



ENGINEERING DESIGN

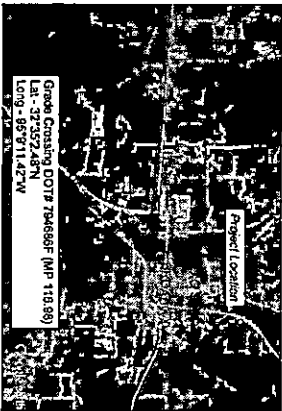


State of Texas

Project Location



DAVID EVANS
and ASSOCIATES Inc.
500 Oliver Street, Suite 200
Newport News, VA 23601
Phone: (804) 777-2000
Texas Registered Engineering Firm F-3543



Grade Crossing DOT# 704880F (MP 113.89)
Sta. -3+5271.42+00
Long - 2+1+42.91+00

Project Location

PROJECT LOCATION MAP
BIG SANDY, TX 77020

BIG SANDY, TEXAS MINEOLA SUBDIVISION M.P. 113.76 TO 116.74 BIG SANDY SIDING EXTENSION

EAST ROAD ALIGNMENT 100% DESIGN

LAST REVISED
NOVEMBER 08, 2021

NOT FOR CONSTRUCTION

WORK ORDER: 29543
PROJECT NUMBER: P0502
BUDGET REFERENCE: 15CP040

FILED
TERRI ROSS
COUNTY CLERK
2021 NOV 15 AM 11:48
PUSHKOR COUNTY, TX.
DEPUTY

<u>PROJECT DESIGN</u>	<u>DESCRIPTION</u>
Q001	COVER SHEET WITH VICINITY MAP
Q002	PROJECT INDEX & REVISION SHEET
Q003	GENERAL NOTES & PROJECT CONTACTS
Q004	ABBREVIATIONS & LEGEND
Q005	CONTROL POINTS, GEOMETRY, & KEY MAP
R001 TO R002	NOT USED
R003 TO R015	EAST ROADWAY PLAN & PROFILES
R016 TO R017	NOT USED
R018	EAST ROADWAY PLAN & PROFILES
R019	EAST ROADWAY ALIGNMENTS
C001 TO C003	NOT USED
C004 TO C005	CULVERT PLAN AND PROFILES
C006	NOT USED
C007 TO C013	CULVERT PLAN AND PROFILES
T001 TO T003	NOT USED
T004 TO T006	TYPICAL SECTION
E0001 TO E0003	NOT USED
E0004 TO E0014	EROSION CONTROL
X001 TO X004	CROSS SECTIONS

<u>STRUCTURES DESIGN</u>	<u>DESCRIPTION</u>
CULVERT 115.04	
S1	GENERAL ARRANGEMENT
S2	SECTION VIEW AND BILL OF MATERIAL
S3	JUNCTION BOX DETAILS (1 OF 2)
S4	JUNCTION BOX DETAILS (2 OF 2)
CULVERT 116.37	
S1	GENERAL ARRANGEMENT
S2	SECTION VIEW AND BILL OF MATERIAL

<u>STANDARDS</u>	<u>DESCRIPTION</u>
680000	DETAILS FOR ROUND STEEL PIPE CULVERTS (2 OF 3)
680000	GENERAL NOTES FOR ROUND STEEL PIPE CULVERTS (3 OF 3)
680010	CONSTRUCTION NOTES AND TABLE FOR SMOOTH STEEL PIPE CULVERTS
680021	CONSTRUCTION NOTES FOR CORRUGATED METAL PIPE CULVERTS (1 OF 2)
680021	TABLES FOR CORRUGATED METAL PIPE CULVERTS (2 OF 2)
631100	PIPE FABRICATION NOTES

PROJECT REVISIONS				
REV. #	BY	DATE	SHEET:	DESCRIPTION

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DAVID EVANS AND ASSOCIATES INC.
 2645 Greenway Plaza, Suite 804
 College Station, TX 77845
 Phone: 879.377.2900



DRAWN BY: RES CHECKED BY: RFG DATE: 11/8/2021 SHEET NUMBER: Q003 of Q005	UNION PACIFIC RAILROAD LOCATION & DESCRIPTION: BIG SANDY, TX MINERAL SUPERVISION #113.78 - 116.74 SHEET TITLE: PROJECT INDEX & REVISIONS
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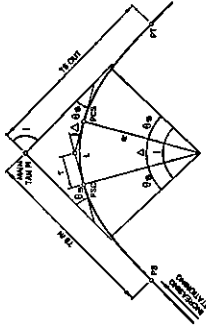
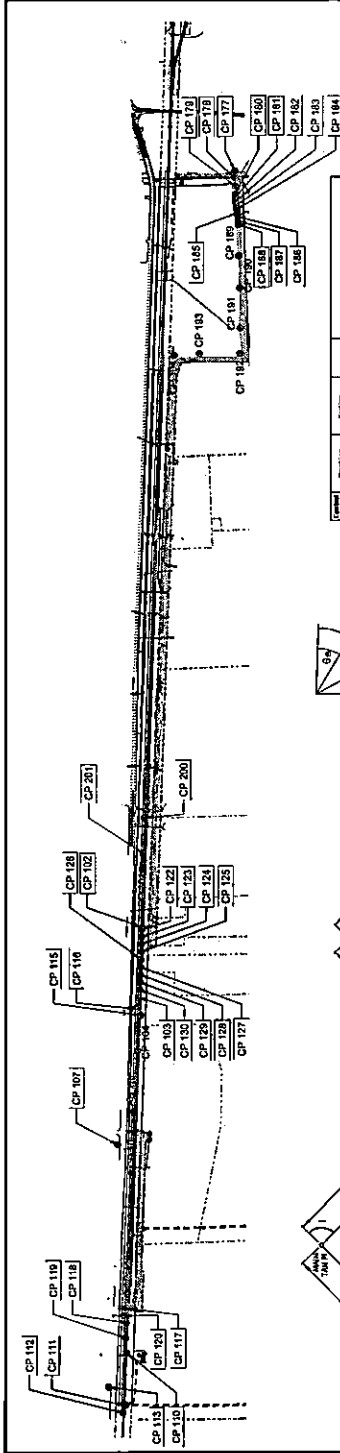


FIGURE A
CIRCULAR CURVES
WITH SPIRAL TRANSITION

- I - TOTAL INTERSECTION ANGLE
- θ_s - SPIRAL ANGLE = $\frac{\Delta I}{2}$
- Δ - CENTRAL ANGLE OF CIRCULAR CURVE = $\frac{360}{L}$
- Δ_c - DEGREE OF CHANGE OF CURVE PER FEET OF LENGTH = $\frac{\Delta}{L}$
- R - RADIUS OF CIRCULAR CURVE
- L - LENGTH OF CIRCULAR CURVE = $\frac{360R}{\Delta}$
- T - TANGENT LENGTH OF CIRCULAR CURVE = $R \tan \frac{\Delta}{2}$
- L_s - LENGTH OF CIRCULAR CURVE = $\frac{360}{\Delta_c} = 110$
- PS - TANGENT TO SPIRAL
- PC - SPIRAL TO CURVE
- PT - CURVE TO SPIRAL
- PE - SPIRAL TO TANGENT
- PI - POINT OF INTERSECTION OF TANGENT LINES
- CI - INTRUSION
- CI₁ IN - TANGENT LENGTH OF COMPLETE CURVE = $(R + \frac{L_s}{2}) \tan \frac{I}{2}$
- CI₂ IN - TANGENT LENGTH OF COMPLETE CURVE = $(R + \frac{L_s}{2}) \tan \frac{I}{2}$
- CI₃ IN - TANGENT LENGTH OF COMPLETE CURVE = $(R + \frac{L_s}{2}) \tan \frac{I}{2}$
- CI₄ IN - TANGENT LENGTH OF COMPLETE CURVE = $(R + \frac{L_s}{2}) \tan \frac{I}{2}$
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- CI₁₉ IN - TANGENT LENGTH OF COMPLETE CURVE = $(R + \frac{L_s}{2}) \tan \frac{I}{2}$
- CI₂₀ IN - TANGENT LENGTH OF COMPLETE CURVE = $(R + \frac{L_s}{2}) \tan \frac{I}{2}$

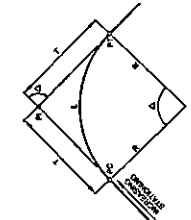


FIGURE B
SIMPLE CIRCULAR CURVE

- R - RADIUS OF CIRCULAR CURVE
- Δ - CENTRAL ANGLE OF CIRCULAR CURVE
- T - $T = R \tan \frac{\Delta}{2}$
- L - $L = \frac{\pi R \Delta}{180}$
- C - $C = 2R \sin \frac{\Delta}{2}$
- Δ_c - DEGREE OF CHANGE OF CURVE PER FEET OF LENGTH = $\frac{\Delta}{L}$

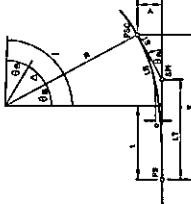


FIGURE C
SPIRAL TRANSITION CURVE

- L - LENGTH OF SPIRAL (15 TO 300 FEET)
- θ_s - $\theta_s = \frac{\Delta I}{2}$
- X - $X = 101.1 - 0.000074 L^2$
- Y - $Y = 0.000074 L^2$
- Z - $Z = 0.000074 L^2$
- W - $W = 0.000074 L^2$
- V - $V = 0.000074 L^2$
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- T - $T = 0.000074 L^2$
- S - $S = 0.000074 L^2$
- R - $R = 0.000074 L^2$
- Q - $Q = 0.000074 L^2$
- P - $P = 0.000074 L^2$
- O - $O = 0.000074 L^2$
- N - $N = 0.000074 L^2$
- M - $M = 0.000074 L^2$
- L - $L = 0.000074 L^2$
- K - $K = 0.000074 L^2$
- J - $J = 0.000074 L^2$
- I - $I = 0.000074 L^2$
- H - $H = 0.000074 L^2$
- G - $G = 0.000074 L^2$
- F - $F = 0.000074 L^2$
- E - $E = 0.000074 L^2$
- D - $D = 0.000074 L^2$
- C - $C = 0.000074 L^2$
- B - $B = 0.000074 L^2$
- A - $A = 0.000074 L^2$

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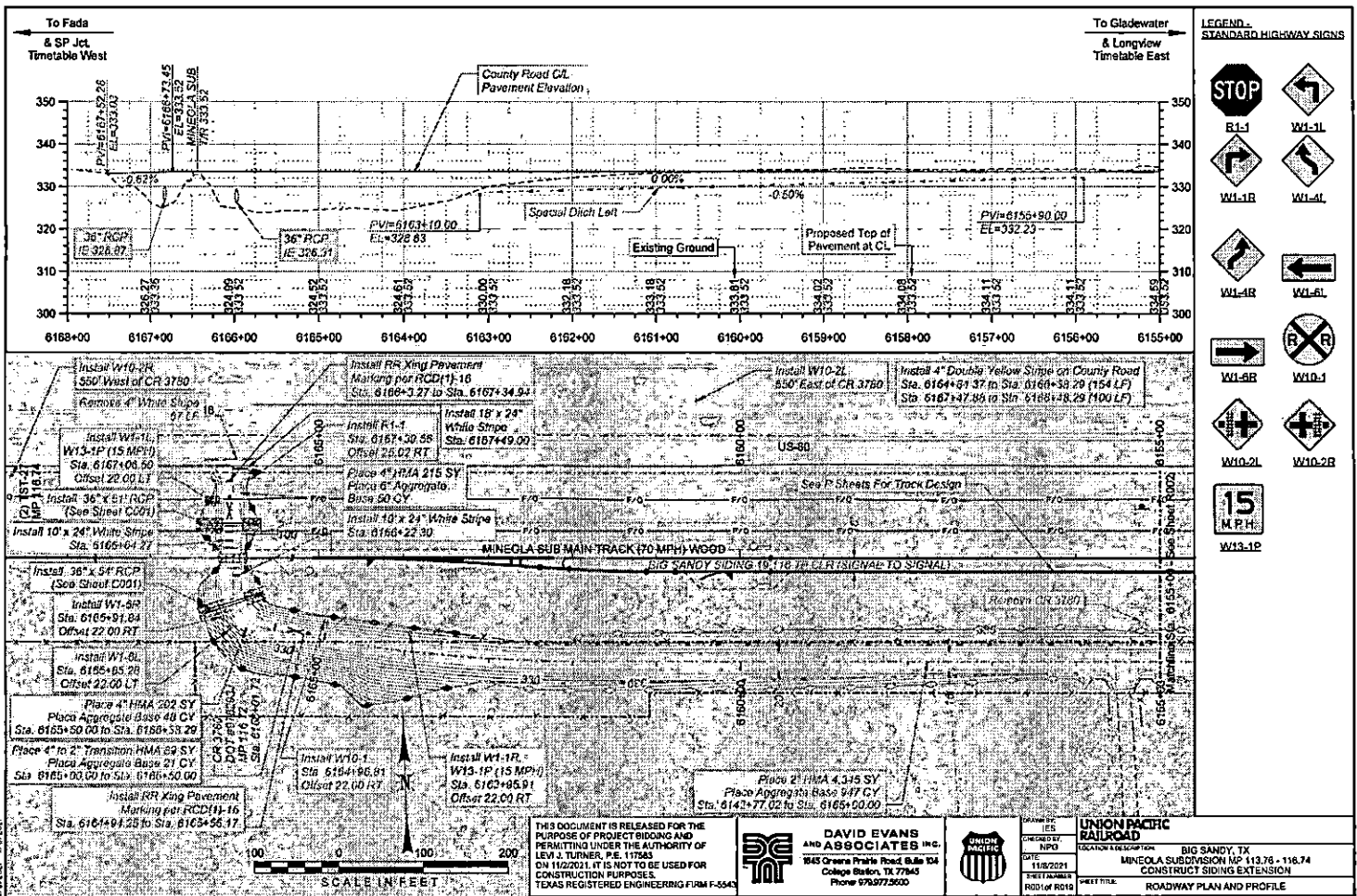
DAVID EVANS AND ASSOCIATES INC.
3811 Green Park Road, Suite 404
Dallas, Texas 75246
Phone: 972-727-2200

UNION PACIFIC
RAILROAD

PROJECT NO. 1192701
DATE: 11/20/01
SHEET 11 OF 100

CONTRACT EAST ROAD ALIGNMENT
BIG SANDY, TX
MINOR & SUPERVISION MP 115.78 - 116.74
CONTROL POINTS, GEOMETRY, & MET MAP

100% DESIGN
NOT FOR CONSTRUCTION



LEGEND - STANDARD HIGHWAY SIGNS

- STOP
- W1-L
- W1-1L
- W1-R
- W1-1R
- W1-4L
- W1-4R
- W1-6L
- W1-6R
- W10-L
- W10-2L
- W10-R
- W10-2R
- 15 M.P.H.
- W13-1P

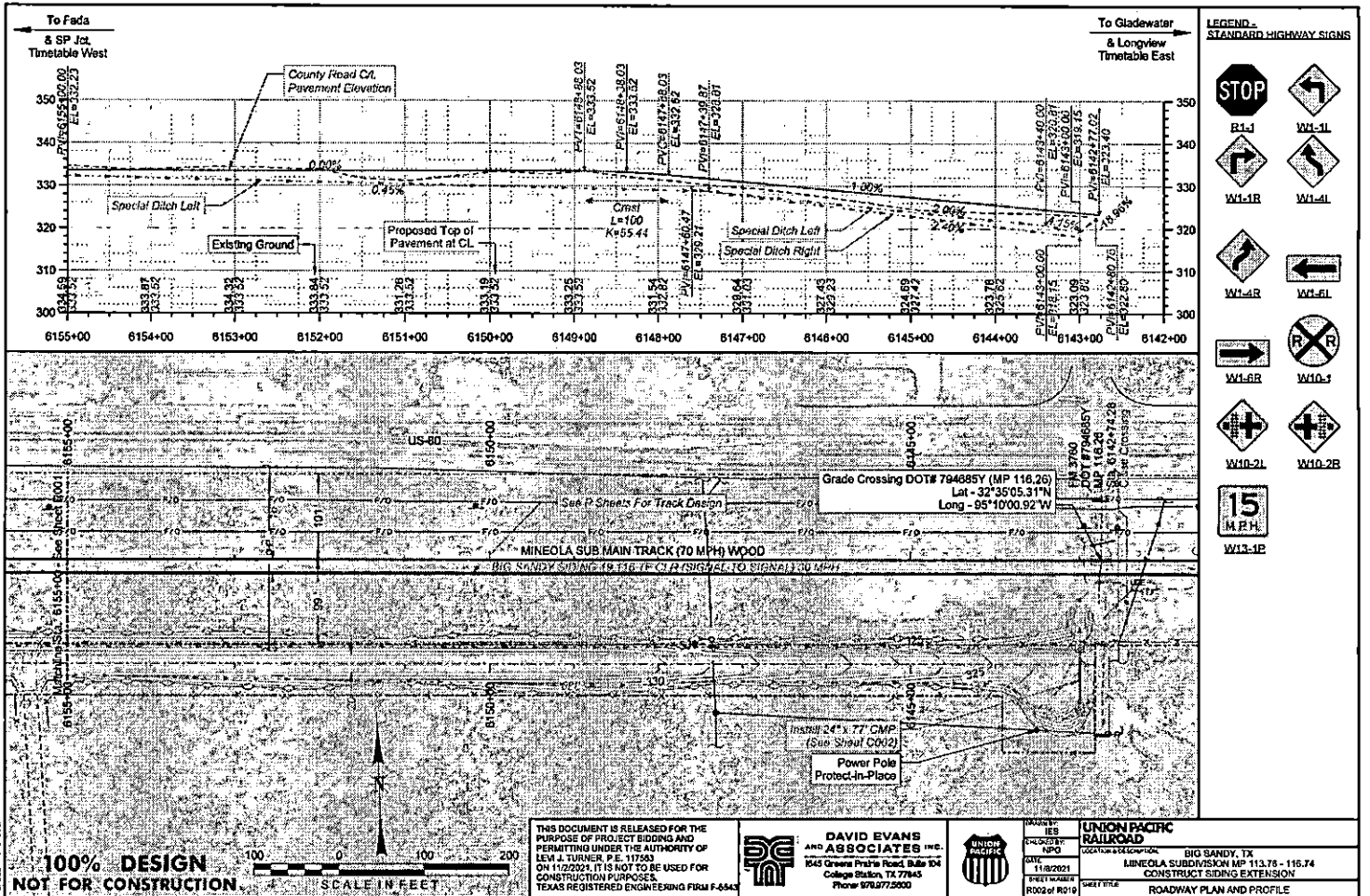
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DAVID EVANS AND ASSOCIATES INC.
 245 Greens Prairie Road, Suite 104
 College Station, TX 77845
 Phone 979-977-2600



DESIGNED BY	DATE	PROJECT NO.	LOCATION/DESCRIPTION
11/2/2021	11/2/2021	117583	BIG SANDY, TX MINEOLA SUBDIVISION MP 113.76 - 118.74 CONSTRUCT SIDING EXTENSION
PROJECT NO.	DATE	PROJECT TITLE	
117583	11/2/2021	ROADWAY PLAN AND PROFILE	

Scale: 1" = 40' (Profile) / 1" = 100' (Plan)
 Date: 11/2/2021
 Project No: 117583
 Location: Big Sandy, TX
 Description: MINEOLA SUBDIVISION MP 113.76 - 118.74
 Construct Siding Extension



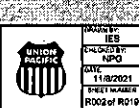
- LEGEND - STANDARD HIGHWAY SIGNS**
- STOP
 - R1-1
 - W1-1L
 - W1-1R
 - W1-1L
 - W1-4R
 - W1-6L
 - W1-6R
 - W10-1
 - W10-2L
 - W10-2R
 - W13-1E

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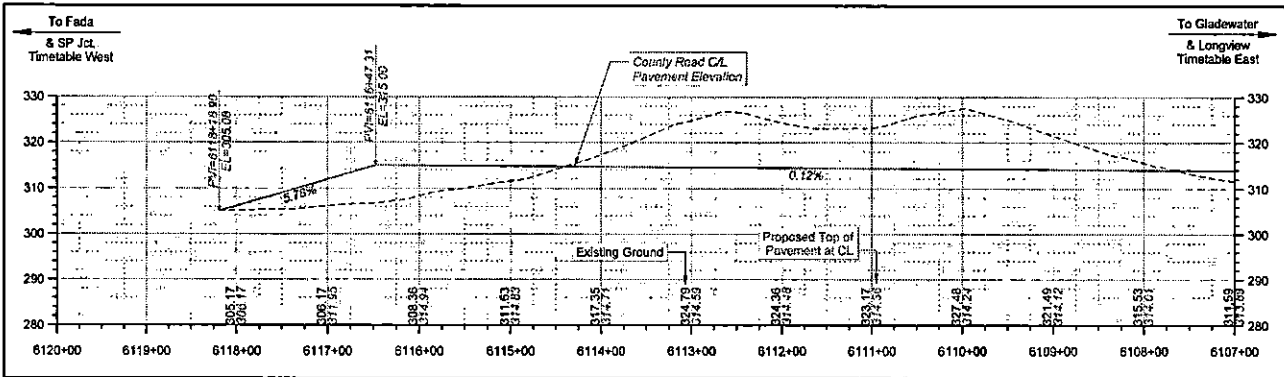
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DAVID EVANS ASSOCIATES INC. AND ASSOCIATES
1645 Greenway Plaza, Suite 104
College Station, TX 77845
Phone 979/775800

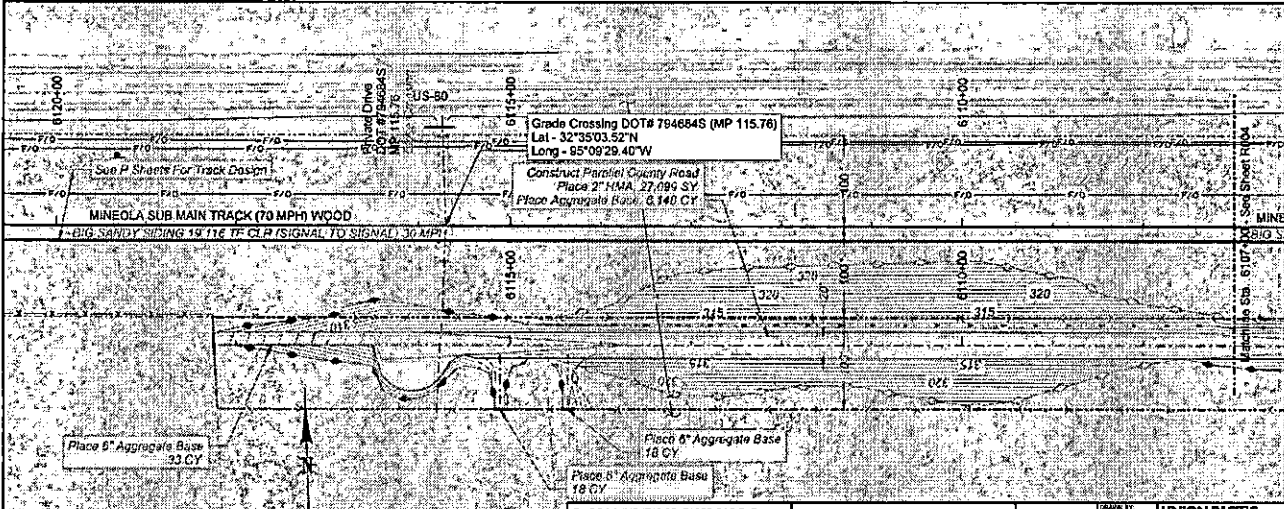


	UNION PACIFIC RAILROAD	UNION PACIFIC RAILROAD	
	PROJECT NO:	NPD	LOCATION & DESCRIPTION:
	DATE:	11/8/2021	BIG SANDY, TX
	SHEET NUMBER:	RD02 of RD10	MINEOLA SUBDIVISION MP 113.75 - 116.74 CONSTRUCT SIDING EXTENSION
SHEET TITLE:		ROADWAY PLAN AND PROFILE	



LEGEND - STANDARD HIGHWAY SIGNS

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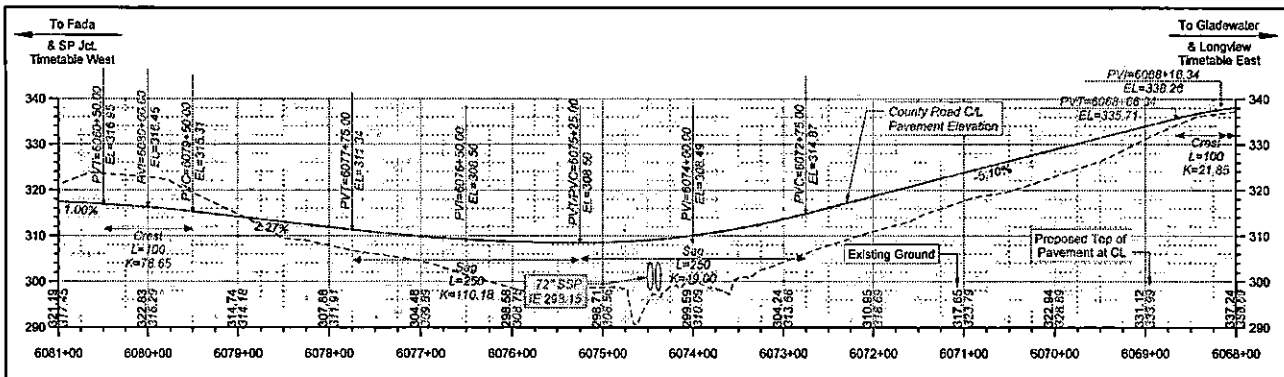
DAVID EVANS AND ASSOCIATES INC.
 845 Owens Prairie Road, Suite 101
 College Station, TX 77845
 Phone 979.877.5600



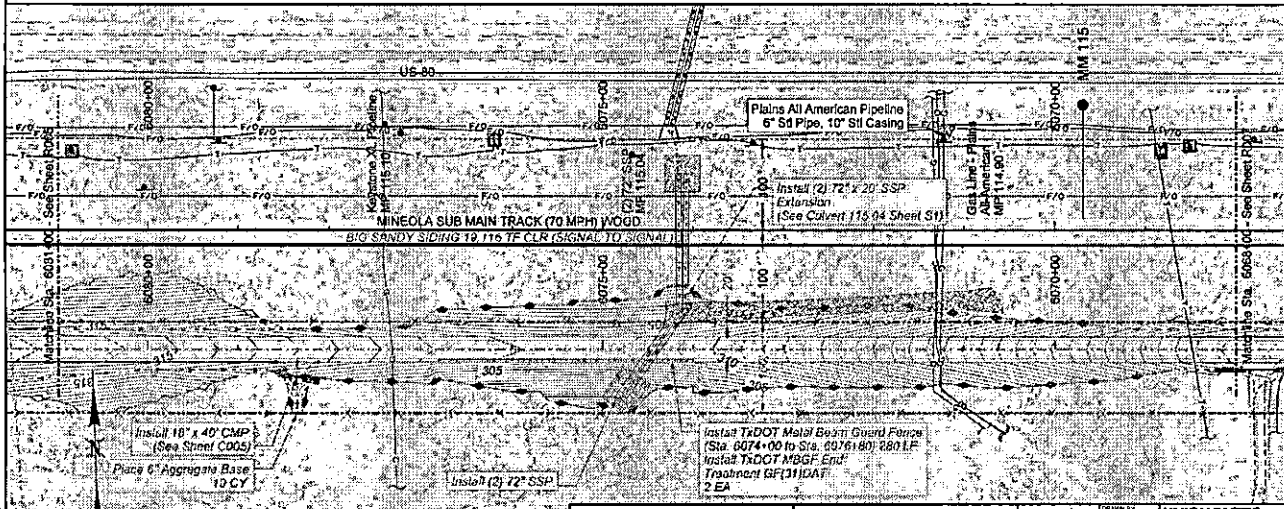
DESIGNED BY: LES
 CHECKED BY: NPG
 DATE: 11/9/2021
 SHEET NUMBER: R003 of R019
 SHEET TITLE: ROADWAY PLAN AND PROFILE

UNION PACIFIC RAILROAD
 COUNTY AND DISTRICT: BIG SANDY, TX
 MINEOLA SUBDIVISION MP 113.78 - 116.74
 CONSTRUCT SLIDING EXTENSION

Scale: 1"=40' (Profile) 1"=400' (Plan)
 P:\Projects\2021\117693\117693.dwg (11/9/2021 10:58:10 AM) (User: NPG) (Printer: NPG) (Plotter: HP DesignJet T1100) (Scale: 1"=40')



- LEGEND - STANDARD HIGHWAY SIGNS**
- STOP
 - R4-1
 - W1-1L
 - W1-1R
 - W1-1L
 - W1-1R
 - W1-6L
 - W1-6R
 - W10-1
 - W10-2L
 - W10-2R
 - W13-1P



100% DESIGN
NOT FOR CONSTRUCTION

SCALE IN FEET
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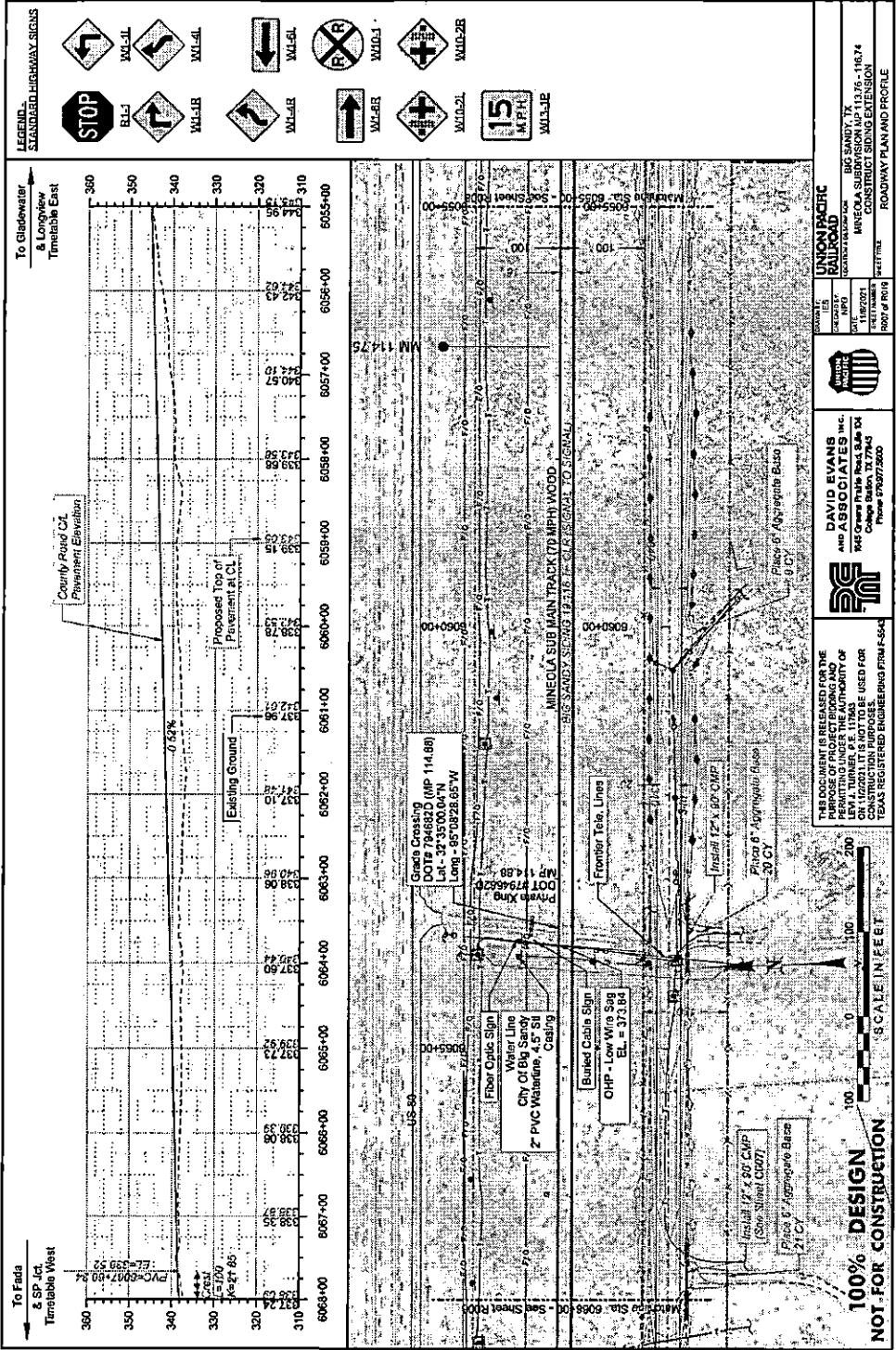
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DAVID EVANS AND ASSOCIATES INC.
 1045 Green Prairie Road, Suite 104
 College Station, TX 77945
 Phone: 979.977.5020



UNION PACIFIC RAILROAD
 LOCATION & DESCRIPTION: BIG SANDY, TX
 MINEOLA SUBDIVISION MP 113.75 - 116.74
 CONSTRUCT SIDING EXTENSION
 SHEET TITLE: ROADWAY PLAN AND PROFILE

DATE: 11/19/2021
 DRAWN BY: JES
 CHECKED BY: NPG
 DATE: 11/19/2021
 SHEET NUMBER: 1
 R006 of R010



100% DESIGN
 NOT FOR CONSTRUCTION

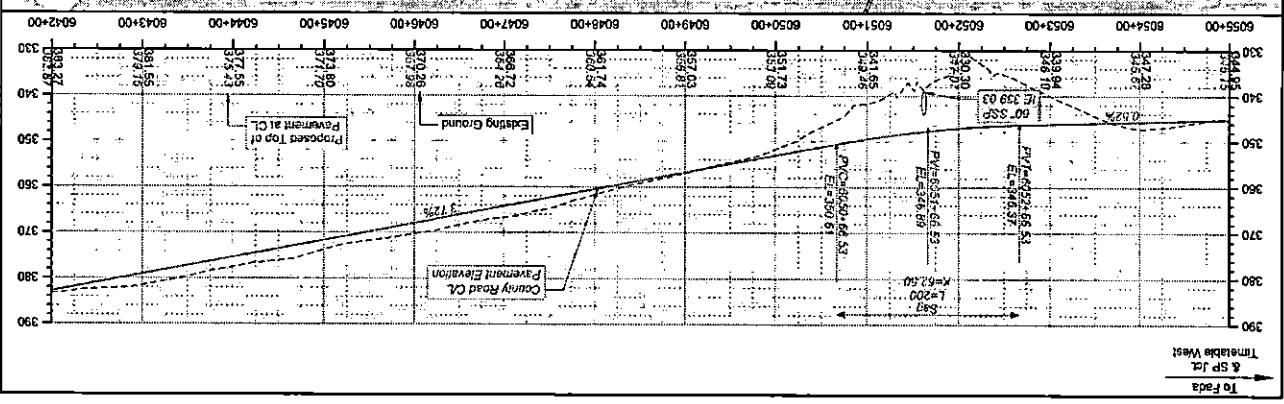
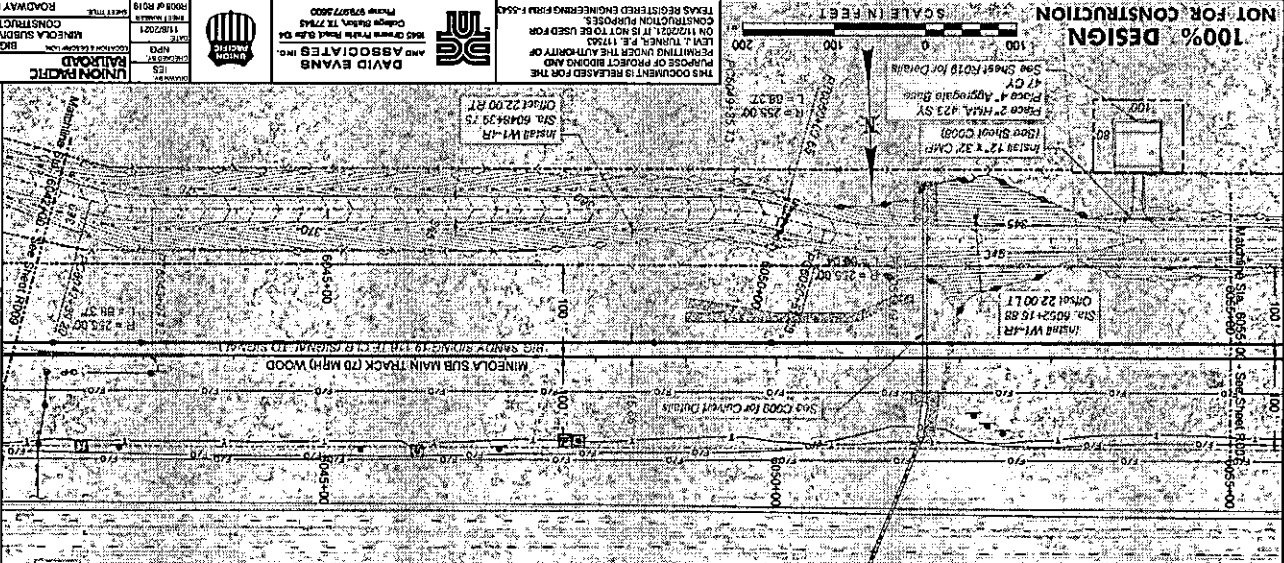
SCALE (HORIZONTAL)
 1" = 100'

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 PERMITTING UNDER THE AUTHORITY OF
 LEVI L. THORNTON, P.E., 117643
 ON 11/02/2011. IT IS NOT TO BE USED FOR
 ANY OTHER PROJECTS.
 TEXAS REGISTERED ENGINEERING FIRM # 5543

**DAVID EVANS
 AND ASSOCIATES INC.**
 1000 GREEN PRAIRIE TRAIL, SUITE 200
 CANTON, TEXAS 75741
 PHONE: 972.777.8000

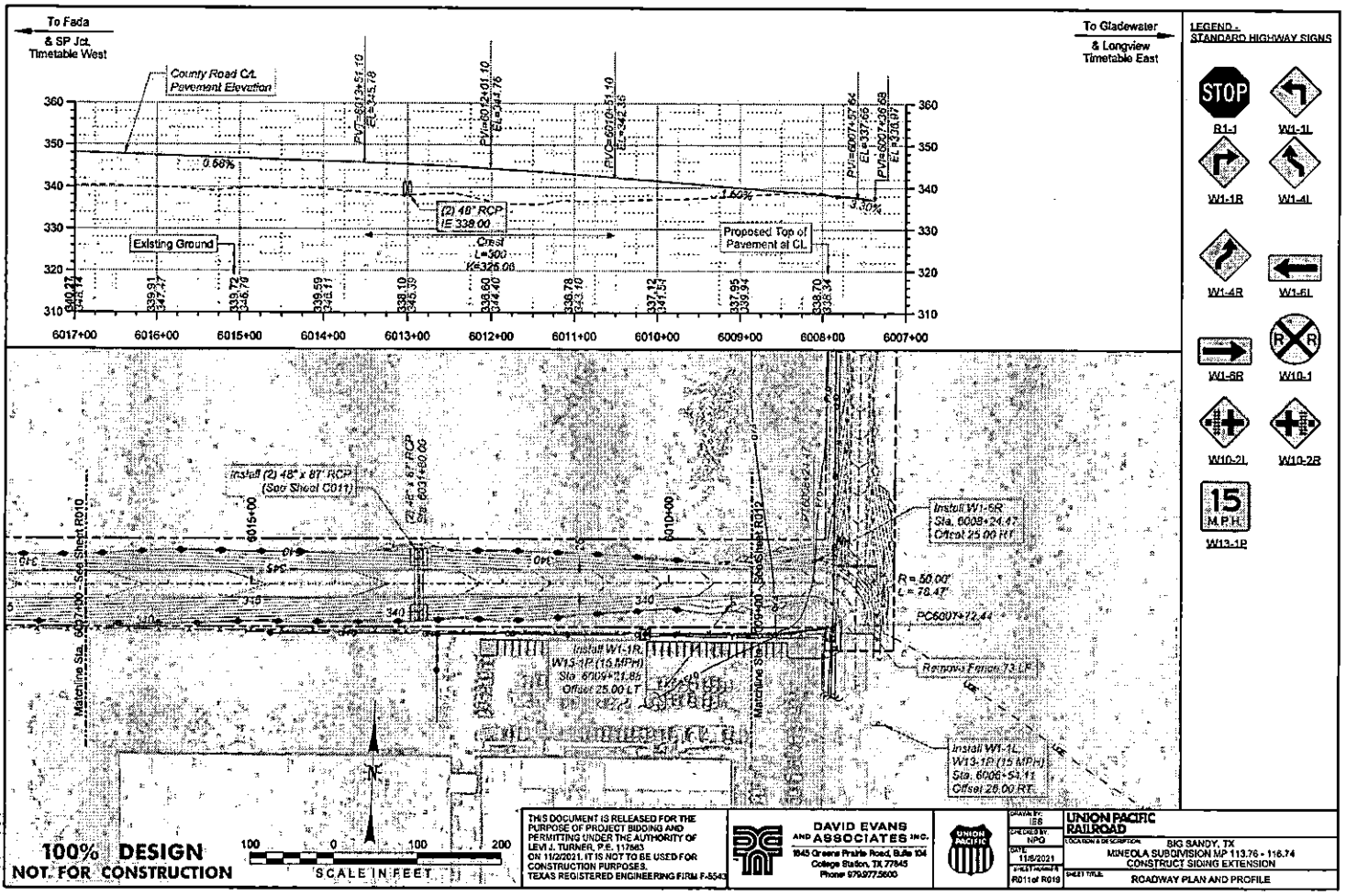


**UNION PACIFIC
 RAILROAD**
 BRIDGES & STRUCTURES
 MINEOLA SUBSTATION MP 113.75 - 116.74
 CONSTRUCTION SCHEDULING EXTENSION
 BRIDGES & STRUCTURES
 BRIDGES & STRUCTURES
 ROADWAY PLAN AND PROFILE

















LEGEND - STANDARD HIGHWAY SIGNS

- W1A-1B: 15 M.P.H. speed limit sign
- W1A-2: Advance warning sign for a T-intersection
- W1A-3: Advance warning sign for a Y-intersection
- W1A-4: Advance warning sign for a cross-intersection
- W1A-5: Advance warning sign for a roundabout
- W1A-6: Advance warning sign for a curve to the right
- W1A-7: Advance warning sign for a curve to the left
- W1A-8: Advance warning sign for a narrow bridge
- W1A-9: Advance warning sign for a low flying aircraft
- W1A-10: Advance warning sign for a low flying aircraft
- W1A-11: Advance warning sign for a low flying aircraft
- W1A-12: Advance warning sign for a low flying aircraft
- STOP: Stop sign



LEGEND - STANDARD HIGHWAY SIGNS

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-  
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-  
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- 
- 

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NOT FOR CONSTRUCTION



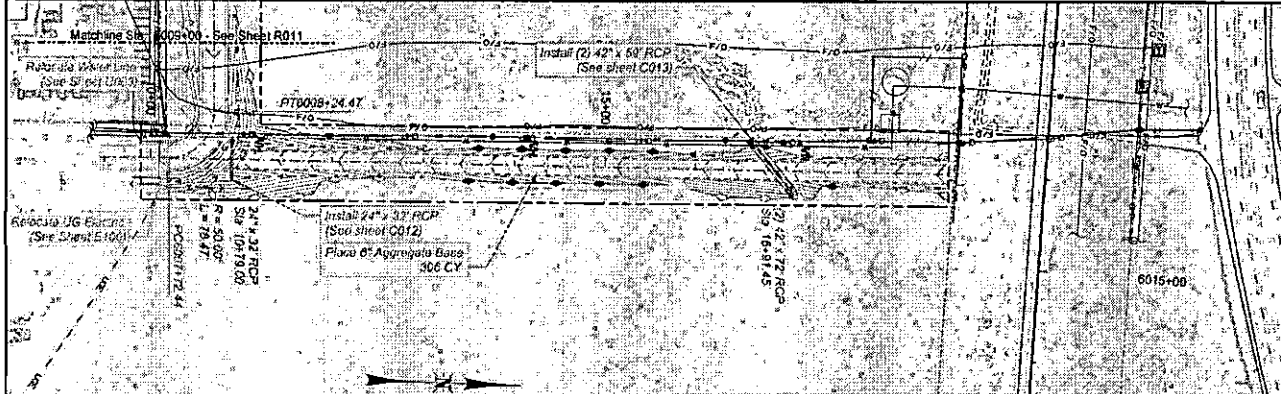
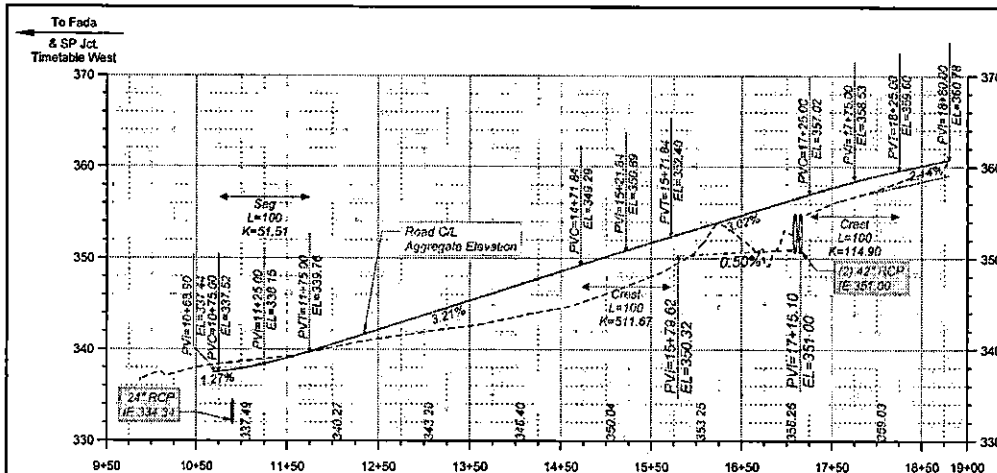
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DAVID EVANS ASSOCIATES INC.
1945 Green Prairie Road, Suite 104
College Station, TX 77845
Phone 979/775600



DRAWN BY: ES CHECKED BY: NPO DATE: 11/2/2021 PLOT: 11/2/2021 PLOT: 11/2/2021	UNION PACIFIC RAILROAD LOCATION & DESCRIPTION: BIG SANDY, TX MINEOLA SUBDIVISION MP 113.76 - 116.74 CONSTRUCT SIGNING EXTENSION SHEET TITLE: ROADWAY PLAN AND PROFILE
--	--

Civil: [unreadable] 11/2/2021
 PLS: [unreadable] 11/2/2021
 11/2/2021



LEGEND - STANDARD HIGHWAY SIGNS

R1-1	W1-1L
W1-1R	W1-1L
W1-4R	W1-5L
W1-5R	W10-1
W10-2L	W10-2R
W13-1P	

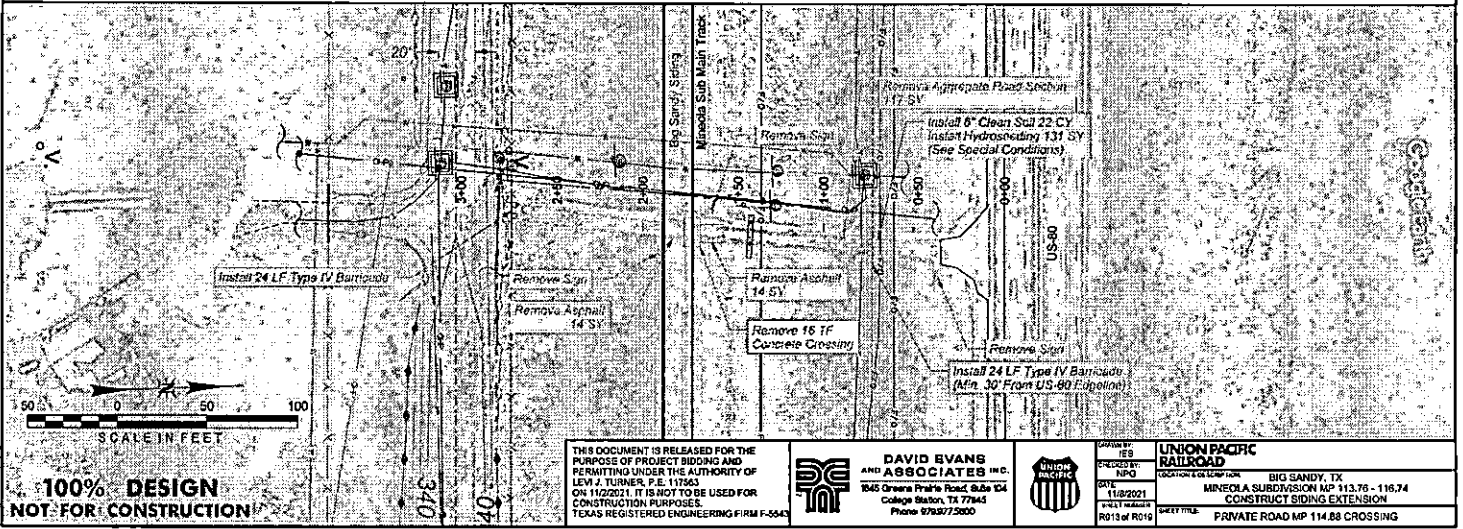
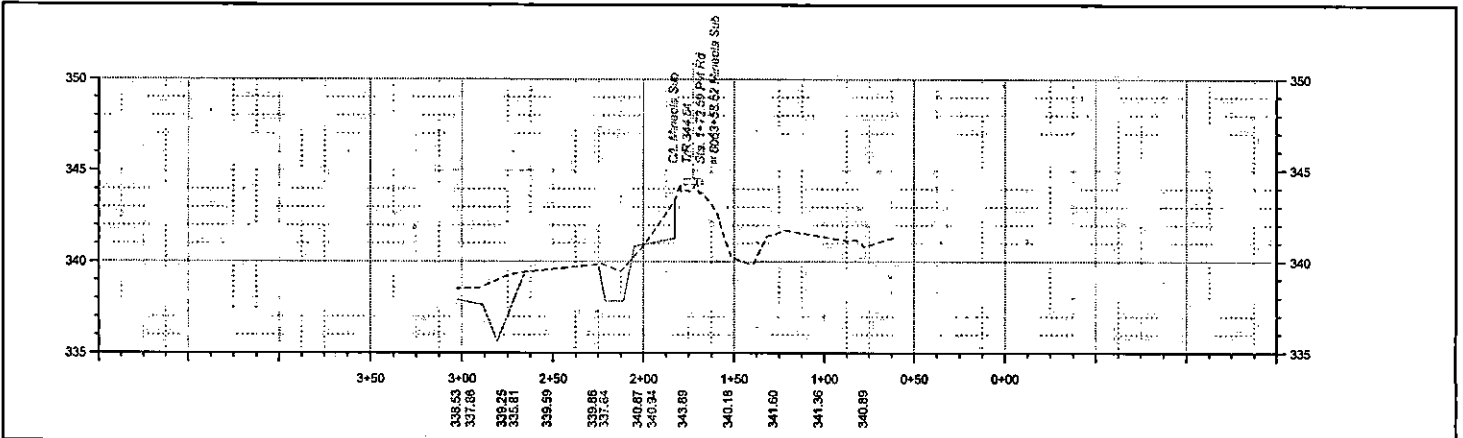
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SCALE IN FEET

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF PROJECT BIDDING AND PERMITTING UNDER THE AUTHORITY OF LEW J. TURNER, P.E. 117583 ON 11/2/2021. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES. TEXAS REGISTERED ENGINEERING FIRM F-5543

DAVID EVANS ASSOCIATES INC.
 1545 Greens Prairie Road, Suite 104
 College Station, TX 77945
 Phone: 877.877.5500

UNION PACIFIC RAILROAD
 LOCATION & DESCRIPTION: BIG SANDY, TX
 DATE: 11/2/2021
 SHEET NUMBER: R12 of R019
 SHEET TITLE: ROADWAY PLAN AND PROFILE



Date: 11/19/2021
 Project: MNEMONIA SUBSTATION MP 113.76 - 116.74
 Drawing: PRIVATE ROAD MP 114.88 CROSSING
 Scale: 1" = 40'
 Author: J. Turner
 Checker: J. Turner
 Title: 100% DESIGN

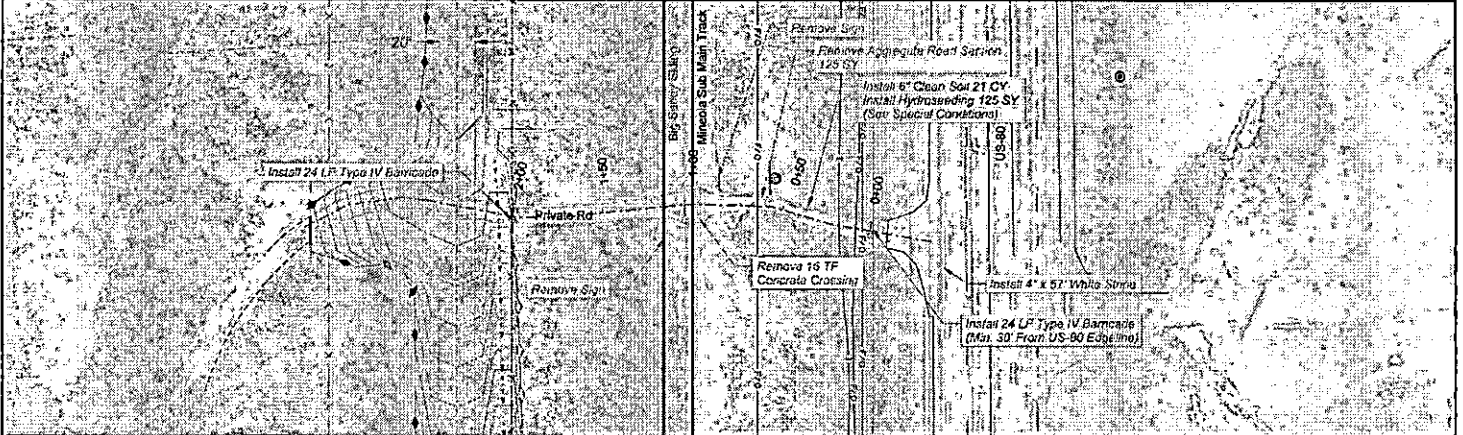
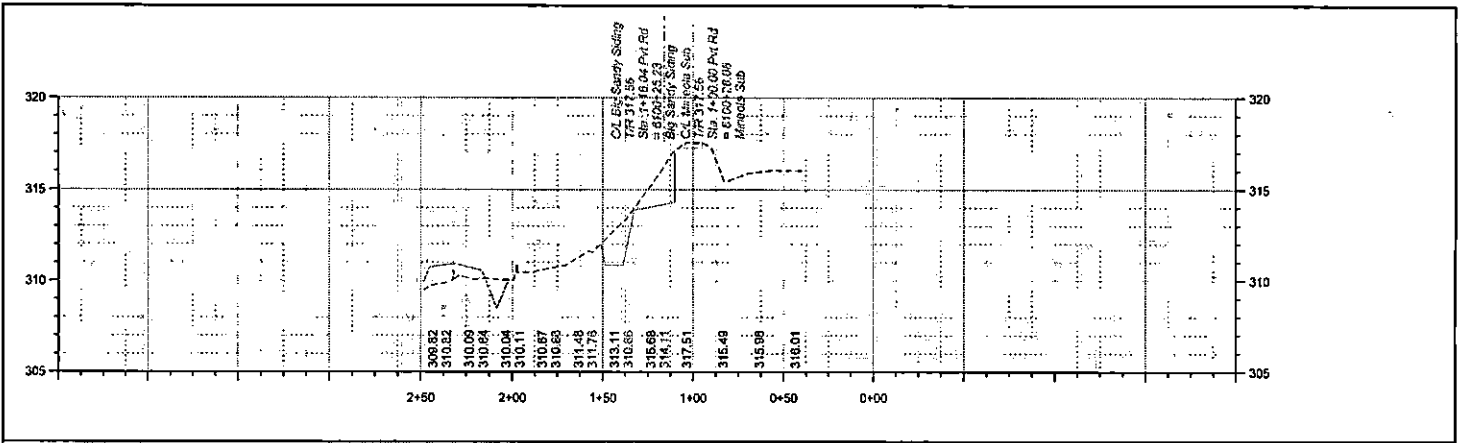
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DAVID EVANS AND ASSOCIATES INC.
 845 Greene Prairie Road, Suite 104
 College Station, TX 77843
 Phone: 979.937.2900



OWNER:	UNION PACIFIC RAILROAD
DESIGNER:	DAVID EVANS AND ASSOCIATES INC.
DATE:	11/19/2021
SHEET NUMBER:	R013 of R019
LOCATION & GEOMETRY:	BIG SANDY, TX
PROJECT:	MNEMONIA SUBSTATION MP 113.76 - 116.74
SHEET TITLE:	CONSTRUCT SIDING EXTENSION
	PRIVATE ROAD MP 114.88 CROSSING



Civil: [unreadable]
 Survey: [unreadable]
 Stationing: [unreadable]
 Date: 11/2/2021

100% DESIGN
NOT FOR CONSTRUCTION

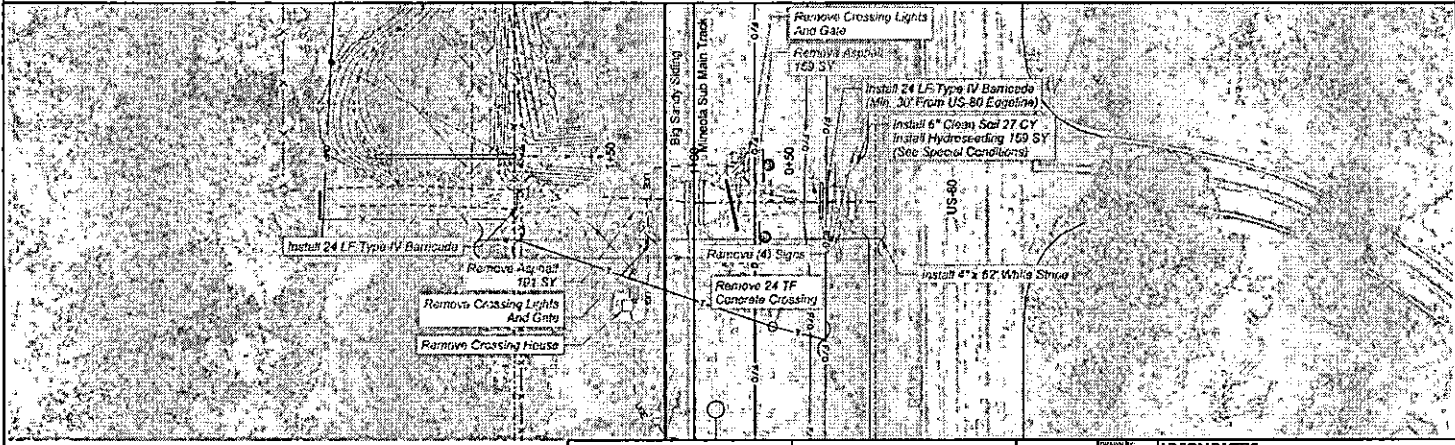
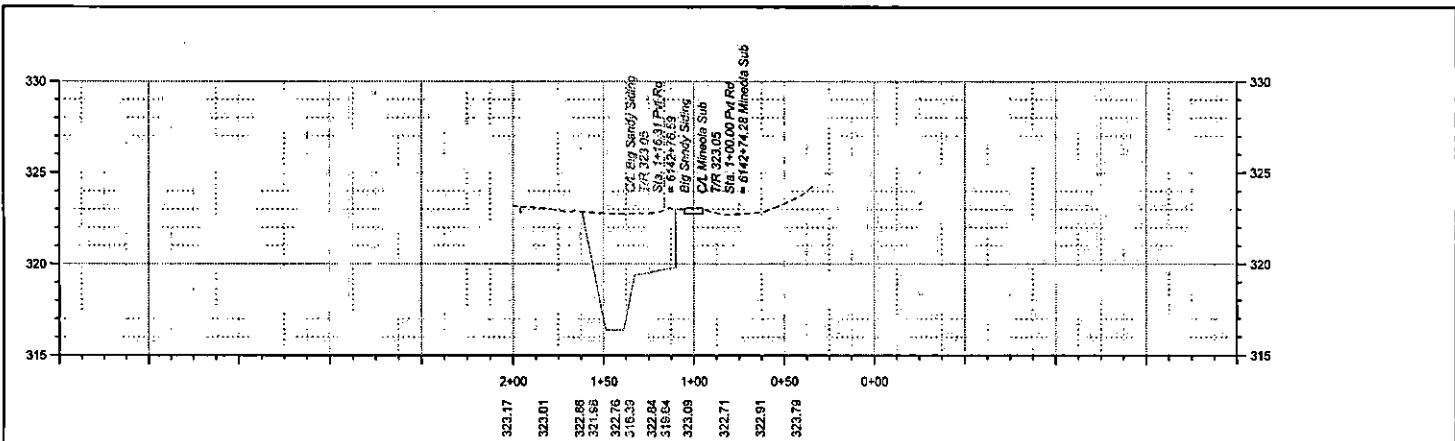


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DAVID EVANS ASSOCIATES INC.
 AND
AND ASSOCIATES INC.
 845 Owens Park Road, Suite 104
 College Station, TX 77945
 Phone 979/7725000



DRAWN BY: [unreadable] CHECKED BY: NPO DATE: 11/2/2021 1-21T R014 of R019	UNION PACIFIC RAILROAD LOCATION & SECTION: BIG SANDY, TX MINEOLA SUBDIVISION MP 113.76 - 116.74 CONSTRUCT SIDING EXTENSION PRIVATE ROAD MP 115.51 CROSSING CLOSURE
---	---



DATE: 11/18/2021
 DRAWN BY: J. TURNER
 CHECKED BY: J. TURNER
 PROJECT: L.P. 1118-2621
 SHEET: 1118-2621-01

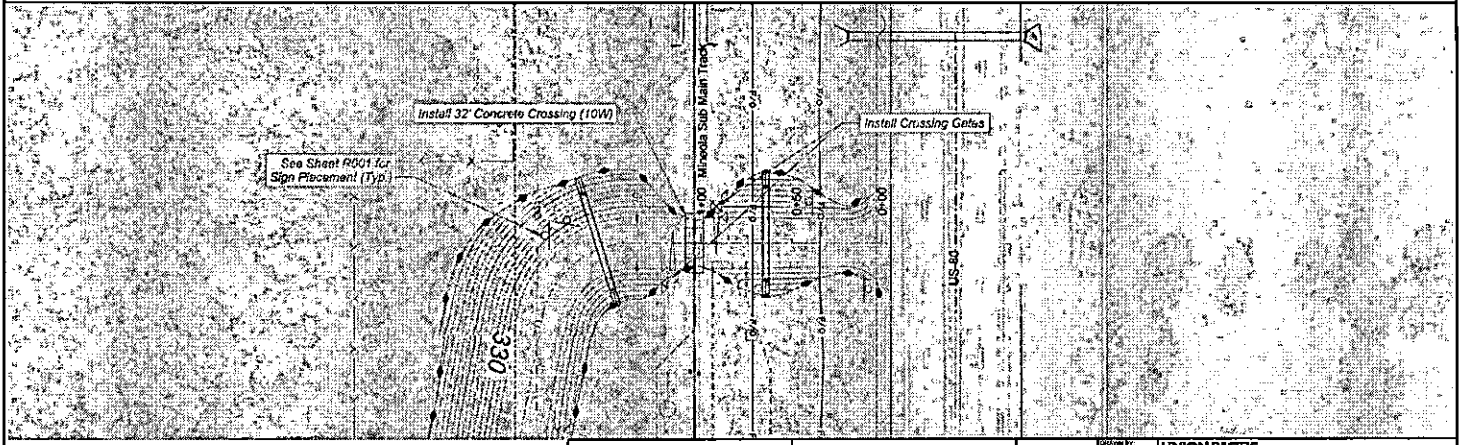
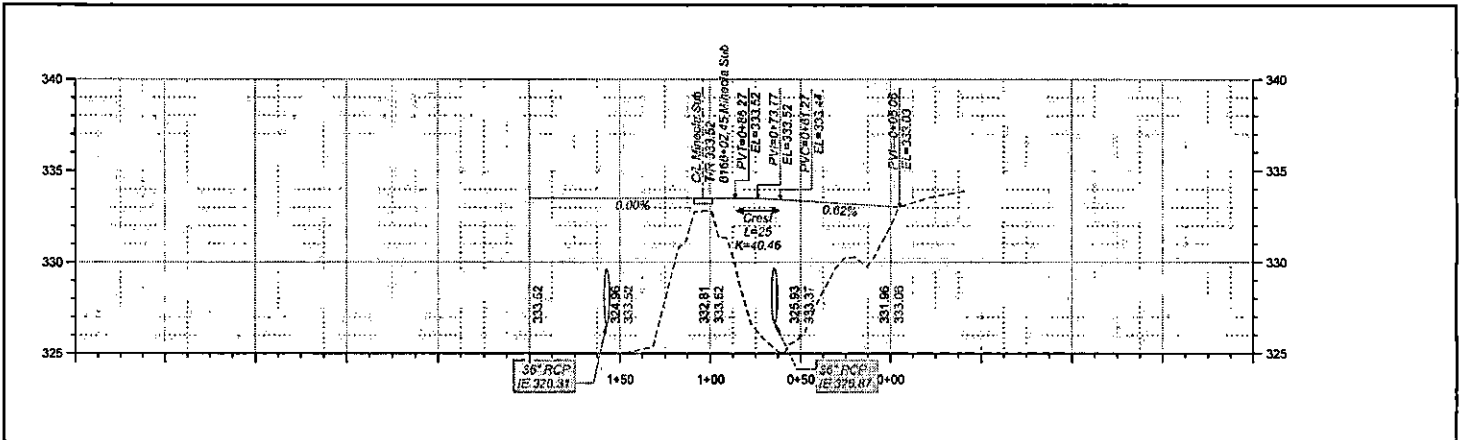
100% DESIGN
NOT FOR CONSTRUCTION

SCALE IN FEET

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DAVID EVANS AND ASSOCIATES INC.
 1645 Greene Prairie Road, Suite 104
 College Station, TX 77945
 Phone: 979/377-2600

UNION PACIFIC RAILROAD
 LOCATION & DATE OF WORK: BIG SANDY, TX
 DATE: 11/18/2021
 SHEET NUMBER: R018 of R019
 SHEET TITLE: LINEOLA SUBDIVISION MP 113.78 - 116.74 CONSTRUCT SIDING EXTENSION PRIVATE ROAD MP 116.26 CROSSING CLOSURE



DATE: 11/18/2021
 TIME: 10:00 AM
 USER: LEVJ
 PROJECT: MINEOLA SUBDIVISION MP 113.78 - 116.74
 SHEET: 113.78-116.74-01

100% DESIGN
NOT FOR CONSTRUCTION

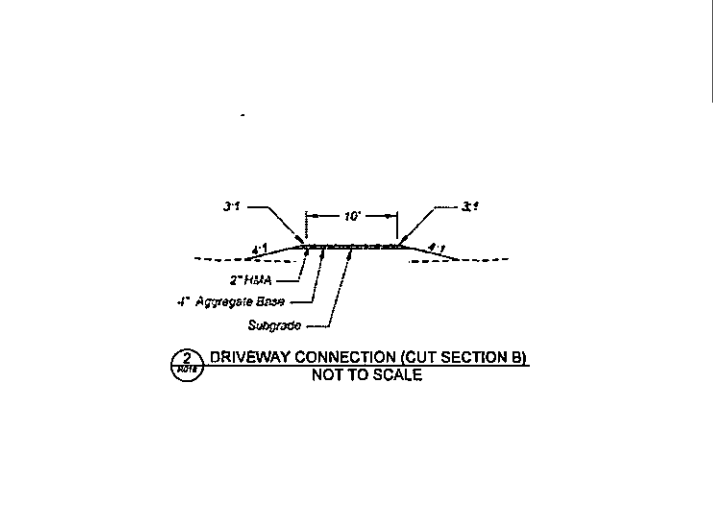
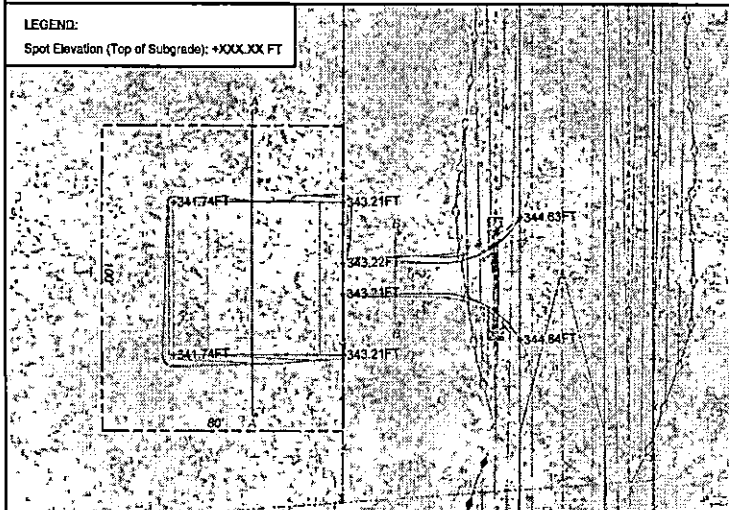
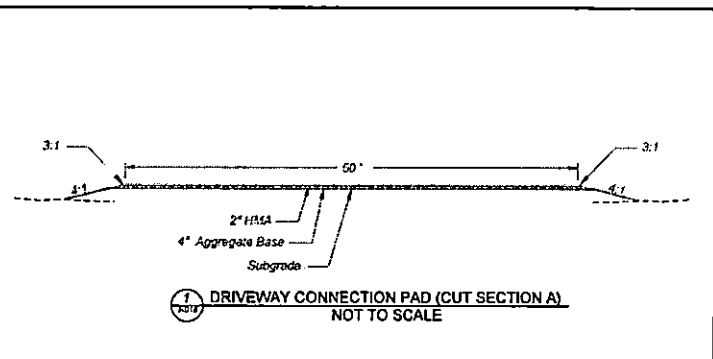
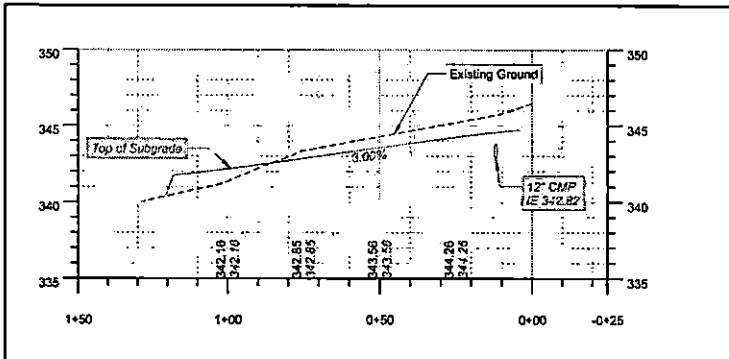
SCALE IN FEET

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DAVID EVANS ASSOCIATES INC.
 1045 Greene Park Road, Suite 104
 College Station, TX 77845
 Phone: (979) 772-2000

UNION PACIFIC RAILROAD

DESIGNED BY: ES	UNION PACIFIC RAILROAD
CHECKED BY: NPG	LOCATION & COLLECTION: BIG SANDY, TX
DATE: 11/18/2021	MINEOLA SUBDIVISION MP 113.78 - 116.74
SHEET NUMBER: R017 of R019	CONSTRUCT SIDING EXTENSION
CHEET TITLE:	COUNTY ROAD 3780 MP 116.67



Scale: 1/4" = 10' (Horizontal) / 1" = 10' (Vertical)
 11/16/2024
 11/16/2024
 11/16/2024

100% DESIGN
NOT FOR CONSTRUCTION

SCALE IN FEET

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DAVID EVANS AND ASSOCIATES INC.
1645 Owens Prairie Road, Suite 104
College Station, TX 77743
Phone: 979/773600



DRAWING NO: 125 CHECKED BY: NPG DATE: 11/16/2024 SHEET NUMBER: RD18 of RD18	UNION PACIFIC RAILROAD COOPERATION & DISCOUNT PLAN BIG SANDY, TX MINGOCLA SUBDIVISION MP 113.76 - 116.74 CONSTRUCT SIDING EXTENSION SHEET TITLE: CULVERT MP 114.85 STATION 6053+96.47
--	--

Date: 11/18/2021
 User: jturner
 Project: 2412201
 Drawing: 100% DESIGN NOT FOR CONSTRUCTION

CURVE DATA - Roadway East						
CURVE	POINT	STATION	NORTHING	EASTING	BEARING	
TANGENT	La	72.78				N 2° 19' 00" W
CURVE	DELTA=	90° 03' 33" Right	PC	6037+72.40	6910569.81	3007807.144
	DEGREE=	172° 45' 31"				
	R=	50.10	PI	6038+22.55	6910618.924	3007605.117
	L=	78.75	PT	6038+74.53	6910617.845	3007555.006
TANGENT	La	2319.95				S 87° 37' 27" W
CURVE	DELTA=	91° 16' 29" Right	PC	6031+28.48	6910506.67	3005237.34
	DEGREE=	87° 37' 14"				
	R=	75	PI	6032+06.16	6910503.49	3005160.72
	L=	138.48	PT	6032+38.63	6910508.16	3005159.34
TANGENT	La	748.91				N 1° 00' 04" W
CURVE	DELTA=	71° 35' 27" Left	PC	6040+02.54	6911343.53	3009144.56
	DEGREE=	71° 35' 27"				
	R=	75	PI	6040+56.62	6911398.01	3009143.52
	L=	93.71	PT	6040+84.35	6911414.10	3009091.89
TANGENT	La	151.05				N 72° 41' 30" W
CURVE	DELTA=	19° 21' 42" Left	PC	6042+39.20	6911459.03	3004947.68
	DEGREE=	22° 30' 56"				
	R=	255	PI	6042+79.99	6911459.26	3004914.85
	L=	68.37	PT	6043+07.12	6911470.41	3004900.44
TANGENT	La	628.0				N 89° 03' 12" W
CURVE	DELTA=	15° 21' 42" Right	PC	6049+35.73	6911401.79	3004252.24
	DEGREE=	27° 16' 36"				
	R=	255	PI	6049+70.12	6911492.95	3004217.87
	L=	68.37	PT	6050+08.85	6911503.19	3004185.01
TANGENT	La	48.22				N 72° 41' 30" W
CURVE	DELTA=	15° 17' 15" Left	PC	6050+51.88	6911517.53	3004139.00
	DEGREE=	27° 36' 56"				
	R=	255	PI	6050+86.10	6911527.71	3004106.33
	L=	68.04	PT	6051+19.47	6911528.92	3004072.13
TANGENT	La	657.83				N 87° 56' 45" W
	POE	6116+47.30	6911759.11	2997548.35		N 87° 58' 45" W

CURVE DATA - Roadway West						
CURVE	POINT	STATION	NORTHING	EASTING	BEARING	
TANGENT	La	1905.83				N 87° 58' 24" W
CURVE	DELTA=	11° 27' 37" Right	PC	6151+82.85	6911306.65	2999018.58
	DEGREE=	3° 00' 00"				
	R=	1910.08	PI	6153+74.31	6911303.431	2999205.033
	L=	382.05	PT	6155+64.56	6911378.132	2998208.632
CURVE	DELTA=	78° 32' 22" Right	PC	6153+64.65	6165+64.66	2992638.65
	DEGREE=	179° 59' 59"				
	R=	50	PI	6166+05.54	6911987.67	2992598.90
	L=	58.54	PT	6166+08.29	6912028.52	2992600.34
TANGENT	La	200.54				N 2° 01' 26" E
	POE	6188+17.83	6912237.93	2992807.76		N 2° 01' 26" E

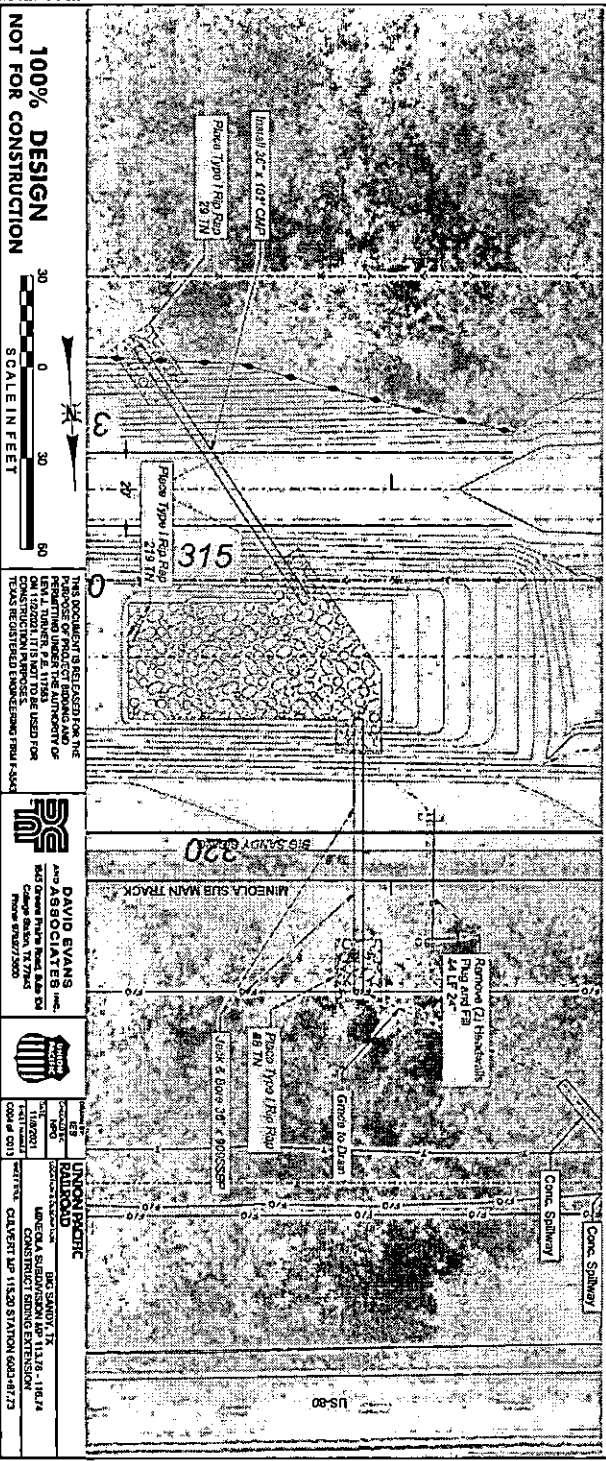
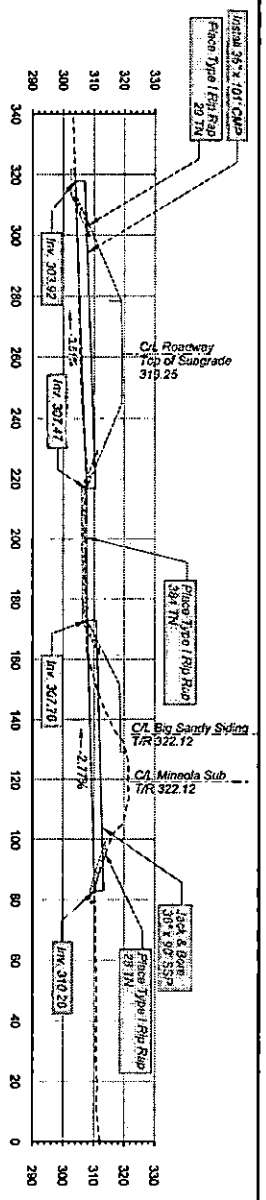
CURVE DATA - Corporate Drive						
CURVE	POINT	STATION	NORTHING	EASTING	BEARING	
TANGENT	La	683.23				N 1° 02' 25" W
	POE	19+80.00	6911429.23	3007592.07		

**100% DESIGN
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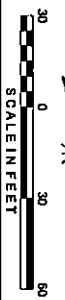
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DRAWN BY: LES CHECKED BY: NPG DATE: 11/18/2021 SHEET NUMBER: RD10 of RD10	UNION PACIFIC RAILROAD LOCATION & CENTERLINE: BIG SANDY, TX MONEOLA SUBDIVISION MP 113.78 - 116.74 CONSTRUCT SIDING EXTENSION SHEET TITLE: ROAD GEOMETRY TABLE
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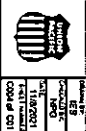


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 PURPOSE OF PROJECT RECORD AND
 SHALL BE THE PROPERTY OF THE
 ENGINEER. IT IS NOT TO BE USED FOR
 OTHER PROJECTS WITHOUT THE WRITTEN
 CONSENT OF THE ENGINEER. DRAWING NO. 1100-1100

DAVID EVANS
 and ASSOCIATES
 INC.
 3000 W. 11TH ST.
 SUITE 100
 MINNEAPOLIS, MN 55427-2000
 PHONE 612/337-2000



MINNAPACIFIC
RAILROAD
 1100-1100
 11/20/01
 11/20/01
 1100-1100
 CALVERT ST. STATION 6000-1100

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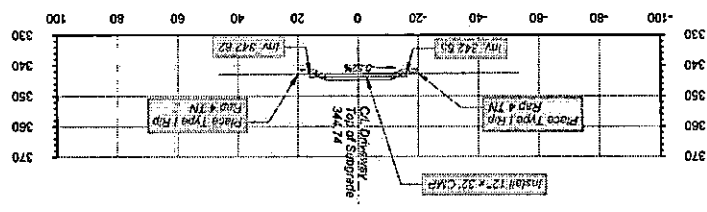
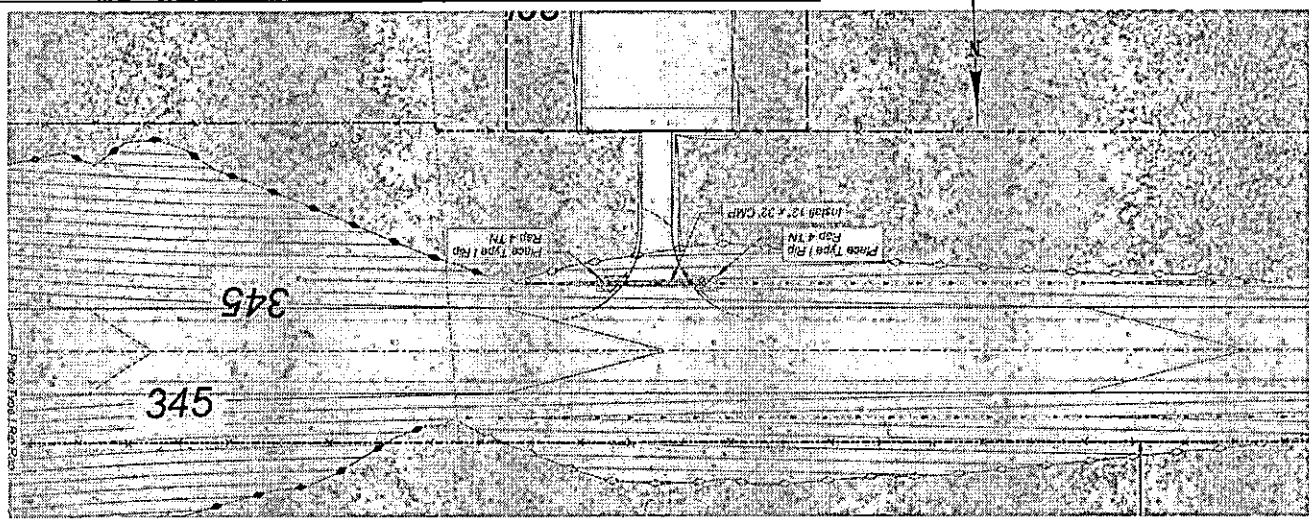
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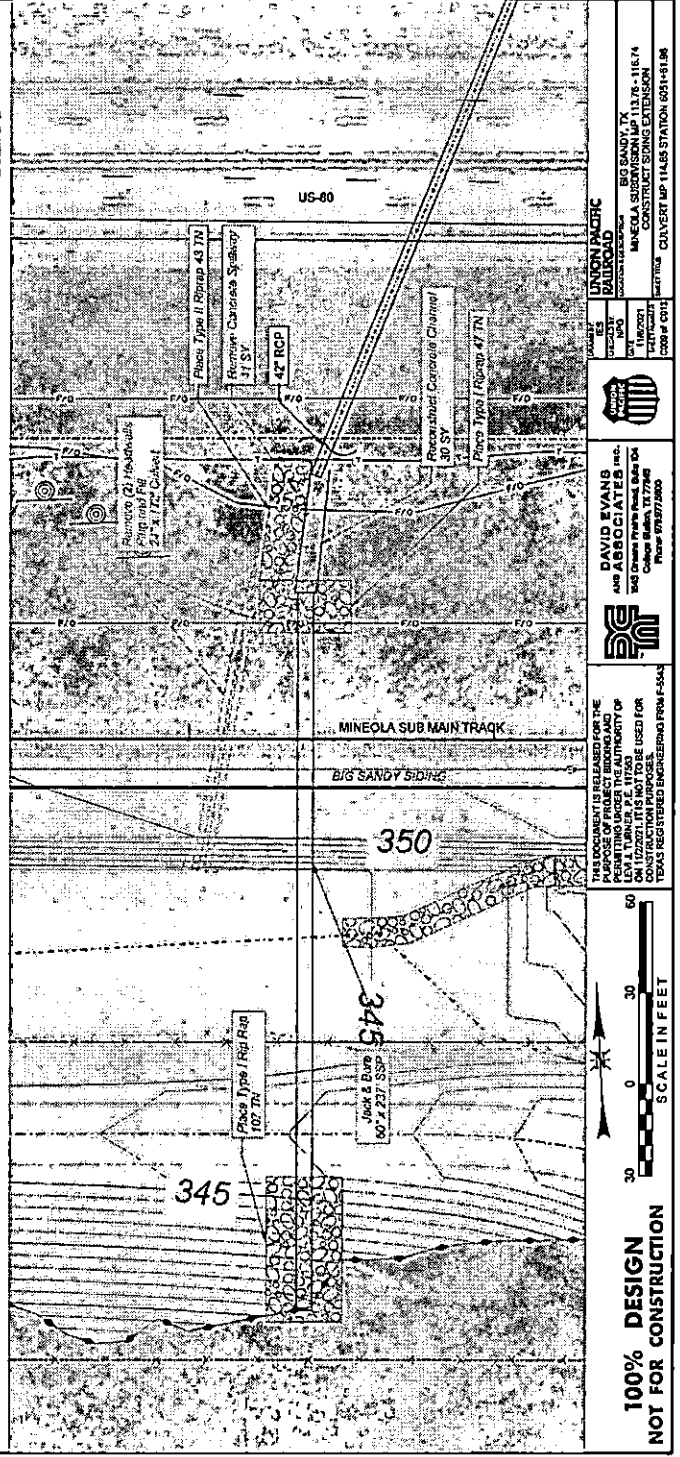
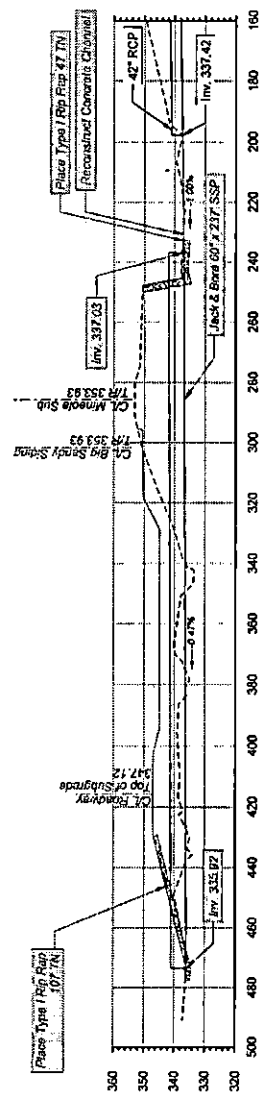
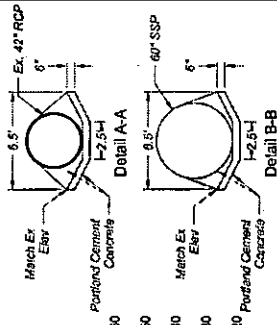
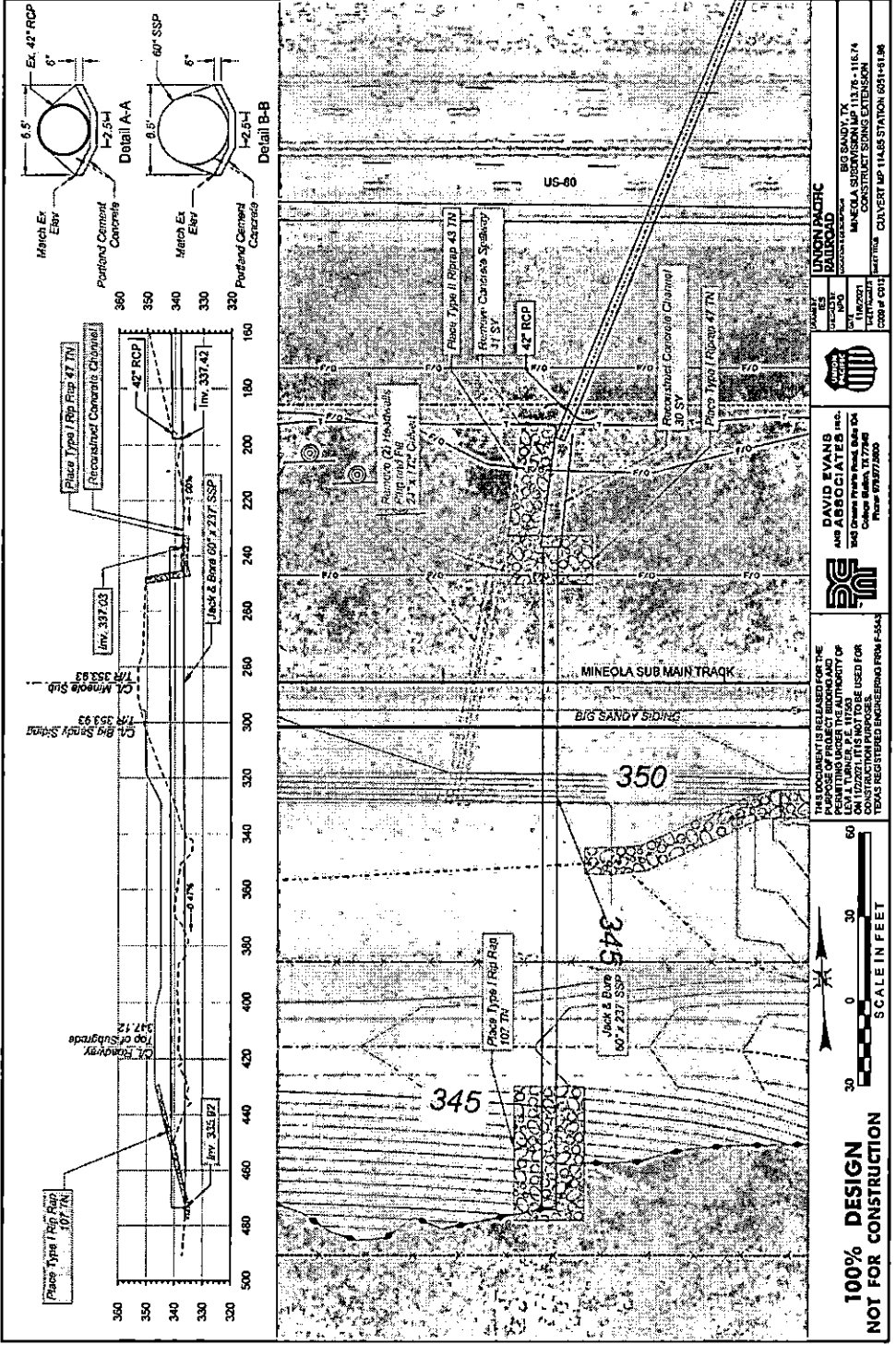
DAVID EVANS AND ASSOCIATES, INC.
 5500 Greenway Plaza, Suite 2000
 Houston, Texas 77046
 Phone: 281.416.2000



UNION PACIFIC RAILROAD
 1111 North Main Street
 Omaha, Nebraska 68102
 Phone: 402.442.1000

PROJECT NO. 111111
 DRAWING NO. CIV/VERT MP 114.89 STATION 553+96.47
 CONTRACT NO. 111111
 DATE 11/20/11
 DRAWN BY [Name]
 CHECKED BY [Name]
 APPROVED BY [Name]
 BIG SANDY, TX
 MARCOA SUSPENSION MP 11376+116.74





UNION PACIFIC
RAILROAD



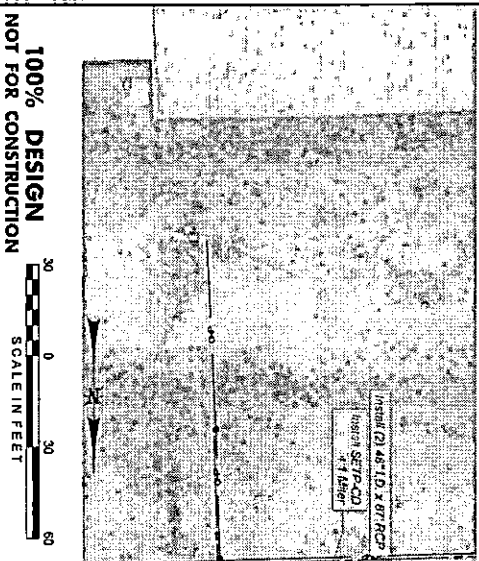
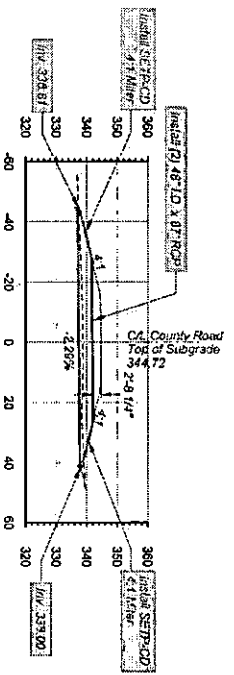
**DAVID EVANS
and ASSOCIATES, Inc.**
540 Orange Grove Road, Suite 104
Coppell, Texas 75019
Phone: 972/777-2000

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DOCUMENT IS NOT TO BE USED FOR
ANY OTHER PROJECT WITHOUT THE
WRITTEN CONSENT OF THE ENGINEER.
TEXAS REGISTERED ENGINEERING FIRM F-544



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NOT FOR CONSTRUCTION**

DATE: 11/17/2011 11:17:11 AM
PROJECT: 11176-11E.74
DRAWING: 11176-11E.74
SCALE: AS SHOWN
JOB NO: 11176-11E.74
JOB NAME: 11176-11E.74
JOB ADDRESS: 11176-11E.74
JOB CITY: 11176-11E.74
JOB STATE: 11176-11E.74
JOB ZIP: 11176-11E.74
JOB PHONE: 11176-11E.74
JOB FAX: 11176-11E.74
JOB EMAIL: 11176-11E.74
JOB WEBSITE: 11176-11E.74
JOB COMMENTS: 11176-11E.74



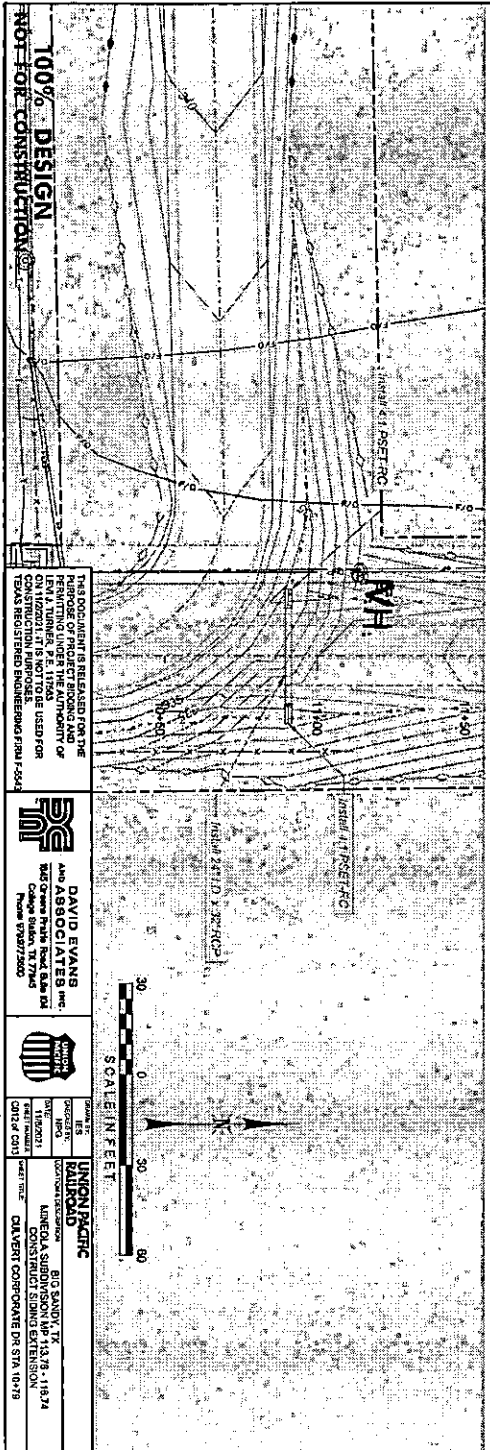
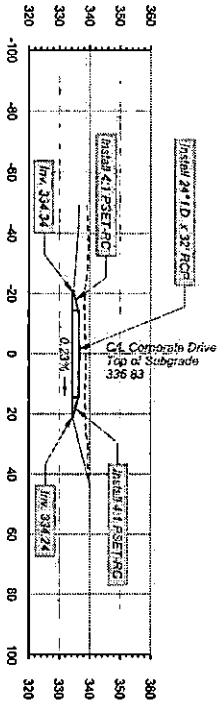
THE CONSULTANTS RELEASED FOR THE PURPOSE OF PROJECT BIDDING AND PERMITTING UNDER THE AUTHORITY OF ON 11/20/11. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SPECIFICALLY REFERENCED FROM F-344.

DAVID EVANS and ASSOCIATES Inc.
 945 Green Park Road, Suite 200
 Irvine, CA 92617
 Phone: 949.271.2000

UNION PACIFIC RAILROAD
 1182021
 02/11/11

UNION PACIFIC RAILROAD
 BIG SANDY, TX
 MARICOPA SUBDIVISION, 118-118.24
 CONCRETE STATION 6713+00.00

100% DESIGN
NOT FOR CONSTRUCTION



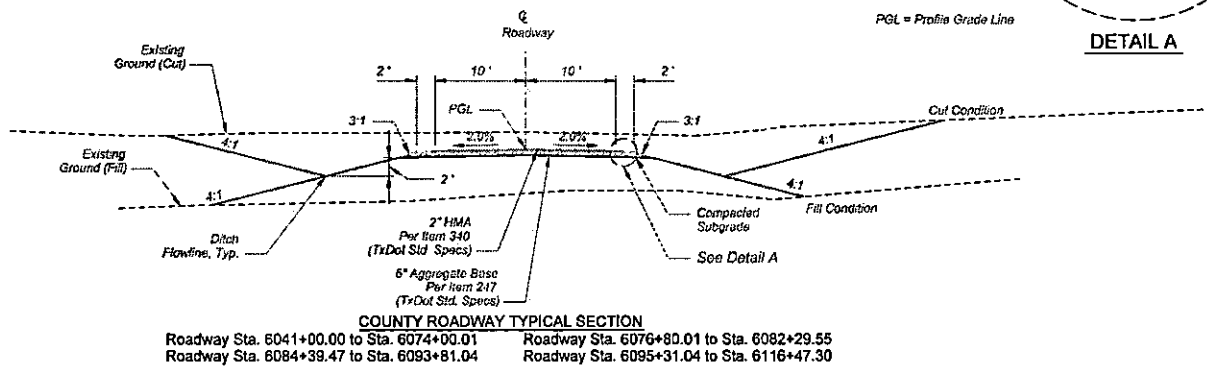
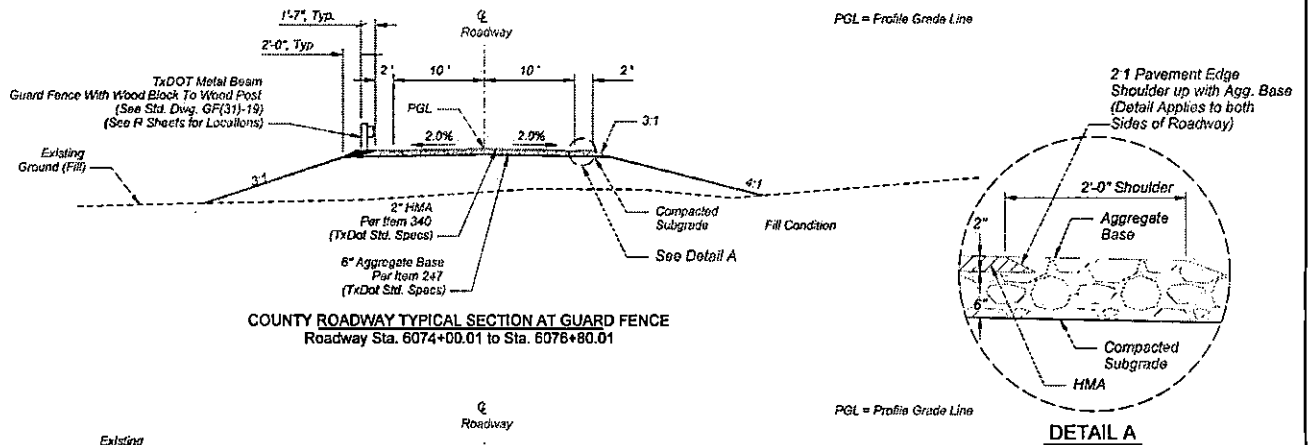
100% DESIGN
 NOT FOR CONSTRUCTION

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DAVID EVANS AND ASSOCIATES INC.
 2400 Green Plaza Road, Suite 100
 Houston, TX 77050
 Phone: 281.989.2800



UNION PACIFIC RAILROAD
 BIG SANDY, TX
 KANEOLA SUBDIVISION, MP 113.78 - 118.74
 CONSTRUCTION SIGNAGE EXTENSION
 CALVERT CORPORATION DR. STA. 10+79



Color: white
 PLOT DATE: 11/18/2021 10:58:11 AM
 PLOT FILE: C:\Users\jturner\OneDrive\Documents\11182021\11182021\11182021.dwg
 PLOT SCALE: 1/8"=1'-0"

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DAVID EVANS AND ASSOCIATES INC.
 1045 Grand Prairie Road, Suite 104
 College Station, TX 77845
 Phone: 678/977-5600

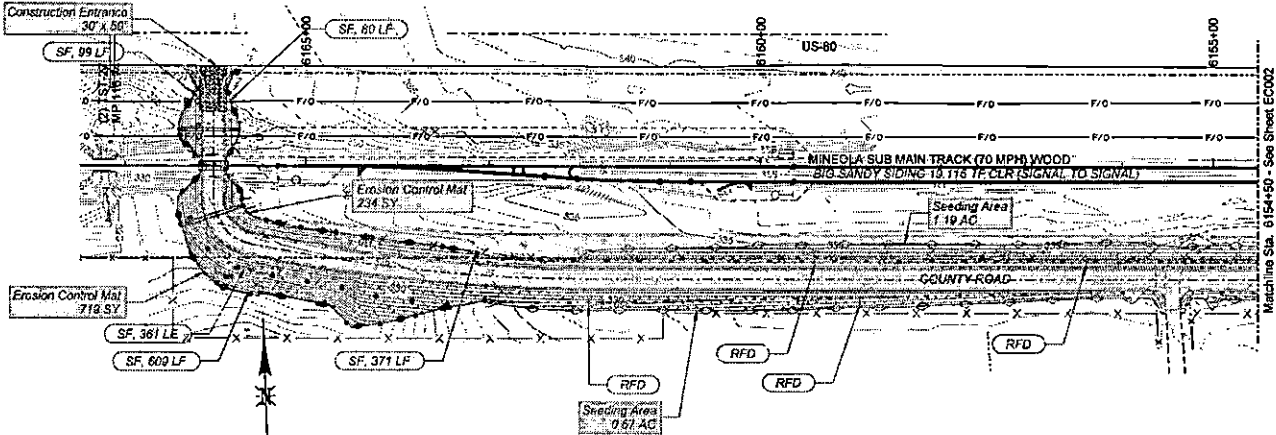


OWNER: ES	UNION PACIFIC RAILROAD
CONTRACT NO.: NPD	LOCATION & DESCRIPTION BIG SANDY, TX
DATE: 11/18/2021	MINEOLA SUBDIVISION MP 113.76 - 116.74
DRAWN BY: TODD	CONSTRUCT SIDING EXTENSION
TOTAL OF TOTALS 100% OF 100%	SHEET TITLE TYPICAL SECTIONS

To Fada & SP Jct. Timetable West To Gladewater & Longview Timetable East

EROSION CONTROL LEGEND:

- SF** INSTALL SILT FENCE, PER TXDOT TEMPORARY SEDIMENT CONTROL FENCE STANDARD EC(1) - 16.
 - RFD** INSTALL TYPE 4 ROCK FILTER DAM, PER TXDOT STANDARD EC(2) - 16.
 - PROPOSED MAJOR CONTOUR
 - PROPOSED MINOR CONTOUR
 - EXISTING MAJOR CONTOUR
 - EXISTING MINOR CONTOUR
 - EROSION CONTROL MAT
 - CONSTRUCTION ENTRANCE
- NOTE: SEEDING ON 4:1 SLOPES, ANYTHING GREATER USE EC MAT



11/18/2021 11:29:21 AM
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DAVID EVANS AND ASSOCIATES INC.
 1045 Orange Park Road, Suite 104
 College Station, TX 77945
 Phone 779.877.5600











DRAWN BY: LES CHECKED BY: NPG DATE: 11/18/2021 DRAWN NUMBER: EROSION CONTROL EROSION CONTROL	UNION PACIFIC RAILROAD LOCATION & DESCRIPTION: BIG SANDY, TX MINEOLA SUBDIVISION MP 113.76 - 116.74 CONSTRUCT SIDING EXTENSION SHEET TITLE: EROSION CONTROL PLAN
--	---

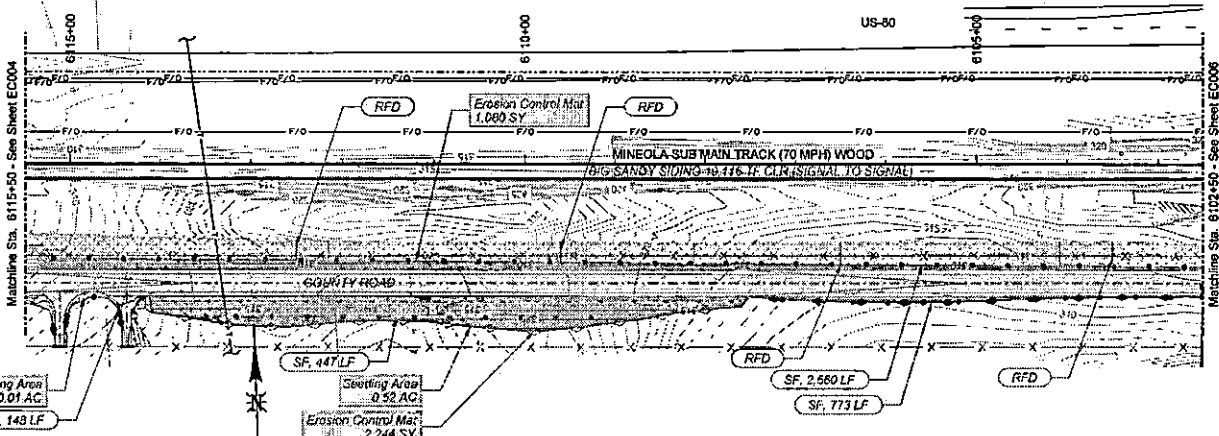
To Fada
& SP Jct.
Timetable West

To Gladewater
& Longview
Timetable East

EROSION CONTROL LEGEND:

-  **SF** INSTALL SILT FENCE, PER TXDOT TEMPORARY SEDIMENT CONTROL FENCE STANDARD EC(1) - 16.
-  **RFD** INSTALL TYPE 4 ROCK FILTER DAM, PER TXDOT STANDARD EC(2) - 16.
-  PROPOSED MAJOR CONTOUR
-  PROPOSED MINOR CONTOUR
-  EXISTING MAJOR CONTOUR
-  EXISTING MINOR CONTOUR
-  EROSION CONTROL MAT
-  CONSTRUCTION ENTRANCE

NOTE: SEEDING ON 4:1 SLOPES, ANYTHING GREATER USE EC MAT



Seeding Area
0.01 AC
SF, 143 LF

Seeding Area
0.52 AC
Erosion Control Mat
2,244 SF

SF, 2,580 LF
SF, 773 LF

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DAVID EVANS AND ASSOCIATES INC.
1645 Owens Prairie Road, Suite 104
College Station, TX 77845
Phone: 879.377.2600











DESIGNED BY: EES	UNION PACIFIC RAILROAD
CHECKED BY: NPO	
DATE: 11/22/2021	LOCATION & DEPART FROM: BIG SANDY, TX
DRAWN BY: EROSION CONTROL	MINEOLA SUBDIVISION MP 113.75 - 116.74
PROJECT NO: 1118021	CONSTRUCT SIDING EXTENSION
PROJECT TITLE: EROSION CONTROL PLAN	

Date: 11/22/21
 Project: 1118021
 Sheet: 1118021-01
 Title: EROSION CONTROL PLAN
 Author: EES
 Checker: NPO
 Designer: EES
 Drawn: EES
 Scale: AS SHOWN
 Notes: SEE SHEET 1118021-02 FOR EROSION CONTROL PLAN

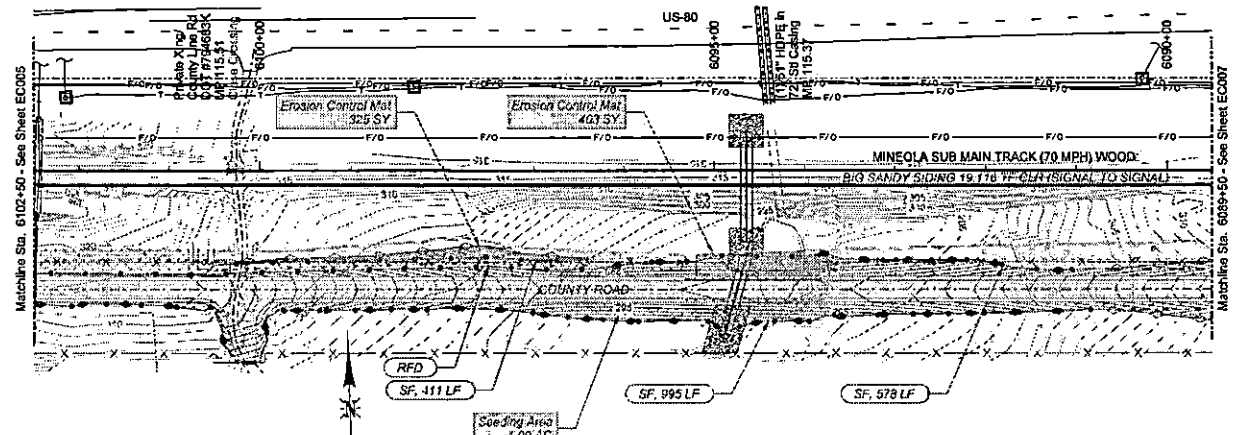
To Fada
& SP Jct.
Timetable West

To Gladewater
& Longview
Timetable East

EROSION CONTROL LEGEND:

-  **SF** INSTALL SILT FENCE, PER TXDOT TEMPORARY SEDIMENT CONTROL FENCE STANDARD EC(1) - 16.
-  **RFD** INSTALL TYPE 4 ROCK FILTER DAM, PER TXDOT STANDARD EC(2) - 16.
-  PROPOSED MAJOR CONTOUR
-  PROPOSED MINOR CONTOUR
-  EXISTING MAJOR CONTOUR
-  EXISTING MINOR CONTOUR
-  EROSION CONTROL MAT
-  CONSTRUCTION ENTRANCE

NOTE: SEEDING ON 4:1 SLOPES, ANYTHING GREATER USE EC MAT



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DAVID EVANS AND ASSOCIATES INC.
1843 Orange Prairie Road, Suite 104
College Station, TX 77845
Phone: 979.977.5600



DESIGNED BY: JES	UNION PACIFIC RAILROAD
CHECKED BY: NPO	
DATE: 11/19/2021	LOCATION & DESCRIPTION: BIG SANDY, TX
DRAWN BY: JES	MINEOLA SUBDIVISION MP 119.75 - 116.74
CONTRACT NO.: 19-0000000000	CONSTRUCT SIDING EXTENSION
SHEET TITLE: EROSION CONTROL PLAN	

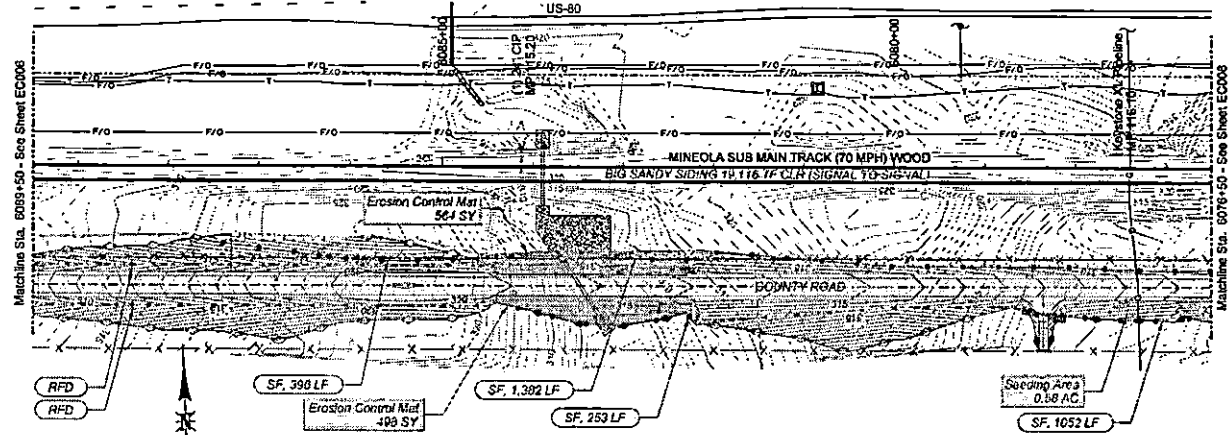
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 11/19/2021 10:47:20 AM

To Fada
 & SP Jct
 Timetable West

To Gladewater
 & Langview
 Timetable East

- EROSION CONTROL LEGEND:**
- SF** INSTALL SILT FENCE PER TXDOT TEMPORARY SEDIMENT CONTROL FENCE STANDARD EC(1) - 18.
 - RFD** INSTALL TYPE 4 ROCK FILTER DAM, PER TXDOT STANDARD EC(2) - 18.
 - PROPOSED MAJOR CONTOUR**
 - PROPOSED MINOR CONTOUR**
 - EXISTING MAJOR CONTOUR**
 - EXISTING MINOR CONTOUR**
 - EROSION CONTROL MAT**
 - CONSTRUCTION ENTRANCE**

NOTE: SEEDING ON 4:1 SLOPES, ANYTHING GREATER USE EC MAT



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DAVID EVANS AND ASSOCIATES
 INC.
 845 Green Plains Road, Suite 104
 College Station, TX 77945
 Phone 877/977,8620

UNION PACIFIC RAILROAD
 117/2021
 11/27/2021
 E2001 of E2001

UNION PACIFIC RAILROAD
 LOCATION & DESCRIPTION: BIG SANDY, TX
 MINEOLA SUBDIVISION MP 113.76 - 116.74
 CONSTRUCT SIDING EXTENSION
 SHEET TITLE: EROSION CONTROL PLAN

11/27/2021
 117/2021
 E2001 of E2001
 11/27/2021
 117/2021
 E2001 of E2001

Scale: 1 inch = 100 feet
 Date: 11/15/2021
 Project: MINEOLA SUB MAIN TRACK TO RPH WOOD
 Drawing: EROSION CONTROL PLAN
 Author: [Redacted]
 Check: [Redacted]

100% DESIGN
NOT FOR CONSTRUCTION

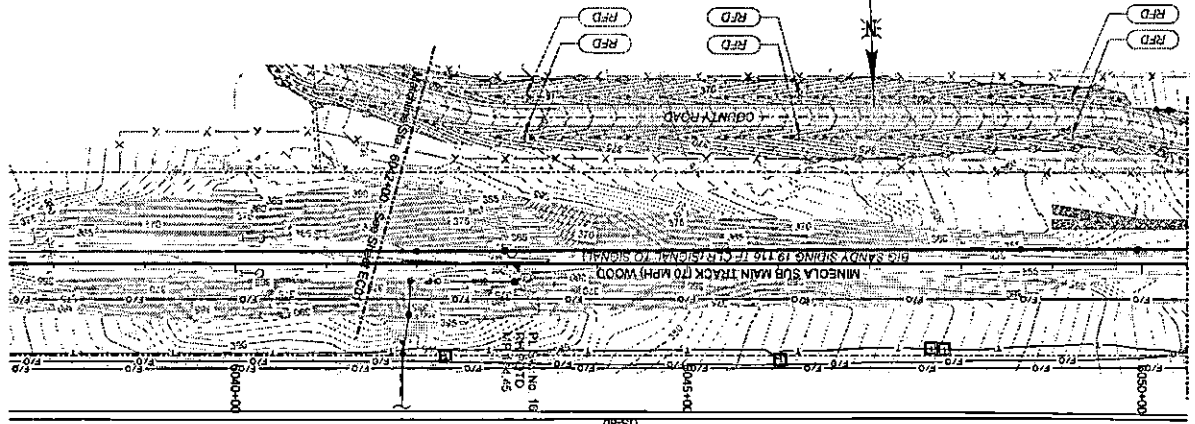


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 LEVA TURNER P.E. 111748
 REGISTERED PROFESSIONAL ENGINEER
 LICENSE NO. 111748
 STATE OF TEXAS

DAVID EVANS AND ASSOCIATES INC.
 1000 DOWNS ROAD
 HOUSTON, TEXAS 77056
 PHONE: 281.777.6600
 FAX: 281.777.6601
 WWW: DAVIDEVANS.COM



UNION PACIFIC RAILROAD
 CONSTRUCTION DEPARTMENT
 MINEOLA SUB MAIN TRACK TO RPH WOOD
 CONSTRUCTION SIDING EXTENSION
 BIG SANDY, TX 75826 - 118.74
 PROJECT NO. 118.74
 DRAWING NO. EROSION CONTROL PLAN



NOTE: SEEDING ON 4:1 SLOPES, ANYTHING GREATER USE EC MAT

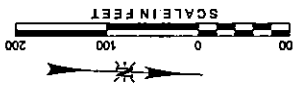
- EROSION CONTROL LEGEND:**
- INSTALL SILT FENCE PER TXDOT STANDARD ECR(1) - 16
 - INSTALL TYPE 4 ROCK FILTER DAM PER TXDOT STANDARD ECR(1) - 16
 - PROPOSED MAJOR CONTOUR
 - PROPOSED MINOR CONTOUR
 - EXISTING MAJOR CONTOUR
 - EXISTING MINOR CONTOUR
 - EROSION CONTROL MAT
 - CONSTRUCTION ENTRANCE

To Fada
 E SP Jct.
 Turntable West

To Gladewater
 & Longview
 Turntable East

Date: 11/11/2021
 Project: Union Pacific Railroad - Bldg. 118.74 - 118.76 - 118.78
 Location: Bldg. 118.74 - 118.76 - 118.78
 Scale: 1" = 100'

NOT FOR CONSTRUCTION
100% DESIGN

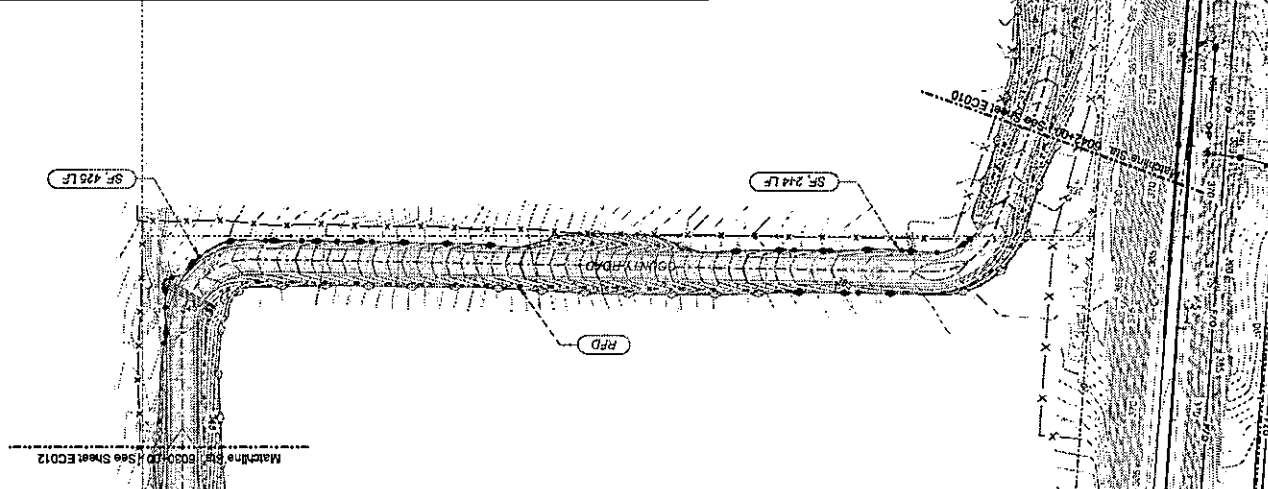


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DAVID EVANS AND ASSOCIATES INC.
 810 Orange Grove Road, Suite 101
 College Station, TX 77840
 Phone: 832.773.0000



UNION PACIFIC RAILROAD
 BLDG. 118.74 - 118.76 - 118.78
 CONSTRUCTION SILING EXTENSION
 EROSION CONTROL PLAN











- EROSION CONTROL LEGEND:**
- SF — SEDIMENT CONTROL FENCE STANDARD E0(1) - 16
 - RFD — INSTALL TYPE 4 ROCK FILTER DAM, PER TXDOT STANDARD E0(2) - 16
 - PROPOSED MAJOR CONTOUR
 - PROPOSED MINOR CONTOUR
 - EXISTING MAJOR CONTOUR
 - EXISTING MINOR CONTOUR
 - ▨ EROSION CONTROL MAT
 - ▩ CONSTRUCTION ENTRANCE

NOTE: SEEDING ON 4:1 SLOPES, ANYTHING GREATER USE EC MAT

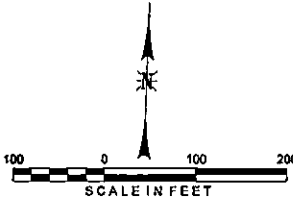
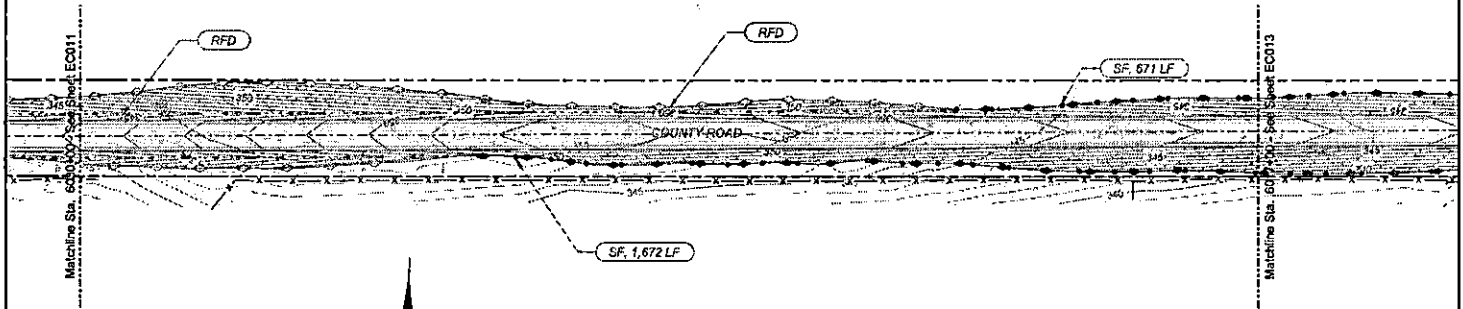
To Fada
& SP Jct.
Timetable West

To Gladewater
& Longview
Timetable East

EROSION CONTROL LEGEND:

-  **SF** INSTALL SILT FENCE, PER TXDOT TEMPORARY SEDIMENT CONTROL FENCE STANDARD EC(1) - 16.
-  **RFD** INSTALL TYPE 4 ROCK FILTER DAM, PER TXDOT STANDARD EC(2) - 16.
-  PROPOSED MAJOR CONTOUR
-  PROPOSED MINOR CONTOUR
-  EXISTING MAJOR CONTOUR
-  EXISTING MINOR CONTOUR
-  EROSION CONTROL MAT
-  CONSTRUCTION ENTRANCE

NOTE: SEEDING ON 4:1 SLOPES, ANYTHING GREATER USE EC MAT



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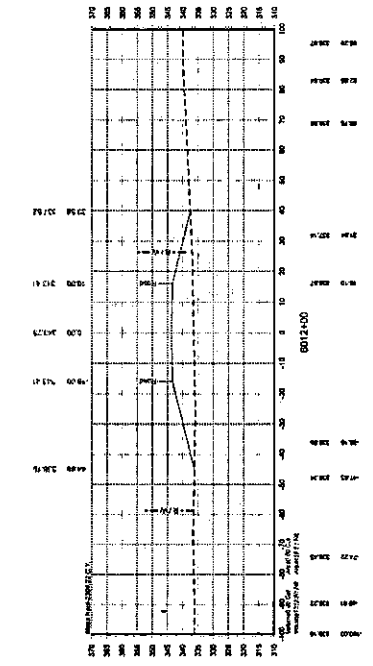
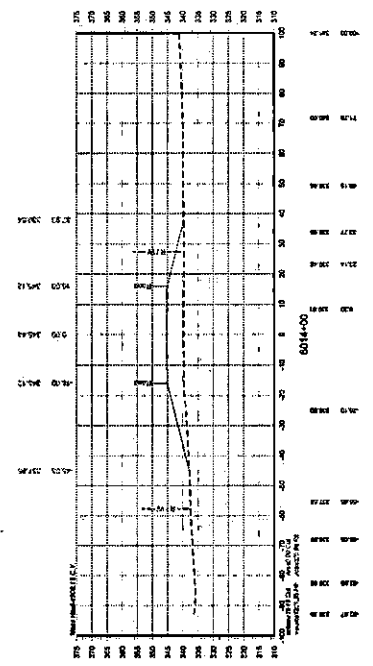
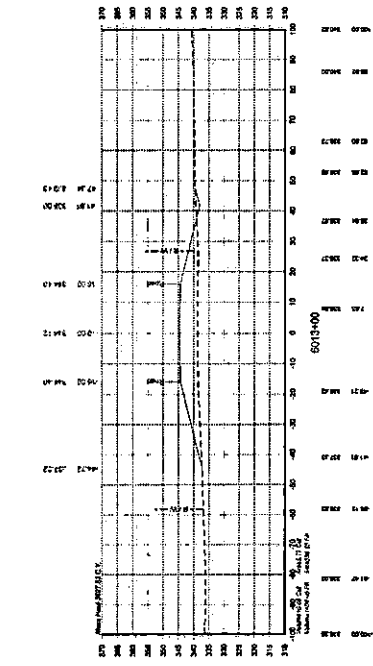
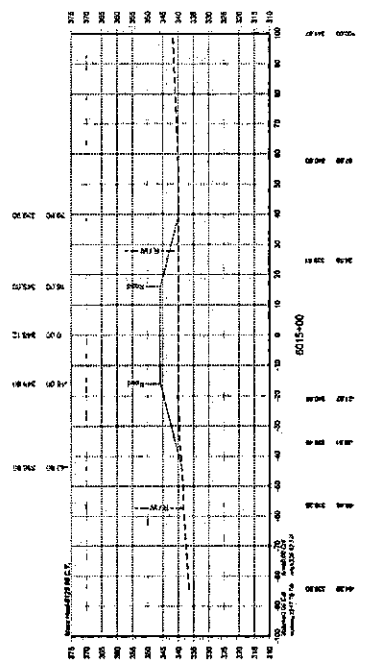
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DAVID EVANS AND ASSOCIATES INC.
1642 Grand Prairie Road, Suite 104
College Station, TX 77745
Phone: 979.277.8600



DESIGNED BY: CES	UNION PACIFIC RAILROAD
CHECKED BY: NPG	
DATE: 11/8/2021	
DRAWN BY: [blank]	
SCALE OF ECO(1):	LOCATION & DESCRIPTION: BIG SANDY, TX MINEOLA SUBDIVISION MP 113.76 - 116.74 CONSTRUCT BOUND EXTENSION
	SHEET TITLE: EROSION CONTROL PLAN

Date: 11/8/21
 User: JES
 Path: C:\Users\jturner\OneDrive\Documents\117263\117263.dwg
 Plot: 11/22/21 10:47:20 AM



DRAWN BY: **UNION PACIFIC RAILROAD**
 CHECKED BY: **UNION PACIFIC RAILROAD**
 DATE: **11/2/2021**
 PROJECT: **UNION PACIFIC RAILROAD**
 SHEET NO.: **118**
 SCALE: **AS SHOWN**
 DATE: **11/2/2021**
 PROJECT: **UNION PACIFIC RAILROAD**
 SHEET NO.: **118**
 SCALE: **AS SHOWN**



DAVID EVANS and ASSOCIATES Inc.
 840 Green Plaza Road Suite 104
 Houston, Texas 77077-2600
 Phone 713/777-2600

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 TEXAS REGISTERED ENGINEERING FIRM F-5424

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East Road

CROSS SECTIONS STATIONED TO STATION+00

Color: as built
 ANNUAL REPORT OF THE TEXAS DEPARTMENT OF TRANSPORTATION, 2020
 11/18/2021 11:18 AM
 11/18/2021 11:18 AM

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NOT FOR CONSTRUCTION

East Road

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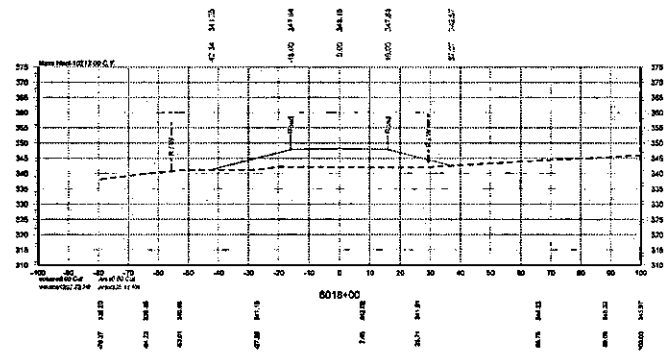
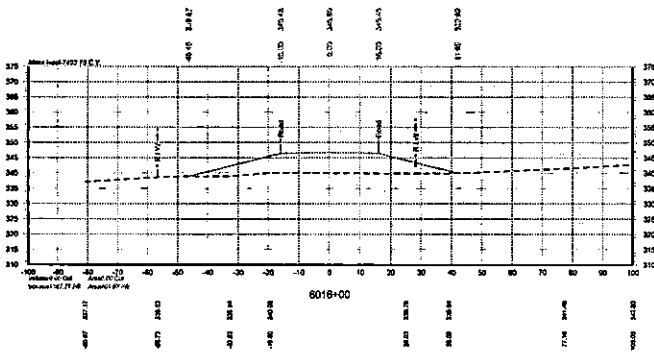
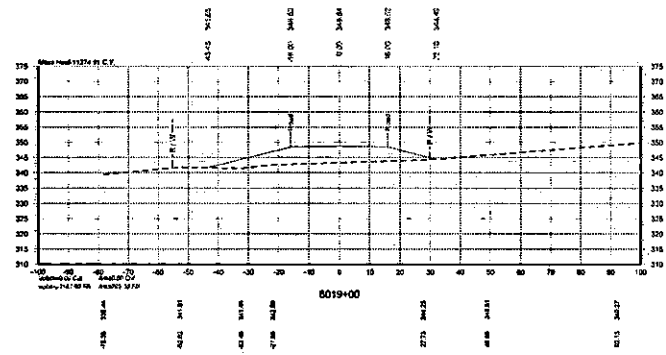
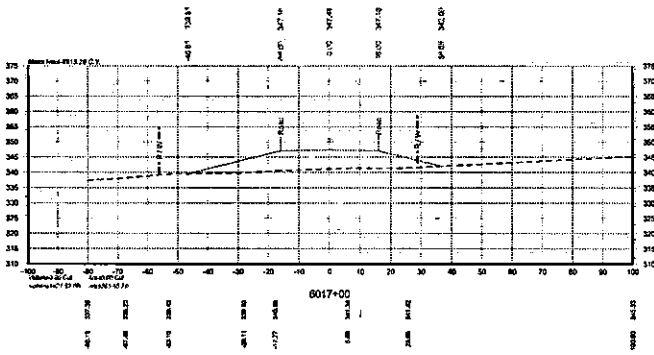


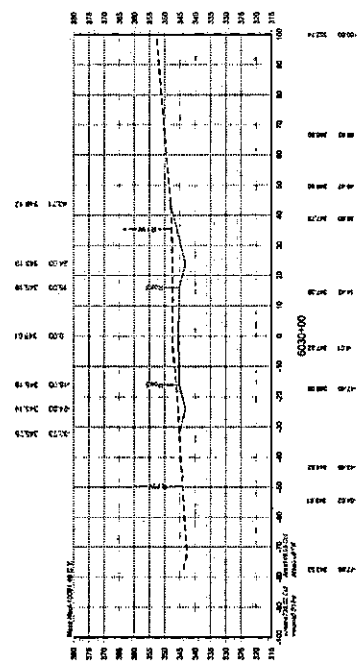
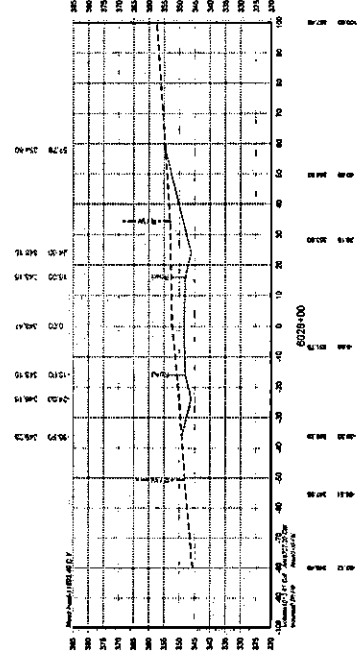
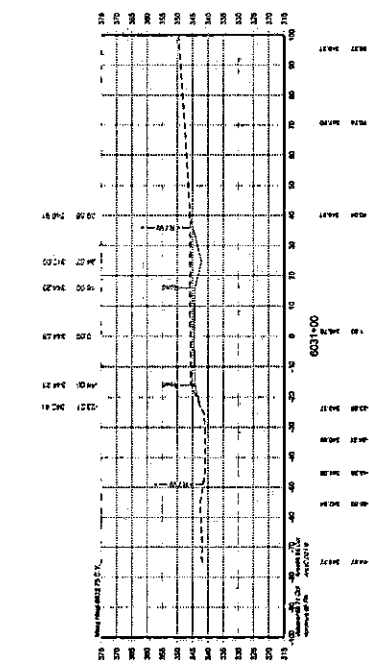
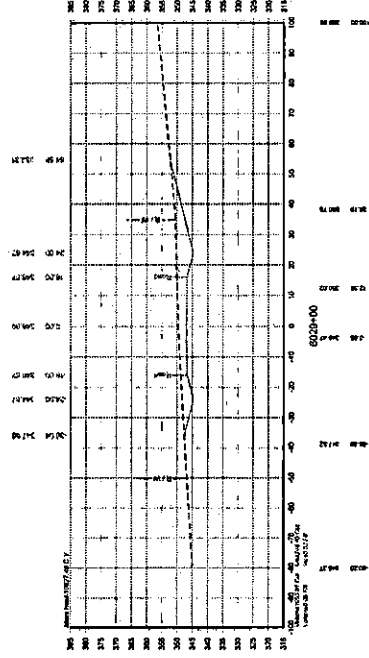
DAVID EVANS AND ASSOCIATES, INC.
1045 Orange Prairie Road, Suite 104
College Station, TX 77845
Phone: 979/577/2600



DESIGNED BY: JES
CHECKED BY: NPS
DATE: 11/18/2021
PROJECT NUMBER: 20037 of 2034
SHEET TITLE:

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION: BIG SANDY, TX
MNEOLA SUBDIVISION MP 113.75 - 116.74
CONSTRUCT EAST ROAD ALIGNMENT
CROSS SECTIONS STA. 6018+00 TO STA. 6019+00





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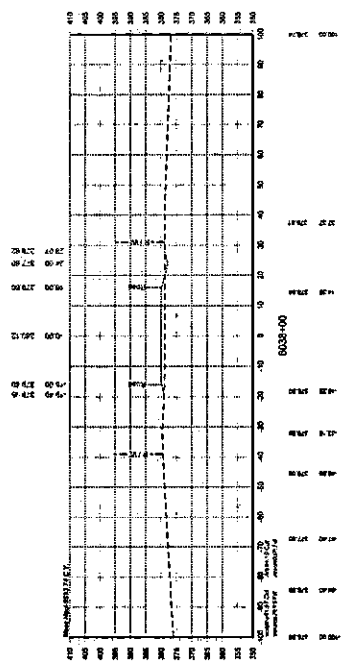
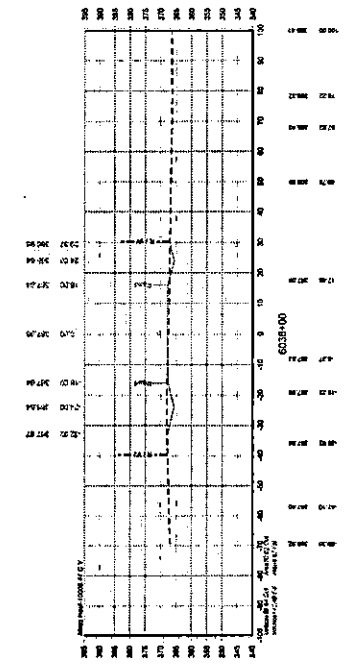
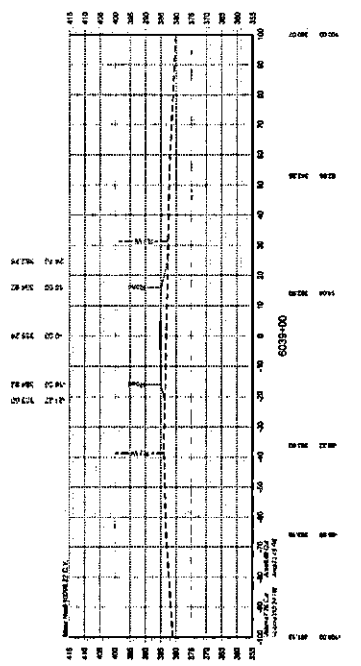
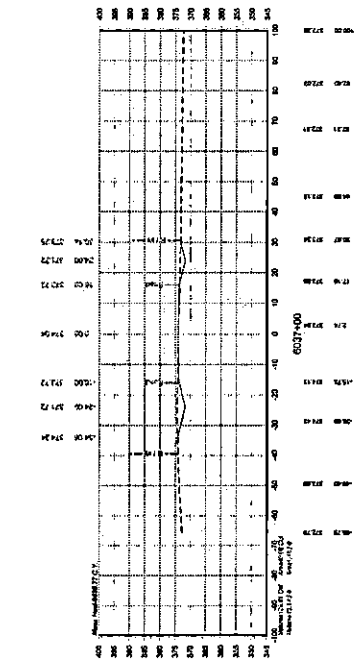
DAVID EVANS AND ASSOCIATES, INC.
 804 GULFVIEW DRIVE
 COLLEGE STATION, TEXAS 77943
 PHONE 767/7728000



UNION PACIFIC RAILROAD
 PROJECT NO. 11827201
 CONTRACT NO. 11827201
 SHEET TITLE: CROSS SECTIONS STA. 6029+00 TO STA. 6031+00

100% DESIGN NOT FOR CONSTRUCTION

East Road



100% DESIGN
NOT FOR CONSTRUCTION

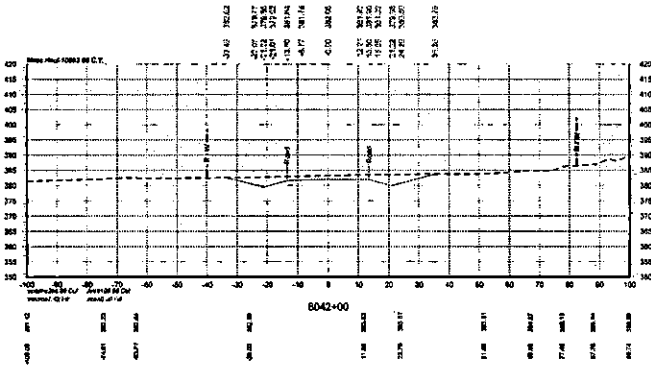
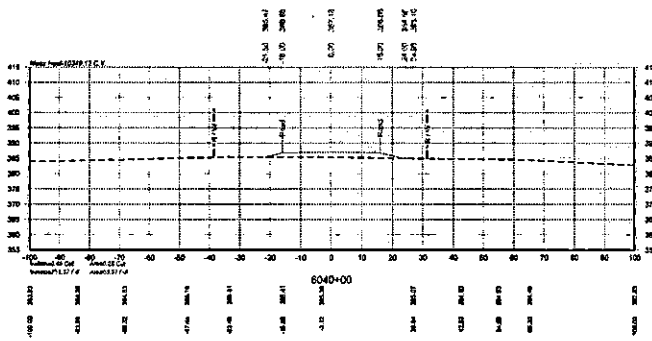
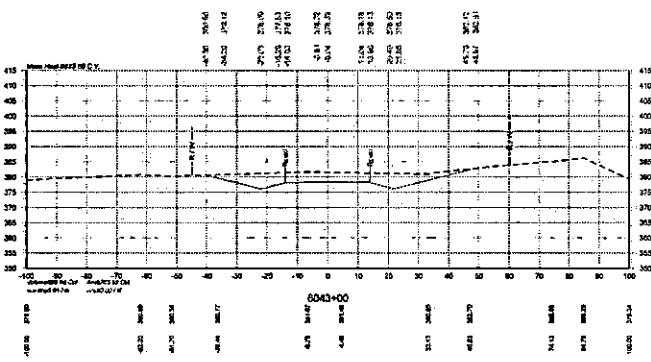
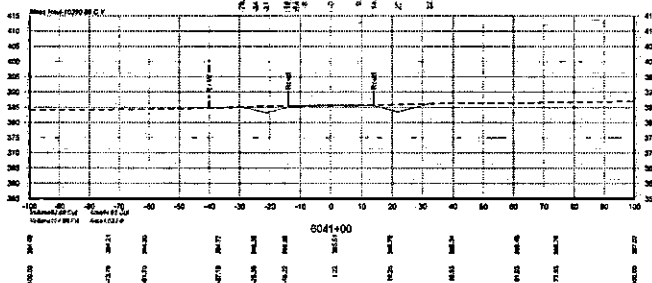
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DAVID EVANS AND ASSOCIATES, INC.
1900 Campbell Street, Suite 100
Dallas, Texas 75241
Phone: 972.977.5200



UNION PACIFIC RAILROAD
PROJECT NO. 1182021
DATE: 11/16/2021
DRAWN BY: J...
CHECKED BY: J...
SCALE: AS SHOWN
SHEET TITLE: CROSS SECTIONS STA. 6036+00 TO STA. 6038+00



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 Scale: 1/8"=1'-0"
 Plot Device: HPGL
 Plot Style: acad.ctb
 User: jturner

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East Road

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DAVID EVANS AND ASSOCIATES, INC.
 1545 Greene Plaza Road, Suite 104
 College Station, TX 77945
 Phone: 979.577.8200



UNION PACIFIC
 LOCATION: BIG SANDY, TX
 DATE: 1/18/2021
 SHEET NUMBER: 1008 OF 1004

UNION PACIFIC RAILROAD
 LOCATION: BIG SANDY, TX
 PROJECT: MAEOLA SUBDIVISION MP 113.76 - 116.74
 SHEET TITLE: CONSTRUCT EAST ROAD ALIGNMENT
 CROSS SECTIONS STA. 6040+00 TO STA. 6043+00

Color: white
 ANIMATE: 10/15/2021 10:28:45 AM
 1/19/2021 09:47:32
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East Road

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 LEVI J. TURNER, P.E. 417563
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 CONSTRUCTION PURPOSES.
 TEXAS REGISTERED ENGINEERING FIRM F-5543

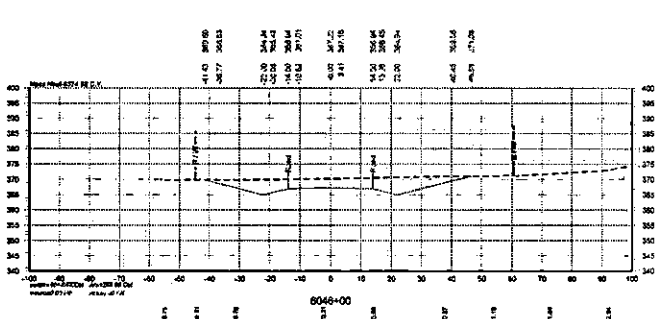
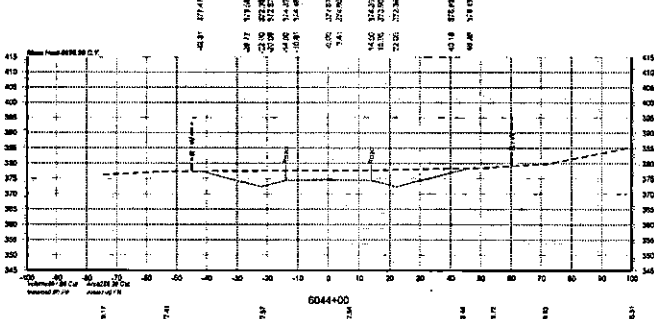
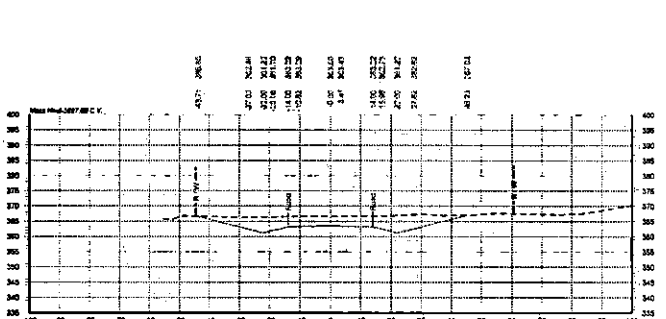
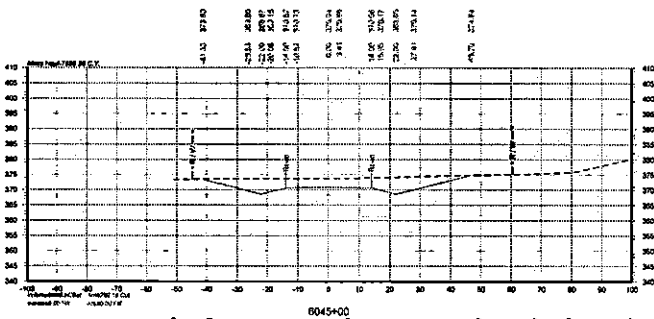


**DAVID EVANS
AND ASSOCIATES, INC.**
 1646 Orange Prairie Road, Suite 104
 College Station, TX 77945
 Phone: 979.777.2800



DRAWN BY: TCS
 CALCULATED BY: MPO
 DATE: 11/19/2021
 SHEET NUMBER: X101 of X104

**UNION PACIFIC
RAILROAD**
 LOCATION & DESCRIPTION: BIG SANDY, TX
 PROJECT: MCNEOLA SUBDIVISION MP 113.76 - 115.74
CONSTRUCT EAST ROAD ALIGNMENT
 SHEET TITLE: CROSS SECTIONS STA. 6044+00 TO STA. 6047+00



Civil 12/21/21
 N:\Projects\2021\0142\014201\014201\11677-11674\11674-11674.dwg
 1/17/2022 11/17/2022

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NOT FOR CONSTRUCTION**

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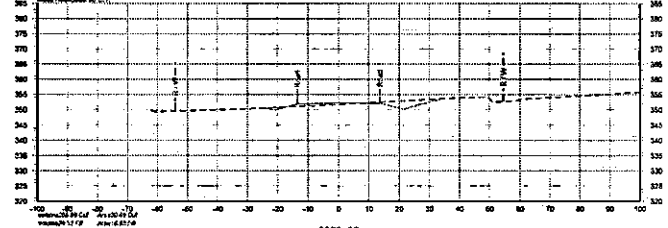
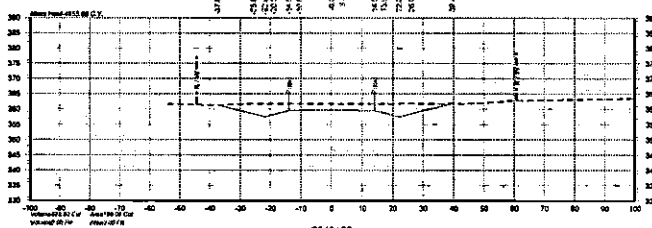
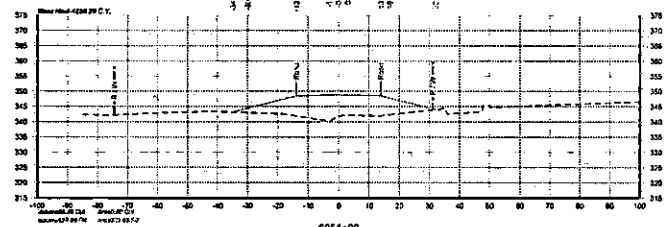
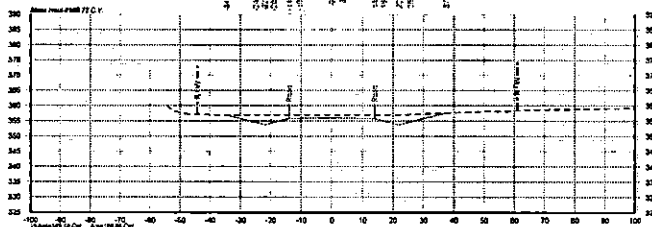


**DAVID EVANS
ASSOCIATES** INC.
1045 Orient Falls Road, Suite 104
College Station, TX 77845
Phone 979.777.5800



DESIGNED BY:
LEVA J. TURNER
CHECKED BY:
NPG
DATE:
11/16/2021
PROJECT NUMBER:
20116774

**UNION PACIFIC
RAILROAD**
LOCATION & DESCRIPTION:
BIG SANDY, TX
MANSFIELD SUBDIVISION MP 113.76 - 115.74
CONSTRUCT EAST ROAD ALIGNMENT
SHEET TITLE:
CROSS SECTIONS STA.6049+00 TO STA.6051+00



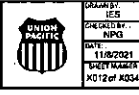
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 NOT FOR CONSTRUCTION

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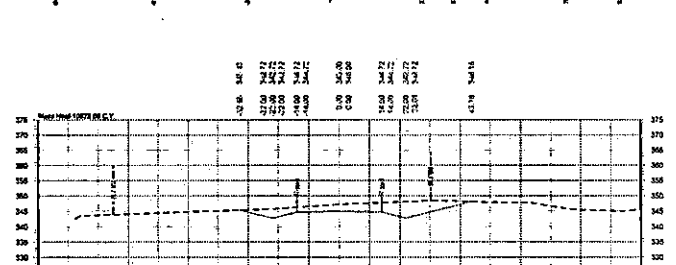
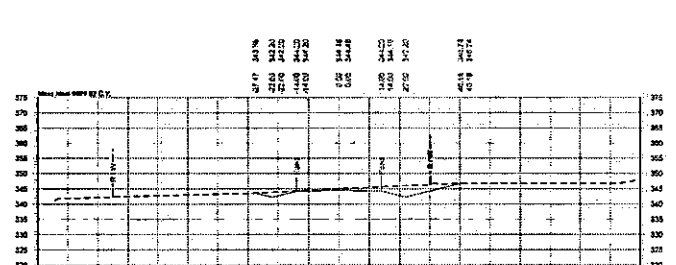
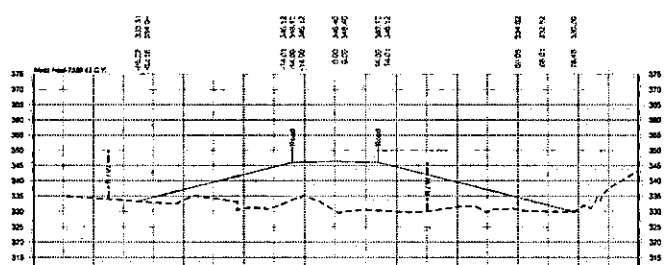
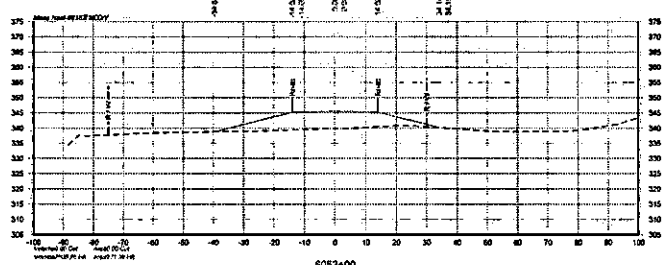
East Road

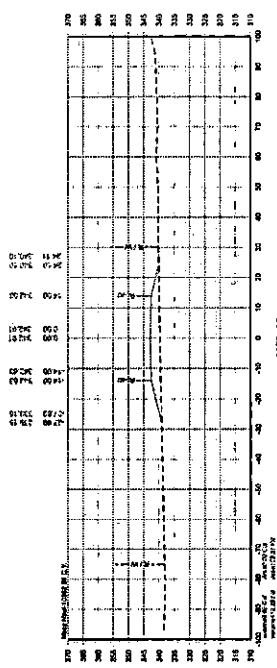
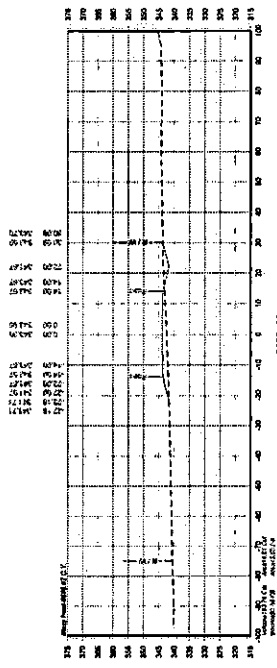
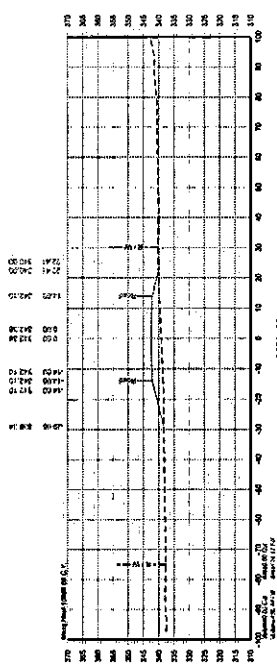
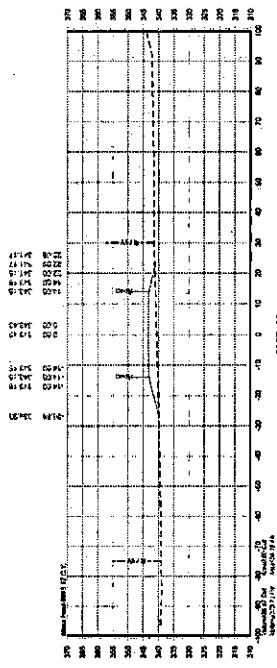
THIS DOCUMENT IS RELEASED FOR THE
 PURPOSE OF PROJECT BIDDING AND
 PERMITTING UNDER THE AUTHORITY OF
 LEW J. TURNER, P.E., VT204
 ON 11/8/2021, IT IS NOT TO BE USED FOR
 CONSTRUCTION PURPOSES.
 TEXAS REGISTERED ENGINEERING FIRM F-6543


**DAVID EVANS
 AND ASSOCIATES
 INC.**
 1643 Orange Grove Road, Suite 104
 College Station, TX 77845
 Phone: 773.877.5500



DRAWN BY: NIPG DATE: 11/8/2021 PROJECT NAME: MINEOLA SHEET NO: 1012 of 1034	UNION PACIFIC RAILROAD LOCATION & DESIGN BIG SANDY, TX MINEOLA SUBDIVISION MP 113.78 - 116.74 CONSTRUCT EAST ROAD ALIGNMENT SHEET TITLE: CROSS SECTIONS STA. 6052+00 TO STA. 6055+00
--	--





THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF PROJECT BIDDING AND CONTRACT ADMINISTRATION ONLY. IT IS NOT TO BE USED FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN AUTHORITY OF LEVI J. TURNER, P.E., 117403 TEXAS REGISTERED ENGINEERING FIRM F-5543



DAVID EVANS AND ASSOCIATES, INC.
 2801 W. UNIVERSITY BLVD.
 CAMP SPRING, TEXAS 77943
 PHONE 737/377-5200

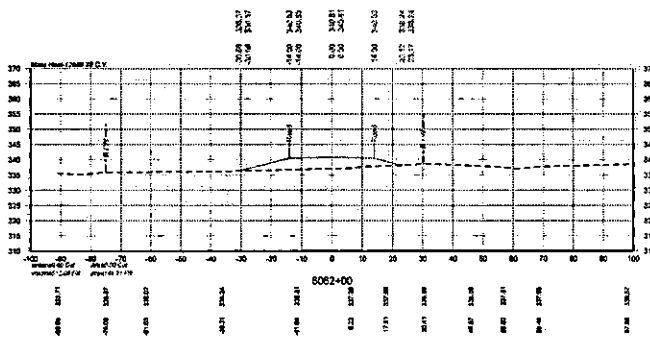
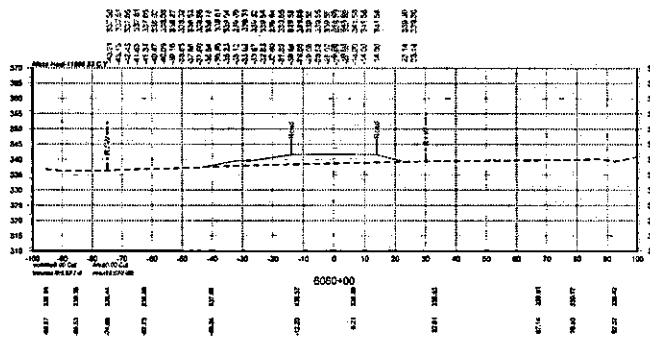
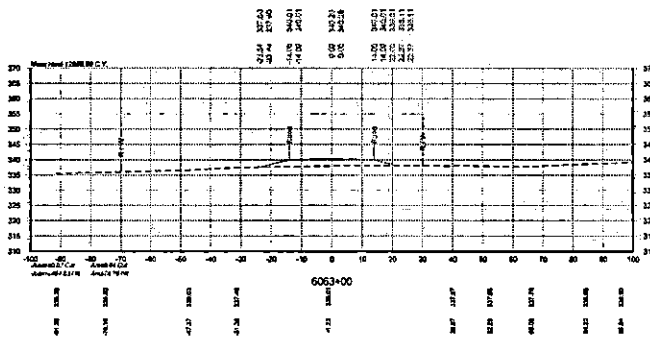
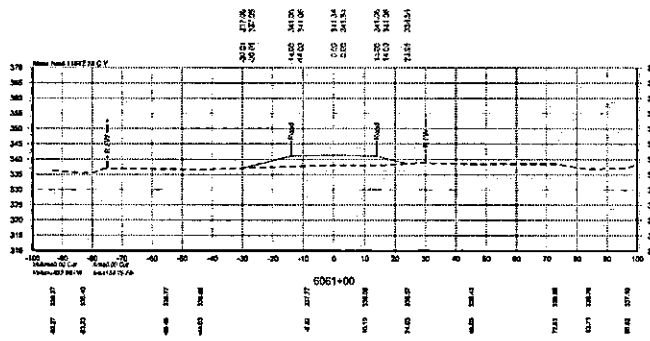


UNION PACIFIC RAILROAD
 CONTRACT NO. 117403
 PROJECT: CONSTRUCT EAST ROAD ALIGNMENT
 WEST THE CROSS SECTIONS STA. 8056+00 TO STA. 8059+00

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East Road

Civil, Survey, Mechanical, Electrical, and Structural Engineering, P.E. Services, SIGMA, Inc.
 1100 E. 17th Street, Suite 200, Tulsa, Oklahoma 74106
 (918) 437-1111
 (918) 437-1112
 (918) 437-1113



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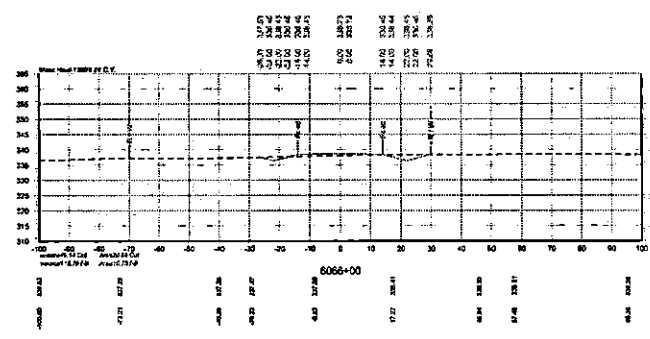
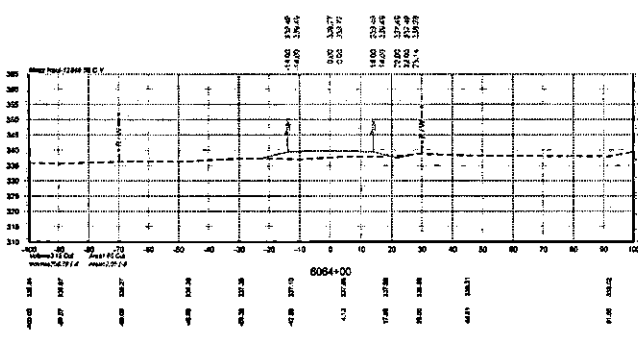
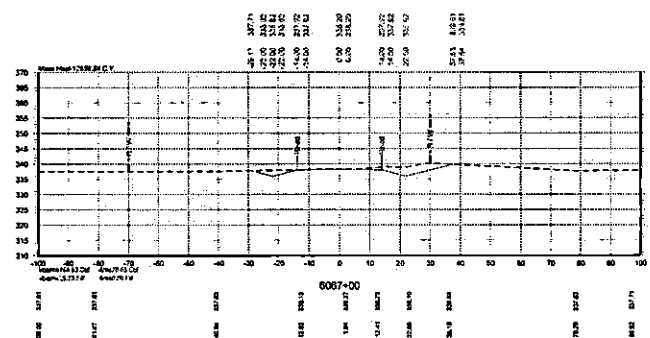
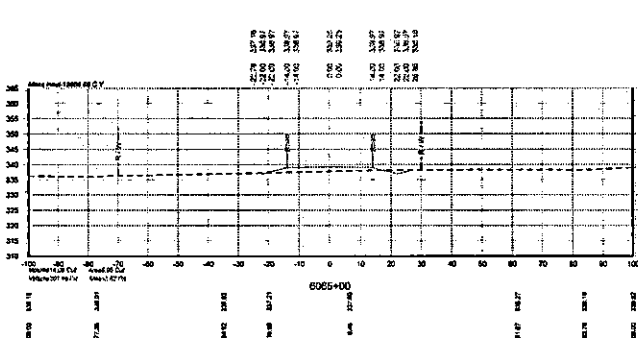
DAVID EVANS ASSOCIATES, INC.
 1643 Queens Prairie Road, Suite 904
 College Station, TX 77845
 Phone 979.977.5600



DRAWN BY: JES
 CHECKED BY: NPG
 DATE: 11/8/2021
 TWEET NUMBER: 1014-01-1034

UNION PACIFIC RAILROAD
 LOCATION & DESCRIPTION: BIG SANDY, TX
 MANEOLA SUBDIVISION MP 113.76 - 118.74
 CONSTRUCT EAST ROAD ALIGNMENT
 SHEET TITLE: CROSS SECTIONS STA. 6060+00 TO STA. 6063+00

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 PURPOSE OF PROJECT BIDDING AND
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 LEVI J. TURNER, P.E. 117653
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 TEXAS REGISTERED ENGINEERING FIRM F-6543



**DAVID EVANS
AND ASSOCIATES INC.**
 1645 Ormond Prairie Road, Suite 104
 College Station, TX 77845
 Phone 979.777.2600



DRAWN BY: ESJ
 CHECKED BY: NPO
 DATE: 11/18/2021
 DWG NO: 220770
 X015 of X034

**UNION PACIFIC
RAILROAD**

LOCATION & DESCRIPTION: **BIG SANDY, TX**
MENOLA SUBDIVISION MP 113.78 - 116.74

PROJECT: **CONSTRUCT EAST ROAD ALIGNMENT**

SHEET TITLE: **CROSS SECTIONS STA. 6064+00 TO STA. 6067+00**

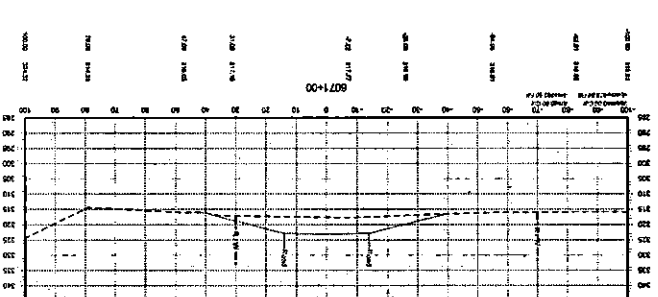
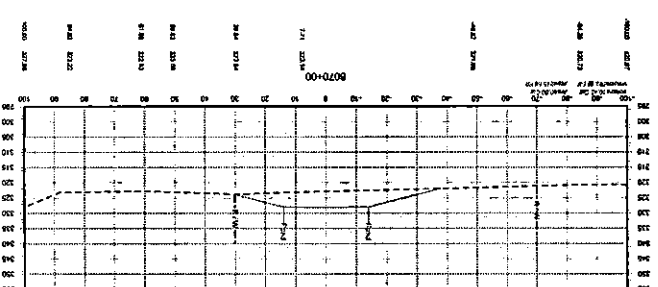
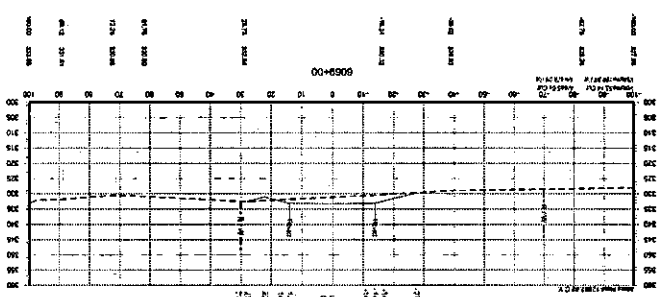
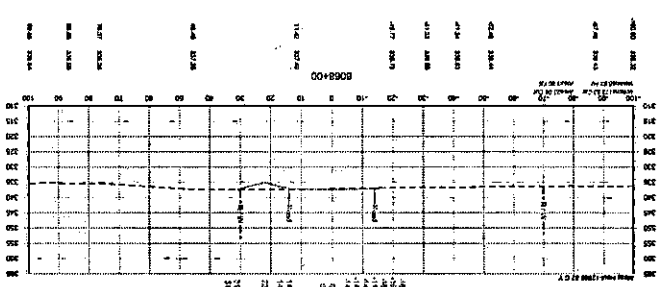
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DAVID EVANS AND ASSOCIATES INC.
1000 DOWNEY BLVD SUITE 100
DALLAS, TEXAS 75203
PHONE: 972.382.1000
FAX: 972.382.1001
WWW.DA-INC.COM

UNION PACIFIC
RAILROAD
CONSTRUCTION & MAINTENANCE
MEXIA SUBDIVISION MP 113.76 - 115.74
BIG SANDY, TX
CROSS SECTIONS STA 6068+00 TO STA 6071+00



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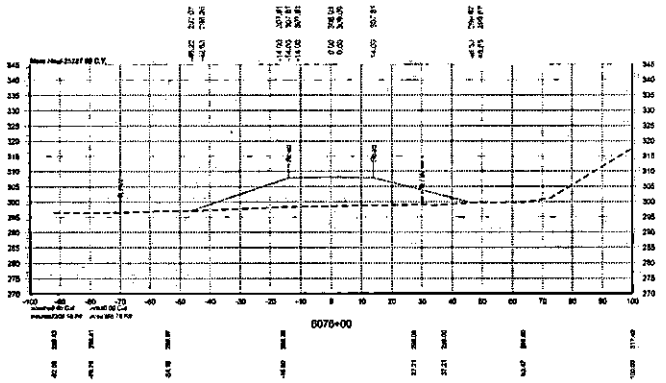
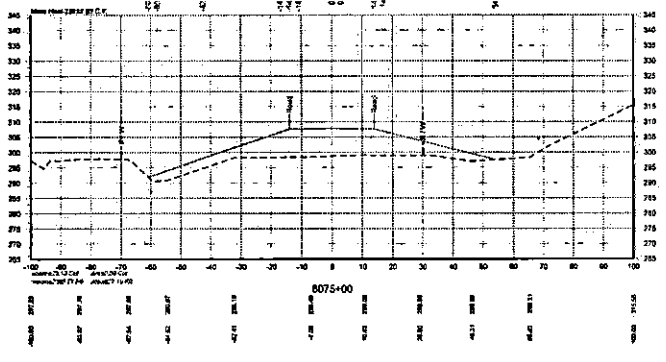
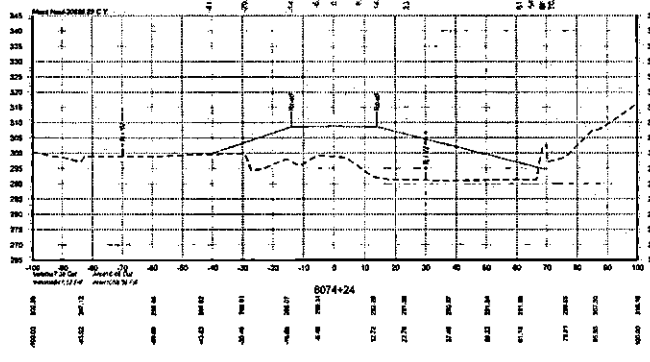
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DAVID EVANS AND ASSOCIATES, INC.
 1545 Owens Prairie Road, Suite 104
 College Station, TX 77945
 Phone: 879.877.2800



DRAWN BY: [blank]
 CHECKED BY: [blank]
 DATE: 11/28/2021
 SHEET NUMBER: X015 of 3054

UNION PACIFIC RAILROAD
 LOCATION & ELEVATION: BIG SANDY, TX
 PROJECT: AGENOLA SUBDIVISION NIP 113.75 - 116.74
 CONSTRUCT EAST ROAD ALIGNMENT
 SHEET TITLE: CROSS SECTIONS STA. 8074+24 TO STA. 8076+00



Color Modeller: JAMES L. TURNER, P.E., 11111 West Loop South, Suite 1000, Houston, TX 77040
 281-486-4646
 JAMES.L.TURNER@JLTURNER.COM
 DATE: 11/18/2021

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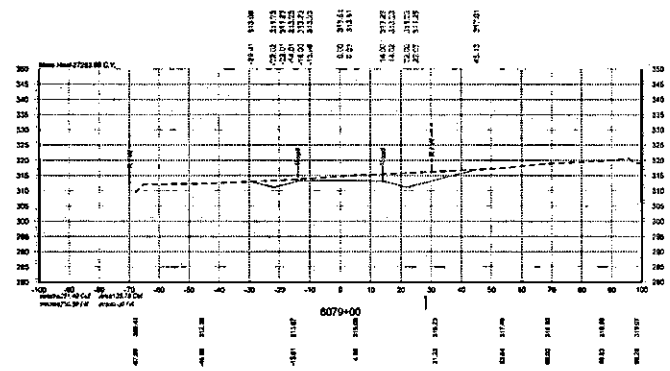
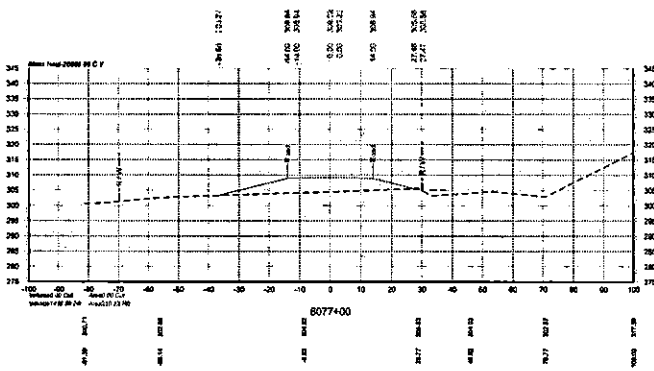
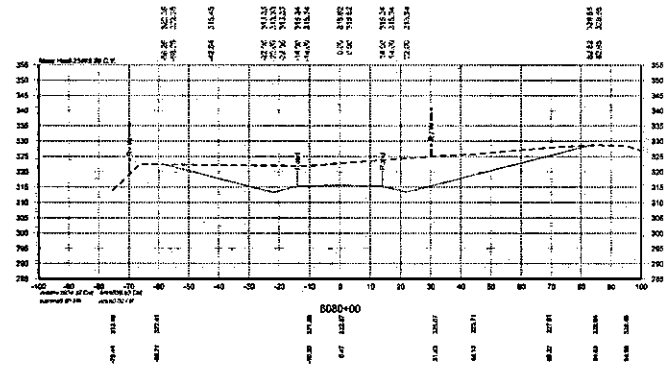
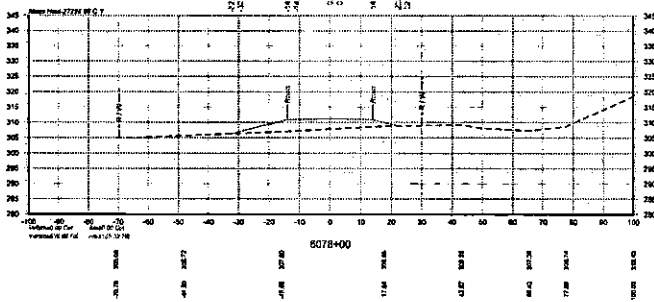
East Road

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DAVID EVANS ASSOCIATES INC.
 1642 Oriens Prairie Road, Suite 604
 College Station, TX 77845
 Phone: 979 277 2600



DESIGNED BY: JES	UNION PACIFIC RAILROAD LOCATION & DESCRIPTION: BIG SANDY, TX MENEOLA SUBDIVISION MP 113.76 - 116.74 CONSTRUCT EAST ROAD ALIGNMENT
CHECKED BY: NPO	
DATE: 11/18/2021	
DATE PLOTTED: 11/18/2021	
SHEET TITLE: CROSS SECTIONS STA. 8077+00 TO STA. 8080+00	



Civil Station: 6082+00 to 6083+13
 PLAN: 11/15/2021
 DRAWN: J. G. GIBSON
 CHECKED: M. J. GIBSON
 DATE: 11/15/2021
 PROJECT: CONSTRUCT EAST ROAD ALIGNMENT

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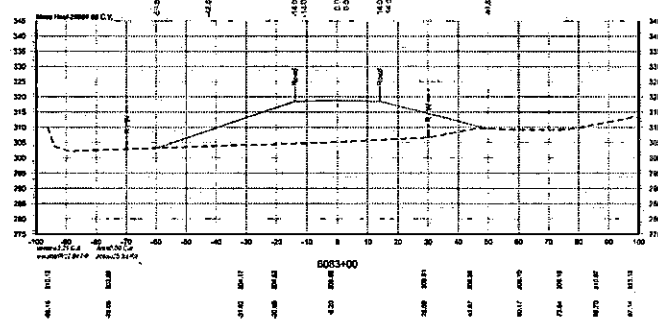
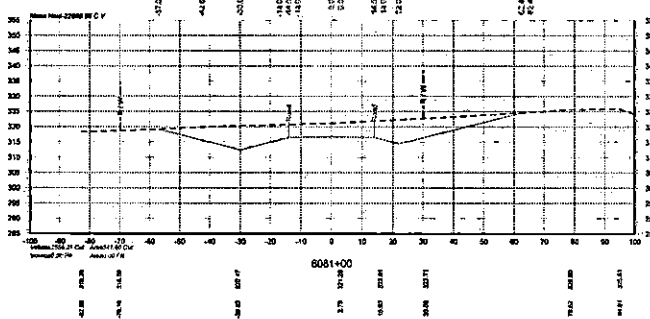
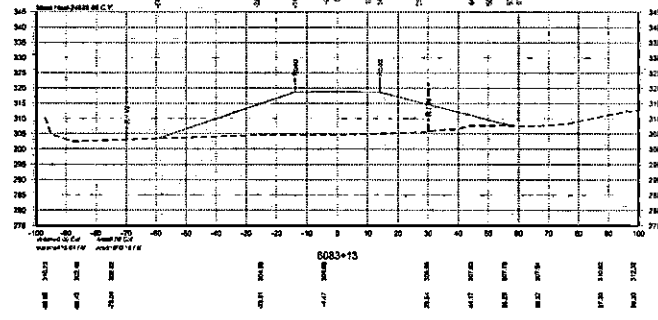
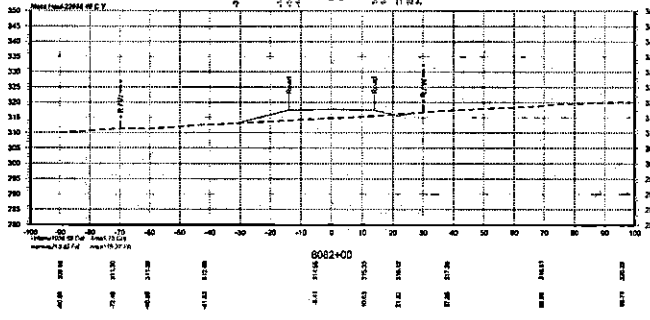


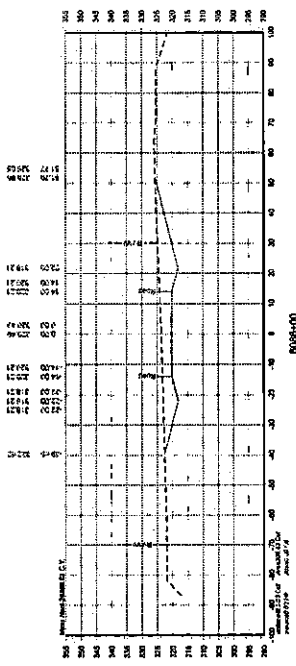
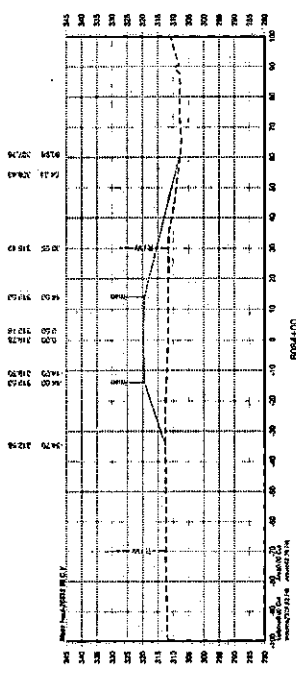
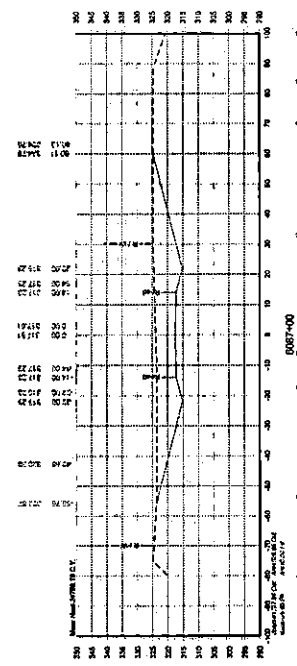
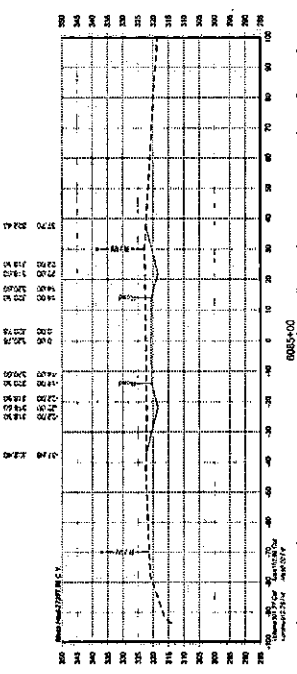
DAVID EVANS AND ASSOCIATES INC.
 1845 Greene Prairie Pkwy, Suite 104
 College Station, TX 77945
 Phone: 979/777-5000



DATE: 11/15/2021
 SHEET NUMBER: A020 of X034
 SHEET TITLE:

UNION PACIFIC RAILROAD
 LOCATION & DESCRIPTION: BIG SANDY, TX
 MINEOLA SUBDIVISION MP 113.76 - 116.74
 CONSTRUCT EAST ROAD ALIGNMENT
 CROSS SECTIONS STA. 6081+00 TO STA. 6083+13





THIS DRAWING IS TO BE USED FOR THE PURPOSE OF PROJECT BIDDING AND PERMITTING UNDER THE AUTHORITY OF THE TEXAS DEPARTMENT OF TRANSPORTATION ON 11/20/2021. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES. TEXAS REGISTERED ENGINEERING FIRM F-5542



DAVID EVANS AND ASSOCIATES INC.
 848 Green Plains Road, Suite 100
 College Station, TX 77704
 Phone: 601.777.2222

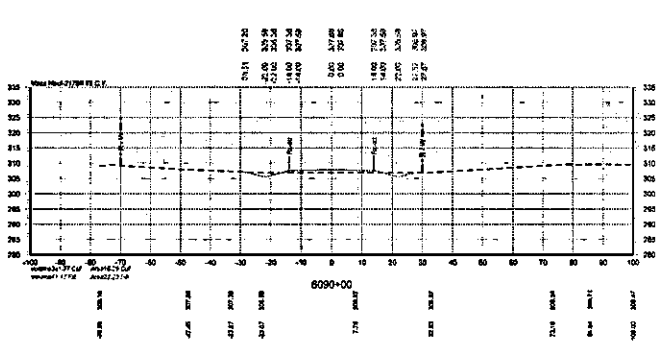
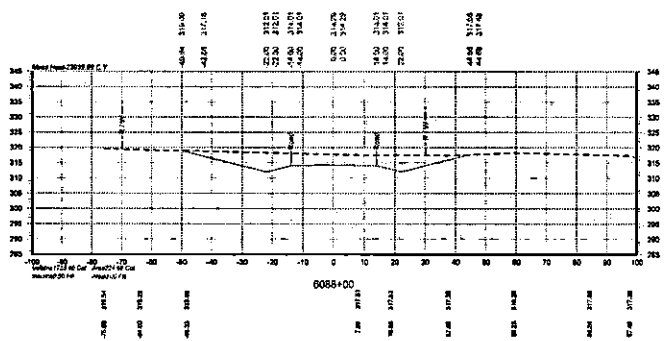
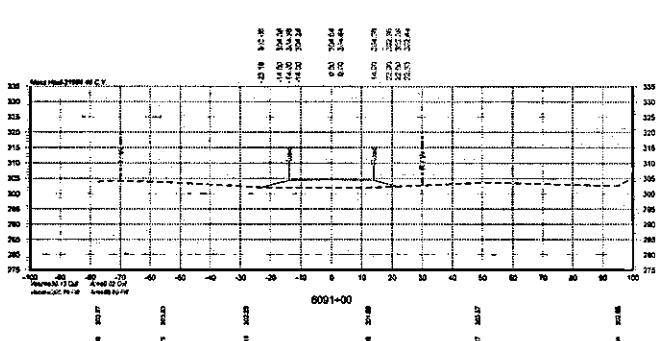
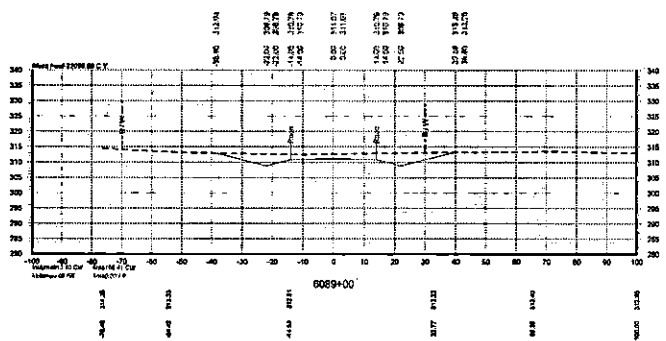
UNION PACIFIC RAILROAD
 PROJECT NO. 13-0000000000
 BIG SANDY, TX
 MENEOLA SUBDIVISION NIP 113.78 - 118.74
 CONSTRUCT EAST ROAD ALIGNMENT
 SHEET NO. 001
 CROSS SECTIONS STA. 600+00 TO STA. 607+00

100% DESIGN
NOT FOR CONSTRUCTION

East Road

DATE: 11/20/21
 DRAWN: M. J. WILSON
 CHECKED: M. J. WILSON
 PROJECT: 13-0000000000
 SHEET: 001 OF 001
 TITLE: CONSTRUCT EAST ROAD ALIGNMENT

Color scale: 1/8" = 10' (vertical), 1/4" = 100' (horizontal). All dimensions in feet. Stationing in 100-foot increments. Elevation in feet above sea level.

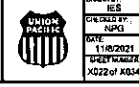


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East Road

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF PROJECT BIDDING AND PERMITTING UNDER THE AUTHORITY OF LEVA J. TURNER, P.E. #17543 ON 11/02/2021. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES. TEXAS REGISTERED ENGINEERING FIRM F-6543

DAVID EVANS AND ASSOCIATES INC.
 1045 Orange Prairie Road, Suite 104
 College Station, TX 77845
 Phone: 979.772.2600



UNION PACIFIC RAILROAD
 LOCATION & DESCRIPTION: BIG SANDY, TX
 MINEOLA SUBDIVISION MP 113.75 - 116.74
 CONSTRUCT EAST ROAD ALIGNMENT
 CROSS SECTIONS STA. 6088+00 TO STA. 6091+00

Civil: [unclear], [unclear]
 Survey: [unclear]
 1/1/2021 07:47:20

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East Road

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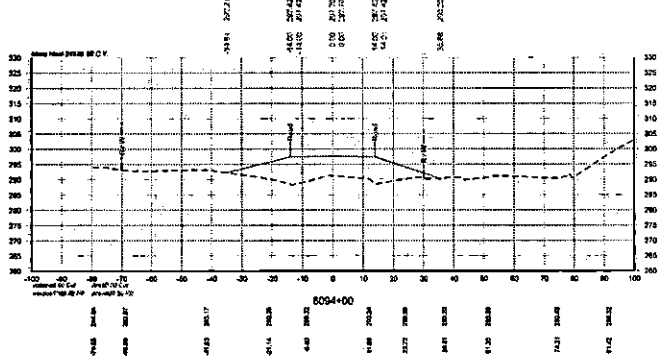
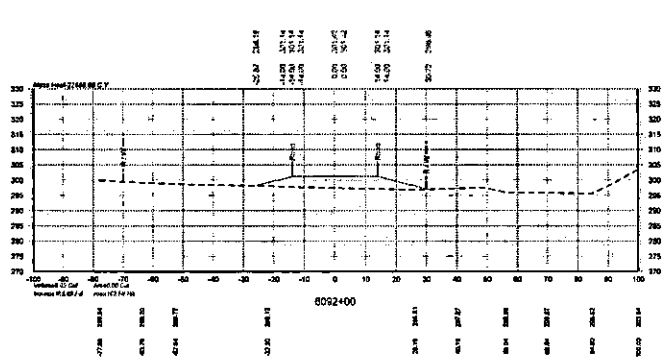
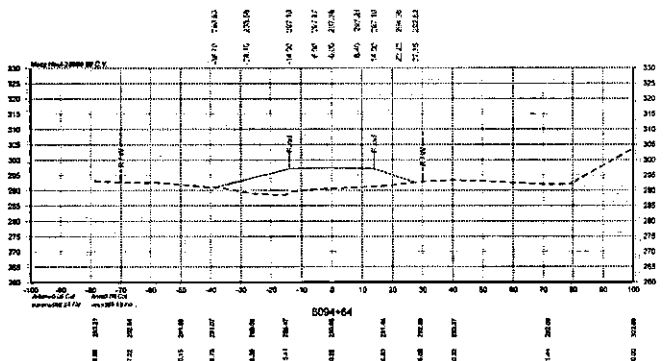
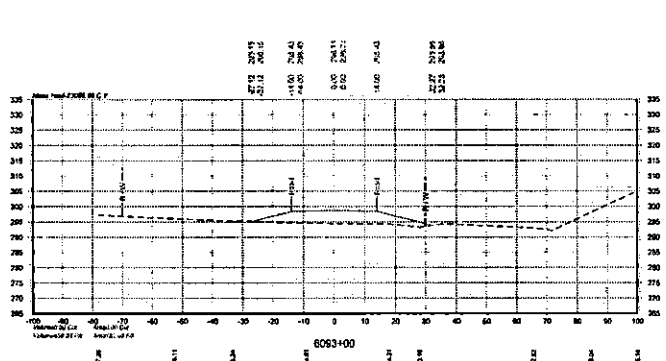


DAVID EVANS AND ASSOCIATES
INC.
1845 Cypress Park Road, Suite 804
College Station, TX 77845
Phone: 979.577.2600

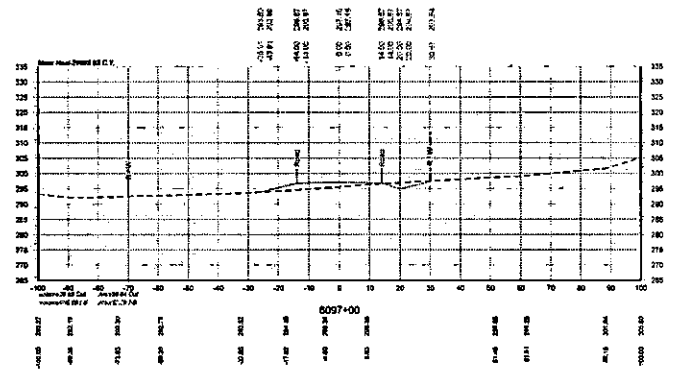
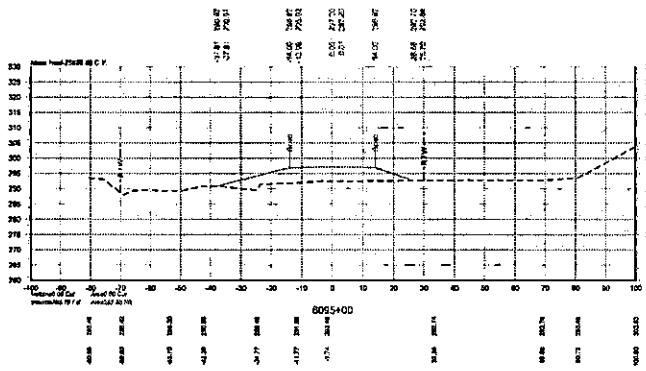
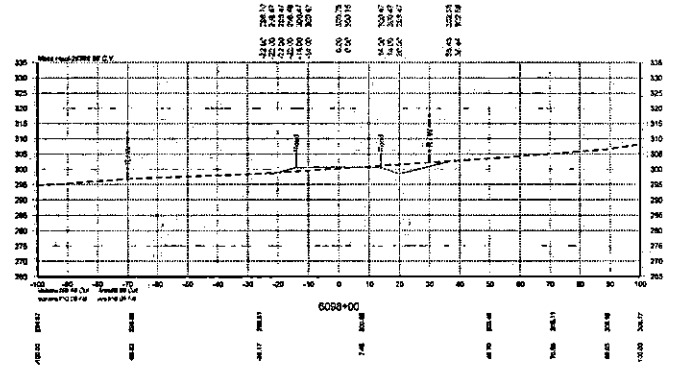
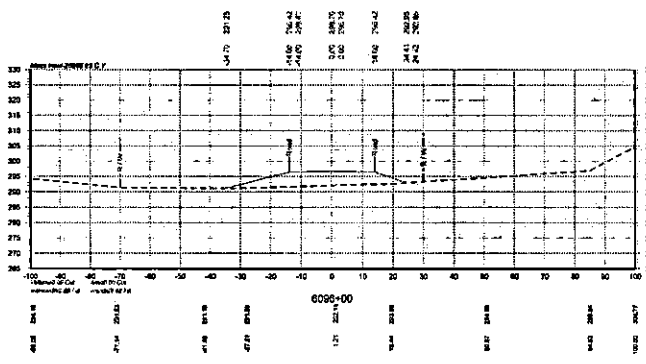


UNION PACIFIC

DATE: 11/8/2021	PROJECT: MINEOLA SUBDIVISION MP 113.76 - 116.74
CONTRACT: K023 W 3034	LOCATION & DESCRIPTION: BIG SANDY, TX
SHEET TITLE: CONSTRUCT EAST ROAD ALIGNMENT	
CROSS SECTIONS STA. 6092+00 TO STA. 6094+64	



CROSS SECTION 1
 STA 6095+00 TO STA 6098+00
 DATE: 11/19/2021
 DRAWN BY: JMC
 CHECKED BY: JMC
 APPROVED BY: JMC



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NOT FOR CONSTRUCTION

East Road

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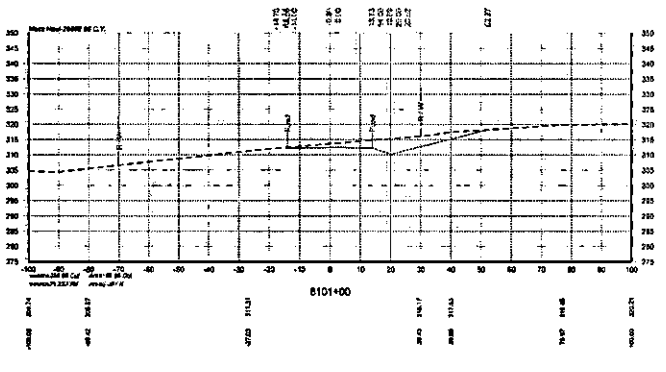
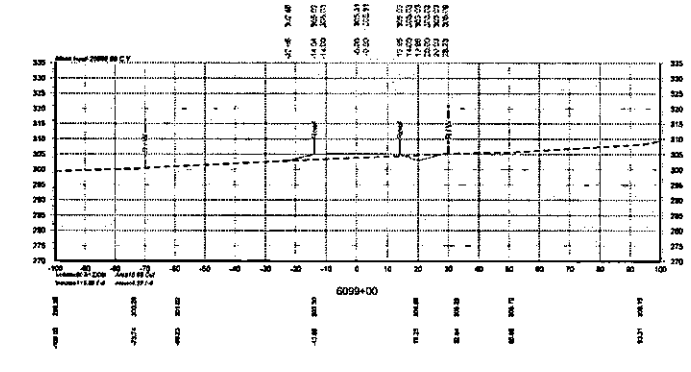
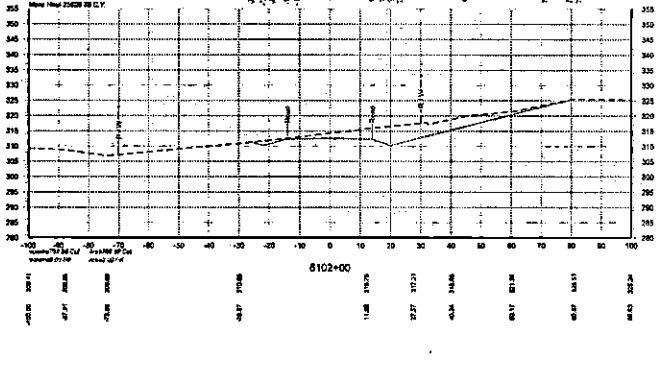
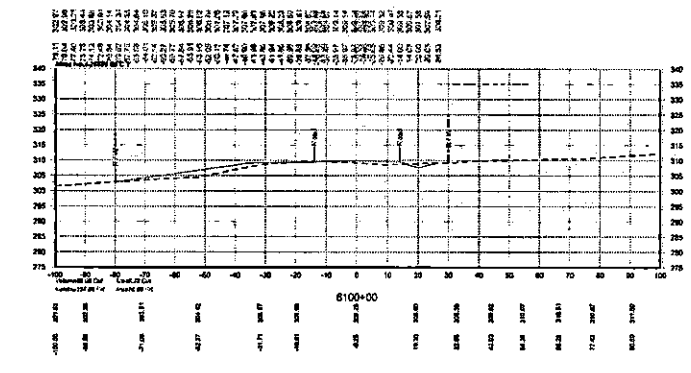
DAVID EVANS AND ASSOCIATES, INC.
1645 Ormeau Park Road, Suite 504
College Station, TX 77845
Phone 779.777.5800



DATE: 11/19/2021
DRAWN BY: JMC
CHECKED BY: JMC
APPROVED BY: JMC

UNION PACIFIC RAILROAD	LOCATION & DESIGN: BIG SANDY, TX
	MENEOLA SUBDIVISION MP 113.76 - 118.74
	CONSTRUCT EAST ROAD ALIGNMENT
SHEET TITLE: CROSS SECTION'S STA. 6095+00 TO STA. 6098+00	

Order website: www.unionpacific.com
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 1/7/2021 1:47:52 PM



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East Road

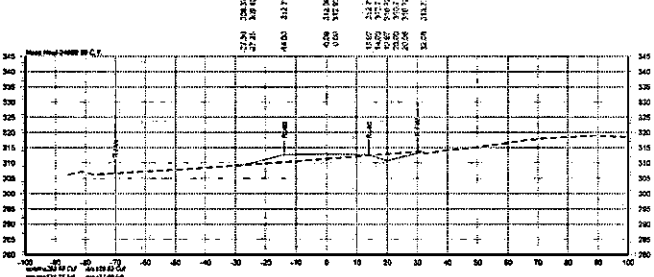
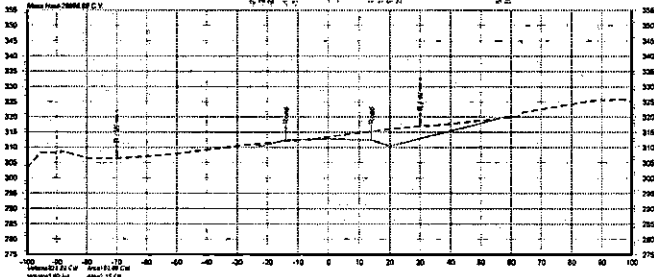
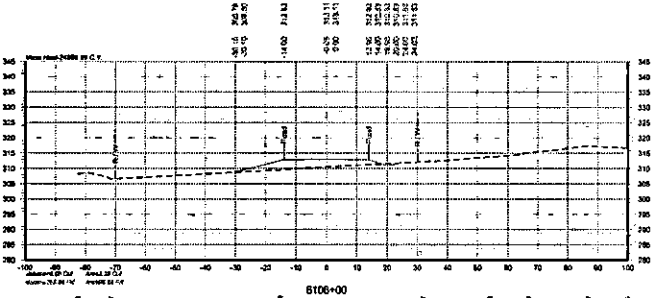
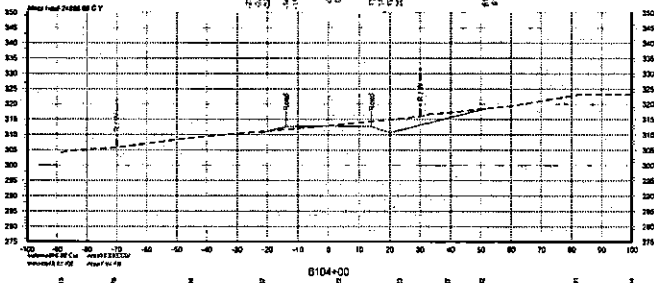
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DAVID EVANS AND ASSOCIATES, INC.
 1545 Orange Prairie Road, Suite 104
 College Station, TX 77943
 Phone 979.777.2800

UNION PACIFIC RAILROAD

DESIGNED BY: EES
 CALCULATED BY: NPG
 DATE: 11/16/2021
 SHEET NUMBER: 2025 of 2124
UNION PACIFIC RAILROAD
 LOCATION AND DESCRIPTION: BIG SANDY, TX
 MINEOLA SUBDIVISION MP 113.78 - 115.74
 CONSTRUCT EAST ROAD ALIGNMENT
 SHEET TITLE: CROSS SECTIONS STA. 6099+00 TO STA. 6102+00

Color table
 11/21/2021 11:05:35 AM
 11/21/2021 11:05:35 AM
 11/21/2021 11:05:35 AM
 11/21/2021 11:05:35 AM



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 LEVA J. TURNER, P.E. 157563
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 TEXAS REGISTERED ENGINEERING FIRM F-5543

**DAVID EVANS
 AND ASSOCIATES** INC.
 1045 Ground Prairie Road, Suite 104
 College Station, TX 77949
 Phone 779.777.9900



DESIGNED BY: EJS CHECKED BY: NPG DATE: 11/26/2021 SHEET NO.: 2026 of 2034	UNION PACIFIC RAILROAD LOCATION & SEE SCALE: BIG SANDY, TX MINEOLA SUBDIVISION MP 113.75 - 116.74 CONSTRUCT EAST ROAD ALIGNMENT SHEET TITLE: CROSS SECTIONS 6103+00 TO 6106+00
--	---

DATE: 11/19/2021
 TIME: 10:00 AM
 PROJECT: MINEOLA SUBDIVISION IMPROVEMENTS, PHASE 1B, STA. 1107+00 TO 1116+00
 DRAWING: CROSS SECTIONS
 SHEET: 1107+00

100% DESIGN
NOT FOR CONSTRUCTION

East Road

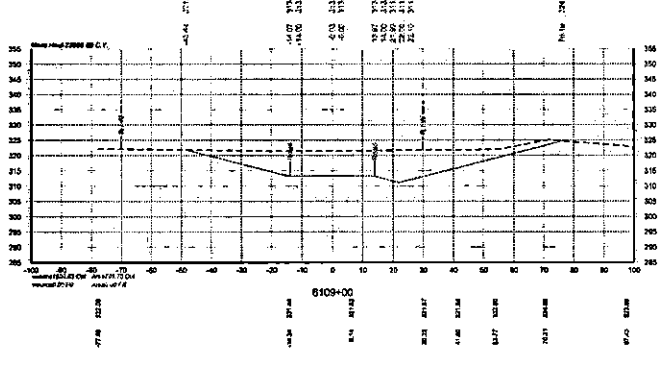
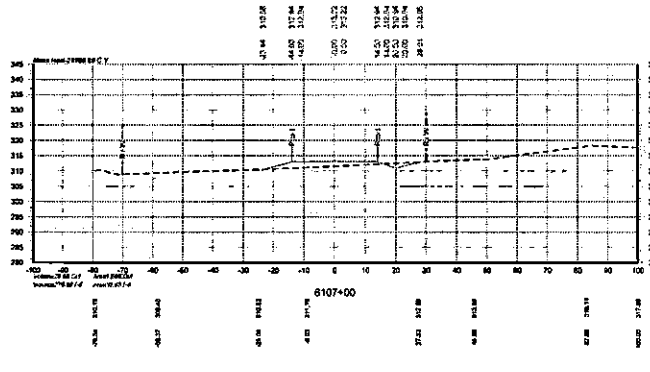
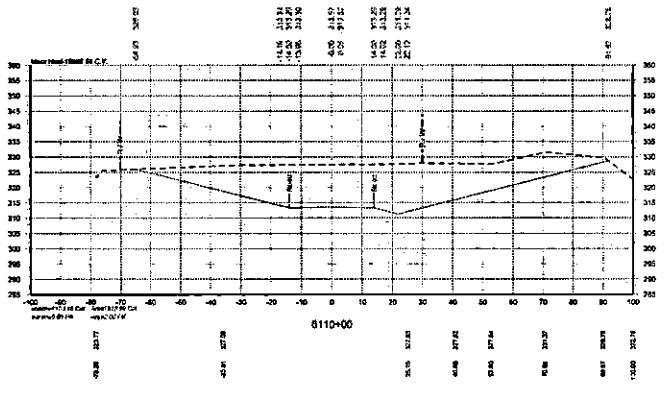
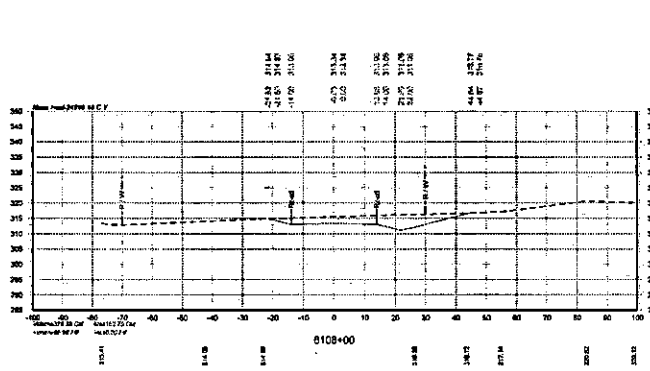
THIS DOCUMENT IS RELEASED FOR THE
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 LEW J. TURNER, P.E. 111661
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 CONSTRUCTION PURPOSES.
 TEXAS REGISTERED ENGINEERING FIRM F-4543

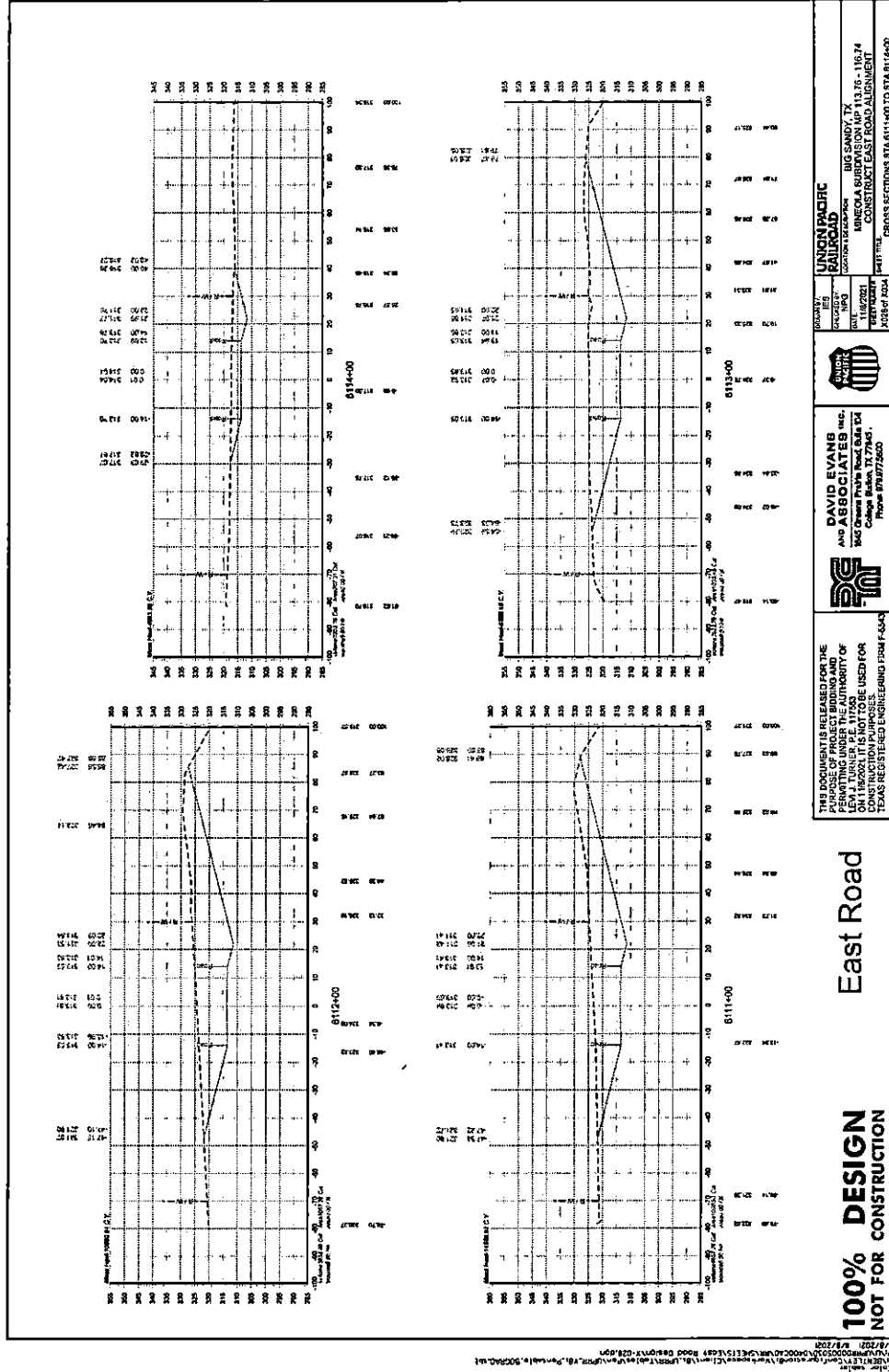


**DAVID EVANS
 AND ASSOCIATES INC.**
 2643 Orange Park Road, Suite 104
 College Station, TX 77845
 Phone: 979.877.2600



DRAWN BY: EES CHECKED BY: NPO DATE: 11/19/2021 SHEET NUMBER: 1027 of 1028	UNION PACIFIC RAILROAD LOCATION & DESCRIPTION: BIG SANDY, TX MINEOLA SUBDIVISION MP 113.78 - 116.74 CONSTRUCT EAST ROAD ALIGNMENT SHEET TITLE: CROSS SECTIONS STA. 1107+00 TO STA. 1116+00
--	--





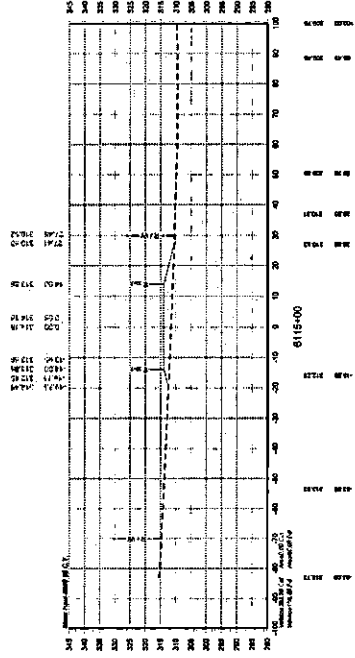
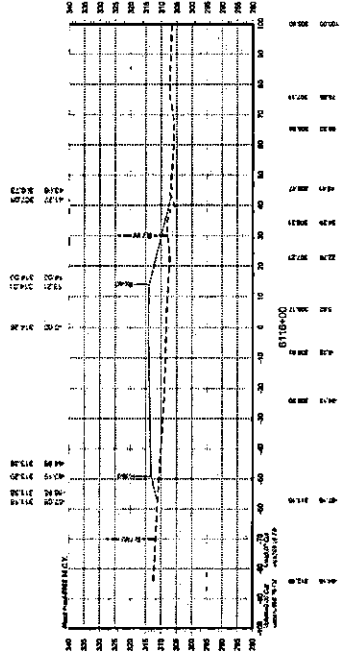
UNION PACIFIC RAILROAD
 LOCATION DESCRIPTION: BIG SANDY, TX
 MINEOLA SUBDIVISION MP 113.76 - 116.74
 CONSTRUCTION: LEAST CROSS-SECTION
 SHEET TITLE: PIER #102
 NUMBER PAGES: 1



DAVID EVANS AND ASSOCIATES Inc.
 840 Green Plains Road Suite 404
 P.O. Box 1257
 Fritch, Texas 75075-1257
 Phone 817/773-5200

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 East Road

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DAVID EVANS and ASSOCIATES, Inc.
193 Owens Park Road, Suite 104
The Woodlands, Texas 77380
Phone 281/727-2600



UNION PACIFIC RAILROAD
LOCATION: TEXAS
PROJECT NO: 1182201
DATE: 11/2/2011
SHEET TITLE: CROSS SECTIONS STA. 8115+00 TO STA. 8118+00

Station	Mileage	Excavate	Fill	Volume	Weight	Quantity	Station	Mileage	Excavate	Fill	Volume	Weight	Quantity
8009+00.00	12.36	13.28	0	0	0	0	8009+00.00	12.36	13.28	0	0	0	0
8010+00.00	0	0	0	0	0	0	8010+00.00	0	0	0	0	0	0
8011+00.00	0	0	0	0	0	0	8011+00.00	0	0	0	0	0	0
8012+00.00	0	0	0	0	0	0	8012+00.00	0	0	0	0	0	0
8013+00.00	5.77	0	0	0	0	0	8013+00.00	5.77	0	0	0	0	0
8014+00.00	0	0	0	0	0	0	8014+00.00	0	0	0	0	0	0
8015+00.00	0	0	0	0	0	0	8015+00.00	0	0	0	0	0	0
8016+00.00	0	0	0	0	0	0	8016+00.00	0	0	0	0	0	0
8017+00.00	0	0	0	0	0	0	8017+00.00	0	0	0	0	0	0
8018+00.00	0	0	0	0	0	0	8018+00.00	0	0	0	0	0	0
8019+00.00	0	0	0	0	0	0	8019+00.00	0	0	0	0	0	0
8020+00.00	0	0	0	0	0	0	8020+00.00	0	0	0	0	0	0
8021+00.00	7.13	0	0	0	0	0	8021+00.00	7.13	0	0	0	0	0
8022+00.00	21.32	0	0	0	0	0	8022+00.00	21.32	0	0	0	0	0
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8049+00.00	0	0	0	0	0	0	8049+00.00	0	0	0	0	0	0
8050+00.00	0	0	0	0	0	0	8050+00.00	0	0	0	0	0	0

Proposed Subgrade
 Sta. 8008+00.00 to Sta. 8118+00
 43,648 CY
 54,032 CY
 5,147 CY (Fill)
 NBT

UNION PACIFIC RAILROAD
 CONTRACT NO. 1428000010
 MEXOLA SUBDIVISION, MP 13.79 - 16.74
 CONNECTION LOCAL TO ALBUQUERQUE
 SHEET 1158
 DATE 8/10/00
 DRAWN BY: JAR



DAVID EVANS AND ASSOCIATES INC.
 843 Green Park Road, Suite 104
 Fort Worth, TX 76112
 Phone 817/725-2200



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East Road

100% DESIGN
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Civil Station: 11+00
 PLAN VIEW OF THE PROPOSED CROSS SECTION AT STA. 11+00, PERMITTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, DATE 07/20/2021
 11+00

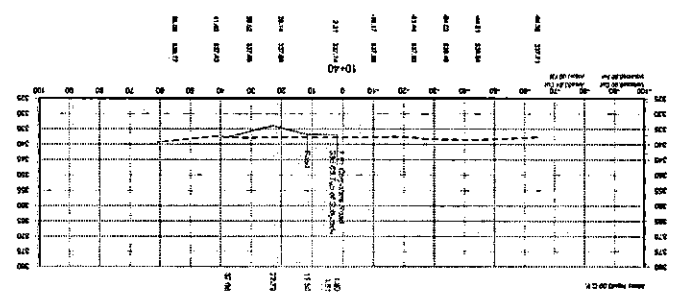
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 Corporate Road

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 LEVI T. TRUEN, P.E., TRMS
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 CONSTRUCTION PURPOSES.
 TEXAS REGISTERED ENGINEERING FIRM # 5543

DAVID EVANS AND ASSOCIATES INC.
 605 DOWNS ROAD, SUITE 100
 DALLAS, TEXAS 75203

LINCOLN PACIFIC RAILROAD
 1520 WEST 15TH STREET
 DALLAS, TEXAS 75210

CROSS SECTIONS 91A-10+40 TO STA. 11+00
 KNEECA SUBMISSION MP 11.075 - 11.674
 RIG SANDY, TX
 DATE: 11/20/21
 DRAWN: [unclear]

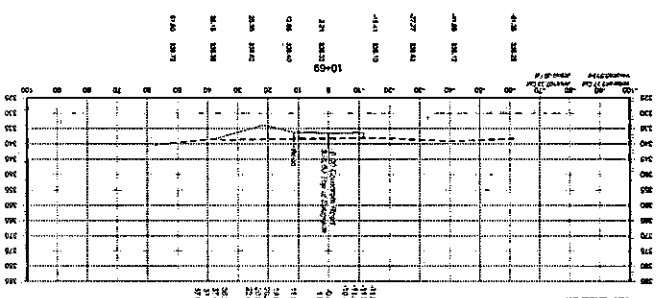


PROPOSED GRADE

STATION	10+40
ELEVATION	228.10
WIDTH	40.00
SLOPE	2% TO RIGHT

EXISTING GRADE

STATION	10+40
ELEVATION	227.00
WIDTH	40.00

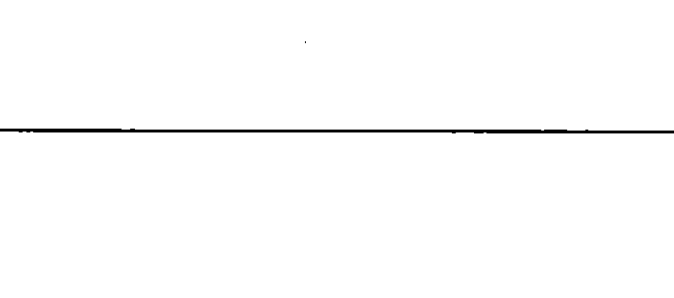


PROPOSED GRADE

STATION	10+59
ELEVATION	228.10
WIDTH	40.00
SLOPE	2% TO RIGHT

EXISTING GRADE

STATION	10+59
ELEVATION	227.00
WIDTH	40.00

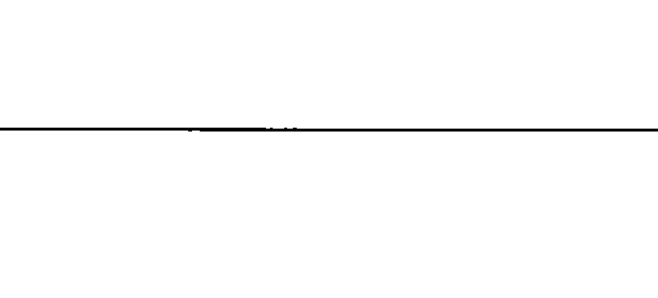


PROPOSED GRADE

STATION	11+00
ELEVATION	228.10
WIDTH	40.00
SLOPE	2% TO RIGHT

EXISTING GRADE

STATION	11+00
ELEVATION	227.00
WIDTH	40.00

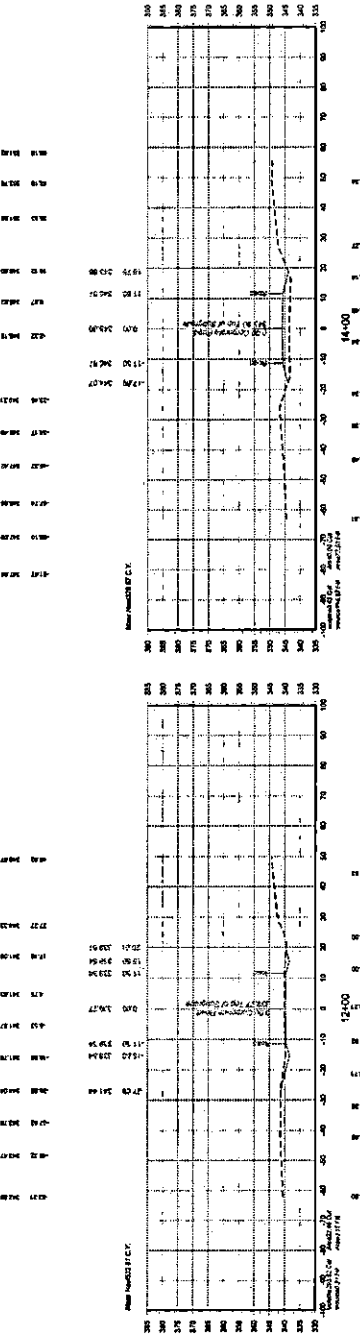
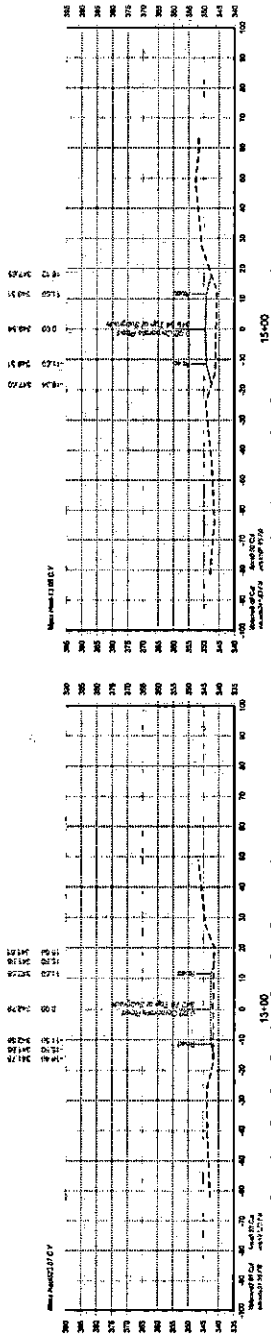


PROPOSED GRADE

STATION	11+00
ELEVATION	228.10
WIDTH	40.00
SLOPE	2% TO RIGHT

EXISTING GRADE

STATION	11+00
ELEVATION	227.00
WIDTH	40.00



DATE: 11/16/2021 11:46:11 AM
 USER: J. W. HARRIS
 PROJECT: 13+00 TO 14+00
 DRAWING: 13+00 TO 14+00
 SHEET: 13+00 TO 14+00

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 THE ENGINEER SHALL BE LIMITED TO THE
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 WRITTEN CONSENT OF THE ENGINEER.
 TEXAS REGISTERED ENGINEERING FIRM F-5544

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Corporate Road



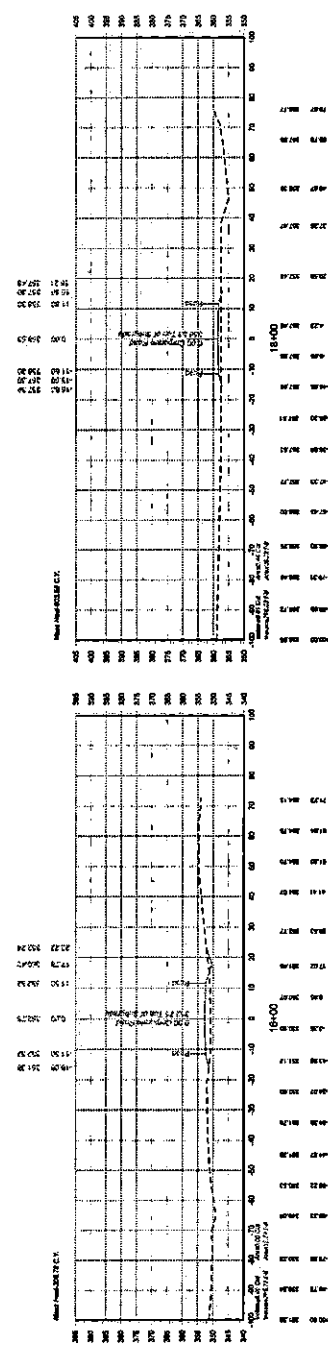
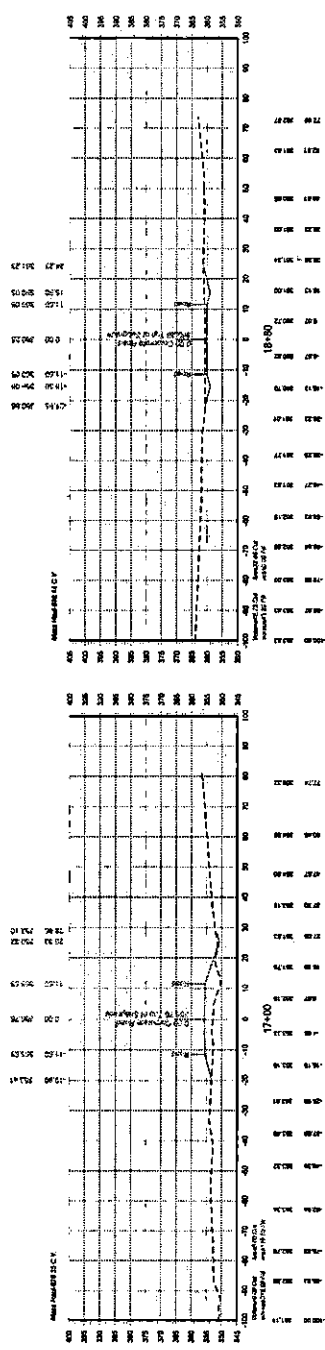
**DAVID EVANS
 AND ASSOCIATES, INC.**
 1405 Green Plains Road, Suite 104
 Houston, Texas 77070
 Phone: 281.777.2400



**UNION PACIFIC
 RAILROAD**
 PROJECT NO. 11602021
 SHEET NO. 13+00 TO 14+00

LOCATION & DESCRIPTION: BIG SANDY, TX
 PROJECT: ALCEGA SUBDIVISION IMPROVEMENT
 SHEET: CONSTRUCT CONSPICUOUS ROAD ALIGNMENT
 SHEET NO. 13+00 TO 14+00

2:35 13/01/2021 11:18:10 C:\Users\matt\Documents\2020\Projects\1376\11376-11574\11376-11574.dwg Plot Date: 11/20/2021 11:18:10 AM User: mott
1:34 11/18/2021 11:18:10 C:\Users\matt\Documents\2020\Projects\1376\11376-11574\11376-11574.dwg Plot Date: 11/18/2021 11:18:10 AM User: mott



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Corporate Road

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CHAPTER 201, SUBCHAPTER A, SECTION 10
OF TITLE 19, TEXAS ADMINISTRATIVE
CODE. IT IS NOT TO BE USED FOR
CONSTRUCTION PURPOSES.
TEXAS REGISTERED ENGINEER: MATT F. GELB



DAVID EVANS
and ASSOCIATES Inc.
2845 Driveway Private Pkwy, Suite 504
College Station, TX 77706
Phone: 817.677.2846



COUNTRY: US
STATE: TX
COUNTY: TARRANT
PROJECT: RAILROAD
DRAWN: 11/20/2021
CHECKED: 11/20/2021
SCALE: AS SHOWN
PROJECT NO: 1033 of 1034

UNION PACIFIC
RAILROAD
COUNTY: TARRANT
PROJECT: BIG SANDY, TX
SUBDIVISION: MOACOLA SUBDIVISION MP 113.76 - 115.74
SHEET NO: 11376-11574.dwg
CONSTRUCTION CORPORATE ROAD ALIGNMENT
SCALE: AS SHOWN
CROSS SECTIONS STA. 18+00 TO STA. 18+30

Baseline Station	Cut		Fill		Mass Ordinate
	Area	Volume	Area	Volume	
10+40.28	63.84	0	0	0	0
10+57.08	99.92	51	0	0	51
10+68.90	107.33	45.37	0	0	96.38
11+00.00	137.17	140.65	0	0	237.2
12+00.00	22.46	295.62	0.11	0.21	532.61
13+00.00	0.23	42.01	27.73	51.55	523.07
14+00.00	0	0.42	77.53	194.92	328.57
15+00.00	0	0	106.85	341.63	-13.05
16+00.00	0	0	52.74	293.72	-308.78
17+00.00	0	0	119.83	319.56	-628.35
18+00.00	0.44	0.81	29.22	278.03	-903.58
18+80.00	32.48	48.73	0	43.29	-898.14
Grand Total:		624.78		1522.93	

Quantity Summary Proposed Corporate Road

Proposed Subgrade
Sta. 9+84.74 to Sta. 18+80.00
Cut: 925 CY
Fill: 1,523 CY
Net: 898 CY (Fill)

Quantity Summary Proposed East Road & Corporate Road Total

Cut: 49,674 CY
Fill: 55,616 CY
Net: 6,045 CY (Fill)
Clear & Grub: 30 ACRES
Seeding: 12.86 ACRES
EC Mat: 7,210 SY

Color not to scale. All quantities are based on the latest revision of the plan and profile. All quantities are based on the latest revision of the plan and profile. All quantities are based on the latest revision of the plan and profile.

100% DESIGN
NOT FOR CONSTRUCTION

Corporate Road

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF PROJECT BIDDING AND PERMITTING UNDER THE AUTHORITY OF LEV J. TURNER, P.E. 117563 ON 11/9/2021. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES. TEXAS REGISTERED ENGINEERING FIRM F-5545

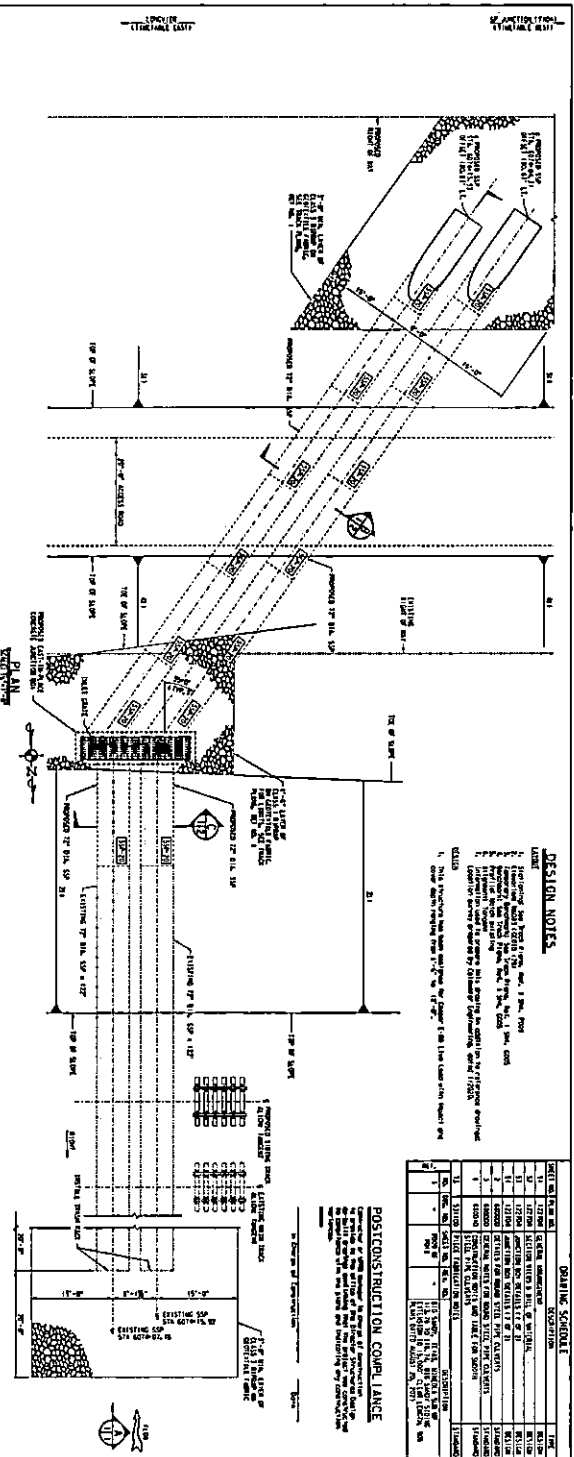


DAVID EVANS AND ASSOCIATES INC.
 1645 Ormsand Prairie Road, Suite 104
 College Station, TX 77949
 Phone: 979.877.8600



DESIGNED BY: NPG
 DATE: 11/9/2021
 DRAWING NO: X034 of X034

UNION PACIFIC RAILROAD
 LOCATION: BIG SANDY, TX
 MANEOLA SUBDIVISION MP 113.76 - 116.74
 CONSTRUCT CORPORATE ROAD ALIGNMENT
 SHEET TITLE: EARTHWORK QUANTITIES



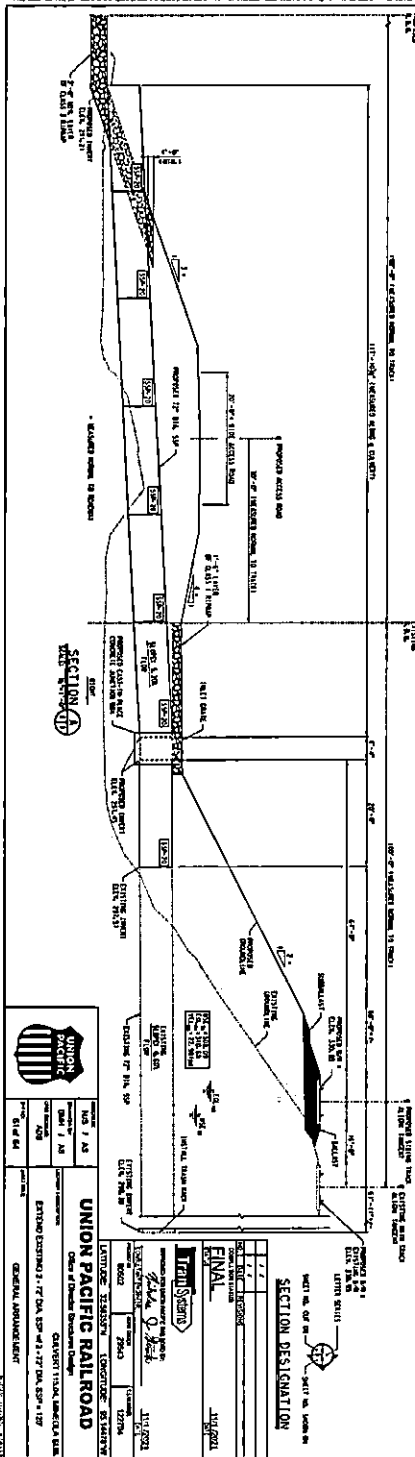
DESIGN NOTES


1. This structure has been designed for a design live load of 100,000 lbs. per ft. span.
2. The structure has been designed for a design wind speed of 100 mph.
3. The structure has been designed for a design flood stage of 10 ft. above the normal high water level.
4. The structure has been designed for a design seismicity of 0.25g.
5. The structure has been designed for a design temperature range of 100°F.
6. The structure has been designed for a design corrosion rate of 0.005 in. per year.
7. The structure has been designed for a design paint system of 100 mils.
8. The structure has been designed for a design maintenance program of 100%.
9. The structure has been designed for a design construction cost of \$100 per sq. ft.
10. The structure has been designed for a design life of 100 years.

DISTRICT SYMBOLS			
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

POSTCONSTRUCTION COMPLIANCE

The contractor shall be responsible for the maintenance and repair of the structure during its life. The contractor shall be responsible for the maintenance and repair of the structure during its life. The contractor shall be responsible for the maintenance and repair of the structure during its life.





UNION PACIFIC RAILROAD
Office of Technical Development
GENERAL ARRANGEMENT

SECTION DESIGNATION

NO. 7 AS
EXTENDING EXISTING 2' OF DIA. 15" OF 4'-7" DIA. SPAN + 12"

FINAL

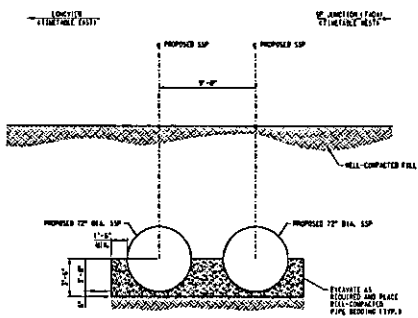
DATE: 11/1/2021

BY: [Signature]

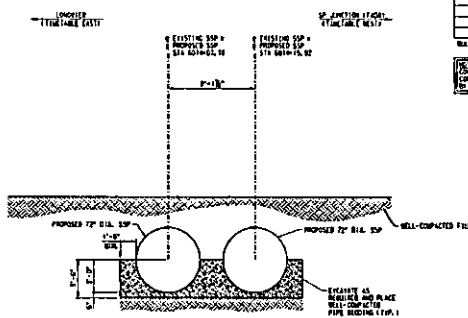
CHECKED: [Signature]

DESIGNED BY: [Signature]

APPROVED BY: [Signature]



DETAIL 1
SCALE 1/2" = 1'-0"



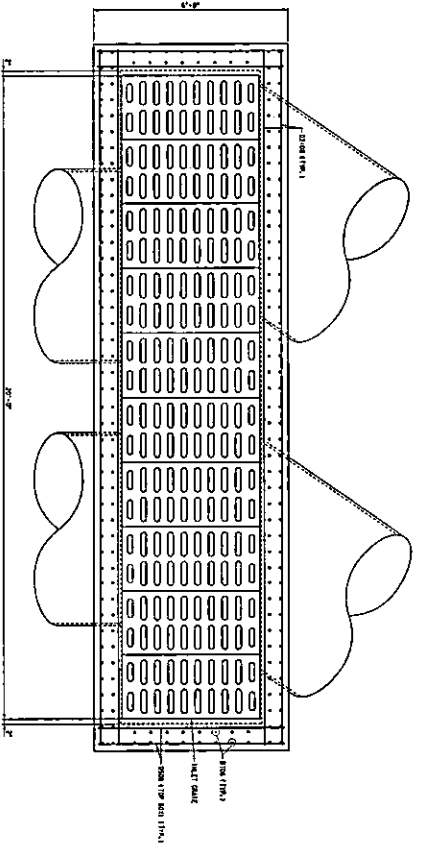
DETAIL 2
SCALE 1/2" = 1'-0"

QTY	UNIT	DESCRIPTION	PRICE PER UNIT	TOTAL PRICE
1	LOT	CONCRETE NUMBER 2100L, INCLUDING REEF AND FORMING HARDWARE (PER PLAN, CONC. SPEC., PART AND BRASS)	100.00	100.00
2	LN	41.1" DIA. CARBON STEEL PIPE, 1/2" WALL THICKNESS (14.0" DIA. PER PLAN, CONC. SPEC. SHEET 11)	310.00	620.00
2	LN	41.1" DIA. CARBON STEEL PIPE, 1/2" WALL THICKNESS (14.0" DIA. PER PLAN, CONC. SPEC. SHEET 11)	310.00	620.00
1	LOT	BRACING WALL FOR JUNCTION BOX PER NOTES, S&B PLAN NO. 531100 (S&B, SEE LAYOUT OF APPROVED MATERIALS)	0.00	0.00
2	EA	WASH BUCK FOR 72" DIA. SSP, S&B CATALOGUED WITH ATTACHMENT HARDWARE (S&B, SEE LAYOUT OF APPROVED MATERIALS)	0.00	0.00
1	LOT	PIPE BEARING (PER PLAN, CONC. SPEC. SHEET 11)	0.00	0.00
2	LOT	FILL MATERIAL (PER PLAN, CONC. SPEC. SHEET 11)	0.00	0.00
1	LOT	WELDER (CLASS 3 PER PLAN, CONC. SPEC. SHEET 11)	500.00	500.00

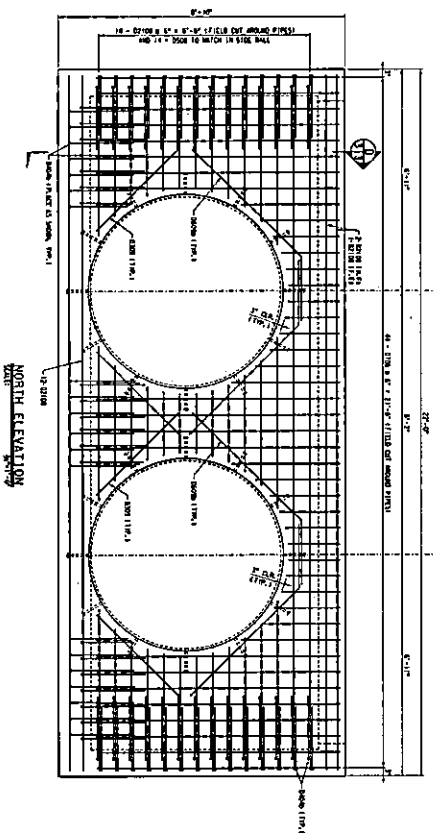
NOTE:
CONTRACTOR ORIGINALLY REQUESTED BRIDGE CONSTRUCTION BY CONSTRUCTION OF SPIN AND CONSTRUCTION OF CONSTRUCTION OF BRIDGE.

NO.	DATE	DESCRIPTION
1	11/17/2021	FINAL
TransSystems		
APPROVED BY:	DATE:	
<i>[Signature]</i>	11/15/2021	
PROJECT:	NO.:	DATE:
8502	28643	12/2/20
LATITUDE:	32.58333°N	
LONGITUDE:	95.14478°W	

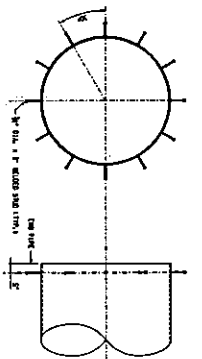
	DIVISION: TUB P. AS	UNION PACIFIC RAILROAD Office of Director Structures Design
	PROJECT NO.: 8502	CLS VERT #15.04, MINICOLA S&B, EXTEND EXISTING 2-72" DIA. SSP w/ 2-72" DIA. SSP # 1207
SHEET NO.: 52 of 64	SHEET TITLE: SECTION VIEWS AND BILL OF MATERIAL	



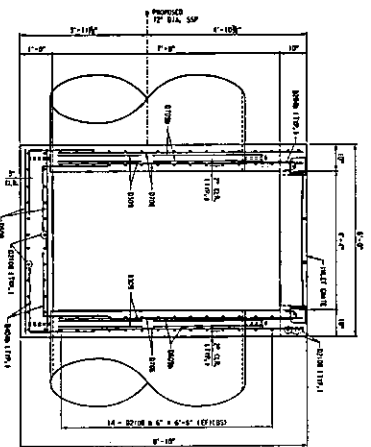
REINFORCING TOP PLAN



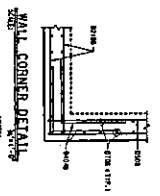
NORTH ELEVATION



END ANCHOR LOCATION DETAIL



SECTION A-A



WALL CORNER DETAIL

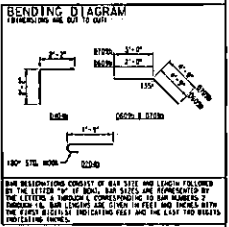


UNION PACIFIC RAILROAD
 CIVIL ENGINEERING DIVISION
 OFFICE OF CHIEF STRUCTURAL ENGINEER
 2700 OMAHA STREET, OMAHA, NEBRASKA 68102
 PROJECT NO. 2014-01-001
 SHEET NO. 2014-01-001-01

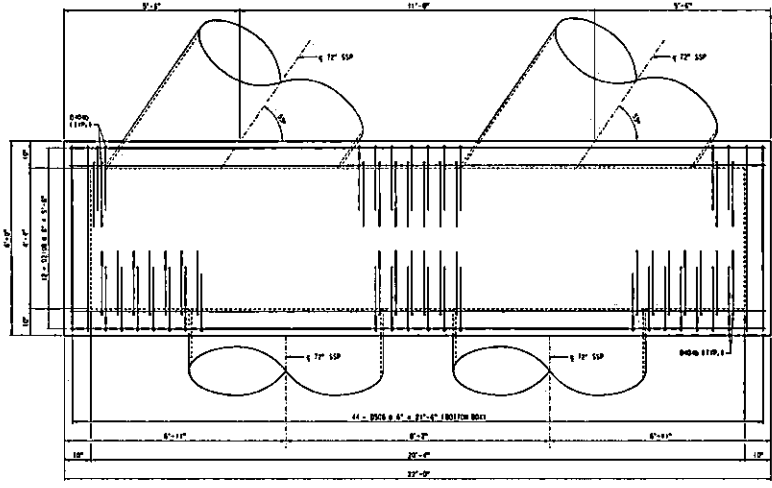
NO.	DATE	BY	CHKD.	DESCRIPTION
1	11/15/2014	JLJ	JLJ	ISSUED FOR PERMIT
2	11/15/2014	JLJ	JLJ	ISSUED FOR CONSTRUCTION
3	11/15/2014	JLJ	JLJ	ISSUED FOR RECORD

PROJECT: 2014-01-001
 SHEET: 2014-01-001-01
 SCALE: AS SHOWN
 DATE: 11/15/2014

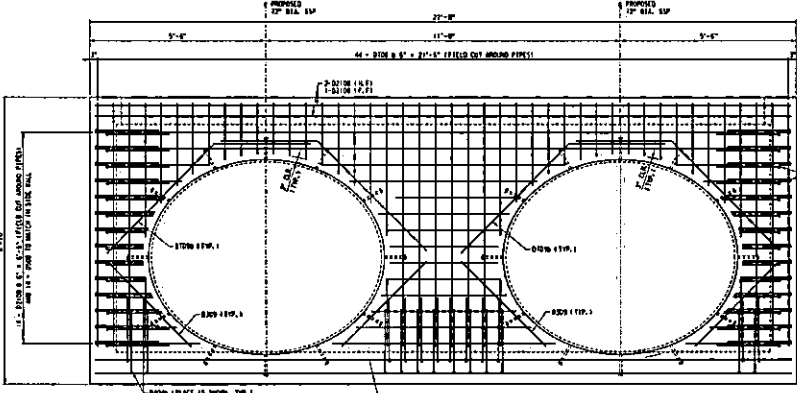
REINFORCING SCHEDULE				
QUANTITY AND JUNCTION BOX				
ITEM	QTY	SIZE	LENGTH	REMARKS
101	100	Ø10	15	2'-0"
102	100	Ø10	15	2'-0"
103	100	Ø10	15	2'-0"
104	100	Ø10	15	2'-0"
105	100	Ø10	15	2'-0"
106	100	Ø10	15	2'-0"
107	100	Ø10	15	2'-0"
108	100	Ø10	15	2'-0"
109	100	Ø10	15	2'-0"
110	100	Ø10	15	2'-0"



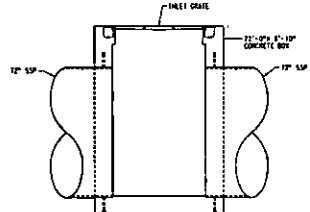
MATERIAL SCHEDULE	
NO.	DESCRIPTION
1	Ø10 STEEL REINFORCING BARS
2	Ø10 STEEL REINFORCING BARS
3	Ø10 STEEL REINFORCING BARS
4	Ø10 STEEL REINFORCING BARS
5	Ø10 STEEL REINFORCING BARS
6	Ø10 STEEL REINFORCING BARS
7	Ø10 STEEL REINFORCING BARS
8	Ø10 STEEL REINFORCING BARS
9	Ø10 STEEL REINFORCING BARS
10	Ø10 STEEL REINFORCING BARS



REINFORCING BOTTOM PLAN
SCALE: 1/4" = 1'-0"



SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



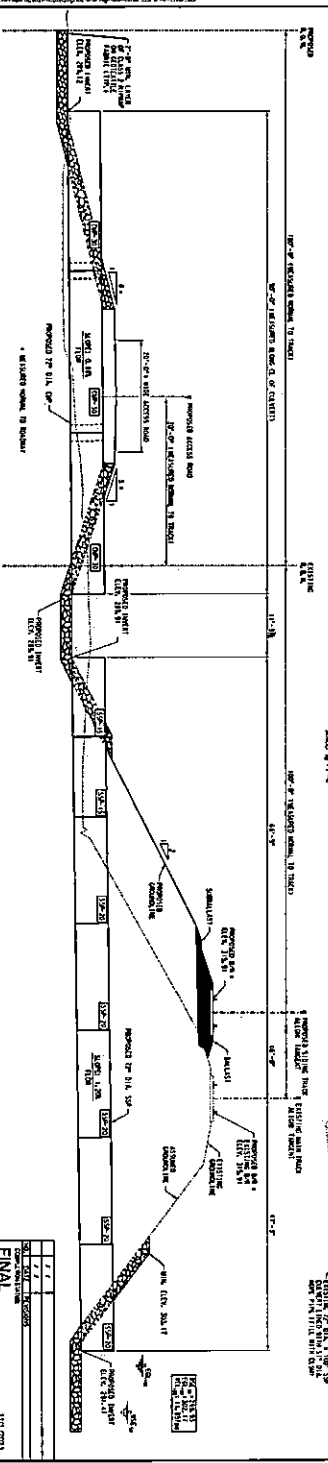
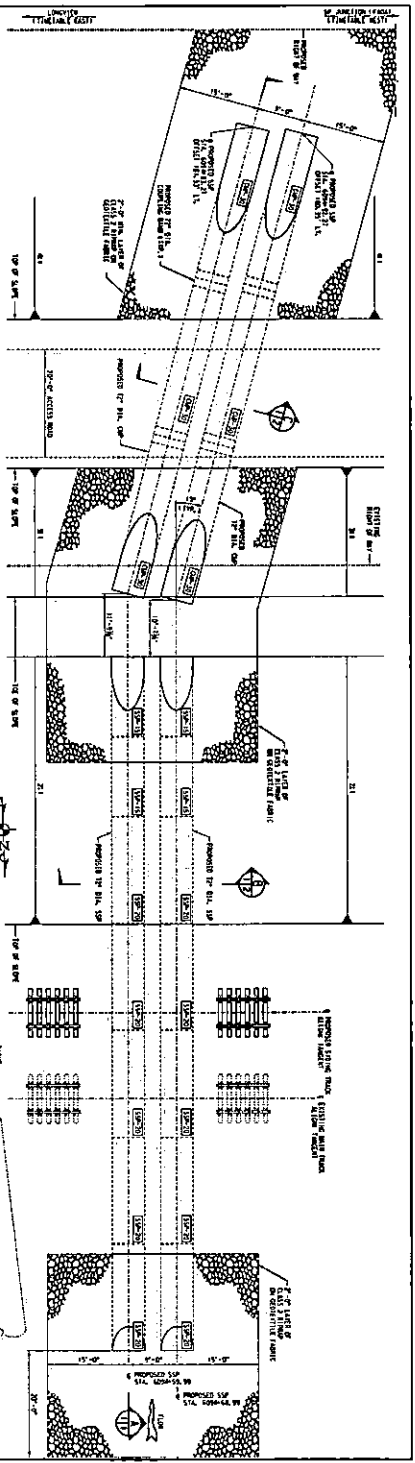
INSTALLATION DETAIL
SCALE: 1/4" = 1'-0"

FINAL	
NO.	DESCRIPTION
1	Ø10 STEEL REINFORCING BARS
2	Ø10 STEEL REINFORCING BARS
3	Ø10 STEEL REINFORCING BARS
4	Ø10 STEEL REINFORCING BARS
5	Ø10 STEEL REINFORCING BARS
6	Ø10 STEEL REINFORCING BARS
7	Ø10 STEEL REINFORCING BARS
8	Ø10 STEEL REINFORCING BARS
9	Ø10 STEEL REINFORCING BARS
10	Ø10 STEEL REINFORCING BARS



UNION PACIFIC RAILROAD
Office of Director Structures Design
CULVERT 115.04, SAREOLA SUB.
EXTEND EXISTING 2 - 22" DIA. SSP W/ 2 - 22" DIA. SSP W 120'
JUNCTION BOX DETAILS (2 OF 2)

1. THE SHEET, AS ISSUED, IS THE PROPERTY OF THE DESIGNER AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE DESIGNER.



NO.	DESCRIPTION	QUANTITY	UNIT
1	CONCRETE		CU YD
2	STEEL		TONS
3	WOOD		CU YD
4	GRAVEL		CU YD
5	CRUSHED STONE		CU YD
6	CEMENT		TONS
7	IRON		TONS
8	BRICK		1000'S
9	GLASS		SQ YD
10	PAINT		100'S
11	LABOR		HOURS
12	EQUIPMENT		HOURS

DESIGN NOTES:

1. All concrete shall be cast in place.
2. All steel shall be A36 or A572 Gr. 50.
3. All wood shall be Douglas Fir, No. 1 or 2.
4. All gravel shall be No. 57 or 40.
5. All crushed stone shall be No. 57 or 40.
6. All cement shall be Type I.
7. All iron shall be A36 or A572 Gr. 50.
8. All brick shall be No. 1 or 2.
9. All glass shall be No. 1 or 2.
10. All paint shall be No. 1 or 2.
11. All labor shall be No. 1 or 2.
12. All equipment shall be No. 1 or 2.

POSTCONSTRUCTION COMPLIANCE:

After construction is complete, the contractor shall submit a report to the engineer detailing the construction process, materials used, and any deviations from the design. The report shall include photographs and drawings of the completed structure.

UNION PACIFIC RAILROAD
Chief Engineer Division Engineer

SECTION DESIGNATION

SECTION NO. 101 OF 101

SECTION OF BRIDGE

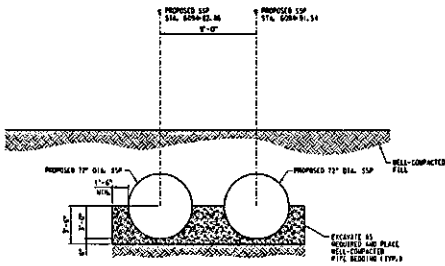
DATE	NOV 1 1914
BY	JACK W. HARRIS
CHECKED BY	JACK W. HARRIS
APPROVED BY	JACK W. HARRIS

PROPOSED
TIMBER DECK

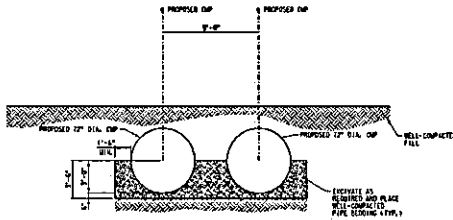
OR APPROXIMATE
TIMBER DECK

PROPOSED
TIMBER DECK

OR APPROXIMATE
TIMBER DECK



DETAIL B
SCALE 1/4" = 1'-0"



DETAIL C
SCALE 1/4" = 1'-0"

BILL OF MATERIAL			
NO.	UNIT	DESCRIPTION	QTY
1	100	CONCRETE NUMBER 1000, WEIGHTING 1000 AND REINFORCING WIRE	100-1000
2	100	STEEL SHEET PILING, 18" GAGE 16.132, 2" x 1/2"	100-1000
3	EA	PIPE BRACKET, 18" GAGE 16.132, 2" x 1/2"	100-1000
4	EA	PIPE BRACKET, 18" GAGE 16.132, 2" x 1/2"	100-1000
5	100	PIPE BRACKET, 18" GAGE 16.132, 2" x 1/2"	100-1000
6	100	PIPE BRACKET, 18" GAGE 16.132, 2" x 1/2"	100-1000
7	100	PIPE BRACKET, 18" GAGE 16.132, 2" x 1/2"	100-1000
8	100	PIPE BRACKET, 18" GAGE 16.132, 2" x 1/2"	100-1000
9	100	PIPE BRACKET, 18" GAGE 16.132, 2" x 1/2"	100-1000
10	100	PIPE BRACKET, 18" GAGE 16.132, 2" x 1/2"	100-1000

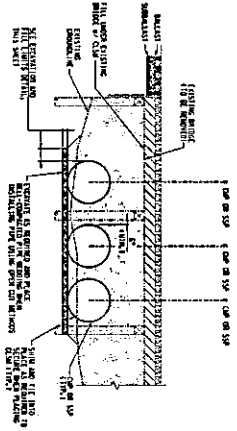
NOTE: QUANTITIES ARE ESTIMATED.
CONSTRUCTION OF BRIDGE SHALL BE UNDER THE SUPERVISION OF THE CONTRACTOR IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS.

DATE: 11/1/2021
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]
 APPROVED BY: [Signature]
 PROJECT NO: 20002
 SHEET NO: 20002
 DATE: 11/1/2021
 LAYOUT: 122105
 LATITUDE: 32.8492°N LONGITUDE: 85.1512°W

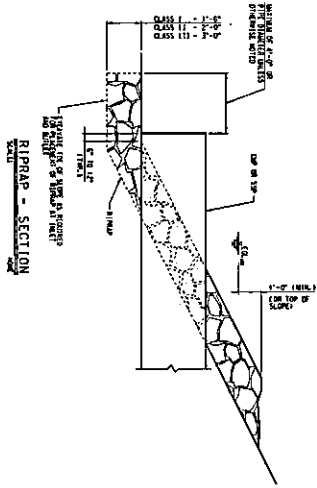
UNION PACIFIC RAILROAD
 Office of Director Structures Design
 CULVERT 118.37, MARICOLA SUB.
 JACK AND BONE 9 - 22" DIA. SSP + 10" MAIN & CROSS TRACKS
 ANDALCO 7-12" DIA. CMP + 60" ACCESS ROAD

UNION PACIFIC RAILROAD AND ASSOCIATED COMPANIES ARE EQUAL OPPORTUNITY EMPLOYERS. MINORITY AND DISABLED AMERICANS ARE ENCOURAGED TO APPLY.

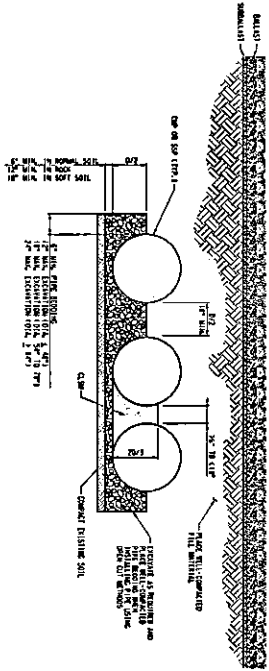
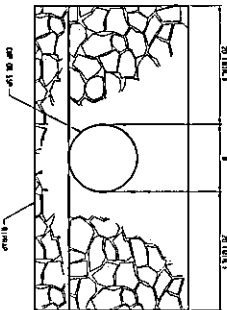
FILE NAME: P:\Standard\Draws\2016\16-076-Substructure_M01.dwg



Legend for UNDER STRUCTURE - SECTION:
 (Diagonal hatching) LIMIT OF RETAINMENT
 (Cross-hatching) 12" CONCRETE WITH REINFORCEMENT TO 2" CONCRETE
 (Dotted pattern) 2" CONCRETE WITH REINFORCEMENT TO 12" CONCRETE



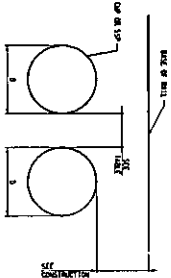
Legend for RIPRAP - SECTION:
 (Diagonal hatching) LIMIT OF RETAINMENT
 (Cross-hatching) 12" CONCRETE WITH REINFORCEMENT TO 2" CONCRETE
 (Dotted pattern) 2" CONCRETE WITH REINFORCEMENT TO 12" CONCRETE



EXCAVATION AND FILL LIMITS

MINIMUM PIPE SPACING AND COVER

SPACING CHART	
12"	12"
18"	18"
24"	24"
30"	30"
36"	36"
42"	42"
48"	48"
54"	54"
60"	60"
66"	66"
72"	72"
78"	78"
84"	84"
90"	90"
96"	96"
102"	102"
108"	108"
114"	114"
120"	120"



DATE	REV.	DESCRIPTION
01/11/16	A	ISSUED FOR PERMIT
01/11/16	B	REVISED FOR PERMIT
01/11/16	C	REVISED FOR PERMIT
01/11/16	D	REVISED FOR PERMIT
01/11/16	E	REVISED FOR PERMIT
01/11/16	F	REVISED FOR PERMIT
01/11/16	G	REVISED FOR PERMIT
01/11/16	H	REVISED FOR PERMIT
01/11/16	I	REVISED FOR PERMIT
01/11/16	J	REVISED FOR PERMIT

BRIDGE STANDARDS
 DETAIL 8 FOR
 ROUND STEEL PIPE CULVERTS

AMERICAN ROAD & BUILDERS BUILDERS COUNCIL

**SMOOTH STEEL PIPE (SSP)
CONSTRUCTION NOTES**

GENERAL

SSP structures are designed for Cooper E&D Live Load with impact, and cover as given in Table 3.

Table 3 indicates the weights required minimum.

INSTALLATION

Installation of Smooth Steel Pipe (SSP) shall conform to the current American Railway Engineering and Maintenance-of-Way Association (AREMA) Manual for Railway Engineering, Chapter 4, Part 4. Cover lengths are to be based on existing existing roadbed sections.

WELDING

Where indicated, pipe to be beveled and welded into place. Bevel diameter shall be essentially the same as the outside diameter of the pipe, or shall be 1/4" above it. The bevel diameter shall be greater than the inside diameter of the pipe by more than 1/4" to allow the fitting of flange structures. During the operation shall not be exposed to such a stress as will be detrimental to the railroad. A survey crew shall continuously monitor the elevation and alignment of the railroad roadbed above during the laying procedure. If track movement or loss of ballast exceeds 1/2" during laying or during operations, all work must stop and the Railroad must be notified. The Railroad may take any action necessary to ensure safe passage of train. The contractor shall immediately submit a corrective plan of action to the Railroad for review and approval. The Railroad must review and approve the proposed repair procedure. The finished repair must be inspected and accepted by the Railroad before the track can be placed back into service, and construction is allowed to proceed.

BEVEL AND WELD TO DETAILS

The permitted tolerance of a true line for pipe positioning is +/- 2". Adjustment to the line and level should be gradual to ensure that the pipe manufacturer's stated angular deflection is not exceeded at any point.

FIELD WELDING

Workers shall possess valid qualifications as set forth in AREMA, Structural Welding Code.

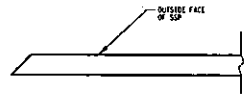
WELDING

Pipe shall be in accordance with the International Pipe Code.

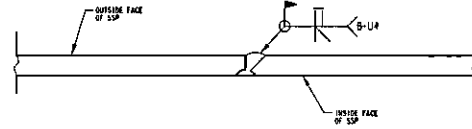
Pipe to be Grade B and shall have a minimum yield strength of 35,000 psi. A tensile test is not required.

Smooth steel pipe shall have a smooth straight longitudinal seam. Seams shall be acceptable if 75% of weld is ultrasonically tested by an outside testing agency for the manufacturer. In addition to required tensile tests of weld.

The ends of each section of pipe shall be square cut. One end shall be suitably beveled for field welding sections together.



PIPE END BEVEL DETAIL



PIPE END WELD DETAIL

TABLE 3 - ROUND SMOOTH STEEL PIPE (SSP)

OUTSIDE PIPE DIAMETER	THICKNESS (IN.)	WEIGHT (LB.)		COVER *		STORE ITEM NUMBERS PER L.F. **
		PER FOOT	PER 20' LENGTHS	MIN. (FT.)	MAX. (FT.)	
12"	3/16	24	480	1'-6"	18'-0"	-
18"	1/4	48	960	1'-6"	18'-0"	-
21"	5/16	69	1,380	1'-6"	18'-0"	-
24"	3/8	80	1,600	1'-6"	18'-0"	510-3278
30"	3/8	119	2,380	1'-6"	18'-0"	-
36"	1/2	190	3,800	1'-6"	18'-0"	510-3285
42"	1/2	222	4,440	1'-6"	18'-0"	-
48"	5/8	317	6,340	1'-6"	18'-0"	510-3293
60"	3/4	475	9,500	1'-6"	18'-0"	510-9526
72"	7/8	666	13,320	1'-6"	18'-0"	510-3305
84"	1	888	17,760	1'-6"	18'-0"	510-3310
96"	1 1/4	1,267	25,340	1'-6"	18'-0"	510-3315

* COVER TO BE MEASURED FROM BASE OF RAIL TO TOP OF PIPE.

** PIPE LENGTHS SHALL BE DETAILED ON STRUCTURE DRAWINGS. USE 20' LENGTHS WHERE POSSIBLE.

REVISIONS		DESIGN BY: CLJ	DRAWN BY: HGW	CHECKED BY: CLJ
DATE	DESCRIPTION	APPROVED		
1/18/84	A CHANGED NOTES AND TABLES			
2/1/84	B IMPROVED NOTES			
7/1/84				
7/1/84				
7/1/84				

BRIDGE STANDARDS

CONSTRUCTION NOTES AND TABLE FOR SMOOTH STEEL PIPE CULVERTS

FILE NUMBER: UPRR DATE: _____
 PLAN NO.: 88010 SHEET: 1 OF 1
 UPRR - MAINTENANCE PROJECTS STRUCTURES DIVISION BY: HGW/CLJ/CLJ 10/27/83

88010 - MAINTENANCE PROJECTS STRUCTURES DIVISION

STANDARD SHEET

CMP FABRICATION NOTES

PIPE MATERIAL SPECIFICATIONS, FABRICATION AND TESTING

1. All pipe shall be fabricated in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.
2. All welded pipe shall be galvanized.
3. All pipe shall be tested in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.

The same information shall be furnished as that required in the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.

4. All pipe shall be tested in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.
5. All pipe shall be tested in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.

INSTALLATION

1. The lifting lug shall be installed at the top of each precast pipe section.
2. The lifting lug shall be installed at the top of each precast pipe section.

CASTING

1. All concrete shall be cast in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.
2. All concrete shall be cast in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.

MINIMUM COVER FOR REINFORCEMENT

1. All pipe shall be tested in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.
2. All pipe shall be tested in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.

REINFORCEMENT

1. All pipe shall be tested in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.
2. All pipe shall be tested in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.

INSTALLATION

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2. All concrete shall be cast in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.

INSTALLATION

1. The lifting lug shall be installed at the top of each precast pipe section.
2. The lifting lug shall be installed at the top of each precast pipe section.

3. The lifting lug shall be installed at the top of each precast pipe section.
4. The lifting lug shall be installed at the top of each precast pipe section.

CMP CONSTRUCTION NOTES

GENERAL

1. All pipe shall be tested in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.
2. All pipe shall be tested in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.

INSTALLATION

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2. The lifting lug shall be installed at the top of each precast pipe section.

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CASTING

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INSTALLATION

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CASTING

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2. All concrete shall be cast in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC), 1989, Part 5, Section 5.2, and Part 8, Section 8.2.

INSTALLATION

1. The lifting lug shall be installed at the top of each precast pipe section.
2. The lifting lug shall be installed at the top of each precast pipe section.

DESIGNED BY: [Signature] DATE: 10/15/11
 CHECKED BY: [Signature] DATE: 10/15/11
 APPROVED BY: [Signature] DATE: 10/15/11

BRIDGE STANDARDS
 CONSTRUCTION NOTES
 FOR CORRUGATED METAL
 PIPE CULVERTS

SCALE: AS SHOWN
 DATE: 10/15/11
 DRAWN BY: [Signature]

BY: [Signature]

DATE	REVISIONS
10/15/11	1. INITIAL NOTES
10/15/11	2. REVISED NOTES
10/15/11	3. REVISED NOTES
10/15/11	4. REVISED NOTES
10/15/11	5. REVISED NOTES
10/15/11	6. REVISED NOTES
10/15/11	7. REVISED NOTES
10/15/11	8. REVISED NOTES
10/15/11	9. REVISED NOTES
10/15/11	10. REVISED NOTES



Full Name: Professional Engineer License No. 123456789

NOTE: SHOWN ITEMS INDICATE A DIFFERENCE BETWEEN METAL AND ANNUAL RIVETS. THE ENTIRE PIPE RUN MUST BE ALL METAL OR ALL ANNUAL RIVETS. NON-SHOWN ITEMS ARE INTERCHANGEABLE WITHIN THE SAME PIPE RUN.

TABLE 2 - ROUND CORRUGATED STEEL PIPE (CMP) ANNUAL RIVETS

INSIDE PIPE DIAMETER	CONNECTION	GRADE	HITCHLESS	HEIGHT	COVER	10'-0" LENGTH	12'-0" LENGTH	14'-0" LENGTH	16'-0" LENGTH	18'-0" LENGTH	20'-0" LENGTH	22'-0" LENGTH	24'-0" LENGTH	26'-0" LENGTH	28'-0" LENGTH	30'-0" LENGTH	40'-0" LENGTH	CONNECTING BARS
IN.	IN.	IN.	IN.	IN.	IN.	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)
10"	3" x 1"	8	0.168	252	10'-0"	2,200	2,640	3,080	3,520	3,960	4,400	4,840	5,280	5,720	6,160	6,600	10,480	510-1006
12"	3" x 1"	10	0.138	160	10'-0"	1,600	1,920	2,240	2,560	2,880	3,200	3,520	3,840	4,160	4,480	4,800	7,200	510-1128
14"	3" x 1"	12	0.108	120	10'-0"	1,200	1,440	1,680	1,920	2,160	2,400	2,640	2,880	3,120	3,360	3,600	5,280	510-1176
16"	3" x 1"	14	0.078	80	10'-0"	800	960	1,120	1,280	1,440	1,600	1,760	1,920	2,080	2,240	2,400	3,360	510-1224
18"	3" x 1"	16	0.048	40	10'-0"	400	480	560	640	720	800	880	960	1,040	1,120	1,200	1,680	510-1272
20"	3" x 1"	18	0.018	20	10'-0"	200	240	280	320	360	400	440	480	520	560	600	840	510-1320
22"	3" x 1"	20	0.008	10	10'-0"	100	120	140	160	180	200	220	240	260	280	300	420	510-1368
24"	3" x 1"	22	0.004	5	10'-0"	50	60	70	80	90	100	110	120	130	140	150	210	510-1416
26"	3" x 1"	24	0.002	2.5	10'-0"	25	30	35	40	45	50	55	60	65	70	75	105	510-1464
28"	3" x 1"	26	0.001	1.25	10'-0"	12.5	15	17.5	20	22.5	25	27.5	30	32.5	35	37.5	52.5	510-1512
30"	3" x 1"	28	0.0005	0.625	10'-0"	6.25	7.5	8.75	10	11.25	12.5	13.75	15	16.25	17.5	18.75	26.25	510-1560

TABLE 1 - ROUND CORRUGATED METAL PIPE (CMP) HELICAL LOCK SEAM

INSIDE PIPE DIAMETER	CONNECTION	GRADE	HITCHLESS	HEIGHT	COVER	10'-0" LENGTH	12'-0" LENGTH	14'-0" LENGTH	16'-0" LENGTH	18'-0" LENGTH	20'-0" LENGTH	22'-0" LENGTH	24'-0" LENGTH	26'-0" LENGTH	28'-0" LENGTH	30'-0" LENGTH	40'-0" LENGTH	CONNECTING BARS
IN.	IN.	IN.	IN.	IN.	IN.	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)	WT. (LBS.)
10"	3" x 1"	12	0.098	92	10'-0"	740	888	1,036	1,184	1,332	1,480	1,628	1,776	1,924	2,072	2,220	3,240	510-0018
12"	2 1/2" x 1/2"	14	0.078	48	10'-0"	410	492	574	656	738	820	902	984	1,066	1,148	1,230	1,800	510-0036
14"	2 1/2" x 1/2"	16	0.058	24	10'-0"	205	246	287	328	369	410	451	492	533	574	615	870	510-0054
16"	2 1/2" x 1/2"	18	0.038	12	10'-0"	102.5	123	143.5	164	184.5	205	225.5	246	266.5	287	307.5	435	510-0072
18"	2 1/2" x 1/2"	20	0.018	6	10'-0"	51.25	61.5	71.75	82	92.25	102.5	112.75	123	133.25	143.5	153.75	217.5	510-0090
20"	2 1/2" x 1/2"	22	0.008	3	10'-0"	25.625	30.75	35.875	41	46.125	51.25	56.375	61.5	66.625	71.75	76.875	108.75	510-0108
22"	2 1/2" x 1/2"	24	0.004	1.5	10'-0"	12.8125	15.375	17.9375	20.5	23.0625	25.625	28.1875	30.75	33.3125	35.875	38.4375	54.375	510-0126
24"	2 1/2" x 1/2"	26	0.002	0.75	10'-0"	6.40625	7.6875	8.96875	10.25	11.53125	12.8125	14.09375	15.375	16.65625	17.9375	19.21875	27.1875	510-0144
26"	2 1/2" x 1/2"	28	0.001	0.375	10'-0"	3.203125	3.84375	4.484375	5.125	5.765625	6.40625	7.046875	7.6875	8.328125	8.96875	9.609375	13.59375	510-0162
28"	2 1/2" x 1/2"	30	0.0005	0.1875	10'-0"	1.6015625	1.921875	2.2421875	2.5625	2.8828125	3.203125	3.5234375	3.84375	4.1640625	4.484375	4.8046875	67.96875	510-0180
30"	2 1/2" x 1/2"	32	0.00025	0.09375	10'-0"	0.80078125	0.9609375	1.12109375	1.28125	1.44140625	1.6015625	1.76171875	1.921875	2.08203125	2.2421875	2.40234375	33.984375	510-0198

BRIDGE STANDARDS
TABLES FOR CORRUGATED METAL PIPE CULVERTS

DESIGNED BY: [Signature]

DATE: [Date]

PROJECT: [Project Name]

SCALE: [Scale]

REVISIONS:

NO.	DESCRIPTION	DATE
1	ISSUED FOR CONSTRUCTION	
2		
3		

GENERAL NOTES

GENERAL

1. All work shall conform to the provisions of the Specifications for Highway Construction and to the Standard Specifications for Highway Construction and to the Standard Specifications for Highway Construction and to the Standard Specifications for Highway Construction and to the Standard Specifications for Highway Construction.
2. Construction methods and materials shall conform with the all relevant codes and standards.
3. Items which are additions, deletions and alterations prior to start of construction, shall be approved by the Engineer in writing.
4. Items which are additions, deletions and alterations prior to start of construction, shall be approved by the Engineer in writing.
5. Items which are additions, deletions and alterations prior to start of construction, shall be approved by the Engineer in writing.
6. Items which are additions, deletions and alterations prior to start of construction, shall be approved by the Engineer in writing.

PILE DRILLS

1. All pile drills shall be approved by the Engineer in writing.
2. Pile drills shall be approved by the Engineer in writing.
3. Pile drills shall be approved by the Engineer in writing.
4. Pile drills shall be approved by the Engineer in writing.
5. Pile drills shall be approved by the Engineer in writing.
6. Pile drills shall be approved by the Engineer in writing.
7. Pile drills shall be approved by the Engineer in writing.
8. Pile drills shall be approved by the Engineer in writing.
9. Pile drills shall be approved by the Engineer in writing.
10. Pile drills shall be approved by the Engineer in writing.

CONSTRUCTION NOTES (WHEN APPLICABLE)

CONSTRUCTION NOTES

CONSTRUCTION NO.	DATE	REVISION
1	1/15/11	ADDED
2	1/15/11	ADDED
3	1/15/11	ADDED
4	1/15/11	ADDED
5	1/15/11	ADDED
6	1/15/11	ADDED
7	1/15/11	ADDED
8	1/15/11	ADDED
9	1/15/11	ADDED
10	1/15/11	ADDED

INSTALLATION

1. Items shall be approved by the Engineer in writing.
2. Items shall be approved by the Engineer in writing.
3. Items shall be approved by the Engineer in writing.
4. Items shall be approved by the Engineer in writing.
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ABOUT NOTES

ABOUT NOTES

1. Items shall be approved by the Engineer in writing.
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8. Items shall be approved by the Engineer in writing.
9. Items shall be approved by the Engineer in writing.
10. Items shall be approved by the Engineer in writing.

EXCLUDED

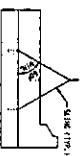
1. Items shall be approved by the Engineer in writing.
2. Items shall be approved by the Engineer in writing.
3. Items shall be approved by the Engineer in writing.
4. Items shall be approved by the Engineer in writing.
5. Items shall be approved by the Engineer in writing.
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9. Items shall be approved by the Engineer in writing.
10. Items shall be approved by the Engineer in writing.

CONTROLLED LOW-STRENGTH MATERIAL (CLSM)

1. Items shall be approved by the Engineer in writing.
2. Items shall be approved by the Engineer in writing.
3. Items shall be approved by the Engineer in writing.
4. Items shall be approved by the Engineer in writing.
5. Items shall be approved by the Engineer in writing.
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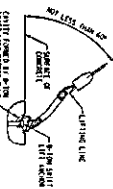
CONCRETE CURING CONVENTION KEY

1	Pre-cast concrete, 2" minimum curing compound.
2	Cast-in-place concrete, 2" minimum curing compound.
3	Cast-in-place concrete, 2" minimum curing compound, 1" minimum curing compound.
4	Cast-in-place concrete, 2" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound.
5	Cast-in-place concrete, 2" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound.
6	Cast-in-place concrete, 2" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound.
7	Cast-in-place concrete, 2" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound.
8	Cast-in-place concrete, 2" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound.
9	Cast-in-place concrete, 2" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound.
10	Cast-in-place concrete, 2" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound, 1" minimum curing compound.



2 POINT PICK DETAIL

REBAR AND BENDS AND CURING LINKS



TYPICAL LIFTING DETAIL

REBAR AND BENDS AND CURING LINKS

DATE	DESCRIPTION
1/15/11	ADDED
1/15/11	ADDED
1/15/11	ADDED
1/15/11	ADDED
1/15/11	ADDED
1/15/11	ADDED
1/15/11	ADDED
1/15/11	ADDED
1/15/11	ADDED

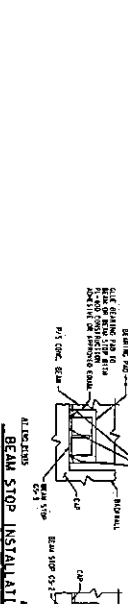
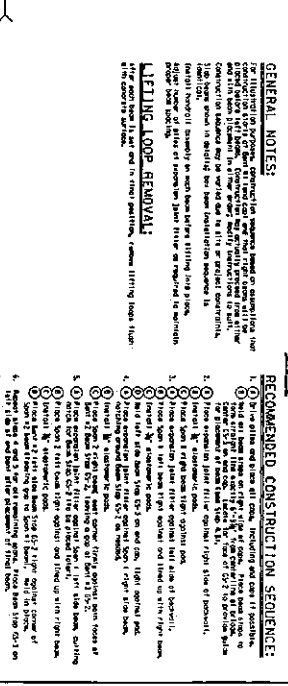
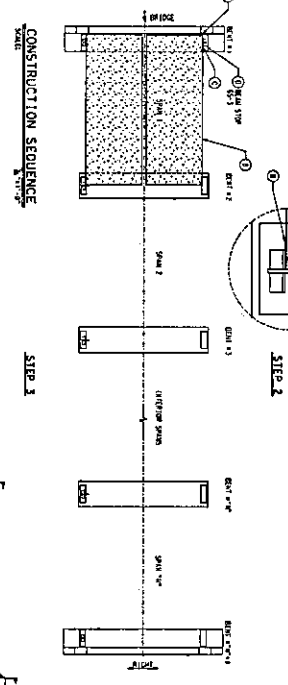
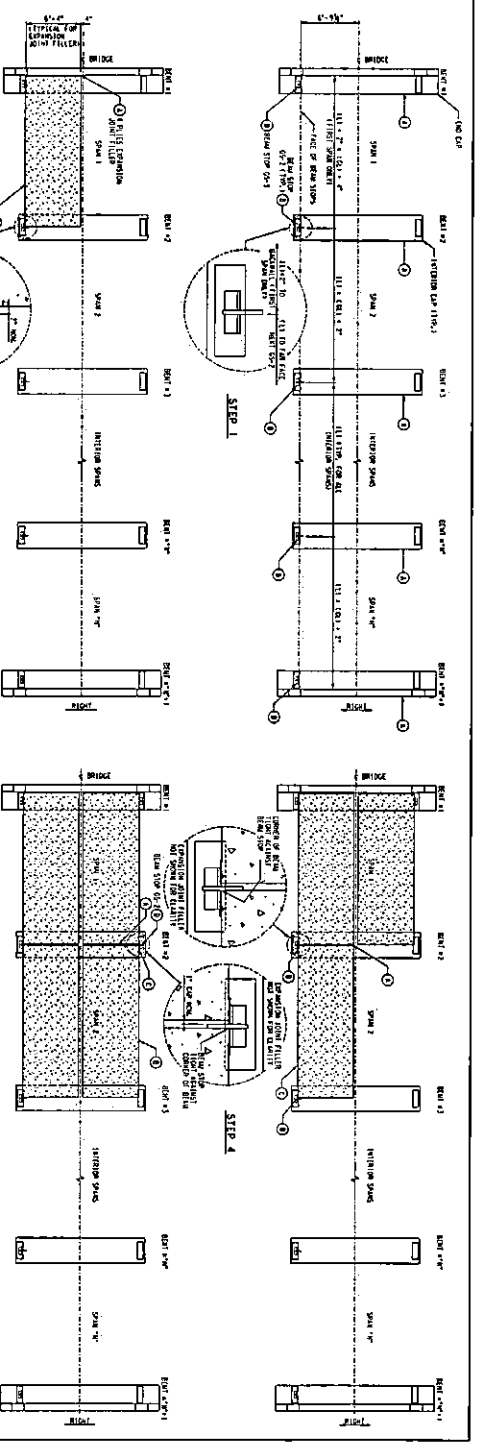
BRIDGE STANDARDS
CONSTRUCTION NOTES

BRIDGE STANDARDS
CONSTRUCTION NOTES

AMERICAN ROAD & BUILDERS BUILDERS ASSOCIATION (ARBA)

BRIDGE STANDARDS
CONSTRUCTION NOTES

STANDARD SHEET



GENERAL NOTES:

1. All work shall be done in accordance with the specifications and standards of the Department of Transportation, and the Department of Public Works, and the Department of Public Safety.
2. All materials shall be of the highest quality and shall be approved by the Engineer before use.
3. All work shall be done in accordance with the specifications and standards of the Department of Transportation, and the Department of Public Works, and the Department of Public Safety.
4. All work shall be done in accordance with the specifications and standards of the Department of Transportation, and the Department of Public Works, and the Department of Public Safety.

RECOMMENDED CONSTRUCTION SEQUENCE:

1. Prepare the bridge deck surface by removing all loose material and laitance.
2. Place and compact the concrete for the beam stop.
3. Finish the top surface of the beam stop to the required elevation.
4. Place and compact the concrete for the bridge deck.
5. Finish the top surface of the bridge deck to the required elevation.

INSTALL LOOP REMOVAL:

1. Remove all loops from the bridge deck before the concrete is placed.
2. Place and compact the concrete for the bridge deck.
3. Finish the top surface of the bridge deck to the required elevation.
4. Remove all loops from the bridge deck after the concrete has cured.
5. Place and compact the concrete for the bridge deck.
6. Finish the top surface of the bridge deck to the required elevation.

NO.	DATE	DESCRIPTION	REVISION	BY	CHECKED
1					
2					
3					
4					
5					

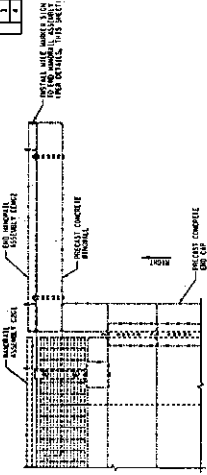
BRIDGE STANDARDS

 CONSTRUCTION SEQUENCE &

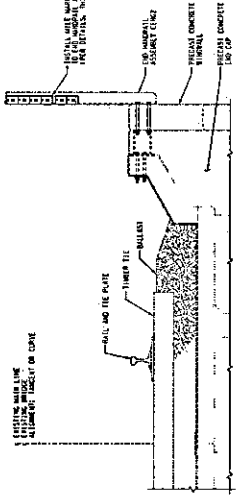
 BEAM STOP INSTALLATION DETAIL

STANDARD SHEET

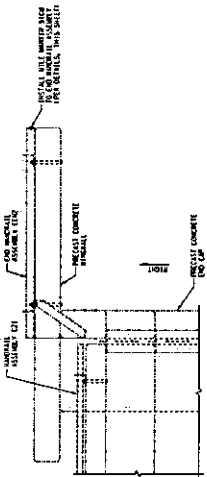
REFERENCE DRAWINGS		
NO.	SHEET NO.	TITLE
1	101	GENERAL NOTES AND SPECIFICATIONS
2	102	CONCRETE WORK
3	103	STEEL WORK
4	104	PAVING
5	105	BRIDGE DECK
6	106	BRIDGE GIRDERS
7	107	BRIDGE PILES
8	108	BRIDGE FLOOR BEAMS
9	109	BRIDGE CURBS
10	110	BRIDGE APPROACHES
11	111	BRIDGE STRUCTURE
12	112	BRIDGE DETAILS
13	113	BRIDGE MAINTENANCE
14	114	BRIDGE INSPECTION
15	115	BRIDGE RECORDS
16	116	BRIDGE PLANS
17	117	BRIDGE SECTIONS
18	118	BRIDGE ELEVATIONS
19	119	BRIDGE PROFILES
20	120	BRIDGE FOUNDATIONS



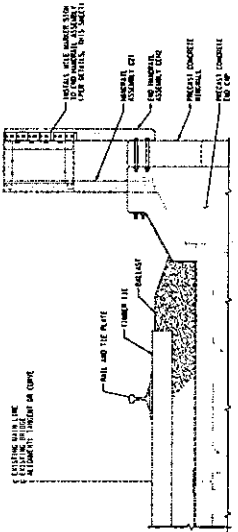
ATTACH MILE MARKER TO HANDRAIL ASSEMBLY CEH2
SCALE: 1/4" = 1'-0"



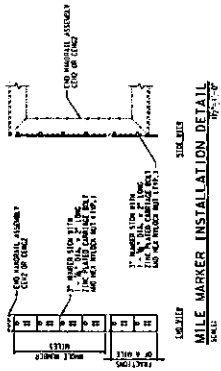
MILE MARKER TO HANDRAIL ASSEMBLY CEH2 - END VIEW
SCALE: 1/4" = 1'-0"



ATTACH MILE MARKER TO HANDRAIL ASSEMBLY CEH2
SCALE: 1/4" = 1'-0"



MILE MARKER TO HANDRAIL ASSEMBLY CEH2 - END VIEW
SCALE: 1/4" = 1'-0"



MILE MARKER INSTALLATION DETAIL
SCALE: 1/4" = 1'-0"

DESIGN NOTES

- INSTALL STRUCTURE MARKER SIGNS PER DRAWING NOTES.
- INSTALL ON IMPROVING SIGNS PER DRAWING NOTES.

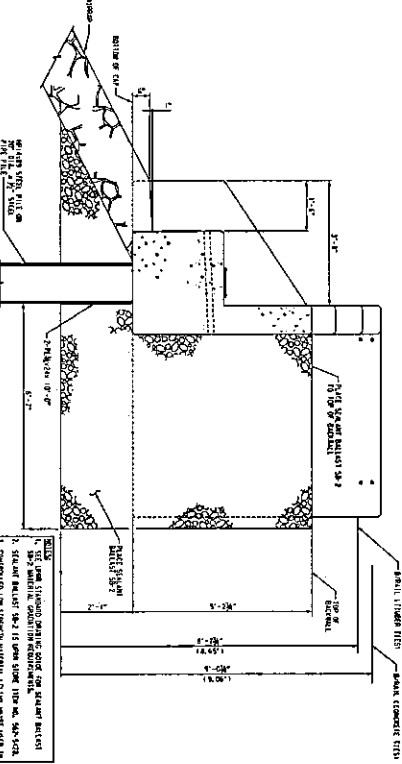


BRIDGE STANDARDS

FOR THE STATE OF TEXAS
 STRUCTURE MARKER &
 INSTALLATION DETAILS
 DATE: 10/1/2009
 DRAWN BY: J. L. SMITH
 CHECKED BY: J. L. SMITH
 PROJECT NO.: 101-1000-1000-1000-1000

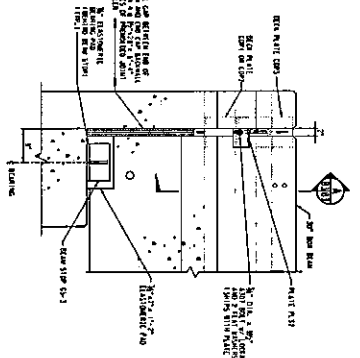
DATE	BY	DESCRIPTION
10/1/2009	J. L. SMITH	ISSUED FOR CONSTRUCTION
10/1/2009	J. L. SMITH	ISSUED FOR CONSTRUCTION
10/1/2009	J. L. SMITH	ISSUED FOR CONSTRUCTION
10/1/2009	J. L. SMITH	ISSUED FOR CONSTRUCTION
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10/1/2009	J. L. SMITH	ISSUED FOR CONSTRUCTION
10/1/2009	J. L. SMITH	ISSUED FOR CONSTRUCTION

APPROVED: J. L. SMITH (DRAWING ENGINEER) CHECKED BY: J. L. SMITH

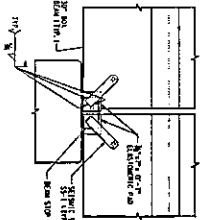
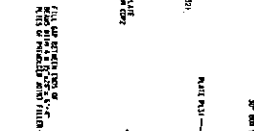
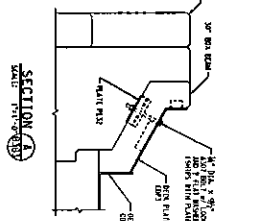


END CAP EXCAVATION AND BACKFILL DETAIL SECTION 1

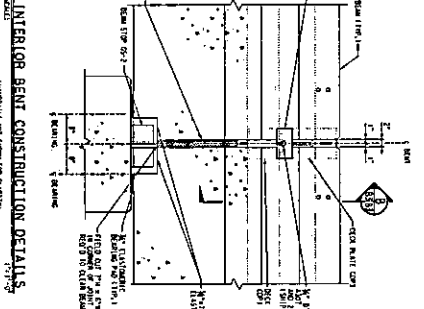
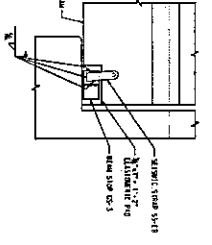
NOTE:
 1. SEE BRIDGE STANDARD SPECIFICATIONS FOR EXCAVATION DETAILS.
 2. SEE BRIDGE STANDARD SPECIFICATIONS FOR BACKFILL DETAILS.
 3. SEE BRIDGE STANDARD SPECIFICATIONS FOR CONCRETE DETAILS.
 4. SEE BRIDGE STANDARD SPECIFICATIONS FOR REINFORCEMENT DETAILS.



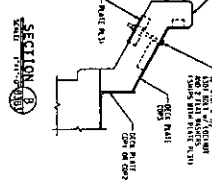
END BEAM CONSTRUCTION DETAILS SECTION 2



SEISMIC STRAP DETAIL SECTION 5

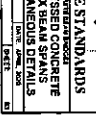


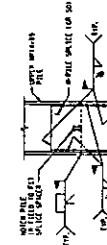
INTERIOR BEAM CONSTRUCTION DETAILS SECTION 7



DATE	LINE	BY	REVISION

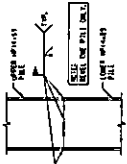
BRIDGE STANDARDS
 PRESTRESSED CONCRETE
 BOX BEAM SPANS
 INTERIOR BEAM CONSTRUCTION DETAILS



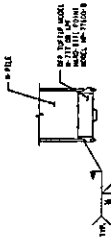


PILE SPICE DETAIL
SCALE
1/4"=1'-0"

INSTALLATION INSTRUCTIONS:
1. THE SPICE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
2. THE SPICE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
3. THE SPICE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
4. THE SPICE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
5. THE SPICE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
6. THE SPICE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.

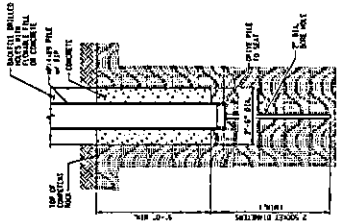


ALTERNATE PILE SPICE DETAIL
SCALE
1/4"=1'-0"



PILE TIP DETAIL
SCALE
1/4"=1'-0"

PILE REINFORCEMENT INSTALLATION INSTRUCTIONS:
1. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
2. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
3. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.



PILE SOCKET DETAIL
SCALE
1/4"=1'-0"

PILE SOCKET DETAIL INSTRUCTIONS:
1. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
2. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
3. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
4. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
5. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
6. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.

GENERAL NOTES:

1. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
2. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
3. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
4. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
5. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
6. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.

PILE DESIGN NOTES:

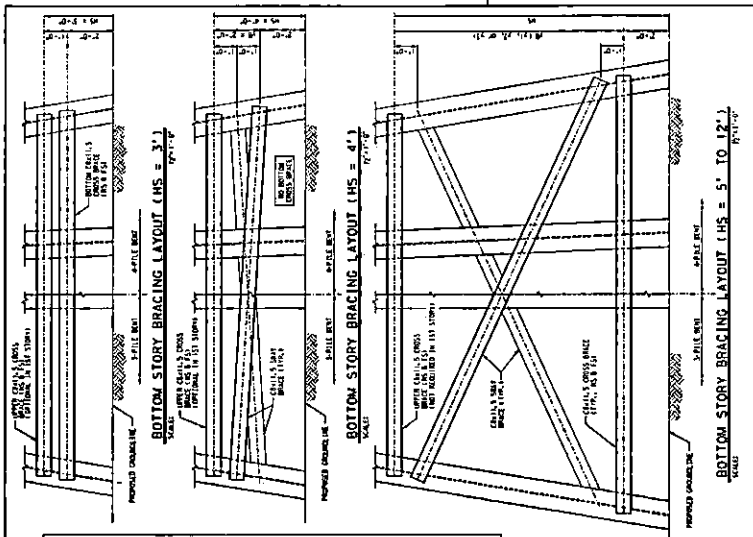
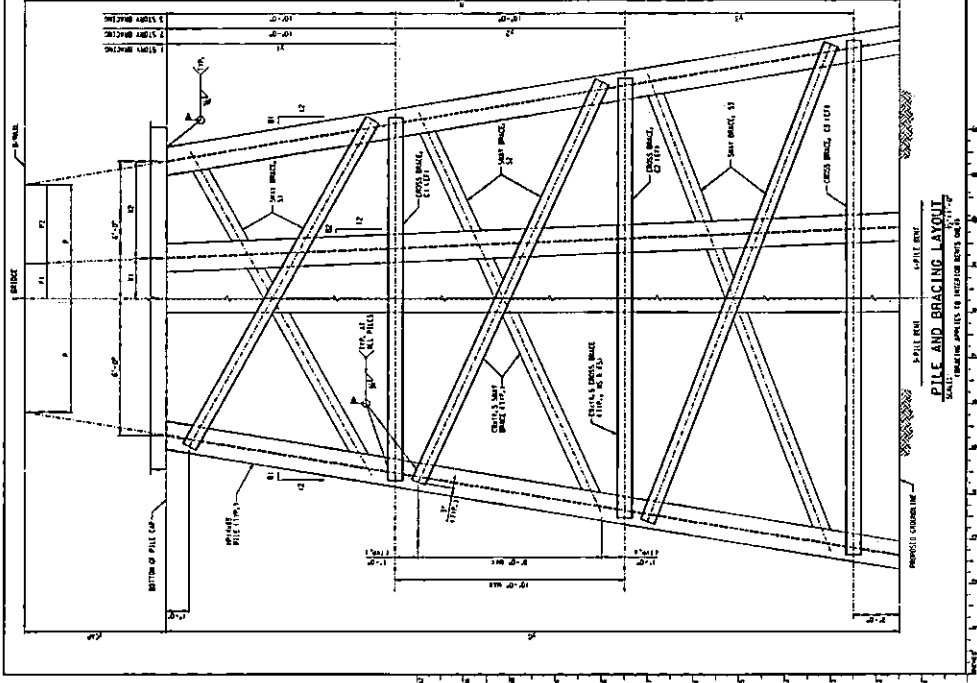
1. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
2. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
3. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
4. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
5. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.
6. THE PILE SHALL BE MADE WITH THE PILE WELDER AND SHALL BE MADE TO THE DESIGNER'S SPECIFICATION.

BRIDGE STANDARDS
SOCKET INSTALLATIONS
PILE FOUNDATIONS
PILE INSTALLATION NOTES AND DETAILS

DATE	BY	REVISION

APPROVED: [Signature]
DESIGNED BY: [Signature]
CHECKED BY: [Signature]
DATE: [Date]

STANDARD SHEET



PILE AND BRACING NOTES

1. BRIDGE PILES SHALL BE CAST IN CONCRETE WITH A MINIMUM OF 10% STEEL REINFORCEMENT.
2. STANDARD CHAINS SHALL BE USED FOR ALL BRACING.
3. STANDARD CHAINS SHALL BE USED FOR ALL BRACING.
4. THE PILE CAP SHALL BE CAST IN CONCRETE WITH A MINIMUM OF 10% STEEL REINFORCEMENT.
5. THE PILE CAP SHALL BE CAST IN CONCRETE WITH A MINIMUM OF 10% STEEL REINFORCEMENT.

GENERAL NOTES

1. ALL BRACING SHALL BE CAST IN CONCRETE WITH A MINIMUM OF 10% STEEL REINFORCEMENT.
2. ALL BRACING SHALL BE CAST IN CONCRETE WITH A MINIMUM OF 10% STEEL REINFORCEMENT.
3. ALL BRACING SHALL BE CAST IN CONCRETE WITH A MINIMUM OF 10% STEEL REINFORCEMENT.
4. ALL BRACING SHALL BE CAST IN CONCRETE WITH A MINIMUM OF 10% STEEL REINFORCEMENT.
5. ALL BRACING SHALL BE CAST IN CONCRETE WITH A MINIMUM OF 10% STEEL REINFORCEMENT.

4-PILE BENT DATA

PILE NO.	TYPE	SIZE
1	HP	14X17
2	HP	14X17
3	HP	14X17
4	HP	14X17

NO.	DESCRIPTION	QUANTITY	UNIT	TOTAL
1	HP 14X17	4	PILES	4
2	HP 14X17	4	PILES	4
3	HP 14X17	4	PILES	4
4	HP 14X17	4	PILES	4

BRIDGE STANDARDS
CONCRETE/PRESTRESS

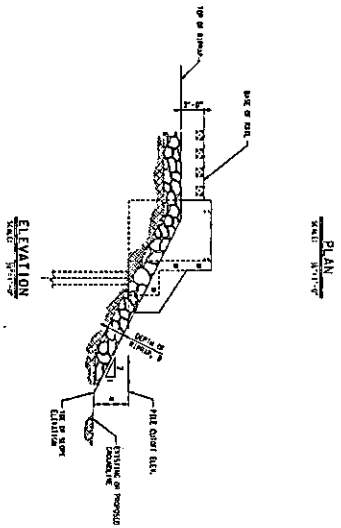
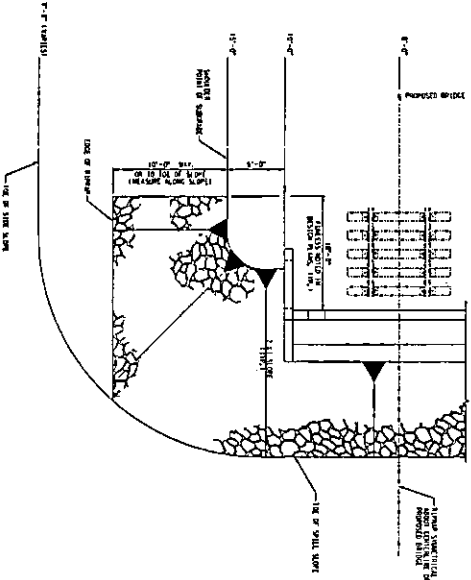
PILE AND BRACING DIMENSIONS

DATE: 10/1/17

SCALE: BRACING APPLICABLE TO BRIDGE BENTS ONLY

PILE AND BRACING LAYOUT
SCALE: BRACING APPLICABLE TO BRIDGE BENTS ONLY

STANDARD SHEET

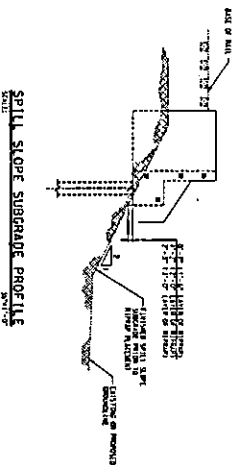


RIPRAP QUANTITIES

1.14 TONS PER CUBIC YARD

CLASS	CLASS I	CLASS II	CLASS III	CLASS IV	CLASS V	CLASS VI	CLASS VII	CLASS VIII	CLASS IX	CLASS X	CLASS XI	CLASS XII	CLASS XIII	CLASS XIV	CLASS XV	CLASS XVI	CLASS XVII	CLASS XVIII	CLASS XIX	CLASS XX	CLASS XXI	CLASS XXII	CLASS XXIII	CLASS XXIV	CLASS XXV	CLASS XXVI	CLASS XXVII	CLASS XXVIII	CLASS XXIX	CLASS XXX
1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00	28.00	29.00	30.00	

CLASS I
 1. 1/2" to 3/4" size
 2. 3/4" to 1" size
 3. 1" to 1 1/2" size
 4. 1 1/2" to 2" size
 5. 2" to 2 1/2" size
 6. 2 1/2" to 3" size
 7. 3" to 3 1/2" size
 8. 3 1/2" to 4" size
 9. 4" to 4 1/2" size
 10. 4 1/2" to 5" size
 11. 5" to 5 1/2" size
 12. 5 1/2" to 6" size
 13. 6" to 6 1/2" size
 14. 6 1/2" to 7" size
 15. 7" to 7 1/2" size
 16. 7 1/2" to 8" size
 17. 8" to 8 1/2" size
 18. 8 1/2" to 9" size
 19. 9" to 9 1/2" size
 20. 9 1/2" to 10" size
 21. 10" to 10 1/2" size
 22. 10 1/2" to 11" size
 23. 11" to 11 1/2" size
 24. 11 1/2" to 12" size
 25. 12" to 12 1/2" size
 26. 12 1/2" to 13" size
 27. 13" to 13 1/2" size
 28. 13 1/2" to 14" size
 29. 14" to 14 1/2" size
 30. 14 1/2" to 15" size
 31. 15" to 15 1/2" size
 32. 15 1/2" to 16" size
 33. 16" to 16 1/2" size
 34. 16 1/2" to 17" size
 35. 17" to 17 1/2" size
 36. 17 1/2" to 18" size
 37. 18" to 18 1/2" size
 38. 18 1/2" to 19" size
 39. 19" to 19 1/2" size
 40. 19 1/2" to 20" size
 41. 20" to 20 1/2" size
 42. 20 1/2" to 21" size
 43. 21" to 21 1/2" size
 44. 21 1/2" to 22" size
 45. 22" to 22 1/2" size
 46. 22 1/2" to 23" size
 47. 23" to 23 1/2" size
 48. 23 1/2" to 24" size
 49. 24" to 24 1/2" size
 50. 24 1/2" to 25" size
 51. 25" to 25 1/2" size
 52. 25 1/2" to 26" size
 53. 26" to 26 1/2" size
 54. 26 1/2" to 27" size
 55. 27" to 27 1/2" size
 56. 27 1/2" to 28" size
 57. 28" to 28 1/2" size
 58. 28 1/2" to 29" size
 59. 29" to 29 1/2" size
 60. 29 1/2" to 30" size
 61. 30" to 30 1/2" size
 62. 30 1/2" to 31" size
 63. 31" to 31 1/2" size
 64. 31 1/2" to 32" size
 65. 32" to 32 1/2" size
 66. 32 1/2" to 33" size
 67. 33" to 33 1/2" size
 68. 33 1/2" to 34" size
 69. 34" to 34 1/2" size
 70. 34 1/2" to 35" size
 71. 35" to 35 1/2" size
 72. 35 1/2" to 36" size
 73. 36" to 36 1/2" size
 74. 36 1/2" to 37" size
 75. 37" to 37 1/2" size
 76. 37 1/2" to 38" size
 77. 38" to 38 1/2" size
 78. 38 1/2" to 39" size
 79. 39" to 39 1/2" size
 80. 39 1/2" to 40" size
 81. 40" to 40 1/2" size
 82. 40 1/2" to 41" size
 83. 41" to 41 1/2" size
 84. 41 1/2" to 42" size
 85. 42" to 42 1/2" size
 86. 42 1/2" to 43" size
 87. 43" to 43 1/2" size
 88. 43 1/2" to 44" size
 89. 44" to 44 1/2" size
 90. 44 1/2" to 45" size
 91. 45" to 45 1/2" size
 92. 45 1/2" to 46" size
 93. 46" to 46 1/2" size
 94. 46 1/2" to 47" size
 95. 47" to 47 1/2" size
 96. 47 1/2" to 48" size
 97. 48" to 48 1/2" size
 98. 48 1/2" to 49" size
 99. 49" to 49 1/2" size
 100. 49 1/2" to 50" size



NO.	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
1	RIPRAP CLASS I	1.14	TONS		
2	RIPRAP CLASS II				
3	RIPRAP CLASS III				
4	RIPRAP CLASS IV				
5	RIPRAP CLASS V				
6	RIPRAP CLASS VI				
7	RIPRAP CLASS VII				
8	RIPRAP CLASS VIII				
9	RIPRAP CLASS IX				
10	RIPRAP CLASS X				
11	RIPRAP CLASS XI				
12	RIPRAP CLASS XII				
13	RIPRAP CLASS XIII				
14	RIPRAP CLASS XIV				
15	RIPRAP CLASS XV				
16	RIPRAP CLASS XVI				
17	RIPRAP CLASS XVII				
18	RIPRAP CLASS XVIII				
19	RIPRAP CLASS XIX				
20	RIPRAP CLASS XX				
21	RIPRAP CLASS XXI				
22	RIPRAP CLASS XXII				
23	RIPRAP CLASS XXIII				
24	RIPRAP CLASS XXIV				
25	RIPRAP CLASS XXV				
26	RIPRAP CLASS XXVI				
27	RIPRAP CLASS XXVII				
28	RIPRAP CLASS XXVIII				
29	RIPRAP CLASS XXIX				
30	RIPRAP CLASS XXX				

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 TERRI ROSS
 COUNTY CLERK
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