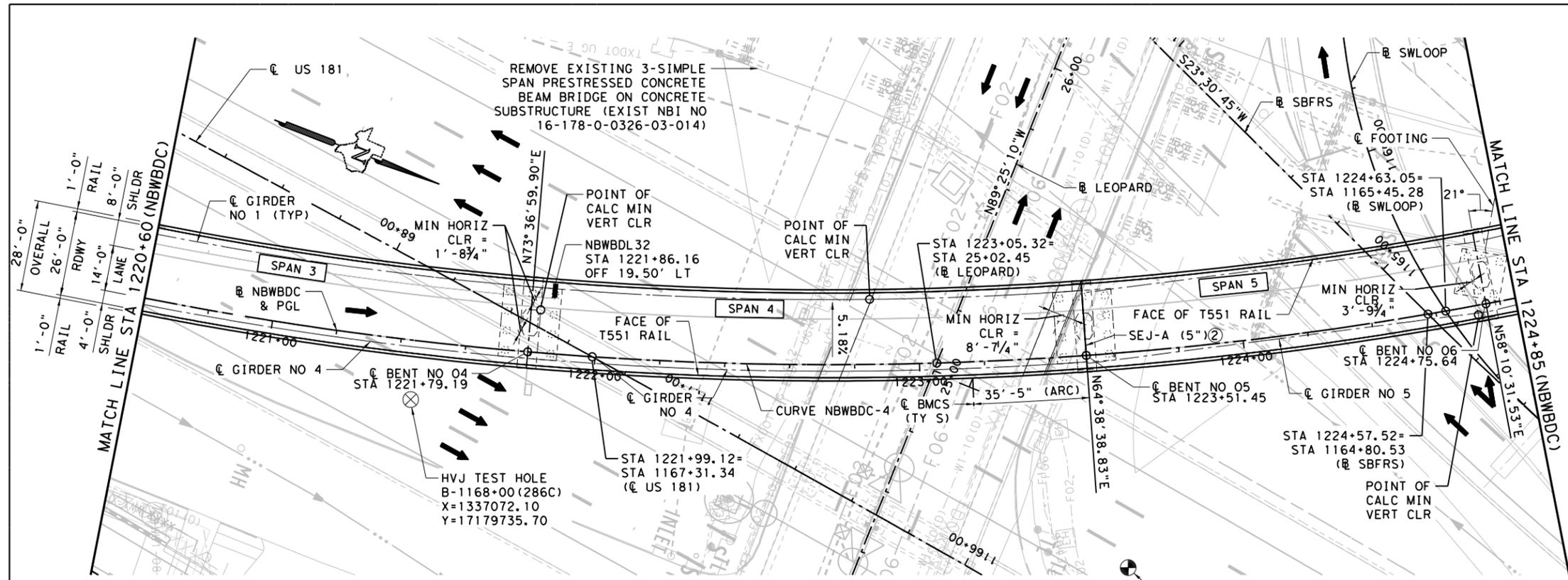


- NOTES:**
- SEE "GENERAL NOTES" SHEETS FOR GENERAL NOTES.
 - ROADWAY HORIZONTAL AND VERTICAL GEOMETRY, WIDTH, SUPERELEVATION, TRAFFIC DIRECTION, EXISTING GROUND LINE, PROPOSED GROUND LINE, RIGHT OF WAY AND DRAINAGE DATA PROVIDED BY STANTEC. TOPO DATA PROVIDED BY CIVIL CORP. UTILITY DATA PROVIDED BY KCI.
 - ALL DIMENSIONS ARE EITHER HORIZONTAL OR VERTICAL AND MUST BE CORRECTED FOR GRADE, CROWN AND/OR SUPERELEVATION.
 - ALL SUPERELEVATION TRANSITIONS ARE LINEAR.
 - FOR CONCRETE GIRDER SPANS, "D" DENOTES BENTS WITH DOWEL BARS AND SLOTTED HOLES AT ENDS OF EXTERIOR GIRDER ONLY.
 - PILE TIP ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY THE GEOTECHNICAL ENGINEER OF RECORD OR AN AUTHORIZED REPRESENTATIVE BASED UPON ACTUAL SOIL CONDITIONS ENCOUNTERED AT EACH PILE LOCATION.
 - CONTRACTOR TO FIELD VERIFY LOCATIONS OF EXISTING STRUCTURES AND UTILITIES PRIOR TO CONSTRUCTION.
 - SEE "TYPICAL SECTION" SHEET FOR TYPICAL SECTIONS.
 - SEE "BORING LOG DATA" SHEETS FOR BORING LOG INFORMATION.
 - SEE "FOUNDATION LAYOUT" SHEETS FOR DRAINAGE AND UTILITY INFORMATION.
 - SEE SIGNAGE SHEETS FOR SIGN LOCATIONS AND BRIDGE MOUNT DETAILS.
 - SOIL EXPLORATION DATA PROVIDED BY PSI.
 - SEE HVJ GEOTECHNICAL DATA REPORT DATED 9/29/2014 FOR HVJ BORING DATA.
 - BRIDGE NOT DESIGNED FOR OVERLAY LOAD.
- ① INCLUDES ADDITIONAL RAIL LENGTH AT GORE AREA.
 ② D.S. BROWN SEAL TYPE A2R-XTRA, SHOWN ON SEJ-A STANDARD SHEET, MUST BE USED AT THIS LOCATION. INSTALLATION OPENING MUST BE BETWEEN 2 3/4" AND 3 3/4"



CURVE NBWBDC-4

P.I. STATION	1229+62.75
DELTA	96° 18' 10.07" (LT)
DEGREE	5° 12' 31.35"
TANGENT	1,228.18'
LENGTH	1,848.88'
RADIUS	1,100.00'
P.C. STATION	1217+34.56
P.T. STATION	1235+83.44

DESIGN DATA

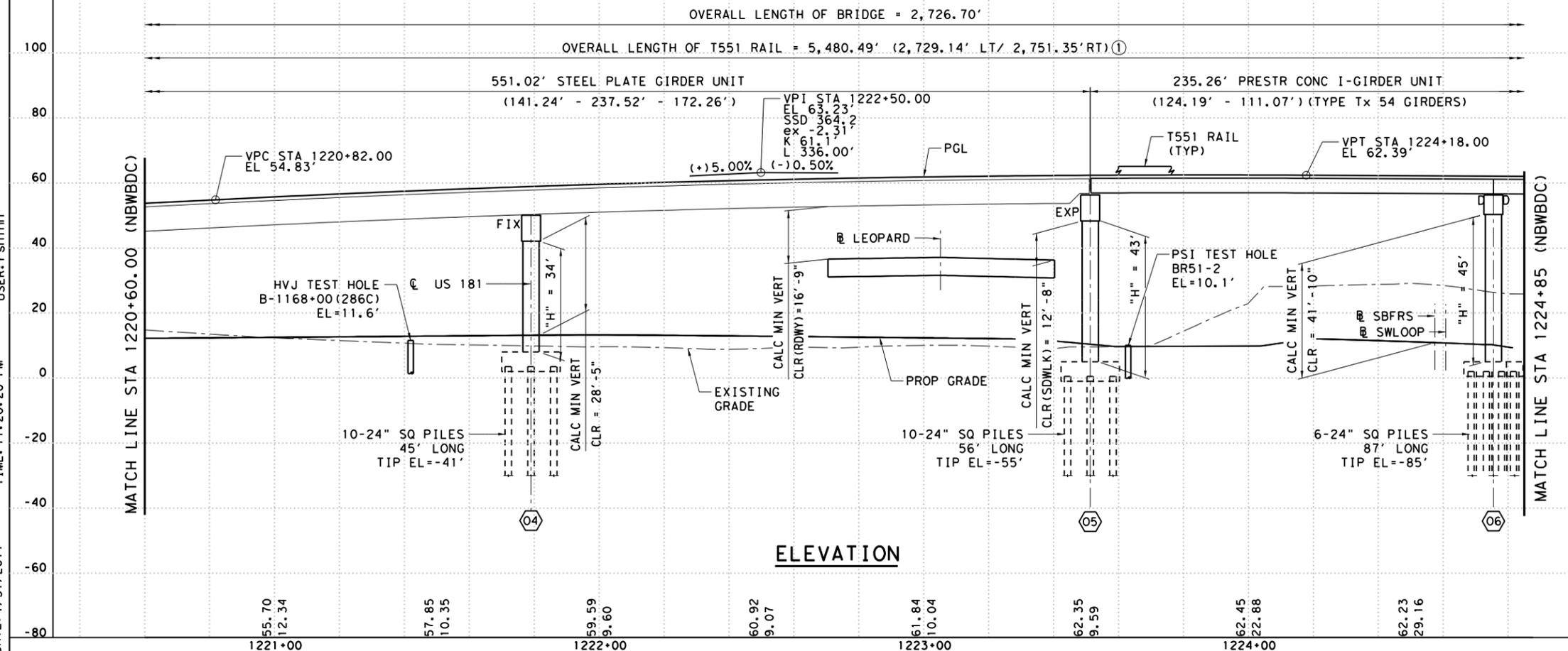
NBI NO xx-xxx-xxxx-xxx-xx
 FUNC CLASS: DIRECT CONNECTOR
 DESIGN SPEED: 45 MPH
 ADT: BRIDGE DC-0
 (2023) = 6,890
 (2035) = 7,510

PLAN

ALL BENTS RADIAL TO ALIGNMENT

- LEGEND**
- ➔ PROPOSED TRAFFIC FLOW
 - ➔ EXISTING TRAFFIC FLOW
 - ⊙ PSI BORE HOLE
 - ⊗ HVJ BORE HOLE
 - HL-93 LOADING

FILE: c:\pwworking\stntec\dms76188\15HBRBL02.dgn
 DATE: 7/31/2017
 TIME: 11:20:20 PM
 USER: rshinn



ELEVATION

FIGG BRIDGE ENGINEERS, INC.
 PRELIMINARY - FOR INTERIM REVIEW ONLY

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT INTENDED FOR REGULATORY APPROVAL, PERMIT, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

CESAR FERNANDES 98112 07/31/2017
 TBPE FIRM #F-4883 PE NO. DATE

NO.	DATE	REVISION	APPROVED

FLATIRON DRAGADOS LLC

FIGG
 TBPE, FIRM # F-4883

Texas Department of Transportation

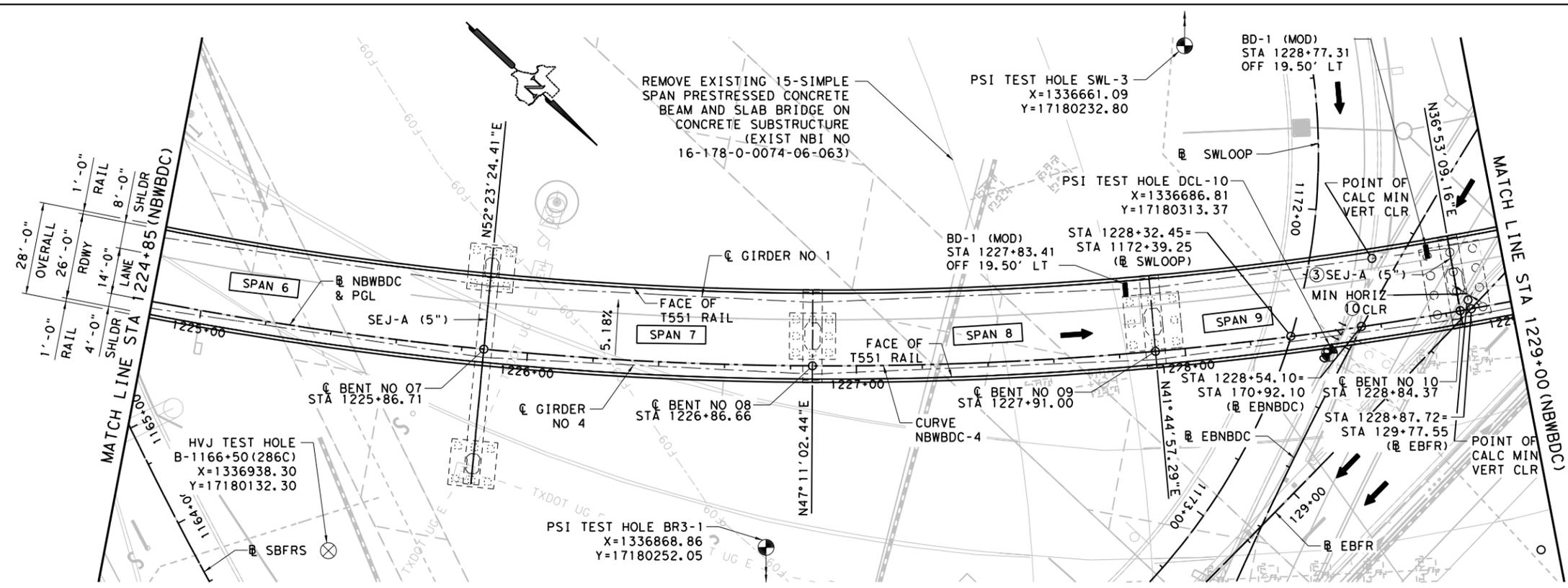
US 181 HARBOR BRIDGE
BRIDGE LAYOUT

DIRECT CONNECTOR
SH 286 NB TO IH 37 NB
BRIDGE 15, CONN "0"

SCALE: 1"=40'-0" SHEET 2 OF 7

DESIGN SNO	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	X	(See Title Sheet)		US 181
CHECK RLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	CRP	NUECES	RB15
CF	CONTROL	SECTION	JOB	002
	0101	06	095	

PRELIMINARY NOT FOR CONSTRUCTION, JULY 2017



CURVE NBWBDC-4

P.I. STATION	1229+62.75
DELTA	96° 18' 10.07" (LT)
DEGREE	5° 12' 31.35"
TANGENT	1,228.18'
LENGTH	1,848.88'
RADIUS	1,100.00'
P.C. STATION	1217+34.56
P.T. STATION	1235+83.44

DESIGN DATA

NBI NO	xx-xxx-xxxx-xxx-xx
FUNC CLASS	DIRECT CONNECTOR
DESIGN SPEED	45 MPH
ADT	BRIDGE DC-0
(2023)	= 6,890
(2035)	= 7,510

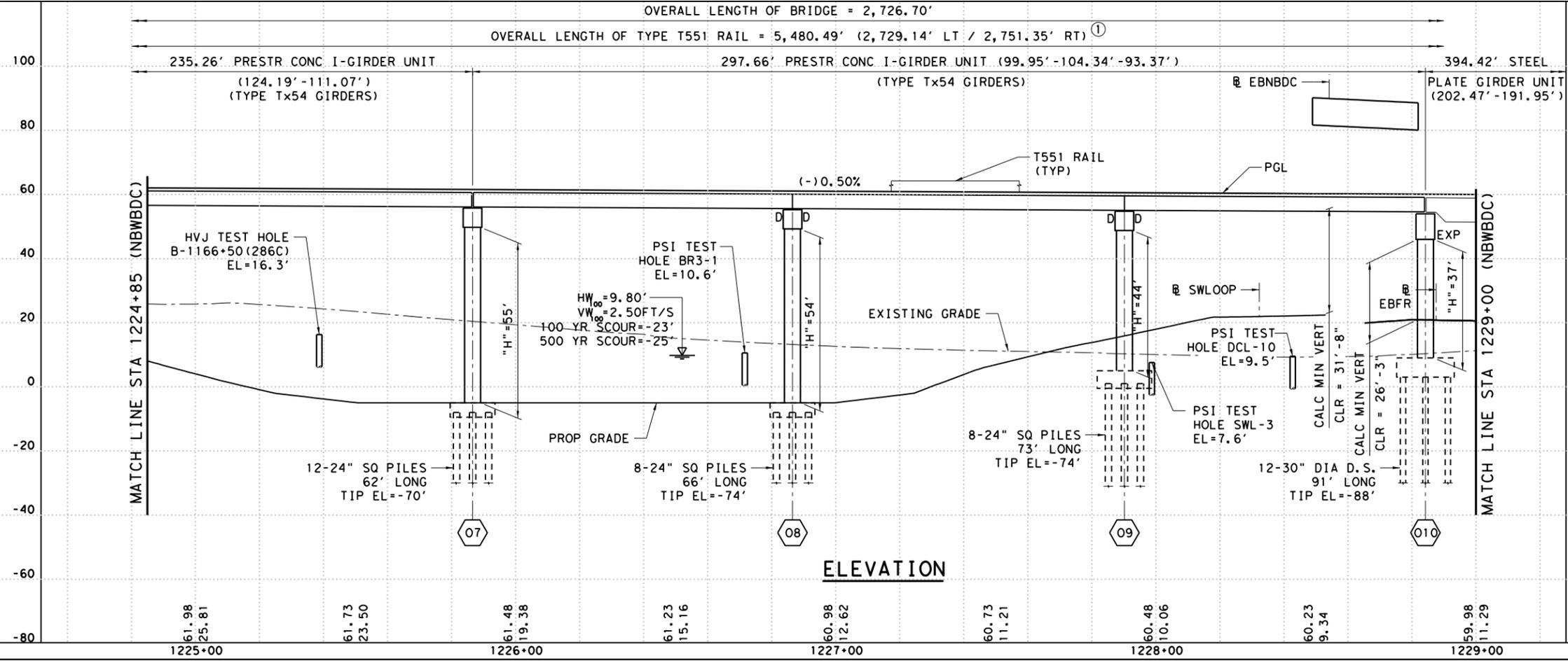
PLAN

- NOTES:**
- SEE "GENERAL NOTES" SHEETS FOR GENERAL NOTES.
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 - SOIL EXPLORATION DATA PROVIDED BY PSI.
 - SEE HVJ GEOTECHNICAL DATA REPORT DATED 9/29/2014 FOR HVJ BORING DATA.
 - BRIDGE NOT DESIGNED FOR OVERLAY LOAD.
- ① INCLUDES ADDITIONAL RAIL LENGTH AT GORE AREA.
③ INSTALLATION OPENING MUST BE 2 3/4".
⑩ 1'-10 1/2" TO EXISTING IH37. 1'11 3/4" TO PROPOSED EBFR.

LEGEND

- ➔ PROPOSED TRAFFIC FLOW
- ➔ EXISTING TRAFFIC FLOW
- ⊙ PSI BORE HOLE
- ⊗ HVJ BORE HOLE
- HL-93 LOADING

ALL BENTS RADIAL TO ALIGNMENT



ELEVATION

FIGG BRIDGE ENGINEERS, INC.
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CESAR FERNANDES 98112 07/31/2017
TBPE FIRM #F-4883 PE NO. DATE

NO.	DATE	REVISION	APPROVED

FLATIRON DRAGADOS LLC

FIGG
TBPE, FIRM # F-4883

US 181 HARBOR BRIDGE
BRIDGE LAYOUT

DIRECT CONNECTOR
SH 286 NB TO IH 37 NB
BRIDGE 15, CONN "0"

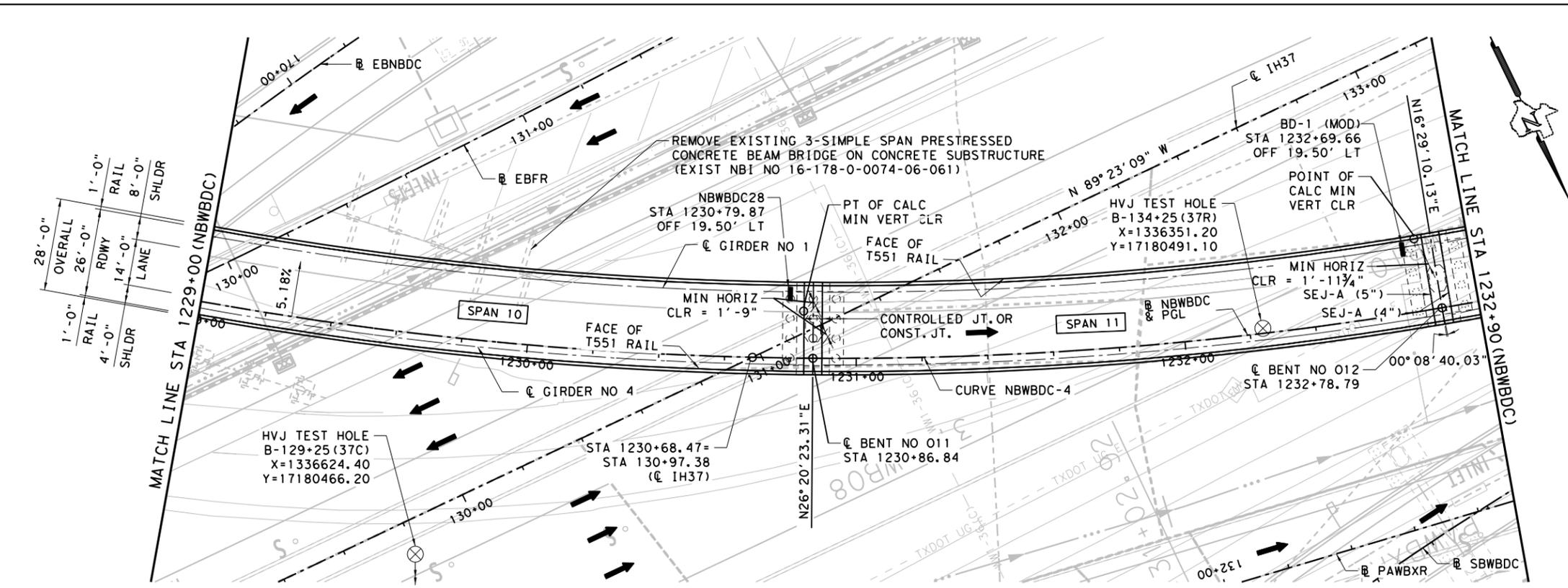
SCALE: 1"=40'-0" SHEET 3 OF 7

DESIGN SNO	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
X	(See Title Sheet)			US 181
GRAPHICS	MJR	STATE	DISTRICT	COUNTY
CHECK	RLS	TEXAS	CRP	NUECES
CHECK	CF	CONTROL	SECTION	JOB

RB15
003

FILE: c:\pwworking\stntec\dms76188\15HBRBLO3.dgn USER: rshinn DATE: 8/1/2017 TIME: 2:14:03 PM

- NOTES:**
- SEE "GENERAL NOTES" SHEETS FOR GENERAL NOTES.
 - ROADWAY HORIZONTAL AND VERTICAL GEOMETRY, WIDTH, SUPERELEVATION, TRAFFIC DIRECTION, EXISTING GROUND LINE, PROPOSED GROUND LINE, RIGHT OF WAY AND DRAINAGE DATA PROVIDED BY STANTEC. TOPO DATA PROVIDED BY CIVIL CORP. UTILITY DATA PROVIDED BY KCI.
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 - BRIDGE NOT DESIGNED FOR OVERLAY LOAD.
- ① INCLUDES ADDITIONAL RAIL LENGTH AT GORE AREA.



CURVE NBWBC-4

P. I. STATION	1229+62.75
DELTA	96°18'10.07" (LT)
DEGREE	5°12'31.35"
TANGENT	1,228.18'
LENGTH	1,848.88'
RADIUS	1,100.00'
P. C. STATION	1217+34.56
P. T. STATION	1235+83.44

DESIGN DATA

NBI NO xx-xxx-xxxx-xxx-xx
 FUNC CLASS: DIRECT CONNECTOR
 DESIGN SPEED: 45 MPH
 ADT: BRIDGE DC-0
 (2023) = 6,890
 (2035) = 7,510

PLAN

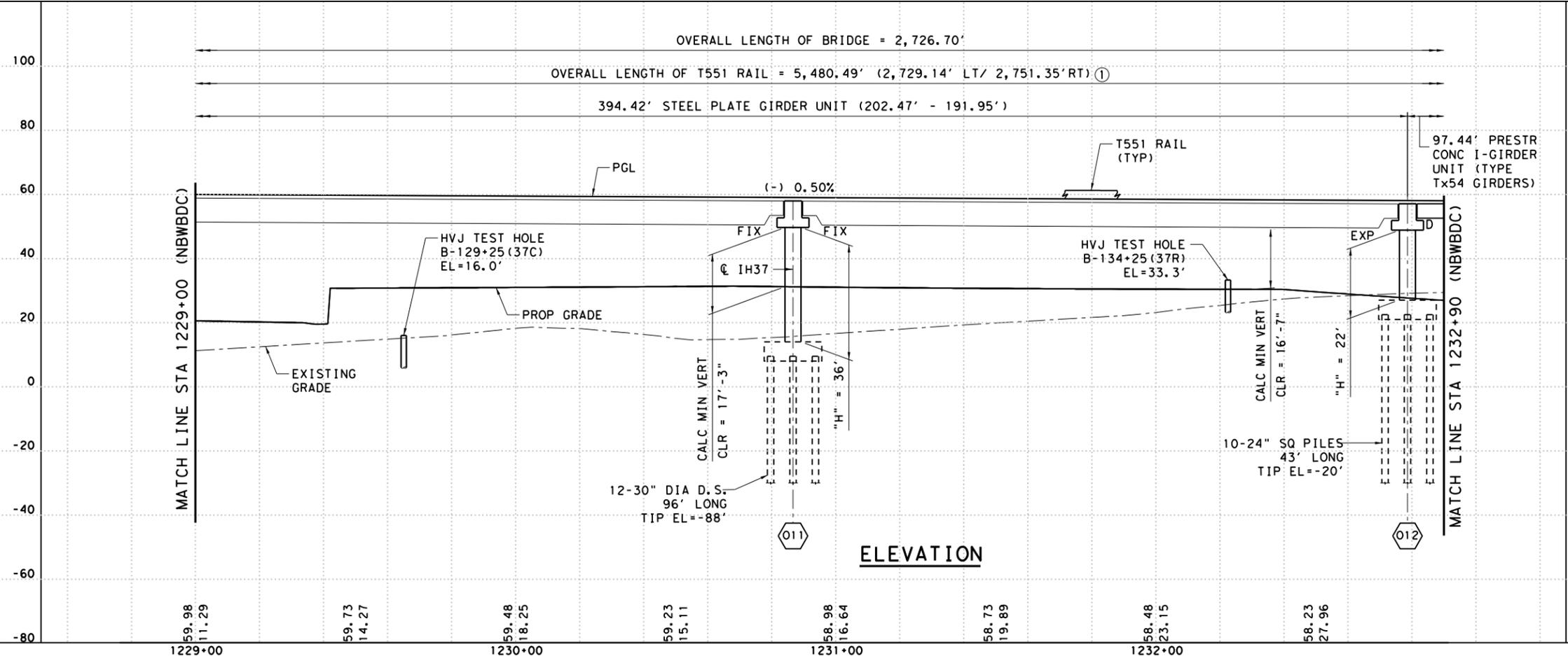
ALL BENTS RADIAL TO ALIGNMENT UNLESS NOTED OTHERWISE

LEGEND

→ PROPOSED TRAFFIC FLOW
 ← EXISTING TRAFFIC FLOW

⊙ PSI BORE HOLE
 ⊗ HVJ BORE HOLE

HL-93 LOADING



ELEVATION

FIGG BRIDGE ENGINEERS, INC.
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CESAR FERNANDES 98112 07/31/2017
 TBPE FIRM #F-4883 PE. NO. DATE

NO.	DATE	REVISION	APPROVED

FLATIRON DRAGADOS LLC

FIGG
 TBPE, FIRM # F-4883

Texas Department of Transportation 2017

US 181 HARBOR BRIDGE
BRIDGE LAYOUT

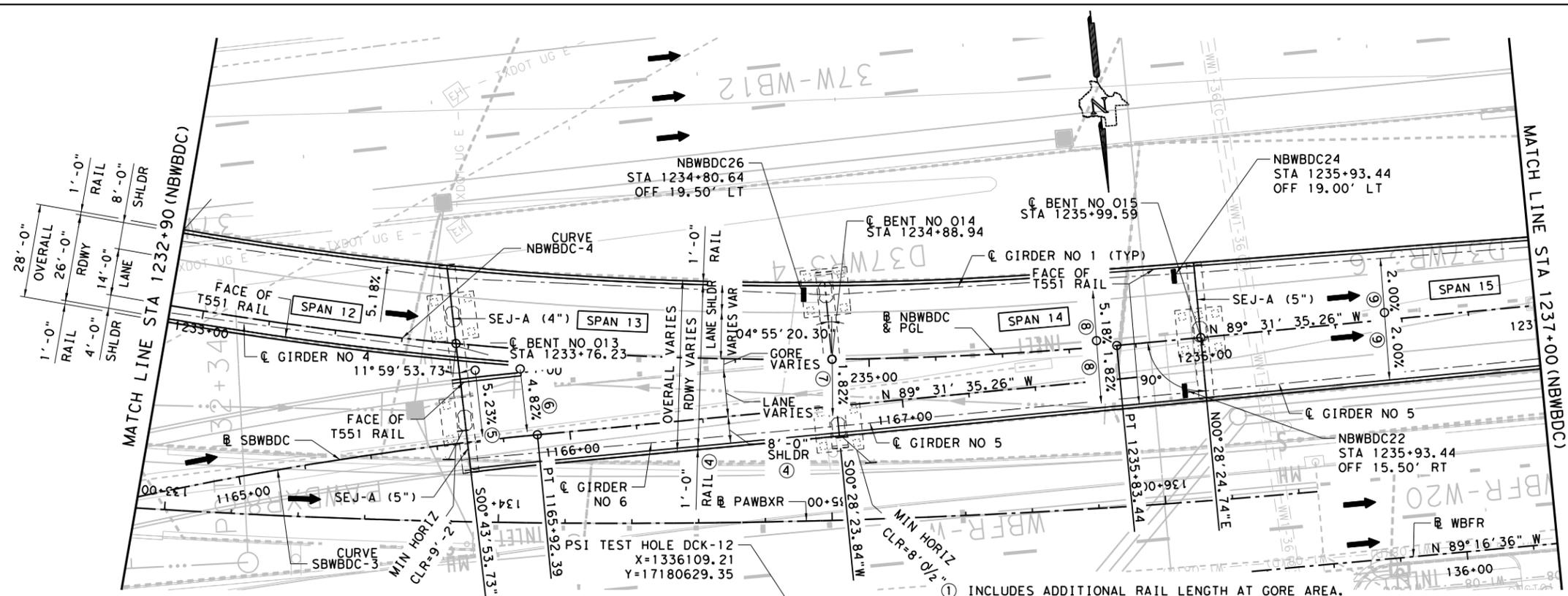
DIRECT CONNECTOR
 SH 286 NB TO IH 37 NB
 BRIDGE 15, CONN "0"

SCALE: 1"=40'-0" SHEET 4 OF 7

DESIGN SNO	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS MJR	X	(See Title Sheet)		US 181
CHECK RLS	TEXAS	DISTRICT	COUNTY	SHEET NO.
CHECK CF	CONTROL	SECTION	JOB	RB15
	0101	06	095	004

FILE: c:\pwworking\stntec\dms76188\15HBRBL04.dgn
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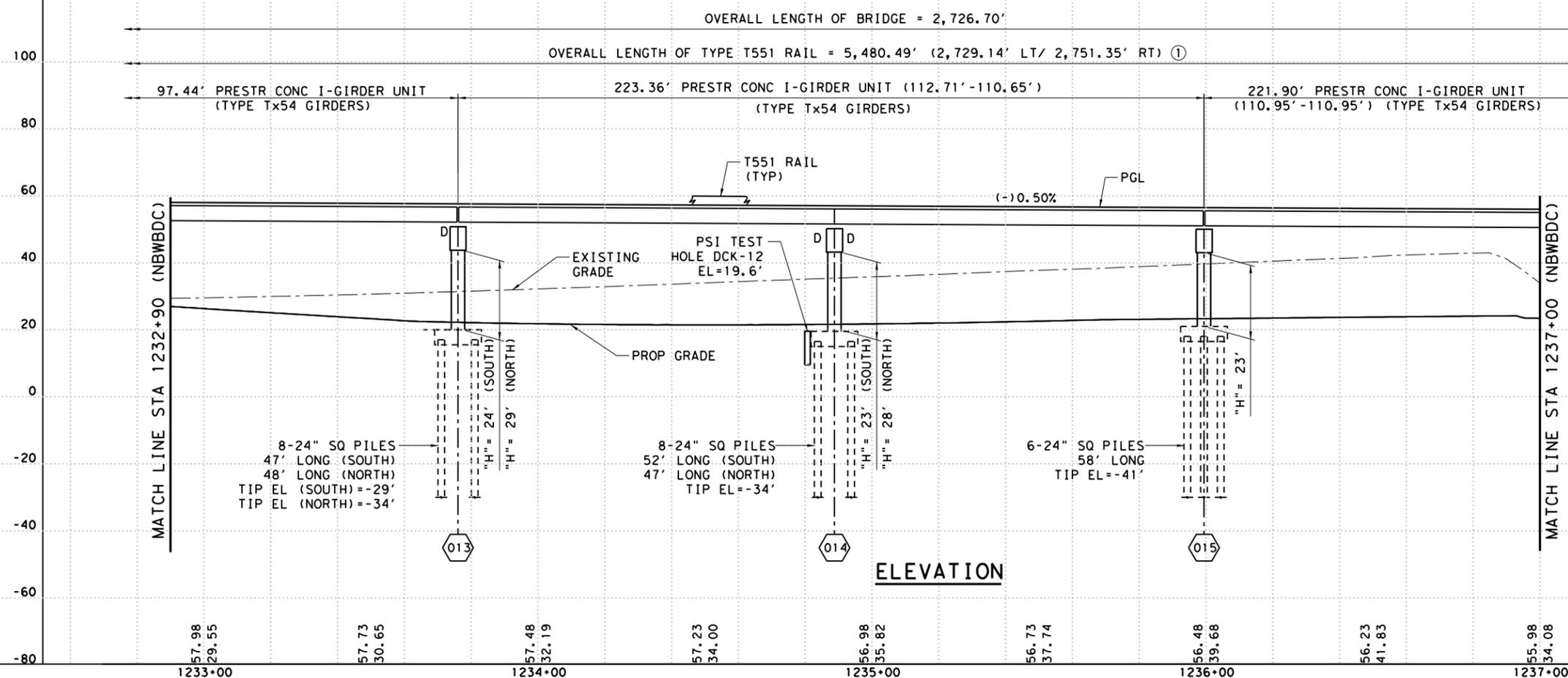
- NOTES:**
- SEE "GENERAL NOTES" SHEETS FOR GENERAL NOTES.
 - ROADWAY HORIZONTAL AND VERTICAL GEOMETRY, WIDTH, SUPERELEVATION, TRAFFIC DIRECTION, EXISTING GROUND LINE, PROPOSED GROUND LINE, RIGHT OF WAY AND DRAINAGE DATA PROVIDED BY STANTEC. TOPO DATA PROVIDED BY CIVIL CORP. UTILITY DATA PROVIDED BY KCI.
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 - SEE SIGNAGE SHEETS FOR SIGN LOCATIONS AND BRIDGE MOUNT DETAILS.
 - SOIL EXPLORATION DATA PROVIDED BY PSI.
 - SEE HVJ GEOTECHNICAL DATA REPORT DATED 9/29/2014 FOR HVJ BORING DATA.
 - BRIDGE NOT DESIGNED FOR OVERLAY LOAD.



CURVE NBWBDC-4	P.I. STATION = 1229+62.75	CURVE SBWBDC-3	P.I. STATION = 1160+31.57
DELTA = 96° 18' 10.07" (LT)	DELTA = 70° 02' 16.58" (RT)	DELTA = 5° 19' 47.42" (RT)	
DEGREE = 5° 12' 31.35"	DEGREE = 5° 19' 47.42"	DEGREE = 5° 19' 47.42"	
TANGENT = 1,228.18'	TANGENT = 753.25'	TANGENT = 753.25'	
LENGTH = 1,848.88'	LENGTH = 1,314.07'	LENGTH = 1,314.07'	
RADIUS = 1,100.00'	RADIUS = 1,075.00'	RADIUS = 1,075.00'	
P.C. STATION = 1217+34.56	P.C. STATION = 1152+78.32	P.C. STATION = 1152+78.32	
P.T. STATION = 1235+83.44	P.T. STATION = 1165+92.39	P.T. STATION = 1165+92.39	

DESIGN DATA
 NBI NO XX-XXX-XXXX-XX-XXX
 FUNC CLASS: DIRECT CONNECTOR
 DESIGN SPEED: 45 MPH
 ADT: BRIDGE DC-0
 (2023) = 6,890
 (2035) = 7,510

- LEGEND**
- ➔ PROPOSED TRAFFIC FLOW
 - ➡ EXISTING TRAFFIC FLOW
 - ⊙ PSI BORE HOLE
 - ⊗ HVJ BORE HOLE
 - HL-93 LOADING
- ① INCLUDES ADDITIONAL RAIL LENGTH AT GORE AREA.
 ④ MEASURED PERPENDICULAR TO ⊕ SBWBDC.
 ⑤ BEGIN SUPERELEVATION TRANSITION STA 1165+74.39 (⊕ SBWBDC).
 ⑥ BEGIN / END SUPERELEVATION TRANSITION STA 1165+87.12 (⊕ SBWBDC).
 ⑦ END SUPERELEVATION TRANSITION STA 1234+89.60.
 ⑧ BEGIN SUPERELEVATION TRANSITION STA 1235+65.44.
 ⑨ END SUPERELEVATION TRANSITION STA 1236+55.34.



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CESAR FERNANDES 98112 07/31/2017
 TBPE FIRM #F-4883 PE NO. DATE

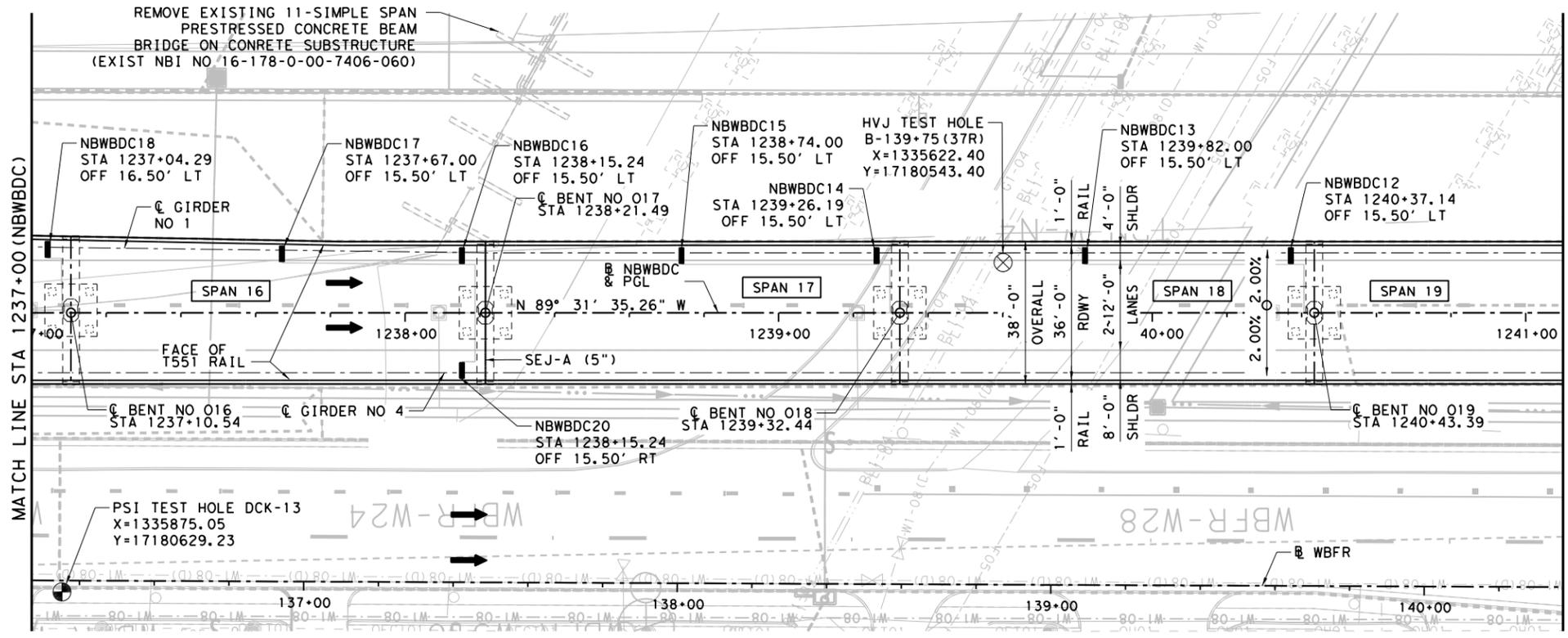
NO.	DATE	REVISION	APPROVED



Texas Department of Transportation
 US 181 HARBOR BRIDGE
BRIDGE LAYOUT
 DIRECT CONNECTOR
 SH 286 NB TO IH 37 NB
 BRIDGE 15, CONN "0"

SCALE: 1"=40'-0" SHEET 5 OF 7

DESIGN SNO	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS MJR	X	(See Title Sheet)		US 181
CHECK RLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK CF	TEXAS	CRP	NUECES	RB15
	CONTROL	SECTION	JOB	005
	0101	06	095	



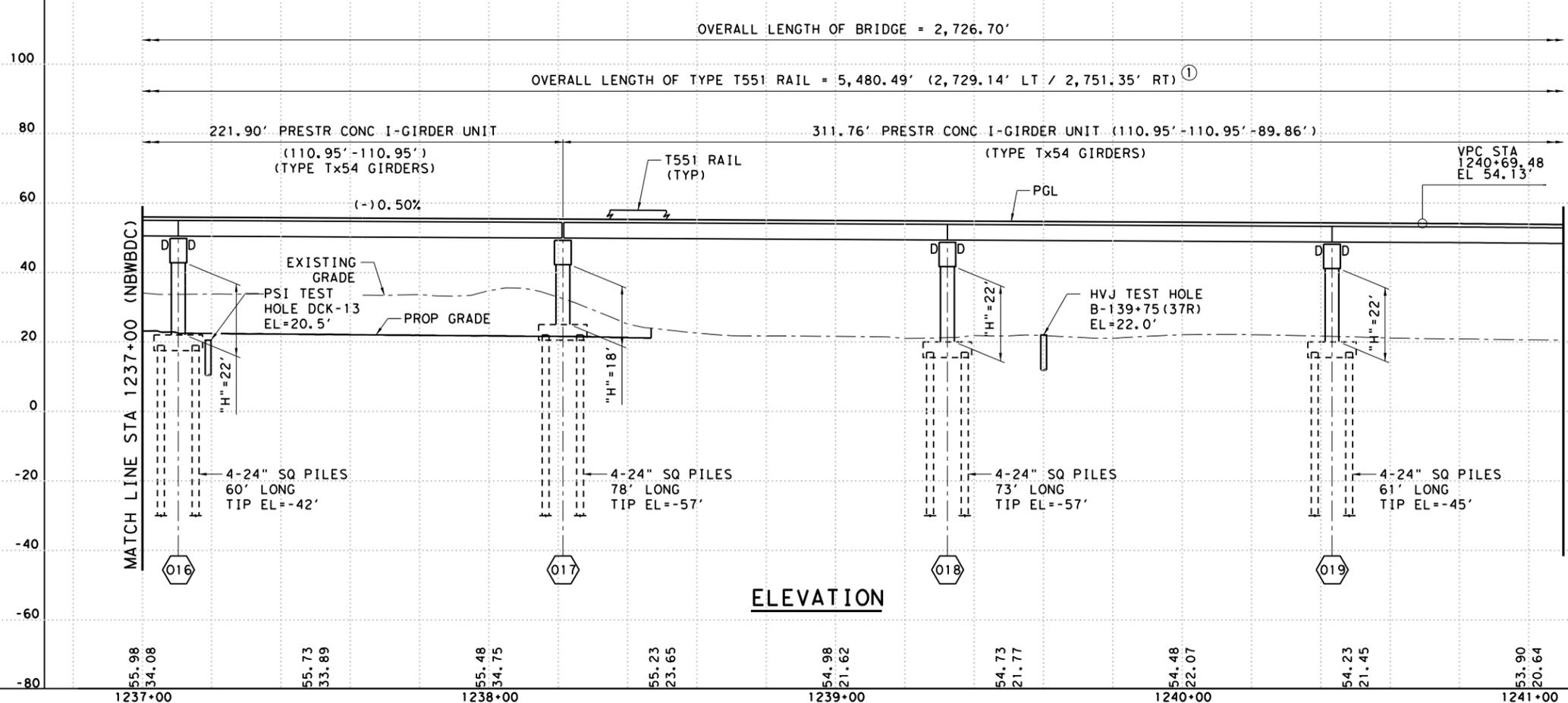
- NOTES:**
1. SEE "GENERAL NOTES" SHEETS FOR GENERAL NOTES.
 2. ROADWAY HORIZONTAL AND VERTICAL GEOMETRY, WIDTH, SUPERELEVATION, TRAFFIC DIRECTION, EXISTING GROUND LINE, PROPOSED GROUND LINE, RIGHT OF WAY AND DRAINAGE DATA PROVIDED BY STANTEC. TOPO DATA PROVIDED BY CIVIL CORP. UTILITY DATA PROVIDED BY KCI.
 3. ALL DIMENSIONS ARE EITHER HORIZONTAL OR VERTICAL AND MUST BE CORRECTED FOR GRADE, CROWN AND/OR SUPERELEVATION.
 4. ALL SUPERELEVATION TRANSITIONS ARE LINEAR.
 5. FOR CONCRETE GIRDER SPANS, "D" DENOTES BENTS WITH DOWEL BARS AND SLOTTED HOLES AT ENDS OF EXTERIOR GIRDER ONLY.
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 9. SEE "BORING LOG DATA" SHEETS FOR BORING LOG INFORMATION.
 10. SEE "FOUNDATION LAYOUT" SHEETS FOR DRAINAGE AND UTILITY INFORMATION.
 11. SEE SIGNAGE SHEETS FOR SIGN LOCATIONS AND BRIDGE MOUNT DETAILS.
 12. SOIL EXPLORATION DATA PROVIDED BY PSI.
 13. SEE HVJ GEOTECHNICAL DATA REPORT DATED 9/29/2014 FOR HVJ BORING DATA.
 14. BRIDGE NOT DESIGNED FOR OVERLAY LOAD.
- ① INCLUDES ADDITIONAL RAIL LENGTH AT CORE AREA.

DESIGN DATA
 NBI NO xx-xxx-xxxx-xxx-xx
 FUNC CLASS: DIRECT CONNECTOR
 DESIGN SPEED: 45 MPH
 ADT: BRIDGE DC-0
 (2023) = 6,890
 (2035) = 7,510

PLAN

ALL BENTS PERPENDICULAR TO ALIGNMENT.
 ALL BENTS BEARING AT N 0° 28' 24.74" E.

- LEGEND**
- ← PROPOSED TRAFFIC FLOW
 - ⇌ EXISTING TRAFFIC FLOW
 - ⊙ PSI BORE HOLE
 - ⊗ HVJ BORE HOLE
 - HL-93 LOADING



ELEVATION

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 TBPE FIRM #F-4883 PE. NO. DATE

NO.	DATE	REVISION	APPROVED



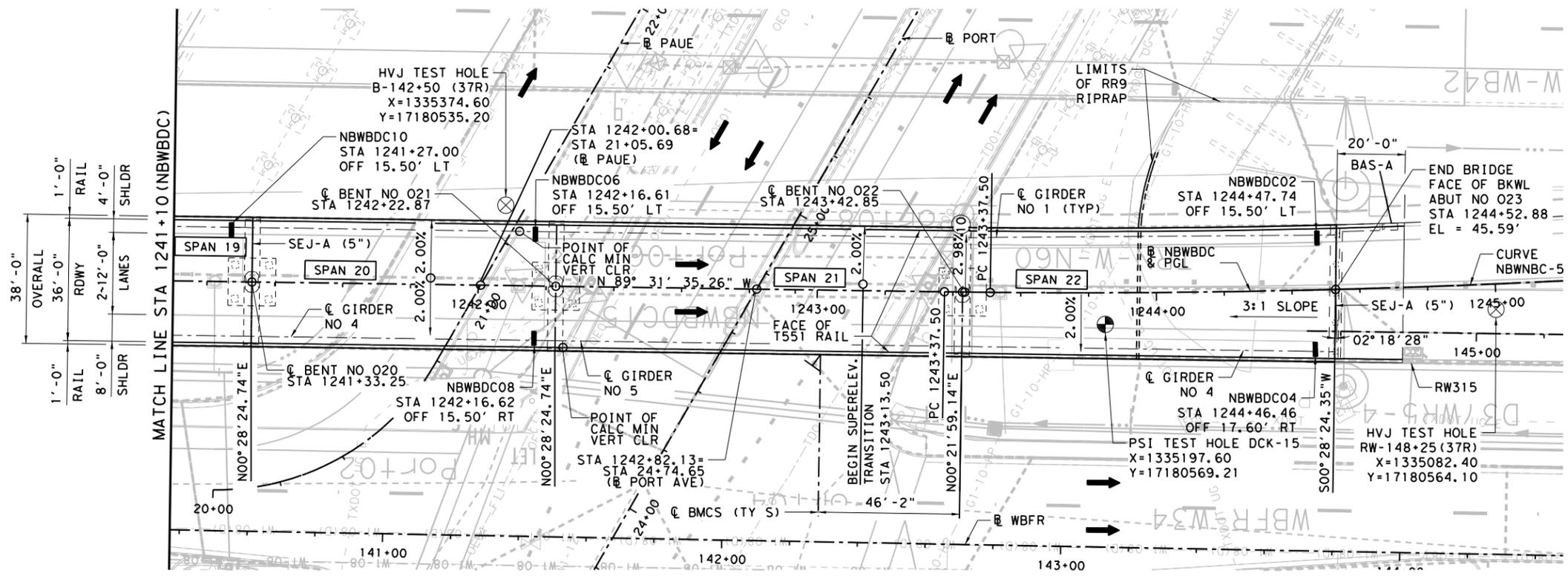
Texas Department of Transportation
 US 181 HARBOR BRIDGE
BRIDGE LAYOUT
 DIRECT CONNECTOR
 SH 286 NB TO IH 37 NB
 BRIDGE 15, CONN "0"

SCALE: 1"=40'-0" SHEET 6 OF 7

DESIGN SNO	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
X	(See Title Sheet)			US 181
GRAPHICS MJR	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK RLS	TEXAS	CRP	NUECES	RB15
CHECK CF	CONTROL	SECTION	JOB	006

FILE: c:\pwworking\stntec\dms76188\15HBRBL06.dgn
 DATE: 7/31/2017 TIME: 11:22:26 PM USER: rshinn

- NOTES:**
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 - BRIDGE NOT DESIGNED FOR OVERLAY LOAD.
- ① INCLUDES ADDITIONAL RAIL LENGTH AT GORE AREA.
 ⑩ END SUPERELEVATION TRANSITION STA 1243+43.50.



CURVE NBWBC-5

P. I. STATION	1244+48.44
DELTA	4° 26' 06.94" (LT)
DEGREE	2° 00' 00.00"
TANGENT	110.94'
LENGTH	221.76'
RADIUS	2,864.79'
P. C. STATION	1243+37.50
P. T. STATION	1245+59.26

DESIGN DATA

NBI NO	XX-XXX-XXXX-XX-XXX
FUNC CLASS	DIRECT CONNECTOR
DESIGN SPEED	45 MPH
ADT	BRIDGE DC-0 (2023) = 6,890
	(2035) = 7,510

PLAN

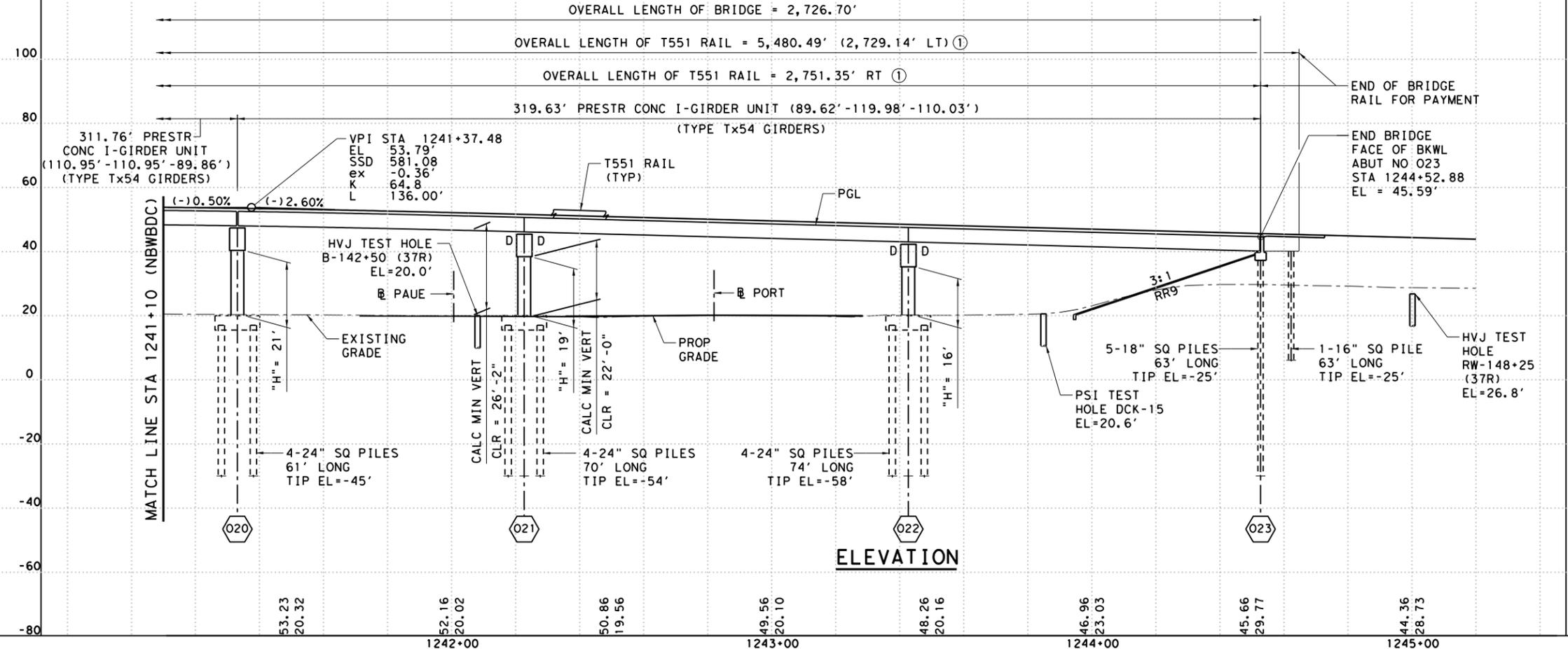
ALL BENTS AND ABUTMENT PERPENDICULAR TO ALIGNMENT UNLESS NOTED OTHERWISE.

LEGEND

→ PROPOSED TRAFFIC FLOW
 ← EXISTING TRAFFIC FLOW

⊙ PSI BORE HOLE
 ⊗ HVJ BORE HOLE

HL-93 LOADING



ELEVATION

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CESAR FERNANDES 98112 07/31/2017
 TBPE FIRM #F-4883 PE NO. DATE

NO.	DATE	REVISION	APPROVED

FLATIRON/DAGADOS LLC

FIGG
 TBPE, FIRM # F-4883

Texas Department of Transportation 2017

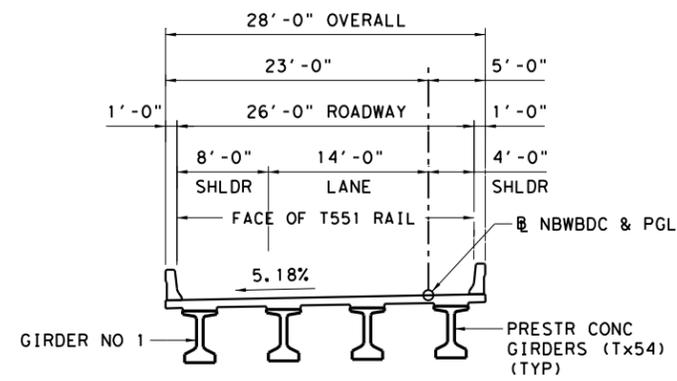
US 181 HARBOR BRIDGE
BRIDGE LAYOUT

DIRECT CONNECTOR
SH 286 NB TO IH 37 NB
BRIDGE 15, CONN "0"

SCALE: 1"=40'-0" SHEET 7 OF 7

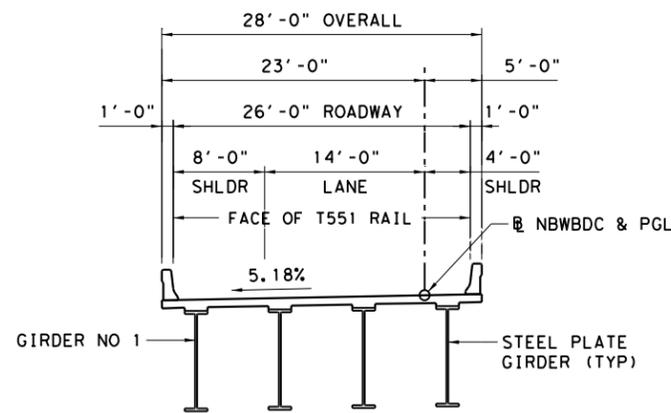
DESIGN SNO	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS MJR	X	(See Title Sheet)		US 181
CHECK RLS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK CS	TEXAS	CRP	NUECES	RB15
	CONTROL	SECTION	JOB	007
	0101	06	095	

FILE: c:\pwworking\stntec\dms76188\15HBRBL07.dgn
 DATE: 7/31/2017 TIME: 11:22:52 PM USER: rshinn



TRANSVERSE SECTION

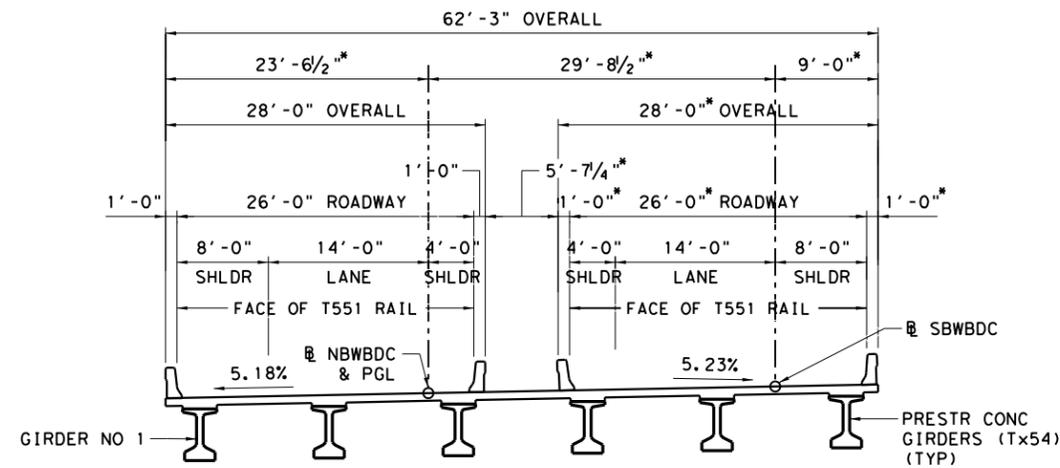
SPANS 1, 5 THRU 9 & 12
(4 GIRDERS SHOWN, 5 GIRDERS IN SPAN 5)



TRANSVERSE SECTION

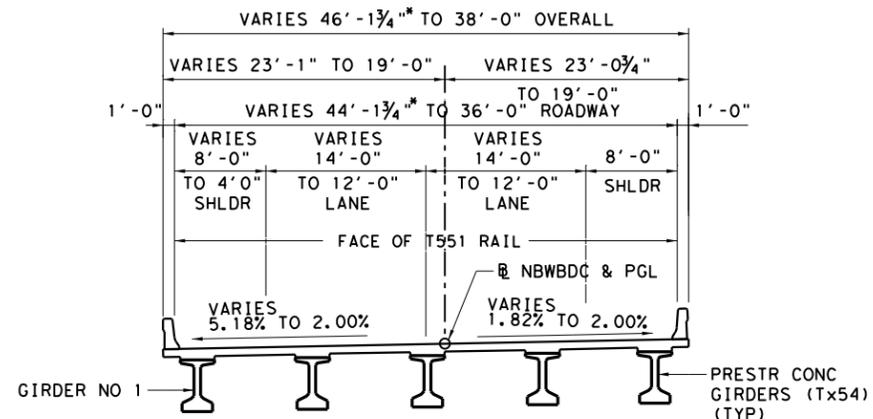
SPANS 2 THRU 4 & 10 THRU 11

- NOTES:**
1. SEE "GENERAL NOTES" SHEETS FOR GENERAL NOTES.
 - *2. ALL DIMENSIONS SHOWN ARE MEASURED PERPENDICULAR TO NBWBDC EXCEPT AS NOTED BY "*" WHICH ARE MEASURED ALONG SUBSTRUCTURE CENTERLINES.
 3. SEE T551 STANDARD FOR RAIL DETAILS.



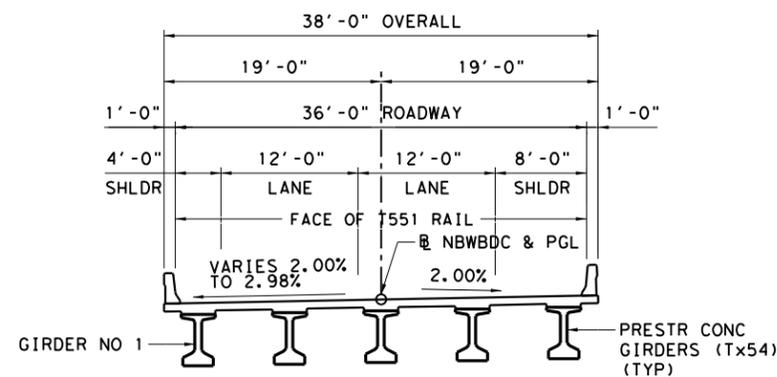
TRANSVERSE SECTION

SPAN 13 AT BENT 13



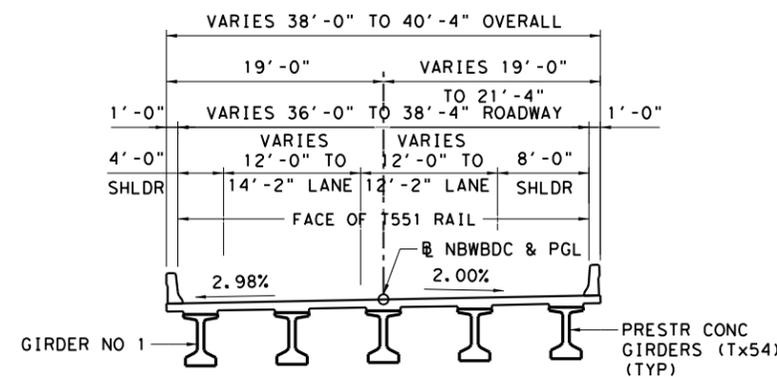
TRANSVERSE SECTION

SPANS 14, 15 & 16
(5 GIRDERS SHOWN, 4 GIRDERS IN SPAN 16)



TRANSVERSE SECTION

SPANS 17 THRU 21
(5 GIRDERS SHOWN, 4 GIRDERS IN SPANS 17 THRU 20)



TRANSVERSE SECTION

SPAN 22

FIGG BRIDGE ENGINEERS, INC.
PRELIMINARY FOR INTERIM REVIEW ONLY

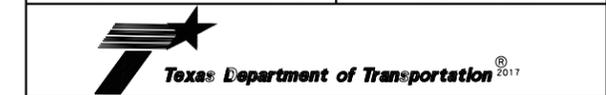
THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT INTENDED FOR REGULATORY APPROVAL, PERMIT, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

CESAR FERNANDES 98112 07/31/2017
TBPE FIRM #F-4883 P.E. NO. DATE

HL-93 LOADING

NO.	DATE	REVISION	APPROVED

 FLATIRON DRAGADOS LLC	 FIGG <small>TBPE, FIRM # F-4883</small>
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US 181 HARBOR BRIDGE
TYPICAL SECTIONS

DIRECT CONNECTOR
SH 286 NB TO IH 37 NB
BRIDGE 15, CONN "0"

SCALE: 1/16" = 1'-0" SHEET 1 OF 1

DESIGN SNO	FED. RD. DIV. NO. X	FEDERAL AID PROJECT NO. (See Title Sheet)		HIGHWAY NO. IH 37
GRAPHICS MJR	STATE TEXAS	DISTRICT CRP	COUNTY NUECES	SHEET NO. RB15
CHECK RLS	CONTROL CONTROL	SECTION SECTION	JOB JOB	008
CHECK CF	0101	06	095	