	272	1	
5857+00.00	242	0	
5857+50.00	242	0	
5858+00.00	281	0	
5858+50.00	315	0	
5859+00.00	308	0	
5859+50.00	311	0	
5860+00.00	300	0	
5860+50.00	297	0	
5861+00.00	310	0	
5861+50.00	278	0	
5862+00.00	268	0	
5862+50.00	253	0	
5863+00.00	200	3	
5863+50.00	194	7	
5864+00.00	208	6	
5864+50.00	217	5	
5865+00.00	223	6	
5865+50.00	219	6	
5866+00.00	224	6	
5866+50.00	225	5	
5867+00.00	232	4	
5867+50.00	213	13	
5868+00.00	174	21	
5868+50.00	160	22	
5869+00.00	138	27	
5869+50.00	108	44	
5870+00.00	98	50	
5870+50.00	101	53	
5871+00.00	87	40	
5871+50.00	58	17	
5872+00.00	49	24	
5872+50.00	60	34	
5873+00.00	77	38	
5873+50.00	80	34	
5874+00.00	60	49	
5874+50.00	23	93	
5875+00.00	5	124	
5875+50.00	13	118	
5876+00.00	17	108	
5876+50.00	19	98	
5877+00.00	13	91	
5877+50.00	13	81	
5878+00.00	18	62	
5878+50.00	10	59	
5879+00.00	14	46	
5879+50.00	31	31	
5880+00.00	41	24	
5880+50.00	45	19	
5881+00.00	53	15	
5881+50.00	56	16	
5882+00.00	58	15	
5882+50.00	64	24	
5883+00.00	176	26	

SUMMARY OF ROADWAY ITEMS

LOCATION	110 6001 EXCAVATION (ROADWAY) CY	132 6025 EMBANKMENT (FINAL) (DENS CONT) (TY C1) CY	132 6026 EMBANKMENT (FINAL) (DENS CONT) (TY C2) CY
CSJ:0442-02-162			
IH 35E ML			
1848+50.00	0	0	0
1849+00.00	0	0	0
1849+50.00	0	0	0
1850+00.00	0	0	0
1850+50.00	0	0	100
1851+00.00	0	3216	594
1851+50.00	0	6222	956
1852+00.00	84	5794	934
1852+50.00	181	5433	864
1853+00.00	194	5113	753
1853+50.00	189	4754	682
1854+00.00	175	4456	614
1854+50.00	154	4167	550
1855+00.00	149	3888	490
1855+50.00	79	3476	422
1856+00.00	0	3218	394
1856+50.00	0	3138	400
1857+00.00	0	3097	
1857+50.00	0	2916	
1858+00.00	0	2423	
1858+50.00	0	1785	
1859+00.00	24	1221	
1859+50.00	79	962	
1860+00.00	130	762	
1860+50.00	169	567	
1861+00.00	204	429	
1861+50.00	244	364	
1862+00.00	290	299	
1862+50.00	328	244	
1863+00.00	249	221	

SUMMARY OF ROADWAY ITEMS BY CSJ

LOCATION	110 6001 EXCAVATION (ROADWAY) CY	132 6025 EMBANKMENT (FINAL) (DENS CONT) (TY C1) CY	132 6026 EMBANKMENT (FINAL) (DENS CONT) (TY C2) CY
0442-03-044 TOTAL	52369	78608	6134
0442-02-162 TOTAL	25676	72986	7753
VOLUME 2 TOTALS	95087	154150	5986

STATE OF TEXAS
M. Pauline Morrel
P.E. 94443
LICENSED PROFESSIONAL ENGINEER

11.29.23
M Pauline Morrel P.E.

Texas Department of Transportation

IH35E
QUANTITY SUMMARY
(EARTHWORK)

SHEET 2 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	720
	0442	03	042,ETC.	

SUMMARY OF ROADWAY ITEMS			
LOCATION	110	132	132
	6001	6025	6026
	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL) (DENS CONT) (TY C1)	EMBANKMENT (FINAL) (DENS CONT) (TY C2)
	CY	CY	CY
CSJ:0442-03-044			
SLP9 EBFR			
4094+75.00	0	0	
4095+00.00	0	0	
4095+50.00	204	0	
4096+00.00	256	0	
4096+50.00	452	0	
4097+00.00	782	0	
4097+50.00	701	0	
4098+00.00	426	0	
4098+50.00	340	2	
4099+00.00	594	13	
4099+50.00	1344	11	
4100+00.00	2063	0	
4100+50.00	2124	0	
4101+00.00	2106	0	
4101+50.00	2206	0	
4102+00.00	2294	0	
4102+50.00	2272	0	
4103+00.00	2087	0	

STATE OF TEXAS
M. Pauline Morrel
P.E. 94443
LICENSED PROFESSIONAL ENGINEER

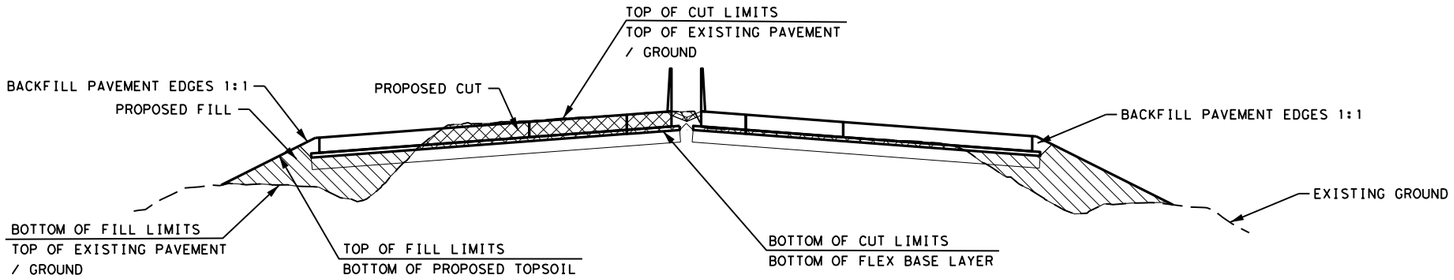
11.29.23
M Pauline Morrel P.E.

Texas Department of Transportation

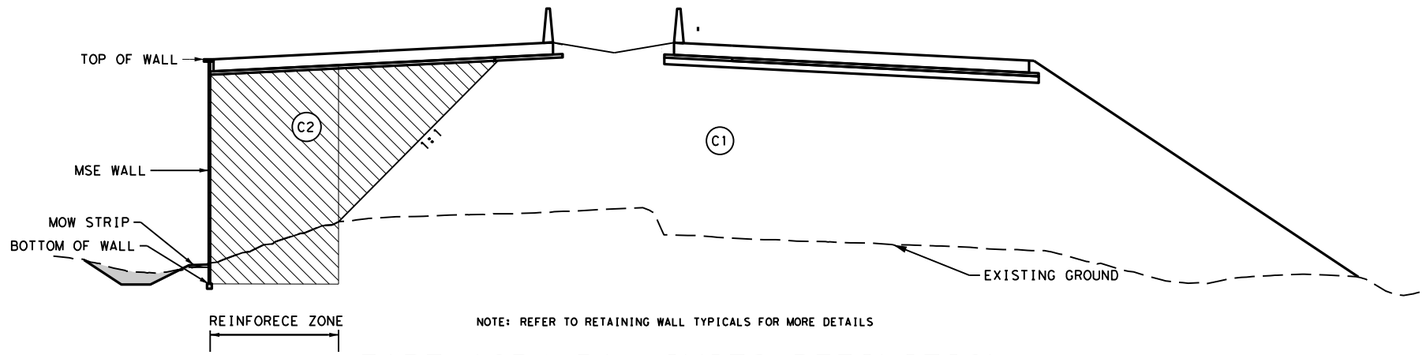
IH35E
QUANTITY SUMMARY
(EARTHWORK)

SHEET 3 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	721
	0442	03	042,ETC.	

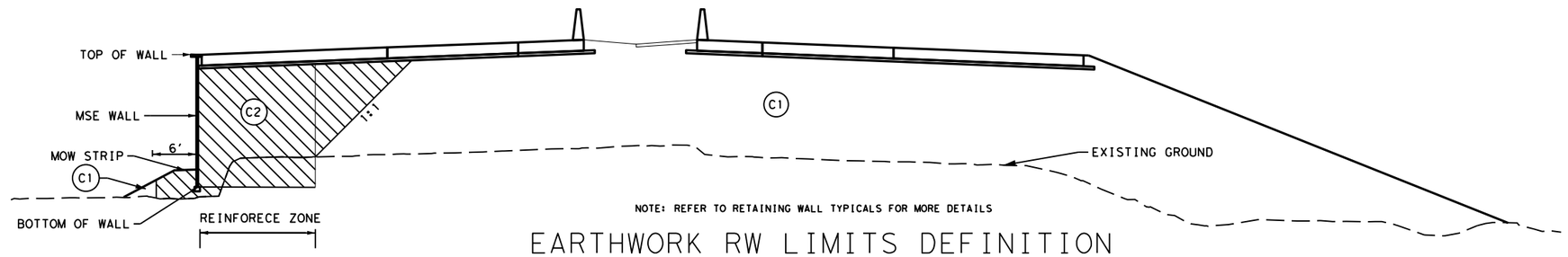


EARTHWORK ML LIMITS DEFINITION
(NTS)



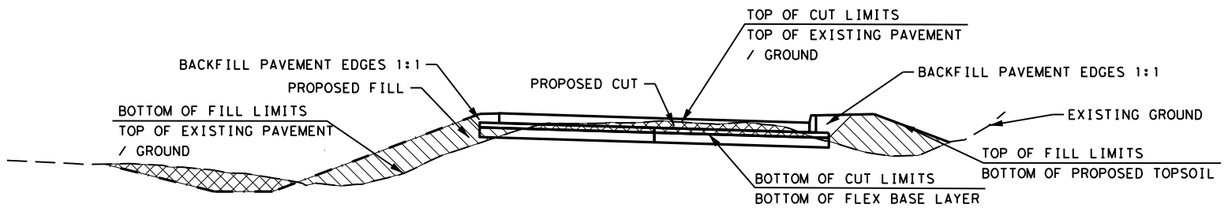
NOTE: REFER TO RETAINING WALL TYPICALS FOR MORE DETAILS

EARTHWORK RW LIMITS DEFINITION
(NTS)



NOTE: REFER TO RETAINING WALL TYPICALS FOR MORE DETAILS

EARTHWORK RW LIMITS DEFINITION
(NTS)



EARTHWORK FR LIMITS DEFINITION
(NTS)

STATE OF TEXAS
M. Pauline Morrel
P.E. 94443
LICENSED PROFESSIONAL ENGINEER

M Pauline Morrel P.E. 11.10.23

IH35E
QUANTITY SUMMARY
(EARTHWORK DETAILS)

SHEET 4 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS: ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK: MPM	CONTROL	SECTION	JOB	722
	0442	03	042,ETC.	

SUMMARY OF ROADWAY ITEMS (1 OF 2)

LOCATION	100 6002 PREPARING ROW STA	247 6312 FL BS (CMP IN PLC)(TY D GR1-2)(8") SY	247 6313 FL BS (CMP IN PLC)(TY D GR1-2)(12") SY	260 6002 LIME (HYDRATED LIME (SLURRY)) TON	260 6011 LIME TRT (EXST MATL) (12") SY	260 6027 LIME TRT (EXST MATL)(8") SY	310 6027 PRIME COAT(MC-30 OR AE-P) GAL	360 6002 CONC PVMT (CONT REINF - CRCP) (8") SY	360 6009 CONC PVMT (CONT REINF - CRCP) (15") SY	400 6005 CEM STABIL BKFL CY	422 6016 APPROACH SLAB (HPC) CY	432* 6001 RIPRAP (CONC)(4 IN) CY	432* 6045 RIPRAP (MOW STRIP)(4 IN) CY	514 6001 PERM CTB (SGL SLOPE) (TY 1) (42) LF	514 6038 PERM CTB (SSCB)(TY 1)(MOD) LF	514 6040 PERM CTB (SSCB)(TY 3)(MOD) LF
035NBML																
SHEET 1 STA. 1830+00 TO 1840+50	10.00			120		8973			8515			67		750	100	200
SHEET 2 STA. 1840+50 TO 1848+29.42	8.30			34		2536			2405	200	63	168	6	322		
035SBML																
SHEET 4 STA. 1830+00 TO 1840+50				95		7113			8304			153	4	750		200
SHEET 5 STA. 1840+50 TO 1848+28.49				0		0			2338		57	129		321		
FM664-035NBML																
SHEET 1 STA. 104+50.70 TO 112+00				29		2174			1832							
035SBML-FM664																
SHEET 4 STA. 107+31.5 TO 113+44.35				24		1771			1498							
035SBFR																
SHEET 7 STA. 5813+00 TO 5821+00				51		3820		3497								
SHEET 8 STA. 5821+00 TO 5833+00				76		5678		5144								
SHEET 9 STA. 5833+00 TO 5845+00				65		4876		4354								
SHEET 10 STA. 5845+00 TO 5848+26				17		1292		1175								
035NBFR																
SHEET 1 STA. 4816+08 TO 4827+00				66		4974		4490								
SHEET 2 STA. 4827+00 TO 4839+00				65		4903		4355								
SHEET 3 STA. 4839+00 TO 4848+44				51		3856		3427								
009EFR																
SHEET 1 STA. 4095+15 TO 4103+00	4.35		2100	126	2100	3178	420	3028								
CSJ: 0442-03-044 SUBTOTALS	**22.65**	**0**	**2100**	**819**	**2100**	**55144**	**420**	**29470**	**24892**	**200**	**120**	**517**	**10**	**2143**	**100**	**400**
035NBML																
SHEET 2 STA. 1848+29.42 TO 1852+50	3.70			17		1304			1237	201	61	136	4	173.00		
SHEET 3 STA. 1852+50 TO 1863+00	11.00			108		8070			7624			62		750.00		200.00
035SBML																
SHEET 5 STA. 1848+28.49 TO 1852+50				0		0			1202		55	82		174.00		
SHEET 6 STA. 1852+50 TO 1863+00				60		4463			8030			84	4	750.00	100.00	200.00
035NBML-BEAR																
SHEET 2 STA. 503+45 TO 513+00				37		2757			2334							
SHEET 3 STA. 513+00 TO 518+88				23		1702			1438							
035SBFR																
SHEET 10 STA. 5848+26 TO 5857+00				48		3565		3176								
SHEET 11 STA. 5857+00 TO 5869+00	6.00			65		4888		4356								
SHEET 12 STA. 5869+00 TO 5881+00	12.00			73		5494		4392								
SHEET 13 STA. 5881+00 TO 5883+00	2.00	1322		7		561		0								
035NBFR																
SHEET 3 STA. 4848+44 TO 4851+00				14		1042		928								
SHEET 4 STA. 4851+00 TO 4863+00				65		4888		4355								
SHEET 5 STA. 4863+00 TO 4875+00				77		5756		5222								
SHEET 6 STA. 4875+00 TO 4885+00	2.00	309		56		4180		3475								
CSJ: 0442-02-162 SUBTOTALS	**36.70**	**1631**	**0**	**649**	**0**	**48670**	**0**	**25904**	**21865**	**201**	**116**	**364**	**8**	**1847**	**100**	**400**
VOLUME 2 TOTALS	**59.35**	**1631**	**2100**	**1468**	**2100**	**103814**	**420**	**55374**	**46757**	**401**	**236**	**881**	**18**	**3990**	**200**	**800**

* BID ITEM IS SHOWN IN MULTIPLE SUMMARY SHEETS

IH35E
QUANTITY SUMMARY
(ROADWAY)

SHEET 1 OF 2

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	723
	0442	03	042,ETC.	

SUMMARY OF ROADWAY ITEMS (2 OF 2)

LOCATION	529 6005 CONC CURB (MONO) (TY II) LF	538 6001 RIGHT OF WAY MARKERS EA	540* 6001 MTL W-BEAM GD FEN (TIM POST) LF	540 6006 MTL BEAM GD FEN TRANS (THRIE-BEAM) EA	540* 6016 DOWNSTREAM ANCHOR TERMINAL SECTION EA	540 6046 TL-2 31" SHORT RADIUS (W/O DAT) EA	544* 6001 GUARDRAIL END TREATMENT (INSTALL) EA	560 6011 MAILBOX INSTALL-S (TWW-POST) TY 4 EA	3077 6001 SP MIXES SP-B PG64-22 TON	3077 6023 SP MIXES SP-C SAC-B PG70-22 TON	3077 6075 TACK COAT GAL
035NBML											
SHEET 1 STA. 1830+00 TO 1840+50									1882		
SHEET 2 STA. 1840+50 TO 1848+29.42			150.0	1			1		650		
035SBML											
SHEET 4 STA. 1830+00 TO 1840+50			50.0	1	1				1565		
SHEET 5 STA. 1840+50 TO 1848+28.49									0		
FM664-035NBML											
SHEET 1 STA. 104+50.70 TO 112+00									478		
035SBML-FM664											
SHEET 4 STA. 107+31.5 TO 113+44.35									390		
035SBFR											
SHEET 7 STA. 5813+00 TO 5821+00	799	3							840		
SHEET 8 STA. 5821+00 TO 5833+00	1201	3							1249		
SHEET 9 STA. 5833+00 TO 5845+00	1124	1							1073		
SHEET 10 STA. 5845+00 TO 5848+26	325	0							284		
035NBFR											
SHEET 1 STA. 4816+08 TO 4827+00	565	5						3	1094		
SHEET 2 STA. 4827+00 TO 4839+00	962	4							1079		
SHEET 3 STA. 4839+00 TO 4848+44	746	0							848		
009EFR											
SHEET 1 STA. 4095+15 TO 4103+00	408								1158	226	249
CSJ: 0442-03-044 SUBTOTALS	**6130**	**16**	**200.0**	**2**	**1**	**0**	**1**	**3**	**12591**	**226**	**249**
035NBML											
SHEET 2 STA. 1848+29.42 TO 1852+50			50.0	1	1				196		
SHEET 3 STA. 1852+50 TO 1863+00									1867		
035SBML											
SHEET 5 STA. 1848+28.49 TO 1852+50									0		
SHEET 6 STA. 1852+50 TO 1863+00			12.5	1			1		982		
035NBML-BEAR											
SHEET 2 STA. 503+45 TO 513+00									607		
SHEET 3 STA. 513+00 TO 518+88									374		
035SBFR											
SHEET 10 STA. 5848+26 TO 5857+00	874	0							784		
SHEET 11 STA. 5857+00 TO 5869+00	1201	1							1075		
SHEET 12 STA. 5869+00 TO 5881+00	898	0							1209	73	
SHEET 13 STA. 5881+00 TO 5883+00		0							123	62	
035NBFR											
SHEET 3 STA. 4848+44 TO 4851+00	276	0							229		
SHEET 4 STA. 4851+00 TO 4863+00	964	3							1075		
SHEET 5 STA. 4863+00 TO 4875+00	1202	5							1266		
SHEET 6 STA. 4875+00 TO 4885+00	898	3				1	1	1	921	34	
CSJ: 0442-02-162 SUBTOTALS	**6313**	**12**	**62.5**	**2**	**1**	**1**	**2**	**1**	**10708**	**168**	**0**
VOLUME 2 TOTALS	**12443**	**28**	**262.5**	**4**	**2**	**1**	**3**	**4**	**23299**	**394**	**249**

* BID ITEM IS SHOWN IN MULTIPLE SUMMARY SHEETS

IH35E
QUANTITY SUMMARY
(ROADWAY)

SHEET 2 OF 2

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS: ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK: MPM	CONTROL	SECTION	JOB	724
	0442	03	042, ETC.	

DRIVEWAY SUMMARY				
LOCATION			530 6004 DRIVEWAYS (CONC)	530 6017 DRIVEWAYS (CONC) (HES)
CSJ	DRIVEWAY	SHEET NO.	SY	SY
0442-03-044	35NB-1	SHEET 1 OF 6	90	
	35NB-2	SHEET 1 OF 6	71	
	35NB-3	SHEET 1 OF 6	124	
	35NB-4	SHEET 1 OF 6	122	
	35NB-5	SHEET 1 OF 6	57	
	35NB-6	SHEET 1 OF 6	73	
	35NB-7	SHEET 1 OF 6	110	
	35NB-TR	SHEET 1 OF 6	191	
	35NB-8	SHEET 1 OF 6	114	
	35NB-9	SHEET 2 OF 6		104
	35NB-10	SHEET 2 OF 6	163	
	35SB-TL	SHEET 3 OF 7	93	
	35NB-11	SHEET 2 OF 6	240	
CSJ: 0442-03-044 SUBTOTALS			**1448**	**104**
0442-02-162	35NB-12	SHEET 4 OF 6		741
	35NB-13	SHEET 4 OF 6		359
	35NB-14	SHEET 4 OF 6		140
	35NB-15	SHEET 6 OF 6	83	
	35NB-16	SHEET 6 OF 6	84	
	35SB-PV	SHEET 6 OF 7	212	
CSJ: 0442-02-162 SUBTOTALS			**379**	**1240**
VOLUME II TOTALS			**1827**	**1344**

IH35E
QUANTITY SUMMARY
(DRIVEWAYS)

SHEET 1 OF 1

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	725
	0442	03	042, ETC.	

SUMMARY OF DRAINAGE ITEMS (1 OF 2)

LOCATION	162	402	462	464	464	464	464	464	465	465	465	465	465
	6002	6001	6005	6003	6005	6007	6008	6009	6002	6005	6006	6009	6029
	BLOCK SODDING	TRENCH EXCAVATION PROTECTION	CONC BOX CULV (4 FT X 4 FT)	RC PIPE (CL III) (18 IN)	RC PIPE (CL III) (24 IN)	RC PIPE (CL III) (30 IN)	RC PIPE (CL III) (36 IN)	RC PIPE (CL III) (42 IN)	MANH (COMPL) (PRM) (48IN)	JCTBOX (COMPL) (PJB) (3FTX3 FT)	JCTBOX (COMPL) (PJB) (4FTX4 FT)	JCTBOX (COMPL) (PJB) (5FTX5 FT)	INLET (COMPL) (PCU) (3FT) (NONE)
	SY	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA
SHEET 1 OF 7 BEGIN TO STA. 5816+00	6.2	413			778								
SHEET 2 OF 7 STA. 5816+00 TO STA. 5828+00	18.6	921		107	1591	227							1
SHEET 3 OF 7 STA. 5828+00 TO STA. 5840+00	57.3	2614		273	851	1313	1124		2	2	1		
SHEET 4 OF 7 STA. 5840+00 TO STA. 5848+26	31	3748	453	28	1011	362	717	597		5	1	3	
CSJ: 0442-03-044 SUBTOTALS	**113.1**	**7696**	**453**	**408**	**4231**	**1902**	**1841**	**597**	**2**	**7**	**2**	**3**	**1**
SHEET 4 OF 7 STA. 5848+26 TO STA. 5851+75		728			540	173							
SHEET 5 OF 7 STA. 5851+75 TO STA. 5864+00	6.2	2180		110	2172					9			
SHEET 6 OF 7 STA. 5864+00 TO STA. 5876+00	12.9	2396			790	1173	503				1		
SHEET 7 OF 7 STA. 5876+00 TO END		1204				870	613						
CSJ: 0442-02-162 SUBTOTALS	**19.1**	**6508**	**0**	**110**	**3502**	**2216**	**1116**	**0**	**0**	**9**	**1**	**0**	**0**
VOLUME 2 TOTALS	**132.2**	**14204**	**453**	**518**	**7733**	**4118**	**2957**	**597**	**2**	**16**	**3**	**3**	**1**

SUMMARY OF DRAINAGE ITEMS (2 OF 2)

LOCATION	465	465	465	465	465	465	467	467	467	467	467	467
	6030	6031	6032	6133	6148	6178	6146	6362	6363	6388	6423	6454
	INLET (COMPL) (PCU) (3FT) (LEFT)	INLET (COMPL) (PCU) (3FT) (RIGHT)	INLET (COMPL) (PCU) (3FT) (BOTH)	INLET (COMPL) (PSL) (FG) (4FTX5FT-3FTX5FT)	INLET (COMPL) (PSL) (SFG) (3FTX5FT-3FTX5FT)	INLET (COMPL) (TY MSE1)	SET (TY I) (S=4 FT) (HW=4 FT) (6:1) (C)	SET (TY II) (18 IN) (RCP) (6:1) (C)	SET (TY II) (18 IN) (RCP) (6:1) (P)	SET (TY II) (24 IN) (RCP) (3:1) (C)	SET (TY II) (30 IN) (RCP) (6:1) (P)	SET (TY II) (36 IN) (RCP) (6:1) (P)
	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
SHEET 1 OF 7 BEGIN TO STA. 5816+00		3			1							
SHEET 2 OF 7 STA. 5816+00 TO STA. 5828+00		3	6		3				6			
SHEET 3 OF 7 STA. 5828+00 TO STA. 5840+00	1	3	6	3	6	1		1	6			
SHEET 4 OF 7 STA. 5840+00 TO STA. 5848+26	5	1	9		5	2	1					
CSJ: 0442-03-044 SUBTOTALS	**6**	**10**	**21**	**3**	**15**	**3**	**1**	**1**	**12**	**0**	**0**	**0**
SHEET 4 OF 7 STA. 5848+26 TO STA. 5851+75	3											
SHEET 5 OF 7 STA. 5851+75 TO STA. 5864+00	1	7			1	4		1		1		
SHEET 6 OF 7 STA. 5864+00 TO STA. 5876+00		7		2								
SHEET 7 OF 7 STA. 5876+00 TO END		5									5	1
CSJ: 0442-02-162 SUBTOTALS	**4**	**19**	**0**	**2**	**1**	**4**	**0**	**1**	**0**	**1**	**5**	**1**
VOLUME 2 TOTALS	**10**	**29**	**21**	**5**	**16**	**7**	**1**	**2**	**12**	**1**	**5**	**1**

IH35E
QUANTITY SUMMARY
(DRAINAGE)

SHEET 1 OF 1

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	726
	0442	03	042, ETC.	

C:\Users\MABOSO\Desktop\ALL\Mark Aboso computer backup for computer switch\MARK D-DRIVE\000 PROJECTS ON D- DRIVE\SL (LOOP) 9 CSJ 2964-10-005\IH 35E A5/30/2023IH 35E 17:00PM9 GUIDE

SUMMARY OF SIGNING ITEMS CSJ 0442-03-044	416 6018	* 416 6022	* 416 6023	432 6045	* 540 6001	* 540 6016	* 544 6001	636 6002	* 636 6003	* 644 6001	* * 644 6004	* 644 6012	644 6015	* 644 6030	644 6033	* 644 6036	* 644 6051	644 6064	* 650 6032	650 6045	647 6001
	DRILL SHAFT (SIGN MTS) (24 IN)	DRILL SHAFT (SIGN MTS) (48 IN)	DRILL SHAFT (SIGN MTS) (54 IN)	RIPRAP (MOW STRIP)(4 IN)	MTL W-BEAM GD FEN (TIM POST)	DOWNSTREAM ANCHOR TERMINAL SECTION	GUARDRAIL END TREATMENT (INSTALL)	ALUMINUM SIGNS (TY G)	ALUMINUM SIGNS (TY O)	IN SM RD SN SUP&AM TY10BWG(1)SA(P)	IN SM RD SN SUP&AM TY10BWG(1)SA(T)	IN SM RD SN SUP&AM TY10BWG(1)SB(T)	IN SM RD SN SUP&AM TY10BWG(1)SB(U)	IN SM RD SN SUP&AM TYS80(1) SA(T)	IN SM RD SN SUP&AM TYS80(1) SA(U)	IN SM RD SN SUP&AM TYS80(1)SA(U-BM)	IN SM RD SN SUP&AM TYS80(2)SA(P-EXAL)	IN BRIDGE MNT CLEARANCE SGN ASSM(TY N)	INS OH SN SUP(30 FT CANT)	INS OH SN SUP(40 FT CANT)	INSTALL LRSS (STRUCT STEEL)
	LF	LF	LF	CY	LF	EA	EA	SF	SF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LB
SHEET 1 OF 7	10.0		17.0					84.00	115.00	6	11									1	346
SHEET 2 OF 7	10.0	36.0		23.0	262.5	2	2	82.50	263.00	9	13	4	2	1	2	1	1	4	2		354
SHEET 3 OF 7																					
SHEET 4 OF 7																					
SHEET 5 OF 7																					
SHEET 6 OF 7																					
SHEET 7 OF7																					
VOLUME 2 TOTALS	20.0	36.0	17.0	23.0	262.5	2	2	166.5	378.00	15	24	4	2	1	2	1	1	4	2	1	700

SUMMARY OF SIGNING ITEMS CSJ 0442-02-162	416 6022	* 416 6023	* 432 6045	* 540 6001	* 540 6016	542 6001	542 6002	* 544 6001	* 544 6003	* 636 6003	* 644 6001	* 644 6004	644 6005	* 644 6012	* 644 6030	* 644 6036	644 6051	650 6032	650 6038	650 6204
	DRILL SHAFT (SIGN MTS) (48 IN)	DRILL SHAFT (SIGN MTS) (54 IN)	RIPRAP (MOW STRIP)(4 IN)	MTL W-BEAM GD FEN (TIM POST)	DOWNSTREAM ANCHOR TERMINAL SECTION	REMOVE METAL BEAM GUARD FENCE	REMOVE TERMINAL ANCHOR SECTION	GUARDRAIL END TREATMENT (INSTALL)	GUARDRAIL END TREATMENT (REMOVE)	ALUMINUM SIGNS (TY O)	IN SM RD SN SUP&AM TY10BWG(1)SA(P)	IN SM RD SN SUP&AM TY10BWG(1)SA(T)	IN SM RD SN SUP&AM TY10BWG(1)SA(T-2EXT)	IN SM RD SN SUP&AM TY10BWG(1) SB(T)	IN SM RD SN SUP&AM TYS80(1)SA (T)	IN SM RD SN SUP&AM TYS80(1)SA(U-BM)	IN SM RD SN SUP&AM TYS80(2)SA(P-EXAL)	INS OH SN SUP(30 FT CANT)	INS OH SN SUP(35 FT CANT)	REMOVE OVERHD SIGN SUP
	LF	LF	CY	LF	EA	LF	EA	EA	EA	SF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
SHEET 1 OF 7																				
SHEET 2 OF 7												2		1	1					
SHEET 3 OF 7	36.0		22.0	250.0	2			2		301.50	4	8			1		1	2		1
SHEET 4 OF 7											2									
SHEET 5 OF 7													1			1				
SHEET 6 OF 7	17.0	18.0	24.8	312.5	2	125.0	2	2	2	379.50	1	1						1	1	2
SHEET 7 OF7	18.0									260.00								1		1
VOLUME 2 TOTALS	71.0	18.0	46.8	562.5	4	125	2	4	2	941.00	7	11	1	1	2	1	1	4.0	1	4

NOTE:

* Bid item is shown on multiple summary boxes.

Texas Department of Transportation ®

SIGNING SUMMARY

SCALE: NTS

SHEET 1 OF 1

DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	
CHECK	CONTROL	SECTION	JOB	
FRC	0442	03	042, ETC	727

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE: FRP = Fiberglass, TWT = Thin-Wall, 10BWG = 10 BWG, S80 = Sch 80	POSTS: 1 or 2	ANCHOR TYPE: UA=Universal Conc, UB=Universal Bolt, SA=Slipbase-Conc, SB=Slipbase-Bolt, WS=Wedge Steel, WP=Wedge Plastic	MOUNTING DESIGNATION: PREFABRICATED (P = "Plain", T = "T", U = "U")	MOUNTING DESIGNATION: 1EXT or 2EXT = # of Ext, BM = Extruded Wind Beam, WC = 1.12 #/ft Wing Channel, EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TYPE N	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TYPE S
1	1	W12-2	XX"-X"	36" X 36"	X		10BWG	1	SA	P			
1	3	R5-1	DO NOT ENTER	48" X 48"	X		10BWG	1	SA	T			
1	4	R4-3bT	DO NOT CROSS DOUBLE WHITE LINE	36" X 36"	X		10BWG	1	SA	P			
1	6	R5-1	DO NOT ENTER	48" X 48"	X		10BWG	1	SA	T			
		R4-3bT	DO NOT CROSS DOUBLE WHITE LINE	36" X 36"	X				MOUNT BACK TO BACK				
1	7	R2-1	SPEED LIMIT XX	30" X 36"	X		10BWG	1	SA	P			
1	8	R6-1R	ONE WAY	54" X 18"	X		10BWG	1	SA	T			
1	9	W9-2TR	LANE ENDS MERGE RIGHT	36" X 36"	X		10BWG	1	SA	P			
1	10	R6-1R	ONE WAY	54" X 18"	X		10BWG	1	SA	T			
1	11	R6-1R	ONE WAY	54" X 18"	X		10BWG	1	SA	T			
1	12	R6-1R	ONE WAY	54" X 18"	X		10BWG	1	SA	T			
1	13	R6-1R	ONE WAY	54" X 18"	X		10BWG	1	SA	T			
		M3-1B	NORTH	24" X 12"	X								
1	14	M1-1T	INTERSTATE 35E	30" X 24"	X		10BWG	1	SA	P			
		M6-2BL		21" X 15"	X								

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:

1. 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.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

DATE: DATE TIME
FILE: DOCUMENT NAME

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

SHEET 1 OF 7

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042, ETC.	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC		728

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SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	 1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TYPE N	 TYPE S
1	15	R6-1R	ONE WAY	54" X 18"	X		10BWG	1	SA	T			
1	16	W4-1R		48" X 48"	X		10BWG	1	SA	T			
1	17	M3-1B	NORTH INTERSTATE 35E	24" X 12"	X		10BWG	1	SA	P			
		M1-1T		30" X 24"	X								
		M6-2BL		21" X 15"	X								
2	1	W4-1L		36" X 36"	X		10BWG	1	SA	P			
2	2	E5-1c	EXIT 410B	72" X 90"		X	S80	2	SA	P	EXAL		
		R5-1a	WRONG WAY	48" X 36"	X				MOUNT BACK TO BACK				
2	3	R5-1a	WRONG WAY	48" X 36"	X		10BWG	1	SA	T			
2	5	R2-1	SPEED LIMIT 55	30" X 36"	X		10BWG	1	SA	P			
2	6	W13-2	EXIT XX M.P.H.	48" X 60"	X		S80	1	SA	T			
2	7	M3-3B	SOUTH	24" X 12"	X		10BWG	1	SA	P			
		M1-1T	INTERSTATE 35E	30" X 24"	X								
2	8	W12-2a	XX FT X IN	84" X 24"	X		MOUNT ON PROPOSED BRIDGE STRUCTURE (TY N MOUNT)					X	

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"

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2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

DATE: DATE TIME
FILE: DOCUMENT NAME

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS SHEET 2 OF 7

FILE:	sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS		0442	03	042, ETC.	IH 35E
		DIST	COUNTY		SHEET NO.
		DAL	ELLIS, ETC		729

TB

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TYPE N	TYPE S
2	9	W12-2a	XX FT X IN	84" X 24"	X		MOUNT ON PROPOSED BRIDGE STRUCTURE (TY N MOUNT)					X	
2	10	I-2cT	IH 35E	66" X 18"	X		MOUNT ON PROPOSED BRIDGE STRUCTURE (TY N MOUNT)					X	
2	11	W1-7T		96" X 36"	X		S80	1	SA	U	BM		
		M3-3B	SOUTH	24" X 12"	X								
2	12	M1-1T	INTERSTATE 35E	30" X 24"	X		10BWG	1	SA	P			
		M6-1B		21" X 15"	X								
2	13	R5-1	DO NOT ENTER	48" X 48"	X		10BWG	1	SA	T			
2	14	R5-1	DO NOT ENTER	48" X 48"	X		10BWG	1	SA	T			
		M3-2	EAST	24" X 12"	X								
2	15	M1-6L	LOOP 9	24" X 24"	X		10BWG	1	SA	P			
		M6-1		21" X 15"	X								
		R6-1L	ONE WAY	54" X 18"	X								
2	16	R1-1	STOP	36" X 36"	X		10BWG	1	SA	T			
		W4-4P	CROSS TRAFFIC DOES NOT STOP	24" X 12"	X								
2	17	I-2aT	Red Oak CITY LIMIT	66" X 24"	X		10BWG	1 MOUNT ON BRIDGE STRUCTURE	SB	T			
2	18	I-2dT	Ellis COUNTY LINE	60" X 36"	X		10BWG	1 MOUNT ON BRIDGE STRUCTURE	SB	U			
2	19	R5-1a	WRONG WAY	48" X 36"	X		10BWG	1	SA	T			
2	20	R5-1a	WRONG WAY	48" X 36"	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"

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

DATE: DATE TIME
FILE: DOCUMENT NAME

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS SHEET 3 OF 7

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042, ETC.	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC		730

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SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE: FRP = Fiberglass, TWT = Thin-Wall, 10BWG = 10 BWG, S80 = Sch 80	POSTS: 1 or 2	ANCHOR TYPE: UA=Universal Conc, UB=Universal Bolt, SA=Slipbase-Conc, SB=Slipbase-Bolt, WS=Wedge Steel, WP=Wedge Plastic	MOUNTING DESIGNATION: PREFABRICATED (P = "Plain", T = "T", U = "U")	MOUNTING DESIGNATION: 1EXT or 2EXT = # of Ext, BM = Extruded Wind Beam, WC = 1.12 #/ft Wing Channel, EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TYPE N	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TYPE S
2	21	R3-33TR	RIGHT LANE MUST EXIT	48" X 48"	X		10BWG	1 MOUNT	SB ON BRIDGE STRUCTURE	T			
2	22	M2-1	JCT / LOOP 9	24" X 12"	X		10BWG	1	SA	P			
		M1-6L		24" X 24"	X								
2	25	W8-13aT	BRIDGE MAY ICE IN COLD WEATHER	48" X 48"	X		10BWG	1	SA	T			
2	26	D1-1	Ferris ⇨	66" X 18"	X		10BWG	1	SA	T			
2	27	R5-1a	WRONG WAY	48" X 36"	X		10BWG	1	SA	T			
2	28	R5-1a	WRONG WAY	48" X 36"	X		10BWG	1	SA	T			
2	30	M3-1B	NORTH / INTERSTATE 35E	24" X 12"	X		10BWG	1	SA	P			
		M1-1T		30" X 24"	X								
2	31	R3-33TR	RIGHT LANE MUST EXIT	48" X 48"	X		10BWG	1 MOUNT	SB ON BRIDGE STRUCTURE	T			
2	32	D3-1G	IH 35E	48" X 12"	X		MOUNT ON PROPOSED BRIDGE STRUCTURE (TY N MOUNT)					X	
2	33	R6-1L	ONE WAY	54" X 18"	X		10BWG	1	SA	T			
		R1-1	STOP	36" X 36"	X								
		W4-4P	CROSS TRAFFIC DOES NOT STOP	24" X 12"	X								
2	34	M3-2	EAST / LOOP 9	24" X 12"	X		10BWG	1	SA	P			
		M1-6L		24" X 24"	X								
		M6-1	⇨	21" X 15"	X								

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"

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2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

DATE: DATE TIME
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Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042, ETC.	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC		731

T8

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U" 1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TYPE N	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TYPE S
2	35	R5-1	DO NOT ENTER	48" X 48"	X		10BWG	1	SA	T		
2	36	R5-1	DO NOT ENTER	48" X 48"	X		10BWG	1	SA	T		
2	37	M3-1B	NORTH / INTERSTATE 35E	24" X 12"	X		S80	1	SA	U		
		M1-1T		30" X 24"	X							
		M6-1B		21" X 15"	X							
		M3-2	EAST / LOOP 9	24" X 12"	X							
		M1-6L		24" X 24"	X							
		M6-3		21" X 15"	X							
2	38	R6-1R	ONE WAY	54" X 18"	X		10BWG	1	SA	T		
		R1-1	STOP	36" X 36"	X							
		W4-4P	CROSS TRAFFIC DOES NOT STOP	24" X 12"	X							
2	39	M3-3B	SOUTH / INTERSTATE 35E	24" X 12"	X		S80	1	SA	U		
		M1-1T		30" X 24"	X							
		M5-1BL		21" X 15"	X							
		M3-1B	NORTH / INTERSTATE 35E	24" X 12"	X							
		M1-1T		24" X 24"	X							
		M6-1B		21" X 15"	X							
2	40	R2-1	SPEED LIMIT 70	48" X 60"	X		10BWG	1 MOUNT	SB ON BRIDGE STRUCTURE	T		
2	41	M3-1B	NORTH / INTERSTATE 35E	24" X 12"	X		10BWG	1	SA	P		
		M1-1T		30" X 24"	X							
2	42	I-2dT	Dallas COUNTY LINE	60" X 36"	X		10BWG	1 MOUNT	SB ON BRIDGE STRUCTURE	U		
2	43	I-2aT	Dallas CITY LIMIT	48" X 24"	X		10BWG	1 MOUNT	SB ON BRIDGE STRUCTURE	T		
2	44	W13-2	EXIT XX M.P.H.	48" X 60"	X		S80	1	SA	T		

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DATE: DATE TIME
FILE: DOCUMENT NAME

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:

1. 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.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

SHEET 5 OF 7

FILE:	sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT	May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS		0442	03	042, ETC.	IH 35E
		DIST	COUNTY		SHEET NO.
		DAL	ELLIS, ETC		732

TB

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DATE: DATE TIME
FILE: DOCUMENT NAME

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	 1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TYPE N	 TYPE S
3	1	D1-1	⇦ Ferris	66" X 18"	X		10BWG	1	SA	T			
3	2	W8-13aT	BRIDGE MAY ICE IN COLD WEATHER	48" X 48"	X		10BWG	1	SA	T			
3	3	M2-1	JCT / LOOP 9	24" X 12"	X		10BWG	1	SA	P			
		M1-6L		24" X 24"	X								
3	5	R2-1	SPEED LIMIT XX	30" X 36"	X		10BWG	1	SA	P			
3	6	R6-1R	ONE WAY	54" X 18"	X		10BWG	1	SA	T			
3	7	R6-1R	ONE WAY	54" X 18"	X		10BWG	1	SA	T			
3	9	R5-1a	WRONG WAY	48" X 36"	X		10BWG	1	SA	T			
3	10	E5-1c	EXIT 412	60" X 90"		X	S80	2	SA	P	EXAL		
		R5-1a	WRONG WAY	48" X 36"	X			MOUNT	BACK TO BACK				
3	11	R6-1R	ONE WAY	54" X 18"	X		10BWG	1	SA	T			
3	12	R2-1	SPEED LIMIT XX	48" X 60"	X		S80	1	SA	T			
3	13	W4-1L		36" X 36"	X		10BWG	1	SA	P			

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"

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NOTE:

1. 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.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS SHEET 6 OF 7

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042, ETC.	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC		733

18

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE: FRP = Fiberglass, TWT = Thin-Wall, 10BWG = 10 BWG, S80 = Sch 80	POSTS: 1 or 2	ANCHOR TYPE: UA=Universal Conc, UB=Universal Bolt, SA=Slipbase-Conc, SB=Slipbase-Bolt, WS=Wedge Steel, WP=Wedge Plastic	MOUNTING DESIGNATION: PREFABRICATED (P = "Plain", T = "T", U = "U")	MOUNTING DESIGNATION: 1EXT or 2EXT = # of Ext, BM = Extruded Wind Beam, WC = 1.12 #/ft Wing Channel, EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TYPE N	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TYPE S
3	14	R5-1	DO NOT ENTER	48" X 48"	X		10BWG	1	SA	T			
3	15	R5-1	DO NOT ENTER	48" X 48"	X		10BWG	1	SA	T			
		R4-3bT	DO NOT CROSS DOUBLE WHITE LINE	36" X 36"	X				MOUNT BACK TO BACK				
3	16	R4-3bT	DO NOT CROSS DOUBLE WHITE LINE	36" X 36"	X		10BWG	1	SA	P			
4	1	W12-2	XX'-X"	36" X 36"	X		10BWG	1	SA	P			
4	2	M4-5	TO LOOP 9	24" X 12"	X		10BWG	1	SA	P			
		M1-6L		24" X 24"	X								
		M6-3		21" X 15"	X								
5	1	D1-1	Glenn Heights ⇨	114" X 18"	X		10BWG	1	SA	T	2EXT		
5	2	D3-2	Bear Creek Rd NEXT SIGNAL	102" X 36"	X		S80	1	SA	U	BM		
6	2	W12-2	XX'-X"	48" X 48"	X		10BWG	1	SA	T			
6	4	M3-1B	NORTH	24" X 12"	X		10BWG	1	SA	P			
		M1-1T	INTERSTATE 35E	30" X 24"	X								

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.

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NOTE:

1. 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.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

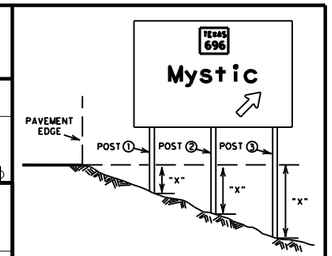
SHEET 7 OF 7

FILE:	sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS		0442	03	042, ETC.	IH 35E
		DIST	COUNTY		SHEET NO.
		DAL	ELLIS, ETC		734

DATE: DATE TIME
FILE: DOCUMENT NAME

SUMMARY OF LARGE SIGNS

PLAN SHEET NO.	SIGN NO.	SIGN BACK-GROUND COLOR	SIGN TEXT CSJ 0442-03-044	SIGN DIMENSIONS	STATE SUPPLIED SF	OVERHEAD (TYPE O) SF	GROUND MOUNT (TYPE G) SF	PLAQUES, & OTHER ATTACHMENTS		REPLACE			TYPE OF MOUNT	GALVANIZED STRUCTURAL STEEL					DRILLED SHAFT				
								DIRECT APPLY	✳ ALUMINUM (TYPE A)	ALUM TY A (TYPE A)	GROUND MOUNT (TYPE G)	OVERHEAD (TYPE O)		SIZE	post ①	post ②	post ③	TOTAL WEIGHT	NON REIN-FORCED	REINFORCED			
																			24"ϕ	36"ϕ	42"ϕ	48"ϕ	54"ϕ
1	2	GREEN	FM 664 Ovilla Rd LEFT LANE	32" x 24"				5.33					321	W6X9	15.0	16.0		346	10.0				
				10'6" X 8'0"			84.00																
1	4	GREEN	EXIT 410A Red Oak Rd ¾ MILE	10'0" X 2'6"		25.00																	17.0
				15'0" X 6'0"		90.00								INSTALL ON PROPOSED COSS # 1									
2	4	GREEN	EXIT 410B FM 664 Ovilla Rd	10'0" X 2'6"		25.00																	
				49" x 36"				12.25						INSTALL ON PROPOSED COSS # 2							16.0		
				10'0" X 11'0"		110.00																	
2	23	GREEN	Glenn Heights EXIT 412	15'0" X 5'6"			82.50						321	W6X9	15.1	11.3		354	10.0				
2	24	GREEN	EXIT 412 Bear Creek Rd ¼ MILE	8'0" X 2'6"		20.00																	
				18'0" X 6'0"		108.00								INSTALL ON PROPOSED COSS # 3							16.0		
			TOTAL - CSJ 0442-03-044			378.00	166.50											700	20.0		32.0		17.0
			SIGN TEXT CSJ 0442-02-162																				
3	4	GREEN	Ovilla Rd FM 664 ½ Red Oak Rd 1½ 77 3	32" x 24"				5.33															
				24" x 24"				4.00						INSTALL ON PROPOSED COSS # 5								18.0	
				20'0" X 9'0"		180.00																	
3	8	GREEN	EXIT 412 Bear Creek Rd	8'0" X 2'6"		20.00																	
				14'6" X 7'0"		105.50								INSTALL ON PROPOSED COSS # 4								18.0	
6	1	GREEN	EXIT 412 LOOP 9 Bear Creek Rd	8'0" X 2'6"		20.00																	
				36" x 36"				9.00						INSTALL ON PROPOSED COSS # 6									18.0
				14'6" X 11'0"		159.50																	
6	3	GREEN	EXIT 412 LOOP 9 Bear Creek Rd ¼ MILE	8'0" X 2'6"		20.00																	
				36" x 36"				9.00						INSTALL ON PROPOSED COSS # 7								17.0	
				18'0" X 10'0"		180.00																	
			PAGE TOTALS FOR CSJ 0442-02-162			681.00								PAGE TOTALS								53.0	18.0



◒ The "X" dimension is the elevation difference at the post between the ground and the edge of pavement or top of curb.

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.

The post lengths listed here are approximations, The corrected post lengths will be furnished by the Contractor after the stud posts are placed.

Tower heights shall be verified with the Engineer before fabrication.

✳ This column is for aluminum Type A and not direct apply. Direct apply is subsidiary to the sign.

SIGN TYPE

SIGN TYPE 1 3 0
- 1 — Wind Design Zone
- 3 — Series No.
- 0 — 0 Aluminum/Fiberglass, 1 Aluminum, 2 Fiberglass
- 0 — No. of Posts

See sheet SMD(8W1)

SUMMARY OF LARGE SIGNS

SOLS

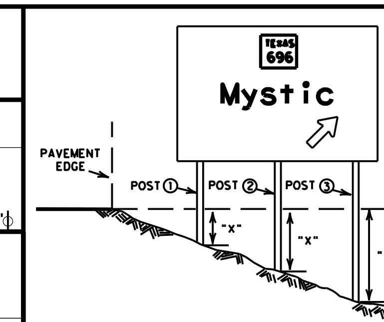
SHEET 1 of 2

DN.: TxDOT	REVISIONS		
CK.: TxDOT	11-93	1-04	
DW.: TxDOT	8-95	9-08	
CK.: TxDOT	5-01		

CONT	SECT	JOB	HIGHWAY
0442	03	042,ETC	IH 35E
DIST	COUNTY		SHEET NO.
DALLAS	ELLIS,ETC		735

SUMMARY OF LARGE SIGNS

PLAN SHEET NO.	SIGN NO.	SIGN BACK-GROUND COLOR	SIGN TEXT	SIGN DIMENSIONS	STATE SUPPLIED SF	OVERHEAD (TYPE O) SF	GROUND MOUNT (TYPE G) SF	PLAQUES, & OTHER ATTACHMENTS: DIRECT APPLY	PLAQUES, & OTHER ATTACHMENTS: * ALUMINUM (TYPE A)	REPLACE: ALUM TY A (TYPE A)	REPLACE: GROUND MOUNT (TYPE G)	REPLACE: OVERHEAD (TYPE O)	TYPE OF MOUNT	GALVANIZED STRUCTURAL STEEL: SIZE	post (1)	post (2)	post (3)	TOTAL WEIGHT	DRILLED SHAFT: NON REIN-FORCED 24"φ	REINFORCED 36"φ	REINFORCED 42"φ	REINFORCED 48"φ	REINFORCED 54"φ
			LOOP 9 ½ Bear Creek Rd	24" x 24"				4.00						INSTALL ON PROPOSED COSS # 8								18.0	
			Ovilla Rd FM 664 2 ¼	32" x 24"				5.33															
7	1	GREEN	Red Oak Rd 3 ¼	20'0" X 13'0"		260.00																	
				SHEET TOTALS		260.00								PAGE TOTALS								18.0	
				TOTAL- CSJ 0442-02-162		941.00																71.0	18.0



⊖ The "X" dimension is the elevation difference at the post between the ground and the edge of pavement or top of curb.

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.

The post lengths listed here are approximations, The corrected post lengths will be furnished by the Contractor after the stud posts are placed.

Tower heights shall be verified with the Engineer before fabrication.

* This column is for aluminum Type A and not direct apply. Direct apply is subsidiary to the sign.

SIGN TYPE

SIGN TYPE 1 3 0
- 1 — Wind Design Zone
- 3 — No. of Posts
- 0 — Series No.: 0 Aluminum/Fiberglass, 1 Aluminum, 2 Fiberglass

See sheet SMD(8W1)

DATE: 3/31/2023 3:58:15 PM
FILE: C:\Users\MABOSO\Desktop\ALL\Mark Aboso computer backup for computer switch\MARK D-DRIVE\000 PROJECTS ON D- DRIVE\SL (LOOP) 9 CSJ 2964-10-005\IH 35E AT LOOP 9\IH 35E AT LOOP

SUMMARY OF LARGE SIGNS

SHEET 2 of 2 SOLS

DN.:-TxDOT CK.:-TxDOT DW.:-TxDOT CK.:-TxDOT
REVISIONS: 11-93, 8-95, 5-01, 1-04, 9-08

CONT	SECT	JOB	HIGHWAY
0442	03	042,ETC	IH 35E

DIST	COUNTY	SHEET NO.
DALLAS	ELLIS,ETC	736

SUMMARY OF PAVEMENT MARKING ITEMS (1 OF 2)

LOCATION	658 6010 INSTL DEL ASSM (D-SW)SZ 2(WC)GND EA	658 6015 INSTL DEL ASSM (D-SW)SZ (BRF)GF1 EA	658 6026 INSTL DEL ASSM (D-SY)SZ (BRF)CTB EA	666 6036 REFL PAV MRK TY I (W)8"(SLD)(100MIL) LF	666 6039 REFL PAV MRK TY I (W)12"(LNDP)(100MIL) LF	666 6042 REFL PAV MRK TY I (W)12"(SLD)(100MIL) LF	666 6048 REFL PAV MRK TY I (W)24"(SLD)(100MIL) LF	666 6054 REFL PAV MRK TY I (W)(ARROW)(100MIL) EA	666 6078 REFL PAV MRK TY I (W)(WORD)(100MIL) EA	666 6171 REFL PAV MRK TY II (W) 6" (BRK) LF	666 6174 REFL PAV MRK TY II (W) 6" (SLD) LF	666 6178 REFL PAV MRK TY II (W) 8" (SLD) LF	666 6179 REFL PAV MRK TY II (W) 12" (LNDP) LF	666 6180 REFL PAV MRK TY II (W) 12" (SLD) LF	666 6182 REFL PAV MRK TY II (W) 24" (SLD) LF	666 6184 REFL PAV MRK TY II (W) (ARROW) EA	666 6192 REFL PAV MRK TY II (W) (WORD) EA	666 6210 REFL PAV MRK TY II (Y) 6" (SLD) LF
MAINLANES																		
SHEET 1 OF 3 STA. 1819+00 TO 1839+00.00	11	3	40	1893		377				2000	3998	1893	0	377		0	0	4000
SHEET 2 OF 3 STA. 1839+00.00 TO 1848+29.42	0	3	18	0	411	223	0	2	2	928	1860	0	411	223		2	2	1860
SOUTHBOUND FRONTAGE ROAD																		
SHEET 1 OF 4 STA. 5813+00 TO 5834+00	6			1346		300				130	2713	1346		300		0	0	2713
*SHEET 2 OF 4 STA. 5834+00 TO 5848+26				128			12	1	1	317	1351	128			12	0	0	1248
NORTHBOUND FRONTAGE ROAD																		
SHEET 1 OF 3 STA. 4816+08 TO 4839+00	8			402						580	2248	402				0	0	3046
*SHEET 2 OF 3 STA. 4839+00 TO 4848+44				181			52	1	1	236	775	181			52	0	0	1304
CSJ: 0442-03-044 SUBTOTALS	**25**	**6**	**58**	**3950**	**411**	**900**	**64**	**4**	**4**	**4191**	**12945**	**3950**	**411**	**900**	**64**	**2**	**2**	**14171**
MAINLANES																		
SHEET 2 OF 3 STA. 1848+29.42 TO 1863+00	3	6	30	690	75	300	0	0	0	1612	2939	690	75	300		0	0	2940
SHEET 3 OF 3 STA. 1863+00 TO 1874+42	0	0	22	0	0	0	0	0	0	1160	2284	0	0	0		0	0	2284
SOUTHBOUND FRONTAGE ROAD																		
SHEET 2 OF 4 STA. 5848+26 TO 5858+00										243	974	0				0	0	974
SHEET 3 OF 4 STA. 5858+00 TO 5882+00				300						600	2287	300				0	0	2400
SHEET 4 OF 4 STA. 5882+00 TO 5883+00										30	100	0				0	0	100
NORTHBOUND FRONTAGE ROAD																		
SHEET 2 OF 3 STA. 4848+44 TO 4863+00	7									344	1994	0				0	0	2168
SHEET 3 OF 3 STA. 4863+00 TO 4885+00	9			1381		300				100	3030	1381		300		0	0	3024
CSJ: 0442-02-162 SUBTOTALS	**19**	**6**	**52**	**2371**	**75**	**600**	**0**	**0**	**0**	**4089**	**13608**	**2371**	**75**	**600**	**0**	**0**	**0**	**13890**
PROJECT TOTALS	**44**	**12**	**110**	**6321**	**486**	**1500**	**64**	**4**	**4**	**8280**	**26553**	**6321**	**486**	**1500**	**64**	**2**	**2**	**28061**

SUMMARY OF PAVEMENT MARKING ITEMS (2 OF 2)

LOCATION	666 6306 RE PM W/RET REQ TY I (W)6"(BRK)(100MIL) LF	666 6309 RE PM W/RET REQ TY I (W)6"(SLD)(100MIL) LF	666 6318 RE PM W/RET REQ TY I (Y)6"(BRK)(100MIL) LF	666 6321 RE PM W/RET REQ TY I (Y)6"(SLD)(100MIL) LF	666 6343 REF PROF PAV MRK TY I(W)6"(SLD)(100MIL) LF	666 6347 REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL) LF	672 6007 REFL PAV MRKR TY I-C EA	672 6009 REFL PAV MRKR TY II-A-A EA	672 6010 REFL PAV MRKR TY II-C-R EA	678 6002 PAV SURF PREP FOR MRK (6") LF	678 6004 PAV SURF PREP FOR MRK (8") LF	678 6006 PAV SURF PREP FOR MRK (12") LF	678 6008 PAV SURF PREP FOR MRK (24") LF	678 6009 PAV SURF PREP FOR MRK (ARROW) EA	678 6016 PAV SURF PREP FOR MRK (WORD) EA
MAINLANES															
SHEET 1 OF 3 STA. 1819+00 TO 1839+00.00	2000				3998	4000			214	9998	1893	377		0	0
SHEET 2 OF 3 STA. 1839+00.00 TO 1848+29.42	928	0		0	1860	1860			127	4648	0	634		2	2
SOUTHBOUND FRONTAGE ROAD															
SHEET 1 OF 4 STA. 5813+00 TO 5834+00	130	2100		2100	613	613	12		77	5556	1346	300			
*SHEET 2 OF 4 STA. 5834+00 TO 5848+26	317	1673		1506			7	14	16	3496	128		12	1	1
NORTHBOUND FRONTAGE ROAD															
SHEET 1 OF 3 STA. 4816+08 TO 4839+00	580	1498		2296	750	750			50	5874	402				
*SHEET 2 OF 3 STA. 4839+00 TO 4848+44	236	2182	60	2565			31	84	12	3041	181		52	1	1
CSJ: 0442-03-044 SUBTOTALS	**4191**	**7453**	**60**	**8467**	**7221**	**7223**	**50**	**98**	**496**	**32613**	**3950**	**1311**	**64**	**4**	**4**
MAINLANES															
SHEET 2 OF 3 STA. 1848+29.42 TO 1863+00	1612	0		0	2939	2940			143	7491	690	375		0	0
SHEET 3 OF 3 STA. 1863+00 TO 1874+42	1160	0		0	2284	2284			58	5728	0	0		0	0
SOUTHBOUND FRONTAGE ROAD															
SHEET 2 OF 4 STA. 5848+26 TO 5858+00	243	974		974					13	2191					
SHEET 3 OF 4 STA. 5858+00 TO 5882+00	600	2287		2400			15		30	5287	300				
SHEET 4 OF 4 STA. 5882+00 TO 5883+00	30	100		100					2	230					
NORTHBOUND FRONTAGE ROAD															
SHEET 2 OF 3 STA. 4848+44 TO 4863+00	344	1281		1456	713	712			18	4506					
SHEET 3 OF 3 STA. 4863+00 TO 4885+00	100	2200		2193	830	831			90	6154	1381	300			
CSJ: 0442-02-162 SUBTOTALS	**4089**	**6842**	**0**	**7123**	**6766**	**6767**	**15**	**0**	**354**	**31587**	**2371**	**675**	**0**	**0**	**0**
PROJECT TOTALS	**8280**	**14295**	**60**	**15590**	**13987**	**13990**	**65**	**98**	**850**	**64200**	**6321**	**1986**	**64**	**4**	**4**

NOTE: TYPE II PAVEMENT MARKINGS ARE BEING USED AS A SEALER FOR TYPE I PAVEMENT MARKINGS.

Texas Department of Transportation

IH35E
QUANTITY SUMMARY
(PAVEMENT MARKINGS)

SHEET OF 1

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	737
	0442	03	042,ETC.	

LOCATION			506 6002 ROCK FILTER DAMS (INSTALL) (TY 2)	506 6011 ROCK FILTER DAMS (REMOVE)	506 6020 CONSTRUCTION EXITS (INSTALL) (TY 1)	506 6024 CONSTRUCTION EXITS (REMOVE)	506 6038 TEMP SEDMT CONT FENCE (INSTALL)	506 6039 TEMP SEDMT CONT FENCE (REMOVE)	506 6042 BIODEG EROSN CONT LOGS (INSTL) (18")	506 6043 BIODEG EROSN CONT LOGS (REMOVE)	506 6047 TEMP SDMT CONT FENCE (INLET PROTECTION)
PHASE	SHEET	STATION RANGE	LF	LF	SY	SY	LF	LF	LF	LF	LF
1	1	BEGIN TO 1816+26	20	0			326	0	0	0	40
1	2	1816+26 TO 1829+26	45	20	112		1717	240	75	50	240
1	3	1829+26 TO 1842+26	42	0	112	112	2045	1624	200	25	320
1	4	1842+26 TO 1848+29.42	247	142			616	180	175	0	180
CSJ: 0442-03-044 SUBTOTALS			354	162	224	112	4704	2044	450	75	780
PHASE 1 CSJ 0442-03-044 TOTAL PLUS 10%			390	179	247	124	5175	2249	495	83	858
1	4	1848+29.42 TO 1855+26	62	62			993	80	0	0	100
1	5	1855+26 TO 1868+26	77	0	112	112	2600	160	0	0	160
1	6	1868+26 TO 1882+26	115	81			2309	726	25	0	200
1	7	1882+26 TO END	156	0			171	20	100	0	20
1	8	4100+13 TO EOC	39	39			820	820	0	0	0
CSJ: 0442-02-162 SUBTOTALS			449	182	112	112	6893	1806	125	0	480
PHASE 1 TOTAL CSJ 0442-02-162 PLUS 10%			494	201	124	124	7583	1987	138	0	528
PHASE 1 TOTAL			884	380	371	248	12758	4236	633	83	1386
2	1	BEGIN TO 1816+26		20				366			
2	2	1816+26 TO 1829+26	81	106		112		1591			
2	3	1829+26 TO 1842+26							25	25	
2	4	1842+26 TO 1848+29.42						0		125	
CSJ: 0442-03-044 SUBTOTALS			81	126	0	112	0	1957	25	150	0
PHASE 2 CSJ 0442-03-044 TOTAL PLUS 10%			90	139	0	124	0	2153	28	165	0
2	4	1848+29.42 TO 1855+26						20			
2	5	1855+26 TO 1868+26	75	75				1297	25	25	
2	6	1868+26 TO 1882+26	79	79				934			
2	7	1882+26 TO END		80				171		25	
2	8	4100+13 TO EOC									
CSJ: 0442-02-162 SUBTOTALS			154	234	0	0	0	2422	25	50	0
PHASE 2 TOTAL CSJ 0442-02-162 PLUS 10%			170	258	0	0	0	2665	28	55	0
PHASE 2 TOTAL			260	397	0	124	0	4818	56	220	0
3	1	BEGIN TO 1816+26									
3	2	1816+26 TO 1829+26									
3	3	1829+26 TO 1842+26	40	40						25	
3	4	1842+26 TO 1848+29.42						616			
CSJ: 0442-03-044 SUBTOTALS			40	40	0	0	0	616	0	25	0
PHASE 3 CSJ 0442-03-044 TOTAL PLUS 10%			44	44	0	0	0	678	0	28	0
3	4	1848+29.42 TO 1855+26						693			
3	5	1855+26 TO 1868+26	70	70							
3	6	1868+26 TO 1882+26							25		
3	7	1882+26 TO END		76						75	
3	8	4100+13 TO EOC									
CSJ: 0442-02-162 SUBTOTALS			70	146	0	0	0	693	25	75	0
PHASE 3 TOTAL CSJ 0442-02-162 PLUS 10%			77	161	0	0	0	763	28	83	0
PHASE 3 TOTAL			121	205	0	0	0	1441	28	111	0
4	1	BEGIN TO 1816+26									
4	2	1816+26 TO 1829+26						146	25	50	20
4	3	1829+26 TO 1842+26		42				1001	50	200	260
4	4	1842+26 TO 1848+29.42		105				120	100	150	120
CSJ: 0442-03-044 SUBTOTALS			0	147	0	0	0	1267	175	400	400
PHASE 4 CSJ 0442-03-044 TOTAL PLUS 10%			0	162	0	0	0	1394	193	440	440
4	4	1848+29.42 TO 1855+26						360			60
4	5	1855+26 TO 1868+26		77				1403			100
4	6	1868+26 TO 1882+26		34				929		50	80
4	7	1882+26 TO END									
4	8	4100+13 TO EOC									
CSJ: 0442-02-162 SUBTOTALS			0	111	0	0	0	2692	0	50	240
PHASE 4 TOTAL CSJ 0442-02-162 PLUS 10%			0	123	0	0	0	2962	0	55	264
PHASE 4 TOTAL			0	285	0	0	0	4356	193	495	704
PROJECT CSJ 0442-03-044 TOTAL			524	524	248	248	5175	6474	716	716	1298
PROJECT CSJ 0442-02-162 TOTAL			743	743	124	124	7583	8377	194	194	792
VOLUME 2 TOTAL			1267	1267	372	372	12758	14851	910	910	2090

IH35E
QUANTITY SUMMARY
(EROSION)

SHEET 1 OF 2

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	738
	0442	03	042,ETC.	

LOCATION	161 6017 COMPOST MANUF TOPSOIL (4") SY	162 6002 BLOCK SODDING SY	164 6051 DRILL SEED (TEMP)(WARM OR COOL) SY	*166 6002 FERTILIZER TON	168 6001 VEGETATIVE WATERING MG
CSJ: 0442-03-044					
SHEET 1 OF 8 BEGIN TO STA. 1816+26	6428	6428	6428	0.33	1912
SHEET 2 OF 8 STA. 1816+26TO STA. 1829+26	25056	25056	25056	1.29	7455
SHEET 3 OF 8 STA. 1829+26 TO STA. 1842+26	36555	36555	36555	1.89	10876
SHEET 4 OF 8 STA. 1842+26 TO STA. 1848+29.42	13238	13238	13238	0.68	3938
CSJ: 0442-03-044 SUBTOTAL	81276	81276	81276	4	24181
CSJ: 0442-02-162					
SHEET 4 OF 8 STA. 1848+29.42 TO STA. 1855+26	18014	18014	18014	0.93	5359
SHEET 5 OF 8 STA. 1855+26 TO STA. 1868+26	38310	38310	38310	1.98	11398
SHEET 6 OF 8 STA. 1868+26 TO STA. 1881+26	20943	20943	20943	1.08	6231
SHEET 7 OF 8 STA. 1881+26.00 TO EOP	6521	6521	6521	0.34	1940
SHEET 8 OF 8 STA. 4100+13.00 TO EOC	4866	4866	4866	0.25	1448
CSJ: 0442-02-162 SUBTOTAL	88654	88654	88654	5	26376

* For contractors information only. Fertilizer will not be paid for directly but will be subsidiary to item 164.

IH35E
QUANTITY SUMMARY
(EROSION)

SHEET 2 OF 2

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	739
	0442	03	042,ETC.	

REMOVALS LEGEND

- REMOVE ASPHALT (PAVEMENT)
- REMOVE CONCRETE (PAVEMENT)
- REMOVE ASPHALT (DRIVEWAY)
- REMOVE CONCRETE (DRIVEWAY)
- REMOVE CONCRETE (RIPRAP)

AABDALLA

EXIST ROW

PROPOSED ROW

℄ 035SBFR

5810+00

5815+00

BEGIN REMOVE ASPHALT
PAV STA 5813+00.00 •
STA 3812+99.82

REMOVE ASPHALT
PAV 1880 SY

℄ 035SBML

1810+00
1810+00
1810+00

1815+00
1815+00
1815+00

℄ 035ML

℄ 035NBML

MATCH LINE ℄ 035ML STA. 1820+00.00

BEGIN REMOVE ASPHALT
PAV STA 4816+08.00 •
STA 2816+07.76

4815+00

REMOVE ASPHALT
PAV 1061 SY

℄ 035NBFR

EXIST ROW

REMOVE SET
EA

REMOVE STR PIPE
20 FT

REMOVE ASPHALT
DRIVEWAY 36 SY

REMOVE SET
EA

REMOVE STR PIPE
25 FT

REMOVE ASPHALT
DRIVEWAY 35 SY

PROPOSED ROW

REMOVE SET
EA

REMOVE STR PIPE
25 FT

REMOVE CONCRETE
DRIVEWAY 54 SY

REMOVE SET
EA

STATE OF TEXAS
Mona Lotfi
139489
LICENSED PROFESSIONAL ENGINEER

Mona Lotfi P.E. 11.29.23

IH35E
REMOVAL LAYOUT

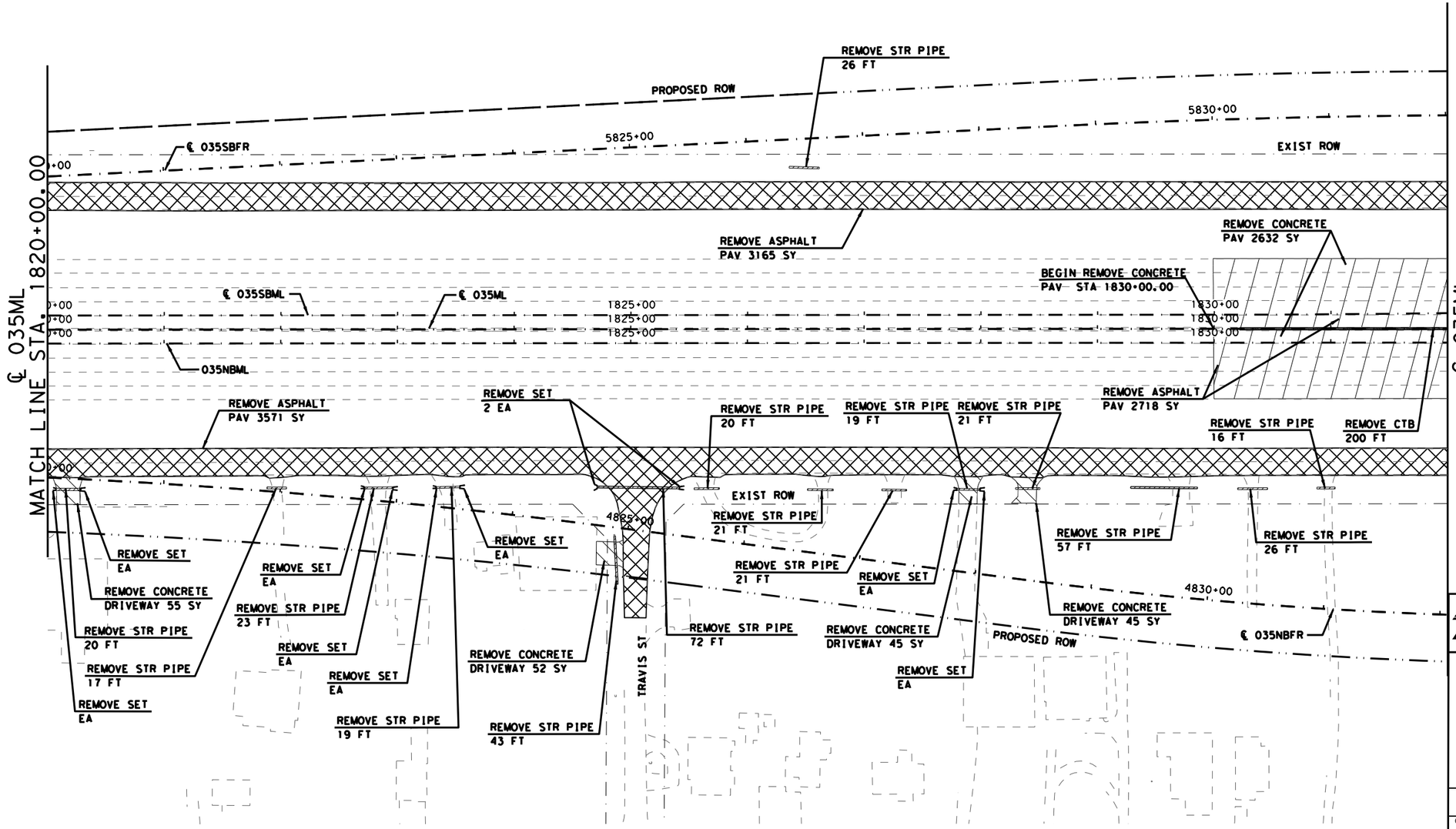
SCALE: 1"=100'

SHEET 1 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042, ETC.	740
CHECK				
MPM				

REMOVALS LEGEND

- REMOVE ASPHALT (PAVEMENT)
- REMOVE CONCRETE (PAVEMENT)
- REMOVE ASPHALT (DRIVEWAY)
- REMOVE CONCRETE (DRIVEWAY)
- REMOVE CONCRETE (RIPRAP)



IH35E
REMOVAL LAYOUT

SCALE: 1"=100'

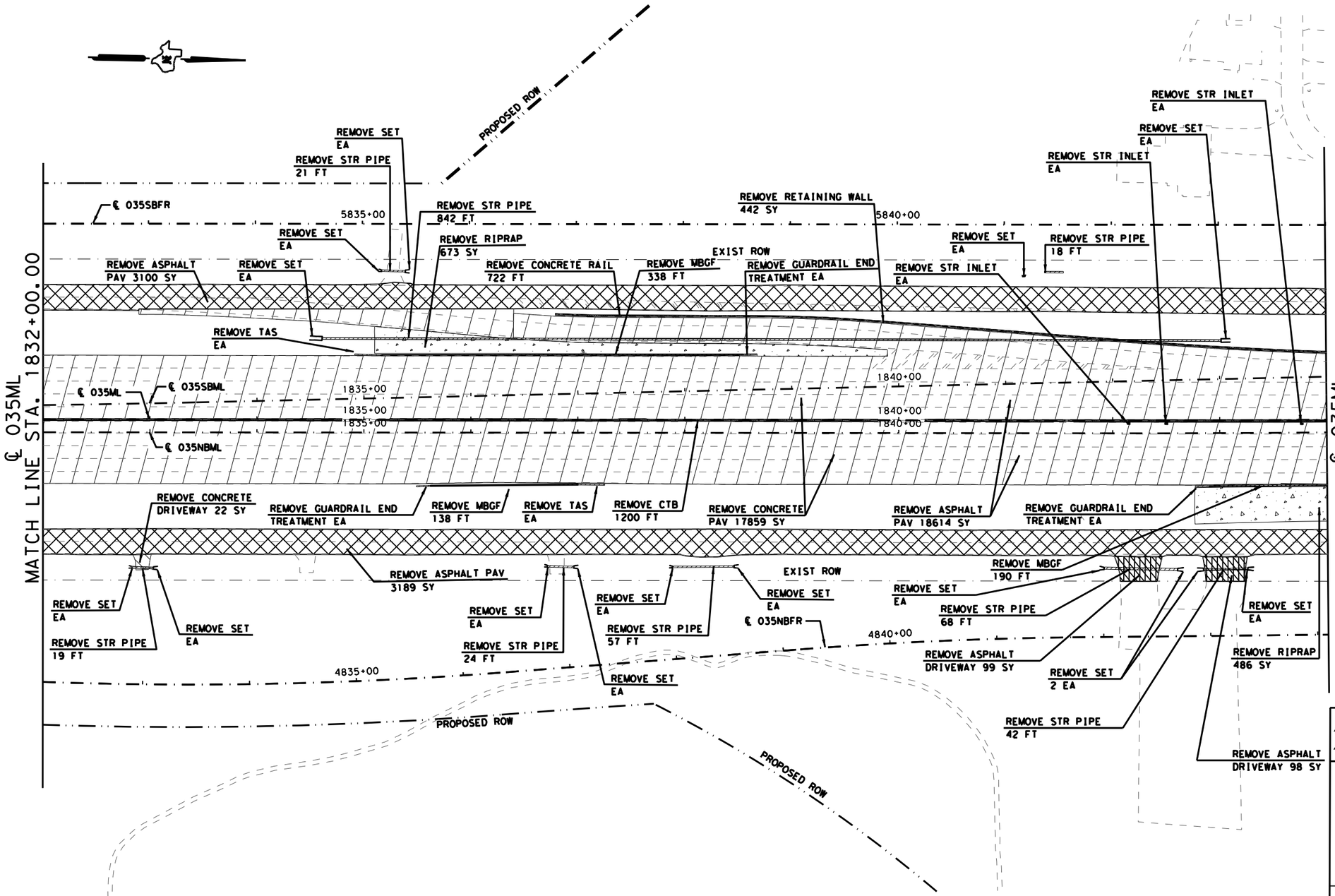
SHEET 2 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042, ETC.	741
CHECK				
MPM				

REMOVALS LEGEND

- REMOVE ASPHALT (PAVEMENT)
- REMOVE CONCRETE (PAVEMENT)
- REMOVE ASPHALT (DRIVEWAY)
- REMOVE CONCRETE (DRIVEWAY)
- REMOVE CONCRETE (RIPRAP)

AABDALLA



STATE OF TEXAS
Mona Lotfi
139489
LICENSED PROFESSIONAL ENGINEER

Mona Lotfi P.E. 11.29.23

IH35E
REMOVAL LAYOUT

SCALE: 1"=100'

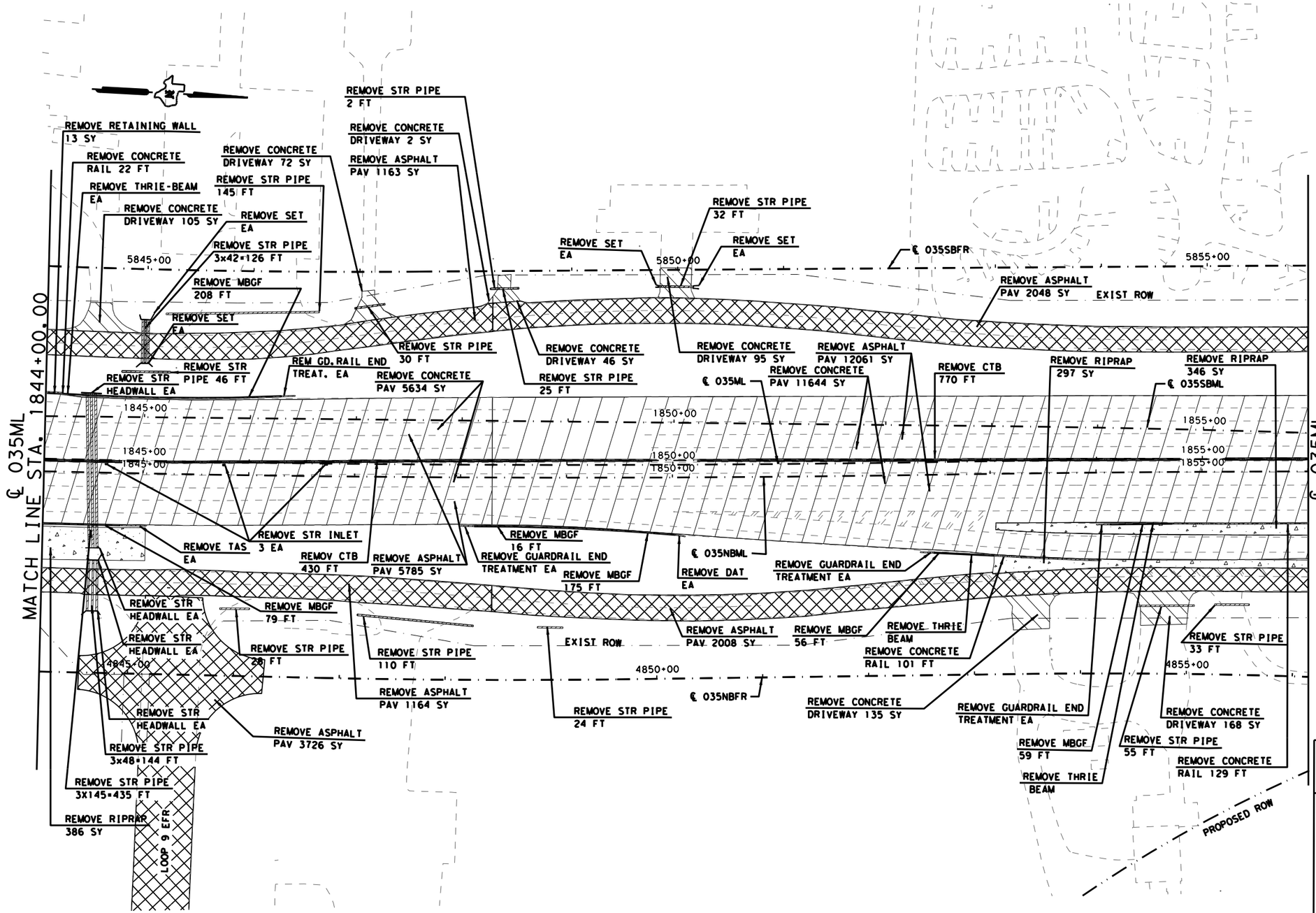
SHEET 3 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042, ETC.	742
CHECK				
MPM				

REMOVALS LEGEND

- REMOVE ASPHALT (PAVEMENT)
- REMOVE CONCRETE (PAVEMENT)
- REMOVE ASPHALT (DRIVEWAY)
- REMOVE CONCRETE (DRIVEWAY)
- REMOVE CONCRETE (RIPRAP)

AABDALLA



STATE OF TEXAS
Mona Lotfi
139489
LICENSED PROFESSIONAL ENGINEER

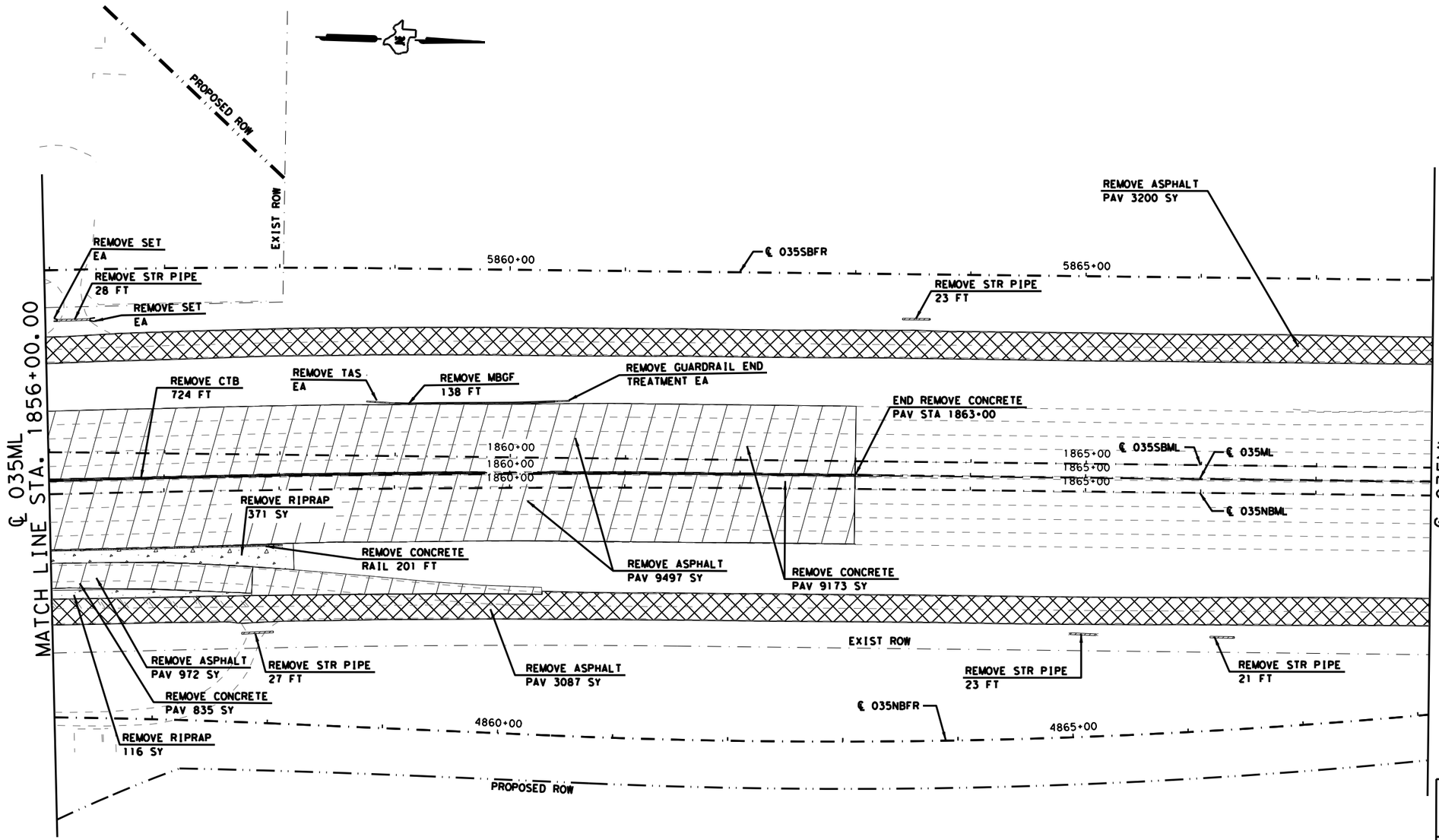
Mona Lotfi P.E. 11.29.23

Texas Department of Transportation

IH35E
REMOVAL LAYOUT

SCALE: 1"=100' SHEET 4 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042, ETC.	743
CHECK				
MPM				



REMOVALS LEGEND

- REMOVE ASPHALT (PAVEMENT)
- REMOVE CONCRETE (PAVEMENT)
- REMOVE ASPHALT (DRIVEWAY)
- REMOVE CONCRETE (DRIVEWAY)
- REMOVE CONCRETE (RIPRAP)

AABDALLA

STATE OF TEXAS
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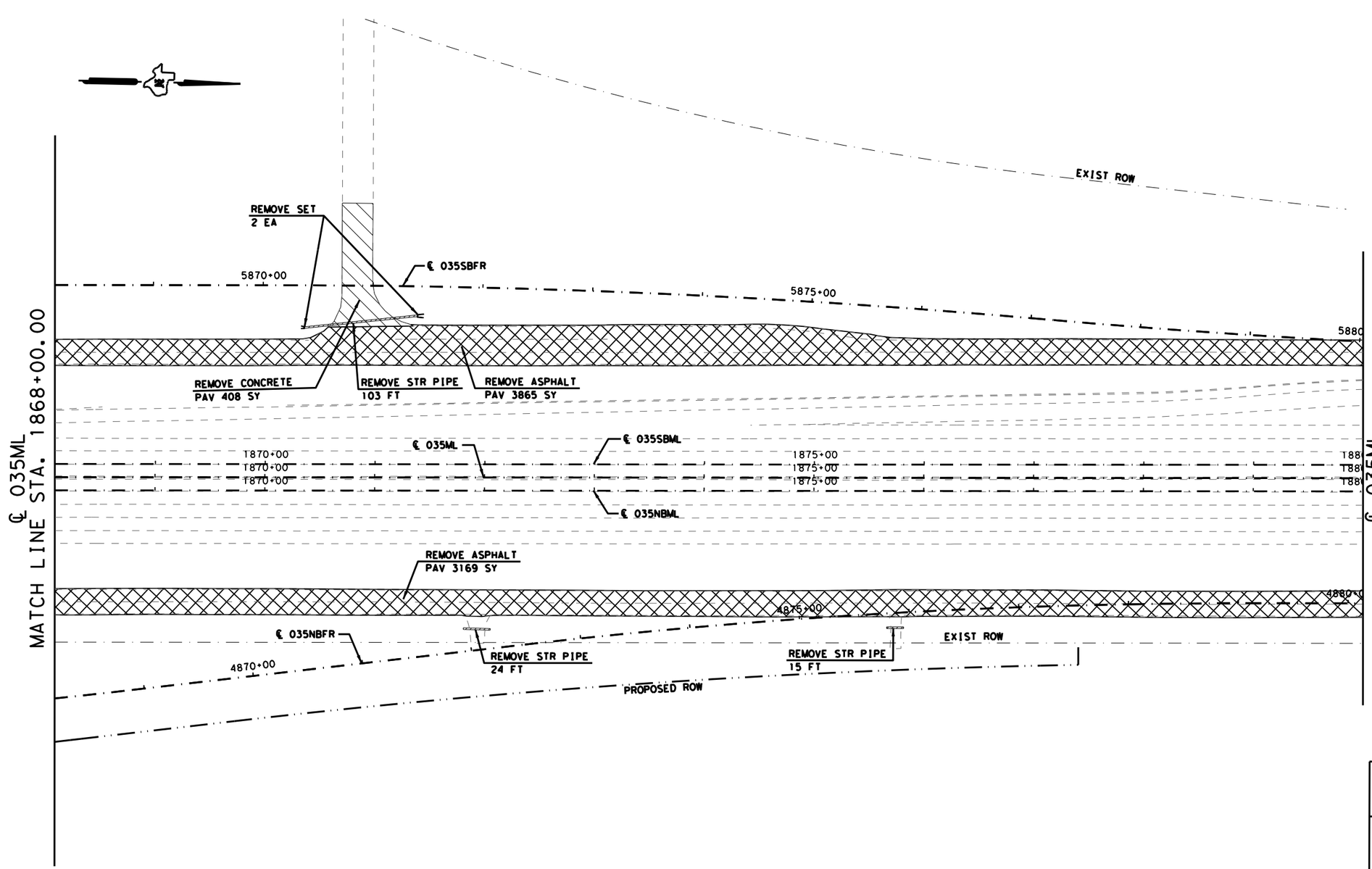
Mona Lotfi P.E. 11.29.23

Texas Department of Transportation

IH35E
REMOVAL LAYOUT

SCALE: 1"=100' SHEET 5 OF 7

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS: SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK: MPM	CONTROL	SECTION	JOB	744
	0442	03	042, ETC.	



STATE OF TEXAS
Mona Lotfi
139489
PROFESSIONAL LICENSED ENGINEER

Mona Lotfi P.E. 11.29.23

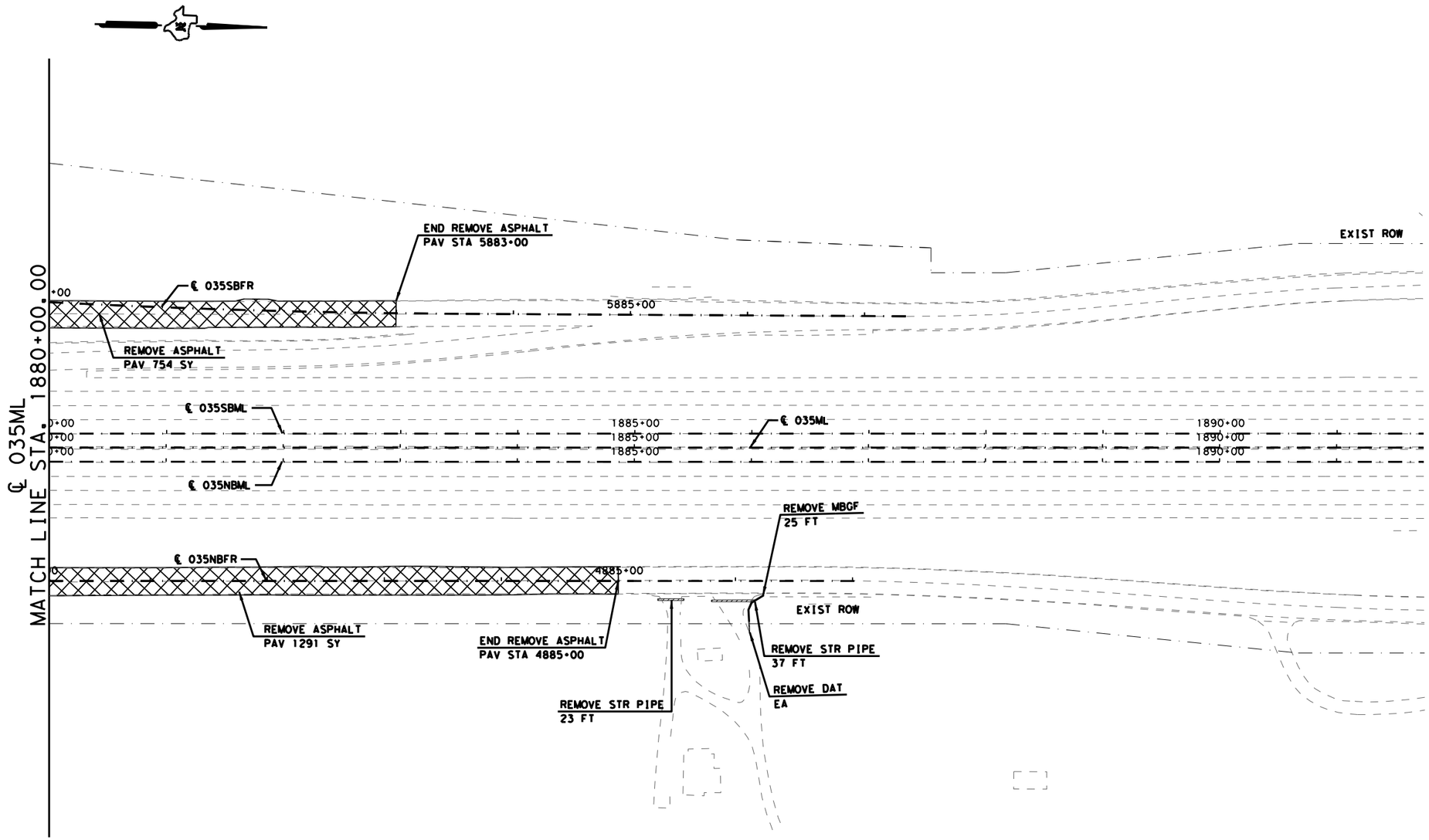
IH35E
REMOVAL LAYOUT

SCALE: 1"=100' SHEET 6 OF 7

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042, ETC.	745
CHECK				
MPM				

REMOVALS LEGEND

- REMOVE ASPHALT (PAVEMENT)
- REMOVE CONCRETE (PAVEMENT)
- REMOVE ASPHALT (DRIVEWAY)
- REMOVE CONCRETE (DRIVEWAY)
- REMOVE CONCRETE (RIPRAP)



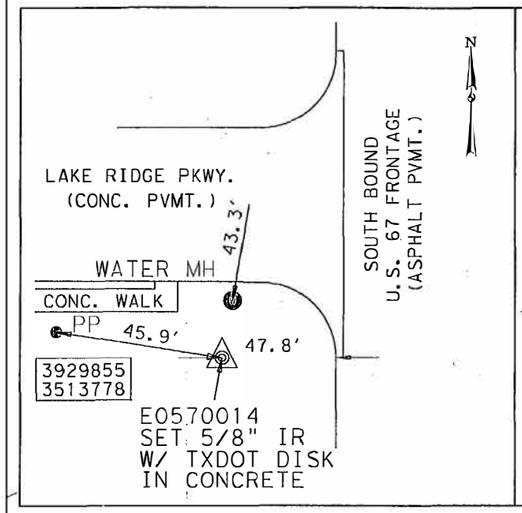
STATE OF TEXAS
Mona Lotfi
139489
LICENSED PROFESSIONAL ENGINEER

Mona Lotfi P.E. 11.29.23

IH35E
REMOVAL LAYOUT

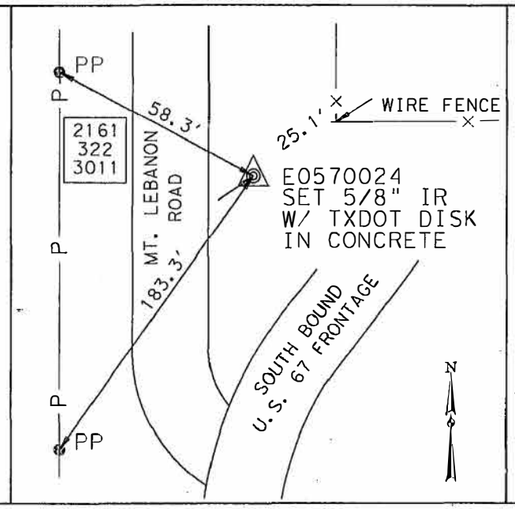
SCALE: 1"=100' SHEET 7 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042, ETC.	746
CHECK				
MPM				



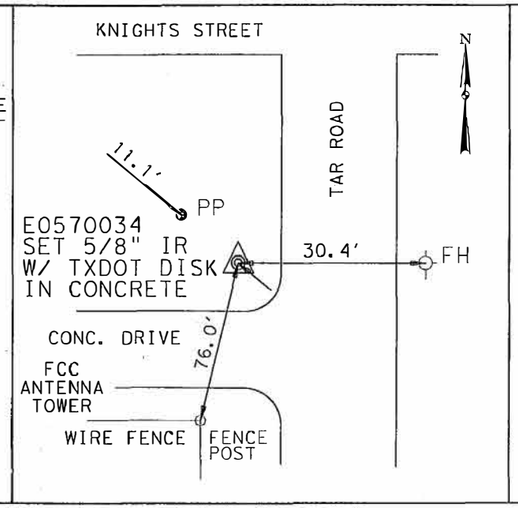
E0570014: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. SOUTH WEST CORNER OF LAKE RIDGE PKWY AND U.S. 67 SOUTH BOUND FRONTAGE ROAD.

N= 6,886,286.84
E= 2,438,089.53
ELEV. = 856.72



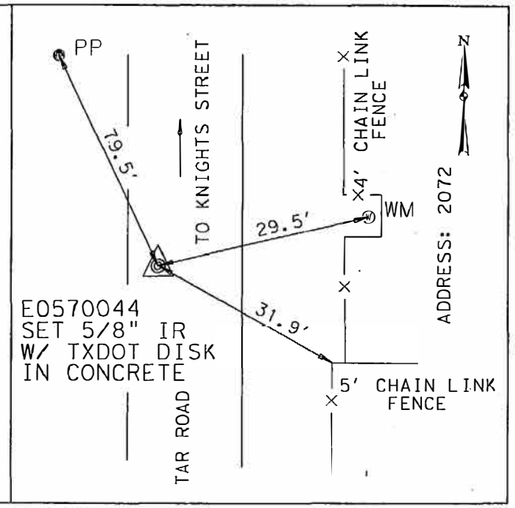
E0570024: SET 5/8" IR W/ TXDOT DISK IN CONCRETE ON EAST SIDE MT. LEBANON ROAD 0.15 MILES NORTH OF THE INTERSECTION OF U.S. 67 SOUTH BOUND FRONTAGE ROAD AND MT. LEBANON ROAD.

N= 6,887,786.24
E= 2,438,162.64
ELEV. = 858.43



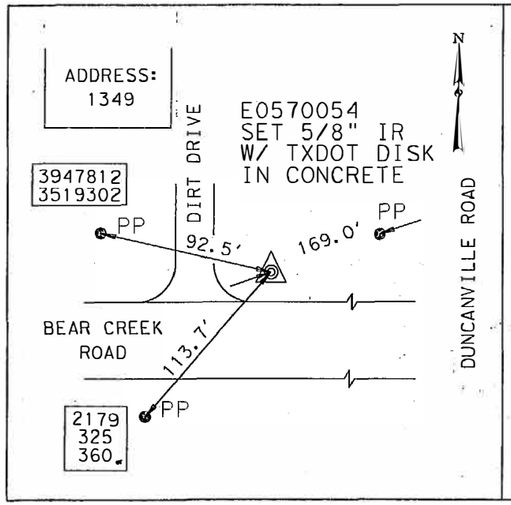
E0570034: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 0.33 MILES SOUTH OF THE INTERSECTION OF KNIGHTS STREET AND TAR ROAD. 4.0' WEST OF WEST EDGE PAVEMENT OF TAR ROAD.

N= 6,884,779.16
E= 2,445,632.00
ELEV. = 771.58



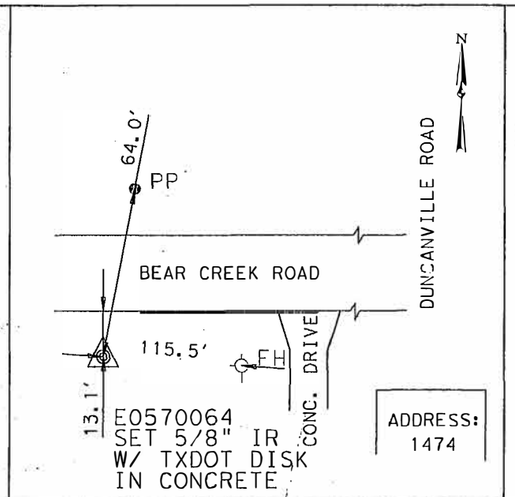
E0570044: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 300' ± SOUTH OF THE INTERSECTION OF KNIGHTS STREET AND TAR ROAD. 4.1' EAST OF EAST EDGE PAVEMENT OF TAR ROAD.

N= 6,886,004.85
E= 2,445,636.23
ELEV. = 788.66



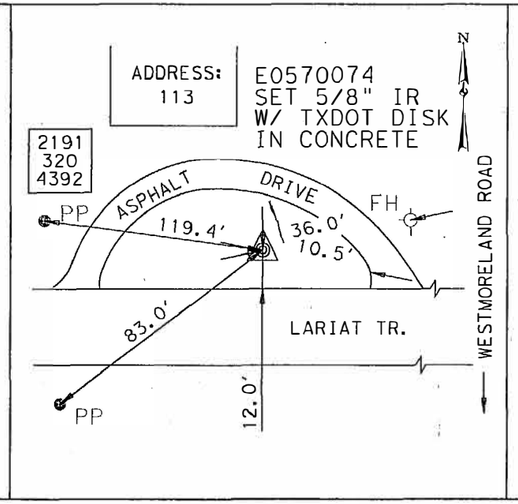
E0570054: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 0.5 MILES WEST OF THE INTERSECTION OF DUNCANVILLE ROAD AND BEAR CREEK ROAD. ON NORTH SIDE BEAR CREEK ROAD.

N= 6,891,603.42
E= 2,456,217.26
ELEV. = 756.65



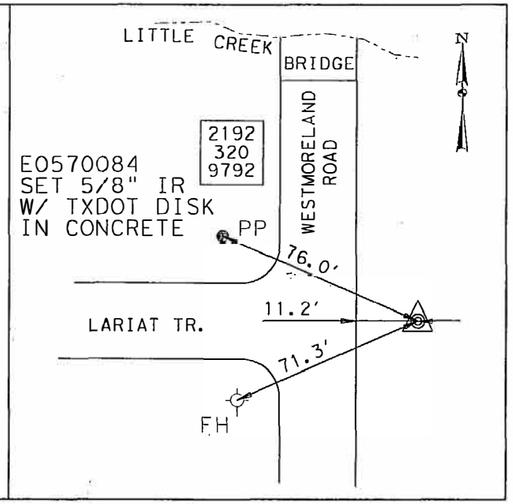
E0570064: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 0.2 MILES WEST OF THE INTERSECTION OF DUNCANVILLE ROAD AND BEAR CREEK ROAD ON SOUTH SIDE BEAR CREEK ROAD.

N= 6,891,591.19
E= 2,457,717.33
ELEV. = 752.04



E0570074: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 1,500' WEST OF THE INTERSECTION OF WESTMORELAND ROAD AND LARIATE TR. 12.0' NORTH OF NORTH EDGE OF PAVEMENT OF LARIAT TR.

N= 6,886,892.89
E= 2,468,379.19
ELEV. = 656.24



E0570084: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. EAST OF THE INTERSECTION WESTMORELAND ROAD AND LARIAT TR.

N= 6,886,888.15
E= 2,469,883.11
ELEV. = 627.11

STATE OF TEXAS
REGISTERED
DARCY B. WEILNAU
5607
PROFESSIONAL
LAND SURVEYOR

Darcy B Weilnau
June 16, 2014

NOTES:

ALL COORDINATES AND BEARINGS ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM OF 1983 (NAD 83, 2010), NORTH CENTRAL ZONE (4202), AS ESTABLISHED BY GPS OBSERVATIONS AND BASED ON TXDOT RTN MOUNTPOINT NAD83_2010-NORTH_VRS_RTCM

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THE UNIT OF MEASURE IS THE U.S. SURVEY FOOT.

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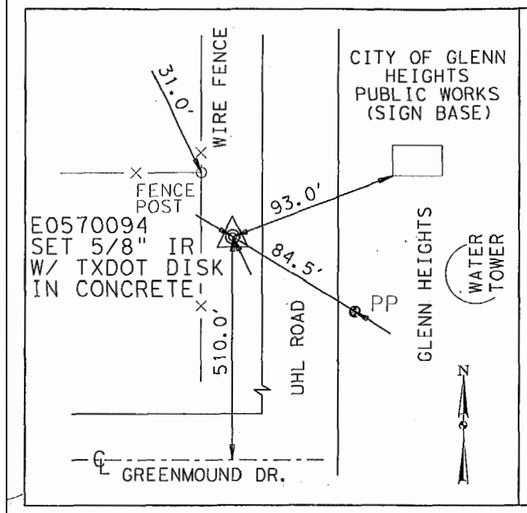
LANDTECH CONSULTANTS, INC.
CIVIL ENGINEERING * LAND SURVEYING
TBPLS FIRM NO. 10019100
2525 NORTH LOOP WEST, SUITE 300, HOUSTON, TX 77008

LOOP 9

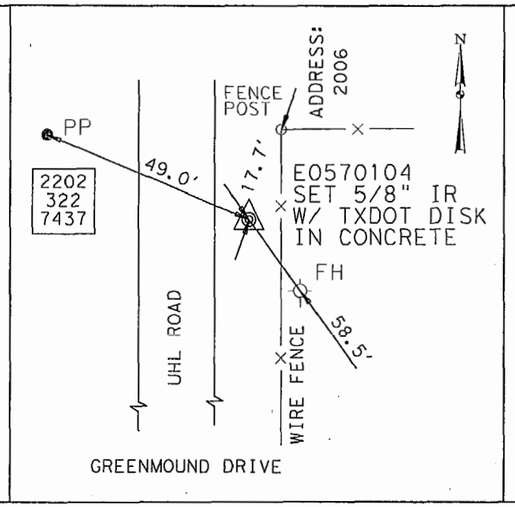
HORIZONTAL AND VERTICAL CONTROL

FED. RD. DIV. NO.	STATE	PROJECT NO.			SHEET NO.
76	TEXAS	042, ETC			747
STATE DIST. NO.	COUNTY	CONT.	SECT.	JOB	HIGHWAY NO.
18	ELLIS, ETC.	0442	03	042, ETC	IH35E



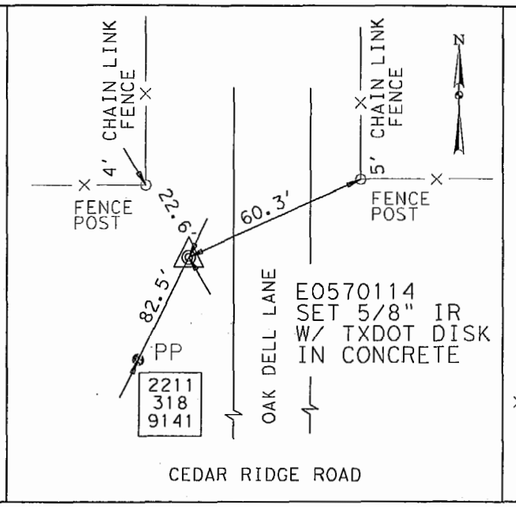
E0570094: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 510' NORTH OF THE INTERSECTION OF GREENMOUND DRIVE AND WEST SIDE OF UHL ROAD.

N= 6,886,964.77
E= 2,479,610.92
ELEV. = 688.04



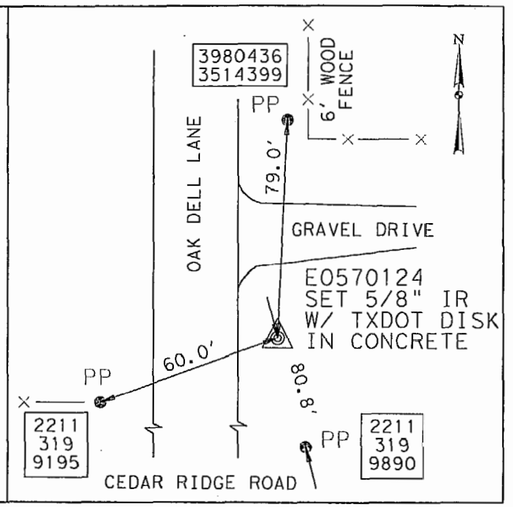
E0570104: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 2000' NORTH OF THE INTERSECTION OF UHL ROAD AND GREENMOUND DRIVE. 10' EAST OF EAST EDGE OF PAVEMENT OF UHL ROAD.

N= 6,888,462.95
E= 2,479,640.61
ELEV. = 678.12



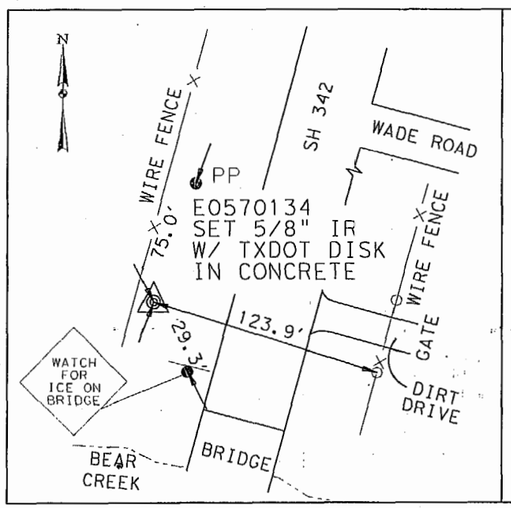
E0570114: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 209' NORTH OF THE INTERSECTION OF OAK DELL LANE AND CEDAR RIDGE ROAD. WEST SIDE OAK DELL LANE.

N= 6,884,742.29
E= 2,488,802.11
ELEV. = 631.03



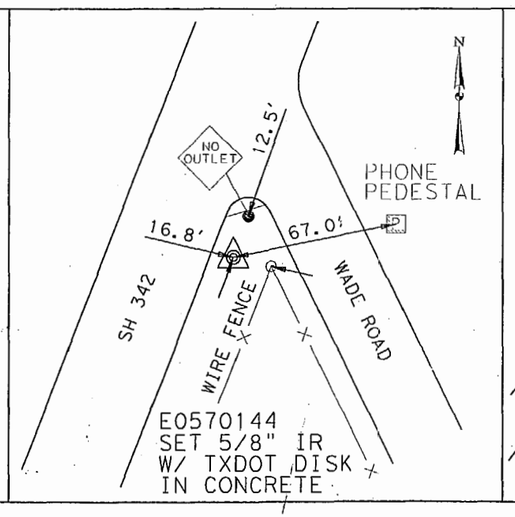
E0570124: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 1,700' NORTH OF THE INTERSECTION OF OAK DELL LANE AND CEDAR RIDGE ROAD. EAST SIDE OAK DELL LANE.

N= 6,886,240.95
E= 2,488,823.97
ELEV. = 627.50



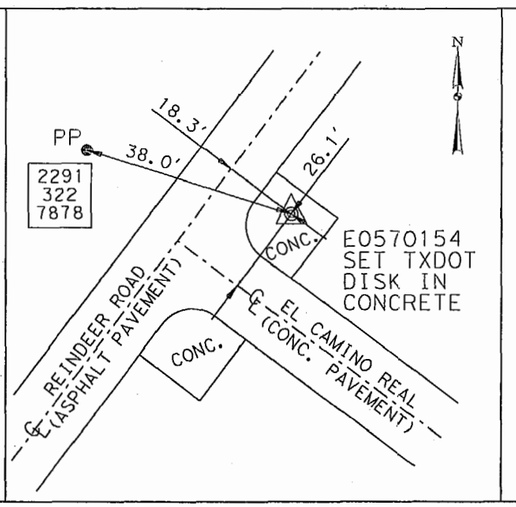
E0570134: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 1,600' SOUTH OF THE INTERSECTION OF SH 342 AND WEST SIDE OF SH 342.

N= 6,887,571.74
E= 2,498,444.91
ELEV. = 554.00



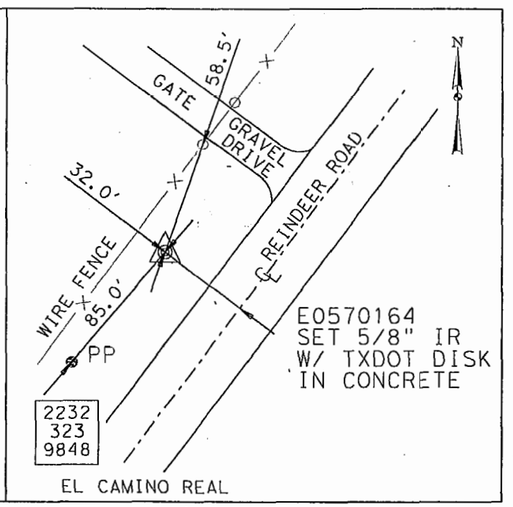
E0570144: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. LOCATED AT THE INTERSECTION OF SH 342 AND WADE ROAD.

N= 6,888,837.55
E= 2,499,233.97
ELEV. = 563.17



E0570154: SET TXDOT DISK IN CONCRETE. NORTH EAST CORNER OF THE INTERSECTION OF ELCAMINO REAL AND REINDEER ROAD.

N= 6,889,025.67
E= 2,508,634.13
ELEV. = 549.46



E0570164: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 1,500' NORTHEAST OF THE INTERSECTION OF REINDEER ROAD AND EL CAMINO REAL. NORTHERLY SIDE OF REINDEER ROAD.

N= 6,889,833.54
E= 2,509,899.65
ELEV. = 548.94

STATE OF TEXAS
REGISTERED
DARCY B. WEILNAU
5607
PROFESSIONAL
LAND SURVEYOR

Darcy B Weilnau
June 16, 2014

NOTES:

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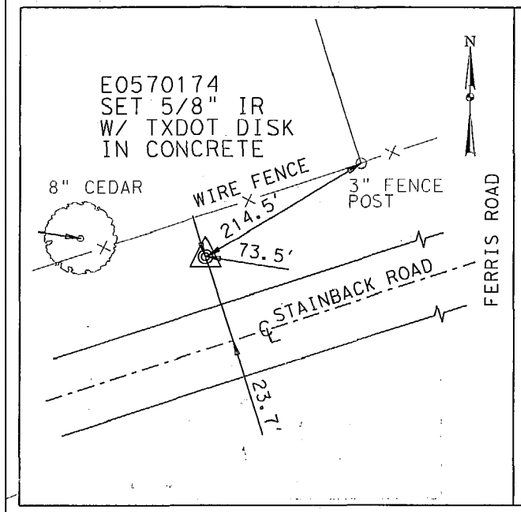
LANDTECH CONSULTANTS, INC.
CIVIL ENGINEERING * LAND SURVEYING
TBPLS FIRM NO. 10019100
2525 NORTH LOOP WEST, SUITE 300, HOUSTON, TX 77008

LOOP 9

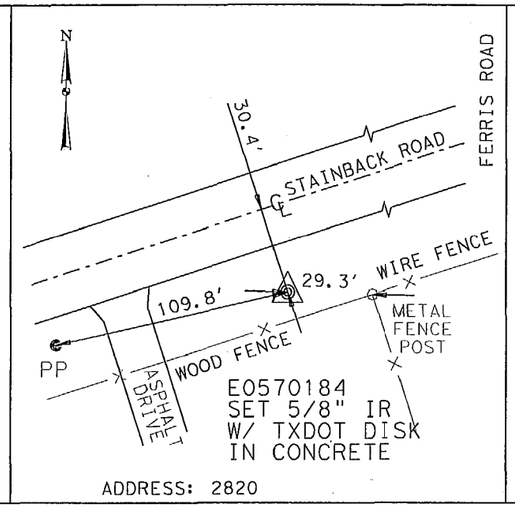
HORIZONTAL AND VERTICAL CONTROL

FED. RD. DIV. NO.	STATE	PROJECT NO.			SHEET NO.
76	TEXAS	042, ETC			748
STATE DIST. NO.	COUNTY	CONT.	SECT.	JOB	HIGHWAY NO.
18	ELLIS, ETC.	0442	03	042, ETC	IH35E



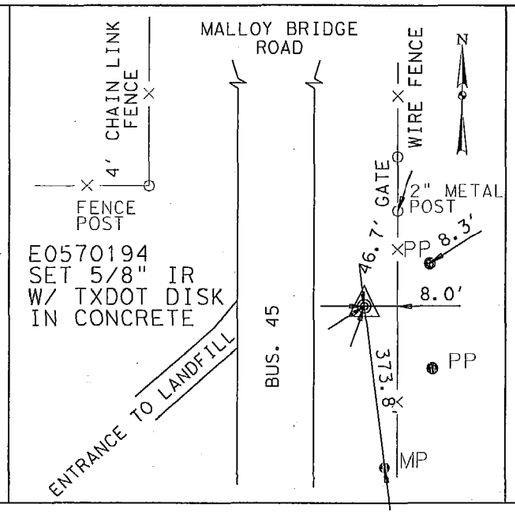
E0570174: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 0.62 MILES WESTERLY OF THE INTERSECTION OF STAINBACK ROAD AND FERRIS ROAD. NORTH SIDE OF STAINBACK ROAD.

N= 6,887,827.34
E= 2,521,439.51
ELEV. = 479.01



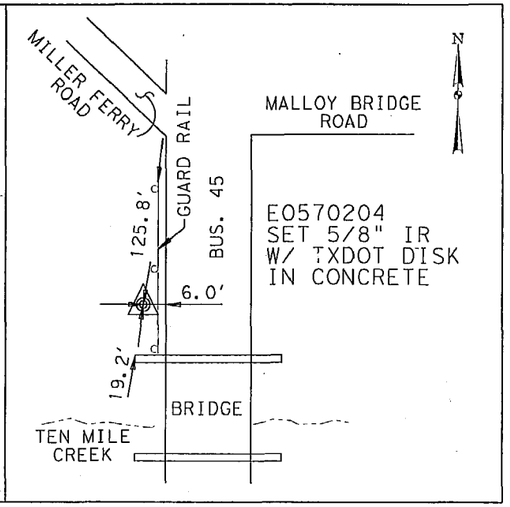
E0570184: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 0.59 MILES WESTERLY OF THE INTERSECTION OF STAINBACK ROAD AND FERRIS ROAD. NORTH SIDE OF STAINBACK ROAD.

N= 6,888,474.72
E= 2,522,792.71
ELEV. = 489.64



E0570194: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 3,000' SOUTH OF THE INTERSECTION OF BUS. 45 AND MALLOY BRIDGE ROAD. EAST SIDE BUS. 45.

N= 6,889,800.07
E= 2,534,110.72
ELEV. = 400.01



E0570204: SET 5/8" IR W/ TXDOT DISK IN CONCRETE. 1,500' SOUTH OF THE INTERSECTION OF BUS. 45 AND MALLOY BRIDGE ROAD. WEST SIDE OF BUS. 45.

N= 6,891,292.59
E= 2,533,957.42
ELEV. = 408.25

STATE OF TEXAS
REGISTERED
DARCY B. WEILNAU
5607
PROFESSIONAL
LAND SURVEYOR

Darcy B Weilnau
June 16, 2014

NOTES:

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LANDTECH CONSULTANTS, INC.
CIVIL ENGINEERING * LAND SURVEYING
TBPLS FIRM NO. 10019100
2525 NORTH LOOP WEST, SUITE 300, HOUSTON, TX 77008

LOOP 9

HORIZONTAL AND VERTICAL CONTROL

SHEET 3 OF 3

FED. RD. DIV. NO.	STATE	PROJECT NO.			SHEET NO.
76	TEXAS	042, ETC			749
STATE DIST. NO.	COUNTY	CONT.	SECT.	JOB	HIGHWAY NO.
18	ELLIS, ETC.	0442	03	042, ETC	IH35E

035ML

CURVE NAME		STATION	BEARING	NORTHING	EASTING	DEGREE	RADIUS	CURVE LENGTH	TANGENT	DEFLECTION
Point 760	POT	1792+50.9900		6,881,048.57	2,485,751.25					
			N 1° 08′ 26.1600" W							
	PC	1841+89.7248		6,885,986.33	2,485,652.94					
035ML_3	PI	1847+24.4040		6,886,520.90	2,485,642.30	0° 16′ 22.2134"	21,000.00	1,069.13	534.6792	2° 55′ 01.1131" (LT)
	PRC	1852+58.8523		6,887,054.24	2,485,604.46					
			N 4° 03′ 27.2731" W							
	PRC	1852+58.8523		6,887,054.24	2,485,604.46					
035ML_4	PI	1857+90.6736		6,887,584.73	2,485,566.83	0° 16′ 22.2134"	21,000.00	1,063.42	531.8213	2° 54′ 05.0074" (RT)
	PT	1863+22.2676		6,888,116.44	2,485,556.10					
			N 1° 09′ 22.2657" W							
Point 761	POT	1933+19.4935		6,895,112.24	2,485,414.91					

035NBML

CURVE NAME		STATION	BEARING	NORTHING	EASTING	DEGREE	RADIUS	CURVE LENGTH	TANGENT	DEFLECTION
Point 764	POT	1792+50.9900		6,881,048.81	2,485,763.25					
			N 1° 08′ 26.1600" W							
	PC	1841+89.7246		6,885,986.57	2,485,664.94					
035NBML_3	PI	1847+24.4398		6,886,521.17	2,485,654.29	0° 16′ 21.6524"	21,012.00	1,069.20	534.7152	2° 54′ 55.8234" (LT)
	PRC	1852+58.9242		6,887,054.55	2,485,616.47					
			N 4° 03′ 21.9834" W							
	PRC	1852+58.9242		6,887,054.55	2,485,616.47					
035NBML_4	PI	1857+91.2498		6,887,585.54	2,485,578.82	0° 16′ 21.6524"	21,012.00	1,064.42	532.3256	2° 54′ 08.9385" (RT)
	PT	1863+23.3477		6,888,117.76	2,485,568.10					
			N 1° 09′ 13.0449" W							
Point 765	POT	1933+19.4912		6,895,112.49	2,485,427.24					

035SBML

CURVE NAME		STATION	BEARING	NORTHING	EASTING	DEGREE	RADIUS	CURVE LENGTH	TANGENT	DEFLECTION
Point 840	POT	1780+00.0000		6,879,797.67	2,485,764.15					
			N 1° 08′ 25.9397" W							
	PC	1830+08.3291		6,884,805.01	2,485,664.46					
035SBML_3	PI	1831+75.7863		6,884,972.43	2,485,661.12	0° 24′ 22.8710"	14,100.00	334.8986	167.4572	1° 21′ 39.1351" (LT)
	PT	1833+43.2278		6,885,139.73	2,485,653.81					
			N 2° 30′ 05.0748" W							
	PC	1852+91.6521		6,887,086.30	2,485,568.78					
035SBML_6	PI	1854+57.1374		6,887,251.62	2,485,561.55	0° 24′ 22.8710"	14,100.00	330.9555	165.4853	1° 20′ 41.4516" (RT)
	PT	1856+22.6076		6,887,417.08	2,485,558.21					
			N 1° 09′ 23.6232" W							
Point 841	POT	1933+39.9922		6,895,132.89	2,485,402.44					

STATE OF TEXAS
M. Pauline Morre
94443
LICENSED PROFESSIONAL ENGINEER

M Pauline Morre P.E. 11.10.23

IH35E
ALIGNMENT DATA

SHEET 1 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	750
	0442	03	042, ETC.	

035NBFR1

CURVE NAME		STATION	BEARING	NORTHING	EASTING	DEGREE	RADIUS	CURVE LENGTH	TANGENT	DEFLECTION
Point 451	POT	4815+00.0000		6,883,299.26	2,485,820.58					
			N 0° 08′ 52.5224" E							
	PC	4818+67.9620		6,883,667.22	2,485,821.53					
035NBFR1_3	PI	4821+68.2221		6,883,967.48	2,485,822.31	1° 00′ 18.6808"	5,700.00	599.97	300.26	6° 01′ 50.8453" (RT)
	PT	4824+67.9277		6,884,266.00	2,485,854.62					
			N 6° 10′ 43.3677" E							
	PC	4828+55.3954		6,884,651.21	2,485,896.33					
035NBFR1_6	PI	4832+49.1033		6,885,042.63	2,485,938.70	1° 30′ 28.0212"	3,800.00	784.62	393.71	11° 49′ 49.1397" (LT)
	PT	4836+40.0117		6,885,434.43	2,485,899.93					
			N 5° 39′ 05.7720" W							
	PC	4839+15.8859		6,885,708.96	2,485,872.76					
035NBFR1_9	PI	4840+43.3590		6,885,835.81	2,485,860.21	1° 30′ 28.0212"	3,800.00	254.8507	127.4731	3° 50′ 33.3517" (RT)
	PT	4841+70.7366		6,885,963.22	2,485,856.18					
			N 1° 48′ 32.4203" W							
	PC	4846+82.4613		6,886,474.69	2,485,840.03					
035NBFR1_12	PI	4848+22.5170		6,886,614.68	2,485,835.61	0° 43′ 40.8997"	7,870.00	280.0819	140.0557	2° 02′ 20.6654" (LT)
	PT	4849+62.5432		6,886,754.42	2,485,826.21					
			N 3° 50′ 53.0856" W							
	PC	4853+49.3176		6,887,140.32	2,485,800.25					
035NBFR1_15	PI	4855+74.6362		6,887,365.13	2,485,785.13	1° 00′ 18.6808"	5,700.00	450.4028	225.3186	4° 31′ 38.6392" (RT)
	PT	4857+99.7204		6,887,590.44	2,485,787.80					
			N 0° 40′ 45.5536" E							
	PC	4860+46.6631		6,887,837.36	2,485,790.73					
035NBFR1_18	PI	4864+68.7649		6,888,259.43	2,485,795.74	1° 00′ 18.6808"	5,700.00	842.6654	422.1018	8° 28′ 13.3722" (LT)
	PT	4868+89.3286		6,888,677.64	2,485,738.51					
			N 7° 47′ 27.8186" W							
	PC	4872+48.9106		6,889,033.90	2,485,689.77					
035NBFR1_21	PI	4875+79.2924		6,889,361.23	2,485,644.98	1° 00′ 18.6808"	5,700.00	660.025	330.3817	6° 38′ 04.1977" (RT)
	PT	4879+08.9356		6,889,691.55	2,485,638.31					
			N 1° 09′ 23.6209" W							
Point 452	POT	4887+01.6865		6,890,484.14	2,485,622.31					

009EFR1

CURVE NAME		STATION	BEARING	NORTHING	EASTING	DEGREE	RADIUS	CURVE LENGTH	TANGENT	DEFLECTION
Point 834	POT	4075+50.0000		6,886,303.70	2,483,513.13					
			N 89° 26′ 58.1151" E							
	PC	4100+74.2621		6,886,327.95	2,486,037.28					
009EFR_3	PI	4102+15.7055		6,886,329.31	2,486,178.72	0° 42′ 58.3101"	8,000.00	282.8574	141.4434	2° 01′ 32.9409" (RT)
	PRC	4103+57.1195		6,886,325.67	2,486,320.11					
			S 88° 31′ 28.9440" E							
	PRC	4103+57.1195		6,886,325.67	2,486,320.11					
009EFR_4	PI	4104+98.5629		6,886,322.03	2,486,461.51	0° 42′ 58.3101"	8,000.00	282.8574	141.4434	2° 01′ 32.9409" (LT)
	PT	4106+39.9769		6,886,323.39	2,486,602.95					
			N 89° 26′ 58.1151" E							
Point 835	POT	4115+33.6485		6,886,331.97	2,487,496.58					

STATE OF TEXAS
M. Pauline Morre
94443
LICENSED
PROFESSIONAL ENGINEER

M Pauline Morre P.E. 11.10.23

Texas Department of Transportation

IH35E
ALIGNMENT DATA

SHEET 2 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	751
CHECK MPM	CONTROL	SECTION	JOB	
	0442	03	042, ETC.	

035SBFR1

CURVE NAME		STATION	BEARING	NORTHING	EASTING	DEGREE	RADIUS	CURVE LENGTH	TANGENT	DEFLECTION
Point 471	POT	5809+00.0000		6,882,694.88	2,485,604.59					
			N 1° 08′ 26.1689" W							
	PC	5814+49.6582		6,883,244.43	2,485,593.65					
035SBFR1_3	PI	5816+46.3384		6,883,441.07	2,485,589.74	0° 42′ 58.3101"	8,000.00	393.28	196.6802	2° 49′ 00.0099" (LT)
	PT	5818+42.9394		6,883,637.28	2,485,576.16					
			N 3° 57′ 26.1788" W							
	PC	5828+55.2594		6,884,647.19	2,485,506.30					
035SBFR1_6	PI	5830+51.9443		6,884,843.41	2,485,492.73	0° 42′ 58.3101"	8,000.00	393.2905	196.6848	2° 49′ 00.2477" (RT)
	PT	5832+48.5499		6,885,040.05	2,485,488.81					
			N 1° 08′ 25.9311" W							
	PC	5844+32.1138		6,886,223.38	2,485,465.25					
035SBFR1_9	PI	5845+94.1452		6,886,385.38	2,485,462.03	0° 43′ 40.8997"	7,870.00	324.02	162.0314	2° 21′ 32.1597" (LT)
	PT	5847+56.1308		6,886,547.11	2,485,452.14					
			N 3° 29′ 58.0908" W							
	PC	5855+55.0141		6,887,344.50	2,485,403.38					
035SBFR1_12	PI	5857+15.9445		6,887,505.13	2,485,393.55	0° 43′ 40.8997"	7,870.00	321.816	160.9304	2° 20′ 34.4748" (RT)
	PT	5858+76.8301		6,887,666.03	2,485,390.30					
			N 1° 09′ 23.6160" W							
	PC	5870+19.4579		6,888,808.43	2,485,367.24					
035SBFR1_15	PI	5873+60.4102		6,889,149.31	2,485,360.36	0° 43′ 40.8997"	7,870.00	681.4784	340.9523	4° 57′ 40.8664" (RT)
	PT	5877+00.9363		6,889,489.51	2,485,382.98					
			N 3° 48′ 17.2506" E							
	PC	5877+20.8307		6,889,509.36	2,485,384.30					
035SBFR1_18	PI	5880+40.2697		6,889,828.10	2,485,405.50	0° 43′ 40.8997"	7,870.00	638.5274	319.439	4° 38′ 55.1634" (LT)
	PT	5883+59.3581		6,890,147.50	2,485,400.80					
			N 0° 50′ 37.9128" W							
Point 472	POT	5887+35.3938		6,890,523.50	2,485,395.26					

035SBML_FM664

CURVE NAME		STATION	BEARING	NORTHING	EASTING	DEGREE	RADIUS	CURVE LENGTH	TANGENT	DEFLECTION
	PC	100+00.000		6,883,730.52	2,485,581.74					
035SBML_FM664_1	PI	104+43.8222		6,884,173.29	2,485,551.11	0° 43′ 41.0676"	7,869.50	886.71	443.8222	6° 27′ 21.1388" (RT)
	PT	108+86.7051		6,884,616.69	2,485,570.46					
			N 2° 29′ 54.9600" E							
Point 788	POT	116+91.0990		6,885,420.32	2,485,605.53					

STATE OF TEXAS
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IH35E
ALIGNMENT DATA

SHEET 3 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	752
	0442	03	042,ETC.	

FM664_035NBML

CURVE NAME		STATION	BEARING	NORTHING	EASTING	DEGREE	RADIUS	CURVE LENGTH	TANGENT	DEFLECTION
	PC	100+00.0000		6,883,799.52	2,485,811.31					
FM664_035NBML_1	PI	104+21.0729		6,884,220.53	2,485,818.54	0° 43′ 41.0676"	7,869.50	841.34	421.0729	6° 07′ 32.1831" (LT)
	PT	108+41.3436		6,884,639.91	2,485,780.82					
			N 5° 08′ 26.1600" W							
	PC	113+27.1090		6,885,123.72	2,485,737.29					
FM664_035NBML_4	PI	116+01.8826		6,885,397.44	2,485,713.25	0° 41′ 01.6909"	8,378.99	549.35	274.7735	3° 45′ 23.3034" (RT)
	PT	118+76.4592		6,885,672.15	2,485,707.20					
			N 1° 15′ 44.1005" W							
Point 843	POT	119+99.8713		6,885,795.54	2,485,704.74					

BEAR_035SBML

CURVE NAME		STATION	BEARING	NORTHING	EASTING	DEGREE	RADIUS	CURVE LENGTH	TANGENT	DEFLECTION
	PC	100+00.0000		6,886,946.08	2,485,538.87					
BEAR_035SBML_1	PI	105+08.6906		6,887,454.29	2,485,516.67	0° 33′ 22.6992"	10,299.34	1,016.56	508.6906	5° 39′ 18.5412" (LT)
	PT	110+16.5551		6,887,957.83	2,485,444.50					
			N 8° 09′ 23.6160" W							
	PC	111+13.2918		6,888,053.59	2,485,430.77					
BEAR_035SBML_4	PI	112+50.6632		6,888,189.57	2,485,411.28	0° 43′ 40.8997"	7,870.00	274.7148	137.3714	1° 59′ 59.9999" (RT)
	PT	113+88.0066		6,888,326.15	2,485,396.55					
			N 6° 09′ 23.6161" W							
Point 789	POT	114+74.8509		6,888,412.49	2,485,387.24					
			N 1° 09′ 23.6186" W							
Point 790	POT	114+79.9052		6,888,417.55	2,485,387.13					

035NBML_BEAR

CURVE NAME		STATION	BEARING	NORTHING	EASTING	DEGREE	RADIUS	CURVE LENGTH	TANGENT	DEFLECTION
Point 842	POT	500+00.0000		6,887,029.63	2,485,654.29					
			N 0° 59′ 42.1077" E							
	PC	512+27.9607		6,888,257.41	2,485,675.61					
035NBML_BEAR_3	PI	516+07.3553		6,888,636.75	2,485,682.20	0° 43′ 40.8997"	7,870.00	758.2021	379.3945	5° 31′ 11.7158" (LT)
	PT	519+86.1628		6,889,014.96	2,485,652.27					
			N 4° 31′ 29.6081" W							
	PC	519+99.8902		6,889,028.64	2,485,651.19					
035NBML_BEAR_6	PI	523+31.7289		6,889,359.45	2,485,625.01	0° 42′ 58.3101"	8,000.00	663.2971	331.8387	4° 45′ 01.8560" (RT)
	PT	526+63.1873		6,889,691.28	2,485,626.32					

STATE OF TEXAS
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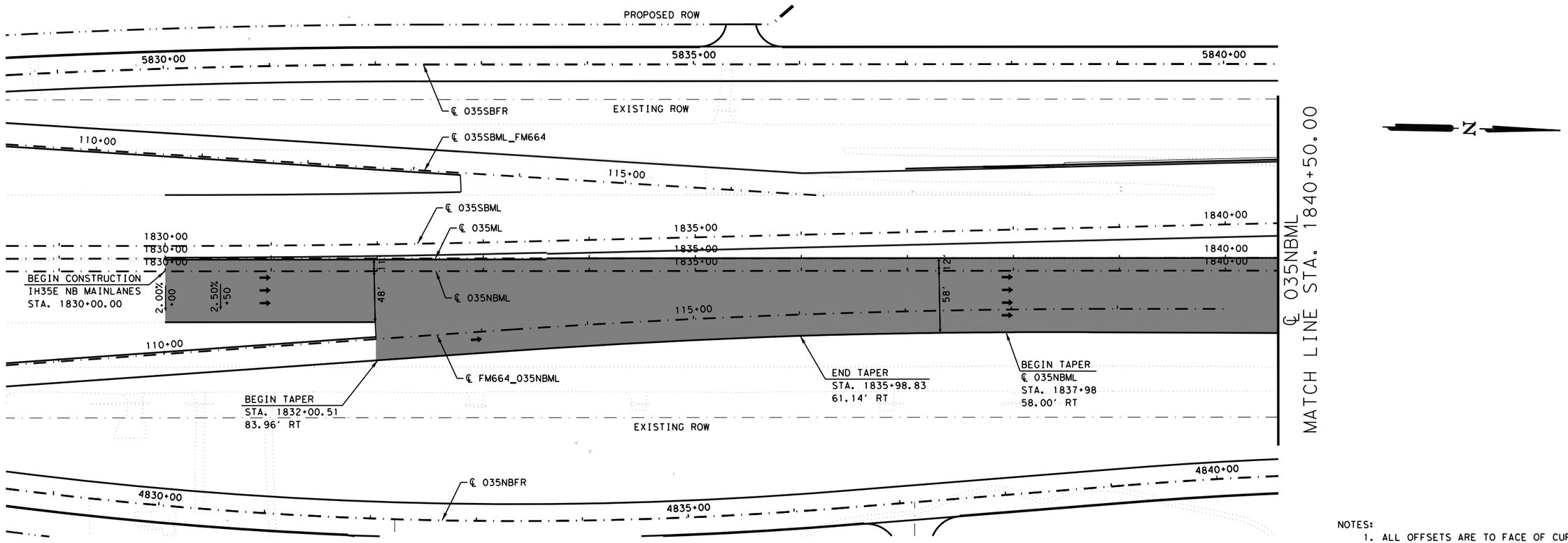
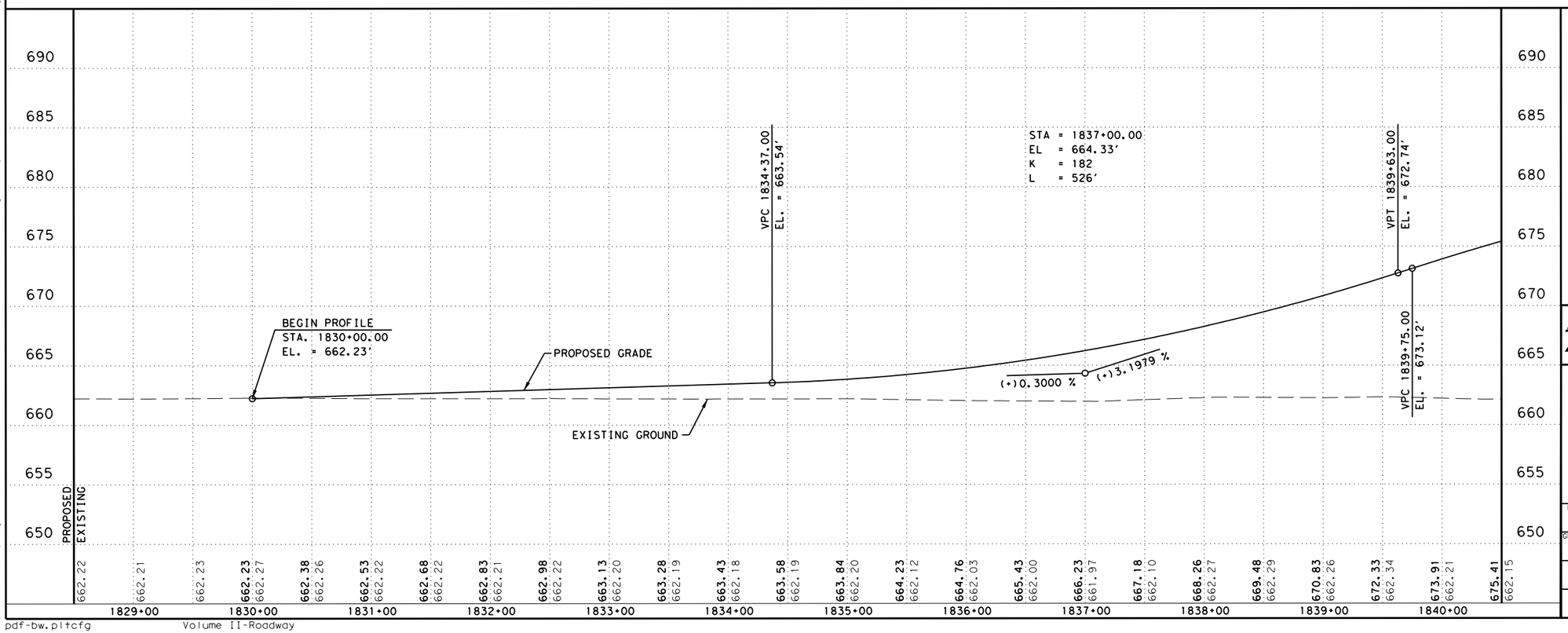
IH35E
ALIGNMENT DATA

SHEET 4 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	753
	0442	03	042,ETC.	



NOTES:
1. ALL OFFSETS ARE TO FACE OF CURB



M Pauline Morre P.E. 11.10.23

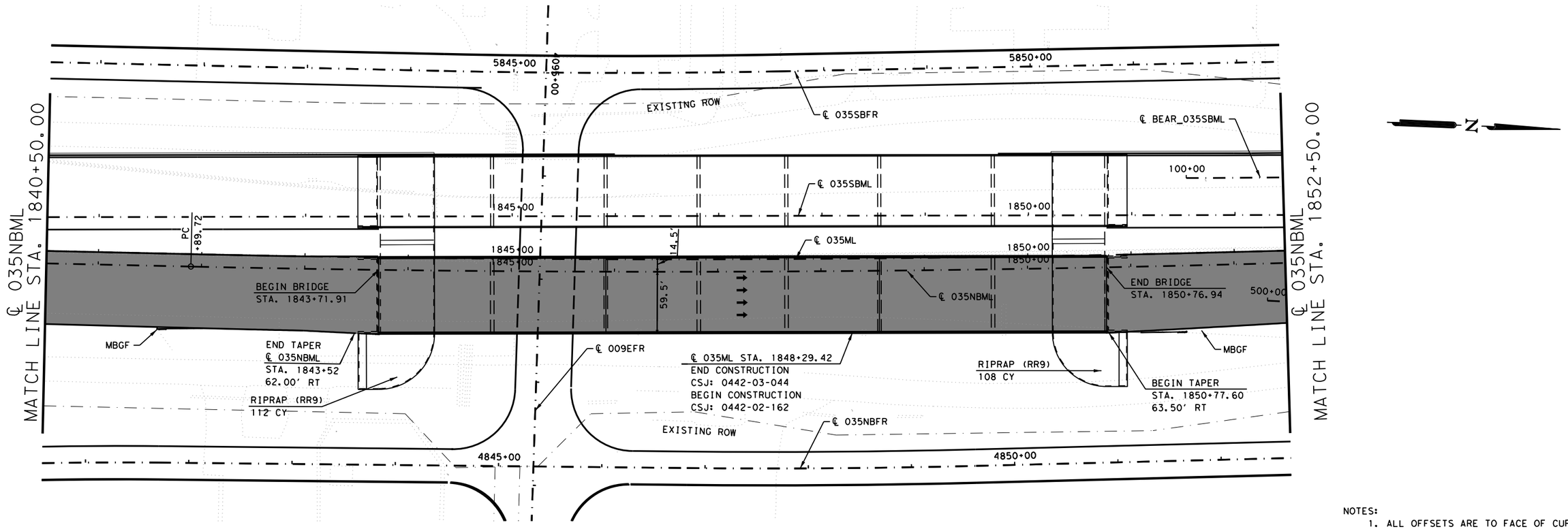
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(NB MAINLANES)

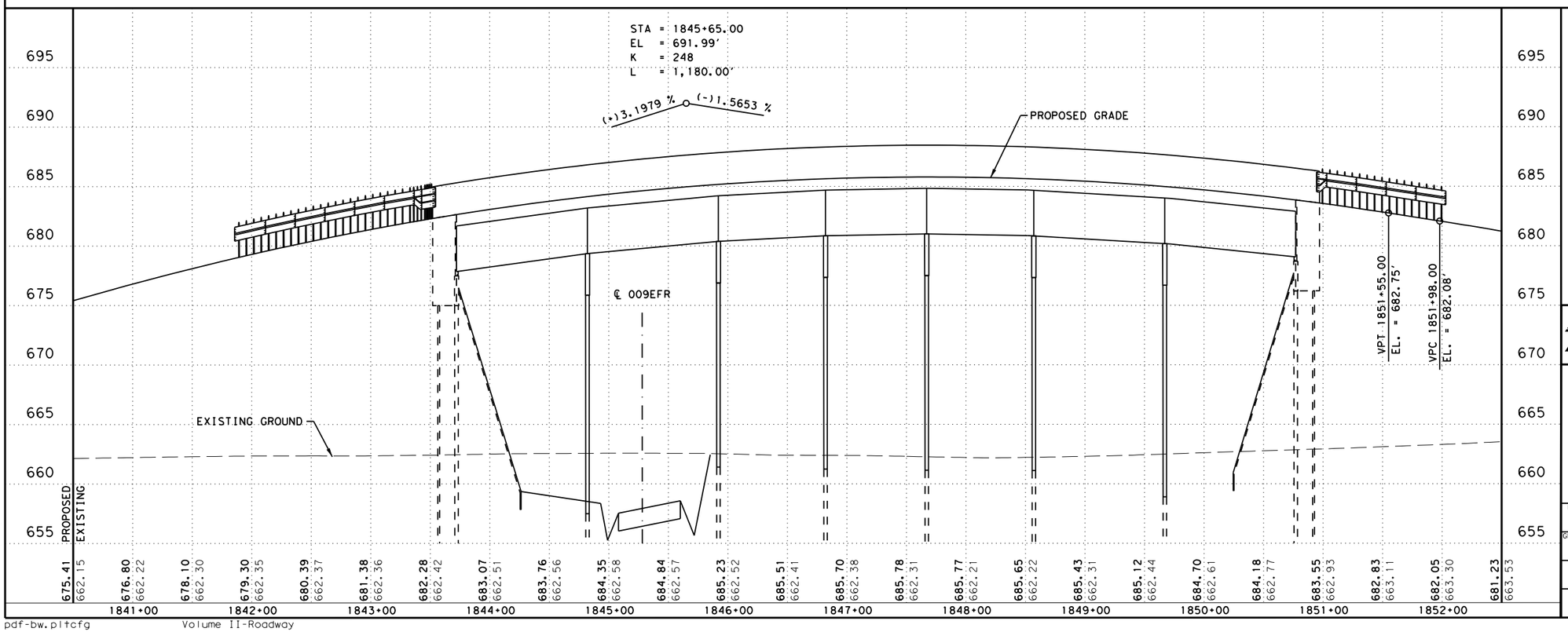
SCALE: 1"=10' (V)
1"=100' (H)

SHEET 1 OF 6

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW				
CHECK	TEXAS	DALLAS	ELLIS, ETC.	
ML	CONTROL	SECTION	JOB	754
CHECK				
MPM	0442	03	042, ETC.	



NOTES:
1. ALL OFFSETS ARE TO FACE OF CURB



STATE OF TEXAS
M. Pauline Morre
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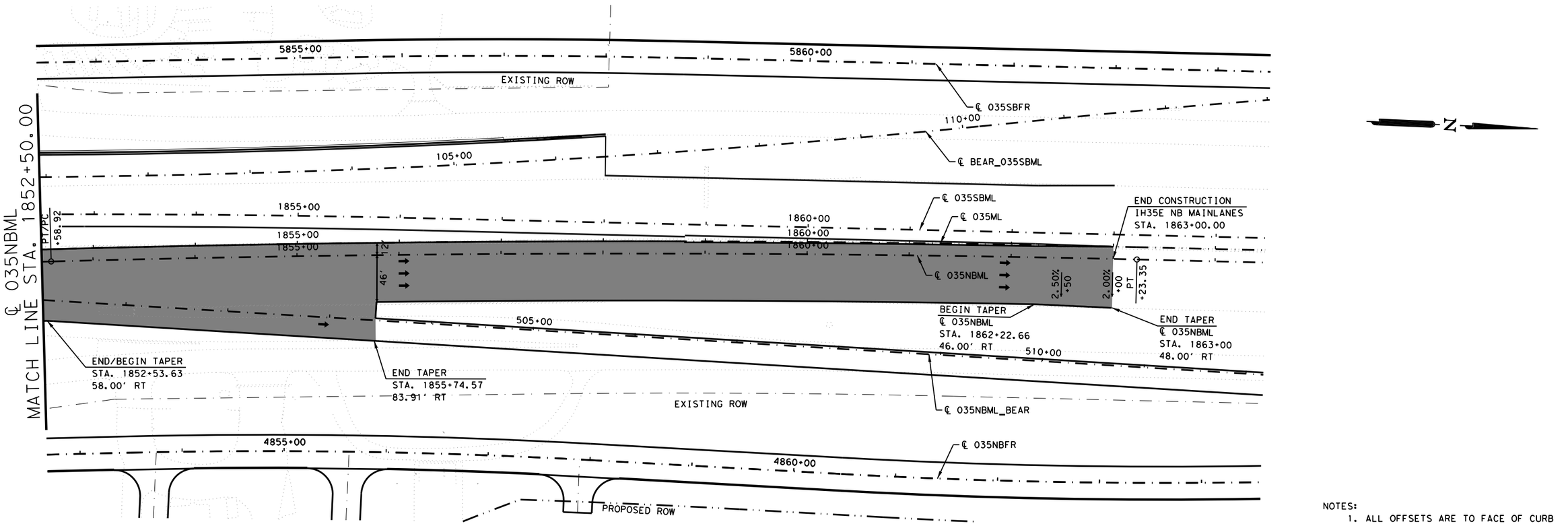
M Pauline Morre P.E.
11.10.23

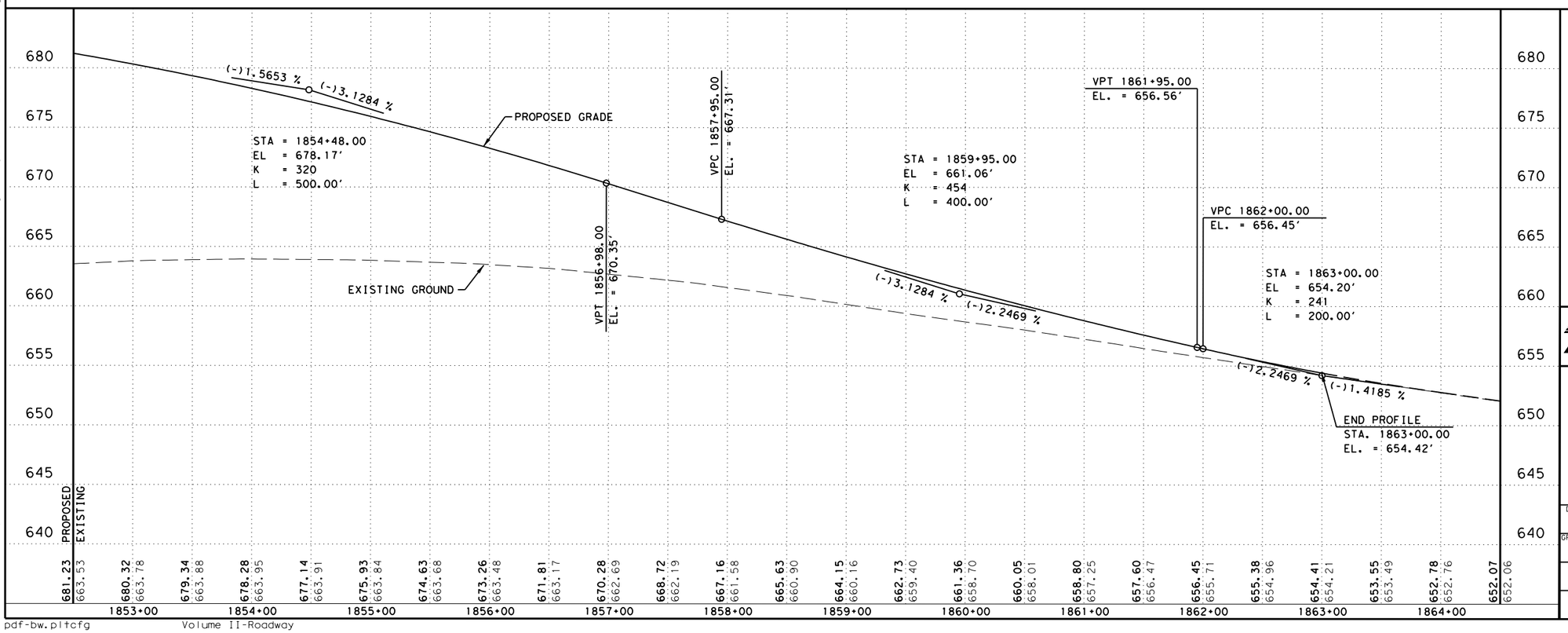
IH35E
PLAN AND PROFILE
(NB MAINLANES)

SCALE: 1"=10' (V)
1"=100' (H)

SHEET 2 OF 6

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH 35E
GRAPHICS: SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK: MPM	CONTROL	SECTION	JOB	755
	0442	03	042, ETC.	





NOTES:
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STATE OF TEXAS
M. Pauline Morre
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LICENSED PROFESSIONAL ENGINEER

M Pauline Morre P.E. 11.10.23

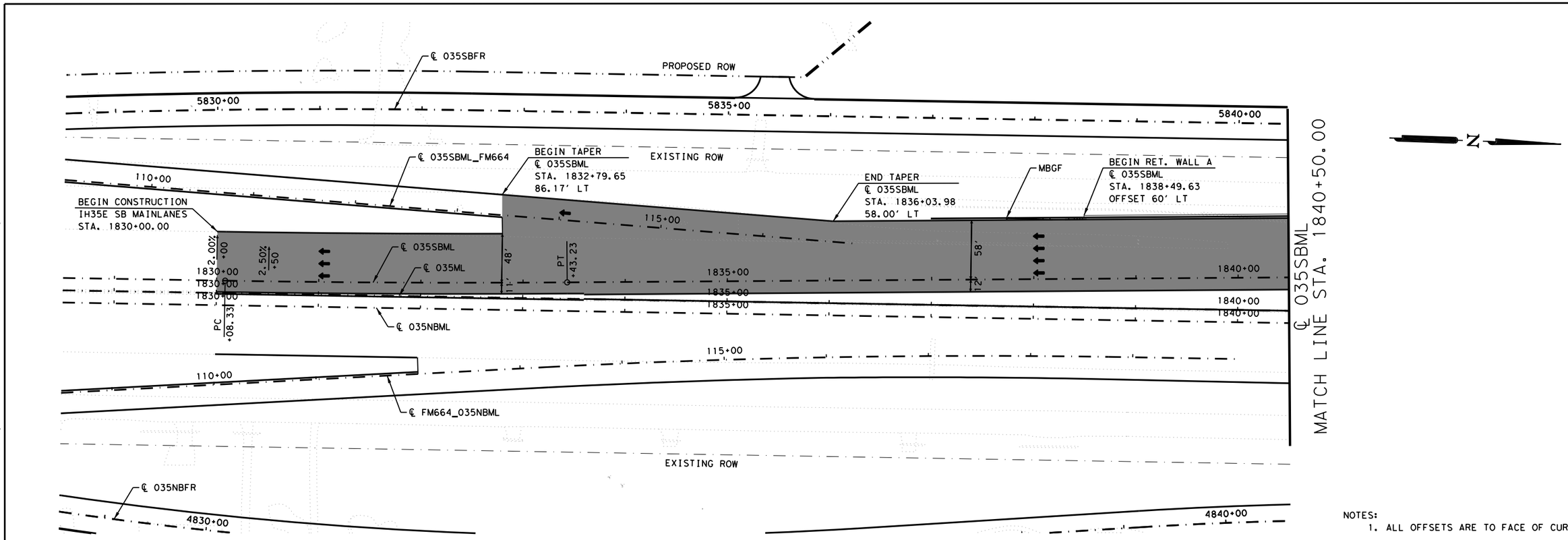
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(NB MAINLANES)

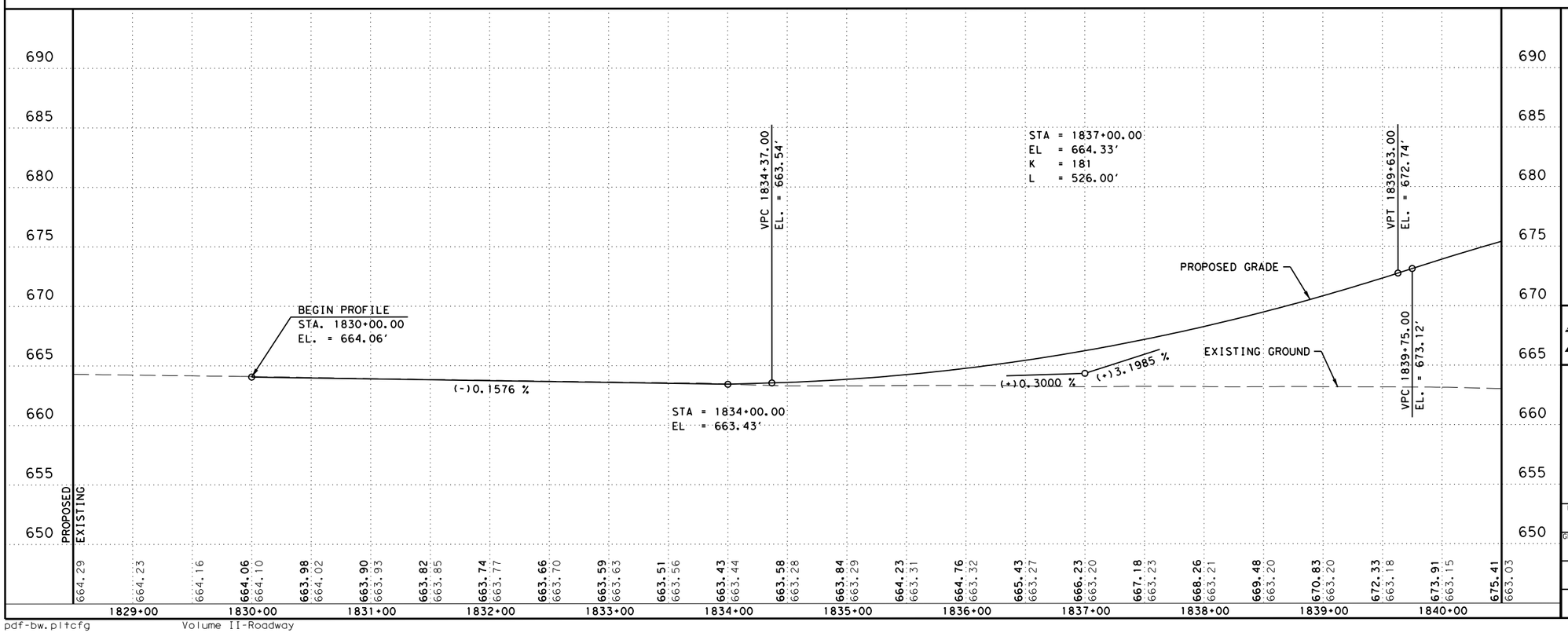
SCALE: 1"=10' (V)
1"=100' (H)

SHEET 3 OF 6

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	756
CHECK				
MPM				



NOTES:
1. ALL OFFSETS ARE TO FACE OF CURB



STATE OF TEXAS
M. Pauline Morre
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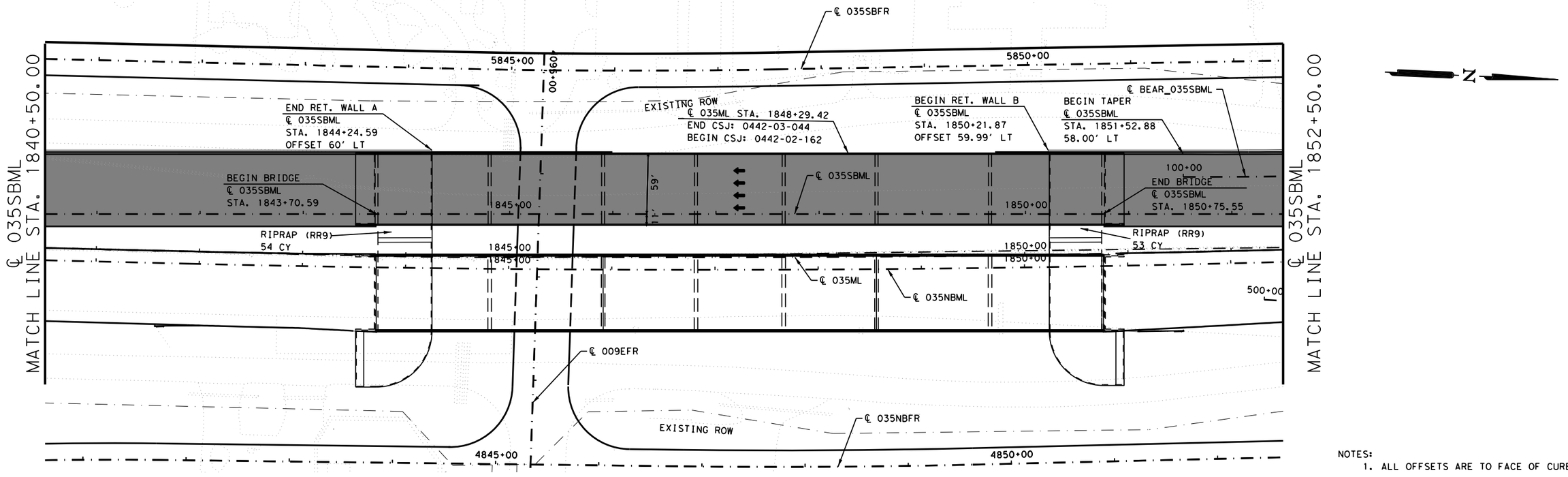
M Pauline Morre P.E.
11.10.23

Texas Department of Transportation

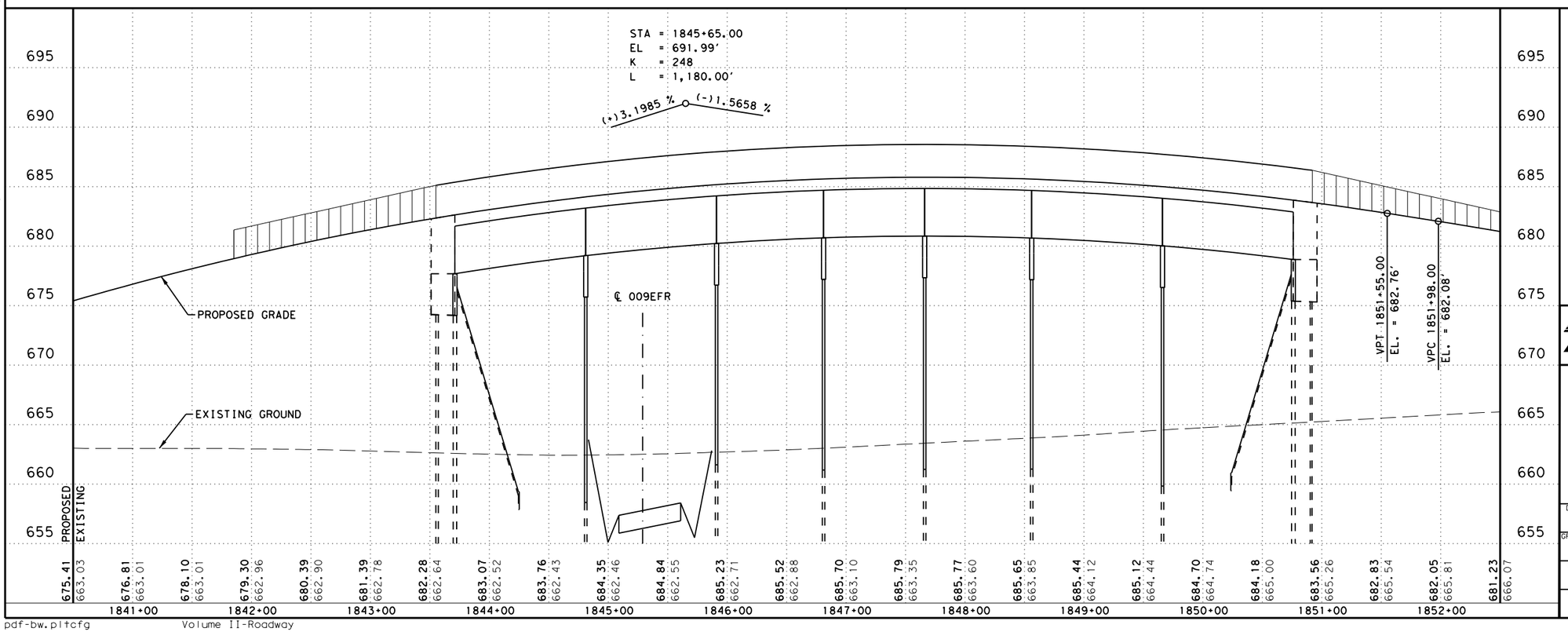
IH35E
PLAN AND PROFILE
(SB MAINLANES)

SCALE: 1"=10' (V)
1"=100' (H)

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042, ETC.	757
CHECK				
MPM				



NOTES:
1. ALL OFFSETS ARE TO FACE OF CURB



M Pauline Morre P.E. 11.10.23

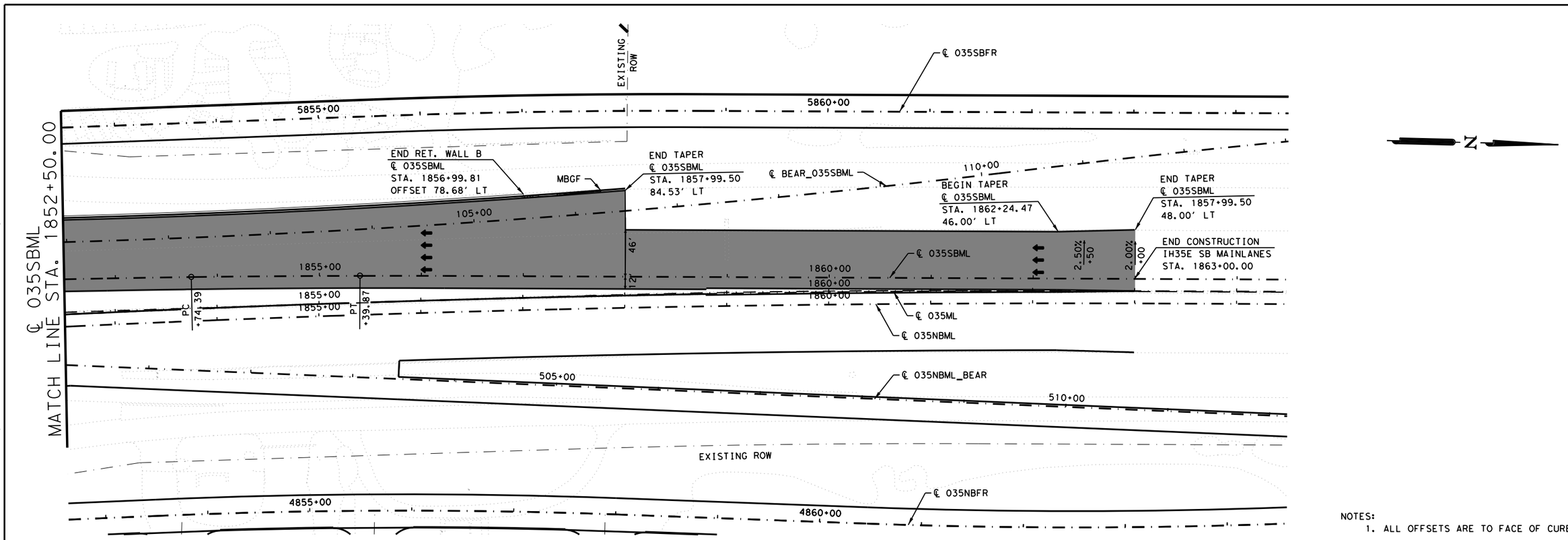
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(SB MAINLANES)

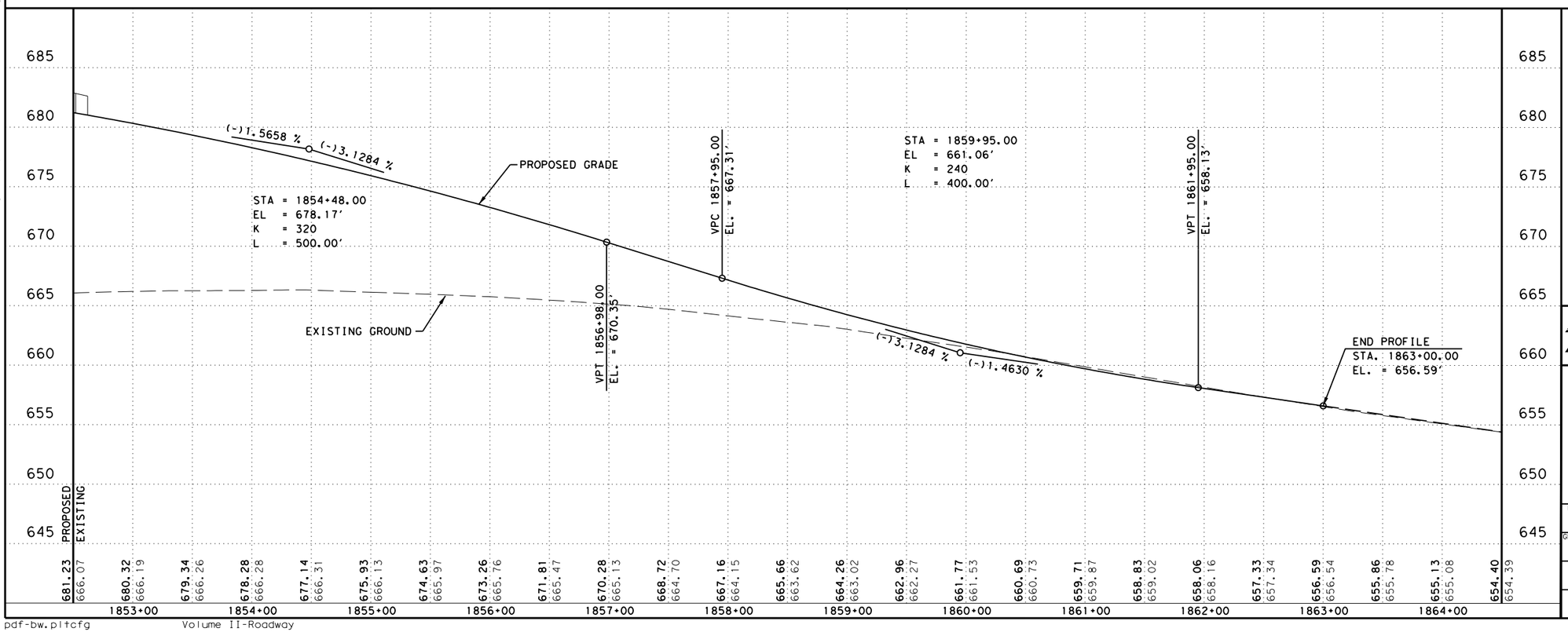
SCALE: 1"=10' (V)
1"=100' (H)

SHEET 5 OF 6

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH 35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	758
	0442	03	042, ETC.	



NOTES:
1. ALL OFFSETS ARE TO FACE OF CURB



STATE OF TEXAS
M. Pauline Morre
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LICENSED PROFESSIONAL ENGINEER
M Pauline Morre P.E.
11.10.23

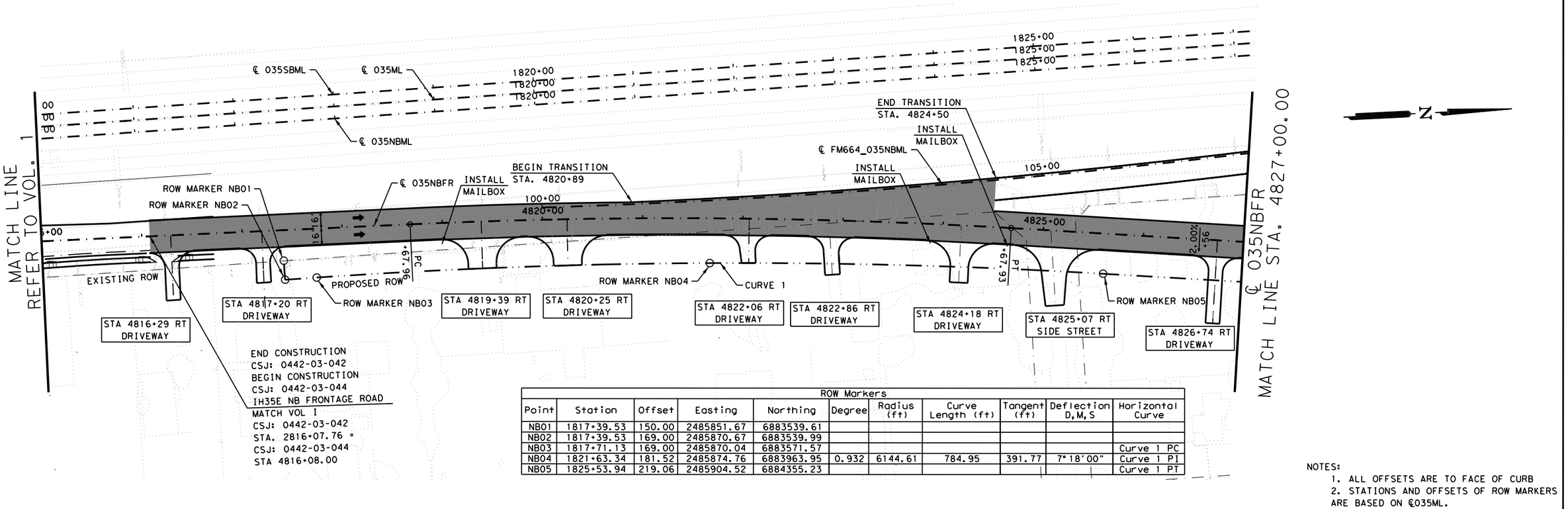
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(SB MAINLANES)

SCALE: 1"=10' (V)
1"=100' (H)

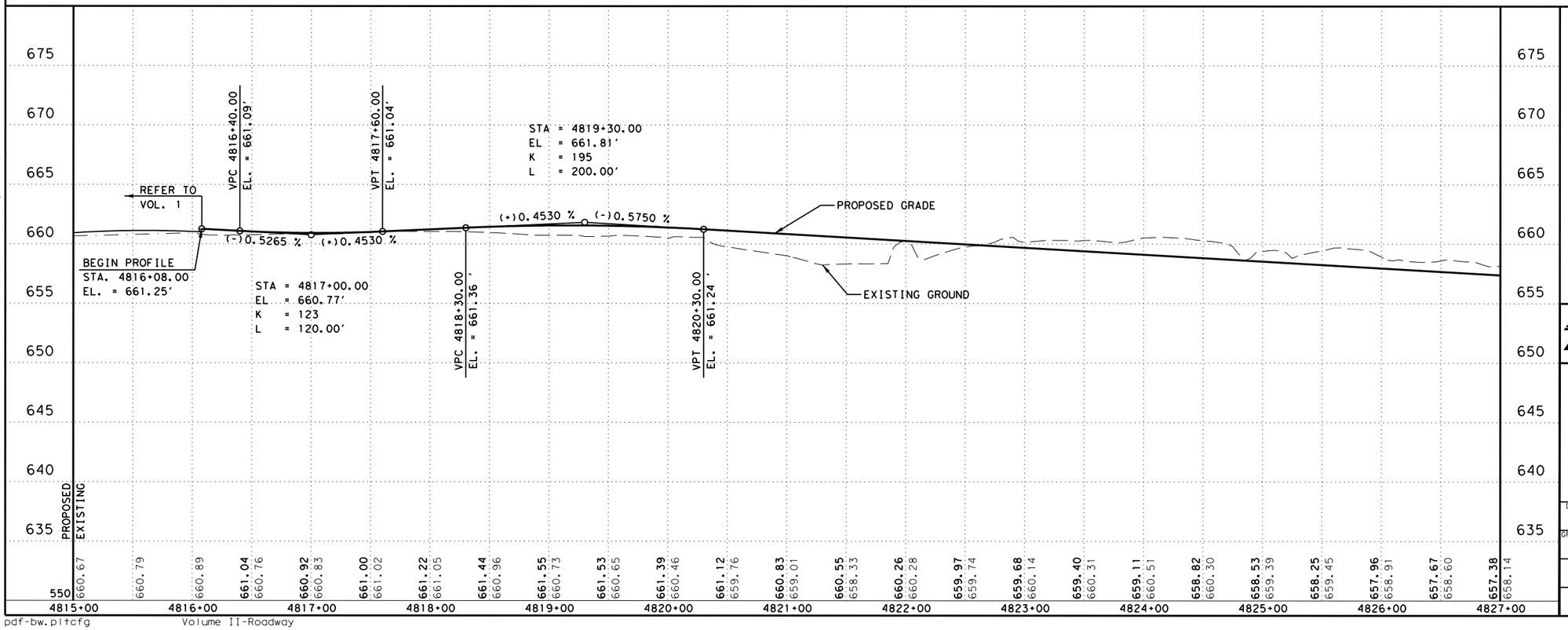
SHEET 6 OF 6

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH 35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	759
	0442	03	042, ETC.	



ROW Markers										
Point	Station	Offset	Easting	Northing	Degree	Radius (ft)	Curve Length (ft)	Tangent (ft)	Deflection D,M,S	Horizontal Curve
NB01	1817+39.53	150.00	2485851.67	6883539.61						
NB02	1817+39.53	169.00	2485870.67	6883539.99						
NB03	1817+71.13	169.00	2485870.04	6883571.57						Curve 1 PC
NB04	1821+63.34	181.52	2485874.76	6883963.95	0.932	6144.61	784.95	391.77	7°18'00"	Curve 1 PI
NB05	1825+53.94	219.06	2485904.52	6884355.23						Curve 1 PT

NOTES:
1. ALL OFFSETS ARE TO FACE OF CURB
2. STATIONS AND OFFSETS OF ROW MARKERS ARE BASED ON ℄035ML.



M. Pauline Morre
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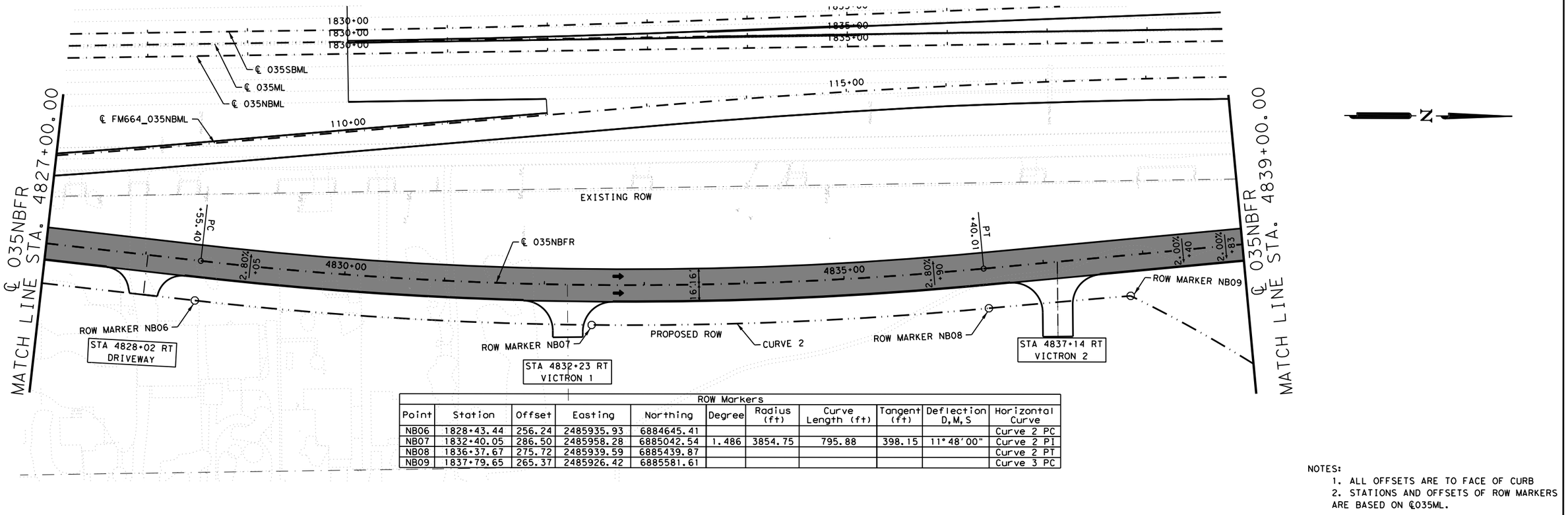
STATE OF TEXAS
M Pauline Morre P.E. 11.29.23

IH35E
PLAN AND PROFILE
(NB FRONTAGE ROAD)

SCALE: 1"=10' (V)
1"=100' (H)

SHEET 1 OF 13

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH 35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	760
	0442	03	042, ETC.	



ROW Markers										
Point	Station	Offset	Easting	Northing	Degree	Radius (ft)	Curve Length (ft)	Tangent (ft)	Deflection D,M,S	Horizontal Curve
NB06	1828+43.44	256.24	2485935.93	6884645.41						Curve 2 PC
NB07	1832+40.05	286.50	2485958.28	6885042.54	1.486	3854.75	795.88	398.15	11°48'00"	Curve 2 PI
NB08	1836+37.67	275.72	2485939.59	6885439.87						Curve 2 PT
NB09	1837+79.65	265.37	2485926.42	6885581.61						Curve 3 PC

NOTES:
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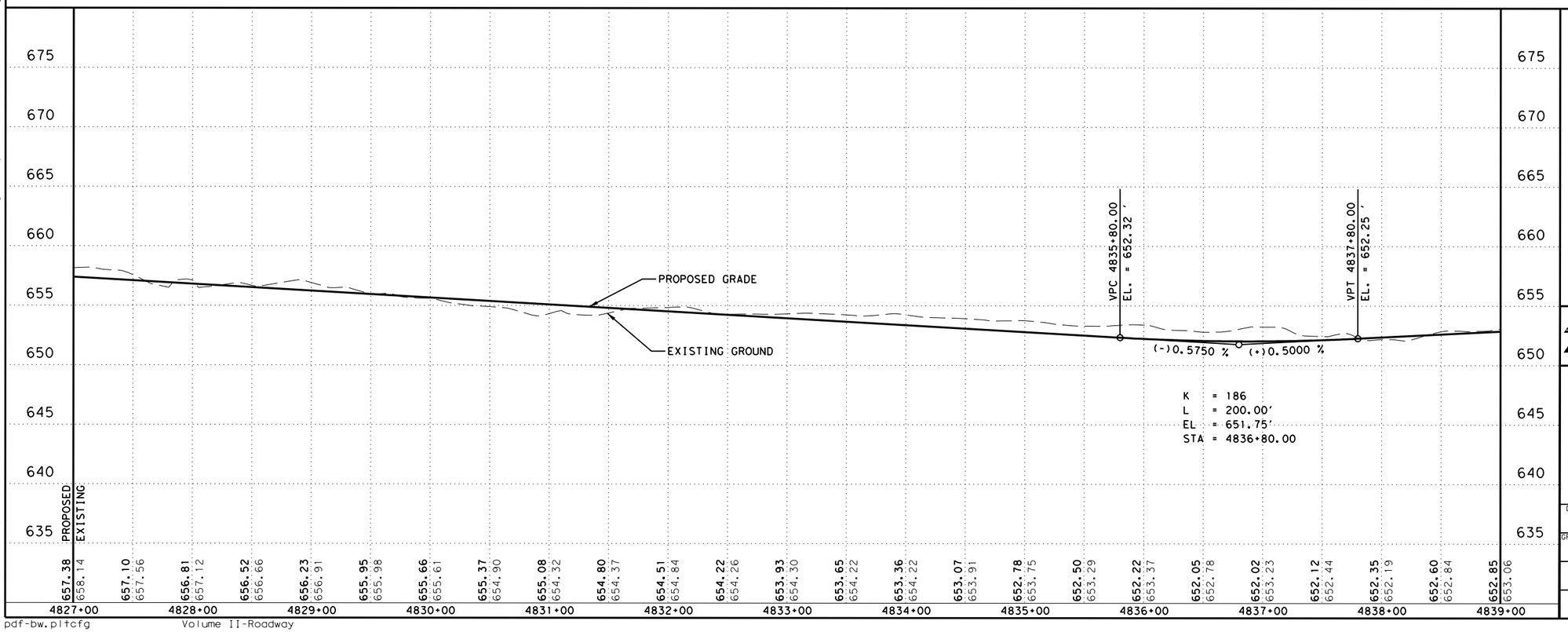
2. STATIONS AND OFFSETS OF ROW MARKERS ARE BASED ON ℄035ML.



M Pauline Morre P.E. 11.10.23

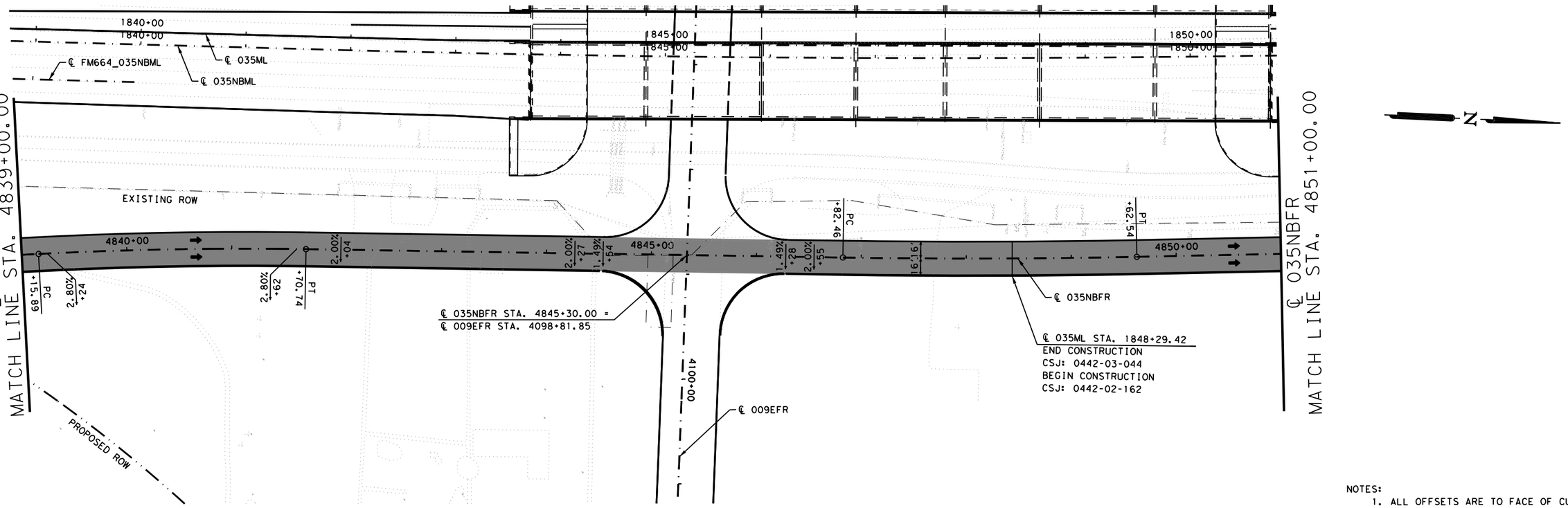
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(NB FRONTAGE ROAD)

SCALE: 1"=10' (V)
1"=100' (H)

SHEET 2 OF 13

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, etc.	
CHECK MPM	CONTROL	SECTION	JOB	761
	0442	03	042, ETC.	



NOTES:
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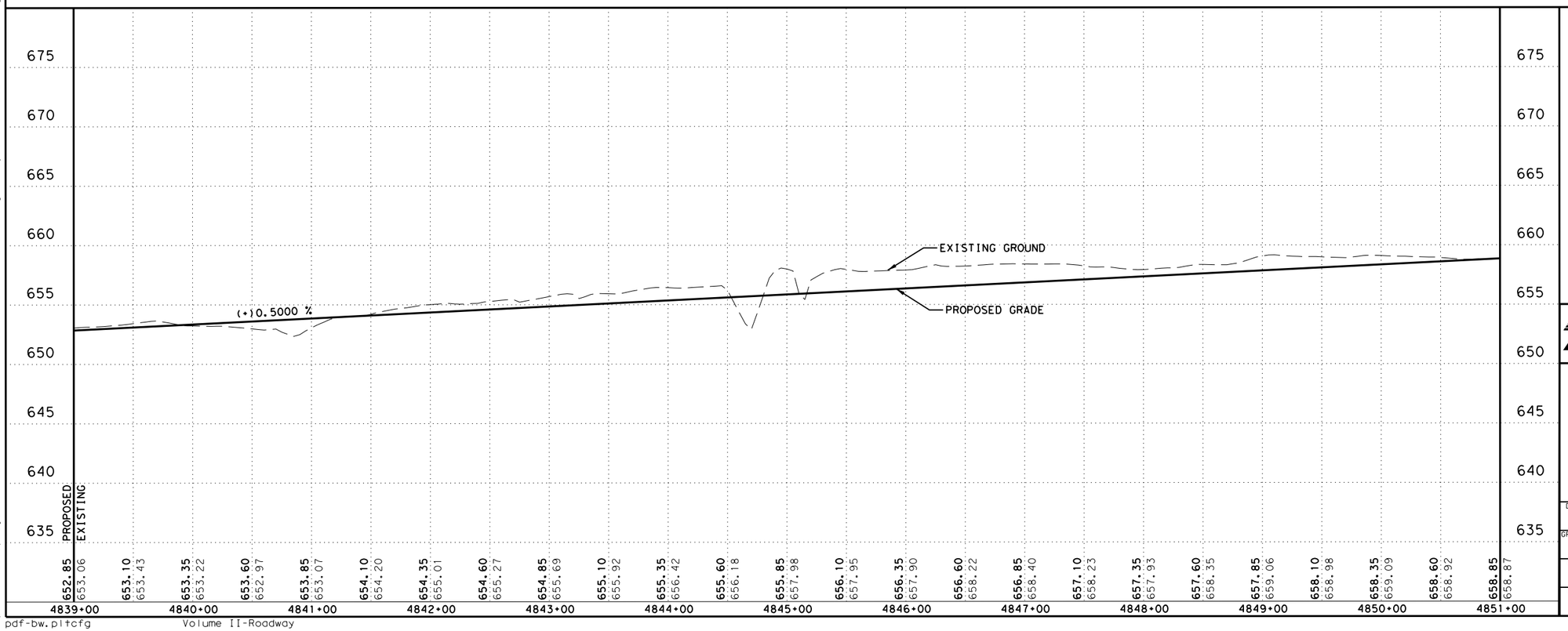
2. STATIONS AND OFFSETS OF ROW MARKERS ARE BASED ON ℄035ML.



M. Pauline Morre 94443 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

M Pauline Morre P.E. 11.10.23

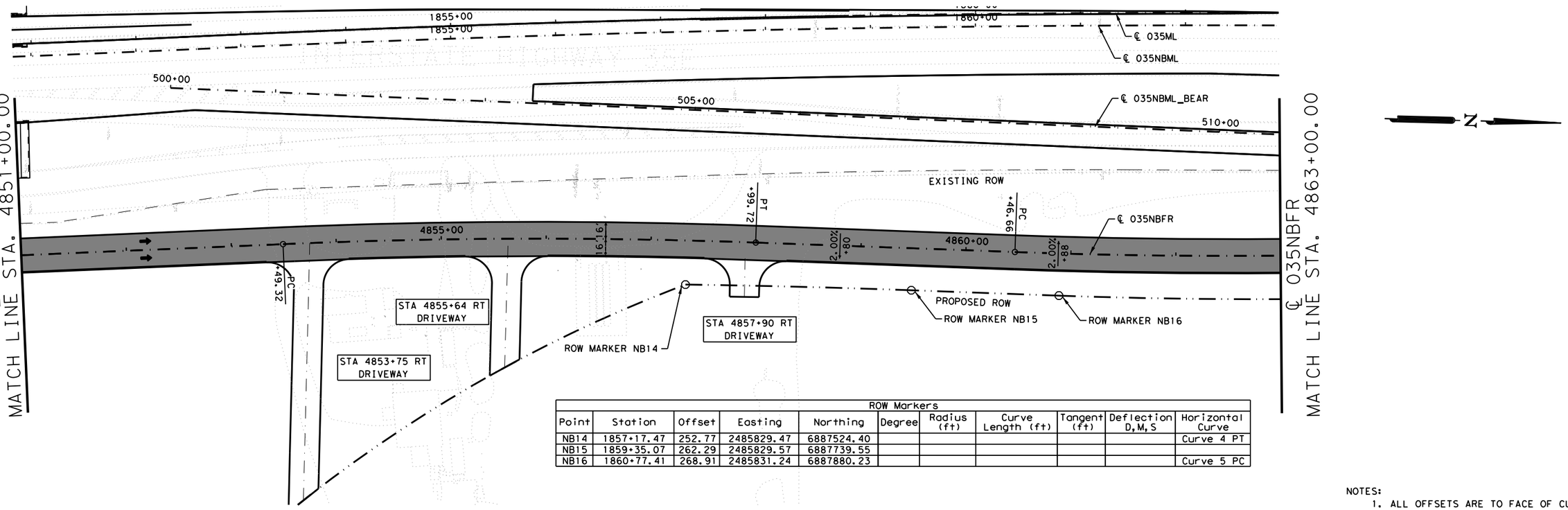
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(NB FRONTAGE ROAD)

SCALE: 1"=10' (V)
1"=100' (H)

SHEET 3 OF 13

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH 35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	762
	0442	03	042, ETC.	



ROW Markers

Point	Station	Offset	Easting	Northing	Degree	Radius (ft)	Curve Length (ft)	Tangent (ft)	Deflection D,M,S	Horizontal Curve
NB14	1857+17.47	252.77	2485829.47	6887524.40						Curve 4 PT
NB15	1859+35.07	262.29	2485829.57	6887739.55						
NB16	1860+77.41	268.91	2485831.24	6887880.23						Curve 5 PC

NOTES:
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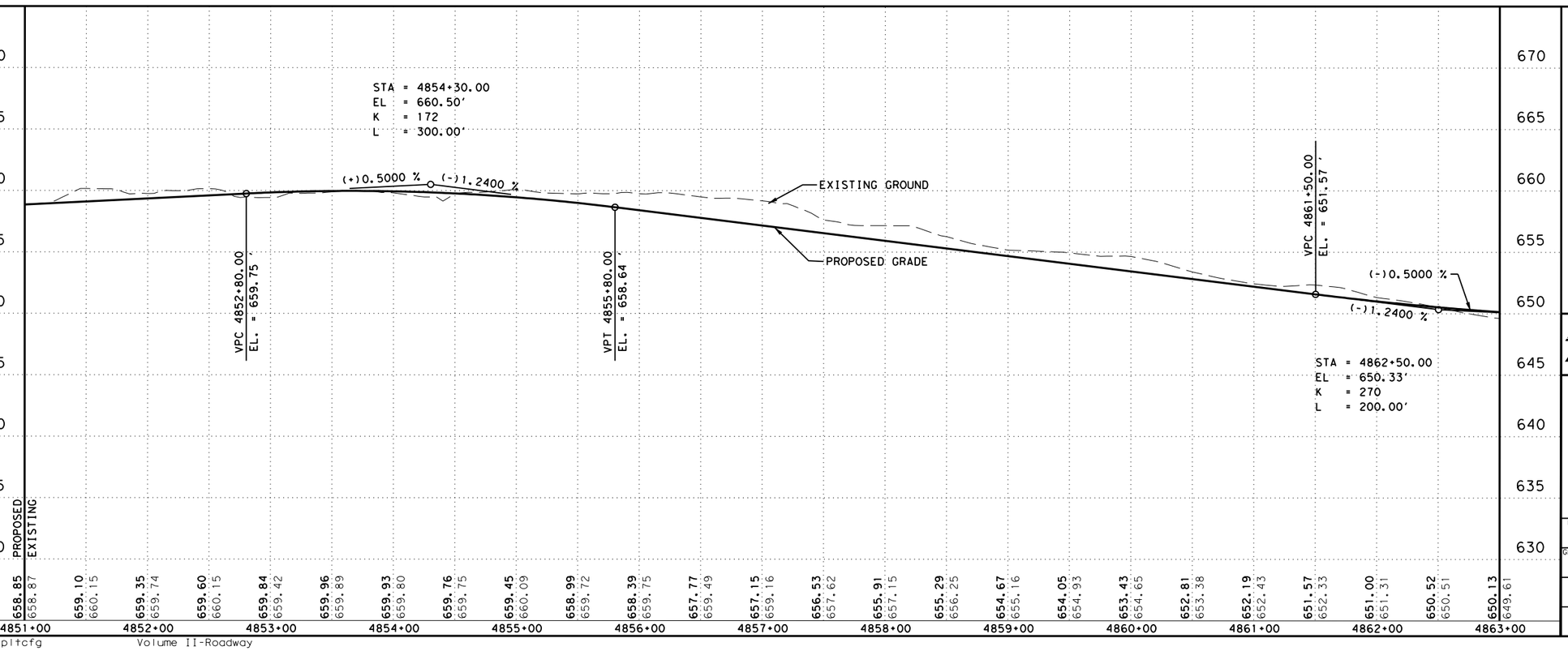
2. STATIONS AND OFFSETS OF ROW MARKERS ARE BASED ON ℄035ML.



STATE OF TEXAS
M. Pauline Morre
94443
LICENSED PROFESSIONAL ENGINEER

M Pauline Morre P.E. 11.10.23

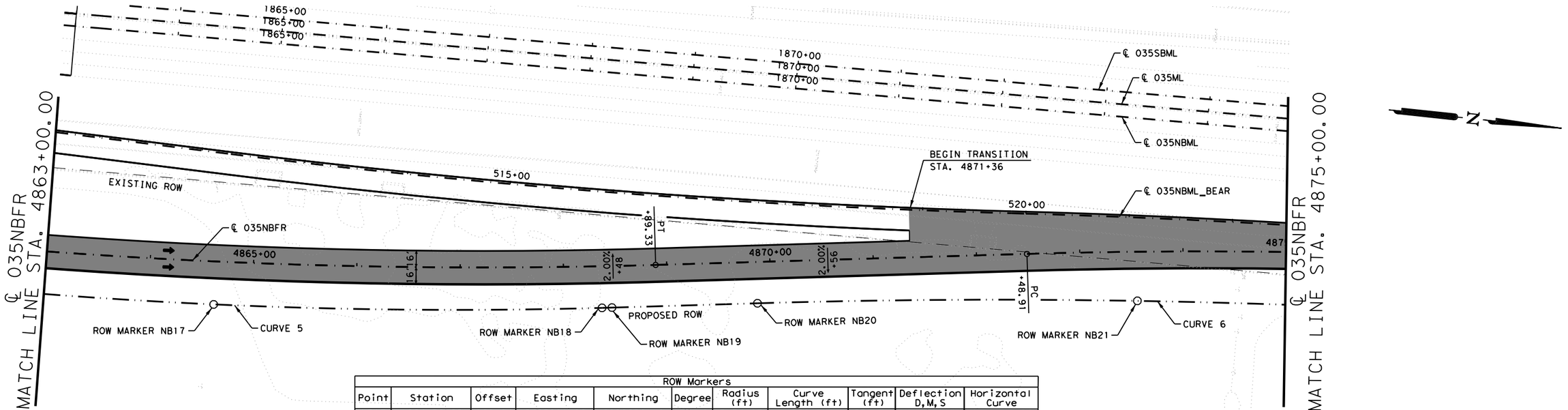
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(NB FRONTAGE ROAD)

SCALE: 1"=10' (V)
1"=100' (H)

SHEET 4 OF 13

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH 35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	763
	0442	03	042,ETC.	



ROW Markers

Point	Station	Offset	Easting	Northing	Degree	Radius (ft)	Curve Length (ft)	Tangent (ft)	Deflection D,M,S	Horizontal Curve
NB17	1864+56.62	268.64	2485821.98	6888256.19	1.112	5154.67	752.31	378.34	8°24'00"	Curve 5 PI
NB18	1868+31.56	239.55	2485785.33	6888630.47						Curve 5 PT
NB19	1868+41.24	238.44	2485784.02	6888640.12						
NB20	1869+80.99	222.18	2485764.95	6888779.51						Curve 6 PC
NB21	1873+47.26	188.15	2485723.53	6889145.02	0.721	7944.49	735.78	367.52	5°18'00"	Curve 6 PI

NOTES:
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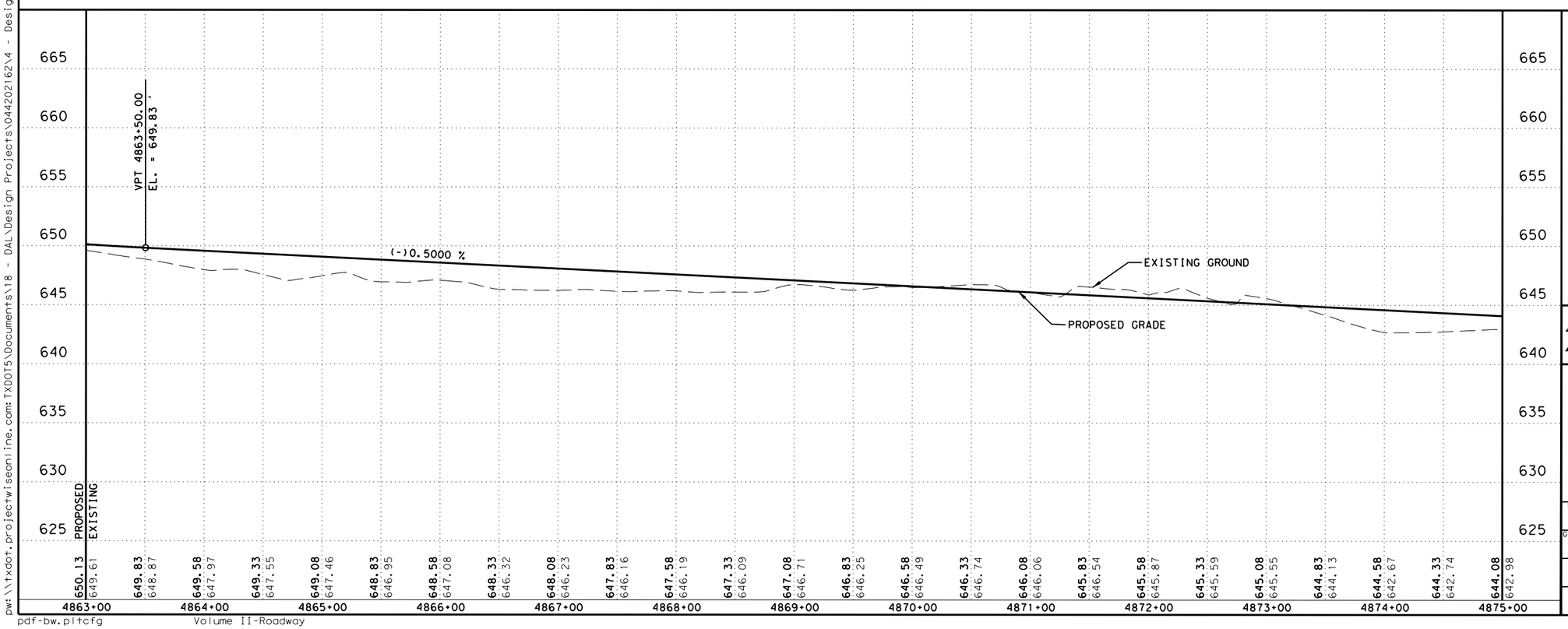

M. Pauline Morre
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STATE OF TEXAS

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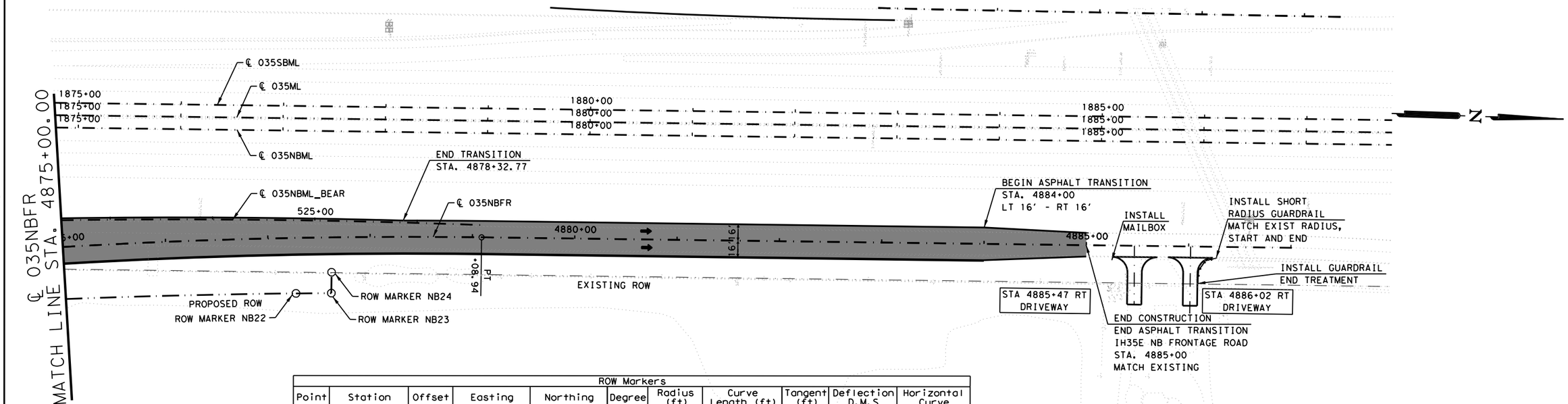
IH35E
PLAN AND PROFILE
(NB FRONTAGE ROAD)

SCALE: 1"=10' (V)
1"=100' (H)

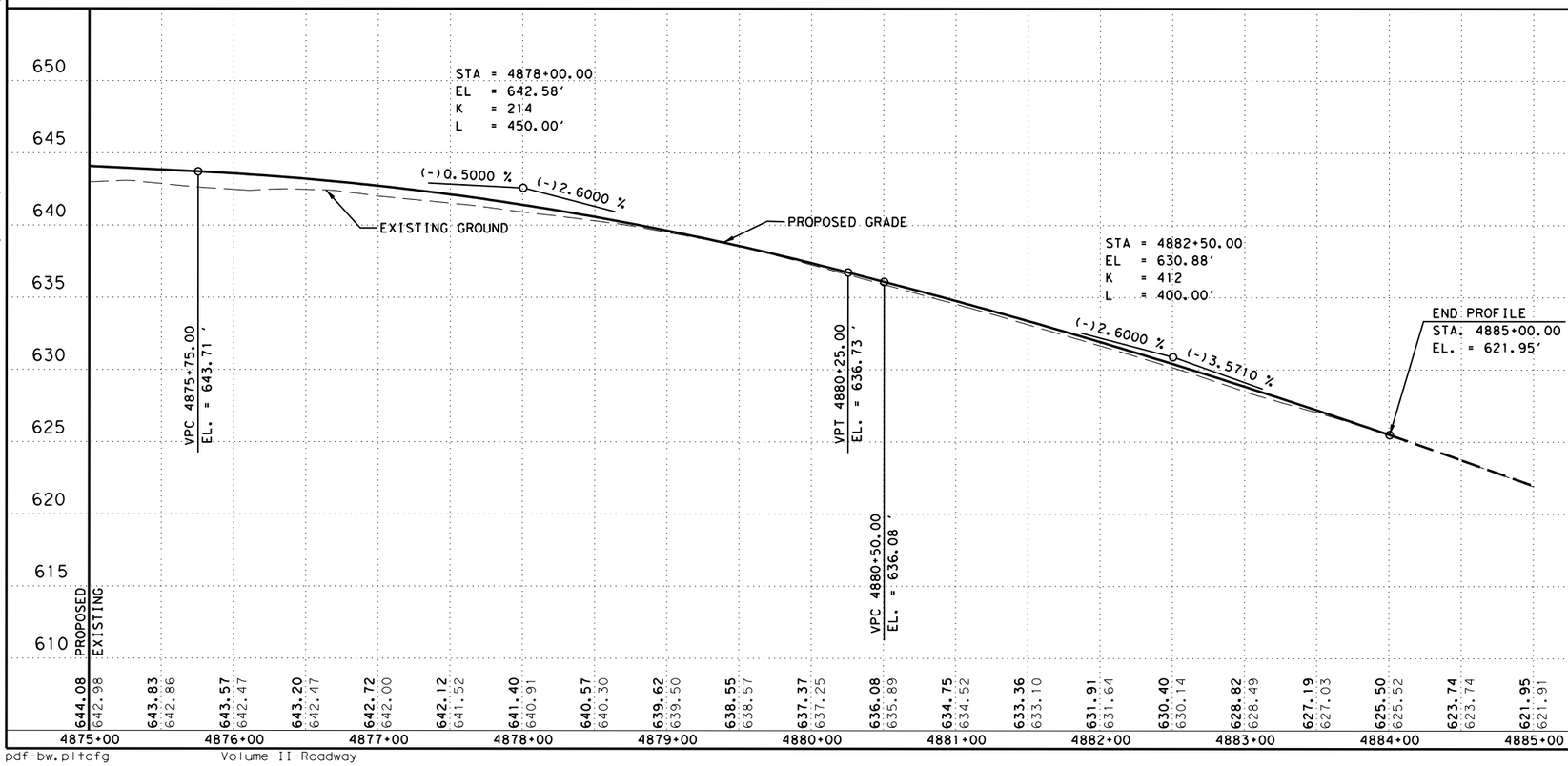
SHEET 5 OF 13

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH 35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	764
	0442	03	042,ETC.	



ROW Markers										
Point	Station	Offset	Easting	Northing	Degree	Radius (ft)	Curve Length (ft)	Tangent (ft)	Deflection D,M,S	Horizontal Curve
NB22	1877+14.72	171.11	2485699.08	6889512.07						Curve 6 PT
NB23	1877+49.30	170.38	2485697.66	6889546.62						
NB24	1877+49.30	149.98	2485677.25	6889546.21						

NOTES:
1. ALL OFFSETS ARE TO FACE OF CURB
2. STATIONS AND OFFSETS OF ROW MARKERS ARE BASED ON ℄035ML.



M. Pauline Morre
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STATE OF TEXAS
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Texas Department of Transportation

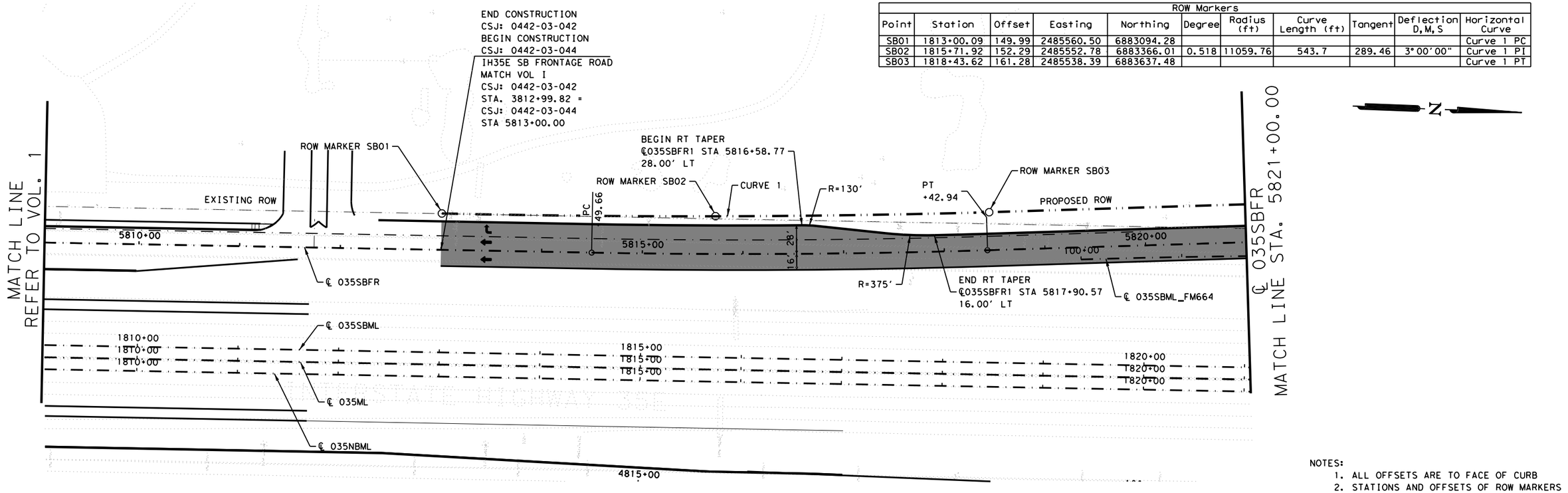
IH35E
PLAN AND PROFILE
(NB FRONTAGE ROAD)

SCALE: 1"=10' (V)
1"=100' (H)

SHEET 6 OF 13

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH 35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	765
	0442	03	042,ETC.	

ROW Markers										
Point	Station	Offset	Easting	Northing	Degree	Radius (ft)	Curve Length (ft)	Tangent	Deflection D,M,S	Horizontal Curve
SB01	1813+00.09	149.99	2485560.50	6883094.28						Curve 1 PC
SB02	1815+71.92	152.29	2485552.78	6883366.01	0.518	11059.76	543.7	289.46	3°00'00"	Curve 1 PI
SB03	1818+43.62	161.28	2485538.39	6883637.48						Curve 1 PT



NOTES:
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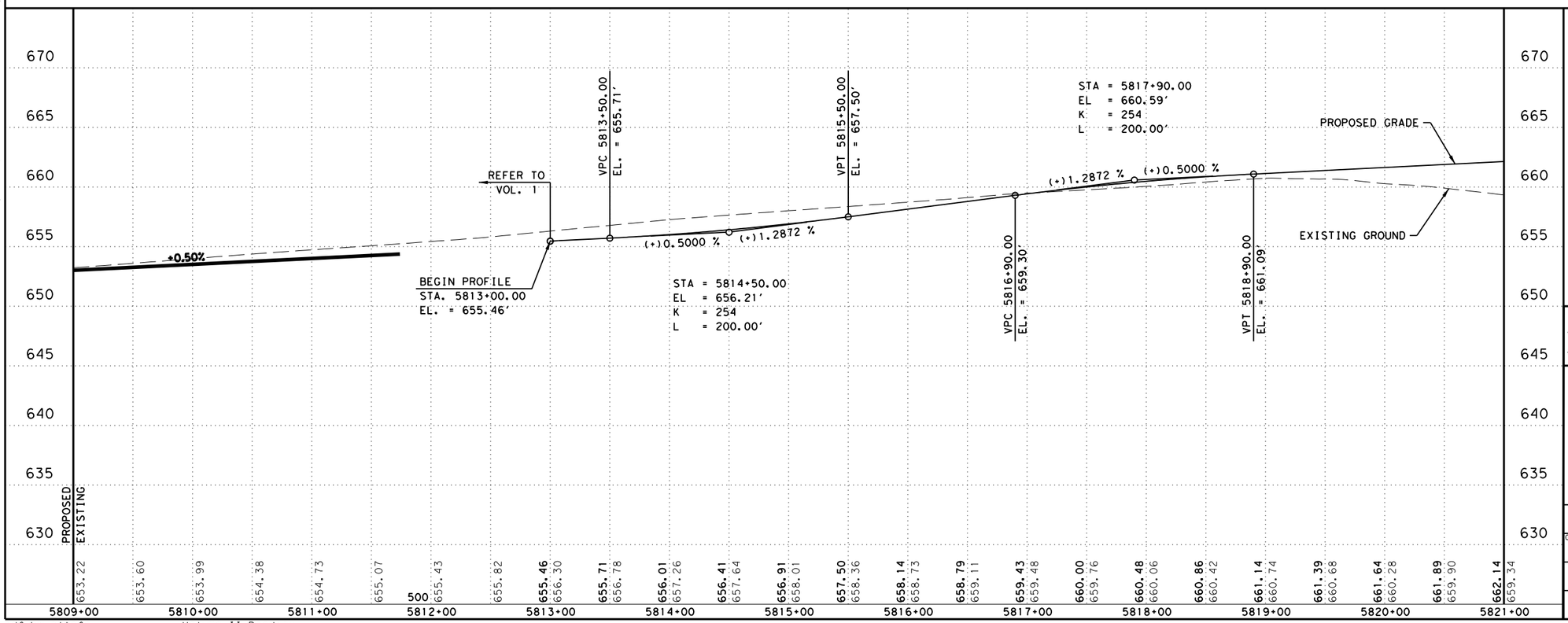

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11.10.23

Texas Department of Transportation

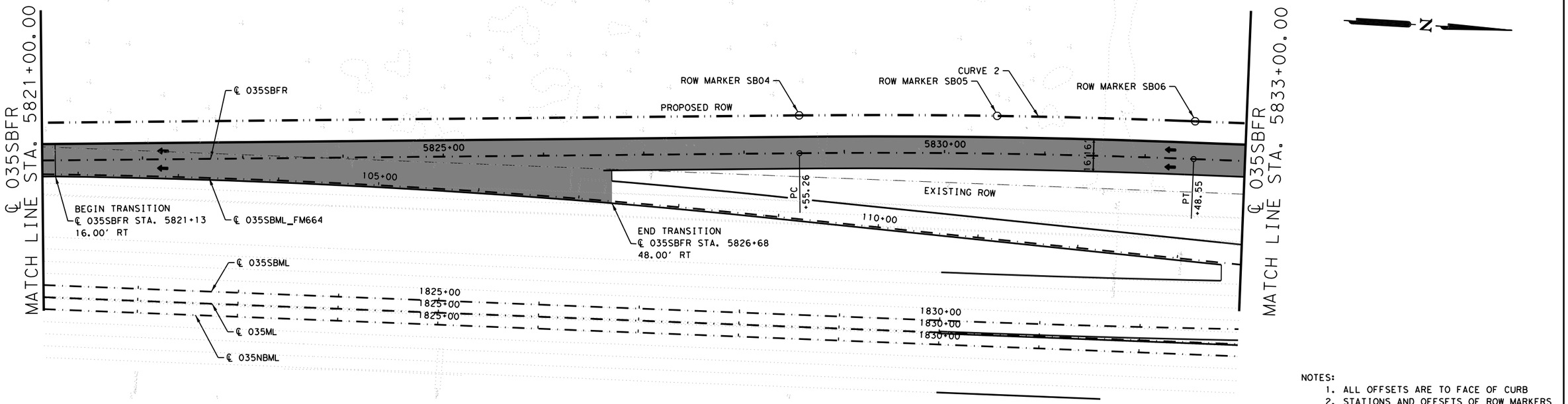
IH35E
PLAN AND PROFILE
(SB FRONTAGE ROAD)

SCALE: 1"=10' (V)
1"=100' (H)

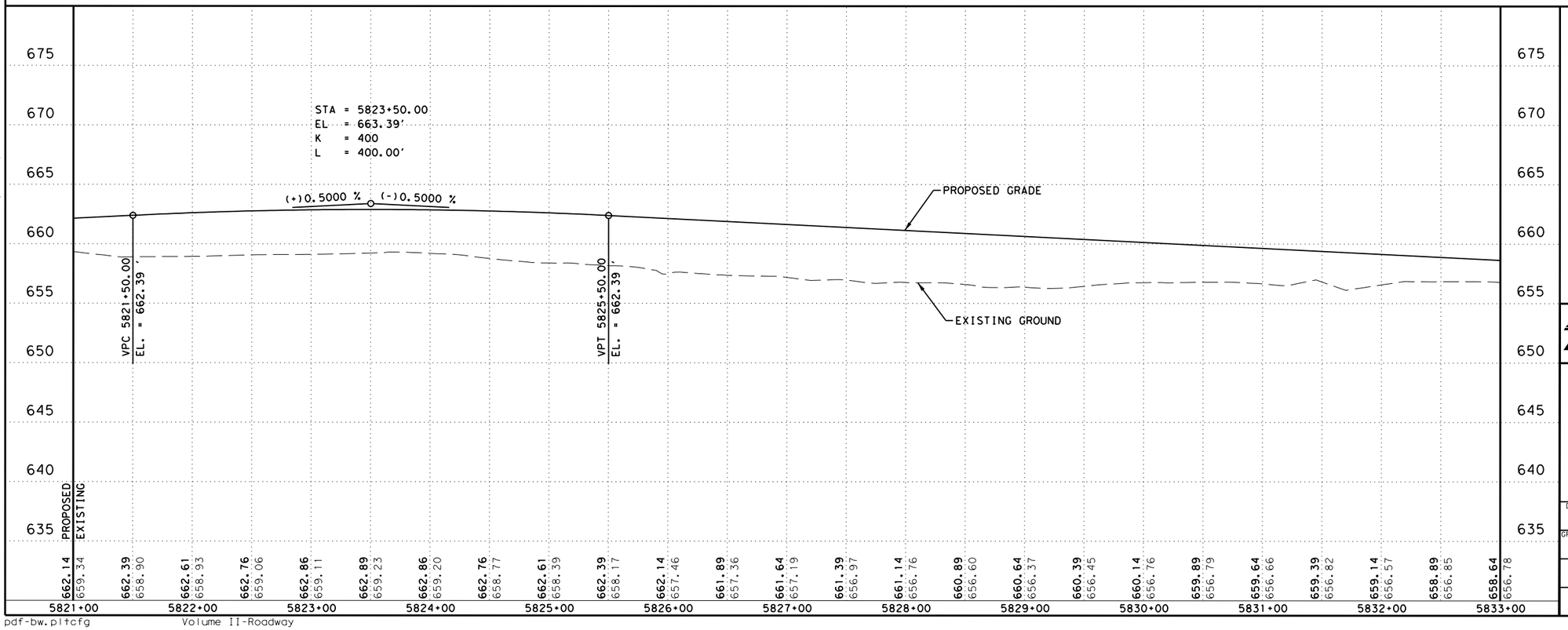
SHEET 7 OF 13

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH 35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	766
	0442	03	042, ETC.	

ROW Markers										
Point	Station	Offset	Easting	Northing	Degree	Radius (ft)	Curve Length (ft)	Tangent	Deflection D,M,S	Horizontal Curve
SB04	1828+51.93	210.89	2485468.72	6884644.60						Curve 2 PC
SB05	1830+49.35	218.17	2485457.51	6884841.84	0.713	8037.16	395.12	196.32	2°48'00"	Curve 2 PI
SB06	1832+46.89	220.60	2485451.15	6885039.29						Curve 2 PT



NOTES:
1. ALL OFFSETS ARE TO FACE OF CURB
2. STATIONS AND OFFSETS OF ROW MARKERS ARE BASED ON ℄035ML.



M. Pauline Morre
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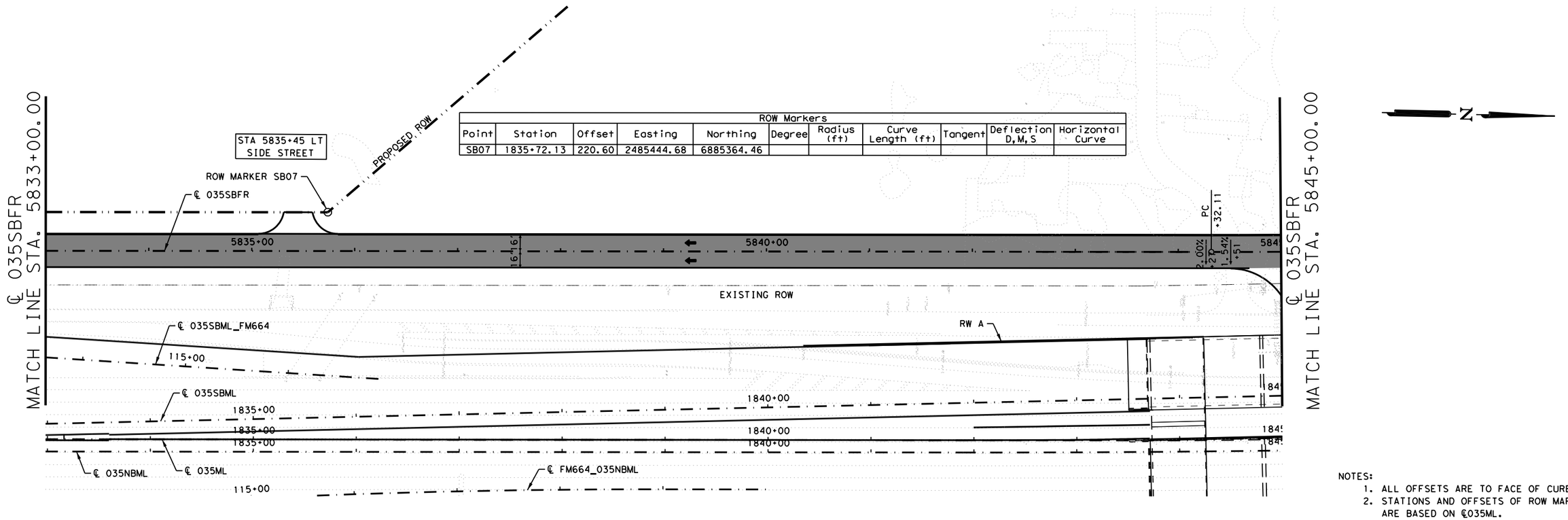
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(SB FRONTAGE ROAD)

SCALE: 1"=10' (V)
1"=100' (H)

SHEET 8 OF 13

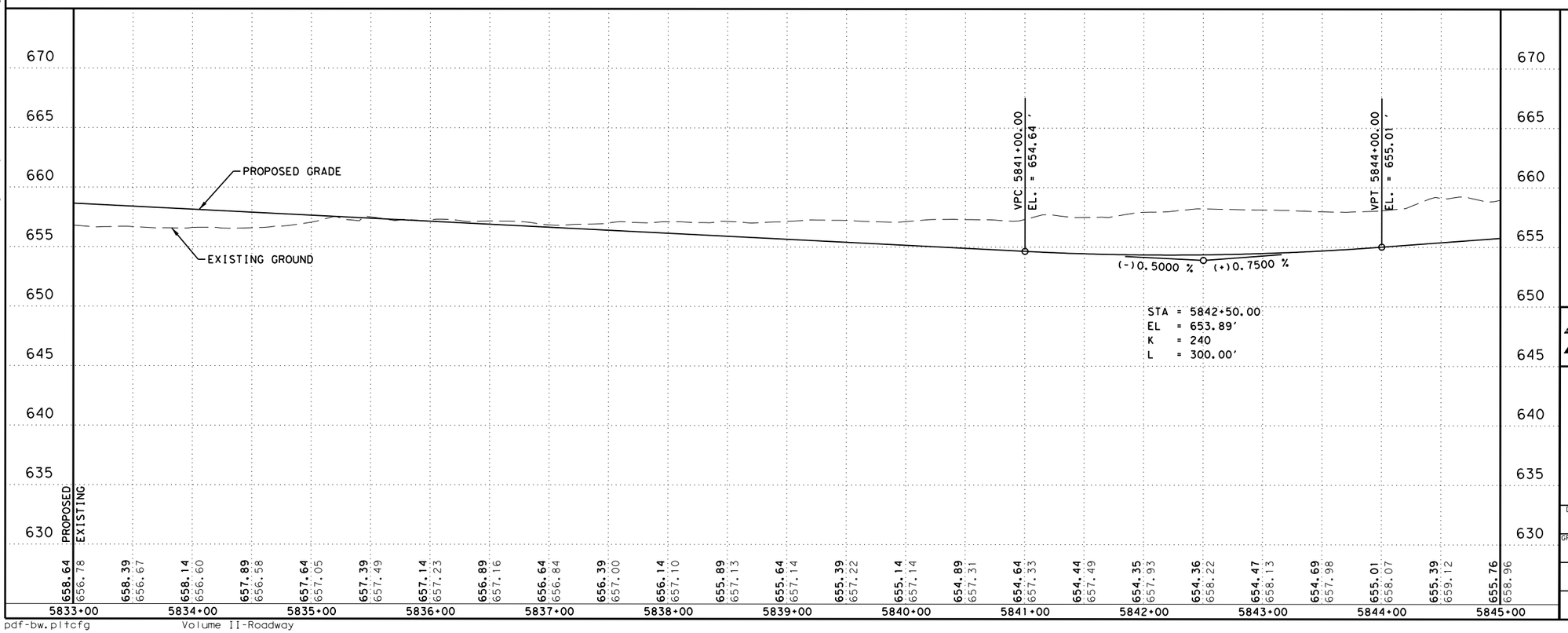
DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH 35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	767
	0442	03	042,ETC.	



ROW Markers

Point	Station	Offset	Easting	Northing	Degree	Radius (ft)	Curve Length (ft)	Tangent	Deflection D,M,S	Horizontal Curve
SB07	1835+72.13	220.60	2485444.68	6885364.46						

NOTES:
1. ALL OFFSETS ARE TO FACE OF CURB
2. STATIONS AND OFFSETS OF ROW MARKERS ARE BASED ON ℄035ML.



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STATE OF TEXAS
11.10.23

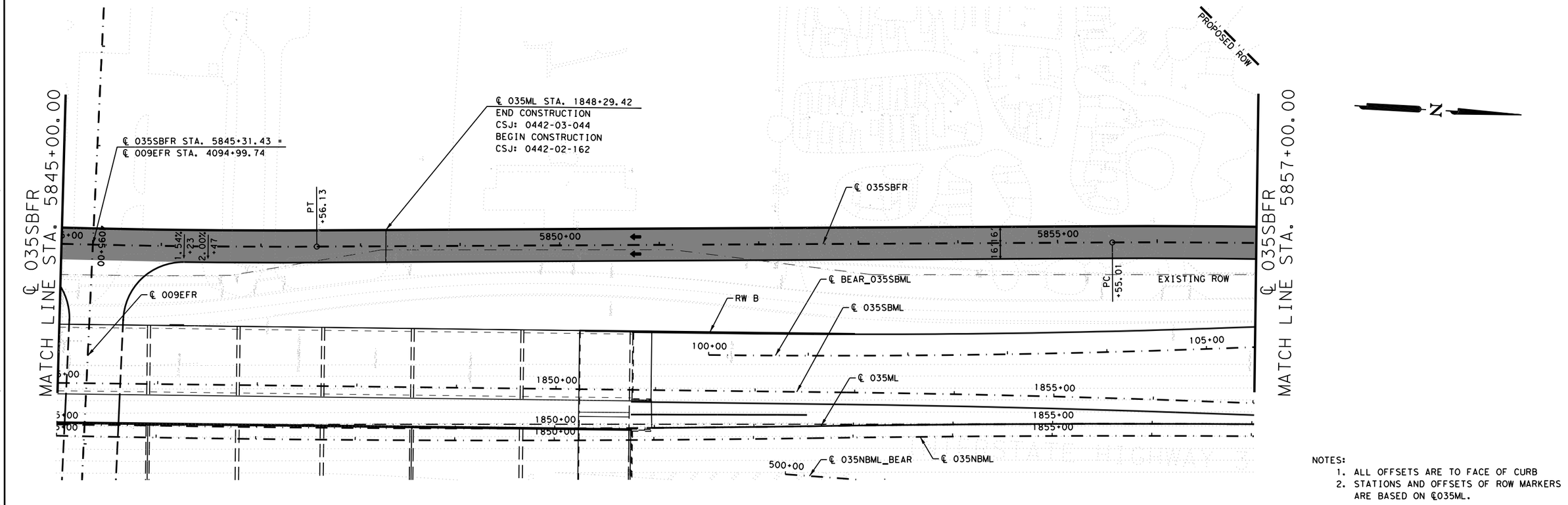
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(SB FRONTAGE ROAD)

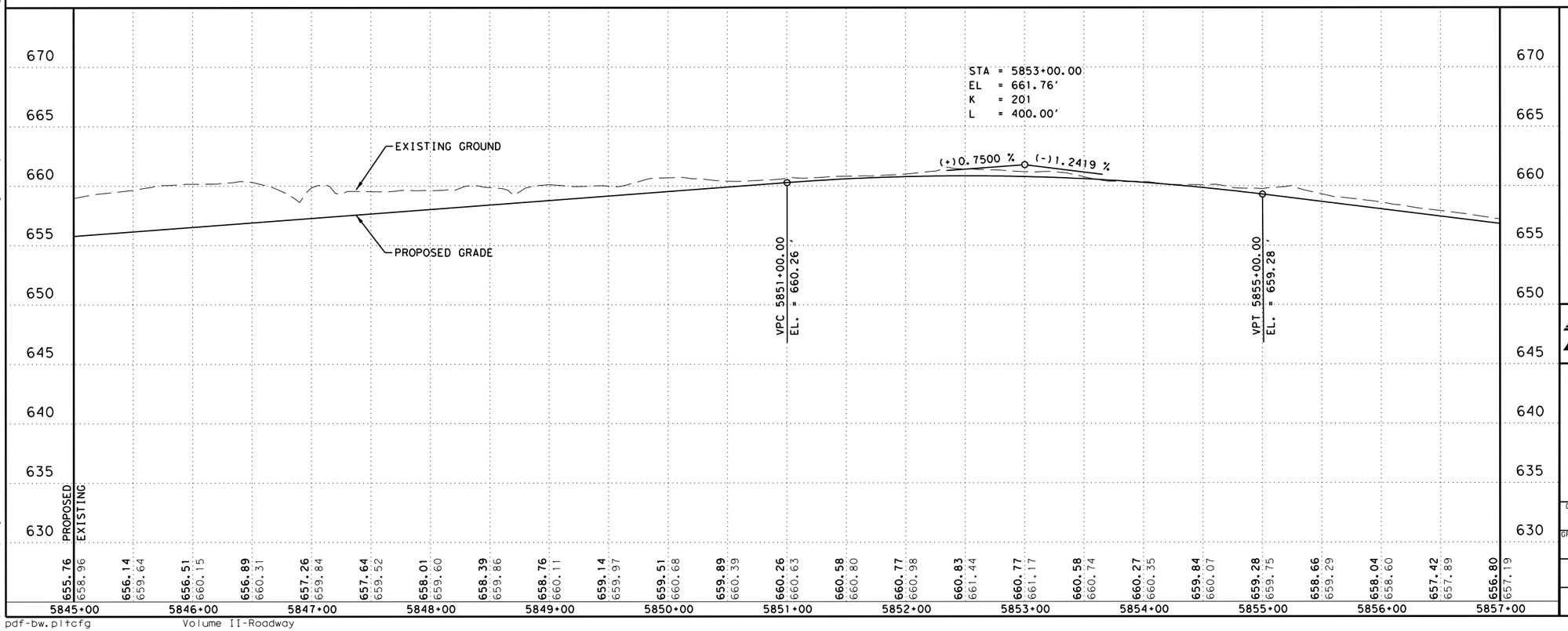
SCALE: 1"=10' (V)
1"=100' (H)

SHEET 9 OF 13

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH 35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	768
	0442	03	042,ETC.	



NOTES:
1. ALL OFFSETS ARE TO FACE OF CURB
2. STATIONS AND OFFSETS OF ROW MARKERS ARE BASED ON ℄035ML.



M. Pauline Morre
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STATE OF TEXAS

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11.10.23

Texas Department of Transportation

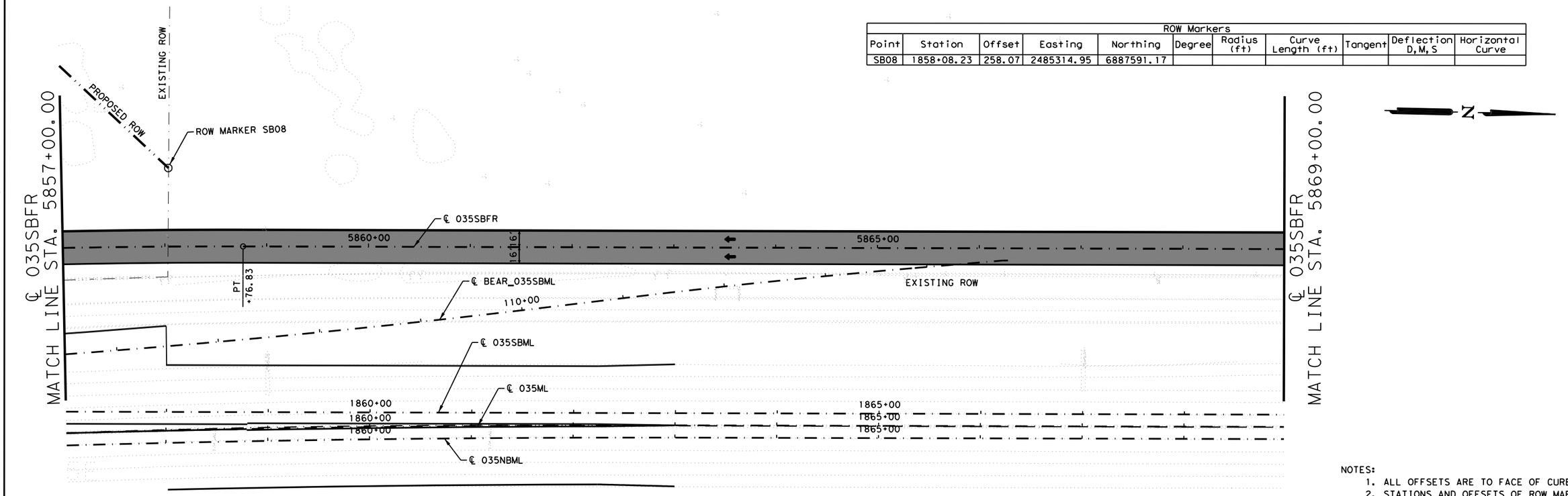
IH35E
PLAN AND PROFILE
(SB FRONTAGE ROAD)

SCALE: 1"=10' (V)
1"=100' (H)

SHEET 10 OF 13

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH 35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	769
	0442	03	042,ETC.	

ROW Markers										
Point	Station	Offset	Easting	Northing	Degree	Radius (ft)	Curve Length (ft)	Tangent	Deflection D,M,S	Horizontal Curve
SB08	1858+08.23	258.07	2485314.95	6887591.17						



NOTES:
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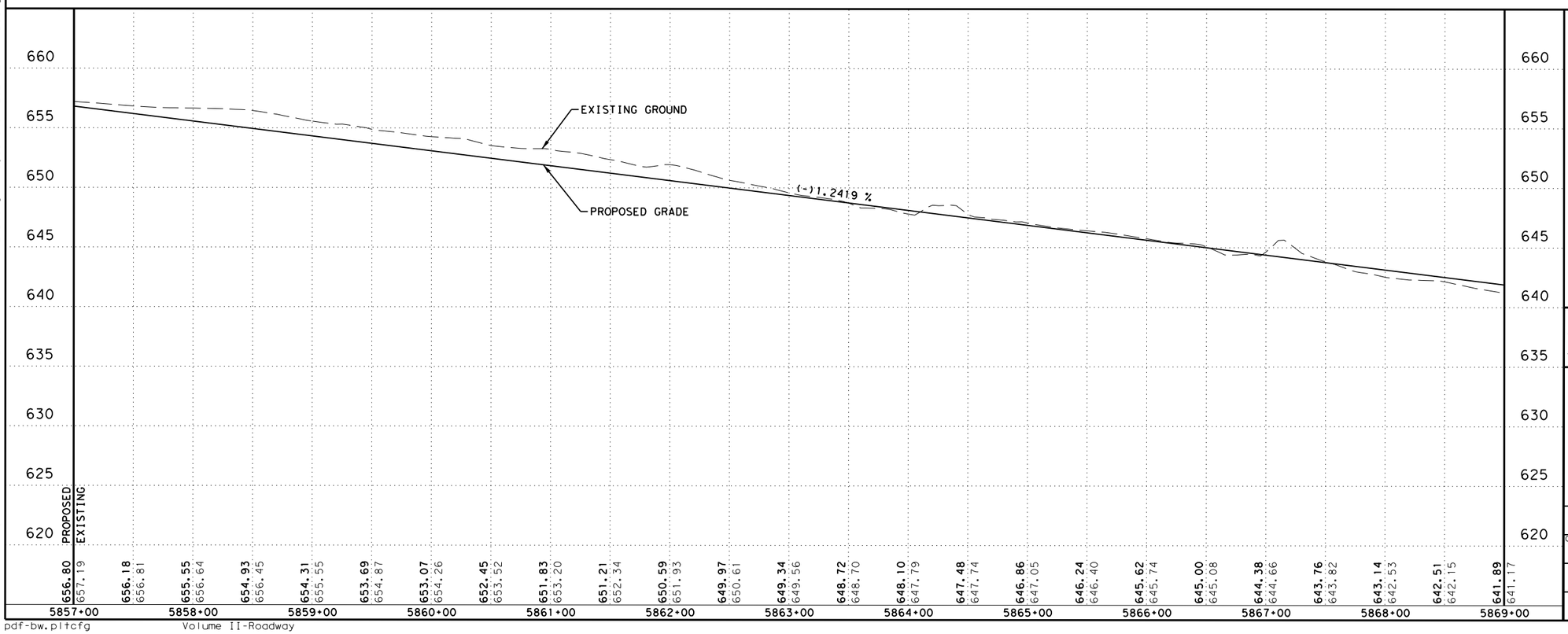
2. STATIONS AND OFFSETS OF ROW MARKERS ARE BASED ON ℄035ML.



M Pauline Morre P.E. 11.10.23

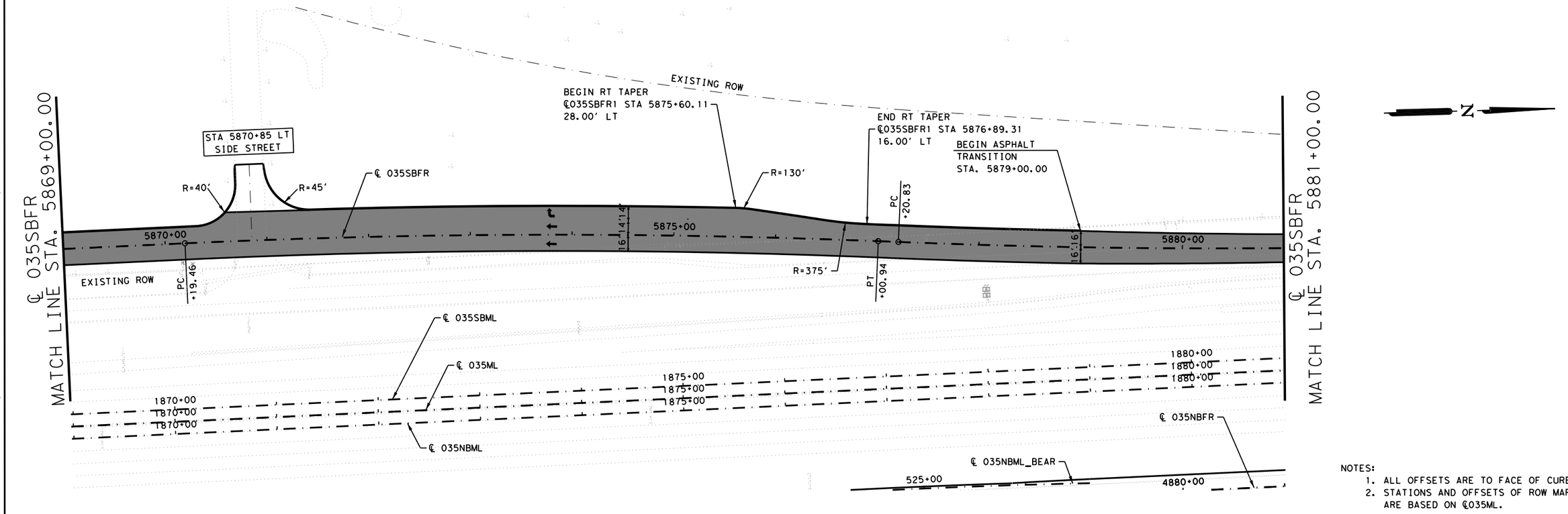
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(SB FRONTAGE ROAD)

SCALE: 1"=10' (V)
1"=100' (H)

SHEET 11 OF 13

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH 35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	770
	0442	03	042, ETC.	



NOTES:
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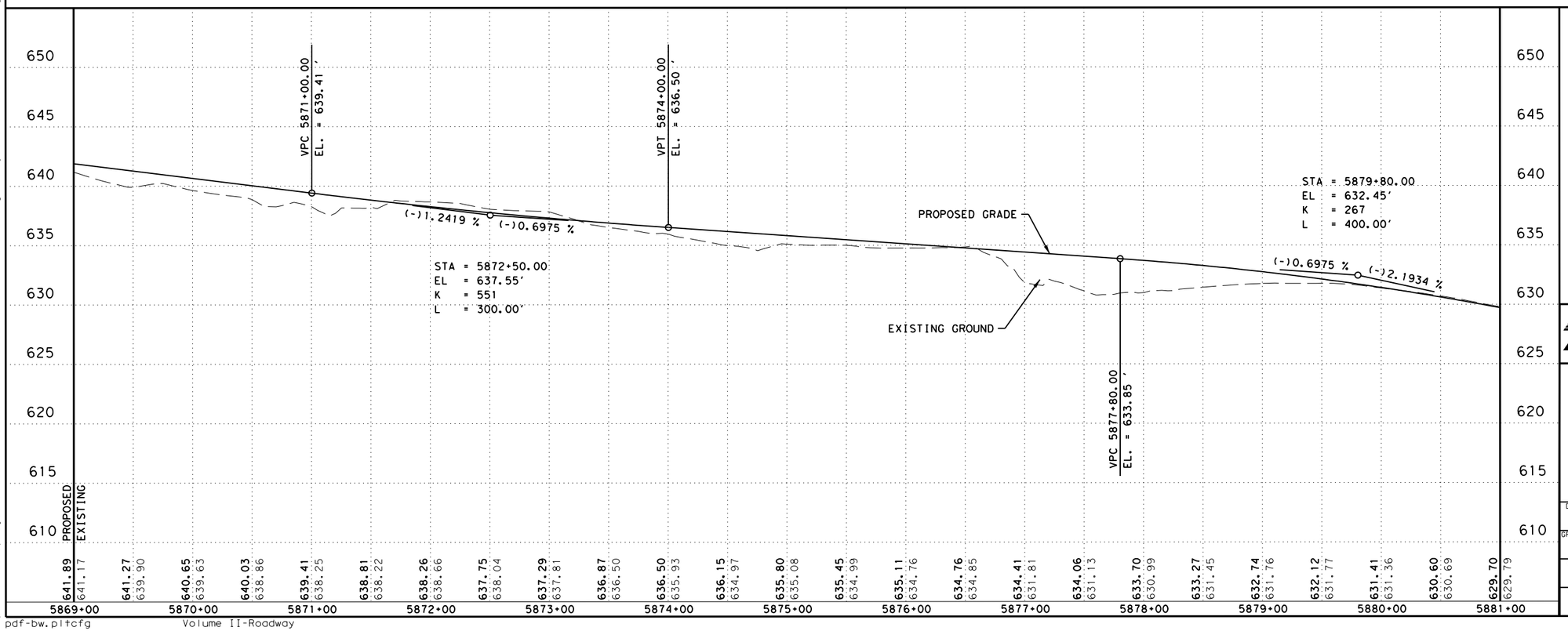
2. STATIONS AND OFFSETS OF ROW MARKERS ARE BASED ON ℄035ML.



STATE OF TEXAS
M. Pauline Morre
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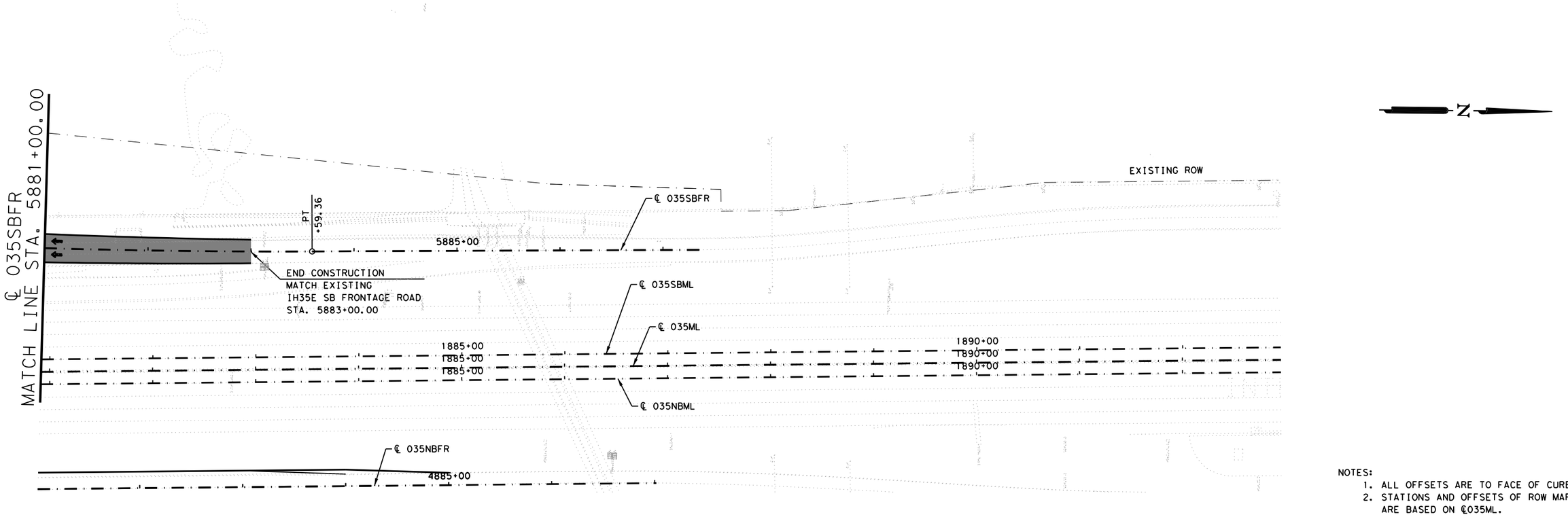
M Pauline Morre P.E.
11.10.23

IH35E
PLAN AND PROFILE
(SB FRONTAGE ROAD)

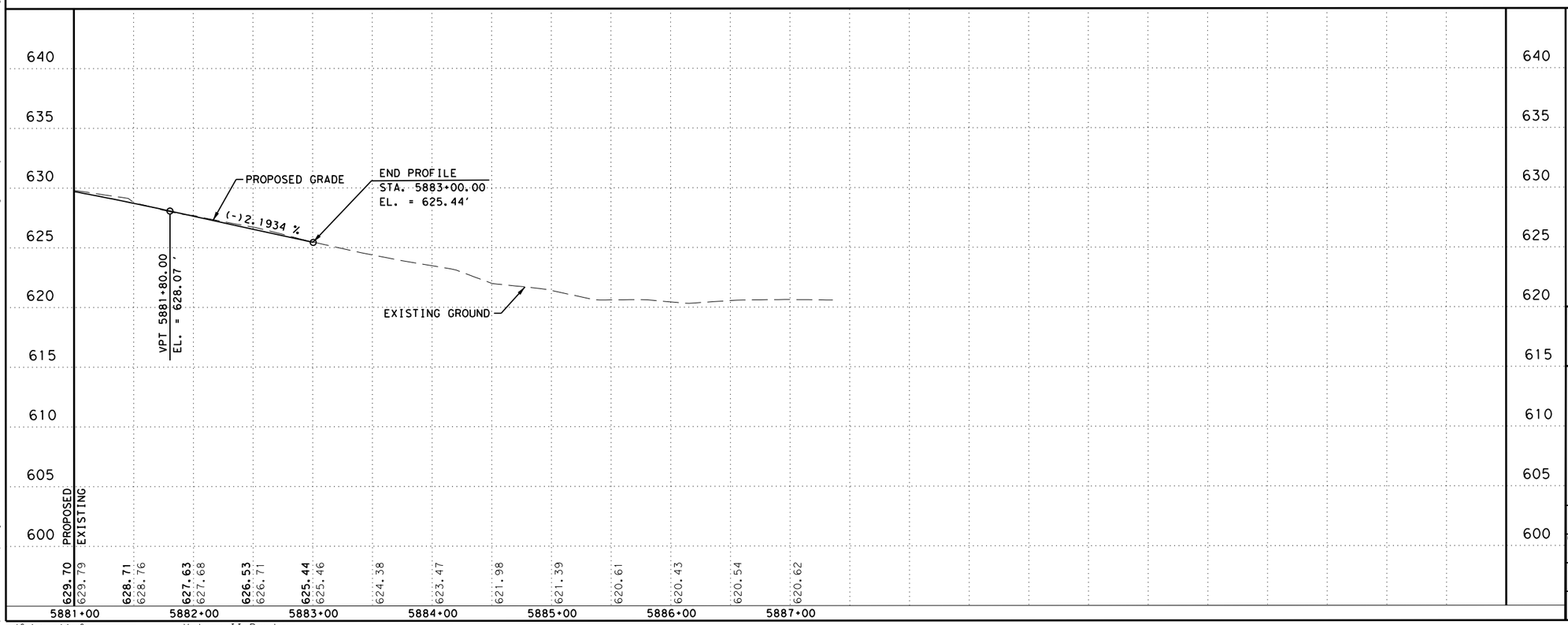
SCALE: 1"=10' (V)
1"=100' (H)

SHEET 12 OF 13

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH 35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	771
	0442	03	042,ETC.	



NOTES:
1. ALL OFFSETS ARE TO FACE OF CURB
2. STATIONS AND OFFSETS OF ROW MARKERS ARE BASED ON ℄035ML.



M. Pauline Morre
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STATE OF TEXAS

M Pauline Morre P.E. 11.10.23

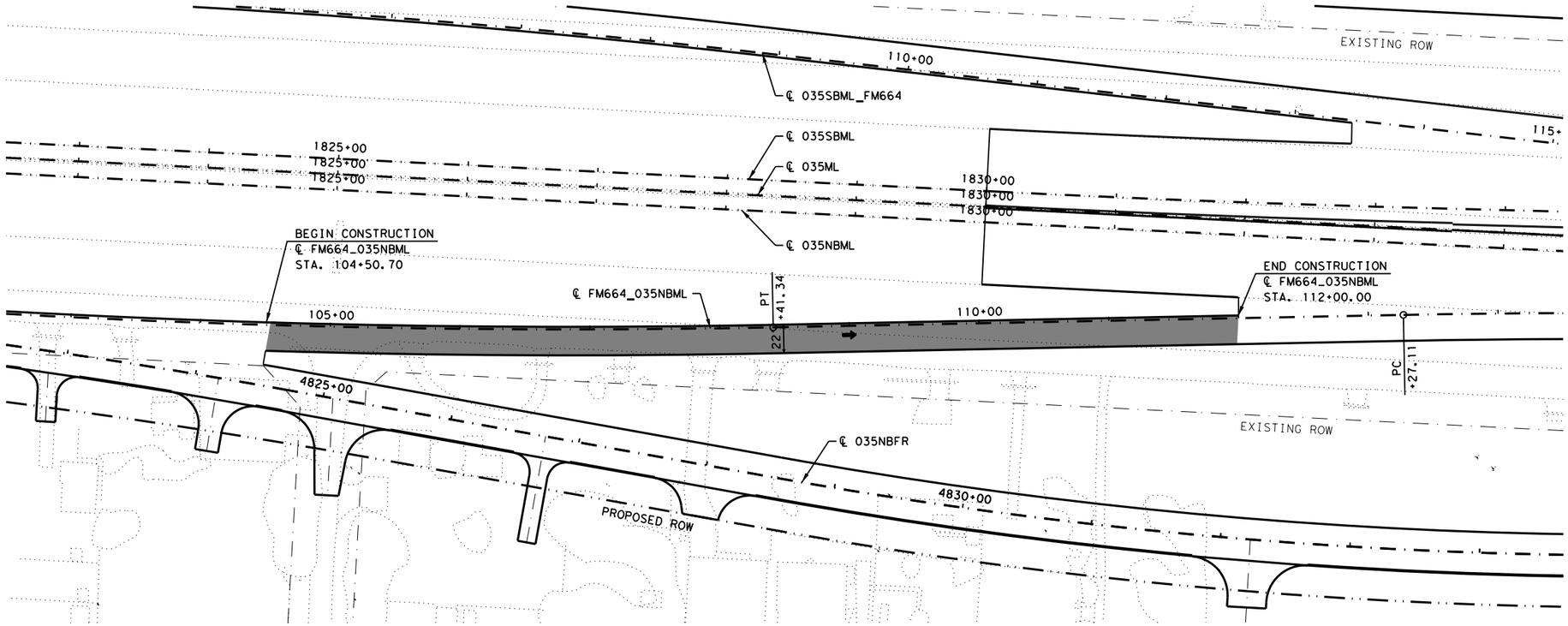
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(SB FRONTAGE ROAD)

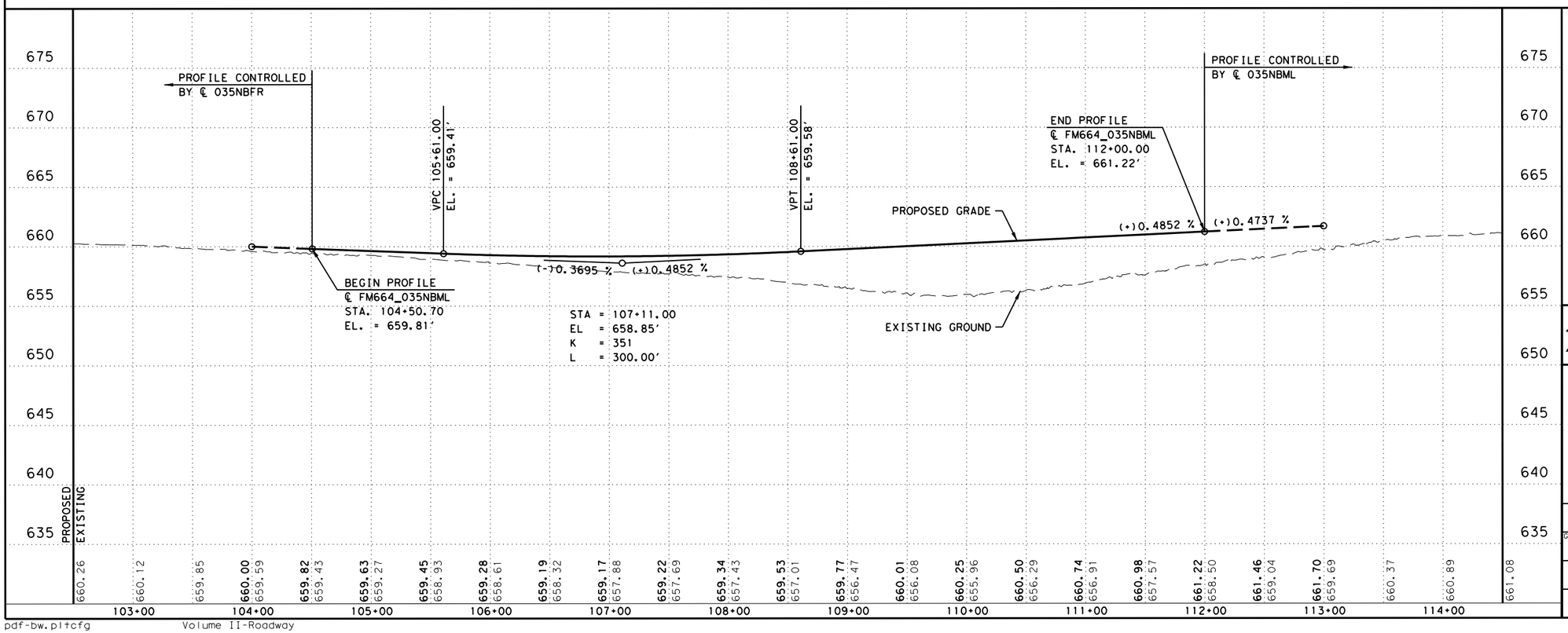
SCALE: 1"=10' (V)
1"=100' (H)

SHEET 13 OF 13

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH 35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	772
	0442	03	042, ETC.	



NOTES:
1. ALL OFFSETS ARE TO FACE OF CURB



STATE OF TEXAS
M. Pauline Morre
94443
LICENSED PROFESSIONAL ENGINEER

M Pauline Morre P.E. 11.10.23

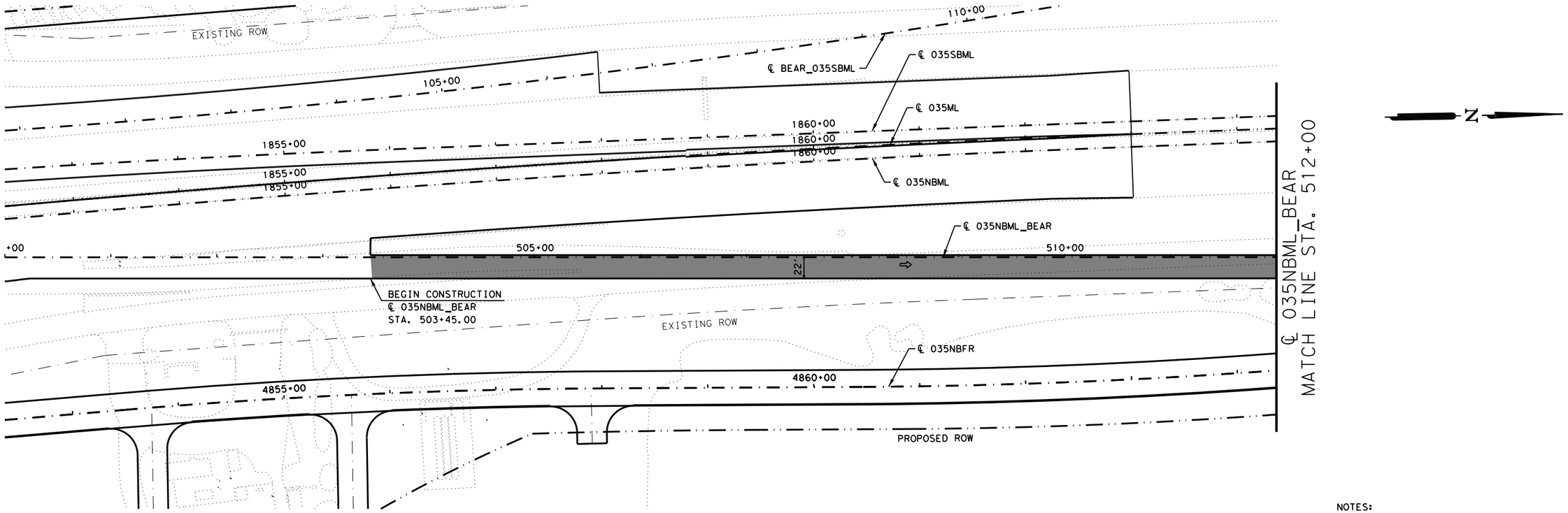
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(FM664 035NBML RAMP)

SCALE: 1"=10' (V)
1"=100' (H)

SHEET 1 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH 35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	773
	0442	03	042, ETC.	



NOTES:
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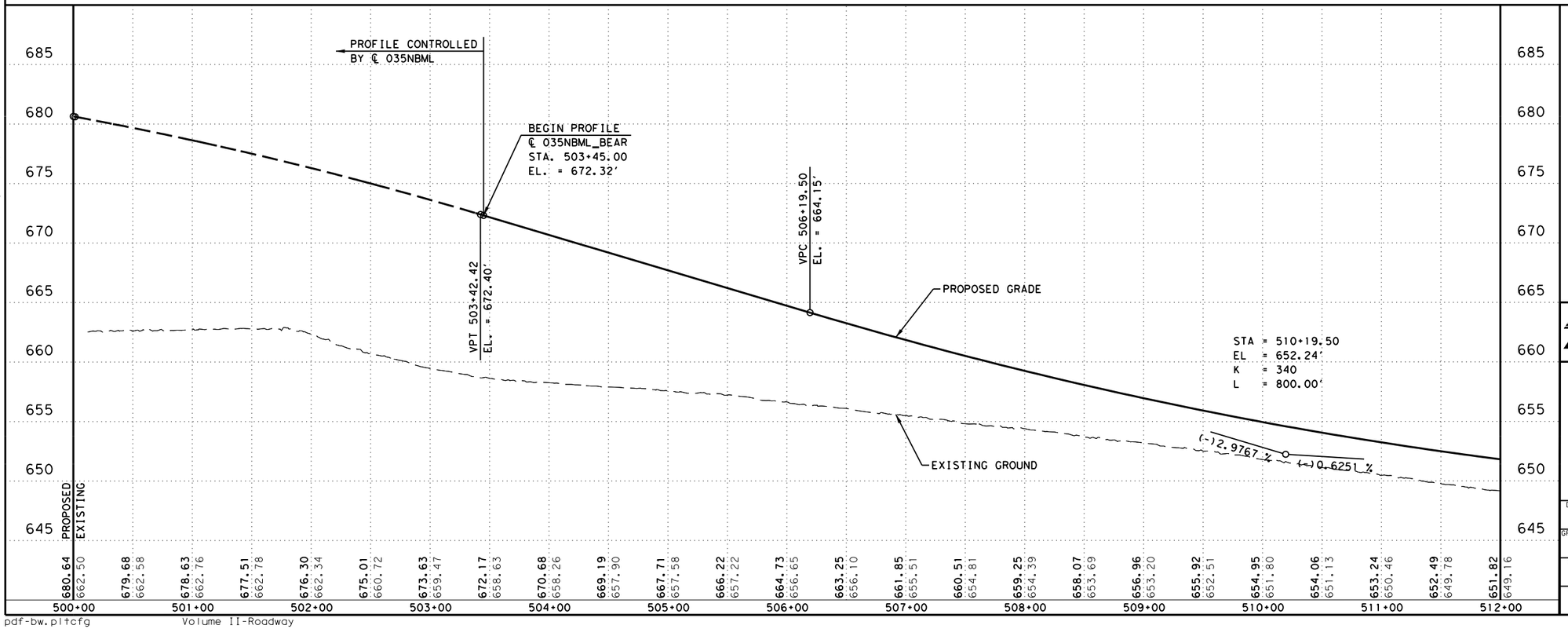


STATE OF TEXAS
M. Pauline Morre
94443
LICENSED PROFESSIONAL ENGINEER

M Pauline Morre P.E. 11.10.23

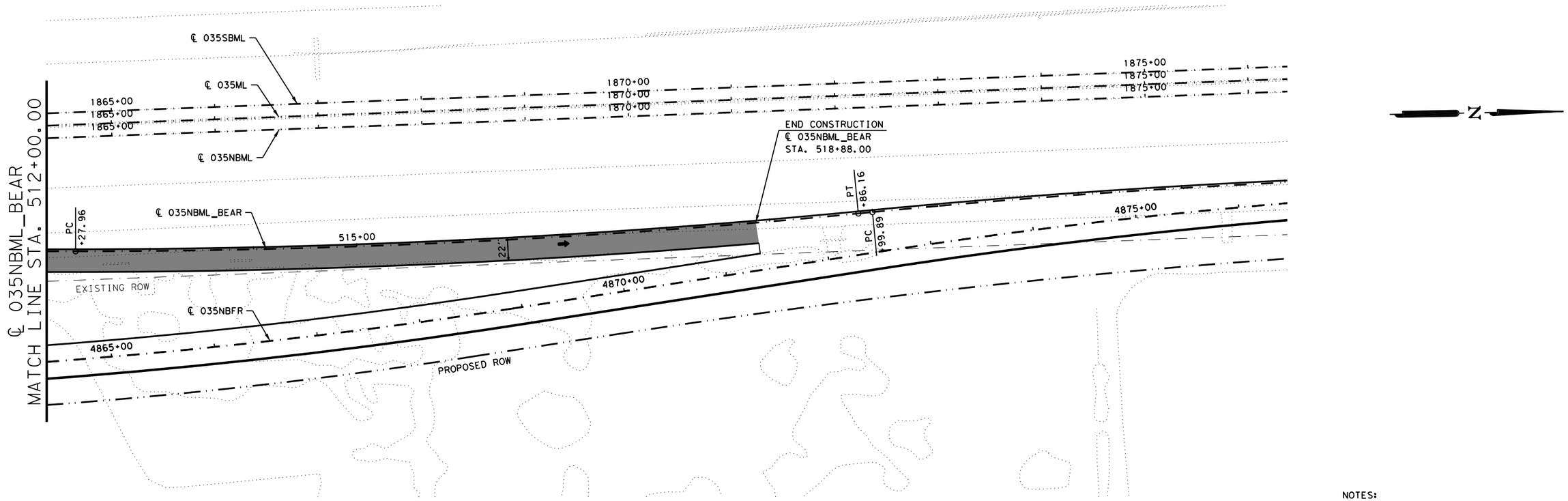
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(035NBML BEAR RAMP)

SCALE: 1"=10' (V)
1"=100' (H)

SHEET 2 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH 35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	774
	0442	03	042, ETC.	



NOTES:
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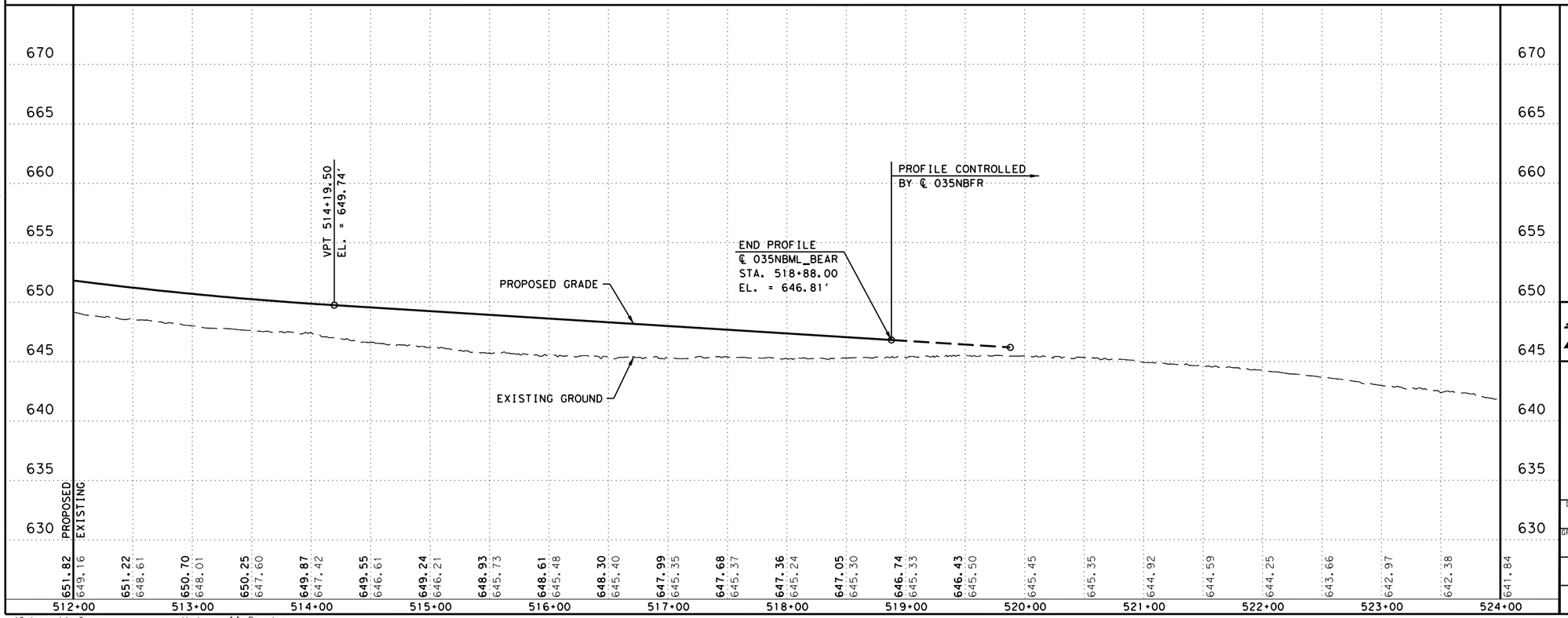


STATE OF TEXAS
M. Pauline Morre
94443
LICENSED PROFESSIONAL ENGINEER

M Pauline Morre P.E. 11.10.23

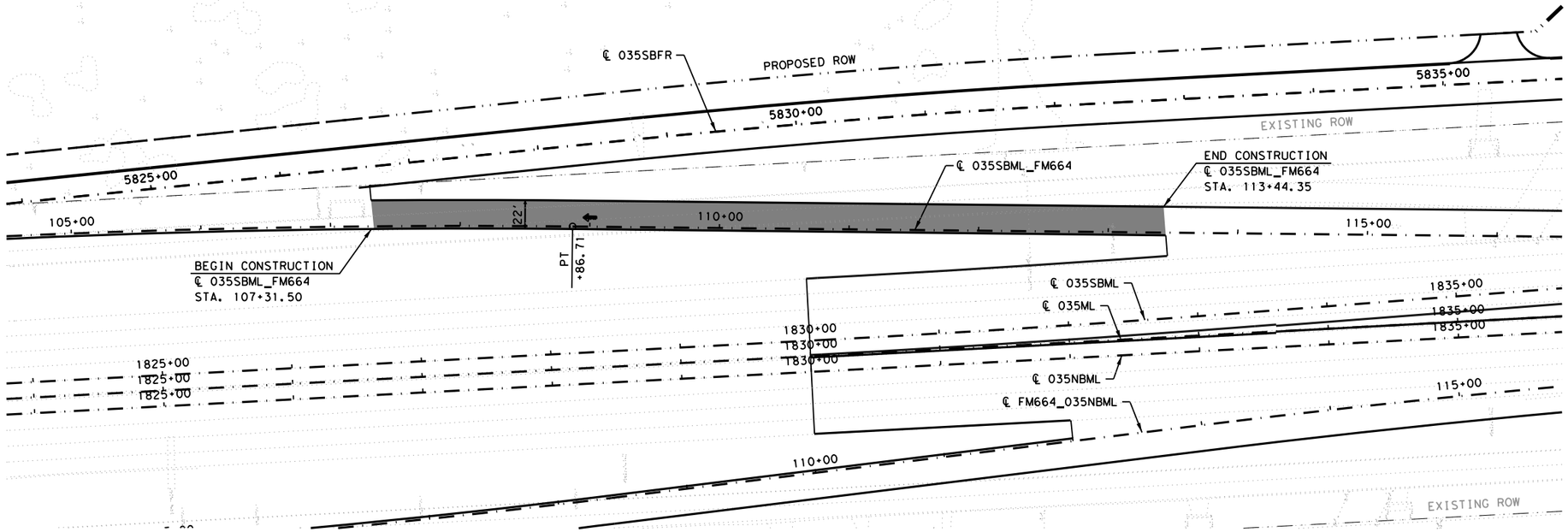
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(035NBML BEAR RAMP)

SCALE: 1"=10' (V)
1"=100' (H)

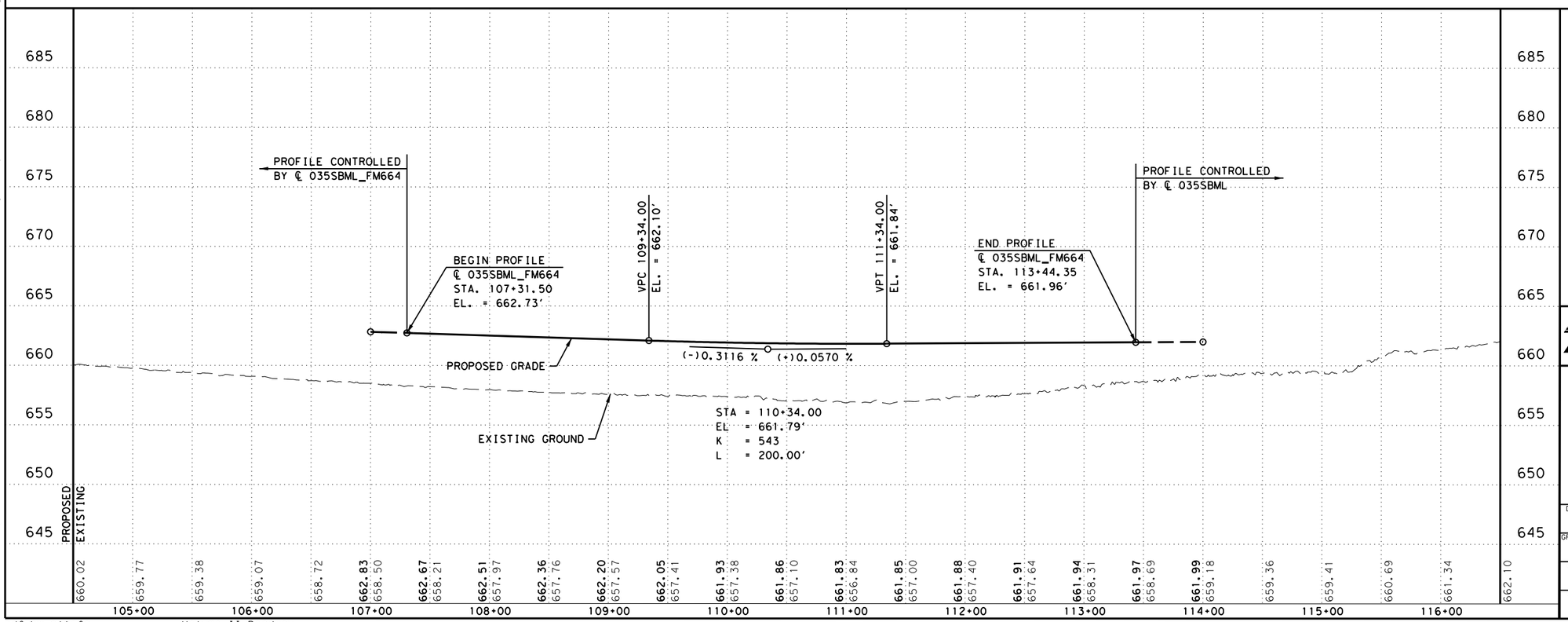
SHEET 3 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH 35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	775
	0442	03	042, ETC.	



N

NOTES:
1. ALL OFFSETS ARE TO FACE OF CURB



M. Pauline Morre
94443
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

M Pauline Morre P.E. 11.10.23

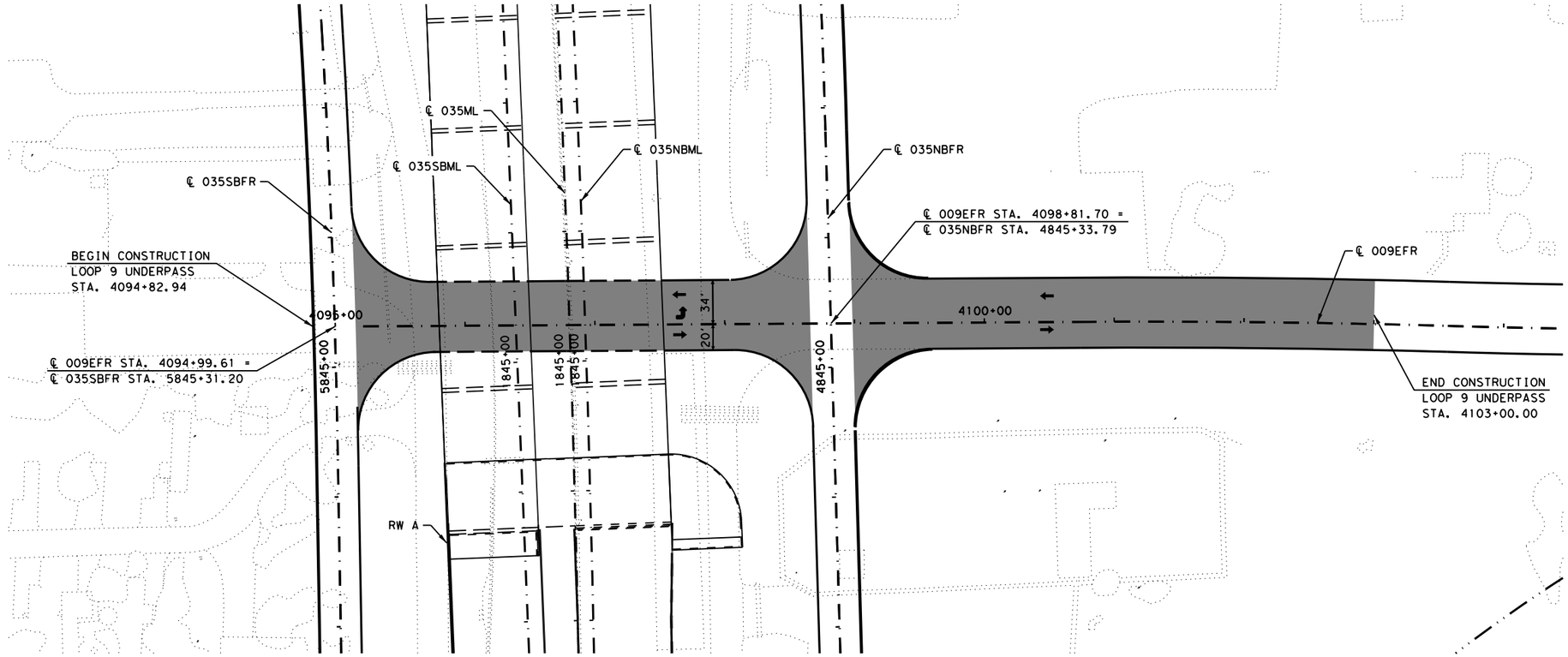
Texas Department of Transportation

IH35E
PLAN AND PROFILE
(035SBML FM664)

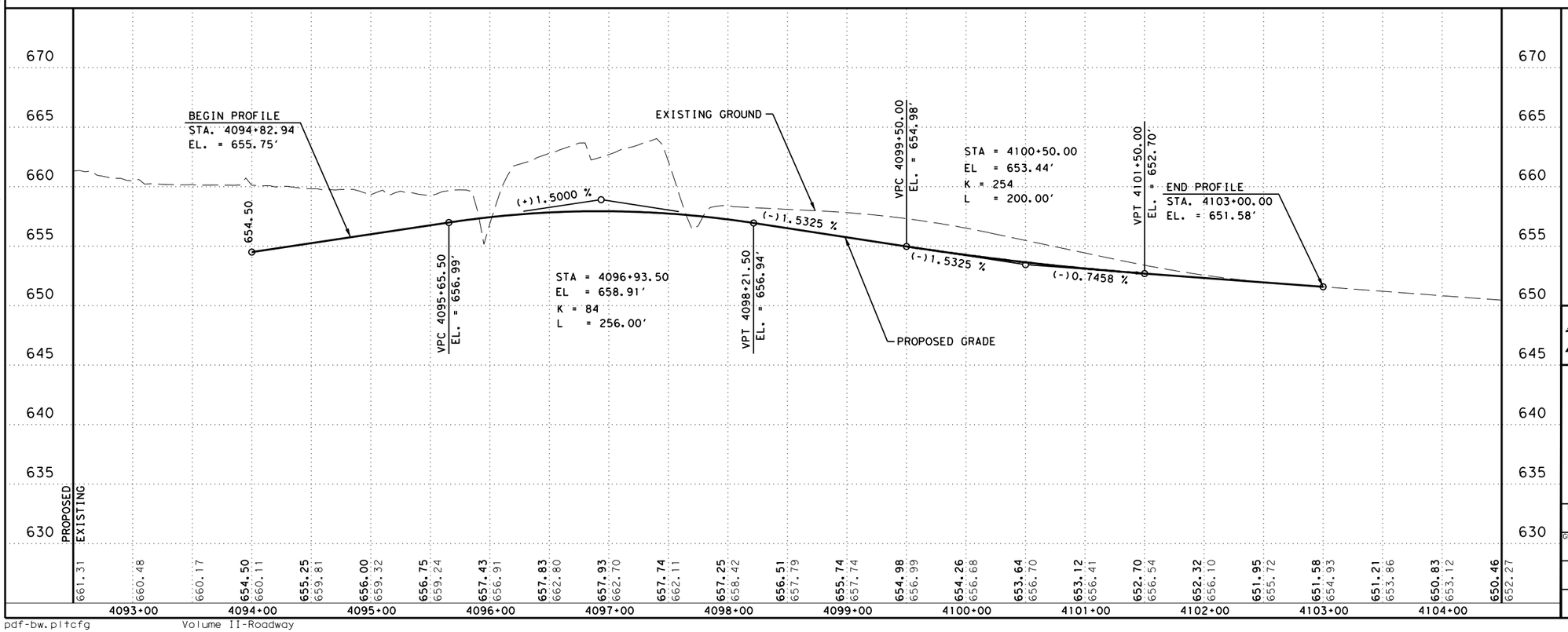
SCALE: 1"=10' (V)
1"=100' (H)

SHEET 4 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH 35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	776
	0442	03	042,ETC.	



NOTES:
1. ALL OFFSETS ARE TO FACE OF CURB



M Pauline Morre P.E. 11.10.23

Texas Department of Transportation

IH35E
PLAN AND PROFILE
(EBFR UNDERPASS)

SCALE: 1"=10' (V)
1"=100' (H)

SHEET 1 OF 1

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH 35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	777
	0442	03	042, ETC.	

DRIVEWAY SUMMARY												DRIVEWAY CULVERT DATA					
	DRIVEWAY LENGTH							RADIUS (R)				UPSTREAM			DOWNSTREAM		
CSJ	DRWY NO.	RDWY ALIGN	RDWY STA.	SKEW ANGLE (DEG)	COMM OR RESID.	DRWY WIDTH (FT)	L (FT)	RADIUS R (LT) (FT)	RADIUS R (RT) (FT)	SURFACE	DRWY AREA (SY)	STA.	OFF. (FT)	INVERT ELEV. (FT)	STA.	OFF. (FT)	INVERT ELEV. (FT)
0442-03-044	35NB-1	35NBFR	4816+29	90	R	14	48	15	15	CONC	90	4816+44.88	8.25	658.22	4816+10.88	10.50	657.98
	35NB-2	35NBFR	4817+20	90	R	14	35	15	15	CONC	71	4820+38.80	6.00	658.50	4820+11.80	5.40	658.46
	35NB-3	35NBFR	4819+39	90	C	28	42	25	25	CONC	124						
	35NB-4	35NBFR	4820+25	90	C	28	29	25	25	CONC	122	4820+46.55	5.00	658.56	4820+01.05	8.00	658.14
	35NB-5	35NBFR	4822+06	90	R	14	28	15	15	CONC	57						
	35NB-6	35NBFR	4822+86	85	R	15	38	15	15	CONC	73						
	35NB-7	35NBFR	4824+18	90	R	18	40	25	25	CONC	110						
	35NB-TR	35NBFR	4825+07	83	R	18.5	58	30	30	CONC	191						
	35NB-8	35NBFR	4826+74	90	R	14	66	15	15	CONC	114						
	35NB-9	35NBFR	4828+02	90	C	28	23	25	25	CONC	104						
	35NB-10	35NBFR	4832+23	89	R	30	36	30	30	CONC	163	4831+99.15	4.70	652.79	4832+50.15	7.00	652.46
	35SB-TL	35SBFR	5835+45	90	R	28	21	25	25	CONC	93	5835+23.19	5.80	654.66	5835+68.19	7.60	654.36
	35NB-11	35NBFR	4837+14	85	R	30	58	30	30	CONC	240	4837+39.64	6.00	650.63	4836+84.64	6.50	650.53
0442-02-162	35NB-12	35NBFR	4853+75	86	C	28	228	25	25	CONC	741						
	35NB-13	35NBFR	4855+64	88	C	28	106	25	25	CONC	359						
	35NB-14	35NBFR	4857+90	89	C	28	35	25	25	CONC	140						
	35NB-15	35NBFR	4885+47	90	R	14	46	15	15	CONC	83	4885+35.13	5.10	616.60	4885+60.13	5.70	616.50
	35NB-16	35NBFR	4886+02	90	R	14	47	15	15	CONC	84	4885+89.81	5.10	615.12	4886+14.81	5.70	615.02
	35SB-PV	35SBFR	5870+85	90	R	28	47	40	44	CONC	212						

STATE OF TEXAS
M. Pauline Morrel
94443
LICENSED PROFESSIONAL ENGINEER

M Pauline Morrel P.E.

11.10.23

IH35E

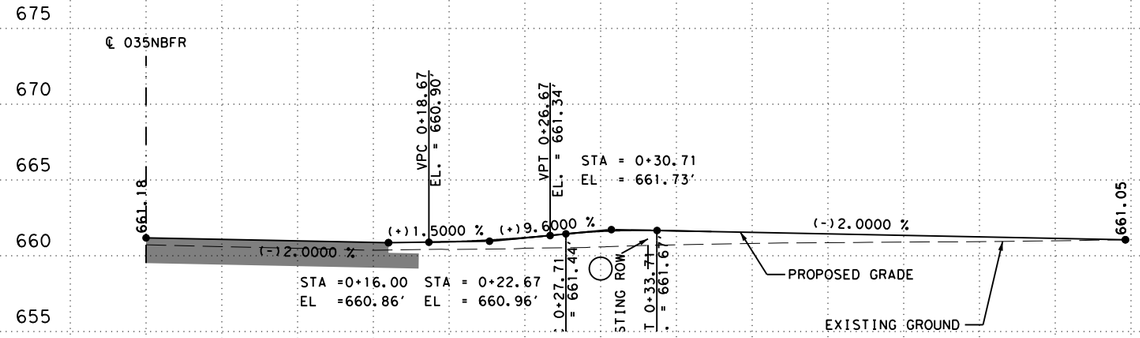
DRIVEWAY DATA

N. T. S.

SHEET 1 OF 1

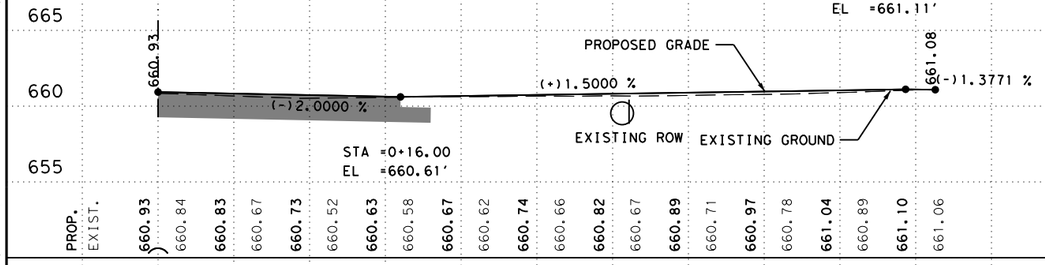
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	778
	0442	03	042, ETC.	

DW-35NB-01 ℄ 035NBFR STA. 4816+29 (RT)



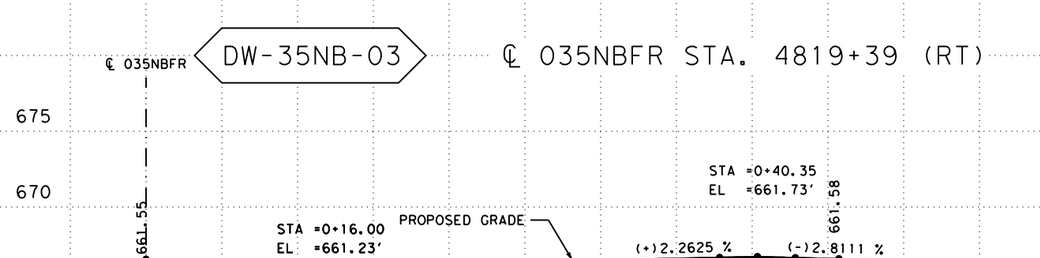
PROP.	**661.18**	**661.08**	**660.98**	**660.88**	**660.92**	**661.19**	**661.61**	**661.64**	**661.54**	**661.44**	**661.34**	**661.24**	**661.14**
EXIST.	660.72	660.60	660.50	660.36	660.41	660.49	660.58	660.72	660.81	660.87	660.90	660.93	660.99

DW-35NB-02 ℄ 035NBFR STA. 4817+20 (RT)



PROP.	**660.93**	**660.83**	**660.73**	**660.63**	**660.67**	**660.74**	**660.82**	**660.89**	**660.97**	**661.04**	**661.10**
EXIST.	660.84	660.67	660.52	660.58	660.62	660.66	660.67	660.71	660.78	660.89	661.06

DW-35NB-03 ℄ 035NBFR STA. 4819+39 (RT)



PROP.	**661.55**	**661.45**	**661.35**	**661.25**	**661.29**	**661.38**	**661.49**	**661.61**	**661.70**	**661.60**
EXIST.	660.64	660.63	660.80	660.94	661.10	661.15	661.20	661.38	661.47	661.56	661.53	661.51

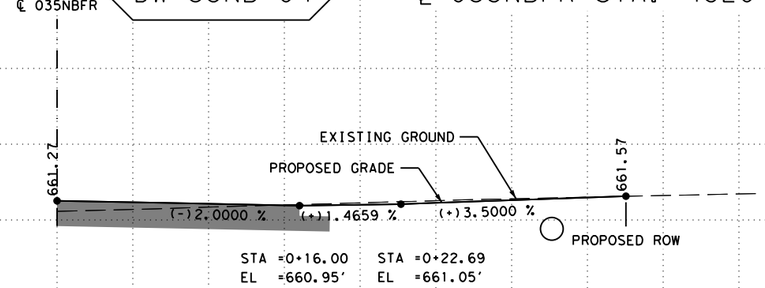
STATE OF TEXAS
M. Pauline Morre
94443
LICENSED PROFESSIONAL ENGINEER
M Pauline Morre P.E.
11.10.23

IH35E
DRIVEWAY PROFILES

SCALE: 1"=10' SHEET 1 OF 7

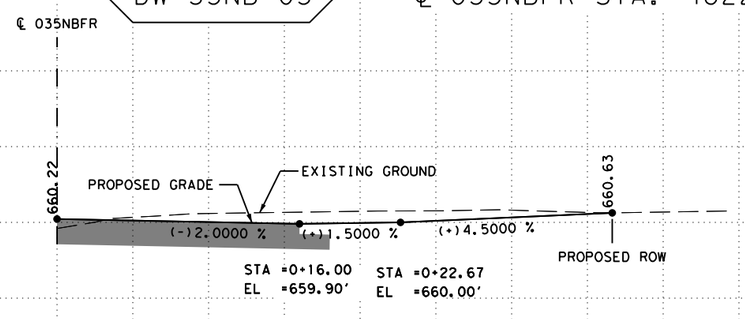
DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM/ML	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW/ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	779
CHECK				
MPM				

DW-35NB-04 — ℄ 035NBFR STA. 4820+25 (RT)



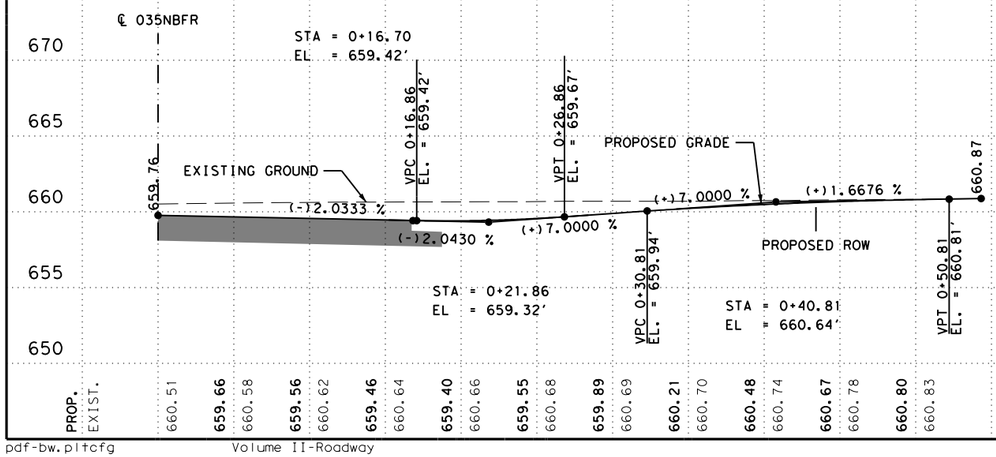
PROP.	**661.27**	**661.17**	**661.07**	**660.97**	**661.01**	**661.13**	**661.30**	**661.48**							
EXIST.	660.56	660.70	660.85	660.99	661.13	661.27	661.39	661.51	661.62	661.72					

DW-35NB-05 — ℄ 035NBFR STA. 4822+06 (RT)



PROP.	**660.22**	**660.12**	**660.02**	**659.92**	**659.96**	**660.11**	**660.33**	**660.56**							
EXIST.	659.60	660.33	660.59	660.66	660.73	660.77	660.81	660.66	660.68						

DW-35NB-06 — ℄ 035NBFR STA. 4822+86 (RT)



PROP.	**659.66**	**659.56**	**659.46**	**659.40**	**659.55**	**659.89**	**660.21**	**660.48**	**660.67**	**660.80**					
EXIST.	660.51	660.58	660.62	660.64	660.66	660.68	660.69	660.70	660.74	660.78	660.83				

M Pauline Morrel P.E.
11.10.23

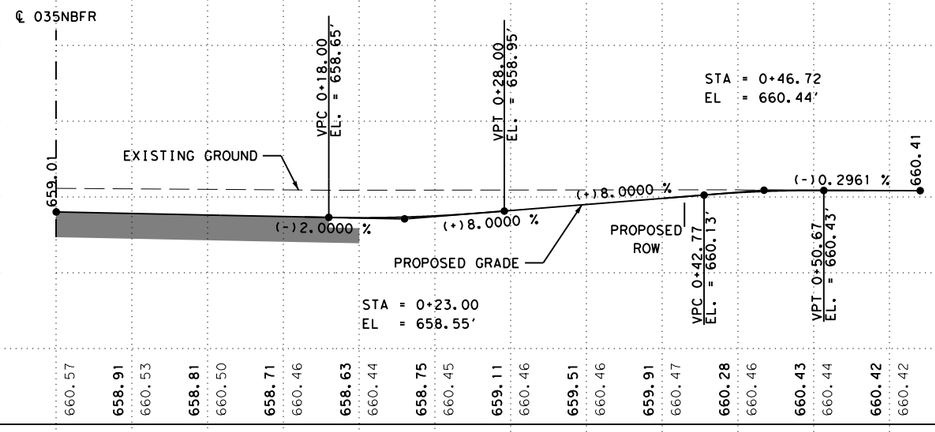
IH35E
DRIVEWAY PROFILES

SCALE: 1"=10'
SHEET 2 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM/ML	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW/ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	780
CHECK				
MPM				

DW-35NB-07

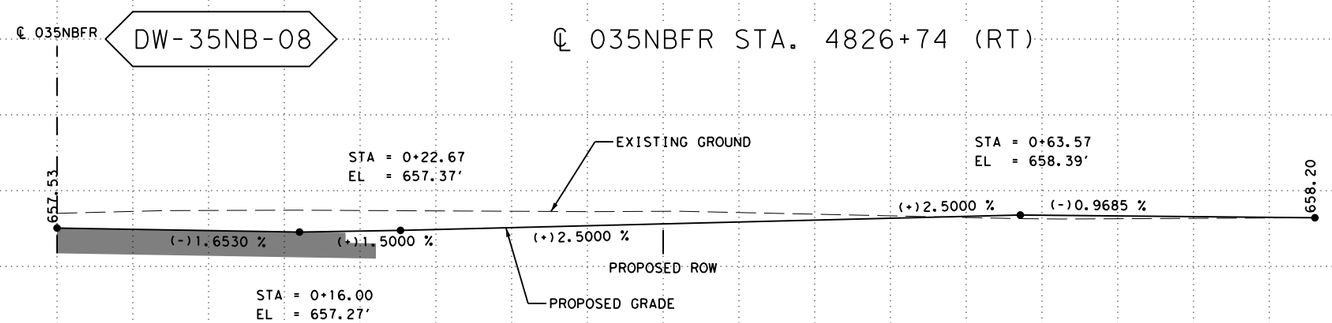
℄ 035NBFR STA. 4824+18 (RT)



PROP.	660.57	**658.91**	660.53	**658.81**	660.50	**658.71**	660.46	**658.63**	660.44	**658.75**	660.45	**659.11**	660.46	**659.51**	660.46	**659.91**	660.47	**660.28**	660.46	**660.43**	660.44	**660.42**	660.42
EXIST.																							

DW-35NB-08

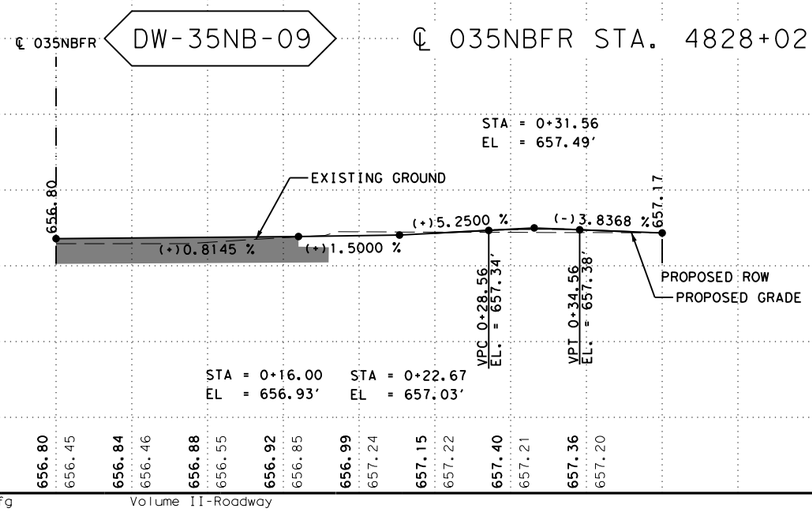
℄ 035NBFR STA. 4826+74 (RT)



PROP.	**657.53**	658.51	**657.45**	658.63	**657.37**	658.69	**657.29**	658.70	**657.33**	658.68	**657.43**	658.66	**657.55**	658.63	**657.68**	658.61	**657.80**	658.64	**657.93**	658.56	**658.05**	658.45	**658.18**	658.33	**658.30**	658.22	**658.38**	658.14	**658.33**	658.15	**658.28**	658.17	**658.23**	658.19
EXIST.																																		

DW-35NB-09

℄ 035NBFR STA. 4828+02 (RT)



PROP.	**656.80**	656.45	**656.84**	656.46	**656.88**	656.55	**656.92**	656.85	**656.99**	657.24	**657.15**	657.22	**657.40**	657.21	**657.36**	657.20							
EXIST.																							

M. Pauline Morrel
94443
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

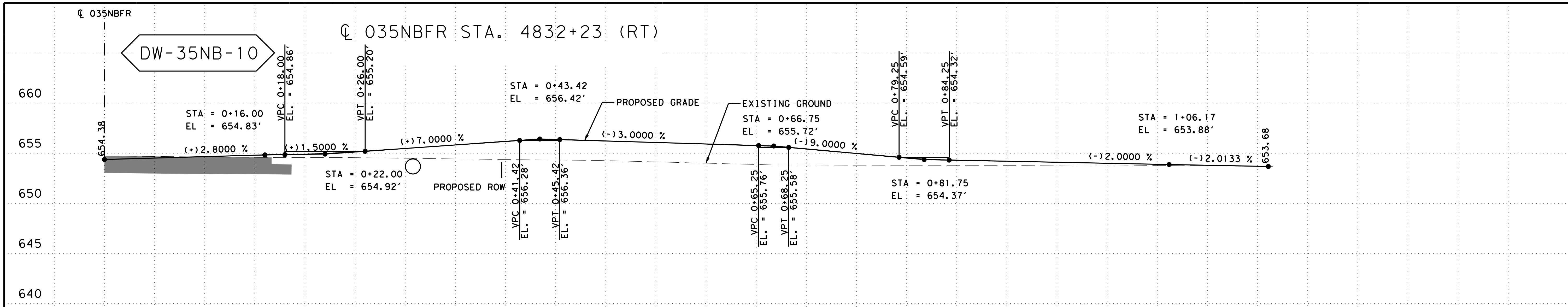
M Pauline Morrel P.E.
11.10.23

Texas Department of Transportation

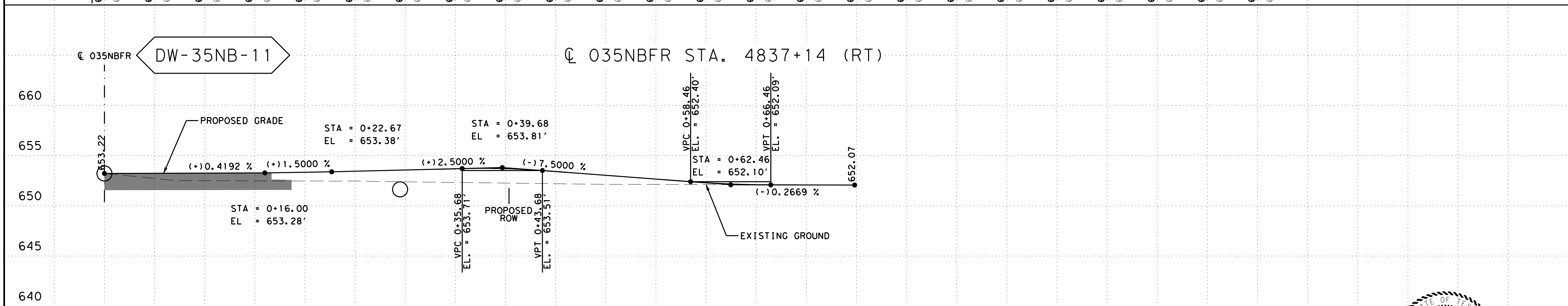
IH35E
DRIVEWAY PROFILES

SCALE: 1"=10'
SHEET 3 OF 7

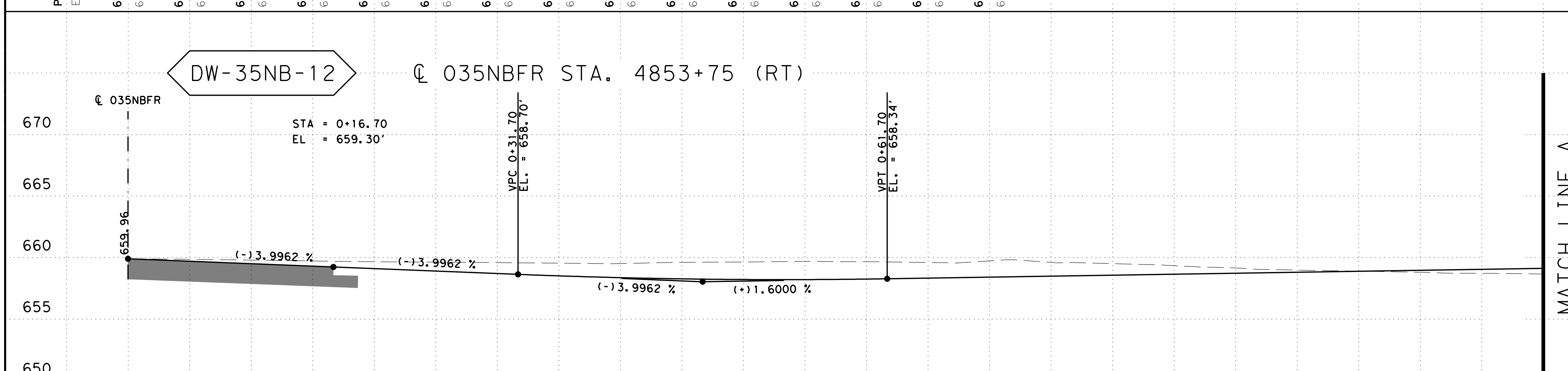
DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM/ML	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW/ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	781
CHECK				
MPM				



PROP.	EXIST.
654.38	654.72
654.52	654.68
654.66	654.63
654.80	654.59
654.90	654.57
655.13	654.56
655.48	654.49
655.83	654.43
656.18	654.37
656.37	654.32
656.22	654.26
656.07	654.13
655.92	654.00
655.77	653.87
655.42	653.82
654.97	653.80
654.53	653.80
654.30	653.80
654.20	653.79
654.10	653.81
654.00	653.82
653.90	653.78
653.80	653.73
653.70	653.69



PROP.	EXIST.
653.22	653.22
653.24	652.72
653.26	652.50
653.28	652.49
653.34	652.47
653.44	652.48
653.57	652.39
653.69	652.32
653.70	652.26
653.41	652.20
653.04	652.13
652.66	652.13
652.30	652.12
652.10	652.10
652.08	652.08



PROP.	EXIST.
659.96	659.97
659.76	659.92
659.56	659.85
659.36	659.78
659.16	659.72
658.96	659.69
658.76	659.65
658.57	659.61
658.43	659.58
658.33	659.67
658.28	659.70
658.27	659.74
658.31	659.73
658.39	659.66
658.47	659.79
658.55	659.67
658.63	659.57
658.71	659.40
658.79	659.22
658.87	659.04
658.95	658.96
659.03	658.87
659.11	658.78
659.19	

STATE OF TEXAS
M. Pauline Morrel
94443
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M Pauline Morrel P.E. 11.10.23

Texas Department of Transportation

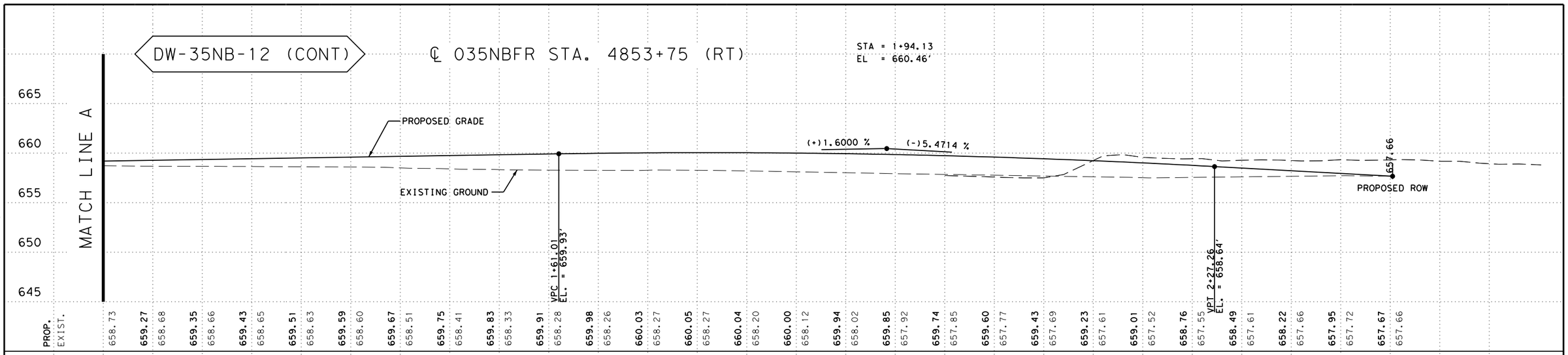
IH35E
DRIVEWAY PROFILES

SCALE: 1"=10'   SHEET 4 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM/ML	6	SEE TITLESHEET		IH 35E
GRAPHICS SW/ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	782
	0442	03	042, ETC.	

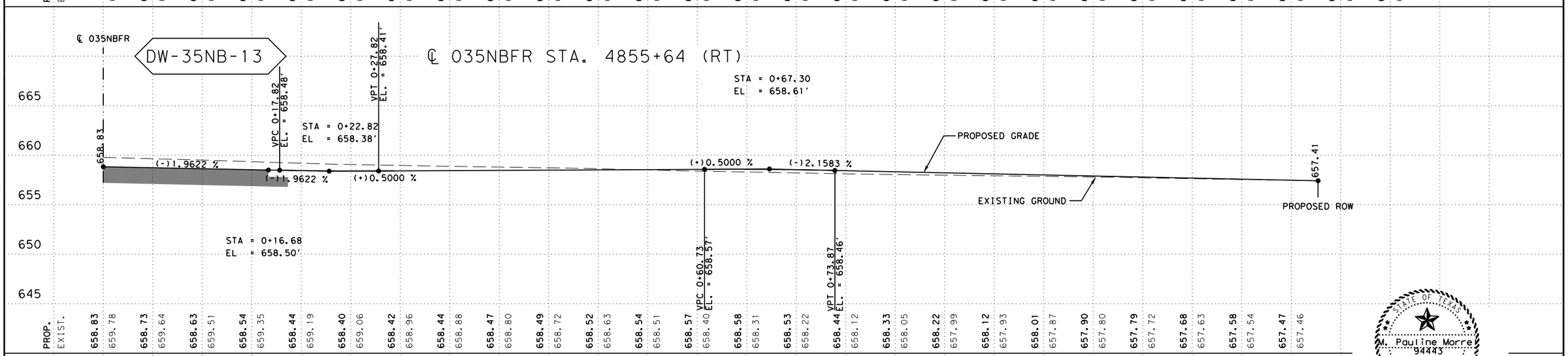
DW-35NB-12 (CONT)

℄ 035NBFR STA. 4853+75 (RT)



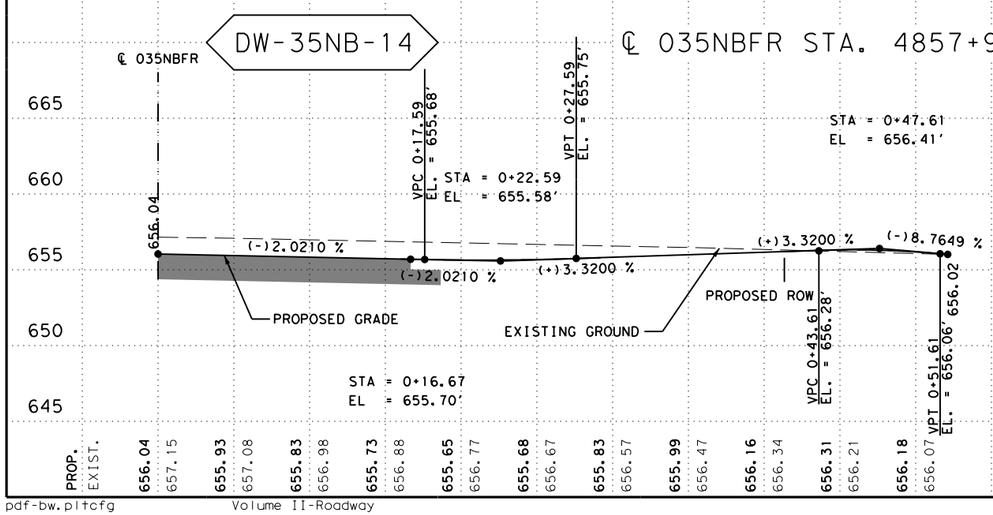
DW-35NB-13

℄ 035NBFR STA. 4855+64 (RT)



DW-35NB-14

℄ 035NBFR STA. 4857+90 (RT)



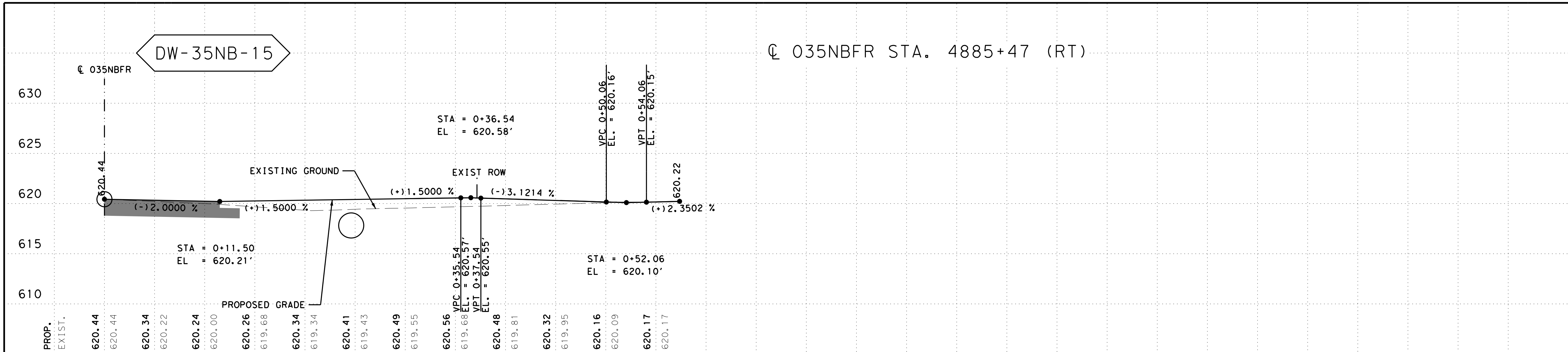
M Pauline Morre P.E. 11.10.23

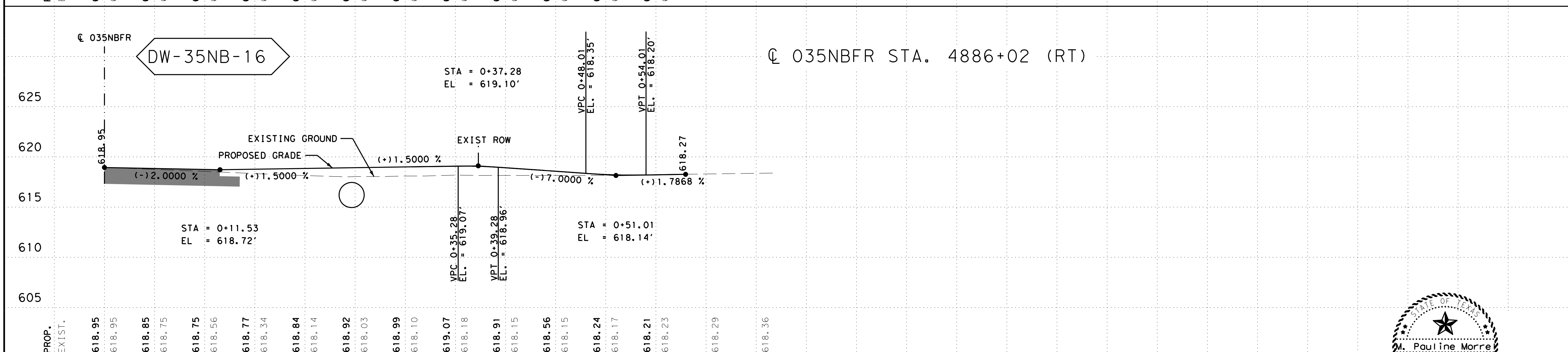
Texas Department of Transportation

IH35E
DRIVEWAY PROFILES

SCALE: 1"=10' SHEET 5 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM/ML	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW/ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK ML	CONTROL	SECTION	JOB	783
CHECK MPM	0442	03	042,ETC.	





STATE OF TEXAS
M. Pauline Morre
94443
LICENSED PROFESSIONAL ENGINEER

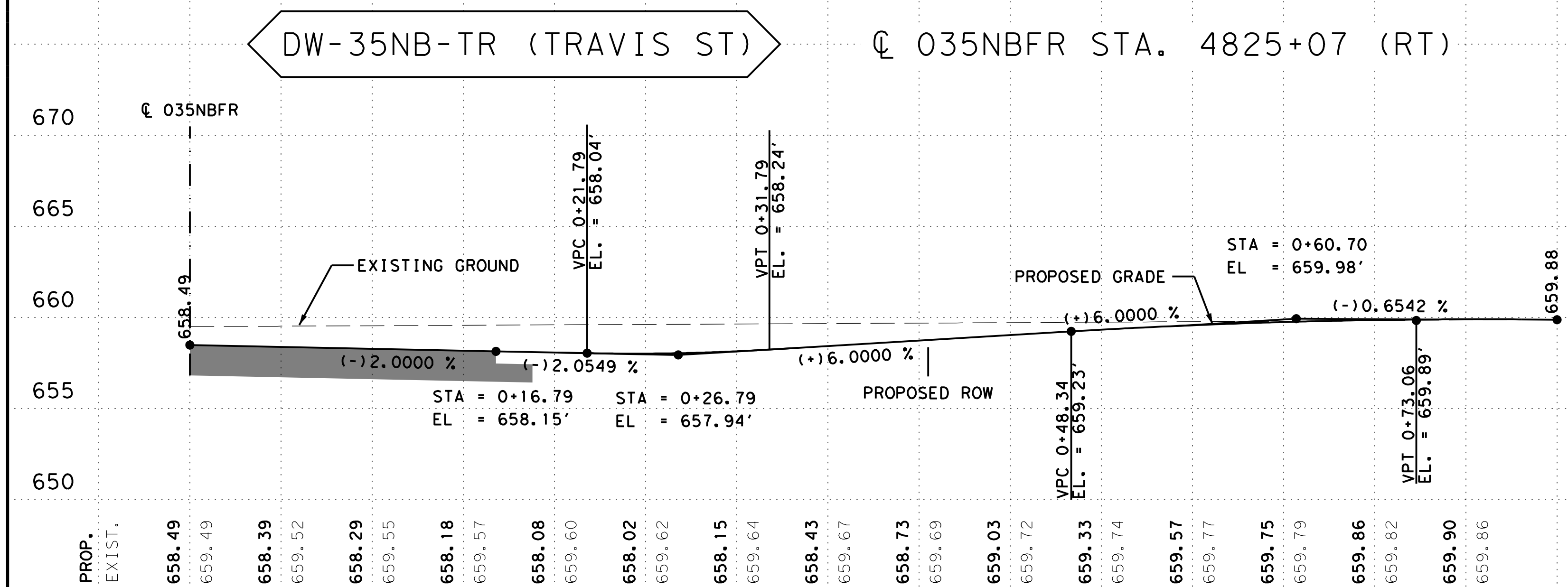
M Pauline Morrel P.E. 11.29.23

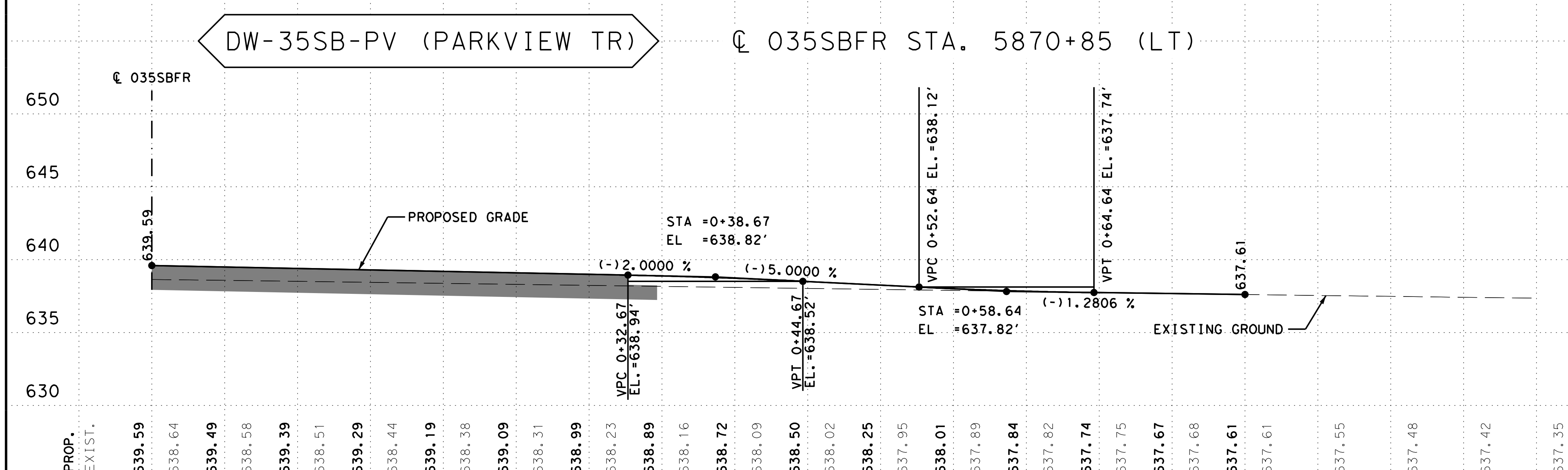
Texas Department of Transportation

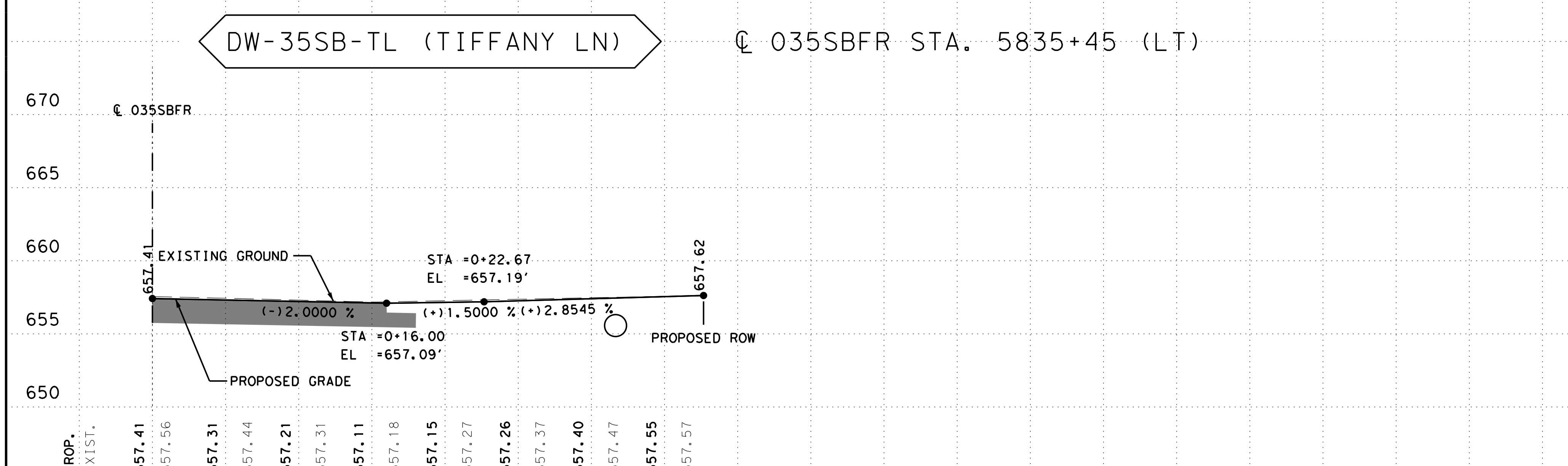
IH35E
DRIVEWAY PROFILES

SCALE: 1"=10' SHEET 6 OF 7

DESIGN MPM/ML	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS SW/ML	6	SEE TITLESHEET		IH 35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
	CONTROL	SECTION	JOB	784
CHECK MPM	0442	03	042, ETC.	







STATE OF TEXAS
M. Pauline Morre
94443
LICENSED PROFESSIONAL ENGINEER

M Pauline Morrel P.E.
11.10.23

Texas Department of Transportation

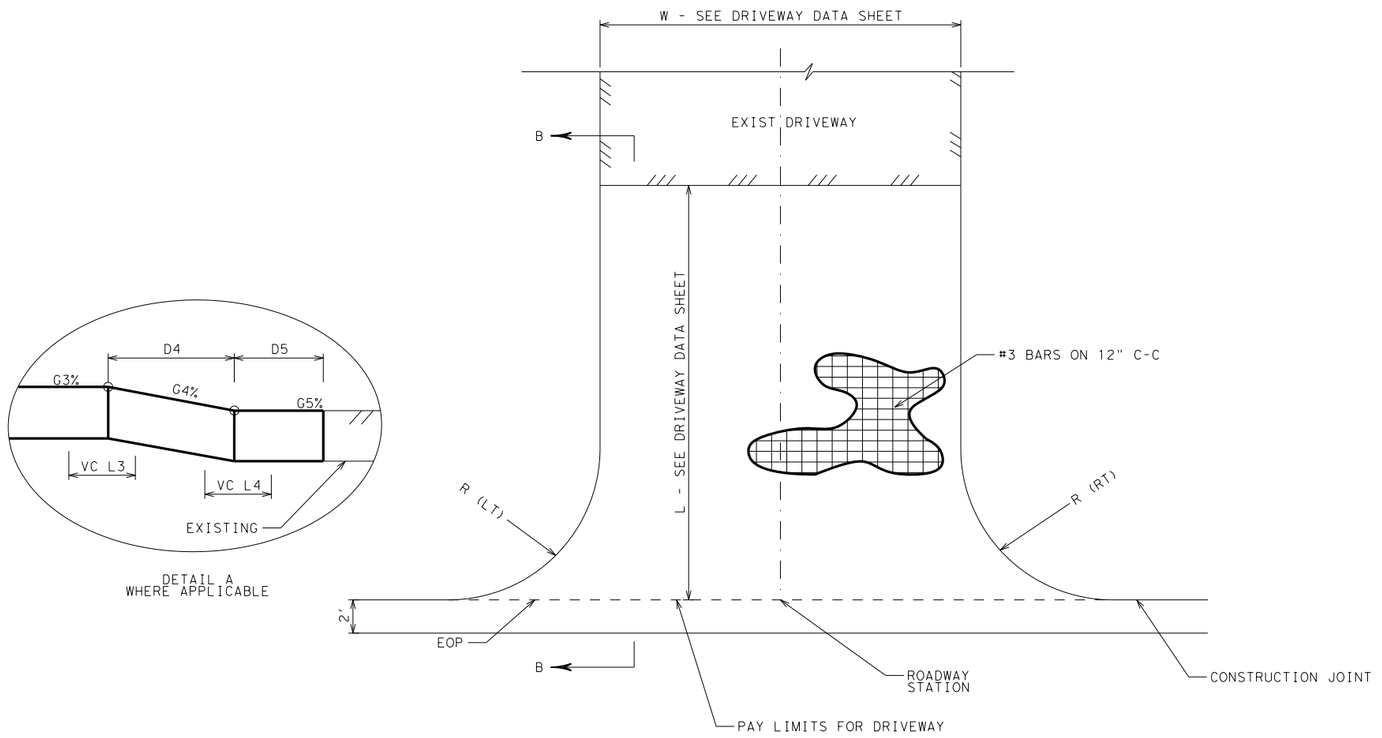
IH35E
DRIVEWAY PROFILES

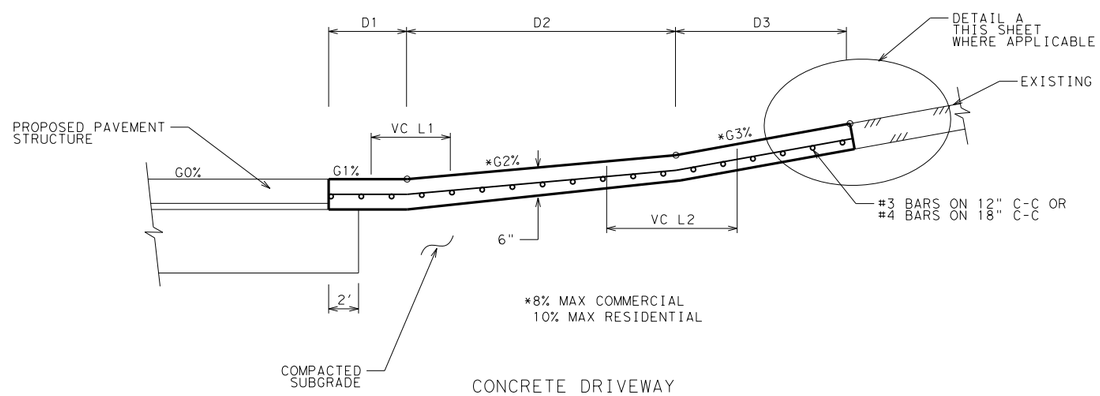
SCALE: 1"=10'

SHEET 7 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM/ML	6	SEE TITLESHEET		IH 35E
GRAPHICS SW/ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	785
	0442	03	042, ETC.	

CONCRETE DRIVEWAY





CONCRETE DRIVEWAY
SECTION B-B

STATE OF TEXAS
M. PAULINE MORREL
94443
LICENSED PROFESSIONAL ENGINEER

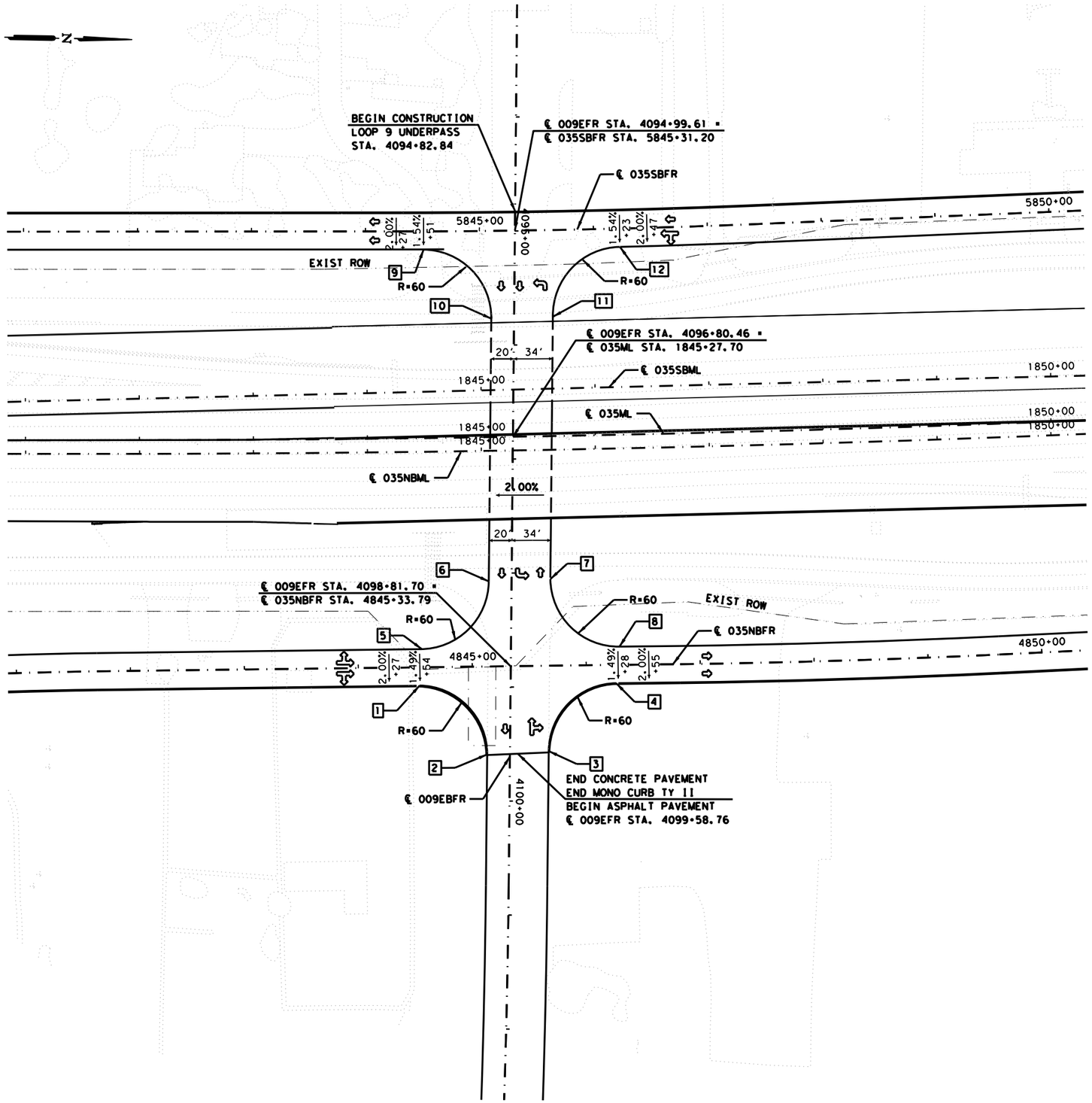
M Pauline Morrel P.E. 11.29.23

IH35E
DRIVEWAY DETAILS

N. T. S.

SHEET 1 OF 1

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH35E
CHECK	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	ELLIS, ETC.	786
	CONTROL	SECTION	JOB	
	0442	03	042, ETC.	



POINT	LOCATION	OFFSET	POINT DESCRIPTION
1	035NBFR STA. 4844+53.58	16' RT	BEGIN RADIUS
2	009EBFR STA. 4099+59.31	20' RT	END RADIUS
3	009EBFR STA. 4099+55.76	34' LT	BEGIN RADIUS
4	035NBFR STA. 4846+26.26	16' RT	END RADIUS
5	035NBFR STA. 4844+56.00	16' LT	BEGIN RADIUS
6	009EBFR STA. 4098+07.44	20' RT	END RADIUS
7	009EBFR STA. 4098+04.94	34' LT	BEGIN RADIUS
8	035NBFR STA. 4846+29.48	16' LT	END RADIUS
9	035SBFR STA. 5844+50.99	16' RT	BEGIN RADIUS
10	009EBFR STA. 4095+77.04	20' RT	END RADIUS
11	009EBFR STA. 4095+74.85	34' LT	BEGIN RADIUS
12	035SBFR STA. 5846+22.76	16' RT	END RADIUS

STATE OF TEXAS
Mona Lotfi
139489
LICENSED
PROFESSIONAL ENGINEER

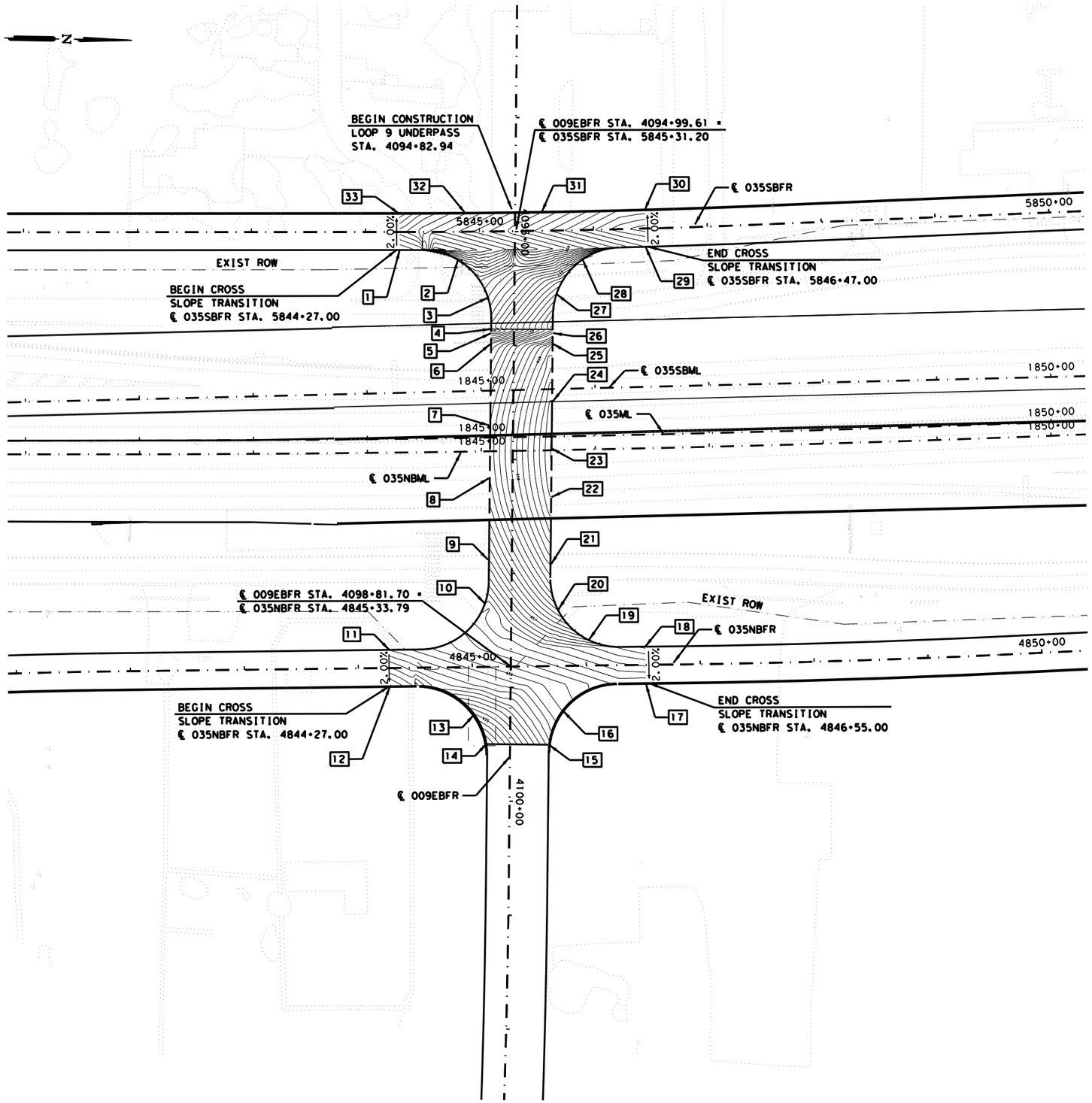
Mona Lotfi P.E. 11.10.23

Texas Department of Transportation

IH35E
INTERSECTION LAYOUT

SCALE: 1"=100' SHEET 1 OF 1

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042, ETC.	787
CHECK				
MPM				



POINT	ALIGNMENT	STA.	OFFSET		ELEV.	LOCATION
1	0035SBFR	5844+30.07	16.00	RT	654.89	EOP
2	009EFR	4095+25.25	49.70	RT	656.00	EOP
3	009EFR	4095+58.15	23.05	RT	656.50	EOP
4	009EFR	4095+85.60	20.00	RT	656.63	EOP
5	009EFR	4095+89.26	20.00	RT	656.50	EOP
6	009EFR	4095+98.52	20.00	RT	657.00	EOP
7	009EFR	4096+70.31	20.00	RT	657.50	EOP
8	009EFR	4097+16.98	20.00	RT	657.50	EOP
9	009EFR	4097+88.38	20.00	RT	657.00	EOP
10	009EFR	4098+26.43	23.08	RT	656.50	EOP
11	035NBFR	4844+27.24	16.00	LT	655.80	EOP
12	035NBFR	4844+27.68	16.00	RT	655.17	FOC
13	009EFR	4099+24.04	31.50	RT	655.00	FOC
14	009EFR	4099+50.00	20.73	RT	654.57	FOC
15	009EFR	4099+50.00	34.27	LT	655.65	FOC
16	009EFR	4099+19.89	45.88	LT	656.00	FOC
17	035NBFR	4846+52.17	16.00	RT	656.31	FOC
18	035NBFR	4846+52.01	16.00	LT	656.93	EOP
19	009EFR	4098+57.80	68.23	LT	657.00	EOP
20	009EFR	4098+31.42	40.83	LT	657.50	EOP
21	009EFR	4097+91.81	34.00	LT	658.00	EOP
22	009EFR	4097+32.76	34.00	LT	658.50	EOP
23	009EFR	4096+89.86	34.00	LT	658.61	EOP
24	009EFR	4096+48.98	34.00	LT	658.50	EOP
25	009EFR	4095+98.05	34.00	LT	658.00	EOP
26	009EFR	4095+88.71	34.00	LT	657.50	EOP
27	009EFR	4095+54.72	36.83	LT	657.50	EOP
28	009EFR	4095+23.92	59.40	LT	657.00	EOP
29	035SBFR	5846+45.41	16.00	RT	656.51	EOP
30	035SBFR	5846+45.46	16.00	LT	656.54	FOC
31	035SBFR	5845+54.48	16.00	LT	656.00	FOC
32	035SBFR	5844+87.84	16.00	LT	655.50	FOC
33	035SBFR	5844+29.77	16.00	LT	654.93	FOC

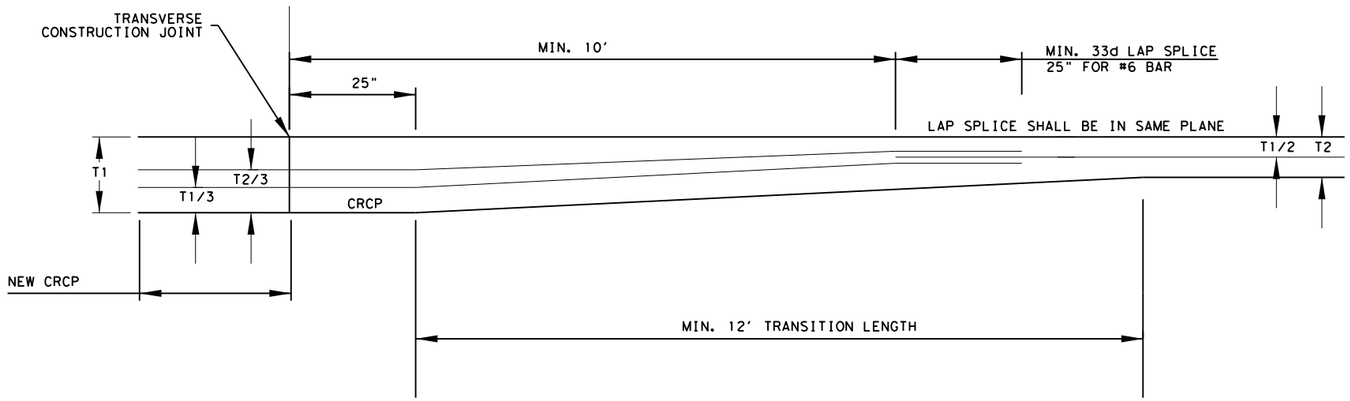
STATE OF TEXAS
Mona Lotfi
139489
LICENSED PROFESSIONAL ENGINEER

Mona Lotfi P.E. 11.10.23

IH35E
INTERSECTION CONTOURS

SCALE: 1"=100' SHEET 1 OF 1

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	788
CHECK				
MPM				



NOTE: REFER TO CRCP(1)-17 & CRCP(2)-17 FOR REBAR SPACING.

CRCP THICKNESS TRANSITION
(TWO TO ONE LAYER REBAR)

STATE OF TEXAS
M. Pauline Morrel
P.E. 94443
LICENSED PROFESSIONAL ENGINEER

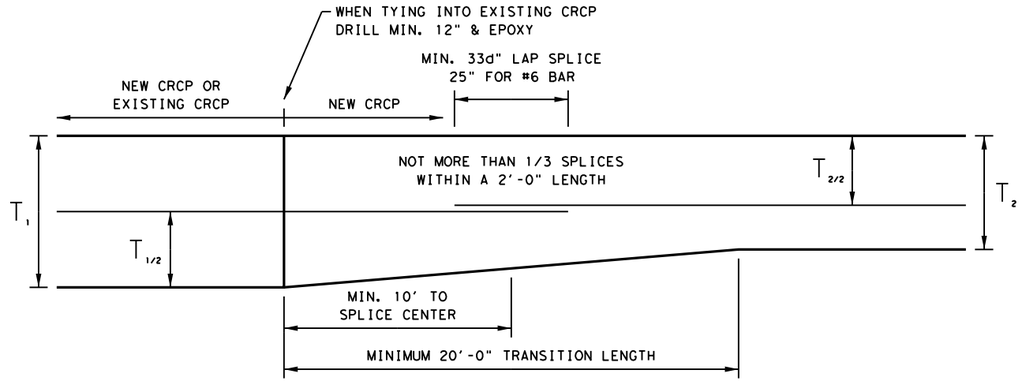
M Pauline Morrel P.E.
11.10.23

Texas Department of Transportation

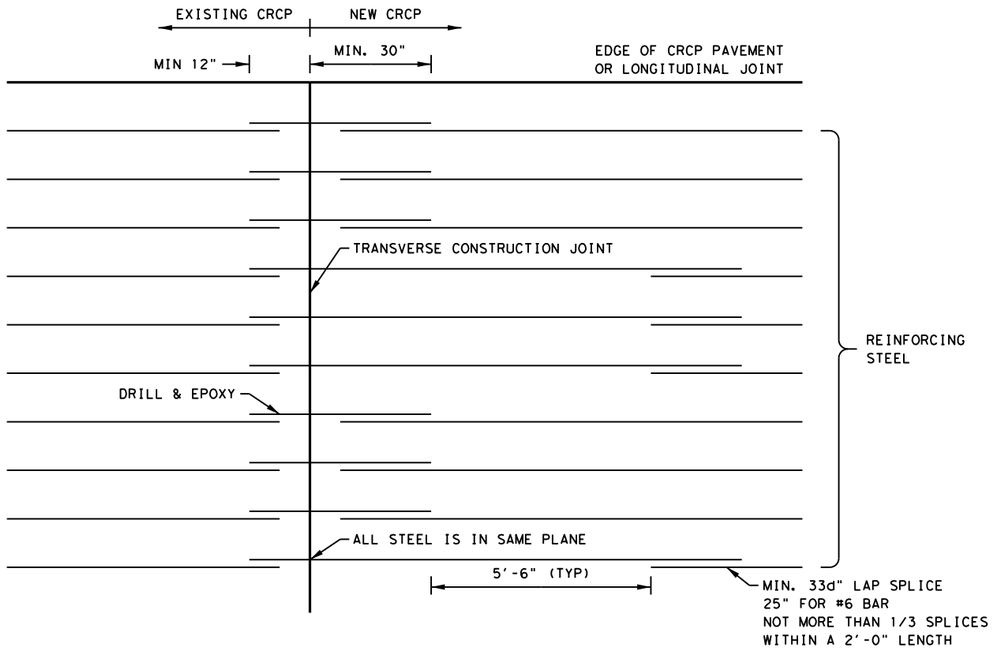
IH35E
ROADWAY MISCELLANEOUS DETAILS

N. T. S.

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	789
	0442	03	042, ETC.	



CRCP THICKNESS TRANSITION
(PROFILE)



EXISTING CRCP TO NEW CRCP
(PLAN)

STATE OF TEXAS
M. Pauline Morre
94443
LICENSED PROFESSIONAL ENGINEER

M Pauline Morre P.E.

11.10.23

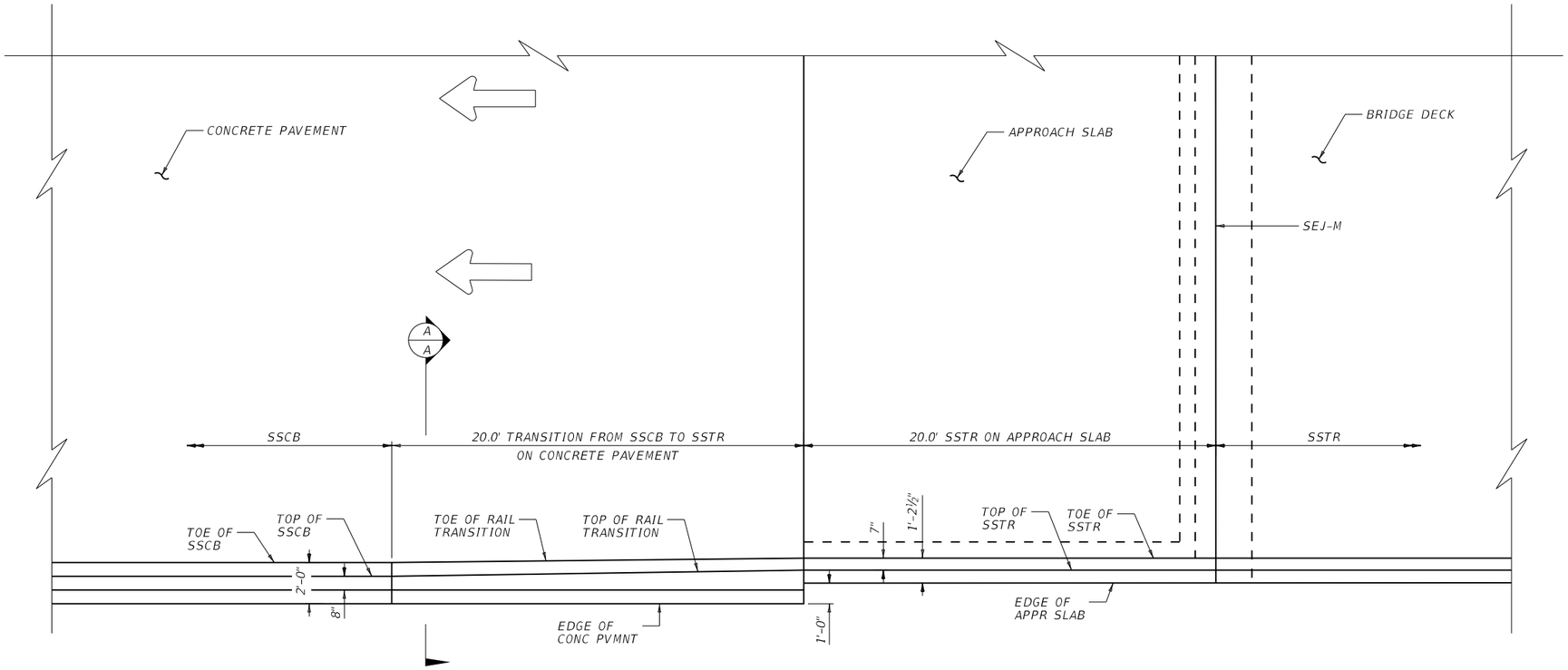
Texas Department of Transportation

PAVEMENT TRANSITION
DETAILS

N.T.S.

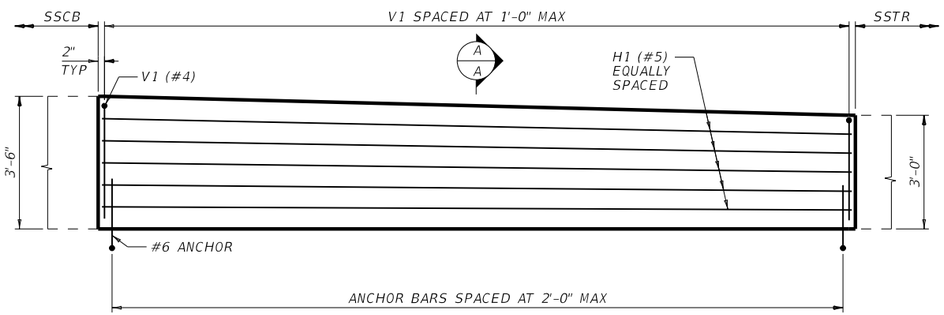
SHEET 1 OF 1

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK MPM	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	790
	0442	03	042,ETC	

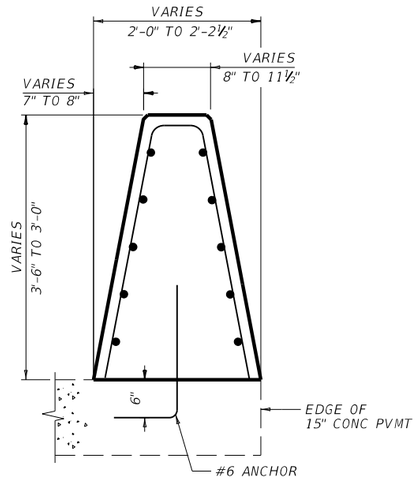


CONCRETE RAIL TRANSITION PLAN

Shown at SE end of SB Structure, applies to NE end of SB Structure and both the SW and NW ends of NB Structure.



RAIL TRANSITION ELEVATION



SECTION A-A

NOTES:

1. For Details and Notes not Shown, see Traffic Rail Single Slope Standard SSTR and Single Slope Concrete Barrier Standard SSCB (1) -10.
2. Concrete to be Class "C"
3. All Reinforcing to be Grade 60 Epoxy Coated.
4. Cost of Labor and Materials for Rail Transition Shall be included in the Linear Foot Cost of Traffic Rail SSCB.

NBI NO. 18-071-0-0442-03-455
NBI NO. 18-071-0-0442-03-456

STATE OF TEXAS
ALIA S. ECKARDT
142809
LICENSED PROFESSIONAL ENGINEER

Alia Eckardt
06/01/2023

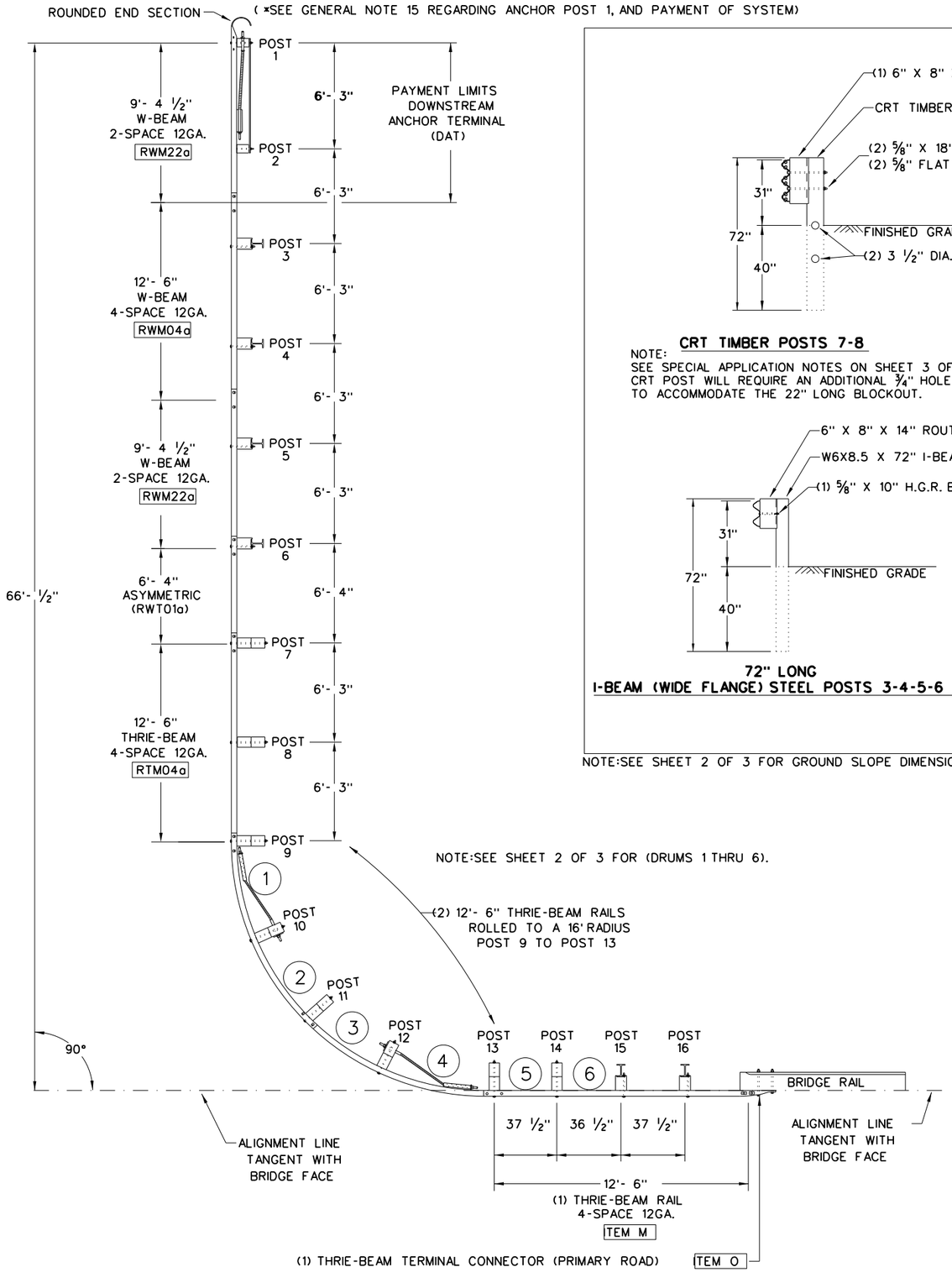
Texas Department of Transportation
Dallas District Bridge

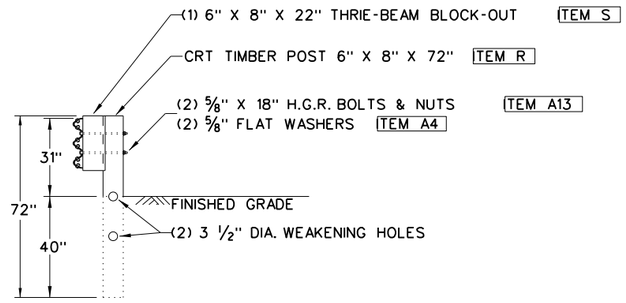
IH 35E
OVERPASS AT SL 9

SSCB TO SSTR
RAIL TRANSITION DETAILS

FILE: SEE PATH	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		791

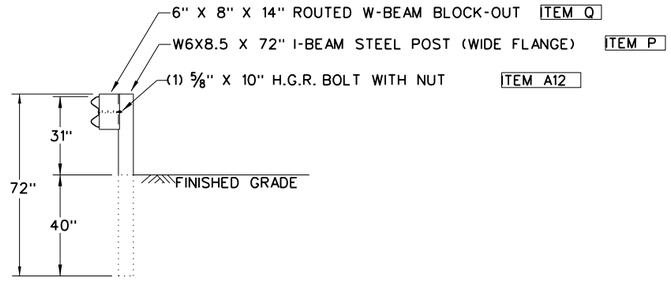
DATE:
FILE:



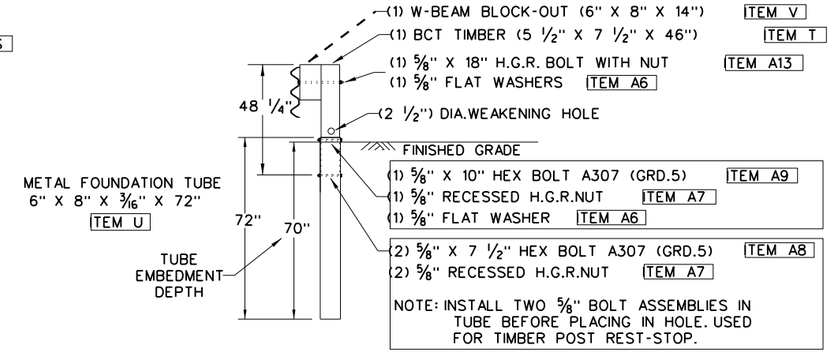


CRT TIMBER POSTS 7-8

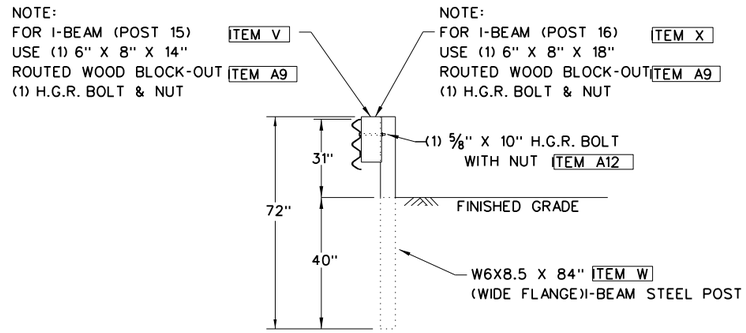
NOTE:
SEE SPECIAL APPLICATION NOTES ON SHEET 3 OF 3.
CRT POST WILL REQUIRE AN ADDITIONAL 3/4" HOLE TO ACCOMMODATE THE 22" LONG BLOCKOUT.



72" LONG
I-BEAM (WIDE FLANGE) STEEL POSTS 3-4-5-6

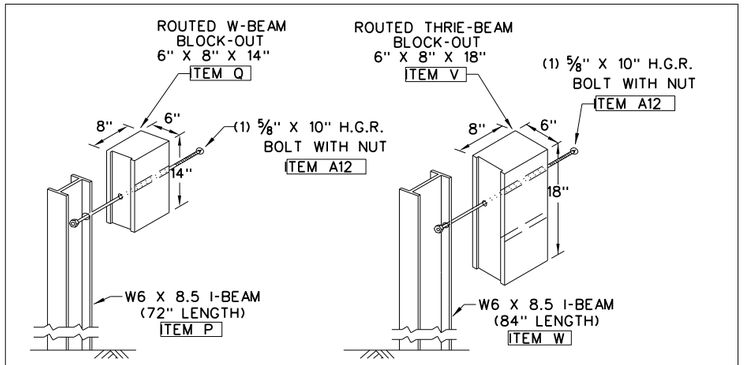


BCT TIMBER POSTS WITH METAL FOUNDATION TUBES
9-10-11-12-13-14



84" LONG
I-BEAM WIDE FLANGE STEEL POSTS 15-16

NOTE:SEE SHEET 2 OF 3 FOR GROUND SLOPE DIMENSIONS.



POST 3-4-5-6-15 **POST 16**

INSTALLATION DETAIL
ROUTED WOOD BLOCK-OUT WITH WIDE FLANGE STEEL POST

NOTE:
POST SYSTEM USES TWO TYPES OF 14" WOOD BLOCK-OUTS.
FOR CRT & BCT WOOD POSTS USE: (PDB01a)
FOR I-BEAM STEEL POSTS USE: (PDB01b)

POST (3-4-5-6) USE: 14" BLOCK-OUT (PDB01b)
POST (7-8) USE: 22" BLOCK-OUT (PDB02)
POST (9 THRU 14) USE: 14" BLOCK-OUT (PDB01a)
POST (15) USE: 14" BLOCK-OUT (PDB01b)
POST (16) USE: 18" BLOCK-OUT (PDB01)

(MASH TL-2 COMPLIANT)
TESTED TO MASH TL-2 WITH A 3:1 SLOPE

SHEET 1 OF 3

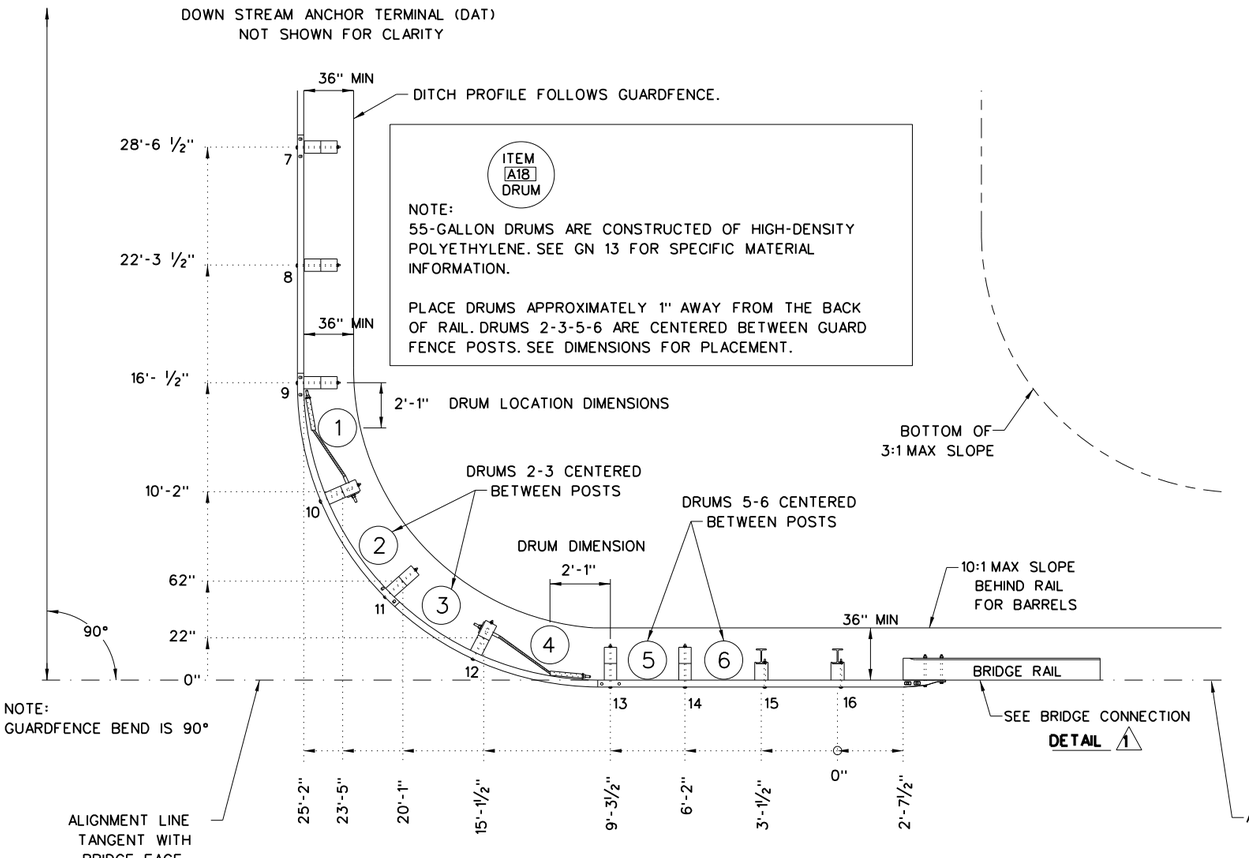
Texas Department of Transportation | Design Division Standard

TL-2
SHORT RADIUS GUARDRAIL
MASH COMPLIANT

SRG(TL-2)-21

FILE: srgtl221	TxDOT	CK:KM	DN:VP	CK:CGL
© TxDOT: FEBRUARY 2021	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042,ETC	IH35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		792

DOWN STREAM ANCHOR TERMINAL (DAT)
NOT SHOWN FOR CLARITY



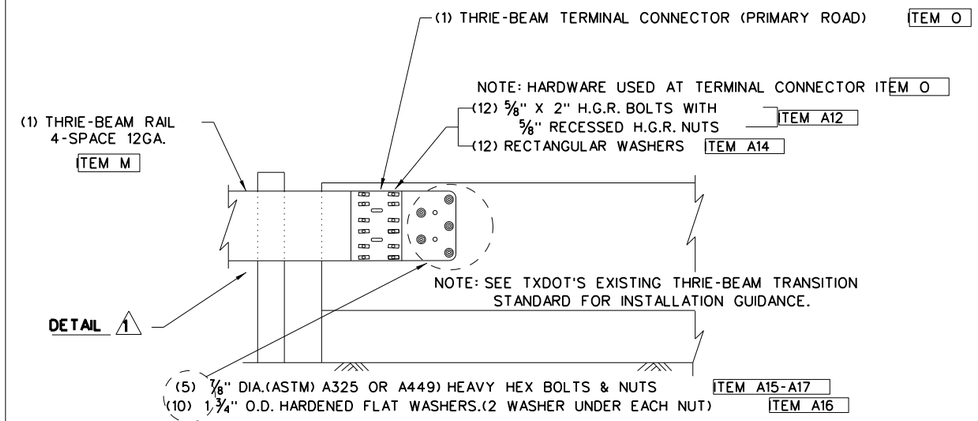
ITEM A18 DRUM

NOTE:
55-GALLON DRUMS ARE CONSTRUCTED OF HIGH-DENSITY POLYETHYLENE. SEE GN 13 FOR SPECIFIC MATERIAL INFORMATION.

PLACE DRUMS APPROXIMATELY 1" AWAY FROM THE BACK OF RAIL. DRUMS 2-3-5-6 ARE CENTERED BETWEEN GUARD FENCE POSTS. SEE DIMENSIONS FOR PLACEMENT.

POST PLACEMENT DETAILS

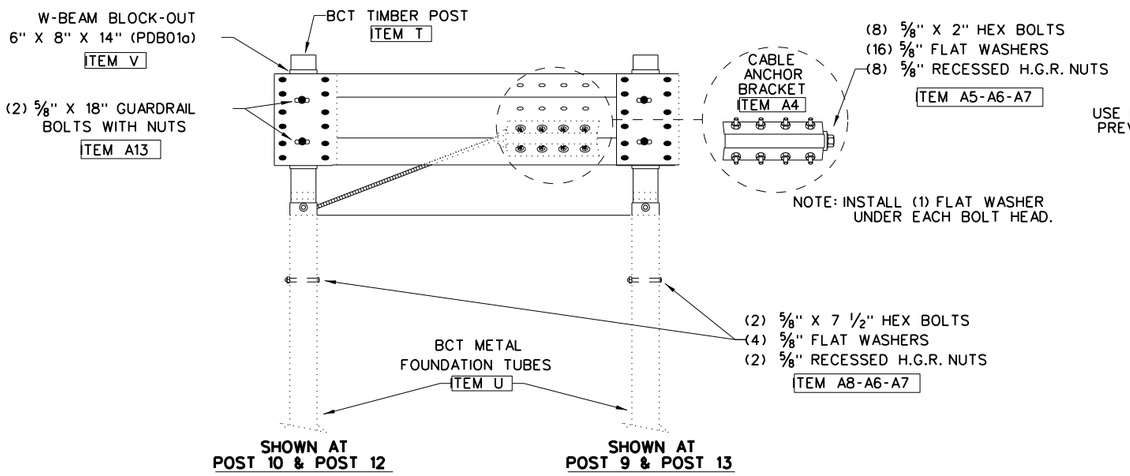
NOTE: USE THRIE-BEAM TERMINAL CONNECTOR (RTE01b) WITH (50 DEGREE BOLT SLOTS).

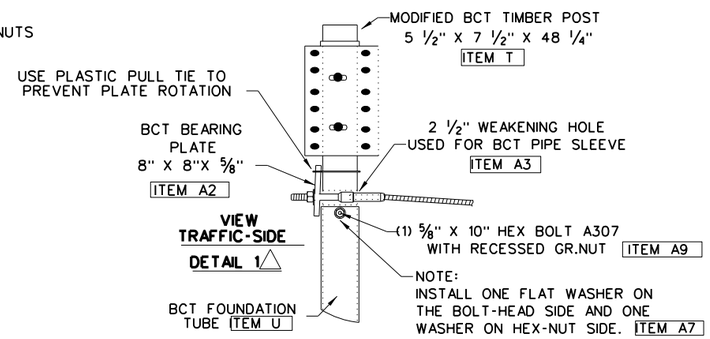


NOTE: TO ACCOMMODATE THE THRIE-BEAM TERMINAL CONNECTOR AT THE ROADWAY BRIDGE RAIL. DRILL (5) 1" DIA. HOLES. USE CONNECTOR PLATE FOR HOLE LOCATION TEMPLATE.

NOTE: BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE BRIDGE-RAIL, WASHER & HEX NUT. INSTALL WITH BOLT HEADS ON TRAFFIC-SIDE. (LENGTH OF THE BOLTS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO ORDERING.)

PRIMARY ROADWAY BRIDGE-RAIL DETAIL





SHOWN AT POST 10 & POST 12

BCT TIMBER POST WITH METAL FOUNDATION TUBE

(MASH TL-2 COMPLIANT)
TESTED TO MASH TL-2 WITH A 3:1 SLOPE

Texas Department of Transportation — Design Division Standard

TL-2
SHORT RADIUS GUARDRAIL
MASH COMPLIANT

SRG(TL-2)-21

FILE: srgtl221	TxDOT	CK:KM	DN:VP	CK:CGL
© TxDOT: FEBRUARY 2021	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042,ETC	IH35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		793

DATE:
FILE:

DATE:
FILE:

ITEM	ALL LARGE & SMALL COMPONENT DESCRIPTIONS	TL-2 DOWNSTREAM ANCHOR TERMINAL (DAT) ☐ (PAYABLE BY EA.) ITEM	QTY	TL-2 SHORT RADIUS GUARDRAIL COMPLETE SYSTEM (INCL DAT) △ (ALL PAY ITEMS) ITEM	TOTAL QTY
A	POST 1 & 2 BCT TIMBER (5 ½" X 7 ½" X 48 ¼") (PDF01)	A	2	A	2
B	POST 1 & 2 BCT TUBE (6" X 8" X 3/16" X 72" LENGTH) (PTE05)	B	2	B	2
C	POST 1 & 2 CHANNEL STRUTS (C3 X 5 X 80") A36	C	2	C	2
D	POST 1 SHELF ANGLE BRACKET (6" X 7 ½" X ¼") SEE DAT DETAIL	D	1	D	1
E	POST 1 BCT POST SLEEVE (FMM02a)	E	1	E	1
F	POST 1 BCT CABLE BEARING PLATE (⅝" X 8" X 8") (FPB01)	F	1	F	1
G	BCT CABLE ANCHOR ASSEMBLIES (¾" X 6'-6 ¾" LENGTH) (FCA01)	G	1	G	1
H	W-BEAM RAIL (ROUNDED END ANCHOR-TYPE) 12GA. (RWE03a)	H	1	H	1
I	W-BEAM RAIL (LENGTH 9'-4 ½") 12GA. (RWM22a)	I	2	I	2
J	W-BEAM RAIL (LENGTH 12'-6") 12GA.(4 SPACE) (RWM04a)			J	1
K	W-BEAM RAIL (LENGTH 9'-4 ½") 12GA. (RWM22a)			K	1
L	W-BEAM TO THRIE-BEAM ASYMMETRIC RAIL (RWT01a). (LENGTH 6'-4")			L	1
M	THRIE-BEAM RAIL (LENGTH 12'-6") 12GA. (4 SPACE) (RTM04a)			M	1
N	THRIE-BEAM RAIL (LENGTH 12'-6") 12GA. (16' RADIUS) (RTM02a)			N	2
O	THRIE BEAM RAIL (TERMINAL CONNECTOR) (BRIDGE-RAIL) (RTE01b)			O	1
P	POSTS 3,4,5,6 I-BEAM POSTS (LENGTH W6X8.5 X 72") (PWE01)			P	4
Q	POSTS 3,4,5,6,15 ROUTED W-BEAM BLOCK-OUTS (6" X 8" X 14") (PDB01b)			Q	5
R	POSTS 7,8 CRT TIMBER POSTS (LENGTH 6" X 8" X 72") (PDE09)			R	2
S	POSTS 7,8 THRIE-BEAM BLOCK-OUTS (6" X 8" X 22") (PDB02a)			S	2
T	POSTS 9,10,11,12,13,14 BCT TIMBER (5 ½" X 7 ½" X 46") (PDF04)			T	6
U	POSTS 9,10,11,12,13,14 BCT TUBE (6" X 8" X 3/16" X 72") (PTE05)			U	6
V	POSTS 9,10,11,12,13,14, W-BEAM BLOCK-OUTS (6" X 8" X 14") (PDB01a)			V	6
W	POSTS 15,16 I-BEAM POSTS (LENGTH W6X8.5 X 84") (PWE07)			W	2
X	POSTS 16 ROUTED THRIE-BEAM BLOCK-OUT (6" X 8" X 18") (PDB01)			X	1
A1	MODIFIED BCT CABLE ANCHOR ASSEMBLIES (¾" X LENGTH 5'-5")			A1	2
A2	BCT CABLE BEARING PLATE (⅝" X 8" X 8") (POST 10 & POST 12) (FPB01)			A2	2
A3	BCT CABLE POST SLEEVE (POST 10 & POST 12) (FMM02)			A3	2
A4	BCT CABLE ANCHOR BRACKET (AT POST 9 & POST 13) (FPA01)			A4	2
A5	⅝" X 2" HEX BOLTS A307 GRD.5 (FOR CABLE ANCHOR BRACKETS)	A5	8	A5	24
A6	⅝" FLAT WASHER A307 GRD.5 (1 WASHER UNDER BOLT & 1 WASHER UNDER NUT)	A6	18	A6	48
A7	⅝" RECESSED H.G.R. NUTS (FOR ALL ⅝" BOLTS)	A7	20	A7	152
A8	⅝" X 7 ½" HEX BOLTS A307 GRD.5 BCT POSTS (9-10-11-12-13-14)	A8	4	A8	12
A9	⅝" X 10" HEX BOLTS A307 GRD.5 BCT POSTS (9-10-11-12-13-14)	A9	2	A9	6
A10	⅝" X 1 ¼" H.G.R. BOLTS SPLICES AT POST (2-3-4-5-6-7-9-11-13)(FBB01)	A10	4	A10	72
A11	⅝" X 2" H.G.R. BOLTS (ROUND TERM-POST 10-END SPLICE)(FBB02)			A11	18
A12	⅝" X 10" H.G.R. BOLTS (I-BEAM POSTS RAIL & BLOCKOUT)(FBB03)	A12	2	A12	10
A13	⅝" X 18" H.G.R. BOLTS (POSTS 9,10,11,12,13,14)(FBB04)			A13	10
A14	RECTANGULAR WASHERS (FWR03) (FOR TERMINAL CONNECTOR RTE01b)			A14	12
A15	⅞" X (LENGTH VARIES) HEX BOLTS A325 OR A449 GR.5			A15	5
A16	1 ¾" O.D. HARDENED FLAT WASHER A325			A16	10
A17	⅞" HEX NUT GR.5 A325			A17	5
A18	55 GALLON DRUM - FILLED WITH SAND 700-715lbs.			A18	6

GENERAL NOTES

1. FOR ADDITIONAL INSTALLATION INFORMATION AND GUIDANCE CONTACT: TEXAS DEPARTMENT OF TRANSPORTATION, (TXDOT'S DESIGN DIVISION).(512) 416-2678. THE EXACT POSITION OF MBGF SHALL BE SHOWN ELSEWHERE IN THE PLANS OR AS DIRECTED BY THE ENGINEER. THE SIGHT DISTANCE OF THE INSTALLATION WILL NEED TO BE VERIFIED WITH RESPECT TO THE SPECIFIC SITE PLACEMENT.

2. STEEL POSTS ARE NOT PERMITTED AT CRT OR BCT POST POSITIONS.

3. RAIL ELEMENT SHALL MEET THE REQUIREMENTS OF ITEM 540,"METAL BEAM GUARD FENCE" EXCEPT AS MODIFIED ON THE PLANS. THE CONTRACTOR MAY FURNISH RAIL ELEMENTS OF 12 ½" OR 25 FOOT NOMINAL LENGTHS.

4. BUTTON HEAD "POST" BOLTS (ASTM A307) SHALL BE OF SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT (ASTM A563) AND TYPE A (1 ¾" O.D.) WASHER AND NOT MORE THAN 1" BEYOND IT. BUTTON HEAD "SPLICE" BOLTS (ASTM A307) ARE ⅝" X 1 ¼" OR 2" LONG AT TRIPLE RAIL SPLICES WITH A DOUBLE RECESSED NUT (ASTM A563).

5. FITTINGS (BOLTS, NUTS, AND WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING." FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.

6. CROWN SHALL BE WIDENED TO ACCOMMODATE THE METAL BEAM GUARD FENCE.

7. THE LATERAL APPROACH TO THE GUARD FENCE, SHALL HAVE A SLOPE RATE OF NOT MORE THAN 1V:10H.

8. IT IS NOT RECOMMENDED THAT GUARD FENCE BE PLACED IN THE VICINITY OF CURBS.

9. GUARDRAIL POSTS SHALL NOT BE SET IN CONCRETE, OF ANY DEPTH.

10. SPECIAL RAIL FABRICATION WILL BE REQUIRED FOR THRIE BEAM RAIL RADIUS (ITEM J).

11. ALL MATERIAL AND WORK INVOLVED IS SUBSIDIARY TO SHORT RADIUS BID ITEM, INCLUDING, BUT NOT LIMITED TO FOUNDATIONS, GRADING, THRIE BEAM RAIL, SAND DRUMS, AND OTHER PARTS.

12. ALL CABLE ASSEMBLIES SHOULD BE TAUT AFTER INSTALLATION. WHEN CABLES ARE MANIPULATED BY HAND THE CABLES SHOULD NOT MOVE MORE THAN 1" IN ANY DIRECTION PERPENDICULAR TO THE CABLE.

13. THE DRUMS ARE EAGLE MODEL 1656 FILLED WITH 715 LB (+/-15) SAND WITH THE PLASTIC LEVER-LOCK; OR AN APPROVED EQUIVALENT. THE APPROXIMATE HEIGHT OF THE DRUM IS 37" (+/-).

14. WHEN THE SHORT RADIUS SYSTEM IS TERMINATED BY A DAT, REFER TO THE LATEST DAT STANDARD FOR INSTALLATION OF THE DAT SYSTEM. IF THE SYSTEM IS TERMINATED BY ANOTHER END TERMINAL SYSTEM, REFER TO THE CORRESPONDING END TERMINAL STANDARD.

* 15. WHEN THE PLANNED LOCATION OF POST (1) IS WITHIN THE RIGHT-OF-WAY AND WITHIN THE CLEAR ZONE OF THE DIRECTION OF THE OPPOSING TRAFFIC, AN APPROPRIATE CRASHWORTHY END TERMINAL SHALL BE INSTALLED IN PLACE OF THE DOWNSTREAM ANCHOR TERMINAL (DAT). THE PAYMENT OF THE COMPLETE SHORT RADIUS SYSTEM WITH A DAT AT THE TERMINUS WILL BE WITH BID ITEMS: 540 6016 DOWNSTREAM ANCHOR TERMINAL SECTION, AND 540 6046 TL-2 31" SHORT RADIUS (W/O DAT). THE PAYMENT OF THE SYSTEM TERMINATED BY A CRASHWORTHY END TERMINAL (IN LIEU OF THE DAT) WILL BE WITH BID ITEMS: 540 6046 TL-2 31" SHORT RADIUS (W/O DAT), AND 544 6001 GUARDRAIL END TREATMENT (INSTALL).

16. TESTED TO MASH WITH A 3:1 SLOPE OR SHALLOWER IS PREFERABLE IN THE LIMITS OF THE TOP AND BOTTOM OF THE SLOPE AS SHOWN IN THE PLAN VIEW. IF FIELD CONDITIONS REQUIRE A STEEPER SLOPE,THIS MAY BE ALLOWABLE UP TO A 2:1 SLOPE. CONTACT THE DESIGN DIVISION FOR ADDITIONAL GUIDANCE.

NOTE: SEE SHEET 1 OF 3.

SPECIAL APPLICATION NOTES.

1. THIS IS A MASH COMPLIANT TL-2 SHORT RADIUS GUARDRAIL SYSTEM 31 INCHES TALL. THE SYSTEM REQUIRES A MINIMUM PLACEMENT FOOTPRINT OF 35' ALONG THE PRIMARY ROAD AND 30' ALONG THE SECONDARY DRIVEWAY.

2. THE SYSTEM ALSO REQUIRES A MINIMUM 3' WIDE (WORK ZONE) DIRECTLY BEHIND THE GUARDRAIL SYSTEM, WITH A SLOPE AT 1V:10H, FROM THERE A 3:1 SLOPE IS RECOMMENDED. SEE SHEET 2 OF 3 FOR SLOPE DETAILS.

3. NOTE FOR INSTALLER: THE TWO (2) CRT POSTS ITEM (R), AT POST LOCATIONS 7 & 8.), WILL REQUIRE THE FOLLOWING FIELD ADJUSTMENT. USING A ¾" X 10" LONG SPADE BIT DRILL ONE (1) ADDITIONAL HOLE 7-⅞" DIRECTLY BELOW THE EXISTING TOP HOLE TO ACCOMMODATE THE HARDWARE FOR THE 22" LONG BLOCKOUT.

   OPTION FOR ADDITIONAL ¾" HOLE. THE 22" LONG BLOCKOUT (PDB01a) IS MANUFACTURED WITH TWO ¾" DRILLED HOLES FOR THE POST HARDWARE, THEREFORE THE BLOCKOUT CAN BE USED AS A TEMPLATE GUIDE FOR THE BOTTOM ¾" HOLE. AFTER INSTALLING THE CRT POST USE THE TOP HOLE TO MOUNT THE 22" LONG BLOCKOUT TO POST, USE THE BLOCKOUT'S PRE-DRILLED HOLE AS A GUIDE FOR THE BOTTOM ¾" HOLE.

(MASH TL-2 COMPLIANT)
TESTED TO MASH TL-2 WITH A 3:1 SLOPE

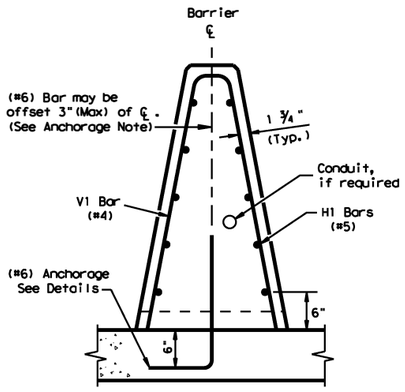
Texas Department of Transportation — Design Division Standard

TL-2
SHORT RADIUS GUARDRAIL
MASH COMPLIANT

SRG(TL-2)-21

FILE: srgtl221	TxDOT	CK:KM	DN:VP	CK:CGL
© TxDOT: FEBRUARY 2021	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042,ETC	IH35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		794

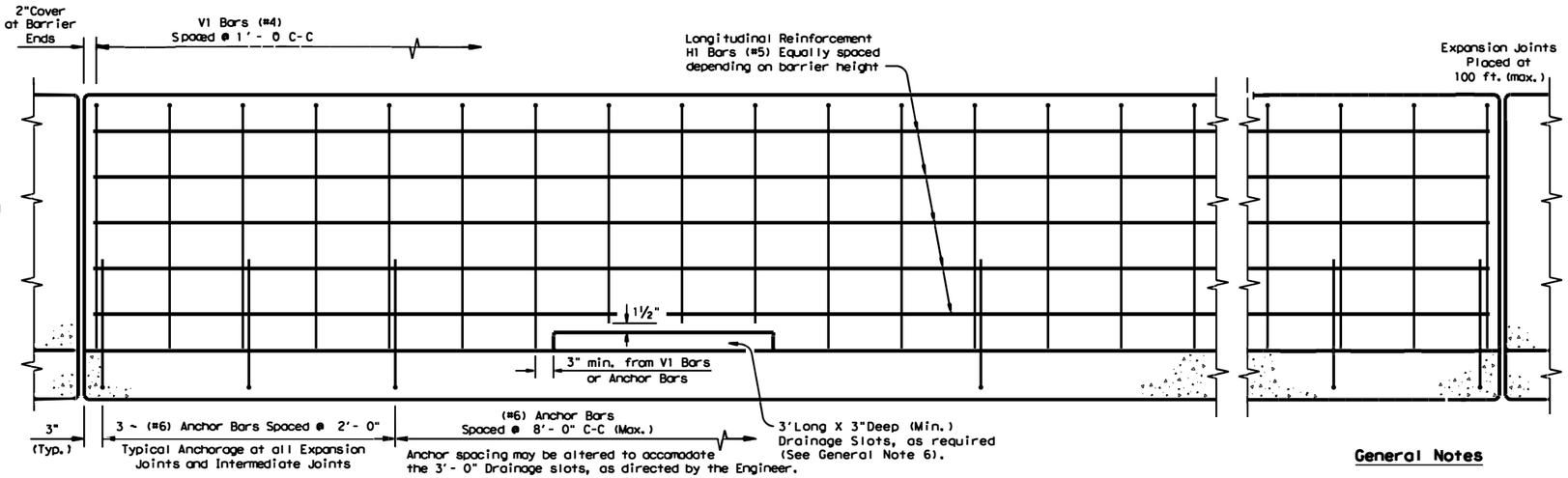
DATE: 11/9/2023
FILE: pw:\\txdot.projectwiseonline.com:TXDOT5\Documents\18 - DAL\Design Projects\0442021624 - Design\Plan Set\3. Roadway\Standards\sscb116.dgn



END VIEW

CAST-IN-PLACE (CIP) BARRIER

Barrier is Symmetrical About the Center Line

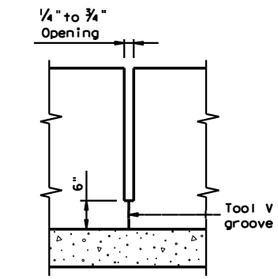


Note:
Reinforcement around the drainage slots may be cut or bent to accommodate the edge and top clearances.

The bottom of the reinforcement cage may rest on the top of the Concrete Bridge Deck or CRCP.

ELEVATION VIEW

Cast-in-Place (SSCB) on Bridge Decks or Continuously Reinforced Concrete Pavement (CRCP) (Showing Reinforcement and Anchor Placement)



INTERMEDIATE JOINT DETAIL

Place at all Bent ℄'s, without expansion joints and spaced at 33 ft. (max), 10 ft. (min).

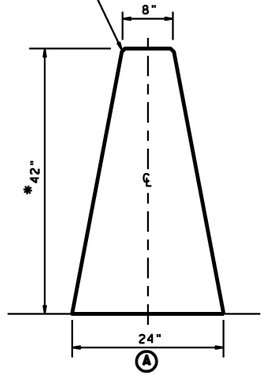
EXPANSION JOINT PLACEMENT

Place at all transverse joints or 100 ft. (max.), 10 ft. (min).

General Notes

1. Concrete shall be Class C. Unless otherwise specified in the plans.
2. Where used, rebar reinforcement shall be Grade 60 and conform to ASTM A615.
   If the bridge slab requires epoxy "coated" reinforcement, the barrier and/or anchorage may require the same, if shown elsewhere in the plans.
3. These details cover barrier per Item 514, "Permanent Concrete Traffic Barrier".
4. Anchorage: The "Optional" Anchor system shall be embedded 6" into fresh concrete or using a Type III, Class C Epoxy anchorage system. Follow the manufacturer's directions for installing the expoxied anchor bars. All anchorage shown is the minimum required, and considered subsidiary to the bid item.
5. Top edges of CIP barrier shall have a ¾" chamfer or tooled radius.
6. Drainage slot locations (12'- 0", C-C Min. Spacing) are shown elsewhere, or as directed by the Engineer. Drainage slot heights on the SSCB may be increased to a maximum of 5 inches, without geometric changes to the barrier face.
7. Cast-in-place barrier may be slip formed. Bracing may be tied or tack welded to the reinforcement cage to provide cage stability. Do not weld to anchor bars. The reinforcement cage may rest on the top of the finished grade.
8. For locations where lighting is required, see the SSCB(4) sheet for the proper reinforcement and anchorage.

Top edges of CIP barrier shall have a ¾" chamfer or tooled radius.

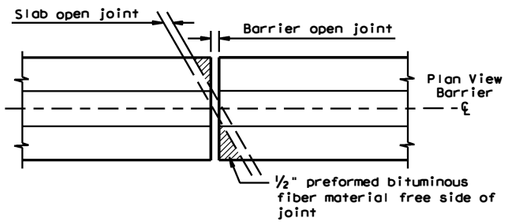


SINGLE SLOPE CONCRETE BARRIER

(SSCB)(42")

* Barrier height (IN.)	Dimensions (IN.)		
	Ⓐ	Ⓑ	Ⓒ
42	24	40 ¼	20 ½
48	26 ¼	46 ¼	22 ¾
54	28 ½	52 ¼	25 ⁵⁄₁₆

*(SSCB)(42") Barrier height may be increased to 48" or 54".
This would increase the barrier and reinforcement dimensions accordingly.



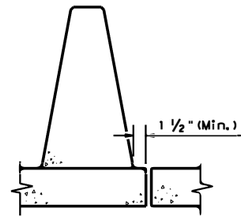
BARRIER OVER TRANSVERSE OPEN JOINT

BARRIER PLACEMENT OVER (CRCP) JOINTS

Barrier may be cast over a "Longitudinal" CRCP joint.

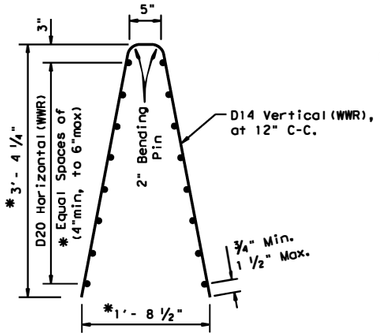
CRCP Joints (with or without tiebars): Two layers of 30 lb roofing felt or ½" preformed bituminous fiber material.

Barrier Anchorage Note: Anchorage must be located at least 3" from a longitudinal joint.



MINIMUM EDGE DISTANCE FROM LONGITUDINAL JOINT

Barrier placement over a longitudinal bridge joint is not recommended.



Welded Wire Reinforcement (WWR) Option for Bars V1 and H1

(WWR) General Notes

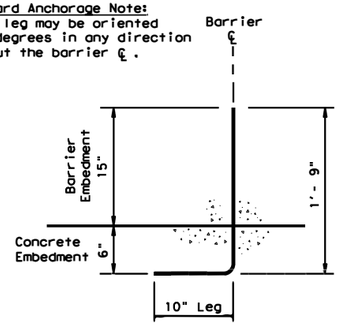
1. Deformed Welded Wire Reinforcement (WWR) shall conform to ASTM A497.
2. Welded wire cage may be cut and bent to accommodate the drainage slots, as directed by the Engineer.
3. Welded wire splice locations shall have a "minimum" splice lap length of 12".
4. Combinations of reinforcing steel and WWR will be permitted, as directed by the Engineer. The dimension from the end of the barrier section to the first wire shall not exceed 3".

Cast-In-Place (CIP) or Slip-Formed (SSCB)

Cast-in-Place barrier may be connected to precast SSCB. Joint connection "Types" may be used in Cast-in-Place barrier, to match the precast barrier connection. (See required connection "Type" elsewhere in the plans)

The weight of Cast-in-Place (SSCB)42" is approx. 717 lbs per ft.

Standard Anchorage Note:
10" leg may be oriented 90 degrees in any direction about the barrier ℄.

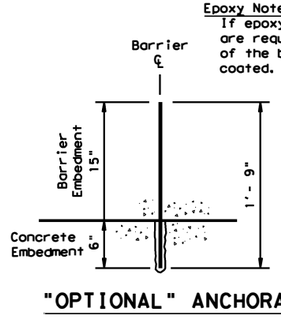


STANDARD ANCHORAGE

(#6) Bar

Concrete Pavement / Bridge Deck Ancharage:
Cast-in-Place or Slip-Formed Barrier
(See General Notes 2)

Epoxy Note:
If epoxy coated anchor bars are required, the lower 6" of the bars must not be epoxy coated.

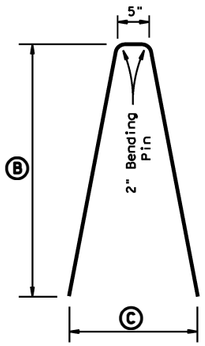


"OPTIONAL" ANCHORAGE

(#6) Bar

Fresh insertion method or Type III, Class C Epoxy Method

Concrete Pavement / Bridge Deck Anchorage:
Cast-in-Place or Slip-Formed Barrier
(See General Notes 2 & 4)



V1 Bar

(#4) Bar

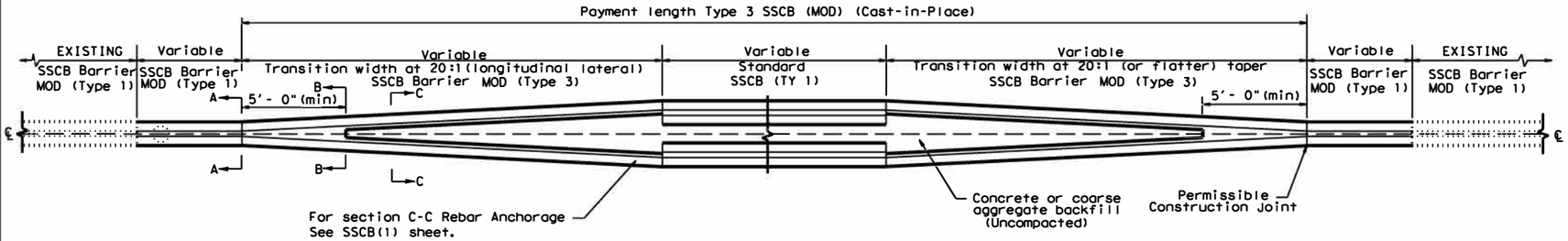
Texas Department of Transportation — Design Division Standard

SINGLE SLOPE CONCRETE BARRIER

CAST-IN-PLACE
(TYPE 1)
(BRIDGE DECK OR CRCP)

SSCB(1)-16

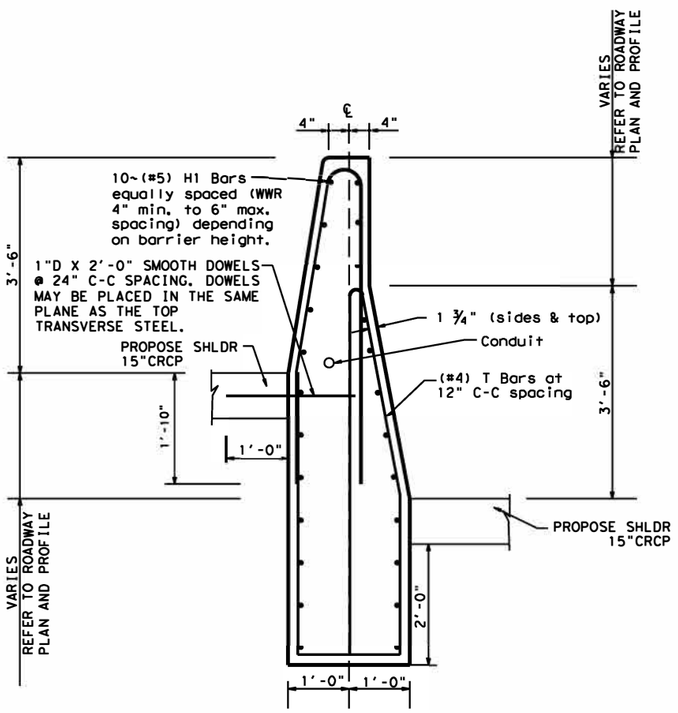
FILE: sscb116.dgn	DN: TxDOT	CK: HC/AN	DW: BD/VP	CK: KM
©TxDOT January 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042,ETC	IH35E
CST 01-2016	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		795



PLAN (TYPE 1 & 3) MOD BARRIER

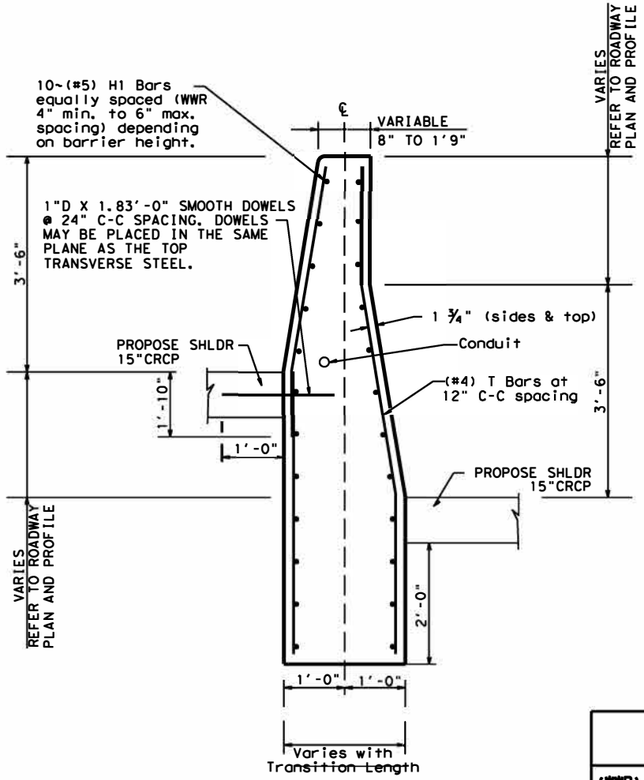
GENERAL NOTES

1. Axis of concrete barrier shall be vertical, except where roadway is superelevated, then axis shall be normal to roadway surface.
2. All steel that requires galvanizing shall be in accordance with Item 445, "Galvanizing."
3. Bid price per liner foot of (Type 1 and 3) MOD SSCB, including anchor sections, shall include all of the concrete, reinforcement, and aggregate backfill.
4. All concrete shall be Class C.
5. Longitudinal and vertical bars for roadway barrier shall conform to ASTM A615 (Grade 60), unless otherwise specified.
6. At construction joints the longitudinal bars shall extend beyond the joint so that bar splices will be a minimum of two feet from the construction joint.
7. Welded wire reinforcement (WWR) may be used as an option to conventional reinforcement and shall meet requirements shown.
8. Any method devised by the contractor and approved by the Engineer that will assure the longitudinal steel for and (Type 1 and 3) SSCB will be positioned ½inch as dimensioned will be satisfactory.
9. Conduit to be provided only when called for elsewhere in the plans. Position of conduit may be adjusted to facilitate construction subject to the approval of the Engineer.
10. Refer to Roadway Plan and Profile sheets for offsets and lengths.



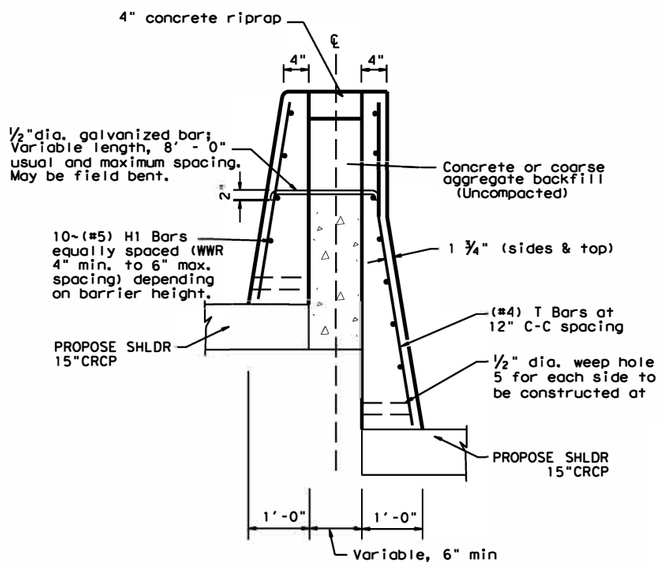
Type 1
SECTION A-A
(N. T. S)

STA. 1830+00 TO STA. 1831+00
STA. 1862+00 TO STA. 1863+00



Type 3
SECTION B-B
(N. T. S)

***STA. 1831+00 TO STA. 1832+00**
***STA. 1861+00 TO STA. 1862+00**



Type 3
SECTION C-C
(N. T. S)

***STA. 1832+00 TO STA. 1833+00**
***STA. 1860+00 TO STA. 1861+00**

***NOTE: REFER TO PLAN AND PROFILE SHEET FOR SHOULDER TAPERS.**

Welded Wire Reinforcement (WWR) Option for Bars T and H1 (Type 1 &3) MOD Barrier

(WWR) General Notes

1. WWR design required for (Type 1 & 3) MOD SSCB barrier: D14 vertical (12" C-C) x D20 horizontal wires spaced (4" min. to 6" max.) as height requires.
2. Deformed Welded Wire Reinforcement (WWR) shall conform to ASTM A497.
3. Welded wire cage may be cut and bent to accommodate the drainage slots, as directed by the Engineer.
4. Welded wire splice locations shall have a "minimum" splice lap length of 12".
5. Combinations of reinforcing steel and WWR will be permitted, as directed by the Engineer. The dimension from the end of the barrier section to the first wire shall not exceed 3".

STATE OF TEXAS
M. Pauline Morre
94443
LICENSED PROFESSIONAL ENGINEER

M Pauline Morre P.E.
11.10.23

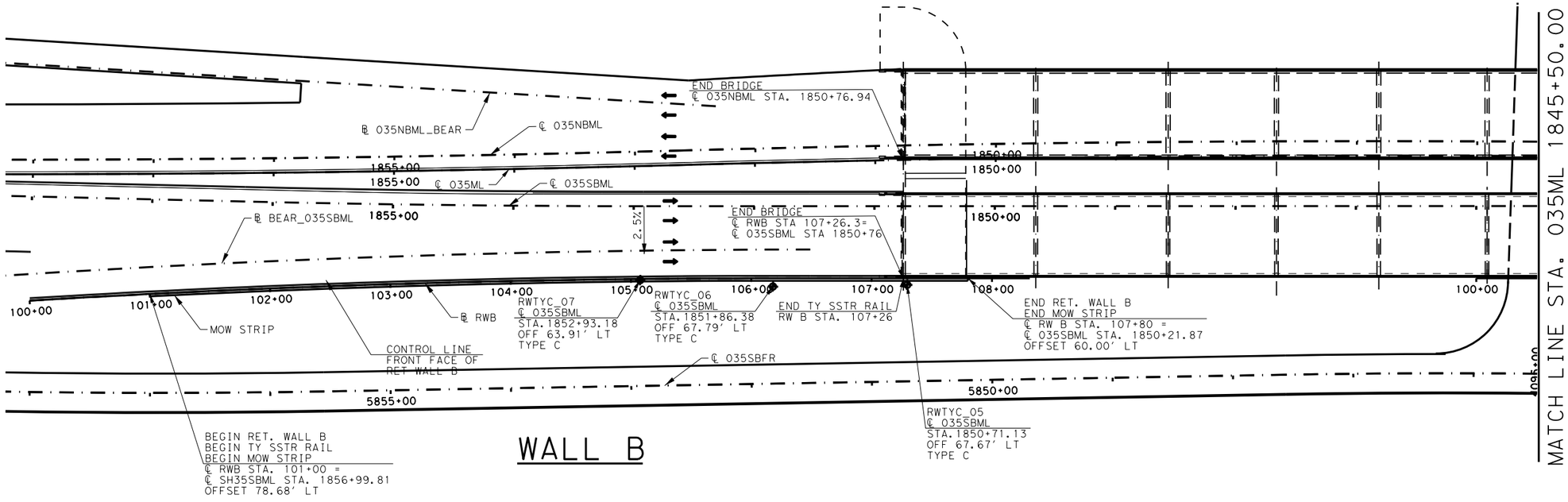
SSCB (MOD)

CAST-IN-PLACE

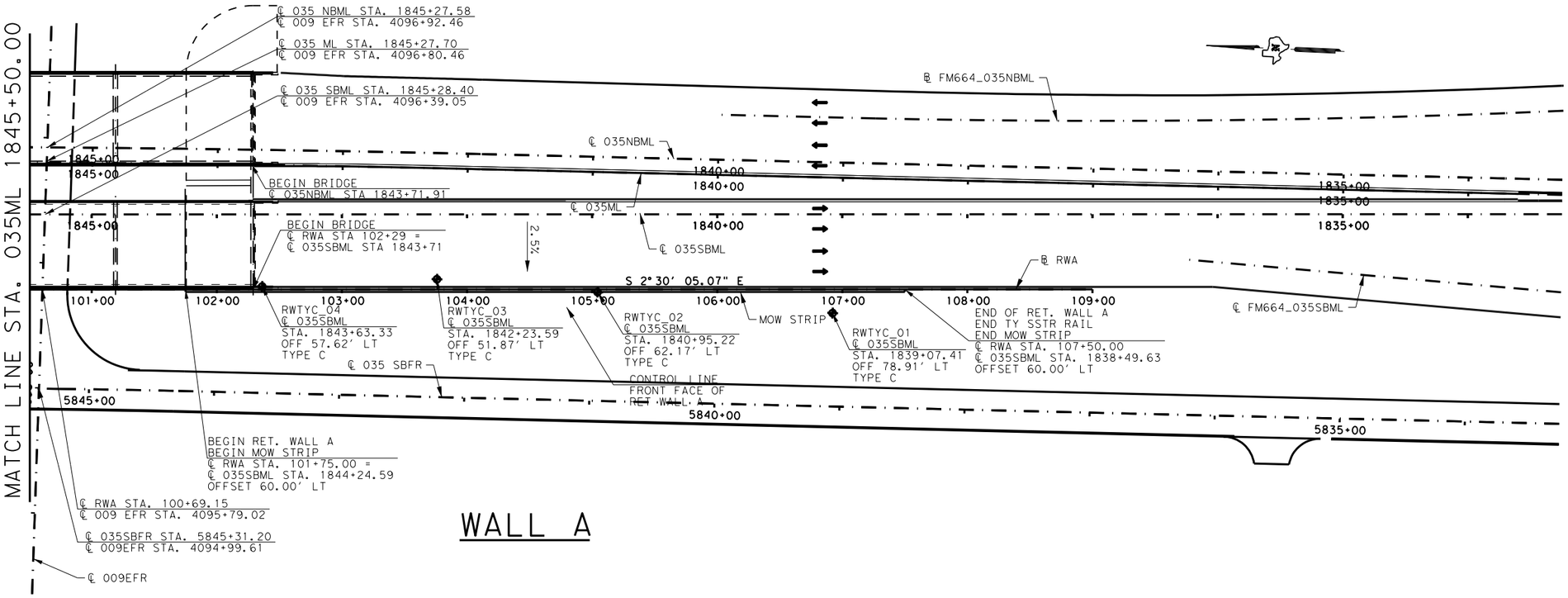
(TYPE 1 & 3)

N. T. S.

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	796
CHECK MPM	CONTROL	SECTION	JOB	
	0442	03	042, ETC.	



WALL B



WALL A

M Pauline Morrel P.E.

STATE OF TEXAS
M. Pauline Morrel
94443
LICENSED
PROFESSIONAL ENGINEER

11.10.23

IH35E
RETAINING WALL
KEY MAP

SCALE: 1"=100'

SHEET 1 OF 1

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	797
	0442	03	042,ETC.	

RWA

CURVE NAME		STATION	BEARING	NORTHING	EASTING	DEGREE	RADIUS	CURVE LENGTH	TANGENT	DEFLECTION
	POT	100+00.000		6,886,392.26	2,485,539.04					
			S 2° 30′ 05.0747" E							
	POT	108+99.9424		6,885,493.18	2,485,578.32					

RWB

CURVE NAME		STATION	BEARING	NORTHING	EASTING	DEGREE	RADIUS	CURVE LENGTH	TANGENT	DEFLECTION
	PC	100+00.0000		6,887,592.18	2,485,468.12					
RWB	PI	102+92.8623		6,887,300.89	2,485,498.44	0° 33′ 27.1"	10,277.00	585.57	292.8623	3° 15′ 52.6" (RT)
	PT	105+85.5660		6,887,008.34	2,485,512.13					
			S 2° 40′ 41.9880" E							
	POT	106+02.5136		6,886,991.42	2,485,512.92					
			S 2° 29′ 27.2608" E							
	POT	108+31.1816		6,886,762.97	2,485,522.85					

STATE OF TEXAS
M. Pauline Morrel
94443
LICENSED
PROFESSIONAL ENGINEER

M Pauline Morrel P.E.
11.10.23

Texas Department of Transportation

IH35E
RETAINING WALL
ALIGNMENT DATA

SHEET 1 OF 1

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	798
	0442	03	042,ETC.	

9/15/2023
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TxDOT

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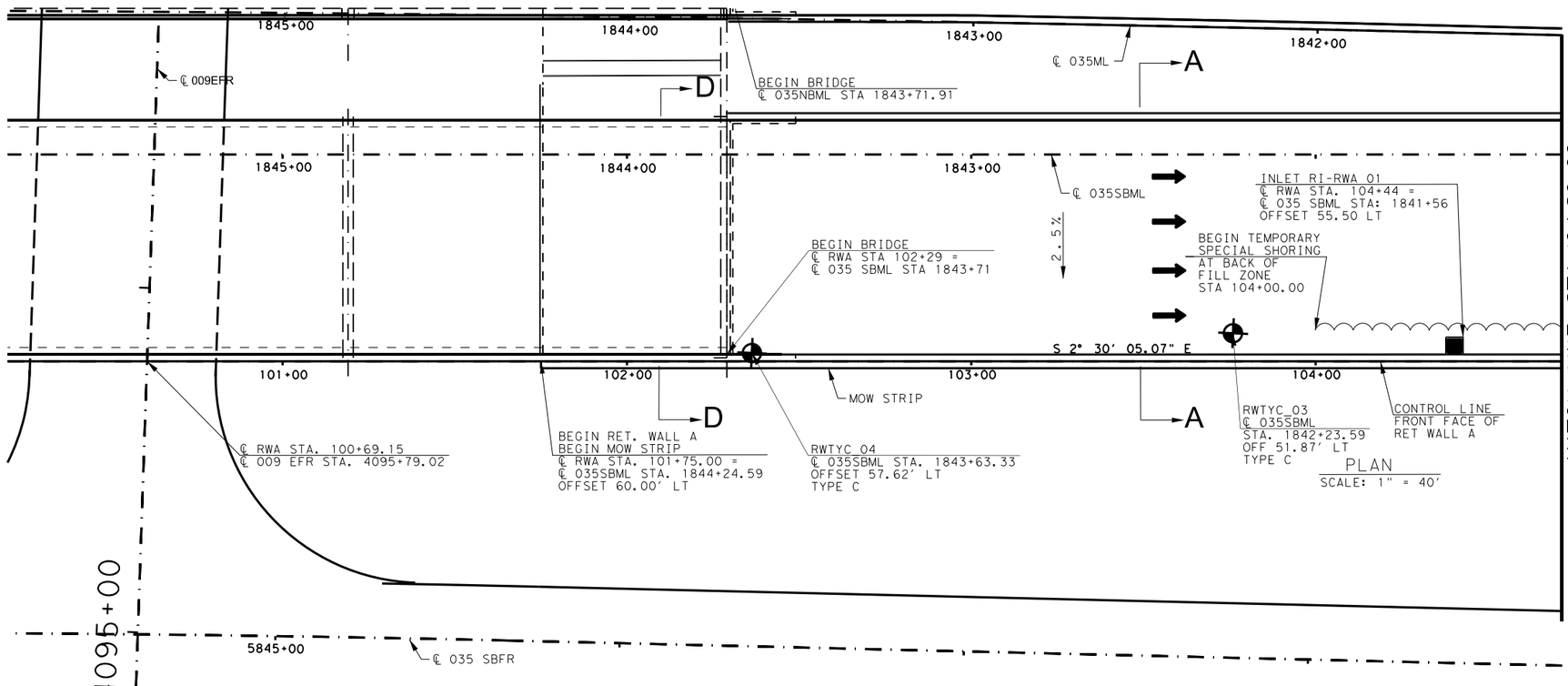


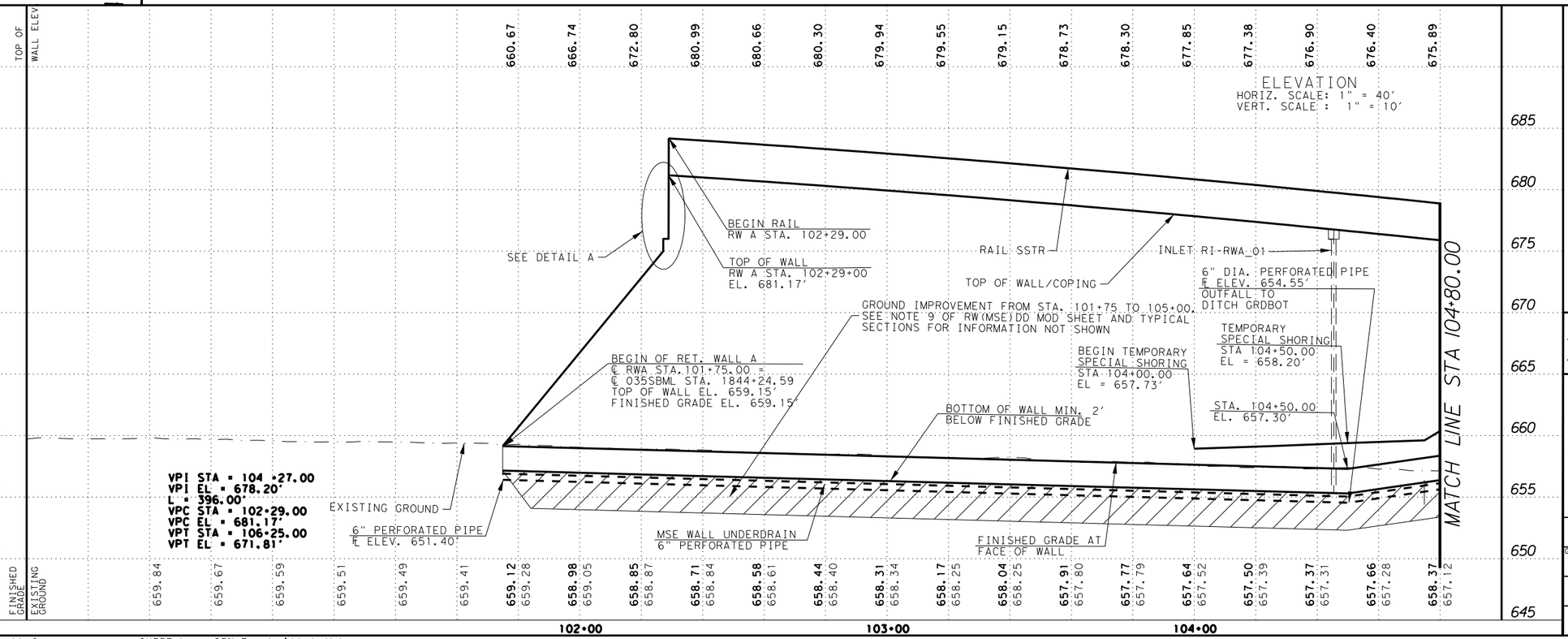
Wall A CSJ 0442-03-044

TABLE OF ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNITS	QTY
216 6001	PROOF ROLLING *	HR	4
247 6053	FL BS (CMP IN PLC)(TYD GR1-2)(FNAL POS)	CY	1101
403 6001	TEMPORARY SPL SHORING	SF	898
423 6001	RETAINING WALL (MSE)	SF	9169
432 6045	RIPRAP (MOW STRIP)(4 IN)	CY	14
450 6024	RAIL (TY SSTR)(HPC)	LF	521
740 6005	ANTI - GRAFFITI COATING (PERMANENT TY III)	SF	9580

*** (FOR CONTRACTOR'S INFORMATION. SUBSIDIARY TO ITEM 423)**

NOTES:
1. SEE SHEET 3 OF 5 FOR DETAILS, GENERAL NOTES, AND TYP. SECTIONS.
2. FOR RAIL DETAILS NOT SHOWN, SEE SSTR STANDARD.
3. FOR INLET DETAILS NOT SHOWN, SEE RW(RI) AND RW(RI)SUP STANDARDS.
4. PROVIDE A PROPOSED MSE WALL CONSTRUCTION SEQUENCE FOR APPROVAL.
5. SEE THE CORE BORING SHEETS FOR CORE BORING DATA.
6. SEE DRAINAGE PLANS FOR UNDERDRAIN OUTFALL AND DETAILS.



09/19/2023

09/15/2023

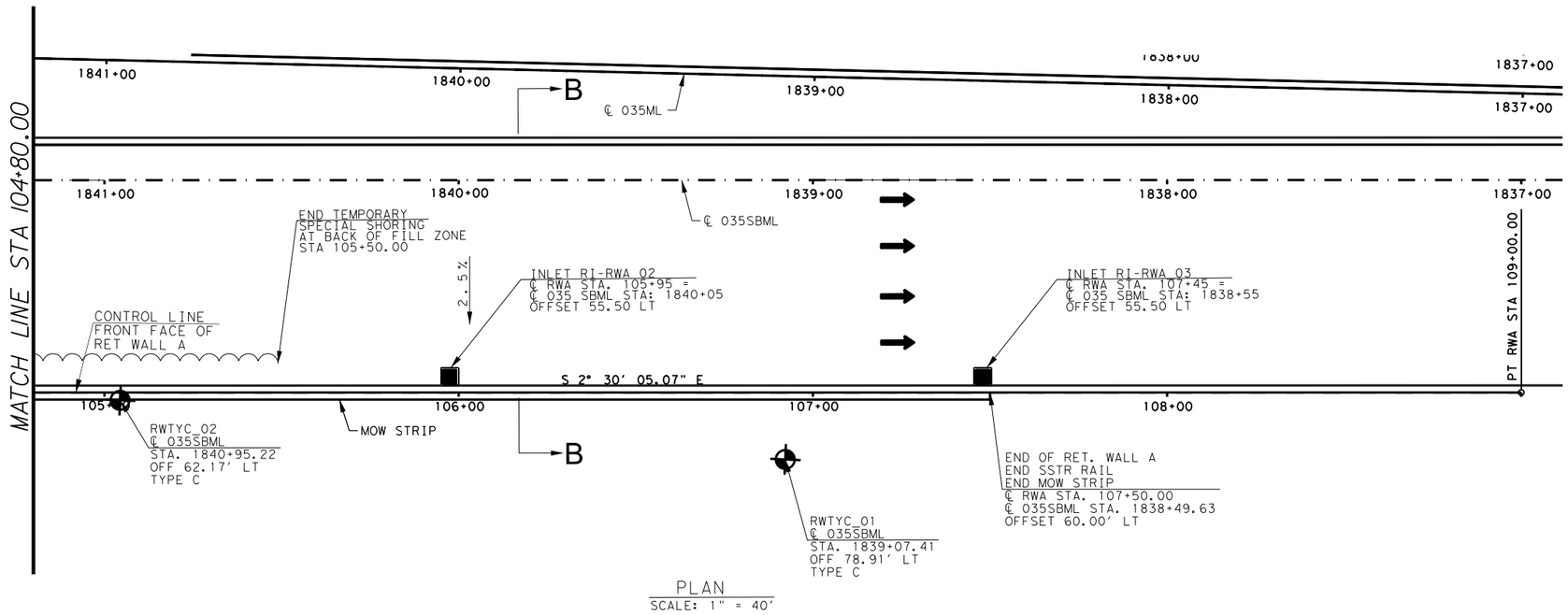
Texas Department of Transportation

IH35E
RETAINING WALL A
LAYOUT

SCALE: 1"=40' SHEET 1 OF 5

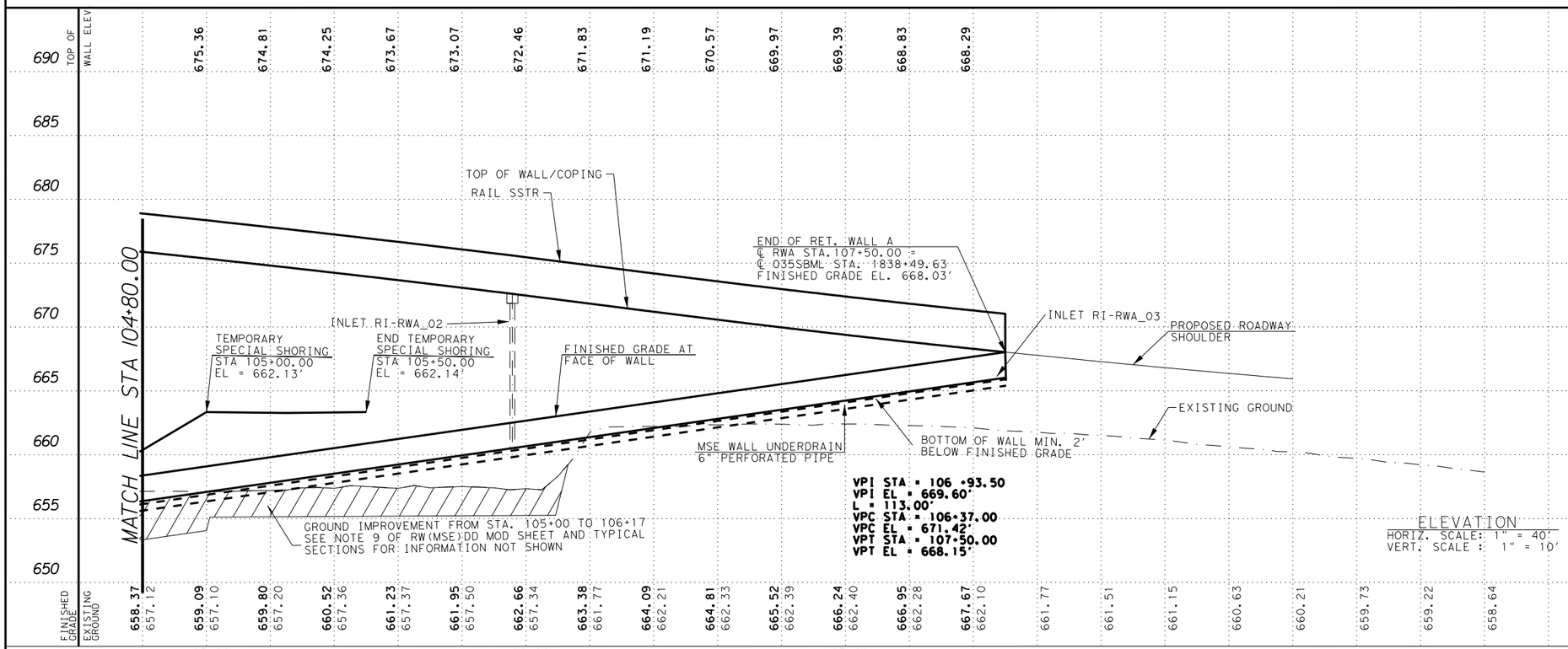
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	799
	0442	03	042,ETC.	

pdf-bw.pltcfg IH35E*base 95% Resubmittal.tbl



PLAN
SCALE: 1" = 40'

NOTES:
1. SEE SHEET 3 OF 5 FOR DETAILS, GENERAL NOTES, AND TYP. SECTIONS.
2. FOR RAIL DETAILS NOT SHOWN, SEE SSTR STANDARD.
3. FOR INLET DETAILS NOT SHOWN, SEE RW(RI) AND RW(RI)SUP STANDARDS.
4. PROVIDE A PROPOSED MSE WALL CONSTRUCTION SEQUENCE FOR APPROVAL.
5. SEE THE CORE BORING SHEETS FOR CORE BORING DATA.
6. SEE DRAINAGE PLANS FOR UNDERDRAIN OUTFALL AND DETAILS.



ELEVATION
HORIZ. SCALE: 1" = 40'
VERT. SCALE : 1" = 10'

STATE OF TEXAS
NICASIO LOZANO
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LICENSED PROFESSIONAL ENGINEER

09/19/2023

STATE OF TEXAS
W. Pauline Morrel
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LICENSED PROFESSIONAL ENGINEER

09/15/2023

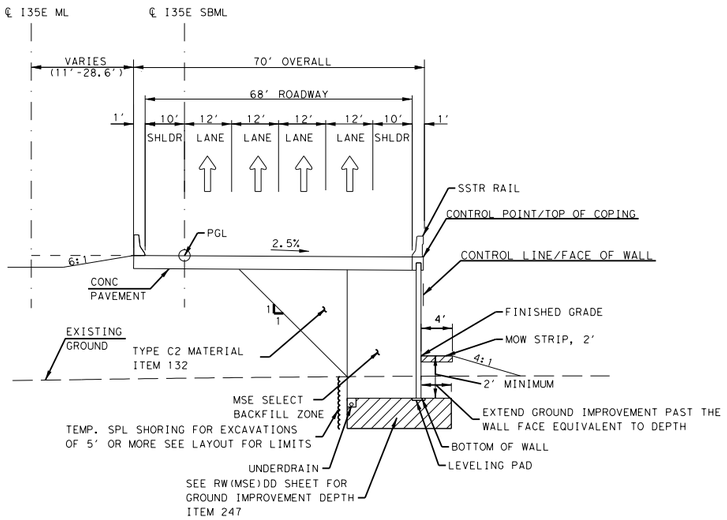
Texas Department of Transportation

IH35E
RETAINING WALL A
LAYOUT

SCALE: 1"=40'

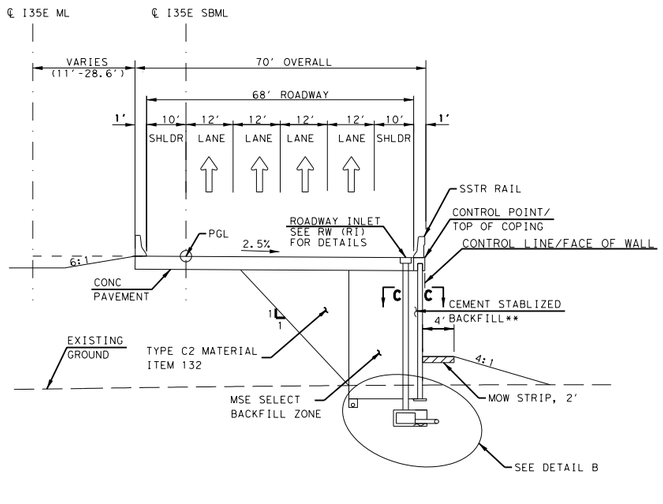
SHEET 2 OF 5

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	SEE TITLESHEET		IH 35E
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	800
	0442	03	042,ETC.	



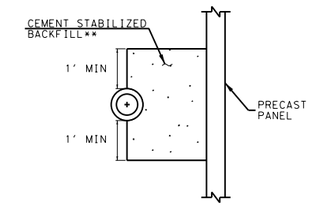
SECTION A-A
N.T.S

STA 102+29.00 TO STA 106+17.00

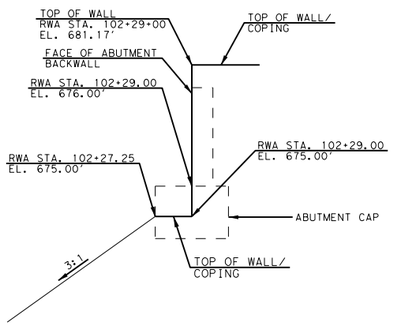


SECTION B-B
N.T.S

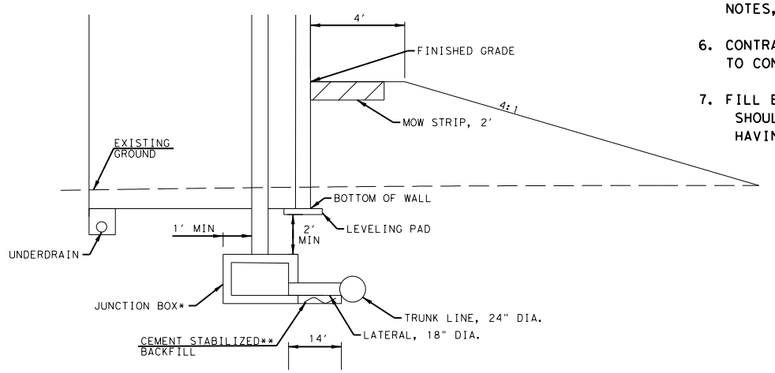
STA 106+17.00 TO STA 107+50.00



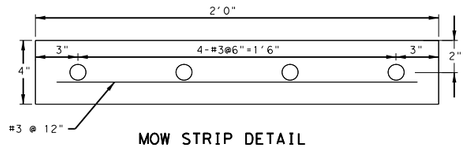
SECTION C-C
N.T.S



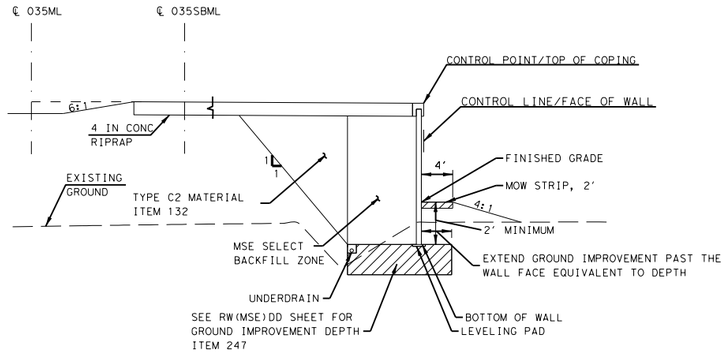
DETAIL A
N.T.S



DETAIL B
N.T.S



MOW STRIP DETAIL
N.T.S



SECTION D-D
N.T.S

STA 101+75.00 TO STA 102+29.00

GENERAL NOTES

1. SQUARE FOOT SURFACE AREA OF RETAINING WALL IS MEASURED FROM TOP OF RETAINING WALL TO 2'-0" BELOW THE PROPOSED GROUND. FOOTING ADJUSTMENTS MADE TO ACCOMMODATE THE AVAILABLE OPTIONAL RETAINING WALLS WILL NOT BE MEASURED.
2. FOR BACKFILL USE TYPE "AS" MATERIAL. CEMENT STABILIZED BACKFILL IS NOT PERMITTED.
3. PROVIDE EMBANKMENT EARTH REINFORCEMENTS WITH LENGTHS AS SPECIFIED IN THE RW (MSE) DD MOD SHEET.
4. SEE STANDARD SHEET RW(MSE), RW(MSE) DD MOD, RW(EM), RW(TRF), RW(RI), RW(RI)SUP, INLET STANDARDS, AND SUPPLEMENTALS FOR DETAILS NOT SHOWN.
5. FOR RETAINING WALL FINISH AND COLOR, REFER TO THE GENERAL NOTES, UNDER ITEM 423 AND 427.
6. CONTRACTOR SHALL LOCATE AND VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
7. FILL BETWEEN THE BOTTOM OF WALL AND EXISTING GROUND SHOULD CONSIST OF ITEM 132, TYPE C2 DENSITY CONTROLLED HAVING PLASTICITY INDEX BETWEEN 8 TO 25

* SEE PJB STANDARD FOR INFORMATION NOT SHOWN HERE
** CEMENT STABILIZED BACKFILL IS SUBSIDIARY TO RETAINING WALL

STATE OF TEXAS
M. Pauline Morrel
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09/21/2023

STATE OF TEXAS
NICASIO LOZANO
89964
LICENSED PROFESSIONAL ENGINEER

09/19/2023

IH35E
RETAINING WALL A
TYPICAL SECTION

SHEET 3 OF 5

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	801
	0442	03	042,ETC.	

DRILLING LOG

WinCore Version 3.1

County	Ellis	Hole	RWTYC_1	District	Dallas
Highway	Loop 9	Structure	Retaining Walls	Date	2/5/19
CSJ	2964-10-005	Station	1839+07.41	Grnd. Elev.	657.37 ft
		Offset	78.91' LT	GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	LL	PI	Wet Den. (pcf)	Additional Remarks
656.			FILL, 9in. Asphalt, 7in. Flexbase							
		6 (6) 9 (6)	CLAY, soft to very stiff, very moist, dark brown, trace calcareous nodules (CH)			39	89	59		86 percent fines PP = 2.5 with limestone fragments, from 3' to 5'
652.4 5		50 (1.5) 50 (1)	LIMESTONE, very hard, gray							
647.4 10		50 (0.75) 50 (0)								
15										
20										

Remarks: NORTH: 6886140.978 ft, EAST: 2485709.563 ft. Free water was not encountered during drilling operations.

The ground water elevation was not determined during the course of this boring.

Driller: Steve Zeahler Logger: Paulo Pereira Organization: Fugro USA Land, Inc.

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A92

DRILLING LOG

WinCore Version 3.1

County	Ellis	Hole	RWTYC_2	District	Dallas
Highway	Loop 9	Structure	Retaining Walls	Date	2/5/19
CSJ	2964-10-005	Station	1840+95.22	Grnd. Elev.	656.88 ft
		Offset	62.17' LT	GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	LL	PI	Wet Den. (pcf)	Additional Remarks
			CLAY, soft to stiff, moist, brown, calcaeous nodules, trace limestone fragments (CH)							PP = 1.75
		5 (6) 6 (6)				28	64	41		90 percent fines PP = 1.75
652.4 5		13 (6) 50 (5.75)	LIMESTONE, soft, tan, weathered							
647.9			LIMESTONE, very hard, gray							
646.9 10		50 (1) 50 (0.5)								
15										
20										

Remarks: NORTH: 6886329.347 ft, EAST: 2485718.088 ft. Free water was not encountered during drilling operations.

The ground water elevation was not determined during the course of this boring.

Driller: Steve Zeahler Logger: Paulo Pereira Organization: Fugro USA Land, Inc.

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A93

STATE OF TEXAS
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PROFESSIONAL ENGINEER

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11.10.23

Texas Department of Transportation

IH35E
RETAINING WALL A
SOIL BORING LOG

SHEET 5 OF 5

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	803
	0442	03	042, ETC.	

DRILLING LOG

WinCore Version 3.1

County	Ellis	Hole	RWTYC_1	District	Dallas
Highway	Loop 9	Structure	Retaining Walls	Date	2/5/19
CSJ	2964-10-005	Station	1839+07.41	Grnd. Elev.	657.37 ft
		Offset	78.91' LT	GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	LL	PI	Wet Den. (pcf)	Additional Remarks
656.			FILL, 9in. Asphalt, 7in. Flexbase							
		6 (6) 9 (6)	CLAY, soft to very stiff, very moist, dark brown, trace calcareous nodules (CH)			39	89	59		86 percent fines PP = 2.5 with limestone fragments, from 3' to 5'
652.4 5		50 (1.5) 50 (1)	LIMESTONE, very hard, gray							
647.4 10		50 (0.75) 50 (0)								
15										
20										

Remarks: NORTH: 6886140.978 ft, EAST: 2485709.563 ft. Free water was not encountered during drilling operations.

The ground water elevation was not determined during the course of this boring.

Driller: Steve Zeahler Logger: Paulo Pereira Organization: Fugro USA Land, Inc.

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A92

DRILLING LOG

WinCore Version 3.1

County	Ellis	Hole	RWTYC_2	District	Dallas
Highway	Loop 9	Structure	Retaining Walls	Date	2/5/19
CSJ	2964-10-005	Station	1840+95.22	Grnd. Elev.	656.88 ft
		Offset	62.17' LT	GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	LL	PI	Wet Den. (pcf)	Additional Remarks
			CLAY, soft to stiff, moist, brown, calcaeous nodules, trace limestone fragments (CH)							PP = 1.75
		5 (6) 6 (6)				28	64	41		90 percent fines PP = 1.75
652.4 5		13 (6) 50 (5.75)	LIMESTONE, soft, tan, weathered							
647.9			LIMESTONE, very hard, gray							
646.9 10		50 (1) 50 (0.5)								
15										
20										

Remarks: NORTH: 6886329.347 ft, EAST: 2485718.088 ft. Free water was not encountered during drilling operations.

The ground water elevation was not determined during the course of this boring.

Driller: Steve Zeahler Logger: Paulo Pereira Organization: Fugro USA Land, Inc.

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STATE OF TEXAS
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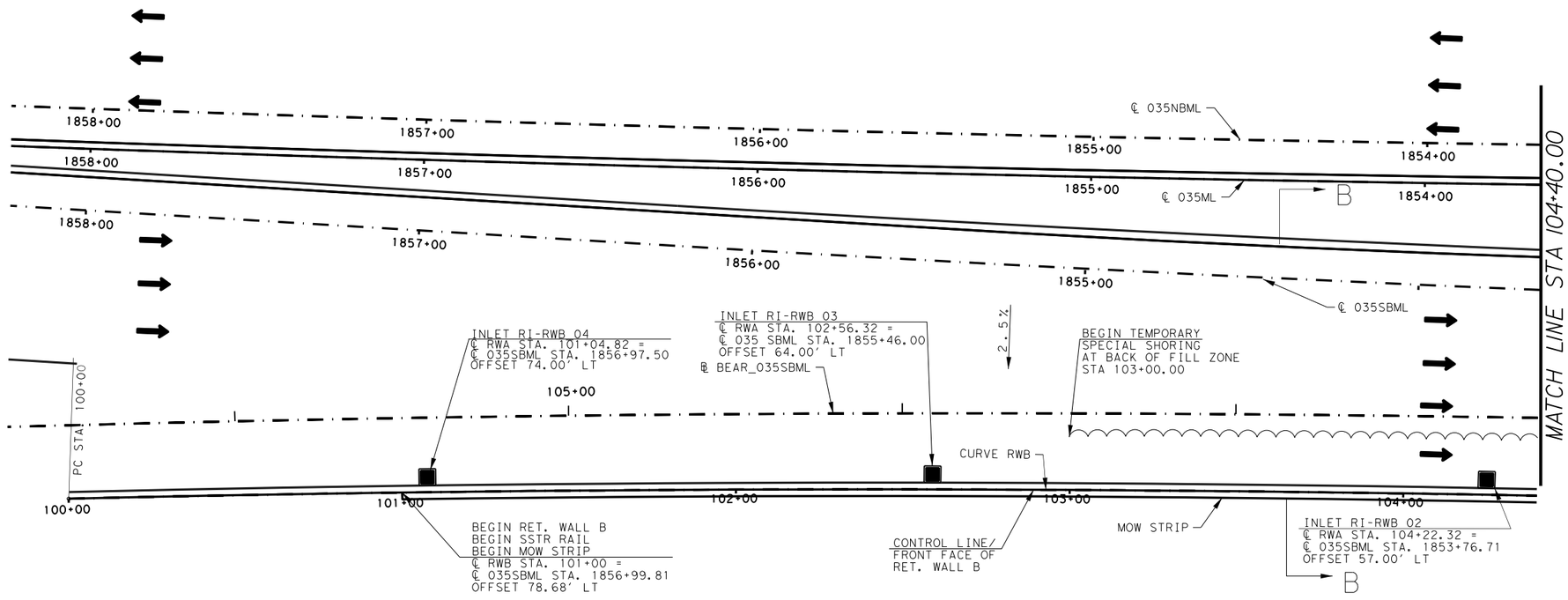
11.10.23

Texas Department of Transportation

IH35E
RETAINING WALL A
SOIL BORING LOG

SHEET 5 OF 5

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	803
	0442	03	042, ETC.	



PLAN
SCALE: 1" = 40'

*SEE RW(MSE)DD MOD FOR DETAILS NOT SHOWN HERE.

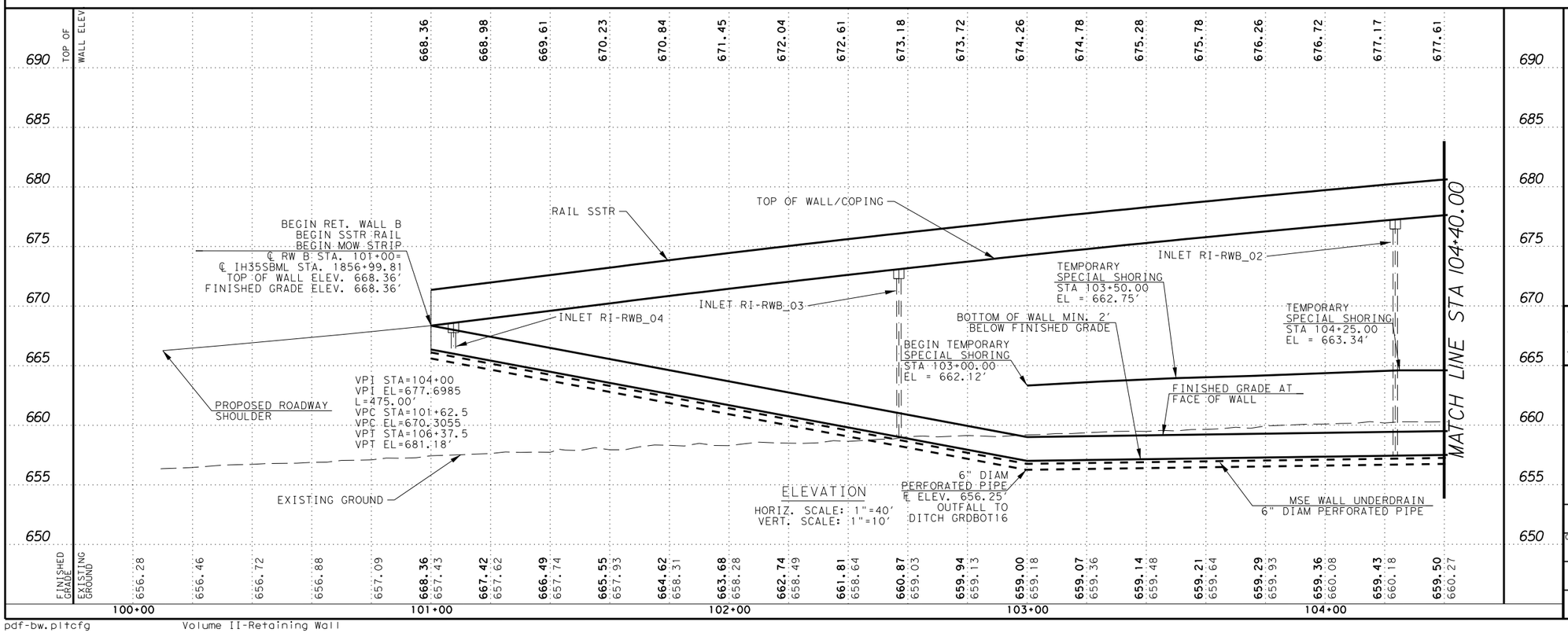
Wall B CSJ 0442-02-162

TABLE OF ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNITS	QTY
216 6001	PROOF ROLLING *	HR	5
403 6001	TEMPORARY SPL SHORING	SF	1817
423 6001	RETAINING WALL (MSE)	SF	11478
432 6045	RIPRAP (MOW STRIP)(4 IN)	CY	17
450 6024	RAIL (TY SSTR)(HPC)	LF	626
740 6005	ANTI - GRAFFITI COATING (PERMANENT TY III)	SF	11993

*** (FOR CONTRACTOR'S INFORMATION. SUBSIDIARY TO ITEM 423)**

NOTES:
1. SEE SHEET 3 OF 5 FOR DETAILS, GENERAL NOTES, AND TYP. SECTIONS.
2. FOR RAIL DETAILS NOT SHOWN, SEE SSTR STANDARD.
3. FOR INLET DETAILS NOT SHOWN, SEE RW(RI) AND RW(RI)SUP STANDARDS.
4. PROVIDE A PROPOSED MSE WALL CONSTRUCTION SEQUENCE FOR APPROVAL.
5. SEE THE CORE BORING SHEETS FOR CORE BORING DATA.
6. SEE DRAINAGE PLANS FOR UNDERDRAIN OUTFALL AND DETAILS.



ELEVATION
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=10'

09/19/2023

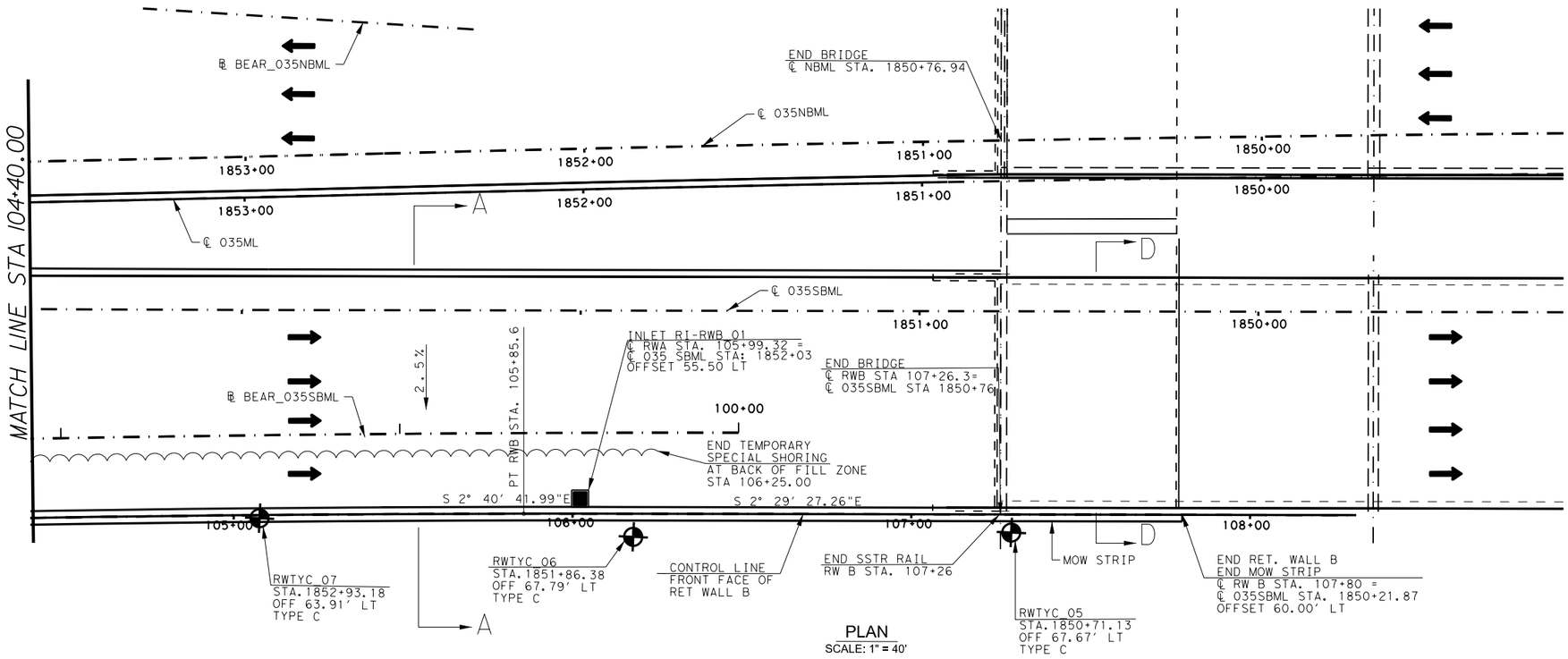
09/15/2023

Texas Department of Transportation

IH35E
RETAINING WALL B
LAYOUT

SCALE: 1"=40' SHEET 1 OF 5

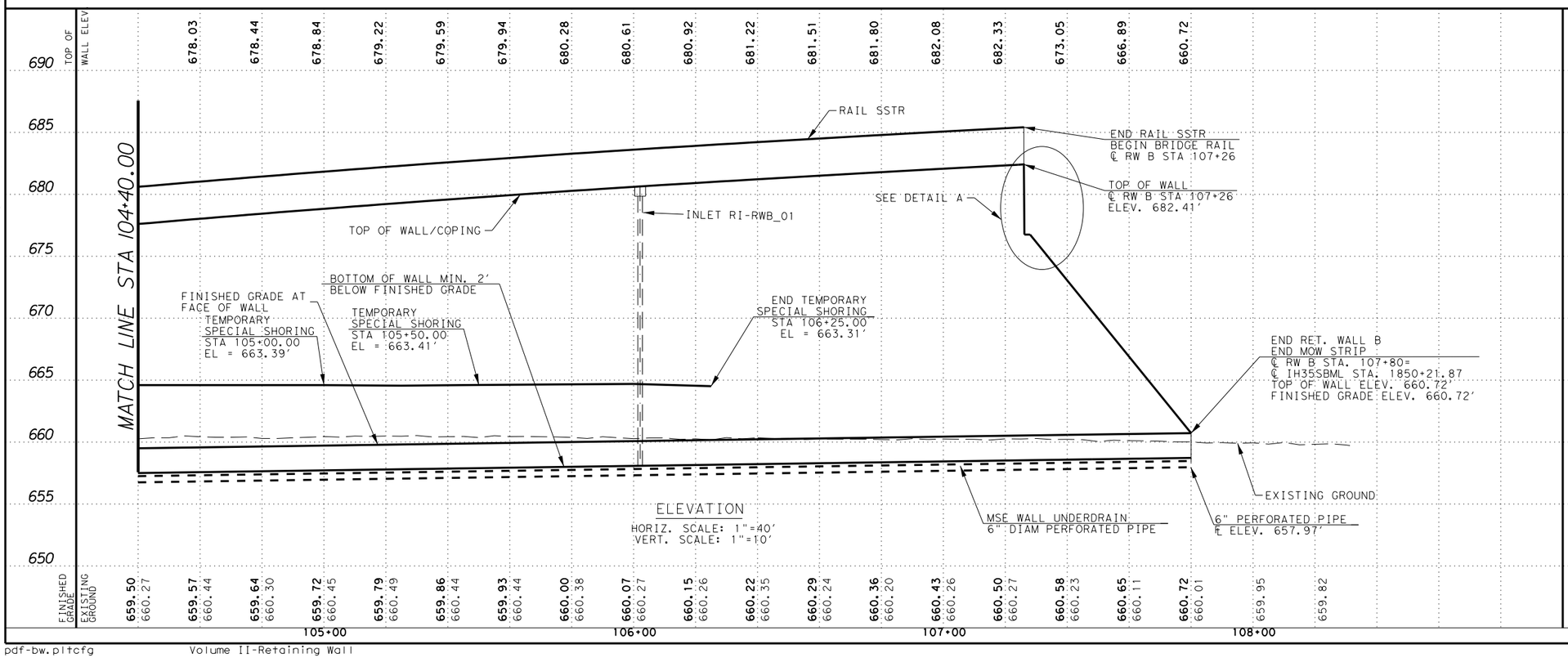
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH 35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	804
	0442	03	042, ETC.	



PLAN
SCALE: 1" = 40'

CURVE RWB	
PI STATION	102+92.86
DELTA	3°15'52.6"(RT)
DEGREE OF CURVE	0°33'27.1"
TANGENT	292.86
LENGTH	585.57
RADIUS	10,277
PC STATION	100+00.00
PT STATION	105+85.57

NOTES:
1. SEE SHEET 3 OF 5 FOR DETAILS, GENERAL NOTES, AND TYP. SECTIONS.
2. FOR RAIL DETAILS NOT SHOWN, SEE SSTR STANDARD.
3. FOR INLET DETAILS NOT SHOWN, SEE RW(RI) AND RW(RI)SUP STANDARDS.
4. PROVIDE A PROPOSED MSE WALL CONSTRUCTION SEQUENCE FOR APPROVAL.
5. SEE THE CORE BORING SHEETS FOR CORE BORING DATA.
6. SEE DRAINAGE PLANS FOR UNDERDRAIN OUTFALL AND DETAILS.



ELEVATION
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"=10'

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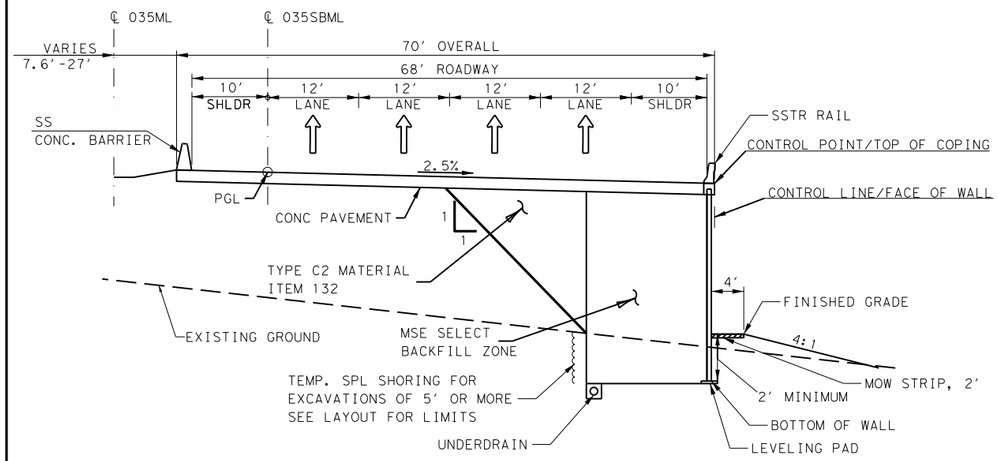
09/15/2023

Texas Department of Transportation

IH35E
RETAINING WALL B
LAYOUT

SCALE: 1"=40' SHEET 2 OF 5

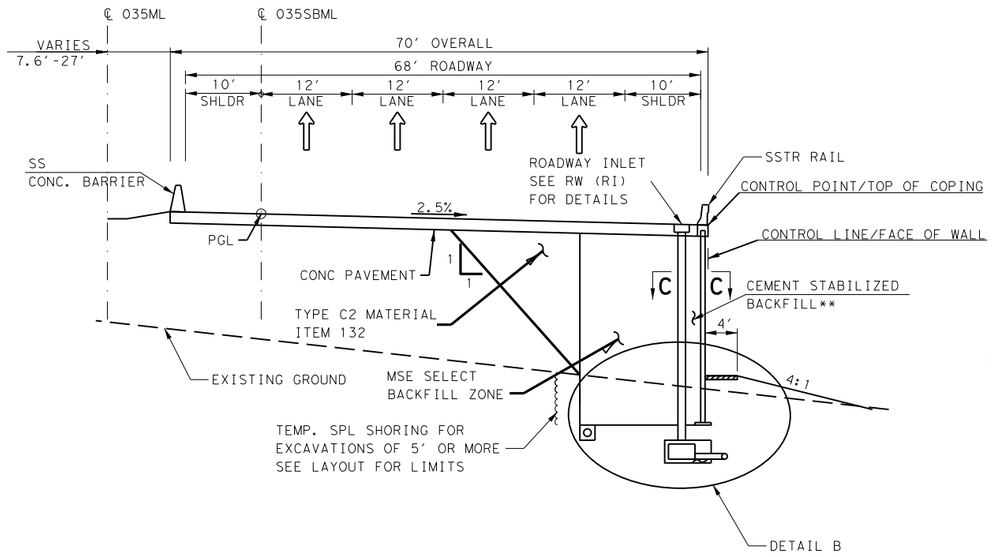
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH 35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	805
	0442	03	042, ETC.	



SECTION A-A

N. T. S.

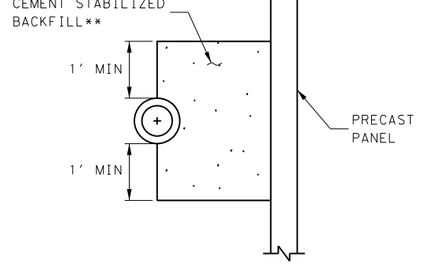
STA 101+00.00 TO STA 107+26.00



SECTION B-B

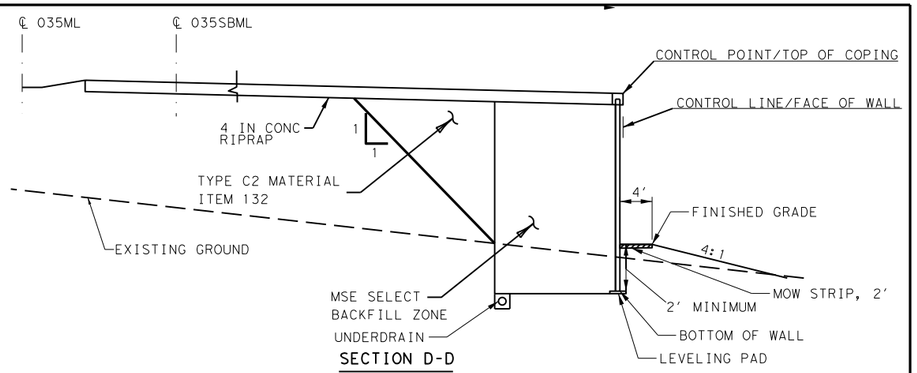
N. T. S.

(TYPICAL SECTION AT INLET)



SECTION C-C

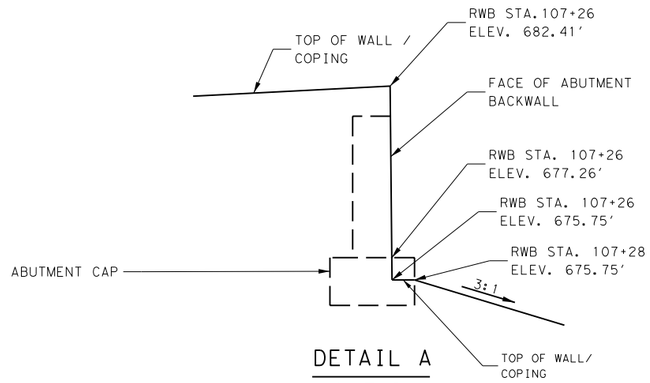
N. T. S



SECTION D-D

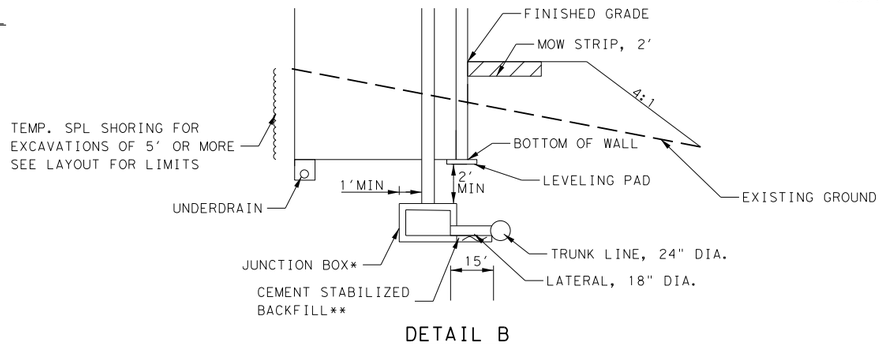
N. T. S

STA 107+26.00 TO STA 107+80.00



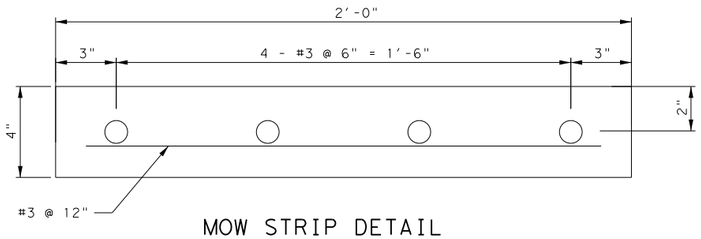
DETAIL A

N. T. S



DETAIL B

N. T. S



MOW STRIP DETAIL

N. T. S

* SEE PJB STANDARD FOR INFORMATION NOT SHOWN HERE
** CEMENT STABILIZED BACKFILL IS SUBSIDIARY TO RETAINING WALL

GENERAL NOTES:

1. SQUARE FOOT SURFACE AREA OF RETAINING WALL IS MEASURED FROM TOP OF RETAINING WALL TO 2'-0" BELOW THE PROPOSED GROUND. FOOTING ADJUSTMENTS MADE TO ACCOMMODATE THE AVAILABLE OPTIONAL RETAINING WALLS WILL NOT BE MEASURED.
2. FOR BACKFILL USE TYPE "AS" MATERIAL. CEMENT STABILIZED BACKFILL IS NOT PERMITTED.
3. PROVIDE EMBANKMENT EARTH REINFORCEMENTS WITH LENGTHS AS SPECIFIED IN THE RW (MSE) DD MOD SHEET.
4. SEE STANDARD SHEET RW(MSE), RW(MSE) DD MOD, RW(EM), RW(TRF), RW(RI), RW(RI)SUP, INLET STANDARDS AND SUPPLEMENTALS FOR DETAILS NOT SHOWN.
5. FOR RETAINING WALL FINISH AND COLOR, REFER TO THE GENERAL NOTES, UNDER ITEM 423 AND 427.
6. CONTRACTOR SHALL LOCATE AND VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
7. FILL BETWEEN THE BOTTOM OF WALL AND EXISTING GROUND SHOULD CONSIST OF ITEM 132, TYPE C2 DENSITY CONTROLLED HAVING PLASTICITY INDEX BETWEEN 8 TO 25

M. Pouline Morre
09/15/2023

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09/19/2023

Texas Department of Transportation

IH35E
RETAINING WALL B
TYPICAL SECTION

SHEET 3 OF 5

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	806
	0442	03	042,ETC.	

DRILLING LOG

WinCore Version 3.1

County	Dallas	Hole	RWTYC_5	District	Dallas
Highway	Loop 9	Structure	Retaining Walls	Date	2/4/19
CSJ	2964-10-005	Station	1850+71.13	Grnd. Elev.	659.26 ft
		Offset	67.67' LT	GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	LL	PI	Wet Den. (pcf)	Additional Remarks
			CLAY, hard, moist, brown, trace limestone fragments (CH)							PP = 4.5
657.3			LIMESTONE, hard, tan, weathered							
		50 (3) 50 (0.5)								
5		50 (2) 50 (1)								
652.3			LIMESTONE, very hard, tan, weathered, with gray limestone seams							
649.3	10	50 (1) 50 (0)								
	15									
	20									

Remarks: NORTH: 6887305.489 ft, EAST: 2485672.285 ft. Free water was not encountered during drilling operations.

The ground water elevation was not determined during the course of this boring.

Driller: Steve Zeahler **Logger: Paulo Pereira** **Organization: Fugro USA Land, Inc.**

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A96

DRILLING LOG

WinCore Version 3.1

County	Dallas	Hole	RWTYC_6	District	Dallas
Highway	Loop 9	Structure	Retaining Walls	Date	2/4/19
CSJ	2964-10-005	Station	1851+86.38	Grnd. Elev.	659.06 ft
		Offset	67.79' LT	GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	LL	PI	Wet Den. (pcf)	Additional Remarks
658.3			CLAY, hard, moist, brown, trace limestone fragments (CH)							PP = 4.5
			LIMESTONE, very hard, tan, weathered							
		50 (1.5) 50 (0.5)								
5		50 (0.5) 50 (0.25)								
652.6			LIMESTONE, very hard, gray							with tan limestone seams, from 8' to 9'
649.1	10	50 (0.75) 50 (0.25)								
	15									
	20									

Remarks: NORTH: 6887416.892 ft, EAST: 2485665.975 ft. Free water was not encountered during drilling operations.

The ground water elevation was not determined during the course of this boring.

Driller: Steve Zeahler **Logger: Paulo Pereira** **Organization: Fugro USA Land, Inc.**

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A97

STATE OF TEXAS
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11.10.23

Texas Department of Transportation

IH35E
RETAINING WALL B
SOIL BORING LOG

SHEET 4 OF 5

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	807
	0442	03	042, ETC.	

DRILLING LOG

WinCore Version 3.1

County	Dallas	Hole	RWTYC_7	District	Dallas
Highway	Loop 9	Structure	Retaining Walls	Date	2/4/19
CSJ	2964-10-005	Station	1852+93.18	Grnd. Elev.	659.78 ft
		Offset	63.91' LT	GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	LL	PI	Wet Den. (pcf)	Additional Remarks
657.8			CLAY, hard, moist, brown, with trace limestone fragments (CH)							PP = 4.5
						13	34	16		PP = 4.5
656.8		50 (4) 50 (3)	CLAY, hard, light brown, with limestone fragments (CL)							
5		50 (1.5) 50 (1)	LIMESTONE, soft to hard, tan, weathered							
653.3			LIMESTONE, very hard, gray							
649.8 10		50 (0.75) 50 (0.25)								
15										
20										

Remarks: NORTH: 6887527.313 ft, EAST: 2485666.460 ft. Free water was not encountered during drilling operations.

The ground water elevation was not determined during the course of this boring.

Driller: Steve Zeahler **Logger: Paulo Pereira** **Organization: Fugro USA Land, Inc.**

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A98

STATE OF TEXAS
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M Pauline Morrel P.E.

11.10.23

Texas Department of Transportation

IH35E
RETAINING WALL B
SOIL BORING LOG

SHEET 5 OF 5

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	808
	0442	03	042, ETC.	

DATE: 9/19/2023 12:57:17 PM
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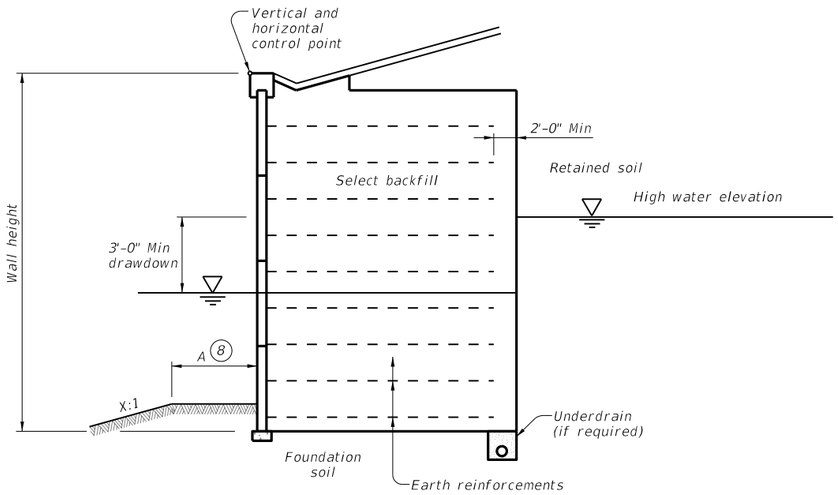
0442021624 - Design\Plan Set\4. Wall\Standards\RW-MSEDD-22.dgn

WALL SUMMARY

MSE Retaining Wall	Begin Station (1)	End Station (1)	Retained Soil Friction Angle (2)	Foundation Soil Friction Angle (2)	Ground Improvement (3)	Min Earth Reinf. Length (4)	Min Wall Embedment (5)	Underdrain Required (6)	Drawdown Analysis (7)	Bench Width (8)
RWA	101+75.00	105+00.00	30	27	3', SEE NOTE 9	100% OF H BUT NOT LESS THAN 8'	2.0	YES	NO	4.0
RWA	105+00.00	106+17.00	30	27	2', SEE NOTE 9	100% OF H BUT NOT LESS THAN 8'	2.0	YES	NO	4.0
RWA	106+17.00	107+50.00	30	24	NO	100% OF H BUT NOT LESS THAN 8'	2.0	YES	NO	4.0
RWB	101+00.00	107+80.00	30	30	NO	100% OF H BUT NOT LESS THAN 8'	2.0	YES	NO	4.0



TYPICAL SECTION
(Rapid drawdown condition.)

(1) Indicate limits for which the stated soil design requirements and assumptions are applicable.

(2) Base the listed retained and foundation friction angle on local experience or measured/correlated long term strength values.

(3) Indicate if ground improvement is required or not required. If shown as required, refer to ground improvement detail(s) shown elsewhere in the plans for additional information.

(4) Indicate on table both the minimum length and length ratio required. The minimum default length of earth reinforcements is either 8 feet or 70% of the wall height, whichever is greater. Wall height and design wall height may differ depending on project geometry and loading conditions. Note: Wall height at bridge abutments is equal to the distance between the top of leveling pad and finished grade at the bridge abutment backwall.

(5) Guidance to wall designer of record for determination of minimum wall embedment. Unless noted elsewhere in the plans, provide a minimum embedment from the top of leveling pad to finish grade of
- 1 foot for level ground where there is no potential for erosion or future excavation, or
- 2 feet for sloping ground (4.0H:1.0V or steeper) or where there is potential for removal of soil in front of the wall.

(6) Indicate if underdrain is required or not required.

(7) Indicate if rapid drawdown analysis is required.

(8) Horizontal bench width at base of wall varies. Use the following criteria to establish base width:
A = 2-foot Min for X > 4 or
A = 4-foot Min for X ≤ 4
Applicable to both drawdown and dry condition.

(9) Excavation should be performed from existing grade to a depth shown on the wall summary table to remove soft soils. Excavation sides shall be as shown in the typical sections of the applicable retaining wall. The excavated subgrade should be proof rolled prior to fill placement in accordance with Item 216. Fill between wall bottom and excavated subgrade shall consist of Item 247.

STATE OF TEXAS
NICASIO LOZANO
89964
LICENSED PROFESSIONAL ENGINEER

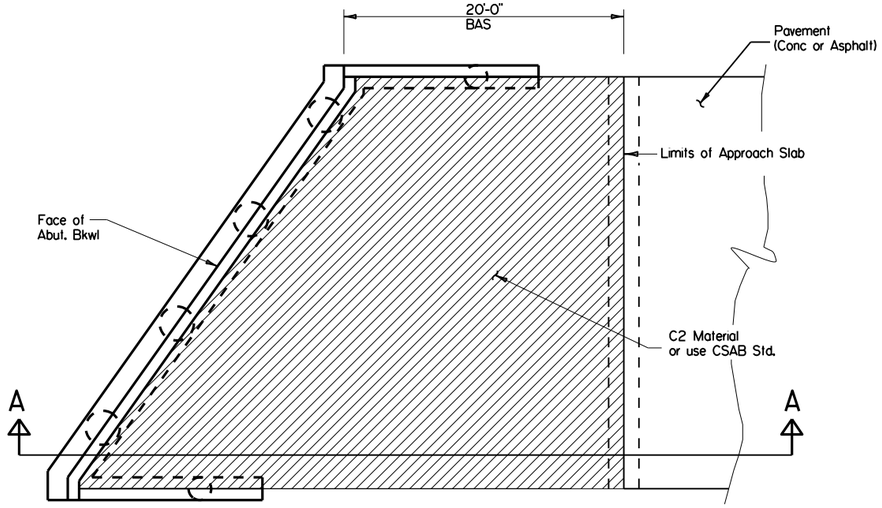
09/20/2023

Texas Department of Transportation
Bridge Division Standard

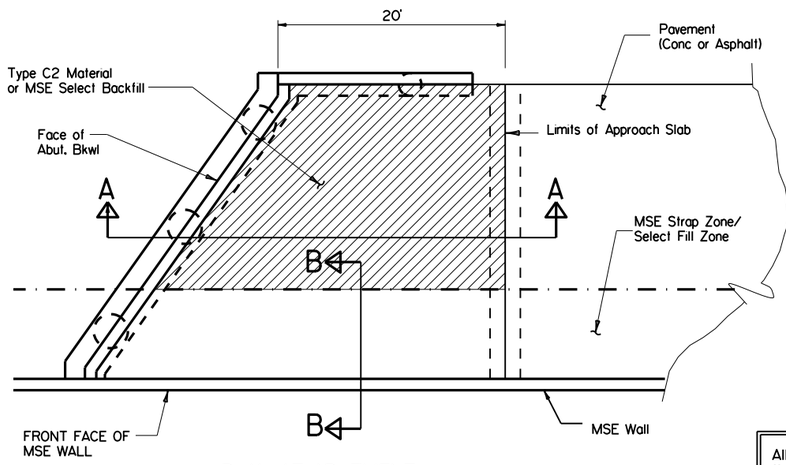
MECHANICALLY STABILIZED EARTH RETAINING WALL DESIGN DATA

RW(MSE)DD MOD

FILE: RW-MSEDD-22 dgn	DN: TxDOT	CK: RLE	DW: JER	CK: RLE
©TxDOT June 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042,ETC	IH35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		809



PLAN VIEW AT STANDARD ABUTMENT



PLAN AT ABUTMENT
WITH ONE MSE WALL

Ⓑ ~ For Horizontal Bench Width, see standard sheet RW(MSE)DD MOD.

H ~ Height of Retaining Wall

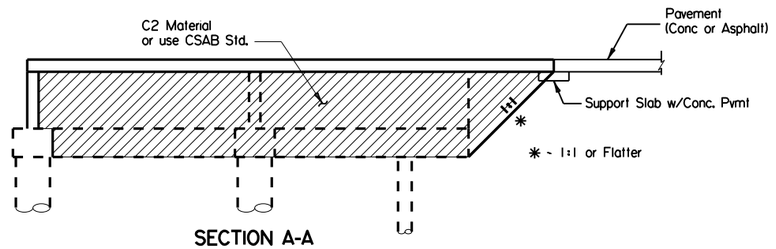
Ⓐ Provide Filter Fabric whenever MSE Select Backfill is classified as a "Rock Backfill" per 423.2.C.2. Type DS Backfill is always "Rock Backfill".

Maximum slope shall not exceed 1:1
Slope shall be benched as required by Item 132.3.

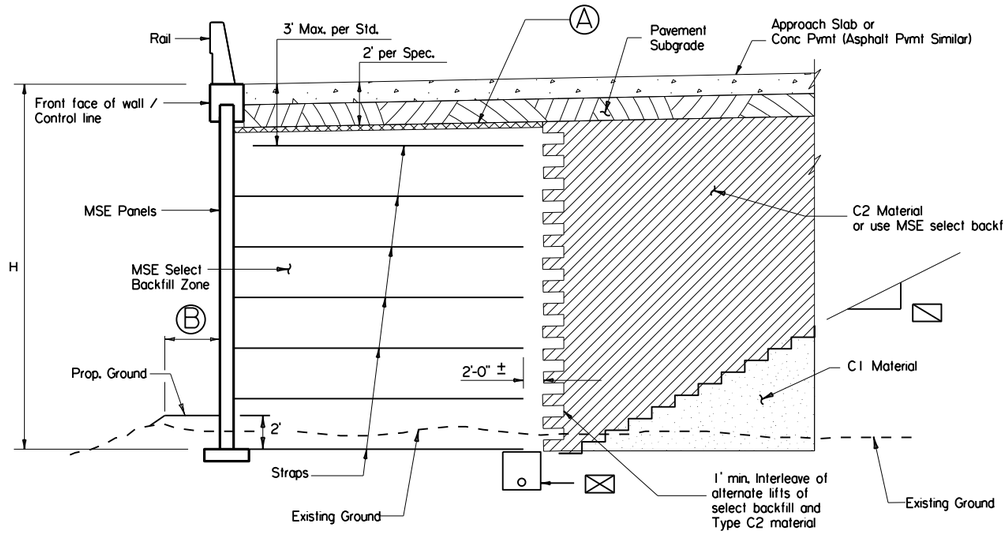
Underdrain if required on PLANs, see RW(MSE) for details.

See sheet 2 of 2 for General Notes.

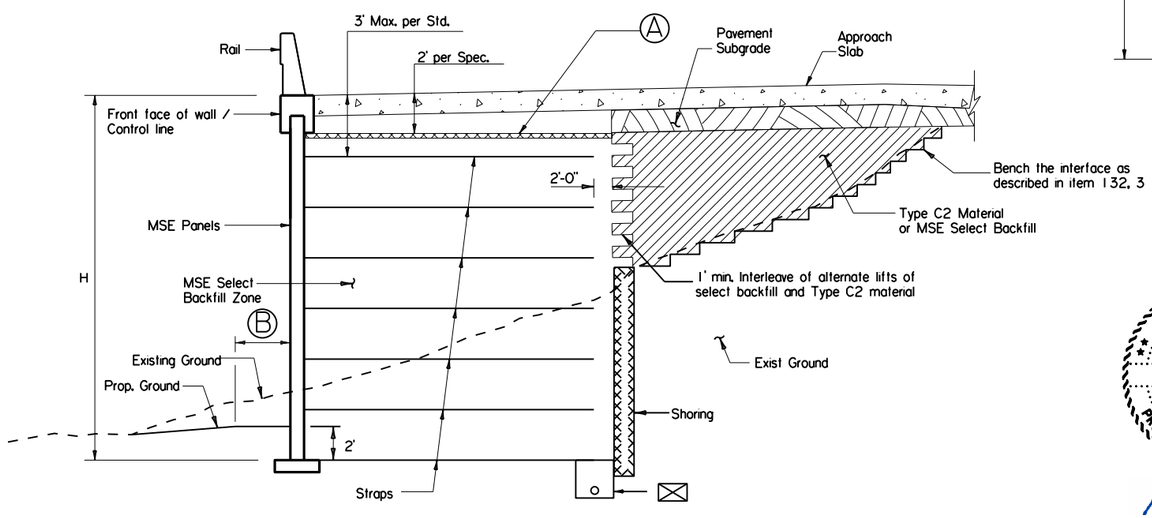
All details on these sheets are ILLUSTRATIVE only and may not depict the actual field conditions encountered on a specific project. Use the provided details as a GUIDE in placing specified materials in the vicinity of MSE walls and / or abutments.



SECTION A-A



SECTION B-B
(SHOWING FILL CONDITION)



SECTION B-B
(SHOWING CUT & FILL CONDITION)

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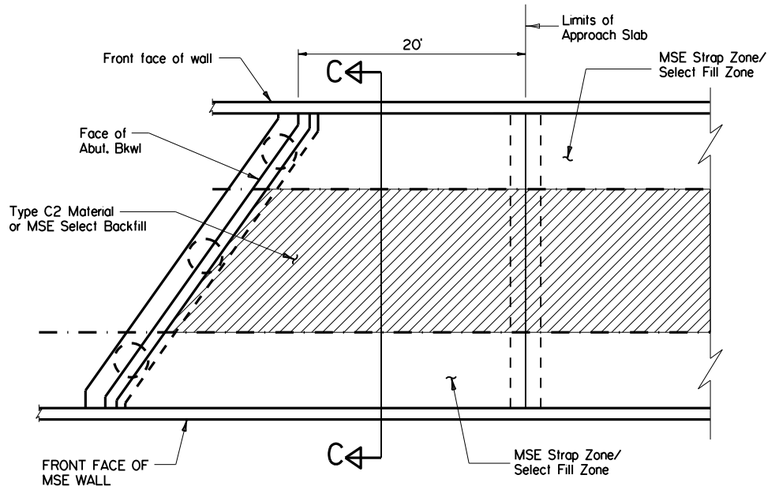
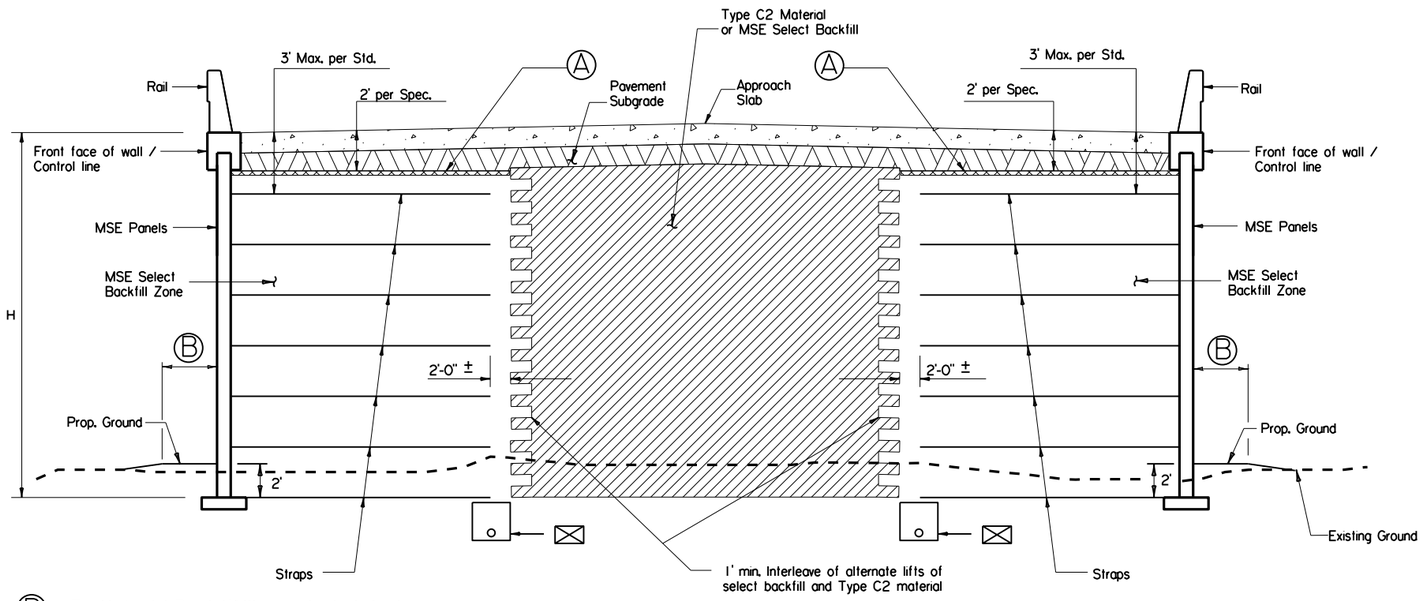
ABUTMENT & RETAINING WALL BACKFILL LIMITS

Sheet 1 of 2 Sheets

DESIGN	FED.RD. DIV.NO.	STATE AID PROJECT NO.		HIGHWAY NO.
WRF/KAM	6	SEE TITLE SHEET		IH35E
DESIGN CK	STATE	DISTRICT	COUNTY	SHEET NO.
NL/KAM	TEXAS	DALLAS	ELLIS, ETC.	
GRAPHICS	CONTROL	SECTION	JOB	810
HH/WRF	0442	03	042, ETC	
GRPH CHECK				
NL/HH				



PLAN AT ABUTMENT
WITH TWO MSE WALLS



Ⓑ ~ For Horizontal Bench Width, see standard sheet RW(MSE)DD MOD.

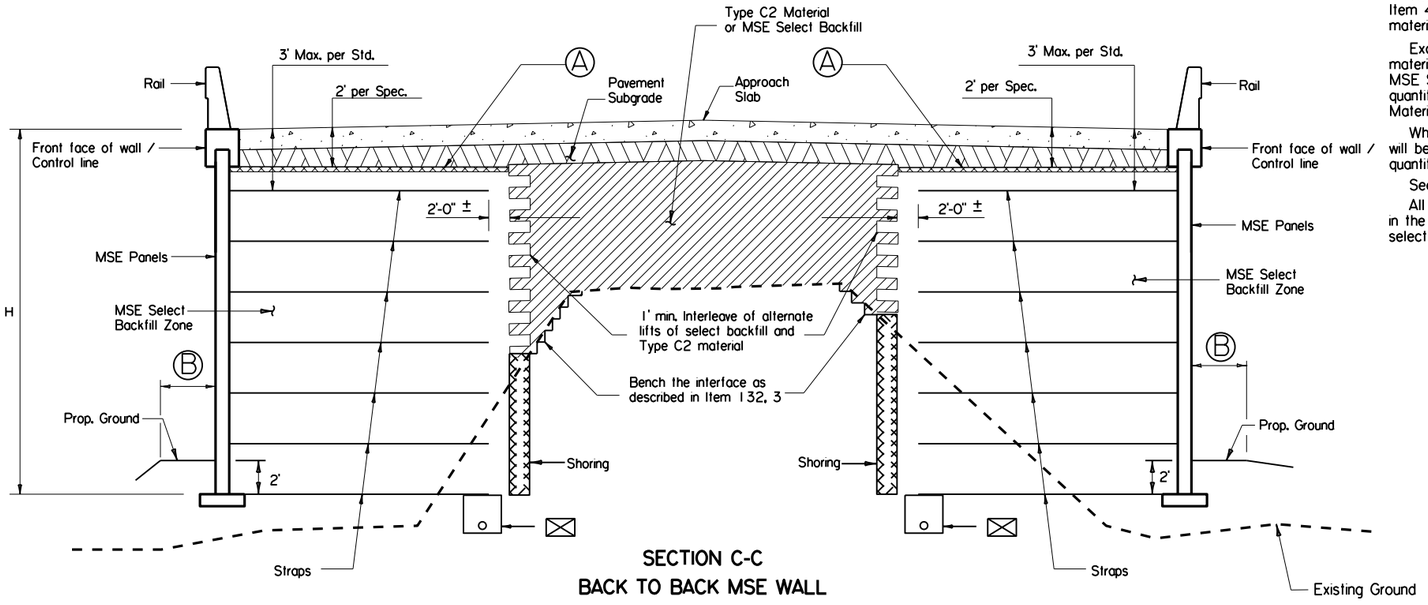
H ~ Height of Retaining Wall

⊠ Underdrain if required on PLANS, see RW(MSE) for details.

All details on these sheets are ILLUSTRATIVE only and may not depict the actual field conditions encountered on a specific project. Use the provided details as a GUIDE in placing specified materials in the vicinity of MSE walls and / or abutments.

SECTION C-C
BACK TO BACK MSE WALL
(SHOWING FILL CONDITION)

Ⓐ Provide Filter Fabric whenever MSE Select Backfill is classified as a "Rock Backfill" per 423.2.C.2. Type DS Backfill is always "Rock Backfill".



SECTION C-C
BACK TO BACK MSE WALL
(SHOWING CUT & FILL CONDITION)

General Notes:

Where C1 material is called for, provide and install material meeting the requirements of Item 132, Type C1 as shown in Table 1 of the Project General Notes.

Where C2 material is called for provide and install in accordance with Item 132, material having a PI between 10 and 25. In lieu of Item 132, Type C2 material, contractor may substitute well graded material meeting the requirements of Item 423.2.C Type AS, BS or CS. No extra payment will be made for substituted material.

Where MSE Select Backfill is required, provide material meeting the requirements of Item 423.2.C, Type AS for walls not inundated. For walls partially or fully indicated, provide material meeting the requirements of Item 423.2.C, Type DS.

Except in embankment areas or when MSE Select Backfill is used in lieu of C2 material, furnishing placing and compacting MSE Select Backfill is subsidiary to Item 423. MSE Select Backfill areas that are also in embankment areas will be considered part of the quantities measured and paid for under Item 132, Embankment. All areas described as "C2 Material or MSE Select Backfill" are measured and paid for under Item 132, Embankment.

When the use of CSAB is specified elsewhere in the plans, construction and payment will be in accordance with Standard CSAB. See Bridge Estimated Quantities for estimated quantities.

See Roadway plans for Item 132 quantities.

All fill material above the existing ground in the MSE Select Backfill Zone is included in the estimated quantities calculated for item 132, Embankment where required provide select backfill per item 423.

STATE OF TEXAS
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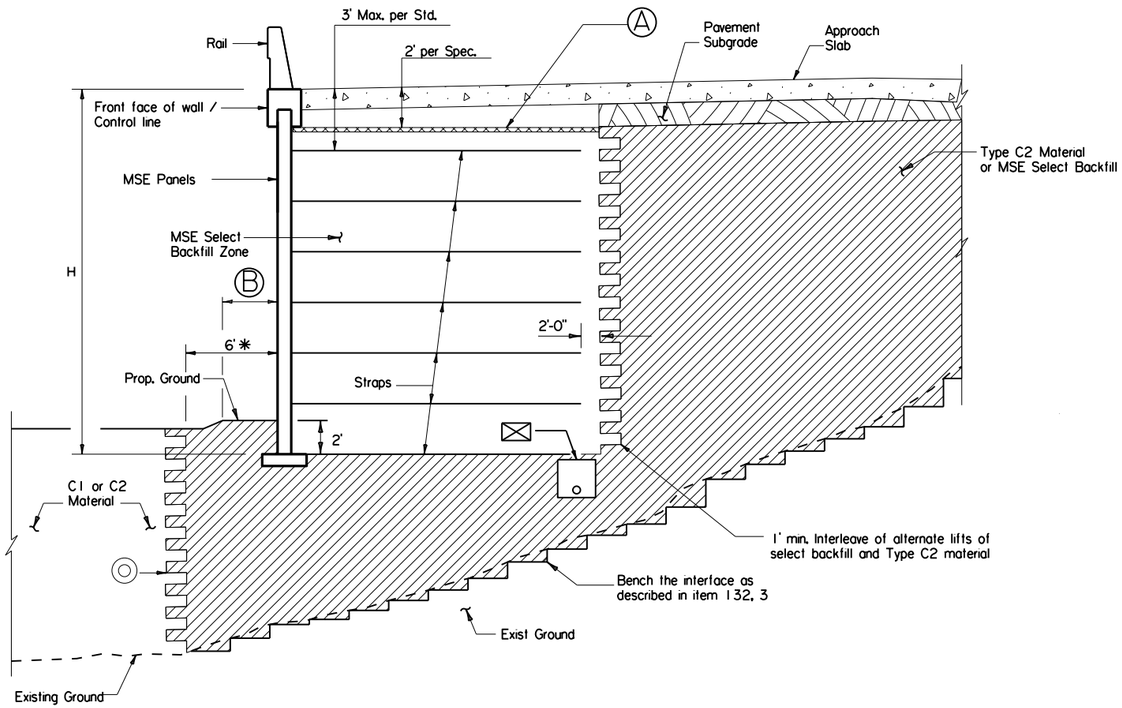
5/25/2023

Texas Department of Transportation

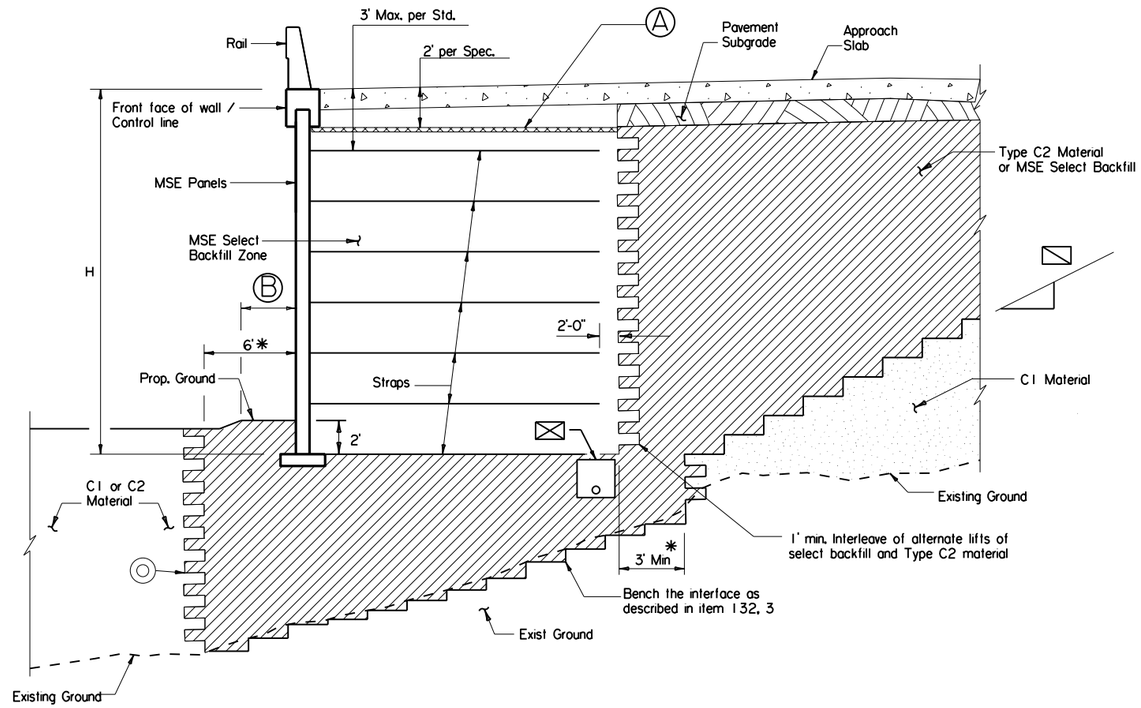
ABUTMENT & RETAINING WALL BACKFILL LIMITS

Sheet 2 of 2 Sheets

DESIGN	FED. RD. DIV. NO.	STATE AID PROJECT NO.		HIGHWAY NO.
WRF/KAM	6	SEE TITLE SHEET		IH35E
DESIGN CK	STATE	DISTRICT	COUNTY	SHEET NO.
NL/KAM	TEXAS	DALLAS	ELLIS, ETC.	811
GRAPHICS	CONTROL	SECTION	JOB	
HH/WRF	0442	03	042, ETC	
GRPH CHECK				
NL/HH				



TYPICAL RETAINING WALL SECTION (SHOWING FILL CONDITION)



TYPICAL RETAINING WALL SECTION (SHOWING FILL CONDITION)

Ⓑ - For Horizontal Bench Width, see standard sheet RW(MSE)DD MOD.

◎ Where material types differ across the interface, provide 1.0' minimum interleave of alternative lifts of C1 material with adjacent C2 material on select backfill.

Ⓐ Provide Filter Fabric whenever MSE Select Backffill is classified as a "Rock Backfill" per 423.2.C.2. Type DS Backfill is always "Rock Backfill".

Maximum slope shall not exceed 1:1
Slope shall be benched as required by Item 132.3.

* ~ Unless otherwise shown in plans.

H ~ Height of Retaining Wall

Underdrain if required on PLANs, see RW(MSE) for details.

All details on these sheets are ILLUSTRATIVE only and may not depict the actual field conditions encountered on a specific project. Use the provided details as a GUIDE in placing specified materials in the vicinity of MSE walls and / or abutments.

STATE OF TEXAS
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5/25/2023

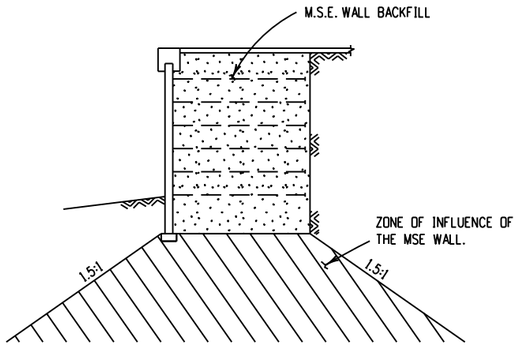
Sheet xx of xx Sheets

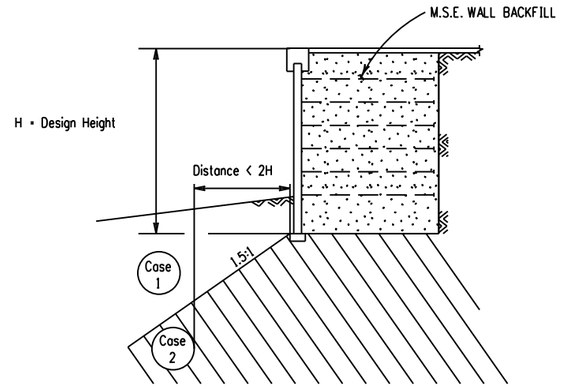
Texas Department of Transportation

RETAINING WALL ON FILL

Sheet 1 of 1 Sheets

DESIGN	FED. RD. DIV. NO.	STATE AID PROJECT NO.		HIGHWAY NO.
WRF/KAM	6	SEE TITLE SHEET		IH35E
DESIGN CK	STATE	DISTRICT	COUNTY	SHEET NO.
NL/KAM	TEXAS	DALLAS	ELLIS, ETC.	812
GRAPHICS	CONTROL	SECTION	JOB	
HH/WRF	0442	03	042,ETC	
GRPH CHECK				
NL/HH				





PIPES PARALLEL TO PROPOSED OR EXISTING RETAINING WALLS

CASE 1 When the pipe is located above the 1.5:1 line drawn from the corner of the leveling pad downward into the soil, then special backfill is not required around the pipe.

CASE 2 When the following conditions exist:

a) The distance from the edge of leveling pad to the edge of the pipe is less than or equal to 2 times the height of retaining wall.

b) The pipe is located below the 1.5:1 line drawn from the corner of the leveling pad downward into the soil.

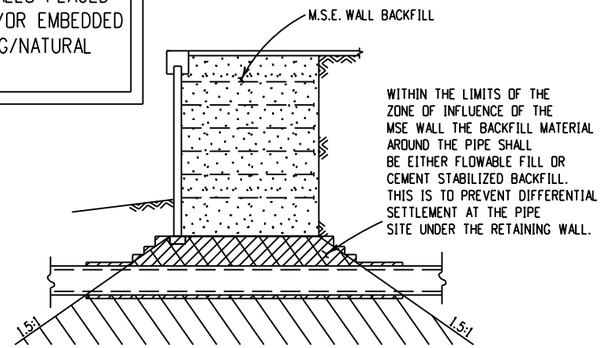
Flowable fill or cement stabilized backfill shall follow the diagrams shown below.

When the distance from the edge of leveling pad to the edge of the pipe is greater than 2 times the height of retaining wall, then no special backfill is required around the pipe.

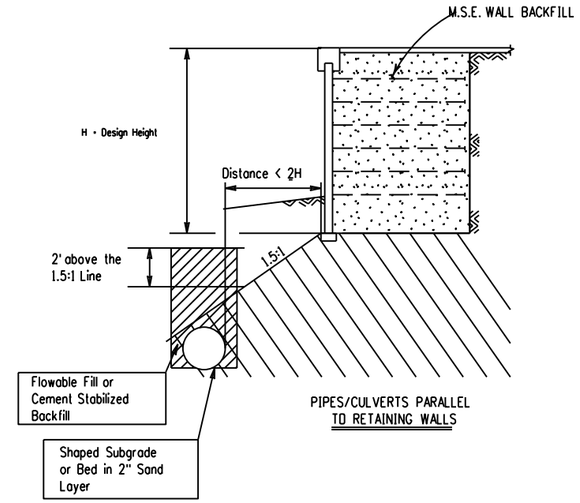
FOR EXCAVATIONS IN FRONT OF EXISTING WALLS UP TO A DISTANCE OF 2H

The contractor will only excavate the amount of trench necessary for a single day's installation of the drainage pipe. The drainage pipe excavation will be positively braced with a bracing system designed by a registered Engineer in the State of Texas. Shop drawings for bracing will be submitted to the Engineer for approval. Once installed the storm sewer will be backfilled with either flowable fill or cement stabilized backfill.

RETAINING WALLS PLACED IN CUTS AND/OR EMBEDDED INTO EXISTING/NATURAL GROUND

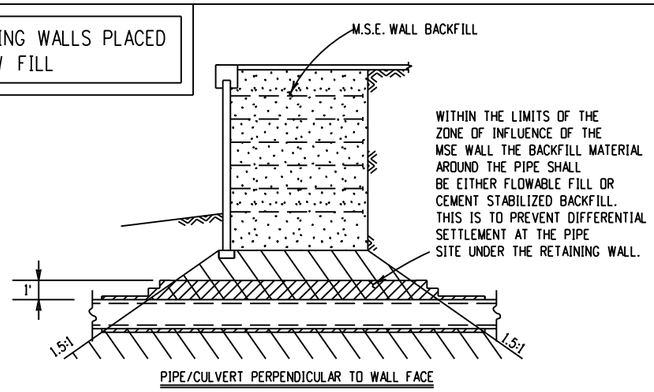


PIPE/CULVERT PERPENDICULAR TO WALL FACE

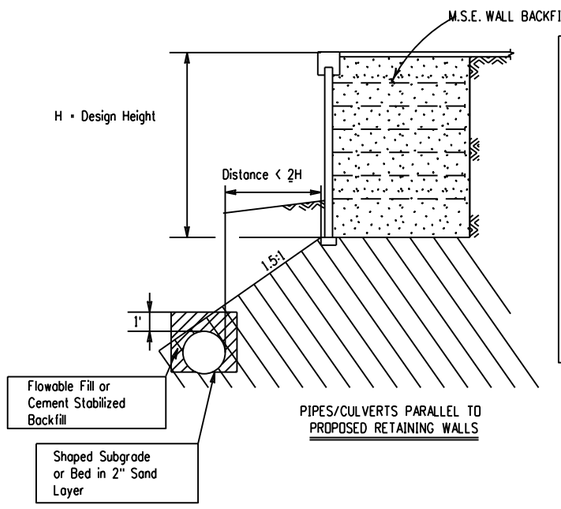


PIPES/CULVERTS PARALLEL TO RETAINING WALLS

RETAINING WALLS PLACED ON NEW FILL



PIPE/CULVERT PERPENDICULAR TO WALL FACE



PIPES/CULVERTS PARALLEL TO PROPOSED RETAINING WALLS

NOTES

For this diagram to be applicable the existing or natural ground line must not be greater than 1' above the top of the pipe. If the existing or natural ground is greater than 1' above the top of the pipe then Contractor will use the diagram for "Retaining Walls Placed In Cuts And/Or Embedded Into Existing/Natural Ground".

These diagrams are to be used when the pipe is placed into new fill. Prior to placement of pipe the fill shall be placed to 1' above the top of the pipe. The pipe will then be placed into an excavated trench and backfilled to the top of the trench with flowable fill or cement stabilized backfill. The embankment fill shall then be placed over the pipe to a height to begin construction on the retaining wall.

GENEAL NOTES:

This sheet may also be used for backfill around utility lines under the direction of the Engineer.

STATE OF TEXAS
NICASIO LOZANO
89964
REGISTERED PROFESSIONAL ENGINEER

5/25/2023

TEXAS DEPARTMENT OF TRANSPORTATION

MECHANICALLY STABILIZED EARTH WALL PIPE BACKFILL DIAGRAM

		FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
ORIGINAL DRAWING DATE:		6	SEE TITLE SHEET		942
DN:	REVISIONS:	STATE	STATE DIST.NO.	COUNTY	
CK:		TEXAS	DAL	ELLIS, ETC.	
DW:		CONT.	SECT.	JOB	HIGHWAY NO.
CK:		0442	03	042,ETC	IH35E

System Name	Area ID	Acres-Drained			C Value (Comp)	Time of Conc			Freq.	I	Q
		Total Area	ROW C = 0.5	Pav. C = 0.90		Total CA	Actual	Design			
		(acre)	(acre)	(acre)			(min)	(min)	(yr)	(in/hr)	(cfs)
LINE NB_A	CI-NB_A01	0.89	0.51	0.38	0.67	0.60	14.00	14.00	5	5.38	3.20
	CI-NB_A02	0.61	0.51	0.11	0.57	0.35	14.00	14.00	5	5.38	1.89
	CI-NB_A03	0.79	0.65	0.13	0.57	0.45	15.00	15.00	5	5.21	2.32
	CI-NB_A04	1.65	1.35	0.30	0.57	0.94	15.00	15.00	5	5.21	4.93
	CI-NB_A05	0.24	0.17	0.07	0.61	0.15	10.00	10.00	5	6.24	0.92
	CI-NB_A06	0.21		0.21	0.90	0.19	3.90	10.00	5	6.24	1.16
	CI-NB_A07	0.18		0.18	0.90	0.16	2.89	10.00	5	6.24	1.00
	CI-NB_A08	0.18		0.18	0.90	0.16	1.55	10.00	5	6.24	1.00
	CI-NB_A09	0.06		0.06	0.90	0.05	1.56	10.00	5	6.24	0.32
	CI-NB_A10	0.53		0.53	0.90	0.48	10.00	10.00	5	6.24	2.96
	CI-NB_A11	0.14		0.14	0.90	0.13	1.80	10.00	5	6.24	0.81
	CI-NB_A12	0.18		0.18	0.90	0.16	1.77	10.00	5	6.24	1.00
	CI-NB_A13	0.18		0.18	0.90	0.16	1.75	10.00	5	6.24	1.00
	CI-NB_A14	0.15	0.15		0.50	0.08	14.00	14.00	5	5.38	0.41
	DI-NB_A01	3.18	1.06	2.11	0.77	2.45	17.00	17.00	5	4.89	11.91
	DI-NB_A02	0.49	0.32	0.17	0.64	0.31	8.00	10.00	5	6.24	1.96
	DI-NB_A03	0.43	0.43		0.50	0.22	10.00	10.00	5	6.24	1.35
	DI-NB_A04	1.00		1.00	0.50	0.50	10.00	10.00	5	6.24	3.13
	DI-NB_A05	2.40		2.40	0.50	1.20	14.00	14.00	5	5.38	6.46
LINE NB_B	DI-NB_B01	2.73	1.60	1.13	0.67	1.83	11.00	11.00	5	6.00	10.91
	DI-NB_B02	3.01	1.81	1.20	0.66	1.99	11.00	11.00	5	6.00	11.90
	DI-NB_B03	2.38	1.37	1.01	0.50	1.19	12.00	12.00	5	5.78	6.88
LINE NB_C	CI-NB_C01	0.03		0.03	0.90	0.027	2.13	10	5	6.24	0.18
	CI-NB_Z21	0.21		0.21	0.90	0.189	4.08	10	5	6.24	1.18
	CI-NB_C03	0.17		0.17	0.90	0.153	3.67	10	5	6.24	0.96
	DI-NB_C01	2.16	2.16		0.50	1.08	16	16	5	5.04	5.44
LINE SB_D	CI-SB_D01	0.18		0.18	0.90	0.16	3.33	10.00	5	6.24	1.02
	CI-SB_D02	0.25		0.25	0.90	0.23	3.05	10.00	5	6.24	1.40
	CI-SB_D03	0.20		0.20	0.90	0.18	3.47	10.00	5	6.24	1.12
	CI-SB_D04	0.18		0.18	0.90	0.16	3.15	10.00	5	6.24	1.00
	CI-SB_D05	0.18		0.18	0.90	0.16	3.15	10.00	5	6.24	0.98
	CI-SB_D06	0.15		0.15	0.90	0.14	2.76	10.00	5	6.24	0.85
	CI-SB_D07	0.12		0.12	0.90	0.11	2.36	10.00	5	6.24	0.65
	CI-SB_D08	0.91	0.83	0.08	0.54	0.49	25.00	25.00	5	3.96	1.93
	CI-SB_D09	0.67	0.63	0.04	0.53	0.36	21.00	21.00	5	4.37	1.55
	CI-SB_D10	0.55	0.41	0.14	0.60	0.33	21.00	21.00	5	4.37	1.47
	CI-SB_D11	0.28	0.25	0.03	0.54	0.15	23.00	23.00	5	4.16	0.63
	CI-SB_D12	0.42	0.31	0.11	0.60	0.25	18.00	18.00	5	4.75	1.21
	CI-SB_D13	0.54	0.44	0.11	0.58	0.31	15.00	15.00	5	5.21	1.64
	CI-SB_D14	0.83	0.73	0.10	0.55	0.46	21.00	21.00	5	4.37	1.98
	CI-SB_D15	0.93	0.90	0.03	0.51	0.47	39.00	39.00	5	3.02	1.44
	CI-SB_D16	2.08	0.13	1.95	0.53	1.10	26.00	26.00	5	3.87	4.24
	CI-SB_D17	1.70	0.03	1.67	0.51	0.87	26.00	26.00	5	3.87	3.33
	CI-SB_D18	3.24	0.13	3.11	0.52	1.68	26.00	26.00	5	3.87	6.48
	CI-SB_D19	3.82	0.14	3.68	0.51	1.95	33.00	33.00	5	3.35	6.59
	CI-SB_D20	4.25	0.14	4.11	0.51	2.17	28.00	28.00	5	3.71	8.09
	CI-SB_D21	0.22	0.04	0.18	0.83	0.18	2.77	10.00	5	6.24	1.13
	CI-SB_D22	0.19	0.02	0.17	0.86	0.16	2.99	10.00	5	6.24	1.04
	CI-SB_D23	0.09		0.09	0.90	0.08	1.88	10.00	5	6.24	0.51
	DI-SB_D01	2.03	0.85	1.18	0.73	1.48	10.00	10.00	5	6.24	9.28
	DI-SB_D02	0.91	0.60	0.31	0.64	0.58	28.00	28.00	5	3.71	2.14
	DI-SB_D03	2.08		2.08	0.50	1.04	30.00	30.00	5	3.56	3.71
	DI-SB_D04	2.44	2.23	0.21	0.54	1.32	16.89	16.89	5	4.91	6.42
	DI-SB_D05	1.22		1.22	0.60	0.73	10.00	10.00	5	6.24	4.57
	DI-SB_D06	1.02		1.02	0.60	0.61	10.00	10.00	5	6.24	3.82
	DI-SB_D07	1.65		1.65	0.60	0.99	10.00	10.00	5	6.24	6.17

STATE OF TEXAS
Mona Lotfi
139489
LICENSED PROFESSIONAL ENGINEER

Mona Lotfi P.E. 11.10.23

IH35E NB/SB FR
RUNOFF COMPUTATIONS

SHEET 1 OF 2

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	814
	0442	03	042, ETC.	

	System Name	Area ID	Acres-Drained			C Value (Comp)	Time of Conc			Freq.	I	Q
			Total Area	ROW C = 0.5	Pav. C = 0.90		Total CA	Actual	Design			
			(acre)	(acre)	(acre)			(min)	(min)	(yr)	(in/hr)	(cfs)
	LINE NB_E	CI-NB_E01	0.22		0.22	0.90	0.20	3.15	10.00	5	6.24	1.23
		CI-NB_E02	0.21		0.21	0.90	0.19	2.20	10.00	5	6.24	1.17
		CI-NB_E04	0.30		0.30	0.90	0.27	3.32	10.00	5	6.24	1.67
		CI-NB_E05	0.31		0.31	0.90	0.28	2.92	10.00	5	6.24	1.71
		CI-NB_E06	0.26	0.26		0.90	0.23	13.80	13.80	5	5.42	1.26
		CI-NB_E07	0.20		0.20	0.90	0.18	2.48	10.00	5	6.24	1.12
		CI-NB_E08	0.22		0.22	0.90	0.20	2.02	10.00	5	6.24	1.25
		CI-NB_E09	0.20		0.20	0.90	0.18	1.78	10.00	5	6.24	1.13
		DI-NB_E01	4.79	1.77	3.02	0.65	3.11	13.80	13.80	5	5.42	16.83
	LINE SB_F	CI-SB_F01	0.12		0.12	0.90	0.11	2.00	10.00	5	6.24	0.67
		CI-SB_F02	0.16		0.16	0.90	0.14	2.00	10.00	5	6.24	0.88
		CI-SB_F03	0.20		0.20	0.90	0.18	3.00	10.00	5	6.24	1.10
		CI-SB_F04	0.20		0.20	0.90	0.18	3.00	10.00	5	6.24	1.10
		CI-SB_F05	0.20		0.20	0.90	0.18	3.00	10.00	5	6.24	1.10
		CI-SB_F06	0.20		0.20	0.90	0.18	3.00	10.00	5	6.24	1.10
		CI-SB_F07	0.20		0.20	0.90	0.18	3.00	10.00	5	6.24	1.10
		CI-SB_F08	0.21		0.21	0.90	0.19	3.00	10.00	5	6.24	1.16
		CI-SB_F09	0.27		0.27	0.90	0.24	3.00	10.00	5	6.24	1.52
		CI-SB_F10	0.25	0.22	0.03	0.63	0.16	2.00	10.00	5	6.24	0.99
		CI-SB_F11	0.16		0.16	0.90	0.14	3.00	10.00	5	6.24	0.88
		DI-SB_F01	5.45	3.28	2.17	0.66	3.60	15.00	15.00		5.21	18.69
	LINE SB_G	CI-SB_G01	0.24	0.04	0.20	0.84	0.20	4.77	10.00	5	6.23	1.28
		CI-SB_G02	0.23	0.04	0.19	0.84	0.19	3.88	10.00	5	6.23	1.22
		CI-SB_G03	0.23	0.04	0.19	0.84	0.19	2.91	10.00	5	6.23	1.21
		CI-SB_G04	0.24	0.04	0.20	0.84	0.20	3.21	10.00	5	6.23	1.23
		CI-SB_G05	0.20	0.03	0.17	0.84	0.17	3.48	10.00	5	6.23	1.04
		DI-SB_G01	2.89	1.22	1.67	0.73	2.11	6.47	10.00	5	6.23	13.19
										6		
	LINE ML_D1	DI-ML_D01	0.40		0.40	0.90	0.36	8.14	10.00	7	6.24	2.27
	LINE ML_D2	DI-ML_D02	0.30		0.30	0.90	0.27	9.40	10.00	8	6.24	1.69
	RET WALL A (5 YEAR)	RI-RWA_01	0.36		0.36	0.90	0.32	2.56	10.00	5	6.24	2.01
		RI-RWA_02	0.23		0.23	0.90	0.21	1.96	10.00	5	6.24	1.32
*		RI-RWA_03	0.27		0.27	0.90	0.24	1.99	10.00	5	6.24	1.51
	RET WALL B (5 YEAR)	RI-RWB_01	0.17		0.17	0.90	0.15	1.83	10.00	5	6.24	0.94
		RI-RWB_02	0.29		0.29	0.90	0.26	2.01	10.00	5	6.24	1.61
*		RI-RWB_03	0.29		0.29	0.90	0.26	2.13	10.00	5	6.24	1.60
		RI-RWB_04	0.29		0.29	0.90	0.26	1.95	10.00	5	6.24	1.62
	RET WALL A (10 YEAR)	RI-RWA_01	0.36		0.36	0.90	0.32	2.56	10.00	10	7.26	2.34
		RI-RWA_02	0.23		0.23	0.90	0.21	1.96	10.00	10	7.26	1.53
		RI-RWA_03	0.27		0.27	0.90	0.24	1.99	10.00	10	7.26	1.75
	RET WALL B (10 YEAR)	RI-RWB_01	0.17		0.17	0.90	0.15	1.83	10.00	10	7.26	1.09
		RI-RWB_02	0.29		0.29	0.90	0.26	2.01	10.00	10	7.26	1.87
		RI-RWB_03	0.29		0.29	0.90	0.26	2.13	10.00	10	7.26	1.86
		RI-RWB_04	0.29		0.29	0.90	0.26	1.95	10.00	10	7.26	1.88

* 5 YEAR SYSTEMS SHOWN FOR STORM SEWER CALCULATIONS ONLY

STATE OF TEXAS
Mona Lotfi
139489
LICENSED PROFESSIONAL ENGINEER

Mona Lotfi P.E. 11.10.23

IH35E NB/SB FR
RUNOFF COMPUTATIONS

SHEET 2 OF 2

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	815
	0442	03	042,ETC.	

System Name	Line ID	Upstream Node	Downstream Node	Size	Actual Length (ft)	Hydraulic Length (ft)	Manning's n Value	Slope (%)	Invert Upstream (ft)	Invert Downstream (ft)	Discharge (cfs)	Capacity (cfs)	Uniform Depth (ft)	Uniform Velocity (ft/s)	Actual Downstream Velocity (ft/s)	Actual Upstream Velocity (ft/s)	Actual Downstream Depth (ft)	Actual Upstream Depth (ft)	HGL Downstream	HGL Upstream	Freq (yr)	Tc (min)
LINE NB_A	LINE-NB_A01	CI-NB_A01	CI-NB_A02	24 Inch Dia. Circular	119.68	124.68	0.01	0.4	653.19	652.71	3.2	15.49	0.62	3.89	3.89	2.58	0.62	0.84	653.33	654.02	5	14.00
	LINE-NB_A02	CI-NB_A02	CI-NB_A03	24 Inch Dia. Circular	97.74	102.74	0.01	0.4	652.71	652.32	5	15.5	0.78	4.43	4.43	4.2	0.78	0.81	653.1	653.52	5	14.53
	LINE-NB_A03	CI-NB_A03	CI-NB_A04	24 Inch Dia. Circular	211.69	216.69	0.01	0.26	652.32	651.78	7.24	12.4	1.09	4.16	3.74	4.03	1.18	1.11	652.96	653.43	5	15.00
	LINE-NB_A04	CI-NB_A04	CI-NB_A05	30 Inch Dia. Circular	185	190	0.01	0.91	651.28	649.59	23.15	42.43	1.32	8.81	8.79	6.59	1.32	1.68	650.91	652.96	5	17.27
	LINE-NB_A05	CI-NB_A05	MH-NB_A01	30 Inch Dia. Circular	416.85	421.35	0.01	0.49	649.59	647.55	25.12	31.05	1.71	7.04	7.04	6.93	1.71	1.73	649.26	651.32	5	17.63
	LINE-NB_A06	MH-NB_A01	MH-NB_A02	36 Inch Dia. Circular	282.4	286.4	0.01	0.34	647.05	646.08	25.12	42.37	1.67	6.2	6.37	6.14	1.64	1.69	647.72	648.74	5	18.63
	LINE-NB_A07	MH-NB_A02	JCT-NB_A03	36 Inch Dia. Circular	186.87	190.87	0.01	0.51	646.08	645.14	25.12	51.47	1.47	7.27	7.24	6.37	1.48	1.64	646.62	647.72	5	19.40
	LINE-NB_A08	JCT-NB_A03	CI-NB_A06	36 Inch Dia. Circular	110.53	115.03	0.01	0.28	645.14	644.83	26.16	38.02	1.85	5.73	5.12	5.46	2.04	1.92	646.87	647.06	5	19.84
	LINE-NB_A09	CI-NB_A06	CI-NB_A07	36 Inch Dia. Circular	229.67	234.67	0.01	0.2	644.83	644.36	27.06	32.65	2.11	5.09	6.64	5.3	1.68	2.04	646.04	646.87	5	20.17
	LINE-NB_A10	CI-NB_A07	CI-NB_A08	42 Inch Dia. Circular	194.33	199.33	0.01	0.45	643.86	642.99	27.83	73.1	1.49	7.14	7.08	6.24	1.5	1.65	644.48	645.51	5	20.94
	LINE-NB_A11	CI-NB_A08	CI-NB_A09	42 Inch Dia. Circular	195	200	0.01	0.46	642.99	642.09	28.59	73.92	1.51	7.17	7.17	6.3	1.51	1.67	643.6	644.66	5	21.40
	LINE-NB_A12	CI-NB_A09	JCT-NB_A04	42 Inch Dia. Circular	9.58	12.08	0.01	0.5	642.09	642.04	28.84	76.74	1.49	7.4	3.69	3.76	2.65	2.6	644.69	644.69	5	21.87
	LINE-NB_A13	JCT-NB_A04	JCT-NB_A05	42 Inch Dia. Circular	37.72	37.72	0.01	0.5	642.04	641.85	28.84	77.15	1.49	7.4	3.45	3.69	2.83	2.65	644.69	644.69	5	21.90
	LINE-NB_A14	JCT-NB_A05	JCT-SBNB03	42 Inch Dia. Circular	10.5	13	0.01	0.5	641.85	641.8	28.84	77.44	1.48	7.48	3.4	3.45	2.89	2.83	644.69	644.69	5	21.98
	LINE-NB_A15	JCT-NB_A06	JCT-SBNB03	24 Inch Dia. Circular	60.13	62.63	0.01	0.77	643.76	643.3	13.38	21.55	1.14	7.2	7.14	6	1.15	1.34	644.45	645.1	5	16.59
	LINE-NB_A16	JCT-NB_A07	JCT-NB_A06	24 Inch Dia. Circular	67.97	67.97	0.01	1.38	644.7	643.77	11.13	28.79	0.86	8.59	8.24	5.67	0.89	1.2	644.65	645.9	5	16.46
	LINE-NB_A17	JCT-NB_A08	JCT-NB_A07	24 Inch Dia. Circular	38.39	38.39	0.01	1.28	645.19	644.7	11.13	27.71	0.88	8.36	7.71	5.67	0.94	1.2	645.64	646.39	5	16.38
	LINE-NB_A18	CI-NB_A11	JCT-NB_A08	24 Inch Dia. Circular	22.93	25.43	0.01	1.33	645.5	645.19	11.13	28.31	0.87	8.45	7.52	5.49	0.95	1.23	646.15	646.73	5	16.33
	LINE-NB_A19	CI-NB_A12	CI-NB_A11	24 Inch Dia. Circular	163.21	168.21	0.01	1.25	647.55	645.5	8.07	27.44	0.74	7.57	7.57	4.69	0.74	1.07	646.24	648.62	5	15.96
	LINE-NB_A20	CI-NB_A13	CI-NB_A12	24 Inch Dia. Circular	195.3	200.3	0.01	1	649.5	647.55	1.23	24.51	0.3	4.07	4.07	2.47	0.3	0.43	647.85	649.93	5	15.14
	LINE-NB_A21	CI-NB_A14	CI-NB_A13	24 Inch Dia. Circular	195	200	0.01	1	651.45	649.5	0.41	24.51	0.18	2.93	2.93	1.58	0.18	0.28	649.68	651.73	5	14.00
	LAT-NB_A01	DI-NB_A01	CI-NB_A04	24 Inch Dia. Circular	99.93	102.93	0.01	0.57	652.35	651.78	11.91	18.56	1.16	6.31	6.27	3.85	1.17	1.91	652.94	654.26	5	17.00
	LAT-NB_A02	DI-NB_A02	JCT-NB_A02	24 Inch Dia. Circular	5.5	7	0.01	0.73	650.5	650.46	1.96	20.9	0.41	4.16	1.54	1.65	0.85	0.81	651.31	651.31	5	8.00
	LAT-NB_A03	JCT-NB_A02	JCT-NB_A01	24 Inch Dia. Circular	44.82	44.82	0.01	0.65	650.46	650.17	1.96	19.71	0.43	4.01	1.05	1.54	1.15	0.85	651.32	651.31	5	8.03
	LAT-NB_A04	JCT-NB_A01	CI-NB_A05	24 Inch Dia. Circular	4	5.5	0.01	2	650.17	650.09	1.96	34.66	0.32	5.96	0.97	1.05	1.23	1.15	651.32	651.32	5	8.21
	LAT-NB_A05	DI-NB_A03	JCT-NB_A03	24 Inch Dia. Circular	11.25	14.75	0.01	2.04	646.37	646.14	1.35	35.04	0.27	5.37	0.96	1.48	0.92	0.66	647.06	647.03	5	10.00
	LAT-NB_A06	CI-NB_A10	JCT-NB_A06	24 Inch Dia. Circular	32.31	34.81	0.01	7.52	646.2	643.77	2.96	67.21	0.29	10.73	10.17	2.55	0.3	0.79	644.07	646.99	5	10.00
	LAT-NB_A07	DI-NB_A04	CI-NB_A11	24 Inch Dia. Circular	51.52	54.52	0.01	2.91	647	645.5	3.13	41.82	0.37	7.82	7.66	2.57	0.38	0.82	645.88	647.82	5	10.00
	LAT-NB_A08	DI-NB_A05	CI-NB_A12	24 Inch Dia. Circular	50.85	53.85	0.01	3.35	649.25	647.55	6.46	44.86	0.51	10.15	9.56	2.97	0.54	1.31	648.08	650.56	5	14.00
LINE NB_B	LINE-NB_B04	JCT-NB_B01	JCT-SBNB02	36 Inch Dia. Circular	227.02	227.02	0.01	0.29	643.07	642.40	27.94	39.11	1.89	5.95	4.66	5.53	2.37	2.02	644.77	645.08	5	13.88
	LINE-NB_B03	DI-NB_B03	JCT-NB_B01	36 Inch Dia. Circular	264.63	267.13	0.01	0.15	643.46	643.07	27.94	27.92	2.46	4.50	5.53	4.90	2.02	2.25	645.08	645.71	5	12.89
	LINE-NB_B02	DI-NB_B02	DI-NB_B03	36 Inch Dia. Circular	285.45	290.45	0.01	0.15	643.89	643.46	22.15	28.04	2.02	4.37	3.89	4.09	2.25	2.15	645.71	646.04	5	11.78
	LINE-NB_B01	DI-NB_B01	DI-NB_B02	36 Inch Dia. Circular	266.44	271.44	0.01	0.51	645.25	643.89	10.91	51.62	0.94	5.80	5.79	3.26	0.94	1.44	644.83	646.69	5	11.00
LINE NB_C	LINE-NB_C01	CI-NB_C01	CI-NB_Z21	24 Inch Dia. Circular	212.18	214.68	0.01	0.49	653.91	652.86	5.57	17.24	0.78	4.87	4.87	4.41	0.78	0.85	653.64	654.76	5	16.07
	LAT-NB_C02	DI-NB_C01	CI-NB_C01	24 Inch Dia. Circular	15.50	18.50	0.01	0.45	653.98	653.91	5.44	16.47	0.79	4.70	4.69	2.84	0.79	1.17	654.70	655.15	5	16.00
LINE SB_D	LINE-SB_D20	CI-SB_D20	JCT-SBNB01	30 Inch Dia. Circular	189.62	194.62	0.01	0.30	646.38	645.81	18.07	24.36	1.61	5.39	6.17	5.39	1.44	1.61	647.25	647.99	5	28.00
	LINE-SB_D21	CI-SB_D21	CI-SB_D20	30 Inch Dia. Circular	154.79	159.79	0.01	0.30	646.84	646.38	12.90	24.22	1.30	4.99	3.85	4.74	1.61	1.36	647.99	648.20	5	10.19
	LINE-SB_D19	CI-SB_D19	JCT-SBNB01	42 Inch Dia. Circular	10.05	15.05	0.01	1.00	644.91	644.81	55.96	108.73	1.78	11.35	9.38	7.99	2.08	2.39	646.89	647.30	5	39.53
	LINE-SB_D18	CI-SB_D18	CI-SB_D19	42 Inch Dia. Circular	138.99	143.99	0.01	0.78	645.99	644.91	50.23	96.08	1.80	10.10	9.89	7.67	1.83	2.25	646.74	648.24	5	39.29
	LINE-SB_D22	CI-SB_D22	CI-SB_D21	30 Inch Dia. Circular	190.00	195.00	0.01	0.30	647.41	646.84	5.69	24.34	0.83	4.03	2.09	3.76	1.36	0.87	648.20	648.28	5	4.76
	LAT-SB_D06	DI-SB_D06	CI-SB_D20	24 Inch Dia. Circular	47.50	50.50	0.01	0.25	646.50	646.38	3.82	12.32	0.76	3.47	1.41	1.51	1.61	1.50	647.99	648.00	5	10.00
	LINE-SB_D17	CI-SB_D17	CI-SB_D18	36 Inch Dia. Circular	33.00	38.00	0.01	0.45	646.64	646.49	42.93	48.72	2.20	7.73	7.98	7.70	2.13	2.21	648.62	648.85	5	39.21
	LINE-SB_D23	CI-SB_D23	CI-SB_D22	24 Inch Dia. Circular	195.00	200.00	0.01	0.30	648.00	647.41	4.66	13.48	0.81	3.93	3.56	3.80	0.87	0.83	648.28	648.83	5	3.91
	LAT-SB_D04	DI-SB_D04	CI-SB_D11	24 Inch Dia. Circular	45.77	48.77	0.01	3.80	650.25	648.51	6.42	47.78	0.50	10.60	9.88	2.97	0.52	1.30	649.03	651.55	5	16.89
	LAT-SB_D05	DI-SB_D05	CI-SB_D16	24 Inch Dia. Circular	45.50	48.50	0.01	2.75	649.10	647.85	4.57	40.62	0.45	8.56	8.15	2.73	0.47	1.05	648.32	650.15	5	10.00
	LINE-SB_D16	CI-SB_D16	CI-SB_D17	36 Inch Dia. Circular	26.00	31.00	0.01	0.81	646.85	646.64	40.37	64.94	1.72	9.66	8.93	7.60	1.83	2.11	648.47	648.96	5	39.15
	LINE-SB_D15	CI-SB_D15	CI-SB_D16	36 Inch Dia. Circular	66.00	71.00	0.01	0.47	647.16	646.85	38.39	49.52	1.98	7.76	7.74	7.50	1.98	2.04	648.83	649.20	5	39.00
	LINE-SB_D14	CI-SB_D14	CI-SB_D15	36 Inch Dia. Circular	34.26	39.26	0.01	0.41	647.30	647.16	36.73	46.19	2.02	7.24	7.18	7.16	2.04	2.04	649.20	649.34	5	31.35
	LINE-SB_D13	CI-SB_D13	CI-SB_D14	36 Inch Dia. Circular	51.74	56.74	0.01	0.54	647.58	647.30	35.22	53.15	1.78	8.05	7.97	7.22	1.80	1.96	649.10	649.54	5	31.23
	LINE-SB_D12	CI-SB_D12	CI-SB_D13	36 Inch Dia. Circular	107.00	112.00	0.01	0.28	647.88	647.58	34.26	38.26	2.20	6.17	7.02	6.27	1.96	2.17	649.54	650.05	5	30.93
	LAT-SB_D03	DI-SB_D03	CI-SB_D07	24 Inch Dia. Circular	30.50	33.50	0.01	0.49	650.45	650.30	3.71	17.19	0.63	4.36	1.76	2.05	1.27	1.12	651.57	651.57	5	30.00
	LINE-SB_D11	CI-SB_D11	CI-SB_D12	36 Inch Dia. Circular	69.00	74.00	0.01	0.43	648.18	647.88	33.45	47.64	1.85	7.32	7.32	7.09	1.85	1.90	649.73	650.08	5	30.76
	LINE-SB_D10	CI-SB_D10	CI-SB_D11	36 Inch Dia. Circular	44.02	49.02	0.01	0.43	648.37	648.18	28.38	47.47	1.67	7.01	7.01	6.65	1.67	1.75	649.85	650.12	5	30.65
	LINE-SB_D09	CI-SB_D09	CI-SB_D10	36 Inch Dia. Circular	51.98	56.98	0.01	0.44	648.60	648.37	27.24	48.06	1.63	6.95	6.95	6.55	1.63	1.71	650.00	650.31	5	30.51
	LINE-SB_D08	CI-SB_D08	CI-SB_D09	36 Inch Dia. Circular	57.00	62.00	0.01	0.44	648.85	648.60	26.04	47.85	1.58	6.88	6.88	6.44	1.58	1.67	650.18	650.52	5	30.36
	LINE-SB_D07	CI-SB_D07	CI-SB_D08	30 Inch Dia. Circular	96.00	101.00	0.01	0.53	649.86	649.35	24.42	32.39	1.61	7.29	7.25	6.82	1.62	1.71	650.97	651.57	5	30.13
	LAT-SB_D02	DI-SB_D02	CI-SB_D05	24 Inch Dia. Circular	48.66	51.66	0.01	1.83	652.75	651.86	11.43	33.14	0.81	9.57	8.86	3.76	0.86	1.86	652.72	654.61	5	0.00
	LINE-SB_D06	CI-SB_D06	CI-SB_D07	30 Inch Dia. Circular	130.69	135.69	0.01	0.52	650.54	649.86	25.54	32.05	1.69	7.25	7.25	6.96	1.69	1.75	651.55	652.29	5	12.72
	LINE-SB_D05	CI-SB_D05	CI-SB_D06	30 Inch Dia. Circular	159.31	164.31	0.01	0.20	650.86	650.54	25.03	19.92	2.50	5.23	6.83	5.44	1.75	2.22	652.29	653.08	5	12.19
	LAT-SB_D01	DI-SB_D01	CI-SB_D02	24 Inch Dia. Circular	79.65	82.65	0.01	0.39	654.13	653.82	9.28	15.29	1.13	5.08	4.20	3.39	1.32	1.63	655.14	655.76	5	10.00
	LINE-SB_D04	CI-SB_D04	CI-SB_D05	24 Inch Dia. Circular	195.27	200.27	0.01	0.40	652.14	651.36	12.98	15.49	1.41	5.49	4.53	5.35	1.72	1.44	653.08	653.58	5	11.59
	LINE-SB_D03	CI-SB_D03	CI-SB_D04	24 Inch Dia. Circular	195.36	200.36	0.01	0.41	652.95	652.14	12.32	15.78	1.32	5.60	5.08	5.46	1.44	1.35	653.58	654.30	5	10.99
	LINE-SB_D02	CI-SB_D02	CI-SB_D03	24 Inch Dia. Circular	225.08	230.08	0.01	0.39	653.82	652.95	11.57	15.24	1.31	5.33	5.13	5.24	1.35	1.32	654.30	655.14	5	10.27
	LINE-SB_D01	CI-SB_D01	CI-SB_D02	24 Inch Dia. Circular	165.00	170.00	0.01	1.98	657.08	653.82	1.02	34.45	0.24	4.89	4.89	1.93	0.24	0.45	654.06	657.53	5	3.33
	LAT-SB_D07	DI-SB_D07	CI-SB_D21	24 Inch Dia. Circular	47.76	50.76	0.01	0.33	647.00	646.84	6.17	14.18	0.92	4.35	2.72	2.94	1.36	1.27	648.20	648.27	5	10.00
BOX	BOX_03	JCT-SBNB03	OUT01	4ft x 4ft Box	14.53	17.03	0.01	0.69	641.80	641.70	110.23	164.35	2.51	11.00	10.33	9.55	2.67	2.89	644.37	644.69	5	40.33
	BOX_02	JCT-SBNB02	JCT-SBNB03	4ft x 4ft Box	71.53	74.03	0.01	0.77	642.35	641.80	84.65	173.74	1.96	10.77	10.38	8.73	2.04	2.42	643.84	644.77	5	40.22
	BOX_01	JCT-SBNB01	JCT-SBNB02	4ft x 4ft Box	365.70	368.20	0.01	0.56	644.40	642.35	70.52	148.35	1.92	9.19	9.15	8.22	1.93	2.14	644.28	646.54	5	39.55

Mona Lotfi P.E. 11.10.23

IH35E NB/SB FR
STORM SEWER COMPUTATIONS

SHEET 1 OF 2

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	816
	0442	03	042,ETC.	

	System Name	Line ID	Upstream Node	Downstream Node	Size	Actual Length (ft)	Hydraulic Length (ft)	Manning's n Value	Slope (%)	Invert Upstream (ft)	Invert Downstream (ft)	Discharge (cfs)	Capacity (cfs)	Uniform Depth (ft)	Uniform Velocity (ft/s)	Actual Downstream Velocity (ft/s)	Actual Upstream Velocity (ft/s)	Actual Downstream Depth (ft)	Actual Upstream Depth (ft)	HGL Downstream	HGL Upstream	Freq (yr)	Tc (min)
	LINE NB_E	LAT-NB_E02	CI-NB_E09	JCT-NB_E03	30 Inch Dia. Circular	9.50	11.00	0.01	0.95	621.89	621.80	24.46	43.25	1.35	9.07	7.85	6.89	1.52	1.70	623.32	623.59	5	16.68
		LINE-NB_E11	JCT-NB_E03	OUT-NB_E01	30 Inch Dia. Circular	150.00	150.00	0.01	1.01	621.80	620.28	24.46	44.73	1.32	9.30	9.21	6.95	1.33	1.68	621.61	623.48	5	16.70
		LINE-NB_E10	CI-NB_E08	CI-NB_E09	30 Inch Dia. Circular	220.00	225.00	0.01	0.94	623.96	621.89	23.87	43.10	1.33	9.00	8.98	6.67	1.33	1.71	623.22	625.67	5	16.26
		LINE-NB_E09	CI-NB_E07	CI-NB_E08	30 Inch Dia. Circular	244.72	249.72	0.01	1.10	626.65	623.96	23.19	46.59	1.25	9.48	9.46	6.55	1.25	1.69	625.21	628.34	5	15.83
		LINE-NB_E08	CI-NB_E06	CI-NB_E07	30 Inch Dia. Circular	194.48	199.48	0.01	1.20	628.98	626.65	22.52	48.64	1.20	9.71	9.65	6.44	1.20	1.67	627.85	630.65	5	15.48
		LINE-NB_E07	CI-NB_E05	CI-NB_E06	30 Inch Dia. Circular	194.48	199.48	0.01	1.20	631.32	628.98	21.57	48.74	1.16	9.63	9.56	6.32	1.17	1.64	630.15	632.96	5	15.14
		LINE-NB_E06	CI-NB_E04	CI-NB_E05	30 Inch Dia. Circular	194.61	199.61	0.01	1.20	633.65	631.32	20.37	48.62	1.13	9.48	9.41	6.17	1.13	1.59	632.45	635.24	5	14.79
		LAT-NB_E01	DI-NB_E01	JCT-NB_E02	30 Inch Dia. Circular	42.00	46.00	0.01	0.93	639.95	639.56	16.83	42.82	1.09	8.18	7.72	3.85	1.14	2.08	640.70	642.03	5	13.80
		LINE-NB_E05	JCT-NB_E02	CI-NB_E04	30 Inch Dia. Circular	496.00	500.50	0.01	1.19	639.56	633.65	19.55	48.50	1.10	9.35	9.35	6.10	1.10	1.55	634.75	641.11	5	13.89
		LINE-NB_E04	JCT-NB_E01	JCT-NB_E02	24 Inch Dia. Circular	348.93	352.93	0.01	1.15	644.08	640.06	3.21	26.31	0.47	5.68	5.68	3.46	0.47	0.67	640.53	644.75	5	5.73
		LINE-NB_E03	JCT-NB_E04	JCT-NB_E01	24 Inch Dia. Circular	344.80	348.80	0.01	0.97	647.44	644.08	3.21	24.19	0.49	5.36	5.36	3.51	0.49	0.66	644.57	648.10	5	4.64
		LINE-NB_E02	CI-NB_E02	JCT-NB_E04	24 Inch Dia. Circular	158.50	163.00	0.01	1.23	649.39	647.44	2.41	27.18	0.40	5.35	5.35	3.07	0.40	0.60	647.84	649.99	5	4.13
		LINE-NB_E01	CI-NB_E01	CI-NB_E02	24 Inch Dia. Circular	223.50	228.50	0.01	0.87	651.33	649.39	1.23	22.83	0.32	3.88	3.88	2.26	0.32	0.46	649.71	651.79	5	3.15
	LINE SB_F	LAT-SB_F02	CI-SB_F11	SB_F_JB	36 Inch Dia. Circular	11.00	12.50	0.01	1.36	625.92	625.77	26.94	84.38	1.17	10.60	8.17	6.53	1.42	1.70	627.19	627.62	5	16.63
		LAT-SB_F01	DI-SB_F01	CI-SB_F08	36 Inch Dia. Circular	59.00	62.50	0.01	0.85	632.04	631.54	18.69	66.52	1.09	8.07	7.72	3.70	1.13	2.02	632.67	634.06	5	15.00
		LINE-SB_F11	SB_F_JB	Outlet	36 Inch Dia. Circular	324.79	324.79	0.01	0.45	625.77	624.30	26.94	48.61	1.60	7.05	7.05	6.63	1.60	1.68	625.90	627.45	5	16.65
		LINE-SB_F10	CI-SB_F10	CI-SB_F11	36 Inch Dia. Circular	192.72	197.72	0.01	0.69	627.25	625.92	26.57	60.03	1.40	8.24	8.21	6.43	1.40	1.70	627.32	628.95	5	16.23
		LINE-SB_F09	CI-SB_F09	CI-SB_F10	36 Inch Dia. Circular	282.99	287.99	0.01	0.43	628.48	627.25	26.34	47.64	1.58	6.96	6.96	6.47	1.58	1.68	628.83	630.16	5	15.54
		LINE-SB_F08	CI-SB_F08	CI-SB_F09	36 Inch Dia. Circular	245.83	250.83	0.01	1.24	631.54	628.48	25.42	80.62	1.16	10.13	10.05	6.20	1.16	1.69	629.64	633.23	5	15.13
		LINE-SB_F07	CI-SB_F07	CI-SB_F08	30 Inch Dia. Circular	245.68	250.68	0.01	1.20	635.00	632.04	7.03	48.77	0.64	7.06	7.06	4.17	0.64	0.94	632.68	635.94	5	6.48
		LINE-SB_F06	CI-SB_F06	CI-SB_F07	24 Inch Dia. Circular	245.00	250.00	0.01	1.12	638.25	635.50	5.93	25.96	0.65	6.72	6.71	4.22	0.65	0.92	636.15	639.17	5	5.86
		LINE-SB_F05	CI-SB_F05	CI-SB_F06	24 Inch Dia. Circular	245.00	250.00	0.01	1.22	641.25	638.25	4.84	27.12	0.57	6.52	6.51	3.89	0.57	0.84	638.82	642.09	5	5.22
		LINE-SB_F04	CI-SB_F04	CI-SB_F05	24 Inch Dia. Circular	245.00	250.00	0.01	1.33	644.50	641.25	3.74	28.23	0.49	6.24	6.23	3.52	0.49	0.74	641.74	645.24	5	4.55
		LINE-SB_F03	CI-SB_F03	CI-SB_F04	24 Inch Dia. Circular	245.00	250.00	0.01	1.22	647.50	644.50	2.64	27.12	0.42	5.48	5.48	3.13	0.42	0.63	644.92	648.13	5	3.79
		LINE-SB_F02	CI-SB_F02	CI-SB_F03	24 Inch Dia. Circular	245.41	250.41	0.01	1.22	650.50	647.50	1.55	27.10	0.32	4.67	4.67	2.57	0.32	0.49	647.82	650.99	5	2.90
		LINE-SB_F01	CI-SB_F01	CI-SB_F02	24 Inch Dia. Circular	195.17	200.17	0.01	1.28	653.00	650.50	0.67	27.74	0.21	3.70	3.70	1.85	0.21	0.34	650.71	653.34	5	2.00
	LINE SB_G	LINE-SB_G05	CI-SB_G05	CI-SB_V13	24 Inch Dia. Circular	215.01	217.51	0.01	0.85	646.14	644.31	19.17	24.32	1.41	8.11	8.07	7.13	1.41	1.60	645.72	647.74	5	7.97
		LINE-SB_G04	CI-SB_G04	CI-SB_G05	24 Inch Dia. Circular	220.33	225.33	0.01	0.85	648.01	646.14	18.13	24.29	1.36	7.99	7.98	6.83	1.36	1.58	647.50	649.59	5	7.50
		LAT-SB_G01	DI-SB_G01	CI-SB_G04	24 Inch Dia. Circular	59.71	62.71	0.01	0.64	648.39	648.01	13.19	21.03	1.20	6.68	6.66	4.20	1.21	2.00	649.22	650.44	5	6.47
		LINE-SB_G03	CI-SB_G03	CI-SB_G04	24 Inch Dia. Circular	254.60	259.60	0.01	1.75	652.48	648.01	3.71	34.92	0.46	6.87	6.87	3.37	0.46	0.76	648.47	653.24	5	6.87
		LINE-SB_G02	CI-SB_G02	CI-SB_G03	24 Inch Dia. Circular	259.59	264.59	0.01	0.96	654.97	652.48	2.50	25.86	0.44	4.94	4.94	3.17	0.44	0.60	652.91	655.57	5	5.97
		LINE-SB_G01	CI-SB_G01	CI-SB_G02	24 Inch Dia. Circular	259.99	264.99	0.01	0.72	656.86	654.97	1.28	22.44	0.34	3.67	3.67	2.27	0.34	0.47	655.31	657.33	5	4.77
	LINE ML_D01	LAT-ML_D01	DI-ML_D01	DI-ML_OUT	18 Inch Dia. Circular	107.5	109	0.01	2.14	659.3	657	2.27	16.65	0.37	6.58	6.58	2.37	0.37	0.8	657.37	660.1	5	8.14
	LINE ML_D02	LAT-ML_D02	DI-ML_D02	DI-ML_OUT2	18 Inch Dia. Circular	65	66.5	0.01	0.8	658.15	657.63	1.69	10.18	0.41	4.28	4.26	2.26	0.41	0.66	658.04	658.81	5	9.40
*	RET WALL A (5 YEAR)	LINE-RWA_04	JCT-RWA_07	CI-SB_D18	24 Inch Dia. Circular	82.46	85.97	0.01	0.36	647.00	646.70	4.84	14.78	0.79	4.18	1.86	2.32	1.54	1.26	648.24	648.26	5	3.27
		LINE-RWA_03	JCT-RWA_06	JCT-RWA_07	24 Inch Dia. Circular	131.00	135.00	0.01	0.38	647.50	647.00	4.84	15.14	0.78	4.28	2.32	4.14	1.26	0.80	648.26	648.30	5	2.74
		LAT-RWA-01	RI-RWA_01	JCT-RWA_06	18 Inch Dia. Circular	13.50	17.50	0.01	1.85	647.75	647.50	2.01	15.49	0.37	6.05	5.52	2.32	0.39	0.74	647.89	648.49	5	2.56
		LINE-RWA_02	JCT-RWA_05	JCT-RWA_06	24 Inch Dia. Circular	147.00	151.00	0.01	3.06	652.00	647.50	2.82	42.88	0.35	7.71	7.71	2.83	0.35	0.71	647.85	652.71	5	2.41
		LAT-RWA_02	RI-RWA_02	JCT-RWA_05	18 Inch Dia. Circular	13.50	17.50	0.01	1.85	652.75	652.50	1.32	15.49	0.30	5.34	5.00	2.18	0.31	0.56	652.81	653.31	5	1.96
		LINE-RWA_01	JCT-RWA_04	JCT-RWA_05	24 Inch Dia. Circular	146.00	150.00	0.01	3.42	657.00	652.00	1.51	45.35	0.25	6.66	6.66	2.09	0.25	0.56	652.25	657.56	5	2.04
		LAT-RWA_03	RI-RWA_03	JCT-RWA_04	18 Inch Dia. Circular	13.50	17.50	0.01	1.85	657.25	657.00	1.51	15.49	0.32	5.56	5.17	2.22	0.33	0.61	657.33	657.86	5	1.99
*	RET WALL B (5 YEAR)	LINE-RWB_03	JCT-RWB_05	CI-SB_D23	24 Inch Dia. Circular	84.79	88.29	0.01	0.59	648.50	648.00	4.15	18.82	0.64	4.81	4.81	3.96	0.64	0.74	648.64	649.24	5	3.61
		LAT-RWB_01	RI-RWB_01	JCT-RWB_05	18 Inch Dia. Circular	14.51	18.51	0.01	3.10	649.45	649.00	0.94	20.04	0.22	5.79	5.49	1.89	0.23	0.48	649.23	649.93	5	1.83
		LINE-RWB_02	JCT-RWB_06	JCT-RWB_05	24 Inch Dia. Circular	173.06	177.06	0.01	0.58	649.50	648.50	3.21	18.63	0.56	4.45	4.44	3.63	0.56	0.65	649.06	650.15	5	2.94
		LAT-RWB_02	RI-RWB_02	JCT-RWB_06	18 Inch Dia. Circular	14.81	18.81	0.01	1.69	650.25	650.00	1.61	14.78	0.33	5.49	5.14	2.24	0.35	0.64	650.35	650.89	5	2.01
		LINE-RWB_01	JCT-RWB_07	JCT-RWB_06	24 Inch Dia. Circular	163.43	167.43	0.01	0.61	650.50	649.50	1.60	19.17	0.39	3.68	3.68	2.90	0.39	0.46	649.89	650.96	5	2.19
		LAT-RWB_03	RI-RWB_03	JCT-RWB_07	18 Inch Dia. Circular	14.52	18.52	0.01	1.72	650.75	650.50	1.60	14.93	0.33	5.51	5.15	2.24	0.35	0.64	650.85	651.39	5	2.13
		LINE-RWB_04	RI-RWB_04	SET-RWB_01	24 Inch Dia. Circular	26.05	28.05	0.01	6.72	658.75	657.00	1.62	63.52	0.22	8.62	8.27	2.18	0.23	0.57	657.23	659.32	5	1.95
	RET WALL A (10 YEAR)	LINE-RWA_04	JCT-RWA_07	CI-SB_D18	24 Inch Dia. Circular	82.46	85.97	0.01	0.36	647.00	646.70	5.62	14.78	0.85	4.41	1.99	2.38	1.68	1.41	648.38	648.41	10	3.21
		LINE-RWA_03	JCT-RWA_06	JCT-RWA_07	24 Inch Dia. Circular	131.00	135.00	0.01	0.38	647.50	647.00	5.62	15.14	0.84	4.46	2.38	3.84	1.41	0.95	648.41	648.45	10	2.71
		LAT-RWA-01	RI-RWA_01	JCT-RWA_06	18 Inch Dia. Circular	13.50	17.50	0.01	1.85	647.75	647.50	2.34	15.49	0.39	6.32	5.71	2.39	0.42	0.81	647.92	648.56	10	2.56
		LINE-RWA_02	JCT-RWA_05	JCT-RWA_06	24 Inch Dia. Circular	147.00	151.00	0.01	3.06	652.00	647.50	3.28	42.88	0.37	8.08	8.06	3.02	0.37	0.76	647.87	652.76	10	2.39
		LAT-RWA_02	RI-RWA_02	JCT-RWA_05	18 Inch Dia. Circular	13.50	17.50	0.01	1.85	652.75	652.50	1.53	15.49	0.32	5.59	5.18	2.22	0.34	0.62	652.84	653.37	10	1.96
		LINE-RWA_01	JCT-RWA_04	JCT-RWA_05	24 Inch Dia. Circular	146.00	150.00	0.01	3.42	657.00	652.00	1.75	45.35	0.27	6.96	6.96	2.23	0.27	0.60	652.27	657.60	10	2.04
		LAT-RWA_03	RI-RWA_03	JCT-RWA_04	18 Inch Dia. Circular	13.50	17.50	0.01	1.85	657.25	657.00	1.75	15.49	0.34	5.80	5.34	2.27	0.36	0.68	657.36	657.93	10	1.99
	RET WALL B (10 YEAR)	LINE-RWB_03	JCT-RWB_05	CI-SB_D23	24 Inch Dia. Circular	84.79	88.29	0.01	0.59	648.50	648.00	4.82	18.82	0.69	5.03	5.01	4.15	0.69	0.79	648.69	649.29	10	3.54
		LAT-RWB_01	RI-RWB_01	JCT-RWB_05	18 Inch Dia. Circular	14.51	18.51	0.01	3.10	649.45	649.00	1.09	20.04	0.24	6.06	5.68	2.03	0.25	0.51	649.25	649.96	10	1.83
		LINE-RWB_02	JCT-RWB_06	JCT-RWB_05	24 Inch Dia. Circular	173.06	177.06	0.01	0.58	649.50	648.50	3.74	18.63	0.61	4.62	4.62	3.81	0.61	0.70	649.11	650.20	10	2.91
		LAT-RWB_02	RI-RWB_02	JCT-RWB_06	18 Inch Dia. Circular	14.81	18.81	0.01	1.69	650.25	650.00	1.87	14.78	0.36	5.74	5.32	2.29	0.38	0.71	650.38	650.96	10	2.01
		LINE-RWB_01	JCT-RWB_07	JCT-RWB_06	24 Inch Dia. Circular	163.43	167.43	0.01	0.61	650.50	649.50	1.86	19.17	0.42	3.86	3.86	3.04	0.42	0.50	649.92	651.00	10	2.18
		LAT-RWB_03	RI-RWB_03	JCT-RWB_07	18 Inch Dia. Circular	14.52	18.52	0.01	1.72	650.75	650.50	1.86	14.93	0.36	5.77	5.33	2.29	0.38	0.70	650.88	651.45	10	2.13
		LINE-RWB_04	RI-RWB_04	SET-RWB_01	24 Inch Dia. Circular	26.05	28.05	0.01	6.72	658.75	657.00	1.88	63.52	0.24	9.01	8.60	2.32	0.24	0.61	657.24	659.36	10	1.95

* 5 YEAR SYSTEM SHOWN FOR STORM SEWER CALCULATIONS ONLY

STATE OF TEXAS
Mona Lotfi
139489
LICENSED PROFESSIONAL ENGINEER

Mona Lotfi P.E. 11.10.23

IH35E NB/SB FR
STORM SEWER COMPUTATIONS

SHEET 2 OF 2

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	817
	0442	03	042, ETC.	

System Name	Inlet ID	Drainage Area ID	Inlet Station	PGL Name	Inlet Offset		Inlet Type	Profile Type	Comp X-Sect Spread	Curb Height	Inlet Depression	Inlet Depression Width	Actual Inlet Length	CURB OR GRATE INLET ON GRADE				CURB OR GRATE INLET IN SAG				GRATE INLET			Allowable Head	Computed Head	Total Discharge	Capacity	By Pass Flow	By Pass Flow Into Node	n
														Inlet Length Required	Long Slope	Comp Ponded Width	Comp Ponded Depth	Ponded Width Left	Ponded Width Right	Long Slope Left	Long Slope Right	No. of Grates	Grate Length	Grate Width						
					(ft)				(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(%)	(%)		(ft)	(ft)	(ft)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	
LINE NB_A	CI-NB_A01	CI-NB_A01	4821+20.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.05	0.50	0.25	1.50	14.00		0.57	8.30	0.38						4.96	1.39	0.42	0.38	3.20	3.20			0.01
	CI-NB_A02	CI-NB_A02	4822+45.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.06	0.50	0.25	1.50	14.00		0.57	5.81	0.33						4.96	1.39	0.42	0.33	1.89	1.89			0.01
	CI-NB_A03	CI-NB_A03	4823+48.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.05	0.50	0.25	1.50	14.00		0.57	6.76	0.35						4.96	1.39	0.42	0.35	2.32	2.32			0.01
	CI-NB_A04	CI-NB_A04	4825+65.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.04	0.50	0.25	1.50	14.00		0.57	10.50	0.42						4.96	1.39	0.42	0.42	4.93	4.93			0.01
	CI-NB_A05	CI-NB_A05	4827+55.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.02	0.50	0.25	1.50	9.50		0.57	10.63	0.26						4.96	1.39	0.42	0.26	0.92	0.92			0.01
	CI-NB_A06	CI-NB_A06	4837+65.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.03	0.50	0.25	1.50	9.50		0.42	8.98	0.29						4.96	1.39	0.42	0.29	1.16	1.16			0.01
	CI-NB_A07	CI-NB_A07	4840+00.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.10	0.50	0.25	1.50	9.50		0.50	2.84	0.27						4.96	1.39	0.42	0.27	1.00	1.00			0.01
	CI-NB_A08	CI-NB_A08	4842+00.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.09	0.50	0.25	1.50	9.50		0.50	3.11	0.27						4.96	1.39	0.42	0.27	1.00	1.00			0.01
	CI-NB_A09	CI-NB_A09	4844+00.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.13	0.50	0.25	1.50	14.00		0.50	1.43	0.18						4.96	1.39	0.42	0.18	0.32	0.32			0.01
	CI-NB_A10	CI-NB_A10	4099+60.92	009EFR	20.00	RT	Curb and Grate	On Grade	0.06	0.50	0.25	1.50	9.50		1.49	5.67	0.32						4.96	1.39	0.42	0.32	2.96	2.95	0.01	0.00	0.01
	CI-NB_A11	CI-NB_A11	4846+32.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.11	0.50	0.25	1.50	9.50		0.50	2.20	0.25						4.96	1.39	0.42	0.25	0.81	0.81			0.01
	CI-NB_A12	CI-NB_A12	4848+00.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.09	0.50	0.25	1.50	9.50		0.50	3.17	0.27						4.96	1.39	0.42	0.27	1.00	1.00			0.01
	CI-NB_A13	CI-NB_A13	4850+00.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.09	0.50	0.25	1.50	9.50		0.50	3.16	0.27						4.96	1.39	0.42	0.27	1.00	1.00			0.01
	CI-NB_A14	CI-NB_A14	4852+00.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.13	0.50	0.25	1.50	9.50		0.50	1.57	0.20						4.96	1.39	0.42	0.20	0.41	0.41			0.01
	DI-NB_A01	DI-NB_A01	4825+65.12	035NBFR1	85.42	LT	Grate	Sag	0.06							7.81	0.60	7.03	10.92	1.17	0.34	1	5.17	3.17	0.57	0.60	11.91	11.07			0.04
	DI-NB_A02	DI-NB_A02	4827+90.00	035NBFR1	26.00	LT	Grate	Sag	0.02							6.71	0.18	6.02	7.76	8.33	0.96	1	5.17	3.17	0.57	0.18	1.96	11.07			0.04
	DI-NB_A03	DI-NB_A03	4836+50.00	035NBFR1	32.00	RT	Grate	Sag	0.02							6.42	0.14	6.74	6.95	0.60	0.56	1	5.17	3.17	0.54	0.14	1.35	10.21			0.04
	DI-NB_A04	DI-NB_A04	4846+42.21	035NBFR1	39.00	LT	Grate	Sag	0.02							7.30	0.25	13.53	9.38	0.64	1.53	1	5.17	3.17	0.25	0.25	3.13	3.22			0.04
	DI-NB_A05	DI-NB_A05	4848+06.00	035NBFR1	39.00	LT	Grate	Sag	0.02							8.11	0.40	19.65	6.04	0.56	8.33	1	5.17	3.17	0.46	0.40	6.46	8.03			0.04
LINE NB_B	DI-NB_B01	DI-NB_B01	4833+96.00	035NBFR1	39.00	LT	Grate	Sag	0.05							8.25	0.56	6.16	10.89	8.33	0.59	1	5.17	3.17	0.66	0.56	10.91	13.79			0.04
	DI-NB_B02	DI-NB_B02	4836+70.00	035NBFR1	39.00	LT	Grate	Sag	0.06							8.39	0.60	9.86	9.62	0.42	0.54	1	5.17	3.17	0.66	0.60	11.90	13.79			0.04
	DI-NB_B03	DI-NB_B03	4839+60.00	035NBFR1	39.00	LT	Grate	Sag	0.05							7.66	0.42	9.52	6.03	0.80	8.33	1	5.17	3.17	0.50	0.42	6.88	9.10			0.04
LINE NB_C	CI-NB_C01	CI-NB_C01	4818+96.50	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.13	0.50	0.25	1.50	5.00		0.11	1.53	0.19						4.96	1.39	0.42	0.19	0.18	0.18			0.01
	DI-NB_C01	DI-NB_C01	4818+96.50	035NBFR1	33.00	RT	Grate	Sag	0.04							7.77	0.35	7.66	9.02	1.90	0.33	1	5.17	3.17	1.00	0.35	5.44	20.69			0.04
LINE SB_D	CI-SB_D01	CI-SB_D01	5825+00.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.07	0.50	0.25	1.50	14.00		0.37	3.92	0.29						4.96	1.39	0.42	0.29	1.02	1.02			0.01
	CI-SB_D02	CI-SB_D02	5826+70.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.06	0.50	0.25	1.50	14.00		0.50	4.75	0.30						4.96	1.39	0.42	0.30	1.40	1.40			0.01
	CI-SB_D03	CI-SB_D03	5829+00.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.08	0.50	0.25	1.50	9.50		0.50	3.68	0.28						4.96	1.39	0.42	0.28	1.12	1.12			0.01
	CI-SB_D04	CI-SB_D04	5831+00.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.09	0.50	0.25	1.50	9.50		0.50	3.16	0.27						4.96	1.39	0.42	0.27	1.00	1.00			0.01
	CI-SB_D05	CI-SB_D05	5833+00.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.09	0.50	0.25	1.50	9.50		0.50	3.09	0.27						4.96	1.39	0.42	0.27	0.98	0.98			0.01
	CI-SB_D06	CI-SB_D06	5834+64.31	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.11	0.50	0.25	1.50	14.00		0.50	2.39	0.26						4.96	1.39	0.42	0.26	0.85	0.85			0.01
	CI-SB_D07	CI-SB_D07	5836+00.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.13	0.50	0.25	1.50	14.00		0.50	1.86	0.23						4.96	1.39	0.42	0.23	0.65	0.65			0.01
	CI-SB_D08	CI-SB_D08	5837+01.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.05	0.50	0.25	1.50	14.00		0.50	6.22	0.33						4.96	1.39	0.42	0.33	1.93	1.93			0.01
	CI-SB_D09	CI-SB_D09	5837+63.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.06	0.50	0.25	1.50	14.00		0.50	5.21	0.31						4.96	1.39	0.42	0.31	1.55	1.55			0.01
	CI-SB_D10	CI-SB_D10	5838+19.98	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.06	0.50	0.25	1.50	14.00		0.50	4.96	0.31						4.96	1.39	0.42	0.31	1.47	1.47			0.01
	CI-SB_D11	CI-SB_D11	5838+69.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.13	0.50	0.25	1.50	14.00		0.50	1.84	0.23						4.96	1.39	0.42	0.23	0.63	0.63			0.01
	CI-SB_D12	CI-SB_D12	5839+43.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.07	0.50	0.25	1.50	14.00		0.50	4.06	0.29						4.96	1.39	0.42	0.29	1.21	1.21			0.01
	CI-SB_D13	CI-SB_D13	5840+55.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.06	0.50	0.25	1.50	14.00		0.50	5.48	0.32						4.96	1.39	0.42	0.32	1.64	1.64			0.01
	CI-SB_D14	CI-SB_D14	5841+11.74	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.02	0.50	0.25	1.50	14.00		0.45	9.08	0.18						4.96	1.39	0.42	0.18	1.98	1.97			0.01
	CI-SB_D15	CI-SB_D15	5841+51.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.05	0.50	0.25	1.50	14.00		0.29	6.17	0.33						4.96	1.39	0.42	0.33	1.45	1.45			0.01
	CI-SB_D16	CI-SB_D16	5842+22.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.03	0.50	0.25	1.50	14.00		0.01	24.78	0.71						4.96	1.39	0.42	0.71	4.24	4.24			0.01
	CI-SB_D17	CI-SB_D17	5842+53.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.04	0.50	0.25	1.50	14.00		0.14	12.30	0.46						4.96	1.39	0.42	0.46	3.33	3.33			0.01
	CI-SB_D18	CI-SB_D18	5842+91.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.03	0.50	0.25	1.50	14.00		0.30	14.02	0.49						4.96	1.39	0.42	0.49	6.48	6.48			0.01
	CI-SB_D19	CI-SB_D19	5844+35.00	035SBFR1	16.00	LT	Curb and Grate	Sag	0.02	0.50	0.25	1.50	14.00			52.66	1.19	11.32	1.66	0.78	1.00		4.96	1.39	0.42	1.19	6.71	13.51			0.01
	CI-SB_D20	CI-SB_D20	5846+45.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.04	0.50	0.25	1.50	14.00		0.75	12.68	0.46						4.96	1.39	0.42	0.46	8.09	7.96	0.12	0.00	0.01
	CI-SB_D21	CI-SB_D21	5848+05.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.09	0.50	0.25	1.50	9.50		0.75	2.80	0.27						4.96	1.39	0.42	0.27	1.13	1.13			0.01
	CI-SB_D22	CI-SB_D22	5850+00.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.11	0.50	0.25	1.50	9.50		0.75	2.37	0.26						4.96	1.39	0.42	0.26	1.04	1.04			0.01
	CI-SB_D23	CI-SB_D23	5852+00.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.13	0.50	0.25	1.50	9.50		0.25	1.94	0.24						4.96	1.39	0.42	0.24	0.51	0.51			0.01
	DI-SB_D01	DI-SB_D01	1826+68.59	035SBML	84.00	LT	Grate	Sag	0.03							11.61	0.51	8.48	15.35	0.98	0.50	1	5.17	3.17	0.75	0.51	9.28	16.71			0.04
	DI-SB_D02	DI-SB_D02	5832+96.00	035SBFR1	34.00	RT	Grate	Sag	0.03							19.99	0.58	6.04	20.28	8.33	0.78	1	5.17	3.17	1.00	0.58	11.43	20.69			0.04
	DI-SB_D03	DI-SB_D03	5836+00.00	035SBFR1	45.00	LT	Grate	Sag	0.33							0.83	0.27	0.63	2.12	33.00	4.00	1	5.17	3.17	1.00	0.27	3.71	20.69			0.04
	DI-SB_D04	DI-SB_D04	5838+64.00	035SBFR1	34.00	RT	Grate	Sag	0.04							7.58	0.40	6.01	12.97	8.33	0.33	1	5.17	3.17	0.52	0.40	6.42	9.65			0.04
	DI-SB_D05	DI-SB_D05	5842+22.00	035SBFR1	34.00	RT	Grate	Sag	0.03							7.26	0.32	9.24	9.77	0.49	0.63	1	5.17	3.17	0.57	0.32	4.57	11.07			0.04
	DI-SB_D06	DI-SB_D06	5846+45.00	035SBFR1	36.00	RT	Grate	Sag	0.03							7.12	0.28	10.62	8.27	0.78	0.68	1	5.17	3.17	0.70	0.28	3.82	15.07			0.04
	DI-SB_D07	DI-SB_D07	5848+10.00	035SBFR1	36.00	RT	Grate	Sag	0.03							7.54	0.39	15.18	6.01	0.31	8.33	1	5.17	3.17	0.70	0.39	6.17	15.07			0.04

Mona Lotfi P.E. 11.10.23

IH35E NB/SB FR
INLET COMPUTATIONS

SHEET 1 OF 2

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	818
	0442	03	042, ETC.	

	System Name	Inlet ID	Drainage Area ID	Inlet Station	PGL Name	Inlet Offset		Inlet Type	Profile Type	Comp X-Sect Spread	Curb Height	Inlet Depression	Inlet Depression Width	Actual Inlet Length	CURB OR GRATE INLET ON GRADE				CURB OR GRATE INLET IN SAG				GRATE INLET			Allowable Head	Computed Head	Total Discharge	Capacity	By Pass Flow	By Pass Flow Into Node	n
															Inlet Length Required	Long Slope	Comp Ponded Width	Comp Ponded Depth	Ponded Width Left	Ponded Width Right	Long Slope Left	Long Slope Right	No. of Grates	Grate Length	Grate Width							
						(ft)				(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(%)	(%)		(ft)	(ft)	(ft)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	
	LINE NB_E	CI-NB_E01	CI-NB_E01	4856+10.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.08	0.50	0.25	1.50	9.50		1.24	3.60	0.28						4.96	1.39	0.42	0.28	1.23	1.23			0.01
		CI-NB_E02	CI-NB_E02	4858+39.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.08	0.50	0.25	1.50	9.50		1.24	3.37	0.28						4.96	1.39	0.42	0.28	1.17	1.17			0.01
		CI-NB_E04	CI-NB_E04	4872+00.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.05	0.50	0.25	1.50	9.50		0.50	7.11	0.35						4.96	1.39	0.42	0.35	1.67	1.67			0.01
		CI-NB_E05	CI-NB_E05	4874+00.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.05	0.50	0.25	1.50	9.50		0.50	7.25	0.36						4.96	1.39	0.42	0.36	1.71	1.71			0.01
		CI-NB_E06	CI-NB_E06	4876+00.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.06	0.50	0.25	1.50	9.50		0.62	5.32	0.32						4.96	1.39	0.42	0.32	1.26	1.26			0.01
		CI-NB_E07	CI-NB_E07	4878+00.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.10	0.50	0.25	1.50	9.50		1.55	2.63	0.26						4.96	1.39	0.42	0.26	1.12	1.12			0.01
		CI-NB_E08	CI-NB_E08	4880+50.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.13	0.50	0.25	1.50	9.50		2.60	1.98	0.25						4.96	1.39	0.42	0.25	1.25	1.25			0.01
		CI-NB_E09	CI-NB_E09	4882+75.00	035NBFR1	16.00	RT	Curb and Grate	On Grade	0.13	0.50	0.25	1.50	9.50		3.15	1.84	0.23						4.96	1.39	0.42	0.23	1.13	1.13			0.01
		DI-NB_E01	DI-NB_E01	4867+00.00	035NBFR1	30.00	LT	Grate	Sag	0.05							11.61	0.75	8.96	13.22	0.30	0.83	1	5.17	3.17	0.75	0.75	16.83	16.71			0.04
	LINE SB_F	CI-SB_F01	CI-SB_F01	5854+50.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.13	0.50	0.25	1.50	9.50		0.99	1.88	0.23						4.96	1.39	0.42	0.23	0.67	0.67			0.01
		CI-SB_F02	CI-SB_F02	5856+50.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.12	0.50	0.25	1.50	9.50		1.24	2.00	0.25						4.96	1.39	0.42	0.25	0.88	0.88			0.01
		CI-SB_F03	CI-SB_F03	5859+00.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.09	0.50	0.25	1.50	9.50		1.24	3.05	0.27						4.96	1.39	0.42	0.27	1.10	1.10			0.01
		CI-SB_F04	CI-SB_F04	5861+50.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.09	0.50	0.25	1.50	9.50		1.24	3.04	0.27						4.96	1.39	0.42	0.27	1.10	1.10			0.01
		CI-SB_F05	CI-SB_F05	5864+00.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.09	0.50	0.25	1.50	9.50		1.24	3.04	0.27						4.96	1.39	0.42	0.27	1.10	1.10			0.01
		CI-SB_F06	CI-SB_F06	5866+50.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.09	0.50	0.25	1.50	9.50		1.24	3.04	0.27						4.96	1.39	0.42	0.27	1.10	1.10			0.01
		CI-SB_F07	CI-SB_F07	5869+00.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.09	0.50	0.25	1.50	9.50		1.24	3.04	0.27						4.96	1.39	0.42	0.27	1.10	1.10			0.01
		CI-SB_F08	CI-SB_F08	5871+50.00	035SBFR1	28.00	LT	Curb and Grate	On Grade	0.08	0.50	0.25	1.50	9.50		1.15	3.51	0.28						4.96	1.39	0.42	0.28	1.16	1.16			0.01
		CI-SB_F09	CI-SB_F09	5874+00.00	035SBFR1	28.00	LT	Curb and Grate	On Grade	0.06	0.50	0.25	1.50	9.50		0.70	5.92	0.33						4.96	1.39	0.42	0.33	1.52	1.52			0.01
		CI-SB_F10	CI-SB_F10	5876+87.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.07	0.50	0.25	1.50	9.50		0.70	3.93	0.29						4.96	1.39	0.42	0.29	0.99	0.99			0.01
		CI-SB_F11	CI-SB_F11	5878+85.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.11	0.50	0.25	1.50	9.50		1.09	2.32	0.26						4.96	1.39	0.42	0.26	0.88	0.88			0.01
		DI-SB_F01	DI-SB_F01	5871+50.00	035SBFR1	36.00	RT	Grate	Sag	0.07							8.71	0.82	6.02	10.88	8.33	1.58	1	5.17	3.17	1.40	0.82	18.69	24.49			0.04
	LINE SB_G	CI-SB_G01	CI-SB_G01	5821+00.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.07	0.50	0.25	1.50	9.50		0.50	4.31	0.30						4.96	1.39	0.42	0.30	1.28	1.28			0.01
		CI-SB_G02	CI-SB_G02	5818+35.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.08	0.50	0.25	1.50	9.50		0.72	3.27	0.28						4.96	1.39	0.42	0.28	1.22	1.22			0.01
		CI-SB_G03	CI-SB_G03	5815+70.00	035SBFR1	28.00	LT	Curb and Grate	On Grade	0.13	0.50	0.25	1.50	9.50		1.29	1.97	0.25						4.96	1.39	0.42	0.25	1.21	1.21			0.01
		CI-SB_G04	CI-SB_G04	5813+10.00	035SBFR1	28.00	LT	Curb and Grate	On Grade	0.08	0.50	0.25	1.50	9.50		0.70	3.37	0.28						4.96	1.39	0.42	0.28	1.23	1.23			0.01
		CI-SB_G05	CI-SB_G05	5810+85.00	035SBFR1	16.00	LT	Curb and Grate	On Grade	0.08	0.50	0.25	1.50	9.50		0.50	3.36	0.28						4.96	1.39	0.42	0.28	1.04	1.04			0.01
		DI-SB_G01	DI-SB_G01	5813+15.00	035SBFR1	36.00	RT	Grate	Sag	0.06							10.50	0.64	6.25	8.97	2.20	4.28	1	5.17	3.17	1.00	0.64	13.19	20.69			0.04
	LINE ML-D1	DI-ML_D01	DI-ML_D01	1833+50.00	035SBML	14.00	RT	Grate	Sag	0.04							4.60	0.20	4.20	5.59	0.21	1.50	1	5.17	3.17	0.50	0.20	2.27	9.10			0.04
	LINE ML-D2	DI-ML_D02	DI-ML_D02	1859+50.00	035ML	1.50	LT	Grate	Sag	0.03							4.49	0.16	5.35	4.09	1.50	1.50	1	5.17	3.17	0.50	0.16	1.69	9.10			0.04
*	RET WALL A (5 YEAR)	RI-RWA_01	RI-RWA_01	1841+56.00	035SBML	55.50	LT	Grate	On Grade	0.03						2.47	6.73	0.17					1	4.17	4.17	1.00	0.17	2.01	1.91	0.11	0.00	0.01
*		RI-RWA_02	RI-RWA_02	1840+05.00	035SBML	55.50	LT	Grate	On Grade	0.03						3.08	5.67	0.14					1	4.17	4.17	1.00	0.14	1.42	1.39	0.03	0.11	0.02
*		RI-RWA_03	RI-RWA_03	1838+55.00	035SBML	55.50	LT	Grate	On Grade	0.03						2.60	6.02	0.15					1	4.17	4.17	1.00	0.15	1.54	1.49	0.04	0.03	0.01
*	RET WALL B (5 YEAR)	RI-RWB_01	RI-RWB_01	1852+03.00	035SBML	55.50	LT	Grate	On Grade	0.03						1.58	5.49	0.14					1	4.17	4.17	0.18	0.14	0.94	0.92	0.01	0.00	0.01
*		RI-RWB_02	RI-RWB_02	1853+79.69	035SBML	57.00	LT	Grate	On Grade	0.03						2.13	6.38	0.16					1	4.17	4.17	0.18	0.16	1.62	1.56	0.06	0.01	0.01
*		RI-RWB_03	RI-RWB_03	1855+46.34	035SBML	64.00	LT	Grate	On Grade	0.02						2.65	6.18	0.15					1	4.17	4.17	0.18	0.15	1.66	1.61	0.06	0.06	0.02
*		RI-RWB_04	RI-RWB_04	1856+97.49	035SBML	74.00	LT	Grate	On Grade	0.03						3.13	6.01	0.15					1	4.17	4.17	0.18	0.15	1.68	1.63	0.05	0.06	0.01
	RET WALL A (10 YEAR)	RI-RWA_01	RI-RWA_01	1841+56.00	035SBML	55.50	LT	Grate	On Grade	0.03						2.47	7.12	0.18					1	4.17	4.17	1.00	0.18	2.34	2.18	0.16	0.00	0.01
		RI-RWA_02	RI-RWA_02	1840+05.00	035SBML	55.50	LT	Grate	On Grade	0.03						3.08	6.04	0.15					1	4.17	4.17	1.00	0.15	1.69	1.63	0.05	0.16	0.01
		RI-RWA_03	RI-RWA_03	1838+55.00	035SBML	55.50	LT	Grate	On Grade	0.03						2.60	6.40	0.16					1	4.17	4.17	1.00	0.16	1.80	1.73	0.07	0.05	0.01
	RET WALL B (10 YEAR)	RI-RWB_01	RI-RWB_01	1852+03.00	035SBML	55.50	LT	Grate	On Grade	0.03						1.58	5.81	0.15					1	4.17	4.17	0.18	0.15	1.09	1.07	0.02	0.00	0.01
		RI-RWB_02	RI-RWB_02	1853+79.69	035SBML	57.00	LT	Grate	On Grade	0.02						2.13	6.76	0.17					1	4.17	4.17	0.18	0.17	1.89	1.80	0.10	0.02	0.02
		RI-RWB_03	RI-RWB_03	1855+46.34	035SBML	64.00	LT	Grate	On Grade	0.02						2.65	6.57	0.16					1	4.17	4.17	0.18	0.16	1.96	1.87	0.09	0.10	0.01
		RI-RWB_04	RI-RWB_04	1856+97.49	035SBML	74.00	LT	Grate	On Grade	0.03						3.13	6.40	0.16					1	4.17	4.17	0.18	0.16	1.98	1.89	0.09	0.09	0.01

* 5 YEAR SYSTEMS SHOWN FOR STORM SEWER CALCULATIONS ONLY

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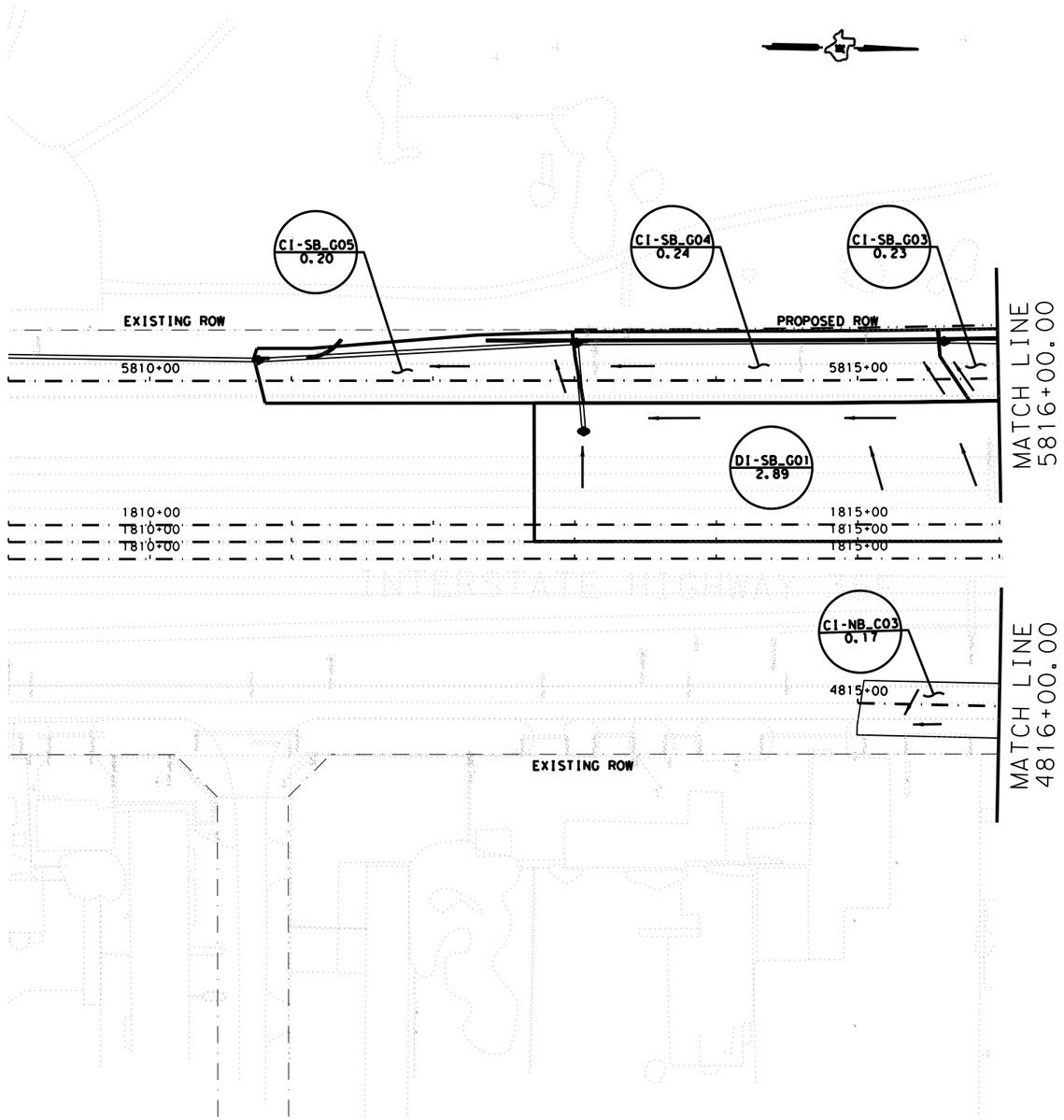
IH35E NB/SB FR
INLET COMPUTATIONS

SHEET 2 OF 2

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	819
	0442	03	042,ETC.	



LEGEND

- XXXX / XXXX — DRAINAGE AREA NO. / ACRES
- DIRECTION OF FLOW
- DRAINAGE AREA BOUNDARY

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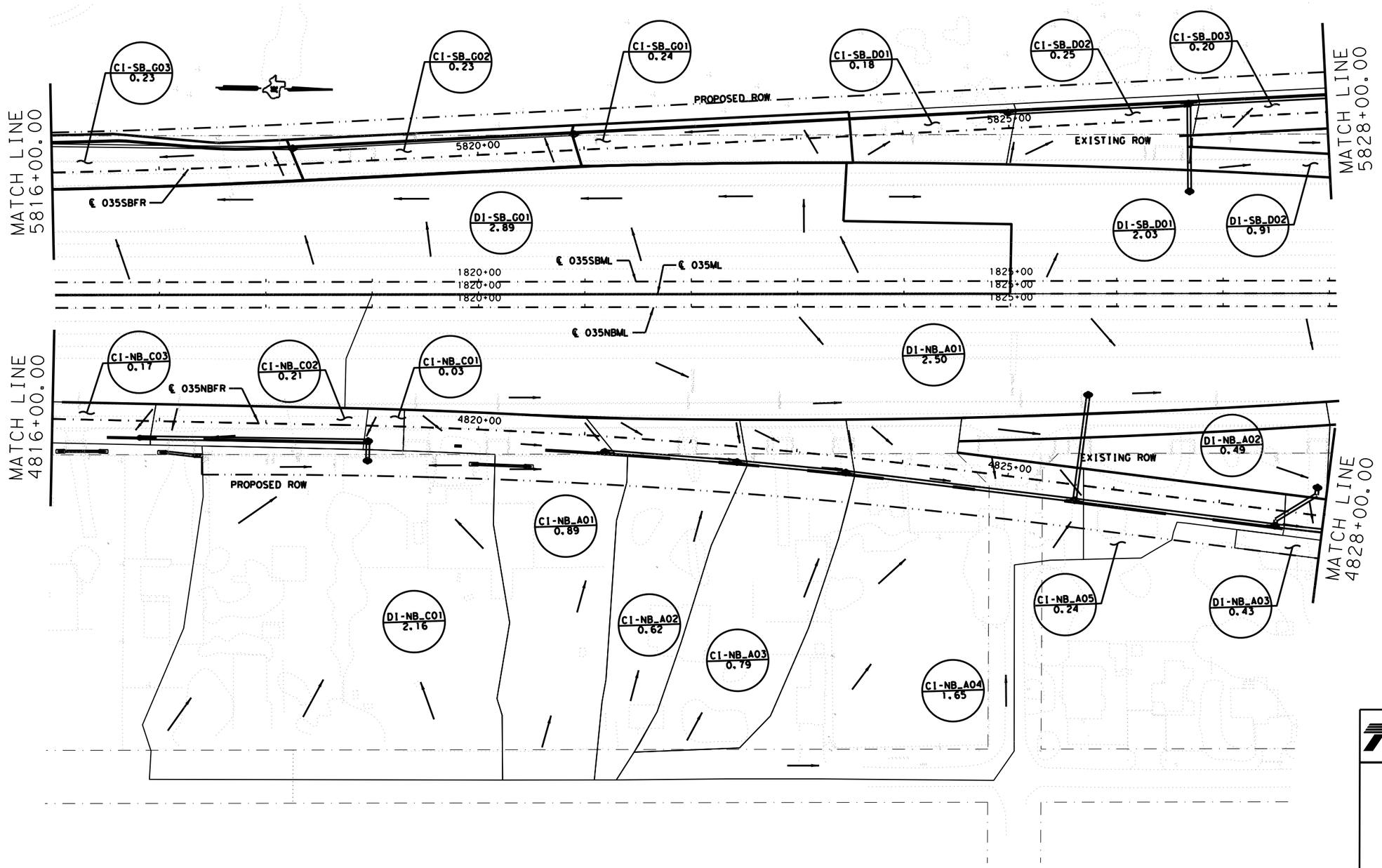
IH35E
STORM SEWER
DRAINAGE AREA MAP

SCALE: 1"=100' SHEET 1 OF 8

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	820
	0442	03	042, ETC.	



LEGEND

- XXXX / XXXX — DRAINAGE AREA NO. / ACRES
- DIRECTION OF FLOW
- DRAINAGE AREA BOUNDARY

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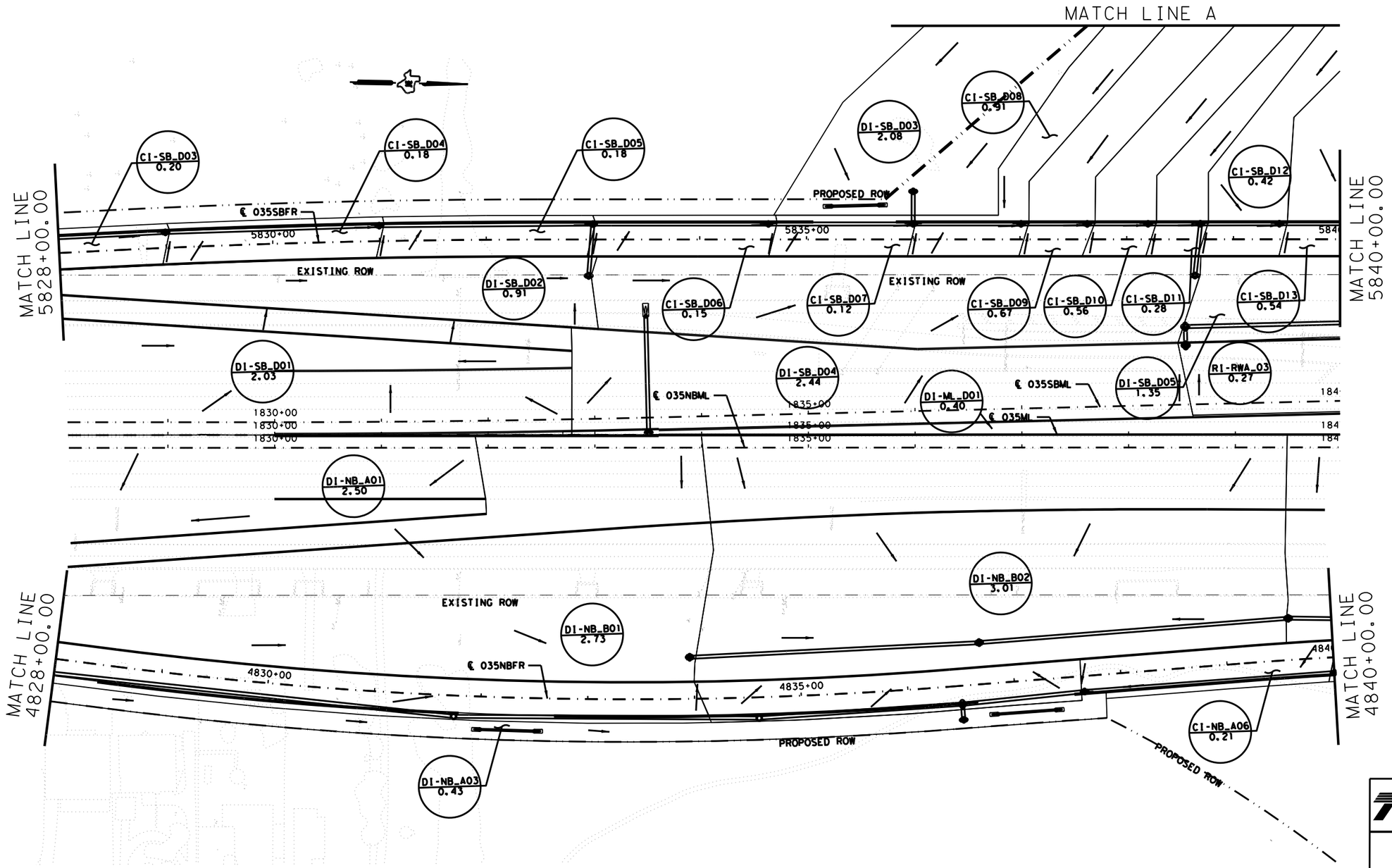
IH35E
STORM SEWER
DRAINAGE AREA MAP

SCALE: 1"=100' SHEET 2 OF 8

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	821
	0442	03	042,ETC.	



LEGEND

- XXXX / XXXX — DRAINAGE AREA NO. / ACRES
- DIRECTION OF FLOW
- DRAINAGE AREA BOUNDARY

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STORM SEWER
DRAINAGE AREA MAP

SCALE: 1"=100' SHEET 3 OF 8

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042, ETC.	822
CHECK				
MPM				

MATCH LINE
4093+00.00

MATCH LINE
5840+00.00

MATCH LINE
5851+75.00

MATCH LINE
4840+00.00

MATCH LINE
4852+25.00

CI-SB_D14 0.83
CI-SB_D15 0.93
CI-SB_D13 0.55
CI-SB_D16 2.08
CI-SB_D17 1.70
CI-SB_D18 3.24
CI-SB_D19 3.66
CI-SB_D20 4.25
CI-SB_D21 0.22
CI-SB_D22 0.19
℄ 009EFR
EXISTING ROW
5845+00
5850+00
00+960
℄ 035SBFR
DI-SB_D04 2.44
DI-SB_D06 1.02
DI-SB_D07 1.29
RI-RWA_01 0.36
RI-RWA_02 0.23
RI-RWB_01 0.17
1845+00
1850+00
℄ 035SBML
℄ 035ML
℄ 035NBML
DI-NB_A04 1.00
DI-NB_A05 2.40
DI-NB_B03 2.54
CI-NB_A09 0.06
CI-NB_A14 0.15
EXISTING ROW
℄ 035NBFR
4845+00
4850+00
CI-NB_A07 0.18
CI-NB_A08 0.18
CI-NB_A10 0.20
CI-NB_A11 0.14
CI-NB_A12 0.18
CI-NB_A13 0.18
4100+00

LEGEND

- XXXX / XXXX — DRAINAGE AREA NO. / ACRES
- DIRECTION OF FLOW
- DRAINAGE AREA BOUNDARY

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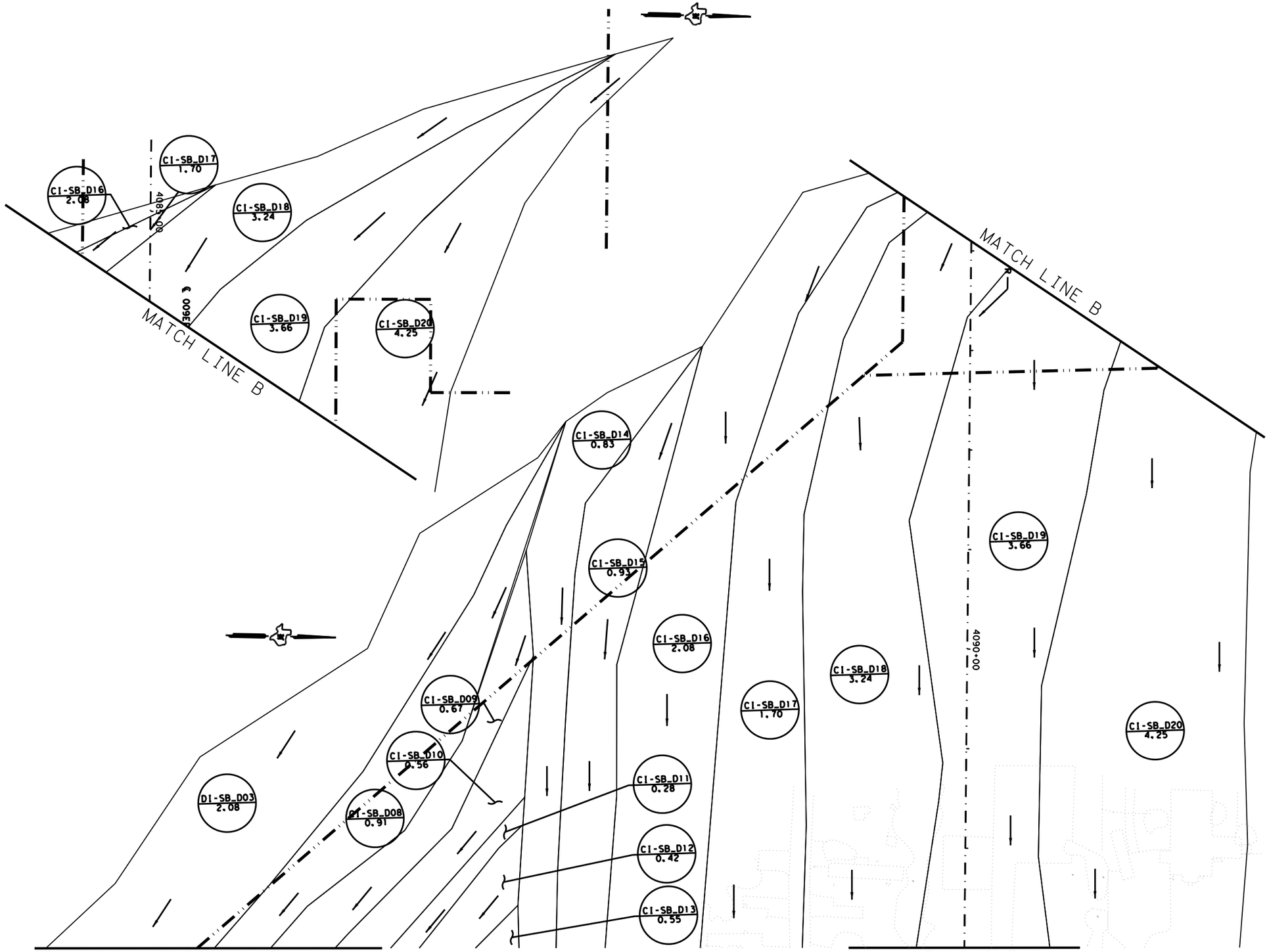
IH35E
STORM SEWER
DRAINAGE AREA MAP

SCALE: 1"=100'

SHEET 4 OF 8

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	823
CHECK				
MPM				



LEGEND

- XXXX / XXXX — DRAINAGE AREA NO. / ACRES
- DIRECTION OF FLOW
- DRAINAGE AREA BOUNDARY

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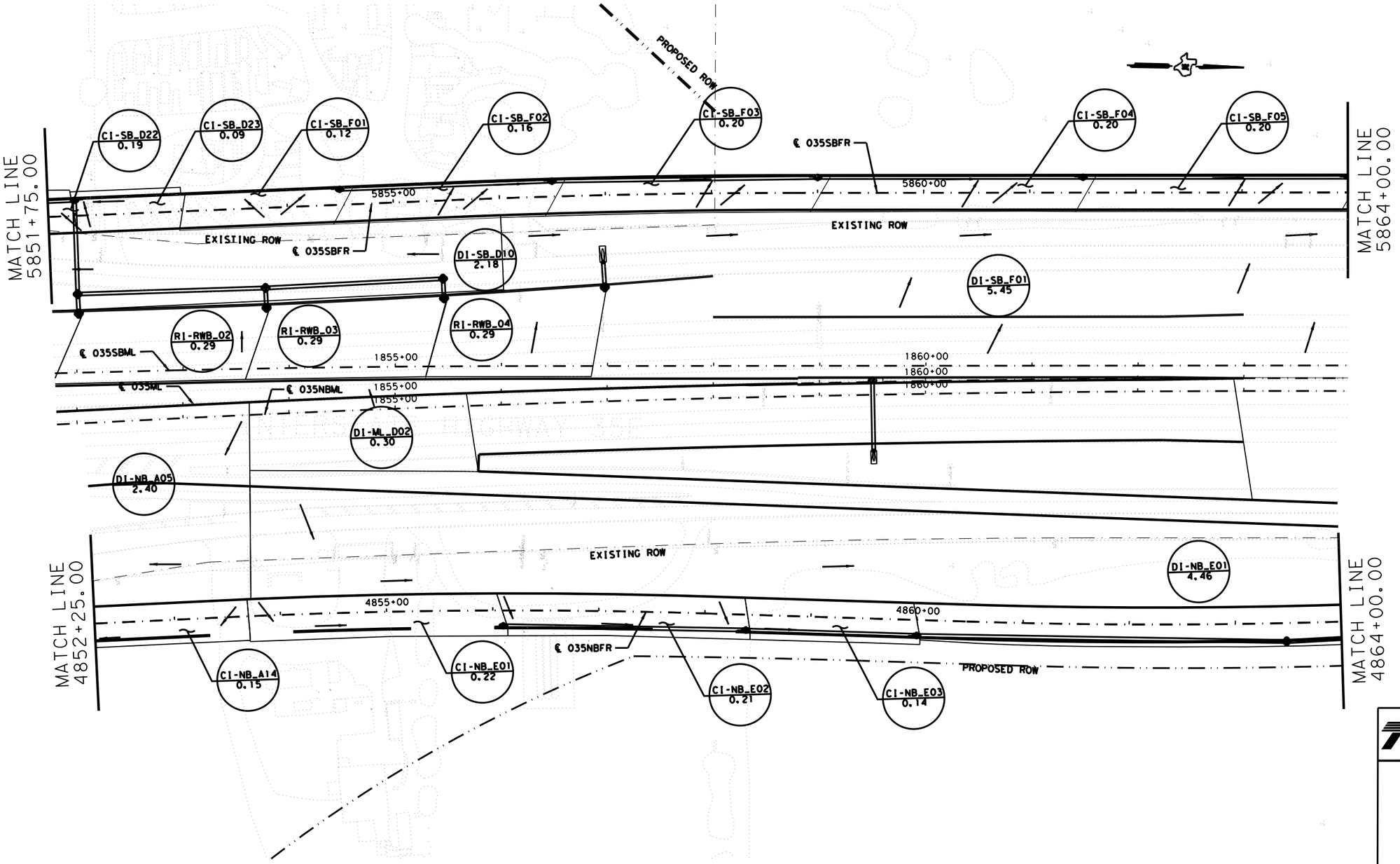
IH35E
STORM SEWER
DRAINAGE AREA MAP

SCALE: 1"=100' SHEET 5 OF 8

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	824
CHECK				
MPM				



LEGEND

- XXXX / XXXX — DRAINAGE AREA NO. / ACRES
- DIRECTION OF FLOW
- DRAINAGE AREA BOUNDARY

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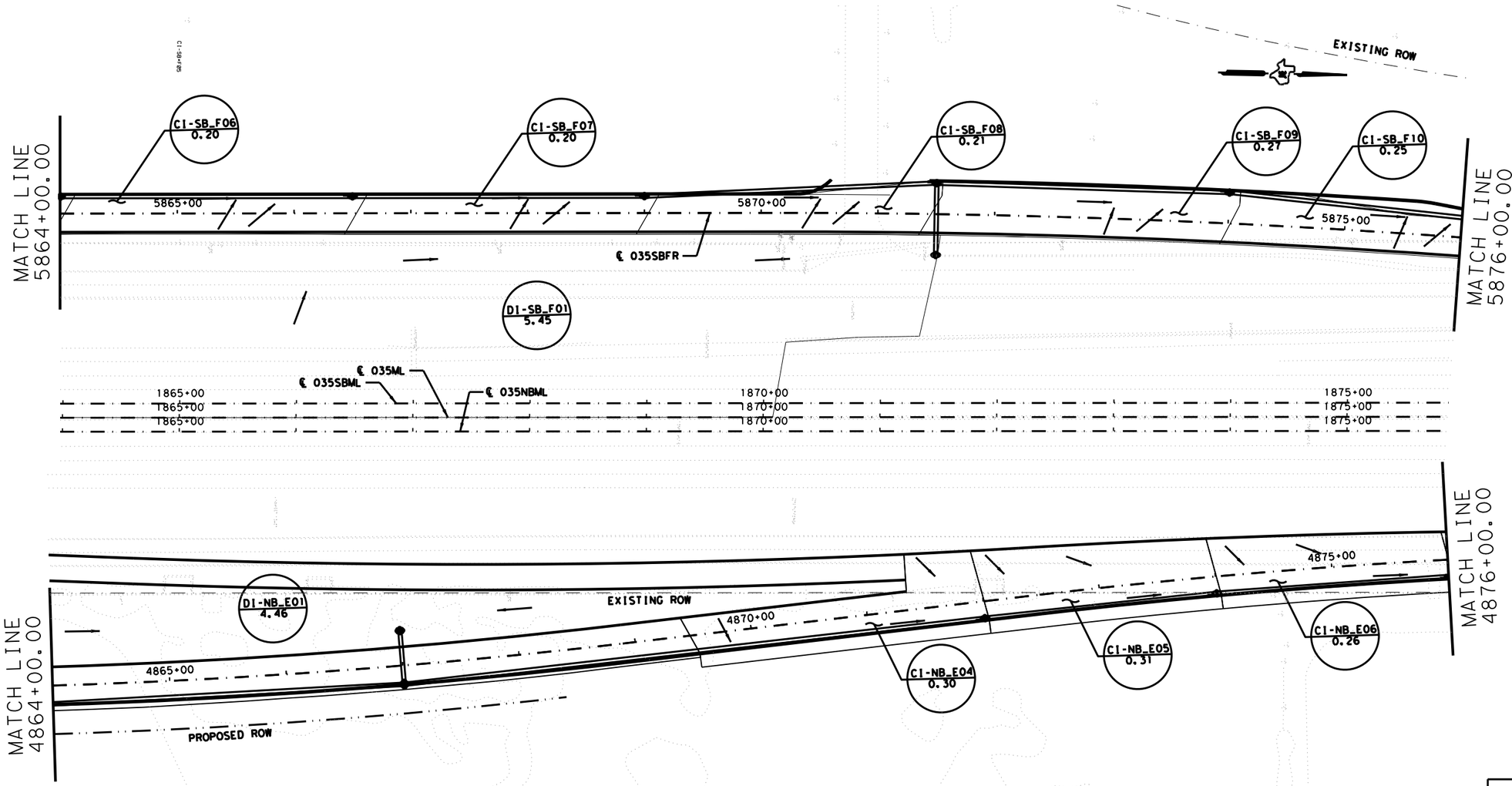
IH35E
STORM SEWER
DRAINAGE AREA MAP

SCALE: 1"=100' SHEET 6 OF 8

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	825
	0442	03	042,ETC.	



LEGEND

- XXXX / XXXX — DRAINAGE AREA NO. / ACRES
- DIRECTION OF FLOW
- DRAINAGE AREA BOUNDARY

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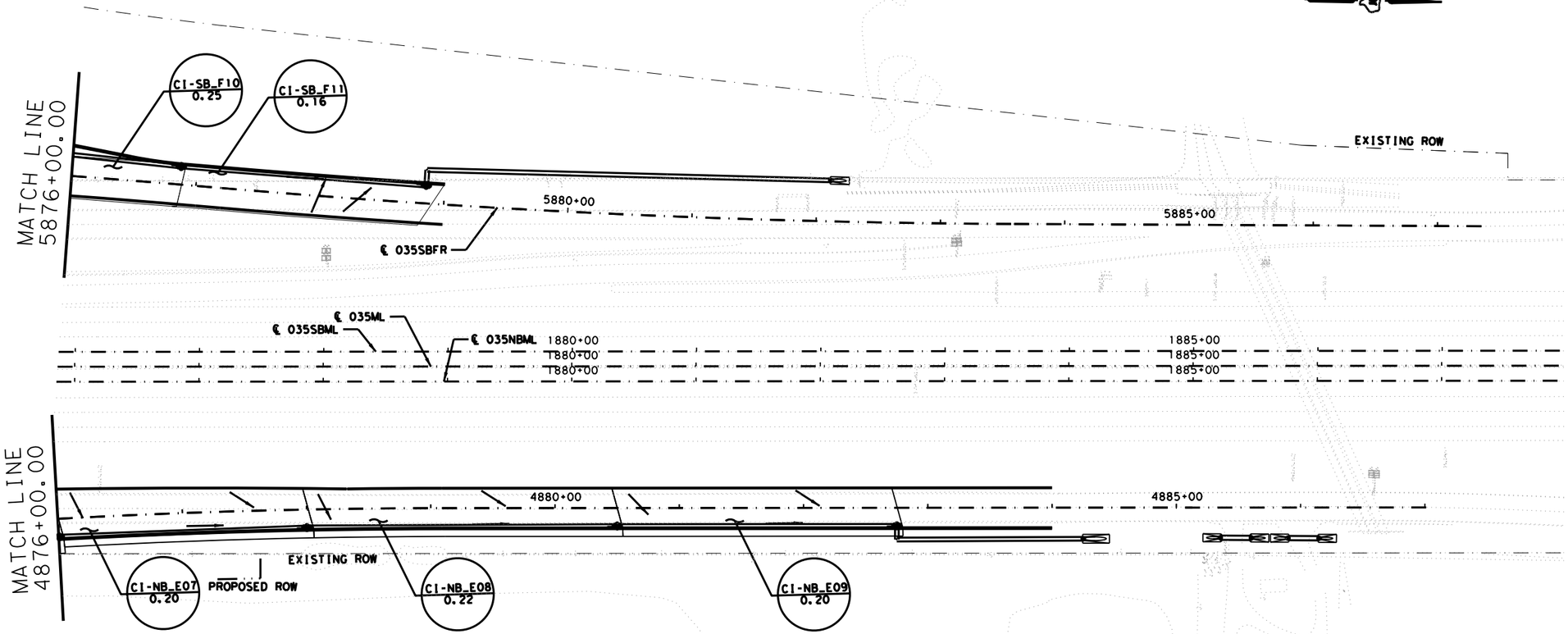
IH35E
STORM SEWER
DRAINAGE AREA MAP

SCALE: 1"=100'

SHEET 7 OF 8

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042, ETC.	826
CHECK				
MPM				



LEGEND

- XXXX / XXXX — DRAINAGE AREA NO. / ACRES
- DIRECTION OF FLOW
- DRAINAGE AREA BOUNDARY

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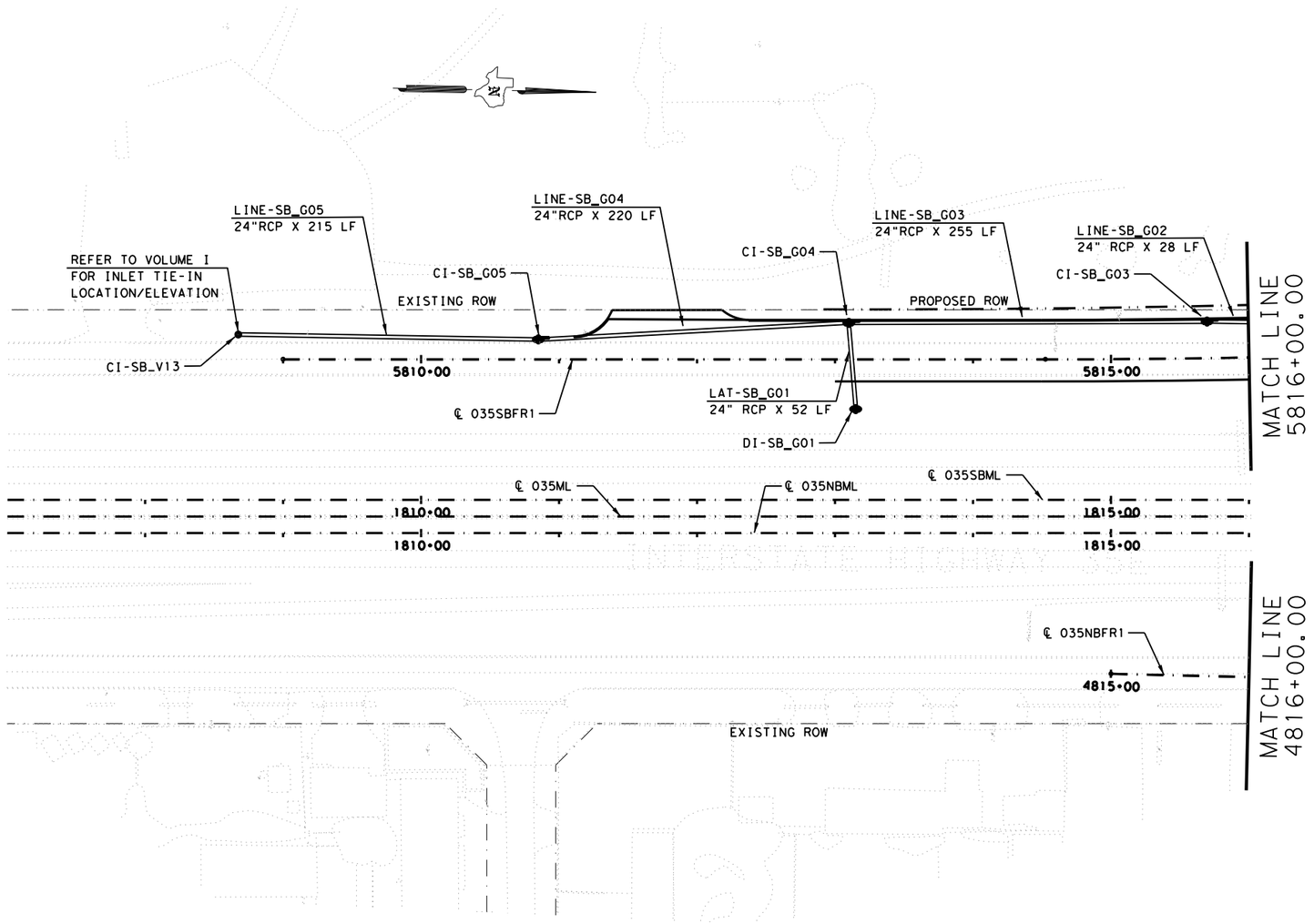
STORM SEWER
DRAINAGE AREA MAP

SCALE: 1"=100' SHEET 8 OF 8

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	827
ML	0442	03	042,ETC.	
CHECK				
MPM				



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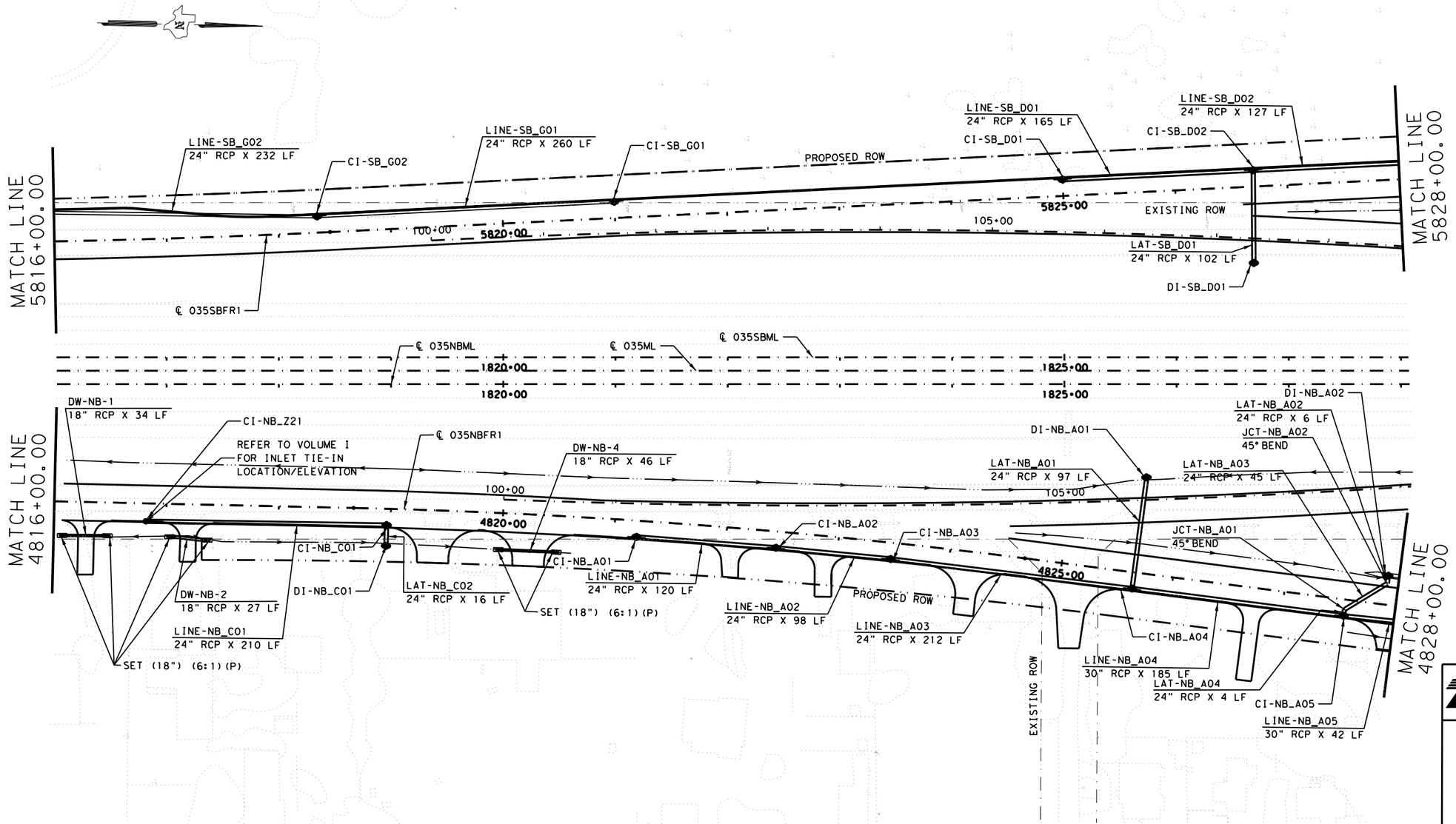
IH35E
STORM SEWER LAYOUT
(IH35E NB/SB FR)

SCALE: 1"=100' SHEET 1 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	828
	0442	03	042,ETC.	



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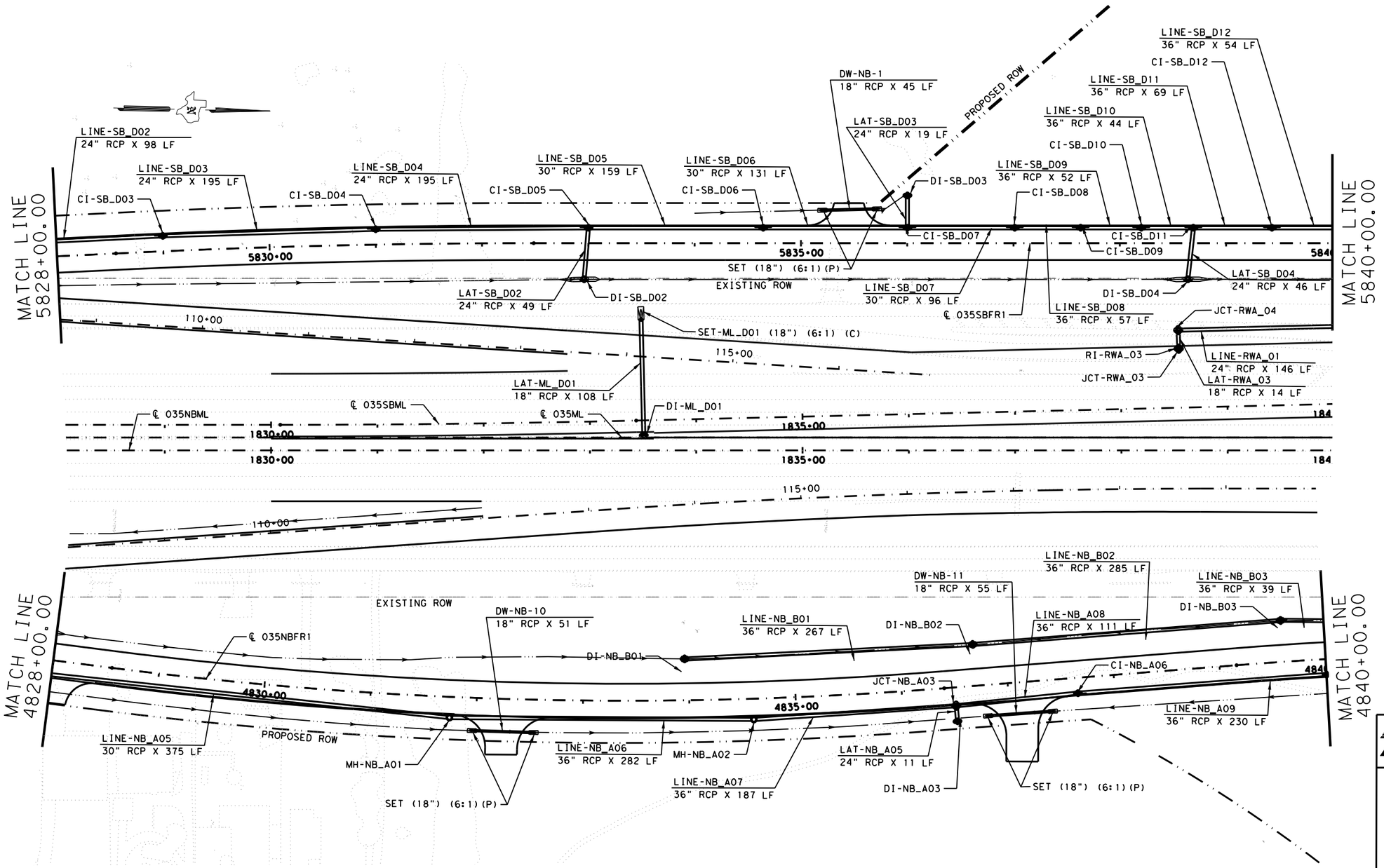
Mona Lotfi P.E. 11.10.23

IH35E
STORM SEWER LAYOUT
(IH35E NB/SB FR)

SCALE: 1"=100' SHEET 2 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042, ETC.	829
CHECK				
MPM				



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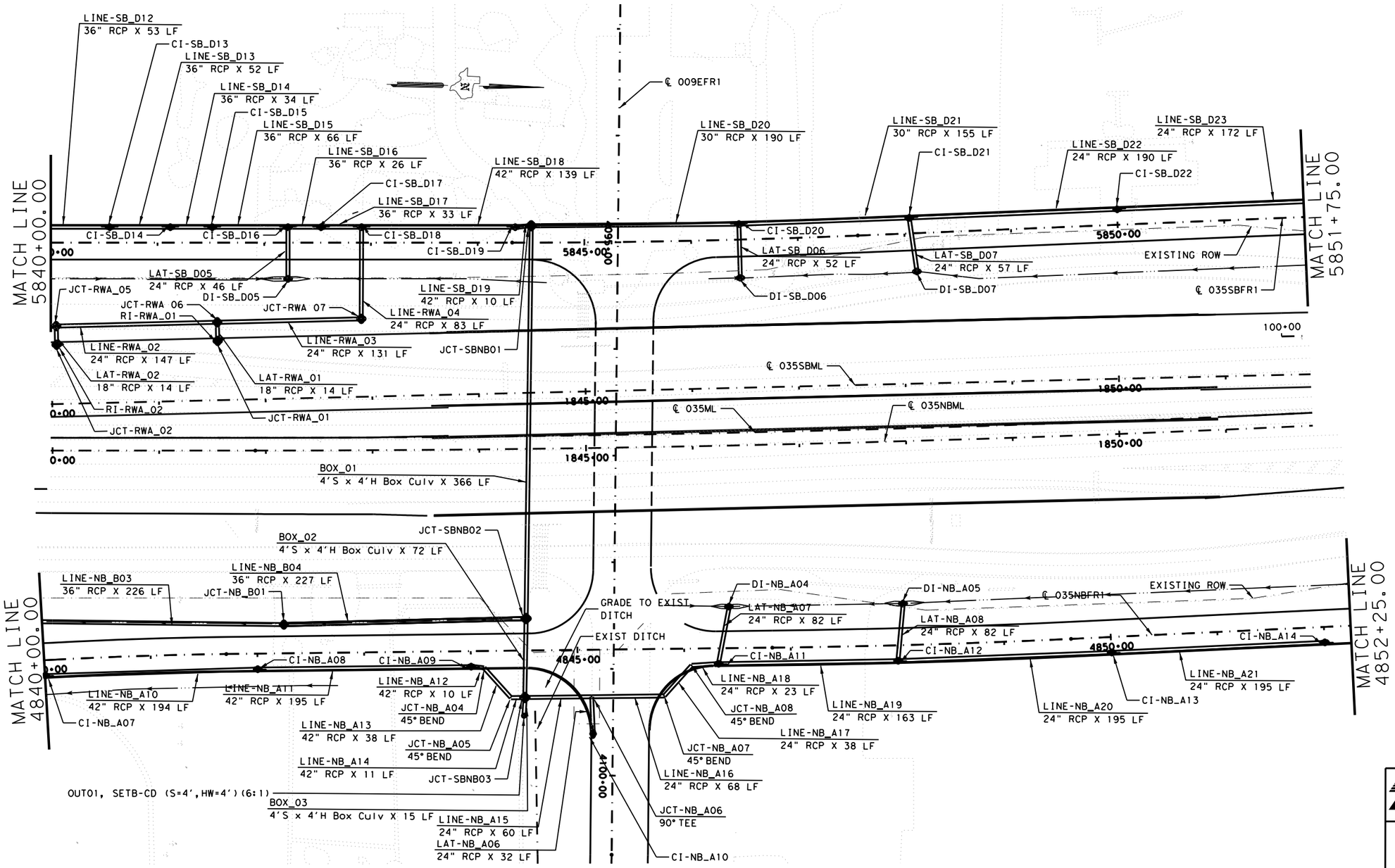
Texas Department of Transportation

IH35E
STORM SEWER LAYOUT
(IH35E NB/SB FR)

SCALE: 1"=100' SHEET 3 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	830
CHECK				
MPM				



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Mona Lotfi P.E. 11.10.23

Texas Department of Transportation

IH35E
STORM SEWER LAYOUT
(IH35E NB/SB FR)

SCALE: 1"=100' SHEET 4 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
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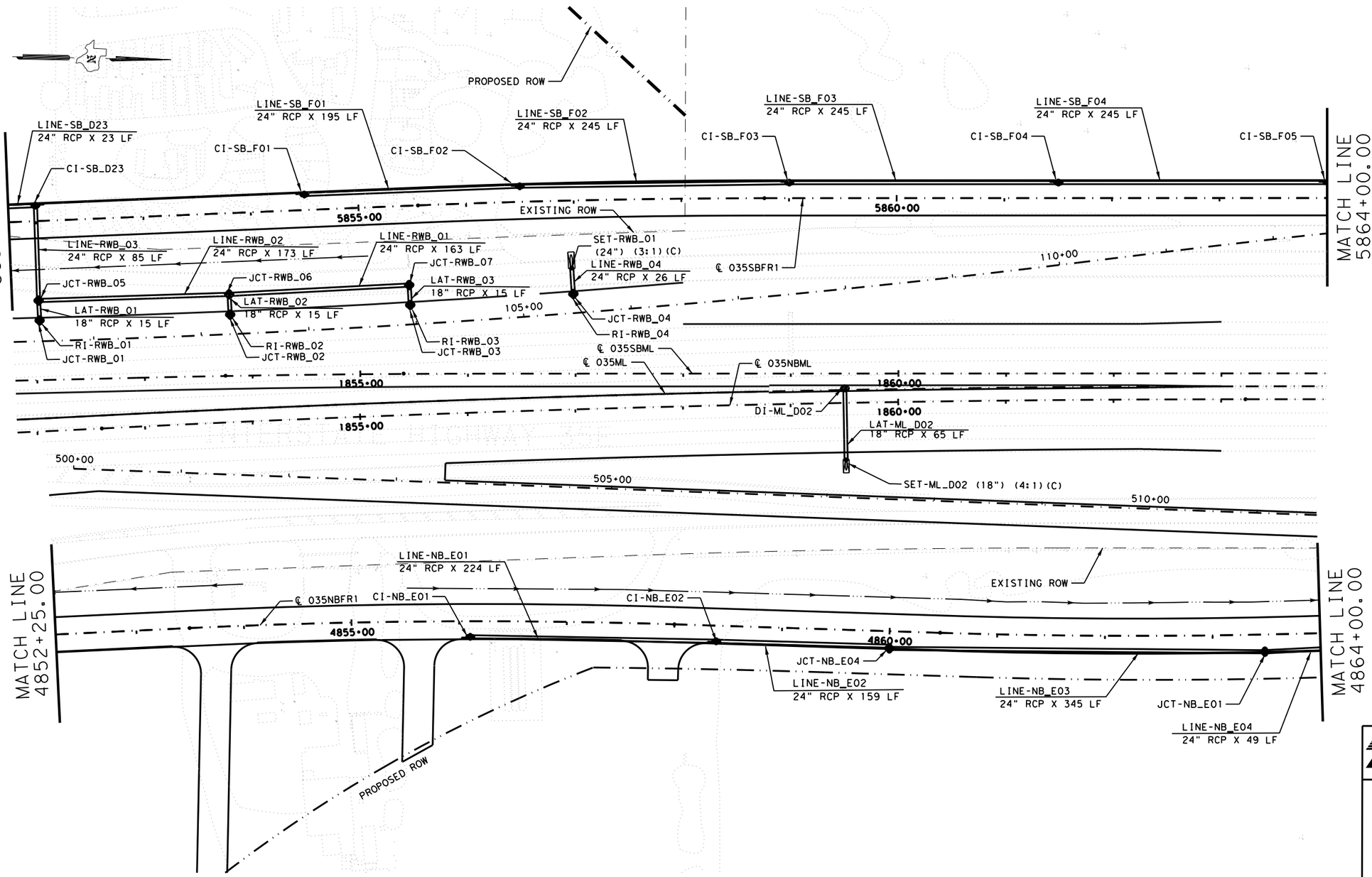
CHECK				
MPM				



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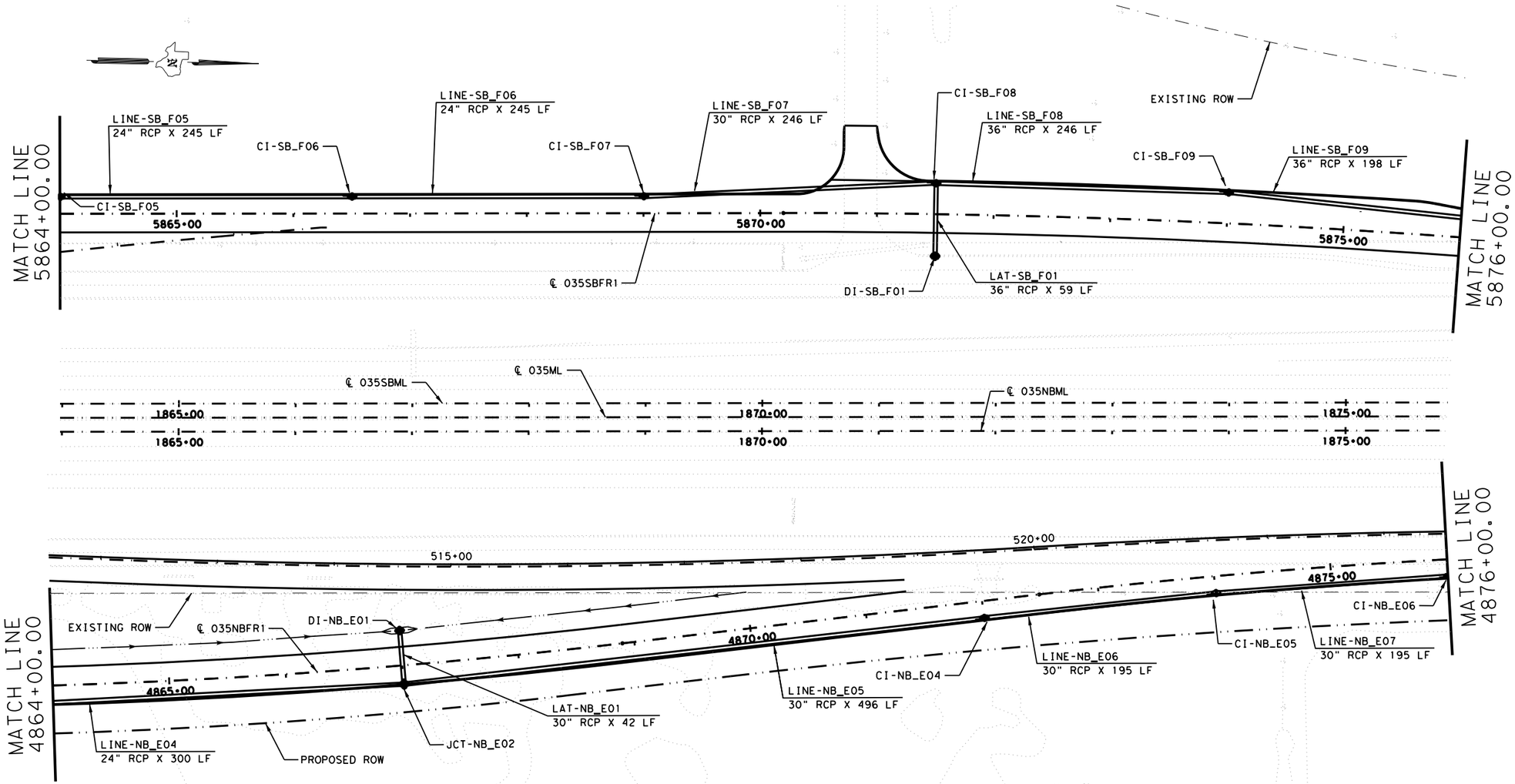
Mona Lotfi P.E. 11.10.23

IH35E
STORM SEWER LAYOUT
(IH35E NB/SB FR)

SCALE: 1"=100' SHEET 5 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	832
CHECK				
MPM				



STATE OF TEXAS
Mona Lotfi
139489
LICENSED PROFESSIONAL ENGINEER

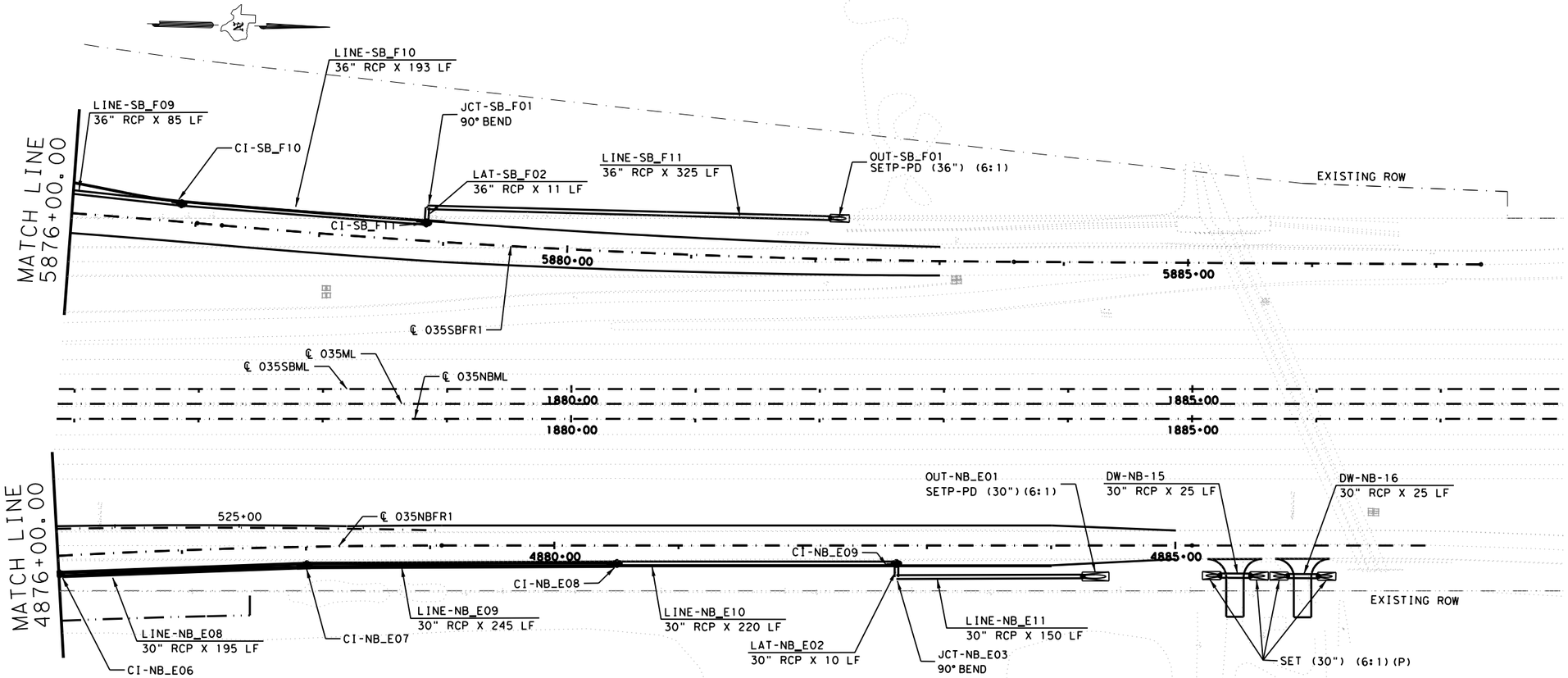
Mona Lotfi P.E. 11.10.23

Texas Department of Transportation

IH35E
STORM SEWER LAYOUT
(IH35E NB/SB FR)

SCALE: 1"=100' SHEET 6 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042, ETC.	833
CHECK				
MPM				



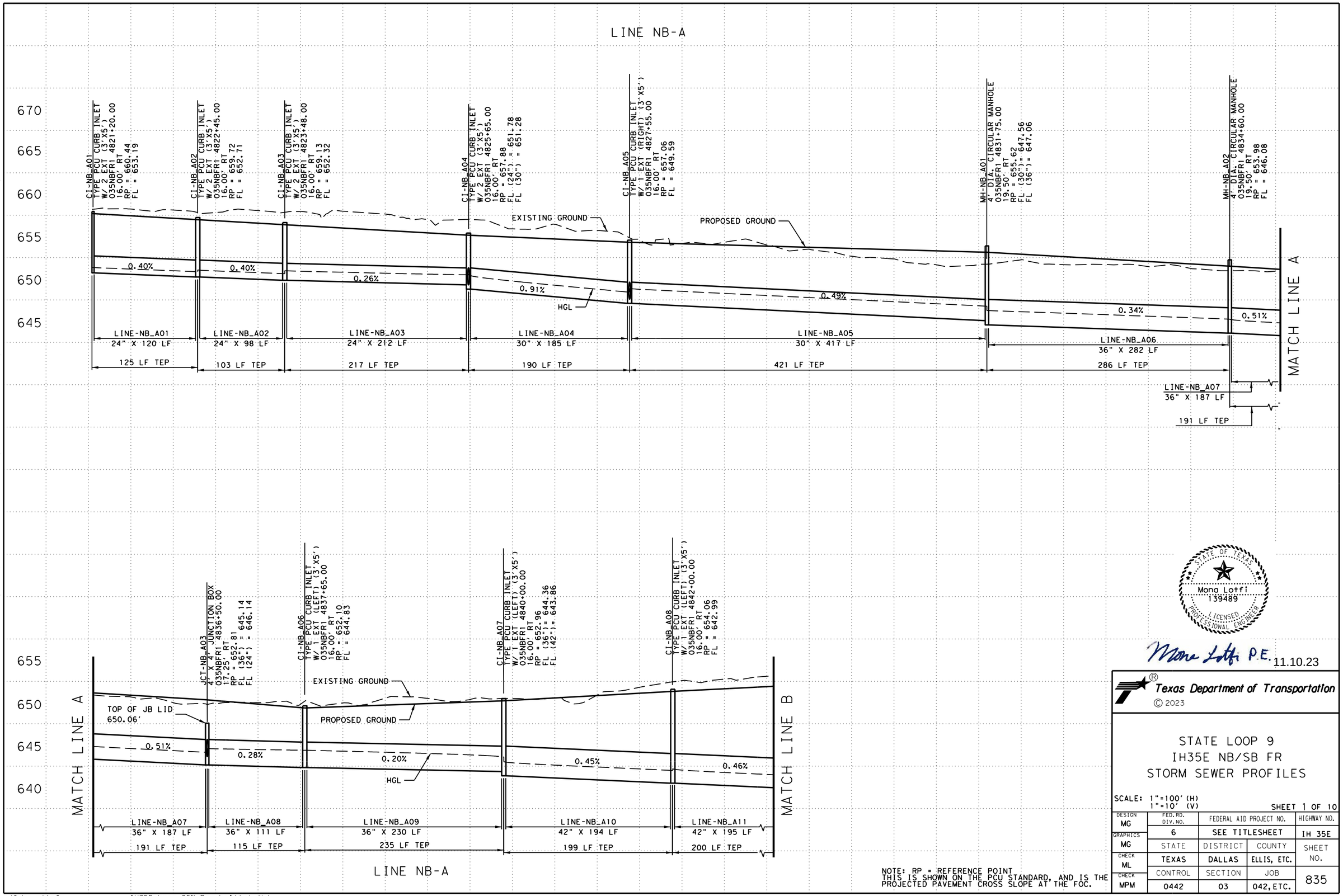
Mona Lotfi P.E. 11.10.23

Texas Department of Transportation

IH35E
STORM SEWER LAYOUT
(IH35E NB/SB FR)

SCALE: 1"=100' SHEET 7 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	834
	0442	03	042,ETC.	



NOTE: RP = REFERENCE POINT.
THIS IS SHOWN ON THE PCU STANDARD, AND IS THE PROJECTED PAVEMENT CROSS SLOPE AT THE FOC.

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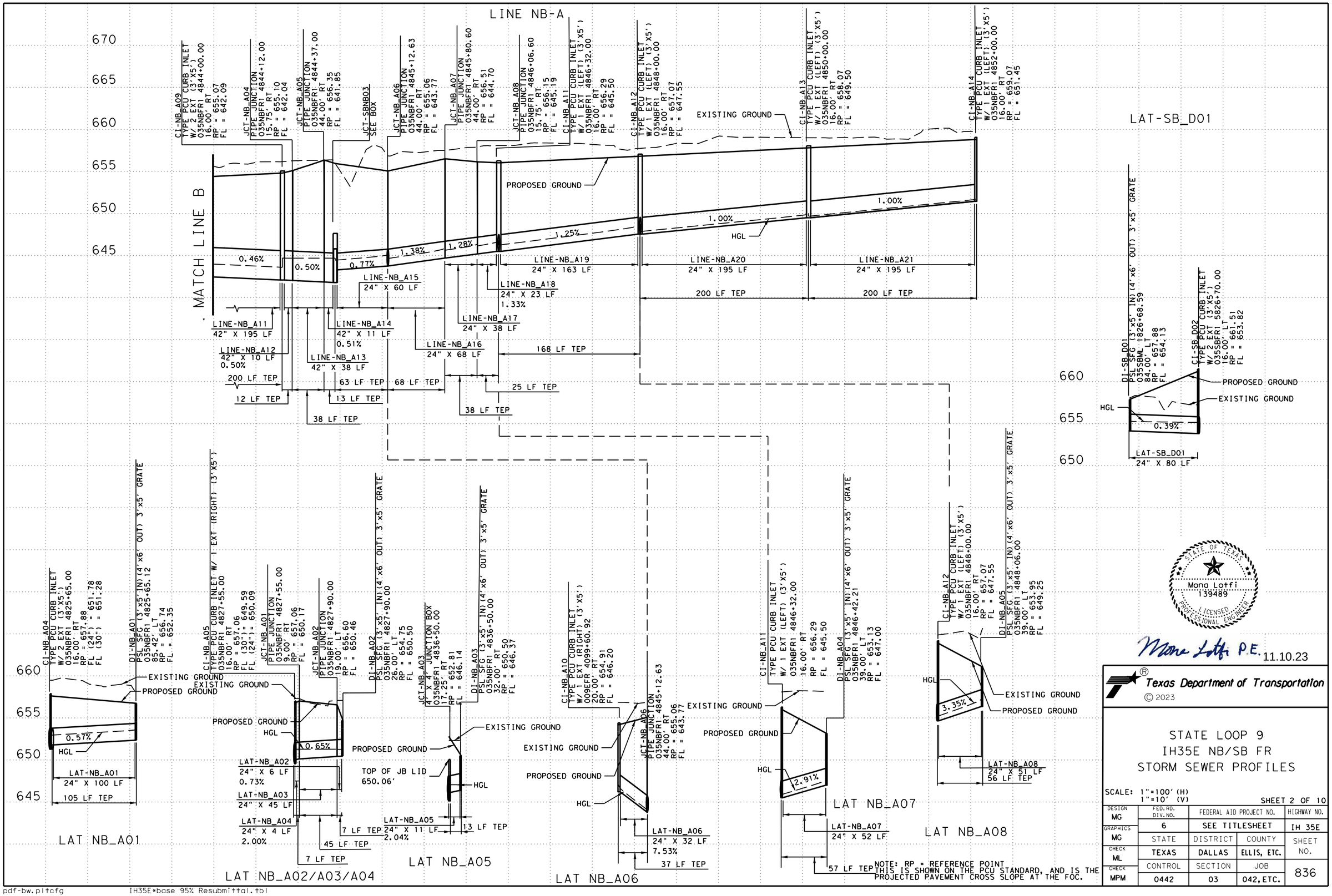
Texas Department of Transportation

STATE LOOP 9
IH35E NB/SB FR
STORM SEWER PROFILES

SCALE: 1"=100' (H)
1"=10' (V)

SHEET 1 OF 10

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MG	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
MG	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	835
CHECK				
MPM				



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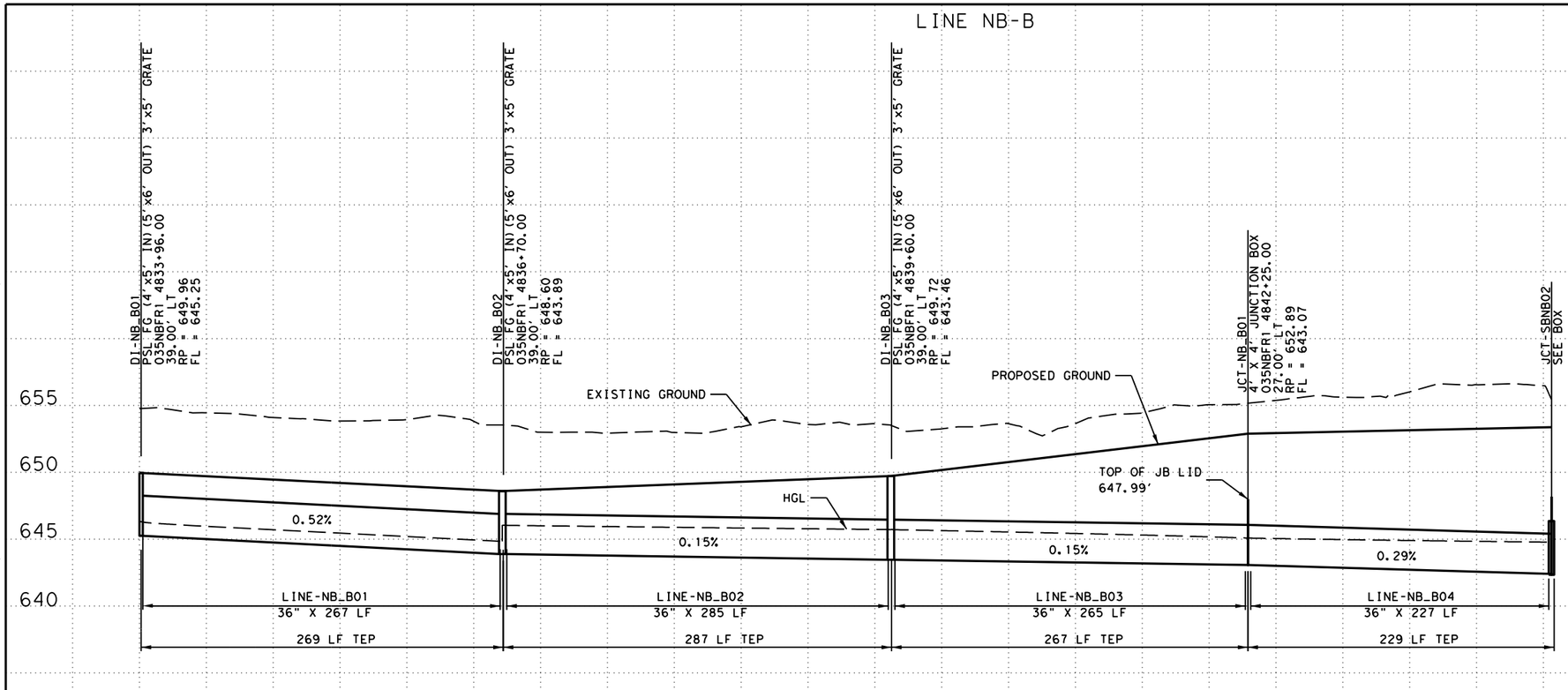
STATE LOOP 9
IH35E NB/SB FR
STORM SEWER PROFILES

SCALE: 1"=100' (H)
1"=10' (V)

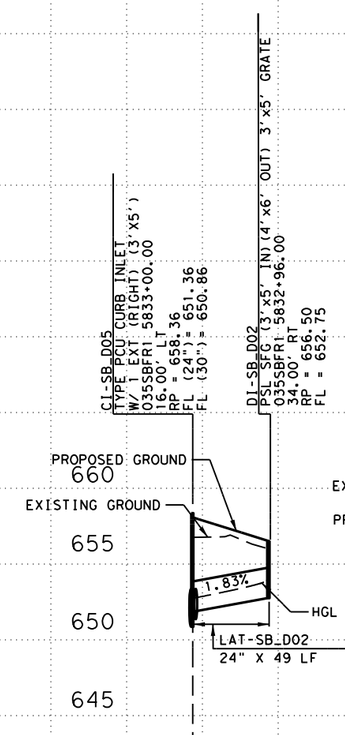
SHEET 2 OF 10

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MG	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
MG	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	836
CHECK				
MPM				

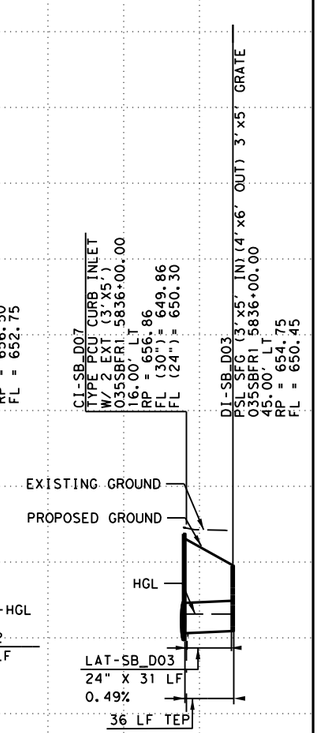
LINE NB-B

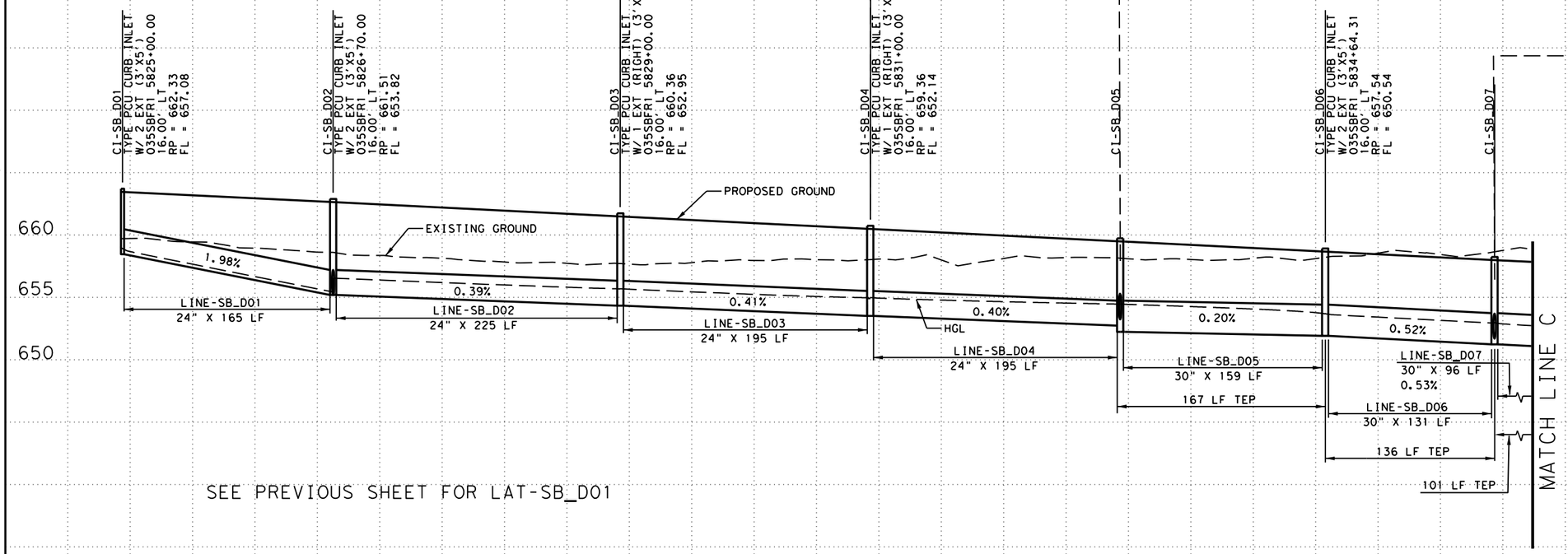


LAT SB_D02



LAT SB_D03





SEE PREVIOUS SHEET FOR LAT-SB_D01

LINE SB-D

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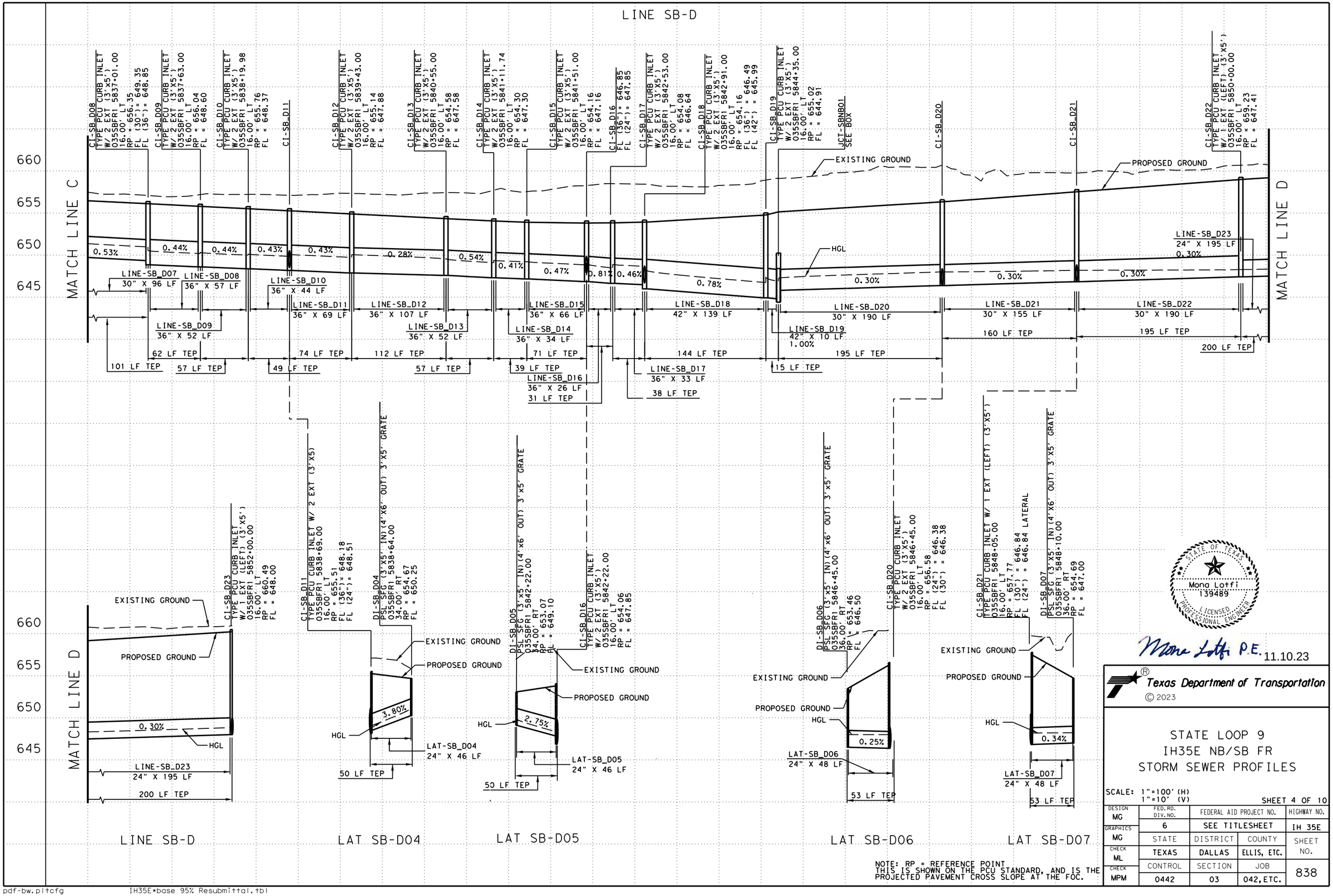
Texas Department of Transportation

STATE LOOP 9
IH35E NB/SB FR
STORM SEWER PROFILES

SCALE: 1"=100' (H)
1"=10' (V)

SHEET 3 OF 10

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MG	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
MG	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	837
CHECK				
MPM				



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Texas Department of Transportation

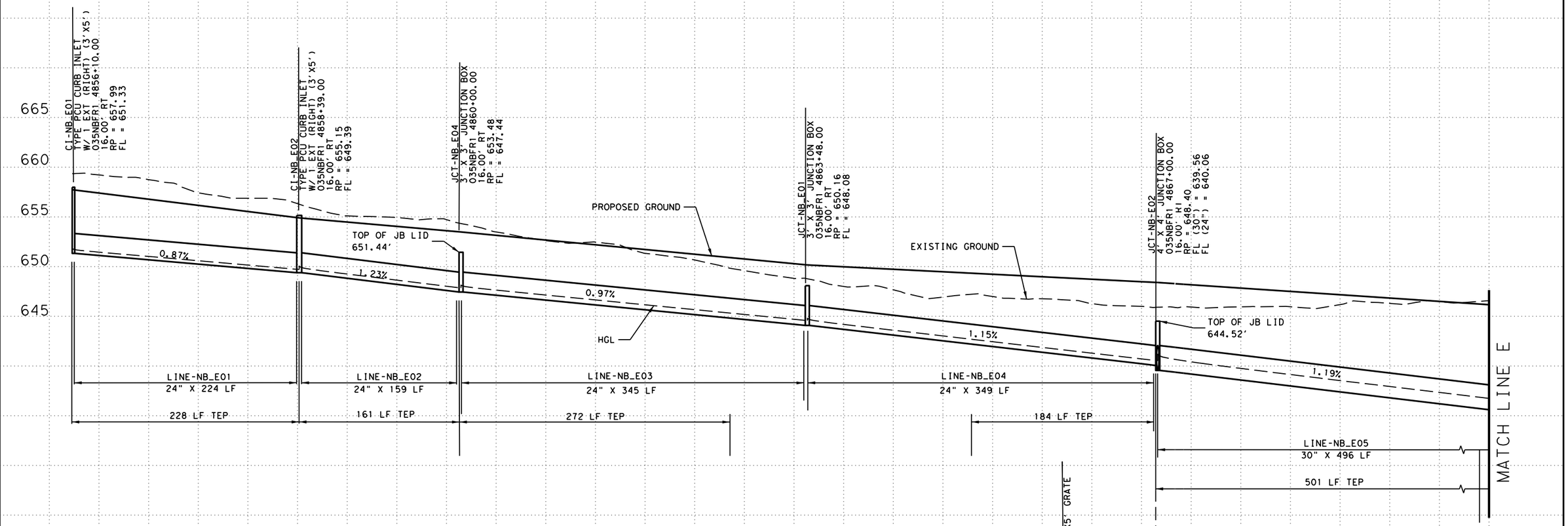
STATE LOOP 9
IH35E NB/SB FR
STORM SEWER PROFILES

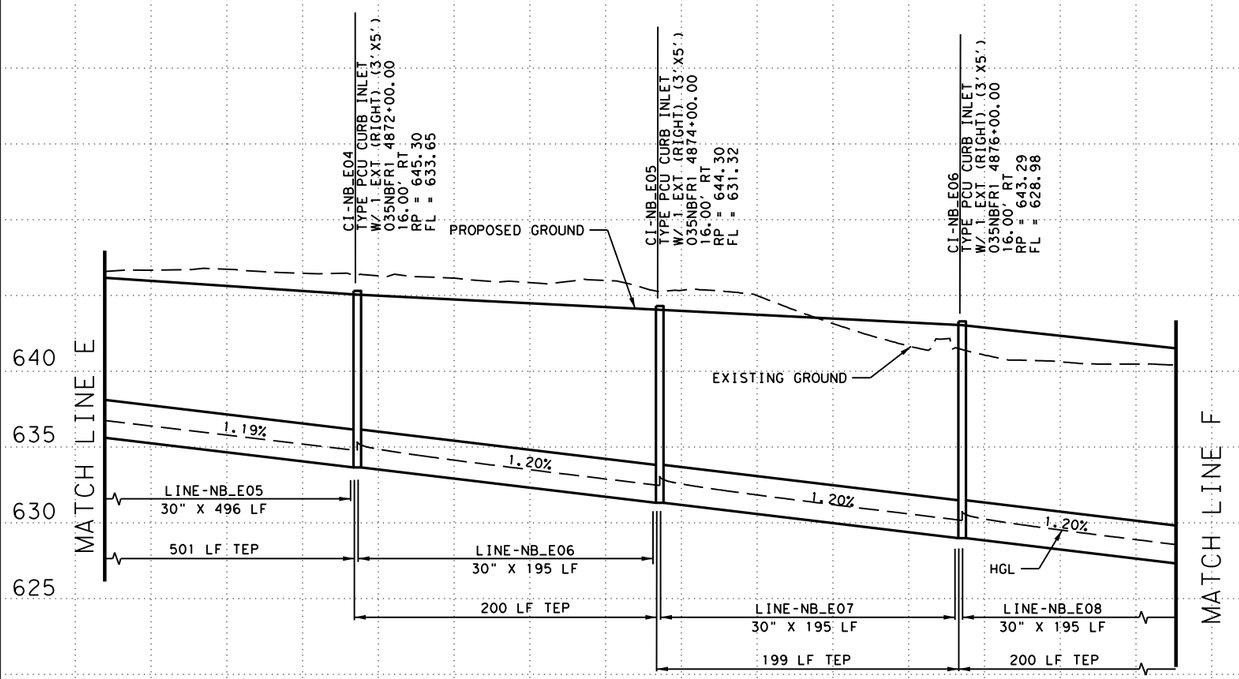
SCALE: 1"=100' (H)
1"=10' (V)

SHEET 4 OF 10

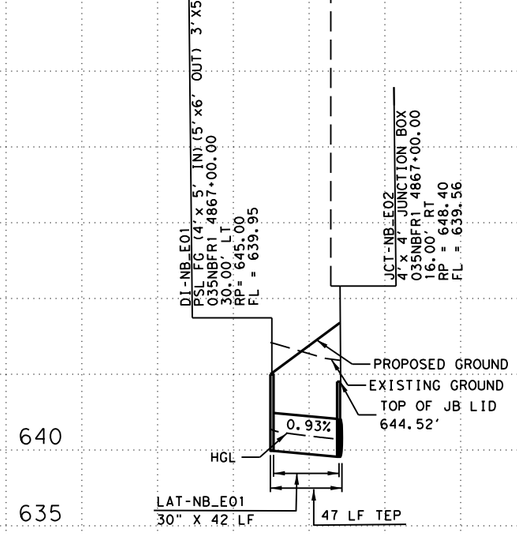
DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MG	6	SEE TITLESHEET		IH 35E
GRAPHICS MG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	838
	0442	03	042, ETC.	

LINE NB-E





LINE NB-E



LAT NB_E01

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Texas Department of Transportation

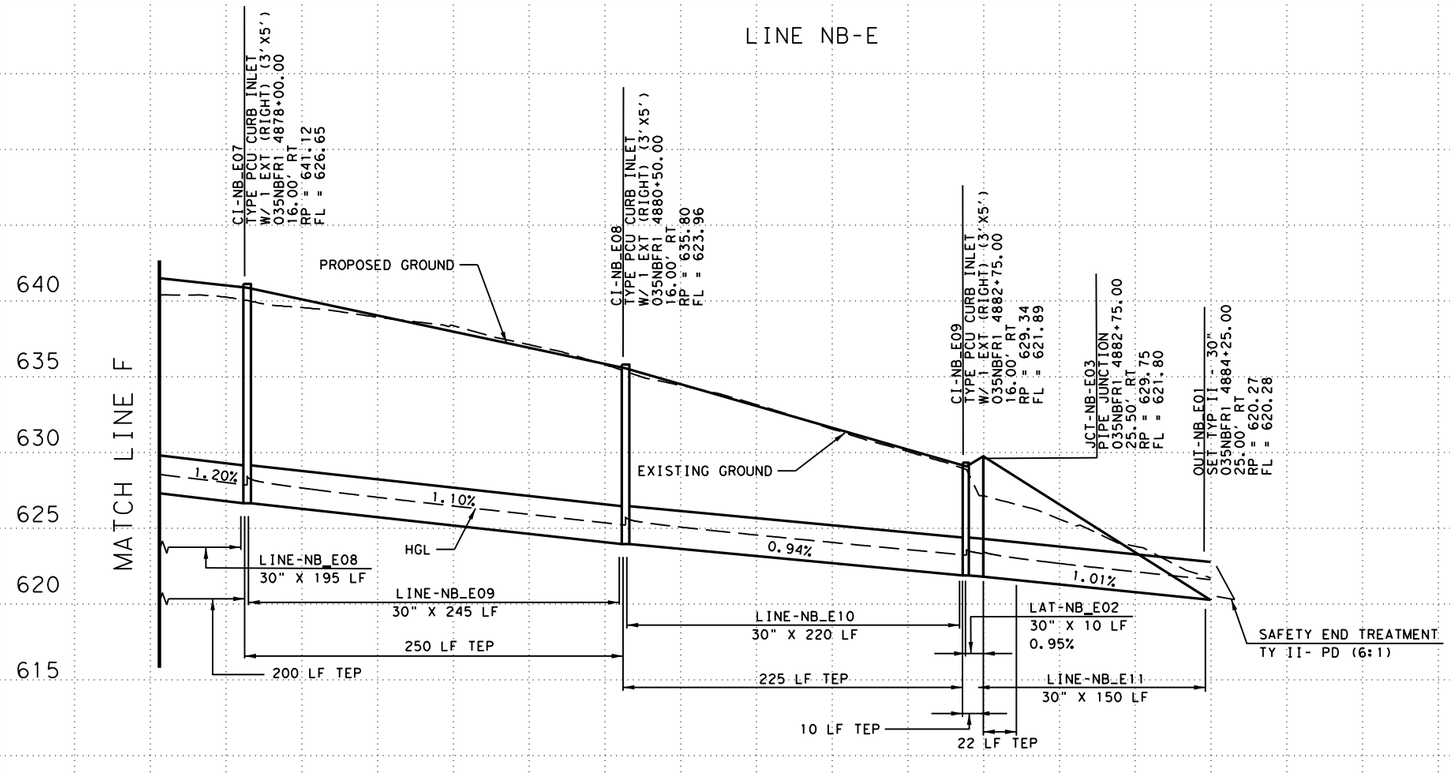
STATE LOOP 9
IH35E NB/SB FR
STORM SEWER PROFILES

SCALE: 1"=100' (H)
1"=10' (V)

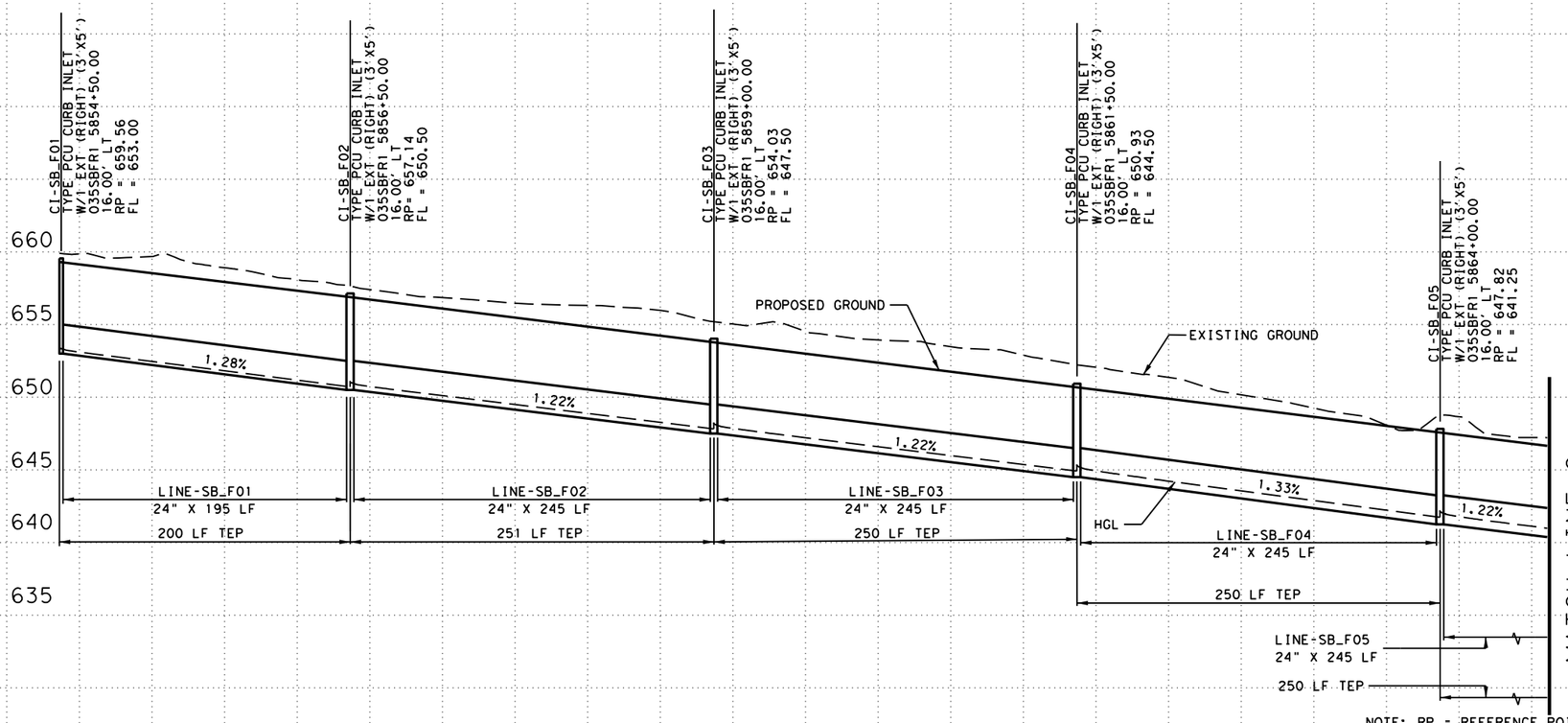
SHEET 5 OF 10

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MG	6	SEE TITLESHEET		IH 35E
GRAPHICS MG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	839
	0442	03	042,ETC.	

LINE NB-E



LINE SB-F



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Mona Lotfi P.E. 11.10.23

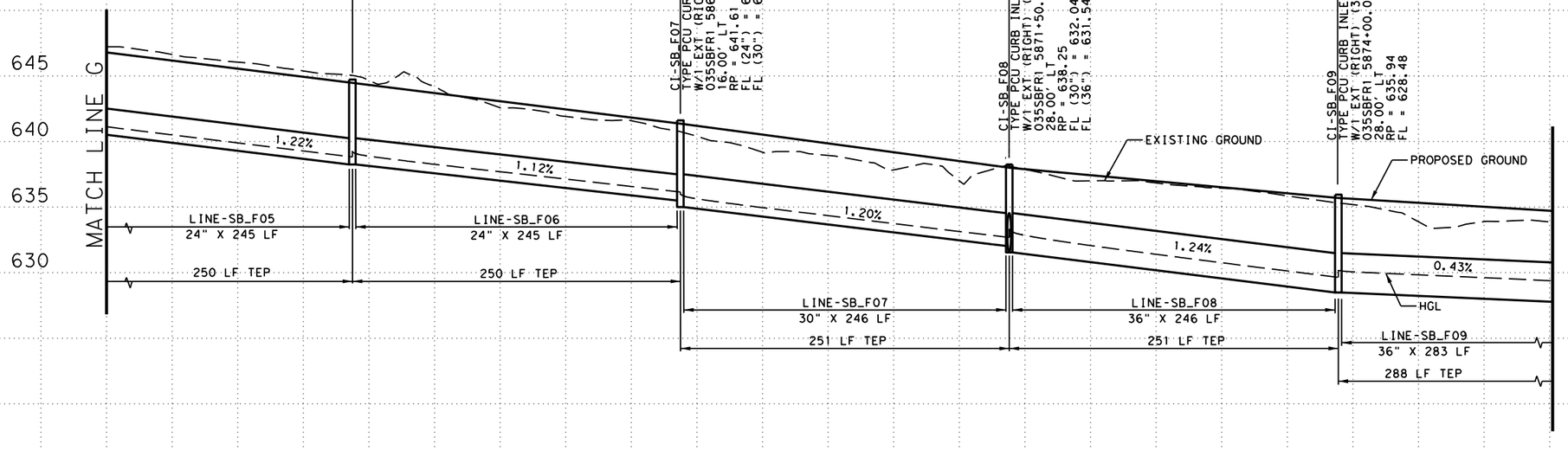
STATE LOOP 9
IH35E NB/SB FR
STORM SEWER PROFILES

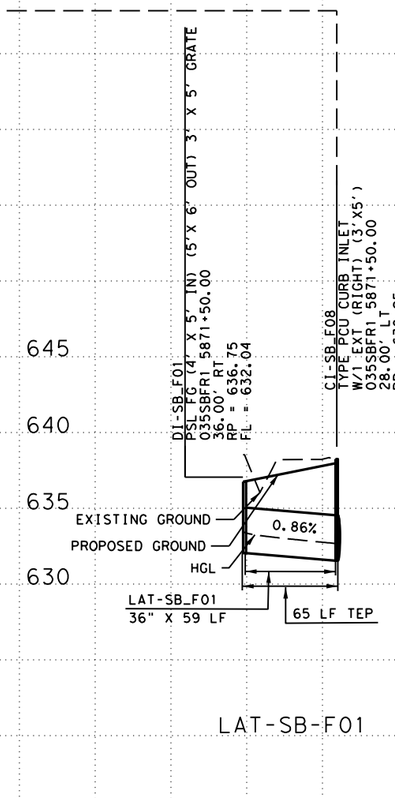
SCALE: 1"=100' (H)
1"=10' (V)

SHEET 6 OF 10

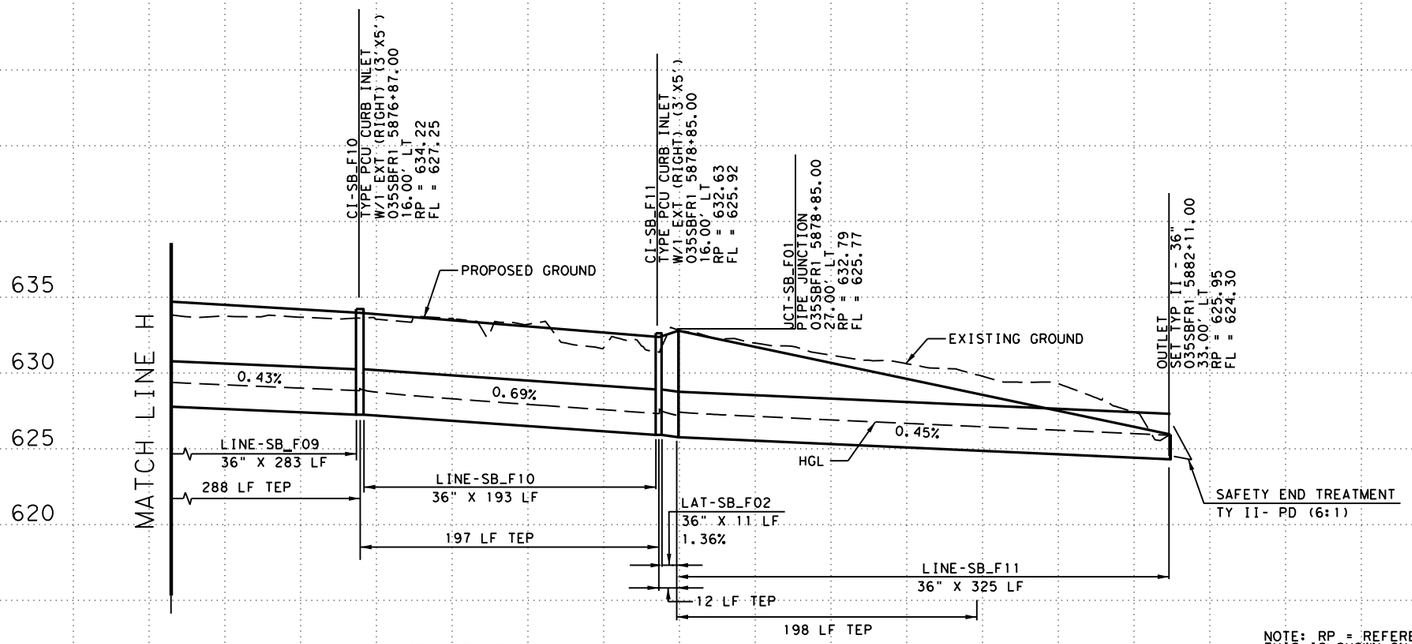
DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MG	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
MG	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	840
CHECK				
MPM				

LINE SB-F





LAT-SB-F01



LINE SB-F

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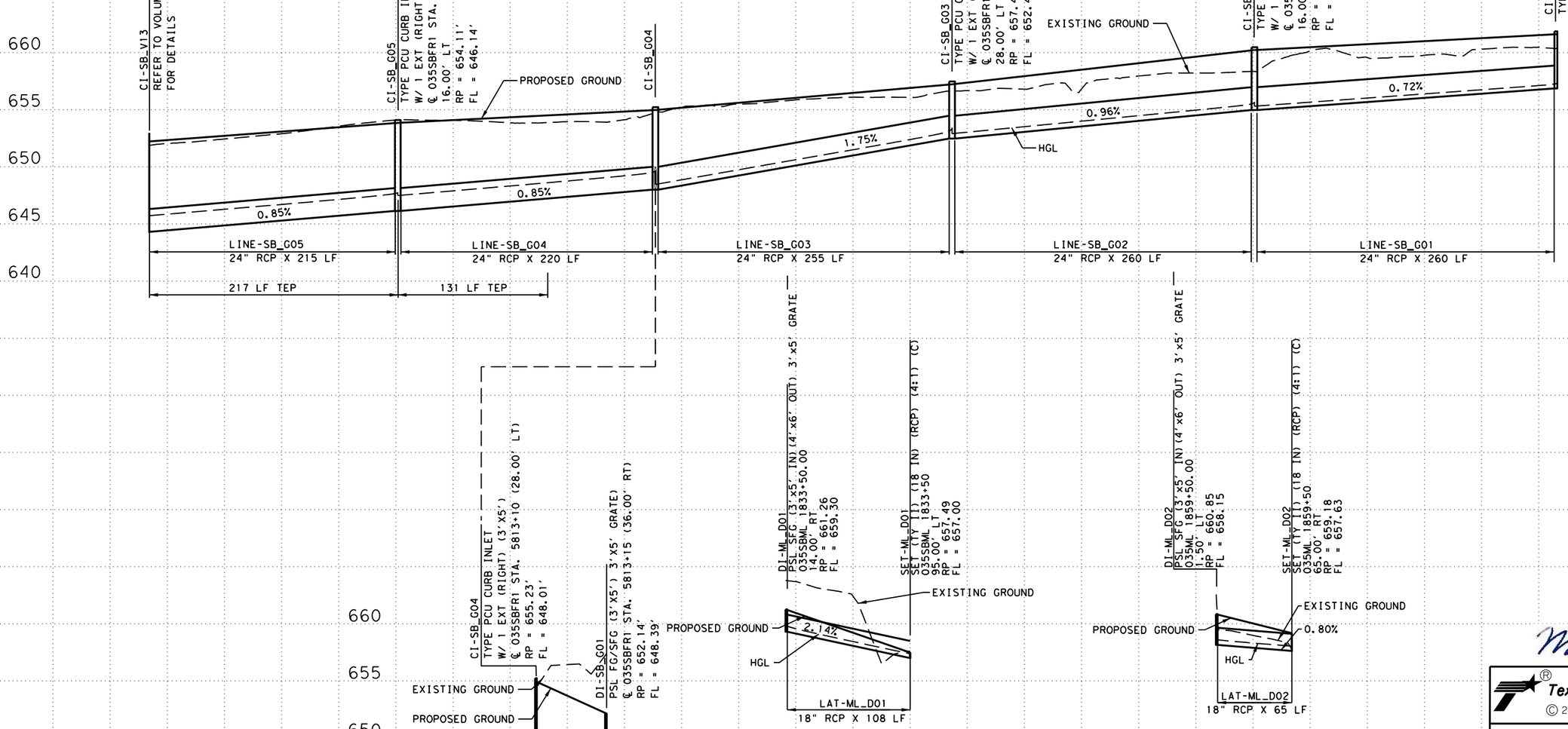
STATE LOOP 9
IH35E NB/SB FR
STORM SEWER PROFILES

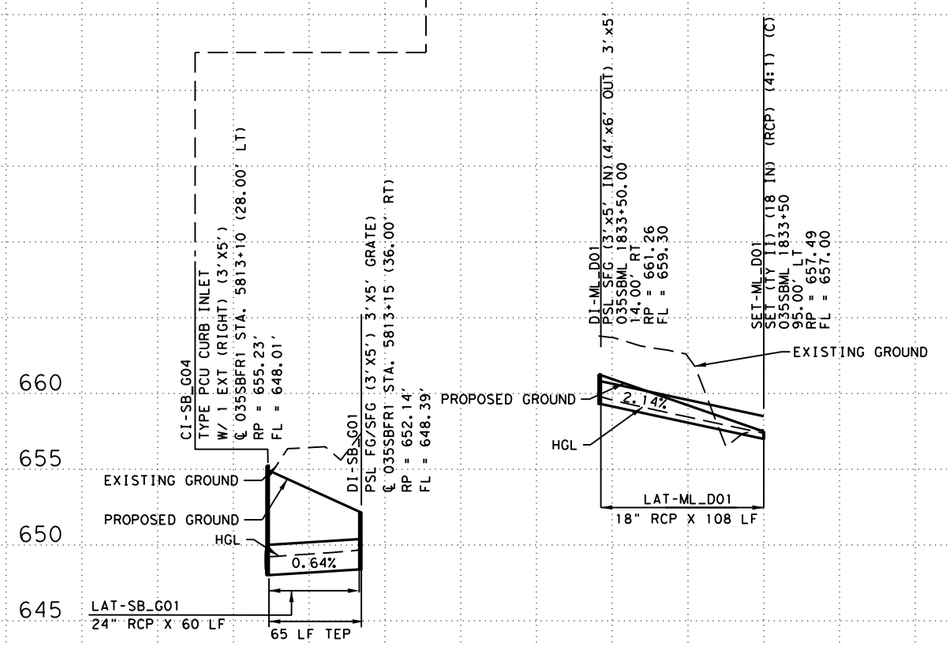
SCALE: 1"=100' (H)
1"=10' (V)

SHEET 7 OF 10

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MG	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
MG				
CHECK	TEXAS	DALLAS	ELLIS, ETC.	
ML	CONTROL	SECTION	JOB	
CHECK				841
MPM	0442	03	042,ETC.	

LINE-SB_G





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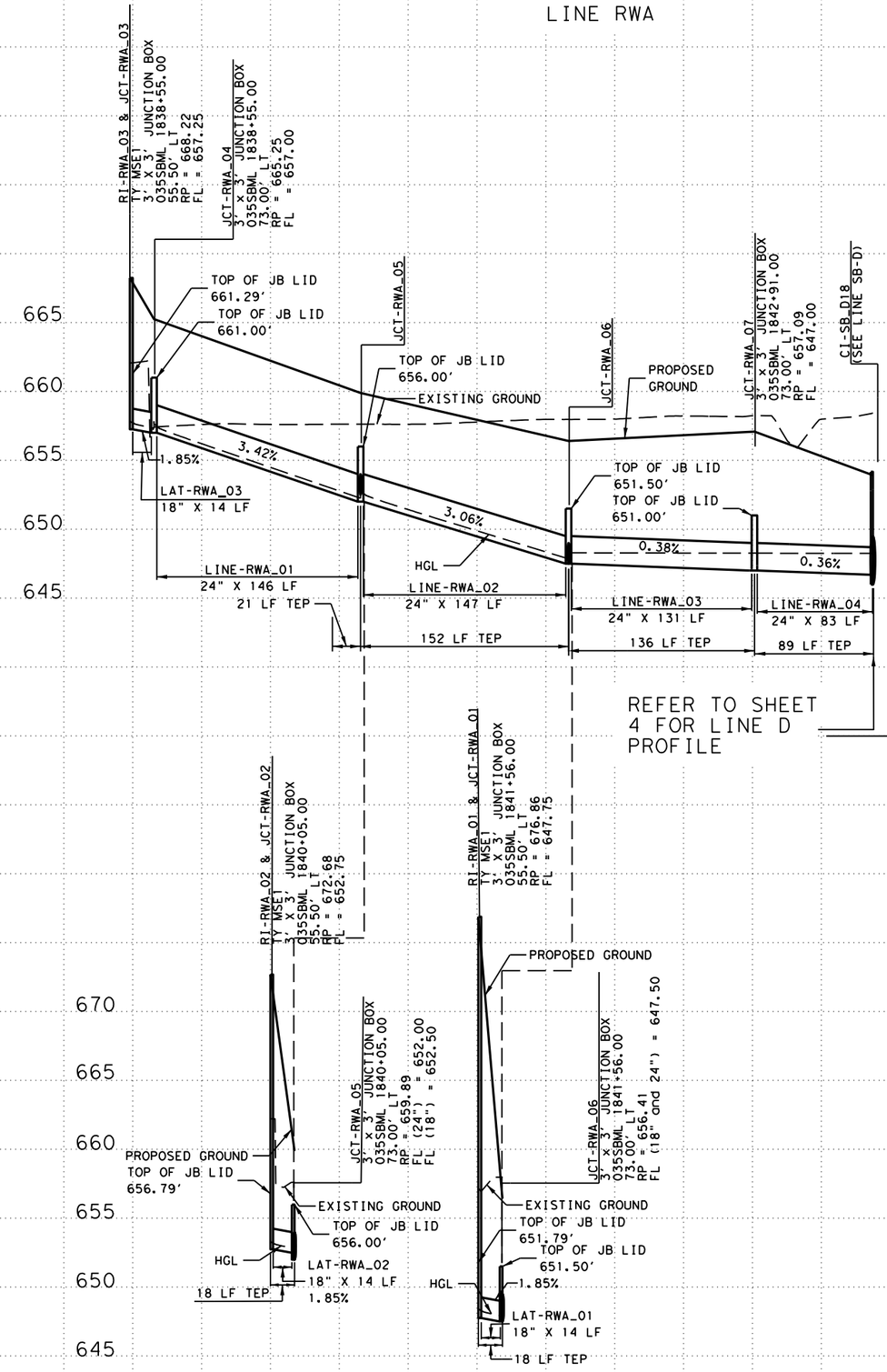
STATE LOOP 9
IH35E NB/SB FR
STORM SEWER PROFILES

SCALE: 1"=100' (H)
1"=10' (V)

SHEET 8 OF 10

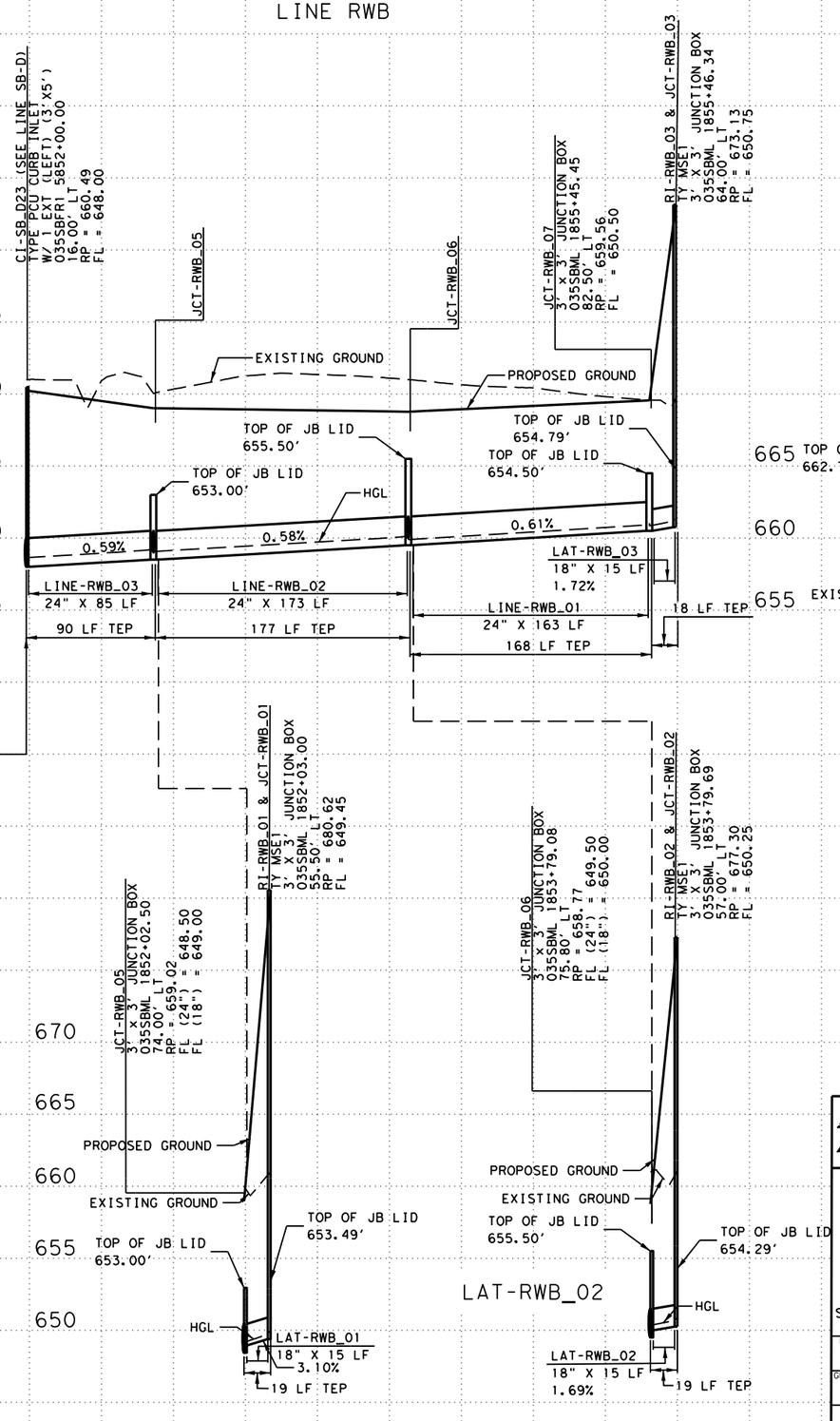
DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MG	6	SEE TITLESHEET		IH 35E
GRAPHICS MG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	842
	0442	03	042,ETC.	

LINE RWA

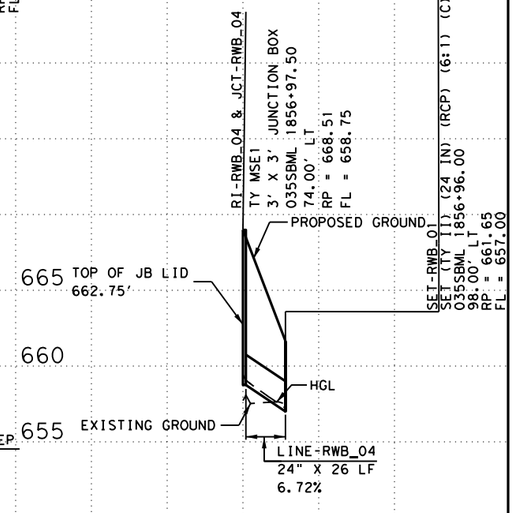


REFER TO SHEET 4 FOR LINE D PROFILE

LINE RWB



LINE RWB_04



LAT-RWA_02

LAT-RWA_01

LAT-RWB_01

LAT-RWB_02

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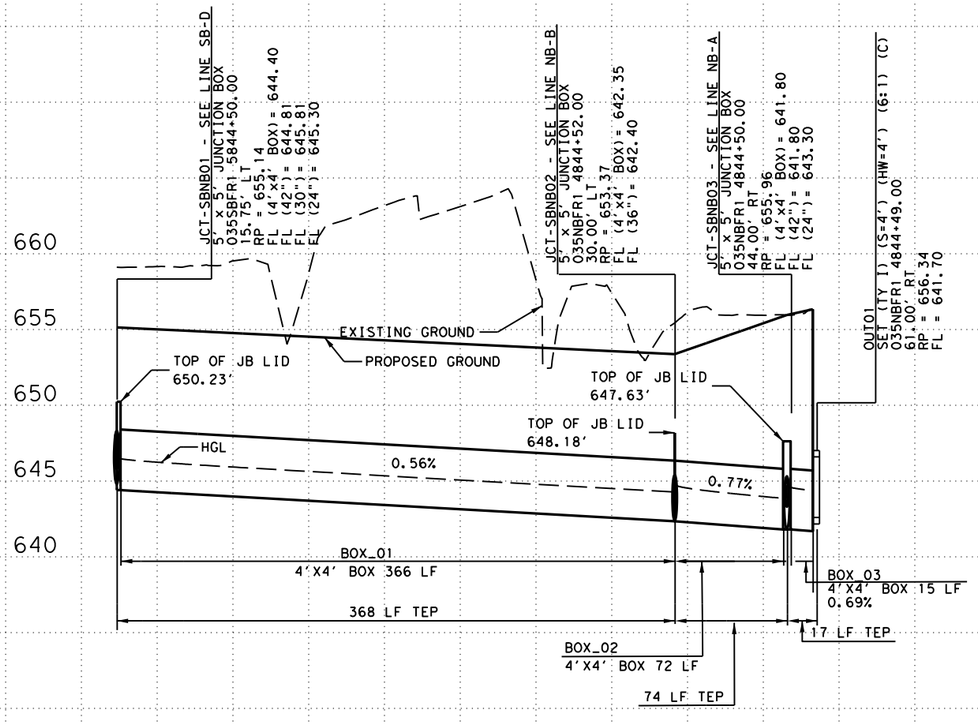
STATE LOOP 9
IH35E NB/SB FR
STORM SEWER PROFILES

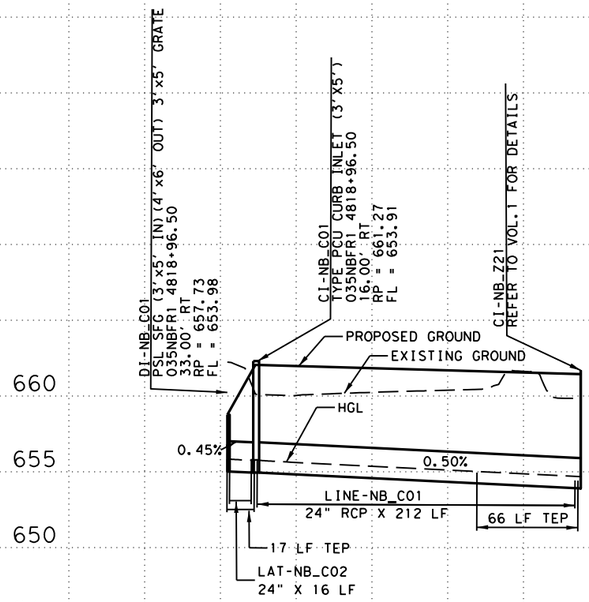
SCALE: 1"=100' (H)
1"=10' (V)

SHEET 9 OF 10

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MG	6	SEE TITLESHEET		IH 35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
MG	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	843
CHECK				
MPM				

BOX_01, 02, & 03





LINE C

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STATE LOOP 9
IH35E NB/SB FR
STORM SEWER PROFILES

SCALE: 1"=100' (H)
1"=10' (V)

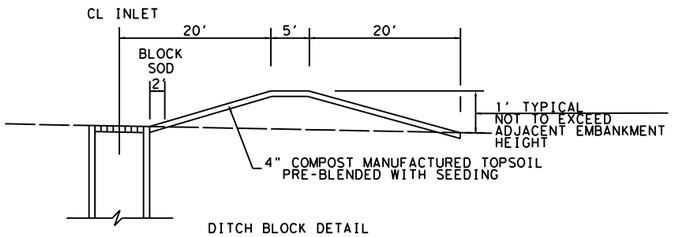
SHEET10 OF 10

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MG	6	SEE TITLESHEET		IH 35E
GRAPHICS MG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	844
	0442	03	042,ETC.	

NB DITCHES

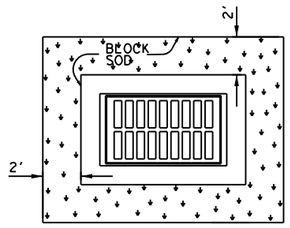
ALIGNMENT	STATION	ELEVATION (FT)	OFFSET (FT)	SHAPE
DITCH NAME: GRDBOT4				
035NBFR1	4816+08 (BEGIN)	658.00	30.81	V
	4817+00	658.47	28.65	V
	4818+00	658.21	32.67	FLAT
	4819+00	657.71	30.45	FLAT
	4820+00	658.18	32.67	FLAT
	4820+25.02 (END)	658.30	32.43	FLAT
DITCH NAME: GRDBOT2				
035ML	1816+08 (BEGIN)	656.74	79.45	FLAT
	1817+00	657.49	78.15	FLAT
	1818+00	657.80	77.09	FLAT
	1819+00	658.12	77.80	FLAT
	1820+00	657.96	82.68	FLAT
	1821+00	657.40	89.72	FLAT
	1822+00	656.83	98.15	FLAT
	1823+00	656.25	95.62	FLAT
	1824+00	655.68	93.10	FLAT
	1825+00	657.44	97.48	FLAT
	1826+00	656.83	89.89	FLAT
	1827+00	656.86	84.24	FLAT
	1828+00	657.07	78.17	FLAT
	1829+00	657.84	80.38	FLAT
	1830+00	658.31	73.63	FLAT
	1831+00	658.27	70.48	FLAT
	1831+80 (END)	659.16	61.2	FLAT
DITCH NAME: GRDBOT3				
035NBFR1	4824+53.98 (BEGIN)	657.97	22.36	V
	4825+00	657.52	23.89	V
	4826+00	656.56	26.00	FLAT
	4827+00	655.59	26.00	FLAT
	4828+00	654.71	23.00	FLAT
	4829+00	654.12	26.04	FLAT
	4830+00	653.54	26.37	FLAT
	4831+00	652.95	26.87	FLAT
	4832+00	652.37	26.77	FLAT
	4833+00	650.51	35.85	FLAT
	4834+00	649.93	35.85	FLAT
	4835+00	649.36	35.85	FLAT
	4836+00	648.79	35.85	FLAT
	4837+00	648.60	35.85	FLAT
	4838+00	648.92	35.85	FLAT
	4839+00	649.42	35.85	FLAT
	4840+00	649.92	35.85	FLAT
	4841+00	650.42	35.85	FLAT
	4842+00	650.92	35.85	FLAT
	4843+00	651.42	35.85	FLAT
	4844+00	651.92	35.85	FLAT
	4844+54 (END)	652.19	35.85	FLAT
DITCH NAME: GRDBOT5				
035NBFR1	4827+60(BEGIN)	654.97	28.55	FLAT
	4828+00	654.77	29.04	FLAT
	4829+00	654.26	29.58	FLAT
	4830+00	653.76	30.12	FLAT
	4831+00	653.26	30.84	FLAT
	4832+00	652.75	30.84	FLAT
	4833+00	652.50	30.34	FLAT
035NBFR1	4834+00	652.25	29.84	FLAT
	4835+00	651.74	29.59	FLAT
	4836+00	651.24	29.21	FLAT
	4837+00	650.57	29.19	FLAT
	4838+00	650.70	30.23	FLAT
	4839+00	650.84	30.79	FLAT
	4840+00	651.44	30.92	FLAT
	4841+00	652.04	30.92	FLAT
	4842+00	652.54	30.67	FLAT
	4842+75 (END)	652.92	30.67	FLAT
DITCH NAME: GRDBOT11				
035NBFR1	4846+26.25 (BEGIN)	653.05	35.85	FLAT
	4847+00	653.42	35.85	FLAT
	4848+00	653.92	35.85	FLAT
	4849+00	654.42	35.85	FLAT
	4850+00	654.92	35.85	FLAT
	4851+00	655.42	35.85	FLAT
	4852+00	655.92	35.85	FLAT
	4853+00	656.41	35.85	FLAT
	4854+00	656.51	35.85	FLAT
	4855+00	656.02	35.85	FLAT
	4856+00	655.19	30.24	FLAT
	4857+00	654.90	30.22	FLAT
	4858+00	654.28	30.78	FLAT
	4859+00	652.99	31.02	FLAT
	4860+00	651.70	31.26	FLAT
	4861+00	650.42	30.21	FLAT
	4862+00	649.27	30.22	FLAT
	4863+00	648.26	30.64	FLAT
	4864+00	647.44	30.53	FLAT
	4865+00	646.62	30.50	FLAT
	4866+00	645.80	30.57	FLAT
	4867+00	645.00	26.55	FLAT
	4868+00	645.29	31.21	FLAT
	4869+00	645.60	30.63	FLAT
	4870+00 (END)	646.49	32.52	FLAT
DITCH NAME: GRDBOT19				
035ML	1856+00	669.77	68.08	V
	1857+00	665.94	71.63	V
	1858+00	662.99	77.62	V
	1859+00	659.26	81.05	V
	1860+00	656.11	84.35	V
	1861+00	653.10	87.00	V
	1862+00	650.82	89.13	V
	1863+00 (END)	649.23	91.11	V
DITCH NAME: GRDBOT1				
035NBFR1	4884+50	619.94	24.88	V

*NOTE: FROM STA 1863+00 TO 1885+00, EXISTING DITCH WILL BE USED. SLOPE WILL TIE INTO EXIST GROUND FROM BACK OF NBFR/RAMP 035NBML.



DITCH BLOCK DETAIL

*NOTE: THIS ITEM IS NOT PAID FOR SEPERATELY. IT IS SUBSIDIARY TO ITEM 161.



BLOCK SOD AT INLETS

*NOTE FOR GRDBOT1:
PROP DITCH CONSISTING OF PROP FORESLOPE AND BACKSLOPE ONLY AT STA 4884+50. EVERYWHERE ELSE ALONG DITCH A PROP FORESLOPE TIES INTO EXIST GROUND CREATING A NEW PROP DITCH THAT HAS AN EXIST BACKSLOPE.

Mona Lotfi P.E. 11.10.23

Texas Department of Transportation

IH35E
MISCELLANEOUS DRAINAGE DETAILS

N. T. S. SHEET 1 OF 2

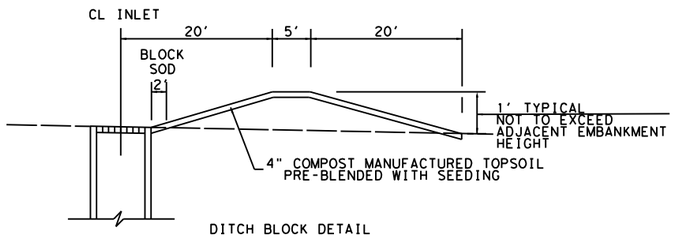
DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	845
	0442	03	042,ETC.	

SB DITCHES

ALIGNMENT	STATION	ELEVATION (FT)	OFFSET (FT)	SHAPE
DITCH NAME: LINEG_DITCH				
035SBFR1	5813+00 (BEGIN)	652.07	32.99	FLAT
	5814+00	654.54	25.00	FLAT
	5815+00	655.38	24.55	FLAT
	5816+00	656.56	25.20	FLAT
	5817+00	657.17	27.10	FLAT
	5818+00	657.51	30.26	FLAT
	5819+00	657.81	34.46	FLAT
	5820+00	658.12	38.77	FLAT
	5821+00	658.42	43.08	FLAT
	5822+00	658.73	47.39	FLAT
	5823+00 (END)	659.03	51.70	FLAT
DITCH NAME: GRDBOT17				
035SBFR1	5827+00 (BEGIN)	660.92	22.02	FLAT
	5827+00	660.92	22.02	FLAT
	5828+00	660.32	24.61	FLAT
	5829+00	659.54	28.10	FLAT
	5830+00	658.77	30.50	FLAT
	5831+00	657.99	31.66	FLAT
	5832+00	657.22	31.58	FLAT
	5833+00	656.49	31.02	FLAT
	5834+00	656.17	31.21	FLAT
	5835+00	655.84	31.18	FLAT
	5836+00	655.52	31.14	FLAT
	5837+00	655.19	31.10	FLAT
	5838+00	654.86	31.07	FLAT
	5839+00	654.49	31.22	FLAT
	5840+00	654.00	31.08	FLAT
	5841+00	653.52	30.95	FLAT
	5842+00	653.03	30.94	FLAT
	5843+00	653.56	32.17	FLAT
	5844+00	654.19	33.72	FLAT
	5844+51 (END)	654.51	34.74	FLAT
DITCH NAME: GRDBOT16				
035SBFR1	5846+17.39 (BEGIN)	655.45	36.98	FLAT
	5847+00	653.87	32.99	FLAT
	5848+00	654.62	32.99	FLAT
	5849+00	655.37	32.99	FLAT
	5850+00	656.12	32.99	FLAT
	5851+00	656.59	32.99	FLAT
	5852+00	656.79	42.00	FLAT
	5853+00	656.97	42.04	FLAT
	5854+00	657.27	42.08	FLAT
	5855+00	657.57	42.11	FLAT
	5856+00	654.64	32.99	FLAT
	5857+00	653.40	32.99	FLAT
	5858+00	652.16	32.99	FLAT
	5859+00	650.92	32.99	FLAT
	5860+00	649.67	32.99	FLAT
	5861+00	648.43	32.99	FLAT
	5862+00	647.19	32.99	FLAT
	5863+00	645.95	32.99	FLAT
	5864+00	644.71	32.99	FLAT
	5865+00	643.46	32.99	FLAT
	5866+00	642.22	32.99	FLAT
035SBFR1	5867+00	640.98	32.99	FLAT
	5868+00	639.74	32.99	FLAT
	5869+00	638.50	32.99	FLAT
	5870+00	637.26	32.99	FLAT
	5871+00	636.52	32.31	FLAT
	5872+00	636.34	34.14	FLAT
	5873+00	635.45	38.02	FLAT
	5874+00	634.57	40.63	FLAT
	5875+00	632.41	41.98	FLAT
	5876+00	631.71	42.07	FLAT
	5877+00	631.01	4088.00	FLAT
	5878+00 (END)	630.31	39.44	FLAT
DITCH NAME: SBML01				
035SBFR1	5827+00 (BEGIN)	657.88	72.26	V
	5828+00	658.05	80.74	V
	5829+00	658.32	89.41	V
	5830+00	659.89	101.44	V
035ML	1831+00	660.70	73.17	V
	1832+00 (END)	660.90	71.80	V
DITCH NAME: GRDBOT13				
035SBFR1	5834+00 (BEGIN)	655.24	28.00	V
	5835+00	654.74	30.50	V
	5836+00 (END)	654.75	42.16	FLAT
DITCH NAME: LINE F DITCH				
035SBFR1	5882+40	624.04	33	V
	5883+00	622.93	33	V

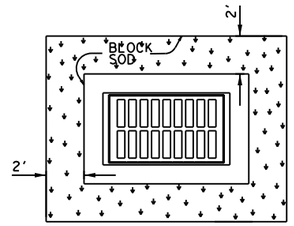
*NOTE: FLAT BOTTOM DITCH OFFSETS ARE BASED ON CLOSEST ROADWAY ALIGNMENT, AND ARE TO THE INSIDE EDGE OF DITCH. V-DITCH OFFSET ARE TO CENTER OF DITCH

*NOTE FOR LINEGDITCH:
PROP DITCH CONSISTING OF PROP FORESLOPE AND BACKSLOPE ENDS AT STA 5823+00. FROM STA 5823+00 TO 5827+00, FORESLOPE TIES INTO EXIST GROUND, BEGNING AT STATION 5827+00, THE BACKSLOPE FROM THE PROP RAMP TO EXIST GROUND CHANGES THE OFFSETS AND ELEVELATION OF THE EXIST DITCH, CREATING A NEW PROP DITCH THAT HAS AN EXIST BACKSLOPE (DITCH 035SBML).



DITCH BLOCK DETAIL

*NOTE: THIS ITEM IS NOT FOR SEPERATELY. IT IS SUBSIDIARY TO ITEM 161.



BLOCK SOD AT INLETS

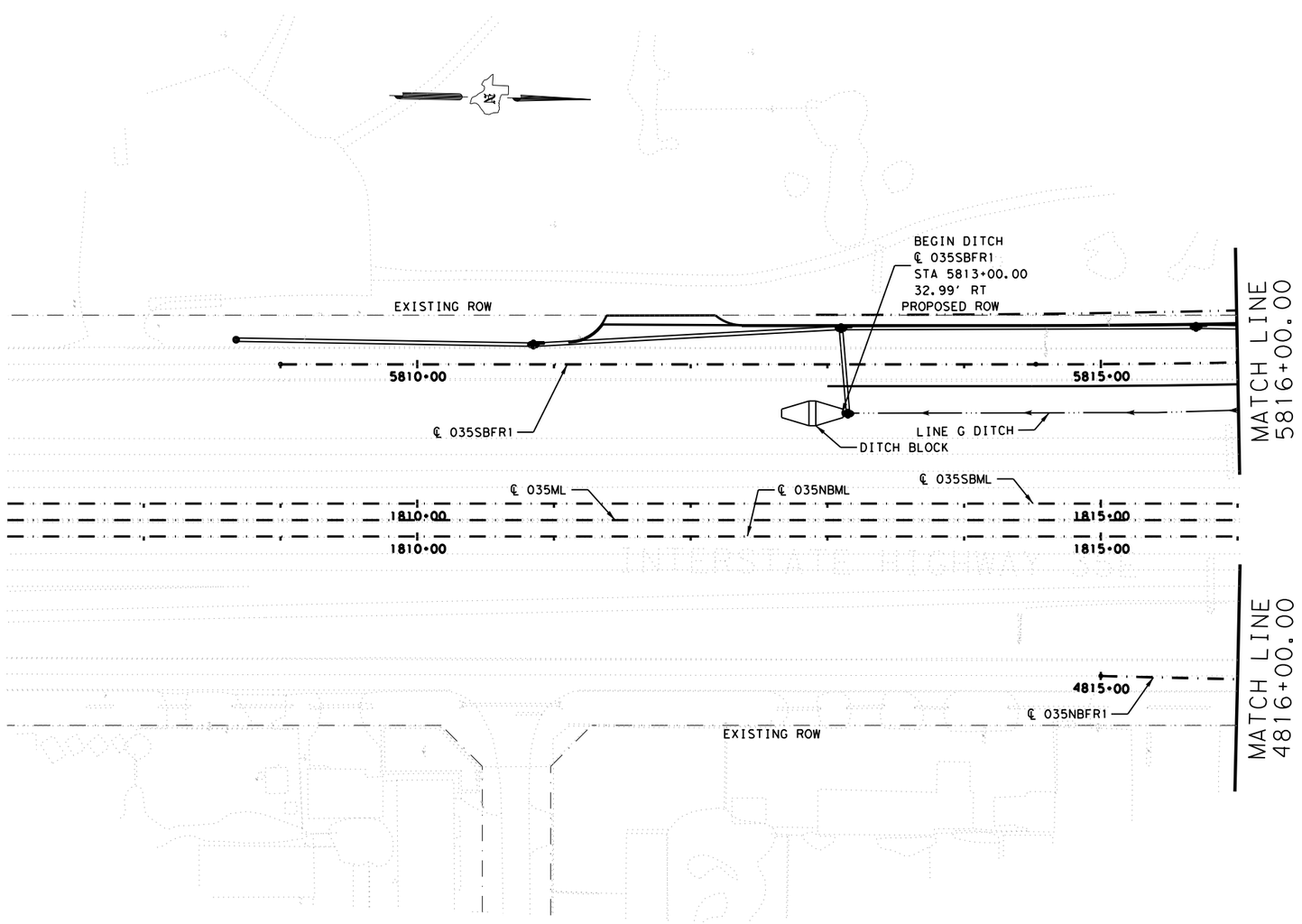
Mona Lotfi P.E. 11.10.23

IH35E
MISCELLANEOUS DRAINAGE DETAILS

N. T. S.

SHEET 2 OF 2

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
MPM	6	SEE TITLESHEET		IH35E
GRAPHICS ML	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	846
	0442	03	042, ETC.	



NOTES:
1. FLAT BOTTOM DITCH OFFSETS ARE BASED ON CLOSEST ROADWAY ALIGNMENT, AND ARE TO THE INSIDE EDGE OF DITCH. V-DITCH OFFSETS ARE TO CENTER OF DITCH.

STATE OF TEXAS
Mona Lotfi
139489
LICENSED PROFESSIONAL ENGINEER

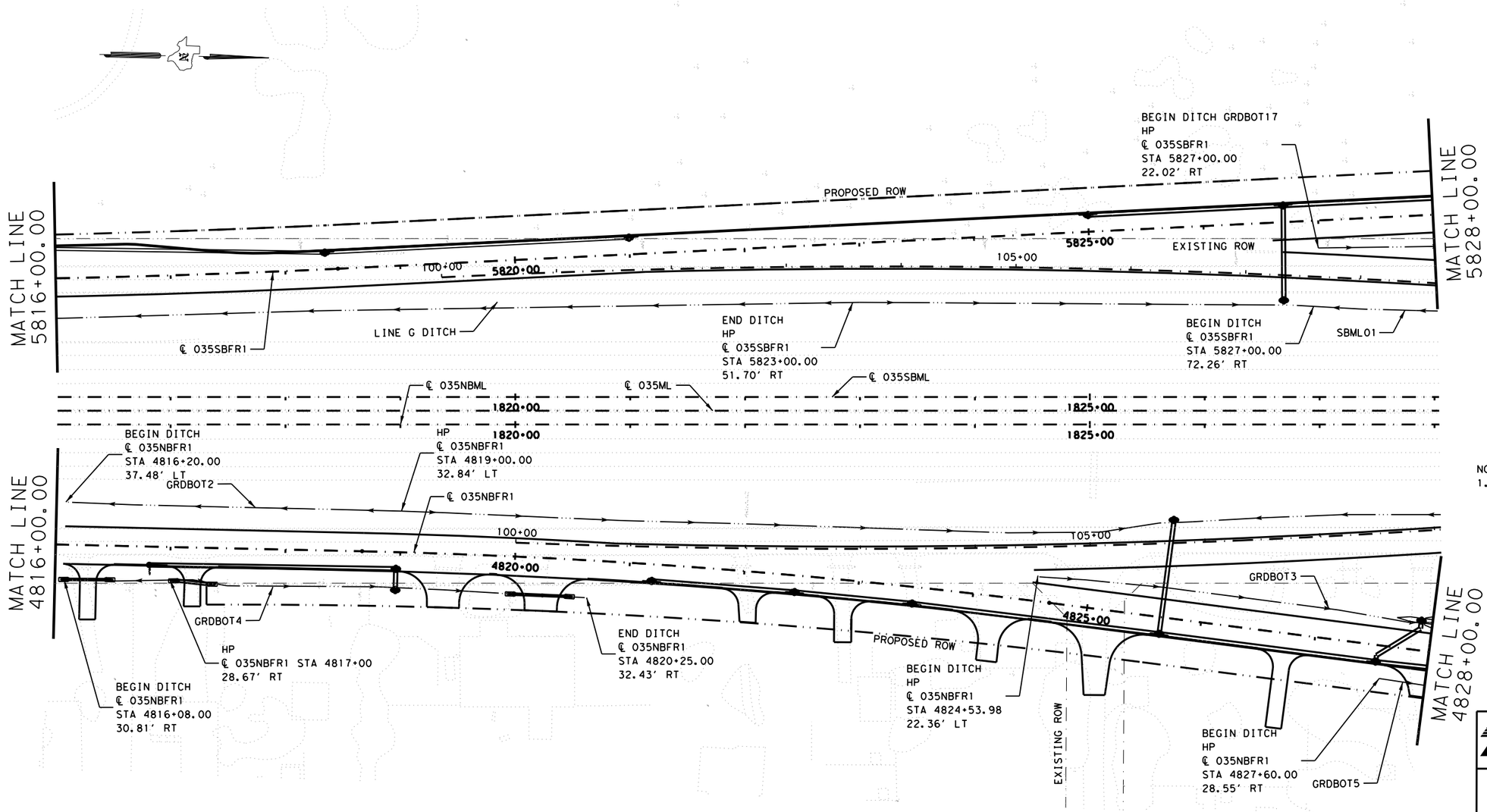
Mona Lotfi P.E. 11.10.23

Texas Department of Transportation

IH35E
DITCH LAYOUT

SCALE: 1"=100' SHEET 1 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	847
CHECK				
MPM				



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STATE OF TEXAS
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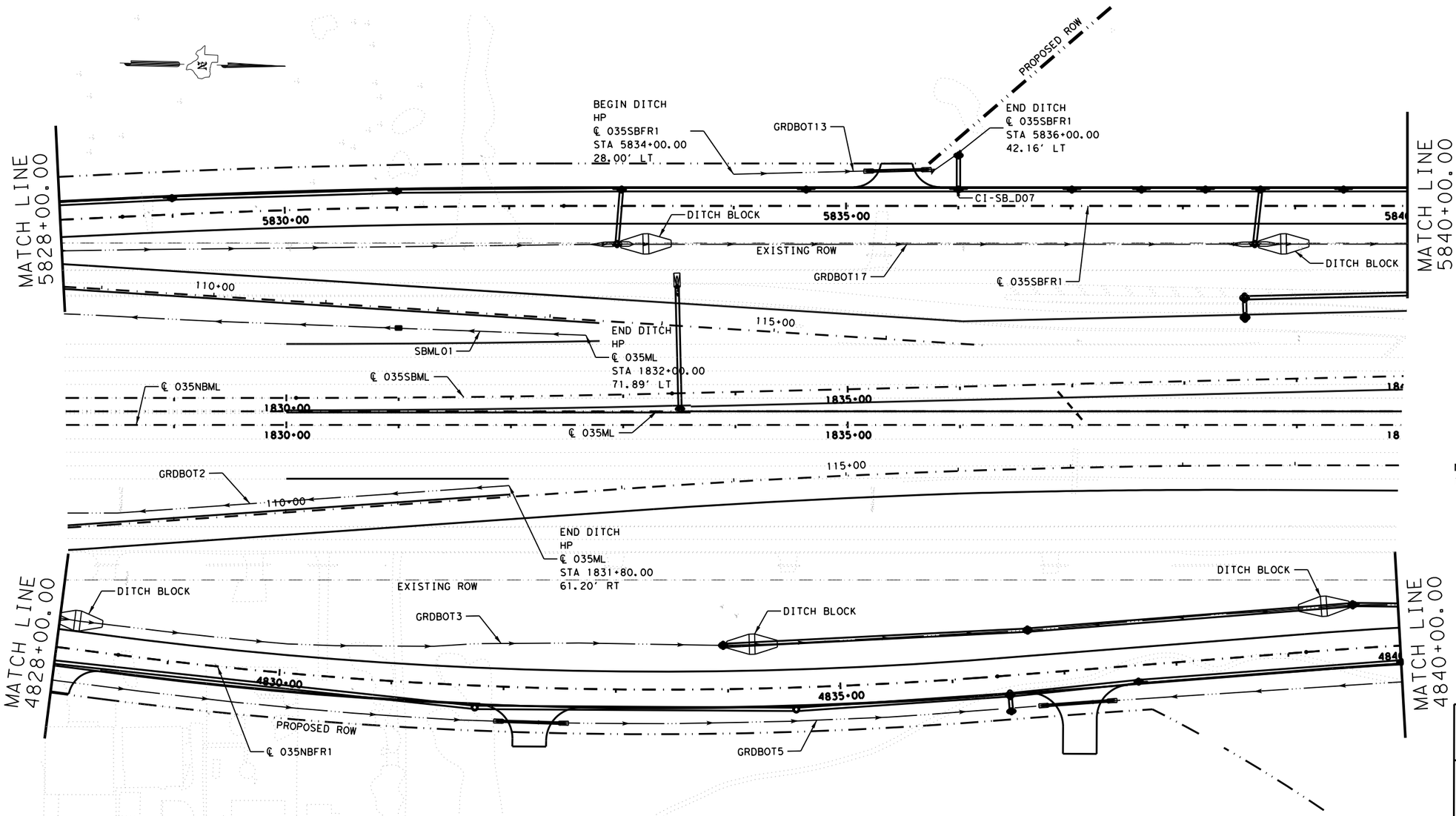
Texas Department of Transportation

IH35E
DITCH LAYOUT

SCALE: 1"=100' SHEET 2 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	848
	0442	03	042,ETC.	



NOTES:
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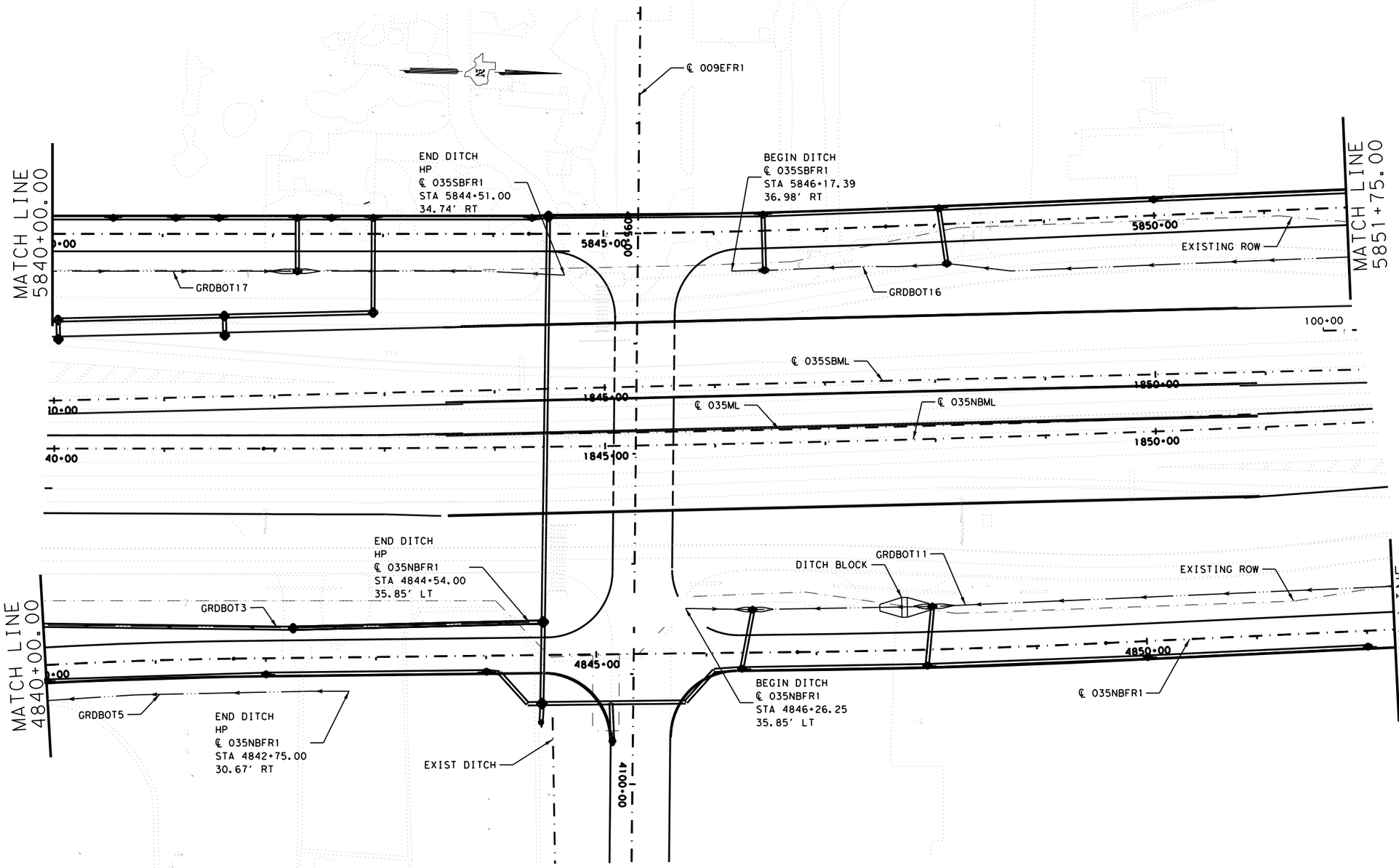
IH35E
DITCH LAYOUT

SCALE: 1"=100' SHEET 3 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	849
CHECK				
MPM				



NOTES:
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STATE OF TEXAS
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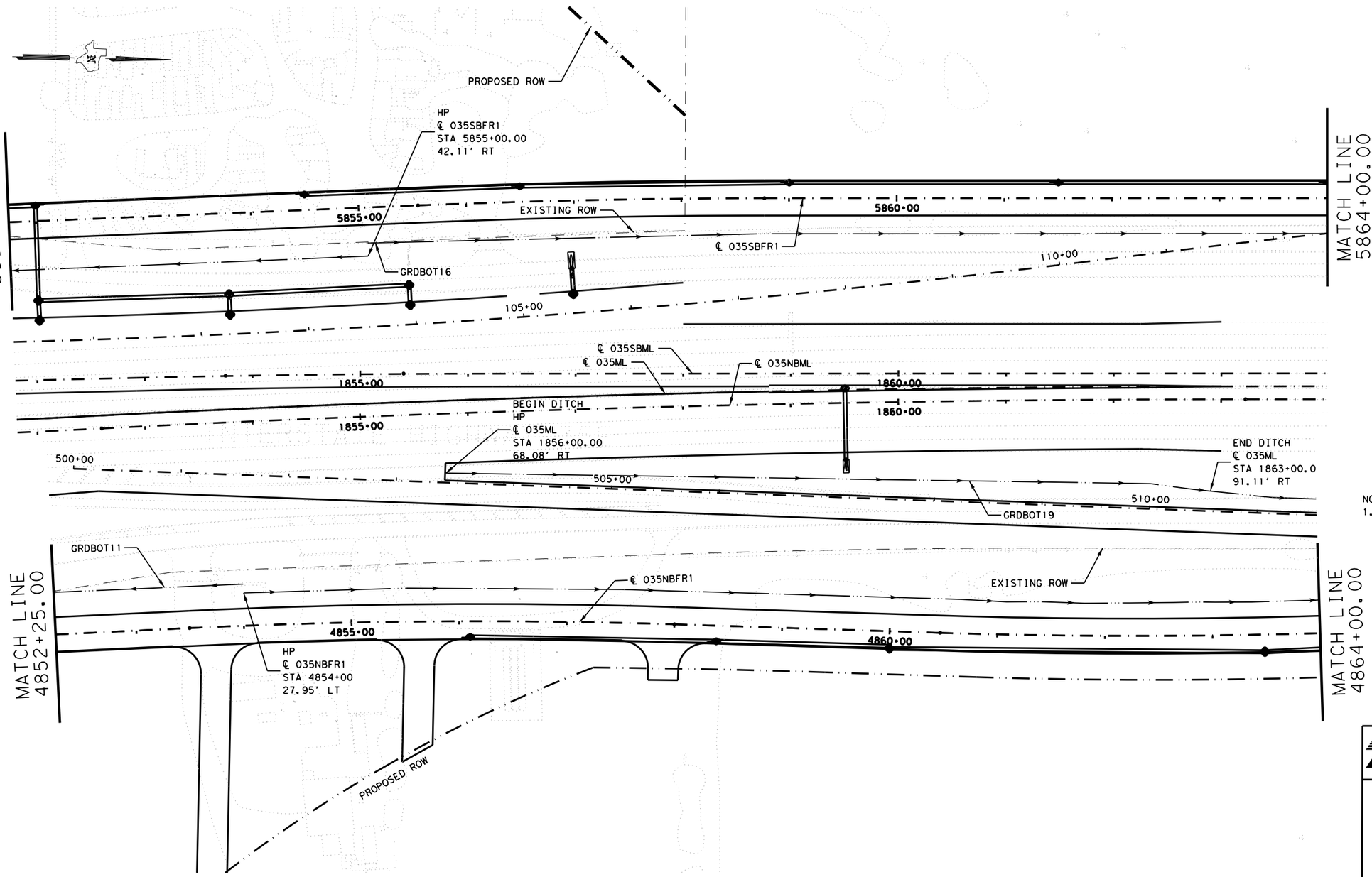
IH35E
DITCH LAYOUT

SCALE: 1"=100' SHEET 4 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW				
CHECK	TEXAS	DALLAS	ELLIS, ETC.	
ML	CONTROL	SECTION	JOB	
CHECK	0442	03	042,ETC.	850
MPM				



NOTES:
1. FLAT BOTTOM DITCH OFFSETS ARE BASED ON CLOSEST ROADWAY ALIGNMENT, AND ARE TO THE INSIDE EDGE OF DITCH. V-DITCH OFFSETS ARE TO CENTER OF DITCH.

STATE OF TEXAS
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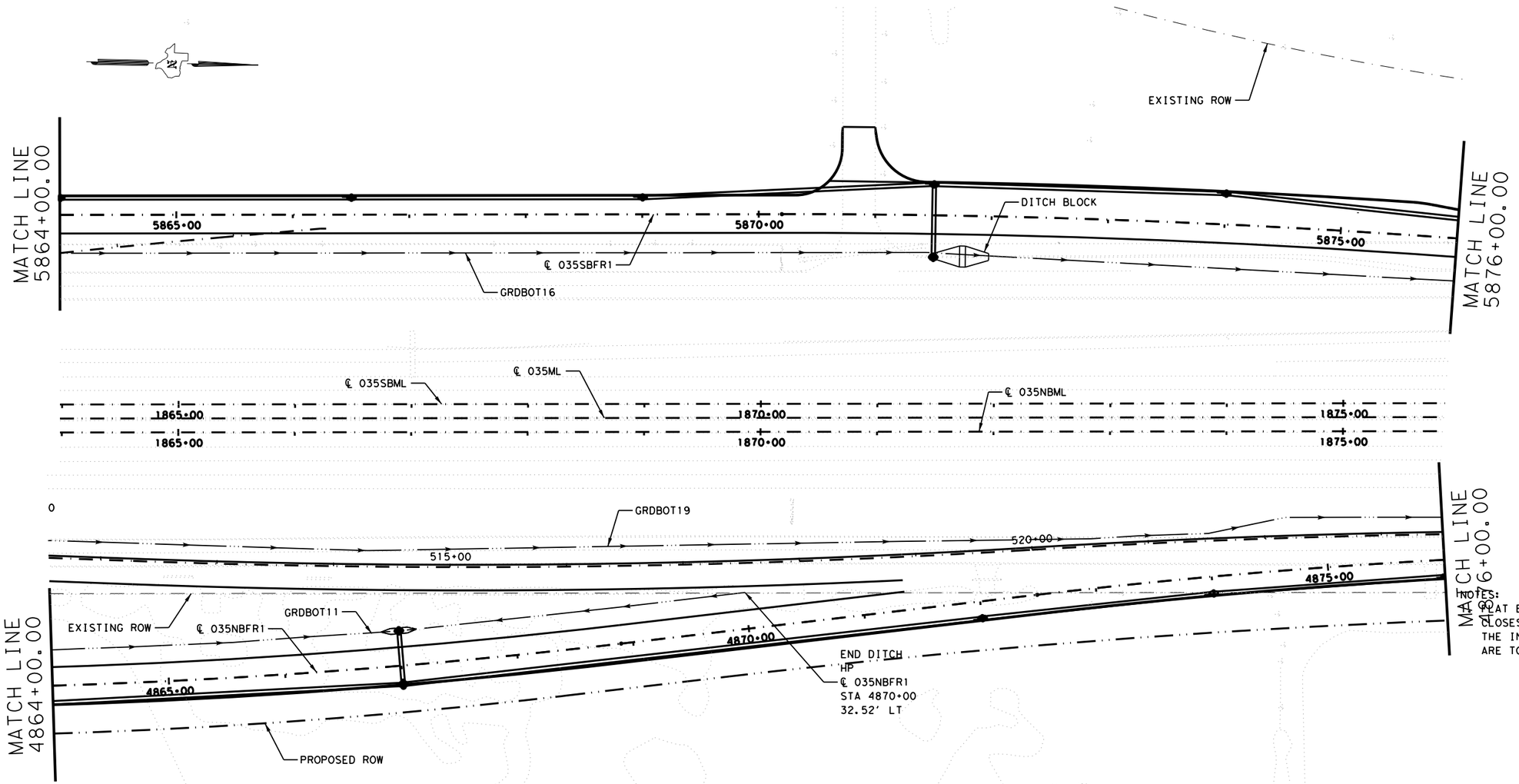
Texas Department of Transportation

IH35E
DITCH LAYOUT

SCALE: 1"=100' SHEET 5 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	851
CHECK				
MPM				



NOTES:
1. FLAT BOTTOM DITCH OFFSETS ARE BASED ON CLOSEST ROADWAY ALIGNMENT, AND ARE TO THE INSIDE EDGE OF DITCH. V-DITCH OFFSETS ARE TO CENTER OF DITCH.

STATE OF TEXAS
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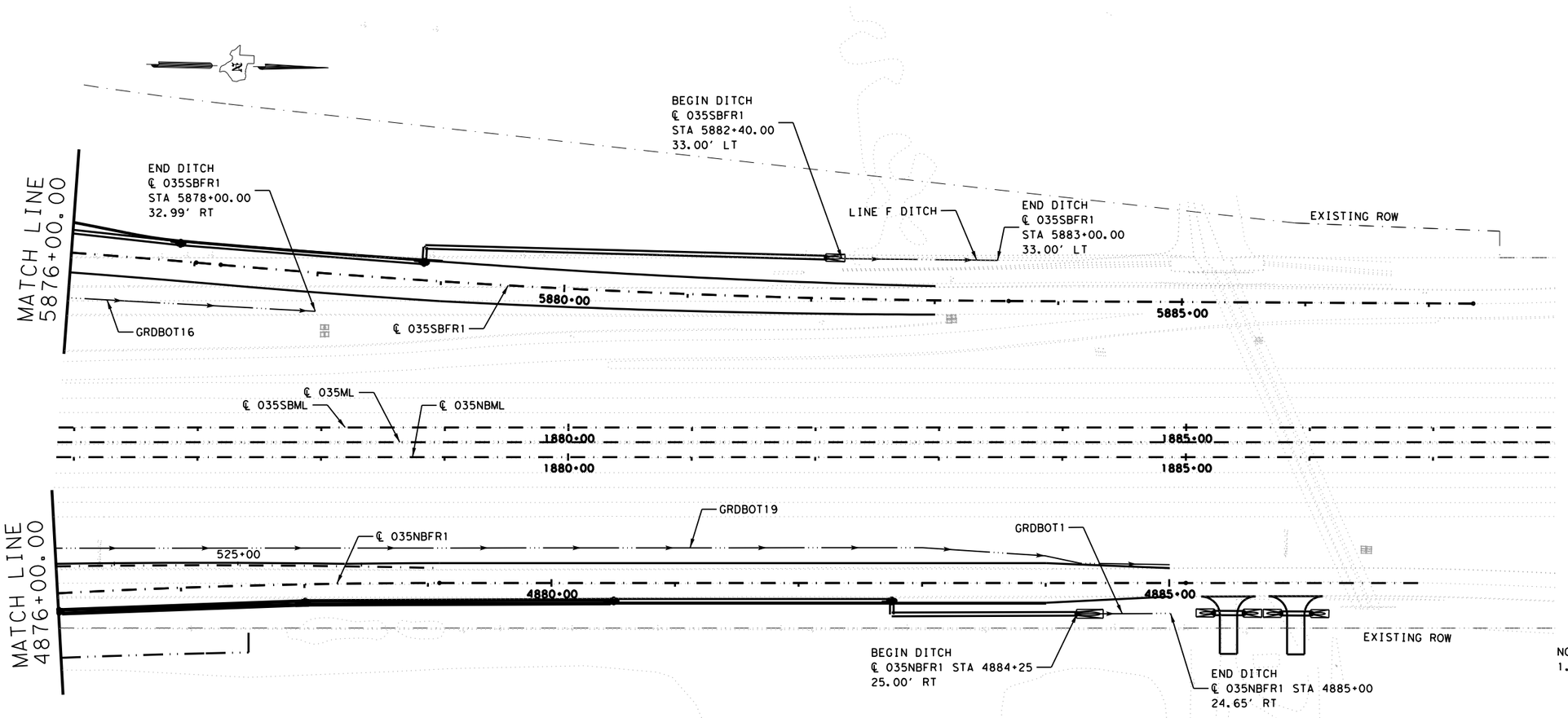
LICENSED PROFESSIONAL ENGINEER

Mona Lotfi P.E. 11.10.23

IH35E
DITCH LAYOUT

SCALE: 1"=100' SHEET 6 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	852
	0442	03	042,ETC.	



NOTES:
1. FLAT BOTTOM DITCH OFFSETS ARE BASED ON CLOSEST ROADWAY ALIGNMENT, AND ARE TO THE INSIDE EDGE OF DITCH. V-DITCH OFFSETS ARE TO CENTER OF DITCH.

STATE OF TEXAS
Mona Lotfi
139489
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Mona Lotfi P.E. 11.10.23

Texas Department of Transportation

IH35E
DITCH LAYOUT

SCALE: 1"=100' SHEET 7 OF 7

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KP/ML	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042, ETC.	853
CHECK				
MPM				

Culvert Station and/or Creek Name followed by applicable end (Lt, Rt or Both)	Description of Box Culvert No. Spans ~ Span X Height	Max Fill Height (Ft)	Applicable Box Culvert Standard (4)	Applicable Wingwall or End Treatment Standard	Skew Angle (0°,15°, 30° or 45°)	Side Slope or Channel Slope Ratio (SL:1)	T Culvert Top Slab Thickness (In)	U Culvert Wall Thickness (In)	C Estimated Curb Height (Ft)	Hw (1) Height of Wingwall (Ft)	A Curb to End of Wingwall (Ft)	B Offset of End of Wingwall (Ft)	Lw Length of Longest Wingwall (Ft)	Ltw Culvert Toewall Length (Ft)	Atw Anchor Toewall Length (Ft)	Riprap Apron (CY)	Class "C" Conc (Curb) (2) (CY)	Class "C" Conc (Wingwall) (3) (CY)	Total Wingwall Area (SF)
STA 1844+45 (Both)	1 ~ 4'x 4'	11'	SCP-4	SETB-CD	0°	4:1	5"	5"	0.500'	4.667'	N/A	N/A	17.333'	N/A	5.167'	0.0	0.2	7.8	N/A

NOTES:
Skew = 0° on SW-0, FW-0, SETB-CD, SETB-SW-0, and SETB-FW-0 standard sheets;
30° maximum for safety end treatment

SL:1 = Horizontal : 1 Vertical
- Side slope at culvert for flared or straight wingwalls.
- Channel slope for parallel wingwalls.
- Slope must be 3:1 or flatter for safety end treatments.

T = Box culvert top slab thickness. Dimension can be found on the applicable box culvert standard sheet.

U = Box culvert wall thickness. Dimension can be found on the applicable box culvert standard sheet.

C = Curb height

See applicable wing or end treatment standard sheets for calculations of Hw, A, B, Lw, Ltw, Atw, and Total Wingwall Area.

Hw = Height of wingwall

A = Distance from face of curb to end of wingwall (not applicable to parallel or straight wingwalls)

B = Offset of end of wingwall (not applicable to parallel or straight wingwalls)

Lw = Length of longest wingwall.

Ltw = Length of culvert toewall (not applicable when using riprap apron)

Atw = Length of anchor toewall (applicable to safety end treatment only)
Total Wingwall Area = Wingwall area in sq. ft. for two wingwalls (one structure end) if Lt or Rt. Area for four wingwalls (two structure ends) if Both.

(1) Round the wall heights shown to the nearest foot for bidding purposes.

(2) Concrete volume shown is for box culvert curb only. For curbs using the Box Culvert Rail Mounting Details (RAC) standard sheet quantities shown must be increased by a factor of 2.25. If Class S concrete is required for the top slab of the culvert, also provide Class S concrete for the curb. Curb concrete is considered part of the Box Culvert for payment.

(3) Concrete volume shown is total of wings, footings, culvert toewall (if any), anchor toewalls (if any) and wingwall toewalls. Riprap aprons, culverts, and curb quantities are not included.

(4) Regardless of the type of culvert shown on this sheet, the Contractor has the option of furnishing cast-in-place or precast culverts unless otherwise shown elsewhere on the plans. If the Contractor elects to provide culverts of a different type than those shown on this sheet, it is the Contractor's responsibility to make the necessary adjustments to the dimensions and quantities shown.

STATE OF TEXAS
Mona Lotfi
139489
LICENSED PROFESSIONAL ENGINEER

Mona Lotfi P.E. 11.29.23

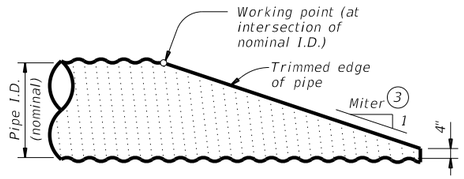
Texas Department of Transportation | Bridge Division Standard

BOX CULVERT SUPPLEMENT
WINGS AND END TREATMENTS

BCS

FILE: CD-BCS-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042, ETC	IH35E
	DIST		COUNTY	SHEET NO.
	DAL		ELLIS, ETC.	854

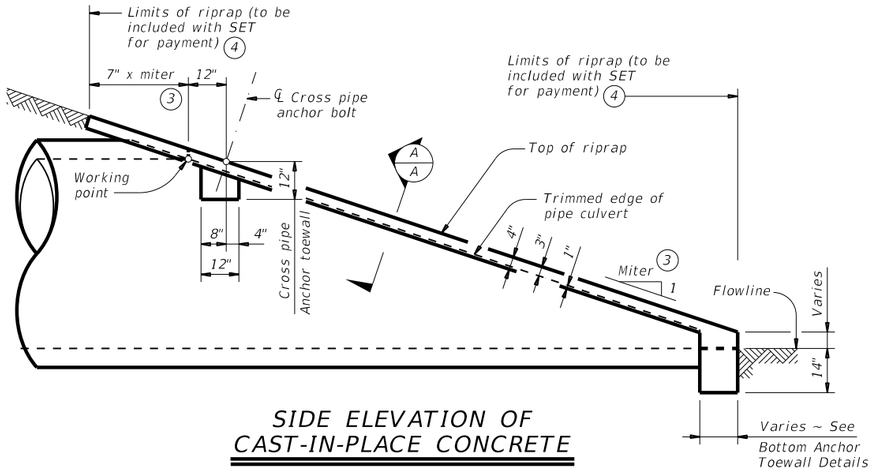
DATE: 11/29/2023
FILE: ...\pwonline\txdot5\pwonline_mono.lotfi\d0569552\CD-BCS-20.dgn



NOTE: All pipe runners, 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.

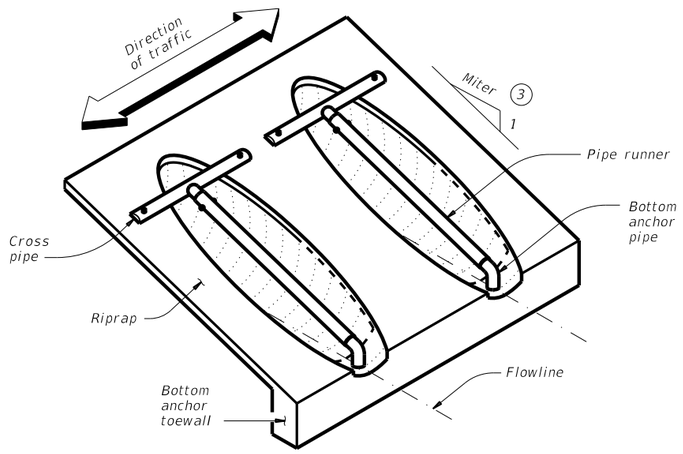
SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing corrugated metal pipe (CMP) culvert.
Details of reinforced concrete pipe (RCP) culvert are similar.)



SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing reinforced concrete pipe (RCP) culvert.
Details of corrugated metal pipe (CMP) culvert
are similar. Pipe runners not shown for clarity)



ISOMETRIC VIEW OF TYPICAL INSTALLATION

(Showing installation with no skew.)

CROSS PIPE LENGTHS AND PIPE RUNNER LENGTHS (1) (2)

Nominal Culvert I.D.	Pipe Culvert Spa ~ G	Cross Pipe Length	Pipe Runner Length											
			3:1 Side Slope				4:1 Side Slope				6:1 Side Slope			
			0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew
24"	1' – 7"	3' – 5"	N/A	N/A	N/A	5' – 10"	N/A	N/A	N/A	8' – 1"	N/A	N/A	N/A	12' – 9"
27"	1' – 8"	3' – 8"	N/A	N/A	5' – 5"	6' – 11"	N/A	N/A	7' – 7"	9' – 7"	N/A	N/A	11' – 11"	14' – 11"
30"	1' – 10"	3' – 11"	N/A	N/A	6' – 4"	8' – 0"	N/A	N/A	8' – 9"	11' – 0"	N/A	N/A	13' – 8"	17' – 0"
33"	1' – 11"	4' – 2"	6' – 2"	6' – 5"	7' – 3"	9' – 1"	8' – 6"	8' – 10"	10' – 0"	12' – 5"	13' – 3"	13' – 9"	15' – 5"	19' – 2"
36"	2' – 1"	4' – 5"	6' – 11"	7' – 3"	8' – 2"	10' – 2"	9' – 6"	9' – 11"	11' – 2"	13' – 10"	14' – 9"	15' – 3"	17' – 2"	21' – 3"
42"	2' – 4"	4' – 11"	8' – 6"	8' – 10"	9' – 11"	12' – 4"	11' – 7"	12' – 0"	13' – 6"	16' – 8"	17' – 9"	18' – 5"	20' – 8"	25' – 7"
48"	2' – 7"	5' – 5"	10' – 1"	10' – 5"	11' – 9"	N/A	13' – 7"	14' – 2"	15' – 10"	N/A	20' – 9"	21' – 6"	24' – 2"	N/A
54"	3' – 0"	5' – 11"	11' – 8"	12' – 1"	N/A	N/A	15' – 8"	16' – 3"	N/A	N/A	23' – 10"	24' – 8"	N/A	N/A
60"	3' – 3"	6' – 5"	13' – 3"	N/A	N/A	N/A	17' – 9"	N/A	N/A	N/A	26' – 10"	N/A	N/A	N/A

TYPICAL PIPE CULVERT MITERS (3)

Side Slope	0° Skew	15° Skew	30° Skew	45° Skew
3:1	3:1	3.106:1	3.464:1	4.243:1
4:1	4:1	4.141:1	4.619:1	5.657:1
6:1	6:1	6.212:1	6.928:1	8.485:1

CONDITIONS WHERE PIPE RUNNERS ARE NOT REQUIRED (2)

Nominal Culvert I.D.	Single Pipe Culvert	Multiple Pipe Culverts
12" thru 21"	Skews thru 45°	Skews thru 45°
24"	Skews thru 45°	Skews thru 30°
27"	Skews thru 30°	Skews thru 15°
30"	Skews thru 15°	Skews thru 15°
33"	Skews thru 15°	Always required
36"	Normal (no skew)	Always required
42" thru 60"	Always required	Always required

STANDARD PIPE SIZES AND MAX PIPE RUNNER LENGTHS (1)

Pipe Size	Pipe O.D.	Pipe I.D.	Max Pipe Runner Length
2" STD	2.375"	2.067"	N/A
3" STD	3.500"	3.068"	10' – 0"
4" STD	4.500"	4.026"	19' – 8"
5" STD	5.563"	5.047"	34' – 2"

ESTIMATED CONCRETE RIPRAP QUANTITIES (CY) (5)

Nominal Culvert I.D.	3:1 Side Slope				4:1 Side Slope				6:1 Side Slope			
	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew
12"	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.8
15"	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9
18"	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	1.0
21"	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9	0.9	0.9	1.0	1.2
24"	0.6	0.7	0.7	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.1	1.3
27"	0.7	0.7	0.8	0.9	0.8	0.9	0.9	1.1	1.1	1.1	1.2	1.4
30"	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.2	1.2	1.2	1.3	1.6
33"	0.8	0.8	0.9	1.0	1.0	1.0	1.1	1.3	1.3	1.4	1.5	1.7
36"	0.9	0.9	0.9	1.1	1.1	1.1	1.2	1.4	1.4	1.5	1.6	1.8
42"	1.0	1.0	1.1	1.3	1.2	1.3	1.3	1.6	1.6	1.7	1.8	2.1
48"	1.1	1.1	1.2	N/A	1.4	1.4	1.5	N/A	1.9	1.9	2.1	N/A
54"	1.3	1.3	N/A	N/A	1.6	1.6	N/A	N/A	2.1	2.1	N/A	N/A
60"	1.4	N/A	N/A	N/A	1.7	N/A	N/A	N/A	2.3	N/A	N/A	N/A

(1) Provide pipe runner of the size shown in the tables. Provide cross pipe of the same size as the pipe runner. Provide cross pipe stub out and bottom anchor pipe of the next smaller size pipe as shown in the Standard Pipe Sizes and Max Pipe Runner Lengths table.

(2) This standard allows for the placement of only one pipe runner across each culvert pipe opening. In order to limit the clear opening to be traversed by an errant vehicle, the following conditions must be met:

For 60" culvert pipes, the skew must not exceed 0°.
For 54" culvert pipes, the skew must not exceed 15°.
For 48" culvert pipes, the skew must not exceed 30°.
For all culvert pipe sizes 42" and less, the skew must not exceed 45°.

If the above conditions cannot be met, the designer should consider using a safety end treatment with flared wings. For further information, refer to the TxDOT Roadway Design Manual.

(3) Miter = slope of mitered end of pipe culvert.

(4) Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap".

(5) Quantities shown are for one end of one reinforced concrete pipe (RCP) culvert. For multiple pipe culverts or for corrugated metal pipe (CMP) culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.

Texas Department of Transportation

Bridge Division Standard

SAFETY END TREATMENT

FOR 12" DIA TO 60" DIA
PIPE CULVERTS
TYPE II ~ CROSS DRAINAGE

SETP-CD

FILE: setpcdse-20.dgn	DN: GAF	CK: CAT	DW: JRP	CK: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042,ETC	IH35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		855

DATE: 11/10/2023 9:11:16 AM
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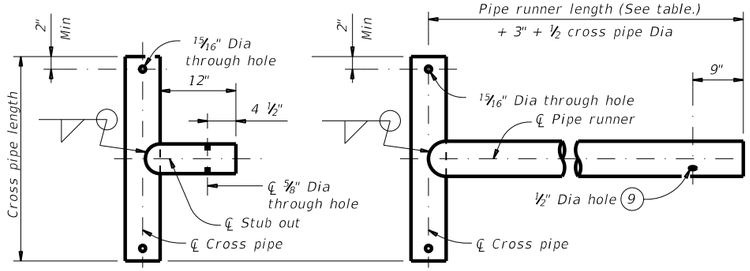
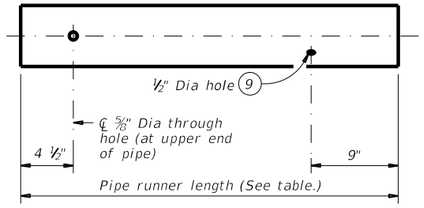


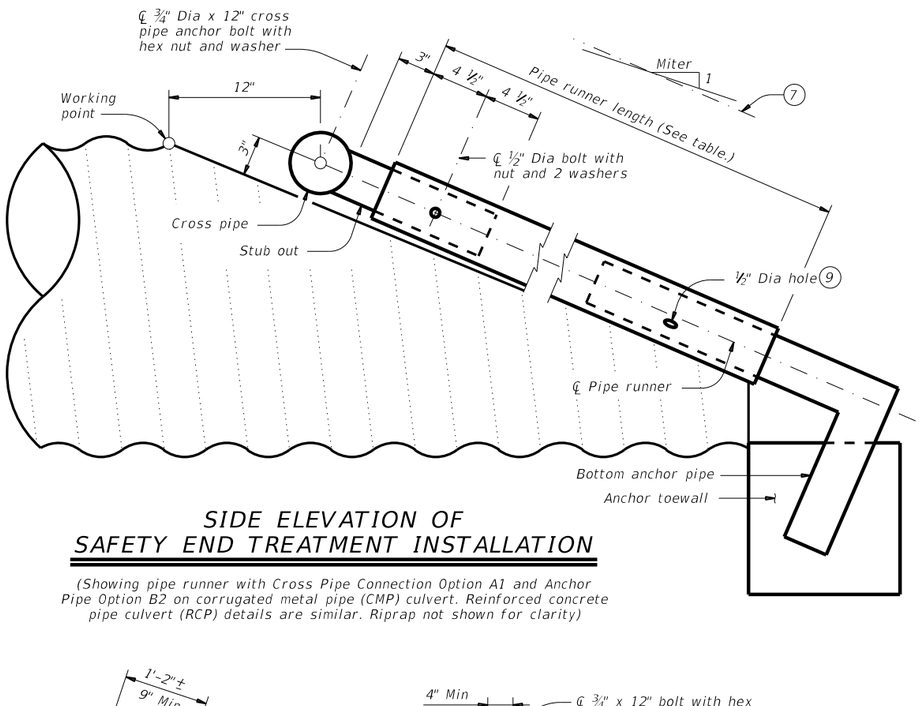
OPTION A1 OPTION A2

CROSS PIPE AND CONNECTIONS DETAILS



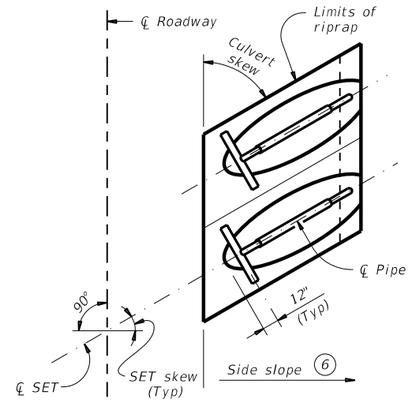
NOTE: The separate pipe runner shown is required when Cross Pipe Connection Option A1 is used.

PIPE RUNNER DETAILS

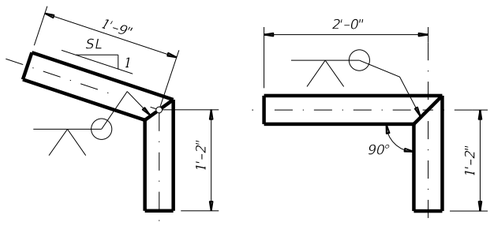


SIDE ELEVATION OF SAFETY END TREATMENT INSTALLATION

(Showing pipe runner with Cross Pipe Connection Option A1 and Anchor Pipe Option B2 on corrugated metal pipe (CMP) culvert. Reinforced concrete pipe culvert (RCP) details are similar. Riprap not shown for clarity)

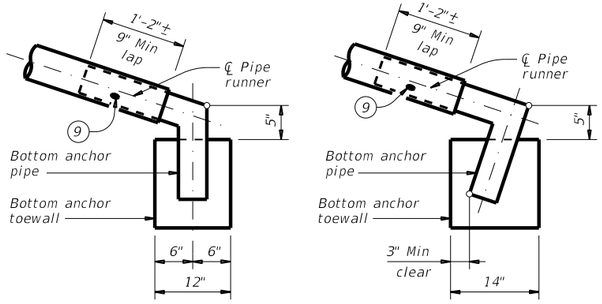


PLAN OF SKEWED INSTALLATION



OPTION B1 OPTION B2

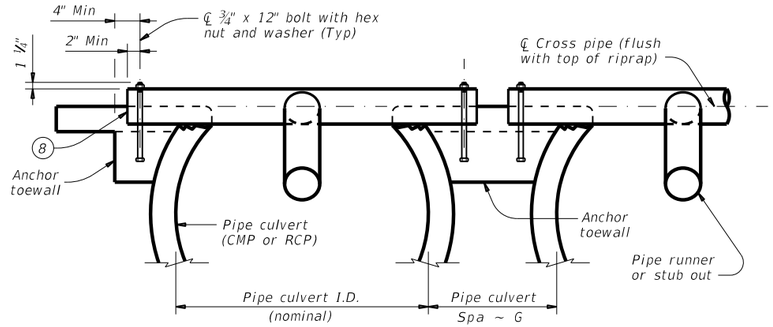
BOTTOM ANCHOR PIPE DETAILS (10)



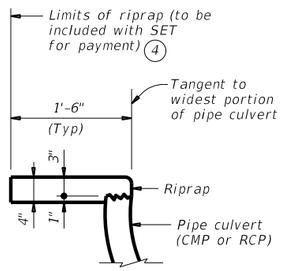
OPTION B1 OPTION B2

BOTTOM ANCHOR TOEWALL DETAILS

(Culvert and riprap not shown for clarity.)



SHOWING CROSS PIPE AND ANCHOR TOEWALL



SHOWING TYPICAL PIPE CULVERT AND RIPRAP

SECTION A-A

(4) Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap".

(6) Recommended values of side slope are 3:1, 4:1, and 6:1. All quantities, calculations, and dimensions shown herein are based on these recommended values. Slope of 3:1 or flatter is required for vehicle safety.

(7) Note that actual slope of pipe runner may vary slightly from side slope of riprap and trimmed culvert pipe edge.

(8) Ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access.

(9) After installation, inspect the 1/2" hole to ensure that the lap of the pipe runner with the bottom anchor pipe is adequate.

(10) At fabricator's option, a heat bend to a smooth 5" radius or a manufactured elbow (of the same material as the runner) may be substituted for the mitered and welded joint in the bottom anchor pipe.

MATERIAL NOTES:

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.

Provide pipe runners, cross pipes, and anchor pipes conforming to the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 Gr B, or API 5LX52.

Provide ASTM A307 bolts and nuts.

Galvanize all steel components, except concrete reinforcing, after fabrication.

Repair galvanizing damaged during transport or construction in accordance with the specifications.

GENERAL NOTES:

Pipe runners are designed for a traversing load of 1,800 pounds at yield as recommended by Research Report 280-1, "Safety Treatment of Roadside Cross-Drainage Structures", Texas Transportation Institute, March 1981.

Safety end treatments (SET) shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the pipe runners.

Payment for riprap and toewall is included in the price bid for each safety end treatment.

Construct concrete riprap and all necessary inverts in accordance with the requirements of Item 432, "Riprap".

Texas Department of Transportation

Bridge Division Standard

SAFETY END TREATMENT

FOR 12" DIA TO 60" DIA
PIPE CULVERTS
TYPE II ~ CROSS DRAINAGE

SETP-CD

FILE: setpcdse-20.dgn	DN: GAF	CK: CAT	DW: JRP	CK: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042,ETC	IH35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		856

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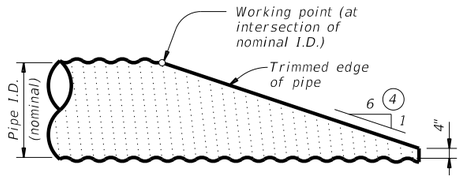
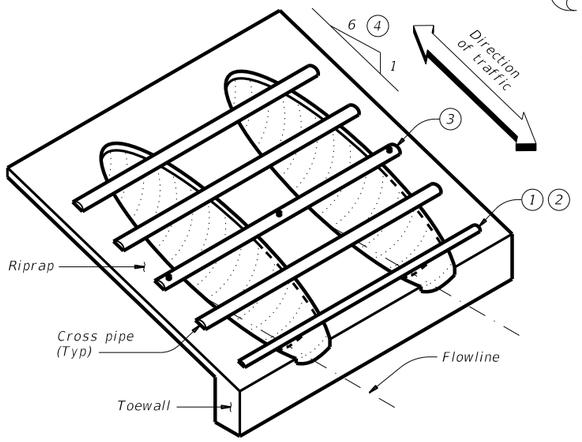


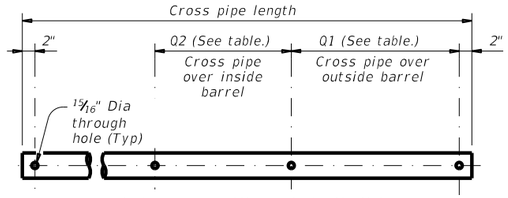
NOTE: All cross pipes, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

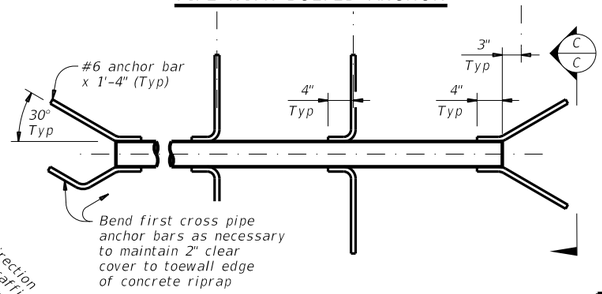
(Showing corrugated metal pipe (CMP) culvert Details at reinforced concrete pipe (RCP) culvert are similar.)



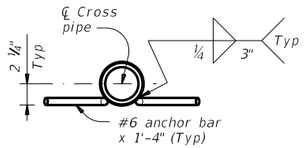
ISOMETRIC VIEW OF TYPICAL INSTALLATION



PIPE WITH BOLTED ANCHOR

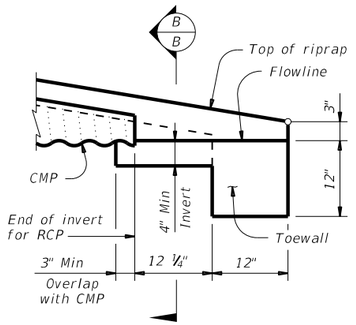


PIPE WITH ANCHOR BARS



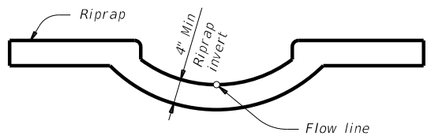
SECTION C-C

CROSS PIPE DETAILS



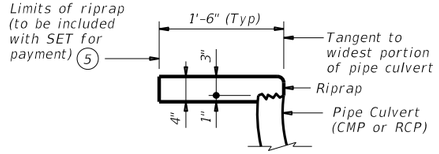
DETAIL "A"

(Showing invert with corrugated metal pipe (CMP) culvert. Reinforced concrete pipe (RCP) culvert details are similar. Cross pipes not shown for clarity.)

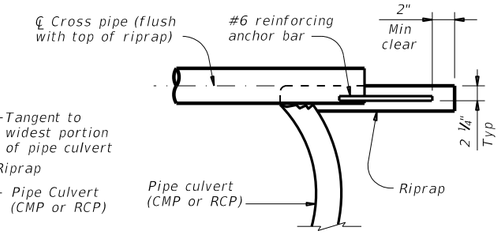


SECTION B-B

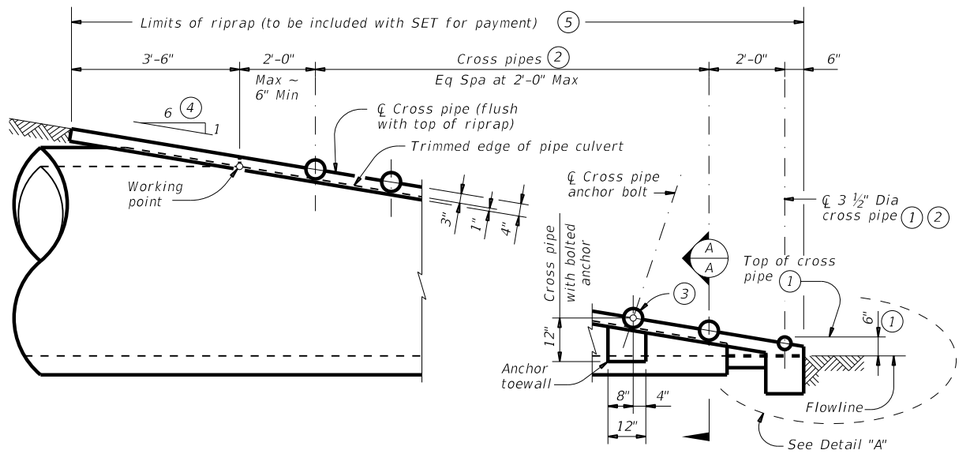
(Cross pipes not shown for clarity.)



SHOWING TYPICAL PIPE CULVERT AND RIPRAP

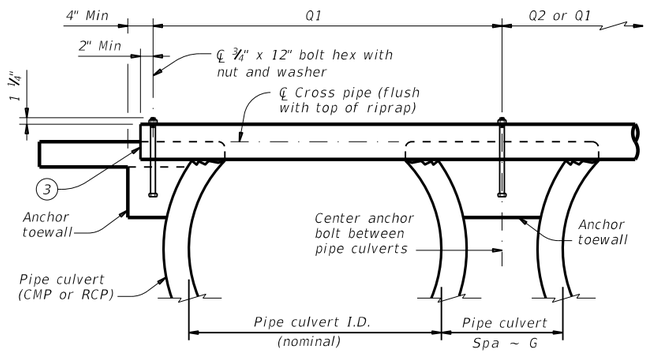


SHOWING CROSS PIPE WITH ANCHOR BAR



SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing reinforced concrete pipe (RCP) culvert. Details at corrugated metal pipe (CMP) culvert are similar.)



SHOWING CROSS PIPE WITH BOLTED ANCHOR

SECTION A-A

CROSS PIPE LENGTHS, REQUIRED PIPE SIZES, AND 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 Sizes
12"	0.6	0' – 9"	N/A	2' – 1"	1' – 9"	3 or more pipe culverts	3" Std (3.500" O.D.)
15"	0.7	0' – 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"		
27"	1.0	1' – 8"	N/A	3' – 10"	3' – 11"	3 or more pipe culverts	3 1⁄2" Std (4.000" O.D.)
30"	1.1	1' – 10"	N/A	4' – 2"	4' – 4"	2 or more pipe culverts	
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. Place the top of the first cross pipe no more than 6" above the flow line.

(2) Provide cross pipes, except the first bottom pipe, of the size shown in the table. Provide a 3 1#2" standard pipe (4" O.D.) for the first bottom pipe.

(3) Install the third cross pipe from the bottom of the culvert using a bolted connection. 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, install all other cross pipes 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 for as concrete riprap in accordance with Item 432, "Riprap".

(6) Quantities shown are for one end of one reinforced concrete pipe (RCP) culvert. For multiple pipe culverts or for corrugated metal pipe (CMP) culverts, quantities will need to be adjusted. Riprap quantities are for contractor's information only.

MATERIAL NOTES:

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.

Provide cross pipes that meet the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 (Gr B), or API 5LX52.

Provide ASTM A307 bolts and nuts.

Galvanize all steel components, except concrete reinforcing, after fabrication. Repair galvanizing damaged during transport or construction in accordance with the specifications.

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 (SET) 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.

Construct concrete riprap and all necessary inverts in accordance with the requirements of Item 432, "Riprap".

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

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-20.dgn	DN: GAF	CK: CAT	DW: JRP	CK: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042, ETC	IH35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		857

BRIDGE LOCATION NBI NUMBER	ITEM CODE	416 6001	416 6004	420 6014	420 6030	420 6038	422 6002	425 6038	450 6024	454 6018
	ITEM DESCRIPTION	DRILL SHAFT (18 IN) (1)	DRILL SHAFT (36 IN) (1)	CL C CONC (ABUT) (HPC)	CL C CONC (CAP) (HPC)	CL C CONC (COLUMN) (HPC)	REINF CONC SLAB (HPC)	PRESTR CONC GIRDER (TX46)	RAIL (TY SSTR) (HPC)	SEALED EXPANSION JOINT (4 IN) (SEJ - M)
	UNIT	LF	LF	CY	CY	CY	SF	LF	LF	LF
IH35E NBML O/P AT SL9 NBI 18-071-0-0442-03-455	2 ~ ABUTMENTS	126	441	98.8					80.0	293
	6 ~ BENTS		490		223.6	129.5				
	3 ~ TX 46 GIRDER PCB UNIT						52,170	6,488.20	1,410.0	
	TOTAL	126	931	98.8	223.6	129.5	52,170	6,488.20	1,490.0	293
IH35 SBML O/P AT SL9 NBI: 18-071-0-0442-03-456	2 ~ ABUTMENTS	63	441	80.0					40.0	277
	6 ~ BENTS		480		211.0	126.9				
	3 ~ TX 46 GIRDER PCB UNIT						49,350	6,050.18	1,410.0	
	TOTAL	63	921	80.0	211.0	126.9	49,350	6,050.18	1,450.0	277
	GRAND TOTAL	189	1,852	178.8	434.6	256.4	101,520	12,538.38	2,940.0	570

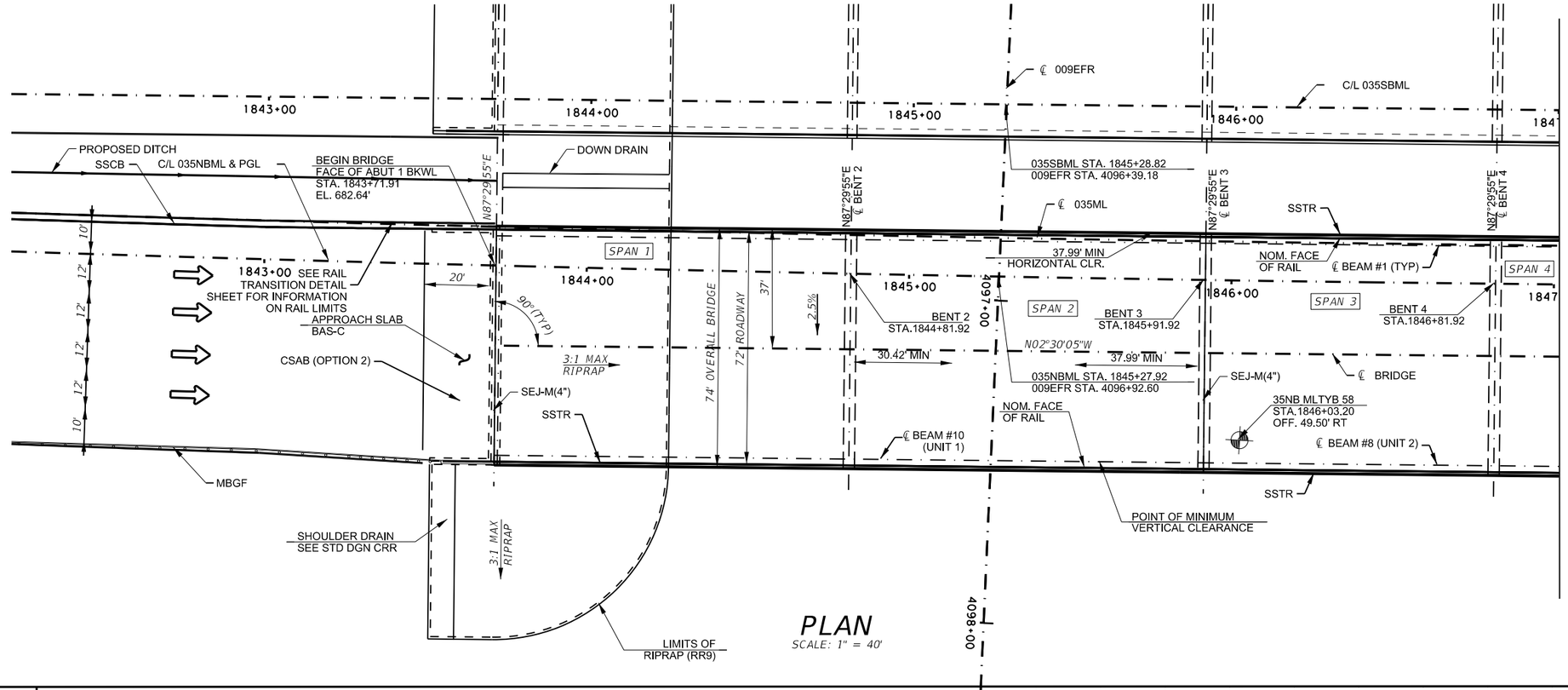
(1) ~ Provide Sulphate Resistance Concrete

Texas Department of Transportation

Dallas District Bridge

IH35E
OVERPASS AT SL9
SUMMARY OF ESTIMATED QUANTITIES

FILE: ..SEE PATH..	DN: RM	CK: AE	DW: RM	CK: AE
©TxDOT ----------	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		858



PLAN
SCALE: 1" = 40'

℄ NBML STA. 1847+10.00

0 20 40
SCALE IN FEET

GENERAL NOTES:

BRIDGE DESIGNED FOR HL 93 LOADING UNDER 2017 AASHTO LRFD SPECIFICATIONS (8ᵀᴴ EDITION) AND CURRENT INTERIMS.

DESIGN SPEED = 70 MPH
2021 ADT = 115,900
2041 ADT = 158,800
FUNC CLASS = URBAN FREEWAY

THE "H" VALUES ARE ESTIMATED COLUMN HEIGHTS, CONTRACTOR IS RESPONSIBLE FOR CALCULATING ACTUAL COLUMN HEIGHTS BASED ON FIELD CONDITIONS.

SAW CUT GROOVING OF THE BRIDGE AND APPROACH SLAB IS REQUIRED.

REFER TO ROADWAY PLAN & PROFILE SHEETS FOR LIMITS OF RIP RAP AND ROADWAY SUMMARY FOR QUANTITIES.

INCLUDE OPTIONAL SIDE SLOT DRAINS IN BRIDGE RAIL, EXCEPT WHERE SHOWN ON THE PLANS.

SEE PLAN & PROFILE AND GRADING SHEETS FOR DITCH AND DOWN DRAIN DETAILS.

SEE BORING LOG SHEETS FOR TEST HOLE INFORMATION.

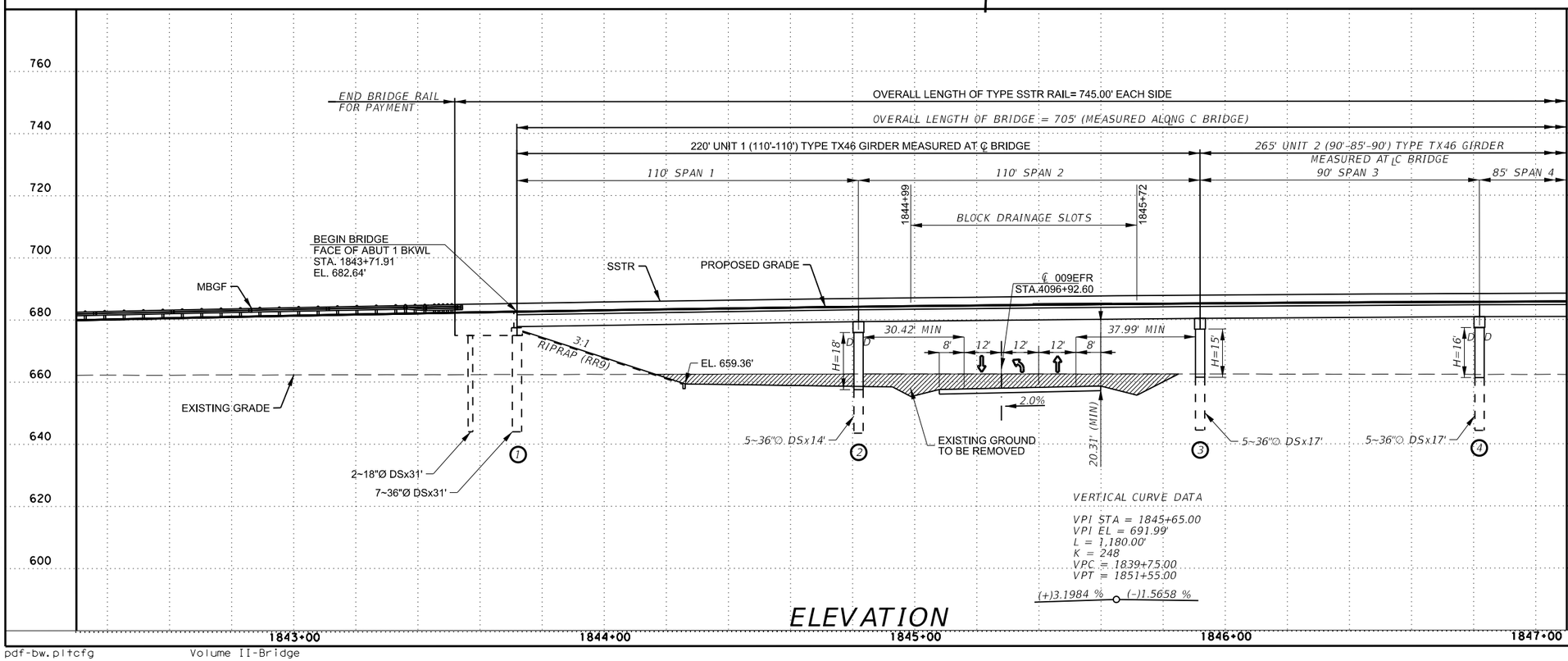
"D" DENOTES DOWELED END CONDITION. SEE BENT DETAILS FOR DOWEL LOCATION.

FOUNDATION NOTES:
FOUND DRILLED SHAFTS AT THE ELEVATION SHOWN OR DEEPER AS NECESSARY TO PENETRATE LIMESTONE THE FOLLOWING MINIMUM DISTANCES:
INTERIOR BENTS = 4 FT
ABUTMENTS = 4 FT

HORIZONTAL CURVE DATA

PI STATION	= 1847+24.44
DELTA	= 2° 54' 55.82" (LT)
DEGREE OF CURVE	= *0° 16' 21.65"*
TANGENT	= 534.72
LENGTH	= 1,069.20
RADIUS	= *21,012.00*
PC STATION	= 1841+89.72
PRC STATION	= 1852+58.92
BEARING AT PC	= N01°08'26.16"W
BEARING AT PRC	= N04°03'21.98"W

NBI NO: 18-071-0-0442-03-455



ELEVATION

VERTICAL CURVE DATA

VPI STA = 1845+65.00
VPI EL = 691.99'
L = 1,180.00'
K = 248
VPC = 1839+75.00
VPT = 1851+55.00
(+)3.1984 % *(-)1.5658 %*

STATE OF TEXAS
ALIA S. ECKARDT
142809
LICENSED
PROFESSIONAL ENGINEER

STATE OF TEXAS
M. Pauline Morrel
P.E. 94443
LICENSED
PROFESSIONAL ENGINEER

FOUNDATION DESIGN ONLY

Alia Eckardt 05/26/2023

MPMorrel 08/11/2023

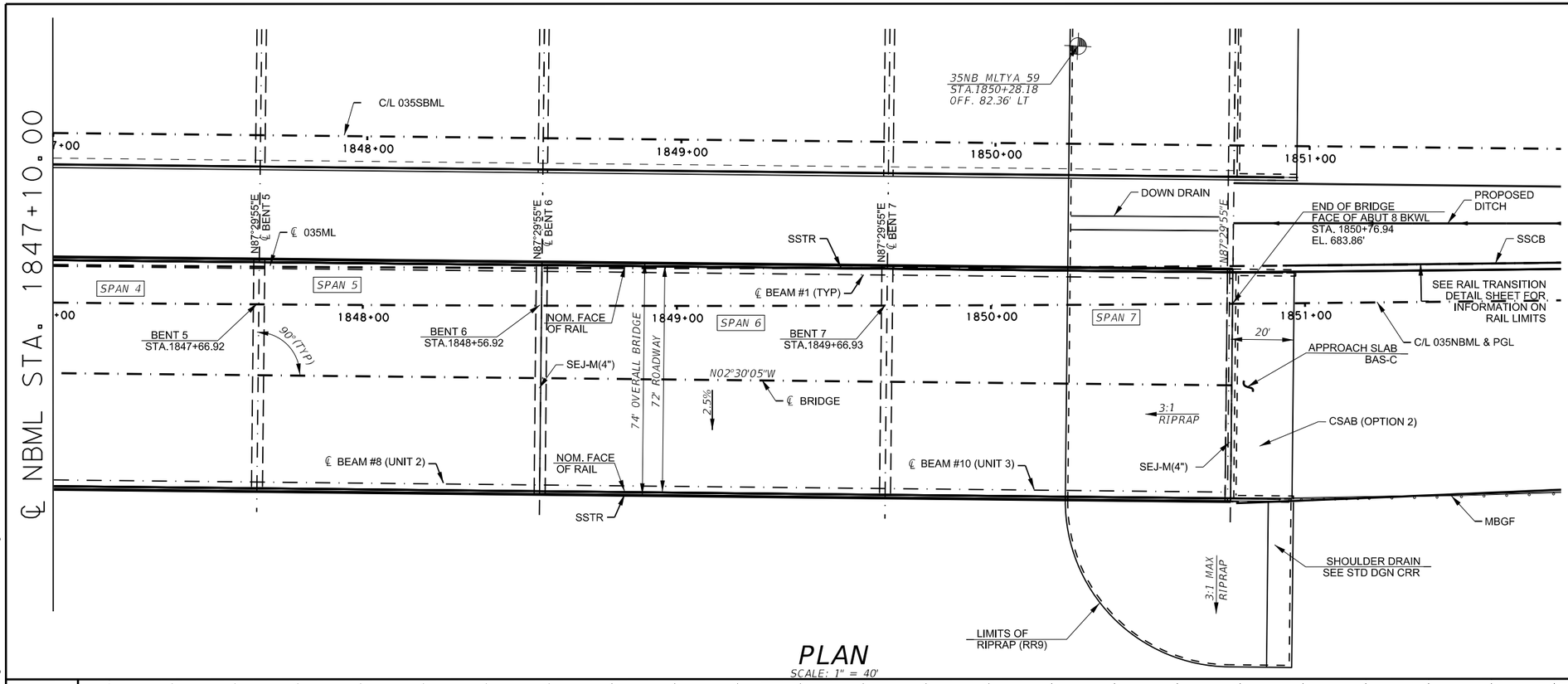
HL 93 LOADING
SUPERSTRUCTURE INV/OPR RATINGS: 1.07/1.83
Sheet 2 of 69 Sheets

Texas Department of Transportation
Dallas District Bridge

IH35E NBML
OVERPASS AT STATE LOOP 9
BRIDGE LAYOUT

SHEET 1 OF 2

FILE:	DN: MPM	CK: MPM	DW: AE	CK: MPM
©TxDOT 2023 REVISIONS	CONT	SECT	JOB	HIGHWAY
	0442	03	042,ETC.	IH35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		859



PLAN
SCALE: 1" = 40'

0 20 40
SCALE IN FEET

GENERAL NOTES:

BRIDGE DESIGNED FOR HL 93 LOADING UNDER 2017 AASHTO LRFD SPECIFICATIONS (8ˆEDITION) AND CURRENT INTERIMS.

DESIGN SPEED = 70 MPH
2021 ADT = 115,900
2041 ADT = 158,800
FUNC CLASS = URBAN FREEWAY

THE "H" VALUES ARE ESTIMATED COLUMN HEIGHTS, CONTRACTOR IS RESPONSIBLE FOR CALCULATING ACTUAL COLUMN HEIGHTS BASED ON FIELD CONDITIONS.

SAW CUT GROOVING OF THE BRIDGE AND APPROACH SLAB IS REQUIRED.

REFER TO ROADWAY PLAN & PROFILE SHEETS FOR LIMITS OF RIP RAP AND ROADWAY SUMMARY FOR QUANTITIES.

INCLUDE OPTIONAL SIDE SLOT DRAINS IN BRIDGE RAIL, EXCEPT WHERE SHOWN ON THE PLANS.

SEE PLAN & PROFILE AND GRADING SHEETS FOR DITCH AND DOWN DRAIN DETAILS.

SEE BORING LOG SHEETS FOR TEST HOLE INFORMATION.

"D" DENOTES DOWELED END CONDITION. SEE BENT DETAILS FOR DOWEL LOCATION.

FOUNDATION NOTES:
FOUND DRILLED SHAFTS AT THE ELEVATION SHOWN OR DEEPER AS NECESSARY TO PENETRATE LIMESTONE THE FOLLOWING MINIMUM DISTANCES:
INTERIOR BENTS = 4 FT
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RADIUS	= *21,012.00*
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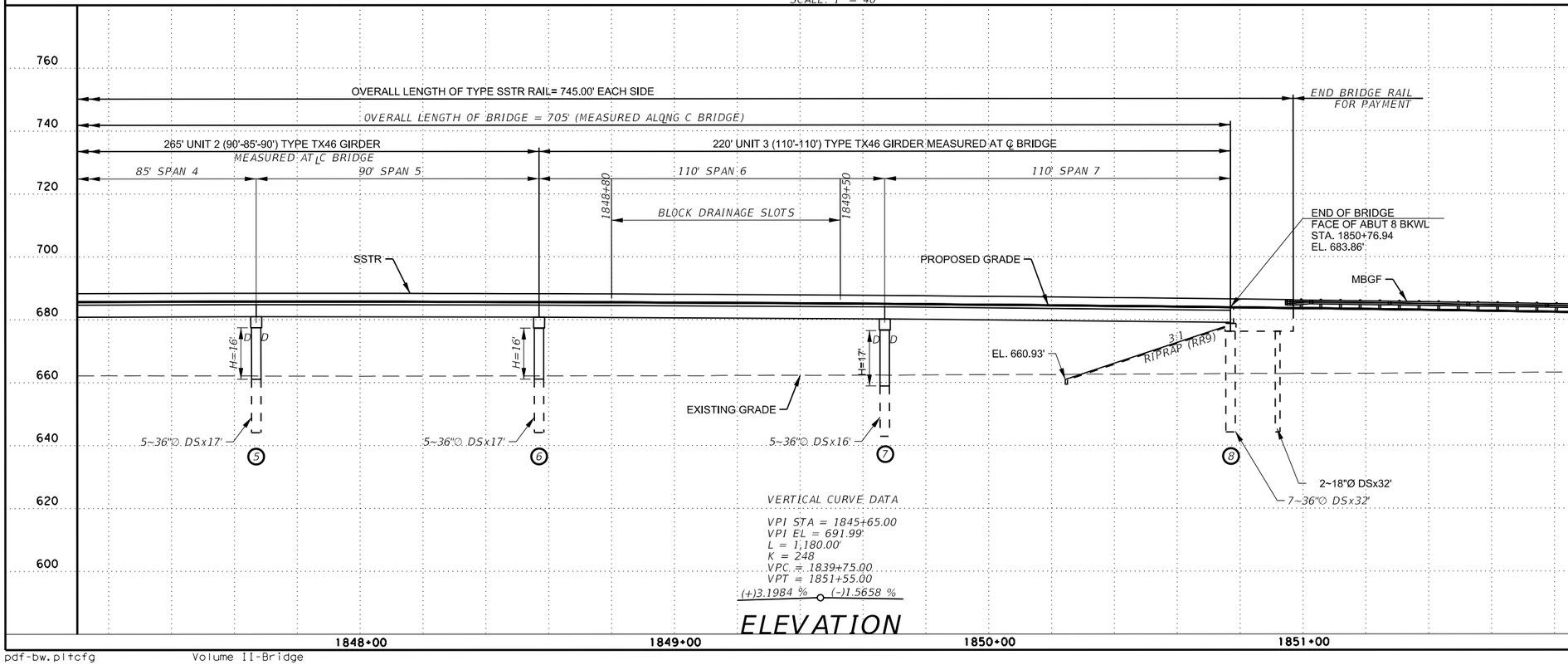
NBI NO: 18-071-0-0442-03-455



VERTICAL CURVE DATA

VPI STA = 1845+65.00
VPI EL = 691.99'
L = 1,180.00'
K = 248
VPC = 1839+75.00
VPT = 1851+55.00
(+)3.1984 % (-)1.5658 %

ELEVATION

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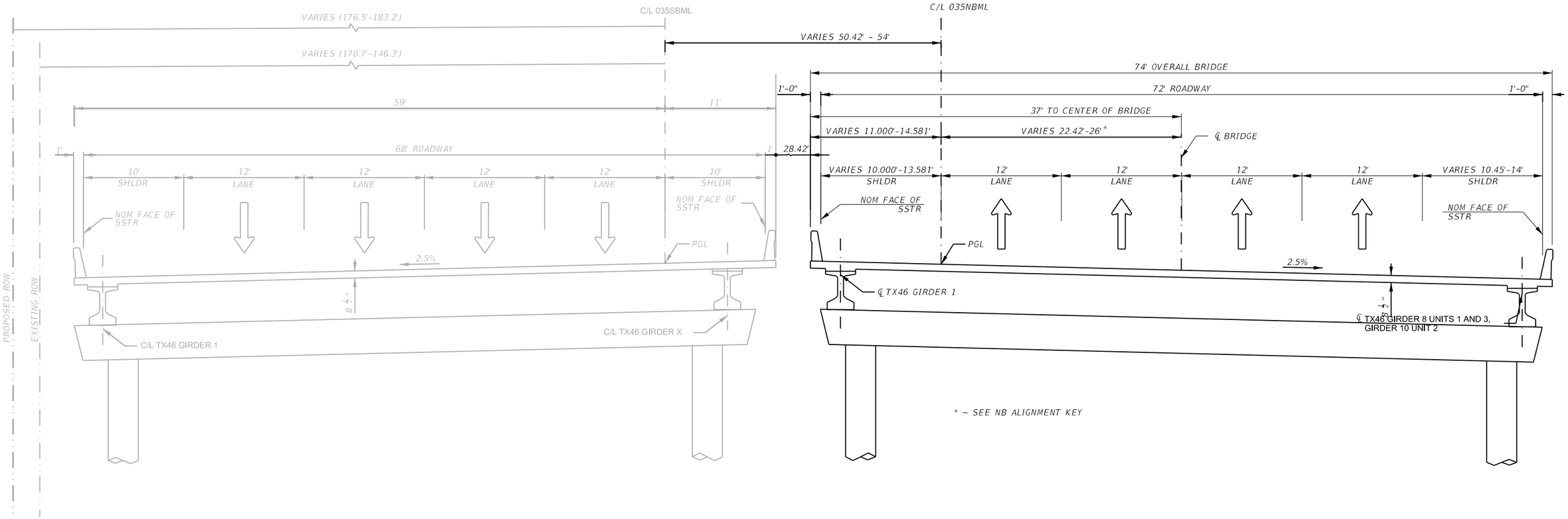
HL 93 LOADING
SUPERSTRUCTURE INV/OPR RATINGS: 1.07/1.83
Sheet 3 of 69 Sheets

Texas Department of Transportation
Dallas District Bridge

IH35E NBML
OVERPASS AT STATE LOOP 9
BRIDGE LAYOUT

SHEET 2 OF 2

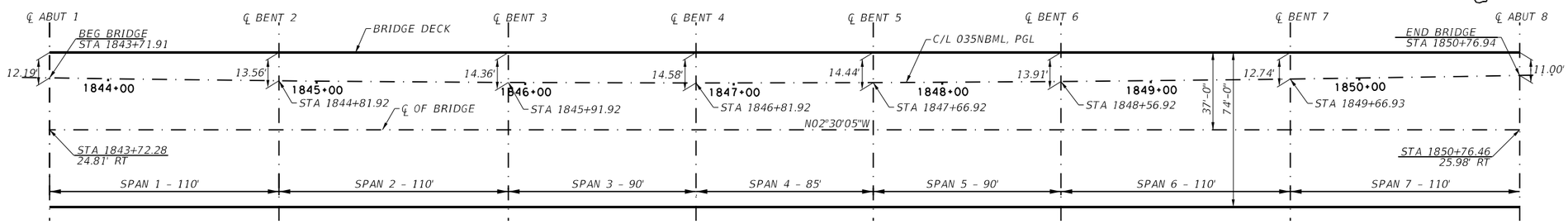
FILE:	DN: MPM	CK: MPM	DW: AE	CK: MPM
©TxDOT 2023 REVISIONS	CONT	SECT	JOB	HIGHWAY
	0442	03	042,ETC.	IH35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		860



SOUTHBOUND
STA. 1843+71.00 TO 1850+76.00

NORTHBOUND
STA. 1843+71.91 TO 1850+76.94

TYPICAL SECTION
SCALE: 1"=10'



NOTE: SPAN SHOWN IN THIS KEY PLAN ARE ALONG THE ℄ OF THE BRIDGE

NB ALIGNMENT KEY
NTS

0 2 4 6 8 10
SCALE IN FEET

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Sheet 4 of 69 Sheets

Texas Department of Transportation | Dallas District Bridge

IH35E NBML
OVERPASS AT STATE LOOP 9
TYPICAL SECTION

FILE:	DN: AE	CK: MPM	DW: AE	CK: MPN
©TxDOT 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042,ETC.	IH35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		861

DRILLING LOG

WinCore Version 3.3

County	Dallas	Hole	35NB_MLTYA_59	District	Dallas
Highway	Loop 9	Structure	Bridge	Date	2/14/19
CSJ	2964-10-005	Station	1850+28.18	Grnd. Elev.	663.99 ft
		Offset	82.36' LT	GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test Lateral Press. (psi)	Triaxial Test Deviator Stress (psi)	Properties MC	Properties LL	Properties PI	Properties Wet Den. (pcf)	Additional Remarks
			CLAY, very stiff to hard, moist, brown, with limestone fragments, and trace calcareous nodules (CH)							PP = 4.5
						27	63	39		PP = 3.75
										PP = 4.0
659. 5		50 (3) 50 (1.5)								wet rotary, at 5'
			LIMESTONE, soft to very hard, tan	0	258	12			141	
10		50 (0.5) 50 (0)								
15		50 (0.5) 50 (0.25)								
647.			LIMESTONE, very hard, gray							
20		50 (0.25) 50 (0)								
639. 25		50 (1) 50 (0.25)								

Remarks: NORTH: 6887260.122 ft, EAST: 2485708.547 ft. Free water was not encountered during drilling operations.

The ground water elevation was not determined during the course of this boring.

Driller: Steve Zeahler **Logger: Paulo Pereira** **Organization: Fugro USA Land, Inc.**

I:\Project Files\Projects-2018\18-1075 TxDOT 36-7IDP5039 Loop 9 CSJ 2964-10-005\7. Drafting\7.1 Boring Logs\7.1.1 Bridges\Wincore\Loop9 BRIDGE logs_11072019 - 1.clg

A1

DRILLING LOG

WinCore Version 3.3

County	Dallas	Hole	35NB_MLTYB_58	District	Dallas
Highway	Loop 9	Structure	Bridge	Date	2/14/19
CSJ	2964-10-005	Station	1846+03.20	Grnd. Elev.	663.42 ft
		Offset	49.50' RT	GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test Lateral Press. (psi)	Triaxial Test Deviator Stress (psi)	Properties MC	Properties LL	Properties PI	Properties Wet Den. (pcf)	Additional Remarks
			FILL, hard, moist, dark brown, trace limestone, and calcareous nodules							PP = 4.5
661.4			CLAY, soft to hard, moist, light brown, trace limestone, and calcareous nodules (CH)							trace asphalt, from 0' to 2'
						22	50	30		PP = 4.5
5		7 (6) 7 (6)								PP = 2.75
655.4			CLAY, hard, moist, dark gray (CH)							PP = 4.5
653.4 10		50 (1.5) 50 (1)								
			LIMESTONE, hard to very hard, gray							
15		50 (0.5) 50 (0.25)								
20		50 (0.5) 50 (0)								
638.4 25		50 (0.5) 50 (0)								

Remarks: NORTH: 6886842.557 ft, EAST: 2485861.323 ft. Free water was not encountered during drilling operations.

The ground water elevation was not determined during the course of this boring.

Driller: Steve Zeahler **Logger: Paulo Pereira** **Organization: Fugro USA Land, Inc.**

I:\Project Files\Projects-2018\18-1075 TxDOT 36-7IDP5039 Loop 9 CSJ 2964-10-005\7. Drafting\7.1 Boring Logs\7.1.1 Bridges\Wincore\Loop9 BRIDGE logs_11072019 - 1.clg

A2

STATE OF TEXAS
M. Pauline Morrel
P.E. 94443
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Sheet 5 of 69 Sheets

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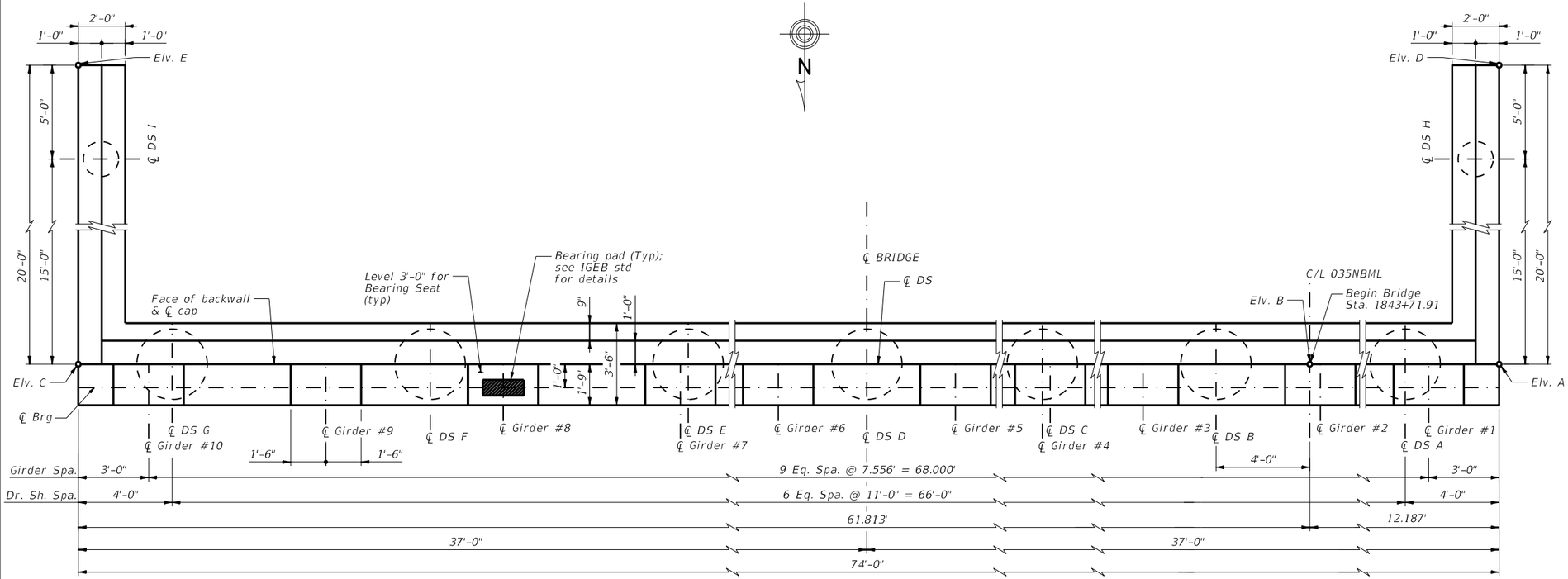
Dallas District Bridge

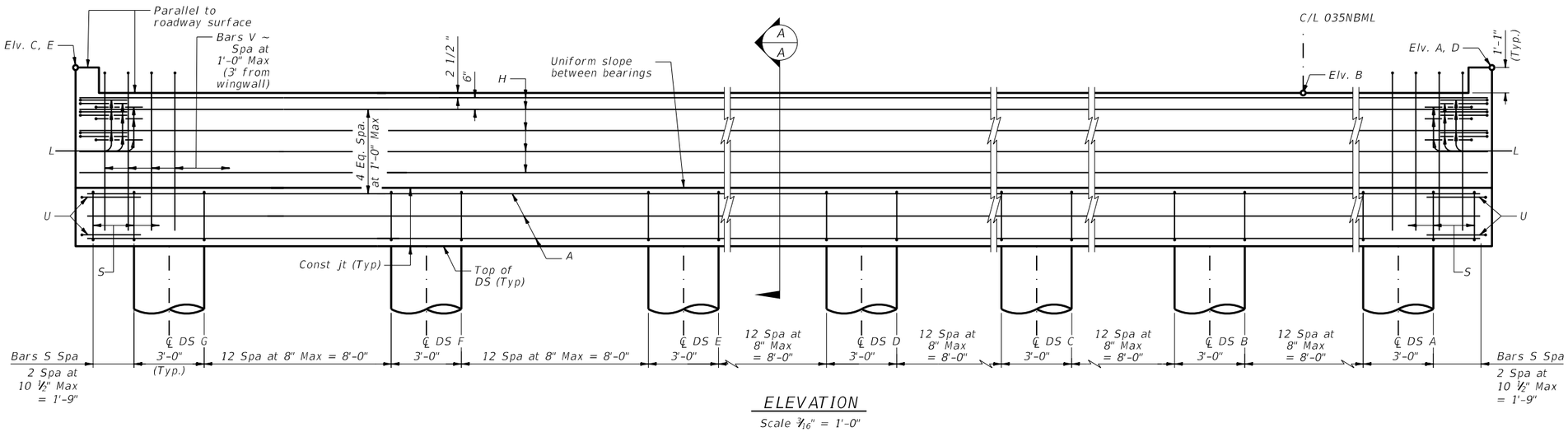
IH35E NBML
OVERPASS AT STATE LOOP 9
CORE BORING LOGS

FILE:	DN:	CK:	DW: BC	CK: MPM
©TxDOT 2023	CONT.	SECT.	JOB	HIGHWAY
REVISIONS	0442	03	042,ETC.	IH35E
	DIST.	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		862



PLAN

Scale 3/16" = 1'-0"



ELEVATION

Scale 3/16" = 1'-0"

TABLE OF ESTIMATED QUANTITIES FOR ONE ABUTMENT

Bar	No.	Size	Length	Weight
A	10	# 11	79'- 10"	4,242
H	10	# 6	75'- 10"	1,139
L	18	# 6	4'- 0"	108
S	84	# 5	11'- 2"	978
U	4	# 6	8'- 0"	48
V	73	# 5	14'- 3"	1,085
WH1	14	# 6	21'- 5"	450
WH2	24	# 6	19'- 8"	709
WS	42	# 4	7'- 6"	210
WV	42	# 5	14'- 3"	624
Reinforcing Steel			LB	9,594
Cl C Conc (Abut) (HPC)			CY	49.4

⊕ Bar length includes 6'-10" lap.

▪ Bar length includes 2'-2" lap.

General Notes:
Provide Class C High Performance Concrete (HPC), f'c = 3.6 ksi
Provide Grade 60 reinforcing steel.
Finish Bearing Seats with a wood float.
For framing details not shown, see Framing Plan.
See Foundation Detail standard sheet, FD, for all foundation details and notes.
See Concrete Riprap Standard sheet, CRR, for riprap attachment detail.
See railing standards for rail anchorage in wingwalls
Calculated Drilled Shaft Foundation Load = 121 Tons/Drilled Shaft.
See Abutment Misc. Details Sheet For details and information not shown here.
For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER

Alia Eckardt

05/26/2023

Texas Department of Transportation

Dallas District Bridge

IH35E
NBML OVERPASS AT STATE LOOP 9
ABUTMENT 1 DETAILS

Sheet 1 of 3

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		863

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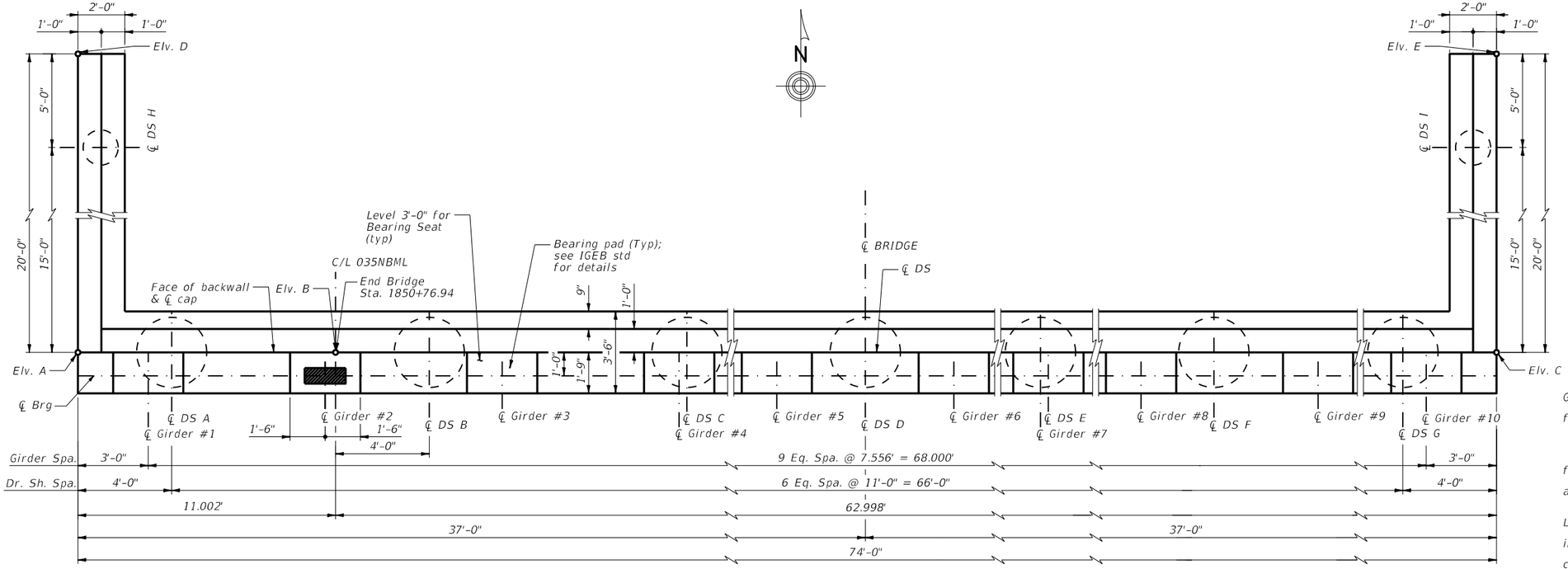
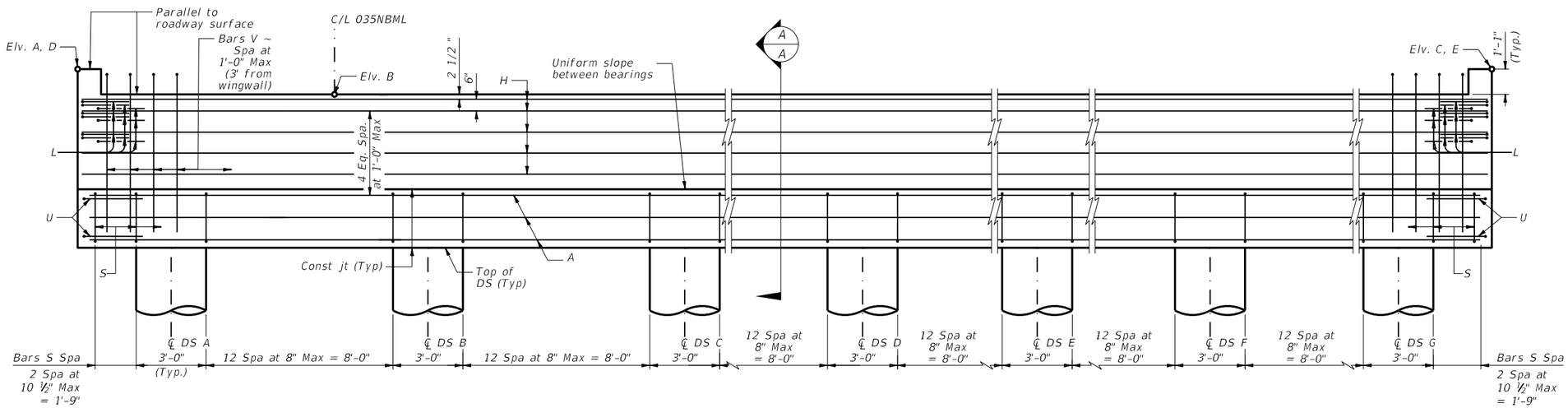


PLAN

Scale 3/16" = 1'-0"



ELEVATION

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S	84	# 5	11'- 2"	978
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WS	42	# 4	7'- 6"	210
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STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER

Alia Eckardt

05/26/2023

Texas Department of Transportation

Dallas District Bridge

IH35E
NBML OVERPASS AT STATE LOOP 9
ABUTMENT 8 DETAILS

Sheet 2 of 3

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
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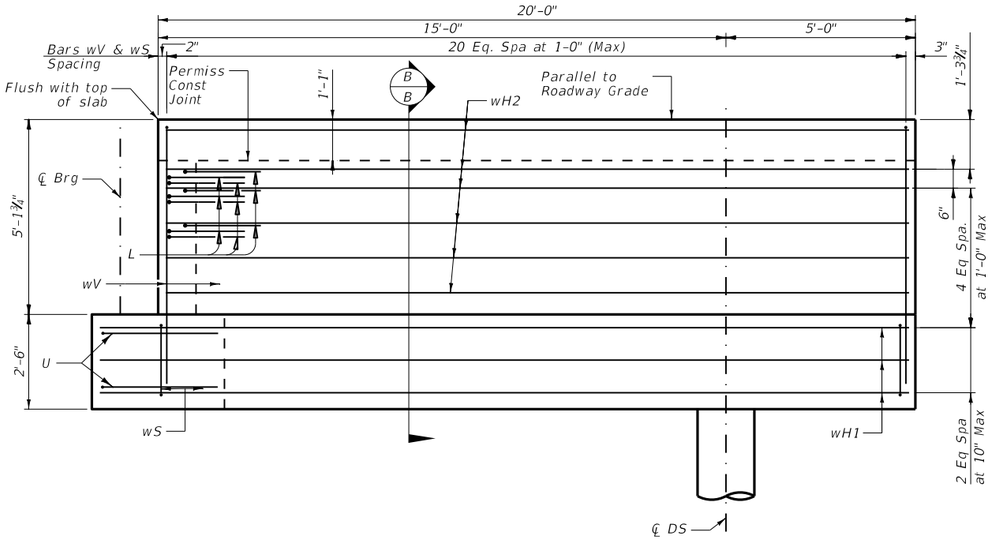
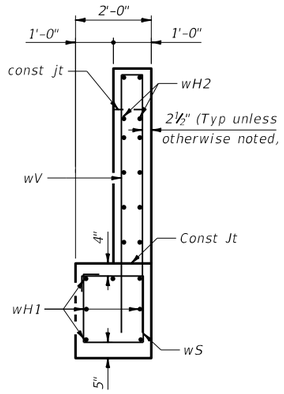
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		864



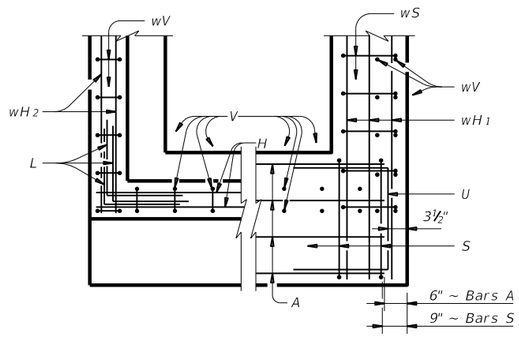
WINGWALL ELEVATION

Scale ¼" = 1'-0"



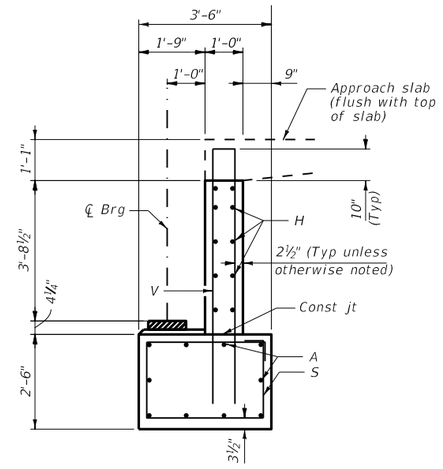
SECTION B-B

Scale ¼" = 1'-0"



BACKWALL CAP

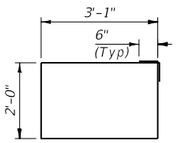
CORNER DETAILS



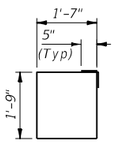
SECTION A-A

Scale ¼" = 1'-0"

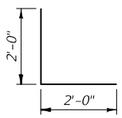
BARS V & wV



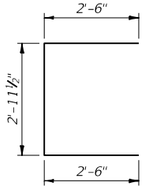
BARS S



BARS wS



BARS L



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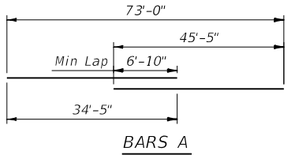
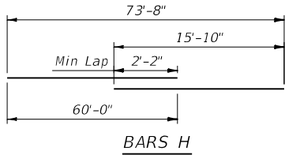


BARS A



BARS H

BEARING SEAT DETAIL

(Bearing surface must be clean and free of all loose material before placing bearing pad.)

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

CONTROL POINT		
Point	Abutment 1	Abutment 8
A	682.938'	684.127'
B	681.553'	682.771'
C	681.106'	682.294'
D	682.603'	683.859'
E	680.773'	682.029'

TOP OF DRILL SHAFTS		
Column	Abutment 1	Abutment 8
A	675.193'	676.382'
B	674.921'	676.110'
C	674.649'	675.837'
D	674.376'	675.565'
E	674.104'	675.292'
F	673.832'	675.020'
G	673.559'	674.748'
H	675.017'	676.257'
I	673.237'	674.476'

BEARING SEAT ELEVATION											
Bent		Girder #1	Girder #2	Girder #3	Girder #4	Girder #5	Girder #6	Girder #7	Girder #8	Girder #9	Girder #10
Abutment 1	Forward	677.859'	677.672'	677.485'	677.298'	677.111'	676.924'	676.737'	676.550'	676.363'	676.176'
Abutment 8	Backward	679.045'	678.858'	678.671'	678.483'	678.296'	678.109'	677.922'	677.735'	677.548'	677.361'

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Alia Eckardt

05/26/2023

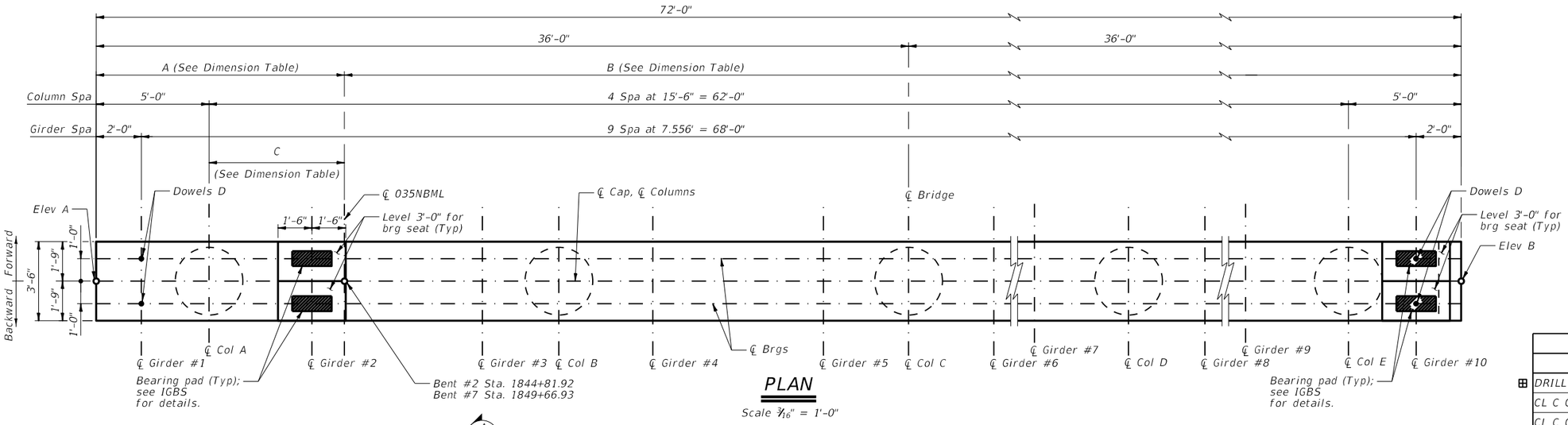
Texas Department of Transportation

Dallas District Bridge

IH35E
NBML OVERPASS AT STATE LOOP 9
ABUTMENT MISC. Details

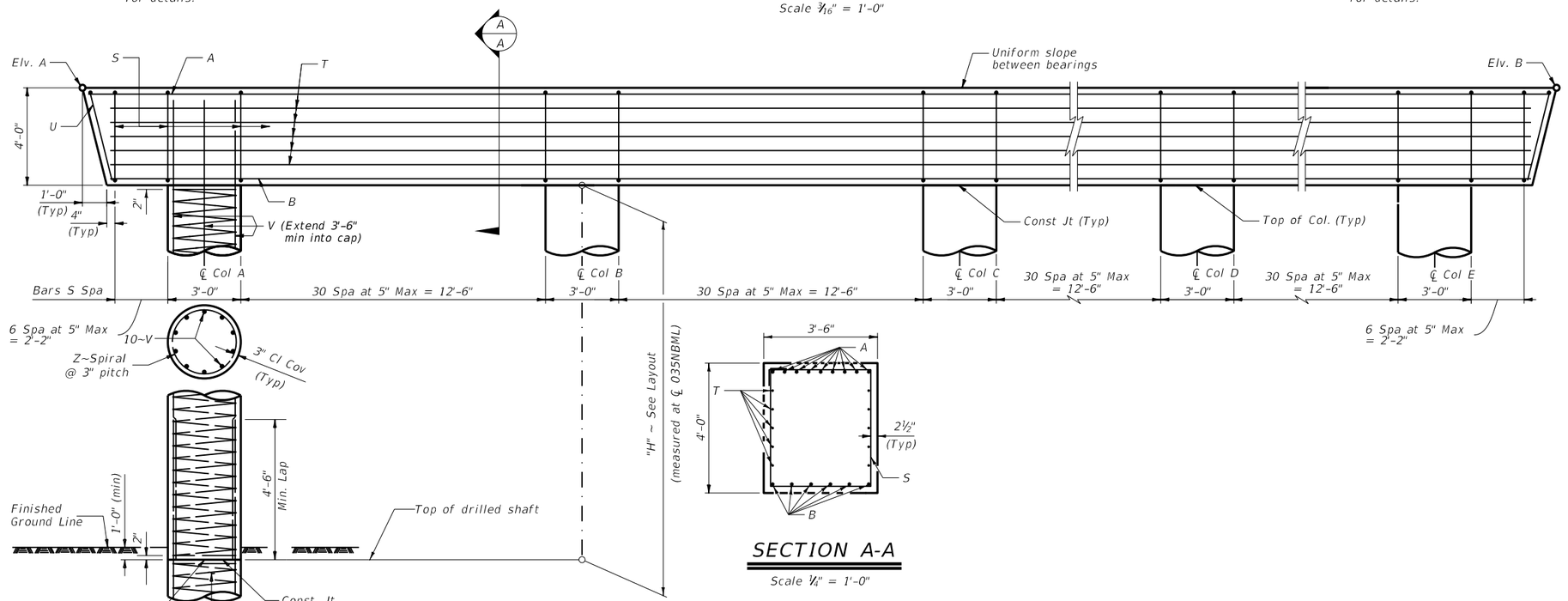
Sheet 3 of 3

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		865



PLAN

Scale 3/16" = 1'-0"



SECTION A-A

Scale 1/4" = 1'-0"

TABLE OF ESTIMATED QUANTITIES FOR ONE BENT

	Bar	No.	Size	Length	Weight
⊕	A	9	# 11	78'- 4"	3746
◪	B	6	# 11	75'- 0"	2391
	D	4	# 9	1'- 8"	23
	S	138	# 5	14'- 4"	2063
✳	T	10	# 5	71'- 7"	747
	U	2	# 5	10'- 5"	22
◆	Reinforcing Steel			LB	8,991
	Cl C Conc (CAP) (HPC)			CY	37.3

◆ For Contractor's Information only

⊕ Bar length includes 6'-10" lap.

◪ Bar length includes 5'-3" lap.

✳ Bar length includes 1'-10" lap.

⊞ Sulfate Resistant Concrete required.

ESTIMATED QUANTITIES

	ITEM	UNIT	Bent 2	Bent 7
⊞	DRILL SHAFT (36)	LF	70	80
	CL C CONC (CAP) (HPC)	CY	37.3	37.3
	CL C CONC (COLUMN) (HPC)	CY	23.6	23.6
◆	REINF STL	LB	14581	14,581

Dimension Table

Bent #	A	B	C
2	12.560'	59.440'	7.560'
7	11.744'	60.256'	6.744'

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

General Notes:

Provide Class C High Performance Concrete (HPC), f'c = 3.6 ksi

Provide Grade 60 reinforcing steel.

For framing details not shown, see Framing Plan.

Leave cap form supports in place until entire cap is ready for form removal.

Finish Bearing Seats with a wood float.

See "Bents 2-7, Misc. Details" sheet for bearing seat, top of column and control point elevation, and other details and information not shown here.

See Foundation Detail Standard Sheet, FD, for all foundation details and notes not shown.

Calculated Drilled Shaft Foundation Load = 328 Tons/Drilled Shaft.

For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

STATE OF TEXAS
ALIA S. ECKARDT
142809
LICENSED PROFESSIONAL ENGINEER

Alia Eckardt

05/26/2023

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Dallas District Bridge

IH35E
NBML OVERPASS AT STATE LOOP 9
BENTS 2, 7 DETAILS

SHEET 1 OF 4

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
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REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		866

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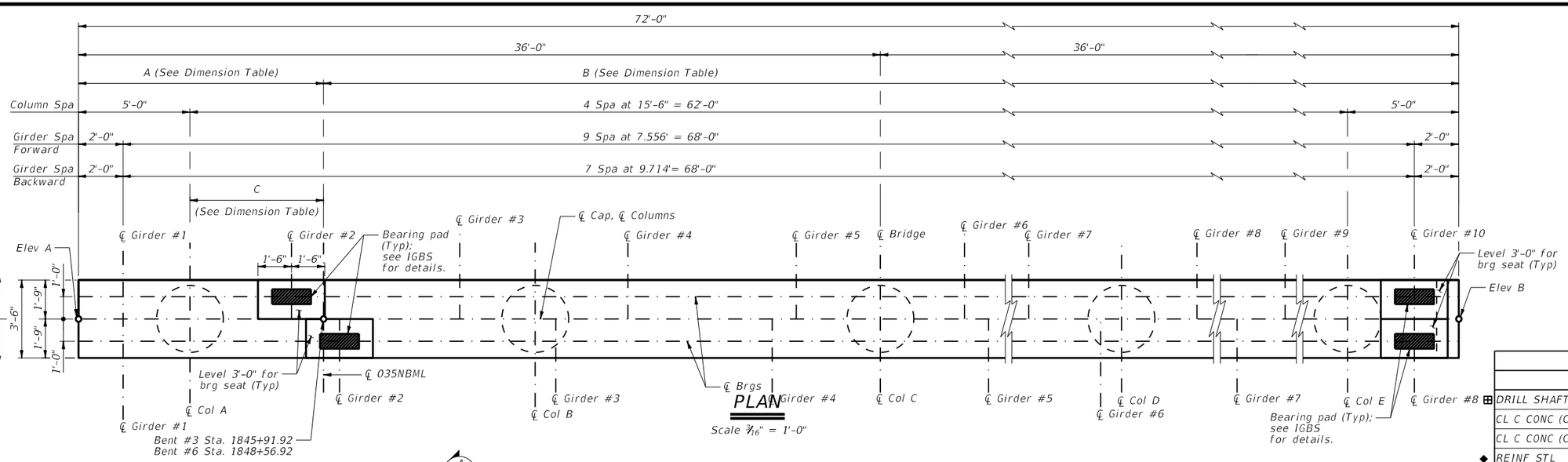


PLAN

Scale 7/16" = 1'-0"

TABLE OF ESTIMATED QUANTITIES FOR ONE BENT				
Bar	No.	Size	Length	Weight
⊕ A	8	# 11	78'- 4"	3329
⊠ B	6	# 11	75'- 0"	2391
S	118	# 5	14'- 4"	1764
✳ T	10	# 5	71'- 7"	747
U	2	# 5	10'- 5"	22
◆ Reinforcing Steel		LB		8,253
Cl C Conc (CAP) (HPC)		CY		37.3

◆ For Contractor's Information only

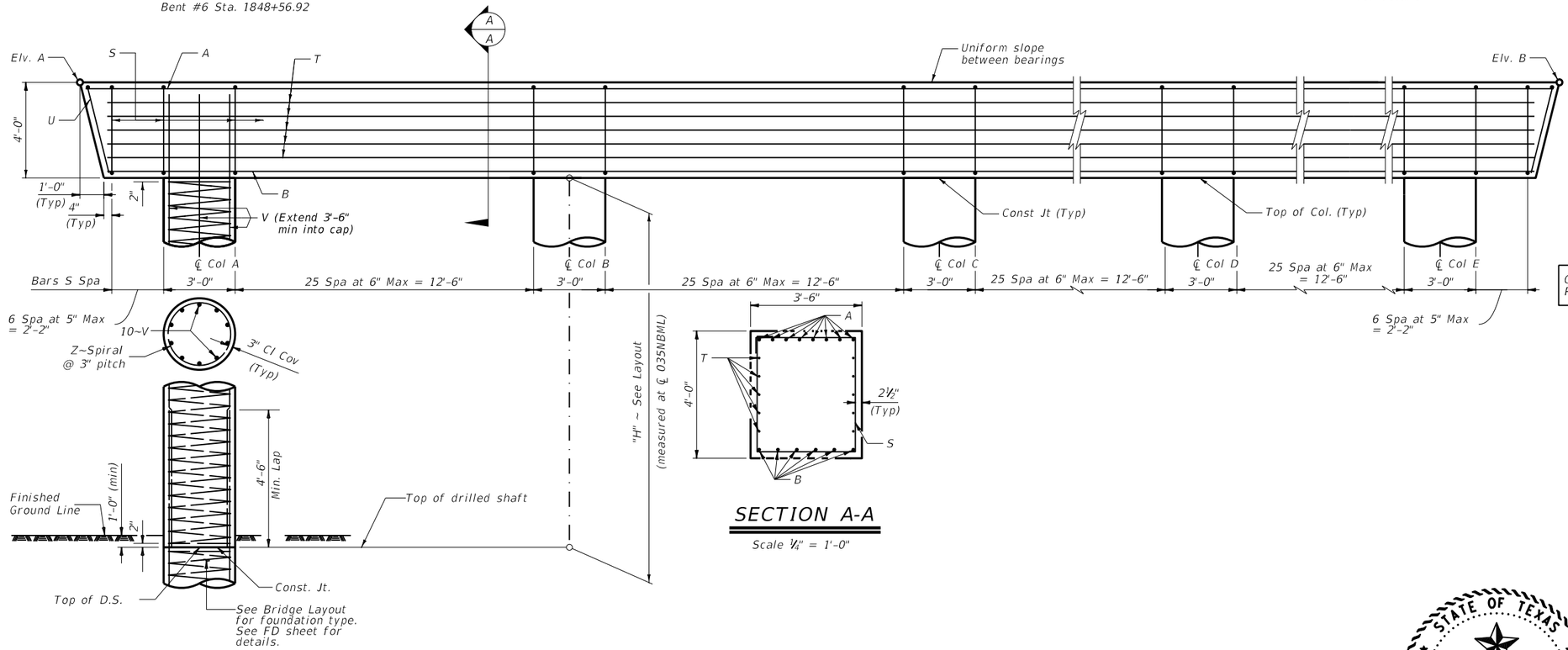
⊕ Bar length includes 6'-10" lap.

⊠ Bar length includes 5'-3" lap.

✳ Bar length includes 1'-10" lap.

⊞ Sulfate Resistant Concrete required.

ESTIMATED QUANTITIES			
ITEM	UNIT	Bent 3	Bent 6
DRILL SHAFT (36)	LF	85	85
CL C CONC (CAP) (HPC)	CY	37.3	37.3
CL C CONC (COLUMN) (HPC)	CY	19.6	20.9
◆ REINF STL	LB	13018	13,293



Dimension Table			
Bent #	A	B	C
3	13.357'	58.643'	8.357'
6	12.911'	59.089'	7.911'

SECTION A-A

Scale ¼" = 1'-0"

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

General Notes:

Provide Class C High Performance Concrete (HPC), f'c = 3.6 ksi

Provide Grade 60 reinforcing steel.

For framing details not shown, see Framing Plan.

Leave cap form supports in place until entire cap is ready for form removal.

Finish Bearing Seats with a wood float.

See "Bents 2-7, Misc. Details" sheet for bearing seat, top of column and control point elevation, and other details and information not shown here.

See Foundation Detail Standard Sheet, FD, for all foundation details and notes not shown.

Calculated Drilled Shaft Foundation Load = 294 Tons/Drilled Shaft.

For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

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AT STATE LOOP 9
BENTS 3, 6 DETAILS

SHEET 2 OF 4

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	DIST	COUNTY		SHEET NO.
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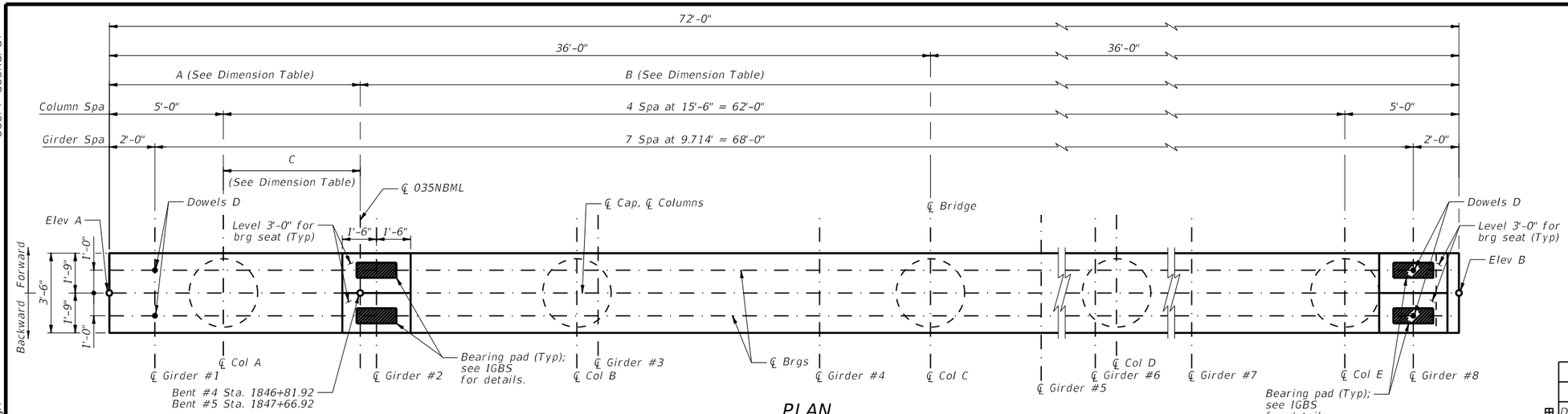
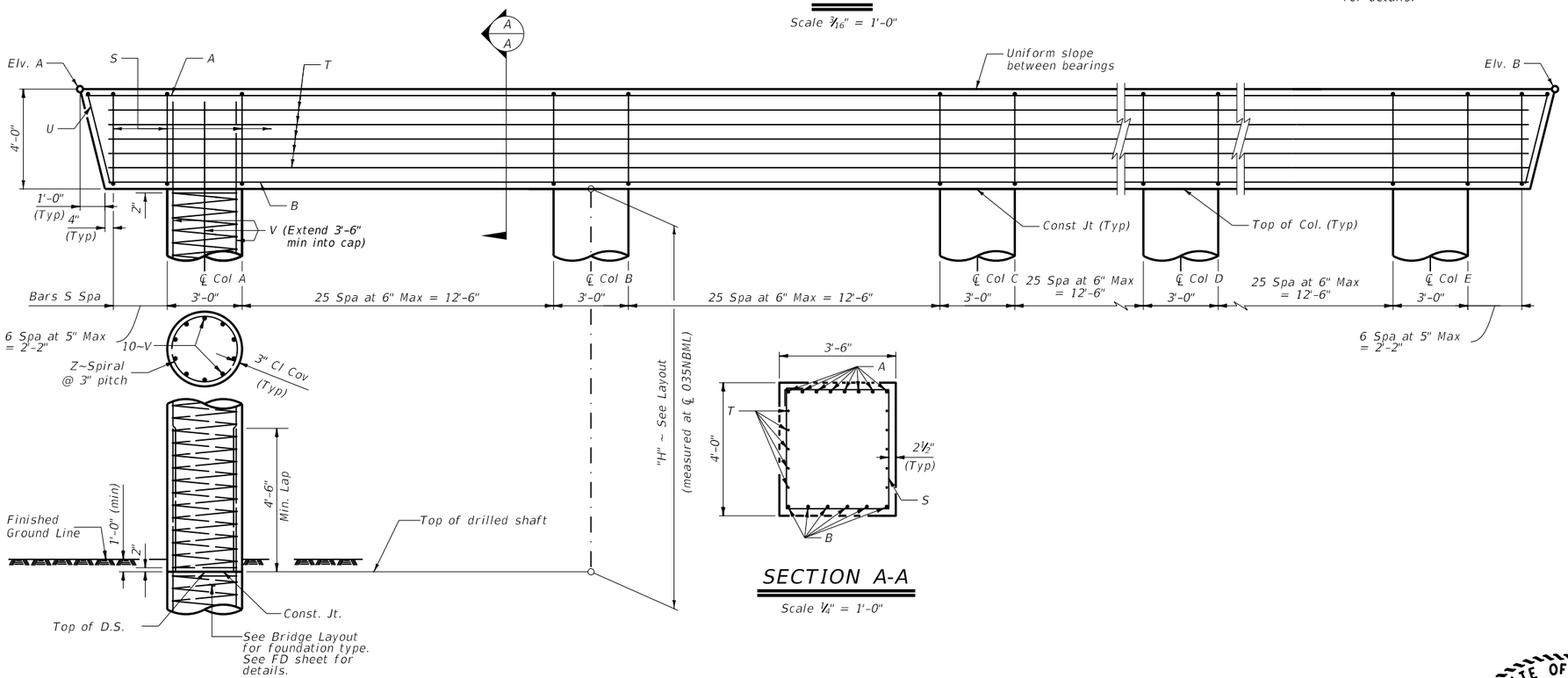


PLAN

Scale 3/16" = 1'-0"



SECTION A-A

Scale 1/4" = 1'-0"

TABLE OF ESTIMATED QUANTITIES FOR ONE BENT

	Bar	No.	Size	Length	Weight
⊕	A	8	# 11	78'- 4"	3329
◪	B	6	# 11	75'- 0"	2391
	D	4	# 9	1'- 8"	23
	S	118	# 5	14'- 4"	1764
✳	T	10	# 5	71'- 7"	747
	U	2	# 5	10'- 5"	22
◆	Reinforcing Steel			LB	8,275
	Cl C Conc (CAP) (HPC)			CY	37.2

◆ For Contractor's Information only

⊕ Bar length includes 6'-10" lap.

◪ Bar length includes 5'-3" lap.

✳ Bar length includes 1'-10" lap.

⊞ Sulfate Resistant Concrete required.

ESTIMATED QUANTITIES

	ITEM	UNIT	Bent 4	Bent 5
⊞	DRILL SHAFT (36)	LF	85	85
	CL C CONC (CAP) (HPC)	CY	37.2	37.2
	CL C CONC (COLUMN) (HPC)	CY	20.9	20.9
◆	REINF STL	LB	13315	13,315

Dimension Table

Bent #	A	B	C
4	13.580'	58.420'	8.580'
5	13.437'	58.563'	8.437'

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

General Notes:
Provide Class C High Performance Concrete (HPC), f'c = 3.6 ksi
Provide Grade 60 reinforcing steel.
For framing details not shown, see Framing Plan.
Leave cap form supports in place until entire cap is ready for form removal.
Finish Bearing Seats with a wood float.
See "Bents 2-7, Misc. Details" sheet for bearing seat, top of column and control point elevation, and other details and information not shown here.
See Foundation Detail Standard Sheet, FD, for all foundation details and notes not shown.
Calculated Drilled Shaft Foundation Load = 251 Tons/Drilled Shaft.
For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

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BENTS 4, 5 DETAILS

SHEET 3 OF 4

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BEARING SEAT ELEVATION											
Bent		Girder #1	Girder #2	Girder #3	Girder #4	Girder #5	Girder #6	Girder #7	Girder #8	Girder #9	Girder #10
Bent 2	Backward	679.378'	679.190'	679.002'	678.814'	678.625'	678.438'	678.249'	678.061'	677.873'	677.685'
	Forward	679.401'	679.213'	679.025'	678.837'	678.649'	678.461'	678.273'	678.085'	677.897'	677.709'
Bent 3	Backward	680.425'	680.237'	680.048'	679.860'	679.671'	679.482'	679.294'	679.105'	678.916'	678.728'
	Forward	680.440'	680.197'	679.955'	679.712'	679.470'	679.227'	678.985'	678.742'		
Bent 4	Backward	680.909'	680.666'	680.423'	680.180'	679.937'	679.694'	679.451'	679.209'		
	Forward	680.915'	680.673'	680.430'	680.187'	679.944'	679.701'	679.458'	679.216'		
Bent 5	Backward	681.055'	680.813'	680.570'	680.327'	680.084'	679.841'	679.598'	679.355'		
	Forward	681.055'	680.812'	680.570'	680.327'	680.084'	679.841'	679.598'	679.355'		
Bent 6	Backward	680.883'	680.641'	680.398'	680.156'	679.913'	679.671'	679.428'	679.185'		
	Forward	680.876'	680.687'	680.498'	680.310'	680.121'	679.932'	679.744'	679.555'	679.366'	679.178'
Bent 7	Backward	680.216'	680.028'	679.839'	679.651'	679.463'	679.275'	679.087'	678.899'	678.711'	678.523'
	Forward	680.199'	680.011'	679.823'	679.635'	679.447'	679.258'	679.070'	678.882'	678.694'	678.506'

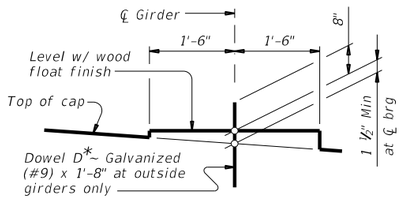
CONTROL POINT						
Point	Bent 2	Bent 3	Bent 4	Bent 5	Bent 6	Bent 7
A	679.303'	680.350'	680.834'	680.980'	680.801'	680.124'
B	677.510'	678.553'	679.034'	679.180'	679.003'	678.331'

TOP OF COLUMNS						
Column	Bent 2	Bent 3	Bent 4	Bent 5	Bent 6	Bent 7
A	675.178'	676.225'	676.709'	676.855'	676.676'	675.999'
B	674.792'	675.838'	676.322'	676.468'	676.289'	675.613'
C	674.407'	675.452'	675.934'	676.080'	675.902'	675.228'
D	674.021'	675.065'	675.547'	675.693'	675.515'	674.842'
E	673.635'	674.678'	675.159'	675.305'	675.128'	674.456'

COLUMMN SCHEDULE

"H"	V ~ 10 ~ # 9		Z Bars #4 Spiral		Est. Quant. ~5Col. Reinf. St	Conc.
ft	Length	Mass	Length	Mass	Lb	CY
12.00	15.50	527	390	261	3940	15.7
13.00	16.50	561	422	282	4215	17.0
14.00	17.50	595	453	303	4490	18.3
15.00	18.50	629	485	324	4765	19.6
16.00	19.50	663	516	345	5040	20.9
17.00	20.50	697	548	366	5315	22.3
18.00	21.50	731	579	387	5590	23.6
19.00	22.50	765	611	408	5865	24.9
20.00	23.50	799	642	429	6140	26.2
21.00	24.50	833	673	450	6415	27.5
22.00	25.50	867	705	471	6689	28.8

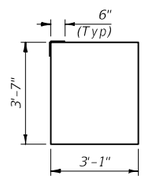
Adjust spiral Z length by 15.73 Ft. and bars V length by 0.5 Ft. for each 0.5 Ft. variation in 'H' Value.
Adjust Estimated Quantity of Concrete for each column by 0.132 CY for each 0.5 Ft. variation in 'H' Value.
Adjust Estimated Quantity of Reinforcing Steel for each column by 27.6 Lb for each 0.5 Ft. variation in 'H' Value.



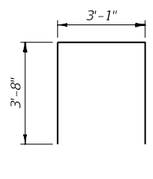
BEARING SEAT DETAIL

(Bearing surface must be clean and free of all loose material before placing bearing pad.)

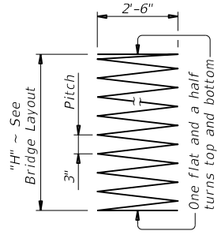
*Dowel D at outside girders of Bents 2, 4, 5, and 7 only.



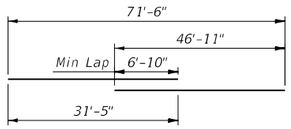
BARS S



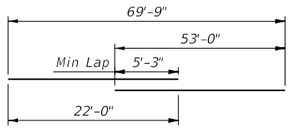
BARS U



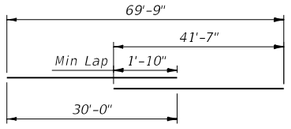
BARS Z



BARS A



BARS B



BARS T

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BENTS 2-7 MISC. DETAILS

SHEET 4 OF 4

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REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		869

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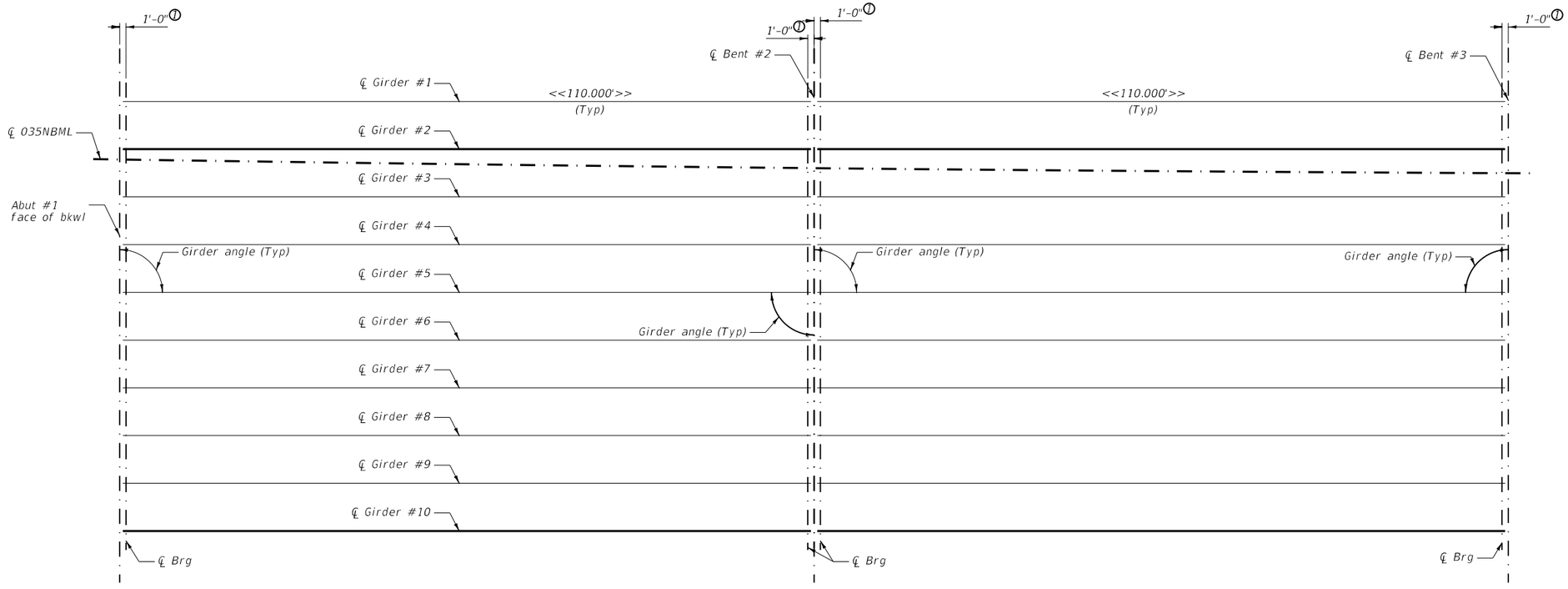

SPAN 1

(Tx46 Girders)

BENT REPORT

BENT NO. 1 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 9.187 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 1	BEAM 1	0.000	90	0	0
	BEAM 2	7.556	90	0	0
	BEAM 3	7.556	90	0	0
	BEAM 4	7.556	90	0	0
	BEAM 5	7.556	90	0	0
	BEAM 6	7.556	90	0	0
	BEAM 7	7.556	90	0	0
	BEAM 8	7.556	90	0	0
	BEAM 9	7.556	90	0	0
	BEAM 10	7.556	90	0	0
	TOTAL	68.000			

BENT NO. 2 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 10.560 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 1	BEAM 1	0.000	90	0	0
	BEAM 2	7.556	90	0	0
	BEAM 3	7.556	90	0	0
	BEAM 4	7.556	90	0	0
	BEAM 5	7.556	90	0	0
	BEAM 6	7.556	90	0	0
	BEAM 7	7.556	90	0	0
	BEAM 8	7.556	90	0	0
	BEAM 9	7.556	90	0	0
	BEAM 10	7.556	90	0	0
	TOTAL	68.000			

BENT NO. 3 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 11.356 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 2	BEAM 1	0.000	90	0	0
	BEAM 2	7.556	90	0	0
	BEAM 3	7.556	90	0	0
	BEAM 4	7.556	90	0	0
	BEAM 5	7.556	90	0	0
	BEAM 6	7.556	90	0	0
	BEAM 7	7.556	90	0	0
	BEAM 8	7.556	90	0	0
	BEAM 9	7.556	90	0	0
	BEAM 10	7.556	90	0	0
	TOTAL	68.000			

SPAN 2

(Tx46 Girders)

BEAM REPORT

BEAM REPORT, SPAN 1

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG. ②	BEAM SLOPE
BEAM 1	110.001	108.001	109.51	0.0141
BEAM 2	110.001	108.001	109.51	0.0140
BEAM 3	110.001	108.001	109.51	0.0140
BEAM 4	110.001	108.001	109.51	0.0140
BEAM 5	110.001	108.001	109.51	0.0140
BEAM 6	110.001	108.001	109.51	0.0140
BEAM 7	110.001	108.001	109.51	0.0140
BEAM 8	110.001	108.001	109.51	0.0140
BEAM 9	110.001	108.001	109.51	0.0140
BEAM 10	110.001	108.001	109.51	0.0140

BEAM REPORT, SPAN 2

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG. ②	BEAM SLOPE
BEAM 1	109.997	107.997	109.50	0.0095
BEAM 2	109.997	107.997	109.50	0.0095
BEAM 3	109.997	107.997	109.50	0.0095
BEAM 4	109.997	107.997	109.50	0.0095
BEAM 5	109.997	107.997	109.50	0.0095
BEAM 6	109.997	107.997	109.50	0.0095
BEAM 7	109.997	107.997	109.50	0.0095
BEAM 8	109.997	107.997	109.50	0.0094
BEAM 9	109.997	107.997	109.50	0.0094
BEAM 10	109.997	107.997	109.50	0.0094

① - See Elastomeric Bearing & Girder End Details (IGEB) standard sheet for orientation of dimension.
② - Lengths shown are bottom girder flange length with adjustment made for girder slope.

General Note:

Dimension shown thus <<X.XXX'>> represent horizontal beam length Face of Abut. Bkwl. to centerline of Bent or Centerline to Centerline of Bents.

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IH35E
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FRAMING PLAN~ UNIT 1

Sheet 1 of 3

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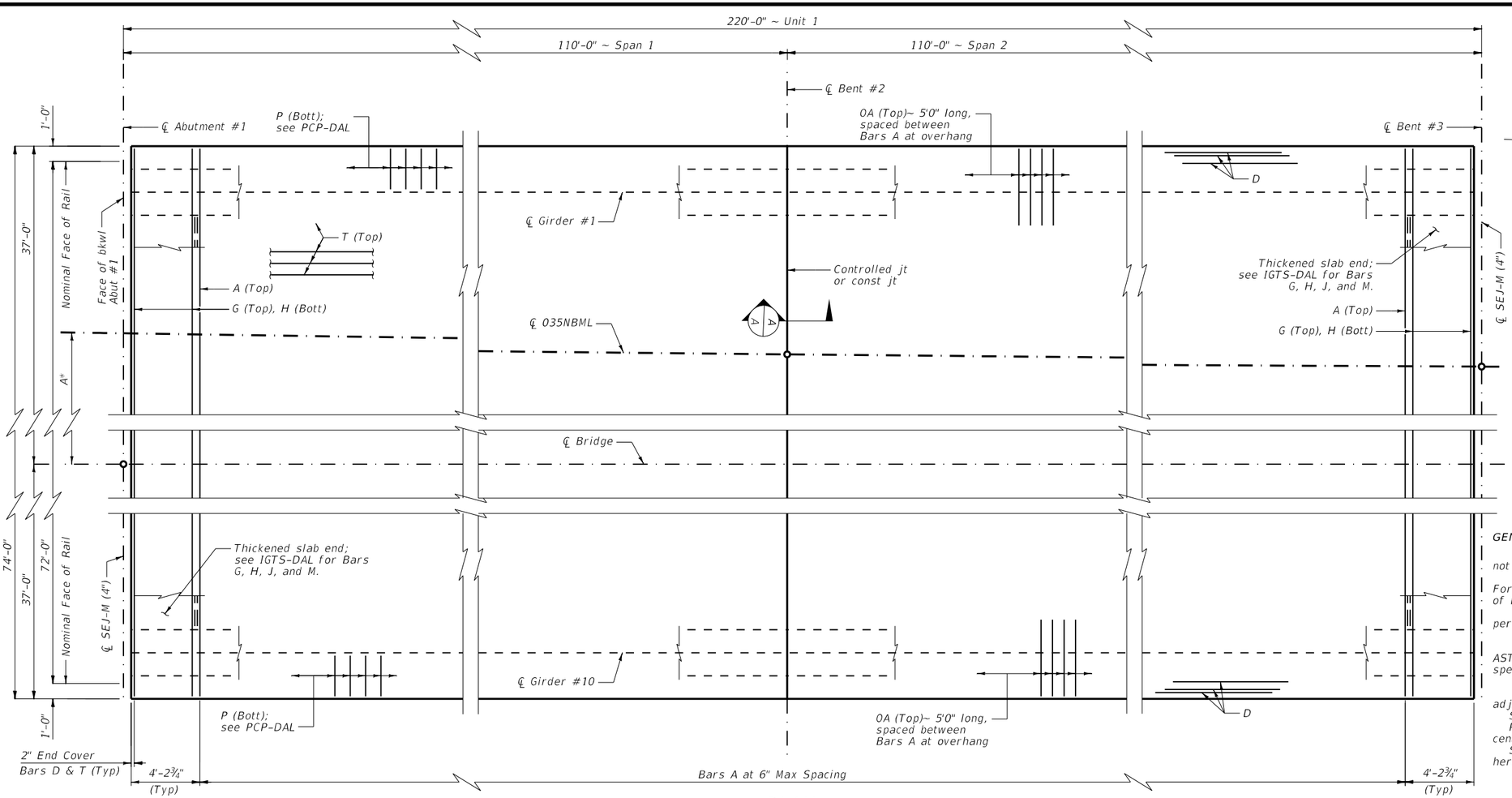
	DAL	ELLIS/DALLAS		870



* See "A" Value Table (measured at and along the center line of abutment/bent).

PLAN

Scale: ⅛" = 1'

"A" value Table		
Unit	Abut/Bent	A
1	1	24.813'
	2	23.440'
	3	22.644'

BAR TABLE	
BAR	SIZE
A	#5
D	#5
G	#5
H	#5
J	#5
M	#5
P	#4
T	#4
0A	#5

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
REINF CONC SLAB (HPC)(CL S)	SF	16,280
(1) PRESTR CONC GIRDER (TY TX46)	LF	2,190.10
(2) (3) REINF STL	LB	55,352

(1) ~ Lengths shown are bottom girder flange lengths with adjustment made for girder slope.

(2) ~ For Contractor's information only

(3) ~ Reinforcing Steel Weight is calculated using an approximate factor of 3.4 LB/SF for slab

GENERAL NOTES:

For beam, misc. slab and thickened slab end details not shown, see IGD, IGMS-DAL, IGTS-DAL.

For Sealed Expansion Joint details not shown, see SEJ-M. For Sealed Expansion Joint Quantities not shown, see Summary of Estimated Quantities.

Place and finish not less than 30 feet of Bridge Deck concrete per hour.

For rail details not shown, see Traffic Rail Type SSTR .

For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

For framing details not shown, see Framing Plan.

See PCP-DAL, PCP-FAB or PMDF Standards for details and quantity adjustments if either of these options are used.

See layout for surface texture requirements.

Provide a construction joint or control joint at the center line of interior bents 2.

See Typical Transverse Section Sheet for information not shown here.

Material Notes:

Provide Class S High Performance Concrete, f'c = 4.0 ksi.

Provide epoxy coated, Grade 60 reinforcing.

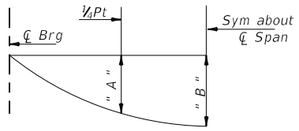
Where required, provide bar laps as follows:

#4 = 2'-5"

#5 = 3'-0"

Deformed Welded Wire Reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars A, D, 0A, P or T unless noted otherwise. Provide the same laps as required for reinforcing bars

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.



DEAD LOAD DEFLECTIONS DIAGRAM

Note: Deflection shown are due to concrete slab only (Ec = 5000 ksi). Calculated deflections shown are theoretical and actual dimensions may be less. Deflections shall be adjusted based on field observations.

		"A"	"B"
Spans	Girders	Ft.	Ft.
1,2	1,10	0.083	0.117
	2-9	0.077	0.109

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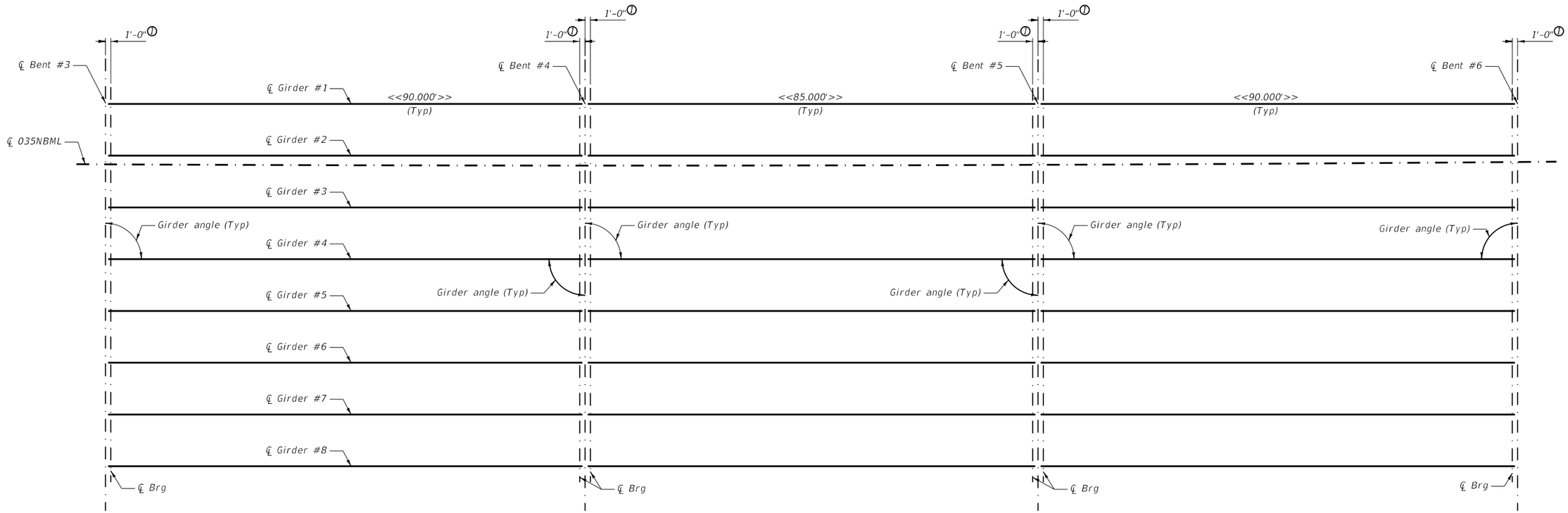
IH35E
NBML OVERPASS AT STATE LOOP 9
SLAB DETAILS, UNIT 1

SHEET 1 OF 4

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		871

DATE: 5/23/2023 TIME: 1:34:32 PM FILE: c:\txdot\pw\online\txdot5\pwonline*alia.eckardt\d0853159\IH35E*NBSpans.dgn User: aeckardt



SPAN 3
(Tx46 Girders)

SPAN 4
(Tx46 Girders)

SPAN 5
(Tx46 Girders)

BENT REPORT

BENT NO. 3 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 11.356 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 3	BEAM 1	0.000	90	0	0
	BEAM 2	9.714	90	0	0
	BEAM 3	9.714	90	0	0
	BEAM 4	9.714	90	0	0
	BEAM 5	9.714	90	0	0
	BEAM 6	9.714	90	0	0
	BEAM 7	9.714	90	0	0
	BEAM 8	9.714	90	0	0
	TOTAL	68.000			

BENT NO. 4 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 11.580 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 3	BEAM 1	0.000	90	0	0
	BEAM 2	9.714	90	0	0
	BEAM 3	9.714	90	0	0
	BEAM 4	9.714	90	0	0
	BEAM 5	9.714	90	0	0
	BEAM 6	9.714	90	0	0
	BEAM 7	9.714	90	0	0
	BEAM 8	9.714	90	0	0
	TOTAL	68.000			
SPAN 4	BEAM 1	0.000	90	0	0
	BEAM 2	9.714	90	0	0
	BEAM 3	9.714	90	0	0
	BEAM 4	9.714	90	0	0
	BEAM 5	9.714	90	0	0
	BEAM 6	9.714	90	0	0
	BEAM 7	9.714	90	0	0
	BEAM 8	9.714	90	0	0
	TOTAL	68.000			

BENT NO. 5 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 11.437 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 4	BEAM 1	0.000	90	0	0
	BEAM 2	9.714	90	0	0
	BEAM 3	9.714	90	0	0
	BEAM 4	9.714	90	0	0
	BEAM 5	9.714	90	0	0
	BEAM 6	9.714	90	0	0
	BEAM 7	9.714	90	0	0
	BEAM 8	9.714	90	0	0
	TOTAL	68.000			
SPAN 5	BEAM 1	0.000	90	0	0
	BEAM 2	9.714	90	0	0
	BEAM 3	9.714	90	0	0
	BEAM 4	9.714	90	0	0
	BEAM 5	9.714	90	0	0
	BEAM 6	9.714	90	0	0
	BEAM 7	9.714	90	0	0
	BEAM 8	9.714	90	0	0
	TOTAL	68.000			

BENT NO. 6 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 10.911 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 5	BEAM 1	0.000	90	0	0
	BEAM 2	9.714	90	0	0
	BEAM 3	9.714	90	0	0
	BEAM 4	9.714	90	0	0
	BEAM 5	9.714	90	0	0
	BEAM 6	9.714	90	0	0
	BEAM 7	9.714	90	0	0
	BEAM 8	9.714	90	0	0
	TOTAL	68.000			

BEAM REPORT

BEAM REPORT, SPAN 3

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.②	BEAM SLOPE
BEAM 1	90.000	88.000	89.50	0.0053
BEAM 2	90.000	88.000	89.50	0.0053
BEAM 3	90.000	88.000	89.50	0.0053
BEAM 4	90.000	88.000	89.50	0.0053
BEAM 5	90.000	88.000	89.50	0.0053
BEAM 6	90.000	88.000	89.50	0.0053
BEAM 7	90.000	88.000	89.50	0.0053
BEAM 8	90.000	88.000	89.50	0.0053

BEAM REPORT, SPAN 4

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.②	BEAM SLOPE
BEAM 1	85.000	83.000	84.50	0.0017
BEAM 2	85.000	83.000	84.50	0.0017
BEAM 3	85.000	83.000	84.50	0.0017
BEAM 4	85.000	83.000	84.50	0.0017
BEAM 5	85.000	83.000	84.50	0.0017
BEAM 6	85.000	83.000	84.50	0.0017
BEAM 7	85.000	83.000	84.50	0.0017
BEAM 8	85.000	83.000	84.50	0.0017

BEAM REPORT, SPAN 5

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.②	BEAM SLOPE
BEAM 1	89.998	87.998	89.50	-0.0020
BEAM 2	89.998	87.998	89.50	-0.0020
BEAM 3	89.998	87.998	89.50	-0.0019
BEAM 4	89.998	87.998	89.50	-0.0019
BEAM 5	89.998	87.998	89.50	-0.0019
BEAM 6	89.998	87.998	89.50	-0.0019
BEAM 7	89.998	87.998	89.50	-0.0019
BEAM 8	89.998	87.998	89.50	-0.0019

① - See Elastomeric Bearing & Girder End Details (IGEB) standard sheet for orientation of dimension.
② - Lengths shown are bottom girder flange length with adjustment made for girder slope.

General Note:

Dimension shown thus <<X.XXX'>> represent horizontal beam length Face of Abut. Bkwl. to centerline of Bent or Centerline to Centerline of Bents.

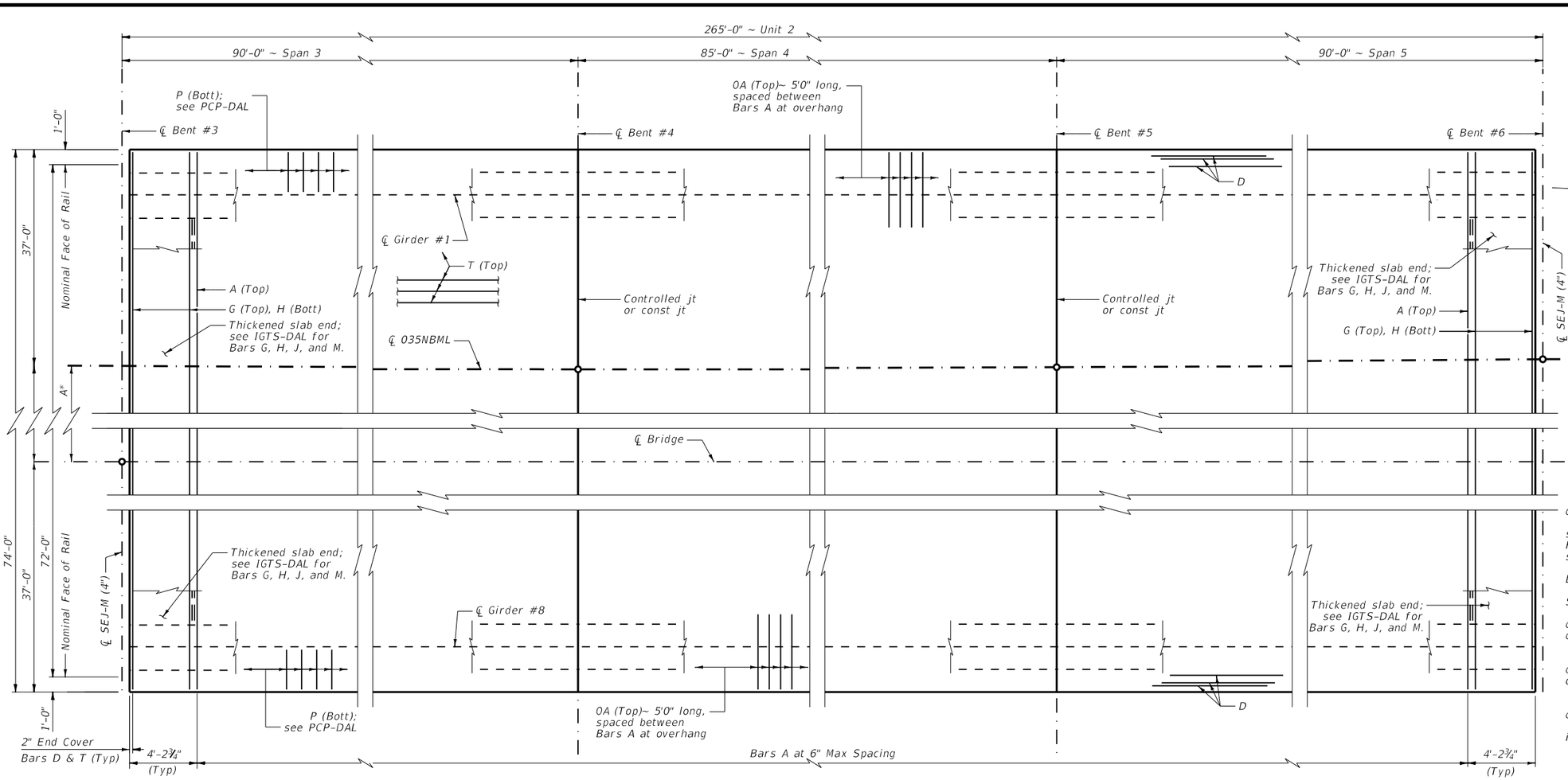
STATE OF TEXAS
ALIA S. ECKARDT
142809
LICENSED PROFESSIONAL ENGINEER
05/26/2023

Texas Department of Transportation
Dallas District Bridge

IH35E
NBML OVERPASS AT STATE LOOP 9
FRAMING PLAN~ UNIT 2

Sheet 2 of 3

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		872



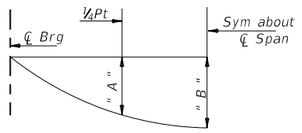
* See "A" Value Table (measured at and along the center line of bent).

PLAN

Scale: ⅛" = 1'

"A" value Table		
Unit	Bent	A
2	3	22.644'
	4	22.420'
	5	22.563'
	6	23.089'

BAR TABLE	
BAR	SIZE
A	#5
D	#5
G	#5
H	#5
J	#5
M	#5
P	#4
T	#4
0A	#5



DEAD LOAD DEFLECTIONS DIAGRAM

Note: Deflection shown are due to concrete slab only (Ec = 5000 ksi). Calculated deflections shown are theoretical and actual dimensions may be less. Deflections shall be adjusted based on field observations.

Spans	Girders	"A" Ft.	"B" Ft.
3,5	1,8	0.041	0.059
	2-7	0.044	0.062
4	1,8	0.033	0.046
	2-7	0.035	0.049

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
REINF CONC SLAB (HPC)(CL S)	SF	19,610
(1) PRESTR CONC GIRDER (TY TX46)	LF	2,108.00
(2) (3) REINF STL	LB	66,674

(1) ~ Lengths shown are bottom girder flange lengths with adjustment made for girder slope.

(2) ~ For Contractor's information only

(3) ~ Reinforcing Steel Weight is calculated using an approximate factor of 3.4 LB/SF for slab

GENERAL NOTES:

For beam, misc. slab and thickened slab end details not shown, see IGD, IGMS-DAL, IGTS-DAL.

For Sealed Expansion Joint details not shown, see SEJ-M.

For Sealed Expansion Joint Quantities not shown, see Summary of Estimated Quantities.

Place and finish not less than 30 feet of Bridge Deck concrete per hour.

For rail details not shown, see Traffic Rail Type SSTR .

For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

For framing details not shown, see Framing Plan.

See PCP-DAL, PCP-FAB or PMDF Standards for details and quantity adjustments if either of these options are used.

See layout for surface texture requirements.

Provide a construction joint or control joint at the center line of interior bents 4 and 5.

See Typical Transverse Section Sheet for information not shown here.

Material Notes:

Provide Class S High Performance Concrete, f'c = 4.0 ksi.

Provide epoxy coated, Grade 60 reinforcing. Where required, provide bar laps as follows:

#4 = 2'-5"

#5 = 3'-0"

Deformed Welded Wire Reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars A, D, 0A, P or T unless noted otherwise. Provide the same laps as required for reinforcing bars.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

STATE OF TEXAS
ALIA S. ECKARDT
142809
LICENSED PROFESSIONAL ENGINEER

05/26/2023

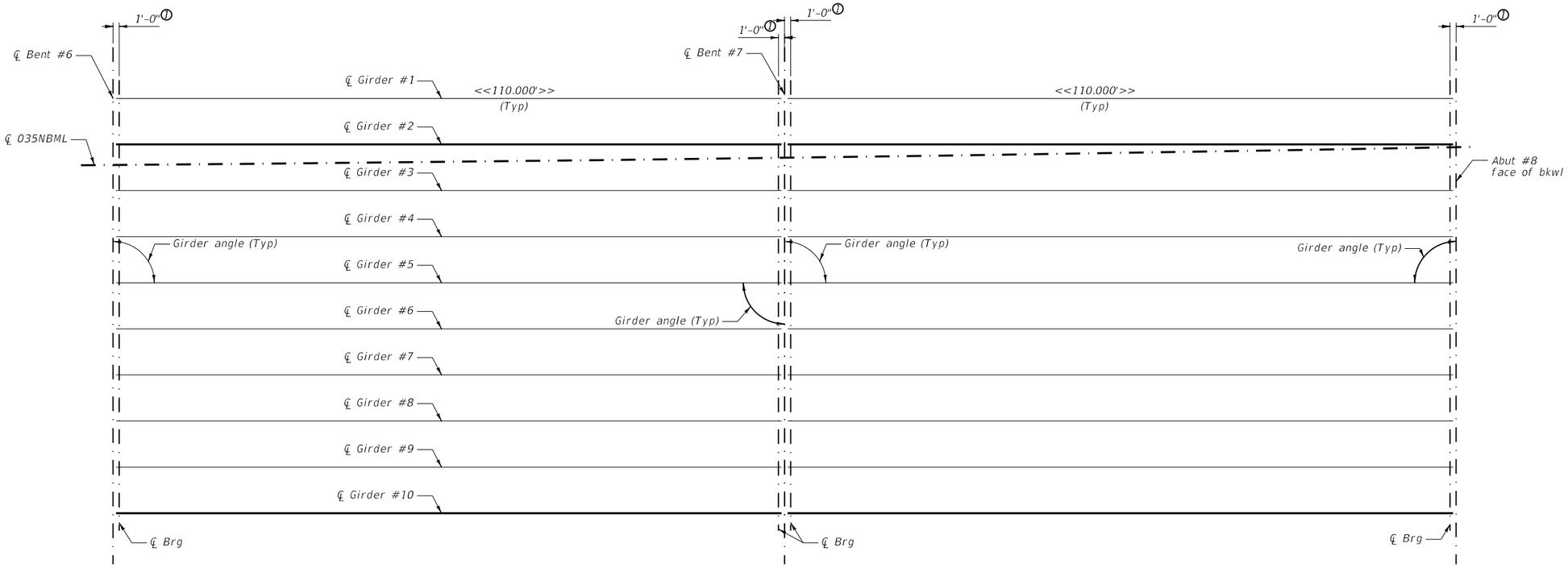
Texas Department of Transportation

Dallas District Bridge

IH35E
NBML OVERPASS AT STATE LOOP 9
SLAB DETAILS, UNIT 2

SHEET 2 OF 4

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		873



SPAN 6

(Tx46 Girders)

SPAN 7

(Tx46 Girders)

BENT REPORT

BENT NO. 3 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 11.356 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 6	BEAM 1	0.000	90	0	0
	BEAM 2	7.556	90	0	0
	BEAM 3	7.556	90	0	0
	BEAM 4	7.556	90	0	0
	BEAM 5	7.556	90	0	0
	BEAM 6	7.556	90	0	0
	BEAM 7	7.556	90	0	0
	BEAM 8	7.556	90	0	0
	BEAM 9	7.556	90	0	0
	BEAM 10	7.556	90	0	0
	TOTAL	68.000			

BENT NO. 7 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 9.744 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 6	BEAM 1	0.000	90	0	0
	BEAM 2	7.556	90	0	0
	BEAM 3	7.556	90	0	0
	BEAM 4	7.556	90	0	0
	BEAM 5	7.556	90	0	0
	BEAM 6	7.556	90	0	0
	BEAM 7	7.556	90	0	0
	BEAM 8	7.556	90	0	0
	BEAM 9	7.556	90	0	0
	BEAM 10	7.556	90	0	0
	TOTAL	68.000			

SPAN 7	BEAM 1	0.000	90	0	0
	BEAM 2	7.556	90	0	0
	BEAM 3	7.556	90	0	0
	BEAM 4	7.556	90	0	0
	BEAM 5	7.556	90	0	0
	BEAM 6	7.556	90	0	0
	BEAM 7	7.556	90	0	0
	BEAM 8	7.556	90	0	0
	BEAM 9	7.556	90	0	0
	BEAM 10	7.556	90	0	0
	TOTAL	68.000			

BENT NO. 8 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 8.002 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 7	BEAM 1	0.000	90	0	0
	BEAM 2	7.556	90	0	0
	BEAM 3	7.556	90	0	0
	BEAM 4	7.556	90	0	0
	BEAM 5	7.556	90	0	0
	BEAM 6	7.556	90	0	0
	BEAM 7	7.556	90	0	0
	BEAM 8	7.556	90	0	0
	BEAM 9	7.556	90	0	0
	BEAM 10	7.556	90	0	0
	TOTAL	68.000			

BEAM REPORT

BEAM REPORT, SPAN 6

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.②	BEAM SLOPE
BEAM 1	110.004	108.004	109.51	-0.0061
BEAM 2	110.004	108.004	109.51	-0.0061
BEAM 3	110.004	108.004	109.51	-0.0061
BEAM 4	110.004	108.004	109.51	-0.0061
BEAM 5	110.004	108.004	109.51	-0.0061
BEAM 6	110.004	108.004	109.51	-0.0061
BEAM 7	110.004	108.004	109.51	-0.0061
BEAM 8	110.004	108.004	109.51	-0.0061
BEAM 9	110.004	108.004	109.51	-0.0061
BEAM 10	110.004	108.004	109.51	-0.0061

BEAM REPORT, SPAN 7

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.②	BEAM SLOPE
BEAM 1	109.996	107.996	109.50	-0.0107
BEAM 2	109.996	107.996	109.50	-0.0107
BEAM 3	109.996	107.996	109.50	-0.0107
BEAM 4	109.996	107.996	109.50	-0.0107
BEAM 5	109.996	107.996	109.50	-0.0106
BEAM 6	109.996	107.996	109.50	-0.0106
BEAM 7	109.996	107.996	109.50	-0.0106
BEAM 8	109.996	107.996	109.50	-0.0106
BEAM 9	109.996	107.996	109.50	-0.0106
BEAM 10	109.996	107.996	109.50	-0.0106

① - See Elastomeric Bearing & Girder End Details (GEB) standard sheet for orientation of dimension.
② - Lengths shown are bottom girder flange length with adjustment made for girder slope.

General Note:

Dimension shown thus <<X.XXX'>> represent horizontal beam length Face of Abut. Bkwl. to centerline of Bent or Centerline to Centerline of Bents.

STATE OF TEXAS
ALIA S. ECKARDT
142809
LICENSED PROFESSIONAL ENGINEER

Alia Eckardt

05/26/2023

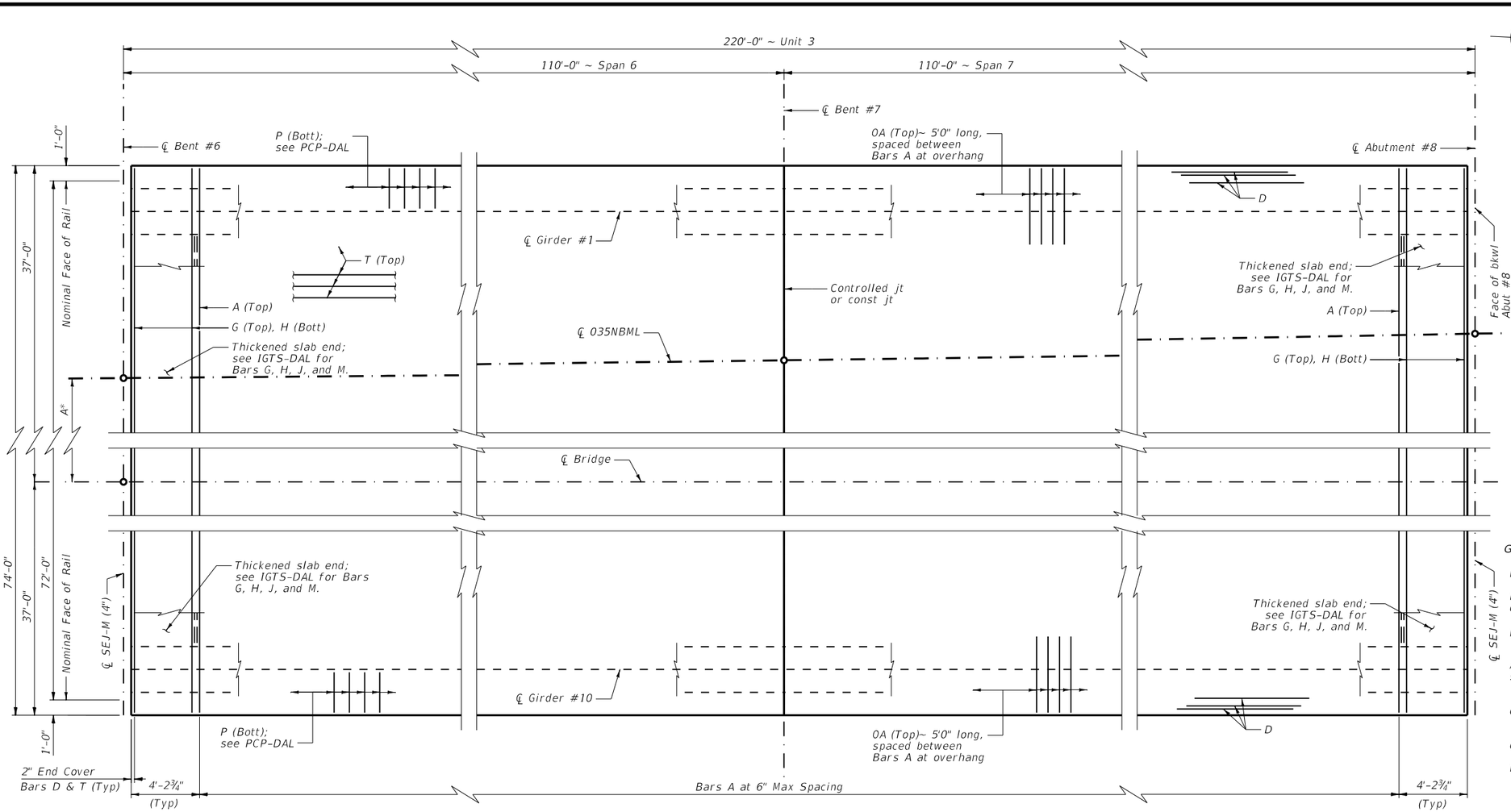
Texas Department of Transportation

Dallas District Bridge

IH35E
NBML OVERPASS AT STATE LOOP 9
FRAMING PLAN~ UNIT 3

Sheet 3 of 3

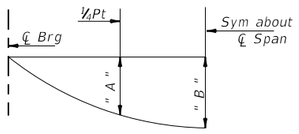
FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		874



* See "A" Value Table (measured at and along the center line of abutment/bent).

PLAN

Scale: ⅛" = 1'



DEAD LOAD DEFLECTIONS DIAGRAM

Note: Deflection shown are due to concrete slab only (Ec = 5000 ksi). Calculated deflections shown are theoretical and actual dimensions may be less. Deflections shall be adjusted based on field observations.

Spans	Girders	"A" Ft.	"B" Ft.
6,7	1,10	0.083	0.117
	2-9	0.077	0.109

BAR TABLE	
BAR	SIZE
A	#5
D	#5
G	#5
H	#5
J	#5
M	#5
P	#4
T	#4
0A	#5

"A" value Table		
Unit	Abut/Bent	A
3	6	23.089'
	7	24.256'
	8	25.998'

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
REINF CONC SLAB (HPC)(CL S)	SF	16,280
(1) PRESTR CONC GIRDER (TY TX46)	LF	2,190.10
(2) (3) REINF STL	LB	55,352

(1) ~ Lengths shown are bottom girder flange lengths with adjustment made for girder slope.

(2) ~ For Contractor's information only

(3) ~ Reinforcing Steel Weight is calculated using an approximate factor of 3.4 LB/SF for slab

GENERAL NOTES:

For beam, misc. slab and thickened slab end details not shown, see IGD, IGMS-DAL, IGTS-DAL.

For Sealed Expansion Joint details not shown, see SEJ-M.

For Sealed Expansion Joint Quantities not shown, see Summary of Estimated Quantities.

Place and finish not less than 30 feet of Bridge Deck concrete per hour.

For rail details not shown, see Traffic Rail Type SSTR .

For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

For framing details not shown, see Framing Plan.

See PCP-DAL, PCP-FAB or PMDF Standards for details and quantity adjustments if either of these options are used.

See layout for surface texture requirements.

Provide a construction joint or control joint at the center line of interior bents 7.

See Typical Transverse Section Sheet for information not shown here.

Material Notes:

Provide Class S High Performance Concrete, f'c = 4.0 ksi.

Provide epoxy coated, Grade 60 reinforcing.

Where required, provide bar laps as follows:

#4 = 2'-5"

#5 = 3'-0"

Deformed Welded Wire Reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars A, D, 0A, P or T unless noted otherwise. Provide the same laps as required for reinforcing bars.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

STATE OF TEXAS
ALIA S. ECKARDT
142809
LICENSED PROFESSIONAL ENGINEER

Alia Eckardt

05/26/2023

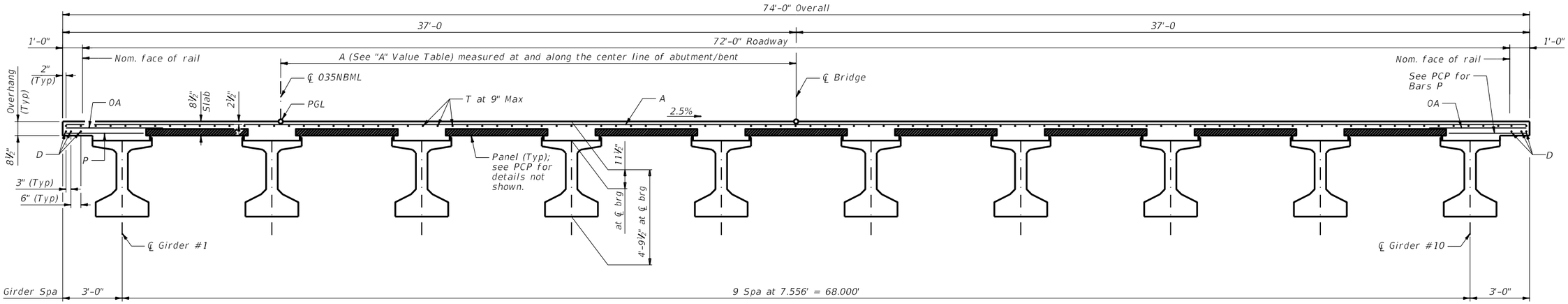
Texas Department of Transportation

Dallas District Bridge

IH35E NBML OVERPASS AT STATE LOOP 9 SLAB DETAILS, UNIT 3

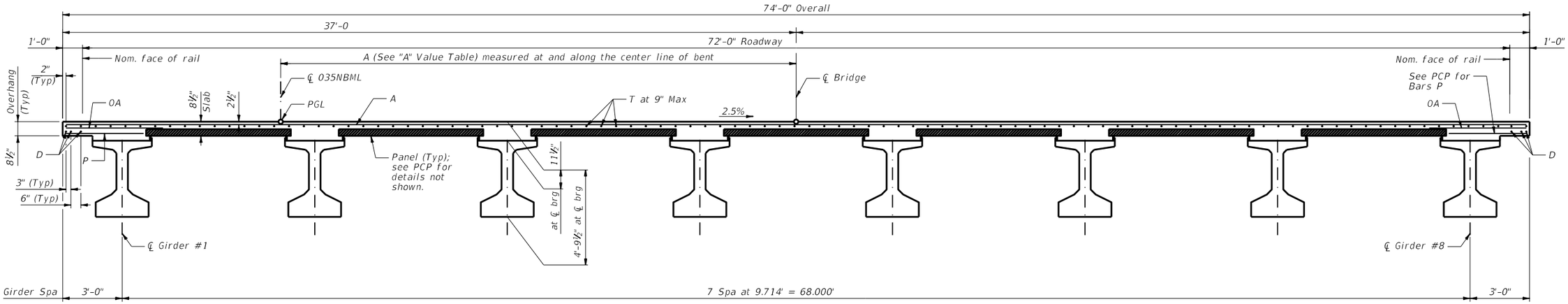
SHEET 3 OF 4

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		875



TYPICAL TRANSVERSE SECTION

Scale: 3/16" = 1'
(SPAN 1,2,6,7)



TYPICAL TRANSVERSE SECTION

Scale: 3/16" = 1'
(SPAN 3,4,5)

STATE OF TEXAS
ALIA S. ECKARDT
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LICENSED PROFESSIONAL ENGINEER

Alia Eckardt

05/26/2023

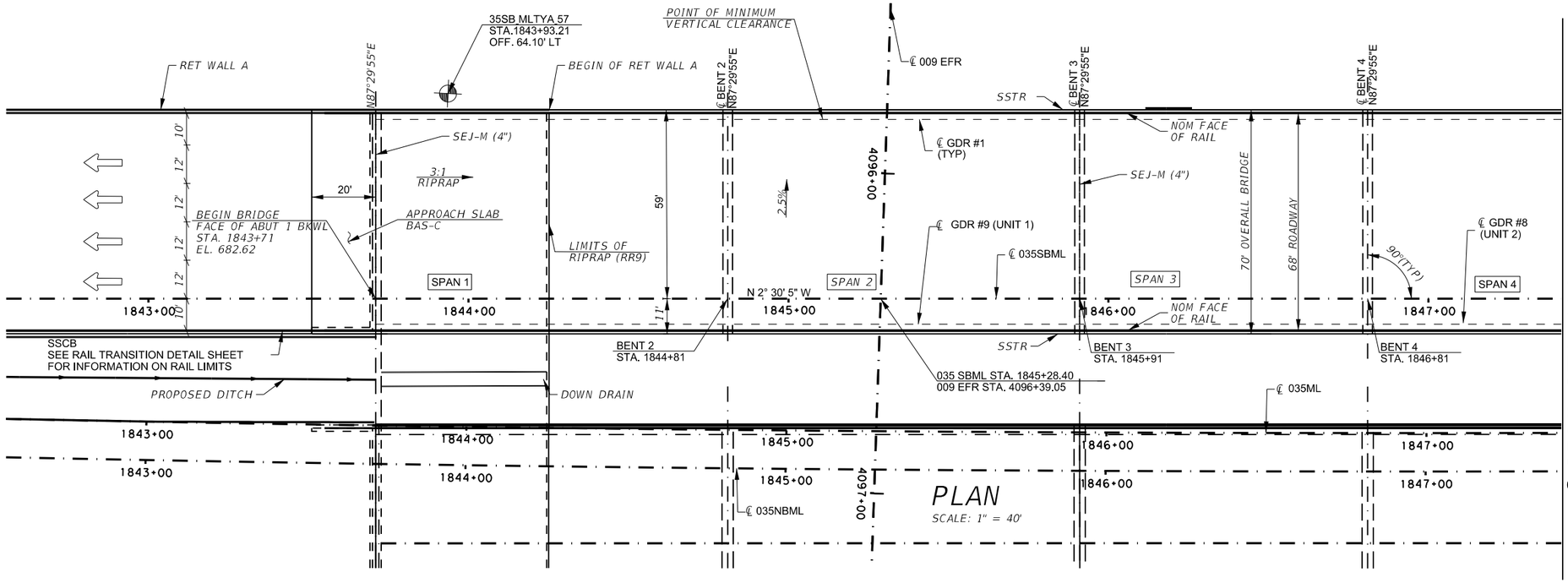
Texas Department of Transportation

Dallas District Bridge

IH35E
NBML OVERPASS AT STATE LOOP 9
TYPICAL TRANSVERSE SECTION

SHEET 4 OF 4

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		876



0 20 40
SCALE IN FEET

GENERAL NOTES:

BRIDGE DESIGNED FOR HL 93 LOADING UNDER 2017 AASHTO LRFD SPECIFICATIONS (8¨EDITION) AND CURRENT INTERIMS.

DESIGN SPEED = 70MPH
2021 ADT = 115,900
2041 ADT = 158,800
FUNC CLASS = URBAN FREEWAY

THE "H" VALUES ARE ESTIMATED COLUMN HEIGHTS, CONTRACTOR IS RESPONSIBLE FOR CALCULATING ACTUAL COLUMN HEIGHTS BASED ON FIELD CONDITIONS.

SAW CUT GROOVING OF THE BRIDGE AND APPROACH SLAB IS REQUIRED.

REFER TO ROADWAY PLAN & PROFILE SHEETS FOR LIMITS OF RIP RAP AND ROADWAY SUMMARY FOR QUANTITIES.

SEE PLAN & PROFILE AND GRADING SHEETS FOR DITCH AND DOWN DRAIN DETAILS.

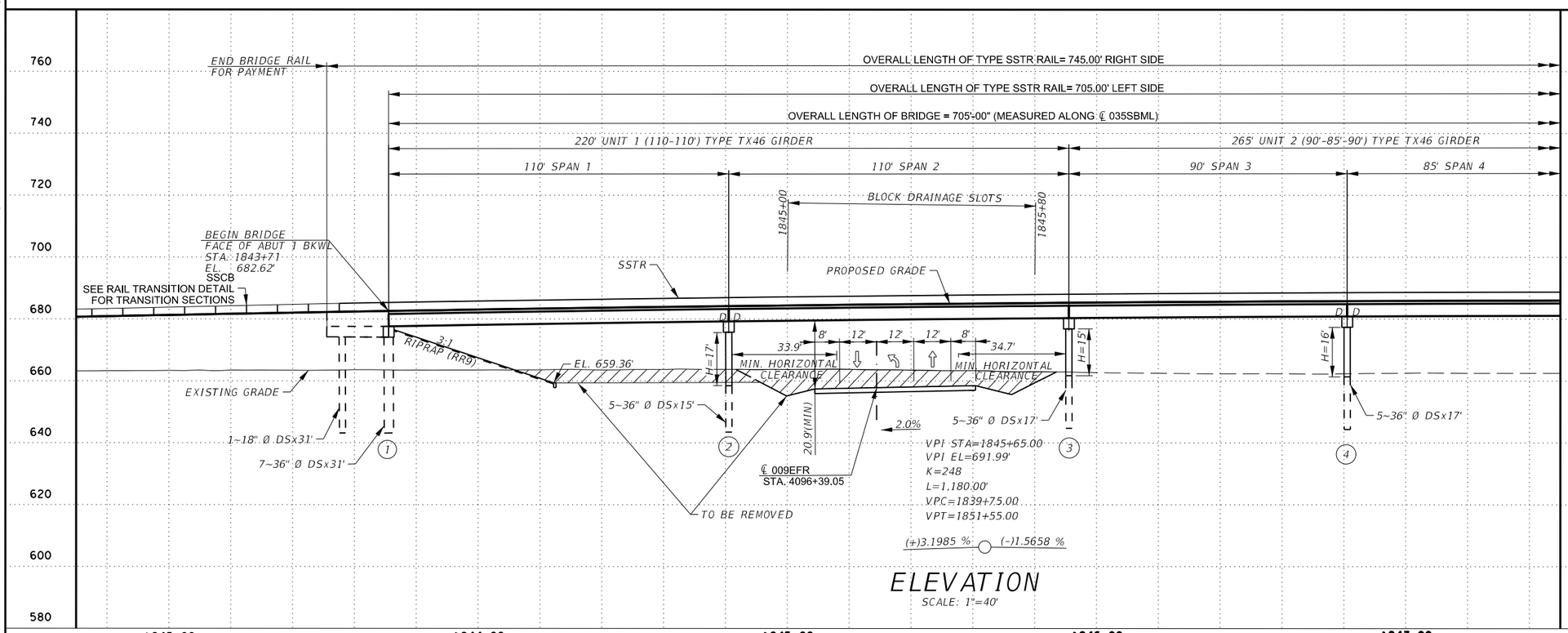
SEE BORING LOG SHEETS FOR TEST HOLE INFORMATION.

"D" DENOTES DOWELED END CONDITION. SEE BENT DETAILS FOR DOWEL LOCATION.

FOUNDATION NOTES:

FOUND DRILLED SHAFTS AT THE ELEVATION SHOWN OR DEEPER AS NECESSARY TO PENETRATE LIMESTONE THE FOLLOWING MINIMUM DISTANCES:
INTERIOR BENTS = 4 FT.
ABUTMENTS = 4 FT.

NBI NO: 18-071-0-0442-03-456



STATE OF TEXAS
ALIA S. ECKARDT
142809
LICENSED PROFESSIONAL ENGINEER

STATE OF TEXAS
M. Pauline Morrel
P.E. 94443
LICENSED PROFESSIONAL ENGINEER

FOUNDATION DESIGN ONLY

Alia Eckardt 05/26/2023

MPMorrel 08/11/2023

HL 93 LOADING
SUPERSTRUCTURE INV/OPR RATINGS: 1.00/1.93
Sheet 20 of 69 Sheets

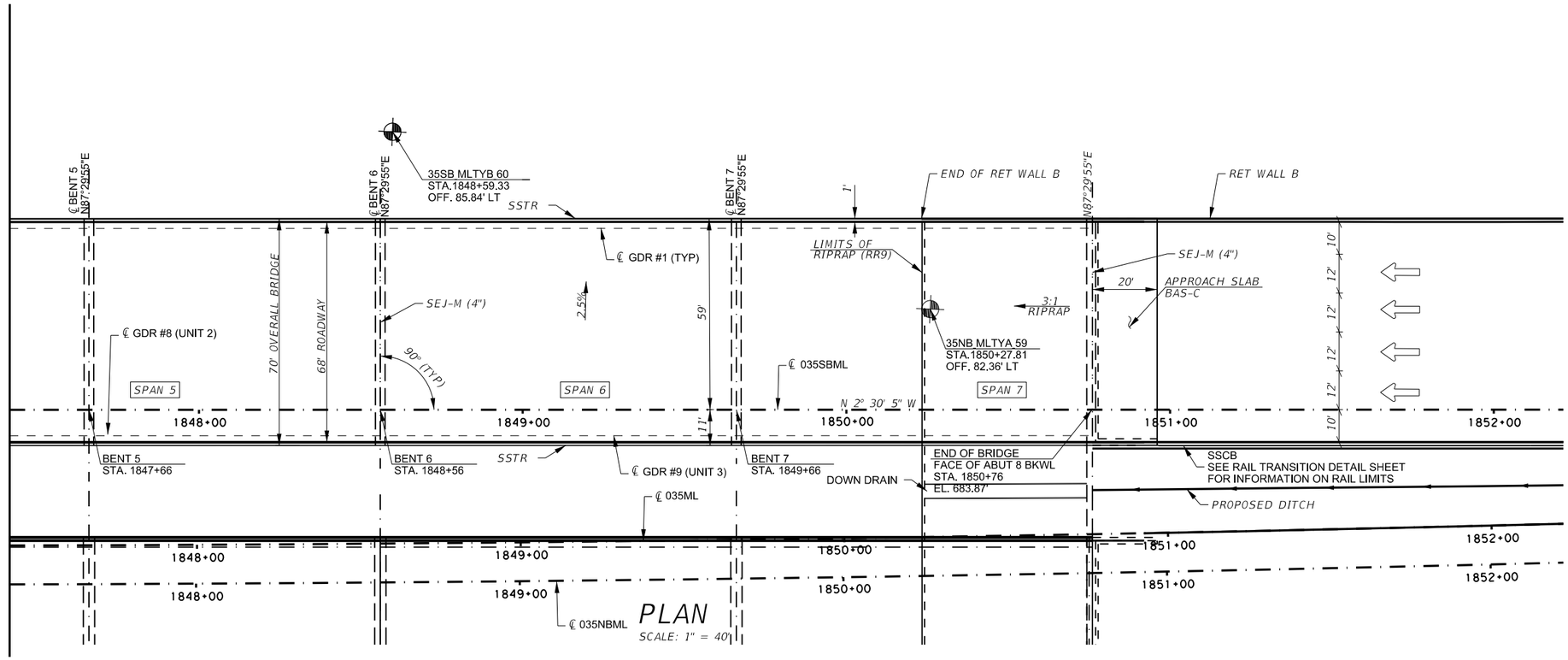
Texas Department of Transportation | Dallas District Bridge

IH35E SBML
OVERPASS AT STATE LOOP 9
BRIDGE LAYOUT

SHEET 1 OF 2

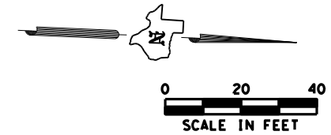
FILE:	DN: WE	CK: MPM	DW: WE	CK: MPM
©TxDOT 2023 REVISIONS	CONT	SECT	JOB	HIGHWAY
	0442	03	042,ETC.	IH35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		877

℄ SBML STA. 1847+50.00



PLAN

SCALE: 1" = 40'



GENERAL NOTES:

BRIDGE DESIGNED FOR HL 93 LOADING UNDER 2017 AASHTO LRFD SPECIFICATIONS (8th EDITION) AND CURRENT INTERIMS.

DESIGN SPEED = 70MPH
2021 ADT = 115,900
2041 ADT = 158,800
FUNC CLASS = URBAN FREEWAY

THE "H" VALUES ARE ESTIMATED COLUMN HEIGHTS, CONTRACTOR IS RESPONSIBLE FOR CALCULATING ACTUAL COLUMN HEIGHTS BASED ON FIELD CONDITIONS.

SAW CUT GROOVING OF THE BRIDGE AND APPROACH SLAB IS REQUIRED.

REFER TO ROADWAY PLAN & PROFILE SHEETS FOR LIMITS OF RIP RAP AND ROADWAY SUMMARY FOR QUANTITIES.

SEE PLAN AND PROFILE AND GRADING SHEETS FOR DITCH AND DOWN DRAIN DETAILS.

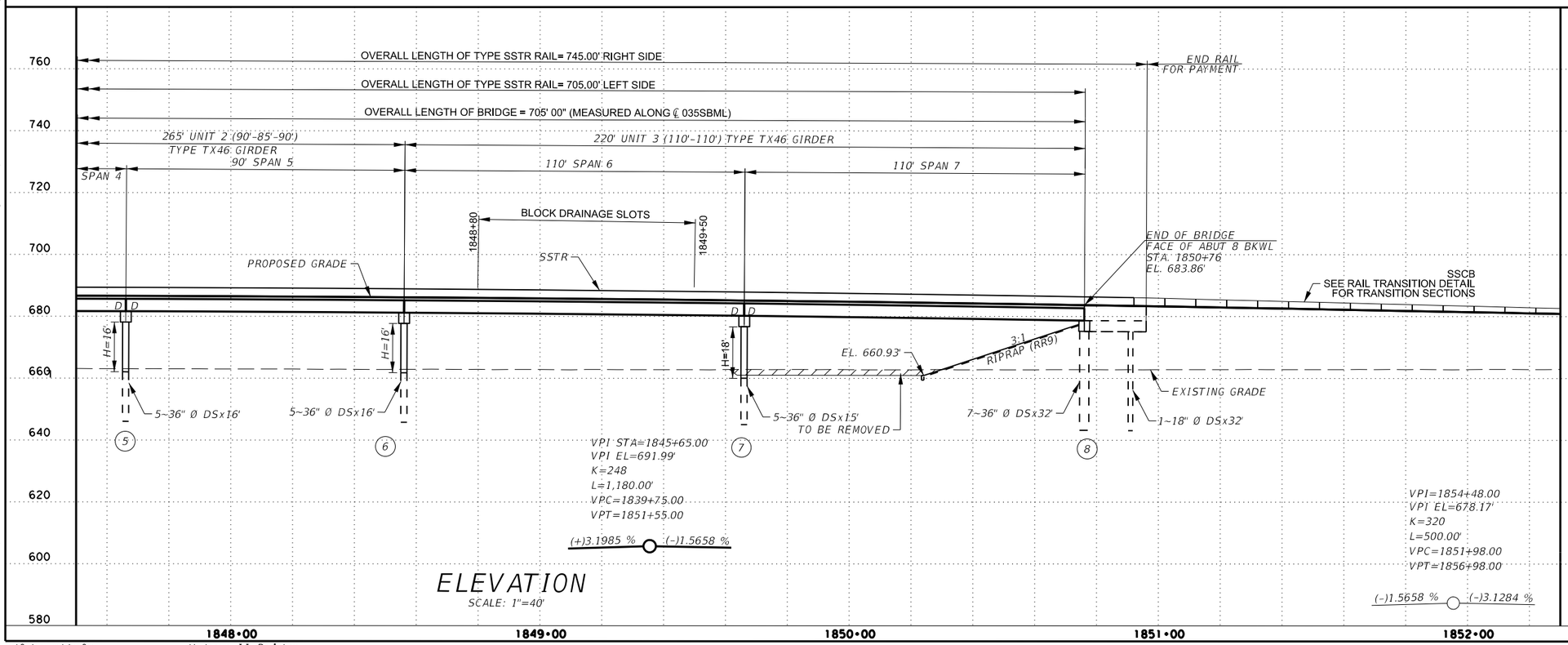
SEE BORING LOG SHEETS FOR TEST HOLE INFORMATION.

"D" DENOTES DOWELED END CONDITION. SEE BENT DETAILS FOR DOWEL LOCATION.

FOUNDATION NOTES:

FOUND DRILLED SHAFTS AT THE ELEVATION SHOWN OR DEEPER AS NECESSARY TO PENETRATE LIMESTONE THE FOLLOWING MINIMUM DISTANCES:
INTERIOR BENTS = 4 FT.
ABUTMENTS = 4 FT.

NBI NO: 18-071-0-0442-03-456



ELEVATION

SCALE: 1"=40'

STATE OF TEXAS
ALIA S. ECKARDT
142809
LICENSED PROFESSIONAL ENGINEER

STATE OF TEXAS
M. Pauline Morrel
P.E. 94443
LICENSED PROFESSIONAL ENGINEER

FOUNDATION DESIGN ONLY

Alia Eckardt 05/26/2023

MPMorrel 08/11/2023

HL 93 LOADING
SUPERSTRUCTURE INV/OPR RATINGS: 1.00/1.93
Sheet 21 of 69 Sheets

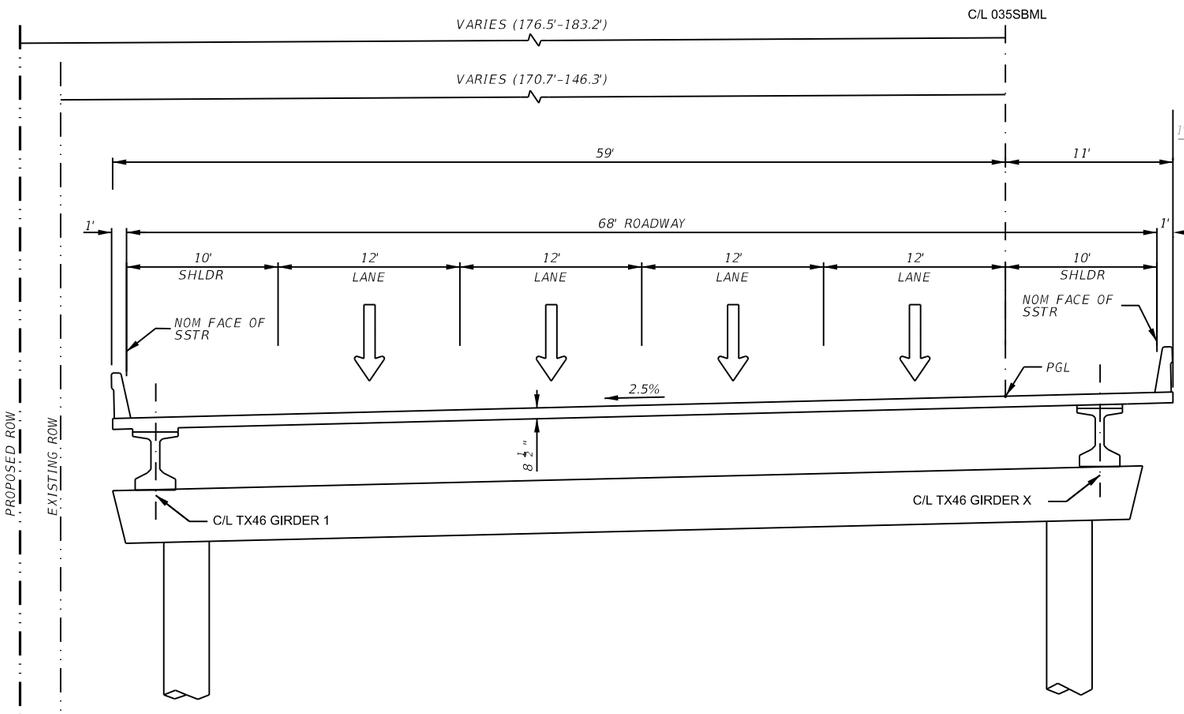
Texas Department of Transportation

Dallas District Bridge

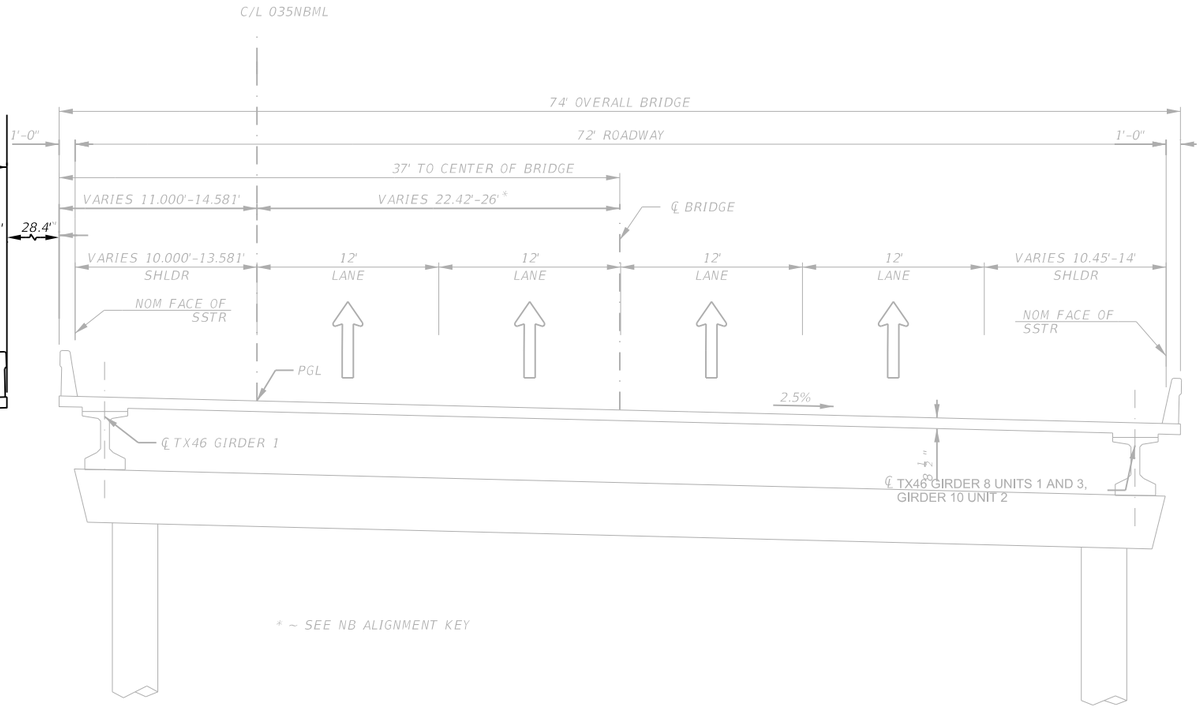
IH35E SBML
OVERPASS AT STATE LOOP 9
BRIDGE LAYOUT

SHEET 2 OF 2

FILE:	DN: WE	CK: MPM	DW: WE	CK: MPM
©TxDOT 2023 REVISIONS	CONT	SECT	JOB	HIGHWAY
	0442	03	042,ETC.	IH35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		878



SOUTHBOUND
STA. 1843+71.00 TO 1850+76.00



NORTHBOUND
STA. 1843+71.91 TO 1850+76.94

TYPICAL SECTIONS
N.T.S

M. Pauline Morrel
08/11/2023

STATE OF TEXAS
M. Pauline Morrel
P.E. 94443
LICENSED PROFESSIONAL ENGINEER

Sheet 22 of 69 Sheets

Texas Department of Transportation
Dallas District Bridge

IH35E SBML
OVERPASS AT STATE LOOP 9
TYPICAL SECTION

FILE:	DN: WE	CK: MPM	DW: WE	CK: MPM
©TxDOT 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS	0442	03	042,ETC.	IH35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS, ETC.		879

DRILLING LOG

WinCore Version 3.3

County	Dallas	Hole	35SB_MLTYA_57	District	Dallas
Highway	Loop 9	Structure	Bridge	Date	2/13/19
CSJ	2964-10-005	Station	1843+93.62	Grnd. Elev.	659.19 ft
		Offset	64.10' LT	GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	LL	PI	Wet Den. (pcf)	Additional Remarks
658.			FILL, 6in. Asphalt, 8in. Flexbase							PP = 2.5
			CLAY, soft to very stiff, moist, dark gray, trace calcareous nodules (CH)			36	77	49		Sieve #200 = 89%
5		5 (6) 8 (6)								PP = 2.25
652.7			CLAY, very stiff, moist, brown (CH)							PP = 2.75
651.7			LIMESTONE, very hard, tan, weathered							7.5'-10', REC=12%, RQD=4%
10		50 (1) 50 (0)								10'-15', REC=88%, RQD=50%
645.2			LIMESTONE, hard, gray							
15		50 (0.5) 50 (0)								15'-20', REC=97%, RQD=82%
20		50 (0.75) 50 (0.5)								20'-25', REC=100%, RQD=87%
634.2		50 (0.5) 50 (0)								
25										

Remarks: NORTH: 6886626.990 ft, EAST: 2485703.163 ft. Free water was not encountered during drilling operations.

The ground water elevation was not determined during the course of this boring.

Driller: Steve Zeahler **Logger: Paulo Pereira** **Organization: Fugro USA Land, Inc.**

I:\Project Files\Projects-2018\18-1075 TxDOT 36-7IDP5039 Loop 9 CSJ 2964-10-005\7. Drafting\7.1 Boring Logs\7.1.1 Bridges\Wincore\Loop9 BRIDGE logs_11072019 - 1.clg

A3

DRILLING LOG

WinCore Version 3.3

County	Dallas	Hole	35SB_MLTYB_60	District	Dallas
Highway	Loop 9	Structure	Bridge	Date	2/14/19
CSJ	2964-10-005	Station	1848+59.77	Grnd. Elev.	659.99 ft
		Offset	85.84' LT	GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	LL	PI	Wet Den. (pcf)	Additional Remarks
658.			CLAY, hard, moist, brown, with limestone fragments, and trace calcareous nodules (CH)							PP = 4.5
			LIMESTONE, hard, tan							Bag sample
5		50 (2.5) 50 (0.25)								
10		50 (0.75) 50 (0)								
648.			LIMESTONE, very hard, gray							
15		50 (0.25) 50 (0)								
640.										
20		50 (0.25) 50 (0)								
25										

Remarks: NORTH: 6887091.744 ft, EAST: 2485661.095 ft. Free water was not encountered during drilling operations.

The ground water elevation was not determined during the course of this boring.

Driller: Steve Zeahler **Logger: Paulo Pereira** **Organization: Fugro USA Land, Inc.**

I:\Project Files\Projects-2018\18-1075 TxDOT 36-7IDP5039 Loop 9 CSJ 2964-10-005\7. Drafting\7.1 Boring Logs\7.1.1 Bridges\Wincore\Loop9 BRIDGE logs_11072019 - 1.clg

A4

STATE OF TEXAS
M. Pauline Morrel
P.E. 94443
LICENSED PROFESSIONAL ENGINEER

08/11/2023

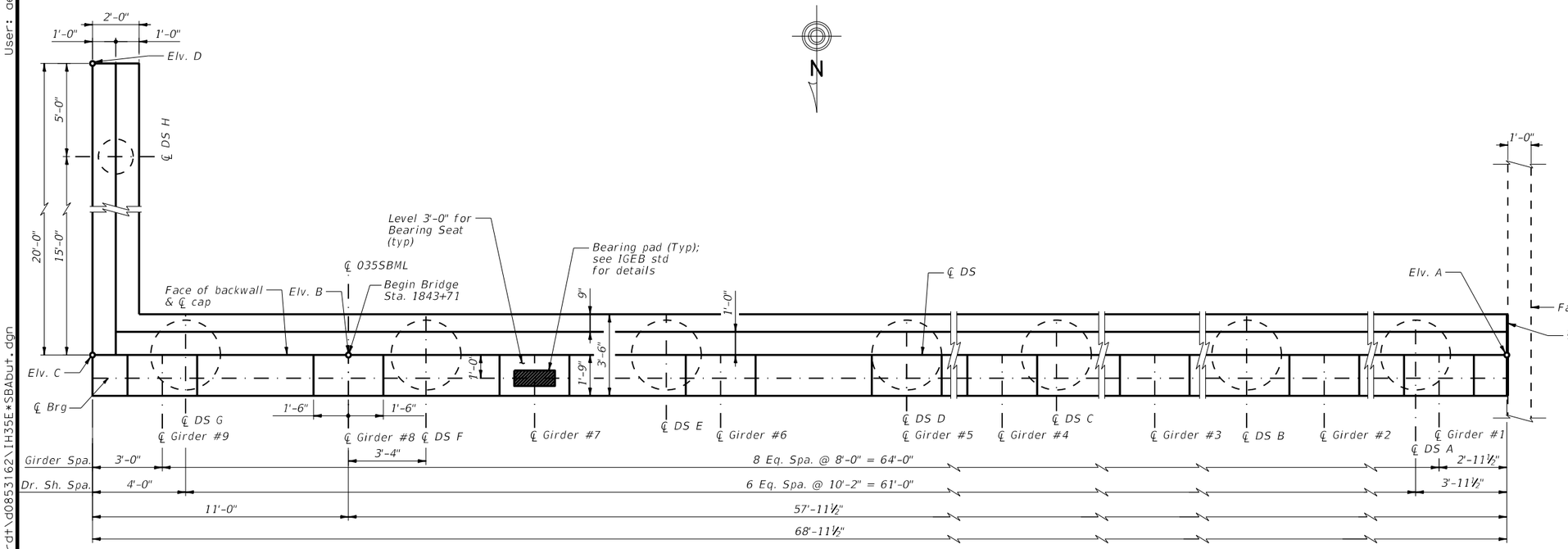
Sheet 23 of 69 Sheets

Texas Department of Transportation

IH35E SBML
OVERPASS AT STATE LOOP 9
CORE BORING LOGS

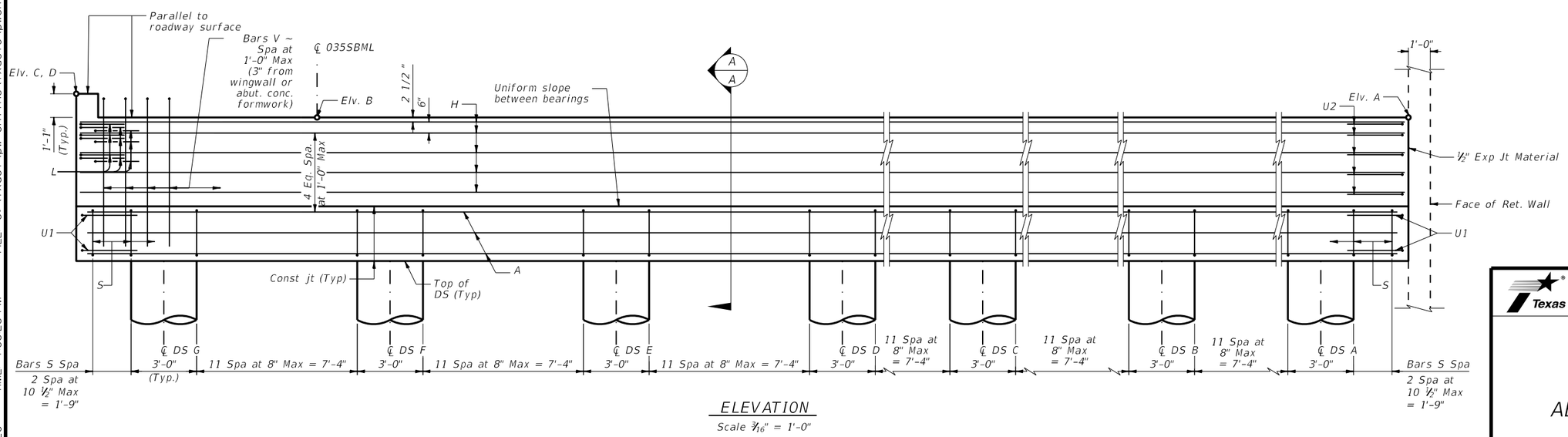
SHEET 1 OF 1

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
	6	SEE TITLESHEET		IH35E
GRAPHICS BC	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	880
	0442	03	042, ETC.	



PLAN

Scale 3/16" = 1'-0"



ELEVATION

Scale 3/16" = 1'-0"

TABLE OF ESTIMATED QUANTITIES FOR ONE ABUTMENT

Bar	No.	Size	Length	Weight
⊕ A	10	# 11	75'- 2"	3,991
◘ H	10	# 6	70'- 10"	1,063
L	9	# 6	4'- 0"	54
S	78	# 5	11'- 2"	908
U	2	# 6	8'- 0"	24
V	69	# 5	14'- 3"	1,026
WH1	7	# 6	21'- 5"	225
WH2	12	# 6	19'- 8"	354
WS	21	# 4	7'- 6"	105
WV	21	# 5	14'- 3"	312
Reinforcing Steel			LB	8,064
Cl C Conc (Abut) (HPC)			CY	40.0

⊕ Bar length includes 6'-10" lap.

◘ Bar length includes 2'-2" lap.

General Notes:
Provide Class C High Performance Concrete (HPC), f'c = 3.6 ksi
Provide Grade 60 reinforcing steel.
Finish Bearing Seats with a wood float.
For framing details not shown, see Framing Plan.
See Foundation Detail standard sheet, FD, for all foundation details and notes.
See Concrete Riprap Standard sheet, CRR, for riprap attachment detail.
See Abutment Misc. Details Sheet For details and information not shown here.
See railing standards for rail anchorage in wingwalls.
Calculated Drilled Shaft Foundation
Load = 113 Tons/Drilled Shaft.
For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

STATE OF TEXAS
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Alia Eckardt

05/26/2023

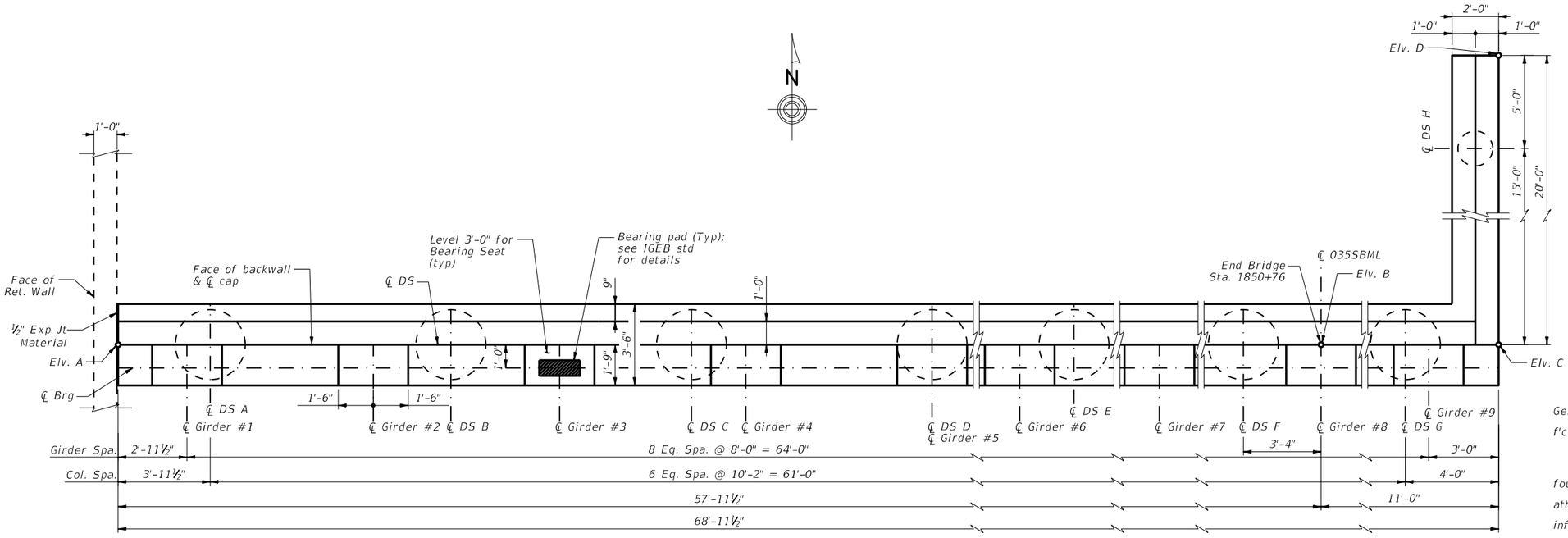
Texas Department of Transportation

Dallas District Bridge

IH35E
SBML OVERPASS AT STATE LOOP 9 ABUTMENT 1 DETAILS

Sheet 1 of 3

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		881



PLAN

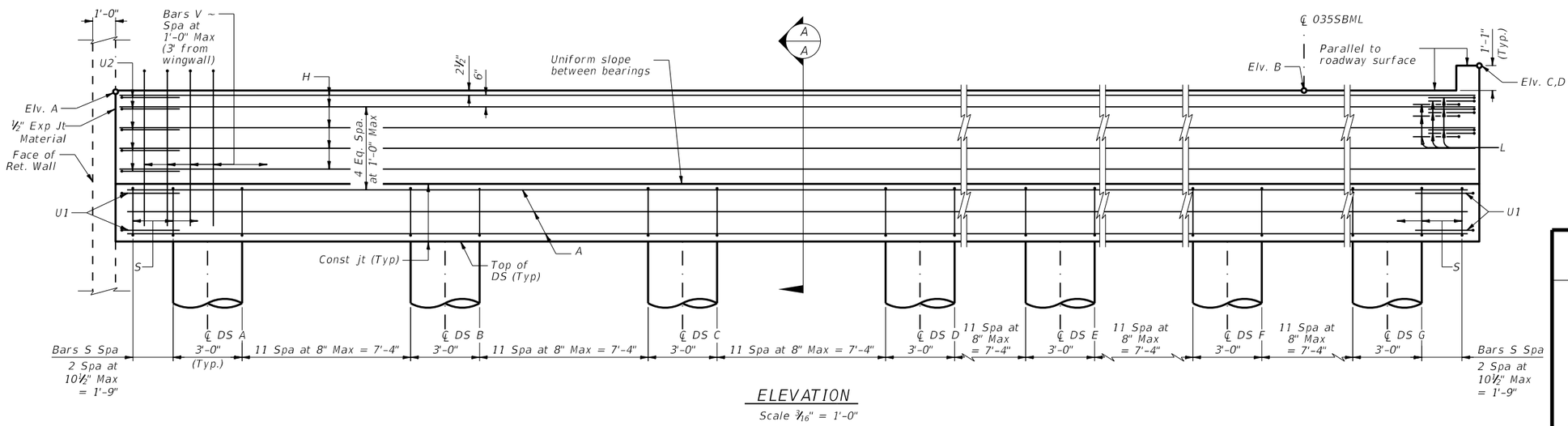
Scale 3/16" = 1'-0"

⊕ Bar length includes 6'-10" lap.

◘ Bar length includes 2'-2" lap.

General Notes:
Provide Class C High Performance Concrete (HPC), f'c = 3.6 ksi
Provide Grade 60 reinforcing steel.
Finish Bearing Seats with a wood float.
For framing details not shown, see Framing Plan.
See Foundation Detail standard sheet, FD, for all foundation details and notes.
See Concrete Riprap Standard sheet, CRR, for riprap attachment detail.
See Abutment Misc. Details Sheet For details and information not shown here.
See railing standards for rail anchorage in wingwalls
Calculated Drilled Shaft Foundation Load = 113 Tons/Drilled Shaft.
For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.



ELEVATION

Scale 3/16" = 1'-0"

STATE OF TEXAS
ALIA S. ECKARDT
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LICENSED
PROFESSIONAL ENGINEER

05/26/2023

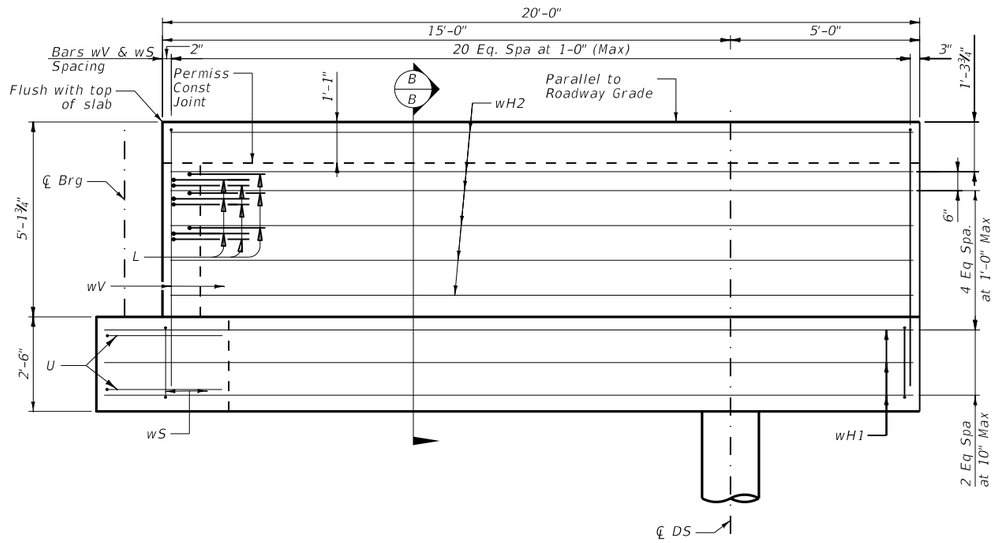
Texas Department of Transportation

Dallas District Bridge

IH35E
SBML OVERPASS AT STATE LOOP 9 ABUTMENT 8 DETAILS

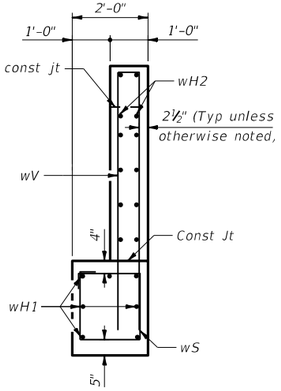
Sheet 2 of 3

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		882



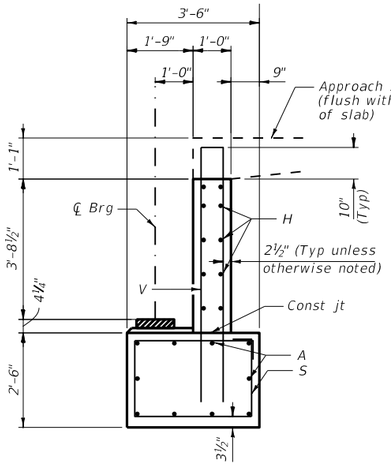
WINGWALL ELEVATION

Scale ¼" = 1'-0"



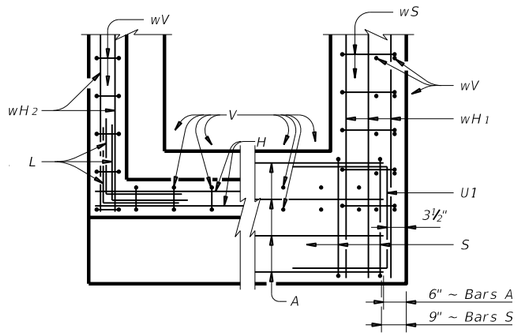
SECTION B-B

Scale ¼" = 1'-0"



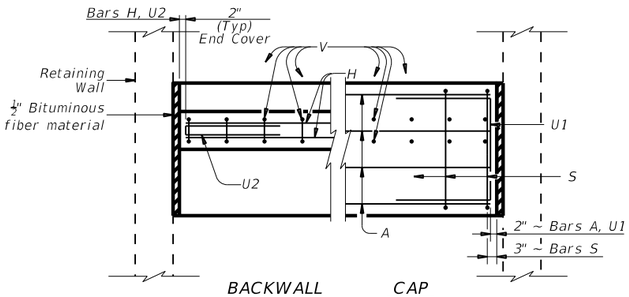
SECTION A-A

Scale ¼" = 1'-0"



BACKWALL CAP

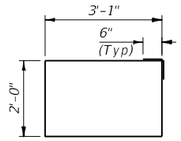
WINGWALL CORNER DETAILS



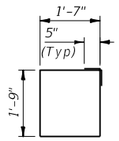
BACKWALL CAP

RETAINING WALL END DETAILS

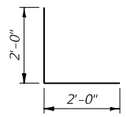
BARS V & wV



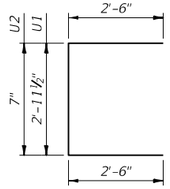
BARS S



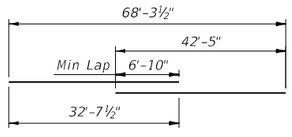
BARS wS



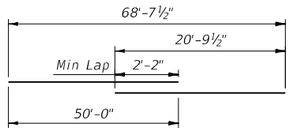
BARS L



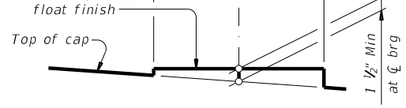
BARS U1, U2



BARS A



BARS H



BEARING SEAT DETAIL

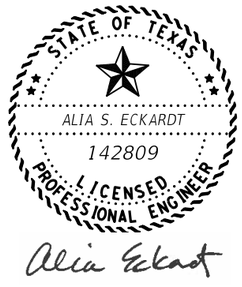
(Bearing surface must be clean and free of all loose material before placing bearing pad.)

CONTROL POINT		
Point	Abutment 1	Abutment 8
A	681.173'	682.417'
B	681.538'	682.783'
C	682.597'	684.141'
D	682.569'	683.884'

TOP OF DRILL SHAFTS		
Column	Abutment 1	Abutment 8
A	673.626'	674.870'
B	673.880'	675.125'
C	674.134'	675.379'
D	674.388'	675.633'
E	674.643'	675.887'
F	674.897'	676.141'
G	675.151'	676.395'
H	674.981'	676.279'

BEARING SEAT ELEVATION										
Bent		Girder #1	Girder #2	Girder #3	Girder #4	Girder #5	Girder #6	Girder #7	Girder #8	Girder #9
Abutment 1	Forward	676.217'	676.417'	676.617'	676.817'	677.017'	677.217'	677.417'	677.617'	677.817'
Abutment 8	Backward	677.458'	677.658'	677.858'	678.058'	678.258'	678.458'	678.658'	678.858'	679.058'

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.



05/26/2023

Texas Department of Transportation

Dallas District Bridge

IH35E
SBML OVERPASS AT STATE LOOP 9
ABUTMENT MISC. DETAILS

Sheet 3 of 3

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		883

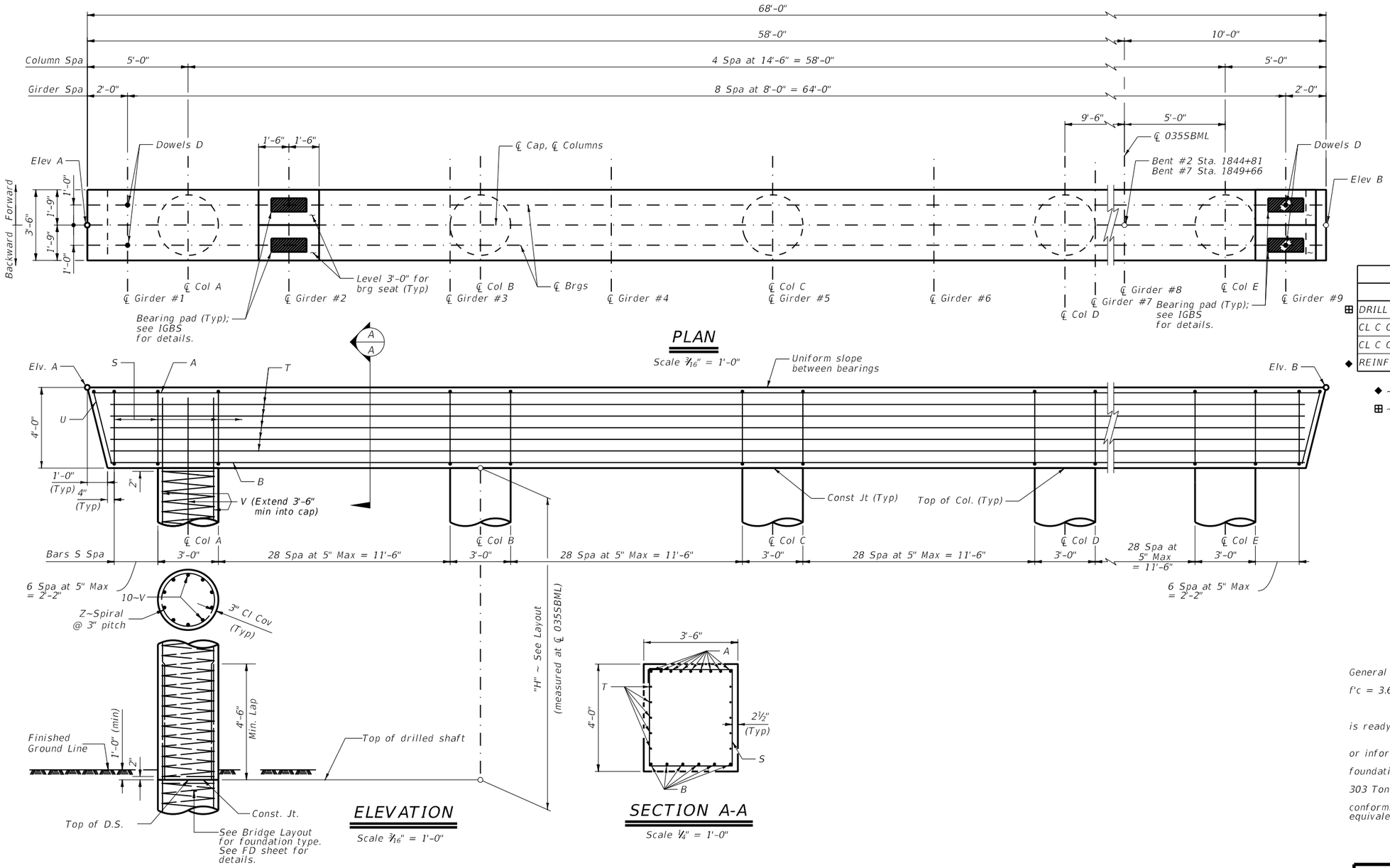


TABLE OF ESTIMATED QUANTITIES FOR ONE BENT

	Bar	No.	Size	Length	Weight
⊕	A	9	# 11	74'- 4"	3554
◘	B	6	# 11	71'- 0"	2263
	D	4	# 9	1'- 8"	23
	S	130	# 5	14'- 4"	1943
✳	T	10	# 5	67'- 7"	705
	U	2	# 5	10'- 5"	22
◆	Reinforcing Steel			LB	8,510
	Cl C Conc (CAP) (HPC)			CY	35.2

◆ For Contractor's Information only

⊕ Bar length includes 6'-10" lap.

◘ Bar length includes 5'-3" lap.

✳ Bar length includes 1'-10" lap.

ESTIMATED QUANTITIES

	ITEM	UNIT	Bent 2	Bent 7
⊞	DRILL SHAFT (36)	LF	75	75
	CL C CONC (CAP) (HPC)	CY	35.2	35.2
	CL C CONC (COLUMN) (HPC)	CY	22.3	22.3
◆	REINF STL	LB	13825	13,825

◆ ~ For Contractor's information only.

⊞ ~ Sulfate Resistant Concrete required.

General Notes:

Provide Class C High Performance Concrete (HPC), f'c = 3.6 ksi

Provide Grade 60 reinforcing steel.

For framing details not shown, see Framing Plan.

Leave cap form supports in place until entire cap is ready for form removal.

Finish Bearing Seats with a wood float.

See "Bents 2-7 Misc. Details" sheet for any details or information not shown here.

See Foundation Detail Standard Sheet, FD, for all foundation details and notes not shown.

Calculated Drilled Shaft Foundation Load = 303 Tons/Drilled Shaft.

For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

STATE OF TEXAS
ALIA S. ECKARDT
142809
LICENSED PROFESSIONAL ENGINEER

Alia Eckardt

05/26/2023

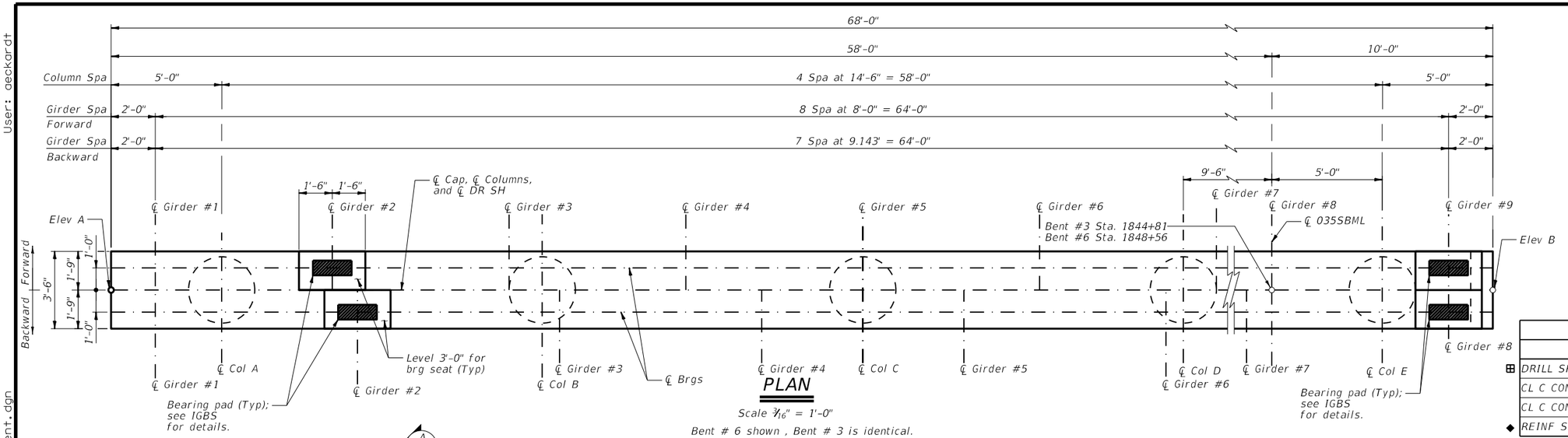
Texas Department of Transportation

Dallas District Bridge

IH35E
SBML OVERPASS AT STATE LOOP 9
BENTS 2, 7 DETAILS

SHEET 1 OF 4

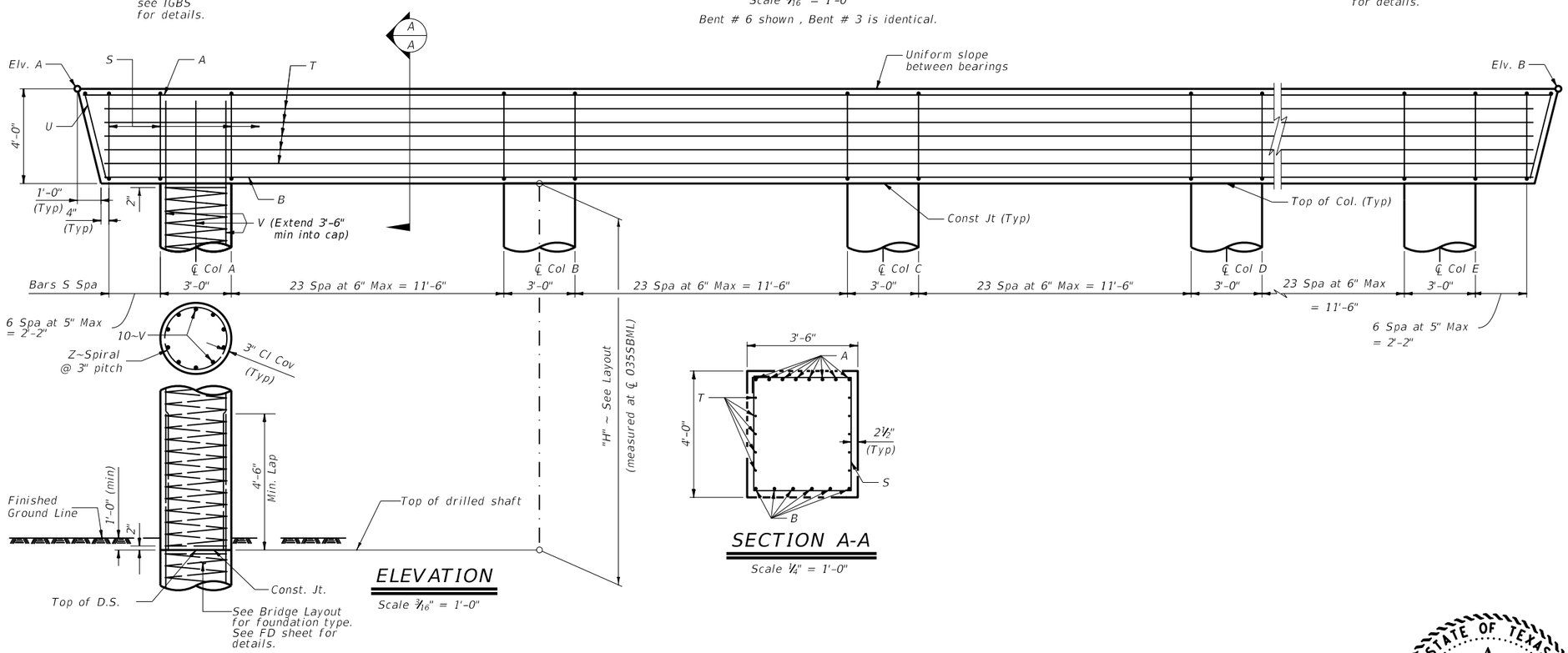
FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		884



PLAN

Scale 3/16" = 1'-0"

Bent # 6 shown , Bent # 3 is identical.



ELEVATION

Scale 3/16" = 1'-0"

SECTION A-A

Scale ¼" = 1'-0"

TABLE OF ESTIMATED QUANTITIES FOR ONE BENT

	Bar	No.	Size	Length	Weight
⊕	A	8	# 11	74'- 4"	3159
⊡	B	6	# 11	71'- 0"	2263
	S	110	# 5	14'- 4"	1644
✳	T	10	# 5	67'- 7"	705
	U	2	# 5	10'- 5"	22
◆	Reinforcing Steel			LB	7,794
	Cl C Conc (CAP) (HPC)			CY	35.2

◆ For Contractor's Information only

⊕ Bar length includes 6'-10" lap.

⊡ Bar length includes 5'-3" lap.

✳ Bar length includes 1'-10" lap.

ESTIMATED QUANTITIES

	ITEM	UNIT	Bent 3	Bent 6
⊞	DRILL SHAFT (36)	LF	85	80
	CL C CONC (CAP) (HPC)	CY	35.2	35.2
	CL C CONC (COLUMN) (HPC)	CY	19.6	20.9
◆	REINF STL	LB	12559	12,834

◆ ~ For Contractor's information only.

⊞ ~ Sulfate Resistant Concrete required.

General Notes:

Provide Class C High Performance Concrete (HPC), f'c = 3.6 ksi

Provide Grade 60 reinforcing steel.

For framing details not shown, see Framing Plan.

Leave cap form supports in place until entire cap is ready for form removal.

Finish Bearing Seats with a wood float.

See "Bents 2-7 Misc. Details" sheet for any details or information not shown here.

See Foundation Detail Standard Sheet, FD, for all foundation details and notes not shown.

Calculated Drilled Shaft Foundation Load = 278 Tons/Drilled Shaft.

For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

STATE OF TEXAS
ALIA S. ECKARDT
142809
LICENSED PROFESSIONAL ENGINEER

Alia Eckardt

05/26/2023

Texas Department of Transportation

Dallas District Bridge

IH35E SBML OVERPASS AT STATE LOOP 9 BENTS 3, 6 DETAILS

SHEET 2 OF 4

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		885

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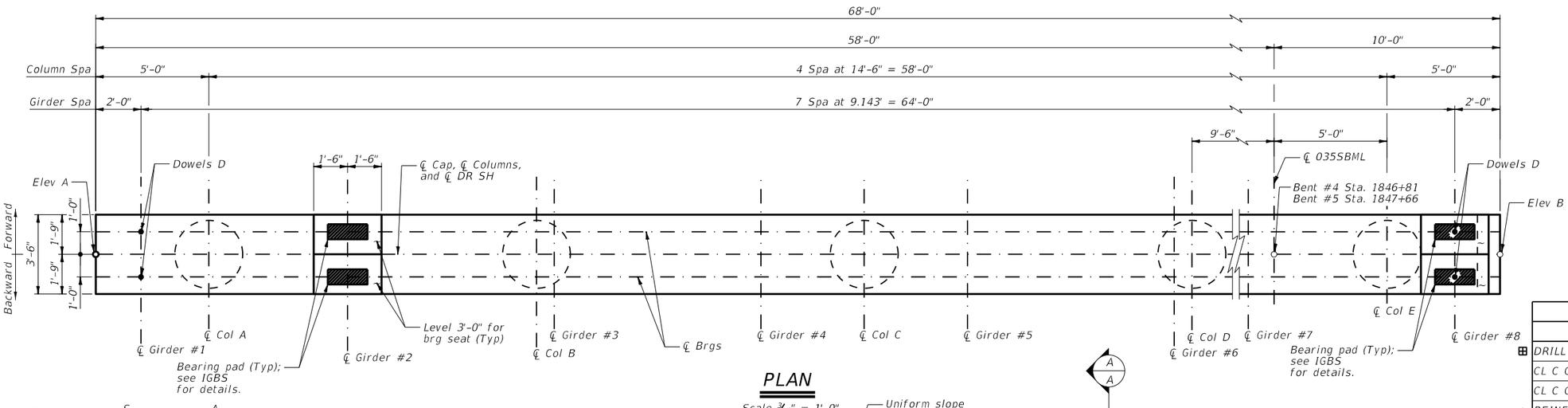
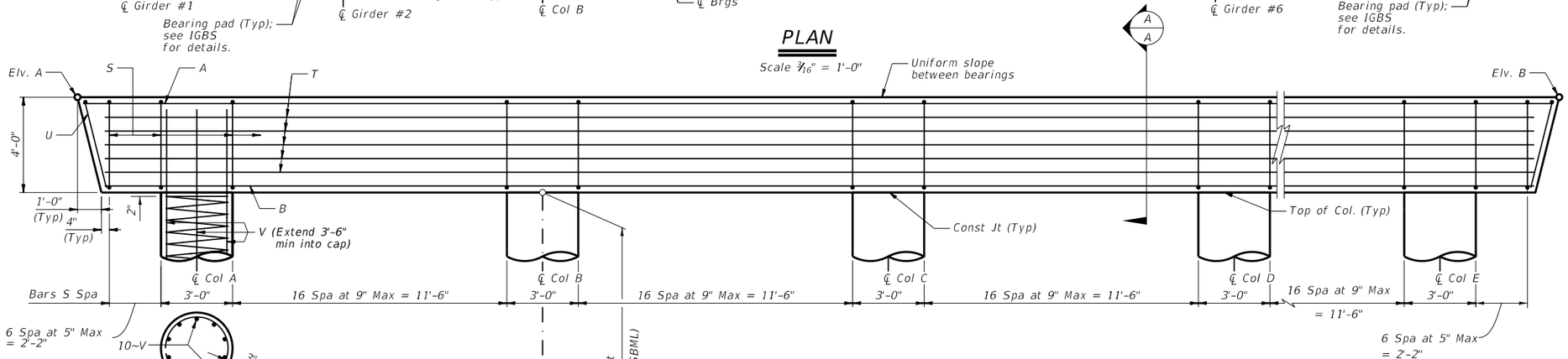
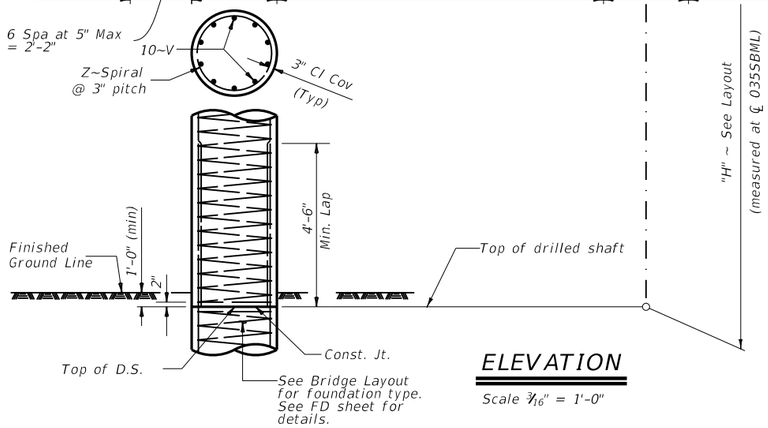


PLAN

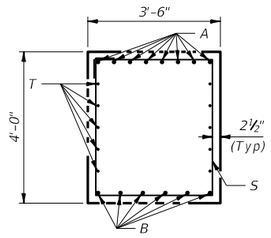
Scale 3/16" = 1'-0"





ELEVATION

Scale 3/16" = 1'-0"



SECTION A-A

Scale ¼" = 1'-0"

TABLE OF ESTIMATED QUANTITIES FOR ONE BENT				
Bar	No.	Size	Length	Weight
⊕ A	8	# 11	74'- 4"	3159
◪ B	6	# 11	71'- 0"	2263
D	4	# 9	1'- 8"	23
S	82	# 5	14'- 4"	1226
✳ T	10	# 5	67'- 7"	705
U	2	# 5	10'- 5"	22
◆ Reinforcing Steel			LB	7,398
Cl C Conc (CAP) (HPC)			CY	35.1

◆ For Contractor's Information only

⊕ Bar length includes 6'-10" lap.

◪ Bar length includes 5'-3" lap.

✳ Bar length includes 1'-10" lap.

ESTIMATED QUANTITIES			
ITEM	UNIT	Bent 4	Bent 5
⊞ DRILL SHAFT (36)	LF	85	80
CL C CONC (CAP) (HPC)	CY	35.1	35.1
CL C CONC (COLUMN) (HPC)	CY	20.9	20.9
◆ REINF STL	LB	12438	12,438

◆ ~ For Contractor's information only.

⊞ ~ Sulfate Resistant Concrete required.

General Notes:
Provide Class C High Performance Concrete (HPC), f'c = 3.6 ksi
Provide Grade 60 reinforcing steel.
For framing details not shown, see Framing Plan.
Leave cap form supports in place until entire cap is ready for form removal.
Finish Bearing Seats with a wood float.
See "Bents 2-7 Misc. Details" sheet for any details or information not shown here.
See Foundation Detail Standard Sheet, FD, for all foundation details and notes not shown.
Calculated Drilled Shaft Foundation Load = 248 Tons/Drilled Shaft.
For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

STATE OF TEXAS
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142809
LICENSED PROFESSIONAL ENGINEER

Alia Eckardt

05/26/2023

Texas Department of Transportation

Dallas District Bridge

IH35E
SBML OVERPASS AT STATE LOOP 9
BENTS 4, 5 DETAILS

SHEET 3 OF 4

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
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REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		886

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BEARING SEAT ELEVATION										
Bent		Girder #1	Girder #2	Girder #3	Girder #4	Girder #5	Girder #6	Girder #7	Girder #8	Girder #9
Bent 2	Backward	677.704'	677.904'	678.104'	678.304'	678.504'	678.704'	678.904'	679.104'	679.304'
	Forward	677.727'	677.927'	678.128'	678.328'	678.528'	678.727'	678.927'	679.128'	679.328'
Bent 3	Backward	678.735'	678.935'	679.135'	679.336'	679.536'	679.735'	679.935'	680.135'	680.336'
	Forward	678.750'	678.978'	679.207'	679.435'	679.664'	679.893'	680.121'	680.350'	
Bent 4	Backward	679.216'	679.444'	679.673'	679.902'	680.130'	680.359'	680.587'	680.816'	
	Forward	679.223'	679.451'	679.680'	679.909'	680.137'	680.366'	680.594'	680.823'	
Bent 5	Backward	679.369'	679.598'	679.826'	680.055'	680.284'	680.512'	680.741'	680.969'	
	Forward	679.369'	679.598'	679.827'	680.055'	680.284'	680.512'	680.741'	680.969'	
Bent 6	Backward	679.214'	679.443'	679.671'	679.900'	680.128'	680.357'	680.585'	680.814'	
	Forward	679.207'	679.407'	679.607'	679.807'	680.007'	680.207'	680.407'	680.607'	680.807'
Bent 7	Backward	678.580'	678.780'	678.980'	679.180'	679.380'	679.580'	679.780'	679.980'	680.180'
	Forward	678.564'	678.764'	678.964'	679.164'	679.364'	679.564'	679.764'	679.964'	680.164'

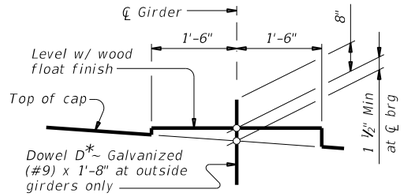
CONTROL POINT						
Point	Bent 2	Bent 3	Bent 4	Bent 5	Bent 6	Bent 7
A	677.529'	678.560'	679.041'	679.194'	679.032'	678.389'
B	679.229'	680.261'	680.741'	680.894'	680.732'	680.089'

TOP OF COLUMNS						
Column	Bent 2	Bent 3	Bent 4	Bent 5	Bent 6	Bent 7
A	673.654'	674.685'	675.166'	675.319'	675.157'	674.514'
B	674.017'	675.048'	675.529'	675.682'	675.520'	674.877'
C	674.379'	675.411'	675.891'	676.044'	675.882'	675.239'
D	674.742'	675.773'	676.254'	676.407'	676.245'	675.602'
E	675.104'	676.136'	676.616'	676.769'	676.607'	675.964'

COLUMMN SCHEDULE

"H"	V ~ 10 - # 9		Z Bars #4 Spiral		Est. Quant. ~5Col. Reinf. St	Conc.
ft	Length	Mass	Length	Mass	Lb	CY
12.00	15.50	527	390	261	3940	15.7
13.00	16.50	561	422	282	4215	17.0
14.00	17.50	595	453	303	4490	18.3
15.00	18.50	629	485	324	4765	19.6
16.00	19.50	663	516	345	5040	20.9
17.00	20.50	697	548	366	5315	22.3
18.00	21.50	731	579	387	5590	23.6
19.00	22.50	765	611	408	5865	24.9
20.00	23.50	799	642	429	6140	26.2
21.00	24.50	833	673	450	6415	27.5
22.00	25.50	867	705	471	6689	28.8

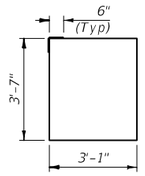
Adjust spiral Z length by 15.73 Ft. and bars V length by 0.5 Ft. for each 0.5 Ft. variation in 'H' Value.
Adjust Estimated Quantity of Concrete for each column by 0.132 CY for each 0.5 Ft. variation in 'H' Value.
Adjust Estimated Quantity of Reinforcing Steel for each column by 27.6 Lb for each 0.5 Ft. variation in 'H' Value.



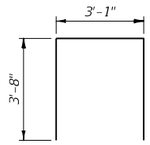
BEARING SEAT DETAIL

(Bearing surface must be clean and free of all loose material before placing bearing pad.)

**Dowel D at outside girders of Bents 2, 4, 5, and 7 only.*



BARS S



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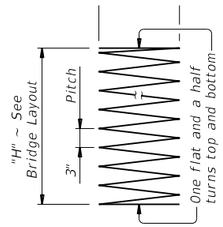
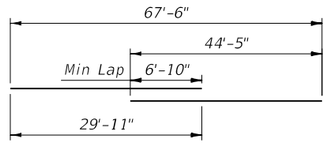
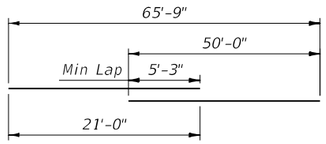


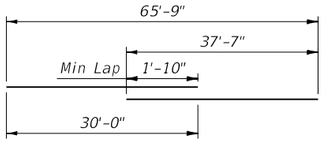
BARS Z



BARS A



BARS B



BARS T

STATE OF TEXAS
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Dallas District Bridge

IH35E
SBML OVERPASS AT STATE LOOP 9
BENTS 2-7 MISC. DETAILS

SHEET 4 OF 4

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
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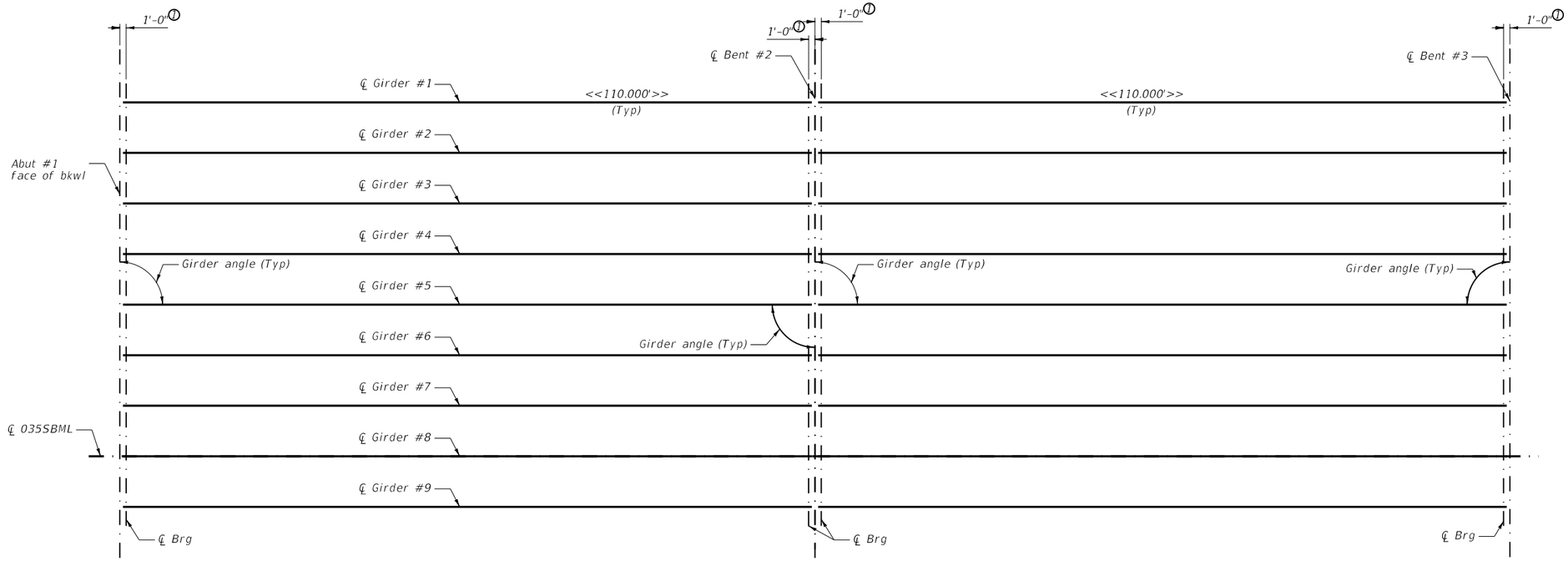
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		887



SPAN 1

(Tx46 Girders)

BENT REPORT

BENT NO. 1 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 56.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 1	BEAM 1	0.000	90	0	0
	BEAM 2	8.000	90	0	0
	BEAM 3	8.000	90	0	0
	BEAM 4	8.000	90	0	0
	BEAM 5	8.000	90	0	0
	BEAM 6	8.000	90	0	0
	BEAM 7	8.000	90	0	0
	BEAM 8	8.000	90	0	0
	BEAM 9	8.000	90	0	0
	TOTAL	64.000			

BENT NO. 2 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 56.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 1	BEAM 1	0.000	90	0	0
	BEAM 2	8.000	90	0	0
	BEAM 3	8.000	90	0	0
	BEAM 4	8.000	90	0	0
	BEAM 5	8.000	90	0	0
	BEAM 6	8.000	90	0	0
	BEAM 7	8.000	90	0	0
	BEAM 8	8.000	90	0	0
	BEAM 9	8.000	90	0	0
	TOTAL	64.000			
SPAN 2	BEAM 1	0.000	90	0	0
	BEAM 2	8.000	90	0	0
	BEAM 3	8.000	90	0	0
	BEAM 4	8.000	90	0	0
	BEAM 5	8.000	90	0	0
	BEAM 6	8.000	90	0	0
	BEAM 7	8.000	90	0	0
	BEAM 8	8.000	90	0	0
	BEAM 9	8.000	90	0	0
	TOTAL	64.000			

BENT NO. 3 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 56.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 2	BEAM 1	0.000	90	0	0
	BEAM 2	8.000	90	0	0
	BEAM 3	8.000	90	0	0
	BEAM 4	8.000	90	0	0
	BEAM 5	8.000	90	0	0
	BEAM 6	8.000	90	0	0
	BEAM 7	8.000	90	0	0
	BEAM 8	8.000	90	0	0
	BEAM 9	8.000	90	0	0
	TOTAL	64.000			

SPAN 2

(Tx46 Girders)

BEAM REPORT

BEAM REPORT, SPAN 1

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG. ②	BEAM SLOPE
BEAM 1	110.000	108.000	109.51	0.0138
BEAM 2	110.000	108.000	109.51	0.0138
BEAM 3	110.000	108.000	109.51	0.0138
BEAM 4	110.000	108.000	109.51	0.0138
BEAM 5	110.000	108.000	109.51	0.0138
BEAM 6	110.000	108.000	109.51	0.0138
BEAM 7	110.000	108.000	109.51	0.0138
BEAM 8	110.000	108.000	109.51	0.0138
BEAM 9	110.000	108.000	109.51	0.0138

BEAM REPORT, SPAN 2

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG. ②	BEAM SLOPE
BEAM 1	110.000	108.000	109.50	0.0093
BEAM 2	110.000	108.000	109.50	0.0093
BEAM 3	110.000	108.000	109.50	0.0093
BEAM 4	110.000	108.000	109.50	0.0093
BEAM 5	110.000	108.000	109.50	0.0093
BEAM 6	110.000	108.000	109.50	0.0093
BEAM 7	110.000	108.000	109.50	0.0093
BEAM 8	110.000	108.000	109.50	0.0093
BEAM 9	110.000	108.000	109.50	0.0093

① - See Elastomeric Bearing & Girder End Details (IGEB) standard sheet for orientation of dimension.
② - Lengths shown are bottom girder flange length with adjustment made for girder slope.

General Note:

Dimension shown thus <<X.XXX'>> represent horizontal beam length Face of Abut. Bkwl. to centerline of Bent or Centerline to Centerline of Bents.

STATE OF TEXAS
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05/26/2023

Texas Department of Transportation

Dallas District Bridge

IH35E
SBML OVERPASS AT STATE LOOP 9
FRAMING PLAN~ UNIT 1

Sheet 1 of 3

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
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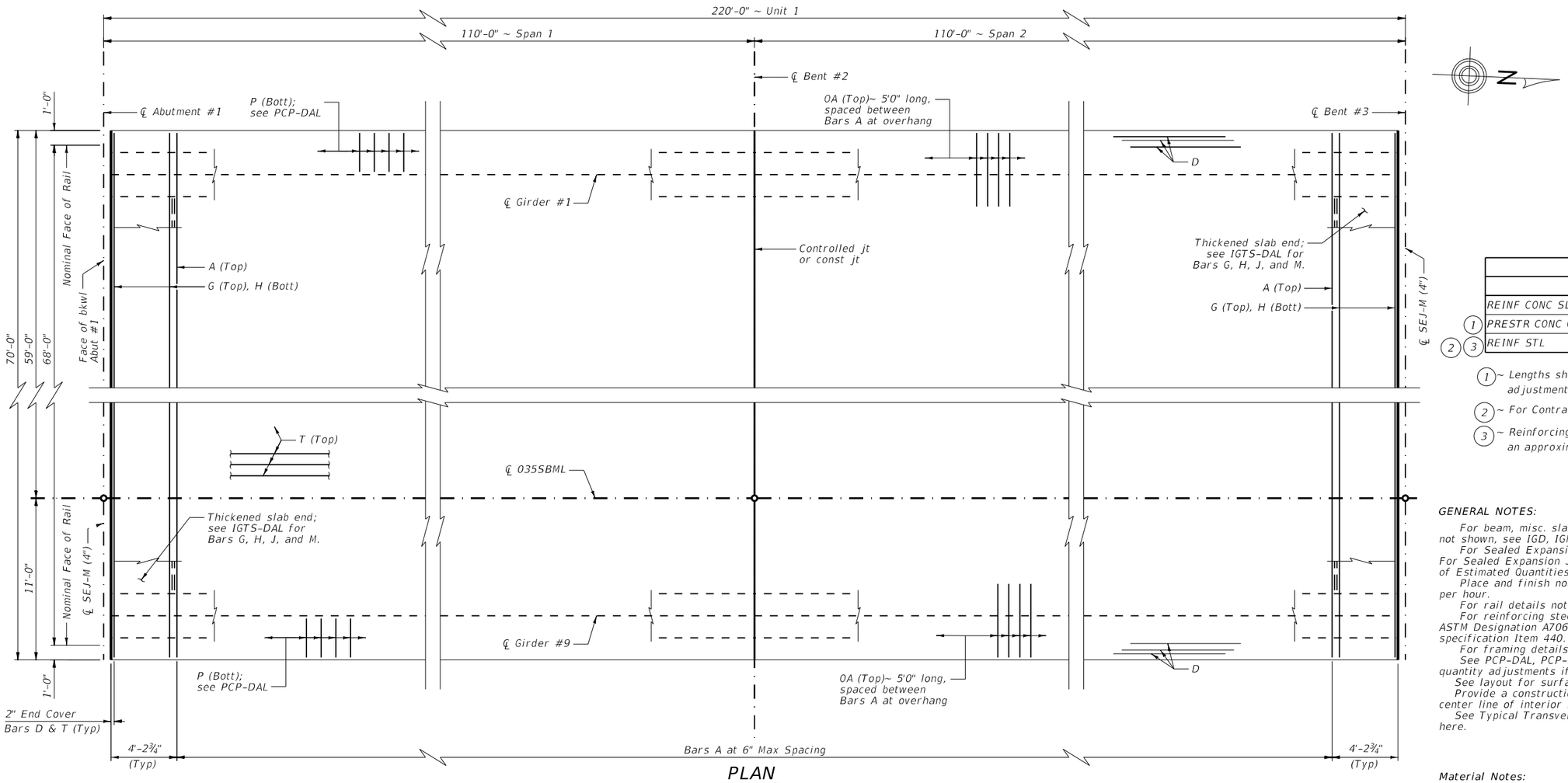
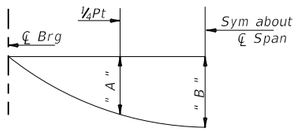
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		888

BAR TABLE	
BAR	SIZE
A	#5
D	#5
G	#5
H	#5
J	#5
M	#5
P	#4
T	#4
0A	#5



PLAN

Scale: ⅛" = 1'



DEAD LOAD DEFLECTIONS DIAGRAM

Note: Deflection shown are due to concrete slab only (Ec = 5000 ksi). Calculated deflections shown are theoretical and actual dimensions may be less. Deflections shall be adjusted based on field observations.

		"A"	"B"
Spans	Girders	Ft.	Ft.
1,2	1,9	0.085	0.121
	2-8	0.082	0.116

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
REINF CONC SLAB (HPC)(CL S)	SF	15,400
(1) PRESTR CONC GIRDER (TY TX46)	LF	1,971.09
(2) (3) REINF STL	LB	52,360

(1) ~ Lengths shown are bottom girder flangelengths with adjustment made for girder slope.

(2) ~ For Contractor's information only

(3) ~ Reinforcing Steel Weight is calculated using an approximate factor of 3.4 LB/SF for slab

GENERAL NOTES:

For beam, misc. slab and thickened slab end details not shown, see IGD, IGMS-DAL, IGTS-DAL.

For Sealed Expansion Joint details not shown, see SEJ-M. For Sealed Expansion Joint Quantities not shown, see Summary of Estimated Quantities.

Place and finish not less than 30 feet of Bridge Deck concrete per hour.

For rail details not shown, see Traffic Rail Type SSTR .

For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

For framing details not shown, see Framing Plan.

See PCP-DAL, PCP-FAB or PMDF Standards for details and quantity adjustments if either of these options are used.

See layout for surface texture requirements.

Provide a construction joint or control joint at the center line of interior bents 2.

See Typical Transverse Section Sheet for information not shown here.

Material Notes:

Provide Class S High Performance Concrete, f'c = 4.0 ksi.

Provide epoxy coated, Grade 60 reinforcing.

Where required, provide bar laps as follows:

#4 = 2'-5"

#5 = 3'-0"

Deformed Welded Wire Reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars A, D, 0A, P or T unless noted otherwise. Provide the same laps as required for reinforcing bars

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

STATE OF TEXAS
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05/26/2023

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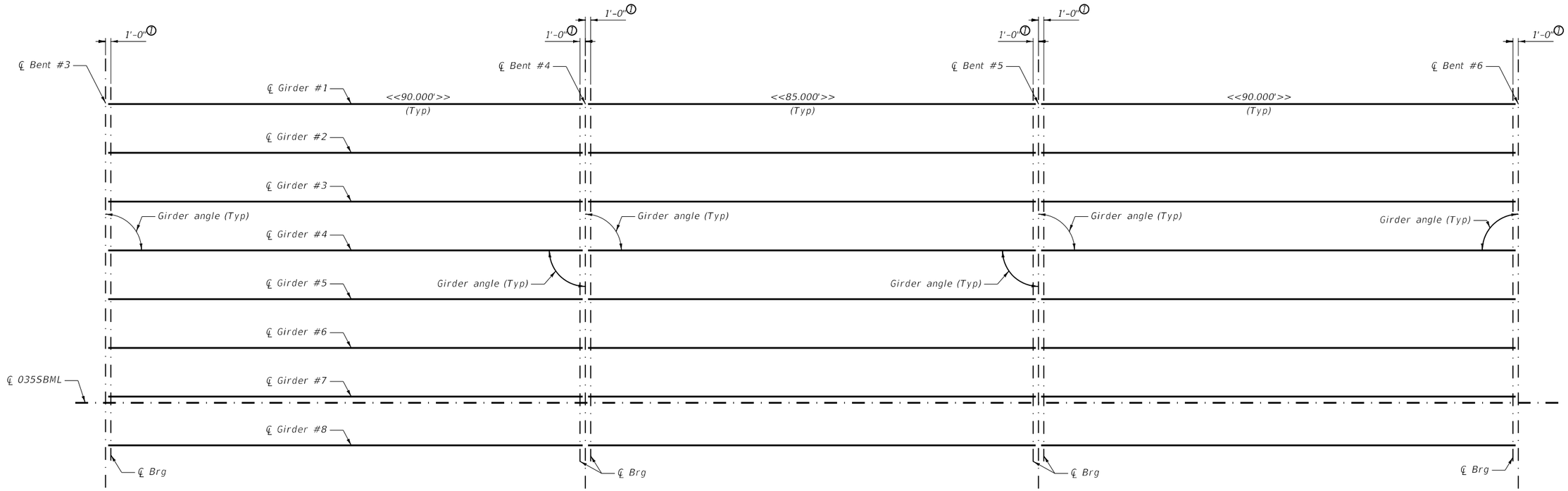
Dallas District Bridge

IH35E
SBML OVERPASS AT STATE LOOP 9
SLAB DETAILS, UNIT 1

Sheet 1 of 4

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		889



SPAN 3

(Tx46 Girders)

SPAN 4

(Tx46 Girders)

SPAN 5

(Tx46 Girders)

BENT REPORT

BENT NO. 3 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 56.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 3	BEAM 1	0.000	90	0	0
	BEAM 2	9.143	90	0	0
	BEAM 3	9.143	90	0	0
	BEAM 4	9.143	90	0	0
	BEAM 5	9.143	90	0	0
	BEAM 6	9.143	90	0	0
	BEAM 7	9.143	90	0	0
	BEAM 8	9.143	90	0	0
	TOTAL	64.000			

BENT NO. 4 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 56.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 3	BEAM 1	0.000	90	0	0
	BEAM 2	9.143	90	0	0
	BEAM 3	9.143	90	0	0
	BEAM 4	9.143	90	0	0
	BEAM 5	9.143	90	0	0
	BEAM 6	9.143	90	0	0
	BEAM 7	9.143	90	0	0
	BEAM 8	9.143	90	0	0
	TOTAL	64.000			
SPAN 4	BEAM 1	0.000	90	0	0
	BEAM 2	9.143	90	0	0
	BEAM 3	9.143	90	0	0
	BEAM 4	9.143	90	0	0
	BEAM 5	9.143	90	0	0
	BEAM 6	9.143	90	0	0
	BEAM 7	9.143	90	0	0
	BEAM 8	9.143	90	0	0
	TOTAL	64.000			

BENT NO. 5 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 56.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 4	BEAM 1	0.000	90	0	0
	BEAM 2	9.143	90	0	0
	BEAM 3	9.143	90	0	0
	BEAM 4	9.143	90	0	0
	BEAM 5	9.143	90	0	0
	BEAM 6	9.143	90	0	0
	BEAM 7	9.143	90	0	0
	BEAM 8	9.143	90	0	0
	TOTAL	64.000			
SPAN 5	BEAM 1	0.000	90	0	0
	BEAM 2	9.143	90	0	0
	BEAM 3	9.143	90	0	0
	BEAM 4	9.143	90	0	0
	BEAM 5	9.143	90	0	0
	BEAM 6	9.143	90	0	0
	BEAM 7	9.143	90	0	0
	BEAM 8	9.143	90	0	0
	TOTAL	64.000			

BENT NO. 6 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 56.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 5	BEAM 1	0.000	90	0	0
	BEAM 2	9.143	90	0	0
	BEAM 3	9.143	90	0	0
	BEAM 4	9.143	90	0	0
	BEAM 5	9.143	90	0	0
	BEAM 6	9.143	90	0	0
	BEAM 7	9.143	90	0	0
	BEAM 8	9.143	90	0	0
	TOTAL	64.000			

BEAM REPORT

BEAM REPORT, SPAN 3

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG. ②	BEAM SLOPE
BEAM 1	90.000	88.000	89.50	0.0053
BEAM 2	90.000	88.000	89.50	0.0053
BEAM 3	90.000	88.000	89.50	0.0053
BEAM 4	90.000	88.000	89.50	0.0053
BEAM 5	90.000	88.000	89.50	0.0053
BEAM 6	90.000	88.000	89.50	0.0053
BEAM 7	90.000	88.000	89.50	0.0053
BEAM 8	90.000	88.000	89.50	0.0053

BEAM REPORT, SPAN 4

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG. ②	BEAM SLOPE
BEAM 1	85.000	83.000	84.50	0.0018
BEAM 2	85.000	83.000	84.50	0.0018
BEAM 3	85.000	83.000	84.50	0.0018
BEAM 4	85.000	83.000	84.50	0.0018
BEAM 5	85.000	83.000	84.50	0.0018
BEAM 6	85.000	83.000	84.50	0.0018
BEAM 7	85.000	83.000	84.50	0.0018
BEAM 8	85.000	83.000	84.50	0.0018

BEAM REPORT, SPAN 5

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG. ②	BEAM SLOPE
BEAM 1	90.000	88.000	89.50	-0.0018
BEAM 2	90.000	88.000	89.50	-0.0018
BEAM 3	90.000	88.000	89.50	-0.0018
BEAM 4	90.000	88.000	89.50	-0.0018
BEAM 5	90.000	88.000	89.50	-0.0018
BEAM 6	90.000	88.000	89.50	-0.0018
BEAM 7	90.000	88.000	89.50	-0.0018
BEAM 8	90.000	88.000	89.50	-0.0018

① - See Elastomeric Bearing & Girder End Details (IGEB) standard sheet for orientation of dimension.
② - Lengths shown are bottom girder flange length with adjustment made for girder slope.

General Note:

Dimension shown thus <<X.XXX'>> represent horizontal beam length Face of Abut. Bkwl. to centerline of Bent or Centerline to Centerline of Bents.

STATE OF TEXAS
ALIA S. ECKARDT
142809
LICENSED PROFESSIONAL ENGINEER

05/26/2023

Texas Department of Transportation

Dallas District Bridge

IH35E
SBML OVERPASS AT STATE LOOP 9
FRAMING PLAN~ UNIT 2

Sheet 2 of 3

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		890

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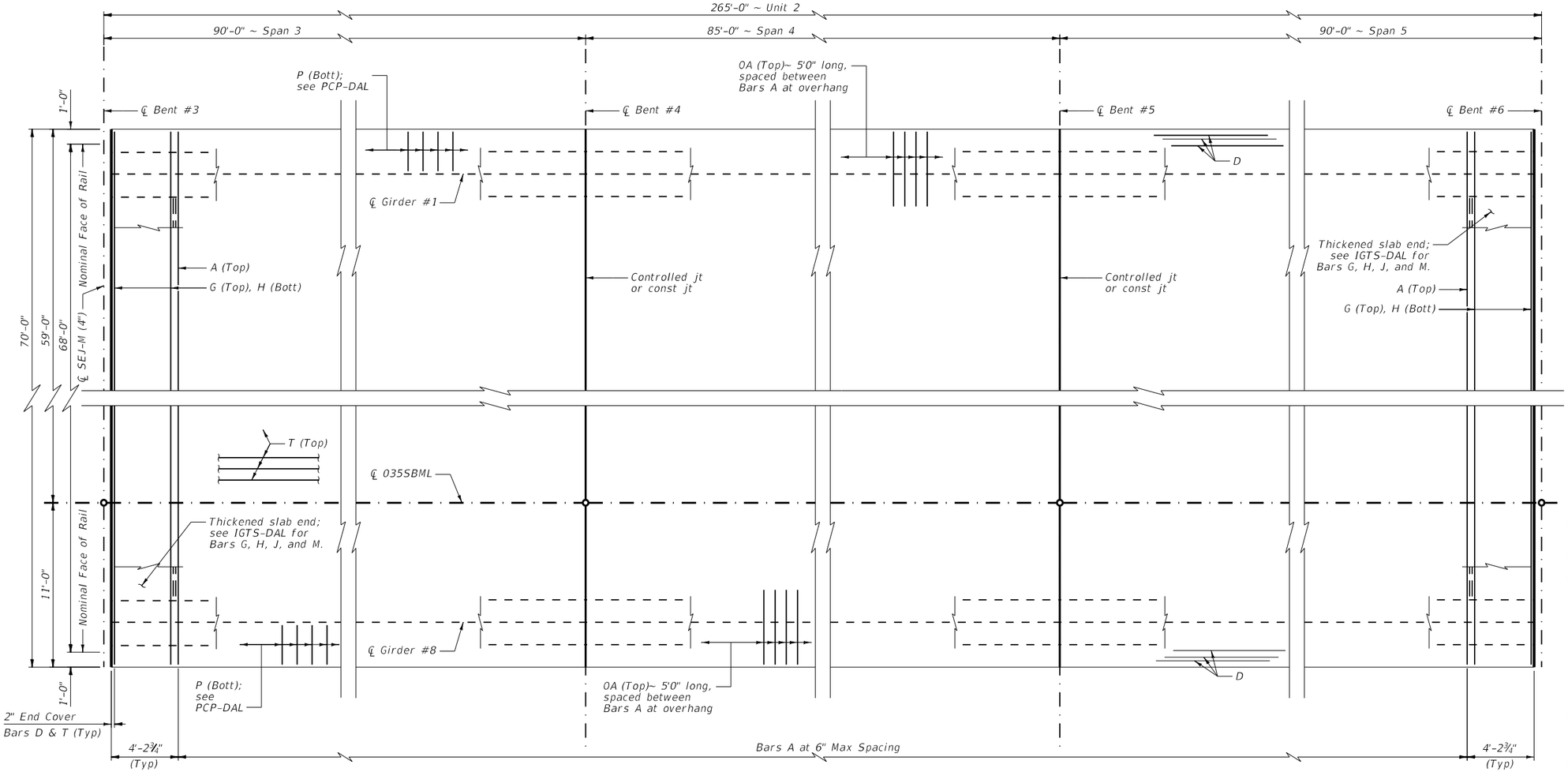
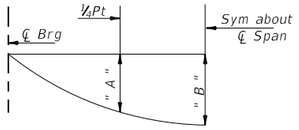


PLAN

Scale: 1/8" = 1'

BAR TABLE	
BAR	SIZE
A	#5
D	#5
G	#5
H	#5
J	#5
M	#5
P	#4
T	#4
0A	#5



DEAD LOAD DEFLECTIONS DIAGRAM

Note: Deflection shown are due to concrete slab only (Ec = 5000 ksi). Calculated deflections shown are theoretical and actual dimensions may be less. Deflections shall be adjusted based on field observations.

		"A"	"B"
Spans	Girders	Ft.	Ft.
3,5	1,8	0.040	0.057
	2-7	0.041	0.058
4	1,8	0.032	0.045
	2-7	0.033	0.046

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
REINF CONC SLAB (HPC)(CL S)	SF	18,550
(1) PRESTR CONC GIRDER (TY TX46)	LF	2,108.00
(2) (3) REINF STL	LB	63,070

(1) ~ Lengths shown are bottom girder flangelengths with adjustment made for girder slope.

(2) ~ For Contractor's information only

(3) ~ Reinforcing Steel Weight is calculated using an approximate factor of 3.4 LB/SF for slab

GENERAL NOTES:

For beam, misc. slab and thickened slab end details not shown, see IGD, IGMS-DAL, IGTS-DAL.

For Sealed Expansion Joint details not shown, see SEJ-M.

For Sealed Expansion Joint Quantities not shown, see Summary of Estimated Quantities.

Place and finish not less than 30 feet of Bridge Deck concrete per hour.

For rail details not shown, see Traffic Rail Type SSTR .

For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

For framing details not shown, see Framing Plan.

See PCP-DAL, PCP-FAB or PMDF Standards for details and quantity adjustments if either of these options are used.

See layout for surface texture requirements.

Provide a construction joint or control joint at the center line of interior bents 4 and 5.

See Typical Transverse Section Sheet for information not shown here.

Material Notes:

Provide Class S High Performance Concrete, f'c = 4.0 ksi.

Provide epoxy coated, Grade 60 reinforcing. Where required, provide bar laps as follows:

#4 = 2'-5"

#5 = 3'-0"

Deformed Welded Wire Reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars A, D, 0A, P or T unless noted otherwise. Provide the same laps as required for reinforcing bars.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

STATE OF TEXAS
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Alia Eckardt

05/26/2023

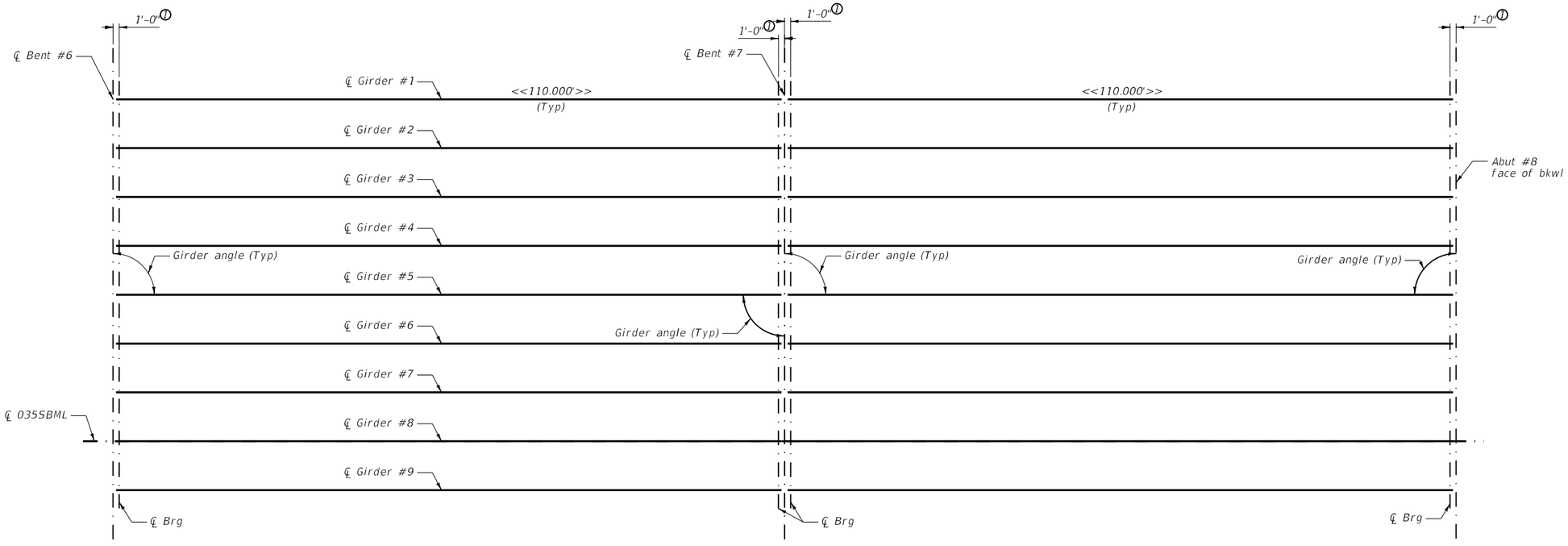
Texas Department of Transportation

Dallas District Bridge

IH35E
SBML OVERPASS AT STATE LOOP 9
SLAB DETAILS, UNIT 2

Sheet 2 of 4

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		891



SPAN 6

(Tx46 Girders)

BENT REPORT

BENT NO. 6 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 56.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 6	BEAM 1	0.000	90	0	0
	BEAM 2	8.000	90	0	0
	BEAM 3	8.000	90	0	0
	BEAM 4	8.000	90	0	0
	BEAM 5	8.000	90	0	0
	BEAM 6	8.000	90	0	0
	BEAM 7	8.000	90	0	0
	BEAM 8	8.000	90	0	0
	BEAM 9	8.000	90	0	0
	TOTAL	64.000			

BENT NO. 7 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 56.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 6	BEAM 1	0.000	90	0	0
	BEAM 2	8.000	90	0	0
	BEAM 3	8.000	90	0	0
	BEAM 4	8.000	90	0	0
	BEAM 5	8.000	90	0	0
	BEAM 6	8.000	90	0	0
	BEAM 7	8.000	90	0	0
	BEAM 8	8.000	90	0	0
	BEAM 9	8.000	90	0	0
	TOTAL	64.000			

SPAN 7

(Tx46 Girders)

BENT NO. 8 (N 87 29 55.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1, 56.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 7	BEAM 1	0.000	90	0	0
	BEAM 2	8.000	90	0	0
	BEAM 3	8.000	90	0	0
	BEAM 4	8.000	90	0	0
	BEAM 5	8.000	90	0	0
	BEAM 6	8.000	90	0	0
	BEAM 7	8.000	90	0	0
	BEAM 8	8.000	90	0	0
	BEAM 9	8.000	90	0	0
	TOTAL	64.000			

BEAM REPORT

BEAM REPORT, SPAN 6

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.②	BEAM SLOPE
BEAM 1	110.000	108.000	109.50	-0.0058
BEAM 2	110.000	108.000	109.50	-0.0058
BEAM 3	110.000	108.000	109.50	-0.0058
BEAM 4	110.000	108.000	109.50	-0.0058
BEAM 5	110.000	108.000	109.50	-0.0058
BEAM 6	110.000	108.000	109.50	-0.0058
BEAM 7	110.000	108.000	109.50	-0.0058
BEAM 8	110.000	108.000	109.50	-0.0058
BEAM 9	110.000	108.000	109.50	-0.0058

BEAM REPORT, SPAN 7

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.②	BEAM SLOPE
BEAM 1	110.000	108.000	109.51	-0.0102
BEAM 2	110.000	108.000	109.51	-0.0102
BEAM 3	110.000	108.000	109.51	-0.0102
BEAM 4	110.000	108.000	109.51	-0.0102
BEAM 5	110.000	108.000	109.51	-0.0102
BEAM 6	110.000	108.000	109.51	-0.0102
BEAM 7	110.000	108.000	109.51	-0.0102
BEAM 8	110.000	108.000	109.51	-0.0102
BEAM 9	110.000	108.000	109.51	-0.0102

①- See Elastomeric Bearing & Girder End Details (IGEB) standard sheet for orientation of dimension.
②- Lengths shown are bottom girder flange length with adjustment made for girder slope.

General Note:

Dimension shown thus <<X.XXX'>> represent horizontal beam length Face of Abut. Bkwl. to centerline of Bent or Centerline to Centerline of Bents.

STATE OF TEXAS
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05/26/2023

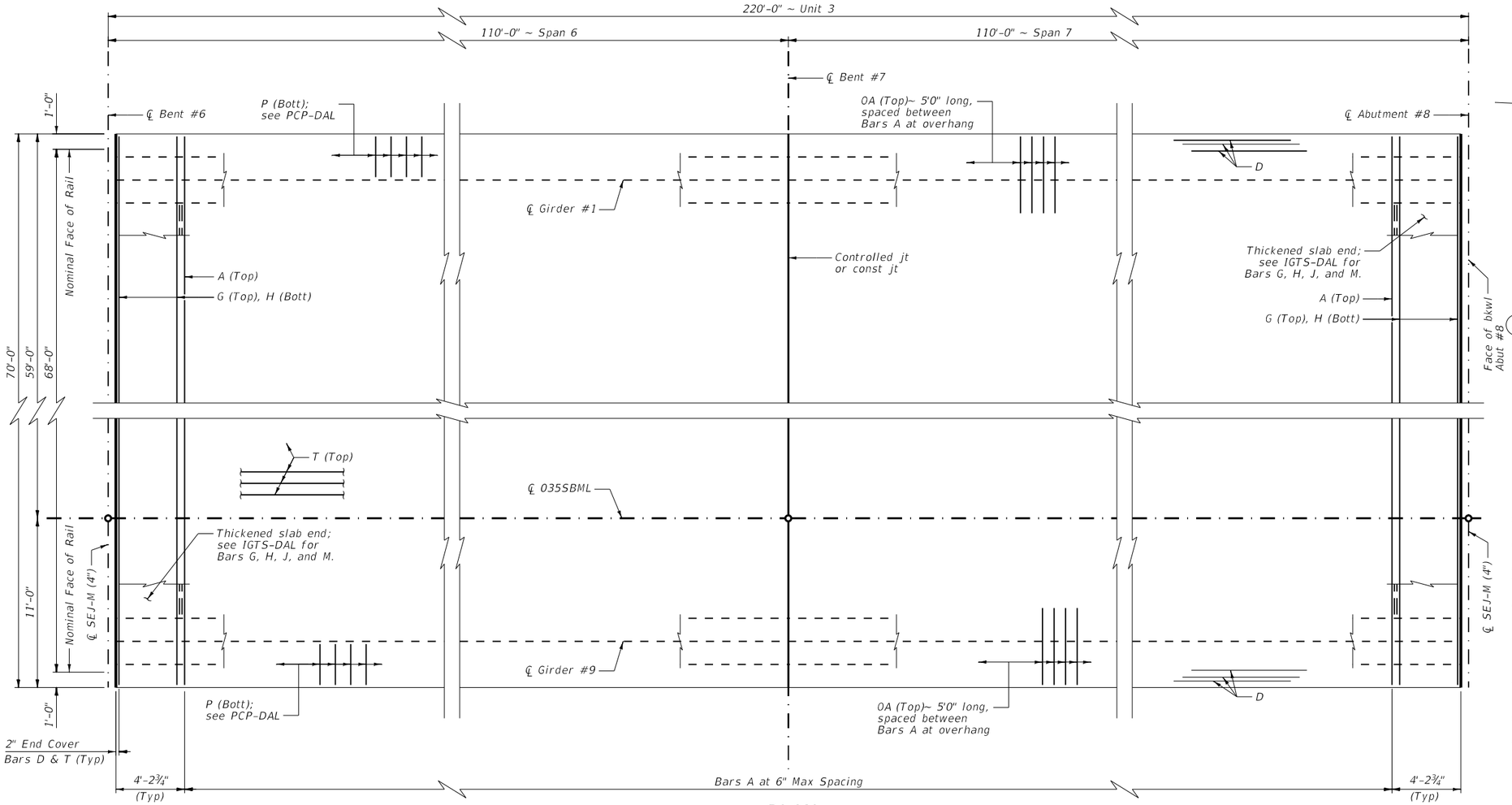
Texas Department of Transportation

Dallas District Bridge

IH35E
SBML OVERPASS AT STATE LOOP 9
FRAMING PLAN~ UNIT 3

Sheet 3 of 3

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		892



PLAN

Scale: ⅛" = 1'

BAR TABLE	
BAR	SIZE
A	#5
D	#5
G	#5
H	#5
J	#5
M	#5
P	#4
T	#4
0A	#5

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
REINF CONC SLAB (HPC)(CL S)	SF	15,400
(1) PRESTR CONC GIRDER (TY TX46)	LF	1,971.09
(2) (3) REINF STL	LB	52,360

(1) ~ Lengths shown are bottom girder flangelengths with adjustment made for girder slope.

(2) ~ For Contractor's information only

(3) ~ Reinforcing Steel Weight is calculated using an approximate factor of 3.4 LB/SF for slab

GENERAL NOTES:

For beam, misc. slab and thickened slab end details not shown, see IGD, IGMS-DAL, IGTS-DAL.

For Sealed Expansion Joint details not shown, see SEJ-M. For Sealed Expansion Joint Quantities not shown, see Summary of Estimated Quantities.

Place and finish not less than 30 feet of Bridge Deck concrete per hour.

For rail details not shown, see Traffic Rail Type SSTR .

For reinforcing steel to be welded, provide bars conforming to ASTM Designation A706 or having a carbon equivalency per specification Item 440.

For framing details not shown, see Framing Plan.

See PCP-DAL, PCP-FAB or PMDF Standards for details and quantity adjustments if either of these options are used.

See layout for surface texture requirements.

Provide a construction joint or control joint at the center line of interior bents 7.

See Typical Transverse Section Sheet for information not shown here.

Material Notes:

Provide Class S High Performance Concrete, f'c = 4.0 ksi.

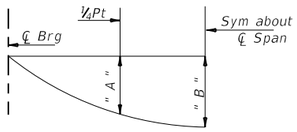
Provide epoxy coated, Grade 60 reinforcing. Where required, provide bar laps as follows:

#4 = 2'-5"

#5 = 3'-0"

Deformed Welded Wire Reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars A, D, 0A, P or T unless noted otherwise. Provide the same laps as required for reinforcing bars.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.



DEAD LOAD DEFLECTIONS DIAGRAM

Note: Deflection shown are due to concrete slab only (Ec = 5000 ksi). Calculated deflections shown are theoretical and actual dimensions may be less. Deflections shall be adjusted based on field observations.

		"A"	"B"
Spans	Girders	Ft.	Ft.
6,7	1,9	0.085	0.121
	2-8	0.082	0.116

STATE OF TEXAS
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Alia Eckardt

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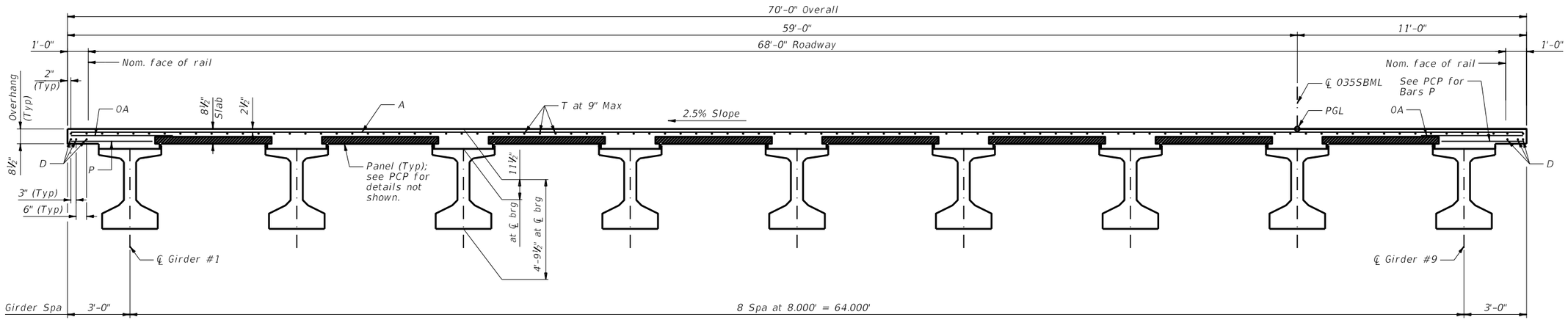
Dallas District Bridge

IH35E
SBML OVERPASS AT STATE LOOP 9
SLAB DETAILS, UNIT 3

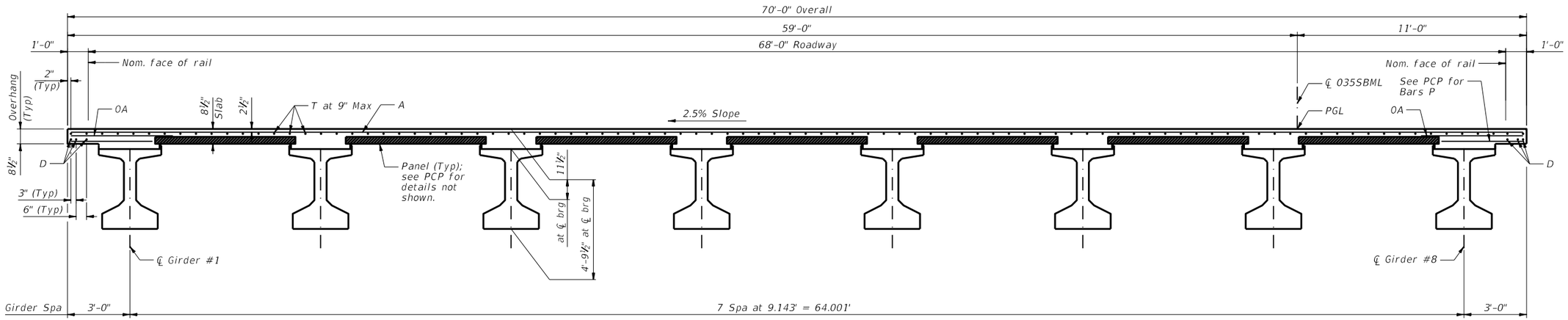
Sheet 3 of 4

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		893



TYPICAL TRANSVERSE SECTION

Scale: 3/16" = 1'
(SPAN 1,2,6,7)



TYPICAL TRANSVERSE SECTION

Scale: 3/16" = 1'
(SPAN 3,4,5)

STATE OF TEXAS
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Alia Eckardt

05/26/2023

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Dallas District Bridge

IH35E
SBML OVERPASS AT STATE LOOP 9
TYPICAL TRANSVERSE SECTION

Sheet 4 of 4

FILE:	DN: AE	CK: RM	DW: AE	CK: RM
©TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		894

DATE:
FILE:

STRUCTURE	DESIGNED GIRDERS									DEPRESSED STRAND PATTERN		CONCRETE		OPTIONAL DESIGN					LOAD RATING FACTORS			
	SPAN NO.	GIRDER NO.	GIRDER TYPE	PRESTRESSING STRANDS						NO.	TO END (in)	RELEASE STRGTH (1) f'ci (ksi)	MINIMUM 28 DAY COMP STRGTH f'c (ksi)	DESIGN LOAD COMP STRESS (TOP ℄) (SERVICE I) fct(ksi)	DESIGN LOAD TENSILE STRESS (BOTT ℄) (SERVICE III) fcb(ksi)	REQUIRED MINIMUM ULTIMATE MOMENT CAPACITY (STRENGTH I) (kip-ft)	LIVE LOAD DISTRIBUTION FACTOR (2)		STRENGTH I		SERVICE III
				NON-STD STRAND PATTERN	TOTAL NO.	SIZE (in)	STRGTH fpu (ksi)	"e" ℄ (in)	"e" END (in)								Moment	Shear	Inv	Opr	Inv
	1, 2, 6, 7	ALL	Tx46		40	0.6	270	15.70	11.50	6	34.5	5.900	7.500	4.434	-4.405	6786	0.617	0.814	1.57	2.13	1.00
IH35E SB @ LP9	3, 5	ALL	Tx46		30	0.6	270	16.40	9.20	6	42.5	4.100	5.200	3.152	-3.286	5339	0.716	0.894	1.60	2.08	1.08
	4	ALL	Tx46		26	0.6	270	16.68	12.07	4	34.5	4.000	5.000	2.837	-2.984	4897	0.728	0.894	1.49	1.93	1.09
	1, 2, 6, 7	ALL	Tx46		40	0.6	270	15.70	10.60	6	40.5	5.700	7.300	4.355	-4.296	6581	0.593	0.783	1.68	2.22	1.09
IH35E NB @ LP9	3, 5	ALL	Tx46		30	0.6	270	16.40	10.40	6	36.5	4.300	6.500	3.246	-3.405	5553	0.748	0.933	1.51	1.96	1.07
	4	ALL	Tx46		26	0.6	270	16.68	12.07	4	34.5	4.000	6.100	2.900	-3.075	5077	0.760	0.933	1.41	1.83	1.07

NON-STANDARD STRAND PATTERNS

PATTERN	STRAND ARRANGEMENT AT ℄ OF GIRDER

(1) Based on the following allowable stresses (ksi):

Compression = 0.65 f'ci

Tension = $0.24\sqrt{f'ci}$

Optional designs must likewise conform.

(2) Portion of full HL93.

DESIGN NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications. Load rated using Load and Resistance Factor Rating according to AASHTO Manual for Bridge Evaluation.

Optional designs for girders 120 feet or longer must have a calculated residual camber equal to or greater than that of the designed girder.

Prestress losses for the designed girders have been calculated for a relative humidity of __ percent. Optional designs must likewise conform.

FABRICATION NOTES:

Provide Class H concrete.

Provide Grade 60 reinforcing steel bars.

Use low relaxation strands, each pretensioned to 75 percent of fpu.

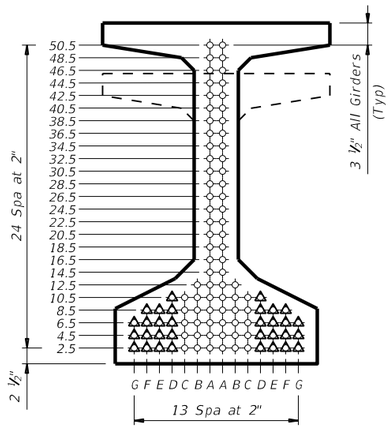
Strand debonding must comply with Item 424.4.2.2.2.4. Full-length debonded strands are only permitted in positions marked △. Double wrap full-length debonded strands in outer most position of each row.

When shown on this sheet, the Fabricator has the option of furnishing either the designed girder or an approved optional design. All optional design submittals must be signed, sealed and dated by a Professional Engineer registered in the State of Texas.

Seal cracks in girder ends exceeding 0.005" in width as directed by the Engineer. The fabricator is permitted to decrease the spacing of Bars R and S by providing additional bars to help limit crack width provided the decreased spacing results in no less than 1" clear between bars. The fabricator must take an approved corrective action if cracks greater than 0.005" form on a repetitive basis.

DEPRESSED STRAND DESIGNS:

Locate strands for the designed girder as low as possible on the 2" grid system unless a non-standard strand pattern is indicated. Fill row "2.5", then row "4.5", then row "6.5", etc., beginning each row in the "A" position and working outward until the required number of strands is reached. All strands in the "A" position must be depressed, maintaining the 2" spacing so that, at the girder ends, the upper two strands are in the position shown in the table.



TYPE Tx46 & Tx54

HL93 LOADING

STATE OF TEXAS
ALIA S. ECKARDT
142809
LICENSED PROFESSIONAL ENGINEER

Alia Eckardt

05/26/2023

Texas Department of Transportation

Bridge Division Standard

PRESTRESSED CONCRETE I-GIRDER DESIGNS (NON-STANDARD SPANS)

IGND

Sheet 1 of 1

FILE: igndsts1-22.dgn	DN: TxDOT	CK: TxDOT	DW: EFC	CK: TAR
©TxDOT August 2017	CONT	SECT	JOB	HIGHWAY
REVISIONS 10-19: Modified for depressed strands only. 3-22: Added Load Rating.	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		895

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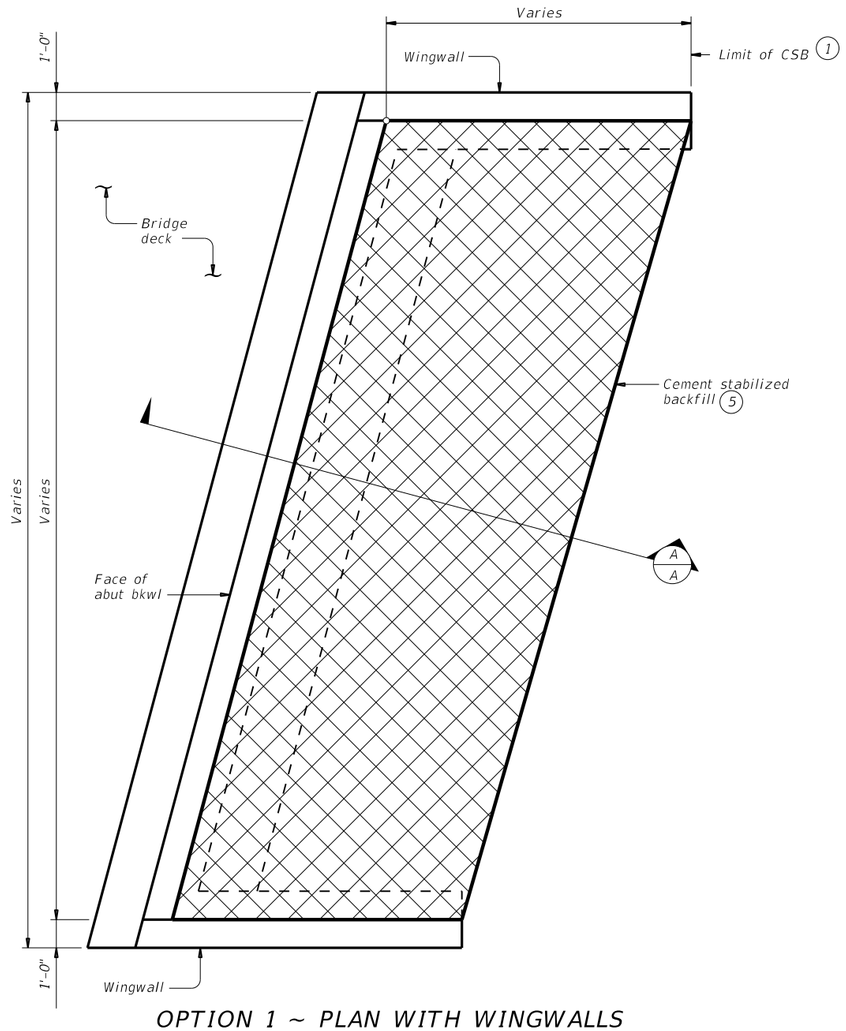
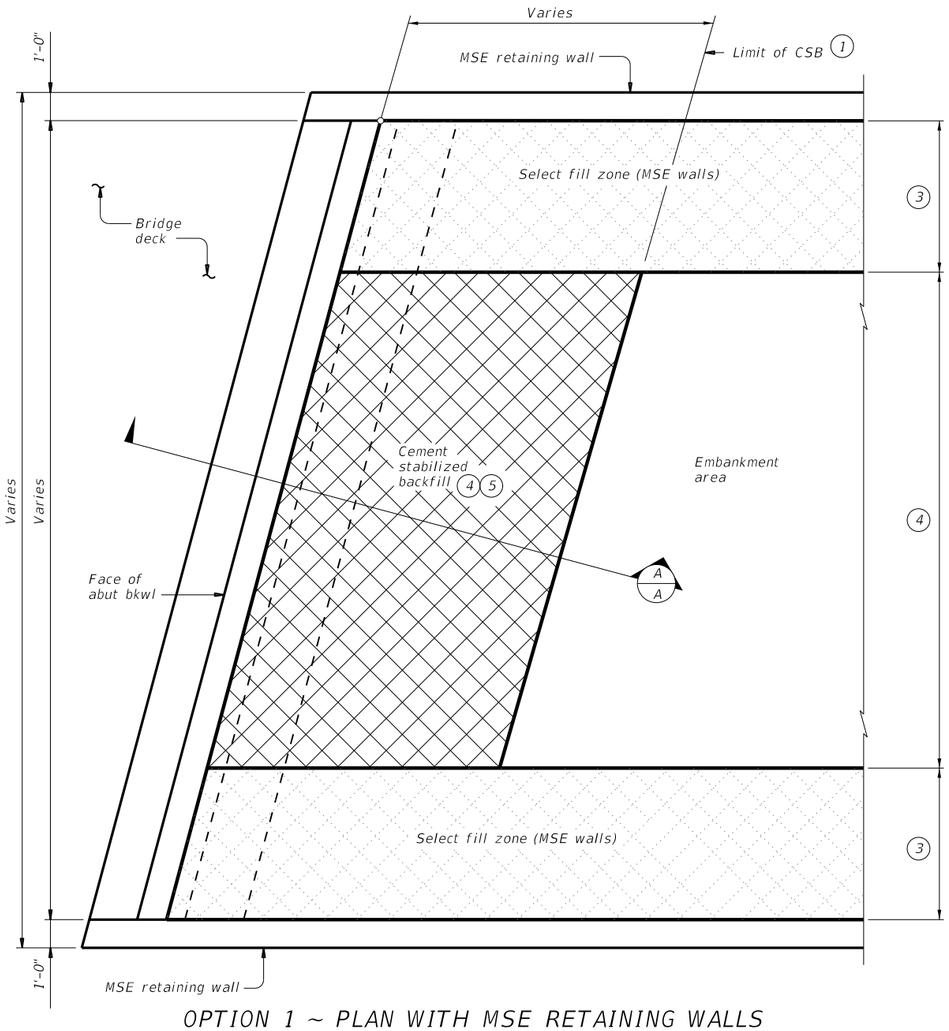


OPTION 1 ~ PLAN WITH WINGWALLS

Cast-in-place retaining walls similar.



OPTION 1 ~ PLAN WITH MSE RETAINING WALLS

1. Usual limit of Cement Stabilized Backfill is at end of wingwall. Extend CSB limits as required to maintain a slope no steeper than 1:1 at bottom of backfill.
2. Bench backfill as shown with 12" (approximate) bench depths.
3. Where MSE retaining walls are present, adjust CSB limits to accommodate the select fill zone. See retaining wall details for additional information.
4. When distance between select fill zones is less than 5'-0", MSE select fill may be substituted for cement stabilized backfill with approval from the Engineer.
5. If shown in the plans, flowable backfill can be used as a substitute for cement stabilized backfill with the following constraints:
   a). If flowable backfill is to be placed over MSE backfill, then a filter fabric will be placed over the MSE backfill prior to placement of the flowable fill; and
   b). Place flowable fill in lifts not exceeding 2 feet in height. Place each successive lift when the previous lift has stiffened/hardened (i.e. has lost its flowability).

GENERAL NOTES:

See the Bridge Layout for selected Option. Option 1 is intended for construction only requiring plasticity index (PI) controlled embankment fill or excavation in competent soils/rocks in order to construct the abutment. Option 2 is intended for new construction requiring high plasticity embankment fill with a PI greater than 30 or pavement built in poor native soil. Poor soils are defined as high plasticity clays or expansive clays.

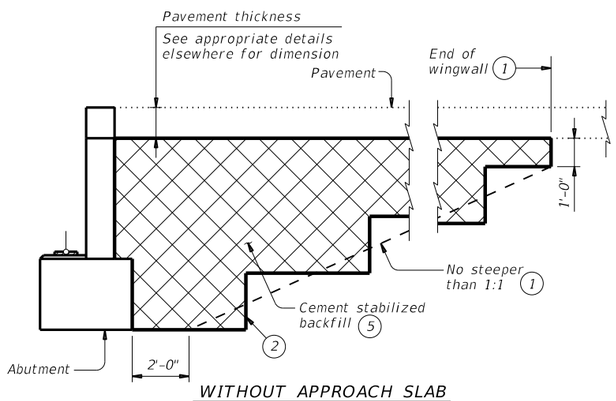
Construct abutment backfill in accordance with Item 400, "Excavation and Backfill for Structures".

Provide Cement Stabilized Backfill (CSB) meeting the requirements of Item 400, "Excavation and Backfill for Structures", to the limits shown at bridge abutments.

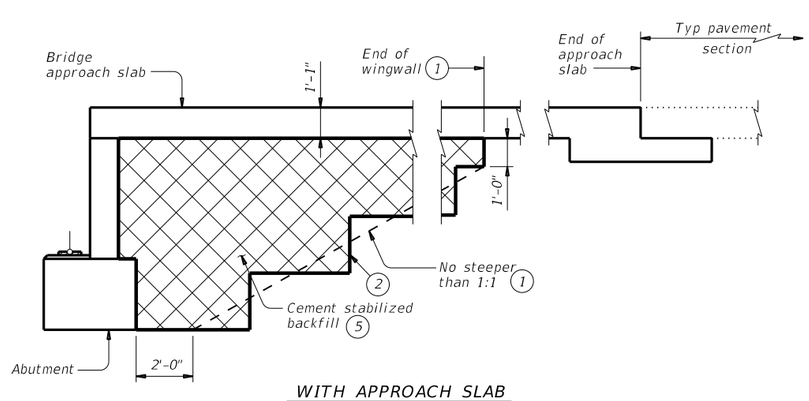
If required elsewhere in the plans, provide Flowable Backfill meeting the requirements of Item 401, "Flowable Backfill", to the limits shown at bridge abutments.

Details are drawn showing left forward skew. See Bridge Layout for actual skew direction.

These details do not apply when Concrete Block retaining walls are used in lieu of wingwalls.



WITHOUT APPROACH SLAB



WITH APPROACH SLAB

(Showing BAS-C, BAS-A similar.)

SECTION A-A

Texas Department of Transportation

Bridge Division Standard

CEMENT STABILIZED ABUTMENT BACKFILL

BRIDGE ABUTMENT

CSAB

FILE: MS-CSAB-23.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
02-20: Added Option 2. 03-23: Updated General Notes.	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		896

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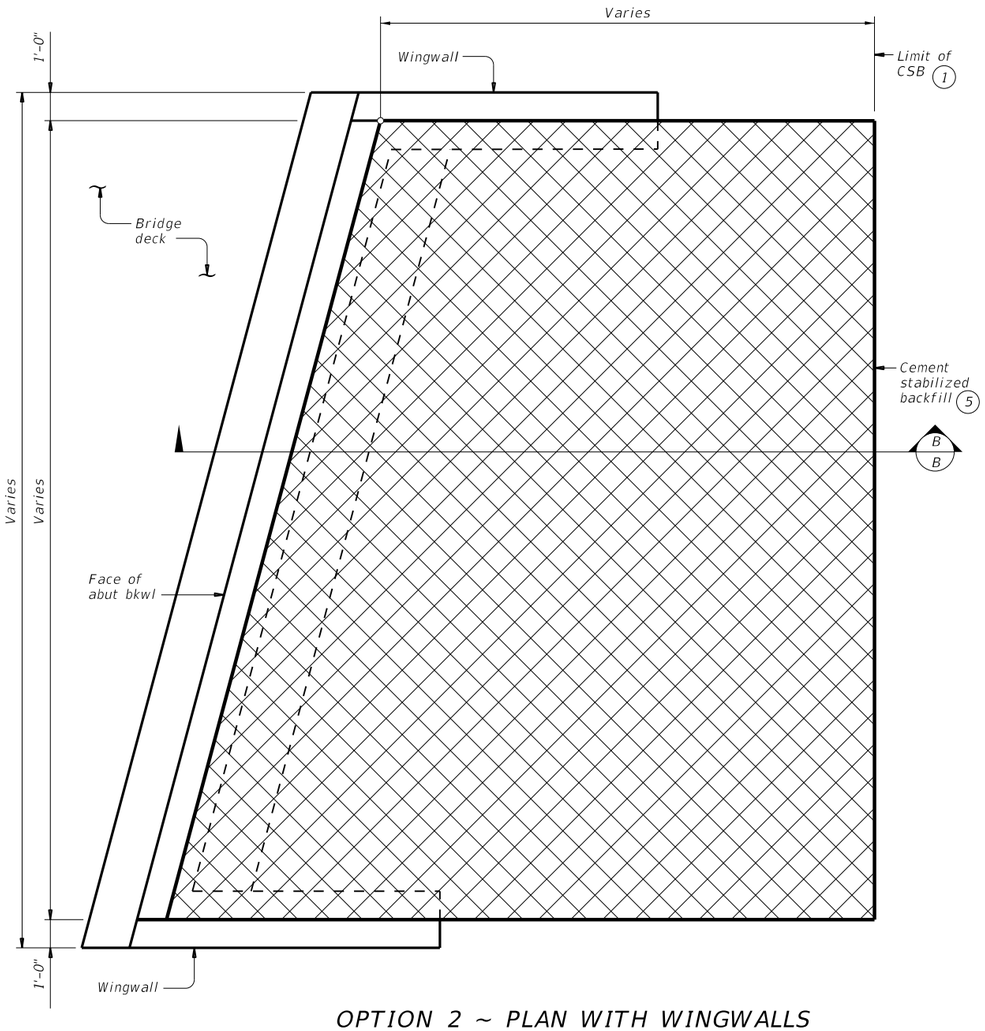
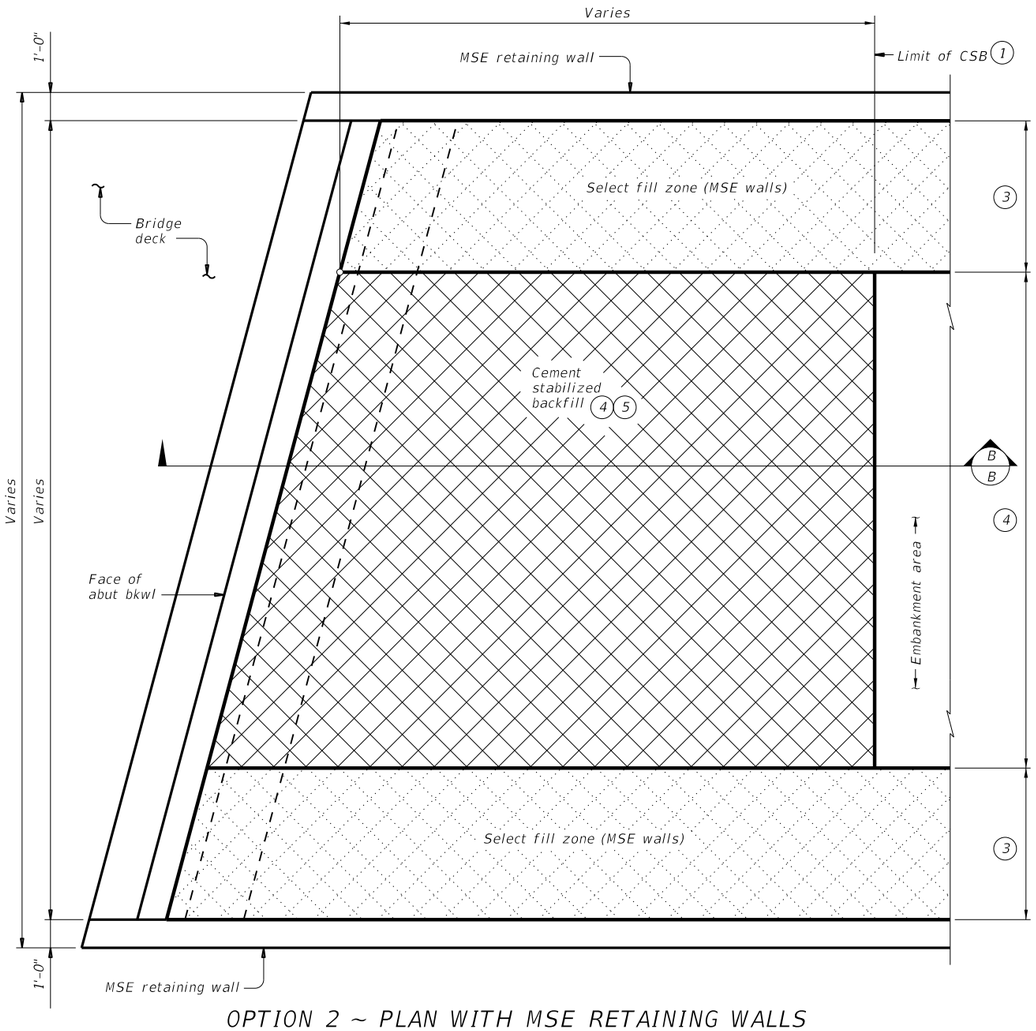


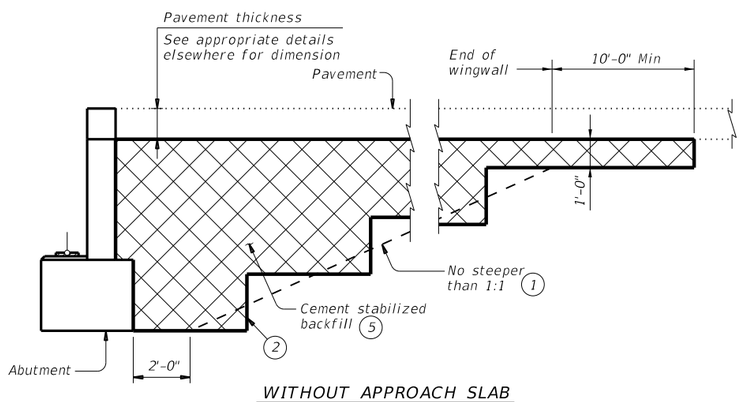
OPTION 2 ~ PLAN WITH WINGWALLS

Cast-in-place retaining walls similar.



OPTION 2 ~ PLAN WITH MSE RETAINING WALLS

1. Usual limit of Cement Stabilized Backfill is at end of wingwall. Extend CSB limits as required to maintain a slope no steeper than 1:1 at bottom of backfill.
2. Bench backfill as shown with 12" (approximate) bench depths.
3. Where MSE retaining walls are present, adjust CSB limits to accommodate the select fill zone. See retaining wall details for additional information.
4. When distance between select fill zones is less than 5'-0", MSE select fill may be substituted for cement stabilized backfill with approval from the Engineer.
5. If shown in the plans, flowable backfill can be used as a substitute for cement stabilized backfill with the following constraints:
   a). If flowable backfill is to be placed over MSE backfill, then a filter fabric will be placed over the MSE backfill prior to placement of the flowable fill; and
   b). Place flowable fill in lifts not exceeding 2 feet in height. Place each successive lift when the previous lift has stiffened/hardened (i.e. has lost its flowability).
6. 1'-0" for BAS-A
   1'-10" for BAS-C



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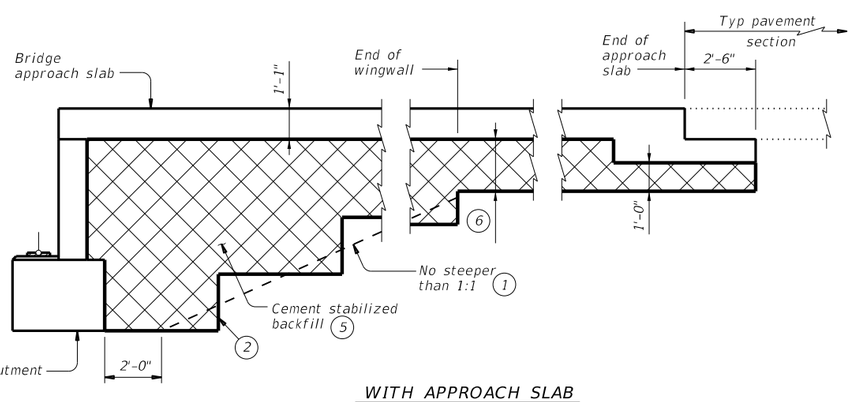

WITH APPROACH SLAB
(Showing BAS-C, BAS-A similar.)

SECTION B-B

SHEET 2 OF 2

Texas Department of Transportation

Bridge Division Standard

CEMENT STABILIZED ABUTMENT BACKFILL

BRIDGE ABUTMENT

CSAB

FILE: MS-CSAB-23.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
02-20: Added Option 2. 03-23: Updated General Notes.	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		897

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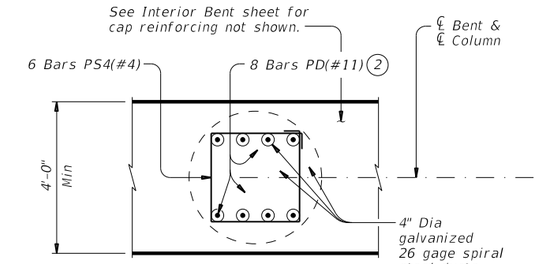
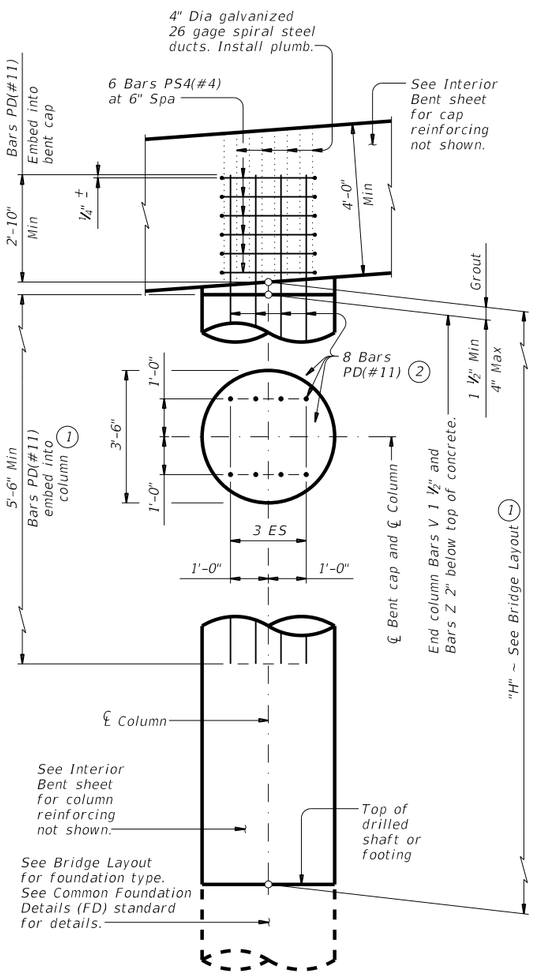
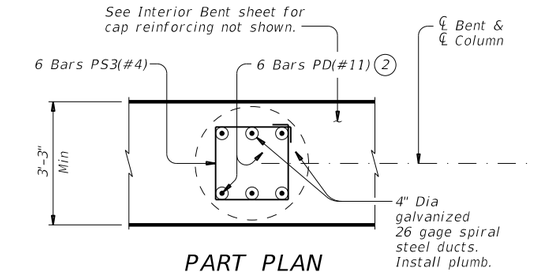


PART PLAN
(42" Dia Column)



PART ELEVATION
(42" Dia Column)



PART PLAN
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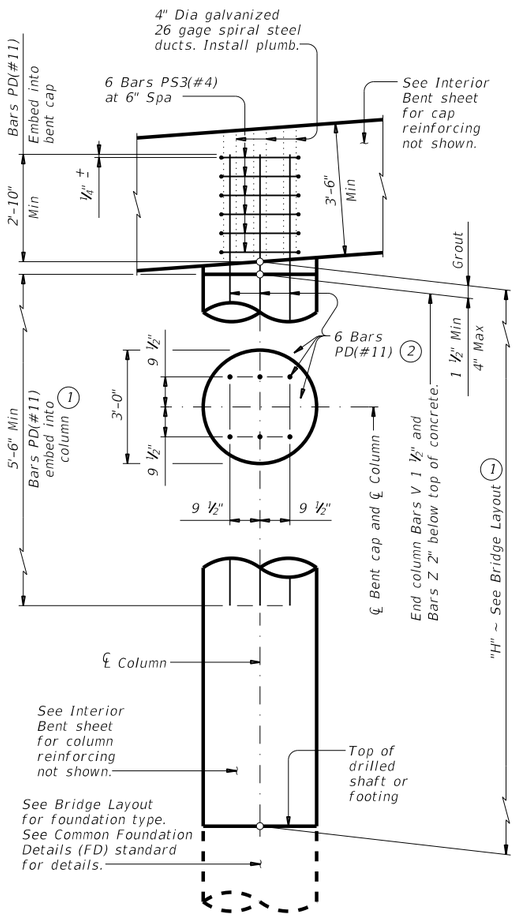
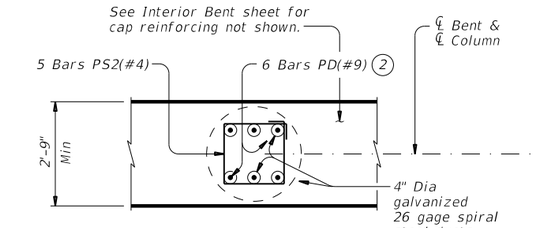
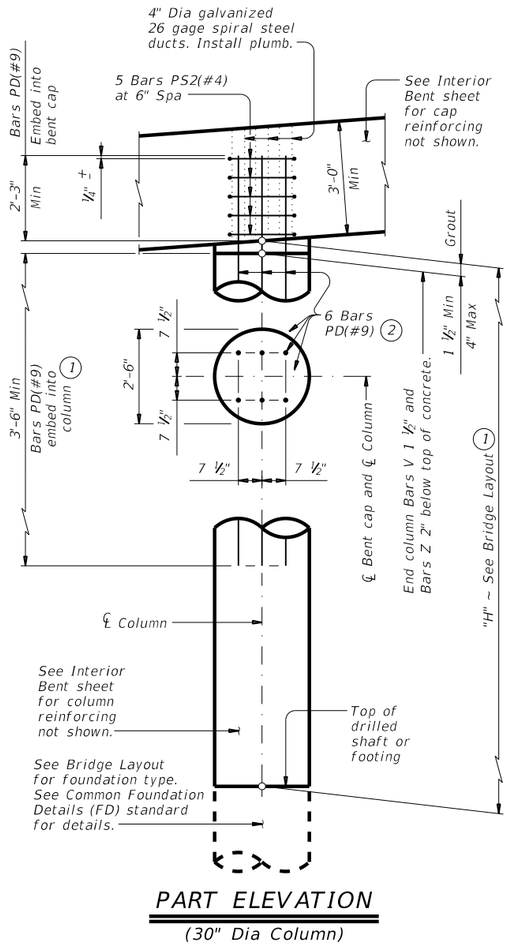


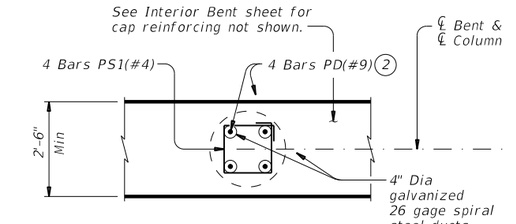
PART ELEVATION
(36" Dia Column)



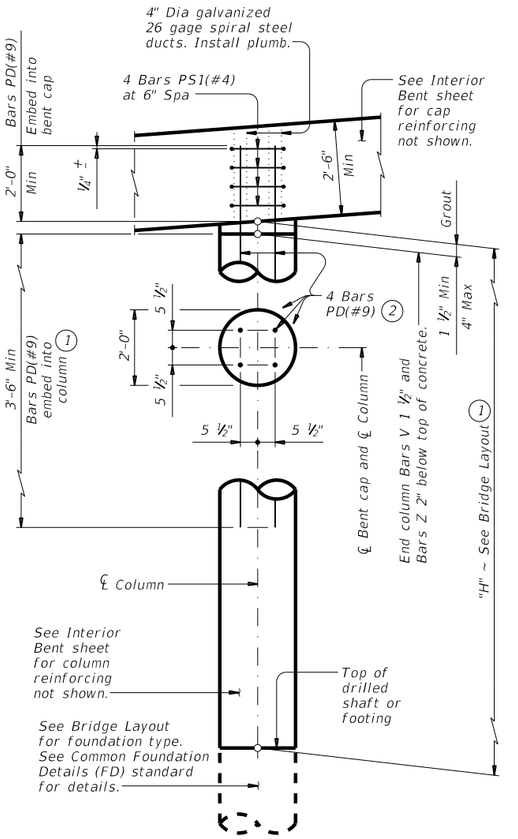
PART PLAN
(30" Dia Column)



PART ELEVATION
(30" Dia Column)



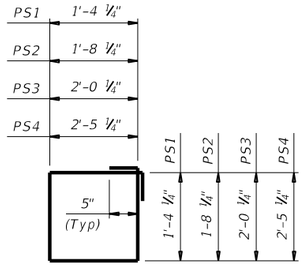
PART PLAN
(24" Dia Column)



PART ELEVATION
(24" Dia Column)

(1) Bars PD may need to be embedded in footing or drilled shaft for short columns.

(2) Location tolerance of dowels in columns/drilled shafts is ¼" from plan location, transversely and longitudinally.



BARS PS (#4)

HL93 LOADING SHEET 1 OF 2

Texas Department of Transportation

Bridge Division Standard

PRECAST CONCRETE BENT CAP OPTION FOR ROUND COLUMNS

PBC-RC

FILE: pbcstd01-21.dgn	DN: TxDOT	CK: JMH	DW: JTR	CK: TxDOT
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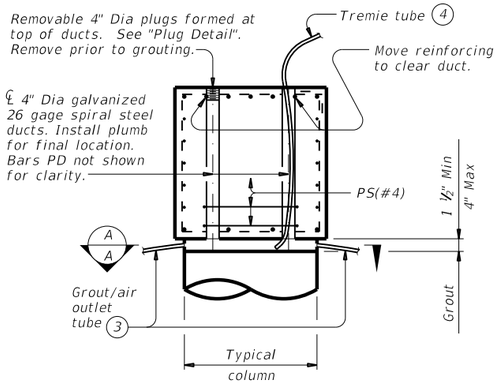
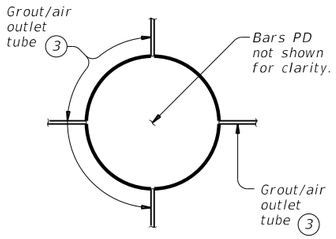
REVISIONS 12-21: General Notes	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		898

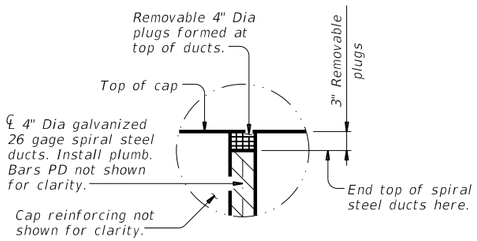


TYPICAL SECTION THRU CAP

(Showing example of ducts and cap reinforcing.)

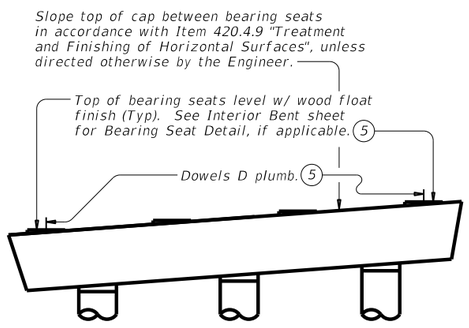


SECTION A-A

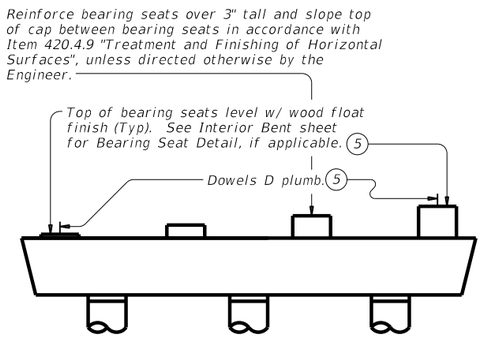


PLUG DETAIL

(Plug is used to keep concrete out of ducts during concrete placement. Remove prior to grouting)



CAP SET AT SLOPE



CAP SET LEVEL

EXAMPLES OF PRECAST BENTS WITH DOWELS D

(3) Provide at least 4 grout/air outlet tubes equally spaced around the perimeter of the column. Install at bottom of cap to avoid air entrapment. Seal off tubes sequentially when a steady flow of grout without air occurs. Secondary tubes to help drain water, located at top of column, may also be installed.

(4) Continuous gravity-flow grouting through a tremie tube is recommended. With this method, lower a flexible tremie tube through one of the vertical ducts to the bottom of the bedding layer and fill the connection from the bottom upward with a continuous flow of grout. This method requires a sufficient amount of grout to be mixed prior to grouting and that the funnel connected to the tremie tube have adequate volume capacity (4 quarts Min is recommended). A valve may be used to stop the flow during grouting to allow refilling the funnel or to tamp the grout. The tube should remain within the grout and gradually withdrawn as the level of the grout rises in the ducts. It is critical to ensure a continuous flow of grout to avoid air entrapment. Alternative methods, including pressure grouting with low pressure pumps, may be used provided they are proved effective in providing void-free connections during the mock-up phase.

(5) Unless otherwise shown.

CONSTRUCTION NOTES:

Cap Fabrication:

Construct and cure cap in accordance with Item 420, "Concrete Substructures". If fabricated at an offsite location, construct and cure cap in accordance with Item 424, "Precast Concrete Structural Members (Fabrication)". Secure ducts to prevent their movement during concrete placement. Location tolerance of ducts is ¼" from plan location, transversely and longitudinally. Seal ducts to prevent intrusion of concrete.

Bearing seats may be precast with the cap. Bearing seats over 3" in height must be reinforced as per Item 420.4.9. Do not locate lift points at bearing seats if bearing seats are precast.

Cap concrete must achieve a compressive strength of 2,500 psi prior to lifting. Limit flexural stress in cap to 250 psi during handling and storage. Store and handle caps in accordance with Item 424, "Precast Concrete Structural Members (Fabrication)". Do not stack caps. Caps that become cracked or otherwise damaged may be rejected.

Cap-to-Column Connection:

Make a trial batch of grout using the same material, equipment and personnel to be used for actual grouting operations and grout a mock-up of the connection at least one week before grouting and in the presence of the Engineer. This mock-up test must demonstrate the reliability of the Contractor's grouting procedures to provide a connection free of voids. Field test the trial batch grout to the same level required for the actual grouting.

Caps may be placed on columns/drilled shafts after column/drilled shaft concrete has achieved a flexural stress of 355 psi (or 2,500 psi compressive strength). Use plastic shims or friction collars to support the cap at the proper elevation prior to grouting. Total area of plastic shims used on top of each column may not exceed 6 percent of the column area. Column/drilled shaft curing may be interrupted a maximum of 2 hours for placement of plastic shims or friction collars and cap placement.

Surfaces in contact with grout must be clean and in a saturated, surface-dry condition, immediately prior to grouting. Provide water tight forms. Fill the forms with water and drain just prior to grouting. Ponding or free-standing water is not permitted. Use compressed air to blow out excess water.

Mix grout in accordance with the manufacturer's directions. Evidence of frothing, foaming, or segregation is cause for rejection. Transport grout from mixer to final location by wheel barrow, bucket or pumping.

Perform sampling and testing of grout by trained personnel at the Contractor's expense and while witnessed by the Engineer. Grouted connections must be free of voids.

Trowel finish top surface of cap anchorage ducts flush with top of cap. Wet mat cure these locations for at least 48 hours. Recess lifting loops 1-inch minimum using exothermic cutting rods. Do not overheat or damage the surrounding concrete. Abrade the concrete surfaces of excavation and end of the lifting loop to remove all slag with a needle gun, steel brush, or other suitable means. Coat the inside of the recessed area, including the lifting loops, with 10 mils (minimum) of neat, Type VIII epoxy and patch the recess with epoxy mortar.

Friction collars may be removed, if used, and beams placed on the cap after the grout obtains a compressive strength of 2,500 psi. Subsequent loading can occur when the grout reaches its final required 28 day compressive strength.

MATERIAL NOTES:

Provide a pre-qualified grout from TxDOT's Material Producer List "Cementitious Grouts and Mortars for Miscellaneous Applications", conforming to DMS-4675.

Provide semi-rigid spirally crimped, corrugated duct of galvanized, cold rolled steel conforming to ASTM A653. Corrugations must have a minimum amplitude of 0.094".

Grout tubes and forms must be approved prior to grouting.

Provide Grade 60 reinforcing steel. Epoxy coat or galvanize all reinforcement if column reinforcement is epoxy coated or galvanized.

GENERAL NOTES:

Designed in accordance with AASHTO LRFD Bridge Design Specifications.

The Contractor has the option to provide precast bent caps in accordance with the details shown. No additional payment will be made if the Contractor uses precast caps.

Submit shop drawings of precast caps for approval prior to construction. Indicate lifting attachments and locations on the shop drawings.

Precast Concrete Bent Cap Option shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.

See Interior Bent sheet for details and notes not shown.

Reinforcing bar dimensions shown are out-to-out of bar.

HL93 LOADING

Texas Department of Transportation

Bridge Division Standard

PRECAST CONCRETE BENT CAP OPTION FOR ROUND COLUMNS

PBC-RC

FILE: pbcstd01-21.dgn	DN: TxDOT	CK: JMH	DW: JTR	CK: TxDOT
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REVISIONS 12-21: General Notes	0042	03	042, ETC	IH 35E
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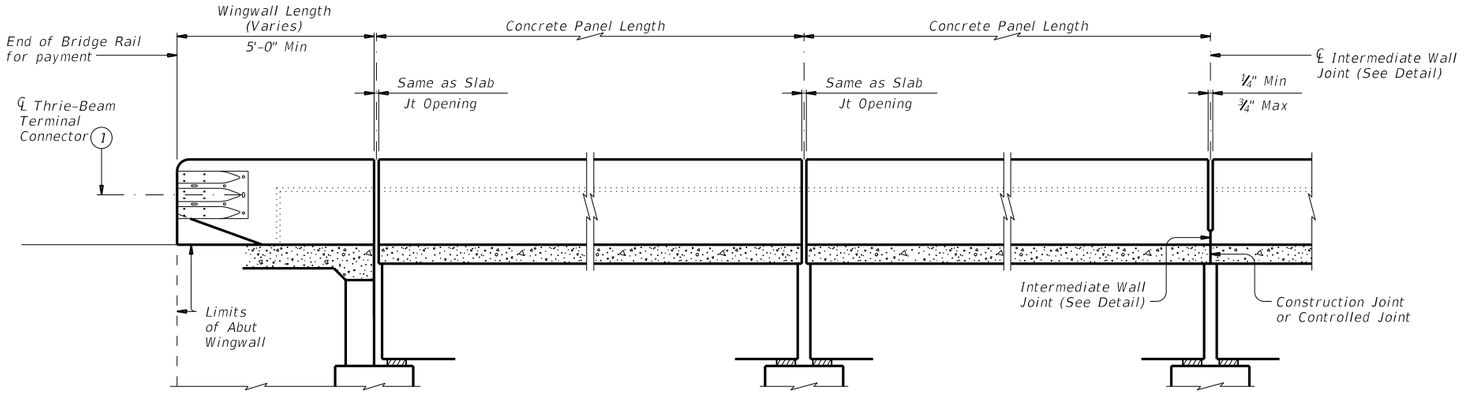
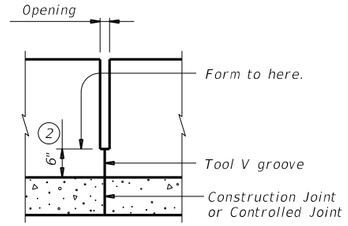


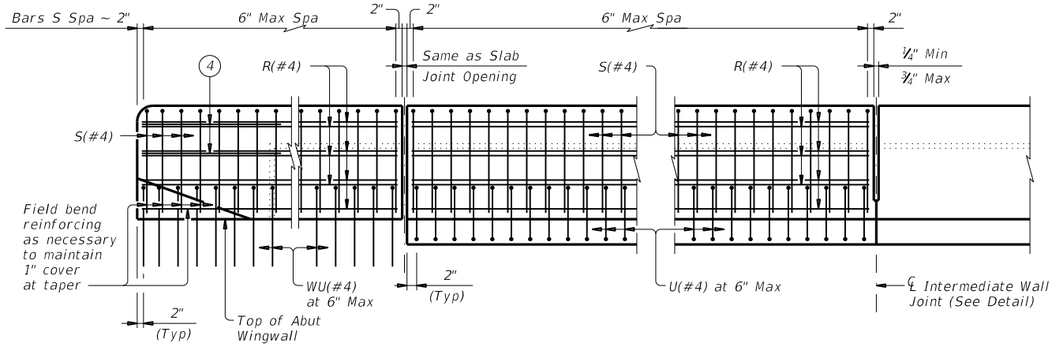
AT ABUTMENTS | AT BENTS WITH SLAB EXP JOINTS | AT BENTS WITHOUT SLAB EXP JOINTS

ROADWAY ELEVATION OF RAIL

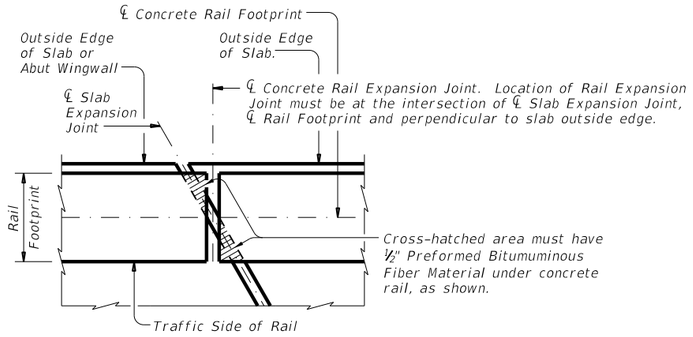


INTERMEDIATE WALL JOINT DETAIL

Provide at all interior bents without slab expansion joints.



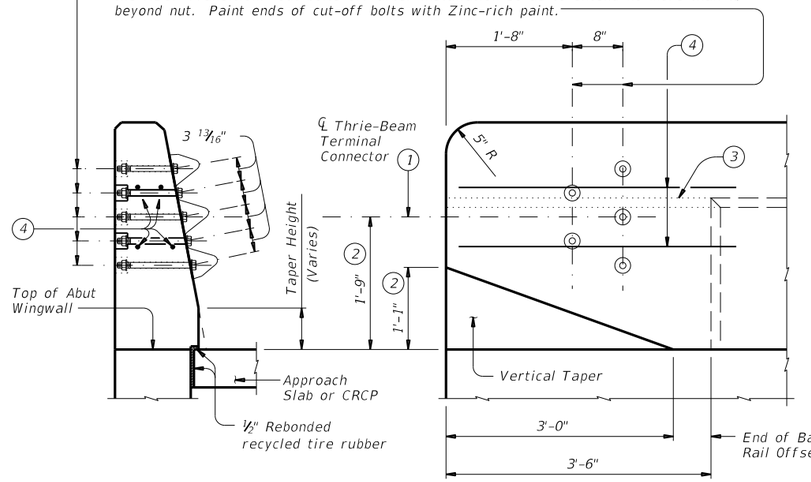
ELEVATION SHOWING TYPICAL REINFORCING PLACEMENT



PLAN OF RAIL AT EXPANSION JOINTS

Example showing Slab Expansion Joints without breakbacks.

℄ 5 ~ 1" Dia holes and 2 ½" Dia x 2" deep recesses. Form or core holes and recesses. Percussion drilling is not permitted. Adjust placement of reinforcing steel as necessary to avoid bolt holes and recesses. Bolt recesses are only required when pedestrian sidewalks are adjacent to back of rail. Tighten the 5 Terminal Connection Bolts in a well distributed pattern so to prevent damage or distortion of the Thrie-Beam Connection and the MBGF Transition. Cut bolts off after installation so as to extend no more than ¾" beyond nut. Paint ends of cut-off bolts with Zinc-rich paint.



SECTION | ELEVATION

TERMINAL CONNECTION DETAILS

1. Terminal Connectors and associated hardware are to be paid for under the Item "Metal Beam Guard Fence". Attach Metal Beam Guard Fence Transitions to the bridge rail and extend along the embankment unless otherwise shown in the plans.
2. Increase 2" for structures with Overlay.
3. Back of rail offset may, with Engineer's approval, be continued to the end of the railing.
4. Place 4 additional Bars R(#4) 3'-8" in length inside Bars S(#4) and centered 2'-0" from end of rail when Terminal Connections are required.

Texas Department of Transportation | Bridge Division Standard

TRAFFIC RAIL SINGLE SLOPE

TYPE SSTR

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REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		900

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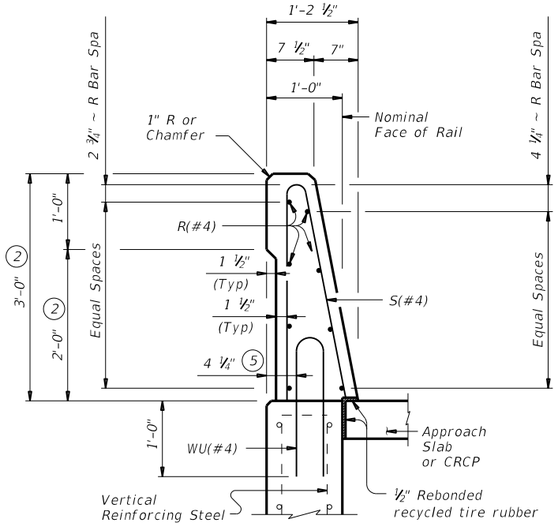
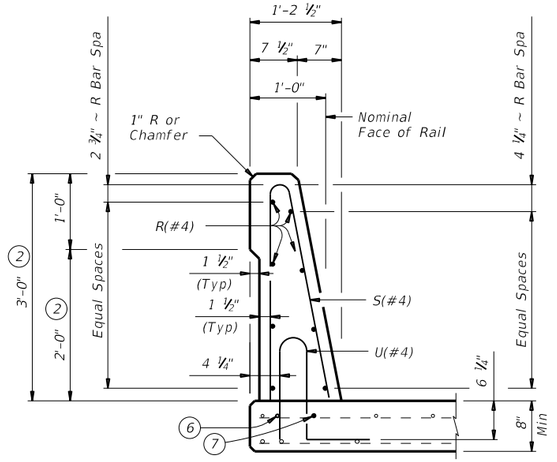


ON ABUTMENT WINGWALLS OR CIP RETAINING WALLS



ON BRIDGE SLAB

SECTIONS THRU RAIL

(2) Increase 2" for structures with Overlay.

(5) 5 ¼" when vertical reinforcing has closer clear cover over horizontal reinforcing in abutment wingwalls or retaining walls on traffic side of wall.

(6) As an aid in supporting reinforcement, additional longitudinal bars may be used in the slab with the approval of the Engineer. Such bars must be furnished at the Contractor's expense.

(7) Top longitudinal slab bar may be adjusted laterally 3" plus or minus to tie reinforcing.

(8) No longitudinal wires may be within upper bend.

(9) Bend or cut as required to clear drain slots.

(10) Space U(#4) bars at 4" Max when end region of panel length is less than 6'-0" to side slot drain. Space U(#4) bars at 6" Max when end region of panel length is 6'-0" and greator to side slot drain.

CONSTRUCTION NOTES:

This railing may be constructed by the slipform process when approved by the Engineer, with equipment approved by the Engineer. Provide sensor control for both line and grade. Tack welding to provide bracing for slipform operations is acceptable. Welding may be performed at a minimum spacing of 3 ft between the cage and the anchorage. It is permissible to weld to bars U, WU and S at any location on the cage. If increased bracing is needed, provide additional anchorage devices and weld in the upper two thirds of the cage. Paint welded areas on epoxy coated and/or galvanized reinforcing with an organic zinc rich paint in accordance with Item 445 "Galvanizing".

If rail is slipformed, apply an heavy epoxy bead 1" behind toe of traffic side of rail to concrete deck just prior to slip forming. Provide a ⅜" width x ¼" tall heavy epoxy bead with Type III, Class C or a Type V epoxy.

The back of railing must be vertical unless otherwise shown in the plans or approved by the Engineer.

MATERIAL NOTES:

Provide Class "C" concrete. Provide Class "C" (HPC) if required elsewhere.

Provide Grade 60 reinforcing steel.

Epoxy coat or galvanize all reinforcing steel if slab bars are epoxy coated or galvanized.

Deformed Welded Wire Reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars U and WU unless noted otherwise. Deformed WWR (ASTM A1064) may be substituted for Bars R and S, as shown. Combinations of reinforcing steel and WWR or configurations of WWR other than shown are permitted if conditions in the table are satisfied. Provide the same laps as required for reinforcing bars.

Provide bar laps, where required, as follows:

Uncoated or galvanized ~ #4 = 1'-7"

Epoxy coated ~ #4 = 2'-5"

GENERAL NOTES:

This rail has been successfully evaluated by full-scale crash test to meet MASH TL-4 criteria. This rail can be used for speeds of 50 mph and greater when a TL-3 rated guard fence transition is used. When a TL-2 rated guard fence transition is used, this rail can only be used for speeds of 45 mph and less.

Do not use this railing on bridges with expansion joints providing more than 5" movement.

Rail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.

Shop drawings will not be required for this rail.

Average weight of railing with no overlay is 376 plf.

Cover dimensions are clear dimensions, unless noted otherwise.

Reinforcing bar dimensions shown are out-to-out of bar.

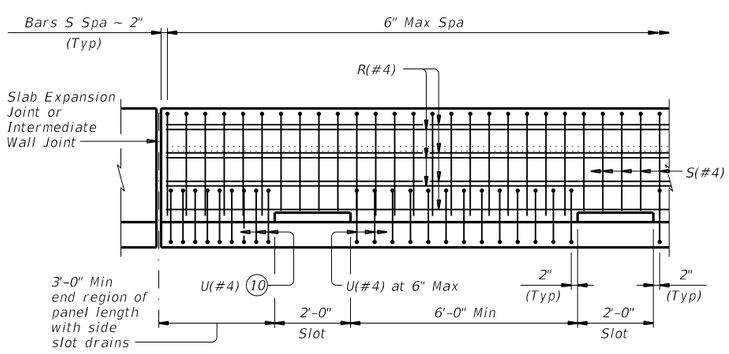
BARS S (#4)

BARS U (#4)

BARS WU (#4)

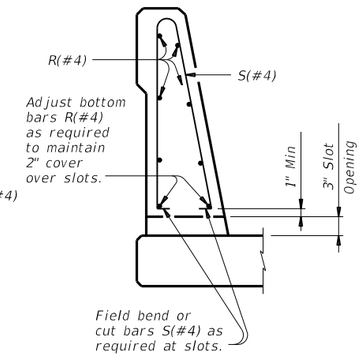
OPTIONAL WELDED WIRE REINFORCEMENT (WWR)

DESCRIPTION	LONGITUDINAL WIRES	VERTICAL WIRES
Minimum (Cumulative Total) Wire Area	1.067 Sq In.	0.267 Sq In. per Ft
	No. of Wires	Spacing
Minimum	8	4"
Maximum	10	8"
Maximum Wire Size Differential	The smaller wire must have an area of 40% or more of the larger wire.	



OPTIONAL SIDE SLOT DRAIN DETAIL

Note: Side Slot Drains may be used where shown elsewhere on the plans or as directed by the Engineer. Drains should not be placed over railroad tracks, lower roadways, or sidewalks. When this rail is used as a separator between a roadway surface and a sidewalk surface, side drain slots will not be permitted.



SECTION THRU OPTIONAL SIDE SLOT DRAIN

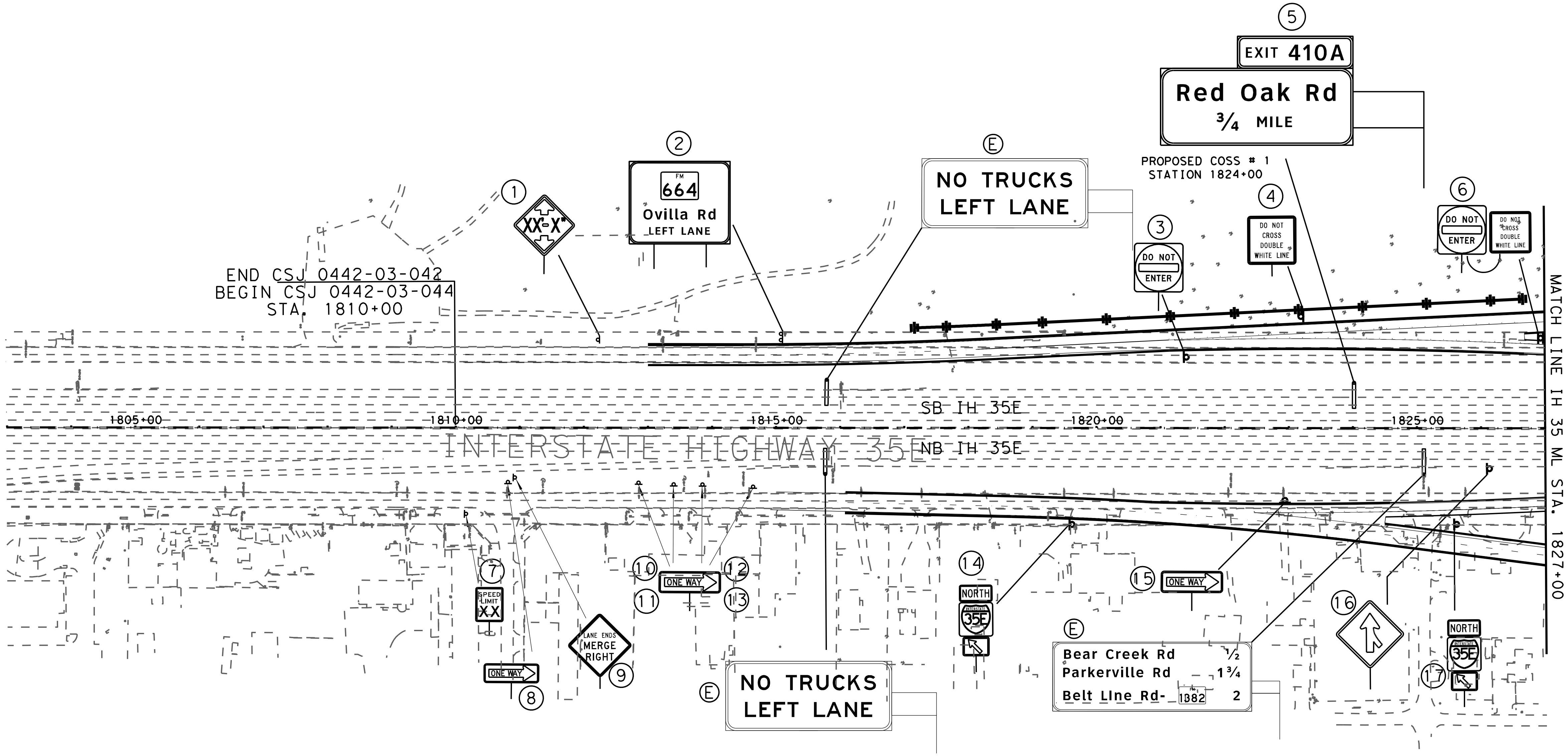
Texas Department of Transportation

Bridge Division Standard

TRAFFIC RAIL SINGLE SLOPE

TYPE SSTR

FILE: rlstd014-19.dgn	DN: TxDOT	CK: TxDOT	DW: JTR	CK: TxDOT
©TxDOT September 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	0042	03	042, ETC	IH 35E
	DIST	COUNTY		SHEET NO.
	DAL	ELLIS/DALLAS		901



SIGNING LEGEND

- (E) EXISTING SIGN TO REMAIN
- (1) SIGN TO BE INSTALLED
- RLA- # REMOVE LARGE GROUND ASSEMBLY
- ROP- # REPLACE OVERHEAD PANEL
- RSA- # REMOVE SMALL SIGN ASSEMBLY

* REMOVAL ITEMS THIS SHEET

(EA) LARGE SIGNS ASSEMBLY

* Removal Quantities are Approximate and Contractor Will be Paid For Actual Work Performed

0 100 200 (FEET)

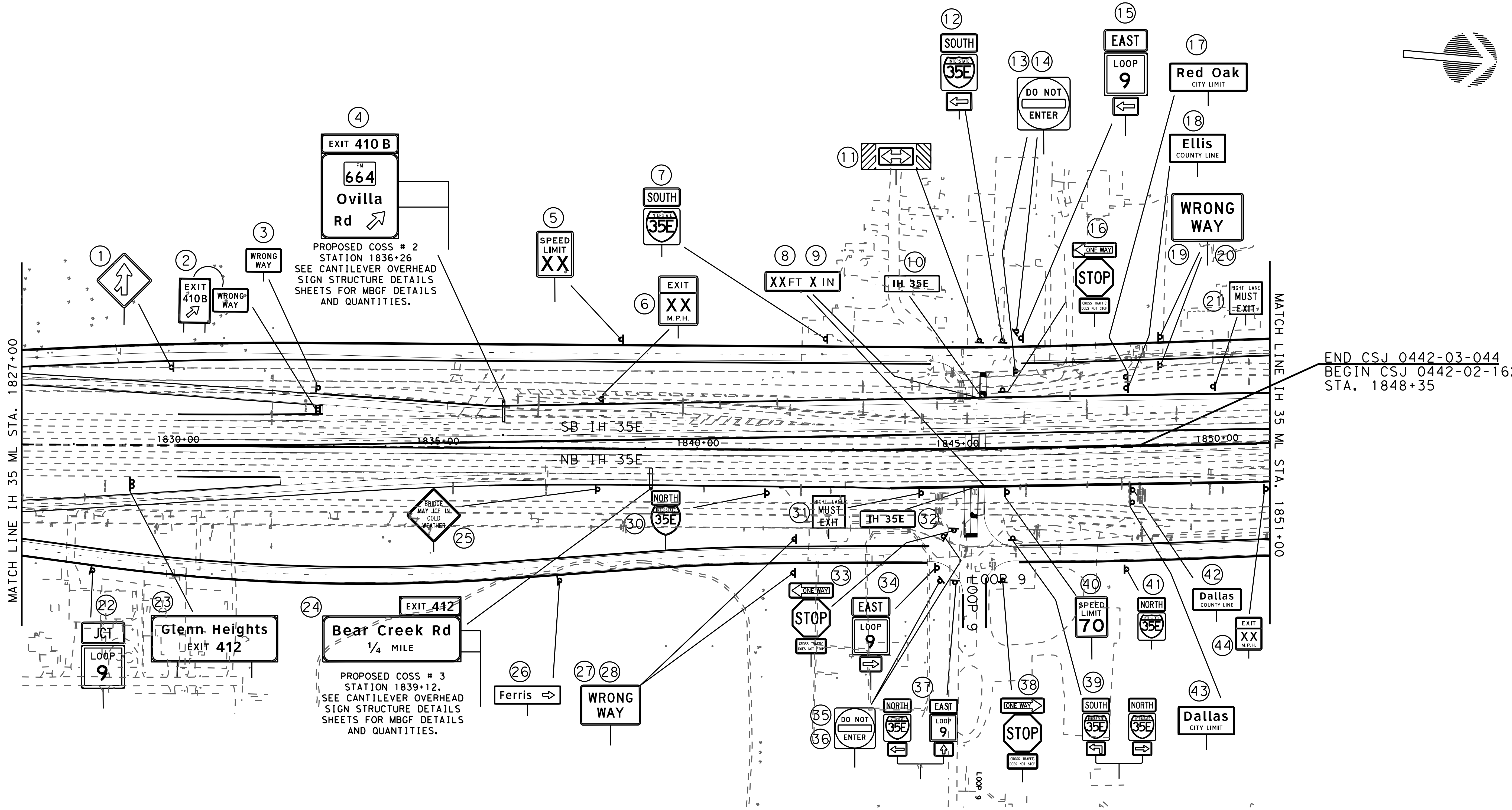
STATE OF TEXAS
MARK A. ABOSO
112638
LICENSED PROFESSIONAL ENGINEER

P.E. 03/03/2023
Signature of Registrant Date

IH 35E
SIGNING LAYOUT

SCALE: 1"=200' SHEET 1 OF 7

DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	902
CHECK	CONTROL	SECTION	JOB	
FRC	0442	03	042, ETC	



SIGNING LEGEND

(E)	EXISTING SIGN TO REMAIN
(1)	SIGN TO BE INSTALLED
RLA- #	REMOVE LARGE GROUND ASSEMBLY
ROP- #	REPLACE OVERHEAD PANEL
RSA- #	REMOVE SMALL SIGN ASSEMBLY

* REMOVAL ITEMS THIS SHEET

(EA) LARGE SIGNS ASSEMBLY

* Removal Quantities are Approximate and Contractor Will be Paid For Actual Work Performed

0 100 200 (FEET)

STATE OF TEXAS
MARK A. ABOSO
112638
LICENSED PROFESSIONAL ENGINEER

P.E. 03/03/2023

Signature of Registrant Date

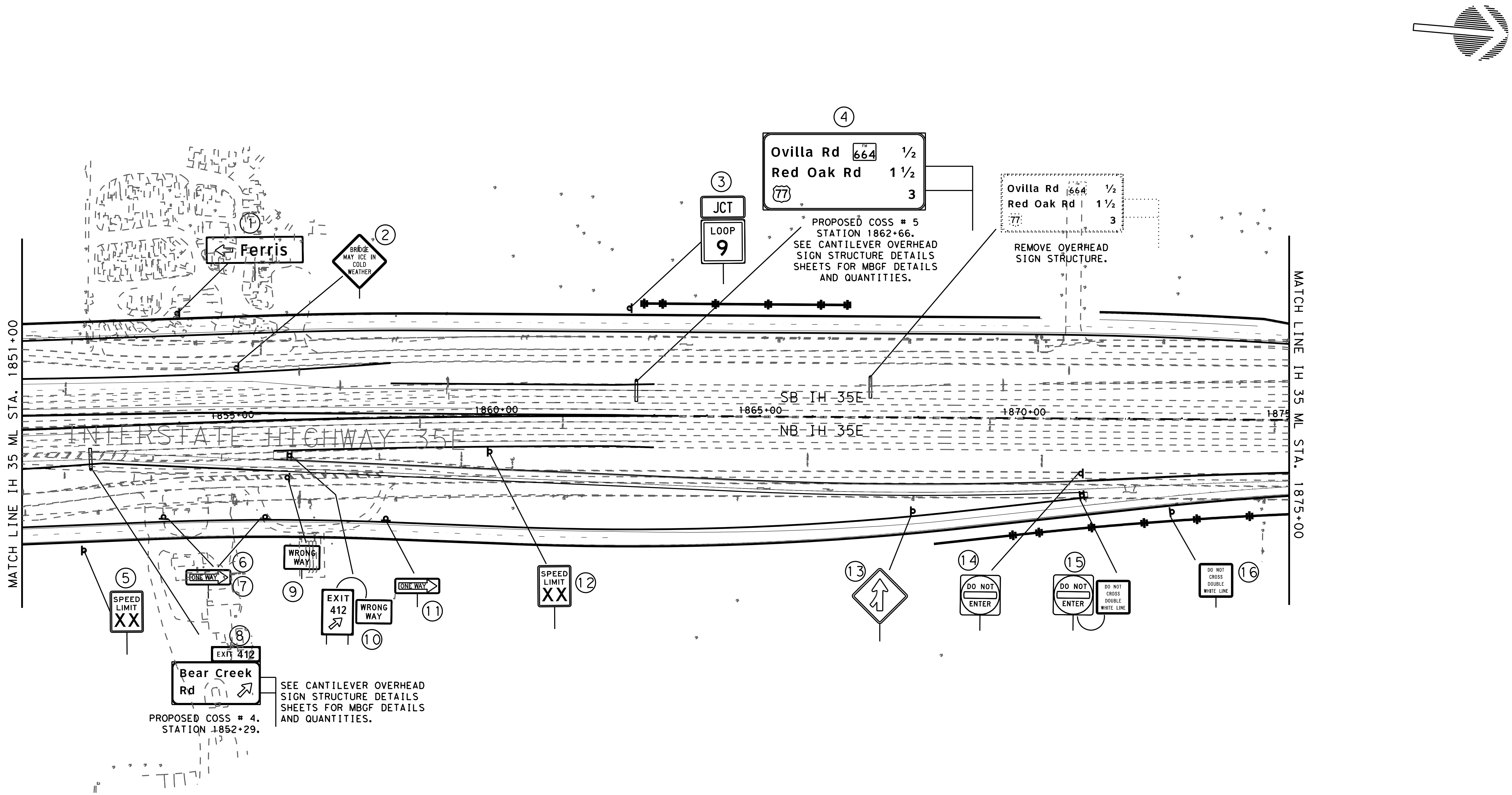
Texas Department of Transportation

IH 35E

SIGNING LAYOUT

SCALE: 1"=200' SHEET 2 OF 7

DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER	HIGHWAY NO.
MAA	6	SEE TITLE SHEET	IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	903
CHECK FRC	CONTROL 0442	SECTION 03	JOB 042, ETC	



SIGNING LEGEND

(E) EXISTING SIGN TO REMAIN
(1) SIGN TO BE INSTALLED
RLA-# REMOVE LARGE GROUND ASSEMBLY
ROP-# REPLACE OVERHEAD PANEL
RSA-# REMOVE SMALL SIGN ASSEMBLY

* REMOVAL ITEMS THIS SHEET

(EA) LARGE SIGNS ASSEMBLY

* Removal Quantities are Approximate and Contractor Will be Paid For Actual Work Performed

0 100 200
(FEET)

STATE OF TEXAS
MARK A. ABOSO
112638
LICENSED PROFESSIONAL ENGINEER

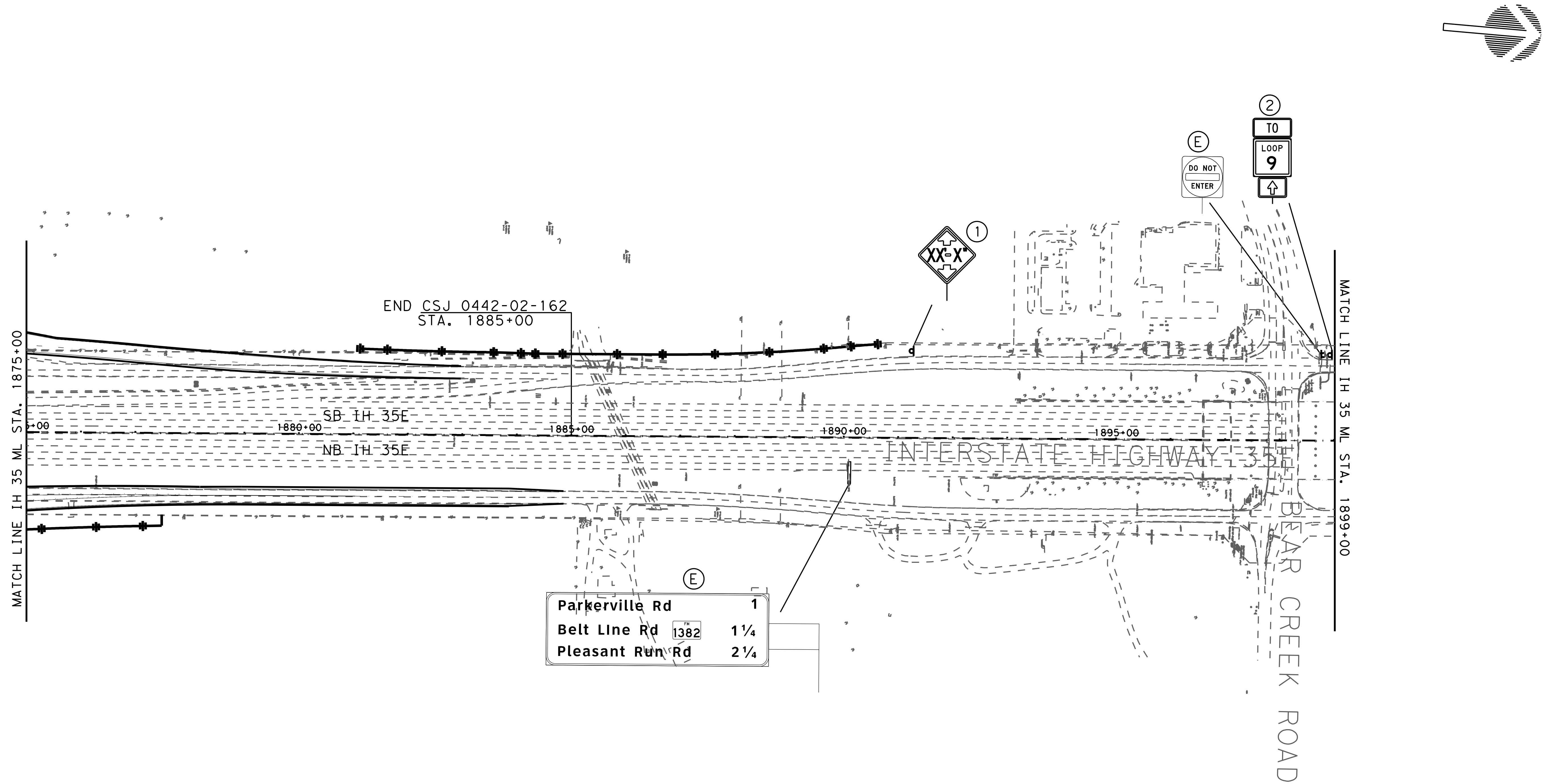
P.E. 03/03/2023
Signature of Registrant Date

IH 35E
SIGNING LAYOUT

SCALE: 1"=200' SHEET 3 OF 7

DESIGN/CK	FED.RD. DIV.NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	904
CHECK FRC	CONTROL 0442	SECTION 03	JOB 042, ETC	

C:\Users\MABOSO\Desktop\ALL\Mark Aboso computer backup for computer switch\MARK D-DRIVE\000 PROJECTS ON D- DRIVE\SL (LOOP) 9 CSJ 2964-10-005\IH 35E A5\0002023\IH 35E ... SIGNI...



SIGNING LEGEND

Symbol	Description
(E)	EXISTING SIGN TO REMAIN
(1)	SIGN TO BE INSTALLED
RLA- #	REMOVE LARGE GROUND ASSEMBLY
ROP- #	REPLACE OVERHEAD PANEL
RSA- #	REMOVE SMALL SIGN ASSEMBLY

* REMOVAL ITEMS THIS SHEET

(EA) LARGE SIGNS ASSEMBLY

* Removal Quantities are Approximate and Contractor Will be Paid For Actual Work Performed

0 100 200 (FEET)

STATE OF TEXAS — MARK A. ABOSO — 112638 — LICENSED PROFESSIONAL ENGINEER

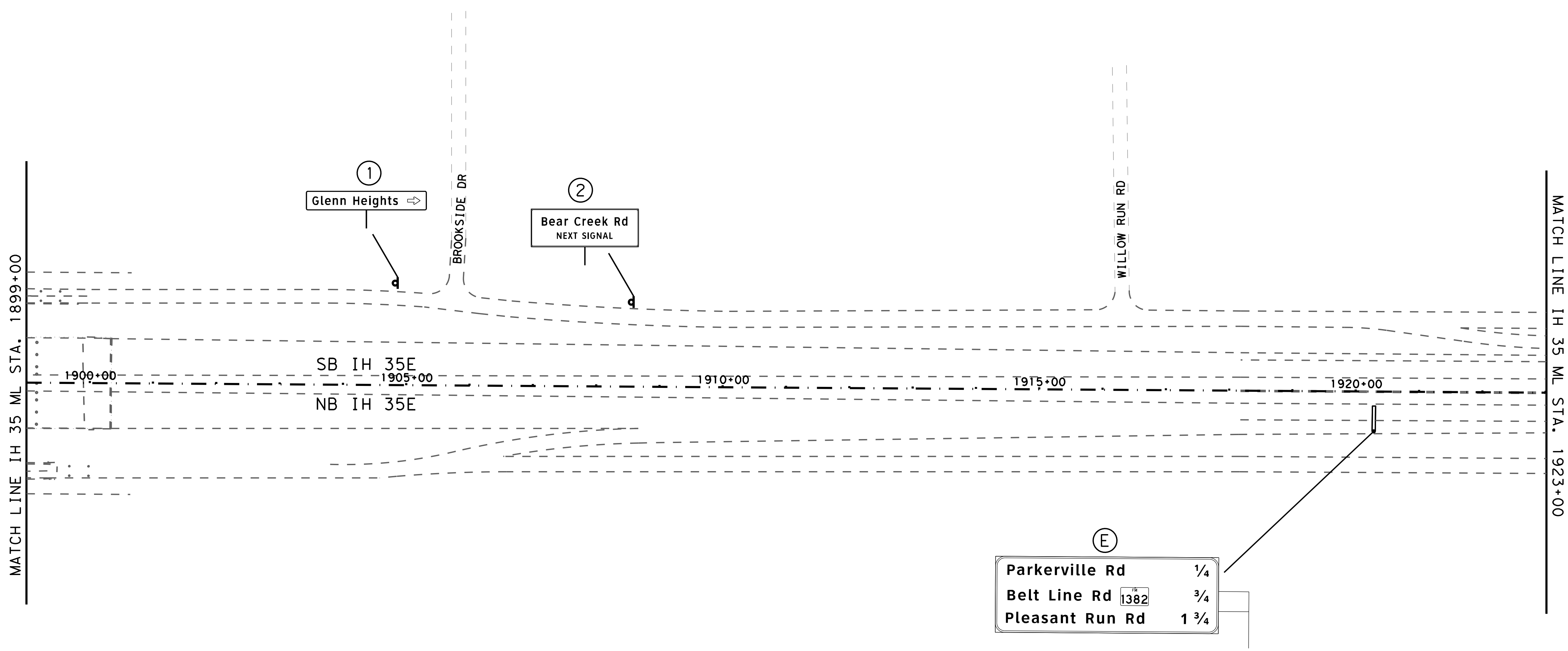
Mark A. Aboso, P.E. 03/03/2023
Signature of Registrant Date

IH 35E

SIGNING LAYOUT

SCALE: 1"=200' SHEET 4 OF 7

DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	905
CHECK FRC	CONTROL	SECTION	JOB	
	0442	03	042, ETC	



SIGNING LEGEND

- (E) EXISTING SIGN TO REMAIN
- (1) SIGN TO BE INSTALLED
- RLA-# REMOVE LARGE GROUND ASSEMBLY
- ROP-# REPLACE OVERHEAD PANEL
- RSA-# REMOVE SMALL SIGN ASSEMBLY

* REMOVAL ITEMS THIS SHEET

(EA) LARGE SIGNS ASSEMBLY

* Removal Quantities are Approximate and Contractor Will be Paid For Actual Work Performed

0 100 200 (FEET)

STATE OF TEXAS
MARK A. ABOSO
112638
LICENSED PROFESSIONAL ENGINEER

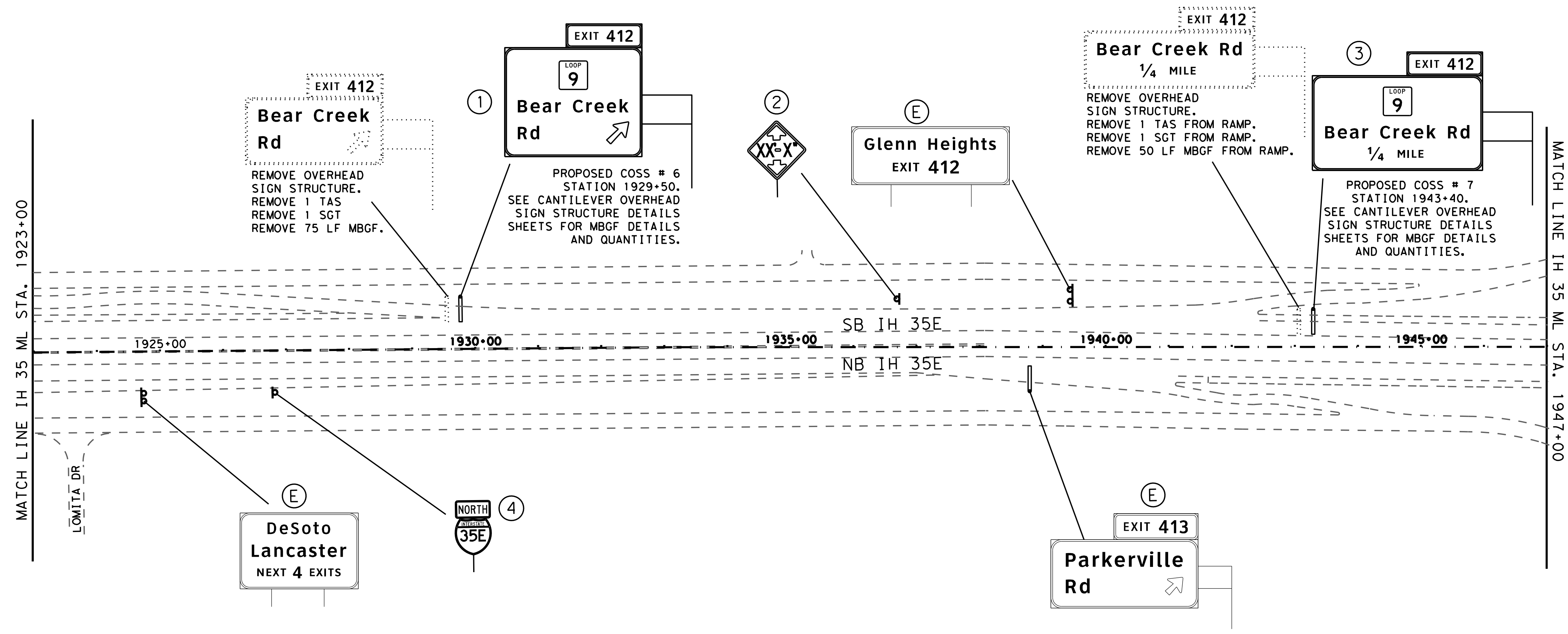
P.E. 03/03/2023
Signature of Registrant Date

Texas Department of Transportation

IH 35E
SIGNING LAYOUT

SCALE: 1"=200' SHEET 5 OF 7

DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK	STATE	DISTRICT	COUNTY	SHEET NO.
BLS	TEXAS	DALLAS	ELLIS, ETC	906
CHECK	CONTROL	SECTION	JOB	
BA	0442	03	042, ETC	
CHECK FRC				



SIGNING LEGEND

(E)	EXISTING SIGN TO REMAIN
(1)	SIGN TO BE INSTALLED
RLA-#	REMOVE LARGE GROUND ASSEMBLY
ROP-#	REPLACE OVERHEAD PANEL
RSA-#	REMOVE SMALL SIGN ASSEMBLY

* REMOVAL ITEMS THIS SHEET

(EA) LARGE SIGNS ASSEMBLY

* Removal Quantities are Approximate and Contractor Will be Paid For Actual Work Performed

0 100 200 (FEET)

STATE OF TEXAS
MARK A. ABOSO
112638
LICENSED PROFESSIONAL ENGINEER

Signature of Registrant, P.E. 03/03/2023 Date

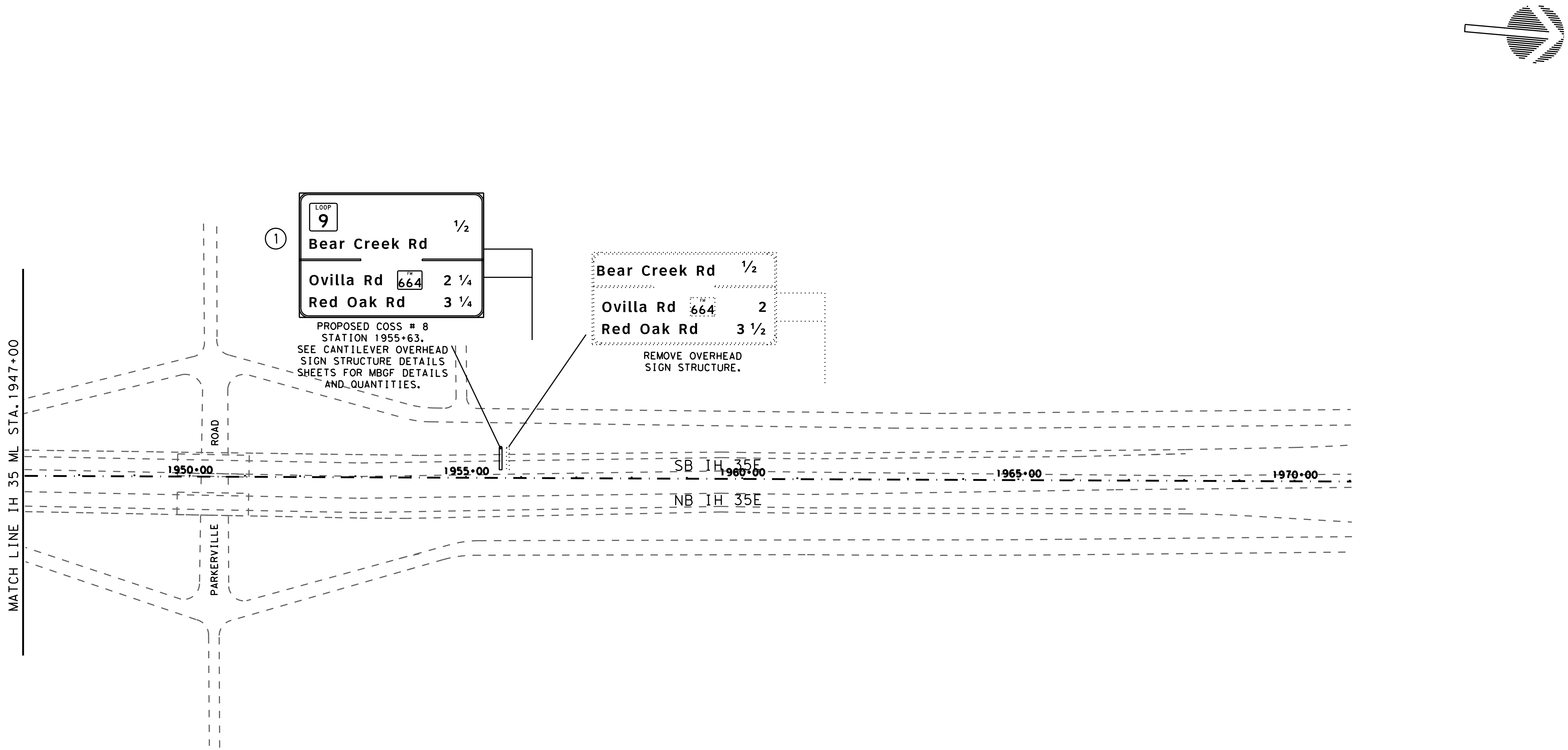
Texas Department of Transportation

IH 35E

SIGNING LAYOUT

SCALE: 1"=200' SHEET 6 OF 7

DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	907
	CONTROL	SECTION	JOB	
CHECK FRC	0442	03	042, ETC	



SIGNING LEGEND

- (E) EXISTING SIGN TO REMAIN
- (1) SIGN TO BE INSTALLED
- RLA- # REMOVE LARGE GROUND ASSEMBLY
- ROP- # REPLACE OVERHEAD PANEL
- RSA- # REMOVE SMALL SIGN ASSEMBLY

* REMOVAL ITEMS THIS SHEET

(EA) LARGE SIGNS ASSEMBLY

* Removal Quantities are Approximate and Contractor Will be Paid For Actual Work Performed

0 100 200
(FEET)

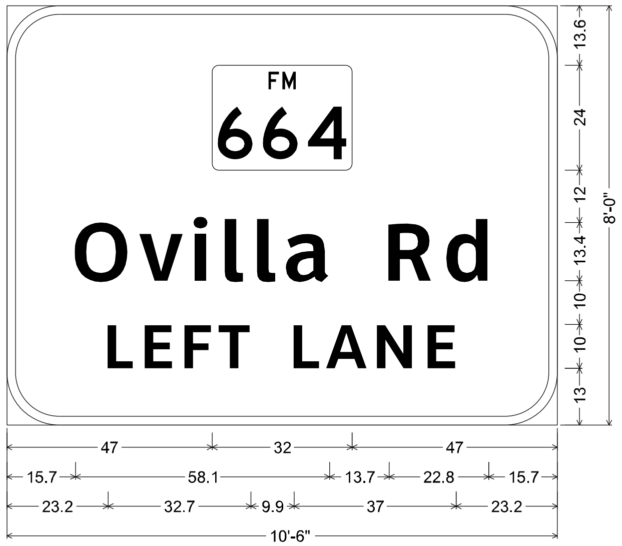
STATE OF TEXAS
MARK A. ABOSO
112638
LICENSED
PROFESSIONAL ENGINEER

P.E. 03/03/2023
Signature of Registrant Date

IH 35E
SIGNING LAYOUT

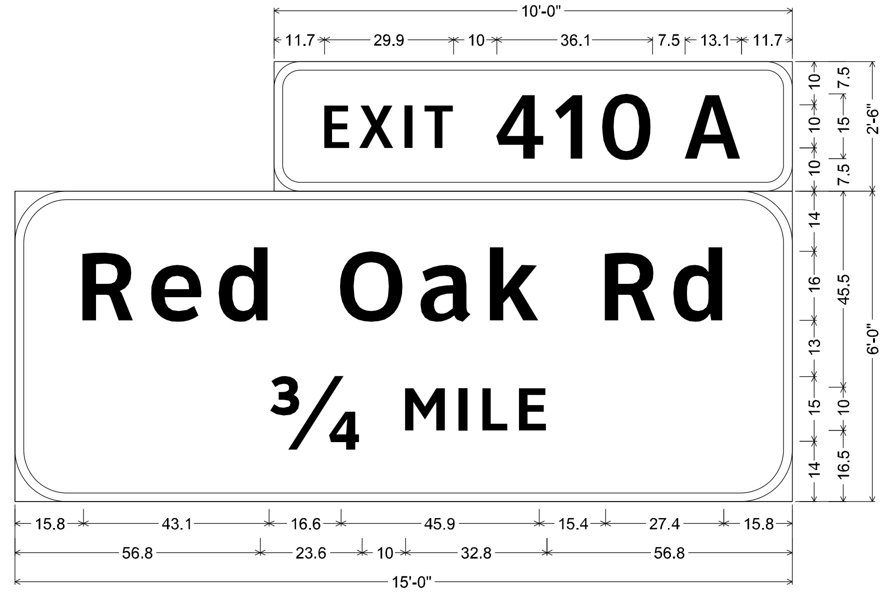
SCALE: 1"=200' SHEET 7 OF 7

DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	908
CHECK FRC	CONTROL 0442	SECTION 03	JOB 042, ETC	



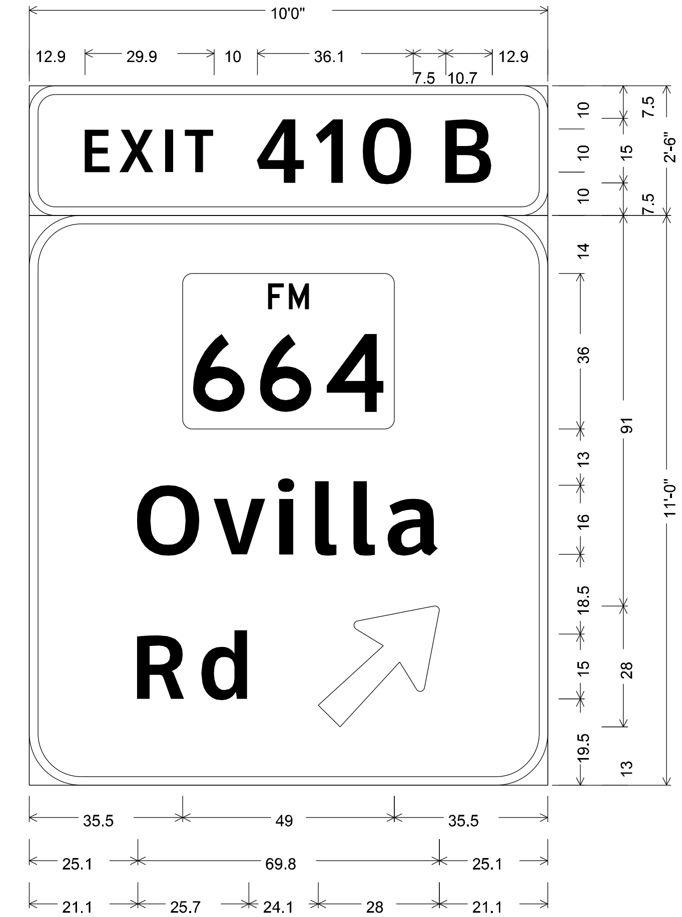
12.0" Radius, 2.0" Border, White on, Green;
State Highway 664 M1-6F3; "Ovilla Rd", ClearviewHwy-5-W-R;
"LEFT LANE", ClearviewHwy-5-W-R;

SHEET 1 SIGN 2



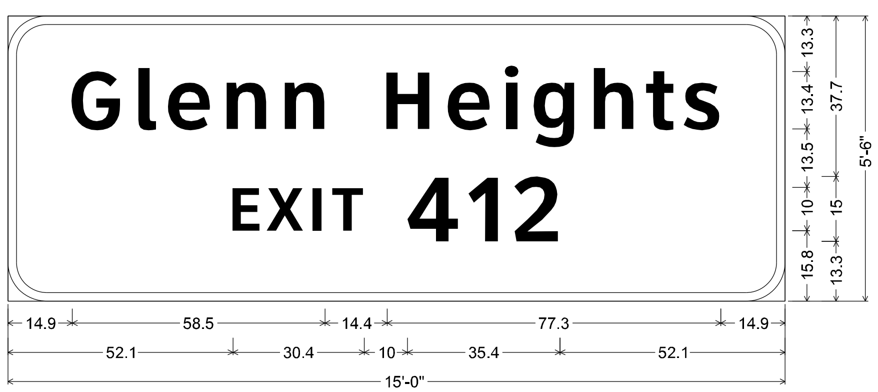
6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-4-W; [410 A] ClearviewHwy-4-W;
12.0" Radius, 2.0" Border, White on Green;
[Red Oak Rd] ClearviewHwy-5-W-R; [3/4 MILE] ClearviewHwy-5-W-R;

SHEET 1 SIGN 4



6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-4-W;
[410 B] ClearviewHwy-4-W;
12.0" Radius, 2.0" Border, White on Green;
State Highway 664 M1-6F3;
[Ovilla] ClearviewHwy-5-W-R;
[Rd] ClearviewHwy-5-W-R;
Arrow A-3 - 35.6" 45^;

SHEET 2 SIGN 4



9.0" Radius, 2.0" Border, White on Green;
[Glenn Heights] ClearviewHwy-5-W-R; [EXIT 412] ClearviewHwy-5-W-R;

SHEET 2 SIGN 23

STATE OF TEXAS
MARK A. ABOSO
112638
LICENSED
PROFESSIONAL ENGINEER

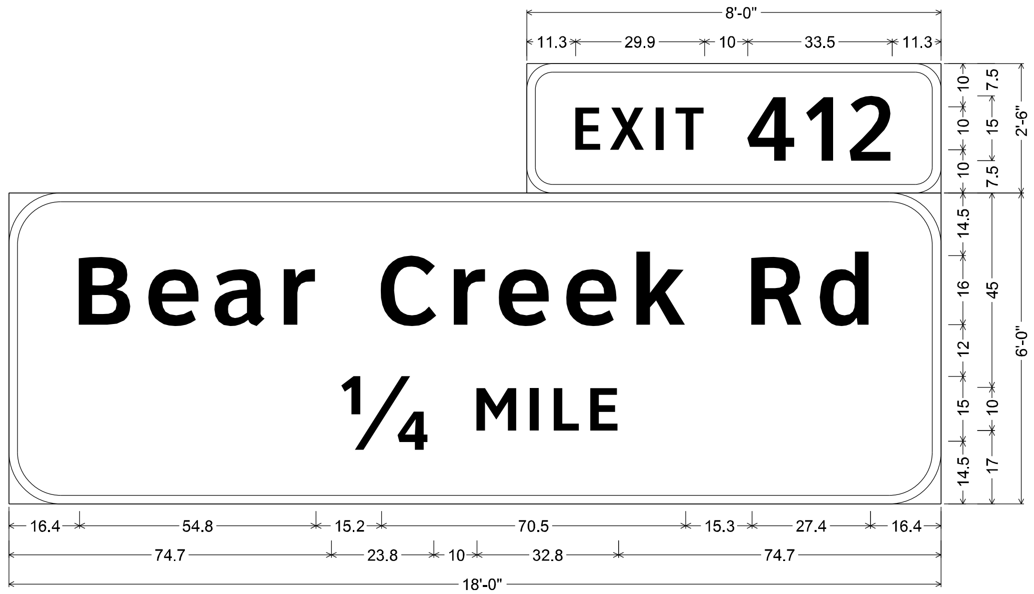
P.E. 03/03/2023
Signature of Registrant Date

GUIDE SIGN DETAILS

SCALE: NTS SHEET 1 OF 4

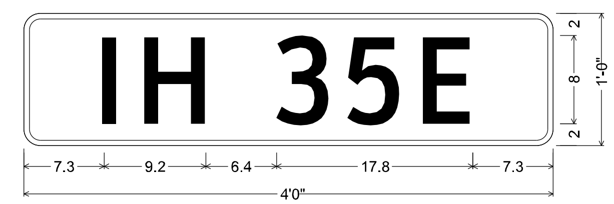
DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	909
CHECK FRC	CONTROL 0442	SECTION 03	JOB 042, ETC	

C:\Users\MABOSO\Desktop\ALL\Mark Aboso computer backup for computer switch\MARK D-DRIVE\000 PROJECTS ON D- DRIVE\SL (LOOP) 9 CSJ 2964-10-005\IH 35E ...



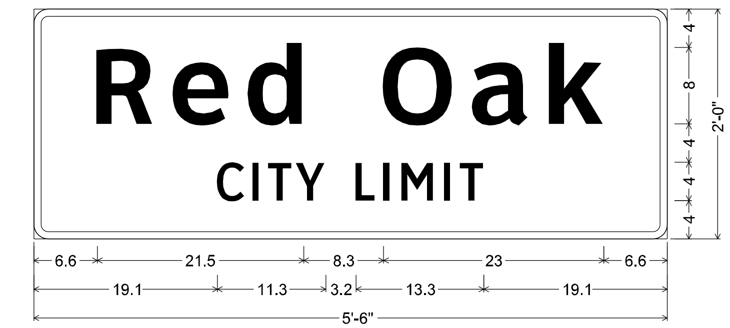
6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-4-W; [412] ClearviewHwy-4-W;
12.0" Radius, 2.0" Border, White on Green;
[Bear Creek Rd] ClearviewHwy-5-W-R; [¼ MILE] ClearviewHwy-5-W-R;

SHEET 2 SIGN 24



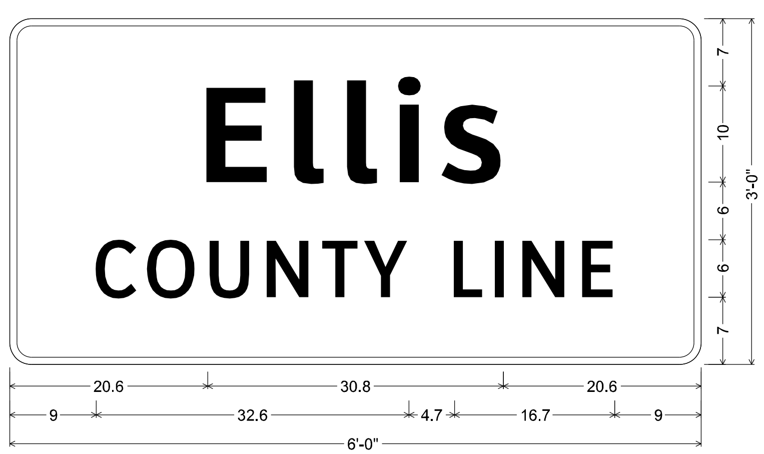
D3-1G(2) 8in;
1.5" Radius, 0.5" Border, White on Green;
"IH 35E", ClearviewHwy-3-W;

SHEET 2 SIGN 32



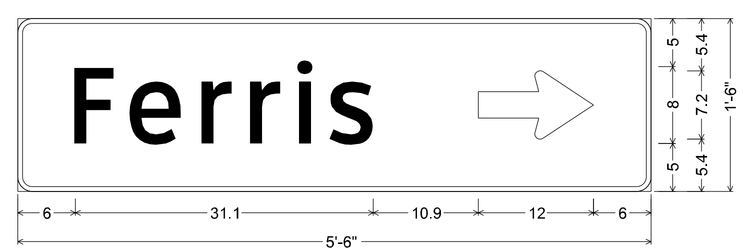
Identifier : I-2aT 8in;
1.5" Radius, 0.8" Border, White on Green;
[Red Oak] ClearviewHwy-5-W-R; [CITY LIMIT] ClearviewHwy-3-W;

SHEET 2 SIGN 17



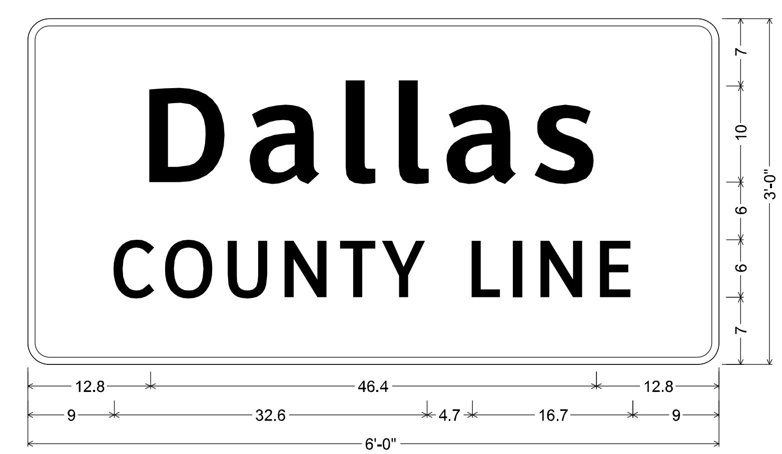
I-2dT 8in;
2.3" Radius, 0.8" Border, White on, Green;
"Ellis", ClearviewHwy-5-W-R; "COUNTY LINE", ClearviewHwy-3-W;

SHEET 2 SIGN 18



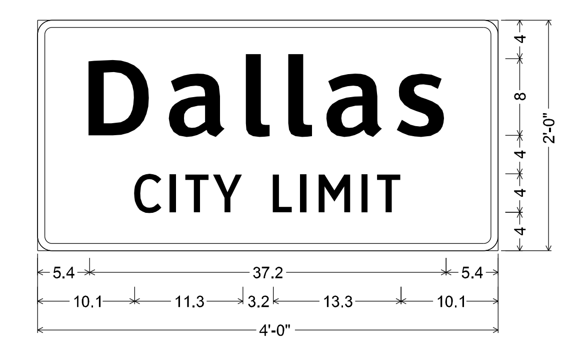
Identifier : D1-1 8in RT;
1.5" Radius, 0.5" Border, White on Green;
[Ferris] ClearviewHwy-3-W; Standard Arrow Custom 12.0" X 7.1" 0^;

SHEET 2 SIGN 26



I-2dT 8in;
2.3" Radius, 0.8" Border, White on, Green;
"Dallas", ClearviewHwy-5-W-R; "COUNTY LINE", ClearviewHwy-3-W;

SHEET 2 SIGN 42



Identifier : I-2aT 8in;
1.5" Radius, 0.8" Border, White on Green;
[Dallas] ClearviewHwy-5-W-R;
[CITY LIMIT] ClearviewHwy-3-W;

SHEET 2 SIGN 43

STATE OF TEXAS
MARK A. ABOSO
112638
LICENSED PROFESSIONAL ENGINEER

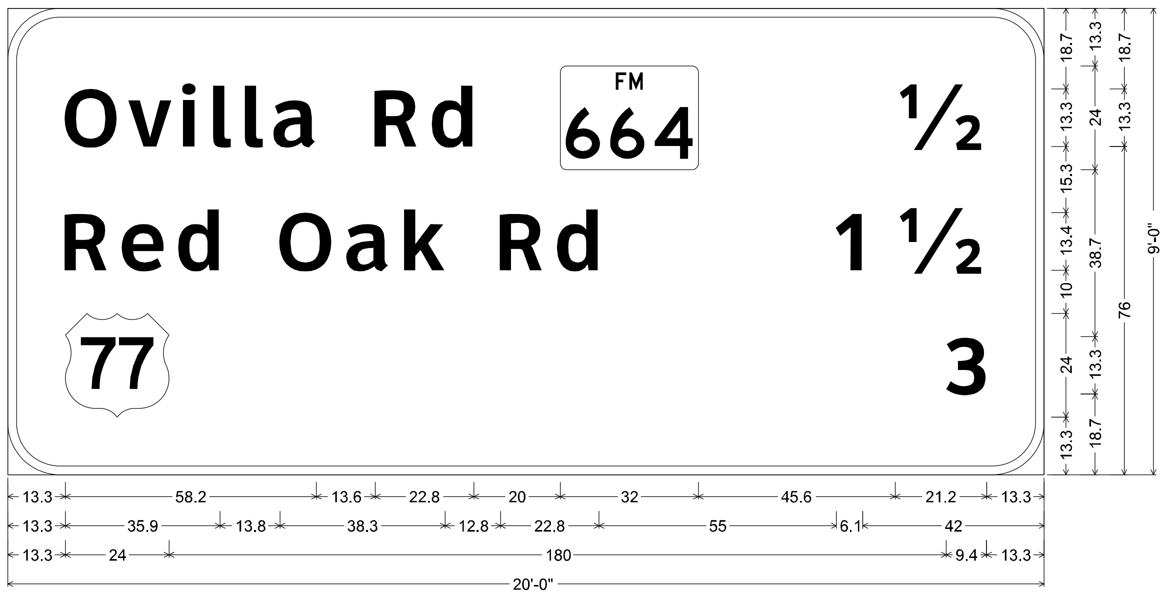
P.E. 03/03/2023
Signature of Registrant Date

Texas Department of Transportation

GUIDE SIGN DETAILS

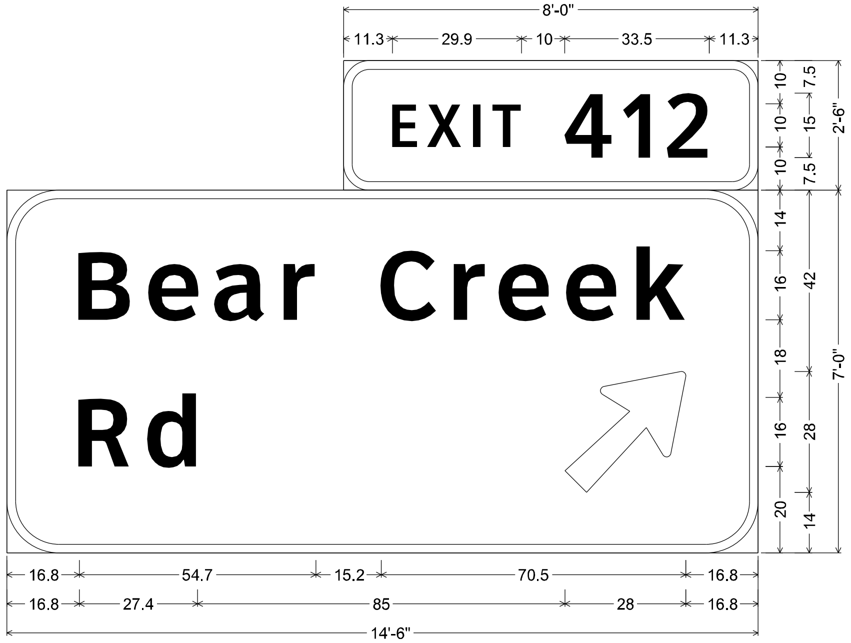
SCALE: NTS SHEET 2 OF 4

DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	910
CHECK FRC	CONTROL 0442	SECTION 03	JOB 042, ETC	



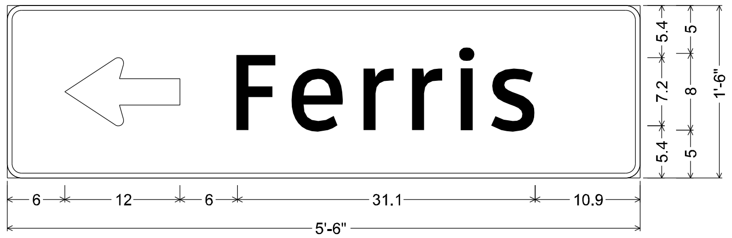
12.0" Radius, 2.0" Border, White on Green;
[Ovilla Rd] ClearviewHwy-5-W-R; State Highway 664 M1-6F3; [½] ClearviewHwy-5-W-R; [Red Oak Rd] ClearviewHwy-5-W-R;
[1 ½] ClearviewHwy-5-W-R; US 77 M1-4; [3] ClearviewHwy-5-W-R;

SHEET 3 SIGN 4



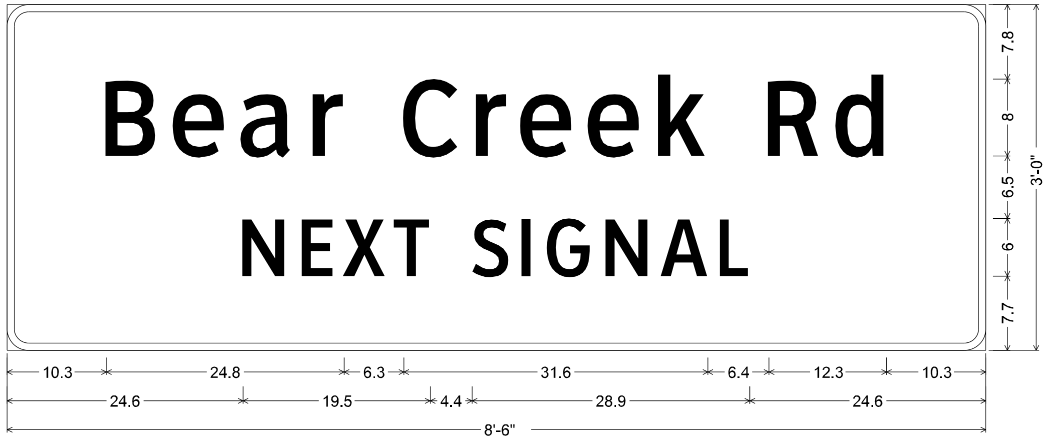
6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-4-W; [412] ClearviewHwy-4-W;
12.0" Radius, 2.0" Border, White on Green;
[Bear Creek] ClearviewHwy-5-W-R; [Rd] ClearviewHwy-5-W-R; Arrow A-3 - 35.6" 45^;

SHEET 3 SIGN 8



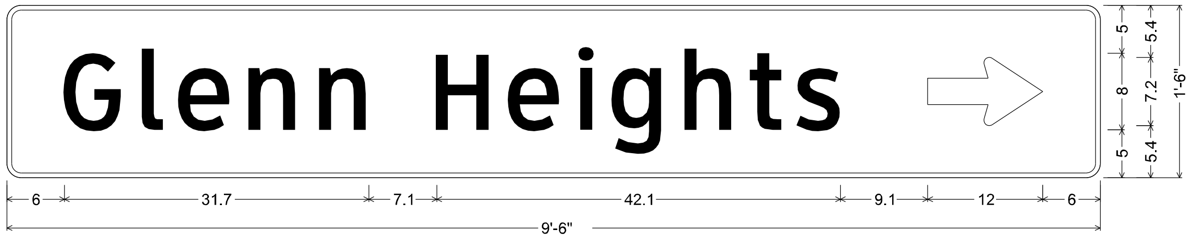
Identifier : D1-1 8in LT;
1.5" Radius, 0.5" Border, White on Green;
Standard Arrow Custom 12.0" X 7.1" 180^; [Ferris] ClearviewHwy-3-W;

SHEET 3 SIGN 1



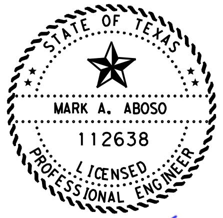
D3-2;
2.3" Radius, 0.8" Border, White on Green;
"Bear Creek Rd", ClearviewHwy-3-W; "NEXT SIGNAL", ClearviewHwy-3-W;

SHEET 5 SIGN 2



D1-1 8in RT;
1.5" Radius, 0.5" Border, White on Green;
"Glenn Heights", ClearviewHwy-3-W; Standard Arrow Custom 12.0" X 7.1" 0°;

SHEET 5 SIGN 1

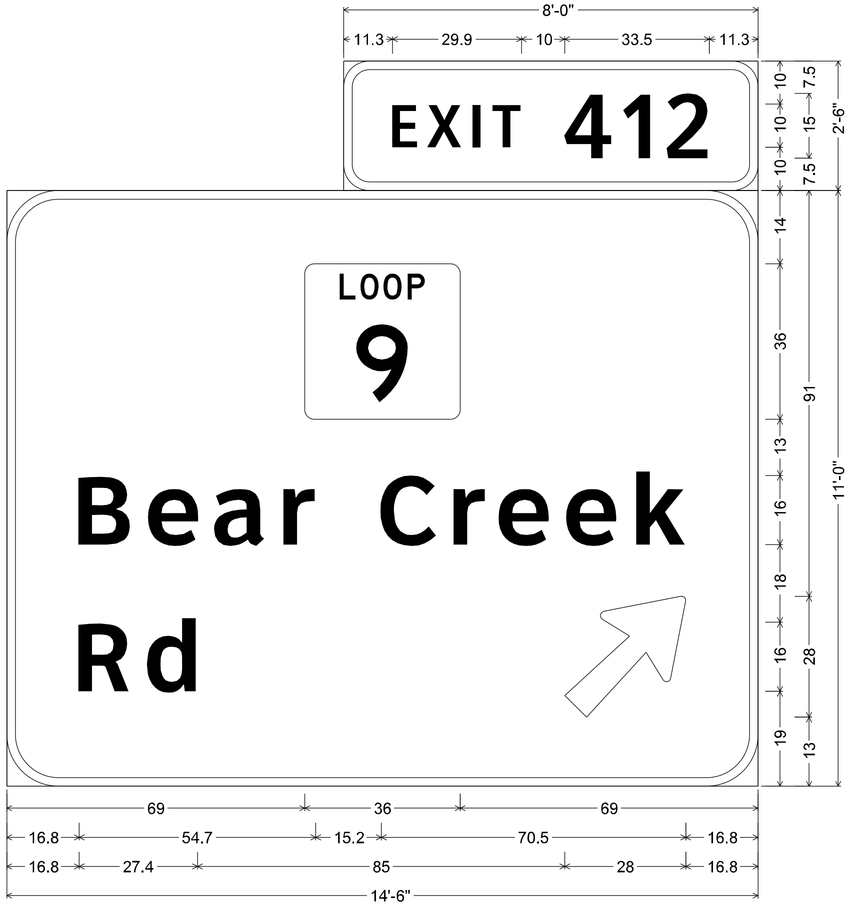


P.E. 03/03/2023
Signature of Registrant Date

GUIDE SIGN DETAILS

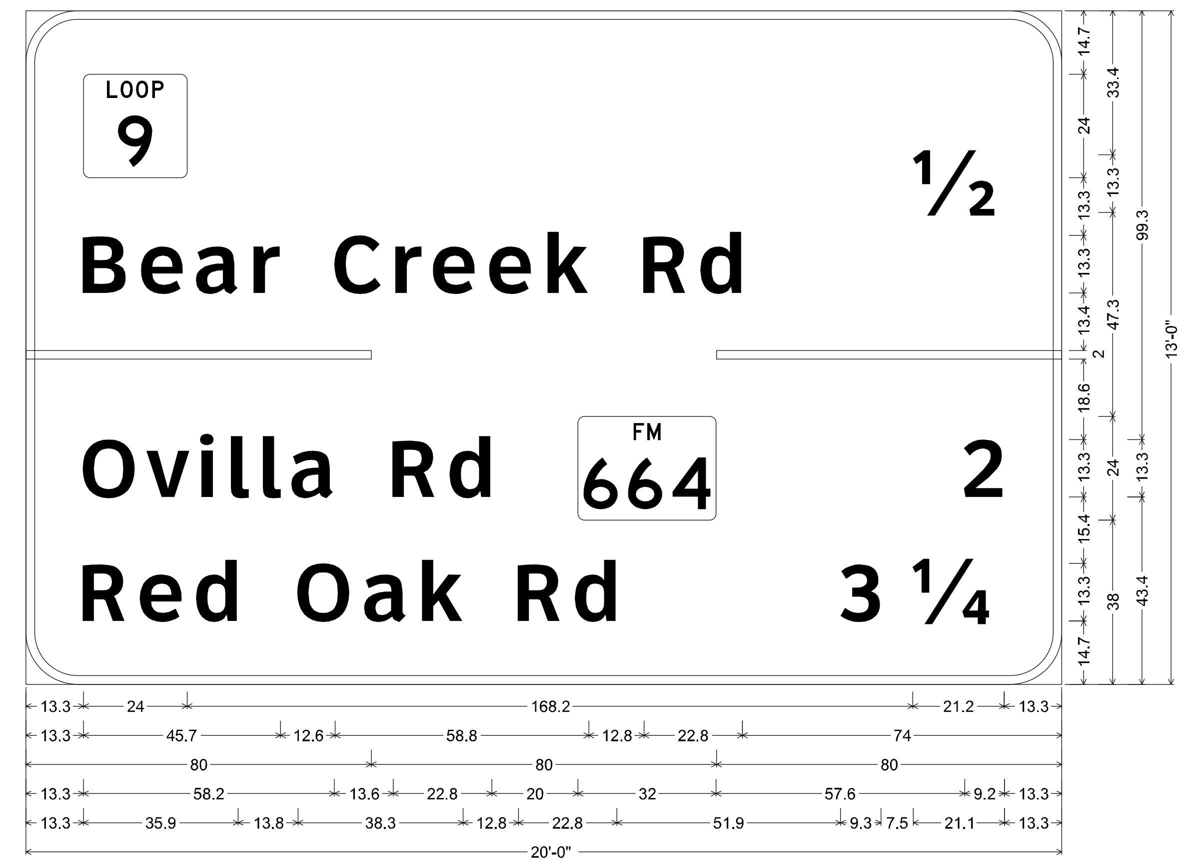
SCALE: NTS SHEET 3 OF 4

DESIGN/CK MAA	FED. RD. DIV. NO. 6	FEDERAL-AID PROJECT NUMBER SEE TITLE SHEET		HIGHWAY NO. IH 35E
CHECK BLS	STATE TEXAS	DISTRICT DALLAS	COUNTY ELLIS, ETC	SHEET NO. 911
CHECK BA	CONTROL 0442	SECTION 03	JOB 042, ETC	
CHECK FRC				



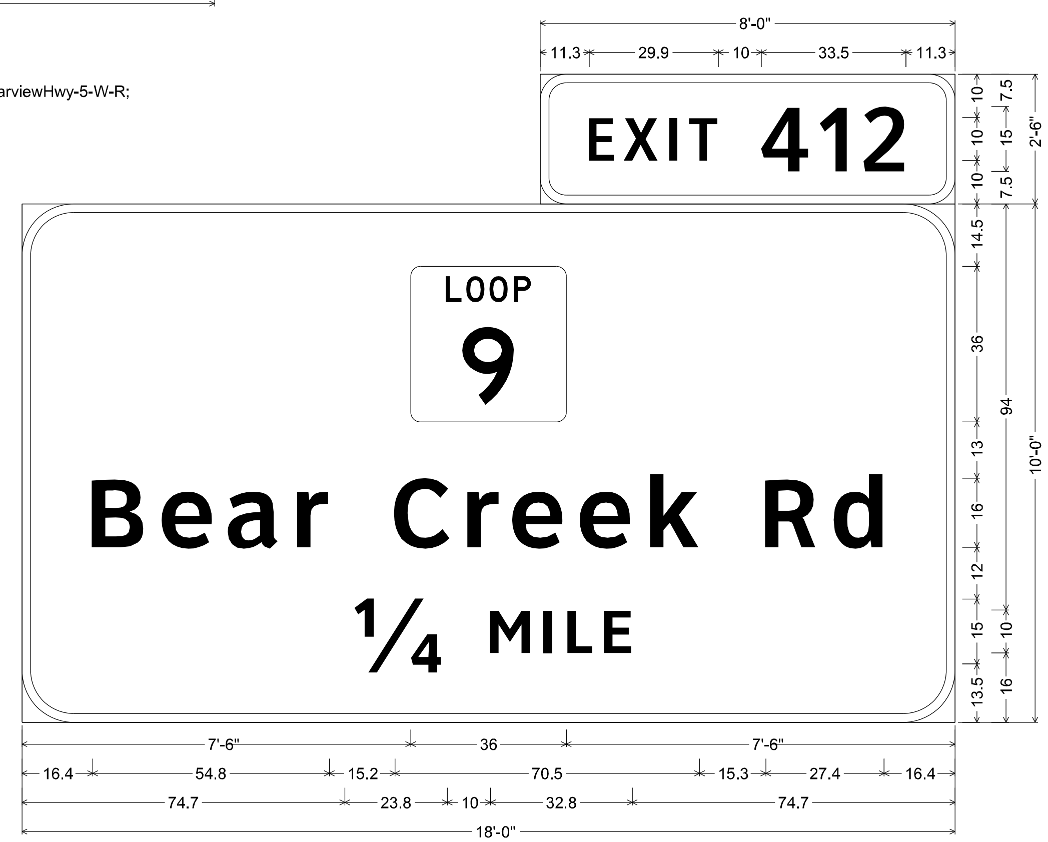
6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-4-W; [412] ClearviewHwy-4-W;
12.0" Radius, 2.0" Border, White on Green;
State Highway 9 M1-6L1; [Bear Creek] ClearviewHwy-5-W-R; [Rd] ClearviewHwy-5-W-R;
Arrow A-3 - 35.6" 45^;

SHEET 6 SIGN 1



12.0" Radius, 2.0" Border, White on Green;
State Highway 9 M1-6L1; "Bear Creek Rd", ClearviewHwy-5-W-R; "½", ClearviewHwy-5-W-R; "Ovilla Rd", ClearviewHwy-5-W-R;
State Highway 664 M1-6F3; "2", ClearviewHwy-5-W-R; "Red Oak Rd", ClearviewHwy-5-W-R; "3 ¼", ClearviewHwy-5-W-R;

SHEET 7 SIGN 1



6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-4-W; [412] ClearviewHwy-4-W;
12.0" Radius, 2.0" Border, White on Green;
State Highway 9 M1-6L1; [Bear Creek Rd] ClearviewHwy-5-W-R; [¼ MILE] ClearviewHwy-5-W-R;

SHEET 6 SIGN 3

STATE OF TEXAS
MARK A. ABOSO
112638
LICENSED
PROFESSIONAL ENGINEER

P.E. 03/03/2023
Signature of Registrant Date

Texas Department of Transportation

GUIDE SIGN DETAILS

SCALE: NTS SHEET 4 OF 4

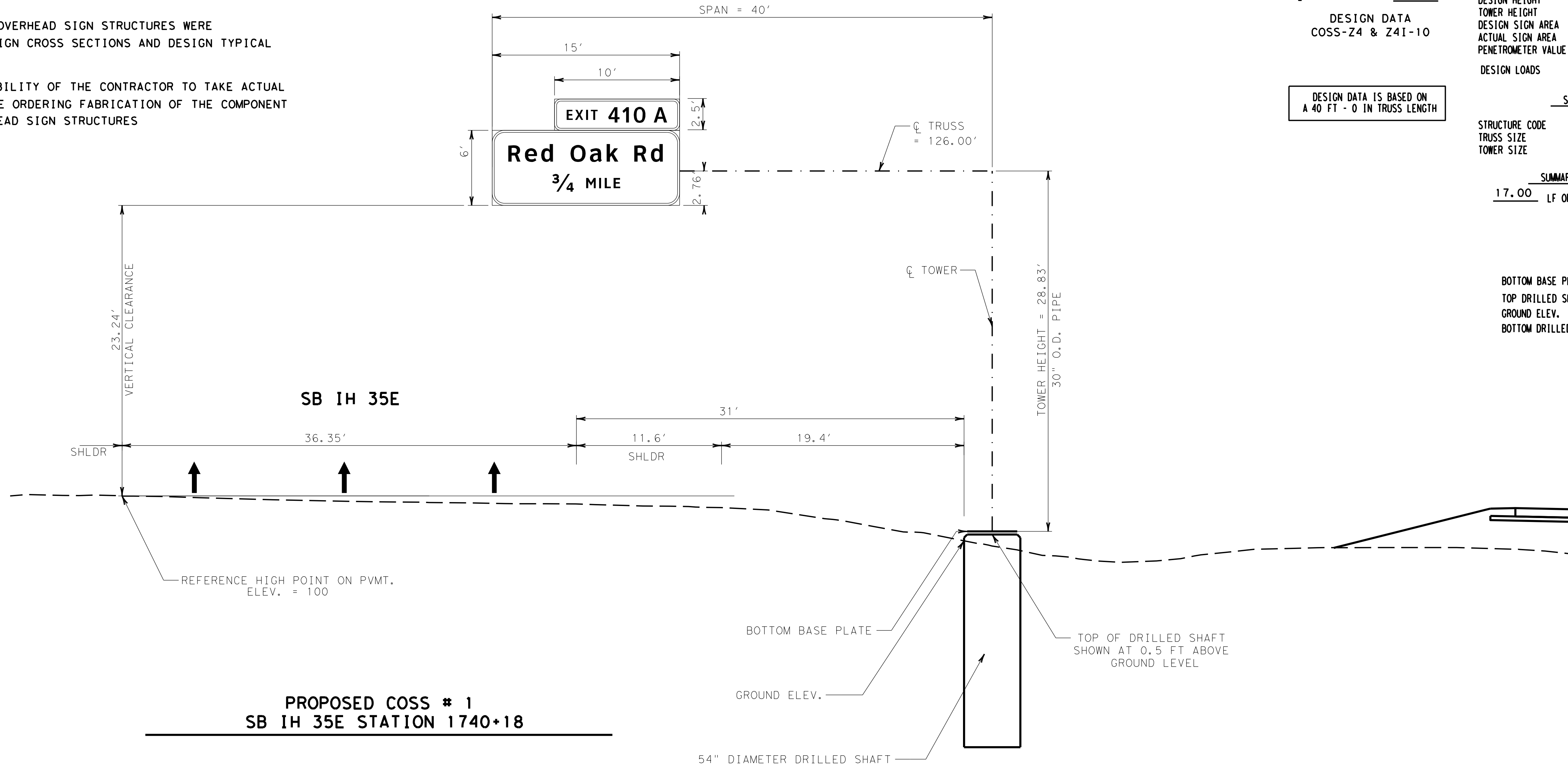
DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	912
CHECK FRC	CONTROL 0442	SECTION 03	JOB 042, ETC	

GENERAL NOTES:

THE DIMENSIONS SHOWN ON THESE OVERHEAD SIGN STRUCTURE ELEVATIONS ARE FURNISHED TO THE CONTRACTOR FOR BIDDING PURPOSES ONLY

DESIGNS SHOWN FOR OVERHEAD SIGN STRUCTURES WERE DEVELOPED FROM DESIGN CROSS SECTIONS AND DESIGN TYPICAL SECTIONS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE ACTUAL MEASUREMENTS BEFORE ORDERING FABRICATION OF THE COMPONENT PARTS OF THE OVERHEAD SIGN STRUCTURES



PROPOSED COSS # 1
SB IH 35E STATION 1740+18

℄ TRUSS ELEVATION 126.00

DESIGN DATA
COSS-Z4 & Z4I-10

DESIGN DATA IS BASED ON A 40 FT - 0 IN TRUSS LENGTH

DESIGN DATA

SPAN LENGTH	40.00	FT
DESIGN HEIGHT	UNDER 30	FT
TOWER HEIGHT	28.83	FT
DESIGN SIGN AREA	400.00	SF
ACTUAL SIGN AREA	115.00	SF
PENETROMETER VALUE	ASSUME 15	
DESIGN LOADS — TORSION	211.94	K-FT
DESIGN LOADS — MOMENT	350.68	K-FT

STRUCTURE DATA

STRUCTURE CODE	COSS-Z4 & Z4I-10
TRUSS SIZE	4.0'X4.0'
TOWER SIZE	30" O.D. PIPE

SUMMARY OF DRILLED SHAFT

17.00 LF OF 54" DIA. DRILLED SHAFT

BOTTOM BASE PLATE ELEV.	97.17
TOP DRILLED SHAFT ELEV.	96.92
GROUND ELEV.	96.42
BOTTOM DRILLED SHAFT ELEV.	79.92

STATE OF TEXAS
MARK A. ABOSO
112638
LICENSED
PROFESSIONAL ENGINEER

P.E. 03/03/2023
Signature of Registrant Date

Texas Department of Transportation

CANTILEVER OVERHEAD SIGN STRUCTURE DETAILS
PROPOSED COSS # 1

SCALE: 1" = 10' SHEET 1 OF 8

DESIGN/CK	FED.RD. DIV.NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	913
CHECK FRC	CONTROL 0442	SECTION 03	JOB 042, ETC	

GENERAL NOTES:

THE DIMENSIONS SHOWN ON THESE OVERHEAD SIGN STRUCTURE ELEVATIONS ARE FURNISHED TO THE CONTRACTOR FOR BIDDING PURPOSES ONLY

DESIGNS SHOWN FOR OVERHEAD SIGN STRUCTURES WERE DEVELOPED FROM DESIGN CROSS SECTIONS AND DESIGN TYPICAL SECTIONS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE ACTUAL MEASUREMENTS BEFORE ORDERING FABRICATION OF THE COMPONENT PARTS OF THE OVERHEAD SIGN STRUCTURES

℄ TRUSS ELEVATION 126.00

DESIGN DATA
COSS-Z3 & Z3I-10

DESIGN DATA IS BASED ON A 30 FT - 0 IN TRUSS LENGTH

DESIGN DATA

SPAN LENGTH	30.00	FT
DESIGN HEIGHT	OVER 30	FT
TOWER HEIGHT	28.23	FT
DESIGN SIGN AREA	300.00	SF
ACTUAL SIGN AREA	135.00	SF
PENETROMETER VALUE	ASSUME 15	
DESIGN LOADS — TORSION	155.44	K-FT
DESIGN LOADS — MOMENT	327.97	K-FT

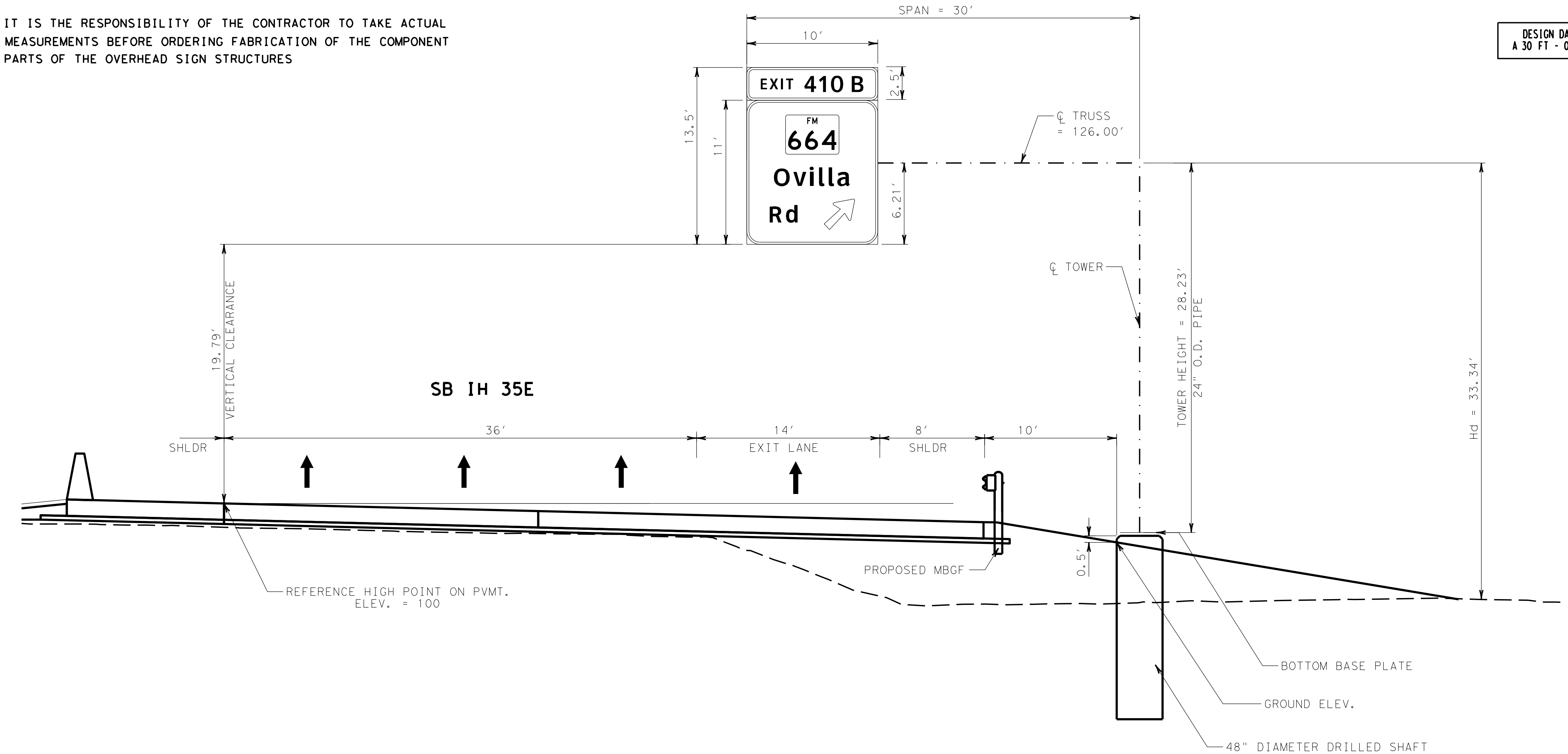
STRUCTURE DATA

STRUCTURE CODE	COSS-Z3 & Z3I-10
TRUSS SIZE	4.0'X4.0'
TOWER SIZE	24" O.D. PIPE

SUMMARY OF DRILLED SHAFT

18.00 LF OF 48" DIA. DRILLED SHAFT

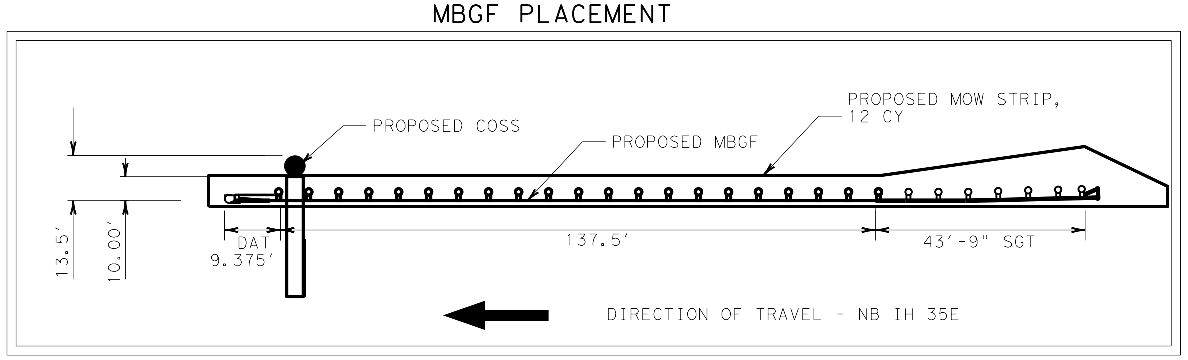
BOTTOM BASE PLATE ELEV.	97.77
TOP DRILLED SHAFT ELEV.	97.52
GROUND ELEV.	97.02
BOTTOM DRILLED SHAFT ELEV.	79.52



PROPOSED COSS # 2
SB IH 35E STATION 1836+26

N.T.S.

MBGF PLACEMENT



STATE OF TEXAS
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CANTILEVER OVERHEAD SIGN STRUCTURE DETAILS
PROPOSED COSS # 2

SCALE: 1" = 10' SHEET 2 OF 8

DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	914
CHECK FRC	CONTROL 0442	SECTION 03	JOB 042, ETC	

C:\Users\MABOSO\Desktop\ALL\Mark Aboso computer backup for computer switch\MARK D-DRIVE\000 PROJECTS ON D- DRIVE\SL (LOOP) 9 CSJ 2964-10-005\IH 35E ...

GENERAL NOTES:

THE DIMENSIONS SHOWN ON THESE OVERHEAD SIGN STRUCTURE ELEVATIONS ARE FURNISHED TO THE CONTRACTOR FOR BIDDING PURPOSES ONLY

DESIGNS SHOWN FOR OVERHEAD SIGN STRUCTURES WERE DEVELOPED FROM DESIGN CROSS SECTIONS AND DESIGN TYPICAL SECTIONS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE ACTUAL MEASUREMENTS BEFORE ORDERING FABRICATION OF THE COMPONENT PARTS OF THE OVERHEAD SIGN STRUCTURES

℄ TRUSS ELEVATION 126.00

DESIGN DATA
COSS-Z3 & Z3I-10

DESIGN DATA IS BASED ON A 30 FT - 0 IN TRUSS LENGTH

DESIGN DATA

SPAN LENGTH	30.00	FT
DESIGN HEIGHT	OVER 30	FT
TOWER HEIGHT	28.36	FT
DESIGN SIGN AREA	300.00	SF
ACTUAL SIGN AREA	128.00	SF
PENETROMETER VALUE	ASSUME 15	
DESIGN LOADS — TORSION	155.44	K-FT
DESIGN LOADS — MOMENT	327.97	K-FT

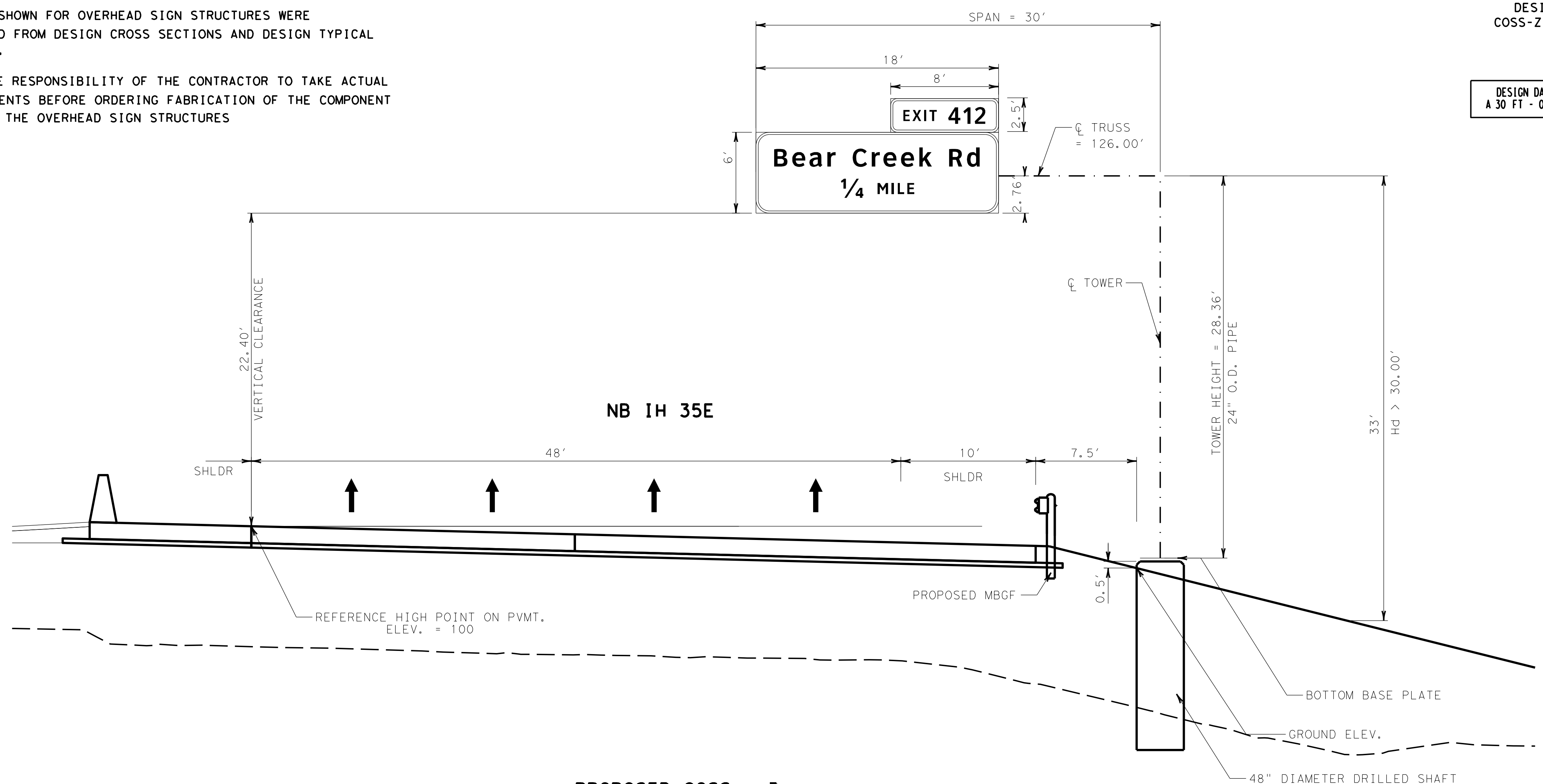
STRUCTURE DATA

STRUCTURE CODE	COSS-Z3 & Z3I-10
TRUSS SIZE	4.0'X4.0'
TOWER SIZE	24" O.D. PIPE

SUMMARY OF DRILLED SHAFT

18.00 LF OF 48" DIA. DRILLED SHAFT

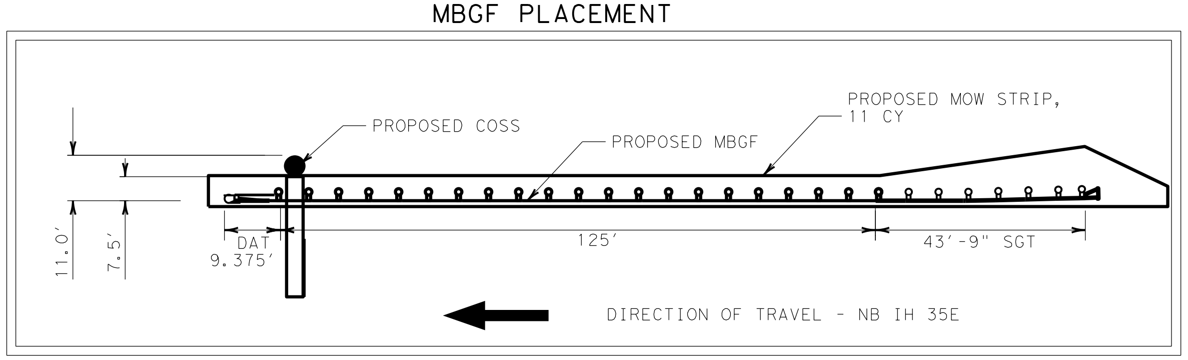
BOTTOM BASE PLATE ELEV.	97.64
TOP DRILLED SHAFT ELEV.	97.39
GROUND ELEV.	96.89
BOTTOM DRILLED SHAFT ELEV.	79.39

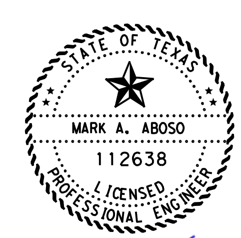


PROPOSED COSS # 3
NB IH 35E STATION 1839+12

N.T.S.

MBGF PLACEMENT





P.E. 03/03/2023
Signature of Registrant Date

Texas Department of Transportation

CANTILEVER OVERHEAD SIGN STRUCTURE DETAILS
PROPOSED COSS # 3

SCALE: 1" = 10' SHEET 3 OF 8

DESIGN/CK	FED.RD. DIV.NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	915
CHECK	CONTROL	SECTION	JOB	
FRC	0442	03	042, ETC	

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GENERAL NOTES:

THE DIMENSIONS SHOWN ON THESE OVERHEAD SIGN STRUCTURE ELEVATIONS ARE FURNISHED TO THE CONTRACTOR FOR BIDDING PURPOSES ONLY

DESIGNS SHOWN FOR OVERHEAD SIGN STRUCTURES WERE DEVELOPED FROM DESIGN CROSS SECTIONS AND DESIGN TYPICAL SECTIONS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE ACTUAL MEASUREMENTS BEFORE ORDERING FABRICATION OF THE COMPONENT PARTS OF THE OVERHEAD SIGN STRUCTURES

℄ TRUSS ELEVATION 126.00

DESIGN DATA
COSS-Z3 & Z3I-10

DESIGN DATA IS BASED ON A 30 FT - 0 IN TRUSS LENGTH

DESIGN DATA

SPAN LENGTH	30.00	FT
DESIGN HEIGHT	OVER 30	FT
TOWER HEIGHT	28.91	FT
DESIGN SIGN AREA	300.00	SF
ACTUAL SIGN AREA	121.50	SF
PENETROMETER VALUE	ASSUME 15	
DESIGN LOADS — TORSION	155.44	K-FT
DESIGN LOADS — MOMENT	327.97	K-FT

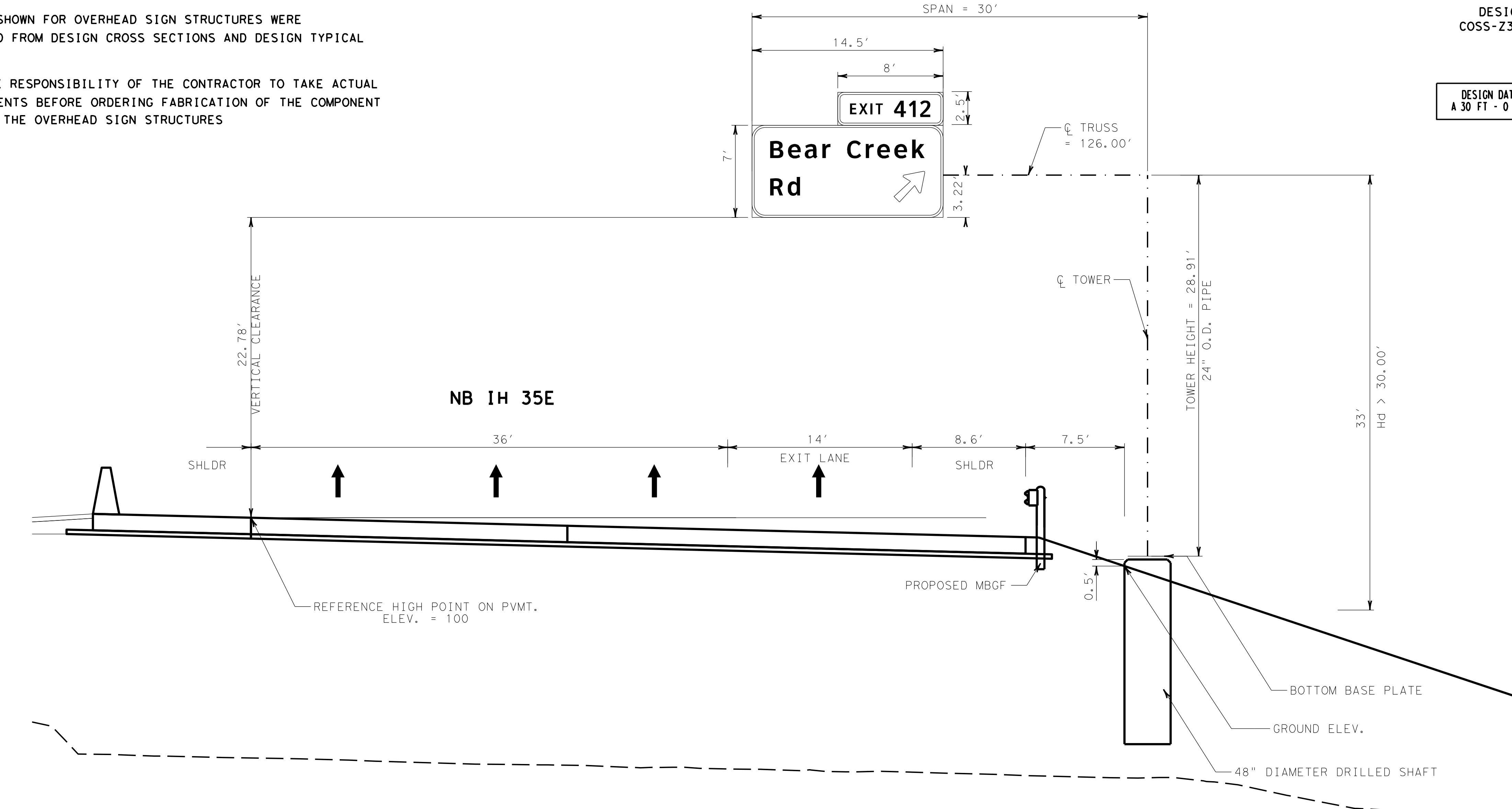
STRUCTURE DATA

STRUCTURE CODE	COSS-Z3 & Z3I-10
TRUSS SIZE	4.0'X4.0'
TOWER SIZE	24" O.D. PIPE

SUMMARY OF DRILLED SHAFT

18.00 LF OF 48" DIA. DRILLED SHAFT

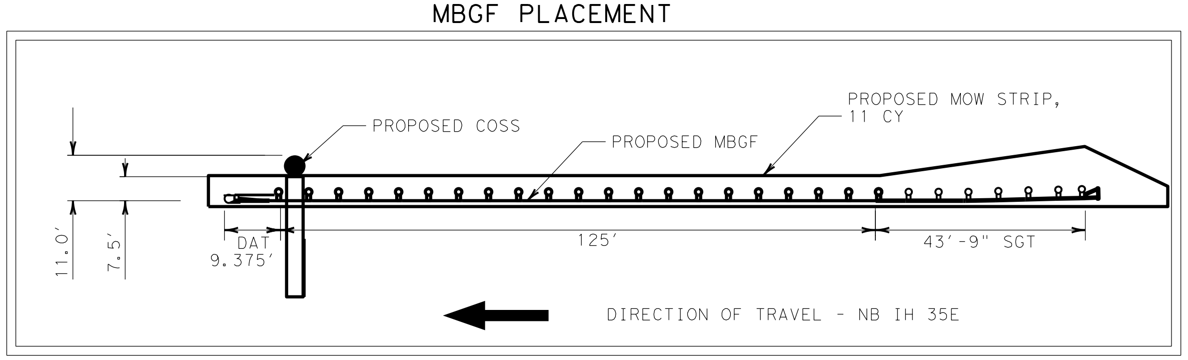
BOTTOM BASE PLATE ELEV.	97.09
TOP DRILLED SHAFT ELEV.	96.84
GROUND ELEV.	96.34
BOTTOM DRILLED SHAFT ELEV.	78.84



PROPOSED COSS # 4
NB IH 35E STATION 1852+29

N.T.S.

MBGF PLACEMENT



STATE OF TEXAS
MARK A. ABOSO
112638
LICENSED
PROFESSIONAL ENGINEER

P.E. 03/03/2023
Signature of Registrant Date

Texas Department of Transportation

CANTILEVER OVERHEAD SIGN STRUCTURE DETAILS
PROPOSED COSS # 4

SCALE: 1" = 10' SHEET 4 OF 8

DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS,ETC	916
CHECK FRC	CONTROL 0442	SECTION 03	JOB 042, ETC	

C:\Users\MABOSO\Desktop\ALL\Mark Aboso computer backup for computer switch\MARK D-DRIVE\000 PROJECTS ON D- DRIVE\SL (LOOP) 9 CSJ 2964-10-005\IH 35E A5/00002023IH 35E 1:10PM9 SIGN

GENERAL NOTES:

THE DIMENSIONS SHOWN ON THESE OVERHEAD SIGN STRUCTURE ELEVATIONS ARE FURNISHED TO THE CONTRACTOR FOR BIDDING PURPOSES ONLY

DESIGNS SHOWN FOR OVERHEAD SIGN STRUCTURES WERE DEVELOPED FROM DESIGN CROSS SECTIONS AND DESIGN TYPICAL SECTIONS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE ACTUAL MEASUREMENTS BEFORE ORDERING FABRICATION OF THE COMPONENT PARTS OF THE OVERHEAD SIGN STRUCTURES

℄ TRUSS ELEVATION 126.00

DESIGN DATA
COSS-Z3 & Z3I-10

DESIGN DATA IS BASED ON A 30 FT - 0 IN TRUSS LENGTH

DESIGN DATA

SPAN LENGTH	30.00	FT
DESIGN HEIGHT	OVER 30	FT
TOWER HEIGHT	28.29	FT
DESIGN SIGN AREA	300.00	SF
ACTUAL SIGN AREA	180.00	SF
PENETROMETER VALUE	ASSUME 15	
DESIGN LOADS — TORSION	155.44	K-FT
DESIGN LOADS — MOMENT	327.97	K-FT

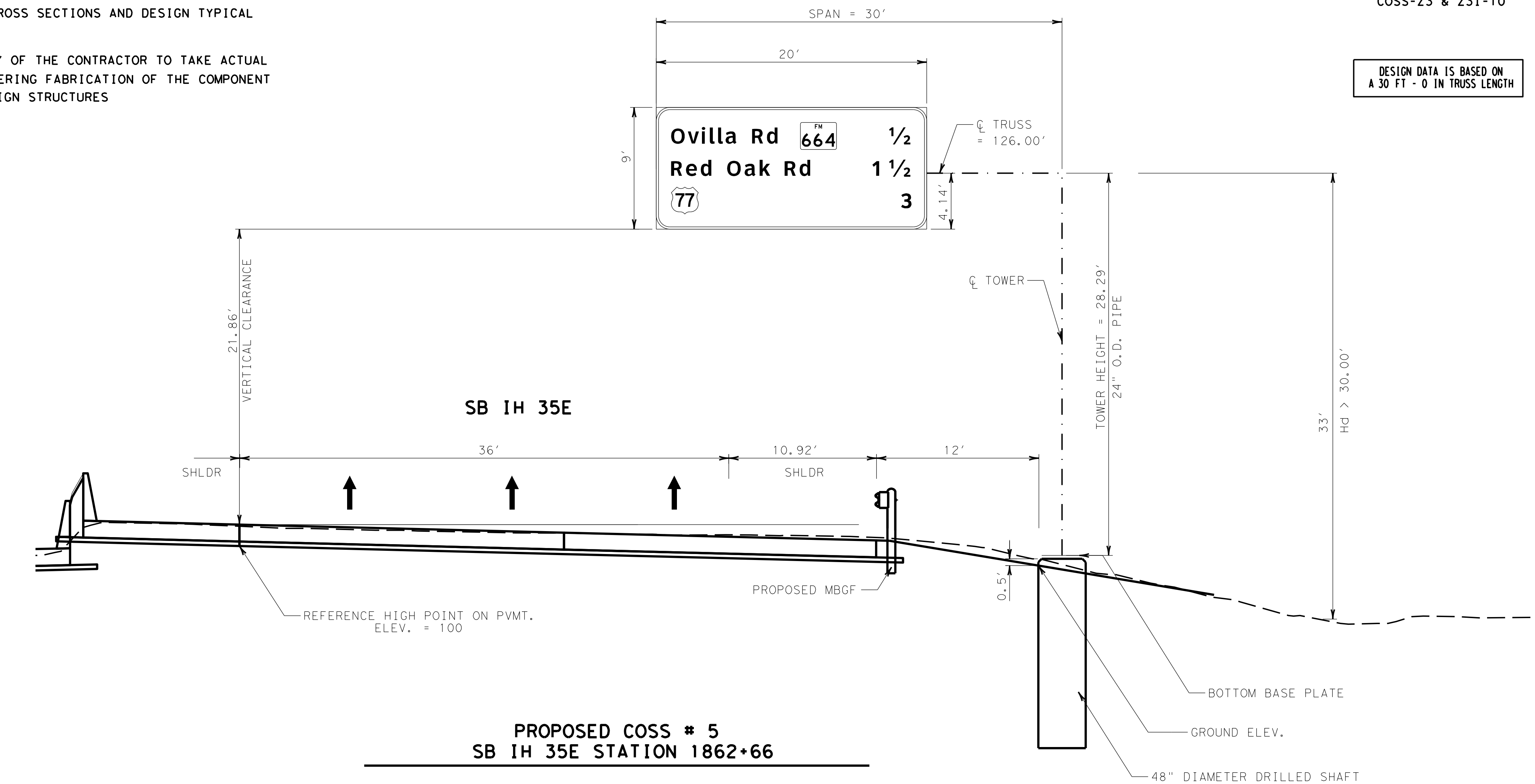
STRUCTURE DATA

STRUCTURE CODE	COSS-Z3 & Z3I-10
TRUSS SIZE	4.0'X4.0'
TOWER SIZE	24" O.D. PIPE

SUMMARY OF DRILLED SHAFT

18.00 LF OF 48" DIA. DRILLED SHAFT

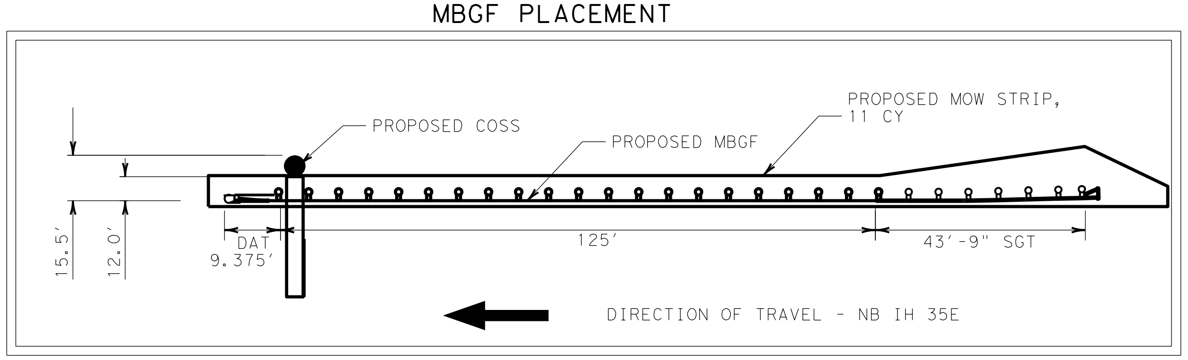
BOTTOM BASE PLATE ELEV.	97.71
TOP DRILLED SHAFT ELEV.	97.46
GROUND ELEV.	96.96
BOTTOM DRILLED SHAFT ELEV.	79.46



PROPOSED COSS # 5
SB IH 35E STATION 1862+66

N.T.S.

MBGF PLACEMENT



STATE OF TEXAS
MARK A. ABOSO
112638
LICENSED PROFESSIONAL ENGINEER

P.E. 03/03/2023
Signature of Registrant Date

Texas Department of Transportation

CANTILEVER OVERHEAD SIGN STRUCTURE DETAILS
PROPOSED COSS # 5

SCALE: 1" = 10' SHEET 5 OF 8

DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	917
CHECK FRC	CONTROL 0442	SECTION 03	JOB 042, ETC	

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GENERAL NOTES:

THE DIMENSIONS SHOWN ON THESE OVERHEAD SIGN STRUCTURE ELEVATIONS ARE FURNISHED TO THE CONTRACTOR FOR BIDDING PURPOSES ONLY

DESIGNS SHOWN FOR OVERHEAD SIGN STRUCTURES WERE DEVELOPED FROM DESIGN CROSS SECTIONS AND DESIGN TYPICAL SECTIONS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE ACTUAL MEASUREMENTS BEFORE ORDERING FABRICATION OF THE COMPONENT PARTS OF THE OVERHEAD SIGN STRUCTURES

℄ TRUSS ELEVATION 126.00

DESIGN DATA
COSS-Z3 & Z3I-10

DESIGN DATA IS BASED ON A 35 FT - 0 IN TRUSS LENGTH

DESIGN DATA

SPAN LENGTH	35.00	FT
DESIGN HEIGHT	OVER 30	FT
TOWER HEIGHT	29.38	FT
DESIGN SIGN AREA	350.00	SF
ACTUAL SIGN AREA	186.75	SF
PENETROMETER VALUE	ASSUME 15	
DESIGN LOADS — TORSION	211.58	K-FT
DESIGN LOADS — MOMENT	400.42	K-FT

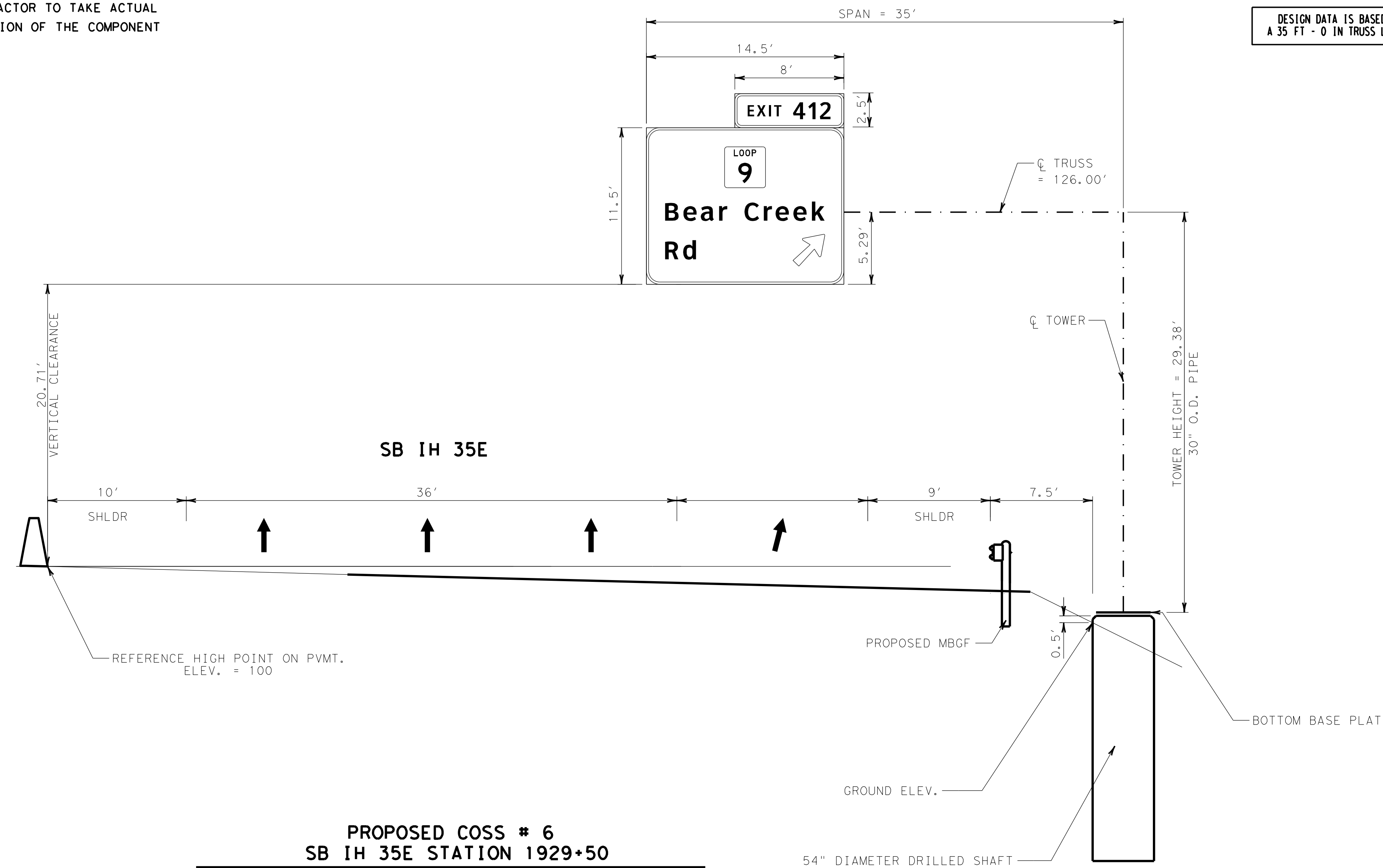
STRUCTURE DATA

STRUCTURE CODE	COSS-Z3 & Z3I-10
TRUSS SIZE	4.5'X4.5'
TOWER SIZE	30" O.D. PIPE

SUMMARY OF DRILLED SHAFT

18.00 LF OF 54" DIA. DRILLED SHAFT

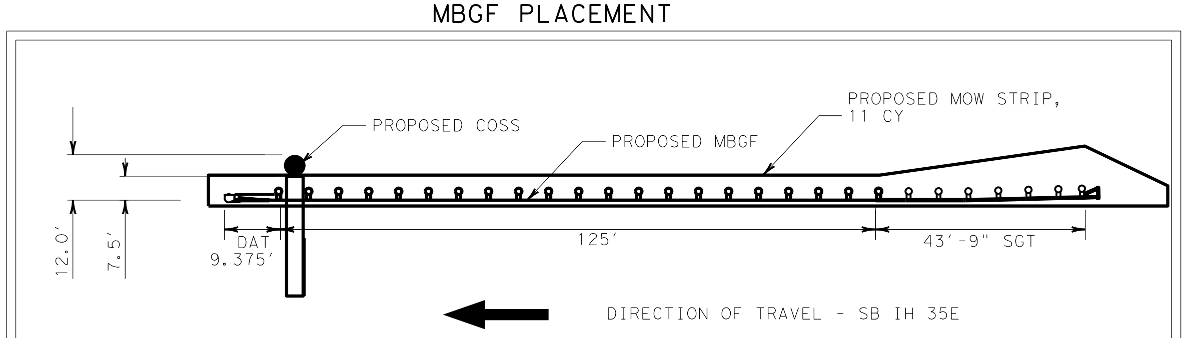
BOTTOM BASE PLATE ELEV.	96.62
TOP DRILLED SHAFT ELEV.	96.37
GROUND ELEV.	95.87
BOTTOM DRILLED SHAFT ELEV.	78.37



PROPOSED COSS # 6
SB IH 35E STATION 1929+50

N.T.S.

MBGF PLACEMENT



STATE OF TEXAS
MARK A. ABOSO
112638
LICENSED PROFESSIONAL ENGINEER

P.E. 03/03/2023
Signature of Registrant Date

Texas Department of Transportation

CANTILEVER OVERHEAD SIGN STRUCTURE DETAILS
PROPOSED COSS # 6

SCALE: 1" = 10' SHEET 6 OF 8

DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK	STATE	DISTRICT	COUNTY	SHEET NO.
BLS	TEXAS	DALLAS	ELLIS, ETC	918
CHECK	CONTROL	SECTION	JOB	
BA / FRC	0442	03	042, ETC	

GENERAL NOTES:

THE DIMENSIONS SHOWN ON THESE OVERHEAD SIGN STRUCTURE ELEVATIONS ARE FURNISHED TO THE CONTRACTOR FOR BIDDING PURPOSES ONLY

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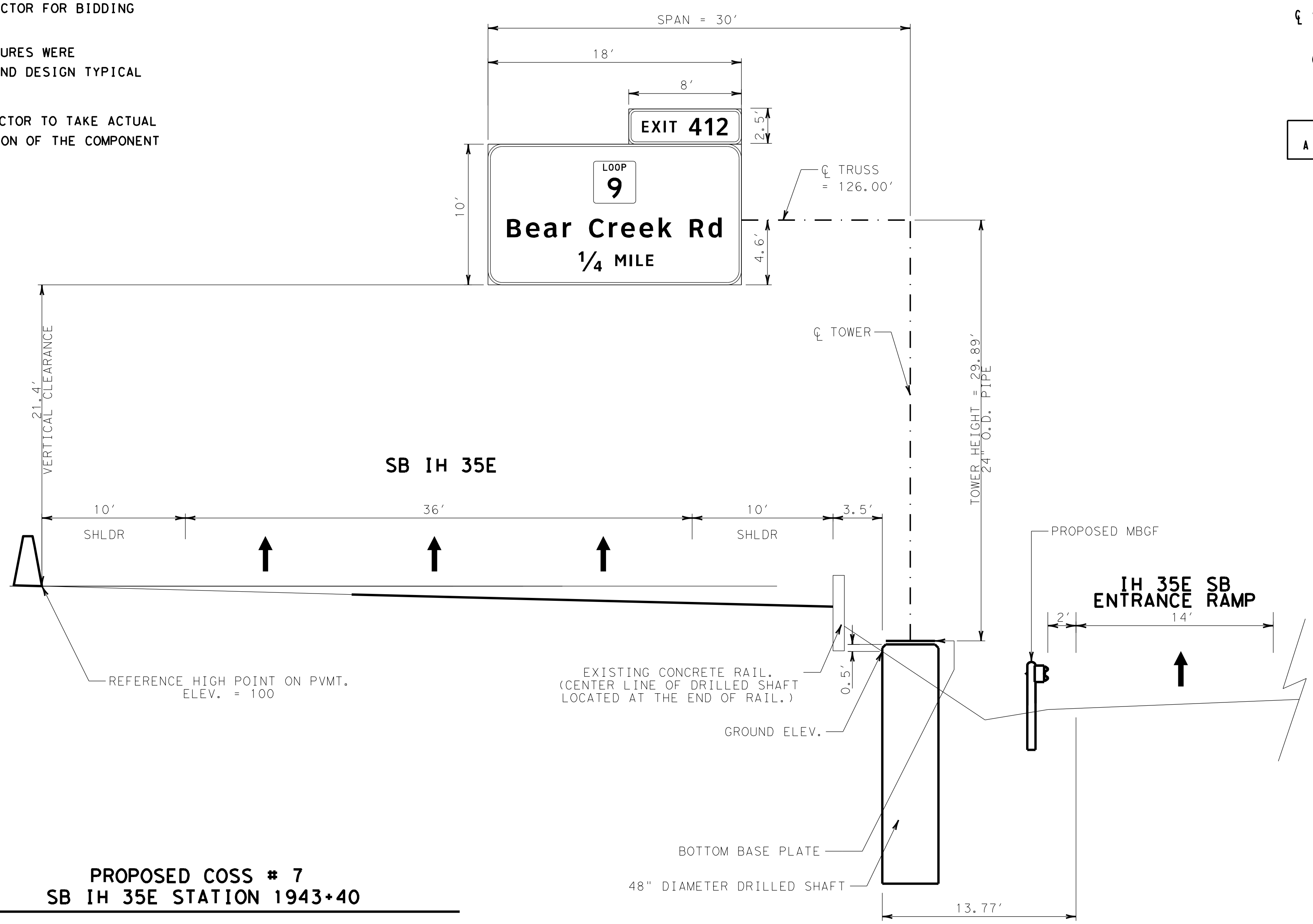
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE ACTUAL MEASUREMENTS BEFORE ORDERING FABRICATION OF THE COMPONENT PARTS OF THE OVERHEAD SIGN STRUCTURES



PROPOSED COSS # 7
SB IH 35E STATION 1943+40

℄ TRUSS ELEVATION 126.00

DESIGN DATA
COSS-Z3 & Z3I-10

DESIGN DATA IS BASED ON A 30 FT - 0 IN TRUSS LENGTH

DESIGN DATA

SPAN LENGTH	30.00	FT
DESIGN HEIGHT	OVER 30	FT
TOWER HEIGHT	29.89	FT
DESIGN SIGN AREA	300.00	SF
ACTUAL SIGN AREA	200.00	SF
PENETROMETER VALUE	ASSUME 15	
DESIGN LOADS – TORSION	155.44	K-FT
DESIGN LOADS – MOMENT	339.13	K-FT

STRUCTURE DATA

STRUCTURE CODE	COSS-Z3 & Z3I-10
TRUSS SIZE	4.0'X4.0'
TOWER SIZE	24" O.D. PIPE

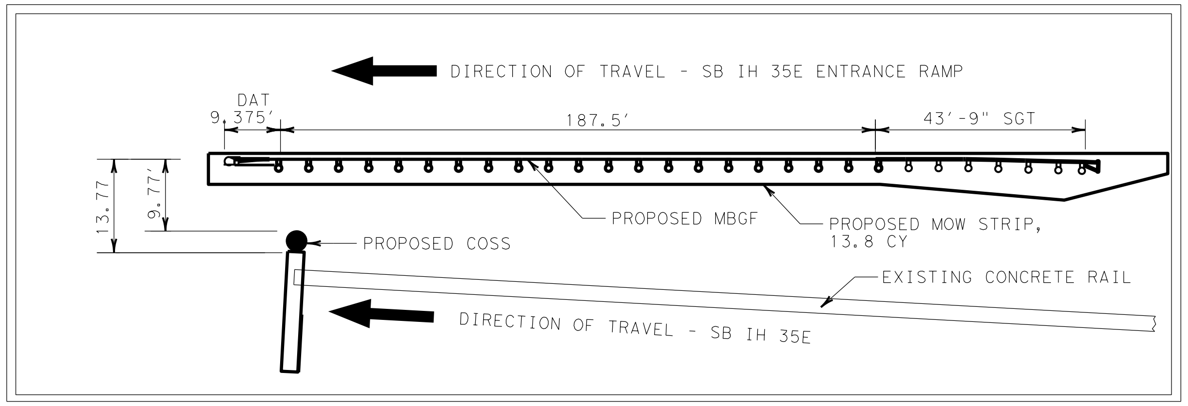
SUMMARY OF DRILLED SHAFT

17.00 LF OF 48" DIA. DRILLED SHAFT

BOTTOM BASE PLATE ELEV.	96.11
TOP DRILLED SHAFT ELEV.	95.86
GROUND ELEV.	95.36
BOTTOM DRILLED SHAFT ELEV.	78.86

N.T.S.

MBGF PLACEMENT



STATE OF TEXAS
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112638
LICENSED PROFESSIONAL ENGINEER

P.E. 03/03/2023
Signature of Registrant Date

CANTILEVER OVERHEAD SIGN STRUCTURE DETAILS
PROPOSED COSS # 7

SCALE: 1" = 10' SHEET 7 OF 8

DESIGN/CK	FED.RD. DIV.NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	919
CHECK FRC	CONTROL	SECTION	JOB	
	0442	03	042, ETC	

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GENERAL NOTES:

THE DIMENSIONS SHOWN ON THESE OVERHEAD SIGN STRUCTURE ELEVATIONS ARE FURNISHED TO THE CONTRACTOR FOR BIDDING PURPOSES ONLY

DESIGNS SHOWN FOR OVERHEAD SIGN STRUCTURES WERE DEVELOPED FROM DESIGN CROSS SECTIONS AND DESIGN TYPICAL SECTIONS.

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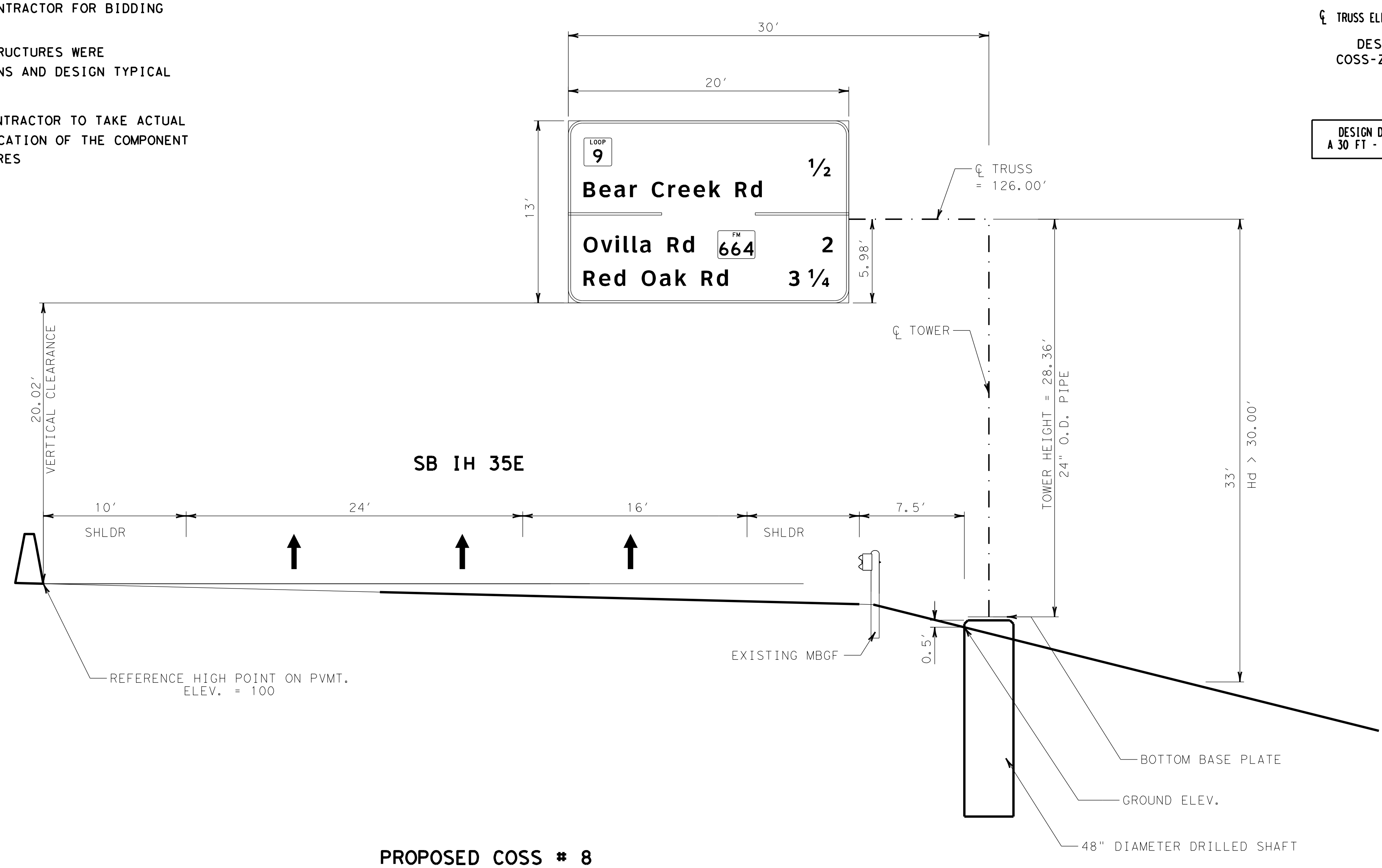

PROPOSED COSS # 8
SB IH 35E STATION 1955+63

℄ TRUSS ELEVATION 126.00

DESIGN DATA
COSS-Z3 & Z3I-10

DESIGN DATA IS BASED ON A 30 FT - 0 IN TRUSS LENGTH

DESIGN DATA

SPAN LENGTH	30.00	FT
DESIGN HEIGHT	OVER 30	FT
TOWER HEIGHT	28.36	FT
DESIGN SIGN AREA	300.00	SF
ACTUAL SIGN AREA	260.00	SF
PENETROMETER VALUE	ASSUME 15	
DESIGN LOADS TORSION	327.97	K-FT
DESIGN LOADS MOMENT	155.44	K-FT

STRUCTURE DATA

STRUCTURE CODE	COSS-Z3 & Z3I-10
TRUSS SIZE	4.0'X4.0'
TOWER SIZE	24" O.D. PIPE

SUMMARY OF DRILLED SHAFT

18.00 LF OF 48" DIA. DRILLED SHAFT

BOTTOM BASE PLATE ELEV.	97.64
TOP DRILLED SHAFT ELEV.	97.39
GROUND ELEV.	96.89
BOTTOM DRILLED SHAFT ELEV.	79.39

STATE OF TEXAS
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P.E. 03/03/2023
Signature of Registrant Date

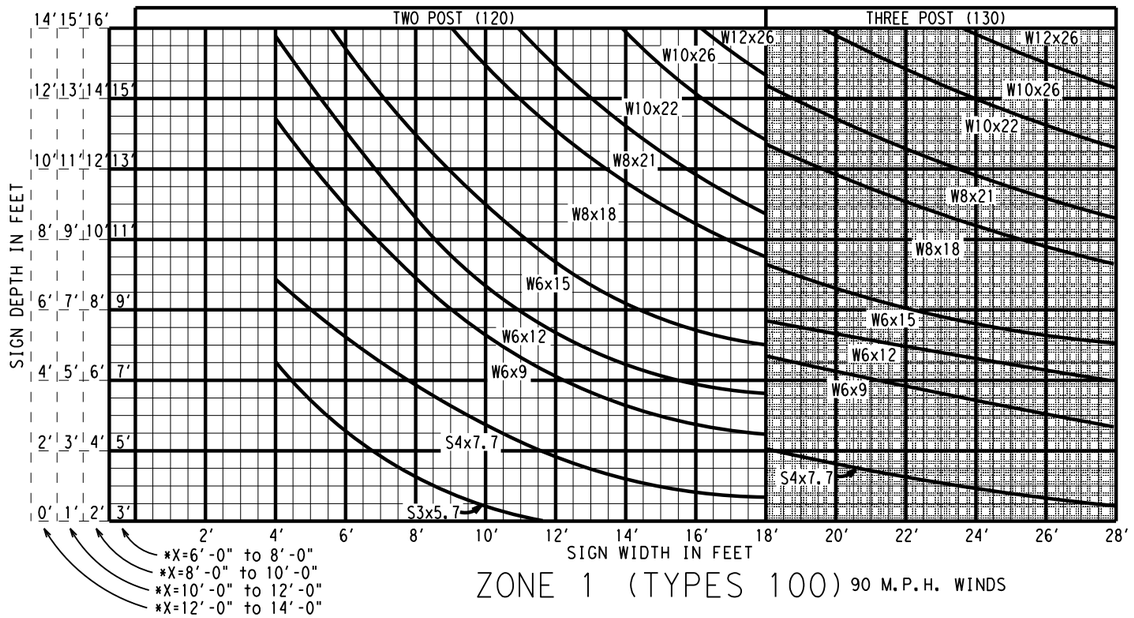
Texas Department of Transportation

CANTILEVER OVERHEAD SIGN STRUCTURE DETAILS
PROPOSED COSS # 8

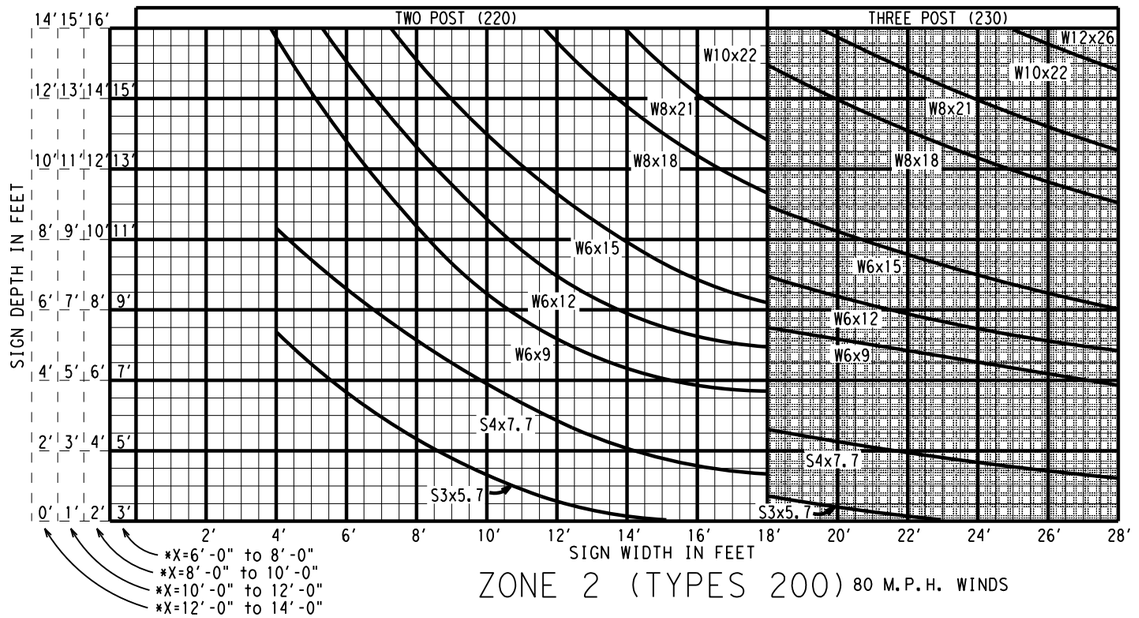
SCALE: 1" = 10' SHEET 8 OF 8

DESIGN/CK	FED. RD. DIV. NO.	FEDERAL-AID PROJECT NUMBER		HIGHWAY NO.
MAA	6	SEE TITLE SHEET		IH 35E
CHECK BLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BA	TEXAS	DALLAS	ELLIS, ETC	920
CHECK FRC	CONTROL 0442	SECTION 03	JOB 042, ETC	

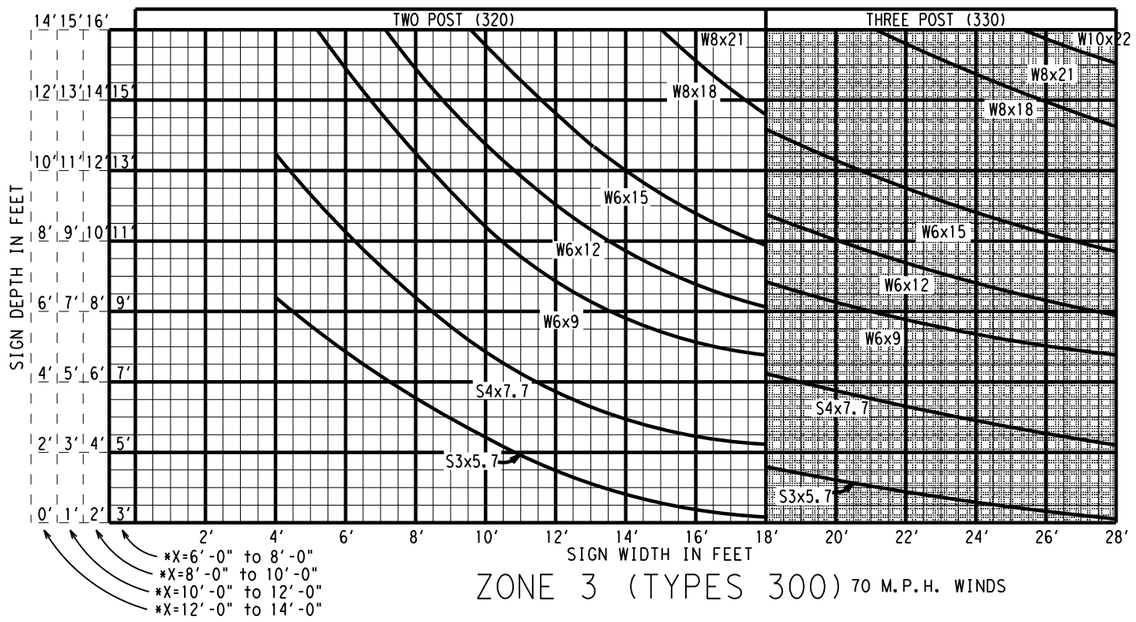
DATE: 2/25/2023 5:53:18 PM
FILE: C:\Users\MABOSO\Desktop\ALL\Mark Aboso computer backup for computer switch\MARK D-DRIVE\000 PROJECTS ON D- DRIVE\SL (LOOP) 9 CSJ 2964-10-005\IH 35E AT LOOP 9\IH 35E AT LOOP 9



ZONE 1 (TYPES 100) 90 M.P.H. WINDS



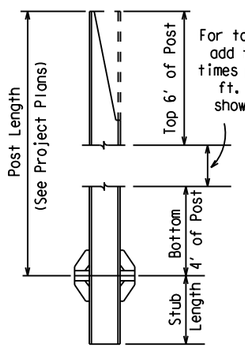
ZONE 2 (TYPES 200) 80 M.P.H. WINDS



ZONE 3 (TYPES 300) 70 M.P.H. WINDS

* NOTE: "X" EQUALS THE AVERAGE HEIGHT FROM THE GROUND LINE TO THE BOTTOM EDGE OF THE SIGN.

SHADED AREA DENOTES 3 POST SUPPORTS



POST WEIGHT DATA

POST SIZE	WEIGHT OF ONE POST (#)	WEIGHT OF TWO POSTS (#)	WEIGHT OF THREE POSTS (#)
W6x9*	123.2	246.4	369.6
W6x12*	160.3	320.6	480.9
W6x15*	167.8	335.6	503.4
W8x18*	201.8	403.6	605.4
W8x21*	254.7	509.4	764.1
W10x22*	266.0	532.0	798.0
W10x26*	308.0	616.0	924.0
W12x26*	308.6	617.2	925.8
S3x5.7*	85.9	171.8	257.7
S4x7.7*	112.2	224.4	336.6

*LAST FIGURES=POST WT. PER FT.

Weight Data is the weight of items shown for one, two or three posts - (includes top 6' of post, bottom 4' of post, post foundation stub, related base connection plates and stiffeners, friction fuse plate and all high strength bolts, nuts and washers).

SIGN TYPE

SIGN TYPE 1 3 0
- 1 — Wind Design Zone
- 3 — Series No.
- 0 — No. of Posts

Series No.: 0 Aluminum/Fiberglass; 1 Aluminum; 2 Fiberglass

Note: Footings for S3x5.7 and S4x7.7 post sizes shall be non-reinforced with Class A concrete, while footing for all other post sizes shall be reinforced with Class C concrete.

Texas Department of Transportation
Traffic Operations Division

LARGE ROADSIDE SIGN SUPPORTS
POST SELECTION
WORKSHEET
SMD(8W1)-08

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

REVISIONS
1-82
5-01
9-08

CONT	SECT	JOB	HIGHWAY
0442	03	042, ETC	IH35E

DIST	COUNTY	SHEET NO.
DAL	ELLIS, ETC	921

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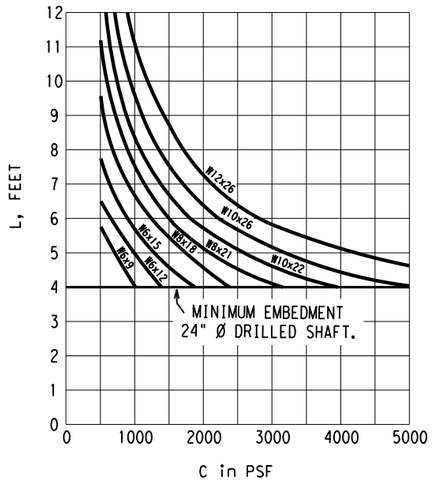
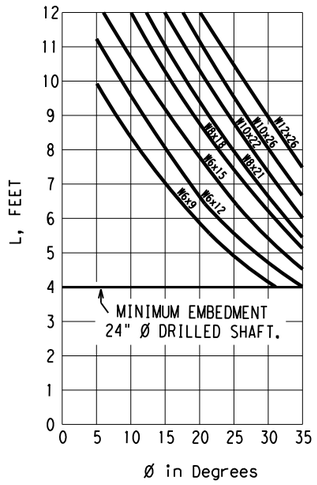
DATE: 2/25/2023 5:53:20 PM
FILE: C:\Users\MABOSO\Desktop\ALL\Mark Aboso computer backup for computer switch\MARK D-DRIVE\000 PROJECTS ON D- DRIVE\SL (LOOP) 9 CSJ 2964-10-005\IH 35E AT LOOP 9\IH 35E AT LOOP 9

I



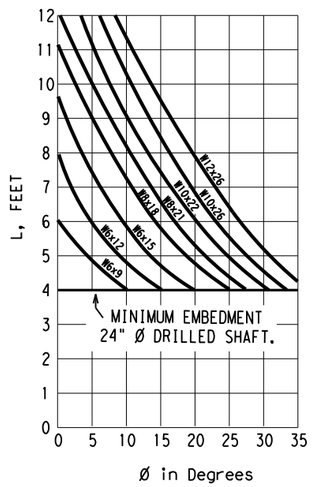
Ø = 0 Degrees

II



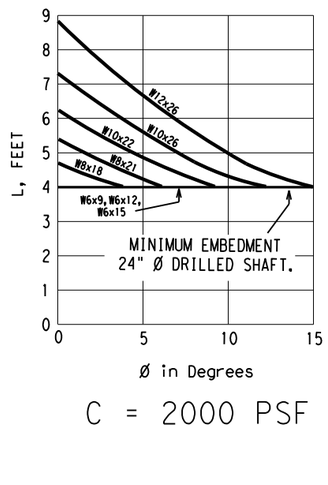
C = 0 PSF

III



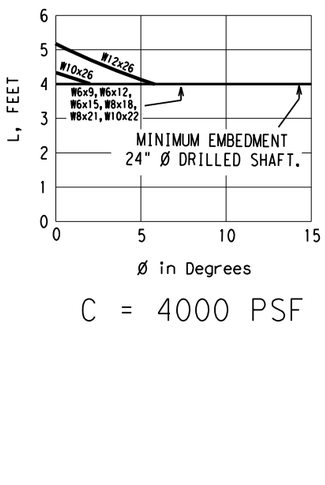
C = 500 PSF

IV



C = 2000 PSF

V



C = 4000 PSF

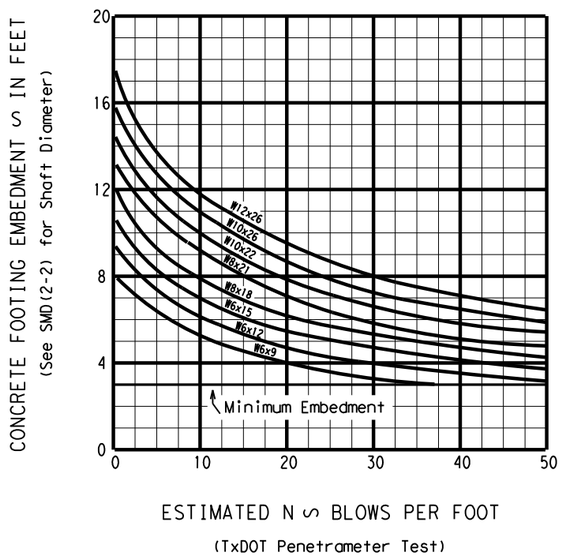
DRILLED CONCRETE FOOTING DEPTH CHART
(COHFRIC DESIGN)

NOTE: THESE CHARTS MAY BE USED AS AN ALTERNATE TO THE CHART BELOW, PROVIDED THAT SOIL COHESION AND INTERNAL FRICTION (COHFRIC) DATA ARE AVAILABLE.

LEGEND:

L = Required embedment of concrete drilled shaft, in feet
C = Cohesive shear strength of soil, in psf
Ø = Angle of internal friction of soil, in degrees

For values of C and Ø which are intermediate to those on the charts, embedments may be determined by straight - line interpolation.



DRILLED CONCRETE FOOTING DEPTH CHART
(TxDOT PENETROMETER DESIGN)

NOTE: ESTIMATED N SHOULD BE BASED AT APPROXIMATELY THE UPPER ONE-THIRD POINT OF THE DRILLED CONCRETE FOOTING BELOW THE GROUND LINE

Note:
1. Curves shown on this sheet are applicable for reinforced concrete footings only.

Texas Department of Transportation
Traffic Operations Division

LARGE ROADSIDE SIGN SUPPORTS FOUNDATION WORKSHEET
SMD(8W2)-08

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

REVISIONS
5-74
4-78
9-08

CONT	SECT	JOB	HIGHWAY
0442	03	042,ETC	IH35E

DIST	COUNTY	SHEET NO.
DAL	ELLIS,ETC	922

DISCLAIMER:

DRIVE\000 PROJECTS ON D- DRIVE\SL (LOOP) 9 CSJ 2964-10-005\IH 35E AT LOOP 9\IH 35E AT LOOP 9

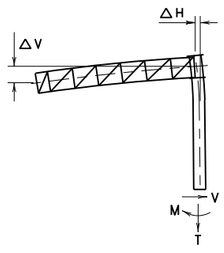
DATE: 2/25/2023 5:53:21 PM
FILE: C:\Users\MABOSO\Desktop\ALL\Mark Aboso computer backup for computer switch\MARK D-DRIVE\000

ZONE 3 WITH AND WITHOUT ICE 80 MPH WIND

TOWER HEIGHT (ft)	10′ SPAN TOWER PIPE O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	ANCHOR BOLTS SIZE DIA (in)	NO.	BOLT CIR DIA	BASE PLATE SIZE (in)	TRUSS DEFL ΔV (in)	DESIGN LOADS SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)	15′ SPAN TOWER PIPE O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	ANCHOR BOLTS SIZE DIA (in)	NO.	BOLT CIR DIA	BASE PLATE SIZE (in)	TRUSS DEFL ΔV (in)	DESIGN LOADS SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)	20′ SPAN TOWER PIPE O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	ANCHOR BOLTS SIZE DIA (in)	NO.	BOLT CIR DIA	BASE PLATE SIZE (in)	TRUSS DEFL ΔV (in)	DESIGN LOADS SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)	25′ SPAN TOWER PIPE O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	ANCHOR BOLTS SIZE DIA (in)	NO.	BOLT CIR DIA	BASE PLATE SIZE (in)	TRUSS DEFL ΔV (in)	DESIGN LOADS SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)	TOWER HEIGHT (ft)
14′	16	0.250	0.105	1 ¼	6	20 ½"	24 x1¼	0.2	3.59	16.19	49.87	16	0.250	0.235	1 ⅜	8	20 ¾"	24½x1⅜	0.5	5.40	37.56	76.63	20	0.250	0.213	1 ¼	8	24 ½"	28 x1¼	0.7	7.43	69.08	107.16	20	0.281	0.308	1 ½	8	25"	29 x1½	1.3	9.14	107.68	135.49	14′
15′			0.120						3.61		53.42			0.270					0.6	5.41		81.91			0.244	1 ¼		24 ½"	28 x1¼	0.7	7.43		113.96		0.281	0.354					1.4	9.17		144.13	15′
16′			0.137						3.62		57.00			0.308					0.6	5.43		87.23			0.278	1 ⅜		24 ¾"	28½x1⅜	0.8	7.45		121.17		0.281	0.403					1.4	9.19		152.86	16′
17′			0.154						3.64		60.59			0.347					0.7	5.45		92.57			0.314					0.8	7.47		128.42		0.281	0.455	1 ½		25"	29 x1½	1.5	9.21		161.65	17′
18′			0.173						3.66		64.21			0.389				24½x1⅜	0.7	5.46		97.94			0.352					0.9	7.49		135.72		0.312	0.460	1 ¾		25 ⅜"	29¾x1⅝	1.5	9.23		170.51	18′
19′			0.193		6				3.67		67.85			0.434				24½x1½	0.7	5.48		103.33			0.392	1 ⅜		24 ¾"	28½x1⅜	0.9	7.51		143.06		0.312	0.513					1.5	9.25		179.43	19′
20′			0.214		8				3.69		71.51			0.481					0.8	5.50		108.75			0.435	1 ½		25"	29 x1½	1.0	7.53		150.43		0.312	0.568				29¾x1¾	1.6	9.27		188.39	20′
21′			0.235						3.71		75.18	0.250		0.530						5.51		114.19			0.479					1.0	7.55		157.84		0.312	0.627					1.6	9.29		197.41	21′
22′			0.258					0.2	3.73		78.88	0.281		0.521	1 ⅜		20 ¾"	24½x1½		5.53		119.66			0.526					1.1	7.57		165.28		0.344	0.628					1.6	9.31		206.47	22′
23′			0.282					0.3	3.74		82.59	0.281		0.569	1 ½		21"	25 x1⅝		5.55		125.14	0.250		0.575				29 x1½		7.60		172.75	0.344		0.686				29¾x1¾	1.7	9.34		215.57	23′
24′			0.308						3.76		86.33	0.281		0.620						5.56		130.65	0.281		0.560				29 x1⅝		7.62		180.26	0.344		0.747				29¾x1⅞		9.36		224.71	24′
25′			0.334				24 x1¼		3.78		90.08	0.312		0.610						5.58		136.18	0.281		0.607	1 ½		25"	29 x1⅝		7.64		187.79	0.375		0.748				29¾x1⅞		9.38		233.89	25′
26′			0.361				24 x1⅜		3.79		93.85	0.312		0.660				25 x1⅝		5.60		141.73	0.281		0.657	1 ¾		25 ⅜"	29¾x1⅝		7.66		195.35	0.375		0.809	1 ¾		25 ⅜"	29¾x1⅞	1.7	9.40		243.10	26′
27′			0.389						3.81		97.64	0.312		0.711				25 x1¾		5.62		147.30	0.310		0.640				29¾x1¾		7.68		202.94	0.375		0.872	2		25 ¾"	30½x 2	1.8	9.42		252.34	27′
28′			0.419						3.83		101.44	0.344		0.699						5.63		152.89	0.310		0.688						7.70		210.55	0.406		0.870						9.44		261.62	28′
29′			0.449						3.84		105.26	0.344		0.750						5.65		158.50	0.310		0.738						7.72		218.20	0.406		0.933						9.46		270.93	29′
30′			0.481						3.86		109.11	0.344		0.802	1 ½		21"	25 x1¾		5.67		164.12	0.340		0.721				29¾x1¾		7.74		225.86	0.406		0.999				30½x 2		9.48		280.27	30′
31′			0.513				24 x1⅜		3.88		112.96	0.375		0.791	1 ¾		21 ½"	26 x1⅛		5.68		169.77	0.340		0.770				29¾x1⅞		7.77		233.56	0.441		0.992				30½x2¼		9.50		289.64	31′
32′	16	0.250	0.547	1 ¼	8	20 ½"	24 x1½	0.3	3.89	16.19	116.84	16	0.375	0.843	1 ¾	8	21 ½"	26 x1⅞	0.8	5.70	37.56	175.43	20	0.340	0.821	1 ¾	8	25 ⅜"	29¾x1⅞	1.1	7.79	69.08	241.27	20	0.441	1.057	2	8	25 ¾"	30½x2¼	1.8	9.53	107.68	299.04	32′

ZONE 3 WITH AND WITHOUT ICE 80 MPH WIND

TOWER HEIGHT (ft)	30′ SPAN TOWER PIPE O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	ANCHOR BOLTS SIZE DIA (in)	NO.	BOLT CIR DIA	BASE PLATE SIZE (in)	TRUSS DEFL ΔV (in)	DESIGN LOADS SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)	35′ SPAN TOWER PIPE O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	ANCHOR BOLTS SIZE DIA (in)	NO.	BOLT CIR DIA	BASE PLATE SIZE (in)	TRUSS DEFL ΔV (in)	DESIGN LOADS SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)	40′ SPAN TOWER PIPE O.D. (in)	WALL THICK (in)	DEFL ΔH (in)	ANCHOR BOLTS SIZE DIA (in)	NO.	BOLT CIR DIA	BASE PLATE SIZE (in)	TRUSS DEFL ΔV (in)	DESIGN LOADS SHEAR V (Kips)	TORSION T (K-ft)	MOMENT M (K-ft)	TOWER HEIGHT (ft)
14′	24	0.250	0.289	1 ½	8	29"	33 x1½	1.6	11.00	155.44	167.11	30	0.250	0.210	1 ¾	8	35 ⅜"	39¾x1½	1.5	12.87	211.58	202.48	30	0.280	0.260	1 ¾	8	35 ⅜"	39⅞x1½	2.1	14.65	276.72	242.20	14′
15′		0.250	0.331	1 ½		29"	33 x1½	1.6	11.03		177.27			0.241					1.6	12.90		213.97			0.298	1 ¾		35 ⅜"	39⅞x1½	2.2	14.68		254.69	15′
16′		0.281	0.338	1 ¾		29 ⅜"	33¾x1½	1.6	11.05		187.54			0.275					1.6	12.93		225.63			0.339	1 ¾		35 ⅜"	39⅞x1½	2.3	14.71		267.44	16′
17′			0.381				33¾x1½	1.7	11.08		197.93		0.250	0.310					1.7	12.97		237.46			0.383	2		35 ¾"	40½x1½	2.4	14.75		280.40	17′
18′			0.428				33¾x1½	1.8	11.10		208.40		0.281	0.310					1.7	13.00		249.43			0.429				40½x1⅝	2.5	14.78		293.56	18′
19′		0.281	0.477				33¾x1⅝		11.13		218.97			0.346					1.7	13.03		261.52	0.280		0.478					2.6	14.81		306.90	19′
20′		0.312	0.477				33¾x1⅝		11.15		229.60			0.383					1.8	13.06		273.72	0.312		0.478					2.6	14.84		320.39	20′
21′			0.526				33¾x1⅝	1.8	11.18		240.31			0.422					1.8	13.09		286.04			0.527				40½x1⅝	2.6	14.87		334.02	21′
22′			0.577				33¾x1¾	1.9	11.20		251.08			0.463					1.9	13.12		298.44			0.578				40½x1¾	2.7	14.90		347.79	22′
23′			0.631				33¾x1¾	2.0	11.23		261.91			0.507	1 ¾		35 ⅜"	39¾x1½	2.0	13.16		310.94			0.632					2.8	14.94		361.67	23′
24′		0.312	0.687	1 ¾		29 ⅜"	33¾x1¾		11.25		272.80			0.552	2		35 ¾"	40½x1⅝	2.0	13.19		323.51			0.688					2.9	14.97		375.66	24′
25′		0.344	0.679	2		29 ¾"	34½x1¾		11.28		283.74			0.598				40½x1⅝	2.1	13.22		336.16	0.312		0.747					3.0	15.00		389.75	25′
26′			0.735				34½x 2	2.0	11.30		294.73			0.647				40½x1⅝	2.2	13.25		348.89	0.340		0.736				40½x 2	3.0	15.03		403.94	26′
27′			0.792					2.1	11.33		305.77			0.698				40½x1¾	2.2	13.28		361.68			0.794	2		35 ¾"	40½x 2	3.0	15.06		418.22	27′
28′			0.852					2.2	11.36		316.85		0.281	0.751					2.3	13.31		374.53			0.854	2 ¼		36"	41 x 2	3.1	15.09		432.57	28′
29′		0.344	0.914						11.38		327.97		0.310	0.726					2.2	13.35		387.45			0.916					3.2	15.13		447.01	29′
30′		0.375	0.901						11.41		339.13			0.777					2.2	13.38		400.42	0.340		0.980						15.16		461.52	30′
31′		0.375	0.962					2.2	11.43		350.34			0.830					2.3	13.41		413.45	0.375		0.963						15.19		476.10	31′
32′	24	0.375	1.023	2	8	29 ¾"	34½x 2	2.3	11.44	155.44	361.13	30	0.310	0.884	2	8	35 ¾"	40½x1¾	2.4	13.44	211.58	426.53	30	0.375	1.026	2 ¼	8	36"	41 x 2	3.2	15.22	276.72	490.75	32′



ELEVATION

(SHOWING DESIGN LOADS AND DEAD LOAD DEFLECTIONS)

TRUSS DETAILS

SPAN	10′, 15′, & 20′	25′	30′	35′	40′
W x D = WIDTH x DEPTH	4.0 x 4.0	4.0 x 4.0	4.0 x 4.0	4.5 x 4.5	4.5 x 4.5
CHORD-①, Unless Otherwise Shown	L 3 x 3 x 3/16 ② [3]	L 3 x 3 x 1/4 ② [4]	L 3 x 3 x 1/4 [6]	L 3 x 3 x 5/16 [7]	L3 ½x3 ½x 5/16 [9]
DEAD LOAD DIAGONAL-②	L 2 x 2 x 3/16 [2]	L 2 x 2 x 3/16 [2]	L 2 x 2 x 3/16 [2]	L 2 x 2 x 3/16 [2]	L 2 x 2 x 3/16 [3]
WIND LOAD DIAGONAL-②	L2 ½x2 ½x 3/16 [2]	L2 ½x2 ½x 3/16 [2]	L 3 x 3 x 1/4 [2]	L 3 x 3 x 1/4 [2]	L 3 x 3 x 1/4 [3]
DEAD LOAD VERTICAL-②	L 2 x 2 x 3/16 [2]	L 2 x 2 x 3/16 [2]	L 2 x 2 x 3/16 [2]	L2 ½x2 ½x 3/16 [2]	L2 ½x2 ½x 3/16 [2]
WIND LOAD STRUT-②	L 2 x 2 x 3/16 [1]	L 2 x 2 x 3/16 [1]	L 2 x 2 x 3/16 [1]	L 2 x 2 x 3/16 [1]	L 2 x 2 x 3/16 [1]
TRUSS DEAD LOAD	38 lb/ft	43 lb/ft	45 lb/ft	53 lb/ft	62 lb/ft
SIZE H. S. BOLTS IN CONNECTION	5/8" DIA	5/8" DIA	5/8" DIA	5/8" DIA	5/8" DIA
NO. & SIZE OF H.S. BOLTS IN CHORD		4 ~ 5/8" DIA or	6 ~ 5/8" DIA or	7 ~ 5/8" DIA or	9 ~ 5/8" DIA or
ANGLE TO TOWER CONNECTION PLATE	3 ~ 5/8" DIA ea	3 ~ 3/4" DIA ea	5 ~ 3/4" DIA ea	5 ~ 3/4" DIA ea	7 ~ 3/4" DIA ea

① "Low-Alloy Steel" for non-bridge structures per Item 442, "Metal For Structures".

② "Carbon Steel" for non-bridge structures per Item 442, "Metal For Structures".

GENERAL NOTES :

Design conforms to AASHTO 1994 Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Revisions thereto.

Steel for tower pipe shall conform to ASTM A53 Grade B or to ASTM A501. Tower pipe wall thickness shown is the minimum allowable. Fabricator may use the wall thickness shown or pipe of the same diameter with greater wall thickness.

All connection bolts shall conform to Item 447, "Structural Bolting". All structural steel, connection bolts, nuts and washers shall be galvanized in accordance with the Specifications.

Compensate for truss deflection at free end by offsetting upper and lower bolt holes at truss-to-tower connection.

For truss details see standard drawing COSSD.

For base and foundation details see standard drawing COSSF.

For cantilever truss lengths falling between those shown use sizes called for in the next longer span.

Truss and towers for cantilever sign supports are designed for the equivalent area of a 10′-0" deep sign panel over 100% of the span length. Design includes 3 pounds per foot squared for sign panel and 20 pounds per foot for lights and 50 pounds per foot for walkways all placed as specified for the design sign panel.

Details called for hereon are applicable for Design Wind Heights up to 30′ inclusive.

Number of High Strength bolts required in truss connection or splice are indicated in brackets, e.g. [3], after the member size.

Deflections shown include the design loads for Truss, Sign Panel, Lights and Walkways.

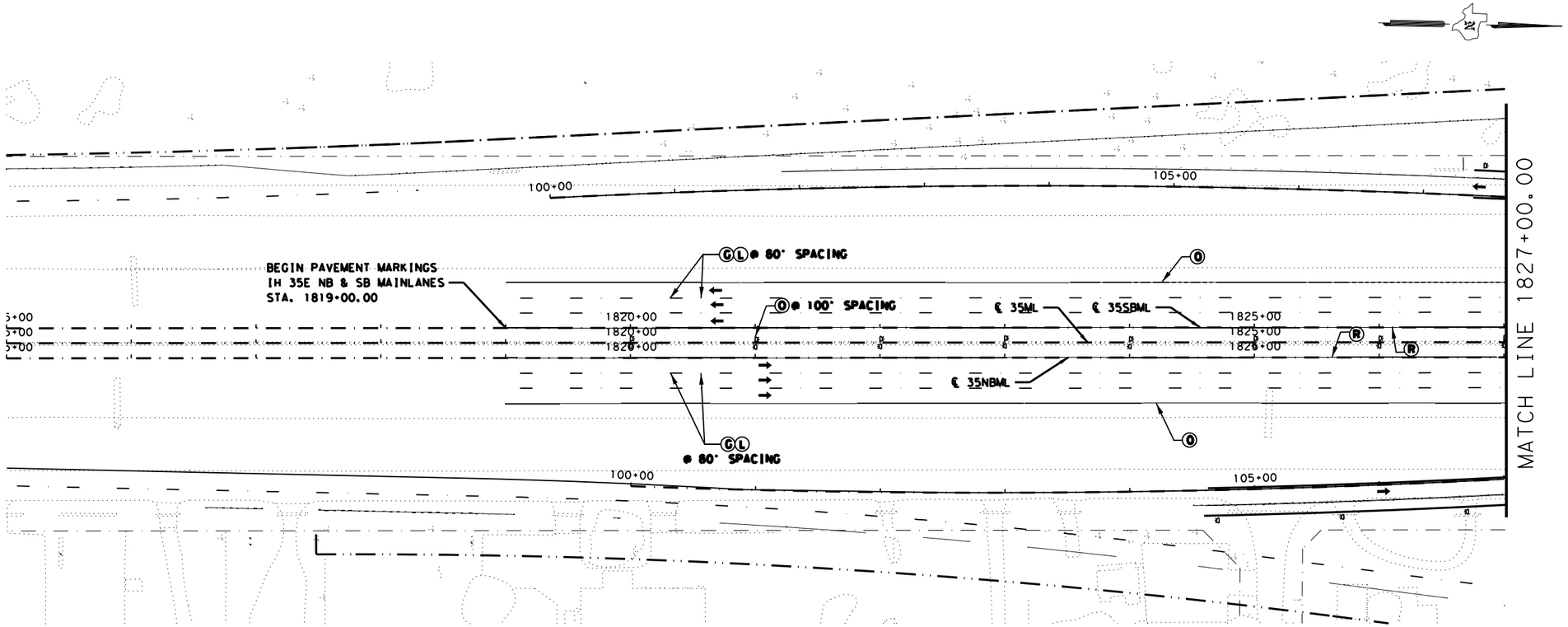
Texas Department of Transportation
Traffic Operations Division

CANTILEVER OVERHEAD SIGN SUPPORTS

COSS-Z3 & Z3I-10

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
REVISIONS			
4-10			

CONT	SECT	JOB	HIGHWAY
0442	03	042,ETC	IH35E
DIST	COUNTY		SHEET NO.
DAL	ELLIS,ETC		923



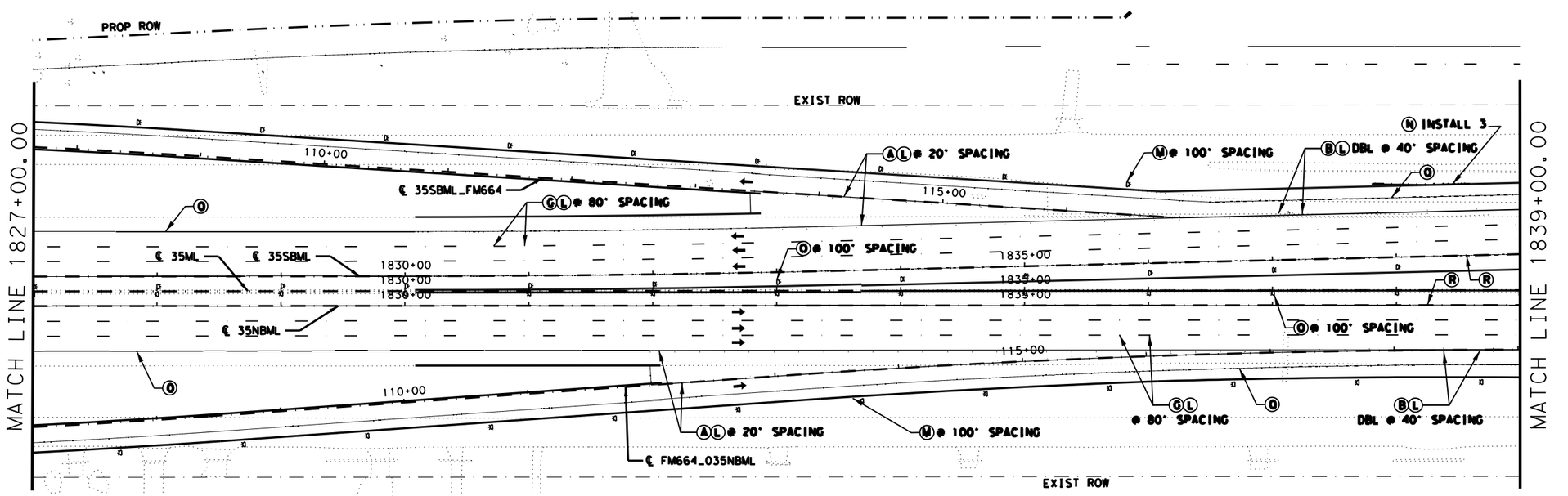
LEGEND

- (A) REFL PAV MRK TY I (W)8"(SLD)
- (B) REFL PAV MRK TY I (W)12"(SLD)
- (C) REFL PAV MRK TY I (W)12"(LNDP)
- (D) REFL PAV MRK TY I (W)(ARROW)
- (E) REFL PAV MRK TY I (W)(WORD)
- (F) REFL PAV MRK TY I (W)24"(SLD)
- (G) RE PM W/RET REQ TY I (W)6"(BRK)
- (H) RE PM W/RET REQ TY I (W)6"(SLD)
- (I) RE PM W/RET REQ TY I (Y)6"(SLD)
- (J) REFL PAV MRKR TY I-C
- (K) REFL PAV MRKR TY II-A-A
- (L) REFL PAV MRKR TY II-C-R
- (M) DEL ASSM (D-SW)SZ 2(WC)GND
- (N) DEL ASSM (D-SW)SZ (BRF)GF1
- (O) DEL ASSM (D-SY)SZ (BRF)CTB
- (P) OBJECT MARKER PLACE HOLDER
- (Q) REFL PROFILE PAV MRK TY I (W)6"(SLD)
- (R) REFL PROFILE PAV MRK TY I (Y)6"(SLD)

NOTES:

*CONCRETE PAVEMENT REQUIRES SEALER. PLACE SEALER IN THE SAME CONFIGURATION AND COLOR AS TYPE I MARKINGS. SEE SUMMARY TABLES FOR QUANTITIES.

**PROFILE PAV. MARKERS SHALL BE PLACED ON MAIN LANE AND RAMP EDGE OF TRAVELS.



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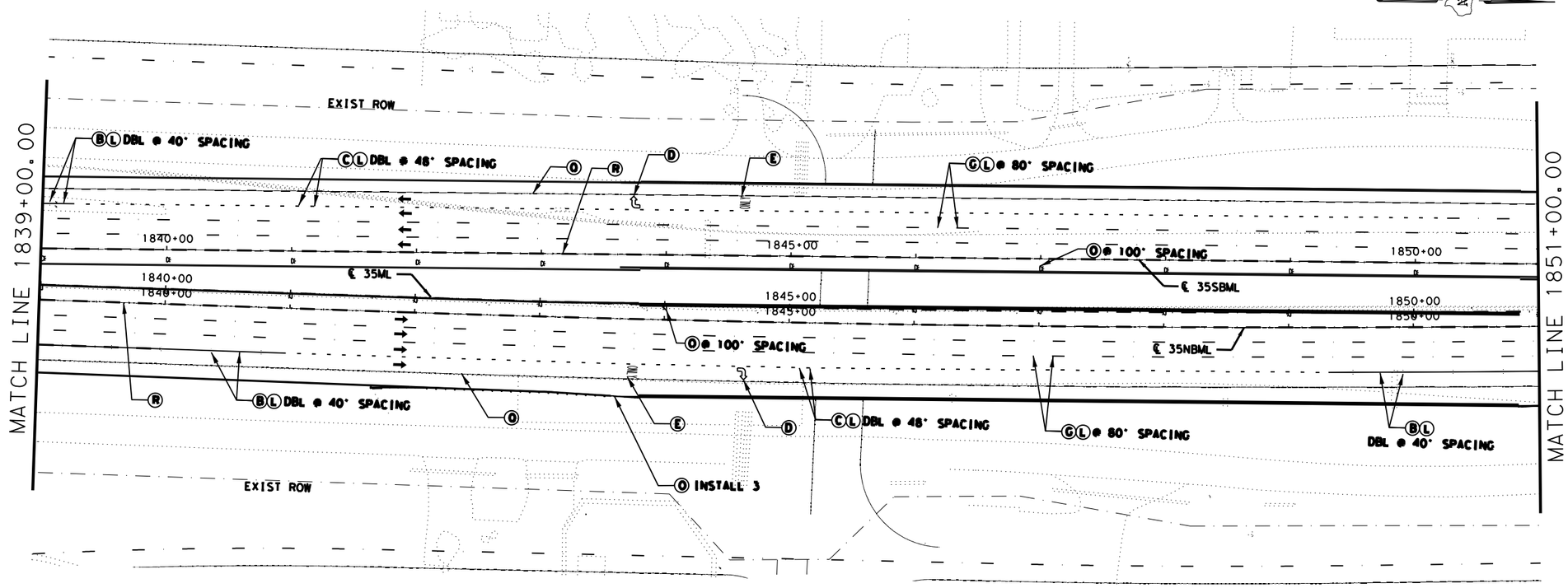
STATE OF TEXAS
M. Pauline Morre
94443
LICENSED PROFESSIONAL ENGINEER

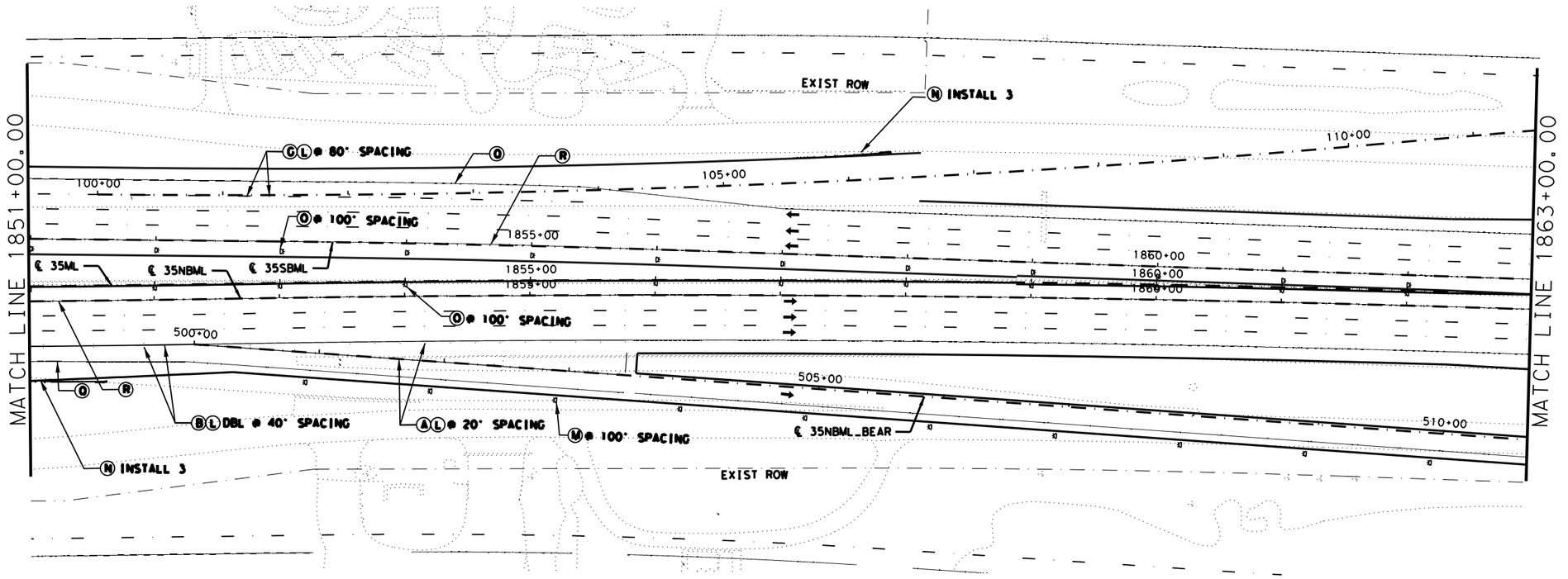
M Pauline Morre P.E.
11.29.23

IH 35E
NB/SB MAINLANE
PAVEMENT MARKINGS

SCALE: 1"=100' SHEET 1 OF 3

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW				
CHECK	TEXAS	DALLAS	ELLIS, ETC.	
ML	CONTROL	SECTION	JOB	
CHECK				924
MPM	0442	03	042,ETC.	





LEGEND

- (A) REFL PAV MRK TY I (W)8"(SLD)
- (B) REFL PAV MRK TY I (W)12"(SLD)
- (C) REFL PAV MRK TY I (W)12"(LNDP)
- (D) REFL PAV MRK TY I (W)(ARROW)
- (E) REFL PAV MRK TY I (W)(WORD)
- (F) REFL PAV MRK TY I (W)24"(SLD)
- (G) RE PM W/RET REQ TY I (W)6"(BRK)
- (H) RE PM W/RET REQ TY I (W)6"(SLD)
- (I) RE PM W/RET REQ TY I (Y)6"(SLD)
- (J) REFL PAV MRKR TY I-C
- (K) REFL PAV MRKR TY II-A-A
- (L) REFL PAV MRKR TY II-C-R
- (M) DEL ASSM (D-SW)SZ 2(WC)GND
- (N) DEL ASSM (D-SW)SZ (BRF)GF1
- (O) DEL ASSM (D-SY)SZ (BRF)CTB
- (P) OBJECT MARKER PLACE HOLDER
- (Q) REFL PROFILE PAV MRK TY I (W)6"(SLD)
- (R) REFL PROFILE PAV MRK TY I (Y)6"(SLD)

NOTES:

*CONCRETE PAVEMENT REQUIRES SEALER.PLACE SEALER IN THE SAME CONFIGURATION AND COLOR AS TYPE I MARKINGS. SEE SUMMARY TABLES FOR QUANTITIES.

**PROFILE PAV. MARKERS SHALL BE PLACED ON MAIN LANE AND RAMP EDGE OF TRAVELS.

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STATE OF TEXAS
M. Pauline Morre
94443
LICENSED PROFESSIONAL ENGINEER

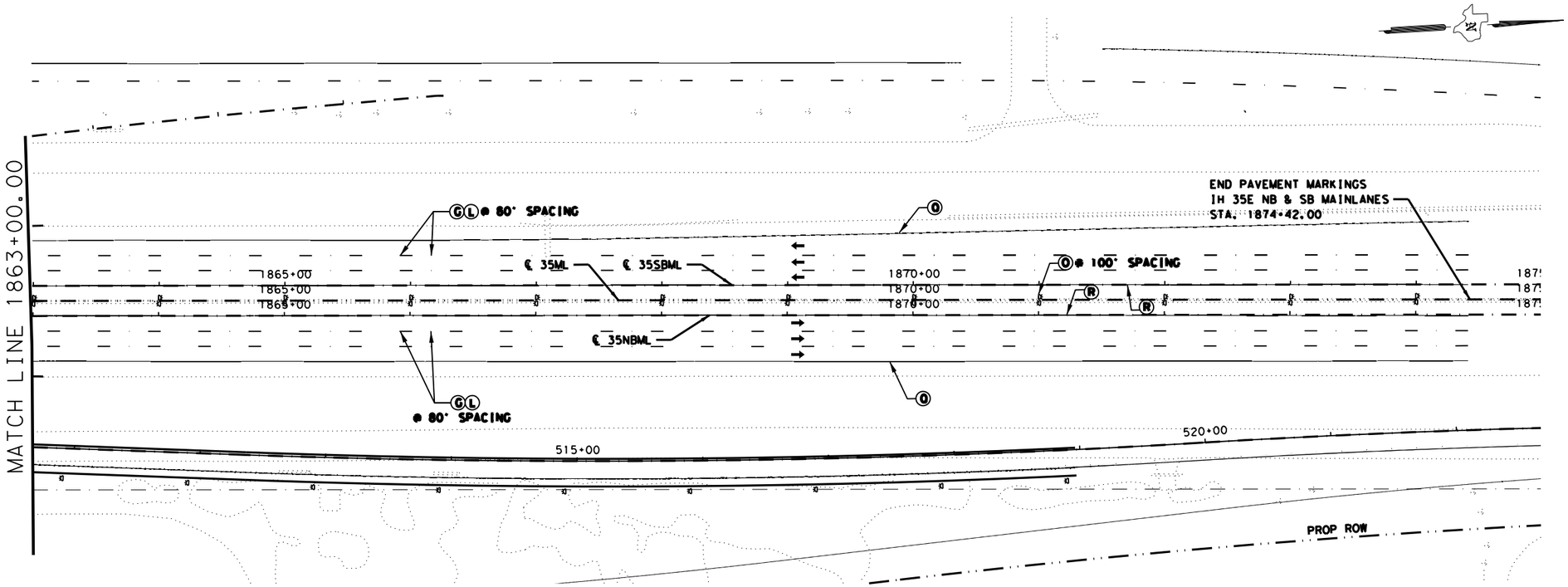
M Pauline Morre P.E. 11.29.23

Texas Department of Transportation

IH 35E
NB/SB MAINLANE
PAVEMENT MARKINGS

SCALE: 1"=100' SHEET 2 OF 3

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	925
	0442	03	042, ETC.	



LEGEND

- (A) REFL PAV MRK TY I (W)8"(SLD)
- (B) REFL PAV MRK TY I (W)12"(SLD)
- (C) REFL PAV MRK TY I (W)12"(LNDP)
- (D) REFL PAV MRK TY I (W)(ARROW)
- (E) REFL PAV MRK TY I (W)(WORD)
- (F) REFL PAV MRK TY I (W)24"(SLD)
- (G) RE PM W/RET REQ TY I (W)6"(BRK)
- (H) RE PM W/RET REQ TY I (W)6"(SLD)
- (I) RE PM W/RET REQ TY I (Y)6"(SLD)
- (J) REFL PAV MRKR TY I-C
- (K) REFL PAV MRKR TY II-A-A
- (L) REFL PAV MRKR TY II-C-R
- (M) DEL ASSM (D-SW)SZ 2(WC)GND
- (N) DEL ASSM (D-SW)SZ (BRF)GF1
- (O) DEL ASSM (D-SY)SZ (BRF)CTB
- (P) OBJECT MARKER PLACE HOLDER
- (Q) REFL PROFILE PAV MRK TY I (W)6"(SLD)
- (R) REFL PROFILE PAV MRK TY I (Y)6"(SLD)

NOTES:

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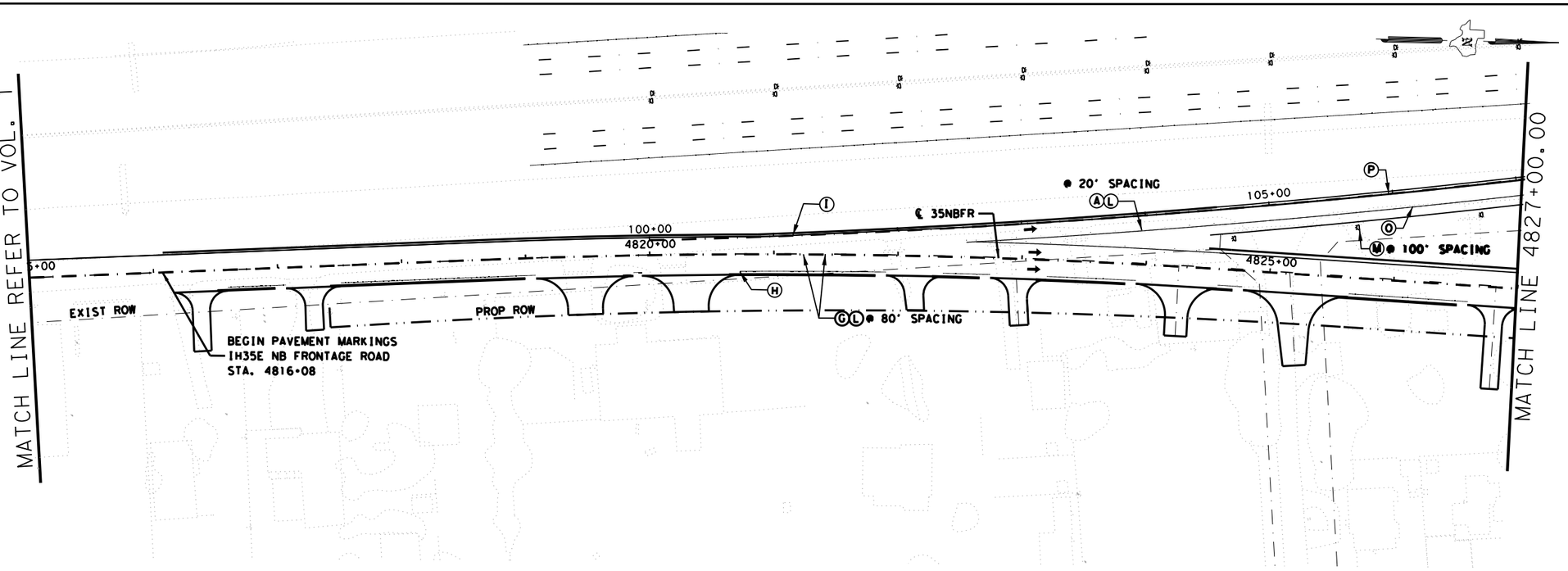
IH 35E
NB/SB MAINLANE
PAVEMENT MARKINGS

SCALE: 1"=100' SHEET 3 OF 3

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS: SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK: MPM	CONTROL	SECTION	JOB	926
	0442	03	042, ETC.	



LEGEND

- (A) REFL PAV MRK TY I (W)8"(SLD)
- (B) REFL PAV MRK TY I (W)12"(SLD)
- (C) REFL PAV MRK TY I (W)12"(LNDP)
- (D) REFL PAV MRK TY I (W)(ARROW)
- (E) REFL PAV MRK TY I (W)(WORD)
- (F) REFL PAV MRK TY I (W)24"(SLD)
- (G) RE PM W/RET REQ TY I (W)6"(BRK)
- (H) RE PM W/RET REQ TY I (W)6"(SLD)
- (I) RE PM W/RET REQ TY I (Y)6"(SLD)
- (J) REFL PAV MRKR TY I-C
- (K) REFL PAV MRKR TY II-A-A
- (L) REFL PAV MRKR TY II-C-R
- (M) DEL ASSM (D-SW)SZ 2(WC)GND
- (N) OBJECT MARKER PLACE HOLDER
- (O) REFL PROFILE PAV MRK TY I (W) 6"(SLD)
- (P) REFL PROFILE PAV MRK TY I (Y) 6"(SLD)
- (Q) RE PM W/RET REQ TY I (Y)6"(BRK)

NOTES:

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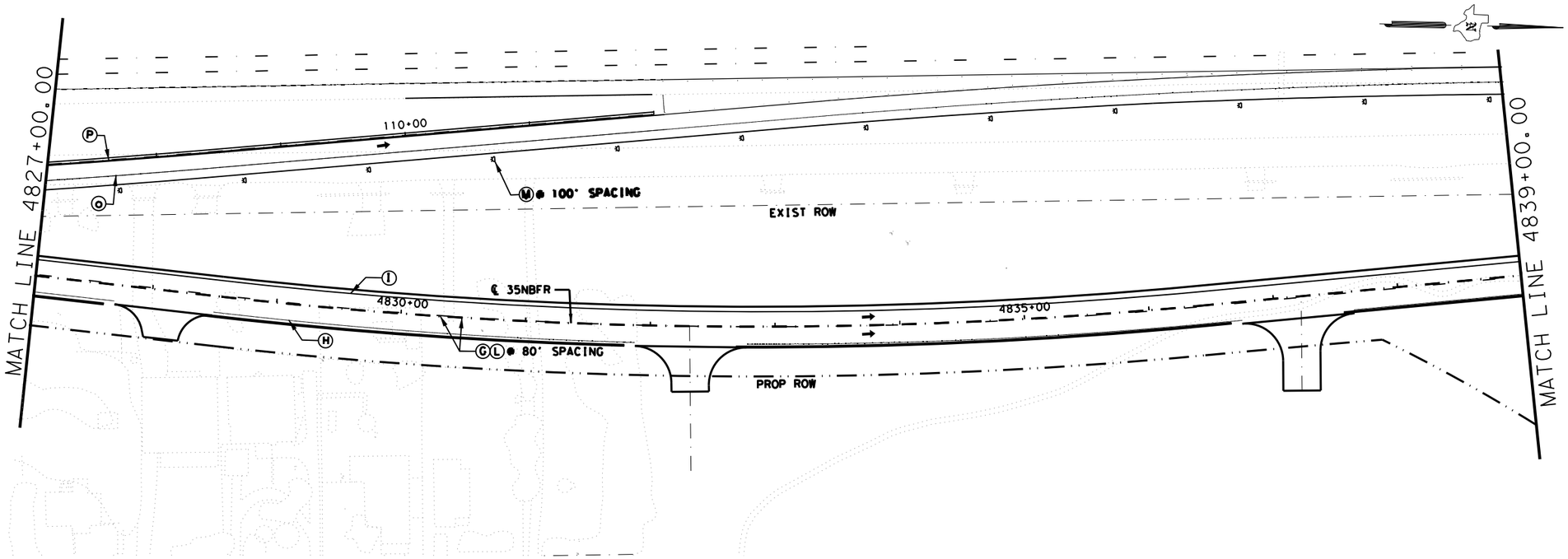

M. Pauline Morre
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STATE OF TEXAS

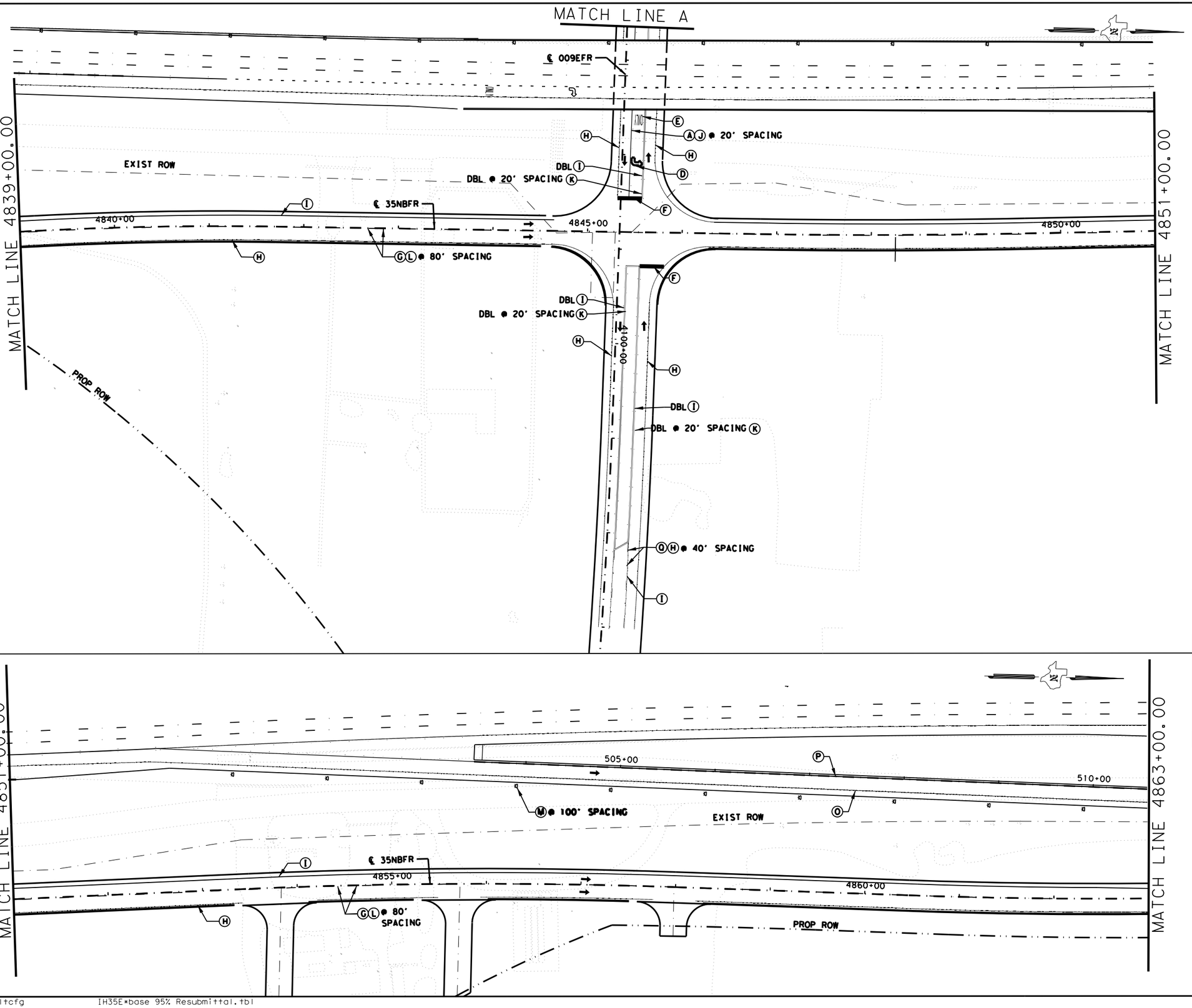
M Pauline Morre P.E. 11.29.23

Texas Department of Transportation

IH35E
NB FRONTAGE ROAD
PAVEMENT MARKINGS

SCALE: 1"=100' SHEET 1 OF 3

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	927
CHECK				
MPM				



LEGEND

- Ⓐ REFL PAV MRK TY I (W)8"(SLD)
- Ⓑ REFL PAV MRK TY I (W)12"(SLD)
- Ⓒ REFL PAV MRK TY I (W)12"(LNDP)
- Ⓓ REFL PAV MRK TY I (W)(ARROW)
- Ⓔ REFL PAV MRK TY I (W)(WORD)
- Ⓕ REFL PAV MRK TY I (W)24"(SLD)
- Ⓖ RE PM W/RET REQ TY I (W)6"(BRK)
- Ⓗ RE PM W/RET REQ TY I (W)6"(SLD)
- Ⓘ RE PM W/RET REQ TY I (Y)6"(SLD)
- Ⓙ REFL PAV MRKR TY I-C
- Ⓚ REFL PAV MRKR TY II-A-A
- Ⓛ REFL PAV MRKR TY II-C-R
- Ⓜ DEL ASSM (D-SW)SZ 2(WC)GND
- Ⓝ OBJECT MARKER PLACE HOLDER
- Ⓞ REFL PROFILE PAV MRK TY I (W) 6"(SLD)
- Ⓟ REFL PROFILE PAV MRK TY I (Y) 6"(SLD)
- Ⓠ RE PM W/RET REQ TY I (Y)6"(BRK)

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NOTES:

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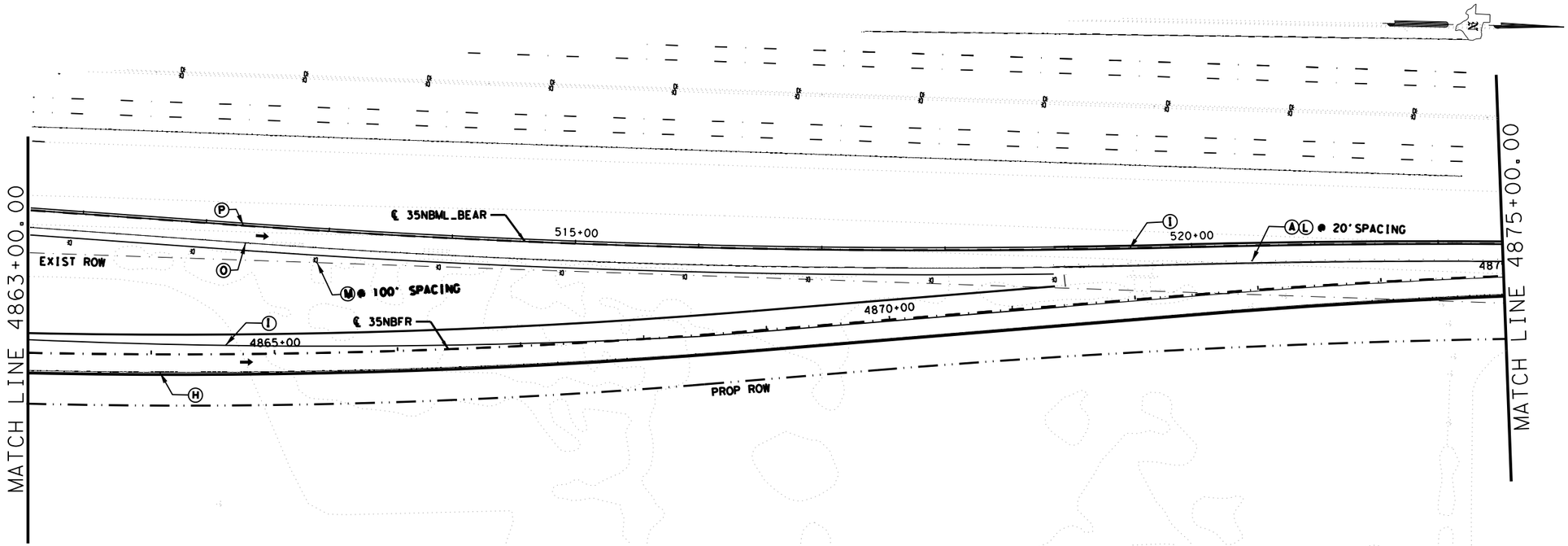
Texas Department of Transportation

IH35E
NB FRONTAGE ROAD
PAVEMENT MARKINGS

SCALE: 1"=100' SHEET 2 OF 3

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK ML	CONTROL	SECTION	JOB	928
CHECK MPM	0442	03	042, ETC.	



LEGEND

- Ⓐ REFL PAV MRK TY I (W)8"(SLD)
- Ⓑ REFL PAV MRK TY I (W)12"(SLD)
- Ⓒ REFL PAV MRK TY I (W)12"(LNDP)
- Ⓓ REFL PAV MRK TY I (W)(ARROW)
- Ⓔ REFL PAV MRK TY I (W)(WORD)
- Ⓕ REFL PAV MRK TY I (W)24"(SLD)
- Ⓖ RE PM W/RET REQ TY I (W)6"(BRK)
- Ⓗ RE PM W/RET REQ TY I (W)6"(SLD)
- Ⓘ RE PM W/RET REQ TY I (Y)6"(SLD)
- Ⓙ REFL PAV MRKR TY I-C
- Ⓚ REFL PAV MRKR TY II-A-A
- Ⓛ REFL PAV MRKR TY II-C-R
- Ⓜ DEL ASSM (D-SW)SZ 2(WC)GND
- Ⓝ OBJECT MARKER PLACE HOLDER
- Ⓞ REFL PROFILE PAV MRK TY I (W) 6"(SLD)
- Ⓟ REFL PROFILE PAV MRK TY I (Y) 6"(SLD)
- Ⓠ RE PM W/RET REQ TY I (Y)6"(BRK)

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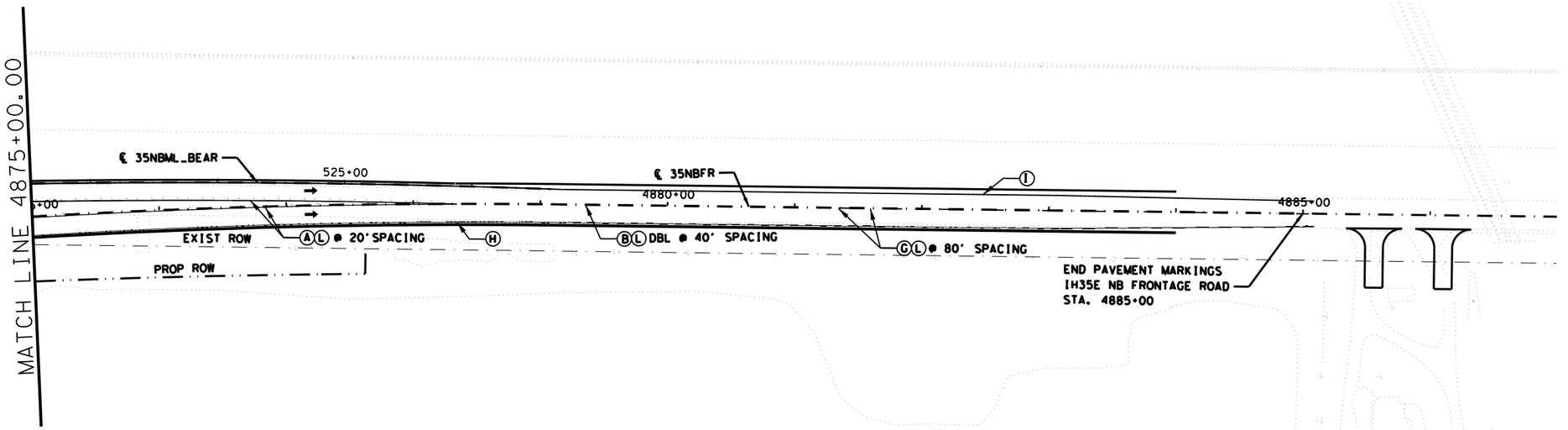

M. Pauline Morre
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LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

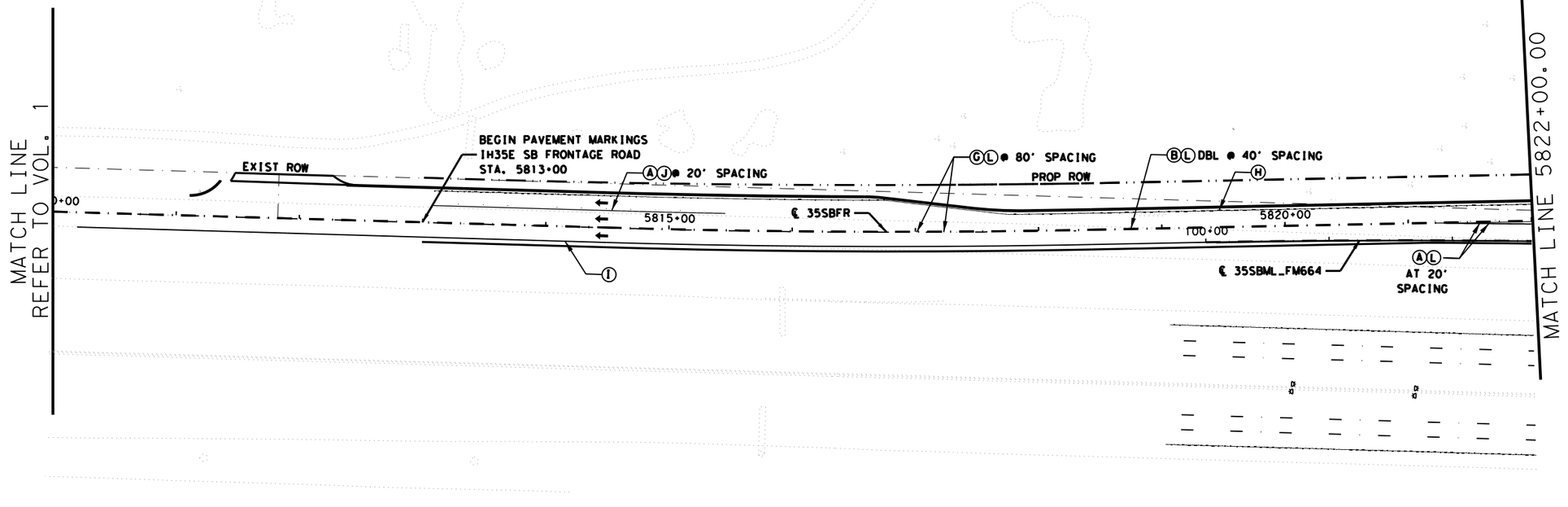
M Pauline Morre P.E. 11.29.23

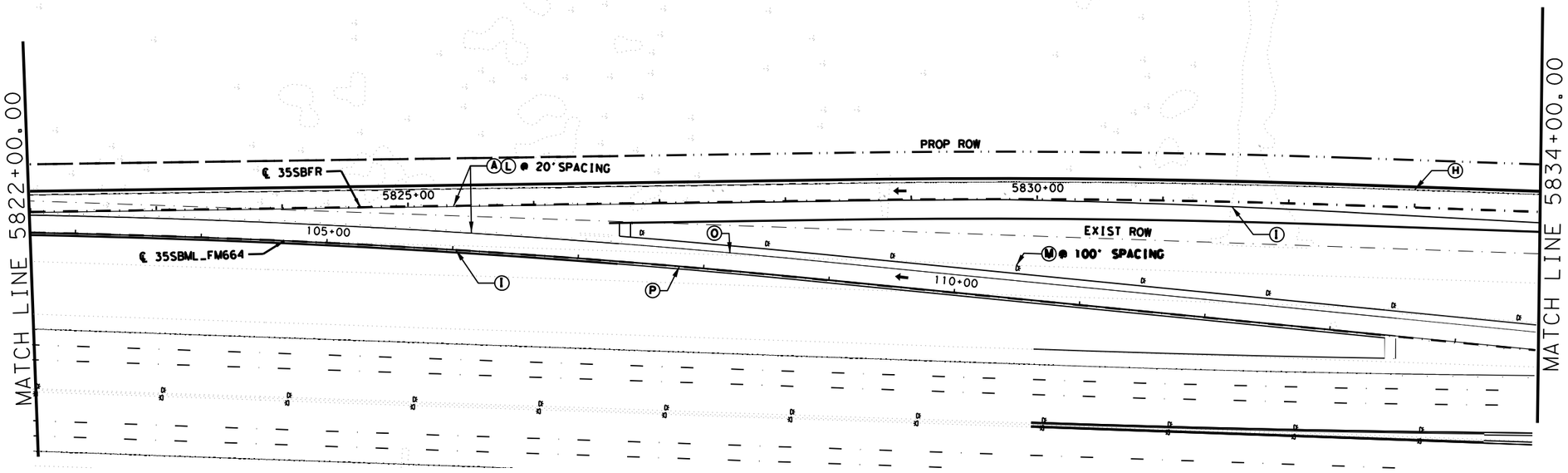
Texas Department of Transportation

IH35E
NB FRONTAGE ROAD
PAVEMENT MARKINGS

SCALE: 1"=100' SHEET 3 OF 3

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW	TEXAS	DALLAS	ELLIS, ETC.	
CHECK	CONTROL	SECTION	JOB	
ML	0442	03	042,ETC.	929
CHECK				
MPM				





LEGEND

- (A) REFL PAV MRK TY I (W)8"(SLD)
- (B) REFL PAV MRK TY I (W)12"(SLD)
- (C) REFL PAV MRK TY I (W)12"(LNDP)
- (D) REFL PAV MRK TY I (W)(ARROW)
- (E) REFL PAV MRK TY I (W)(WORD)
- (F) REFL PAV MRK TY I (W)24"(SLD)
- (G) RE PM W/RET REQ TY I (W)6"(BRK)
- (H) RE PM W/RET REQ TY I (W)6"(SLD)
- (I) RE PM W/RET REQ TY I (Y)6"(SLD)
- (J) REFL PAV MRKR TY I-C
- (K) REFL PAV MRKR TY II-A-A
- (L) REFL PAV MRKR TY II-C-R
- (M) DEL ASSM (D-SW)SZ 2(WC)GND
- (N) OBJECT MARKER PLACE HOLDER
- (O) REFL PROFILE PAV MRK TY I (W) 6"(SLD)
- (P) REFL PROFILE PAV MRK TY I (Y) 6"(SLD)
- (Q) RE PM W/RET REQ TY I (Y)6"(BRK)

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**PROFILE MARKERS SHALLBE PLACED ON MAIN LANE AND RAMP EDGE OF TRAVELS.

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STATE OF TEXAS
M. Pauline Morrel
94443
LICENSED PROFESSIONAL ENGINEER

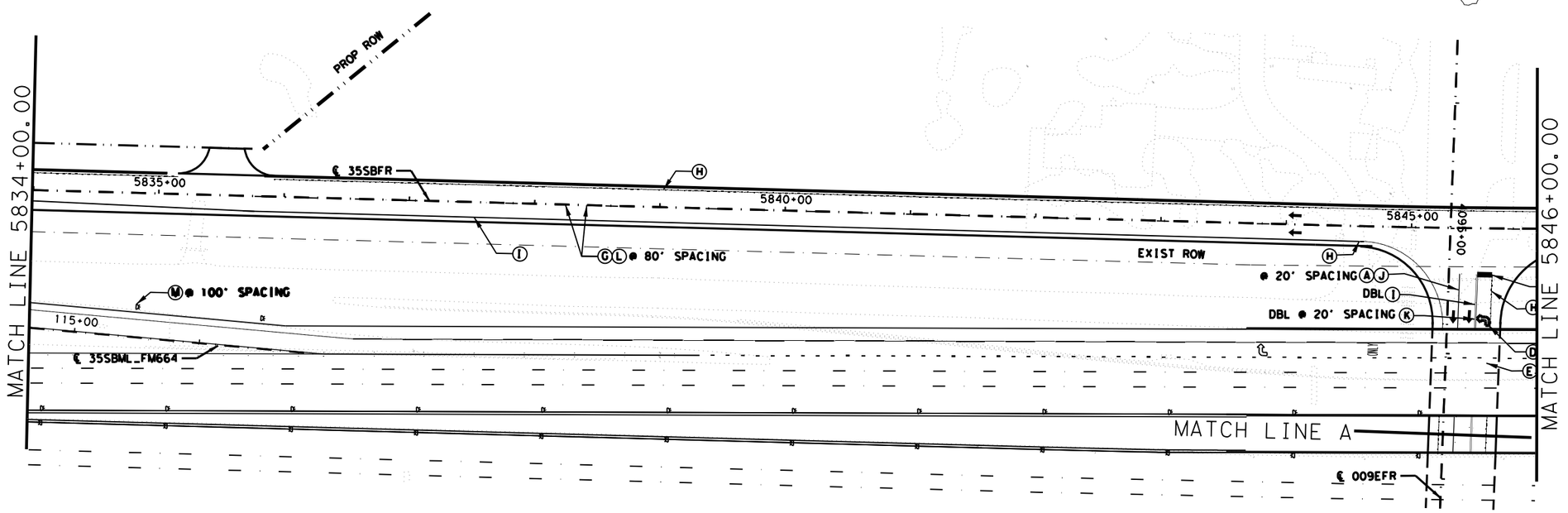
M Pauline Morrel P.E. 11.29.23

Texas Department of Transportation

IH35E
SB FRONTAGE ROAD
PAVEMENT MARKINGS

SCALE: 1"=100' SHEET 1 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS: SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK: MPM	CONTROL	SECTION	JOB	930
	0442	03	042, ETC.	



LEGEND

- (A) REFL PAV MRK TY I (W)8"(SLD)
- (B) REFL PAV MRK TY I (W)12"(SLD)
- (C) REFL PAV MRK TY I (W)12"(LNDP)
- (D) REFL PAV MRK TY I (W)(ARROW)
- (E) REFL PAV MRK TY I (W)(WORD)
- (F) REFL PAV MRK TY I (W)24"(SLD)
- (G) RE PM W/RET REQ TY I (W)6"(BRK)
- (H) RE PM W/RET REQ TY I (W)6"(SLD)
- (I) RE PM W/RET REQ TY I (Y)6"(SLD)
- (J) REFL PAV MRKR TY I-C
- (K) REFL PAV MRKR TY II-A-A
- (L) REFL PAV MRKR TY II-C-R
- (M) DEL ASSM (D-SW)SZ 2(WC)GND
- (N) OBJECT MARKER PLACE HOLDER
- (O) REFL PROFILE PAV MRK TY I (W) 6"(SLD)
- (P) REFL PROFILE PAV MRK TY I (Y) 6"(SLD)
- (Q) RE PM W/RET REQ TY I (Y)6"(BRK)

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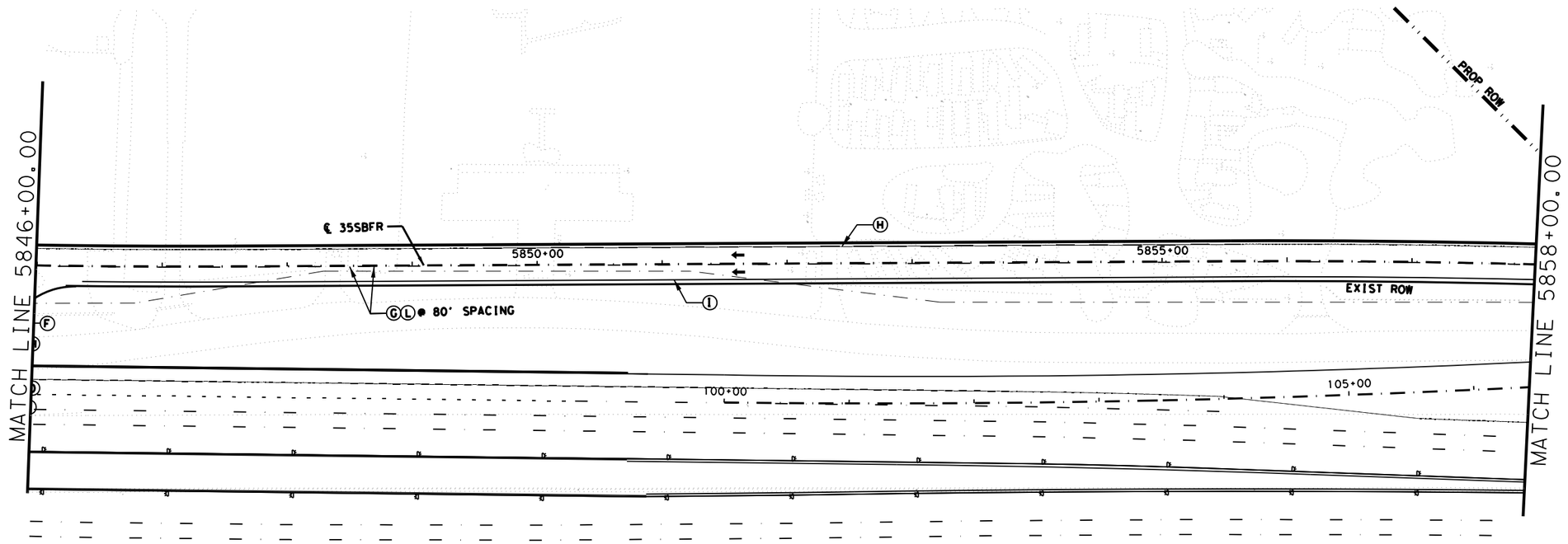

STATE OF TEXAS
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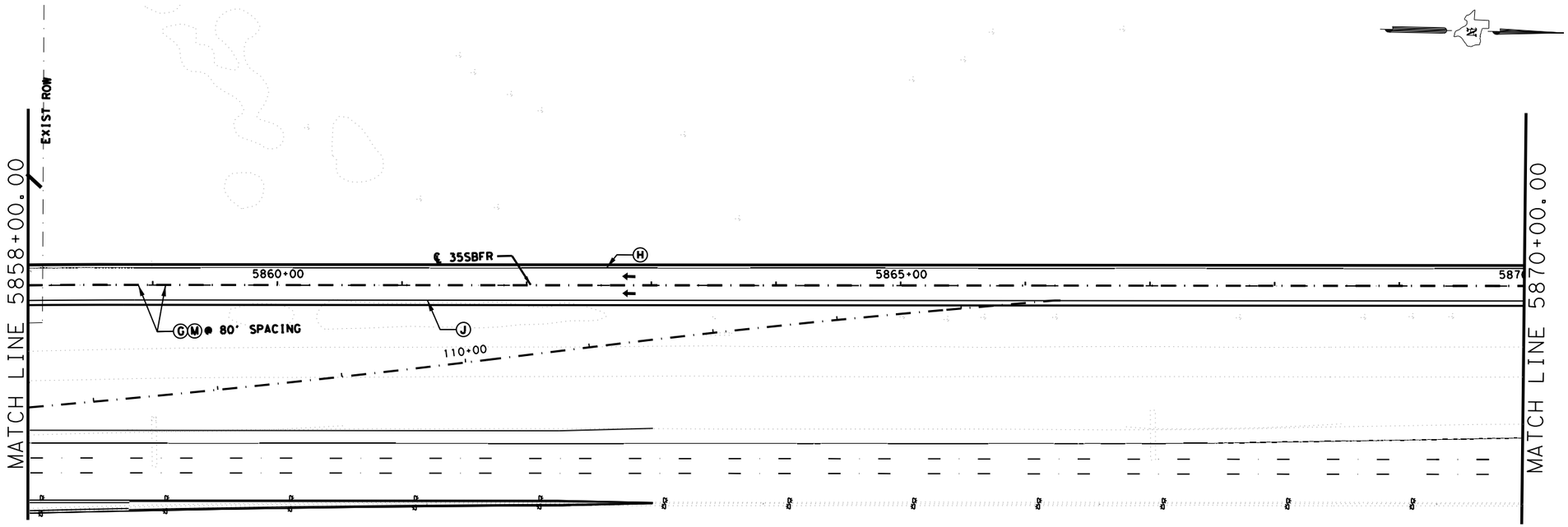
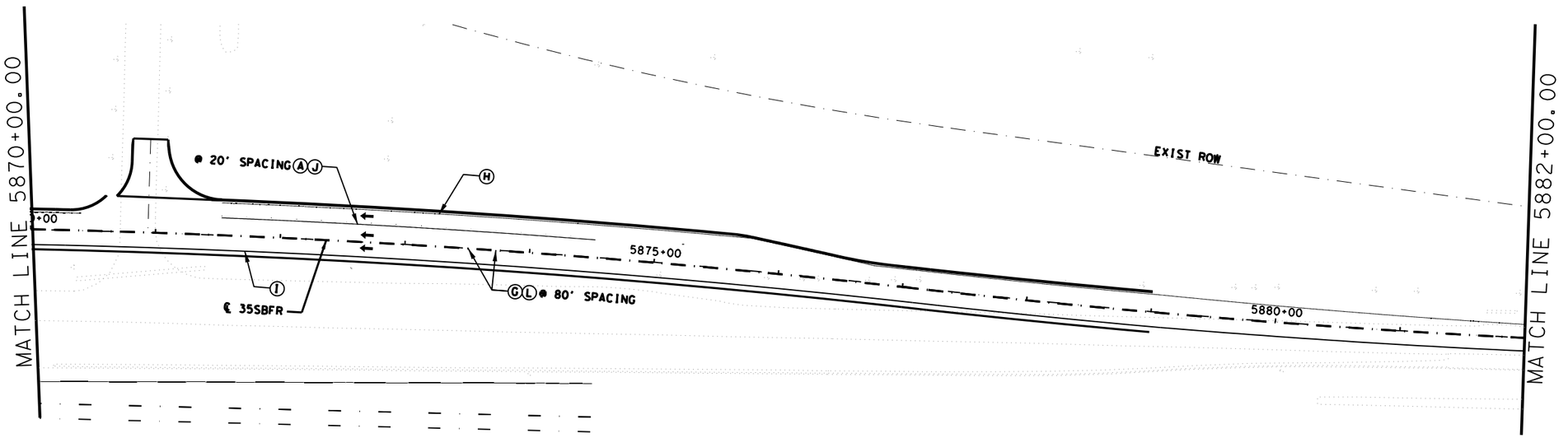
Texas Department of Transportation

IH35E
SB FRONTAGE ROAD
PAVEMENT MARKINGS

SCALE: 1"=100' SHEET 2 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SW				
CHECK	TEXAS	DALLAS	ELLIS, ETC.	
ML	CONTROL	SECTION	JOB	
CHECK	0442	03	042, ETC.	931
MPM				





LEGEND

- Ⓐ REFL PAV MRK TY I (W)8"(SLD)
- Ⓑ REFL PAV MRK TY I (W)12"(SLD)
- Ⓒ REFL PAV MRK TY I (W)12"(LNDP)
- Ⓓ REFL PAV MRK TY I (W)(ARROW)
- Ⓔ REFL PAV MRK TY I (W)(WORD)
- Ⓕ REFL PAV MRK TY I (W)24"(SLD)
- Ⓖ RE PM W/RET REQ TY I (W)6"(BRK)
- Ⓗ RE PM W/RET REQ TY I (W)6"(SLD)
- Ⓘ RE PM W/RET REQ TY I (Y)6"(SLD)
- Ⓙ REFL PAV MRKR TY I-C
- Ⓚ REFL PAV MRKR TY II-A-A
- Ⓛ REFL PAV MRKR TY II-C-R
- Ⓜ DEL ASSM (D-SW)SZ 2(WC)GND
- Ⓝ OBJECT MARKER PLACE HOLDER
- Ⓞ REFL PROFILE PAV MRK TY I (W) 6"(SLD)
- Ⓟ REFL PROFILE PAV MRK TY I (Y) 6"(SLD)
- Ⓠ RE PM W/RET REQ TY I (Y)6"(BRK)

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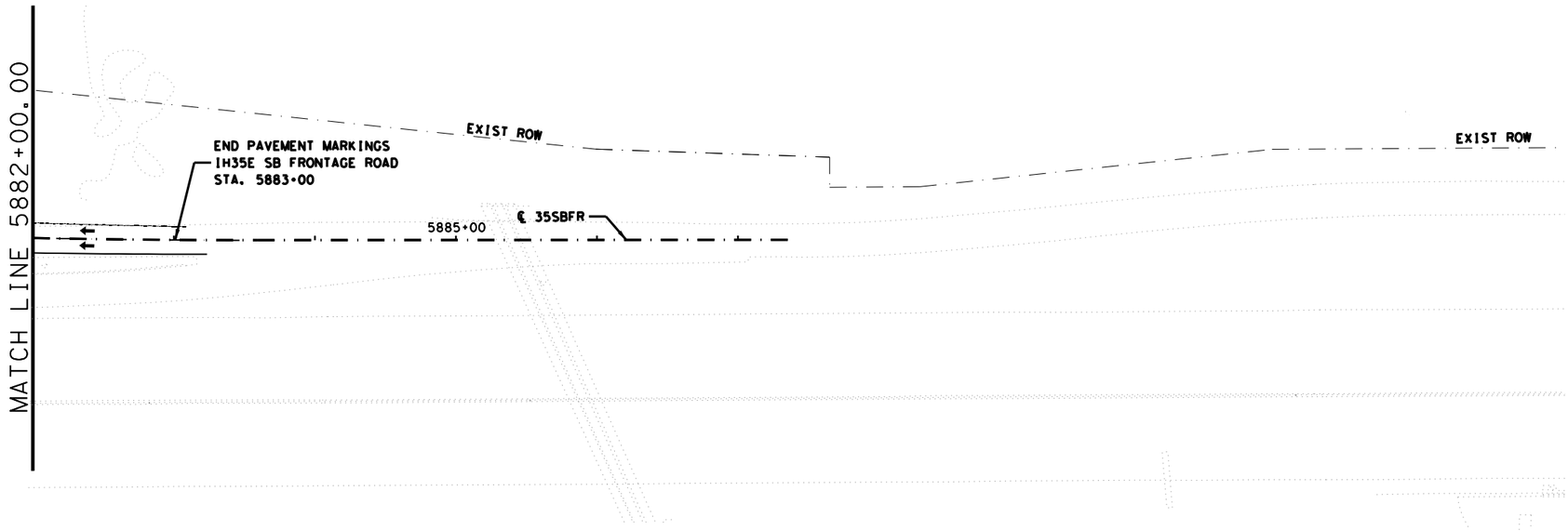
IH35E
SB FRONTAGE ROAD
PAVEMENT MARKINGS

SCALE: 1"=100' SHEET 3 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK MPM	CONTROL	SECTION	JOB	932
	0442	03	042,ETC.	



LEGEND

- (A) REFL PAV MRK TY I (W)8"(SLD)
- (B) REFL PAV MRK TY I (W)12"(SLD)
- (C) REFL PAV MRK TY I (W)12"(LNDP)
- (D) REFL PAV MRK TY I (W)(ARROW)
- (E) REFL PAV MRK TY I (W)(WORD)
- (F) REFL PAV MRK TY I (W)24"(SLD)
- (G) RE PM W/RET REQ TY I (W)6"(BRK)
- (H) RE PM W/RET REQ TY I (W)6"(SLD)
- (I) RE PM W/RET REQ TY I (Y)6"(SLD)
- (J) REFL PAV MRKR TY I-C
- (K) REFL PAV MRKR TY II-A-A
- (L) REFL PAV MRKR TY II-C-R
- (M) DEL ASSM (D-SW)SZ 2(WC)GND
- (N) OBJECT MARKER PLACE HOLDER
- (O) REFL PROFILE PAV MRK TY I (W) 6"(SLD)
- (P) REFL PROFILE PAV MRK TY I (Y) 6"(SLD)
- (Q) RE PM W/RET REQ TY I (Y)6"(BRK)

*CONCRETE PAVEMENT REQUIRES SEALER. PLACE SEALER IN THE SAME CONFIGURATION AND COLOR AS TYPE I MARKINGS. SEE SUMMARY TABLES FOR QUANTITIES.

**PROFILE MARKERS SHALLBE PLACED ON MAIN LANE AND RAMP EDGE OF TRAVELS.

AABDALLA

STATE OF TEXAS
M. Pauline Morrel
94443
LICENSED PROFESSIONAL ENGINEER

M Pauline Morrel P.E. 11.29.23

Texas Department of Transportation

IH35E
SB FRONTAGE ROAD
PAVEMENT MARKINGS

SCALE: 1"=100' SHEET 4 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
SW	6	SEE TITLESHEET		IH35E
GRAPHICS: SW	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: ML	TEXAS	DALLAS	ELLIS, ETC.	
CHECK: MPM	CONTROL	SECTION	JOB	933
	0442	03	042,ETC.	