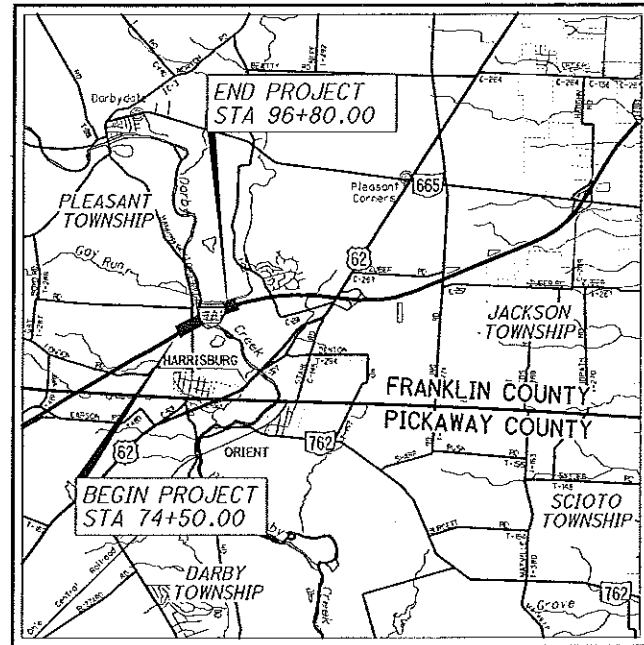


STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

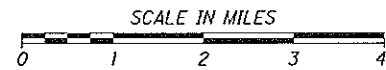
FRA-71-1.53

**PLEASANT TOWNSHIP
FRANKLIN COUNTY**



LOCATION MAP

LATITUDE: 39°49'16" LONGITUDE: 83°10'11"



PORTION TO BE IMPROVED	—————
INTERSTATE HIGHWAY	=====
FEDERAL ROUTES	-----
STATE ROUTES	-----
COUNTY & TOWNSHIP ROADS	-----
OTHER ROADS	-----

DESIGN DESIGNATION AND
DESIGN EXCEPTIONS

SEE SHEET 2

INDEX OF SHEETS:

TITLE SHEET	1
SCHEMATIC PLAN	2-3
TYPICAL SECTIONS	4-5
GENERAL NOTES	6-11
MAINTENANCE OF TRAFFIC	12-20, 20A, 21-22, 22A, 23-30, 30A-30N, 31-65, 65A-65M, 66-107
GENERAL SUMMARY	108-112
SUBSUMMARIES	113-116
STORM WATER SITE PLAN	117-118, 119A-119C, 120-124, 125A-125D
PLAN AND PROFILE	126-146
CROSS SECTIONS	147-171
SUPERELEVATION TABLES	172-173
DRAINAGE DETAILS	174, 175, 176A, 176B, 177, 178, 179A-179D, 180-185, 186A-186C
MISCELLANEOUS DETAILS	187-188
TRAFFIC CONTROL	189-201
LANDSCAPING	202
STRUCTURE (OVER 20 FOOT SPAN)	203-280
RIGHT OF WAY PLAN	281-285
SOIL PROFILES	

PROJECT DESCRIPTION

THIS PROJECT WILL CONSIST OF ADDING A THIRD LANE TO THE MEDIAN SIDE IN BOTH DIRECTIONS OF I-71 FOR APPROXIMATELY 0.48 MILE, REPLACING TWIN SUPER-STRUCTURES OVER THE BIG DARBY CREEK AND ASSOCIATED ROADWAY, SIGNING AND DRAINAGE IMPROVEMENTS.

PROJECT EARTH DISTURBED AREA: 11.8 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 3.5 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 15.3 ACRES

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2016 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

180573 Conformed Set
Dist 6

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UNDERGROUND UTILITIES
CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

Call Before You Dig
1-800-362-2764
(Non-members must be called directly)

OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
1-800-925-0988

PLAN PREPARED BY:

Mead & Hunt
4700 LAKEHURST CT, STE 110
COLUMBUS, OH 43016
(614) 792-5900 PHONE

ENGINEERS SEAL:
STRUCTURES

SIGNED: *Daniel C. Barnhart*
DATE: August 22, 2018

ENGINEERS SEAL:
ROADWAY

SIGNED: *Daniel C. Barnhart*
DATE: August 22, 2018

STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-1.1	7/28/00	DM-1.2	1/18/13	MGS-6.1	1/19/18	MT-101.70	7/20/18	800-2016	10/19/18
BP-2.1	7/17/15	DM-4.1	7/20/18	MGS-6.2	1/19/18	MT-101.75	7/15/16	806	3/2/15
BP-2.2	7/18/08	DM-4.2	7/20/12			MT-101.90	7/21/17	808	7/20/18
BP-2.3	7/18/14	DM-4.3	1/15/16	RM-1.1	7/18/14	MT-102.10	1/20/17	821	4/20/12
BP-3.1	7/18/14	DM-4.4	1/15/16	RM-4.2	7/20/18	MT-102.20	7/18/14	832	1/17/14
BP-5.1	7/20/18					MT-104.10	10/16/15	861	1/16/15
BP-8.1	7/21/17	F-2.1	7/20/18	AS-1-15	7/17/15	MT-105.10	7/19/13	875	1/17/14
		F-3.1	7/19/13	AS-2-15	1/19/18			878	4/21/17
CB-2.1	7/20/18	F-3.3	7/19/13	GSD-1-96	7/19/02	TC-41.20	10/18/13	908	10/20/17
CB-2.2	7/20/18	F-3.4	7/19/13	PCB-91	1/18/13	TC-41.30	10/18/13	921	4/20/12
CB-3.3	1/15/16			SBR-1-13	7/20/18	TC-42.20	10/18/13		
		MGS-1.1	1/19/18	SICD-1-96	7/18/14	TC-52.10	10/18/13		
HW-2.1	7/20/18	MGS-2.1	1/19/18			TC-52.20	7/20/18		
HW-2.2	7/20/18	MGS-3.1	1/19/18	MT-95.30	7/21/17	TC-61.10	1/17/14		
		MGS-3.2	1/18/13	MT-95.40	1/20/17	TC-64.10	1/20/17		
MH-1.2	1/15/16	MGS-4.2	7/19/13	MT-95.50	7/21/17	TC-65.10	1/17/14		
		MGS-4.3	1/18/13	MT-99.20	7/20/18	TC-65.11	7/21/17		
DM-1.1	7/21/17	MGS-5.2	7/15/16	MT-99.30	1/19/18				

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO.
E120 (525)

PID NO.
93496

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
NONE

FRA-71-1.53

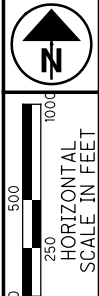
285

DESIGN DESIGNATION

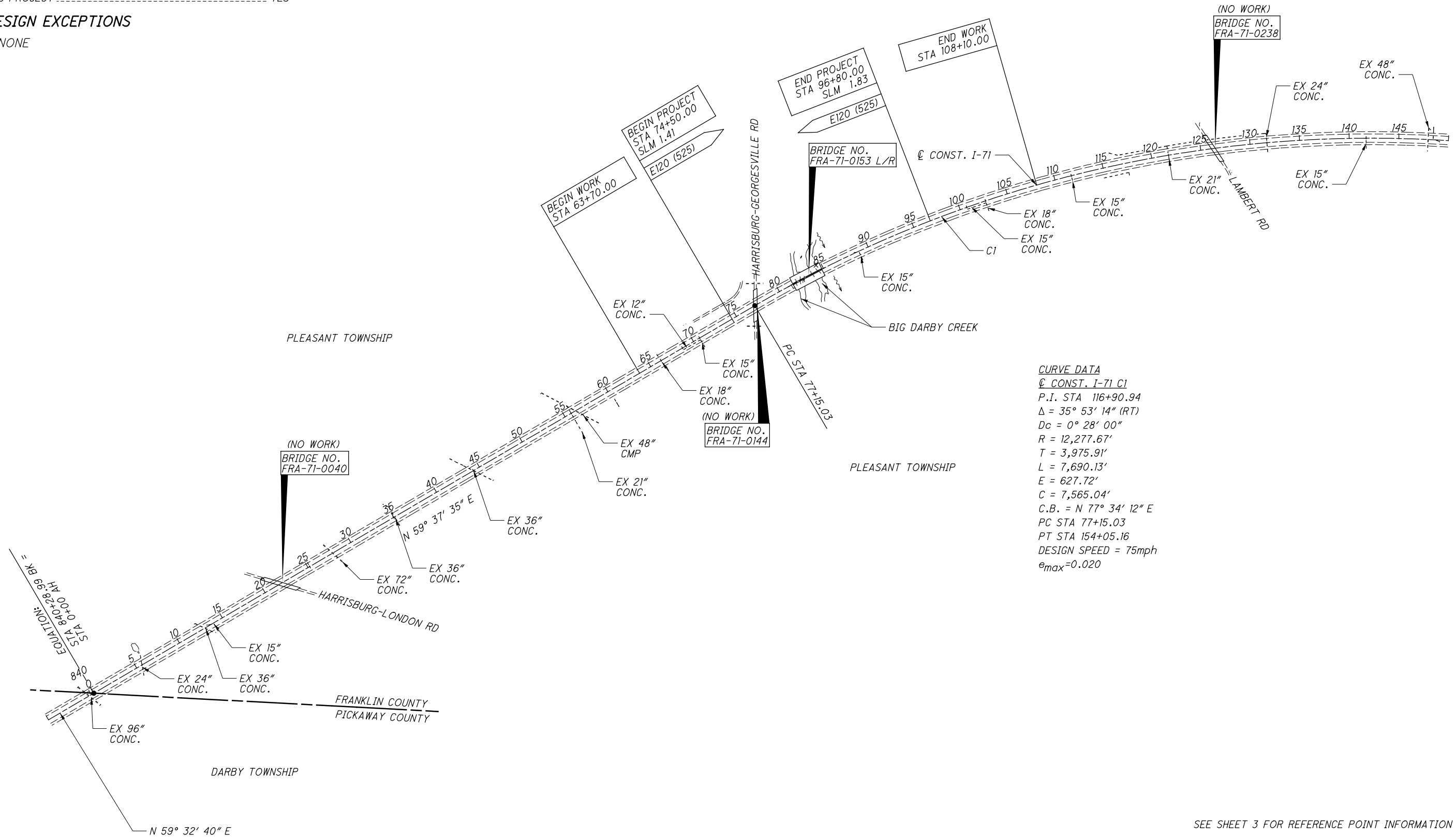
CURRENT ADT (2017).....	44,670
DESIGN YEAR ADT (2037).....	64,070
DESIGN HOURLY VOLUME (2037).....	6,170
DIRECTIONAL DISTRIBUTION.....	55%
TRUCKS (24 HOUR B&C).....	30%
T _b	18%
DESIGN SPEED.....	75 MPH
LEGAL SPEED.....	70 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
RURAL INTERSTATE	
NHS PROJECT.....	YES

DESIGN EXCEPTIONS

NONE



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CURVE DATA
 @ CONST. I-71 C1
 P.I. STA 116+90.94
 Δ = 35° 53' 14" (RT)
 Dc = 0° 28' 00"
 R = 12,277.67'
 T = 3,975.91'
 L = 7,690.13'
 E = 627.72'
 C = 7,565.04'
 C.B. = N 77° 34' 12" E
 PC STA 77+15.03
 PT STA 154+05.16
 DESIGN SPEED = 75mph
 e_{max} = 0.020

SCHEMATIC PLAN

FRA-71-1.53

2
285

SEE SHEET 3 FOR REFERENCE POINT INFORMATION

CENTERLINE REFERENCE POINTS						
POINT NUMBER	STATION	OFFSET	GRID COORDINATES U.S. SURVEY FEET		ORTHOMETRIC HEIGHT (ELEVATION)	DESCRIPTION
			NORTHING (Y)	EASTING (X)		
CP83700	837+00.00	0.00	659,685.24	1,773,069.02	908.97	CMON
CP87200	31+70.67	-0.19	661,455.35	1,776,088.01	866.21	CMON
CP88100	40+71.26	-0.09	661,910.64	1,776,865.04	847.95	CMON
CP89000	49+71.15	-0.03	662,365.61	1,777,641.44	830.15	CMON
CP89900	58+70.98	0.04	662,820.53	1,778,417.80	811.92	CMON
CP90800	67+71.02	-0.02	663,275.67	1,779,194.28	797.22	CMON
CP91700	76+70.85	0.05	663,730.60	1,779,970.65	799.25	CMON
CP93400	93+71.58	0.04	664,491.75	1,781,490.02	798.81	CMON
CP95000	109+71.25	0.03	665,009.83	1,783,002.28	803.43	CMON
CP95800	117+71.24	-0.02	665,194.03	1,783,780.62	819.36	CMON
CP96600	125+71.21	0.05	665,327.04	1,784,569.31	835.44	CMON
CP97600	135+70.95	-0.14	665,420.92	1,785,564.36	855.69	CMON
CP98500	144+70.84	-0.22	665,435.86	1,786,463.93	873.71	CMON

CALCULATED
ANN
CHECKED
DCB

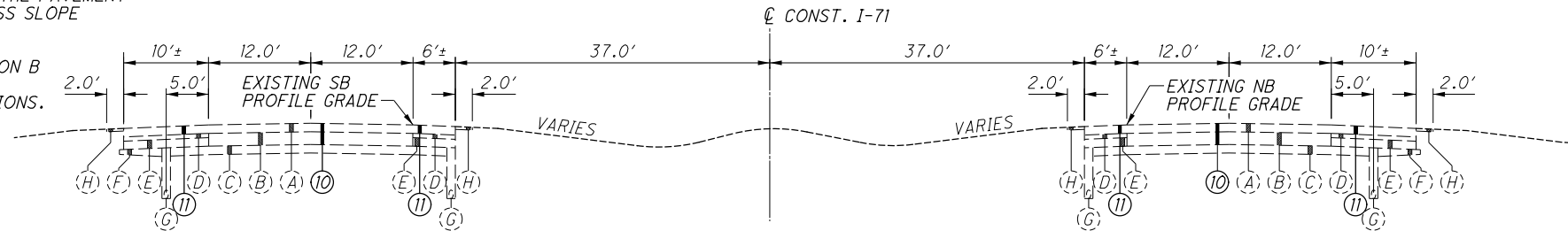
SCHEMATIC PLAN REFERENCE INFO

FRA -71-1.53

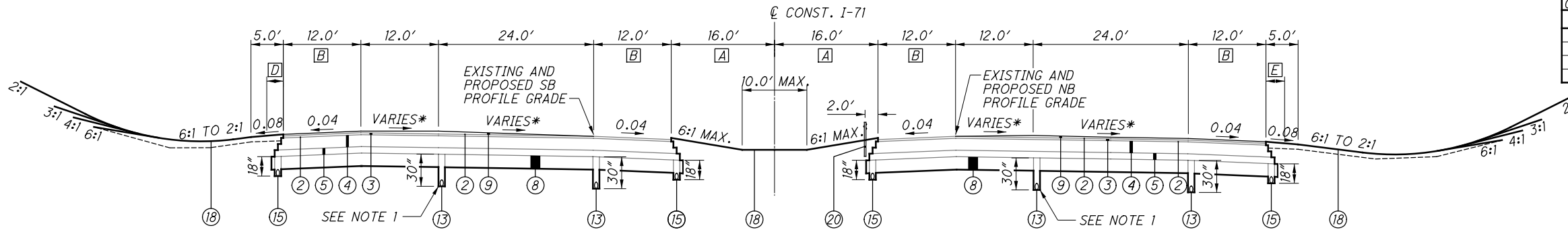
NOTES:
 1. THE SUPERELEVATED SECTION EDGE OF PAVEMENT UNDERDRAINS SHIFT LATERAL LOCATIONS WHEN THE TRANSITIONING LANE EXCEEDS 0.000, NOT AT WHERE THE PAVEMENT FIRST BEGINS THE CROSS SLOPE TRANSITION.

2. SEE SHEET 5 FOR OPTION B CONCRETE PAVEMENT BUILDUP TYPICAL SECTIONS.

3. APPLY ITEM 875 - LONGITUDINAL JOINT ADHESIVE (1 LB/4 FT) WHERE ITEM 442 SURFACE COURSE IS UTILIZED.



EXISTING NORMAL SECTION - I-71

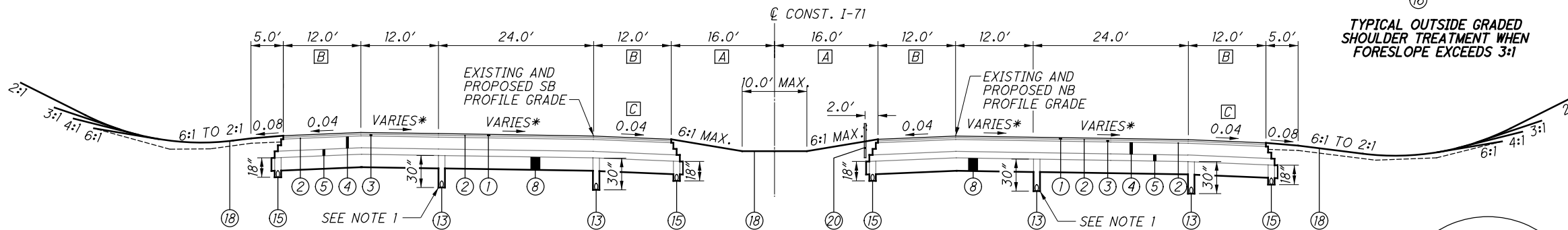


LANE TRANSITION OVERLAY SECTION - I-71 - OPTION A - ASPHALT

SOUTHBOUND
 STA 74+50.00 TO STA 77+50.00

NORTHBOUND
 STA 74+50.00 TO STA 77+50.00

* SEE SHEET 172 FOR SUPERELEVATION DETAILS. ONLY APPLY UP TO INTERMEDIATE COURSE PER SUPERELEVATION DETAILS. SEE VARIABLE COURSE DETAILS ON SHEET

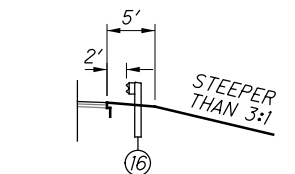


SUPERELEVATED SECTION - I-71 - OPTION A - ASPHALT

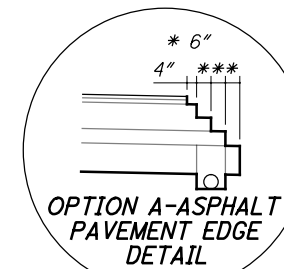
SOUTHBOUND
 STA 77+50.00 TO STA 81+35.05 (*0.017 - 0.020)
 STA 85+06.43 TO STA 94+00.00 (*0.020 - 0.020)

NORTHBOUND
 STA 77+50.00 TO STA 81+34.43 (*0.017 - 0.020)
 STA 85+07.06 TO STA 94+00.00 (*0.020 - 0.020)

* SEE SHEETS 172-173 FOR SUPERELEVATION DETAILS



TYPICAL OUTSIDE GRADED SHOULDER TREATMENT WHEN FORESLOPE EXCEEDS 3:1



OPTION A-ASPHALT PAVEMENT EDGE DETAIL

SB OUTSIDE SHOULDER	NB OUTSIDE SHOULDER
12' AT STA 80+50.00 TO	12' AT STA 80+79.00 TO
14' AT STA 81+35.00	14' AT STA 80+89.00
14' AT STA 85+40.00 TO	14' AT STA 85+10.00 TO
12' AT STA 85+50.00	12' AT STA 86+00.00
SB MEDIAN SHOULDER	NB MEDIAN SHOULDER
12' AT STA 77+15.03 TO **	12' AT STA 80+79.00 TO
13' AT STA 79+00.00	14' AT STA 80+89.00
13' AT STA 80+91.89 TO **	14' AT STA 85+10.00 TO
14' AT STA 81+34.00	12' AT STA 86+00.00
14' AT STA 85+60.00 TO	
12' AT STA 85+70.00	
12' AT STA 87+00.00 TO **	
13.5' AT STA 88+58.52	

** REQUIRED FOR MAINTENANCE OF TRAFFIC

SB MEDIAN SHOULDER	SB OUTSIDE SHOULDER
0.040 AT STA 80+55.00 TO	
0.020 AT STA 81+30.00	
0.020 AT STA 85+10.00 TO	
0.040 AT STA 85+85.00	
NB MEDIAN SHOULDER	NB OUTSIDE SHOULDER
	0.040 AT STA 80+55.00 TO
	0.020 AT STA 81+30.00
	0.020 AT STA 85+10.00 TO
	0.040 AT STA 85+85.00

A SOUTHBOUND
 VARIES FROM 13.41' AT STA 74+50.00 TO 7.75' AT STA 79+00.00.
 VARIES FROM 7.75' AT STA 80+91.89 TO 6.75' AT STA 81+34.00.
 VARIES FROM 6.75' AT STA 85+60.00 TO 8.75' AT STA 85+70.00.
 VARIES FROM 8.75' FROM STA 87+00.00 TO 8.90' AT STA 88+58.00.
 VARIES FROM 10.82' FROM STA 88+99.62 TO 16' AT STA 94+00.00.

NORTHBOUND
 VARIES FROM 13.41' AT STA 74+50.00 TO 8.75' AT STA 79+00.00.
 VARIES FROM 8.75' AT STA 80+79.00 TO 6.75' AT STA 80+89.00.
 VARIES FROM 6.75' AT STA 85+10.00 TO 8.75' AT STA 86+00.00.
 VARIES FROM 8.75' FROM STA 87+00.00 TO 16' AT STA 94+00.00.

B PLEASE SEE TABLE 1 ABOVE.

C TRANSITION BETWEEN 0.04 ON SUPERELEVATED SECTION TO 0.020 AT APPROACH SLABS. SEE TABLE 2 ABOVE.

D VARIES FROM 2.56' AT STA 74+50.00 TO 7.75' AT STA 77+50.00.

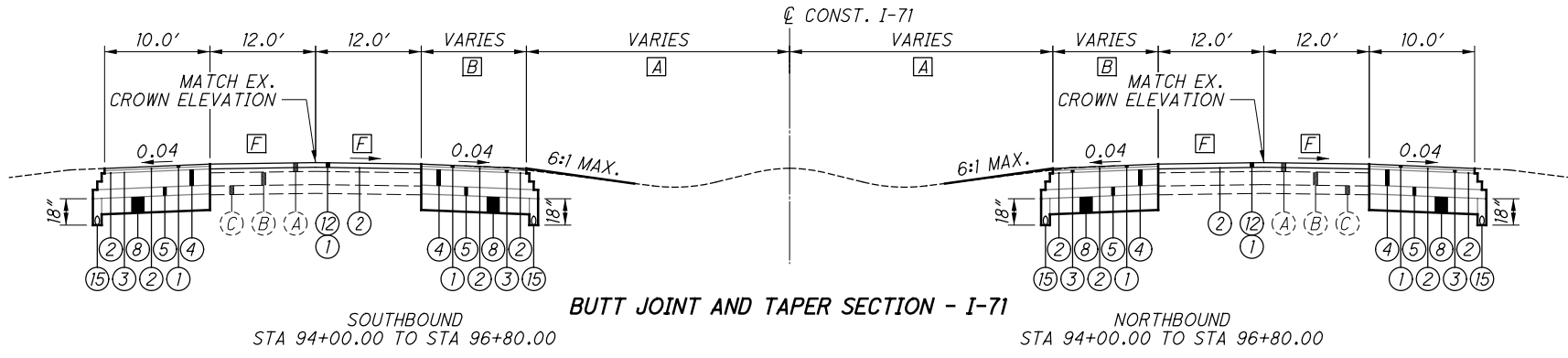
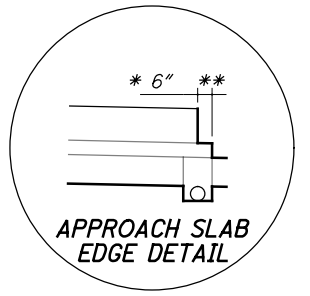
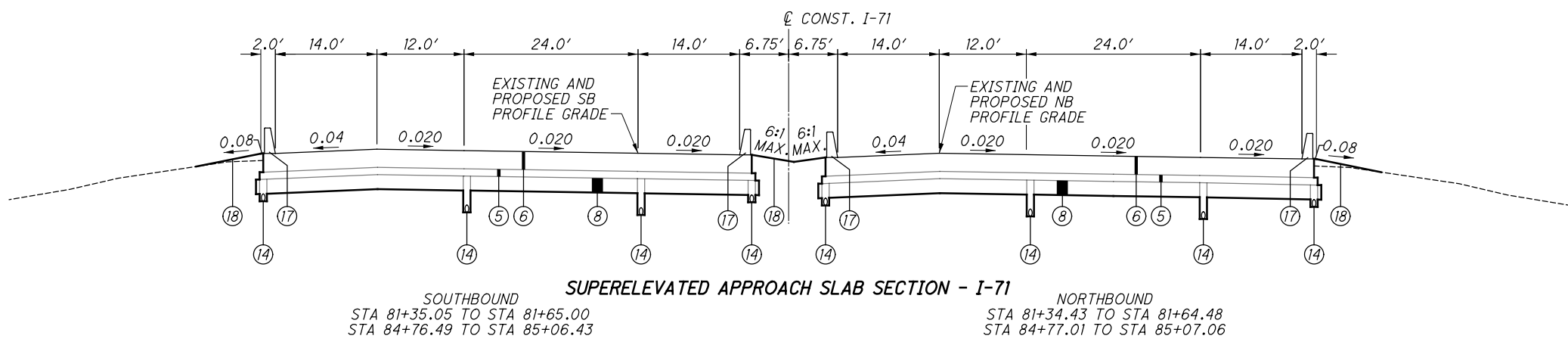
E VARIES FROM 2.91' AT STA 74+50.00 TO 8.75' AT STA 77+50.00.

LEGEND

- (A) EXISTING ASPHALT OVERLAY (6" AVERAGE DEPTH)
- (B) EXISTING REINFORCED PCC (9" AVERAGE DEPTH)
- (C) EXISTING AGGREGATE BASE (6" AVERAGE DEPTH)
- (D) EXISTING BITUMINOUS AGGREGATE (13" AVERAGE DEPTH)
- (E) EXISTING STABILIZED AGGREGATE SHOULDER (VARIABLE DEPTH)
- (F) EXISTING AGGREGATE BASE (VARIABLE DEPTH)
- (G) EXISTING 6" PIPE UNDERDRAIN
- (H) EXISTING COMPACTED AGGREGATE (2" AVERAGE DEPTH)
- (I) EXISTING CONCRETE BARRIER, TYPE A
- (J) EXISTING REINFORCED PORTLAND CONCRETE CEMENT (9" AVERAGE DEPTH)

- (1) ITEM 806 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A, AS PER PLAN
- (2) ITEM 407 - NON-TRACKING TACK COAT
- (3) ITEM 442 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A, (446)
- (4) ITEM 302 - ASPHALT CONCRETE BASE, 11" (2 LIFTS)
- (5) ITEM 304 - 6" AGGREGATE BASE
- (6) ITEM 526 - APPROACH SLAB (T=17")
- (7) ITEM 452 - 1 3/2" NON-REINFORCED CONCRETE PAVEMENT CLASS QC 1 WITH QC/QA
- (8) ITEM 206 - CEMENT STABILIZED SUBGRADE, 12" DEEP
- (9) ITEM 806 - VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A, AS PER PLAN, SEE DETAILS SHEET 188

- (10) ITEM 202 - PAVEMENT REMOVED, AS PER PLAN
- (11) ITEM 202 - PAVEMENT REMOVED
- (12) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE
- (13) ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS
- (14) ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAINS
- (15) ITEM 605 - 6" BASE PIPE UNDERDRAINS
- (16) ITEM 606 - GUARDRAIL, TYPE MGS
- (17) ITEM 622 - SINGLE SLOPE CONCRETE BRIDGE RAILING
- (18) ITEM 659 - SEEDING AND MULCHING
- (19) LONGITUDINAL JOINT
- (20) ITEM 606 - CABLE BARRIER (ONLY ON NORTHBOUND SIDE)

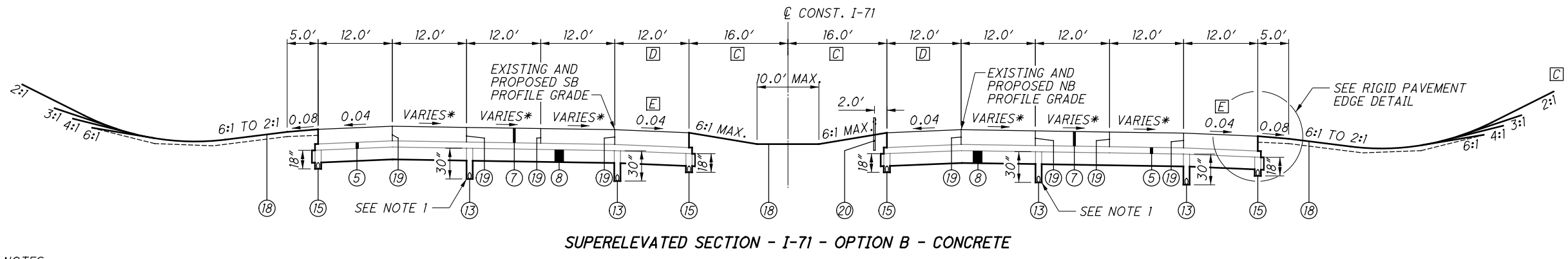


[A] SOUTHBOUND
VARIES FROM 28' AT STA 94+00.00
TO 38.6' AT STA 96+80.00.

NORTHBOUND
VARIES FROM 28' AT STA 94+00.00
TO 38.4' AT STA 96+80.00.

[B] SOUTHBOUND
VARIES FROM 12' AT STA 94+00.00
TO 4.4' AT STA 96+80.00.

NORTHBOUND
VARIES FROM 12' AT STA 94+00.00
TO 3.2' AT STA 96+80.00.



[C] SOUTHBOUND
VARIES FROM 13.41' AT STA 74+50.00
TO 7.75' AT STA 79+00.00.
VARIES FROM 7.75' AT STA 80+91.89
TO 6.75' AT STA 81+34.00.
VARIES FROM 6.75' AT STA 85+60.00
TO 8.75' AT STA 85+70.00.
VARIES FROM 8.75' FROM STA 87+00.00
TO 8.90' AT STA 88+58.00.
VARIES FROM 10.82' FROM STA 88+99.62
TO 16' AT STA 94+00.00.

NORTHBOUND
VARIES FROM 13.41' AT STA 74+50.00
TO 8.75' AT STA 79+00.00.
VARIES FROM 8.75' AT STA 80+79.00
TO 6.75' AT STA 80+89.00.
VARIES FROM 6.75' AT STA 85+10.00
TO 8.75' AT STA 86+00.00.
VARIES FROM 8.75' FROM STA 87+00.00
TO 16' AT STA 94+00.00.

[D] PLEASE SEE TABLE 1, PREVIOUS SHEET.

[E] TRANSITION BETWEEN 0.04 ON
SUPERELEVATED SECTION TO 0.020
AT APPROACH SLABS. SEE TABLE 2,
PREVIOUS SHEET.

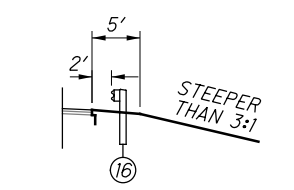
[F] VARIES FROM +/-0.020 AT STA 94+00.00
TO EXISTING AT STA 96+80.00

- NOTES:
1. THE SUPERELEVATED SECTION EDGE OF PAVEMENT UNDERDRAINS SHIFT LATERAL LOCATIONS WHEN THE TRANSITIONING LANE EXCEEDS 0.000, NOT AT WHERE THE PAVEMENT FIRST BEGINS THE CROSS SLOPE TRANSITION.
 2. STANDARD LONGITUDINAL JOINTS AS PER BP-2.1 SHALL BE PLACED ALONG ALL LANE LINES AND AT THE EDGES OF PAVEMENT.
 3. SEE SHEET 4 FOR OPTION A ASPHALT PAVEMENT BUILDUP TYPICAL SECTIONS.
 4. SEE SHEET 4 FOR PAVED SHOULDER WIDTH TRANSITIONS.

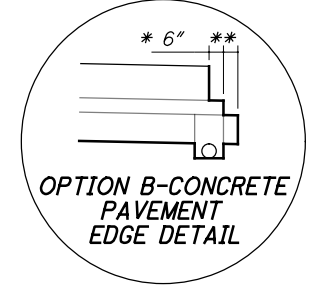
SOUTHBOUND
STA 74+50.00 TO STA 81+35.05 (*0.015 - 0.020)
STA 85+06.43 TO STA 94+00.00 (*0.020 - 0.020)

NORTHBOUND
STA 74+50.00 TO STA 81+34.43 (*0.015 - 0.020)
STA 85+07.06 TO STA 94+00.00 (*0.020 - 0.020)

* SEE SHEETS 172-173 FOR SUPERELEVATION DETAILS



TYPICAL OUTSIDE GRADED SHOULDER TREATMENT WHEN FORESLOPE EXCEEDS 3:1



OPTION B-CONCRETE PAVEMENT EDGE DETAIL

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ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

THERE ARE NO KNOWN UNDERGROUND UTILITIES ON THIS PROJECT.

ABBREVIATIONS

THE FOLLOWING IS A LIST OF ABBREVIATIONS USED THROUGHOUT THE PLAN SET:

AA	ANCHOR ASSEMBLY
ABD	ABANDON
ADJ	ADJUST
ADT	AVERAGE DAILY TRAFFIC
AGG	AGGREGATE
AH	AHEAD
ATT	ATTENUATOR
AVE	AVENUE
BK	BACK
B	BASE LINE
BLDG	BUILDING
BLVD	BOULEVARD
BM	BENCHMARK
BOT	BOTTOM
BR	BRIDGE
BTA	BRIDGE TERMINAL ASSEMBLY
C	LONG CHORD
CATV	CABLE TELEVISION
CB	CATCH BASIN
C.B.	CHORD BEARING
CIP	CAST IN PLACE
CL	CENTER LINE
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CONST.	CONSTRUCTION
CR	COUNTY ROAD
CS	CURVE TO SPIRAL
CU	CUBIC
Dc	DEGREE OF CURVE
DND	DO NOT DISTURB
DR	DRIVE
E	ELECTRIC OR EXTERNAL DISTANCE
e	SUPERELEVATION RATE
e _{max}	MAXIMUM SUPERELEVATION RATE
EB	EASTBOUND
ELEV	ELEVATION
ELEC	ELECTRIC
EMB	EMBANKMENT
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
ESMT	EASEMENT
EST	ESTABLISH OR ESTABLISHED
EX	EXISTING
EXC	EXCAVATION
EXP	EXPANSION
F	FLOW LINE
FDN	FOUNDATION
FH	FIRE HYDRANT
FO	FIBER OPTIC
f _s	DEGREE OF SPIRAL
G	GAS
GR	GUARDRAIL
HC	HORIZONTAL CLEARANCE
HW	HEADWALL
HWY	HIGHWAY
I	INTERSTATE
INC	INCORPORATED OR INCLUDING
INV	INVERT
JT	JOINT
K	DISTANCE FROM THE TS TO THE PERPENDICULAR PROJECTION OF THE CENTER OF CURVE
K	DESIGN HOUR FACTOR
L	LENGTH OR LENGTH OF CURVE
LA	LIMITED ACCESS
LEO	LAW ENFORCEMENT OFFICER
LN	LANE
Ls	LENGTH OF SPIRAL
LT	LEFT OR LONG TANGENT
MAX	MAXIMUM
MB	MAIL BOX
MED	MEDIAN
MGS	MIDWEST GUARDRAIL SYSTEM
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MOT	MAINTENANCE OF TRAFFIC
MPH	MILES PER HOUR
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

ABBREVIATIONS (continued)

N	NORTH
NA OR N/A	NOT AVAILABLE OR NOT APPLICABLE
NAVD	NORTH AMERICAN VERTICAL DATUM
NB	NORTHBOUND
NC	NORMAL CROWN
NDC	NORMAL DESIGN CRITERIA
NE	NORTHEAST
NGS	NATIONAL GEODETIC SURVEY
NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
NHS	NATIONAL HIGHWAY SYSTEM
NHW	NORMAL HIGH WATER
NO.	NUMBER
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OD	OUTSIDE DIAMETER
OE	OVERHEAD ELECTRIC
OHWM	ORDINARY HIGH WATER MARK
P	PROPERTY LINE
P	OFFSET OF CURVE TO TANGENT
PC	POINT OF CURVATURE
PCB	PORTABLE CONCRETE BARRIER
PCC	POINT OF COMPOUND CURVE
PCMS	PORTABLE CONCRETE MESSAGE SIGN
PED	PEDESTAL OR PEDESTRIAN
PGL	PROFILE GRADE LINE
PH	PHASE
PI	POINT OF INTERSECTION
PKWY	PARKWAY
POT	POINT ON TANGENT
PP	POWER POLE
PRC	POINT OF REVERSE CURVATURE
PROP	PROPOSED
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
Q	PEAK DISCHARGE OR FLOW VOLUME
R	RADIUS
RC	REVERSE CROWN
RCP	REINFORCED CONCRETE PIPE OR ROCK CHANNEL PROTECTION
RD	ROAD
REL	RELOCATE
REM	REMOVE
REP	REPLACE
RPM	RAISED PAVEMENT MARKER
RR	RAILROAD
RT	RIGHT
R/W	RIGHT OF WAY
S	SOUTH
SAN	SANITARY
SB	SOUTHBOUND
SC	SPIRAL TO CURVE
SE	SOUTHEAST
SECT	SECTION
SHLD	SHOULDER
SQ	SQUARE
SR	STATE ROUTE
ST	STREET OR SPIRAL TO TANGENT
STA	STATION
SW	SOUTHWEST OR SIDEWALK
T	TANGENT LENGTH OR TELEPHONE
TC	TANGENT TO CURVE OR TRAFFIC CONTROL
T _p	PERCENT TRUCKS
TELE	TELECOMMUNICATIONS
TEMP	TEMPORARY
TR	TOWNSHIP ROAD OR TRAIL
TS	TANGENT TO SPIRAL
TWP	TOWNSHIP
TYP	TYPICAL
UD	UNDERDRAIN
UG	UNDERGROUND
VAR	VARIES
VC	VERTICAL CURVE
W	WEST
WB	WESTBOUND
XS	CROSS SECTION
YD	YARD

EXISTING PLANS

EXISTING PLANS ENTITLED PIC-1-3.06/FRA-1-0.00, FRA-61-2.12, FRA-71-4.31 AND FRA-71-5.29 MAY BE INSPECTED IN THE ODOT DISTRICT 6 OFFICE IN DELAWARE, OHIO.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 3 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: ODOT VRS
MONUMENT TYPE: TYPE A

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID09

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83(CORS96)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE - SOUTH ZONE
COMBINED SCALE FACTOR: 1.00000000 (GRID)
ORIGIN OF COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

INTERIM COMPLETION DATES

THE DEPARTMENT HAS ESTABLISHED TWO INTERIM COMPLETION DATES FOR THIS PROJECT.

1. THE CONTRACTOR SHALL COMPLETE PHASE 1 WORK AND BE IN THE WINTERIZATION PHASE BY NOVEMBER 1, 2019.
2. THE CONTRACTOR SHALL COMPLETE ALL PHASE 4 WORK BY NOVEMBER 1, 2020.

FAILURE TO MEET THESE INTERIM COMPLETION DATES WILL RESULT IN THE ASSESSMENT OF A DISINCENTIVE OF \$2,500.00 PER DAY UNTIL THE REQUIRED WORK IS COMPLETED.

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GENERAL NOTES

FRA-71-1.53

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT OF WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS) A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRUCT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

ADDITIONAL SOIL INFORMATION

THE SOIL PROFILE AND/OR STRUCTURE FOUNDATION INVESTIGATIONS SHEETS CONTAIN ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN. ADDITIONAL SUBSURFACE INVESTIGATION INFORMATION IS AVAILABLE FROM THE DISTRICT 6 OFFICE IN DELAWARE, OHIO.

MONUMENT ASSEMBLIES

CONSTRUCT MONUMENT ASSEMBLIES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET NO. 286.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING

ALL PROVISION OF ITEM 204 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING THE NOTES. IF THE ENGINEER DETERMINES A LOCALIZED AREA IS UNTREATABLE FOR CHEMICAL STABILIZATION AND CHEMICAL STABILIZATION IS NON-PERFORMED WITHIN THIS AREA, THEN THE AREA SHALL BE PROOF ROLLED ACCORDING TO ITEM 204 PROOF ROLLING AND UNSTABLE SUBGRADE SHALL BE REMOVED TO A MINIMUM DEPTH DETERMINED BY THE ENGINEER AND REPLACED WITH MATERIAL CONFORMING TO ITEM 204 GRANULAR EMBANKMENT OR REPLACED WITH ITEM 304 AT THE ENGINEER'S DISCRETION. THE ENGINEER SHALL EVALUATE THE SUBGRADE CONDITIONS AND CONSULT WITH THE DISTRICT GEOTECHNICAL ENGINEER AS NEEDED ON THE USE OF GEOGRID WITHIN UNDERCUT AREAS. IF GEOGRID IS RECOMMENDED FOR SUBGRADE STABILIZATION WITHIN UNDERCUT AND REPLACE SITUATIONS, THEN ALL SPECIFICATIONS OF SUPPLEMENTAL SPECIFICATION 861 SHALL APPLY. EXCAVATE UNSTABLE SUBGRADES TO 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS, INCLUDING UNDER NEW CURBS AND GUTTERS. COMPACT SUBGRADE MATERIALS ACCORDING TO ITEM 204 SUBGRADE COMPACTION. AFTER COMPACTION THE AREA SHALL BE PROOF ROLLED ONCE MORE TO DEMONSTRATE STABILITY OF THE NEWLY CONSTRUCTED SUBGRADE. PAYMENT FOR EXCAVATION SHALL FALL UNDER ITEM 204 EXCAVATION OF SUBGRADE.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 204 - SUBGRADE COMPACTION	1245 SY
ITEM 204 - PROOF ROLLING	1 HR
ITEM 204 - EXCAVATION OF SUBGRADE	415 CY
ITEM 204 - GRANULAR MATERIAL, TYPE B	415 CY
ITEM 204 - GEOTEXTILE FABRIC	1245 SY

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204 EXCAVATION OF SUBGRADE.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	2111 CY
659, REPAIR SEEDING AND MULCHING	951 SY
659, INTER-SEEDING	951 SY
659, COMMERCIAL FERTILIZER	2.65 TON
659, LIME	3.93 ACRES
659, WATER	106 M. GAL.
659, MOWING	43 M. SQ. FT.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE B

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE B, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 - IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL, 75 MPH, 36", CONCRETE FOUNDATION)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY ONE OF THE TYPE 1 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE 1 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 1 (75 MPH, 36", BIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED TRANSITIONS, HARDWARE, REFLECTIVE SHEETING AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

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GENERAL NOTES

FRA - 71 - 1.53

CONTRACTION AND/OR EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. IN ALL CASES, THE PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES INCLUDING THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS IS IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

MEDIAN AND/OR CURBING ON APPROACH SLABS

WITHIN THE LIMITS OF THE APPROACH SLAB, TRANSITION THE SHAPE OF THE MEDIAN AND/OR CURBING ON APPROACH SLABS FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE.

ODOT TRAFFIC COUNTING STATION

THE CONTRACTOR SHALL CONTACT DAVE GARDNER AT ODOT CENTRAL OFFICE FOURTEEN (14) DAYS PRIOR TO THE START OF CONSTRUCTION AT 614-752-5740 SO THAT ODOT CAN MAKE ARRANGEMENTS TO MOVE THE AFFECTED CABINET USED FOR TRAFFIC COUNT STATIONS.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

PIPE CONNECTIONS TO CORRUGATED METAL STRUCTURES

CONNECTIONS OF PROPOSED LONGITUDINAL DRAINAGE TO CORRUGATED METAL STRUCTURES SHALL BE MADE BY MEANS OF A SHOP FABRICATED OR FIELD WELDED STUB ON THE STRUCTURE. THE STUB SHALL MEET THE REQUIREMENTS OF 707 AND HAVE A MINIMUM LENGTH OF 2 FEET AND A MINIMUM WALL THICKNESS OF 0.064 INCHES.

THE LOCATION AND ELEVATION OF THE STUB ARE TO BE CONSIDERED APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER TO AVOID CUTTING THROUGH JOINTS IN THE STRUCTURE.

THE FIELD WELDED JOINT, IF USED, SHALL BE THOROUGHLY CLEANED AND RE-GALVANIZED OR OTHERWISE SUITABLY REPAIRED. WELDING SHALL MEET THE REQUIREMENTS OF 513.21.

A MASONRY COLLAR, AS PER STANDARD DRAWING DM-1.1, WILL BE REQUIRED TO CONNECT THE LONGITUDINAL DRAINAGE TO THE STUB, WHEN PIPE OTHER THAN CORRUGATED METAL IS PROVIDED FOR THE LONGITUDINAL DRAINAGE.

PAYMENT FOR CUTTING INTO THE STRUCTURE AND PROVIDING THE CONNECTION DESCRIBED, SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 611 OR 522.

ITEM 611 - CONDUIT BORED OR JACKED

WHERE IT IS SPECIFIED THAT A CONDUIT BE INSTALLED BY THE METHOD OF BORING OR JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN 30 FEET TO THE EDGE OF PAVEMENT. PROVIDE A STEEL CASING PIPE CONFORMING TO 748.06 HAVING JOINTS WITH A CIRCUMFERENTIAL FULLY PENETRATING B-U4B WELD THAT IS PERFORMED BY AN ODOT APPROVED FIELD WELDER. THE INSTALLED CASING PIPE IS THE STORM WATER CONVEYANCE CARRIER UNLESS OTHERWISE SPECIFIED IN THE PLANS. HYDROSTATIC TESTING IS NOT REQUIRED FOR THE CASING PIPE.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

UNRECORDED STORM WATER DRAINAGE

FURNISH A CONTINUANCE FOR ALL UNRECORDED STORM WATER DRAINAGE, SUCH AS ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK. FURNISH EITHER AN OPEN CONTINUANCE OR AN UNOBSTRUCTED CONTINUANCE BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEEDED CONDUIT TO REPLACE OR EXTEND AN EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT OF WAY USE PERMIT.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, 707.52 SDR35.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

611, 24" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION
50 FT.

MANHOLES, CATCH BASINS AND INLETS REMOVED OR ABANDONED

ALL CASTINGS SHALL BE CAREFULLY REMOVED AND STORED WITHIN THE RIGHT OF WAY FOR SALVAGE BY STATE FORCES.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.

ITEM 511 WING-WALLS OR HEAD-WALLS FOR 611 ITEMS

FOR ITEMS 706.05, 706.051, 706.052 AND 706.053 WITH A CAST-IN-PLACE WING-WALL OR HEAD-WALL A PRECAST ALTERNATIVE MAY BE FURNISHED PER 602.03. THE PRECAST ALTERNATIVE WILL MEET THE CAST-IN-PLACE STRUCTURAL DESIGN LOADINGS, DESIGN HEIGHT, AND DESIGN LENGTH DIMENSIONS.

FULL COMPENSATION FOR THE PRECAST WING-WALL OR HEAD-WALL IS THE NUMBER OF CUBIC YARDS OF ITEM 511, AND POUNDS OF ITEM 509 FOR THE CORRESPONDING CAST-IN-PLACE STRUCTURE.

ITEM SPECIAL - PRESSURE RELIEF JOINT, TYPE B

FOR ITEM SPECIAL, PRESSURE RELIEF JOINT TYPE B, SEE STANDARD CONSTRUCTION DRAWING BP-2.4, DATED 7/19/13.

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GENERAL NOTES

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EXISTING UNDERDRAINS

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE.

UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

- 601, TIED CONCRETE BLOCK MAT, TYPE 1 3.6 SQ. YD.
- 611, 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS 50 FT.
- 611, PRECAST REINFORCED CONCRETE OUTLET 2 EACH
- 605, 6" UNCLASSIFIED PIPE UNDERDRAINS 50 FT.

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

**ASPHALT SURFACE COURSE, AS PER PLAN
LONGITUDINAL JOINTS (FLEXIBLE PAVEMENT)**

LOCATE LONGITUDINAL JOINTS IN THE SURFACE COURSE SUBJECT TO THE FOLLOWING REQUIREMENTS:

PLACE THE MAINLINE PAVEMENT SURFACE COURSE WITH A SINGLE COLD LONGITUDINAL JOINT LOCATED BETWEEN LANES 2 AND 3. A COLD LONGITUDINAL JOINT IS PERMITTED BETWEEN THE SHOULDER AND MAINLINE PAVEMENT. NO OTHER COLD JOINTS ARE PERMITTED IN THE SURFACE COURSE OF MAINLINE PAVEMENT.

PAVEMENT REMOVED, AS PER PLAN

ALL EXISTING PAVEMENT TO BE REMOVED CONTAINING LAYERS OF CONCRETE, INCLUDING COMPOSITE ASPHALT OVER CONCRETE PAVEMENT, SHALL BE REMOVED UNDER ITEM 202 PAVEMENT REMOVED, AS PER PLAN. EXISTING PAVEMENT NOT CONTAINING CONCRETE SHALL BE REMOVED UNDER ITEM 202, PAVEMENT REMOVED, ASPHALT.

PROJECT STANDARD OPERATING PROCEDURE FOR SUBGRADE TREATMENT

CHEMICAL STABILIZATION OF SUBGRADE SHALL NOT BE PERFORMED WITHIN HIGH SULFATE SOILS WITHOUT THE APPROVAL BY THE ENGINEER AND CONSULTING THE DISTRICT GEOTECHNICAL ENGINEER.

SULFATE READINGS ENCOUNTERED DURING THE SUPPLEMENT 1120 MIXTURE DESIGN TESTING THAT ARE ABOVE 5000PPM ARE CONSIDERED "HIGH".

AREAS NOT BEING CHEMICALLY STABILIZED SHALL BE TREATED ACCORDING TO ITEM 204 EXCAVATION OF SUBGRADE, 12" DEEP, ITEM 204 GEOTEXTILE FABRIC, ITEM 204 12" GRANULAR MATERIAL, TYPE B AND ITEM 204 SUBGRADE COMPACTION AND PROOF ROLLING.

ITEM 442, ANTI-SEGREGATION

PROVIDE ANTI-SEGREGATION EQUIPMENT FOR ALL COURSES OF UNIFORM THICKNESS IN ACCORDANCE WITH CMS 401.12.

ITEM 619, FIELD OFFICE, TYPE C, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS PROVIDED IN CMS FOR THE TYPE OF FIELD OFFICE SPECIFIED, PROVIDE THE FOLLOWING ITEMS.

1. FOR EACH TELEPHONE AND/OR COMPUTER STATION SPECIFIED, PROVIDE ALL ETHERNET WIRING NECESSARY TO CONNECT THE PHONE AND/OR COMPUTER AND MULTI-FUNCTION COPIER TO THE INTERNET COMPANY SYSTEM.
2. PROVIDE A BROADBAND INTERNET CONNECTION CAPABLE OF MINIMUM DOWNLOAD SPEEDS AS FOLLOWS:
30 MBPS DOWNLOAD 5 MBPS UPLOAD - NETWORK LATENCY LESS THAN 50 MILLISECONDS. IF SPEEDS ARE NOT AVAILABLE THROUGH AN INDIVIDUAL OR SINGULAR CIRCUIT, PROVIDE THE HIGHEST SPEED AVAILABLE IN THE AREA AND INSTALL MULTIPLE CIRCUITS TO ACHIEVE THE SPECIFIED SPEEDS. WHEN MULTIPLE BROADBAND SERVICES ARE AVAILABLE. THE FOLLOWING IS THE DESCENDING ORDER OF PRECEDENCE: CABLE, DSL, CELLULAR, AND WIRELESS RADIO (SATELLITE COMMUNICATION IS NOT COMPATIBLE WITH ODOT VPN CONNECTION AND WILL NOT BE ACCEPTED). SUPPLY MODEMS CAPABLE OF BEING CONFIGURED IN BRIDGE MODE. IF A CELLULAR NETWORK IS USED, PROVIDE THE CELLULAR EQUIPMENT, INCLUDING SOFTWARE AND ROUTER EQUIPMENT TO CONNECT TO THE ODOT PROVIDED CISCO ASA 5505 FIREWALL. SUPPLY ODOT WITH ALL DOCUMENTATION FOR THE BROADBAND CIRCUIT INCLUDING ALL USERNAME/USER IDS, PASSWORDS AND ACCOUNT INFORMATION. VERIFY THAT THE BROADBAND INTERNET CONNECTION IS ACTIVE AND WORKING AS SPECIFIED. ODOT IT PERSONNEL WILL CONFIRM THAT BANDWIDTH AND NETWORK LATENCY ARE COMPLIANT WITH THE REQUIRED FIELD OFFICE SPECIFICATIONS. ALL FIELD OFFICE INTERNET CONNECTIONS ARE FOR ODOT USE ONLY.

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GENERAL NOTES

FRA -71-1.53

GENERAL, MAINTENANCE OF TRAFFIC DURING CONSTRUCTION

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE DISTRICT 6 PUBLIC INFORMATION OFFICER VIA EMAIL (D06.PIO@DOT.OHIO.GOV) 21 DAYS IN ADVANCE OF THE START OF CONSTRUCTION ACTIVITIES TO PROPERLY COORDINATE EFFORTS TO NOTIFY THE TRAVELING PUBLIC, INCLUDING RESIDENTS, BUSINESSES, LOCAL EMERGENCY SERVICES, LAW ENFORCEMENT, AND SCHOOLS. THE DISTRICT 6 PIO SHALL PROVIDE NOTIFICATION NO LATER THAN 15 DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. IF, SUBSEQUENT TO THE ADVANCE NOTIFICATION, THE START DATE IS CHANGED, THEN A NEW SEVEN (7) DAY NOTIFICATION SHALL BE REQUIRED. THE ROAD CANNOT BE CLOSED UNLESS PRIOR NOTIFICATION HAS BEEN ACCOMPLISHED. THE SAME PARTIES SHALL BE NOTIFIED WHEN THE CLOSURE HAS CONCLUDED AND THE ROAD IS BACK OPEN TO TRAFFIC. ALL NOTIFICATIONS SHALL BE MADE UTILIZING THE TEMPLATE PROVIDED BY THE DISTRICT 6 PUBLIC INFORMATION OFFICE.

ECOLOGICAL, AGENCY COORDINATION

1. THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSE OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

2. THE CONTRACTOR SHALL IMMEDIATELY REMOVE ALL COMPONENTS OF THE EXISTING BRIDGE (PIERS, ABUTMENTS, ETC.) FROM THE STREAM AND PLACE THEM IN AN UPLAND LOCATION. THE CONTRACTOR SHALL REMOVE THE ASPHALT DECK MATERIAL PRIOR TO ANY DEMOLITION ACTIVITIES. PIERS SHALL BE REMOVED DOWN TO AN ELEVATION OF 1 FOOT BELOW THE STREAM BOTTOM. THE CONTRACTOR SHALL AVOID RELEASING DECK MATERIAL INTO THE STREAM. IF ANY MATERIAL FALLS INTO THE RIVER, THE CONTRACTOR SHALL REMOVE IT IMMEDIATELY. IF ANY MATERIAL FALLS INTO THE RIVER OUTSIDE OF THE IN-STREAM WORK DATES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ODOT CONSTRUCTION PROJECT MANAGER AND THE DISTRICT 6 DISTRICT ENVIRONMENTAL COORDINATOR (MARCI LININGER) AND AWAIT FURTHER INSTRUCTIONS FOR REMOVAL.

3. THE CONTRACTOR MUST ABIDE BY ALL STATE AND FEDERAL REQUIREMENTS FOR THE STORAGE OF FUELS, PETROCHEMICALS, EQUIPMENT AS WELL AS THESE ADDITIONAL REQUIREMENTS: IDLE EQUIPMENT (INACTIVE FOR MORE THAN 6 HOURS), PETROCHEMICALS, TOXIC/HAZARDOUS MATERIALS SHALL NOT BE STORED OR DISCHARGED IN THE 100-YEAR FLOODPLAIN, OR NEAR ANY DRAINAGE WAYS, DITCHES, OR STREAMS THAT COULD CONVEY SUCH MATERIALS INTO THE BIG DARBY CREEK (NATIONAL/STATE SCENIC RIVER) OR ANY OF ITS TRIBUTARIES. REFUELING OF EQUIPMENT SHOULD NOT OCCUR IN THE FLOODPLAIN OR NEAR ANY DRAINAGE WAYS, DITCHES, OR STREAMS.

4. MATERIAL DISPOSITION RELATED TO BIG DARBY CREEK (NATIONAL/STATE SCENIC RIVER): APRONS, SHROUDS, AND/OR OTHER CONTAINMENT DEVICES MUST BE IN PLACE DURING BRIDGE DEMOLITION, BRIDGE CONSTRUCTION, AND SURFACING ACTIVITIES TO CAPTURE FALLING DEBRIS, PAINTS, WELDING, SLAG, SEALANT OVERSPRAY, OR OTHER DEBRIS. ANY AND ALL CONSTRUCTION AND DEMOLITION DEBRIS, EARTHEN DEBRIS, CONCRETE CHUNKS, ASPHALT, GRINDINGS, CONCRETE

ECOLOGICAL, AGENCY COORDINATION (continued)

MATERIALS, WOOD, REBAR, EXCESS ASPHALT OR CONCRETE, WOOD DEBRIS FROM CLEARING, EXCESS FILL MATERIAL, MATERIAL EXCAVATED FROM THE RIVER BOTTOM, MIXES, CEMENTS, FLUIDS, OTHER CONSTRUCTION WASTE, AND TRASH SHALL BE DISPOSED OF AT AN APPROVED UPLAND SITE OR LANDFILL ABOVE 100-YEAR FLOOD ELEVATIONS. ANY DEBRIS THAT ENTERS THE RIVER MUST BE IMMEDIATELY REMOVED. DISPOSAL OF ANY SUCH MATERIALS IN WETLANDS, FLOODPLAINS, OR WITHIN 1000 FEET OF STATE SCENIC RIVERS IS PROHIBITED. IF ANY MATERIAL FALLS INTO THE RIVER OUTSIDE OF THE IN-STREAM WORK DATES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ODOT CONSTRUCTION PROJECT MANAGER AND THE DISTRICT 6 DISTRICT ENVIRONMENTAL COORDINATOR (MARCI LININGER) AND AWAIT FURTHER INSTRUCTIONS FOR REMOVAL.

5. THE CONTRACTOR SHALL ONLY PERFORM ALL IN-STREAM WORK DURING DRY PERIOD OF EXTREMELY LOW FLOW OF THE BIG DARBY CREEK BETWEEN JULY 1 AND NOVEMBER 30. THE WORK PAD AND ALL MATERIALS MUST BE REMOVED FROM THE BIG DARBY CREEK BY NOVEMBER 30 TO ALLOW FOR FREE FLOW DURING HIGH WATER SEASONS.

6. ANY DISTURBED AREAS IN THE STREAM BOTTOM SHALL BE RETURNED TO PRE-CONSTRUCTION CONTOURS NO LATER THAN NOVEMBER 30, 2020 OR CONSTRUCTION COMPLETION DATE, WHICHEVER IS EARLIER. STREAM BOTTOM ELEVATIONS SHALL BE DETERMINED BEFORE IN-STREAM WORK COMMENCES TO ENSURE THAT ALL FILL MATERIAL AND DEBRIS IS COMPLETELY REMOVED BEFORE CONSTRUCTION IS COMPLETE. THE CONTRACTOR WILL PROVIDE PRE AND POST-CONSTRUCTION SURVEY ELEVATIONS OF THE STREAM BOTTOM TO THE DEC TO VERIFY THIS COMMITMENT IS MET.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 690 - SPECIAL - ENVIRONMENTAL STREAM SURVEY LS

7. PIER CONSTRUCTION WILL UTILIZE DRILLED SHAFT CONSTRUCTION METHODS WITH HOLDING PITS. SEDIMENT LADEN WATER AND EXCESS CONCRETE WILL BE CONTAINED, STORED AND DISPOSED OF APPROPRIATELY, OFF SITE.

8. RECYCLED PORTLAND CEMENT CONCRETE (RPCC) IS NOT PERMITTED TO BE USED AS THE MATERIAL FOR ROCK CHANNEL PROTECTION (RCP) INSTALLATION FOR THE BIG DARBY CREEK BRIDGES.

9. DE-WATERING: NO WASTEWATER OF ANY KIND SHOULD BE DIRECTLY DISCHARGED INTO BIG DARBY CREEK (NATIONAL/STATE SCENIC RIVER) OR ANY OF ITS TRIBUTARY STREAMS, DRAINAGE WAYS OR DITCHES. IF DEWATERING IS NECESSARY TO FACILITATE IN-STREAM WORK OR PIER CONSTRUCTION, ALL WASTEWATER SHOULD BE PUMPED ONTO A VEGETATED AREA AT LEAST 100 FEET FROM THE RIVERBANK TO ALLOW FOR COMPLETE INFILTRATION. IF DISCHARGE TO A VEGETATED AREA IS NOT FEASIBLE, THEN WASTEWATER SHALL BE DISCHARGED INTO A SEDIMENT FILTER BAG OR INTO A TEMPORARY DETENTION/RETENTION POND WITH SUFFICIENT RETENTION TIME TO PERMIT FOR THE SETTLING OF ALL SUSPENDED SOLIDS PER THE BMP REQUIREMENTS.

10. CLEARING AND GRUBBING: ALL STREAMBANK VEGETATION SHALL BE LEFT UNDISTURBED TO THE MAXIMUM EXTENT POSSIBLE. CUTTING OR CLEARING OF ANY RIPARIAN VEGETATION WITHIN 1000 FEET OF THE BIG DARBY CREEK BEYOND THE EXISTING CONSTRUCTION LIMITS SHALL BE PROHIBITED, HOWEVER VERTICAL TRIMMING IS PERMITTED WHERE NECESSARY. NO GRUBBING SHALL OCCUR WITHIN THE 1,000 FT. SCENIC RIVER BUFFER IN ORDER TO MAINTAIN GROUND STABILIZATION AND LIMIT SEDIMENT EROSION.

ECOLOGICAL, AGENCY COORDINATION (continued)

11. PAINTING AND SAND/WATER BLASTING: WHEN PAINTING, SAND OR WATER BLASTING ANY PORTION OF THE BRIDGE IS NECESSARY THEN APPROPRIATE APRONS SHALL BE UTILIZED TO PROVIDE FOR COMPLETE CONTAINMENT OF ALL PAINT DEBRIS PARTICLES AND OTHER DEBRIS. APPROPRIATE APRONS SHALL BE UTILIZED TO PROVIDE FOR COMPLETE CONTAINMENT OF ALL PAINT AND/OR SEALANT OVER-SPRAY. ANY SUCH DEBRIS SHALL BE REMOVED IMMEDIATELY FROM WITHIN 1000 FEET OF THE BIG DARBY CREEK AND DISPOSED OF AT AN APPROVED UPLAND SITE ABOVE THE 100-YEAR FLOOD ELEVATIONS. DISPOSAL IN WETLANDS, FLOODPLAINS, OR WITHIN 1000-FEET OF STATE SCENIC RIVERS IS PROHIBITED.

12. ODOT D-6 ENVIRONMENTAL COORDINATOR SHALL INVITE ODNR SCENIC RIVERS PROGRAM REGIONAL MANAGER TO THE PRE-BID AND PRE-CONSTRUCTION MEETINGS WITH THE CONTRACTOR PRESENT.

13. ODOT D-6 WITH OES WILL HIRE AN ENVIRONMENTAL COMMITMENT MONITOR TO CONDUCT PERIODIC INSPECTIONS OF THE PROJECT TO ENSURE ALL COMMITMENTS, INCLUDING THE SPECIAL SCENIC RIVER PROTECTION MEASURES ARE BEING MET.

14. SCENIC RIVER PROGRAM PROJECT CONDITIONS HAVE BEEN INCORPORATED INTO THE PROJECT PLANS AND WILL BE MADE AVAILABLE TO ALL CONSTRUCTION PERSONNEL THROUGHOUT THE DURATION OF THE PROJECT. THIS WILL ENSURE THAT THE CONTRACTORS UNDERSTAND SCENIC RIVER REQUIREMENTS. SPECIAL CONDITIONS WILL ALSO BE DISCUSSED AT PRE-CONSTRUCTION MEETING. THE SCENIC RIVER REQUIREMENTS WILL BE AN AGENDA ITEM AT THE D-6 PRE-CONSTRUCTION MEETING.

15. SCENIC RIVER SIGNAGE: SIGNS IDENTIFYING THE "BIG DARBY CREEK STATE AND NATIONAL SCENIC RIVER" SHALL BE INSTALLED AT ALL APPROACHES OF THE NEW BRIDGE STRUCTURES. AN ADDITIONAL SIGN STATING (BRIDGE NAME, ROAD NAME/NUMBER, AND RIVER MILE) WILL BE INSTALLED ON THE UPSTREAM SIDE OF THE NEW BRIDGE, IDENTIFYING THE STRUCTURE AND LOCATION TO BE VISIBLE TO RECREATIONAL RIVER USERS. SEE TRAFFIC CONTROL SHEET 196.

16. VISUAL COMPATIBILITY: TO MINIMIZE CONTRAST WITH THE SURROUNDING LANDSCAPE TO PROTECT AND ENHANCE THE SCENERY OF BIG DARBY CREEK, CONCRETE FORM LINERS WITH ROUGH CUT STONE FINISH SHALL BE USED ON THE BRIDGE PARAPETS. WEATHERING STEEL WILL BE UTILIZED FOR THE STEEL GIRDERS OF THE BRIDGE.

17. DISTURBANCES TO THE RIPARIAN ZONE MUST BE LIMITED TO THE ACCESS POINTS AND CONSTRUCTION LIMITS. PROVISIONS SHALL BE IN PLACE TO PROTECT REMAINING VEGETATION/TREES FROM DAMAGE BY CONSTRUCTION EQUIPMENT. THESE PROVISIONS MUST LIMIT THE REMOVAL OF RIPARIAN VEGETATION AND INCLUDE MEASURES TO AVOID DAMAGE TO REMAINING TREES (TRUNKS, BRANCHES, AND/OR ROOTS) LOCATED IN OR ADJACENT TO THE WORK AREA. THE OPERATION OF MACHINERY WITHIN THE DRIP LINE OF TREES SCHEDULED TO REMAIN MUST BE AVOIDED TO THE GREATEST EXTENT POSSIBLE. SEVERELY DAMAGED TREES (WHERE DAMAGE WOULD LEAD TO MORTALITY) MAY REMAIN ONSITE WHERE UNLIKELY TO POSE A SAFETY HAZARD TO SERVE AS NESTING CAVITIES, HOLD SOIL, AND PREVENT EROSION.

18. THE CONTRACTOR SHALL ABIDE BY THE NATIVE PLANTING PLAN INCLUDED IN THESE PLANS FOR THE RIPARIAN CORRIDOR OF BIG DARBY CREEK.

19. THE USE OF HERBICIDES IN THE RIPARIAN CORRIDOR OF BIG DARBY CREEK IS PROHIBITED. ALL FERTILIZERS SHALL BE APPLIED BY QUALIFIED PERSONNEL AND IN ACCORDANCE WITH

ECOLOGICAL, AGENCY COORDINATION (continued)

APPLICATION GUIDELINES AND USED ONLY FOR PLANTINGS.

20. THIS PROJECT INCLUDES WORK IN AND NEAR A NATIONAL AND STATE SCENIC RIVER. THIS RESOURCE IS OF EXCEPTIONAL VALUE AND SENSITIVITY. THEREFORE ODOT DISTRICT 6 DEC AND ENVIRONMENTAL COMMITMENT MONITOR WILL ATTEND THE PRE-BID, PRE-CONSTRUCTION, AND POST-CONSTRUCTION MEETINGS WITH CONTRACTOR TO EMPHASIZE THE SENSITIVE NATURE OF BIG DARBY CREEK PROJECT AREA AND REINFORCE THE NECESSITY TO ADHERE TO ALL CMS STANDARDS AND THE ENVIRONMENTAL COMMITMENTS FOR THE PROJECT.

21. THE ODOT DISTRICT 6 ENVIRONMENTAL COORDINATOR WILL ENSURE THAT WEEKLY ENVIRONMENTAL COMPLIANCE INSPECTIONS ARE CONDUCTED BY THE ODOT ENVIRONMENTAL COMMITMENT MONITOR AND ODNR SCENIC RIVERS PROGRAM REGIONAL MANAGER. FURTHER THE DEC WILL INVITE THE ODNR CENTRAL ASSISTANT REGIONAL SCENIC RIVER MANAGER TO THE WEEKLY ON-SITE INSPECTIONS.

22. THE PROJECT DESIGNER SHALL ENSURE A PASSAGEWAY WILL BE INCLUDED IN THE PROJECT PLANS FOR DEER AND OTHER TERRESTRIAL WILDLIFE UNDER THE NEW BIG DARBY CREEK BRIDGE.

23. ODOT-OES ECOLOGICAL UNIT WILL PLACE CAMERAS WITHIN VIEWING RANGE OF THE WILDLIFE PASSAGEWAY FOLLOWING COMPLETION OF CONSTRUCTION TO MONITOR UNDER CROSSING FOR USAGE AND TO GAIN STRATEGIES FOR FUTURE APPLICATION WITHIN THE STATE.

24. ODOT DISTRICT 6 DEC AND ODOT-OES WILL HOLD A PRE-BID MEETING FOR CONTRACTORS TO BECOME ACUTELY AWARE OF THE EXTENSIVE ENVIRONMENTAL COMMITMENTS ON THIS PROJECT AND THEIR ABSOLUTE AND MANDATORY ADHERENCE TO THOSE COMMITMENTS DURING CONSTRUCTION.

25. DISTURBED/EXPOSED AREAS IN THE RIPARIAN CORRIDOR (SLOPE AND BANKS) OF BIG DARBY CREEK MUST BE PROPERLY STABILIZED (SEEDED, MULCHED, OR OTHERWISE) IMMEDIATELY AFTER GRADING TO PREVENT EROSION AND ESTABLISHMENT OF INVASIVE PLANT SPECIES.

26. THE CONTRACTOR SHALL NOT USE CONSTRUCTION DEBRIS AS ROCK CHANNEL PROTECTION OR ALLOW CONSTRUCTION DEBRIS TO REMAIN IN THE VICINITY OF THE RIVER. SPOIL PILES SHALL BE COVERED OR OTHERWISE MANAGED TO REDUCE SEDIMENTATION. ALL TEMPORARY STRUCTURES MUST BE COMPLETELY REMOVED FROM THE RIVERBED/BANKS FOLLOWING PROJECT COMPLETION. TEMPORARY ROCK USED FOR ACCESS ROADS AND DOCKS OR OTHER TEMPORARY RIVER ACCESS SHALL BE REMOVED IMMEDIATELY UPON COMPLETION OF THE PROJECT AND STORED/DISPOSED OF AT AN APPROPRIATE UPLAND SITE OUTSIDE OF THE 100-YEAR FLOODPLAIN AREA.

27. THE CONTRACTOR SHALL NOTIFY THE DISTRICT 6 ENVIRONMENTAL COORDINATOR [(740)-833-8065] AND ODNR SCENIC RIVERS PROGRAM REGIONAL MANAGER [(740) 258-0567] ONE (1) WEEK PRIOR TO THE COMMENCEMENT OF WORK TO NOTIFY THEM OF THE PROJECT START DATE. THE SCENIC RIVERS PROGRAM REGIONAL MANAGER WILL ALSO BE CONTACTED 1 WEEK PRIOR TO COMPLETION OF THE PROJECT TO CONDUCT A FINAL SITE INSPECTION WITH THE CONTRACTOR PRESENT.

28. NOT USED

29. IN-STREAM WORK SHALL NOT COMMENCE UNTIL THE MUSSEL SURVEY AND RELOCATION HAS BEEN COMPLETED AND USFWS AND ODNR HAVE APPROVED THE RESULTS. THE CONTRACTOR SHALL CONFIRM WITH DISTRICT 6 DEC THAT THE SURVEY WORK HAS BEEN COMPLETED AND APPROVED.

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ENVIRONMENTAL GENERAL NOTES

FRA - 71-1.53

WATERSHED PROTECTION

THE PROJECT IS LOCATED WITHIN THE OHIO DEPARTMENT OF REHABILITATION AND CORRECTIONS PICKAWAY CORRECTIONS FACILITY WATER SYSTEM AND TIMBERLAKE WATER SYSTEM SOURCE WATER PROTECTION AREAS. IT IS ESSENTIAL THAT ALL ACTIVITIES ASSOCIATED WITH THIS WORK BE PERFORMED IN A MANNER CONSISTENT WITH BEST WATERSHED MANAGEMENT PRACTICES INCLUDING, BUT NOT LIMITED TO: AREAS OF DISTURBED GROUND SHALL HAVE APPROPRIATE EROSION AND SEDIMENT CONTROLS. IF HAZARDOUS/TOXIC MATERIALS INCLUDING BUT NOT LIMITED TO FUELS, OILS, BITUMEN'S PAINTS, SEALANTS, OR OTHER CHEMICALS, ARE STORED ON SITE, THEY SHALL BE STORED IN A DOUBLE-CONTAINMENT MANNER. ALL EQUIPMENT REPAIRS, MAINTENANCE, AND MECHANICAL WORK THAT COULD RESULT IN THE RELEASE OF HAZARDOUS/TOXIC MATERIALS SHALL BE PERFORMED IN AN APPROPRIATELY CONTAINED AREA, PREFERABLY OFF SITE OR AN APPROPRIATE OFF-SITE FACILITY. IN THE EVENT THAT ANY HAZARDOUS/TOXIC MATERIALS INCLUDING, BUT NOT LIMITED TO FUELS, OILS, BITUMEN'S PAINTS, SEALANTS, OR OTHER CHEMICALS ARE SPILLED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY EMERGENCY SERVICES BY CALLING 911 AND THE OHIO EPA 24 HOUR SPILL REPORTING LINE AT 1 (800) 282-9378. THE CONTRACTOR SHOULD BE PREPARED TO PROVIDE DETAILED INFORMATION RELATIVE TO THE TYPE AND QUANTITY OF MATERIAL THAT HAS BEEN SPILLED AS WELL AS THE EXACT LOCATION AND THE EXACT TIME AT WHICH THE SPILL OCCURRED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR INFORMING ALL SUBCONTRACTORS AND OTHER AGENTS OF THESE RESPONSIBILITIES, PRECAUTIONS, AND PROHIBITIONS.

SECTION 4F, IDENTIFIED SECTION 4(F) PROPERTIES

1. THE CONTRACTOR SHALL NOT STAGE AND/OR STORE CONSTRUCTION EQUIPMENT OUTSIDE PROPOSED CONSTRUCTION LIMITS OR WITHIN BATTELLE DARBY CREEK METRO PARK PROPERTY BOUNDARIES
2. THE CONTRACTOR SHALL CLOSELY COORDINATE THE CONSTRUCTION SCHEDULE WITH ODOT, THE ODNR SCENIC RIVERS PROGRAM REGIONAL MANAGER, AND ODNR DIVISION OF STATE PARKS AND WATERCRAFT.
3. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE APPROPRIATE WARNING SIGNS AND BUOYS IN BIG DARBY CREEK WITH THE ODNR DIVISION OF STATE PARKS AND WATERCRAFT FOR WATERCRAFT SAFETY.

SECTION 4F, IDENTIFIED SECTION 4(F) PROPERTIES (continued)

4. PROTECTION OF CANOE AND KAYAK TRAFFIC BY USE OF APRONS WILL BE MAINTAINED THROUGHOUT CONSTRUCTION ASSOCIATED WITH THE BRIDGES OVER BIG DARBY CREEK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT OF APPROPRIATE SIGNAGE OF TAKE-OUT/PORTAGE LOCATIONS FOR RIVER USERS OF BIG DARBY CREEK UPSTREAM AND/OR DOWNSTREAM OF THE CONSTRUCTION LIMITS AT THE IR 71 BRIDGES OVER BIG DARBY CREEK 10 DAYS PRIOR TO THE CLOSURE OF THE STREAM CHANNEL. THE CLOSURE SHALL LAST NO MORE THAN A TOTAL OF THREE (3) DAYS AND WILL OCCUR DURING OFF-PEAK TIMES TO BEST ACCOMMODATE CANOE AND KAYAK TRAFFIC.
6. THE ODNR DIVISION OF STATE PARKS AND WATERCRAFT, ODNR SCENIC RIVERS PROGRAM REGIONAL MANAGER, AND DISTRICT 6 ENVIRONMENTAL COORDINATOR SHALL BE NOTIFIED AT A MINIMUM OF 15 DAYS IN ADVANCE OF THE START OF CONSTRUCTION ACTIVITIES RELATED TO THE BRIDGE REPLACEMENT OVER BIG DARBY CREEK.
7. THE CONTRACTOR SHALL PROVIDE NOTICE OF THE PROJECT'S CONSTRUCTION SCHEDULE AND POTENTIAL FOR USERS TO ENCOUNTER PARTIAL CLOSURES AT THE BIG DARBY CREEK BRIDGES NO LESS THAN 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES. NOTICES SHALL BE POSTED IN AN AREA THAT CAN BE SEEN BY USERS OF THE BIG DARBY CREEK, BOTH UPSTREAM AND DOWNSTREAM.
8. THE CONTRACTOR WILL NOTIFY DISTRICT 6 PUBLIC INFORMATION OFFICER VIA EMAIL (D06.PIO@DOT.OHIO.GOV); TRAPPER JOHNS CANOE LIVERY OPERATOR AT (614) 877-4321 OR TJ@TRAPPERJOHNSCANOEING.COM; THE ODNR SCENIC RIVERS PROGRAM REGIONAL MANAGER (HEATHER DOHERTY AT 740-258-0567 OR HEATHER.DOHERTY@DNR.STATE.OH.US; METRO PARKS MANAGER, PARK OPERATIONS (DOUG YABLONSKI) AT 614-895-6205 OR YABLONSKI@METROPARKS.NET, PARK MANAGER- BATTELLE DARBY CREEK METRO PARK (KEVIN KASNYIK) AT 614-878-1076 OR KASNYIK@METROPARKS.NET, NO LATER THAN TEN (10) DAYS PRIOR TO THE CLOSURE OF THE STREAM CHANNEL OF BIG DARBY CREEK.
9. THE CONTRACTOR SHALL NOTIFY THE ODNR SCENIC RIVERS PROGRAM REGIONAL MANAGER AT A MINIMUM OF SEVEN (7) DAYS PRIOR TO PROJECT COMPLETION TO CONDUCT A FINAL SITE INSPECTION WITH THE CONTRACTOR PRESENT.
10. ALL COSTS, UNLESS OTHERWISE SPECIFIED, RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 690 - SPECIAL - ENVIRONMENTAL, SECTION 4F, IDENTIFIED SECTION 4(F) PROPERTIES.

PERMITS, WATERWAY PERMITS

1. ODOT SHALL OBTAIN ALL APPROPRIATE WATERWAY PERMITS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES AND ALL SPECIAL PROVISIONS FOR WATERWAY PERMITS WILL BE INCLUDED IN THE PROJECT PLANS. THE CONTRACTOR IS NOT PERMITTED TO WORK BELOW THE ORDINARY HIGH WATER MARK UNTIL THE PERMITS ARE RECEIVED.

PERMITS, FLOODPLAINS

1. THE PROJECT DESIGNER SHALL DELINEATE THE 100-YEAR FLOODPLAIN AND DELINEATE THE LIMITS OF 1,000 FEET FROM THE BANK OF THE BIG DARBY CREEK IN THE PROJECT PLANS.

ITEM 832 - STORM WATER POLLUTION PREVENTION PLAN, AS PER PLAN

PRIOR TO COMMENCEMENT OF EARTHWORK OPERATIONS, THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT A SWPPP, AS PER PLAN (SEE SHEET 118). SEDIMENT AND EROSION CONTROLS SHALL BE PROPERLY INSTALLED AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. STRAW BALES SHALL NOT BE PERMITTED AS A FORM OF SEDIMENT CONTROL. ENSURE TIMELY ADHERENCE TO THE GENERAL CONSTRUCTION PERMIT FOR ALL SEDIMENT AND EROSION CONTROLS, INCLUDING SEEDING AND MULCHING. PARTICULAR ATTENTION SHALL BE GIVEN TO ANY DRAINAGE WAYS, UNPROTECTED SLOPES, DITCHES, AND STREAMS THAT COULD CONVEY SEDIMENT LADEN WATERS DIRECTLY TO THE BIG DARBY.

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ENVIRONMENTAL GENERAL NOTES

FRA - 71 - 1.53

ITEM 614, MAINTAINING TRAFFIC

ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (CURRENT EDITION), COPIES OF WHICH ARE AVAILABLE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, OFFICE OF TRAFFIC ENGINEERING, 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223.

THE ROADWAY SHALL NOT BE OPENED TO TRAFFIC UNTIL PERMANENT TRAFFIC CONTROLS ARE IN PLACE, OR UNTIL TEMPORARY TRAFFIC CONTROLS, APPROVED BY THE ENGINEER, ARE INSTALLED. THE CONTRACTOR ASSUMES ALL LIABILITY FOR THE PREMATURE REMOVAL OF TEMPORARY TRAFFIC CONTROLS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REINSTALLATION AND/OR REPLACEMENT OF ALL PERMANENT TRAFFIC CONTROL DEVICES DAMAGED OR REMOVED DURING THE CONSTRUCTION. PERMANENT TRAFFIC CONTROL THAT IS NO LONGER IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SHALL BE REPLACED IMMEDIATELY. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR MISSING, DAMAGED AND IMPROPERLY PLACED TRAFFIC CONTROL DEVICES.

THE CONTRACTOR SHALL PROVIDE A 24 HOUR CONTACT WHO WILL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC FOR THE DURATION OF THE PROJECT.

CONSTRUCTION OPERATIONS SHALL NOT BEGIN UNTIL ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE IN PLACE AND APPROVED BY THE ENGINEER AND THE DISTRICT.

MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES INCLUDING DRUMS, SIGNS, BARRICADES, SIGN BOARDS, DETOUR SIGNAGE, ETC., SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

STEADY-BURNING TYPE "C" LIGHTS SHALL BE REQUIRED ON ALL BARRICADES IN USE AT NIGHT. ALL ADVANCE SIGNING SHALL BE EQUIPPED WITH TYPE "A" FLASHING LIGHTS AND (2) ORANGE FLAGS (24"X24"). CONES ARE NOT APPROVED FOR USE AT NIGHT. LIGHTS ARE NOT REQUIRED ON SIGNS IN PLACE DURING DAYLIGHT HOURS.

FOR AREAS ADJACENT TO VEHICULAR TRAFFIC, OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH THE PROPER TRAFFIC CONTROL DEVICES AT ALL TIMES. DROP OFFS WITHIN THE WORK ZONE SHALL CONFORM TO THE REQUIREMENTS SET FORTH ON ODOT STANDARD CONSTRUCTION DRAWING MT-101.90.

TEMPORARY PAVEMENT WEDGE

TEMPORARY PAVEMENT WEDGES SHALL BE PROVIDED AT ALL TIMES WHERE TRAFFIC IS REQUIRED TO TRAVEL FROM OR ONTO A PAVEMENT SURFACE OF A DIFFERENT ELEVATION, AROUND MANHOLES, AT CATCH BASINS, ETC. THE MINIMUM SLOPE OF THE TEMPORARY PAVEMENT WEDGE SHALL BE 3:1 ALONG LONGITUDINAL JOINTS AND 120:1 AT TRANSVERSE JOINTS. THESE WEDGES SHALL BE REMOVED PRIOR TO PLACING THE SPECIFIED FINAL PAVEMENT COURSE. PAYMENT FOR ALL WORK, MATERIALS, ETC. ASSOCIATED WITH THIS ITEM SHALL BE PAID FOR UNDER THE ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN LUMP SUM.

LANES OPEN DURING HOLIDAYS AND SPECIAL EVENTS

NO WORK SHALL BE PERFORMED AND THE SAME NUMBER OF LANES AS WERE AVAILABLE AT THE START OF THE PROJECT SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

HOLIDAYS	
CHRISTMAS	FOURTH OF JULY
NEW YEAR'S EVE	LABOR DAY
MEMORIAL DAY	THANKSGIVING

LANES OPEN DURING HOLIDAYS AND SPECIAL EVENTS (CONT)

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY	TIMES ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00 NOON FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00 NOON FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00 NOON MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00 NOON TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00 NOON WEDNESDAY THROUGH 6:00 AM FRIDAY
THANKSGIVING	5:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00 NOON THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00 NOON FRIDAY THROUGH 6:00 AM MONDAY

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN ACCORDANCE WITH THE UNAUTHORIZED LANE USE TABLE.

PERMITTED LANE CLOSURES

THE EXISTING NUMBER OF LANES IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES EXCEPT DURING PERIODS OF WORK AT WHICH TIME LANES MAY BE CLOSED IN ACCORDANCE WITH THE UNAUTHORIZED LANE USE TABLE FOR EACH LOCATION UNLESS OTHERWISE SHOWN IN THE PLANS.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED IN THE PLAN.

UNAUTHORIZED LANE USE

THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE AS DESIGNATED IN THE UNAUTHORIZED LANE USE TABLE FOR EACH UNIT OF TIME A LANE/SHOULDER/RAMP IS CLOSED BY THE CONTRACTOR'S ACTION WHILE NOT OTHERWISE PERMITTED BY THE UNAUTHORIZED LANE USE TABLE.

UNAUTHORIZED LANE USE TABLE						
SECTION (SLM)	EXISTING NUMBER OF LANES PER DIRECTION	LANE CLOSURES ARE NOT PERMITTED:				DISINCENTIVE AMOUNTS PER MINUTE PER LANE
		LANE REDUCTION	MON TO FRI	SAT	SUN	
FRA-71						
PICKAWAY COUNTY LINE (0.00) TO US 665 (6.09)	2	2 TO 1	6AM-7PM	6AM-8PM	6AM-7PM	\$100

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DIRECT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE BUT IS NOT LIMITED TO ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHOULD LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVEABLE PAVEMENT, DETOUR ROUTES IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION TIME FRAME TABLE			
ITEM	DURATION OF CLOSURE	NOTIFICATION DUE TO DISTRICT 6 COMMUNICATIONS OFFICE	SIGN DISPLAYED TO PUBLIC
RAMP AND ROAD CLOSURE	>=2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE	14 CALENDAR DAYS PRIOR TO CLOSURE
	>12 HOURS & <2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE	7 CALENDAR DAYS PRIOR TO CLOSURE
	<12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE	2 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURE AND RESTRICTIONS	>=2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE	
	<2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE	
START OF CONSTRUCTION AND TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION	

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME FRAME TABLE.

NOTIFICATION OF CONSTRUCTION INITIATION

AT LEAST FOURTEEN DAYS PRIOR TO STARTING INITIAL CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ADVISE THE DISTRICT OFFICE OF COMMUNICATIONS VIA EMAIL AT D06.PIO@DOT.OHIO.GOV, THE DISTRICT WORK ZONE TRAFFIC MANAGER VIA EMAIL AT D06.MOT@DOT.OHIO.GOV AND THE CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY FAX AT (614)728-4099 OF THE ANTICIPATED START DATE OF ANY CONSTRUCTION ACTIVITIES INCLUDING BUT NOT LIMITED TO THE PLACING OF WORK ZONE SIGNS. THE NOTIFICATION SHALL ALSO INCLUDE THE PROJECT NUMBER, PID, NAME AND PHONE NUMBER OF THE CONTRACTOR, A POINT OF CONTACT AND THE ANTICIPATED IMPACT ON TRAFFIC. THE CONTRACTOR WILL IMMEDIATELY INFORM THE DISTRICT OFFICE OF COMMUNICATIONS AND THE DISTRICT WORK ZONE TRAFFIC MANAGER OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION INITIATION DATE.

PRE-MAINTENANCE OF TRAFFIC MEETING

A PRE-MAINTENANCE OF TRAFFIC MEETING SHALL BE HELD (MINIMUM 10 WORK DAYS) PRIOR TO WORK BEGINNING OR ANY CHANGE OF PHASING. THIS MEETING SHALL INCLUDE THE DISTRICT MAINTENANCE OF TRAFFIC ENGINEER (D06.MOT@DOT.STATE.OH.US) AS WELL AS THE CONTRACTOR AND ANY OF HIS SUB-CONTRACTORS INVOLVED WITH TEMPORARY TRAFFIC CONTROL.

INGRESS/EGRESS

WORKSITE INGRESS AND EGRESS MEETING THE DESCRIPTIONS BELOW SHALL NOT OCCUR DURING PEAK HOURS. PEAK HOURS ARE CONSIDERED TO BE 5AM-9AM AND 3PM-6PM MONDAY-FRIDAY.

- ENTERING THE WORKSITE FROM INTERSTATE SHOULDERS OR INTERSTATE LANES
- EXITING THE WORKSITE ONTO OR ALONGSIDE INTERSTATE SHOULDERS OR INTERSTATE LANES

WRECKER AND EMERGENCY VEHICLE ACCESS

THE CONTRACTOR SHALL MAKE PROVISIONS TO ASSIST IN THE ACCESS OF WRECKERS AND EMERGENCY VEHICLES THROUGHOUT THE WORK ZONE. THIS MAY INCLUDE, BUT NOT LIMITED TO, PROVIDING FLAGGERS OR REMOVING SECTIONS OF BARRIER TO ALLOW EMERGENCY VEHICLES AND WRECKER TO MOVE THROUGH PORTIONS OF THE WORK ZONE TO REACH ACCIDENTS AND/OR BREAKDOWNS. THE INTENT IS TO MINIMIZE EXTENDED DELAYS TO THE TRAVELLING PUBLIC AND TO PROVIDE QUICKER RESPONSE TIMES FOR WRECKERS AND EMERGENCY VEHICLES. ALL AGENTS AND EMPLOYEES OF THE CONTRACTOR SHALL BE MADE AWARE OF THIS PROVISION BEFORE WORK BEGINS.

ALL ACTIVITIES ASSOCIATED WITH ACCOMMODATING WRECKER SERVICES AND EMERGENCY VEHICLE ACCESS THROUGHOUT THE WORK ZONE SHALL BE COORDINATED BY THE WORKSITE TRAFFIC SUPERVISOR AND THE ENGINEER.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

TRUCK MOUNTED ATTENUATOR (TMA)

WHEN WORKING IN A CLOSED LANE OR SHOULDER ON A MULTI-LANE HIGHWAY WITHOUT TEMPORARY OR PERMANENT TRAFFIC BARRIERS SEPARATING THE WORK AREA FROM THE TRAVELED LANES, A TRUCK MOUNTED ATTENUATOR (TMA) SHALL BE PROVIDED TO PROTECT EACH WORK AREA IN ACCORDANCE WITH STANDARD DRAWINGS MT-95.30, MT-95.31, MT-95.32 OR ODOT TYPICAL APPLICATION (TA) 4 AND TA-6. THE TMA SHALL BE PLACED IN SUCH A WAY TO ADEQUATELY PROTECT THE WORKERS INSIDE THE WORK ZONE. THE TMA IS NOT INTENDED TO BE USED AS OR SUBSTITUTED FOR THE FLASHING ARROW PANEL AT THE BEGINNING OF THE MERGE TAPER. THE TMA SHALL MEET NCHRP 350 TEST LEVEL 3 CRITERIA FOR STANDARD AND OPTIONAL TESTS AT 100 KM/H (62 MPH) FOR DESIGN IMPACTS. THE COST FOR PROVIDING THE TMA SHALL INCLUDE ALL MATERIAL, LABOR, EQUIPMENT, AND HARDWARE REPLACEMENT AND IS TO BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

DRUM REQUIREMENTS

IN ADDITION TO THE REQUIREMENTS OF THE PLANS, SPECIFICATION AND PROPOSAL, DRUMS FURNISHED BY THE CONTRACTOR SHALL BE NEW AND UNUSED AT THE TIME OF ARRIVAL ON THE PROJECT. ANY DRUMS BROUGHT ON THE PROJECT, WHICH HAVE PREVIOUSLY BEEN USED ELSEWHERE, WILL NOT BE ACCEPTED.

PAYMENT FOR DRUMS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

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FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

PAYMENT

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ESTIMATED QUANTITIES

FOR THE ASPHALT OPTION, A WEDGE COURSE SHALL BE INSTALLED AT THE CONCLUSION OF PHASE 1 AND PHASE 2 TO PROVIDE A SMOOTH TRANSITION APPROACHING AND DEPARTING THE APPROACH SLABS/BRIDGE DECKS. THIS TRANSITION SHALL BE AT A MINIMUM OF 120:1. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
10 CU. YD.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 26 M. GAL.

WORK ZONE MARKINGS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF C&MS 614.04 AND 614.11.

ITEM 614, LANE LINE, CLASS I, 642 PAINT 1.10 MILE
ITEM 614, EDGE LINE, CLASS I, 642 PAINT 3.50 MILE
ITEM 614, CHANNELIZING LINE, CLASS I, 642 PAINT 3800 FT

ITEM 614, REPLACEMENT SIGN

FLAT SHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

ITEM 614, REPLACEMENT SIGN (CONT.)

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 10 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614, REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 40 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

WORK ZONE SPEED ZONES (WZSZS)

THE FOLLOWING WORK ZONE SPEED ZONE (WZSZ) SPEED LIMIT REVISION(S) HAVE BEEN APPROVED FOR USE ON THIS PROJECT WHEN WORK ZONE CONDITIONS AND FACTORS ARE MET AS DESCRIBED BELOW:

WZSZ REVISION NUMBER	COUNTY-ROUTE-SECTION	DIRECTION
WZ-35645	FRA-71	NORTHBOUND
WZ-35645	FRA-71	SOUTHBOUND

POTENTIAL WZSZ LOCATIONS SHALL HAVE AN ORIGINAL PRECONSTRUCTION POSTED SPEED LIMIT OF 55 MPH OR GREATER, A QUALIFYING WORK ZONE CONDITION OF AT LEAST 0.5 MILE IN LENGTH, AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS, AND A WORK ZONE CONDITION IN PLACE THAT REDUCES THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS (I.E., LANE CLOSURE, LANE SHIFT, CROSSOVER, CONTRAFLOW AND/OR SHOULDER CLOSURE). THE LENGTH OF THE WORK ZONE CONDITION IS MEASURED FROM THE BEGINNING OF THE TAPER FOR THE SUBJECT WORK ZONE CONDITION IMPACTING THE TRAVEL LANES AND/OR SHOULDER TO THE END OF THE DOWNSTREAM TAPER, WHERE DRIVERS ARE RETURNED TO TYPICAL ALIGNMENT. AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS IS REQUIRED TO BALANCE THE ADDITIONAL EXPOSURE CREATED BY INSTALLING AND REMOVING WZSZ SIGNING WITH THE TIME NEEDED TO COMPLETE THE WORK.

IF THE WORK ZONE MEETS THESE MINIMUM CRITERIA, IT SHALL BE ANALYZED FURTHER USING TABLE 1 BELOW TO DETERMINE IF AND WHEN IT QUALIFIES FOR A SPEED LIMIT REDUCTION. DEPENDING ON THE ORIGINAL POSTED SPEED LIMIT, THE TYPE OF TEMPORARY TRAFFIC CONTROL USED, AND WHETHER OR NOT WORKERS ARE PRESENT, A WARRANTED WZSZ WILL VARY IN THE APPROVED SPEED LIMIT TO BE POSTED OVER TIME.

C&MS ITEM 614, PARAGRAPH 614.02(B), INDICATES THAT TWO DIRECTIONS OF A DIVIDED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, A SPEED LIMIT REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE A SPEED LIMIT REDUCTION IN THE OPPOSITE DIRECTION. EACH DIRECTION SHALL BE ANALYZED INDEPENDENTLY FROM EACH OTHER.

WORK ZONE SPEED ZONES (WZSZS) (CONT.)

ALL WZSZS FLUCTUATE BETWEEN TWO APPROVED REDUCED SPEED LIMITS OR BETWEEN AN APPROVED REDUCED SPEED LIMIT AND THE ORIGINAL POSTED SPEED LIMIT. ONLY ONE OF TWO SIGNING STRATEGIES SHALL BE USED TO IMPLEMENT A WZSZ.

WZSZS USING DSL SIGN ASSEMBLIES SHALL BE IN ACCORDANCE WITH THE NOTE, APPROVED LIST, SUPPLEMENTAL SPECIFICATIONS (SS) 808 AND 908, AND TRAFFIC SCD MT-104.10.

ONLY ONE WARRANTED SPEED LIMIT APPLIES AT ANY ONE TIME; SPEED LIMIT REDUCTIONS ARE NOT CUMULATIVE. WZSZS SHALL NOT BE USED FOR MOVING/MOBILE ACTIVITIES, AS DEFINED IN OMUTCD PART 6.

WHEN LOOKING UP THE WARRANTED WORK ZONE SPEED LIMITS, ALWAYS USE THE ORIGINAL, PRECONSTRUCTION, POSTED SPEED LIMIT. DO NOT USE A PRIOR OR CURRENT WORK ZONE SPEED LIMIT AS A LOOK UP VALUE IN THE TABLE. POSITIVE PROTECTION IS GENERALLY REGARDED AS PORTABLE BARRIER OR OTHER RIGID BARRIER IN USE ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WITHOUT POSITIVE PROTECTION IS GENERALLY REGARDED AS USING DRUMS, CONES, SHADOW VEHICLE, ETC., ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WORKERS ARE CONSIDERED AS BEING PRESENT WHEN ON-SITE, WORKING WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WHEN THE WORK ZONE CONDITION REDUCING THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS IS REMOVED, THE SPEED LIMIT DISPLAYED SHALL RETURN TO THE ORIGINAL POSTED SPEED LIMIT.

TABLE 1: WARRANTED WORK ZONE SPEED LIMITS (MPH) FOR WORK ZONES ON HIGH-SPEED (55 MPH OR GREATER) MULTI-LANE HIGHWAYS

ORIGINAL POSTED SPEED LIMIT	WITH POSITIVE PROTECTION		WITHOUT POSITIVE PROTECTION	
	WORKERS PRESENT	WORKERS NOT PRESENT	WORKERS PRESENT	WORKERS NOT PRESENT
70	60	65	55	65
65	55	60	50	60
60	55	60	50	60
55	50	55	45	55

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 808, DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY
40 SIGN MNTH
ASSUMING 2 DSL SIGN ASSEMBLY(IES) FOR 12 MONTH(S) (PHASE 1)
ASSUMING 2 DSL SIGN ASSEMBLY(IES) FOR 8 MONTH(S) (PHASE 2)

WORK ZONE INCREASED PENALTIES SIGN (R11-H5A)

R11-H5A-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE CONSECUTIVE CALENDAR DAYS, SUCH AS DURING WINTER SHUT-DOWNS.

(THE SIGNS ON THE MAINLINE SHALL BE DUAL MOUNTED UNLESS NOT PHYSICALLY POSSIBLE. THE FIRST SIGN SHALL BE PLACED BETWEEN THE ROAD WORK AHEAD (W20-1) SIGN AND THE NEXT SIGN IN THE SEQUENCE. SIGNS SHALL BE ERECTED EVERY 2 MILES THROUGH THE CONSTRUCTION WORK LIMITS. SIGNS ON THE MAINLINE SHALL BE R11-H5A-48. R11-H5A-24 SIGNS MAY BE USED IN THE MEDIAN IN LIEU OF R11-H5A-48 SIGNS IF IT IS NOT PHYSICALLY POSSIBLE TO PROVIDE R11-H5A-48 SIGNS IN THE MEDIAN.)

THE R11-H5A-48 SIGNS SHALL BE MOUNTED ON 2 NO. 3 POSTS WHEN LOCATED WITHIN CLEAR ZONES.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE RETROREFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF C&MS 730.19.

WORK ZONE INCREASED PENALTIES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614, WORK ZONE INCREASED PENALTIES SIGN 2 EACH

WORK ZONE INCREASED PENALTIES SIGNS WILL BE PLACED AT THE LOCATIONS DETAILED IN THE PLANS.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL) (CONT.)

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 614, MAINTENANCE OF CANOE TRAFFIC

CANOE TRAFFIC SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION OF THE PROJECT EITHER THROUGH EXISTING RIVER CHANNEL OR THROUGH PORTAGE TRAIL APPROVED BY THE ENGINEER.

ADEQUATE SIGNING BOTH UPSTREAM AND DOWNSTREAM SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR. THE FOLLOWING TYPE SIGNS ARE CONSIDERED TO BE MINIMUM TREATMENT:

1. APPROXIMATELY ONE-QUARTER MILE UPSTREAM, ADVANCED WARNING TYPE SIGNS ON BOTH BANKS;
2. APPROXIMATELY 300 FEET UPSTREAM, SIGNS SPECIFYING ACTIONS REQUIRED OF CANOEIST ON BOTH BANKS;
3. APPROXIMATELY ONE-QUARTER MILE DOWNSTREAM, ADVANCE WARNING TYPE SIGNS ON BOTH BANKS; AND
4. APPROXIMATELY 300 FEET DOWNSTREAM, SIGNS SPECIFYING ACTIONS REQUIRED OF CANOEIST OF BOTH BANKS.

THE ABOVE SIGNING SHALL BE MOUNTED IN SUCH A WAY AS TO BE A MINIMUM OF 4 FEET ABOVE THE WATER LEVEL, UNOBSTRUCTED BY TREE BRANCHES, AND PROPERLY ANGLED FOR MAXIMUM VISIBILITY FROM THE MAIN CLEAR CHANNEL.

THE METHOD OF SUPPORTING THE SIGNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. UPON COMPLETION OF THE PROJECT, THE SIGNS AND SUPPORT SYSTEMS SHALL BE COMPLETELY REMOVED FROM THE RIVER CHANNEL. THE CONTRACTOR SHALL NOTIFY LOCAL CANOE LIVERIES USING THIS PORTION OF THE RIVER AT LEAST 10 DAYS PRIOR TO ANY CHANGES AFFECTING CANOE TRAFFIC. PORTAGE TRAILS IF USED SHALL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR WITH THE LEAST POSSIBLE DISTURBANCE TO THE SURROUNDING AREA. THE TRAIL SHALL BE ADEQUATELY MARKED IN BOTH DIRECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE RIGHT-OF-WAY FOR THE PORTAGE TRAILS IF REQUIRED.

IN THE EVENT PIPES ARE USED TO DIVERT OR CARRY RIVER WATER, BOTH THE INLET AND OUTLET ENDS SHALL BE ADEQUATELY PROTECTED BY GRATES OR FENCE SO THAT PEOPLE OR CANOES ARE NOT DRAWN THROUGH OR HELD BY THEM.

WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A PREQUALIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS SHALL BE TRAINED IN ACCORDANCE WITH CMS 614.03, SHALL HAVE SUCCESSFULLY COMPLETED ODOT ADMINISTERED WTS TESTING (AND RE-TESTING WHEN APPLICABLE) AND BE LISTED ON THE ODOT PREQUALIFIED WTS ROSTER. PREQUALIFICATION EXPIRES EVERY 5 YEARS. RE-TESTING SHALL BE SUCCESSFULLY REPEATED EVERY 5 YEARS TO REMAIN PREQUALIFIED.

THE NAME OF THE PREQUALIFIED WTS AND RELATED 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7), THE CONTRACTOR MAY DESIGNATE AN ALTERNATE (SECONDARY) WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY; HOWEVER THE PRIMARY WTS SHALL REMAIN THE POINT OF CONTACT AT ALL TIMES. ANY ALTERNATE (SECONDARY) WTS IS SUBJECT TO THE SAME TRAINING, PREQUALIFICATION AND OTHER REQUIREMENTS OUTLINED WITHIN THIS PLAN NOTE. AT ALL TIMES THE ENGINEER, OR ENGINEER'S REPRESENTATIVES, MUST BE INFORMED OF WHO THE PRIMARY WTS (AND SECONDARY WTS, IF APPLICABLE) IS AT THE CURRENT TIME.

THE WTS POSITION HAS THE PRIMARY RESPONSIBILITY OF IMPLEMENTING THE TRAFFIC MANAGEMENT PLAN (TMP), MONITORING THE SAFETY AND MOBILITY OF THE ENTIRE WORK ZONE, AND CORRECTING TEMPORARY TRAFFIC CONTROL (TTC) DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE WTS, AND ALTERNATE WTS WHEN ON DUTY, SHALL HAVE SUFFICIENT AUTHORITY TO EFFECTIVELY CARRY OUT THE IDENTIFIED WTS RESPONSIBILITIES AND DUTIES. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS.
2. BE ON SITE FOR ALL EMERGENCY TTC NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF AND EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TTC DEVICES.
3. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TTC MANAGEMENT IS DISCUSSED.
4. BE AVAILABLE ON SITE FOR OTHER MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST.
5. BE AWARE OF ALL EXISTING AND PROPOSED TTC OPERATIONS OF THE CONTRACTOR, SUBCONTRACTORS AND SUPPLIERS, AND ENSURE COORDINATION OCCURS BETWEEN THEM TO ELIMINATE CONFLICTING TEMPORARY AND/OR PERMANENT TRAFFIC CONTROL.
6. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). THE WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE LEOS ARE ON THE PROJECT.
7. COORDINATE AND FACILITATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS THE WORK ZONE TTC FOR IMPLEMENTING THE PHASE SWITCH. SUBMIT A WRITTEN DETAIL OF MOT OPERATIONS AND SCHEDULE OF EVENTS TO IMPLEMENT THE SWITCH BETWEEN PHASE PLANS TO THE ENGINEER 5 CALENDAR DAYS PRIOR TO THIS MEETING.

WORKSITE TRAFFIC SUPERVISOR (CONT.)

8. BE PRESENT, ON SITE FOR, AND INVOLVED WITH, EACH TTC SET UP/TAKE DOWN AND EACH PHASE CHANGE IN ACCORDANCE WITH CMS 614.03.
9. ON CONTINUAL BASIS ENSURE THAT THE TTC ZONE AND ALL RELATED DEVICES ARE INSTALLED, MAINTAINED, AND REMOVED IN COMPLIANCE WITH THE CONTRACT DOCUMENTS.
10. ON A CONTINUAL BASIS FACILITATE CORRECTIVE ACTION(S) NECESSARY TO BRING DEFICIENT TTC ZONES AND ALL RELATED DEVICES INTO COMPLIANCE WITH CONTRACT DOCUMENTS IN THE TIMEFRAME DETERMINED BY THE ENGINEER.
11. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TTC DEVICES AND TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, PERFORM ONE WEEKLY NIGHT INSPECTION OF THE WORK ZONE SETUP FOR DAYTIME WORK OPERATIONS; AND ONE DAYTIME INSPECTION PER WEEK FOR NIGHTTIME PROJECTS. THIS SHALL INCLUDE (BUT NOT BE LIMITED TO) DOCUMENTATION ON THE FOLLOWING PROJECT EVENTS:
 - A. INITIAL TTC SETUP (DAY AND NIGHT REVIEW).
 - B. DAILY TTC SETUP AND REMOVAL.
 - C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TTC SETUP.
 - D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA AND WITHIN THE INFLUENCE AREA(S) APPROACHING THE WORK ZONE.
 - E. REMOVAL OF TTC DEVICES AT THE END OF A PHASE OR PROJECT.
 - F. ALL OTHER EMERGENCY TTC NEEDS.
12. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN #11 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORK DAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TTC MAINTENANCE ITEMS TO BE REVIEWED. A COPY OF THE FORM WILL BE PROVIDED AT THE PRECONSTRUCTION MEETING. ANY DEFICIENCIES OBSERVED SHALL BE NOTED, ALONG WITH RECOMMENDED OR COMPLETED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THE CURRENT CA-D-8 DOCUMENT CAN BE FOUND ON THE OFFICE OF CONSTRUCTION ADMINISTRATION'S INSPECTION FORMS WEBSITE.
13. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

THE DEPARTMENT WILL DEDUCT:

- A. THE PRORATED DAILY AMOUNT OF ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY IN WHICH THE WTS FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. THE PRORATED DAILY AMOUNT WILL BE EQUAL TO THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC DIVIDED BY THE DIFFERENCE BETWEEN THE ORIGINAL COMPLETION DATE AND THE FIRST DAY OF WORK, IN CALENDAR DAYS.

WORKSITE TRAFFIC SUPERVISOR (CONT.)

- B. 1% OF THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY THAT A TTC ISSUE IS IDENTIFIED IN THE FIELD AND IS NOT CORRECTED IN THE GIVEN TIMEFRAME PER THE ENGINEER. DEDUCTION B SHALL NOT APPLY TO SITUATIONS COVERED BY DEDUCTION C.
- C. 1% OF THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY THAT A LANE OR RAMP IS BLOCKED (FULLY OR PARTIALLY) WITHOUT TTC, AS DETERMINED BY THE ENGINEER. THIS DEDUCTION SHALL BE IN ADDITION TO ANY OTHER DISINCENTIVES ESTABLISHED FOR UNAUTHORIZED LANE USE.

FOR DAYS IN WHICH MORE THAN ONE DEDUCTION LISTED ABOVE OCCUR, THE HIGHEST DEDUCTION AMOUNT WILL APPLY.

IF THREE OR MORE TOTAL DAYS RESULT IN TTC ISSUES DESCRIBED IN DEDUCTION B OR C ABOVE, THE PRIMARY WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05. UPON REMOVAL THE ENGINEER SHALL NOTIFY ODOT CENTRAL OFFICE (WTSPREQUALIFICATION@DOT.OHIO.GOV) TO REGISTER A REMOVAL AGAINST THE STATEWIDE PREQUALIFICATION FOR THE PRIMARY WTS. THREE REMOVALS SHALL CAUSE STATEWIDE DISQUALIFICATION FOR ANY PREVIOUSLY PREQUALIFIED WTS.

PAYMENT FOR THE ABOVE REQUIREMENTS, RESPONSIBILITIES AND DUTIES SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 614 - WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN

WORK ZONE RAISED PAVEMENT MARKERS, AS PER PLAN, AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614 OR C&MS 621 AS SPECIFIED HEREIN.

- RAISED PAVEMENT MARKERS IN USE DURING THE SNOW-PLOWING SEASON SHALL CONFORM TO 621.
- RAISED PAVEMENT MARKERS IN USE DURING THE NON-SNOW-PLOW SEASON SHALL CONFORM TO EITHER 614 OR TO 621.

THE SNOW-PLOWING SEASON SHALL RUN FROM OCTOBER 15 THROUGH APRIL 1.

IF PROJECT DELAYS, NOT THE FAULT OF ODOT, CAUSE THE WORK TO EXTEND INTO THE SNOW-PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO C&MS 614, WITH RAISED PAVEMENT MARKERS CONFORMING TO 621, AS DETERMINED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN, INCLUDING FILLING OF ANY DEPRESSIONS CREATED IN THE PAVEMENT AS PER C&MS 621.08.

RESURFACING OF THE TRANSITION AREAS SHALL BE PERFORMED AT THE TIME THAT THE SURFACE COURSE IS BEING APPLIED TO THE ENTIRE PROJECT. PRIOR TO APPLICATION OF THE SURFACE COURSE ON THE PROJECT, THE EXISTING PAVEMENT WITHIN THE TRANSITION AREA SHALL BE REMOVED TO A DEPTH NECESSARY TO REACH THE LEVEL OF THE INTERMEDIATE COURSE OF THE PAVEMENT, AS DETERMINED BY THE ENGINEER.

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ITEM 614 - WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN (CONT.)

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS, AND CARRIED TO THE GENERAL SUMMARY:

CONCRETE OPTION
ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN
1301 EACH

ASPHALT OPTION
ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN
1382 EACH

PAYMENT FOR RESURFACING WITHIN THE TRANSITION AREA SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS FOR THE WORK REQUIRED, AS PROVIDED FOR IN THE PLANS.

ITEM 614 - WORK ZONE RAISED PAVEMENT MARKERS ON CONCRETE SURFACES

RAISED PAVEMENT MARKERS IN WORK ZONES, INSTALLED ON CONCRETE SURFACES, SHALL BE ITEM 614 WORK ZONE RAISED PAVEMENT MARKERS. WZRPMS ARE INTENDED FOR USE ONLY DURING THE NON-SNOW-PLOWING SEASON. WZRPMS SHALL NOT BE PROVIDED DURING THE SNOW-PLOWING SEASON.

THE SNOW-PLOWING SEASON SHALL RUN FROM OCTOBER 15 THROUGH APRIL 1.

WHERE A TEMPORARY ALIGNMENT WILL REMAIN IN USE THROUGH THE WINTER, THE WZRPMS SHALL BE REMOVED PRIOR TO THE BEGINNING OF THE SNOW-PLOWING SEASON AND REPLACED APPROXIMATELY APRIL 1, OR AS OTHERWISE DETERMINED BY THE ENGINEER.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKERS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS, AND CARRIED TO THE GENERAL SUMMARY:

CONCRETE OPTION
ITEM 614 WORK ZONE RAISED PAVEMENT MARKER 68 EACH

ASPHALT OPTION
ITEM 614 WORK ZONE RAISED PAVEMENT MARKER 8 EACH

DELINEATION OF TEMPORARY AND PERMANENT GUARDRAIL

BARRIER REFLECTORS SHALL BE INSTALLED ON ALL TEMPORARY GUARDRAIL USED FOR TRAFFIC CONTROL AND ON ALL PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626.

OBJECT MARKERS SHALL BE INSTALLED ON ALL TEMPORARY AND PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKERS SHALL CONFORM TO C&MS 614.03 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET WITH A 25 FOOT OFFSET FROM THE BARRIER REFLECTORS.

DELINEATION OF TEMPORARY AND PERMANENT GUARDRAIL (CONT.)
THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

CONCRETE OPTION
ITEM 614, BARRIER REFLECTOR, TYPE 1 (ONE-WAY) 306 EACH
ITEM 614, OBJECT MARKER, ONE-WAY 306 EACH

ASPHALT OPTION
ITEM 614, BARRIER REFLECTOR, TYPE 1 (ONE-WAY) 379 EACH
ITEM 614, OBJECT MARKER, ONE-WAY 379 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEM(S).

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL; AND, ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

INCREASED BARRIER DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PB AND PERMANENT CONCRETE BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE UNDER EITHER OF THE FOLLOWING CONDITIONS: ALONG TAPERS AND TRANSITION AREAS; OR ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES.

TRIPLE-STACKED BARRIER REFLECTORS SHALL CONSIST OF ALIGNING THREE BARRIER REFLECTORS VERTICALLY, AT LOCATIONS WHERE A SINGLE BARRIER REFLECTOR WOULD BE OTHERWISE ATTACHED. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TRIPLESTACKED BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THEY SHALL BE SPACED AND ALIGNED PER TRAFFIC SCD MT-101.70.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 1 (ONE-WAY) 945 EACH

ITEM 614, BARRIER REFLECTOR, TYPE 2 (ONE-WAY) 58 EACH

ITEM 614, OBJECT MARKER, ONE-WAY 373 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN A NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING THE SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS (CONT.)

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 320 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 1
ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 2
ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 3
ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 4

THIS ITEM SHALL BE UTILIZED FOR THE PAVEMENT REPAIRS NEEDED DURING THIS CONSTRUCTION PROCESS. ALL AREAS TO BE REPAIRED SHALL BE LOCATED BY THE ENGINEER. IT IS LIKELY THAT REPAIRS WILL BE NEEDED PRIOR TO EACH PHASE SWITCH. GREAT CARE SHALL BE TAKEN TO MAINTAIN THE EXISTING PAVEMENT CROSS SLOPE AS WELL AS ALL LONGITUDINAL SLOPES. THE TYPE OF REPAIR SHALL BE DETERMINED BY THE PROJECT ENGINEER. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED FOR MAINTENANCE OF TRAFFIC FOR PAVEMENT REPAIRS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

TYPE 1 - IS TO BE USED WHEN YOU NEED TO MILL & FILL AN AREA OF VARYING LENGTH AND HAVE AN AVERAGE WIDTH OF NOT LESS THAN 2 FEET.

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ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 1 (CONT.)

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 2 (CONT.)

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 3 (CONT.)

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 4 (CONT.)

TYPE 2 - IS TO BE USED FOR FIXING THE LONGITUDINAL JOINT ISSUES OF VARYING LENGTH AND HAVE A CONSISTENT WIDTH OF 2 FEET. THE JOINT UNDER THE EXISTING NORTHBOUND LANE LINE IS EXPECTED TO BE WITHIN THE PHASE 1 WHEEL PATH AND SHALL BE REPAIRED PRIOR TO SHIFTING TRAFFIC.

TYPE 3 - IS TO BE USED FOR DEEPER REPAIRS (POTHOLES) OF VARYING LENGTH AND WILL HAVE AN AVERAGE WIDTH OF NOT LESS THAN 4 FEET.

TYPE 4 - IS TO BE USED FOR COMPOSITE PAVEMENT REPAIRS OF VARYING LENGTH AND WILL HAVE AN AVERAGE WIDTH OF NOT LESS THAN 3 FEET.

ALL COSTS ASSOCIATED WITH REMOVING AND REPLACING PAVEMENT AND TACK COAT FOR THE REPAIRS SHALL BE INCIDENTAL TO ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN.

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 1 = 75 S.Y.

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 2 = 1550 S.Y.

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 3 = 125 S.Y.

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 4 = 125 S.Y.

MAINTENANCE OF TRAFFIC FOR MARKING PAVEMENT REPAIRS
PROVIDE LANE CLOSURES AS PER THE MAINTENANCE OF TRAFFIC NOTES IN THESE PLANS A MINIMUM OF 24 HOURS PRIOR TO PERFORMING PAVEMENT REPAIRS TO ALLOW THE ENGINEER TO IDENTIFY AND MARK THE AREAS OF THE PAVEMENT IN NEED OF REPAIRS.

PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS, LEO HOURS, AND INCIDENTALS NEEDED TO PERFORM THE ABOVE LISTED WORK IS CONSIDERED INCIDENTAL TO MAINTAINING TRAFFIC ON THE PROJECT AND WILL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 614, MAINTAINING TRAFFIC MISC.: BRIDGE DECK AND PAVEMENT PATCHING

THIS WORK WILL BE AS DIRECTED BY THE ENGINEER AND WILL INCLUDE ALL ASSOCIATED MOT COSTS WITH THE ACTIVITY. THE COST FOR EACH ITEM SHALL BE \$1.00. THE FIXED AMOUNT SHOWN IN THE PROPOSAL IS INCLUDED (AS ANY OTHER BID ITEMS) IN THE TOTAL BID AMOUNT. THIS FIXED AMOUNT IS THE DEPARTMENT'S ESTIMATE OF THE TOTAL COST OF BRIDGE DECK AND PAVEMENT PATCHING WORK REQUIRED TO BE PERFORMED WITHIN THE WORK LIMITS AS DIRECTED BY THE ENGINEER. C&MS TABLE 104.02-2 DOES NOT APPLY TO REDUCTIONS IN THIS CONTRACT ITEM. FORCE ACCOUNT RECORDS SHALL BE KEPT TO TRACK AND ULTIMATELY DETERMINE THE AMOUNT OF THE PAY ITEM USED. THE WORK ITEM SHALL INCLUDE ALL WORK, AS DIRECTED BY THE ENGINEER, NEEDED TO RE-ESTABLISH A REASONABLY SAFE AND PASSABLE CONDITION OF THE DECK AND/OR PAVEMENT FOR THE DURATION OF THE REQUIRED UPCOMING MOT PHASES. THE CONTRACTOR SHALL MEET WITH THE ENGINEER TO ESTABLISH THE WORK AFTER EXECUTION OF THE CONTRACT. THE CONTRACTOR'S PROPOSED PHASING AND PHASING DURATIONS WILL ASSIST THE ENGINEER IN DETERMINING

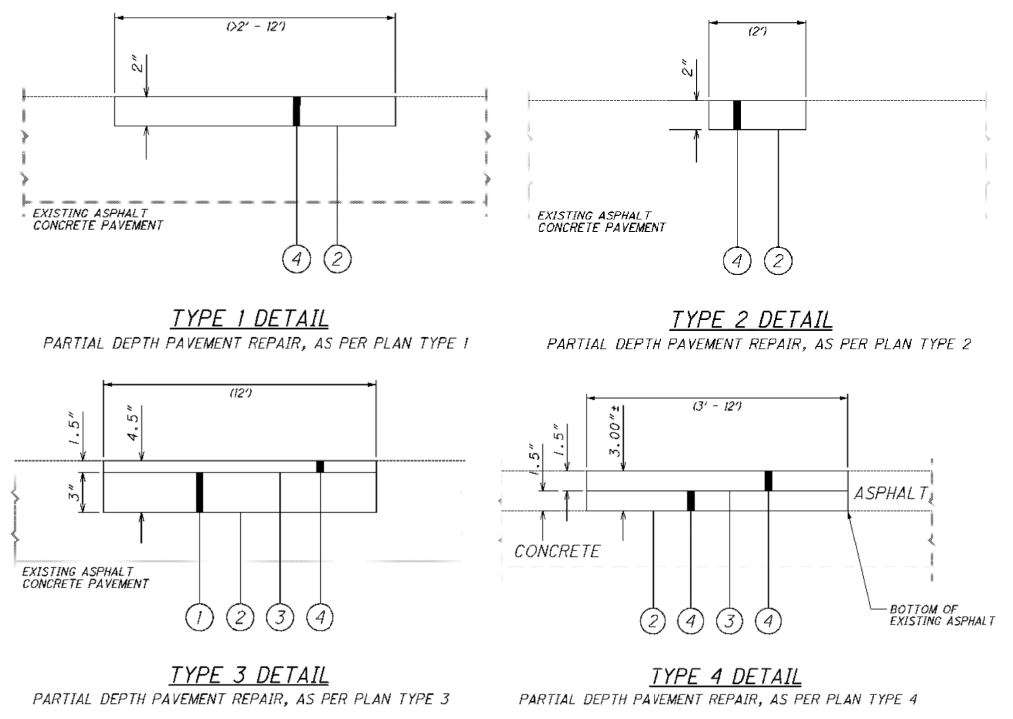
ITEM 614, MAINTAINING TRAFFIC MISC.: BRIDGE DECK AND PAVEMENT PATCHING (CONT.)

THE EXTENT OF THE WORK. THIS WORK IS ONLY INTENDED TO ESTABLISH A SAFE AND DRIVEABLE CONDITION FOR THE DURATION OF THE PROJECT. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE REPOSIBILITIES OF 614.02B.

ITEM 614, MAINTAINING TRAFFIC MISC.: BRIDGE DECK AND PAVEMENT PATCHING = \$18,800.00 EACH

TRAFFIC INCIDENT MANAGEMENT (TIM) DURING MOT
OHIO TIM IS OHIO'S TRAFFIC INCIDENT MANAGEMENT PROGRAM WHICH IS COMMITTED TO MAINTAINING THE SAFE AND EFFECTIVE FLOW OF TRAFFIC DURING EMERGENCIES AS TO PREVENT FURTHER DAMAGE, INJURY OR UNDUE DELAY OF THE MOTORING PUBLIC. IN ADDITION TO COMPLYING WITH THE PROVISION OF OMUTCD CHAPTER 6I, CONTROL OF TRAFFIC THROUGH TRAFFIC INCIDENT MANAGEMENT AREAS, THE CONTRACTOR SHALL ACTIVELY PARTICIPATE IN TIM PLANNING AND IMPLEMENTATION AS OUTLINED BELOW.

1. SUPERINTENDENT SHALL IDENTIFY THE INDIVIDUAL PERSONS ON THE PROJECT WHO WILL, OR MAY NEED TO, PERFORM THE DUTIES HEREIN. AT A MINIMUM, INCLUDE THE SUPERINTENDENT, FOREMEN AND SUPERVISORS (OR EQUIVALENT) AS WELL AS THE WORKSITE TRAFFIC SUPERVISOR (WTS; IF APPLICABLE TO THE PROJECT). THESE INDIVIDUALLY IDENTIFIED PERSONS SHALL COLLECTIVELY BE KNOWN AS CONTRACTOR TRAFFIC INCIDENT MANAGEMENT (TIM) CONTACTS. NOTIFY THE PROJECT ENGINEER OF THE CONTRACTOR TIM CONTACTS (ALONG WITH CONTACT INFORMATION FOR EACH) AT OR BEFORE THE PRECONSTRUCTION MEETING.
2. SUPERINTENDENT SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY CONTRACTOR TIM CONTACT IS ADDED, REMOVED OR THE CONTACT INFORMATION CHANGES OVER THE COURSE OF THE PROJECT.
3. PRIOR THE FIRST DAY OF WORK IN THE FIELD, EACH CONTRACTOR TIM CONTACT ON THE PROJECT SHALL HAVE ATTENDED AND SUCCESSFULLY COMPLETED OHIO TIM TRAINING PROVIDED BY THE DEPARTMENT OR DESIGNEE. TRAINING INFORMATION CAN BE FOUND AT WWW.OHIOTIM.COM.
4. SUPERINTENDENT, AT A MINIMUM, SHALL ATTEND AND ACTIVELY PARTICIPATE IN A DEPARTMENT SCHEDULED TIM MEETING BEFORE CONSTRUCTION WORK BEGINS AND BEFORE EACH PHASE CHANGE. THESE MEETINGS WILL RESULT IN A DEPARTMENT ISSUED PROJECT SPECIFIC TRAFFIC INCIDENT MANAGEMENT PLAN (TIMP). AT THE TIM MEETINGS THE ATTENDING CONTRACTOR TIM CONTACTS SHALL:
 - A. COLLABORATE WITH ODOT AND SAFETY FORCES;
 - B. SHARE PROJECT SPECIFIC DETAILS THAT IMPACT TIM RESPONDERS; AND
 - C. RECOMMEND WAYS TO INCORPORATE NECESSARY EMERGENCY ACCESS AND OTHER TIM ELEMENTS FOR TIM RESPONDERS GIVEN PROJECT SPECIFIC WORK BEING COMPLETED AND PROJECT SPECIFIC PHASING.
5. CONTRACTOR TIM CONTACTS SHALL IMPLEMENT COMPONENTS OF THE RESULTING TIMP (SUCH AS APPROVED EMERGENCY INGRESS/EGRESS POINTS, ETC), AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH 109.05.
6. CONTRACTOR TIM CONTACTS SHALL PERFORM, AT A MINIMUM, THE FOLLOWING FUNCTIONS WHEN AN INCIDENT/ CRASH OCCURS:
 - A. IF OBSERVED OR PRESENT WHEN OCCURS, CALL 911 AND THEN NOTIFY THE TRAFFIC MANAGEMENT CENTER (TMC) TO PROVIDE THE FOLLOWING:
 - I. LOCATION, INCLUDING MILEPOST NUMBER AND DIRECTION OF TRAVEL



- LEGEND:**
- ① ITEM 301 - ASPHALT CONCRETE BASE, PG64-22
 - ② ITEM 407 - TACK COAT #0.075 PER SY. YD.
 - ③ ITEM 407- TACK COAT FOR INTERMEDIATE @ 0.05 PER SY. YD.
 - ④ ITEM 441 -TYPE 1 (AS DESCRIBED IN C&MS 615.05)

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TRAFFIC INCIDENT MANAGEMENT (TIM) DURING MOT (CONT.)

II. NUMBER AND TYPE OF VEHICLES INVOLVED, IF KNOWN

III. ESTIMATED EXTENT OF DAMAGE OR INJURY, IF KNOWN

IV. ESTIMATED NUMBER OF PATIENTS INVOLVED, IF KNOWN

V. ANY POTENTIAL HAZARDOUS CONDITIONS, IF KNOWN

VI. THE PLACARD NUMBER ON ANY HAZARDOUS MATERIALS PLACARD FROM A SAFE DISTANCE, IF APPLICABLE AND VISIBLE

B. FOLLOWING AN INCIDENT/CRASH:

I. INITIATE TRAFFIC MANAGEMENT/PROVIDE TEMPORARY TRAFFIC CONTROL AS INDICATED IN THE TIMP, AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH 109.05.

II. RECOMMEND ROADWAY REPAIR NEEDS.

III. PROVIDE REPAIR RESOURCES AND INITIATE REPAIRS, AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH 109.05.

IV. ATTEND AND PARTICIPATE IN AN AFTER ACTION REVIEW (AAR).

ALL COSTS, UNLESS OTHERWISE SPECIFIED, RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614, MAINTAINING TRAFFIC. FAILURE TO PERFORM THE REQUIREMENTS OF THIS PLAN NOTE WILL RESULT IN A DAILY FINE OF 2% OF ITEM 614, MAINTAINING TRAFFIC AND MAY RESULT IN ONE OR MORE CONTRACTOR TIM CONTACTS BEING REMOVED FROM THE LIST OF OHIO TIM TRAINED INDIVIDUALS (AT THE SOLE DISCRETION OF THE OHIO TIM EXECUTIVE COMMITTEE). IN THE EVENT AN INDIVIDUAL IS REMOVED FROM THE OHIO TIM TRAINED LIST, THE INDIVIDUAL WILL BE REMOVED FROM CONTRACTOR TIM CONTACT RESPONSIBILITIES ON ALL PROJECTS.

ITEM 615, ROADS FOR MAINTAINING TRAFFIC

A LUMP SUM QUANTITY HAS BEEN PROVIDED PER SECTION 615 OF ODOT'S CONSTRUCTION AND MATERIALS SPECIFICATIONS (CMS).

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY. PAYMENT FOR ALL COSTS ASSOCIATED WITH TEMPORARY EARTHWORK SHALL BE INCLUDED IN THE CONTRACTOR PRICE PER LUMP SUM FOR ITEM 615, ROADS FOR MAINTAINING TRAFFIC.

ASPHALT OPTION

EXCAVATION FOR MAINTAINING TRAFFIC 8330 CU. YD.
EMBANKMENT FOR MAINTAINING TRAFFIC 680 CU. YD.

CONCRETE OPTION

EXCAVATION FOR MAINTAINING TRAFFIC 8750 CU. YD.
EMBANKMENT FOR MAINTAINING TRAFFIC 645 CU. YD.

WHEN UNDERCUTS ARE NECESSARY FOR MAINLINE PAVEMENT OR EMBANKMENT CONSTRUCTION, EVALUATE THE NEED FOR TEMPORARY ROAD UNDERCUTS IF WITHIN A CLOSE PROXIMITY TO THE MAINLINE UNDERCUTS. A GEOTECHNICAL EVALUATION SHOULD BE CONSIDERED TO DETERMINE IF THE EXISTING SOIL CONDITIONS ARE ADEQUATE TO SUPPORT THE TEMPORARY ROAD. ADDITIONAL SOIL BORINGS ALONG THE TEMPORARY ROAD ARE NOT NORMALLY REQUIRED.

THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED IF DETERMINED BY THE GEOTECHNICAL EVALUATION THAT THE SOIL CONDITIONS ARE NOT

ITEM 615, ROADS FOR MAINTAINING TRAFFIC (CONT.)

ADEQUATE TO SUPPORT THE TEMPORARY ROAD AND SHALL BE USED AS DIRECTED BY THE ENGINEER:

ITEM 204, SUBGRADE COMPACTION	3830 SQ. YD.
ITEM 204, PROOF ROLLING	9 HOUR
ITEM 204, EXCAVATION OF SUBGRADE	950 CU. YD.
ITEM 204, GRANULAR MATERIAL TYPE B	950 CU. YD.

SEQUENCE OF CONSTRUCTION

PRE-PHASE 1A:

THE EXISTING OUTSIDE NORTHBOUND AND SOUTHBOUND SHOULDERS SHALL BE PLANED TO A DEPTH OF 9 INCHES AND RECONSTRUCTED PER ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN A. THE EXISTING PAVEMENT JOINTS UNDER THE NORTHBOUND AND SOUTHBOUND LANES SHALL BE REPAIRED PER ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 2 AS THEY ARE NEAR THE WHEEL PATH OF PHASE 1 TRAFFIC. PRE-PHASE 1A WORK SHALL BE COMPLETED BY UTILIZING OFF PEAK DAYTIME AND NIGHTTIME LANE CLOSURES PER ODOT SCD MT-95.30 AND MT-101.90 AND ONLY DURING THE ALLOWABLE HOURS AS SHOWN IN THE MAINTENANCE OF TRAFFIC (MOT) GENERAL NOTES.

PRE-PHASE 1B:

AT THE COMPLETION OF ALL PRE-PHASE 1A WORK, PLACE ALL SIGNS, PAVEMENT MARKINGS AND PORTABLE BARRIER AS SHOWN ON THE PRE-PHASE 1B PLANS. SHIFT TRAFFIC TO THE EXISTING OUTSIDE LANES AND THE NEWLY RECONSTRUCTED OUTSIDE SHOULDER. RECONSTRUCT THE MEDIAN SHOULDER PER ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B AS SHOWN ON THE PRE-PHASE 1B PLANS.

PHASE 1:

AT THE COMPLETION OF ALL PRE-PHASE 1B WORK, PLACE ALL SIGNS, PAVEMENT MARKINGS AND PORTABLE BARRIER AS SHOWN ON THE PHASE 1 MOT PLANS. SHIFT TRAFFIC TO THE EXISTING OUTSIDE LANES, THE OUTSIDE PORTION OF THE FRA-71-0153 BRIDGES AND THE NEWLY RECONSTRUCTED OUTSIDE SHOULDER. CONSTRUCT THE INSIDE PORTION OF THE NORTHBOUND AND SOUTHBOUND ROADWAY ALONG WITH THE INSIDE PORTION OF THE FRA-71-0153 BRIDGES AS SHOWN ON THE PHASE 1 MOT PLANS. CONSTRUCT THE WORK ZONE PAVEMENT PER ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B ALONG THE INSIDE NORTHBOUND AND SOUTHBOUND LANES FOR USE DURING PHASE 2 CONSTRUCTION. DO NOT PLACE THE 1/2 INCH ITEM 806 ASPHALT CONCRETE SURFACE COURSE AT THIS TIME.

WINTERIZATION:

AT THE COMPLETION OF ALL PHASE 1 WORK, THE PROJECT SHALL ENTER A WINTERIZATION PHASE. ALL WORK ZONE SIGNS, PAVEMENT MARKINGS AND PORTABLE BARRIER AS SHOWN ON THE PHASE 1 MOT PLANS SHALL REMAIN IN PLACE AND TRAFFIC SHALL REMAIN AS IT WAS DURING PHASE 1 CONSTRUCTION.

PHASE 2:

AT THE COMPLETION OF THE WINTERIZATION PHASE, PLACE ALL SIGNS, PAVEMENT MARKINGS AND PORTABLE BARRIER AS SHOWN ON THE PHASE 2 MOT PLANS. SHIFT TRAFFIC TO THE INSIDE ONTO THE NEWLY CONSTRUCTED ROADWAY, SHOULDERS, THE FRA-71-0153 BRIDGES AND THE WORK ZONE PAVEMENT CONSTRUCTED DURING PRE-PHASE 1B AND PHASE 1. CONSTRUCT THE OUTSIDE PORTION OF THE NORTHBOUND AND SOUTHBOUND ROADWAY ALONG WITH THE OUTSIDE PORTION OF THE FRA-71-0153 BRIDGES AS SHOWN ON THE PHASE 2 MOT PLANS. DO NOT PLACE THE 1/2 INCH ITEM 806 ASPHALT CONCRETE SURFACE COURSE AT THIS TIME.

PHASE 3 (ASPHALT OPTION ONLY):

AT THE COMPLETION OF ALL PHASE 2 WORK, THE CONTRACTOR SHALL REMOVE THE WORK ZONE PAVEMENT WITHIN THE PROJECT LIMITS AND PERFORM THE REQUIRED GRADING. THE CONTRACTOR SHALL PLACE THE 1/2 INCH ITEM 806 ASPHALT CONCRETE SURFACE COURSE ON THE I-71 ROADWAY. THIS WORK SHALL BE COMPLETED BY UTILIZING OFF PEAK DAYTIME AND NIGHTTIME LANE CLOSURES PER ODOT SCD MT-95.30 AND ONLY DURING THE ALLOWABLE HOURS AS SHOWN IN THE MOT GENERAL NOTES.

SEQUENCE OF CONSTRUCTION (CONT.)

PHASE 3 (CONCRETE OPTION ONLY):

AT THE COMPLETION OF ALL PHASE 2 WORK, THE CONTRACTOR SHALL REMOVE THE WORK ZONE PAVEMENT WITHIN THE PROJECT LIMITS AND PERFORM THE REQUIRED GRADING. THIS WORK SHALL BE COMPLETED BY UTILIZING OFF PEAK DAYTIME AND NIGHTTIME LANE CLOSURES PER ODOT SCD MT-95.30 AND ONLY DURING THE ALLOWABLE HOURS AS SHOWN IN THE MOT GENERAL NOTES. THE CONTRACTOR SHALL PLACE ALL SIGNS, PAVEMENT MARKINGS, PORTABLE BARRIER AND DRUMS AS SHOWN ON THE PHASE 3 MOT PLANS. CONSTRUCT THE REQUIRED GUARDRAIL IN THE MEDIAN AS SHOWN ON THE CONSTRUCTION DRAWINGS.

PHASE 4:

AT THE COMPLETION OF ALL PHASE 3 WORK, THE CONTRACTOR SHALL PLACE ALL FINAL PAVEMENT MARKINGS AND SIGNS AS SHOWN ON THE CONSTRUCTION DRAWINGS. COMPLETE ANY FINAL GRADING AND SEEDING AND MULCHING REQUIRED.

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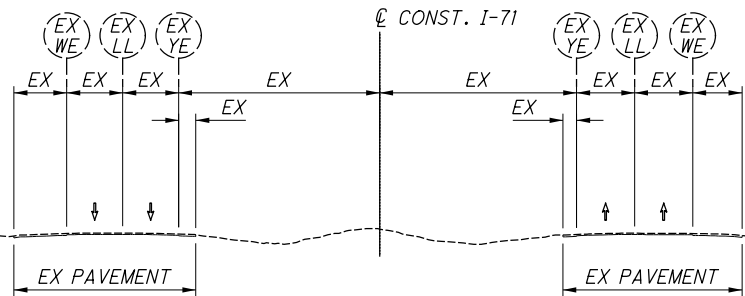
MAINTENANCE OF TRAFFIC GENERAL NOTES

FRA - 71 - 1.53

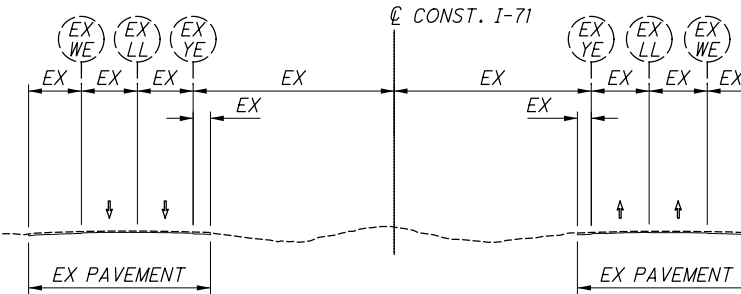
CONCRETE CONSTRUCTION

ASPHALT CONSTRUCTION

EXISTING CONDITION



EXISTING CONDITION

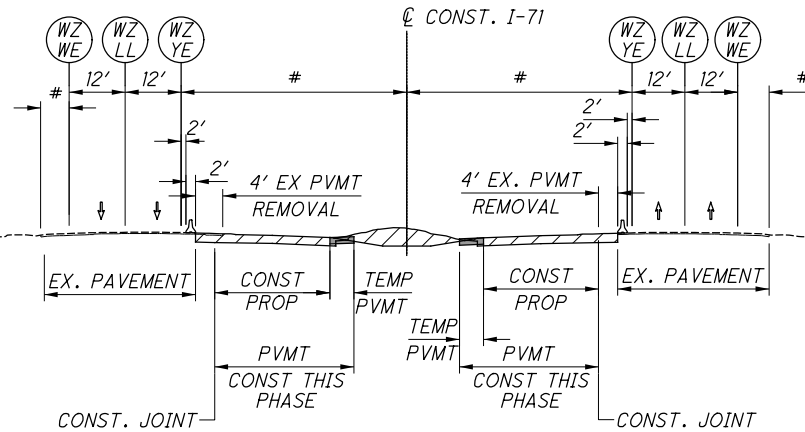


NOTES: FOR BRIDGE TYPICAL SECTIONS, SEE THE MAINTENANCE OF TRAFFIC PLAN DETAIL SHEETS.

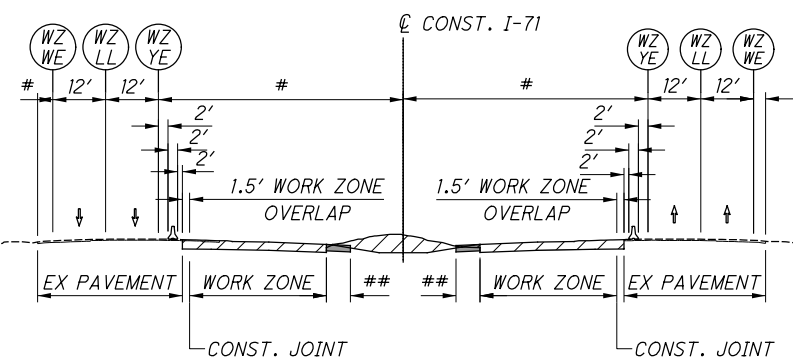
UNDERDRAINS SHALL BE CONSTRUCTED UNDER THE OUTSIDE EDGES OF THE WORK ZONE PAVEMENT. SEE DRAINAGE PLANS FOR EXACT LOCATION AND QUANTITIES.

THE CONTRACTOR SHALL PLACE ITEM 411, STABILIZED CRUSHED AGGREGATE BEYOND THE PAVED SHOULDERS AT THE LOCATIONS SPECIFIED ON THE PHASE MAINTENANCE OF TRAFFIC TYPICAL SECTIONS.

PHASE 1



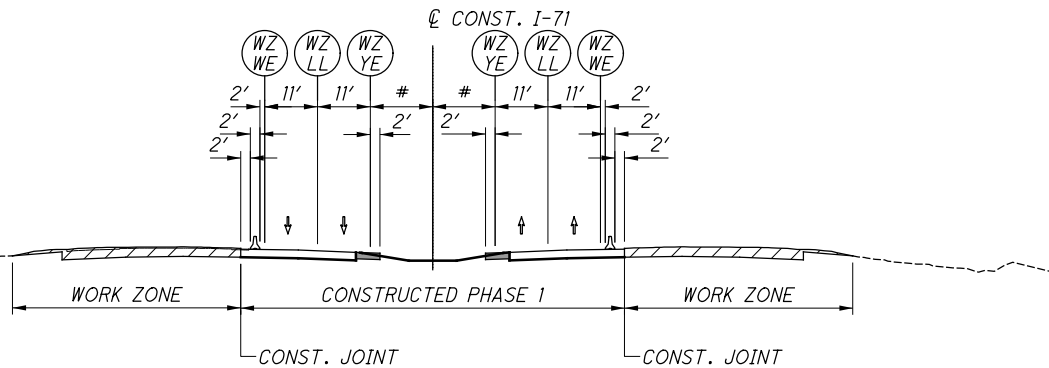
PHASE 1



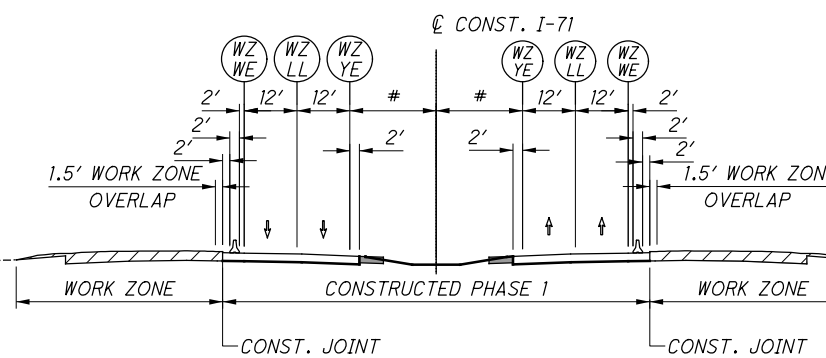
- VARIES (SEE TYPICAL SECTIONS ON PLAN SHEETS)

- TEMP PAVEMENT CONST. THIS PHASE

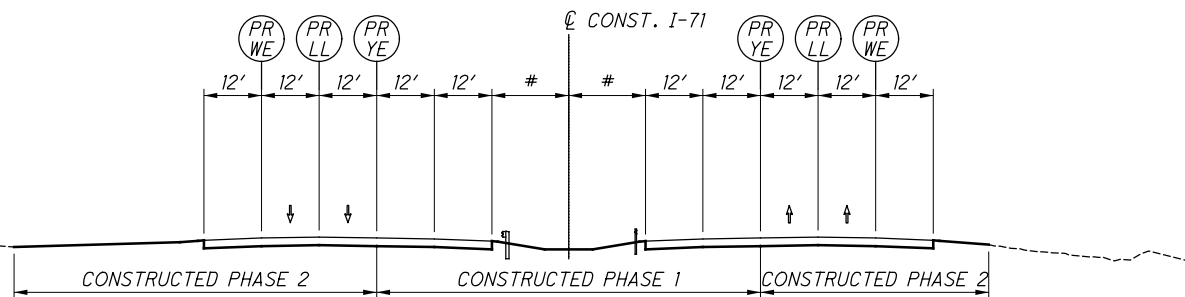
PHASE 2



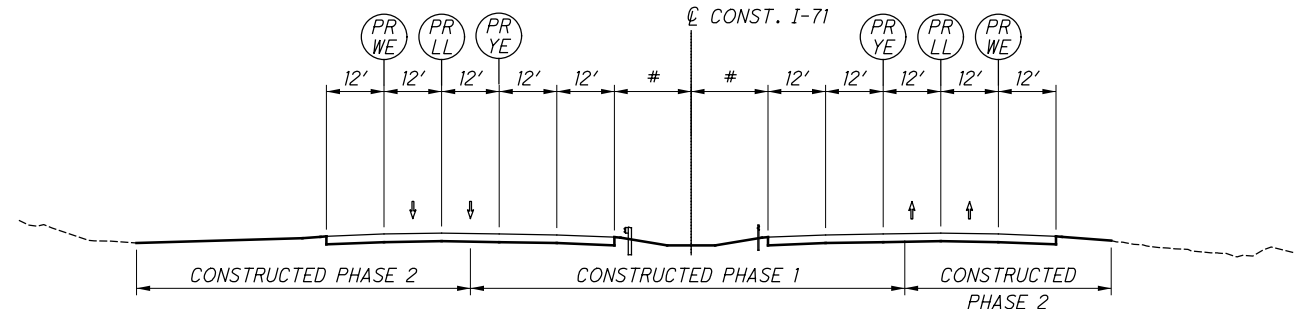
PHASE 2



FINAL CONDITION



FINAL CONDITION



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MAINTENANCE OF TRAFFIC TYPICAL SECTIONS

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REF. NO.	SHEET NO.	STATION		SIDE	254	411	614	614	614	614	614	614	614	614	615	615	622	622		614	614
		FROM	TO		PAVEMENT PLANING, ASPHALT CONCRETE (9" THICK)	STABILIZED CRUSHED AGGREGATE	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	WORK ZONE RAISED PAVEMENT MARKER	BARRIER REFLECTOR, TYPE 1 (ONE-WAY)	BARRIER REFLECTOR, TYPE 2 (ONE-WAY)	OBJECT MARKER, ONE-WAY	WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN A	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B	PORTABLE BARRIER, 32"	PORTABLE BARRIER, 32", BRIDGE MOUNTED		WORK ZONE LANE LINE, CLASS III, 642 PAINT
		SY	CY	EACH	EACH	EACH	EACH	EACH	EACH	EACH	MILE	MILE	FT	SY	SY	FT	FT		MILE	MILE	
PHASE 1 (continued)																					
CH-2	33-35	64+55	74+05	LT				49					950								
LL-2	31-33	54+40	64+55	RT				10			0.19										
PB-1	34-41	69+50	101+50	LT			1		195		65					3200					
PB-2	34-41	69+90	102+00	RT			1		198		66					3210					
		69+30	76+35	RT							16	16									
LL-3	35-40	74+05	97+30	RT				21			0.44										
		76+35	77+16	RT					9		3										
		77+16	81+38	RT						10	10										
		81+38	84+98	RT					27		9										
		84+98	90+92	RT						13	13										
LL-4	35-40	74+05	97+30	LT				21			0.44										
		73+90	77+26	LT						8	8										
		77+26	78+10	LT					9		3										
		78+10	81+45	LT						8	8										
		81+45	85+01	LT					27		9										
		85+01	88+25	LT						8	8										
	38-40	88+91	101+00	RT												2130					
	38-40	88+97	101+00	LT												2643					
		88+91	101+00	RT		45															
		99+95	101+00	LT		4															
CH-3	40-43	97+30	106+85	LT				49					955								
CH-4	40-43	97+30	106+70	RT				48					940								
LL-5	42-44	106+85	117+05	LT				10			0.19										
LL-6	42-44	106+70	119+40	RT				12			0.24										
PHASE 2																					
CH-1	47-50	63+70	76+45	RT				65					1275								
CH-2	47-50	64+45	76+45	LT				61					1200								
EW-1	48-55	66+74	104+00	RT				188				0.71									
EY-1	48-55	66+74	104+00	RT				188				0.71									
EW-2	48-55	67+47	105+07	LT				189				0.71									
EY-2	48-55	67+47	105+07	LT				189				0.71									
PB-1	48-54	70+60	97+80	RT			1		168		56					2340	380				
PB-2	49-50	71+50	76+10	RT			1		33		11					460					
PB-3	49-54	73+50	100+80	LT			1		168		56					2350	380				
PB-4	52-50	88+40	99+60	RT			1	1	72		24					1120					
LL-1	50-53	76+45	94+80	LT				17			0.35										
LL-2	50-53	76+45	94+80	LT				17			0.35										
CH-3	53-56	94+80	107+00	RT				62					1220								
CH-4	47-50	94+80	108+10	LT				68					1330								
		76+10	77+56	RT						4	4										
		77+56	81+35	LT/RT						9	9										
		81+35	85+07	RT					27		9										
		76+85	81+10	LT/RT						10	10										
		81+35	85+07	LT					27		9										
		85+05	88+50	LT						8	8										
TOTALS FROM NEXT SHEET					0	0	0	0	74	0	0	0	1.65	1.65	0	0	0	0	0	1.65	1.65
TOTALS FROM PREVIOUS SHEET					12,759	281	4	0	2,518	360	0	120	0.24	9.47	10,680	12,759	8,188	5,690	0		
TOTALS CARRIED TO GENERAL SUMMARY					12,759	330	10	1	3,856	1,320	94	534	4.09	13.96	18,550	12,759	12,961	18,370	760		

MAINTENANCE OF TRAFFIC SUBSUMMARY (ASPHALT)

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REF. NO.	SHEET NO.	STATION		SIDE	254	411	614	614	614	614	614	614	614	614	615	615	622	622	614	614		
		FROM	TO		PAVEMENT PLANING, ASPHALT CONCRETE (9" THICK)	STABILIZED CRUSHED AGGREGATE	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	WORK ZONE RAISED PAVEMENT MARKER	BARRIER REFLECTOR, TYPE 1 (ONE-WAY)	BARRIER REFLECTOR, TYPE 2 (ONE-WAY)	OBJECT MARKER, ONE-WAY	WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN A	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B	PORTABLE BARRIER, 32"	PORTABLE BARRIER, 32", BRIDGE MOUNTED	WORK ZONE LANE LINE, CLASS III, 642 PAINT	WORK ZONE EDGE LINE, CLASS III, 642 PAINT	
					SY	CY	EACH	EACH	EACH	EACH	EACH	EACH	EACH	MILE	MILE	FT	SY	SY	FT	FT	MILE	MILE
		PHASE 3																				
		63+70	107+00	RT					37					0.82	0.82							
		64+45	108+10	LT					37					0.83	0.83							
		PHASE 4																				
		63+70	107+00	RT																	0.82	0.82
		64+45	108+10	LT																	0.83	0.83
THIS IS A NEW SHEET																						
TOTALS CARRIED TO PREVIOUS SHEET									74					1.65	1.65						1.65	1.65

FRA-71-1.53	MAINTENANCE OF TRAFFIC SUBSUMMARY (ASPHALT)	CALCULATED ANN CHECKED EGD
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REF. NO.	SHEET NO.	STATION		SIDE	254	411	614	614	614	614	614	614	614	614	615	615	622	622				
		FROM	TO		PAVEMENT PLANING, ASPHALT CONCRETE (9" THICK)	STABILIZED CRUSHED AGGREGATE	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	WORK ZONE RAISED PAVEMENT MARKER	BARRIER REFLECTOR, TYPE 1 (ONE-WAY)	BARRIER REFLECTOR, TYPE 2 (ONE-WAY)	OBJECT MARKER, ONE-WAY	WORK ZONE LANE LINE, CLASS 1, 642 PAINT	WORK ZONE EDGE LINE, CLASS 1, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS 1, 642 PAINT	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN A	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B	PORTABLE BARRIER, 32"	PORTABLE BARRIER, 32", BRIDGE MOUNTED			
					SY	CY	EACH	EACH	EACH	EACH	EACH	MILE	MILE	FT	SY	SY	FT	FT				
PRE-PHASE 1A																						
EW-1	59-62	58+50	81+56	RT																		
EW-2	59-62	56+25	81+57	LT																		
		58+50	81+56	RT	2039																	
		56+25	81+57	LT	2434																	
		56+25	81+57	LT		94																
		58+50	81+56	RT		85																
EW-3	62-65	84+85	115+50	RT																		
EW-4	62-65	84+83	109+10	LT																		
		84+85	115+50	RT	2401																	
		84+83	109+10	LT	2025																	
		84+83	109+10	LT		90																
		84+85	111+50	RT		99																
PRE-PHASE 1B																						
CH-1	65A-65F	53+85	79+05	LT					127													
CH-2	65A-65F	55+30	77+60	RT					113													
EW-1	65B-65F	56+00	76+40	LT					103													
EY-1	65B-65F	56+00	76+03	LT					102													
EW-2	65B-65E	58+30	75+00	RT					85													
EY-2	65B-65E	58+05	75+00	RT					86													
PB-1	65B-65E	58+50	73+90	LT			1		96		32										1540	
PB-2	65B-65E	60+40	73+10	RT			1		81		27										1270	
		65B-65E	60+10	LT																		
		65C-65E	62+20	RT																	1895	
			60+10	LT		46															1761	
			62+20	RT		38																
CH-3	65H-65M	89+85	114+65	RT					125												2480	
CH-4	65H-65M	90+55	113+00	LT					114												2245	
EW-3	65I-65M	91+95	111+80	RT					101												0.38	
EY-3	65I-65M	91+95	111+80	RT					101												0.38	
EW-4	65I-65L	94+23	109+14	LT					76												0.28	
EY-4	65I-65L	93+40	109+97	LT					84												0.31	
PB-3	65J-65L	95+00	109+80	RT			1		93		31										1480	
PB-4	65I-65L	95+20	108+00	LT			1		81		27										1280	
		65H-65K	97+00	LT																	1865	
		65H-65M	97+00	RT																	2072	
			97+00	LT		33																
			97+00	RT		42																
PHASE 1																						
EW-1	66-77	55+98	109+14	LT					267												1.01	
EY-1	66-77	55+98	109+97	LT					271												1.02	
LL-1	66-69	53+85	67+65	LT					13												0.26	
CH-1	69-71	67+65	76+40	LT					45												875	
EW-2	67-78	58+30	111+80	RT					269												1.01	
EY-2	67-78	58+05	111+80	RT					270												1.02	
		70-71	80+84	RT																	1139	
		70-72	81+35	LT																	1163	
			81+35	LT		33																
			81+35	RT		33																
TOTALS CARRIED TO SHEET 22A					8,899	593	4	0	2,352	351	0	117	0.26	8.78	10,350	8,899	9,895	5,570	0			

MAINTENANCE OF TRAFFIC SUBSUMMARY (CONCRETE)

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REF. NO.	SHEET NO.	STATION		SIDE	254	411	614	614	614	614	614	614	614	614	615	615	622	622				
		FROM	TO		PAVEMENT PLANING, ASPHALT CONCRETE (9" THICK)	STABILIZED CRUSHED AGGREGATE	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	WORK ZONE RAISED PAVEMENT MARKER	BARRIER REFLECTOR, TYPE 1 (ONE-WAY)	BARRIER REFLECTOR, TYPE 2 (ONE-WAY)	OBJECT MARKER, ONE-WAY	WORK ZONE LANE LINE, CLASS 1, 642 PAINT	WORK ZONE EDGE LINE, CLASS 1, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS 1, 642 PAINT	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN A	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B	PORTABLE BARRIER, 32"	PORTABLE BARRIER, 32", BRIDGE MOUNTED			
					SY	CY	EACH	EACH	EACH	EACH	EACH	EACH	MILE	MILE	FT	SY	SY	FT	FT			
PHASE 1 (continued)																						
CH-2	69-71	67+25	76+40	LT					47						915							
LL-2	66-69	55+30	67+25	RT					11				0.23									
PB-1	69-75	70+20	97+80	LT			1			171		57						2760				
PB-2	69-75	70+60	97+80	RT			1			168		56						2720				
		68+30	76+35	RT								18	18									
LL-3	71-74	76+40	94+80	LT					17				0.35									
		73+90	77+26	LT							8	8										
		77+26	78+10	LT						9		3										
		78+10	81+45	LT							8	8										
		81+45	85+01	LT						27		9										
		85+01	88+25	LT							8	8										
LL-4	71-74	76+40	94+80	RT					17				0.35									
		76+35	77+16	RT						9		3										
		77+16	81+38	RT							10	10										
		81+38	84+98	RT						27		9										
		84+98	90+92	RT							13	13										
		72-75	85+07	RT																		
		72-75	85+69	LT																		
			85+07	RT		13																
			85+69	LT		11																
			88+91	RT		30																
			88+97	LT		30																
CH-3	74-76	94+80	103+80	RT					46					900								
CH-4	74-76	94+80	103+60	LT					45					880								
LL-5	76-78	103+60	113+00	LT					9				0.18									
LL-6	76-78	103+80	114+65	RT					11				0.21									
PHASE 2																						
CH-1	82-85	63+95	76+50	RT					63					1255								
CH-2	82-84	64+54	76+50	LT					60					1196								
EY-1	82-90	66+95	103+50	RT					122				0.69									
EW-1	82-90	66+95	103+50	RT					122				0.69									
EY-2	82-90	67+54	104+68	LT					125				0.70									
EW-2	82-90	67+54	104+68	LT					125				0.70									
PB-1	83-89	70+40	97+80	RT			1			165		55						2360	380			
PB-2	84-85	71+90	77+70	RT			1			36		12						580				
PB-3	84-89	73+50	100+90	LT			1			165		55						2360	380			
PB-4	85-86	76+80	81+35	LT						30		10						455				
PB-5	86-89	85+07	99+20	RT						87		29						1413				
LL-1	85-88	76+50	94+80	RT					16				0.35									
LL-2	85-88	76+50	94+80	LT					16				0.35									
CH-3	88-91	94+80	106+50	RT					59					1170								
CH-4	88-91	94+80	107+70	LT					65					1290								
		81+35	85+07	LT																		
		81+35	85+07	RT																		
TOTALS CARRIED TO NEXT SHEET					0	84	5	0	976	894	65	363	2.02	2.78	7,606	0	2537	12,648	760			

MAINTENANCE OF TRAFFIC SUBSUMMARY (CONCRETE)

FRA-71-1.53

CALCULATED
ANN
CHECKED
EGD

X:\4037000\121957.15\93496\WOT\sheets\93496MS005.dgn Sheet 11/20/2018 1:38:49 PM 1636dcb

REF. NO.	SHEET NO.	STATION		SIDE	254	411	614	614	614	614	614	614	614	614	615	615	622	622					
		FROM	TO		PAVEMENT PLANING, ASPHALT CONCRETE (9" THICK)	STABILIZED CRUSHED AGGREGATE	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	WORK ZONE RAISED PAVEMENT MARKER	BARRIER REFLECTOR, TYPE 1 (ONE-WAY)	BARRIER REFLECTOR, TYPE 2 (ONE-WAY)	OBJECT MARKER, ONE-WAY	WORK ZONE LANE LINE, CLASS 1, 642 PAINT	WORK ZONE EDGE LINE, CLASS 1, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS 1, 642 PAINT	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN A	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B	PORTABLE BARRIER, 32"	PORTABLE BARRIER, 32", BRIDGE MOUNTED				
					SY	CY	EACH	EACH	EACH	EACH	EACH	EACH	MILE	MILE	FT	SY	SY	FT	FT				
		PHASE 3																					
EW-1	96-105	63+95	106+50	RT										0.81									
EY-1	96-105	63+95	106+50	RT										0.81									
EW-2	96-105	64+54	107+70	LT										0.82									
EY-2	96-105	64+54	107+70	LT										0.82									
LL-1	96-105	63+95	106+50	RT					36				0.81										
LL-2	96-105	64+54	107+70	LT					36				0.82										
PB-1	98-100	73+70	81+50	RT			1			48								780					
PB-2	99	76+60	79+60	LT			1			21								300					
PB-3	100-101	84+90	90+60	LT			1			36								570					
PB-4	101-102	86+90	89+10	RT			1			15								220					
TOTALS FROM SHEET 21					8,899	593	4	0	2,352	351	0	117	0.26	8.78	10,350	8,899	9,895	5,570	0				
TOTALS FROM PREVIOUS SHEET					0	84	5	0	976	894	65	363	2.02	2.78	7,606	0	2,537	12,648	760				
TOTALS CARRIED TO GENERAL SUMMARY					8,899	677	13	0	3,400	1,365	65	520	3.91	14.82	17,956	8,899	12,432	20,088	760				

MAINTENANCE OF TRAFFIC SUBSUMMARY (CONCRETE)

FRA-71-1.53

CALCULATED
ANN
CHECKED
EGD

NOTES: DRUMS ALONG THE MAINLINE SHALL BE SPACED AT 50' C-C AND SHALL BE OFFSET 3' FROM THE EDGE LINE UNLESS OTHERWISE NOTED.

ALL DIMENSIONS ARE TO THE TOE OF THE PORTABLE BARRIER (PB) AND THE FACE OF DRUMS.

IMPACT ATTENUATORS ARE UNIDIRECTIONAL UNLESS OTHERWISE NOTED.

THE CONTRACTOR SHALL PLACE SIGNS PER SCD MT-105.10.

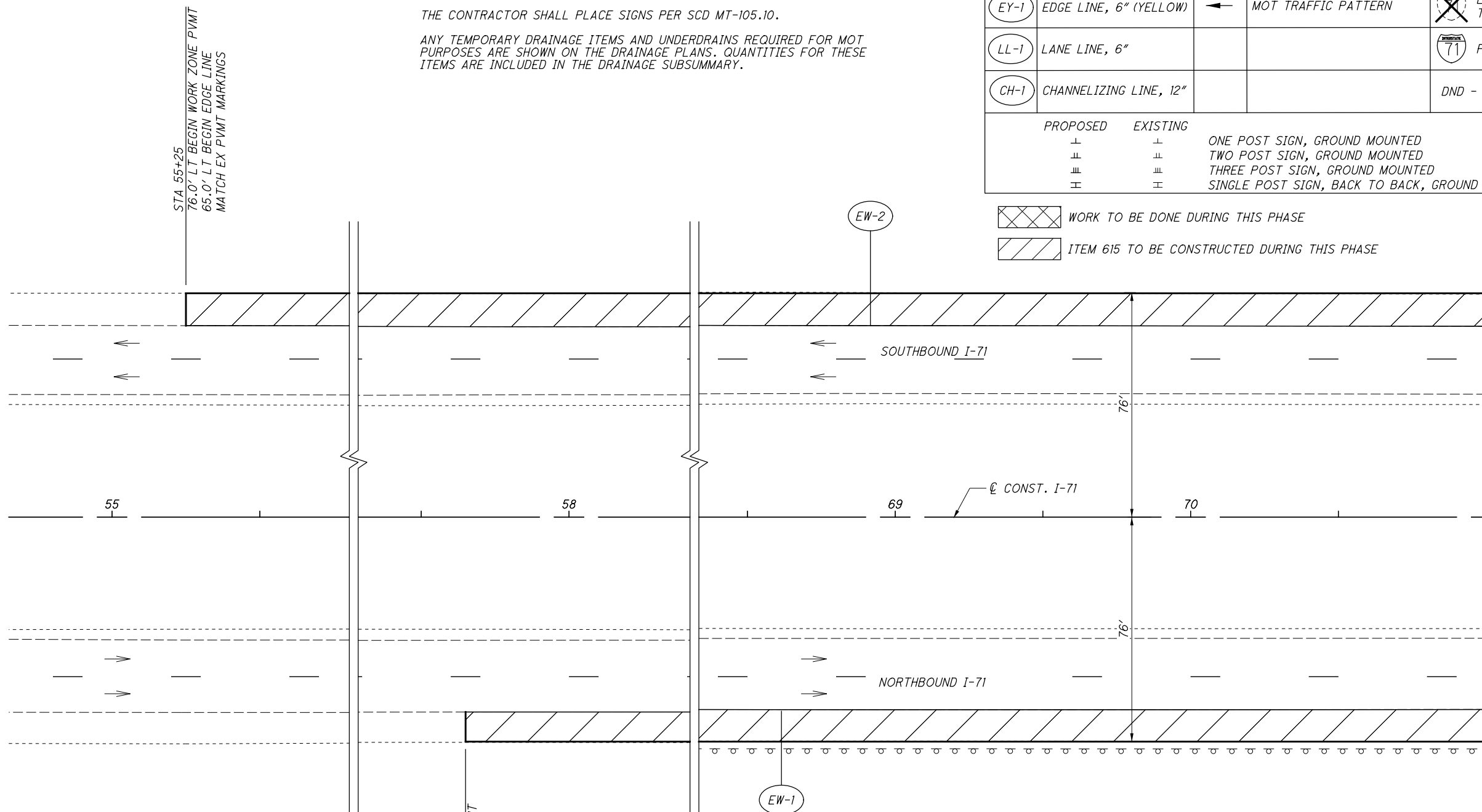
ANY TEMPORARY DRAINAGE ITEMS AND UNDERDRAINS REQUIRED FOR MOT PURPOSES ARE SHOWN ON THE DRAINAGE PLANS. QUANTITIES FOR THESE ITEMS ARE INCLUDED IN THE DRAINAGE SUBSUMMARY.

LEGEND

EW-1	EDGE LINE, 6" (WHITE)	←	EXISTING TRAFFIC PATTERN		EXISTING SIGN
EY-1	EDGE LINE, 6" (YELLOW)	←	MOT TRAFFIC PATTERN		EXISTING SIGN TO BE REMOVED
LL-1	LANE LINE, 6"				PROPOSED SIGN
CH-1	CHANNELIZING LINE, 12"				DND - DO NOT DISTURB

PROPOSED	EXISTING	
±	±	ONE POST SIGN, GROUND MOUNTED
±±	±±	TWO POST SIGN, GROUND MOUNTED
±±±	±±±	THREE POST SIGN, GROUND MOUNTED
±±±±	±±±±	SINGLE POST SIGN, BACK TO BACK, GROUND MOUNTED

- WORK TO BE DONE DURING THIS PHASE
- ITEM 615 TO BE CONSTRUCTED DURING THIS PHASE



NOTES:

***ITEM 411, STABILIZED CRUSHED AGGREGATE**

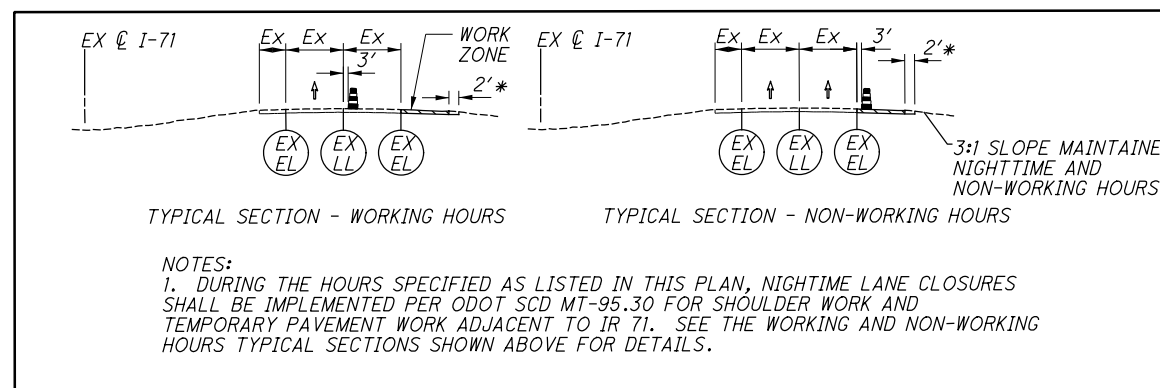
THIS AGGREGATE SHOULDER SHALL BE CONSTRUCTED ALONG THE EDGE OF THE WORK ZONE PAVEMENT AND SHALL BE 2 FEET WIDE BY 6 INCHES DEEP AND PLACED AT THE FOLLOWING LOCATIONS:
 STA 71+05 TO STA 73+89, LT
 STA 88+50 TO STA 100+30, LT
 STA 90+93 TO STA 100+30, RT

ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE

THE CONTRACTOR SHALL PLANE 9 INCHES OF EXISTING OUTSIDE ASPHALT CONCRETE SHOULDER DOWN TO THE EXISTING ITEM 304, AGGREGATE BASE WHICH WILL REMAIN IN PLACE.

ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN A

ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN A, SHALL BE USED TO RECONSTRUCT THE OUTSIDE SHOULDERS SHOWN IN PRE-PHASE 1A. THE CONTRACTOR SHALL CONSTRUCT 7 1/2 INCHES OF ITEM 302, ASPHALT CONCRETE BASE IN ONE LIFT AND 1 1/2 INCHES OF ITEM 441, TYPE 1. THE WORK ZONE PAVEMENT OUTSIDE THE PROJECT LIMITS SHALL BE LEFT IN PLACE AT THE END OF THIS PROJECT.



NOTES:
 1. DURING THE HOURS SPECIFIED AS LISTED IN THIS PLAN, NIGHTTIME LANE CLOSURES SHALL BE IMPLEMENTED PER ODOT SCD MT-95.30 FOR SHOULDER WORK AND TEMPORARY PAVEMENT WORK ADJACENT TO I-71. SEE THE WORKING AND NON-WORKING HOURS TYPICAL SECTIONS SHOWN ABOVE FOR DETAILS.

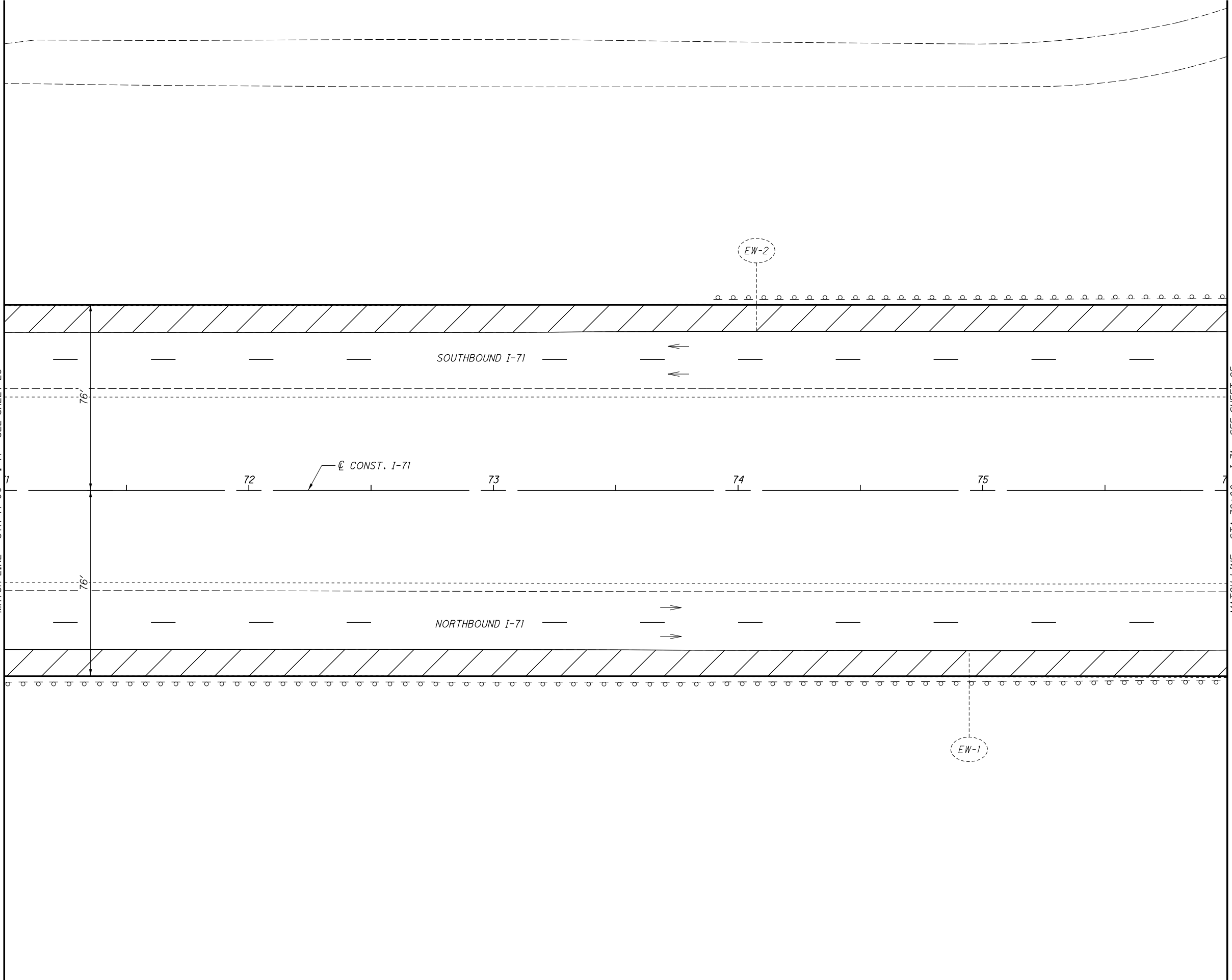


MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(ASPHALT) I-71 STA 54+25 TO STA 71+00

FRA-71-1.53

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MATCH LINE - STA 71+00 - I-71 - SEE SHEET 23



MATCH LINE - STA 76+00 - I-71 - SEE SHEET 25

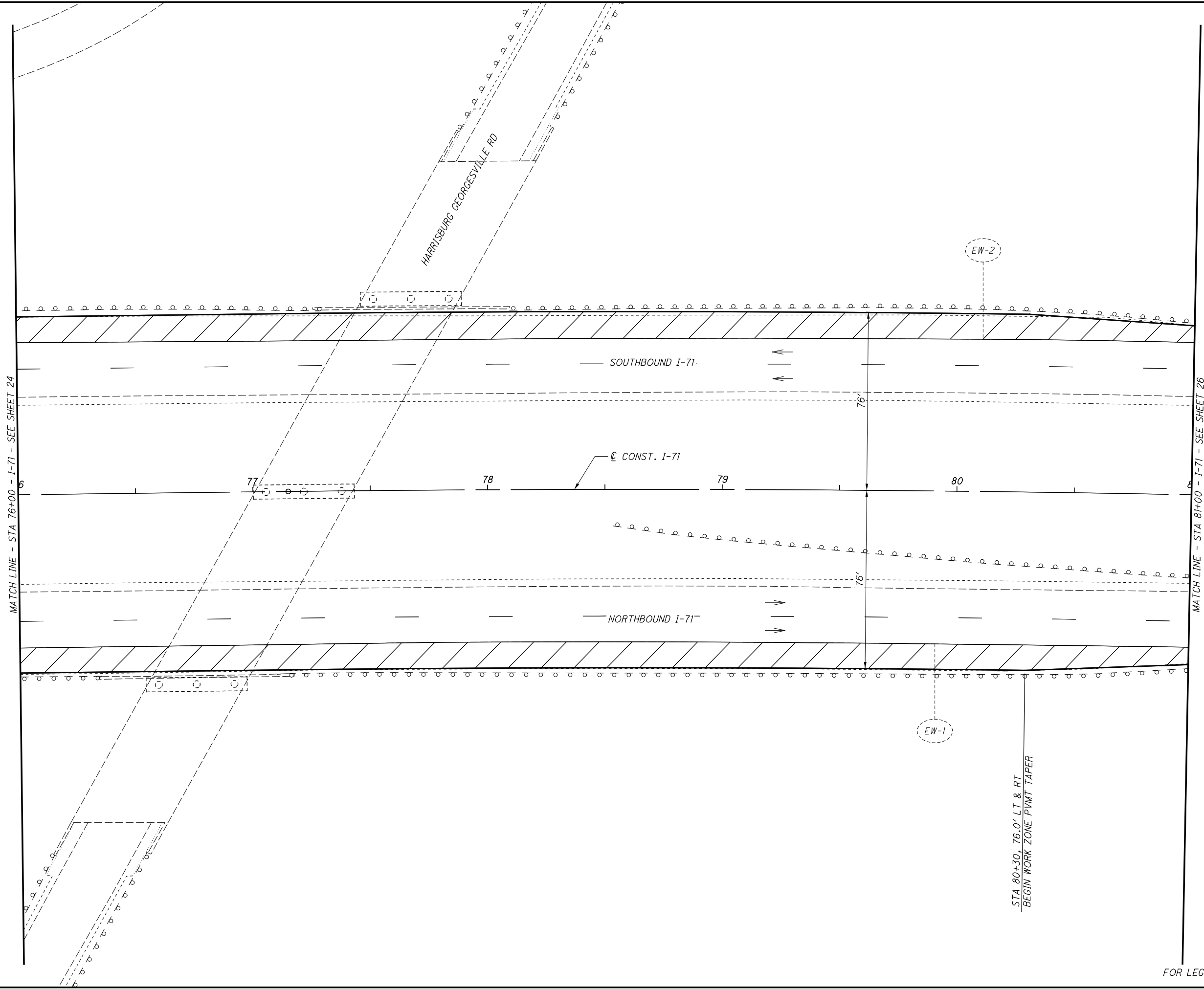
FOR LEGEND, SEE SHEET 23

CALCULATED	EGD	CHECKED	DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(ASPHALT) I-71 STA 71+00 TO STA 76+00**

FRA-71-1.53



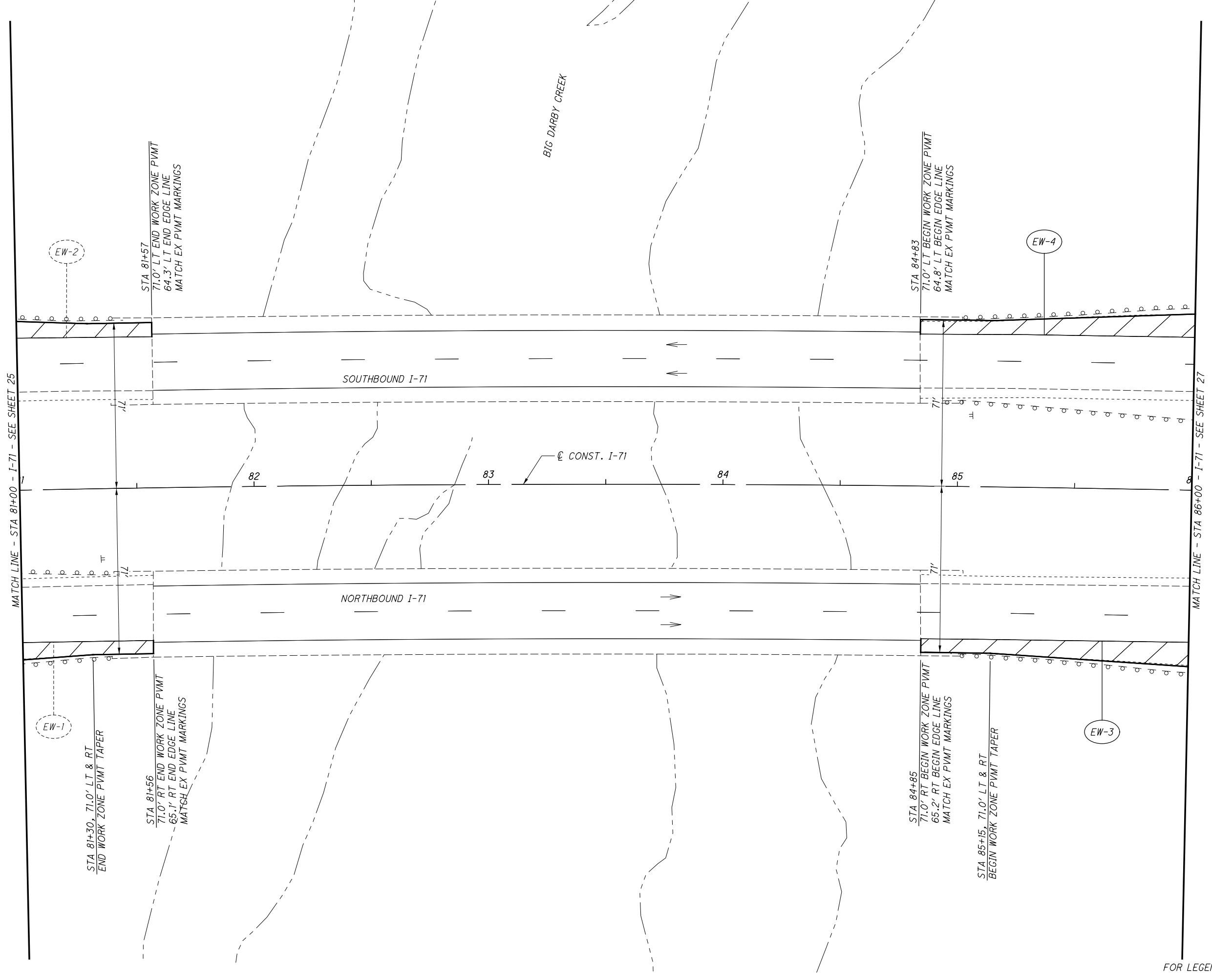
FOR LEGEND, SEE SHEET 23

CALCULATED	EGD	CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(ASPHALT) I-71 STA 76+00 TO STA 81+00**

FRA-71-1.53



FOR LEGEND, SEE SHEET 23

CALCULATED	EGD
CHECKED	DLW

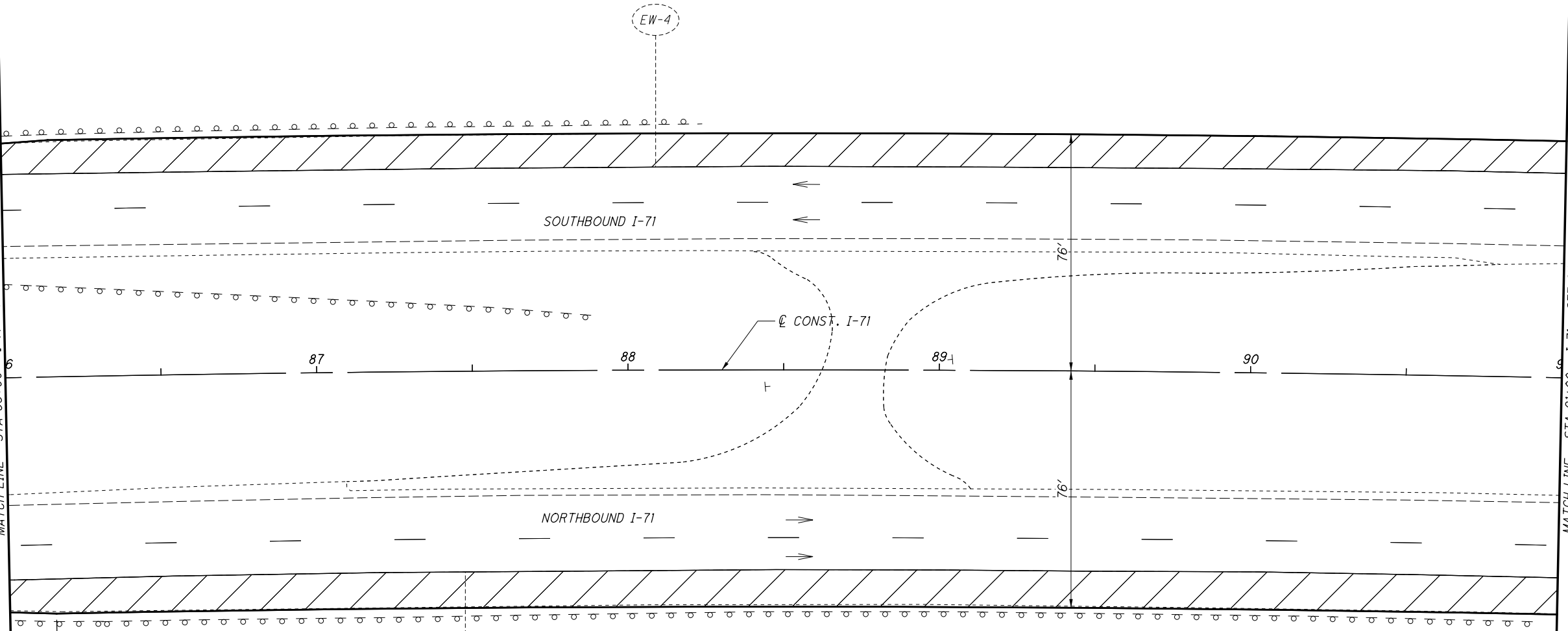
0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(ASPHALT) I-71 STA 81+00 TO STA 86+00**

FRA -71-1.53

MATCH LINE - STA 86+00 - I-71 - SEE SHEET 26

STA 86+15, 76.0' LT & RT
END WORK ZONE PAVT TAPER



MATCH LINE - STA 91+00 - I-71 - SEE SHEET 28

FOR LEGEND, SEE SHEET 23

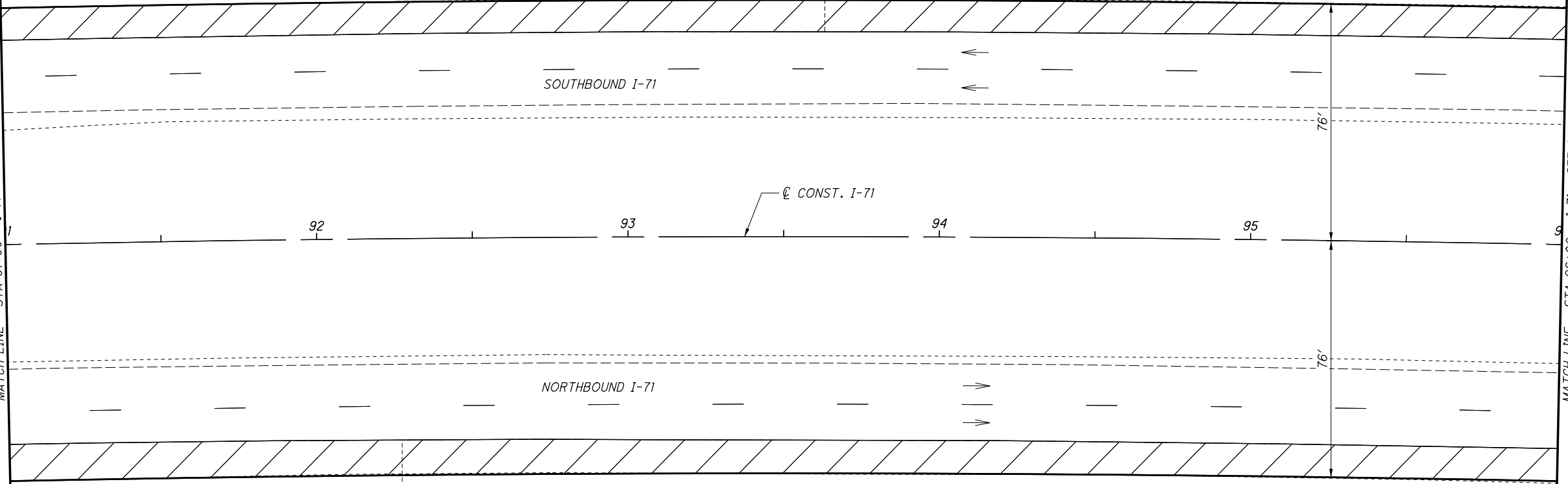
CALCULATED	EGD	CHECKED	DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(ASPHALT) I-71 STA 86+00 TO STA 91+00**

FRA-71-1.53

MATCH LINE - STA 91+00 - I-71 - SEE SHEET 27



MATCH LINE - STA 96+00 - I-71 - SEE SHEET 29

FOR LEGEND, SEE SHEET 23

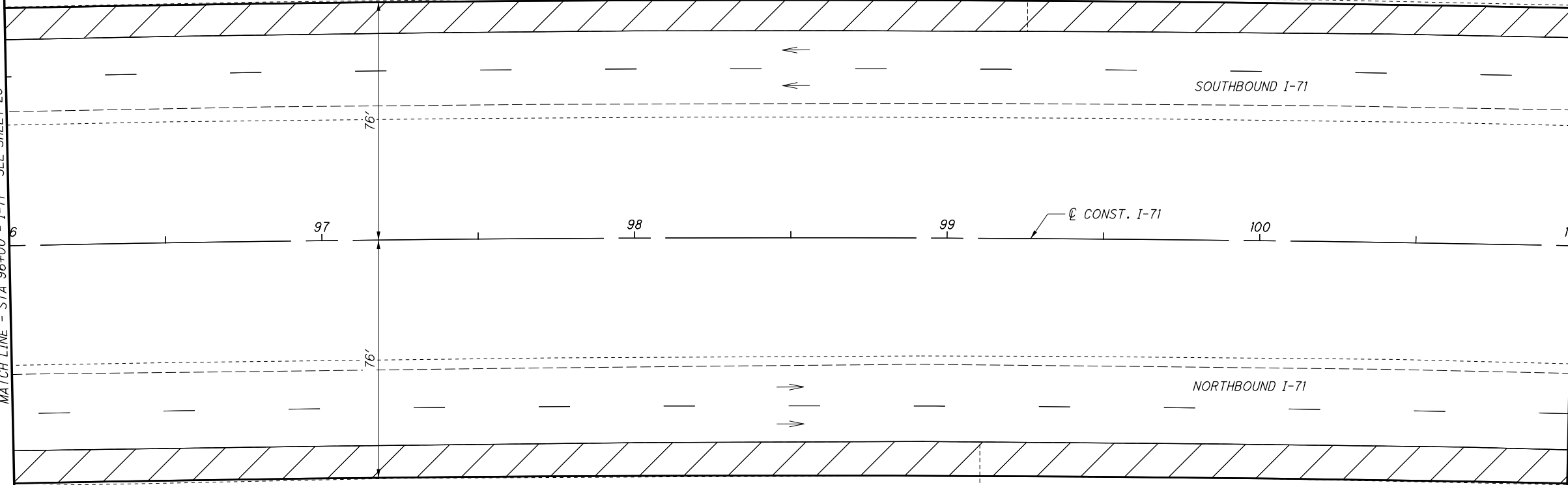
CALCULATED	EGD	CHECKED	DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(ASPHALT) I-71 STA 91+00 TO STA 96+00**

FRA-71-1.53

MATCH LINE - STA 96+00 - I-71 - SEE SHEET 28



MATCH LINE - STA 101+00 - I-71 - SEE SHEET 30

FOR LEGEND, SEE SHEET 23

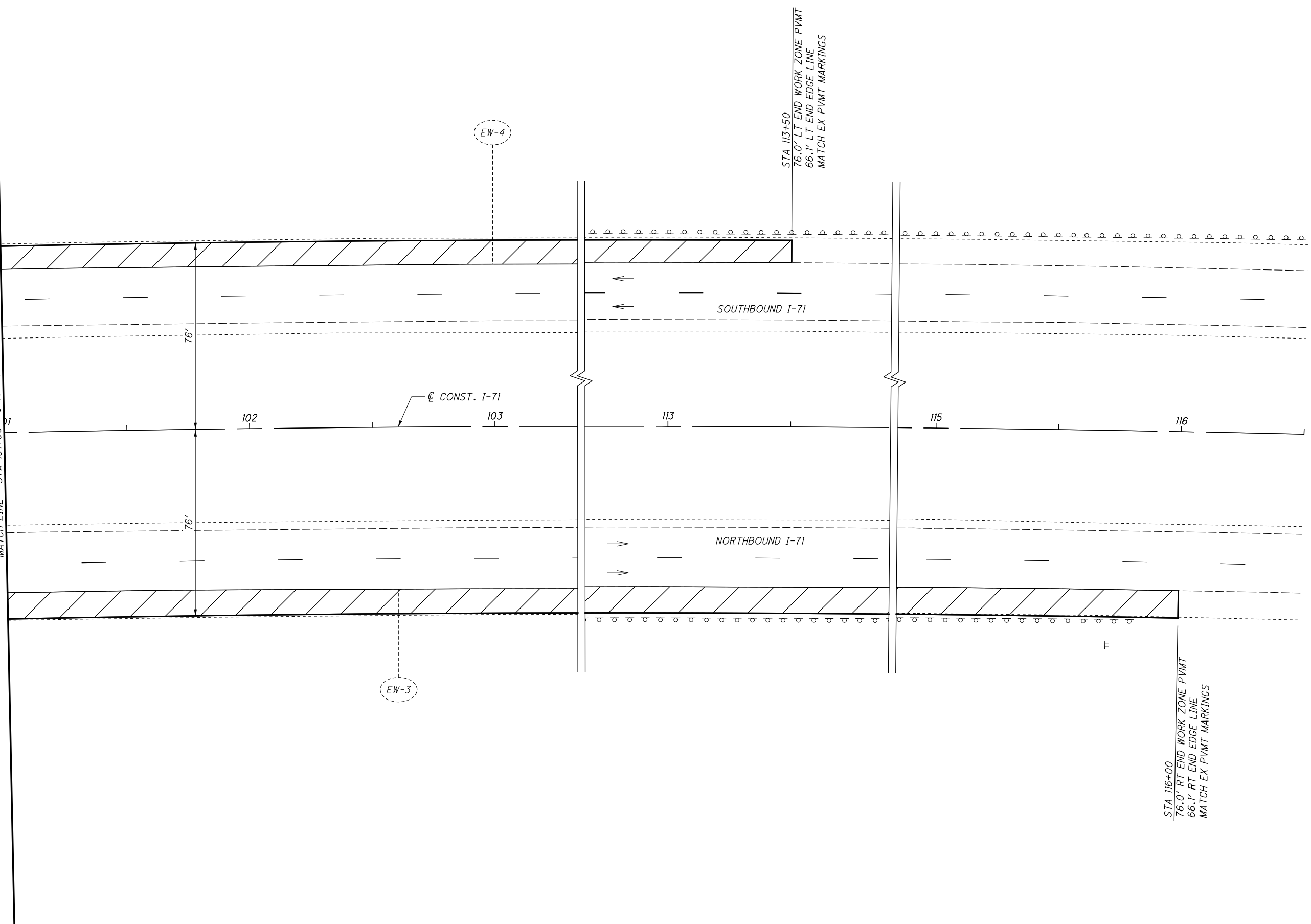


CALCULATED
EGD
CHECKED
DLW

MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(ASPHALT) I-71 STA 96+00 TO STA 101+00

FRA-71-1.53

MATCH LINE - STA 101+00 - I-71 - SEE SHEET 30



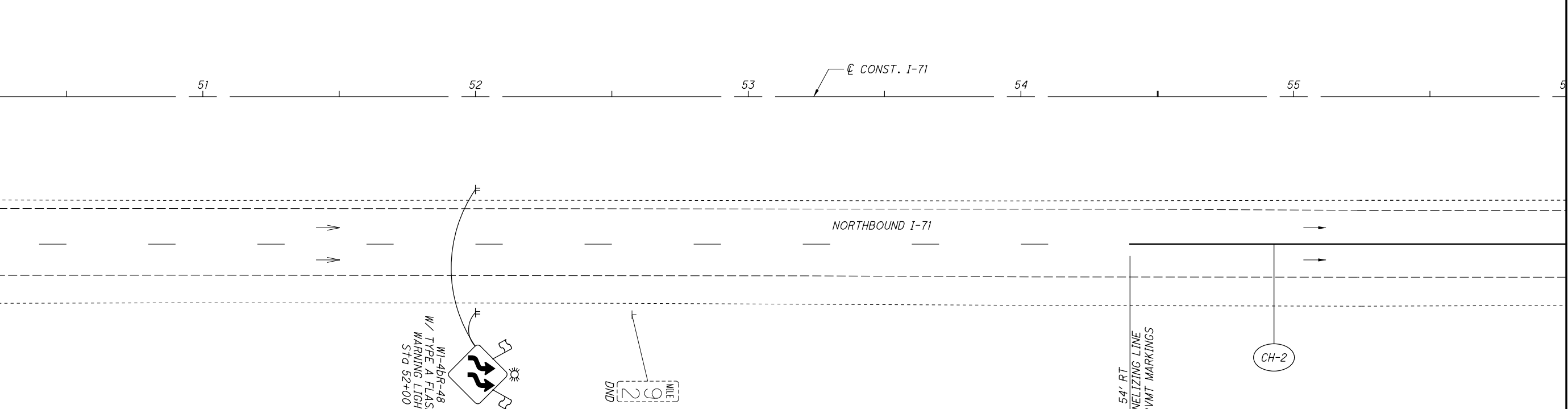
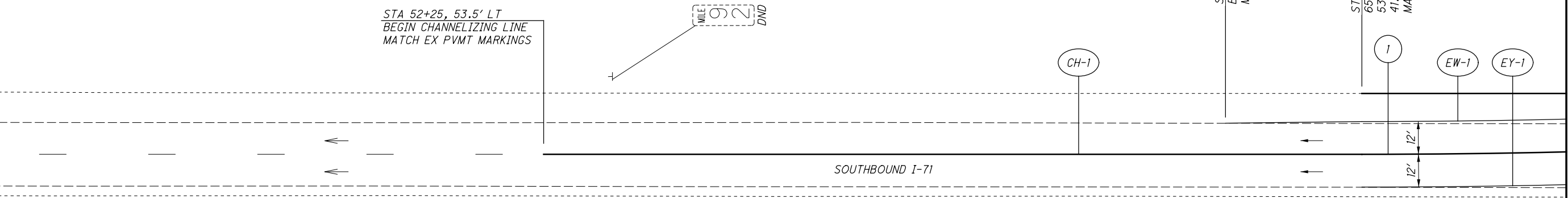
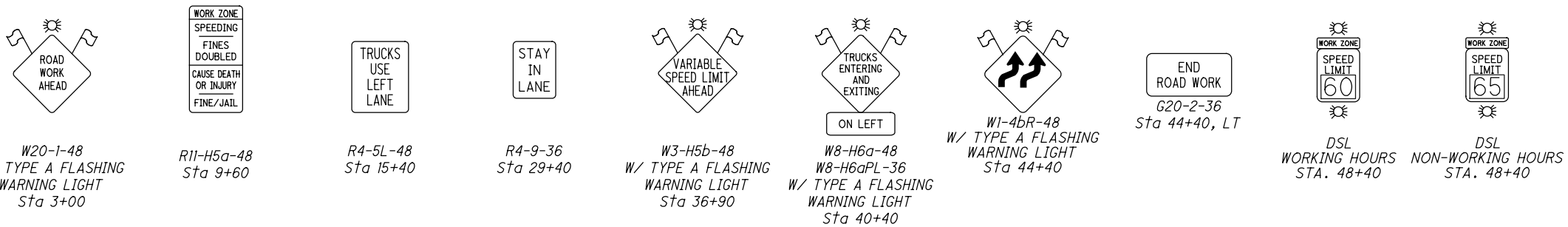
CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(ASPHALT) I-71 STA 101+00 TO STA 116+50**

FRA-71-1.53

THE CONTRACTOR SHALL INSTALL THE FOLLOWING ADVANCE WARNING SIGNS ON BOTH SIDES OF THE NORTHBOUND I-71 ROADWAY AT THE LOCATIONS SHOWN PRIOR TO THE START OF PHASE 1B CONSTRUCTION.



NOTES:

ITEM 411, STABILIZED CRUSHED AGGREGATE
 THIS AGGREGATE SHOULDER SHALL BE CONSTRUCTED ALONG THE EDGE OF THE WORK ZONE PAVEMENT AND SHALL BE 2 FEET WIDE BY 6 INCHES DEEP AND PLACED AT THE FOLLOWING LOCATIONS:
 STA 59+00 TO STA 70+50, LT
 STA 61 90 TO STA 70+50, RT
 STA 101+00 TO STA 109+50, LT
 STA 101+00 TO STA 112+50, RT

ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B
 ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B, SHALL BE USED FOR ALL WORK ZONE PAVEMENT CONSTRUCTED IN THE MEDIAN. THE CONTRACTOR WILL BE REQUIRED TO USE ITEM 304, AGGREGATE BASE, IN THE COURSE MAKE UP. THE CONTRACTOR WILL NOT BE PERMITTED TO USE ITEMS 301, 302 OR 441 IN LIEU OF 6 INCHES OF 304 AGGREGATE BASE. THE WORK ZONE PAVEMENT OUTSIDE THE PROJECT LIMITS SHALL BE LEFT IN PLACE AT THE END OF THIS PROJECT.

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(ASPHALT) I-71 STA 50+75 TO STA 56+00**

FRA-71-1.53

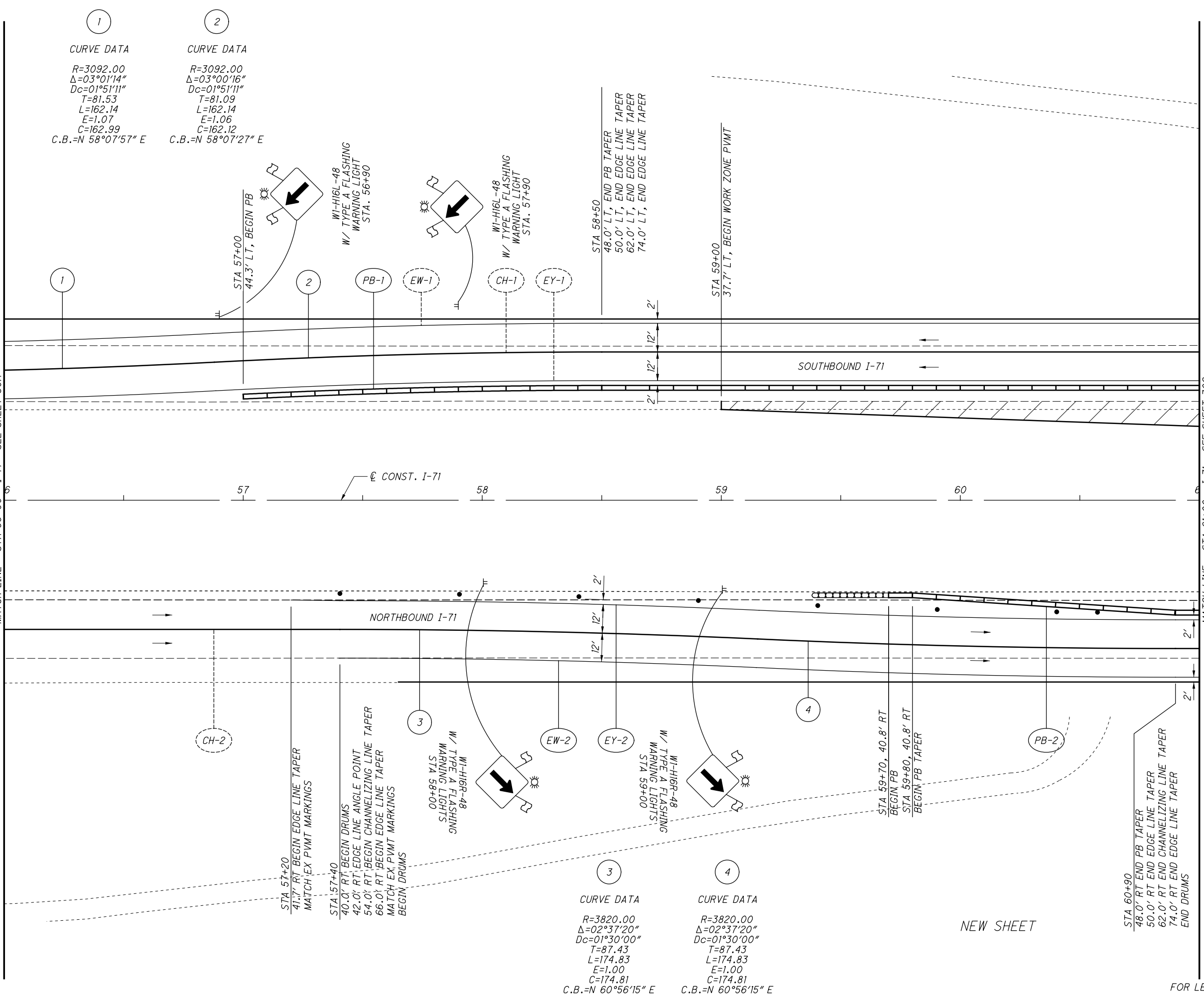
30A
285

FOR LEGEND, SEE SHEET 23

X:\4037000\121957.15\93496\MOT\sheets\93496MP051.dgn Sheet 11/19/2018 3:00:02 PM 1636dcb

X:\4037000\121957.15\93496\MOT\sheets\93496MPO52.dgn Sheet 11/19/2018 3:00:02 PM 1636dcb

MATCH LINE - STA 56+00 - I-71 - SEE SHEET 30A



1	2
CURVE DATA	CURVE DATA
R=3092.00	R=3092.00
Δ=03°01'14"	Δ=03°00'16"
Dc=01°51'11"	Dc=01°51'11"
T=81.53	T=81.09
L=162.14	L=162.14
E=1.07	E=1.06
C=162.99	C=162.12
C.B.=N 58°07'57" E	C.B.=N 58°07'27" E

3	4
CURVE DATA	CURVE DATA
R=3820.00	R=3820.00
Δ=02°37'20"	Δ=02°37'20"
Dc=01°30'00"	Dc=01°30'00"
T=87.43	T=87.43
L=174.83	L=174.83
E=1.00	E=1.00
C=174.81	C=174.81
C.B.=N 60°56'15" E	C.B.=N 60°56'15" E

NEW SHEET

FOR LEGEND, SEE SHEET 23



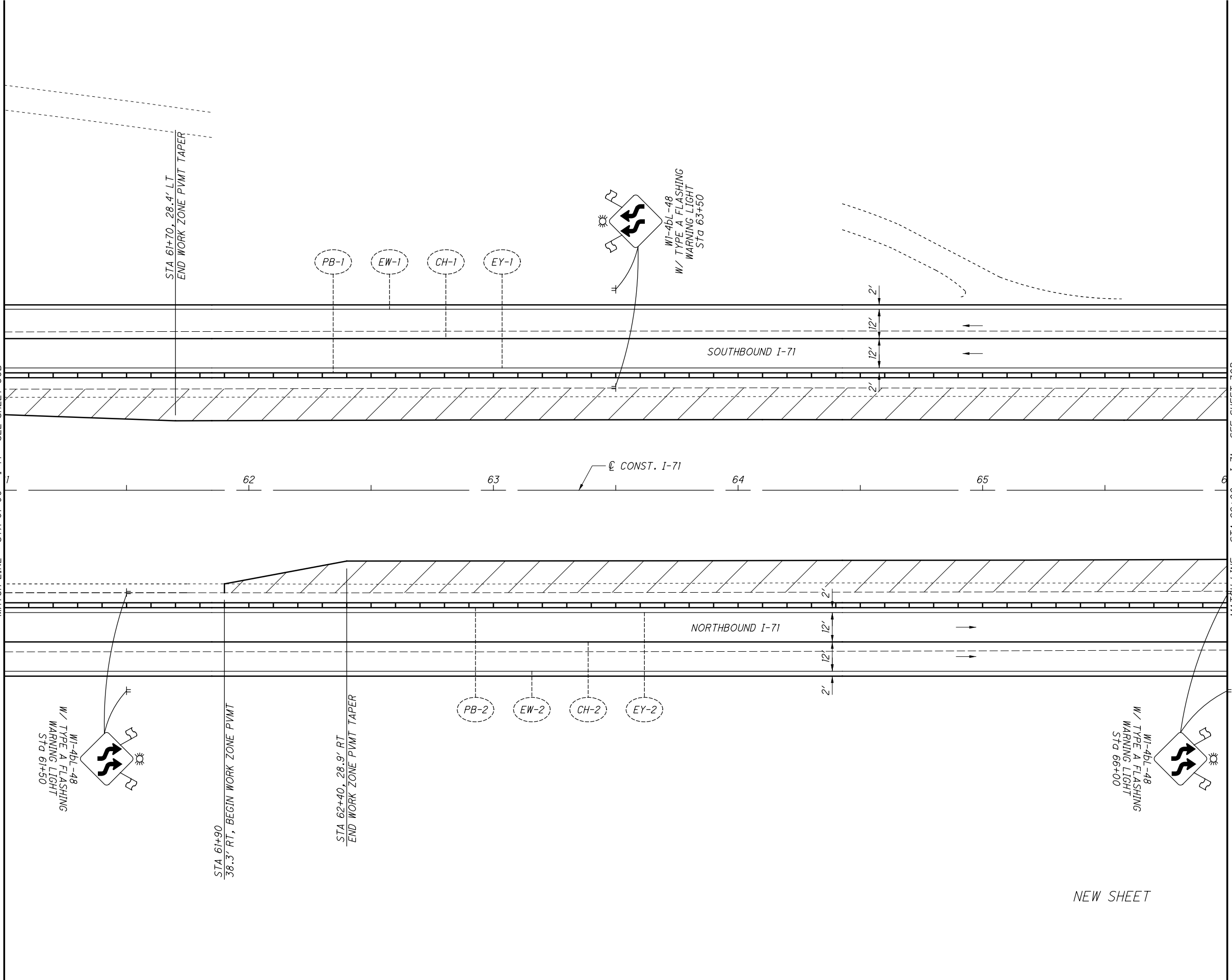
MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(ASPHALT) I-71 STA 56+00 TO STA 61+00

FRA-71-1.53

30B
285

CALCULATED	EGD
CHECKED	DLW

MATCH LINE - STA 61+00 - I-71 - SEE SHEET 30B



NEW SHEET

FOR LEGEND, SEE SHEET 23

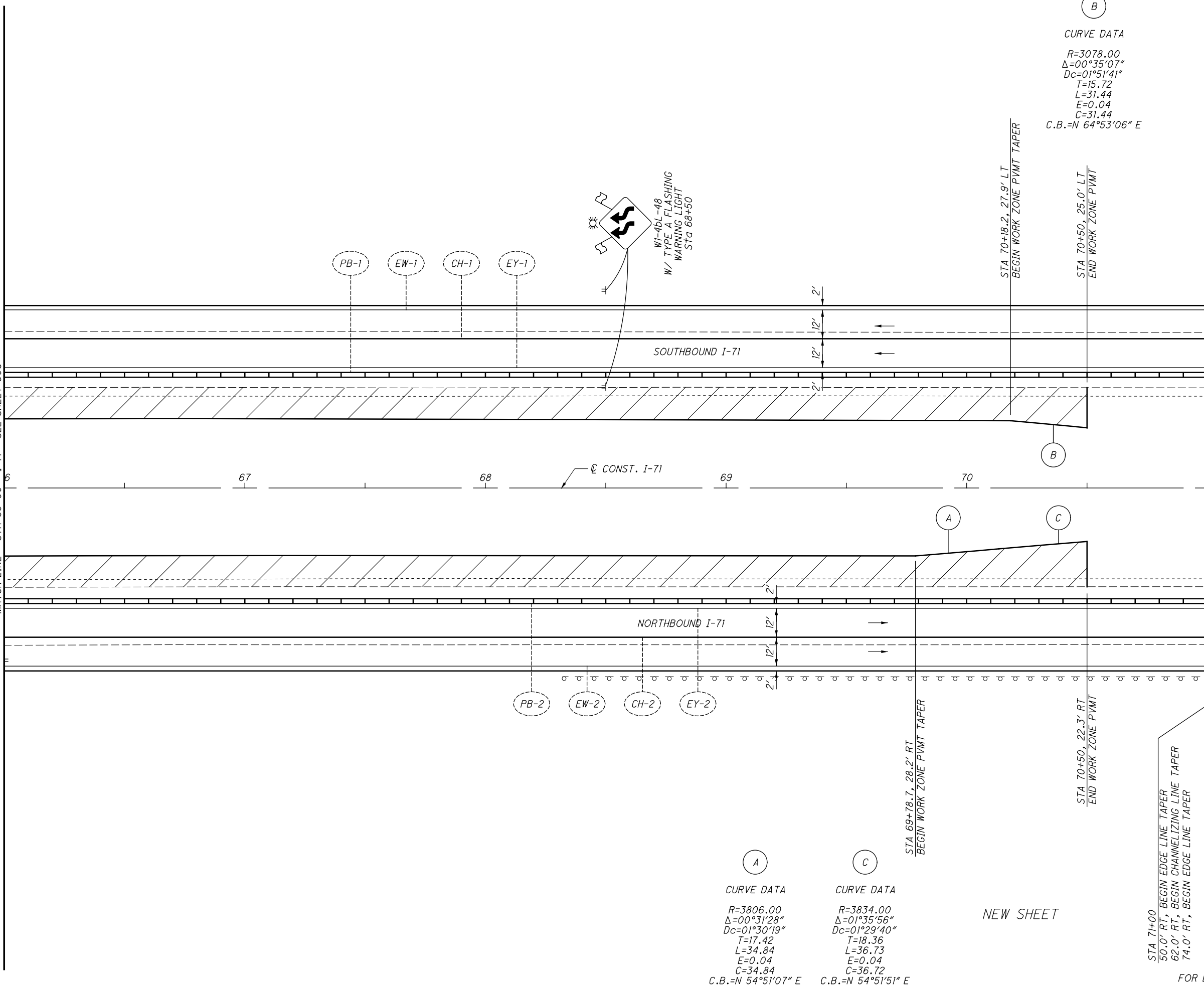
CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(ASPHALT) I-71 STA 61+00 TO STA 66+00**

FRA-71-1.53

MATCH LINE - STA 66+00 - I-71 - SEE SHEET 30C



STA 71+00
50.0' RT, BEGIN EDGE LINE TAPER
62.0' RT, BEGIN CHANNELIZING LINE TAPER
74.0' RT, BEGIN EDGE LINE TAPER

FOR LEGEND, SEE SHEET 23

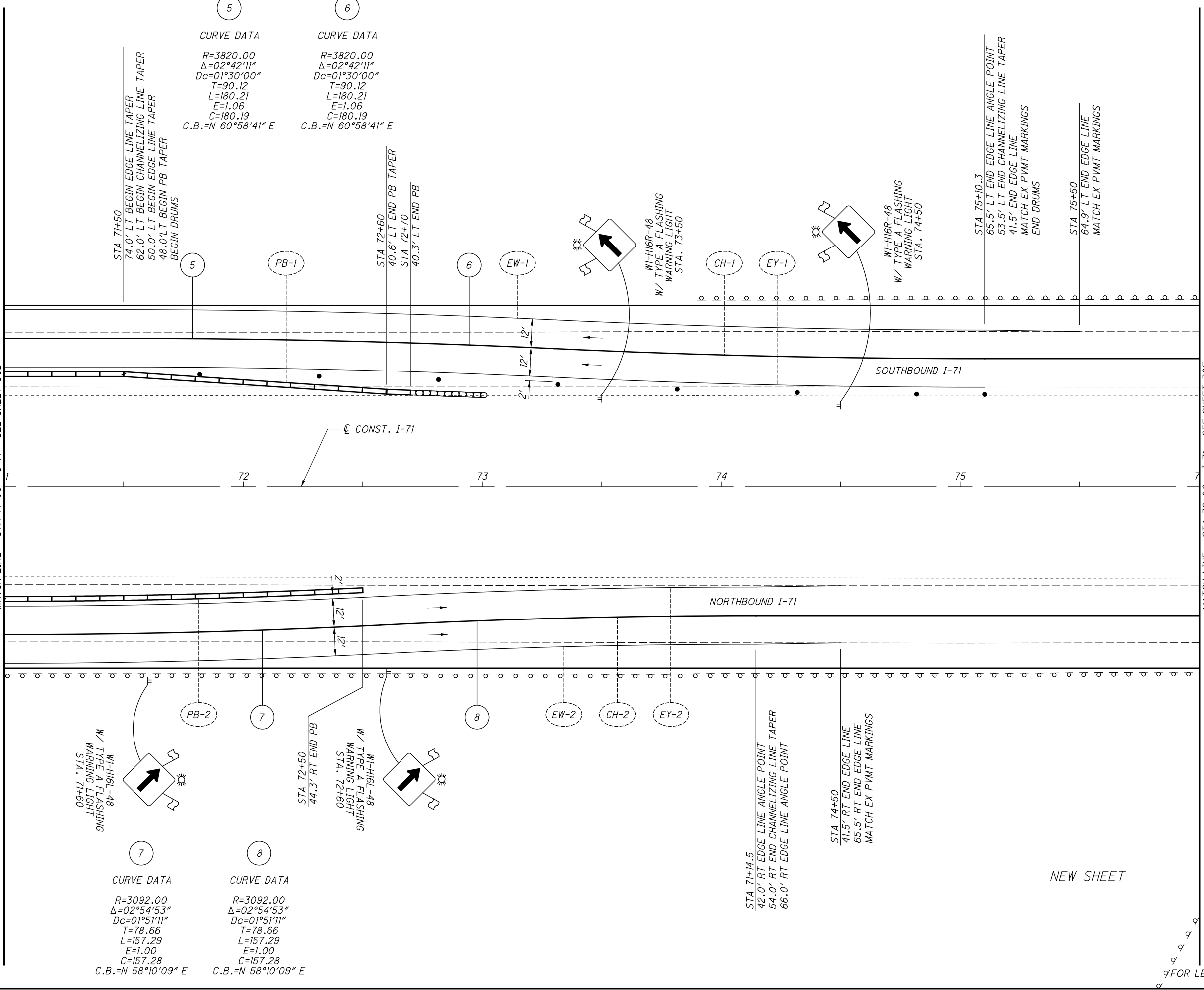
CALCULATED
EGD
CHECKED
DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(ASPHALT) I-71 STA 66+00 TO STA 71+00**

FRA-71-1.53

MATCH LINE - STA 71+00 - I-71 - SEE SHEET 30D



MATCH LINE - STA 76+00 - I-71 - SEE SHEET 30F

NEW SHEET

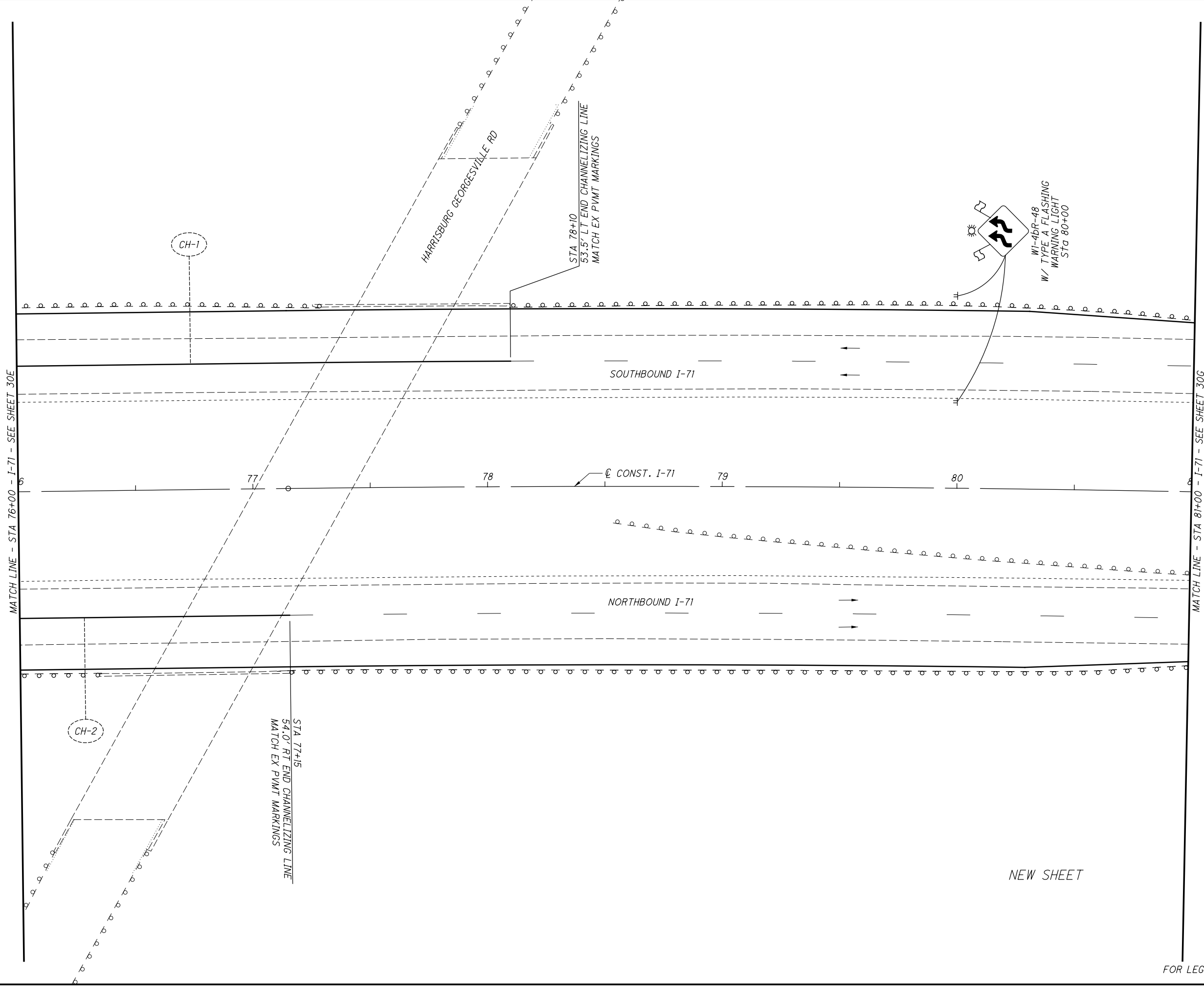
FOR LEGEND, SEE SHEET 23

CALCULATED EGD CHECKED DLW

0 20 40 HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(ASPHALT) I-71 STA 71+00 TO STA 76+00**

FRA-71-1.53



NEW SHEET

FOR LEGEND, SEE SHEET 23

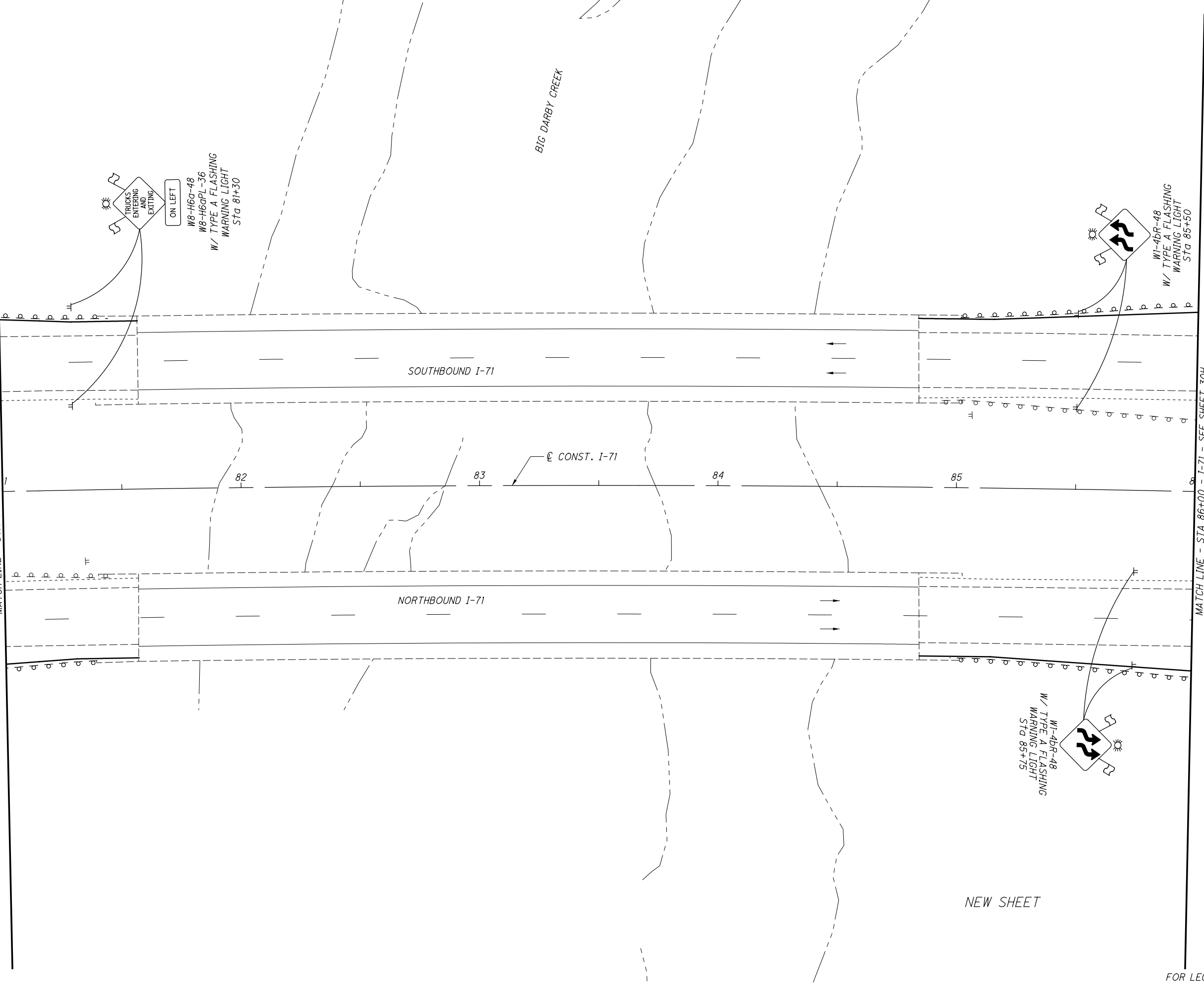
CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(ASPHALT) I-71 STA 76+00 TO STA 81+00

FRA-71-1.53

MATCH LINE - STA 81+00 - I-71 - SEE SHEET 30F



NEW SHEET

MATCH LINE - STA 86+00 - I-71 - SEE SHEET 30H

FOR LEGEND, SEE SHEET 23

CALCULATED	EGD
CHECKED	DLW

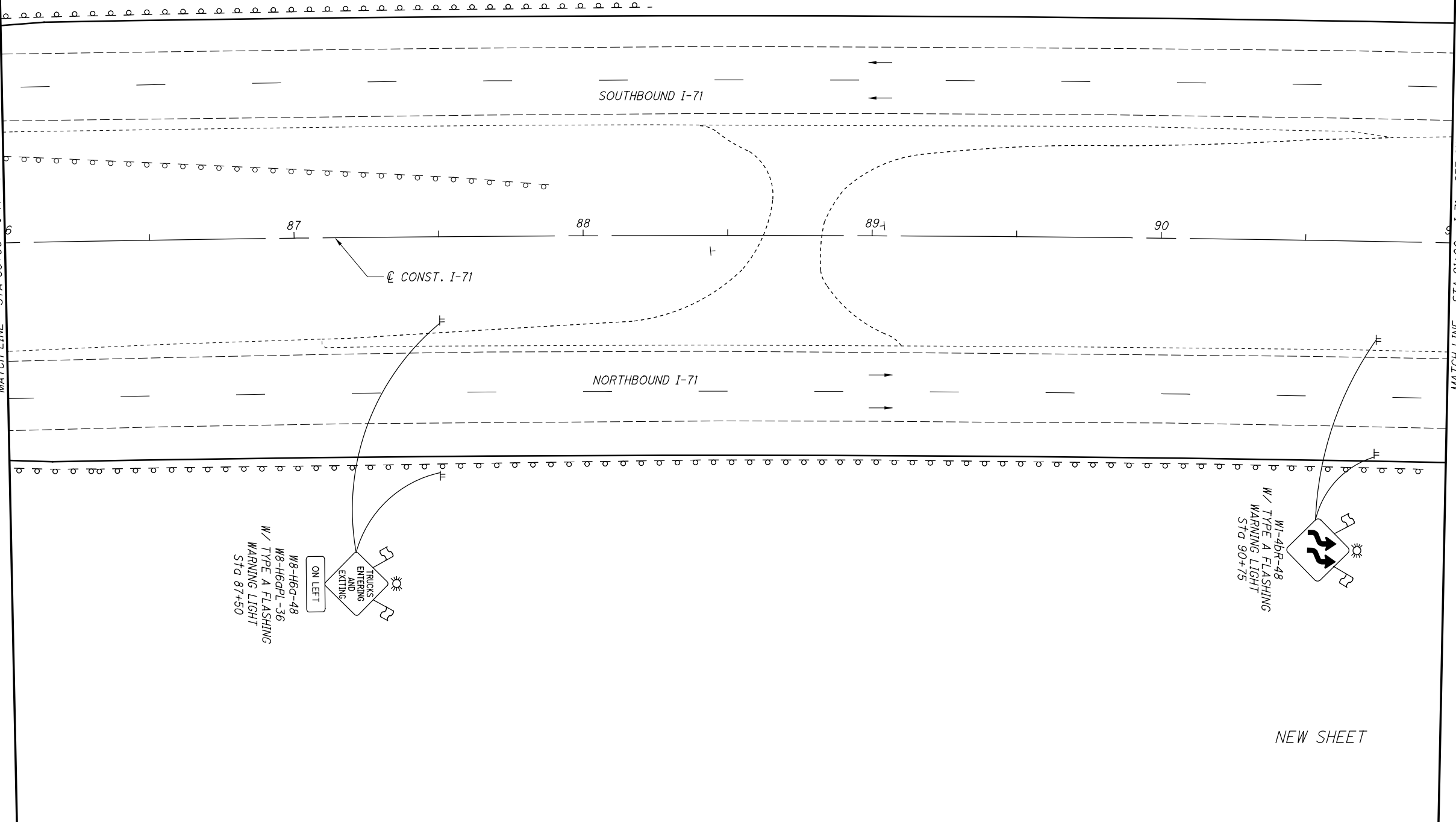
0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(ASPHALT) I-71 STA 81+00 TO STA 86+00**

FRA-71-1.53

MATCH LINE - STA 86+00 - I-71 - SEE SHEET 300

MATCH LINE - STA 91+00 - I-71 - SEE SHEET 301



FOR LEGEND, SEE SHEET 23

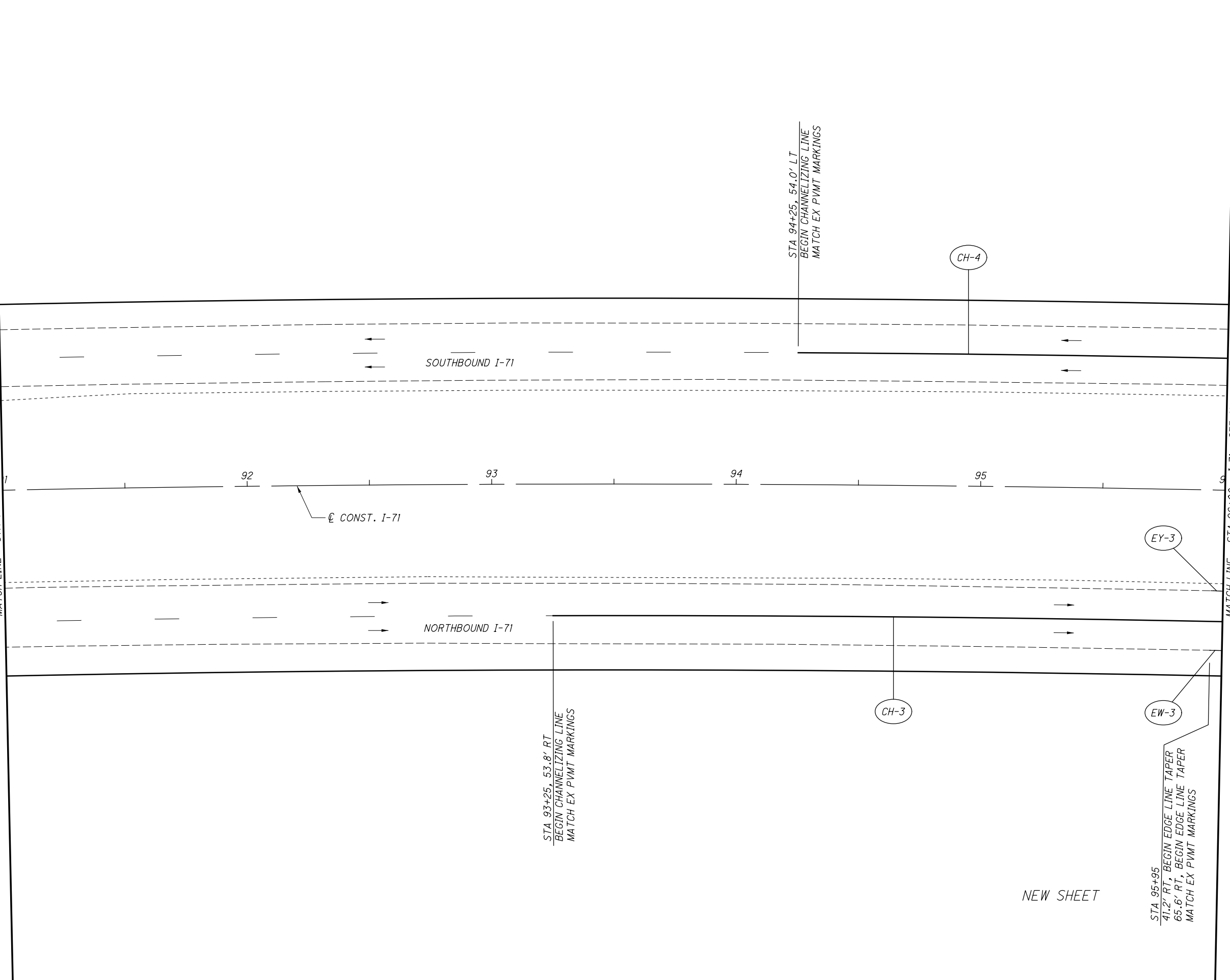
CALCULATED	EGD	CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(ASPHALT) I-71 STA 86+00 TO STA 91+00**

FRA-71-1.53

MATCH LINE - STA 91+00 - I-71 - SEE SHEET 30H



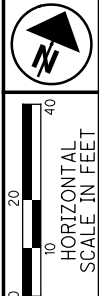
NEW SHEET

FOR LEGEND, SEE SHEET 23

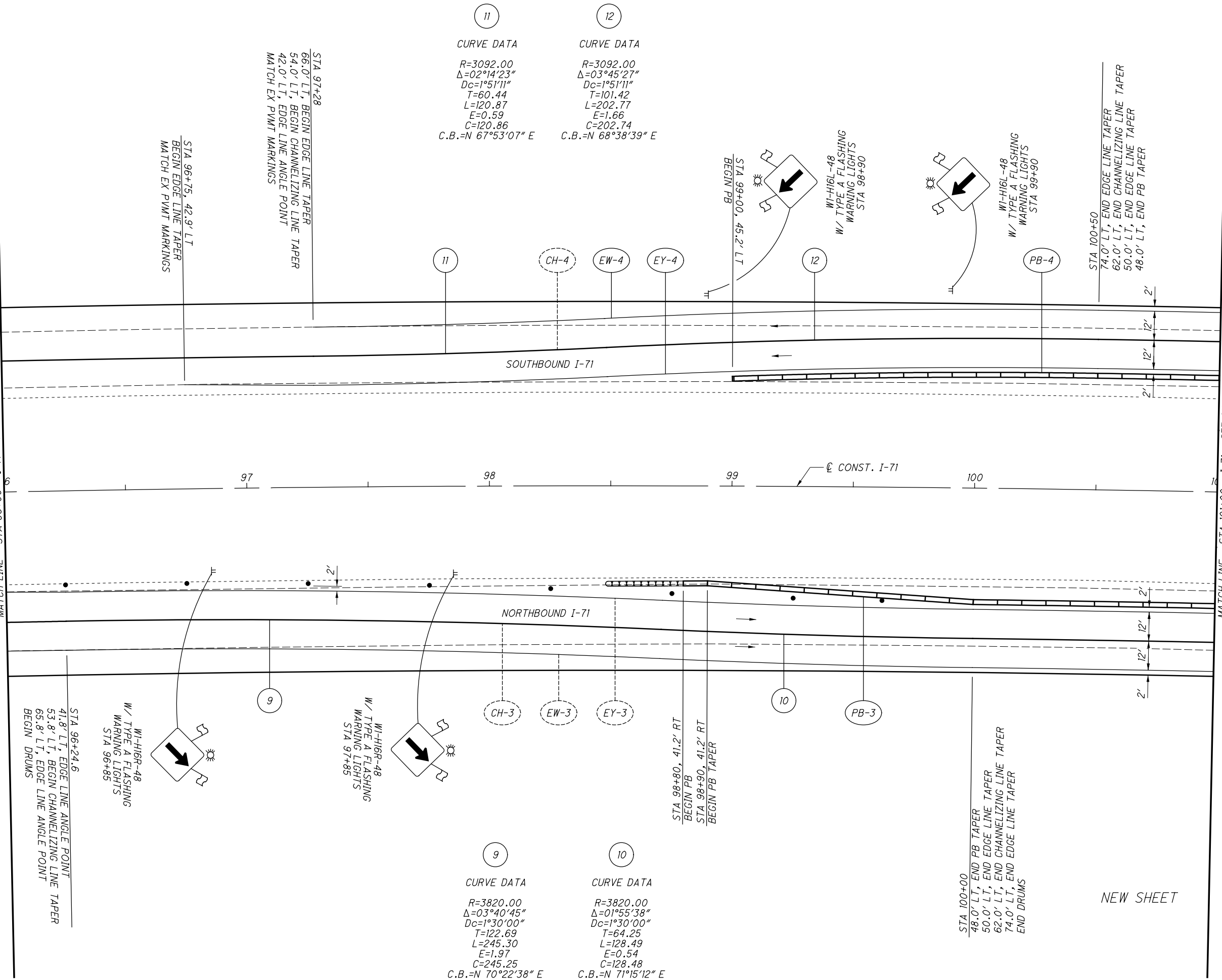
CALCULATED	
DLW	CHECKED
DLW	DLW

MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(ASPHALT) I-71 STA 91+00 TO STA 96+00

FRA-71-1.53



MATCH LINE - STA 96+00 - I-71 - SEE SHEET 301



MATCH LINE - STA 101+00 - I-71 - SEE SHEET 30K

Station	Curve Data
11	CURVE DATA R=3092.00 $\Delta=02^{\circ}14'23''$ Dc=1^{\circ}51'11" T=60.44 L=120.87 E=0.59 C=120.86 C.B.=N 67^{\circ}53'07" E
12	CURVE DATA R=3092.00 $\Delta=03^{\circ}45'27''$ Dc=1^{\circ}51'11" T=101.42 L=202.77 E=1.66 C=202.74 C.B.=N 68^{\circ}38'39" E

Station	Curve Data
9	CURVE DATA R=3820.00 $\Delta=03^{\circ}40'45''$ Dc=1^{\circ}30'00" T=122.69 L=245.30 E=1.97 C=245.25 C.B.=N 70^{\circ}22'38" E
10	CURVE DATA R=3820.00 $\Delta=01^{\circ}55'38''$ Dc=1^{\circ}30'00" T=64.25 L=128.49 E=0.54 C=128.48 C.B.=N 71^{\circ}15'12" E

STA 100+00
 48.0' LT, END PB TAPER
 50.0' LT, END EDGE LINE TAPER
 62.0' LT, END CHANNELIZING LINE TAPER
 74.0' LT, END EDGE LINE TAPER
 END DRUMS

NEW SHEET



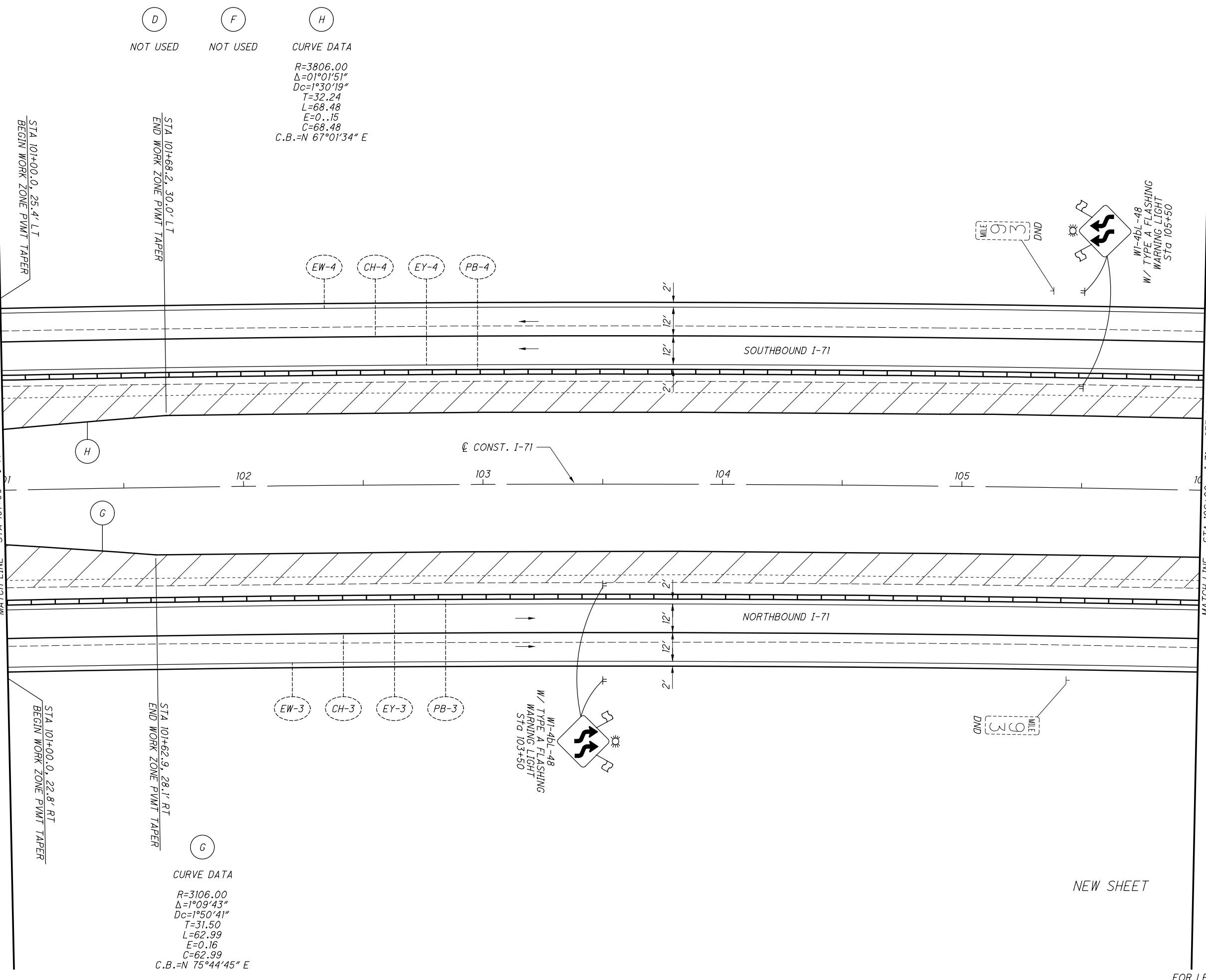
MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
 (ASPHALT) I-71 STA 96+00 TO STA 101+00

FRA-71-1.53

30J
285

MATCH LINE - STA 101+00 - I-71 - SEE SHEET 30J

MATCH LINE - STA 106+00 - I-71 - SEE SHEET 30L



(D) NOT USED (F) NOT USED (H) CURVE DATA
 R=3806.00
 $\Delta=01^{\circ}01'51''$
 $Dc=1^{\circ}30'19''$
 T=32.24
 L=68.48
 E=0.15
 C=68.48
 C.B.=N 67°01'34" E

(G) CURVE DATA
 R=3106.00
 $\Delta=1^{\circ}09'43''$
 $Dc=1^{\circ}50'41''$
 T=31.50
 L=62.99
 E=0.16
 C=62.99
 C.B.=N 75°44'45" E

CALCULATED EGD CHECKED DLW

0 20 40
 HORIZONTAL SCALE IN FEET

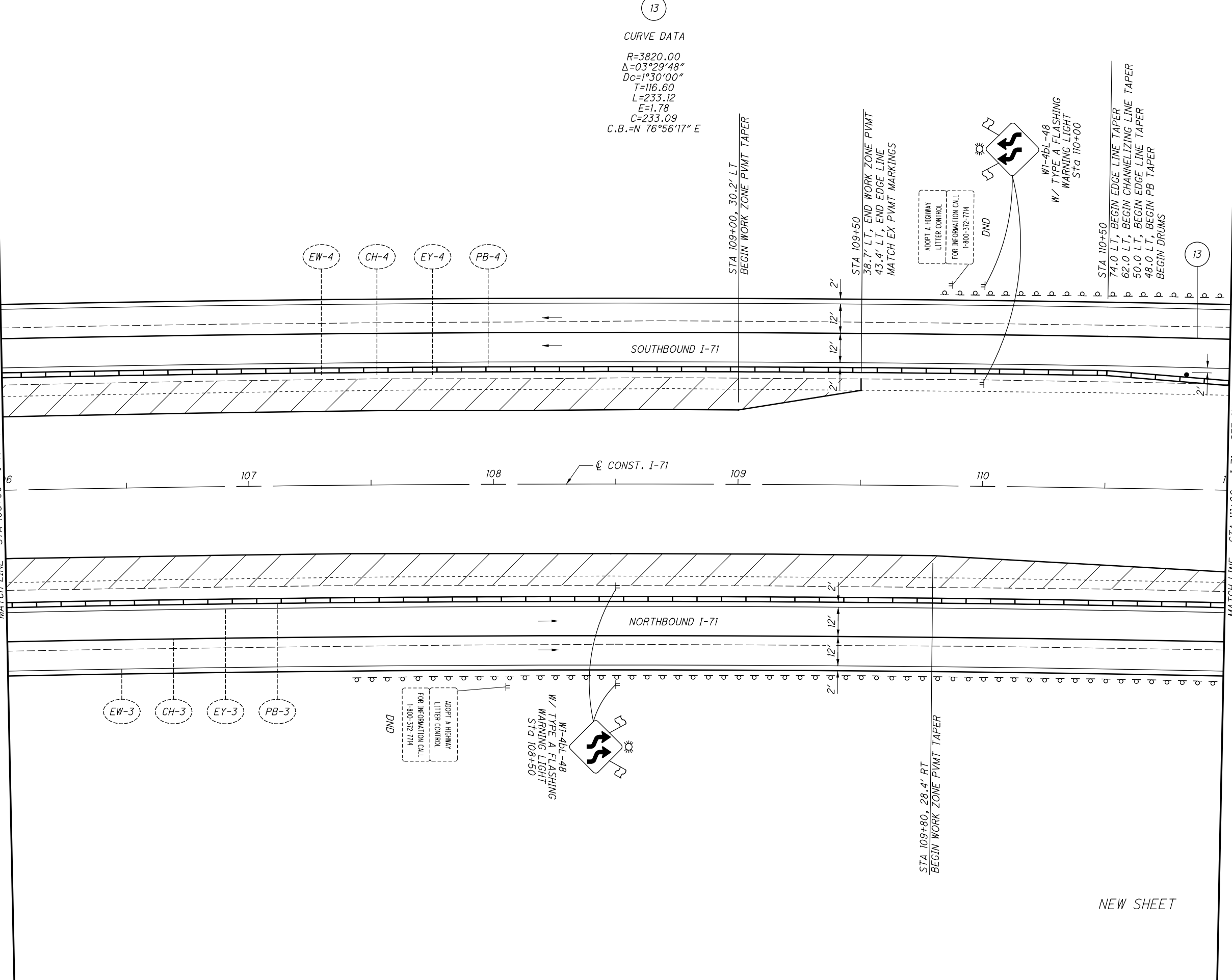
**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
 (ASPHALT) I-71 STA 101+00 TO STA 106+00**

FRA-71-1.53

30K
 285

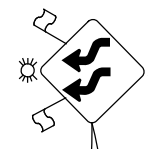
FOR LEGEND, SEE SHEET 23

MATCH LINE - STA 106+00 - I-71 - SEE SHEET 30K



13
 CURVE DATA
 R=3820.00
 $\Delta=03^{\circ}29'48''$
 $D_c=1^{\circ}30'00''$
 T=116.60
 L=233.12
 E=1.78
 C=233.09
 C.B.=N 76°56'17" E

ADOPT A HIGHWAY
 LITTER CONTROL
 FOR INFORMATION CALL
 1-800-372-7714



W1-4BL-48
 W/ TYPE A FLASHING
 WARNING LIGHT
 STA 110+00

DND
 ADOPT A HIGHWAY
 LITTER CONTROL
 FOR INFORMATION CALL
 1-800-372-7714

W1-4BL-48
 W/ TYPE A FLASHING
 WARNING LIGHT
 STA 108+50

NEW SHEET

MATCH LINE - STA 111+00 - I-71 - SEE SHEET 30M

CALCULATED	EGD	CHECKED	DLW

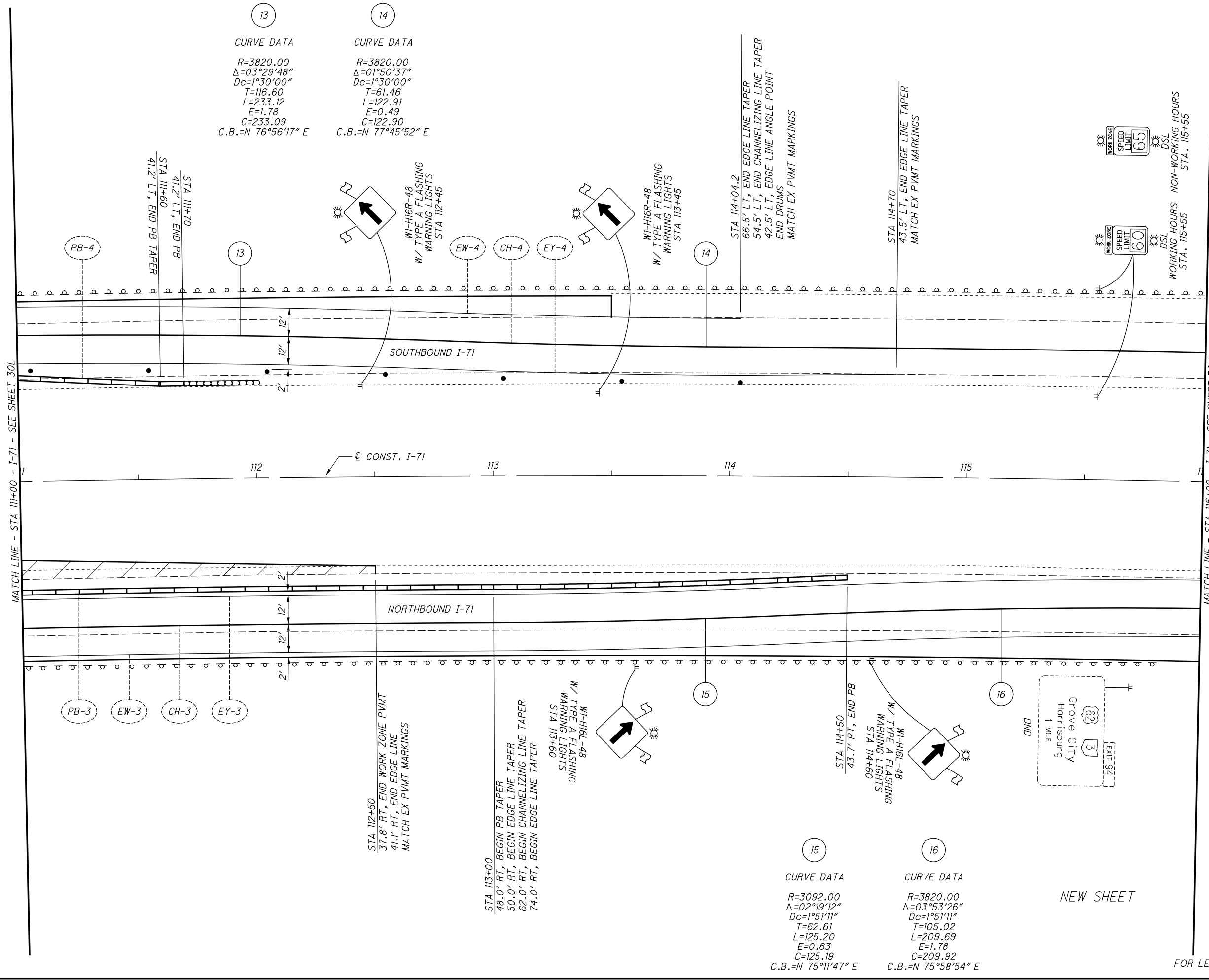
0 20 40
 HORIZONTAL
 SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
 (ASPHALT) I-71 STA 106+00 TO STA 111+00**

FRA-71-1.53

MATCH LINE - STA 111+00 - I-71 - SEE SHEET 30L

MATCH LINE - STA 116+00 - I-71 - SEE SHEET 30N



Station	Curve Data
13	R=3820.00 $\Delta=03^{\circ}29'48''$ $Dc=1^{\circ}30'00''$ T=116.60 L=233.12 E=1.78 C=233.09 C.B.=N 76°56'17" E
14	R=3820.00 $\Delta=01^{\circ}50'37''$ $Dc=1^{\circ}30'00''$ T=61.46 L=122.91 E=0.49 C=122.90 C.B.=N 77°45'52" E

Station	Curve Data
15	R=3092.00 $\Delta=02^{\circ}19'12''$ $Dc=1^{\circ}51'11''$ T=62.61 L=125.20 E=0.63 C=125.19 C.B.=N 75°11'47" E
16	R=3820.00 $\Delta=03^{\circ}53'26''$ $Dc=1^{\circ}51'11''$ T=105.02 L=209.69 E=1.78 C=209.92 C.B.=N 75°58'54" E

NEW SHEET

FOR LEGEND, SEE SHEET 23

FRA - 71 - 1.53

30M
285

MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(ASPHALT) I-71 STA 111+00 TO STA 116+00

0 10 20 40
HORIZONTAL
SCALE IN FEET

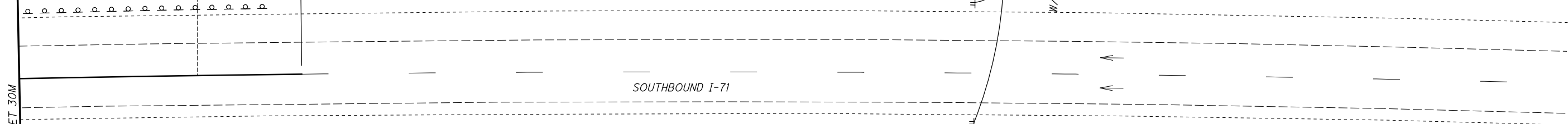
CALCULATED EGD
CHECKED DLW

WORK ZONE
SPEED LIMIT 65
DSL
NON-WORKING HOURS
STA. 115+55

MATCH LINE - STA 116+00 - I-71 - SEE SHEET 30M

STA 117+05
54.5' LT, END CHANNELIZING LINE
MATCH EX PVMT MARKINGS

CH-4

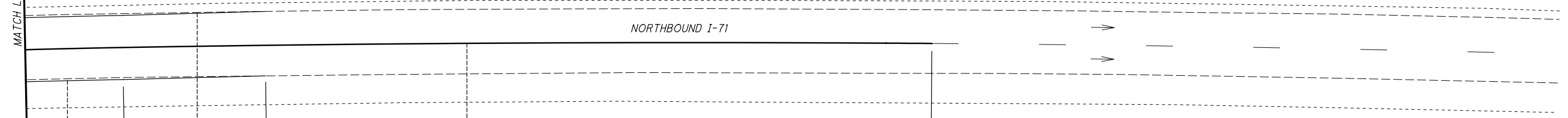


SOUTHBOUND I-71

117 118 119 120 121

CONST. I-71

6



NORTHBOUND I-71

EW-3

EY-3

CH-3

STA 116+36.6
41.5' RT, EDGE LINE ANGLE POINT
65.5' RT, EDGE LINE ANGLE POINT

STA 116+90
40.8' RT, END EDGE LINE
64.9' RT, END EDGE LINE
MATCH EX PVMT MARKINGS

STA 119+40
53.5' RT, END CHANNELIZING LINE
MATCH EX PVMT MARKINGS

W1-4bR-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 127+05

END
ROAD WORK
G20-2-36
Sta 127+05, LT

W8-H6a-48
W8-H6aPL-36
W/ TYPE A FLASHING
WARNING LIGHT
Sta 131+05

W3-H5b-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 134+55

R4-9-36
Sta 142+05

R4-5L-48
Sta 156+05

R11-H5a-48
Sta 161+85

W20-1-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 168+45

THE CONTRACTOR SHALL INSTALL THE FOLLOWING ADVANCE WARNING SIGNS ON BOTH SIDES OF THE SOUTHBOUND I-71 ROADWAY AT THE LOCATIONS SHOWN PRIOR TO THE START OF PHASE 1B CONSTRUCTION. COVER R2-1 SOUTHBOUND SIGN AT STA. 145+00.

W1-4bR-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 119+55

WORK ZONE
SPEEDING
FINES
DOUBLED
CAUSE DEATH
OR INJURY
FINE/JAIL

CALCULATED EGD CHECKED DLW

10 HORIZONTAL SCALE IN FEET

0 20 40

MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(ASPHALT) I-71 STA 116+00 TO STA 121+75

FRA-71-1.53

30N
285

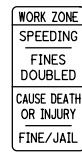
NEW SHEET

FOR LEGEND, SEE SHEET 23

THE CONTRACTOR SHALL INSTALL THE FOLLOWING ADVANCE WARNING SIGNS ON BOTH SIDES OF THE NORTHBOUND I-71 ROADWAY AT THE LOCATIONS SHOWN PRIOR TO THE START OF PHASE 1 CONSTRUCTION.



W20-1-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 12+25



R11-H5a-48
Sta 18+85



R4-5L-48
Sta 24+65



R4-9-36
Sta 38+65



W3-H5b-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 46+15



ON LEFT
W8-H6a-48
W8-H6aPL-36
W/ TYPE A FLASHING
WARNING LIGHT
Sta 49+20

STA 52+25
53.5' LT, BEGIN LANE LINE
MATCH EX PVMT MARKINGS

WILE 02
DND

LL-1

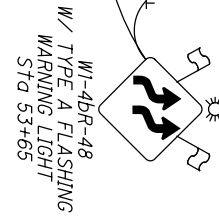
END
ROAD WORK
G20-2-36
Sta 53+65

SOUTHBOUND I-71

CONST. I-71

NORTHBOUND I-71

WILE 02
DND



W1-4BR-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 53+65

STA 54+40
54.0' RT, BEGIN LANE LINE
MATCH EX PVMT MARKINGS

STA 54+75
64.9' LT, BEGIN EDGE LINE TAPER
MATCH EX PVMT MARKINGS

STA 55+25
65.5' LT, END EDGE LINE TAPER
41.4' LT, BEGIN EDGE LINE
MATCH EX PVMT MARKINGS

EW-1

EY-1

LL-2

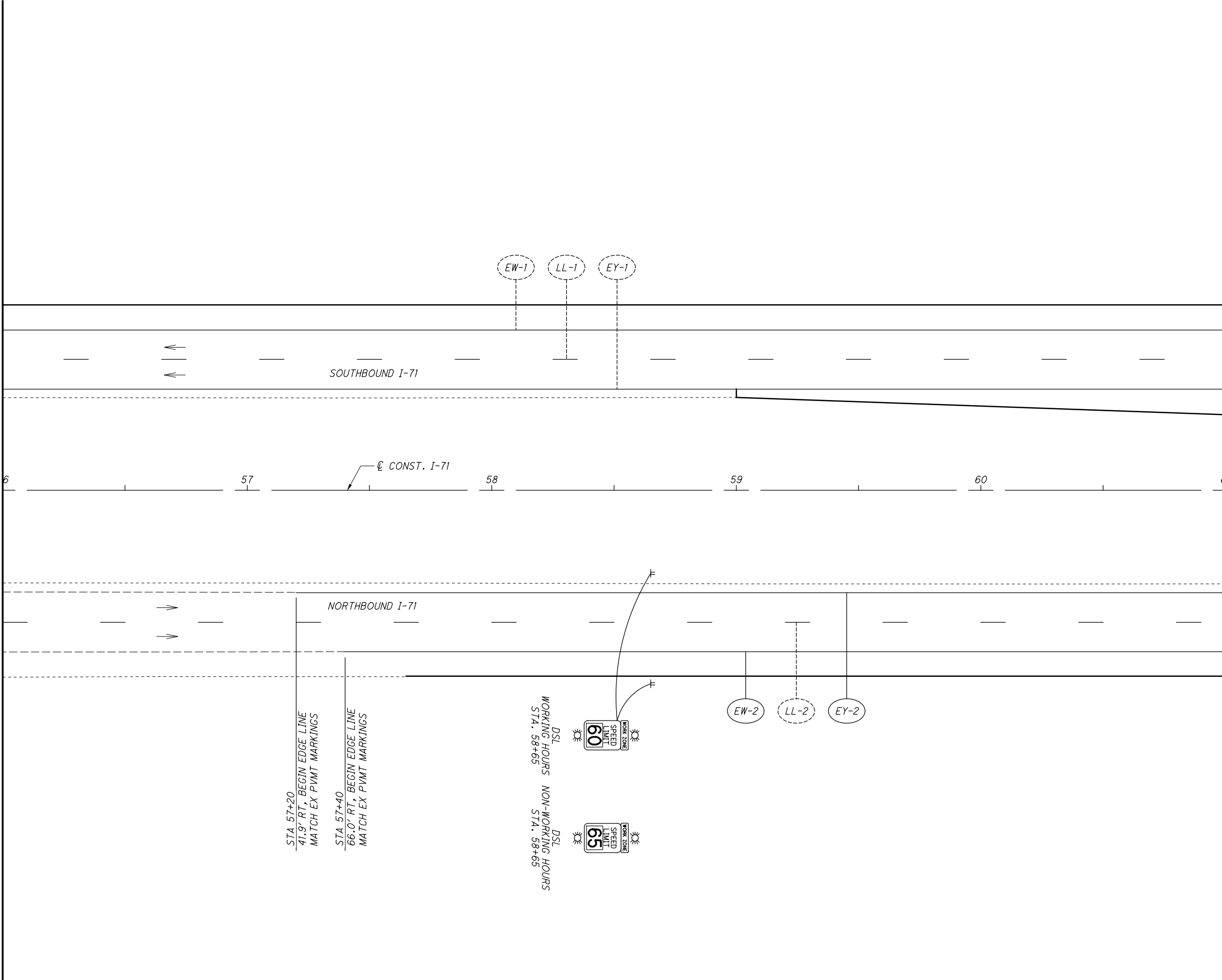
MATCH LINE - STA 56+00 - I-71 - SEE SHEET 32



**MAINTENANCE OF TRAFFIC - PHASE 1
(ASPHALT) I-71 STA 50+75 TO STA 56+00**

FRA-71-1.53

MATCH LINE - STA 56+00 - I-71 - SEE SHEET 31



STA 57+20
41.9' RT, BEGIN EDGE LINE
MATCH EX PVMT MARKINGS

STA 57+40
66.0' RT, BEGIN EDGE LINE
MATCH EX PVMT MARKINGS

DSL
WORKING HOURS
STA. 58+65



DSL
NON-WORKING HOURS
STA. 58+65



FOR LEGEND, SEE SHEET 23

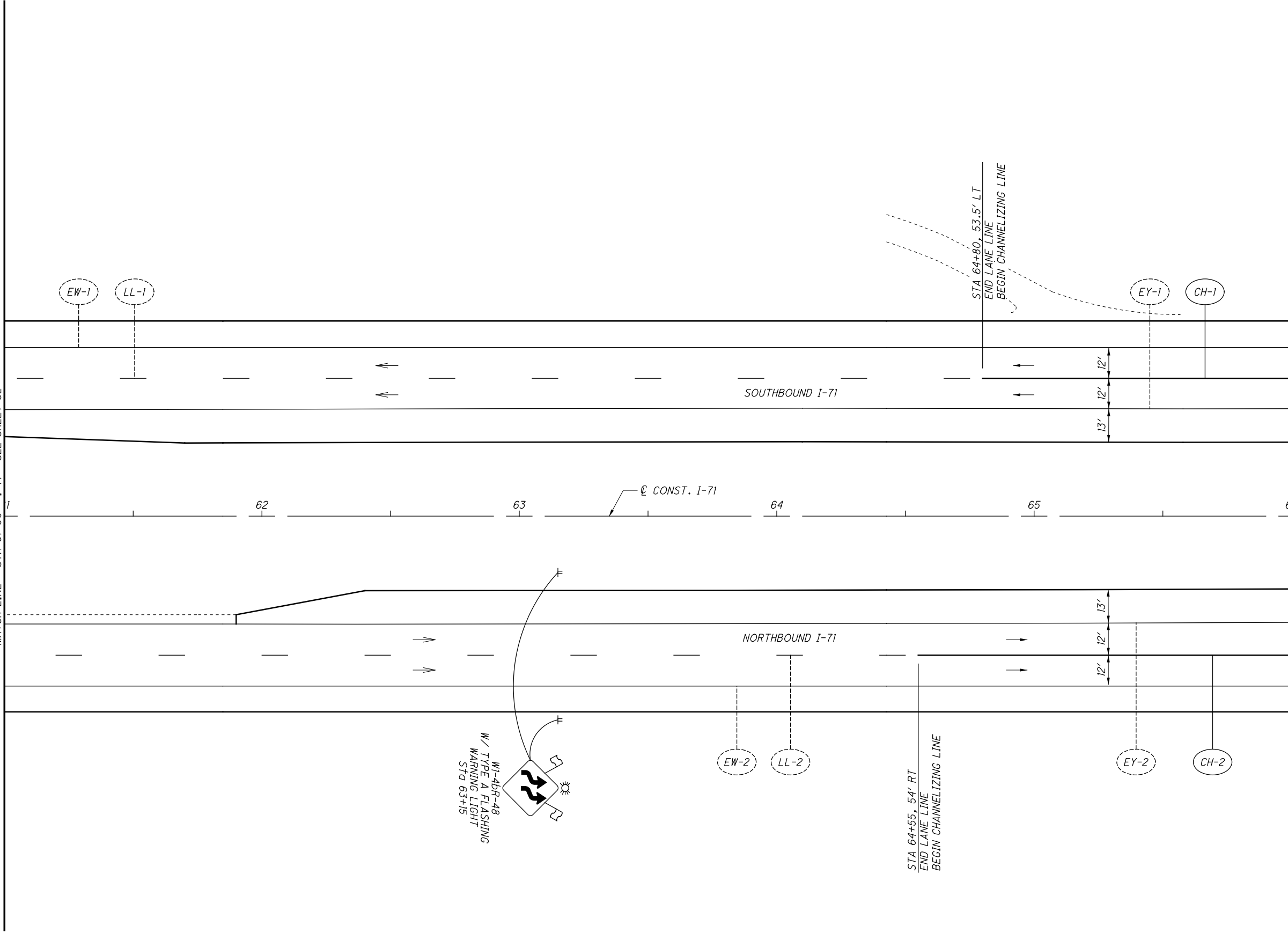
CALCULATED	EGD	CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
(ASPHALT) I-71 STA 56+00 TO STA 61+00**

FRA-71-1.53

MATCH LINE - STA 61+00 - I-71 - SEE SHEET 32



MATCH LINE - STA 66+00 - I-71 - SEE SHEET 34

FOR LEGEND, SEE SHEET 23

CALCULATED	EGD	CHECKED	DLW

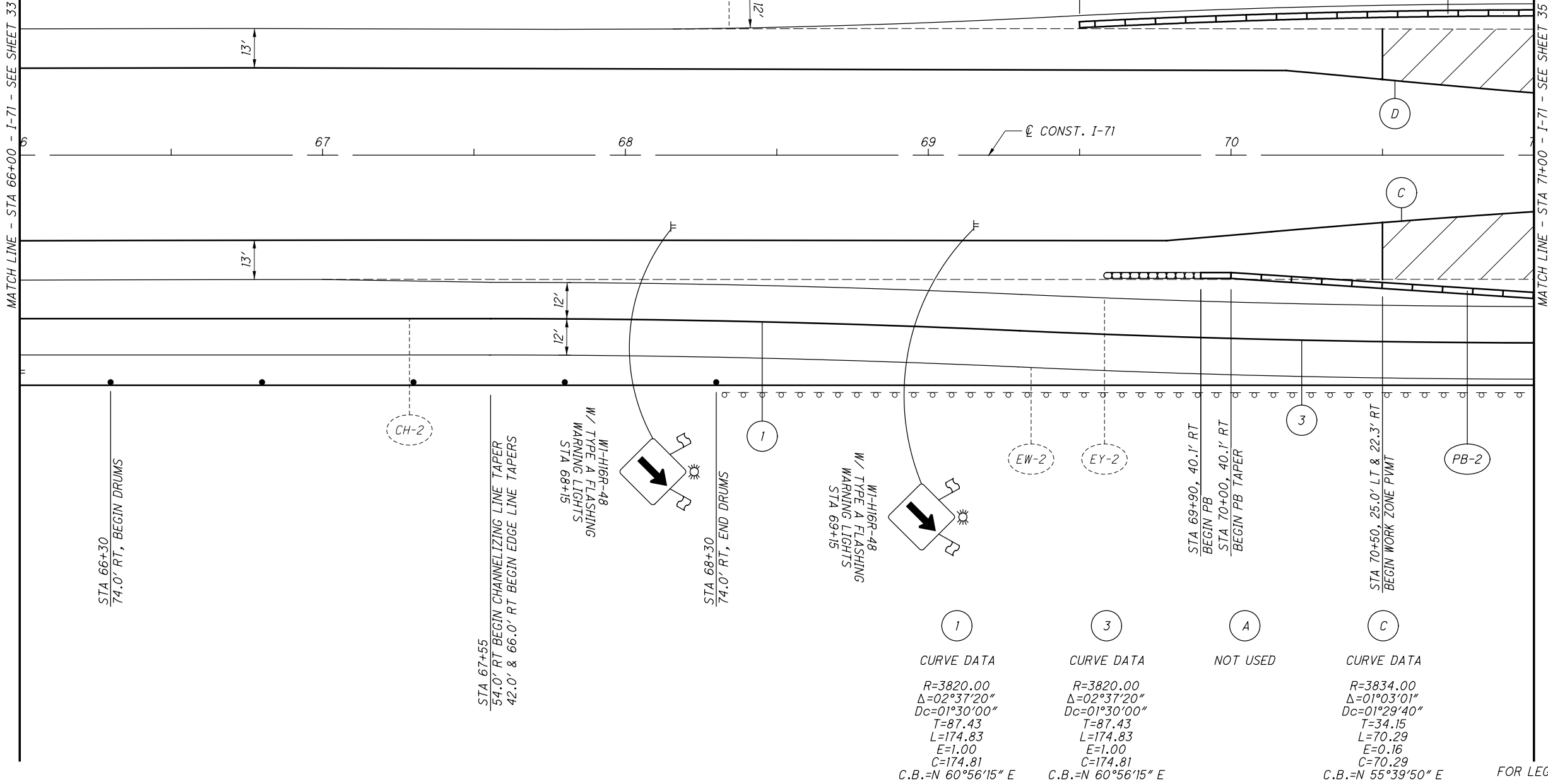
0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
(ASPHALT) I-71 STA 61+00 TO STA 66+00**

FRA-71-1.53

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MATCH LINE - STA 66+00 - I-71 - SEE SHEET 33



NOTES:

ITEM 411, STABILIZED CRUSHED AGGREGATE
 THIS AGGREGATE SHOULDER SHALL BE CONSTRUCTED ALONG THE EDGE OF THE WORK ZONE PAVEMENT AND SHALL BE 2 FEET WIDE BY 6 INCHES DEEP AND PLACED AT THE FOLLOWING LOCATIONS:
 STA 70+50 TO STA 71+15 RT STA 70+50 TO STA 76+84, LT
 STA 77+40 TO STA 80+95, LT STA 77+56 TO STA 78+58, RT
 STA 88+91 TO STA 101+00, RT STA 99+95 TO STA 101+00, LT

ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B
 ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B, SHALL BE USED FOR ALL WORK ZONE PAVEMENT CONSTRUCTED IN THE MEDIAN. THE CONTRACTOR WILL BE REQUIRED TO USE ITEM 304, AGGREGATE BASE, IN THE COURSE MAKE UP. THE CONTRACTOR WILL NOT BE PERMITTED TO USE ITEMS 301, 302 OR 441 IN LIEU OF 6 INCHES OF 304 AGGREGATE BASE. THE WORK ZONE PAVEMENT OUTSIDE THE PROJECT LIMITS SHALL BE LEFT IN PLACE AT THE END OF THIS PROJECT.

2	4	B	D
CURVE DATA	CURVE DATA	NOT USED	CURVE DATA
R=3092.00	R=3092.00		R=3106.00
$\Delta=03^{\circ}00'16''$	$\Delta=03^{\circ}00'16''$		$\Delta=05^{\circ}33'04''$
Dc=01^{\circ}51'11''	Dc=01^{\circ}51'11''		Dc=01^{\circ}50'41''
T=81.09	T=81.09		T=150.58
L=162.14	L=162.14		L=300.92
E=1.06	E=1.06		E=3.65
C=162.12	C=162.12		C=300.80
C.B.=N 58^{\circ}07'27'' E	C.B.=N 58^{\circ}07'27'' E		C.B.=N 62^{\circ}24'07'' E

1	3	A	C
CURVE DATA	CURVE DATA	NOT USED	CURVE DATA
R=3820.00	R=3820.00		R=3834.00
$\Delta=02^{\circ}37'20''$	$\Delta=02^{\circ}37'20''$		$\Delta=01^{\circ}03'01''$
Dc=01^{\circ}30'00''	Dc=01^{\circ}30'00''		Dc=01^{\circ}29'40''
T=87.43	T=87.43		T=34.15
L=174.83	L=174.83		L=70.29
E=1.00	E=1.00		E=0.16
C=174.81	C=174.81		C=70.29
C.B.=N 60^{\circ}56'15'' E	C.B.=N 60^{\circ}56'15'' E		C.B.=N 55^{\circ}39'50'' E



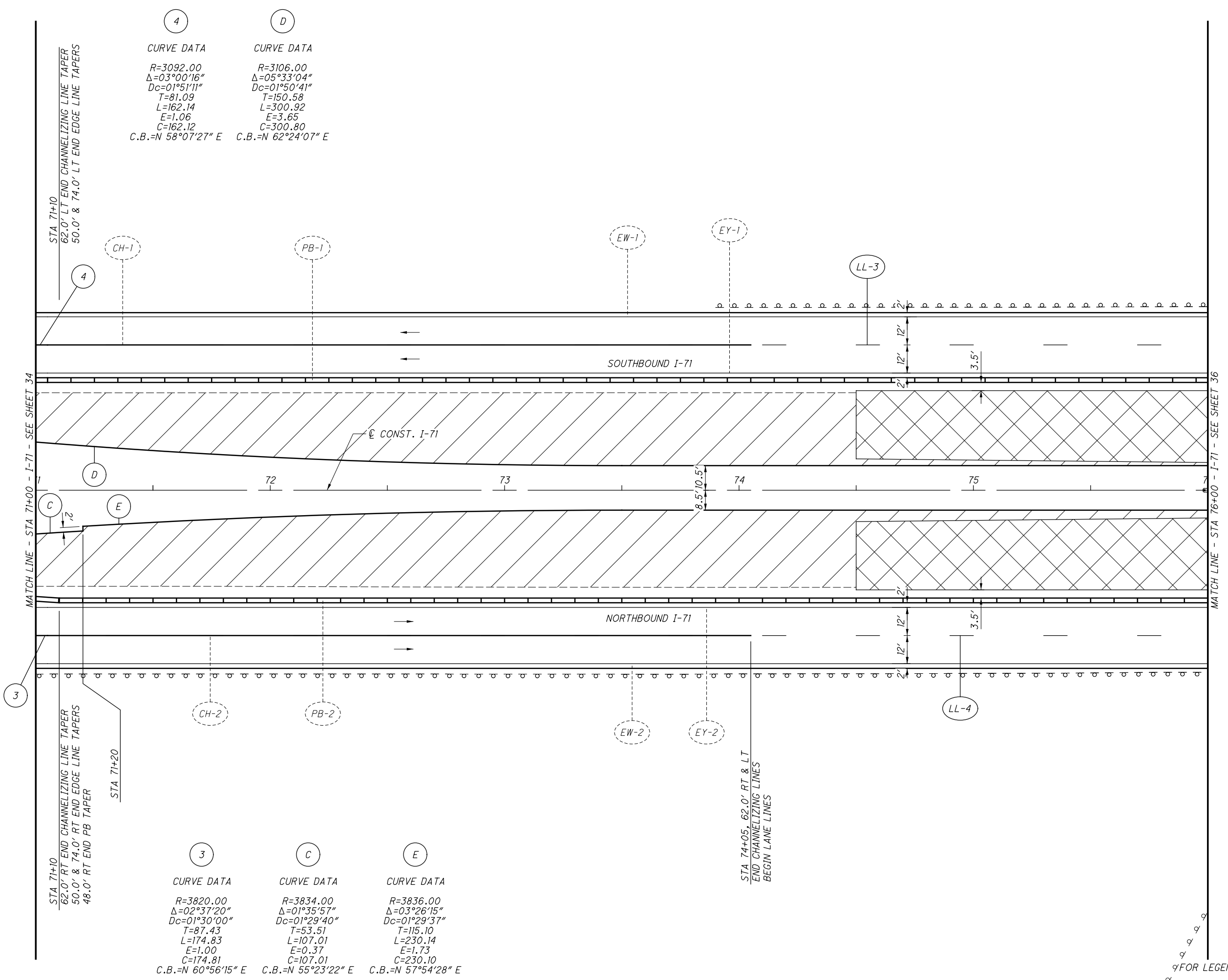
MAINTENANCE OF TRAFFIC - PHASE 1
 (ASPHALT) I-71 STA 66+00 TO STA 71+00

FRA-71-1.53

34
 285

FOR LEGEND, SEE SHEET 23

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4	D
CURVE DATA	CURVE DATA
R=3092.00	R=3106.00
Δ=03°00'16"	Δ=05°33'04"
Dc=01°51'11"	Dc=01°50'41"
T=81.09	T=150.58
L=162.14	L=300.92
E=1.06	E=3.65
C=162.12	C=300.80
C.B.=N 58°07'27" E	C.B.=N 62°24'07" E

3	C	E
CURVE DATA	CURVE DATA	CURVE DATA
R=3820.00	R=3834.00	R=3836.00
Δ=02°37'20"	Δ=01°35'57"	Δ=03°26'15"
Dc=01°30'00"	Dc=01°29'40"	Dc=01°29'37"
T=87.43	T=53.51	T=115.10
L=174.83	L=107.01	L=230.14
E=1.00	E=0.37	E=1.73
C=174.81	C=107.01	C=230.10
C.B.=N 60°56'15" E	C.B.=N 55°23'22" E	C.B.=N 57°54'28" E

STA 74+05.62 0' RT & LT
END CHANNELIZING LINES
BEGIN LANE LINES

CALCULATED
EGD
CHECKED
DLW

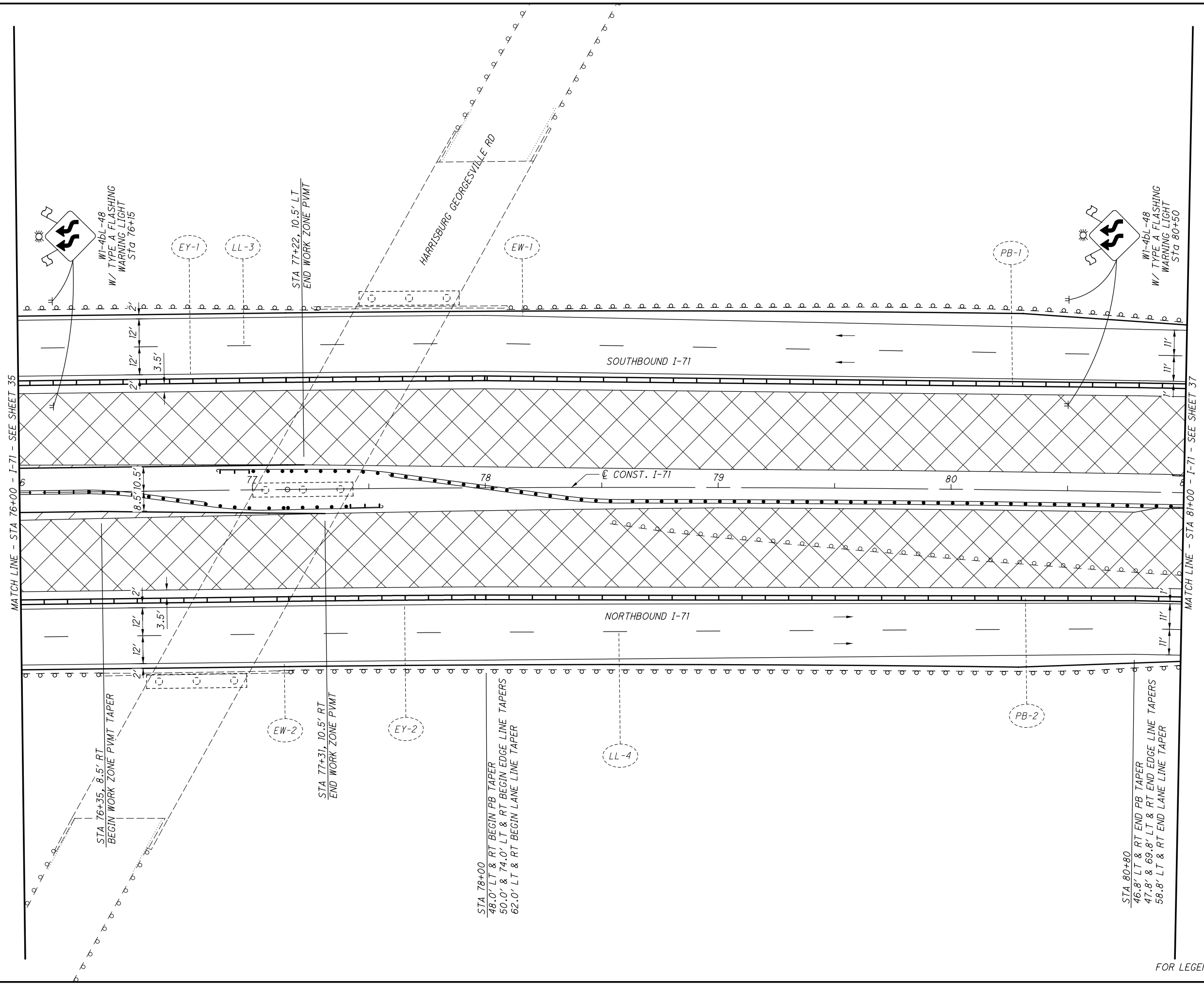
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
(ASPHALT) I-71 STA 71+00 TO STA 76+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23

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CALCULATED
EGD
CHECKED
DLW

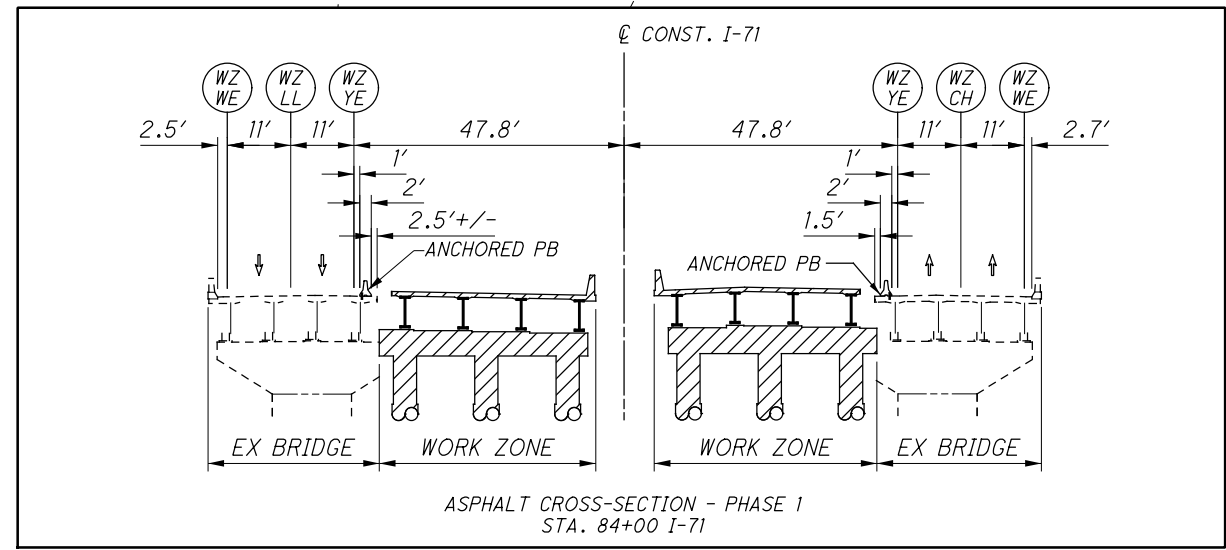
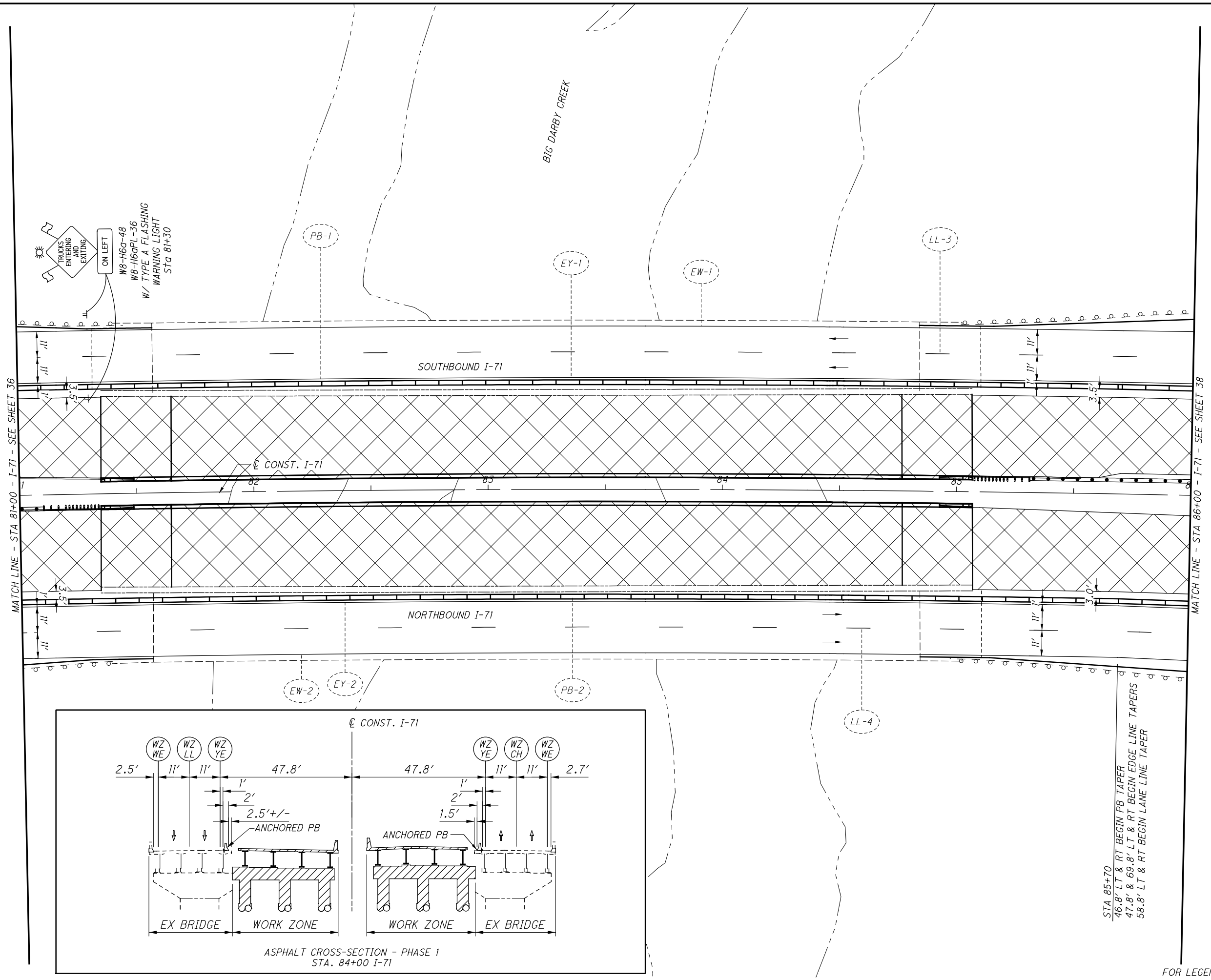
0 10 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
(ASPHALT) I-71 STA 76+00 TO STA 81+00**

FRA-71-1.53

36
285

FOR LEGEND, SEE SHEET 23



STA 85+70
 46.8' LT & RT BEGIN PB TAPER
 47.8' LT & 69.8' LT & RT BEGIN EDGE LINE TAPERS
 58.8' LT & RT BEGIN LANE LINE TAPER

MATCH LINE - STA 81+00 - I-71 - SEE SHEET 36

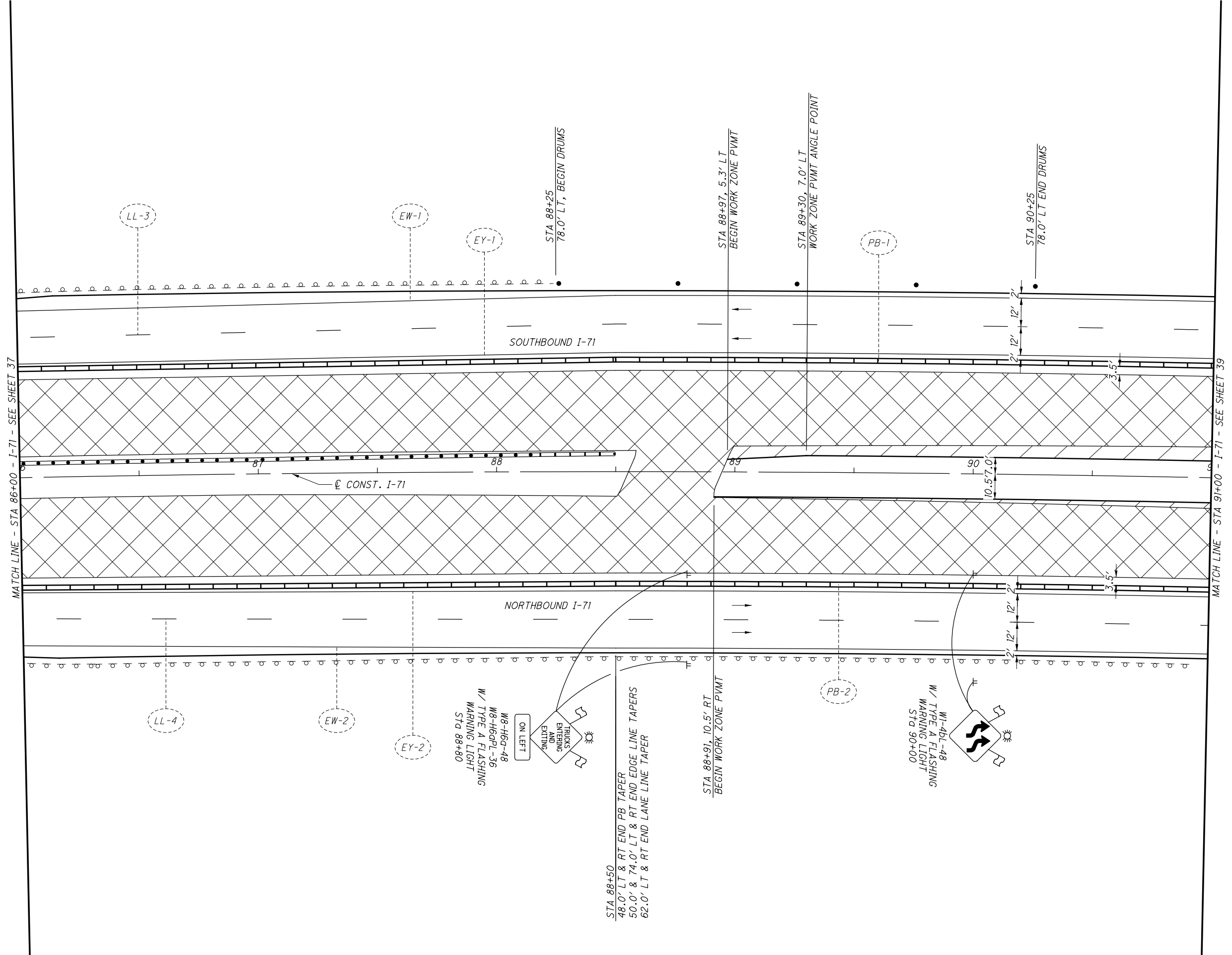
MATCH LINE - STA 86+00 - I-71 - SEE SHEET 38

CALCULATED EGD CHECKED DLW

0 20 40
 HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
 (ASPHALT) I-71 STA 81+00 TO STA 86+00**

FOR LEGEND, SEE SHEET 23



08-88
 W8-HGD-48
 W8-HGFL-36
 W/ TYPE A FLASHING
 WARNING LIGHT
 STA 88+80

ON LEFT

TRUCKS
 ENTERING
 AND
 EXITING

STA 88+50
 48.0' LT & RT END PB TAPER
 50.0' & 74.0' LT & RT END EDGE LINE TAPERS
 62.0' LT & RT END LANE LINE TAPER

W1-4BL-48
 W/ TYPE A FLASHING
 WARNING LIGHT
 STA 90+00

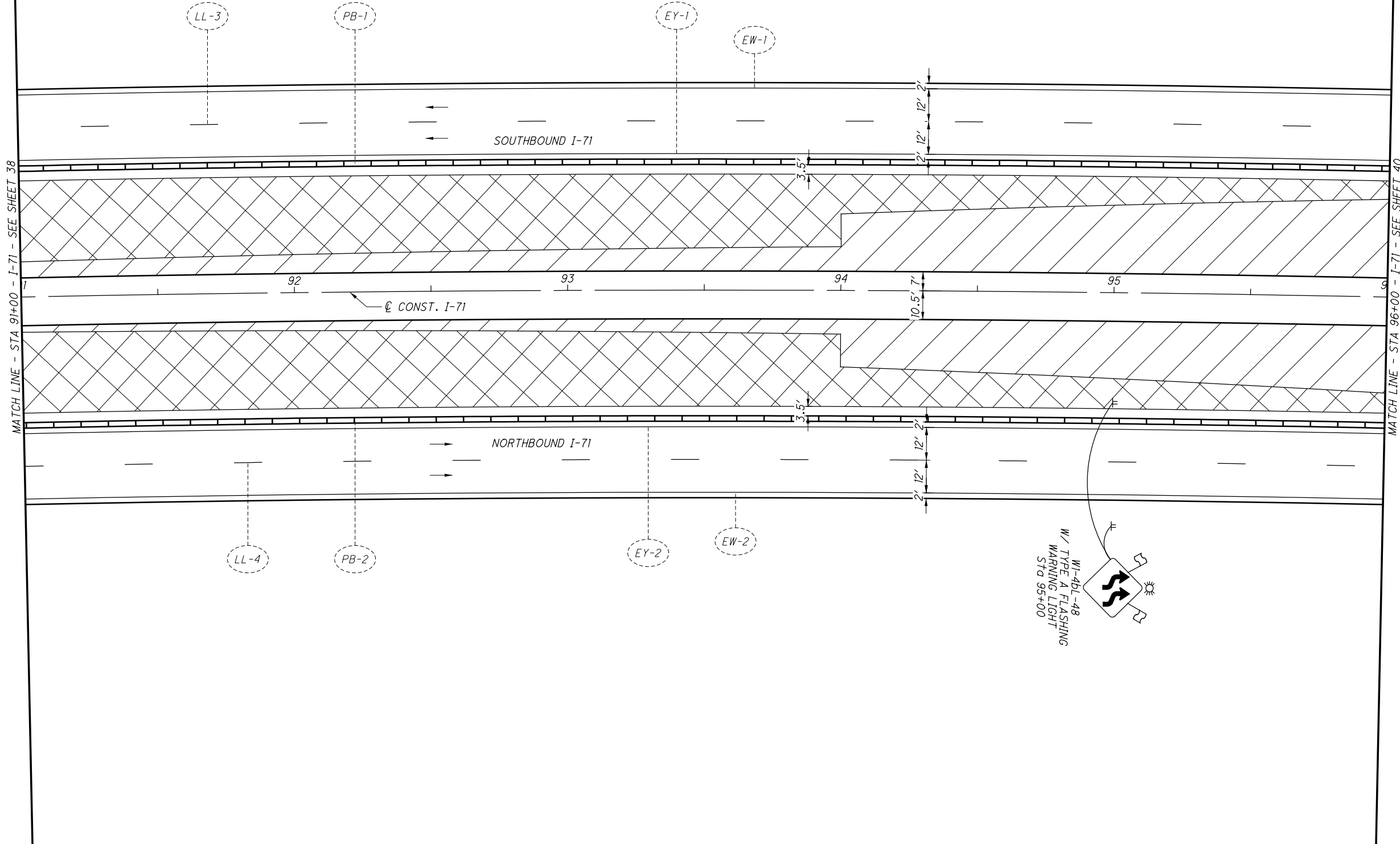
FOR LEGEND, SEE SHEET 23

CALCULATED	EGD
CHECKED	DLW

0 20 40
 HORIZONTAL
 SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
 (ASPHALT) I-71 STA 86+00 TO STA 91+00**

FRA-71-1.53



MATCH LINE - STA 91+00 - I-71 - SEE SHEET 38

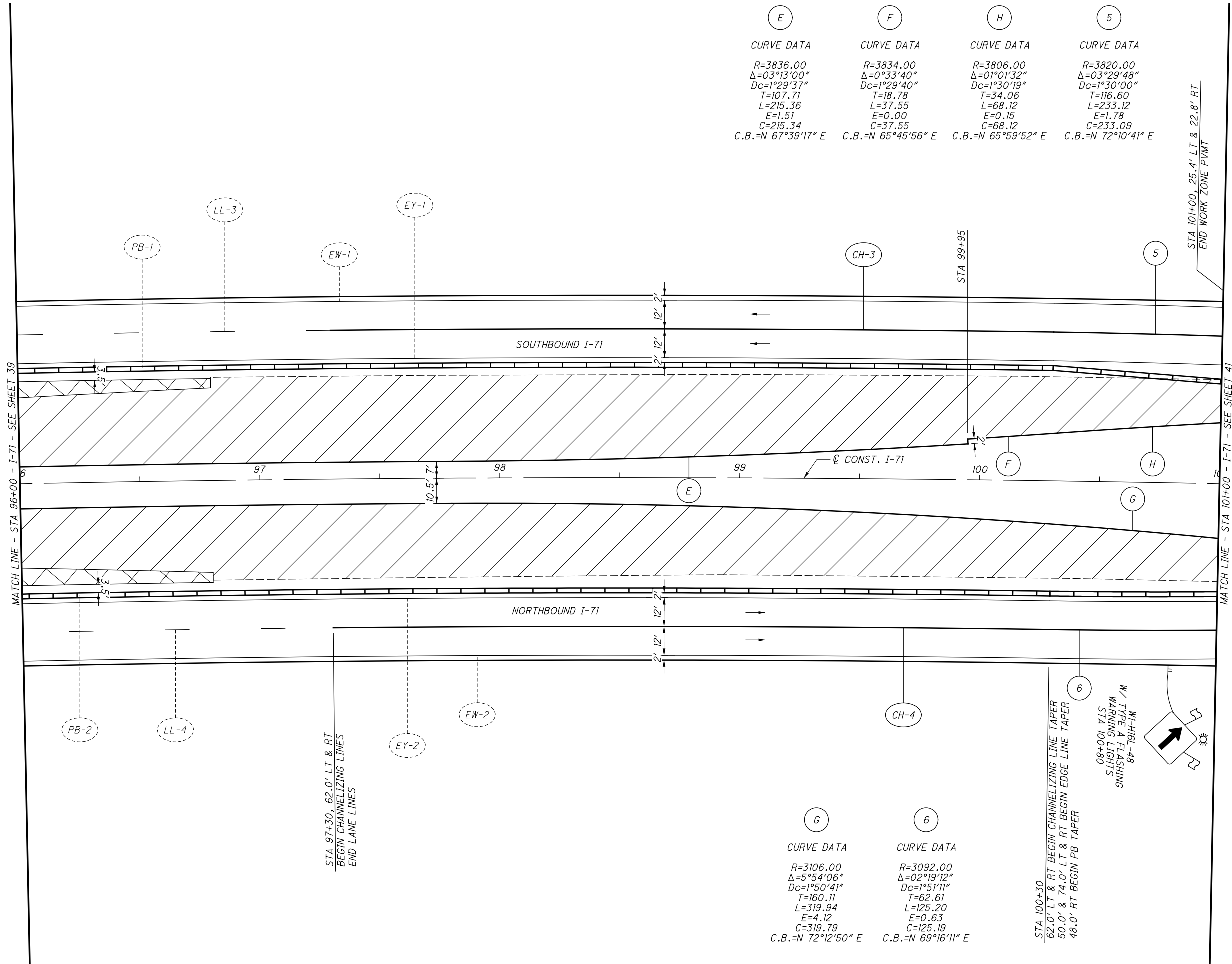
MATCH LINE - STA 96+00 - I-71 - SEE SHEET 40

CALCULATED DLW
CHECKED DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
(ASPHALT) I-71 STA 91+00 TO STA 96+00**

FRA-71-1.53

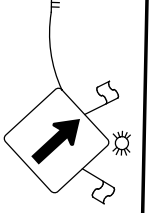


(E)	(F)	(H)	(5)
CURVE DATA	CURVE DATA	CURVE DATA	CURVE DATA
R=3836.00	R=3834.00	R=3806.00	R=3820.00
Δ=0°3'13"00"	Δ=0°33'40"	Δ=0°1'01"32"	Δ=0°3'29"48"
Dc=1°29'37"	Dc=1°29'40"	Dc=1°30'19"	Dc=1°30'00"
T=107.71	T=18.78	T=34.06	T=116.60
L=215.36	L=37.55	L=68.12	L=233.12
E=1.51	E=0.00	E=0.15	E=1.78
C=215.34	C=37.55	C=68.12	C=233.09
C.B.=N 67°39'17" E	C.B.=N 65°45'56" E	C.B.=N 65°59'52" E	C.B.=N 72°10'41" E

(G)	(6)
CURVE DATA	CURVE DATA
R=3106.00	R=3092.00
Δ=5°54'06"	Δ=02°19'12"
Dc=1°50'41"	Dc=1°51'11"
T=160.11	T=62.61
L=319.94	L=125.20
E=4.12	E=0.63
C=319.79	C=125.19
C.B.=N 72°12'50" E	C.B.=N 69°16'11" E

STA 100+30
62.0' LT & RT BEGIN CHANNELIZING LINE TAPER
50.0' LT & RT BEGIN EDGE LINE TAPER
48.0' RT BEGIN PB TAPER

W1-H16L-48
W/ TYPE A FLASHING
WARNING LIGHTS
STA 100+80



CALCULATED EGD CHECKED DLW

0 20 40
10
HORIZONTAL SCALE IN FEET

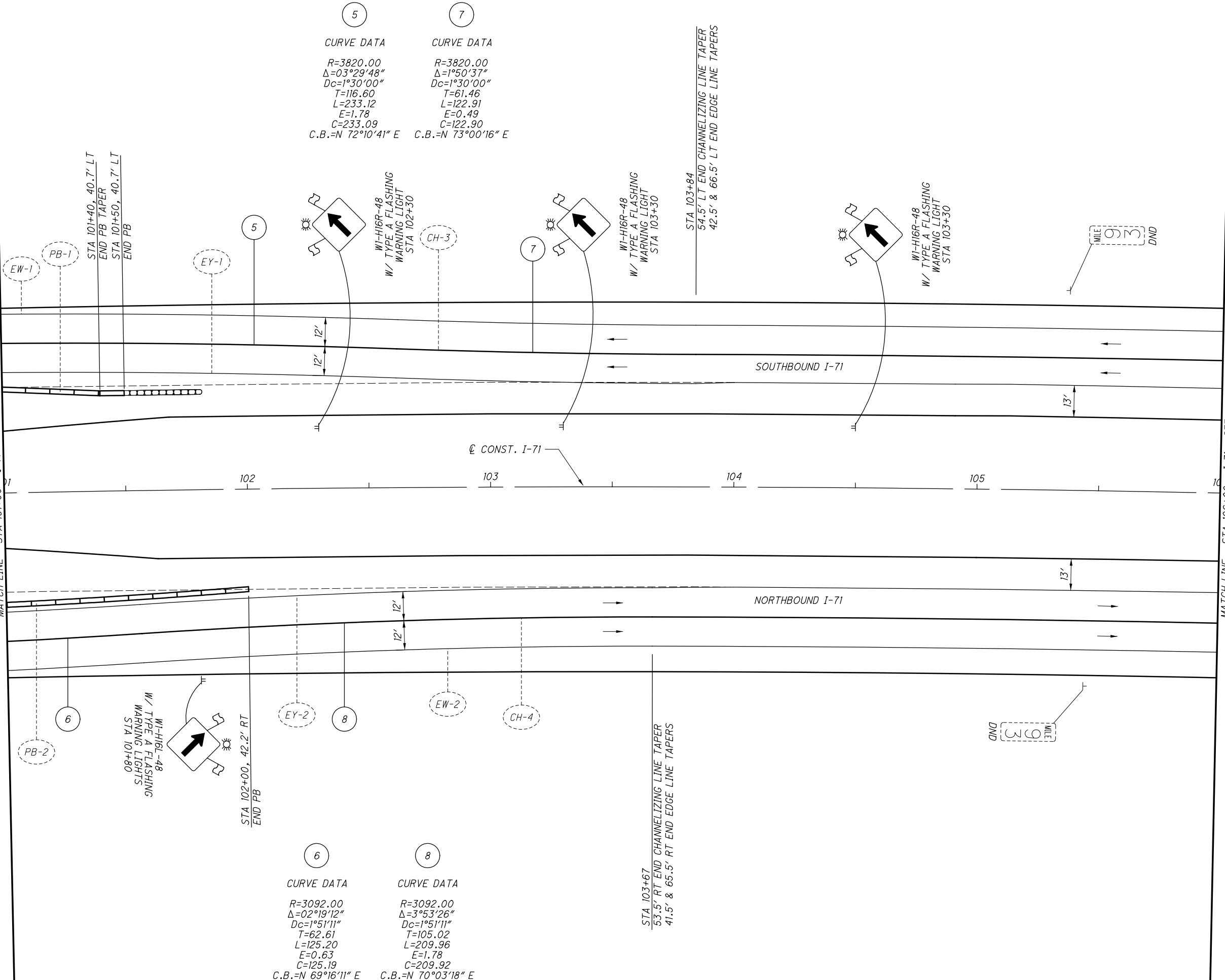
**MAINTENANCE OF TRAFFIC - PHASE 1
(ASPHALT) I-71 STA 96+00 TO STA 101+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23

MATCH LINE - STA 101+00 - I-71 - SEE SHEET 40

MATCH LINE - STA 106+00 - I-71 - SEE SHEET 42



Station	Curve Data
5	R=3820.00 $\Delta=03^{\circ}29'48''$ $Dc=1^{\circ}30'00''$ T=116.60 L=233.12 E=1.78 C=233.09 C.B.=N 72°10'41" E
7	R=3820.00 $\Delta=1^{\circ}50'37''$ $Dc=1^{\circ}30'00''$ T=61.46 L=122.91 E=0.49 C=122.90 C.B.=N 73°00'16" E

Station	Curve Data
6	R=3092.00 $\Delta=02^{\circ}19'12''$ $Dc=1^{\circ}51'11''$ T=62.61 L=125.20 E=0.63 C=125.19 C.B.=N 69°16'11" E
8	R=3092.00 $\Delta=3^{\circ}53'26''$ $Dc=1^{\circ}51'11''$ T=105.02 L=209.96 E=1.78 C=209.92 C.B.=N 70°03'18" E

STA 103+67
53.5' RT END CHANNELIZING LINE TAPER
41.5' & 65.5' RT END EDGE LINE TAPERS

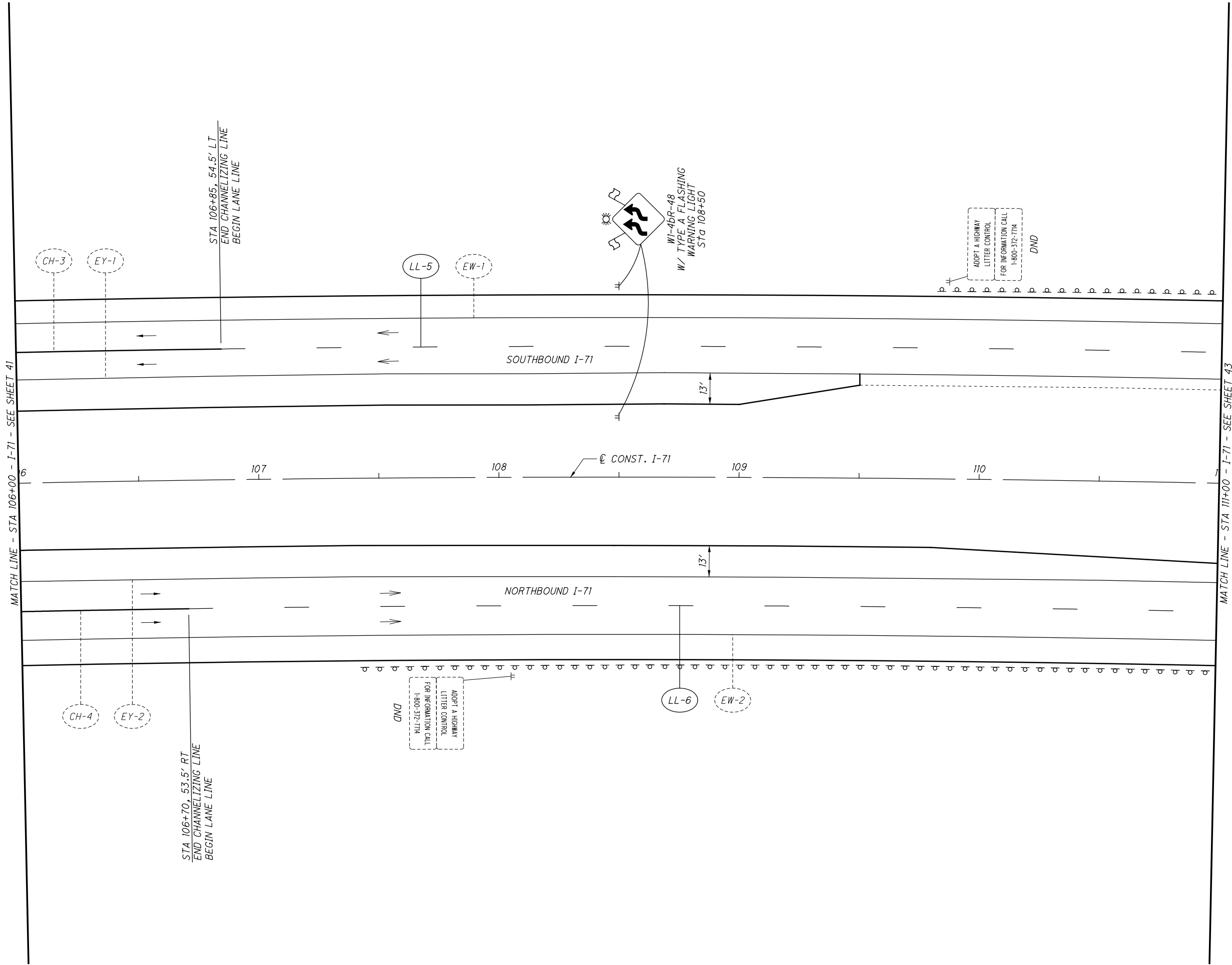
STA 103+84
54.5' LT END CHANNELIZING LINE TAPER
42.5' & 66.5' LT END EDGE LINE TAPERS

CALCULATED
EGD
CHECKED
DLW

**MAINTENANCE OF TRAFFIC - PHASE 1
(ASPHALT) I-71 STA 101+00 TO STA 106+00**

FRA-71-1.53

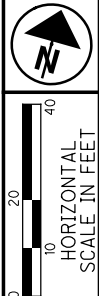
FOR LEGEND, SEE SHEET 23



CALCULATED	EGD
CHECKED	DLW

**MAINTENANCE OF TRAFFIC - PHASE 1
(ASPHALT) I-71 STA 106+00 TO STA 111+00**

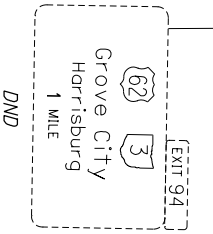
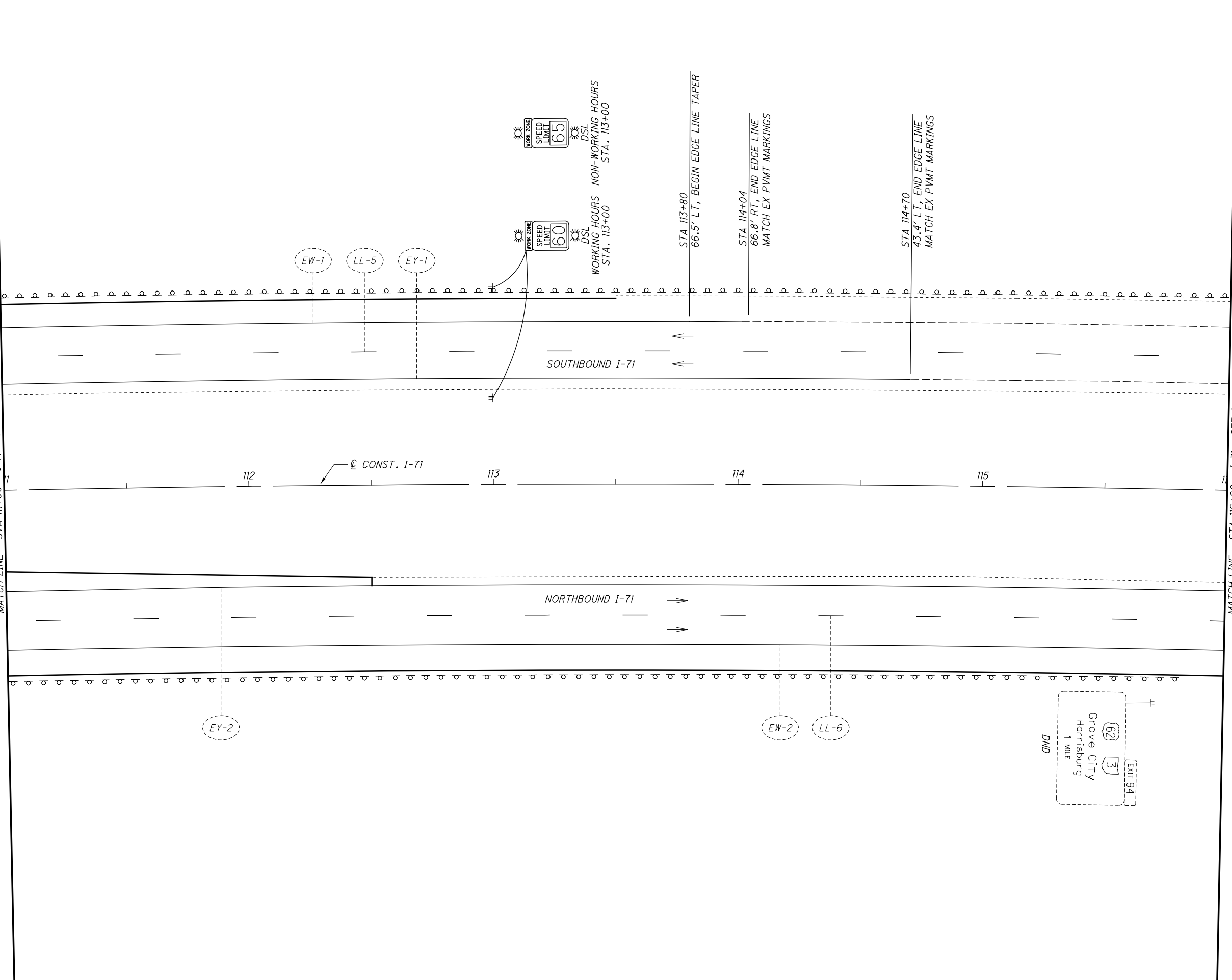
FRA-71-1.53



FOR LEGEND, SEE SHEET 23

MATCH LINE - STA 111+00 - I-71 - SEE SHEET 42

MATCH LINE - STA 116+00 - I-71 - SEE SHEET 44



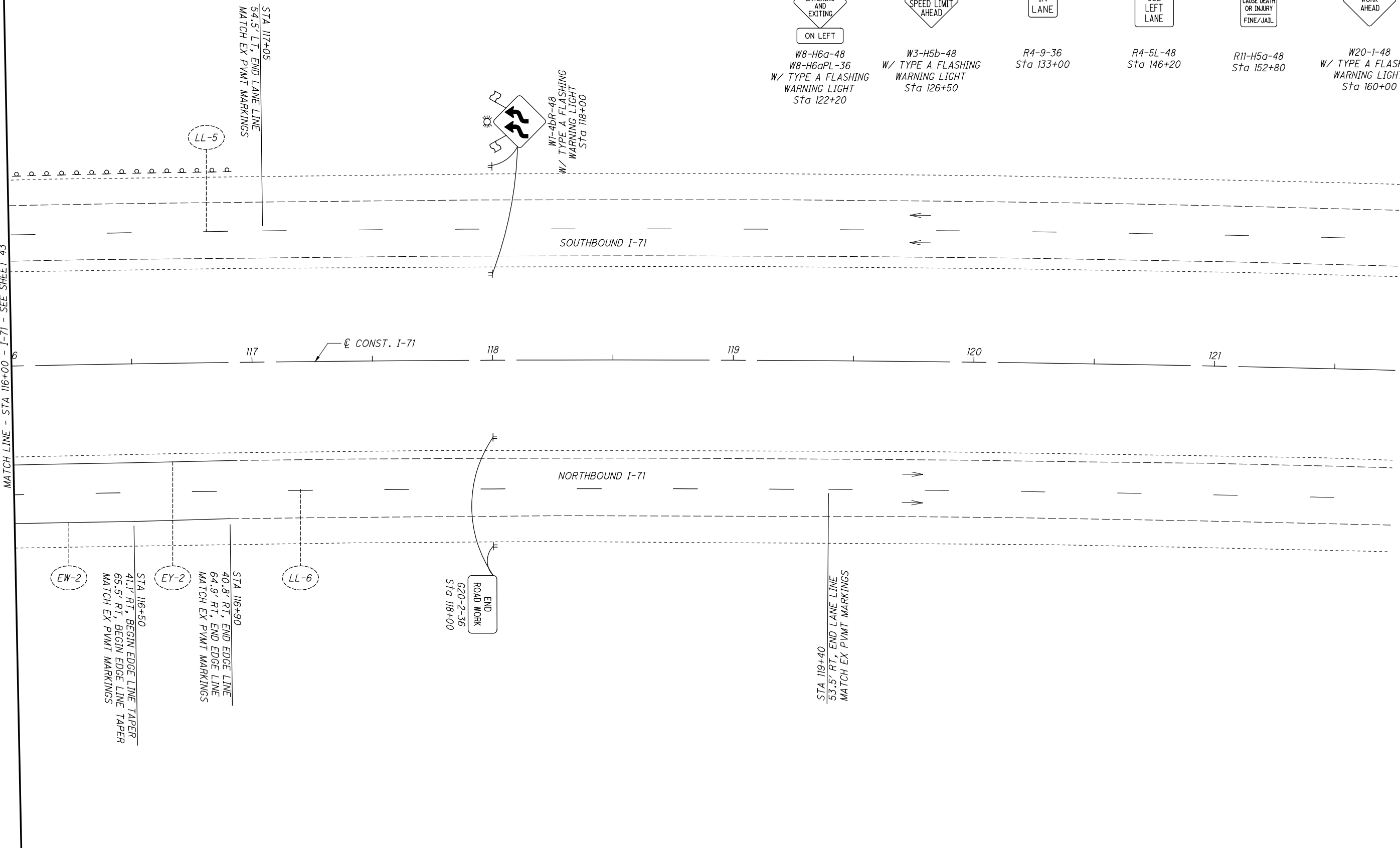
CALCULATED
EGD
CHECKED
DLW

0 20 40
HORIZONTAL
SCALE IN FEET


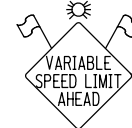


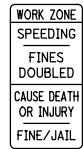

**MAINTENANCE OF TRAFFIC - PHASE 1
(ASPHALT) I-71 STA 111+00 TO STA 116+00**

FRA-71-1.53

MATCH LINE - STA 116+00 - I-71 - SEE SHEET 43



THE CONTRACTOR SHALL INSTALL THE FOLLOWING ADVANCE WARNING SIGNS ON BOTH SIDES OF THE SOUTHBOUND I-71 ROADWAY AT THE LOCATIONS SHOWN PRIOR TO THE START OF PHASE 1 CONSTRUCTION. COVER R2-1 SOUTHBOUND SIGN AT STA. 145+00.

- | | | | | | |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| ON LEFT | | | | | |
| W8-H6a-48
W8-H6aPL-36
W/ TYPE A FLASHING
WARNING LIGHT
Sta 122+20 | W3-H5b-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 126+50 | R4-9-36
Sta 133+00 | R4-5L-48
Sta 146+20 | R11-H5a-48
Sta 152+80 | W20-1-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 160+00 |

CALCULATED EGD CHECKED DLW


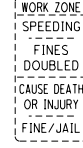




0 20 40
10 HORIZONTAL SCALE IN FEET

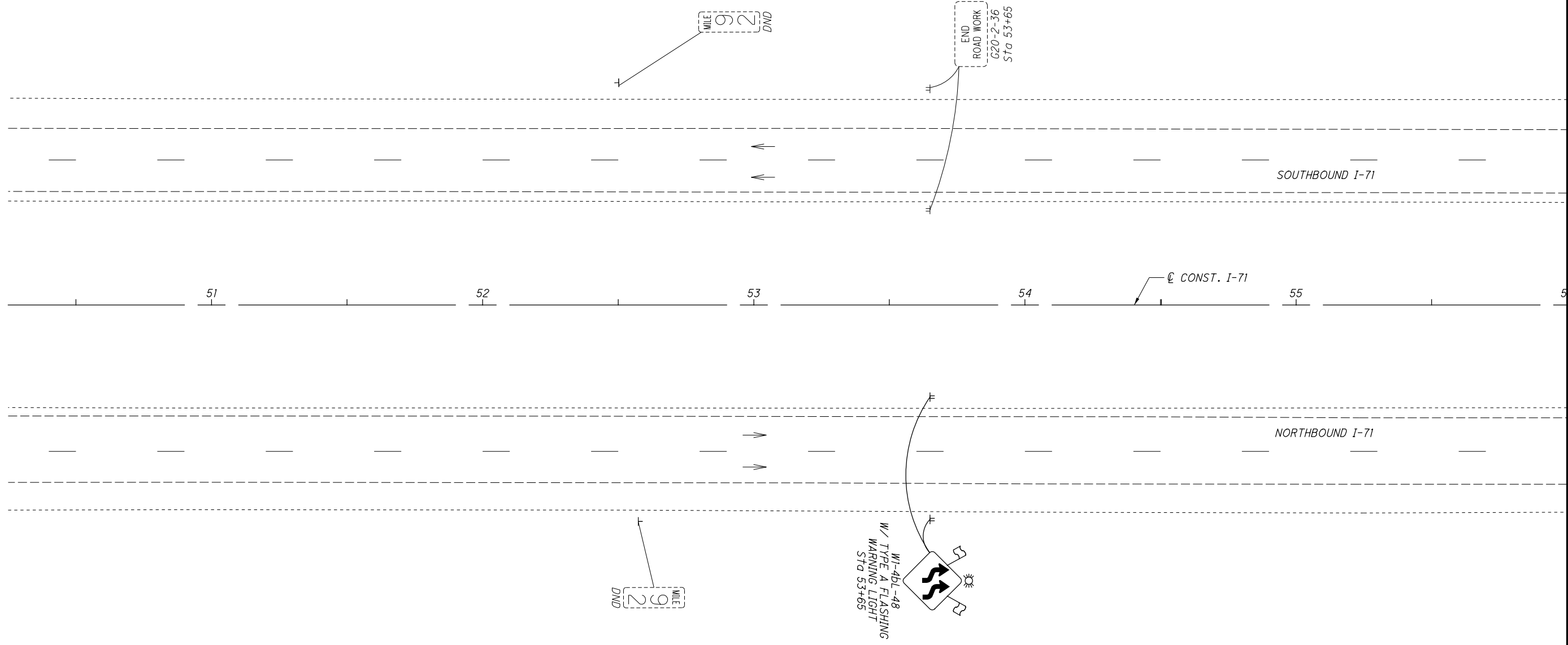
**MAINTENANCE OF TRAFFIC - PHASE 1
(ASPHALT) I-71 STA 116+00 TO STA 121+75**

FRA-71-1.53

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THE FOLLOWING ADVANCE WARNING SIGNS ALONG THE NORTHBOUND I-71 ROADWAY SHALL BE LEFT IN PLACE OR MODIFIED AT THE COMPLETION OF PHASE 1 CONSTRUCTION.

-  ROAD WORK AHEAD
W20-1-48
W/ TYPE A FLASHING WARNING LIGHT
Sta 12+25
-  WORK ZONE SPEEDING
FINES DOUBLED
CAUSE DEATH OR INJURY
FINE/JAIL
R11-H5a-48
Sta 18+85
-  TRUCKS USE RIGHT LANE
R4-5R-48
Sta 24+65
-  STAY IN LANE
R4-9-36
Sta 38+65
-  VARIABLE SPEED LIMIT AHEAD
W3-H5b-48
W/ TYPE A FLASHING WARNING LIGHT
Sta 46+15
-  TRUCKS ENTERING AND EXITING
ON RIGHT
W8-H6a-48
W8-H6aPR-36
W/ TYPE A FLASHING WARNING LIGHT
Sta 49+20



CALCULATED EGD CHECKED DLW

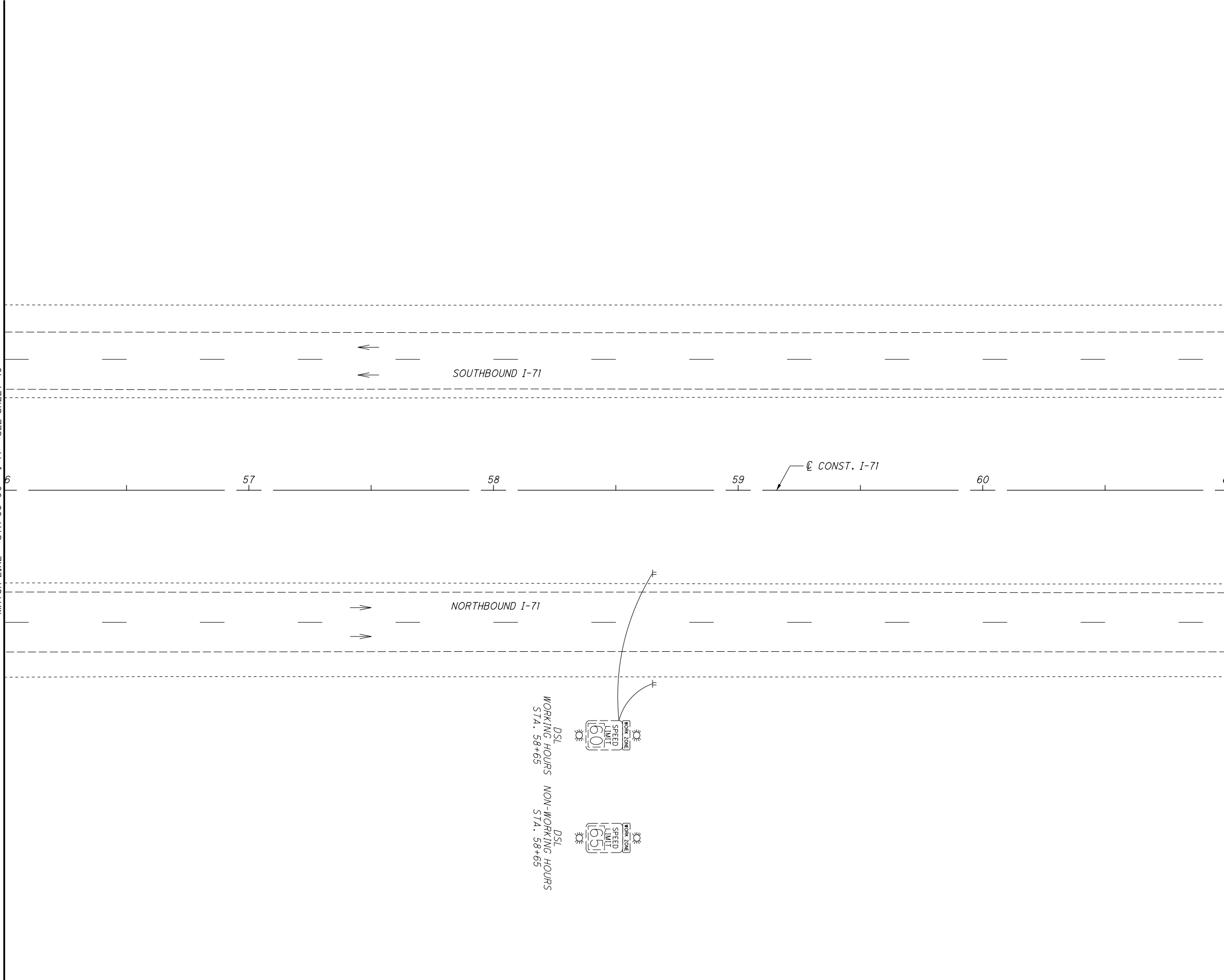
0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(ASPHALT) I-71 STA 50+25 TO STA 56+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23

MATCH LINE - STA 56+00 - I-71 - SEE SHEET 45



SOUTHBOUND I-71

NORTHBOUND I-71

CONST. I-71

57

58

59

60

MATCH LINE - STA 61+00 - I-71 - SEE SHEET 47

DSL
WORKING HOURS
STA. 58+65



DSL
NON-WORKING HOURS
STA. 58+65



CALCULATED	EGD	CHECKED	DLW

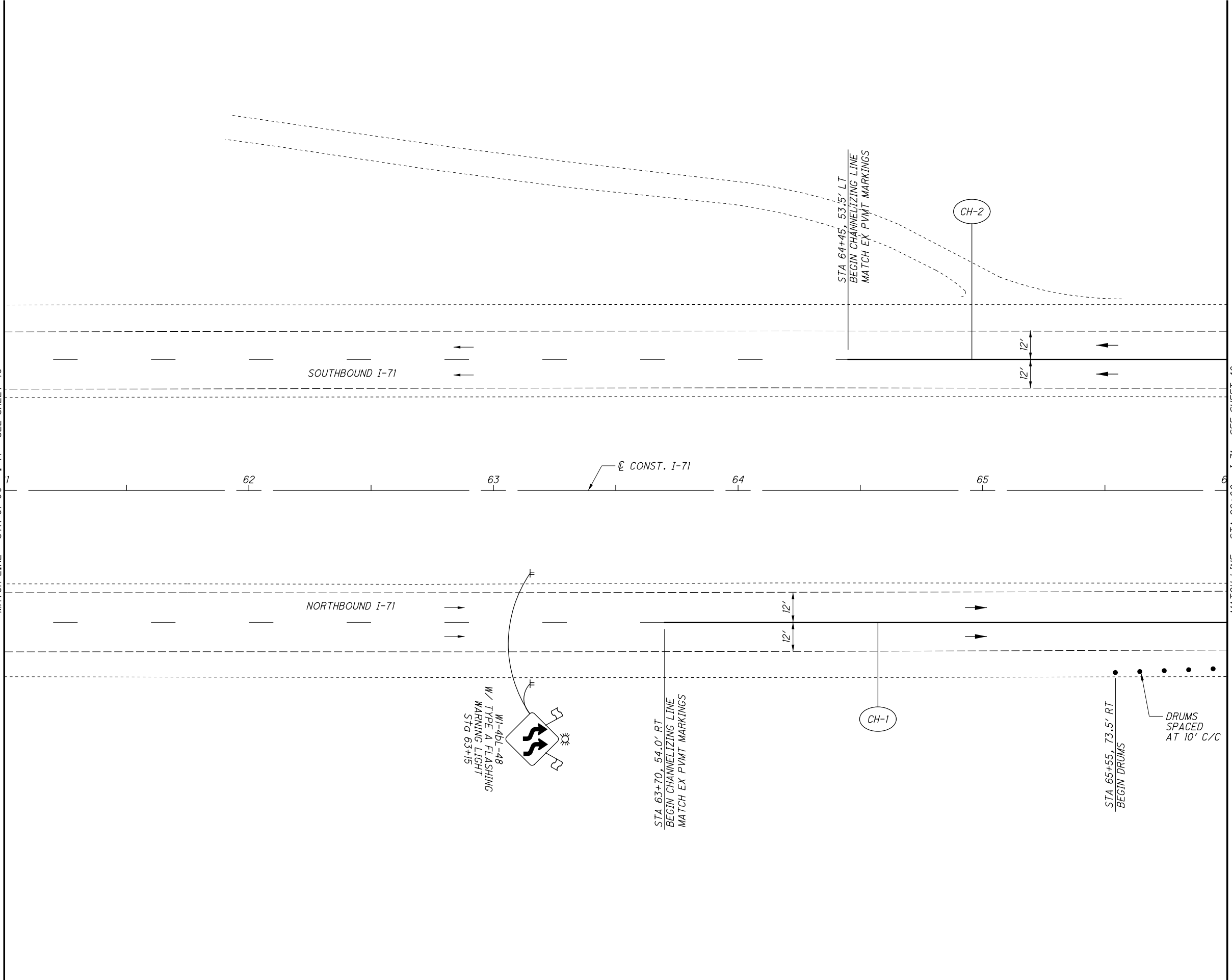
0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(ASPHALT) I-71 STA 56+00 TO STA 61+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23

MATCH LINE - STA 61+00 - I-71 - SEE SHEET 46



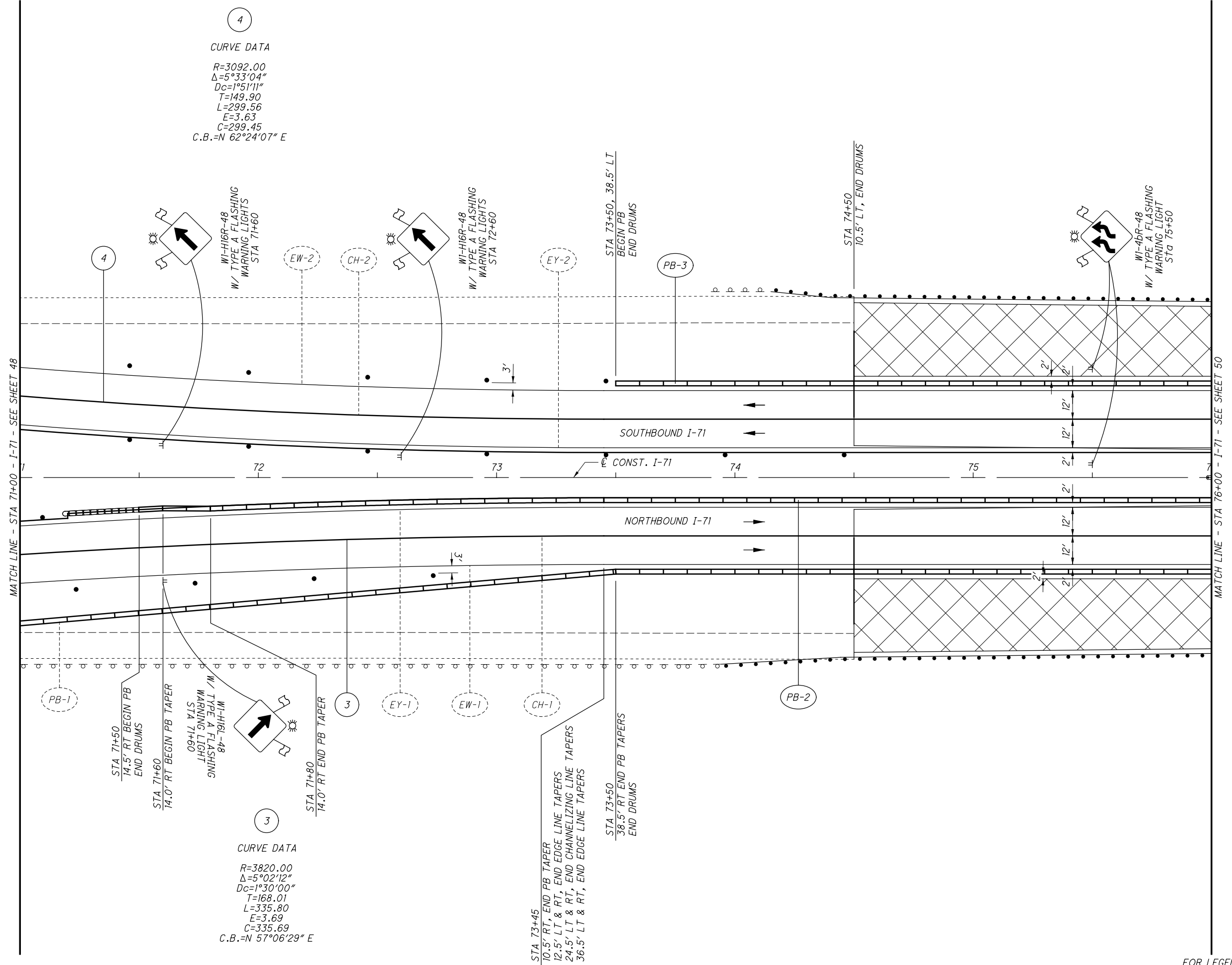
FOR LEGEND, SEE SHEET 23

CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(ASPHALT) I-71 STA 61+00 TO STA 66+00**

FRA-71-1.53



4
 CURVE DATA
 R=3092.00
 $\Delta=5^{\circ}33'04''$
 $Dc=1^{\circ}51'11''$
 T=149.90
 L=299.56
 E=3.63
 C=299.45
 C.B.=N 62°24'07" E

3
 CURVE DATA
 R=3820.00
 $\Delta=5^{\circ}02'12''$
 $Dc=1^{\circ}30'00''$
 T=168.01
 L=335.80
 E=3.69
 C=335.69
 C.B.=N 57°06'29" E

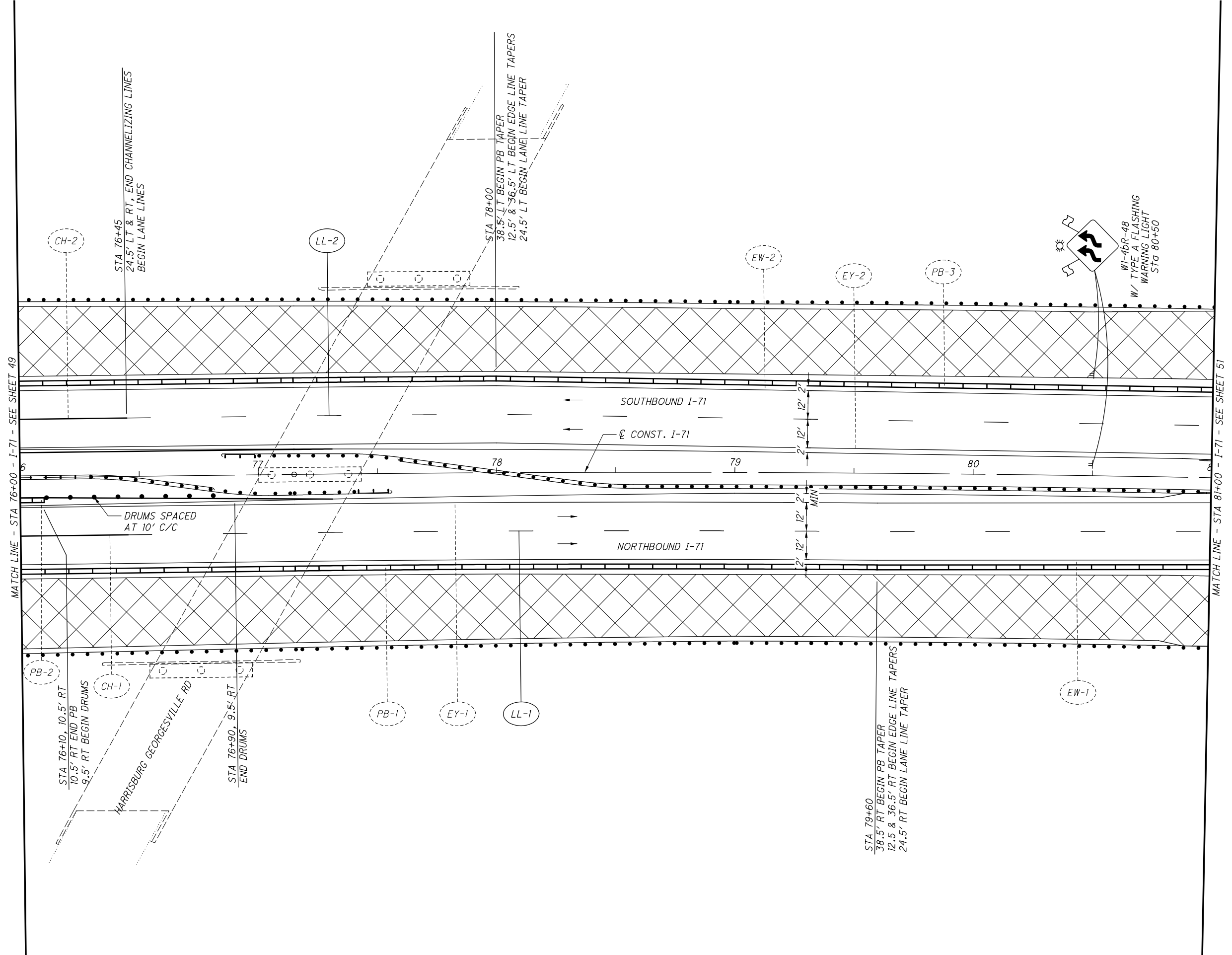
CALCULATED
EGD
CHECKED
DLW

0 10 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
 (ASPHALT) I-71 STA 71+00 TO STA 76+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23



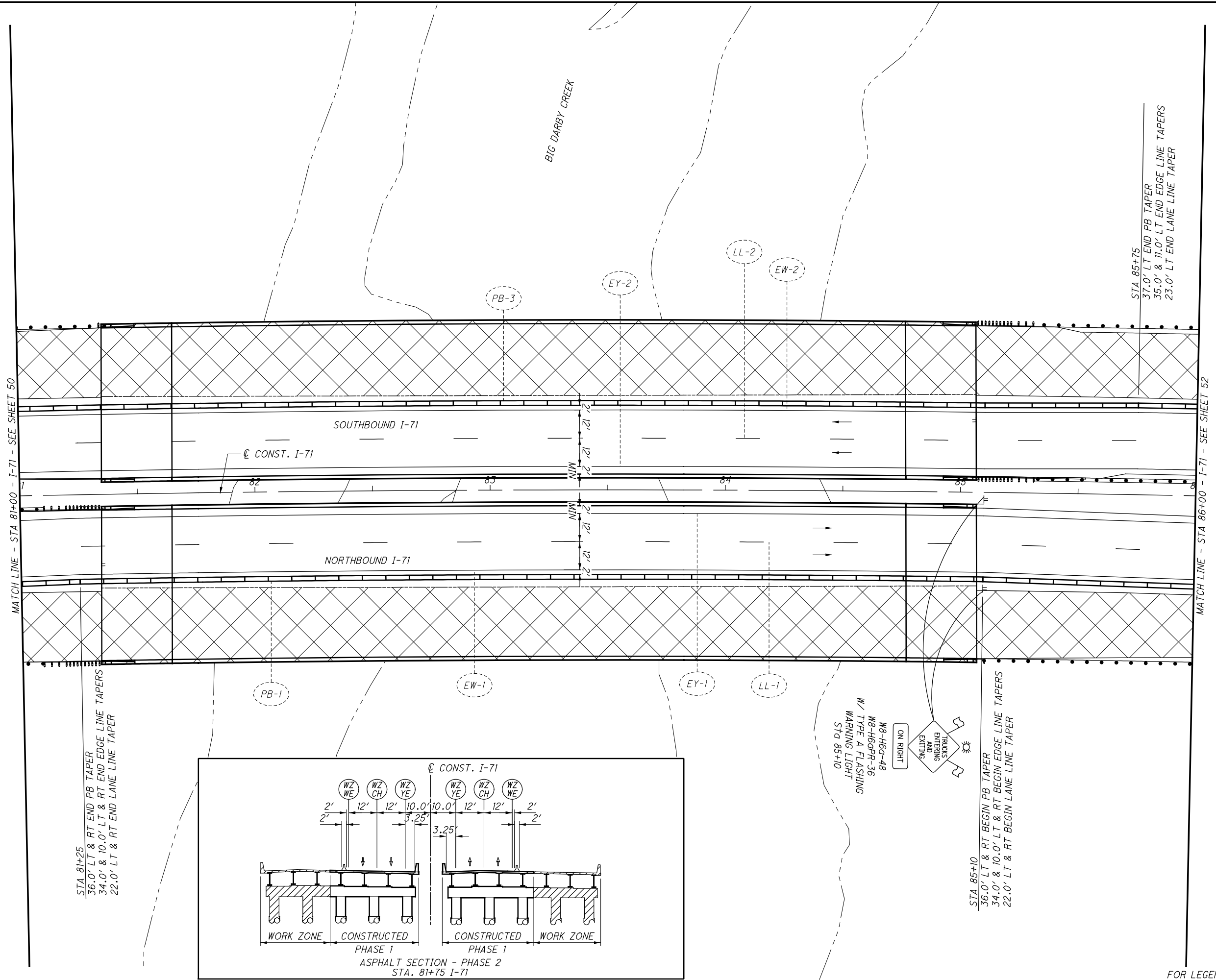
CALCULATED
EGD
CHECKED
DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(ASPHALT) I-71 STA 76+00 TO STA 81+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23

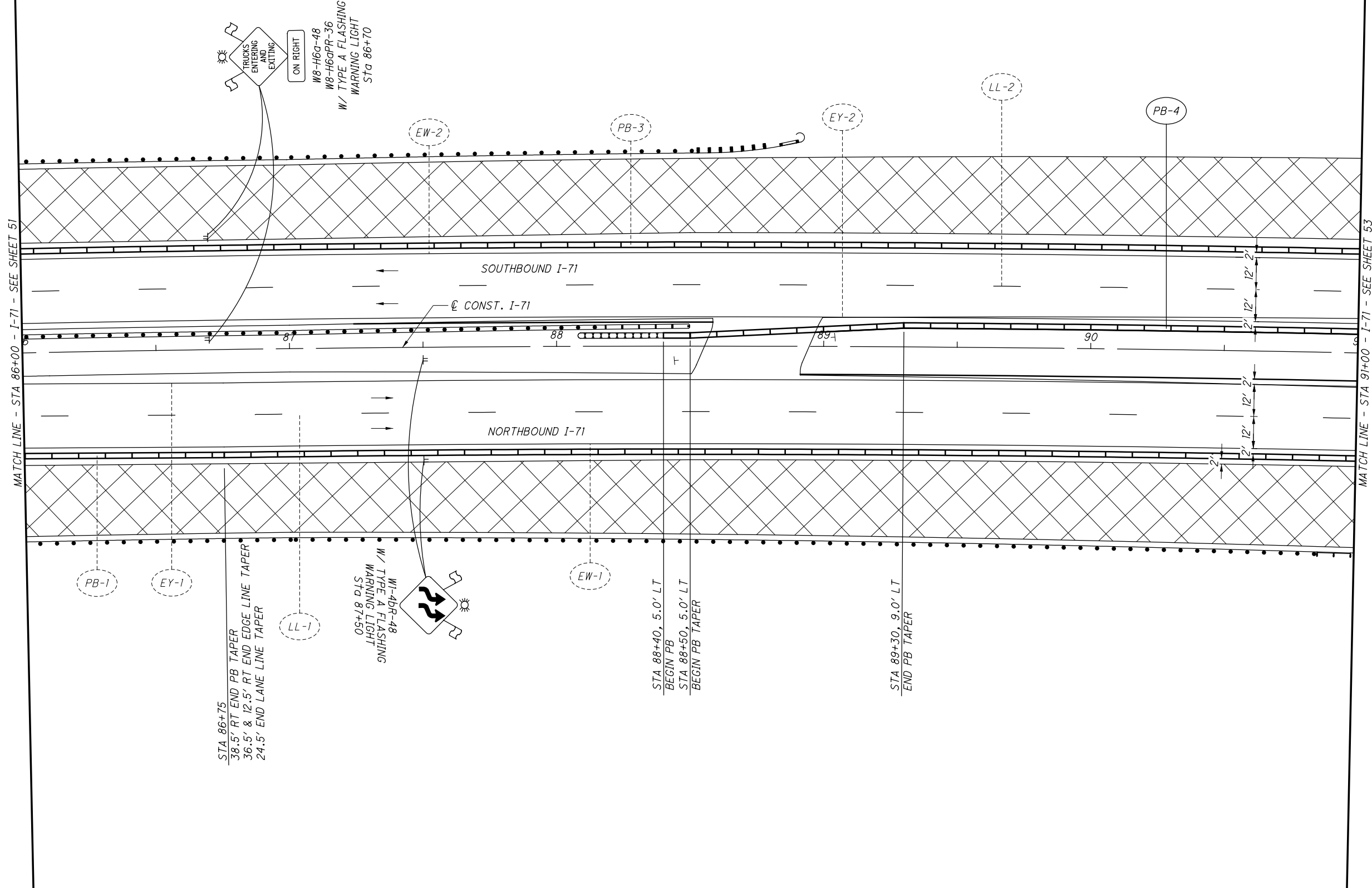


CALCULATED EGD
 CHECKED DLW
 0 20 40
 HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 2
(ASPHALT) I-71 STA 81+00 TO STA 86+00

FRA-71-1.53

FOR LEGEND, SEE SHEET 23



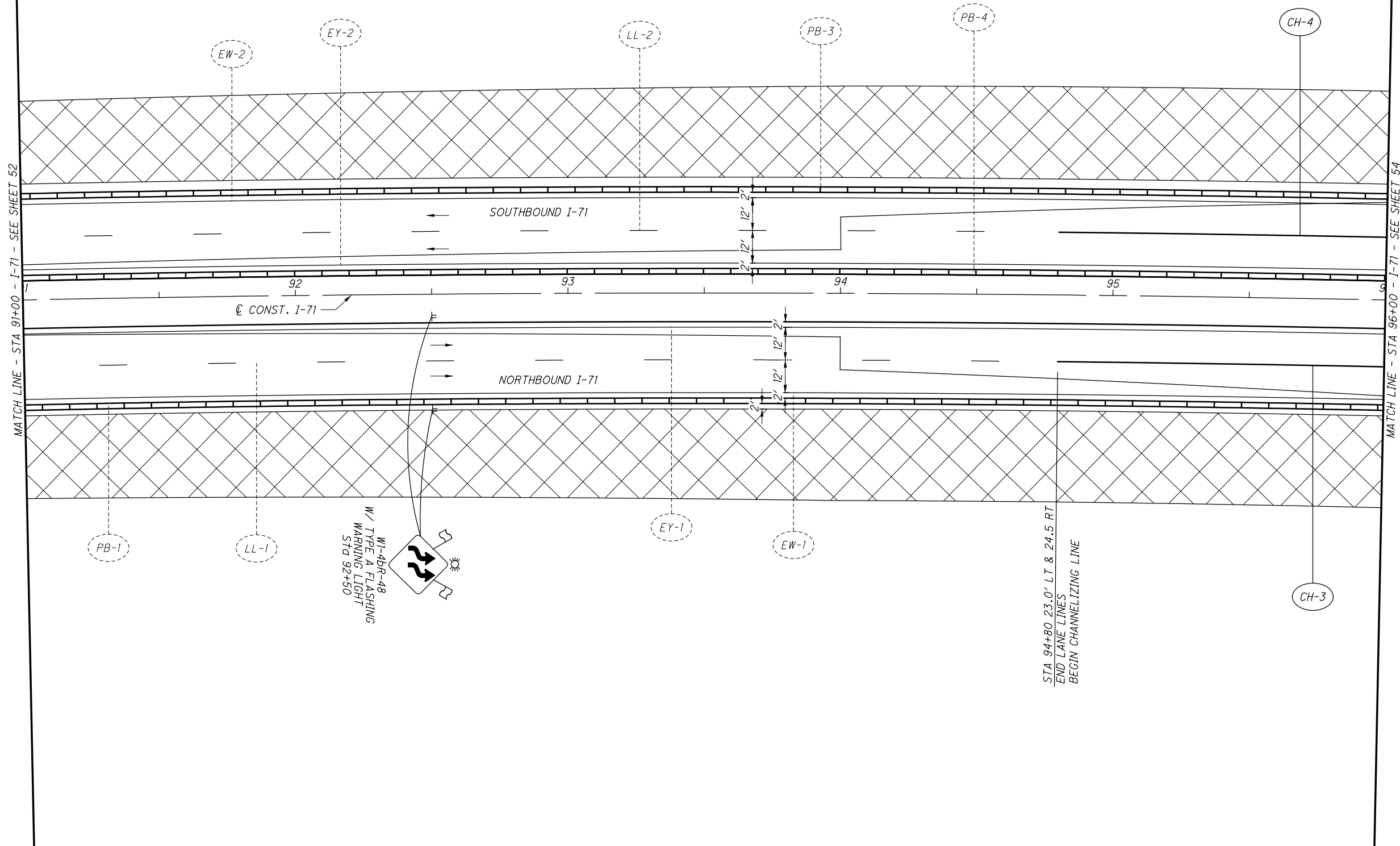
CALCULATED
EGD
CHECKED
DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(ASPHALT) I-71 STA 86+00 TO STA 91+00**

FRA -71-1.53

FOR LEGEND, SEE SHEET 23



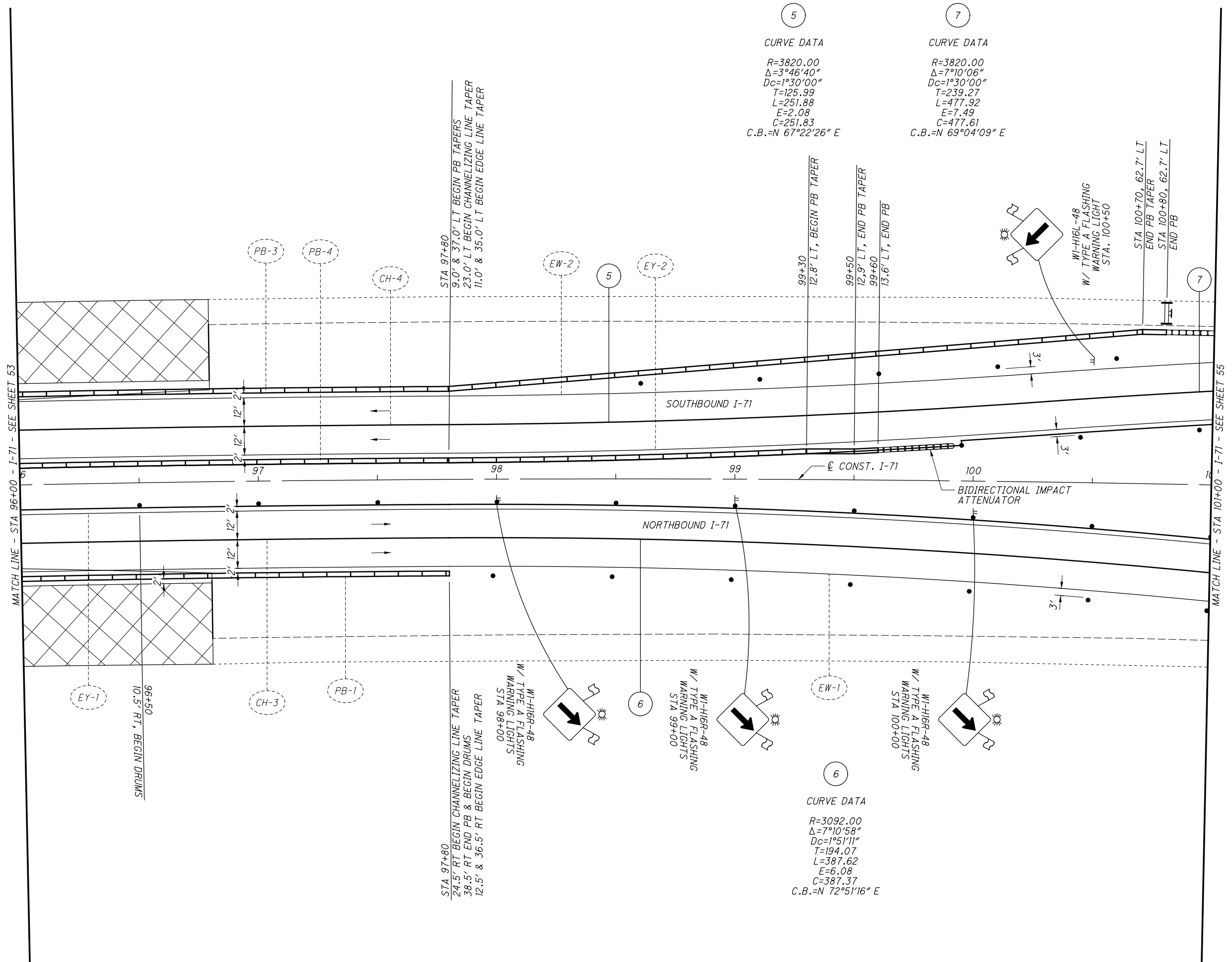
FOR LEGEND, SEE SHEET 23

CALCULATED	EGD	CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(ASPHALT) I-71 STA 91+00 TO STA 96+00**

FRA-71-1.53



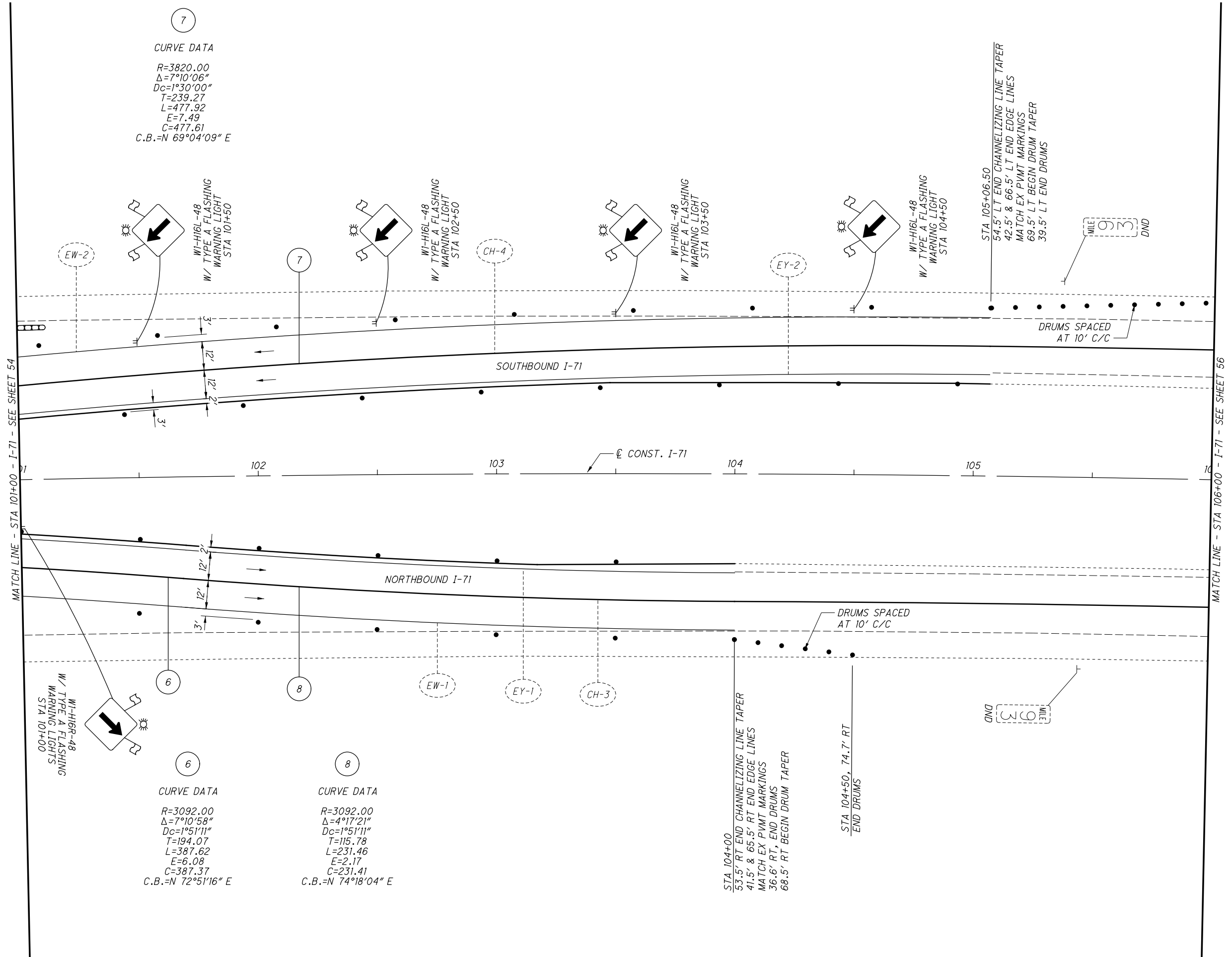
CALCULATED
DLW
CHECKED
EGD

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(ASPHALT) I-71 STA 96+00 TO STA 101+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23



CALCULATED EGD CHECKED DLW

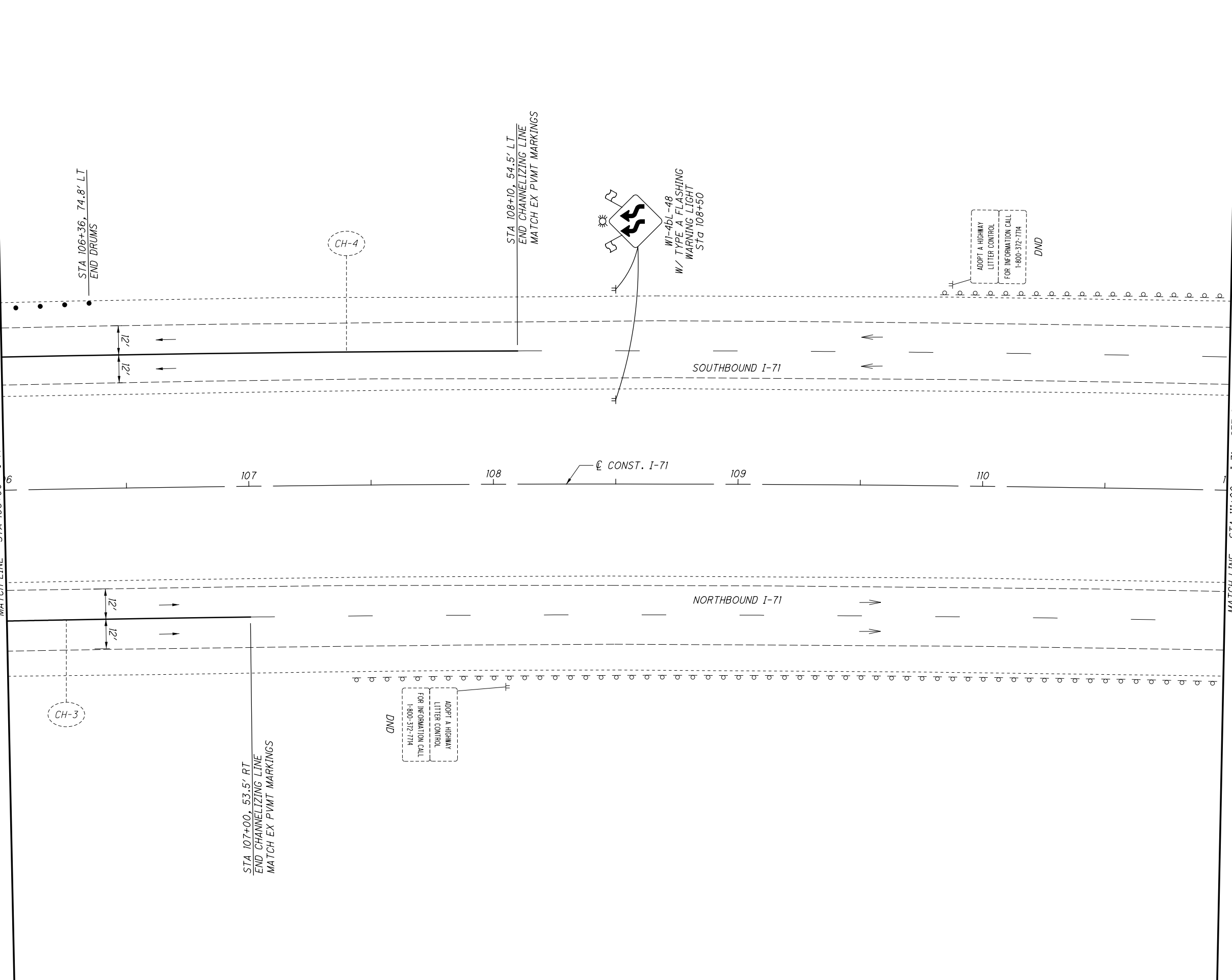
0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(ASPHALT) I-71 STA 101+00 TO STA 106+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23

MATCH LINE - STA 106+00 - I-71 - SEE SHEET 55



MATCH LINE - STA 111+00 - I-71 - SEE SHEET 57

FOR LEGEND, SEE SHEET 23

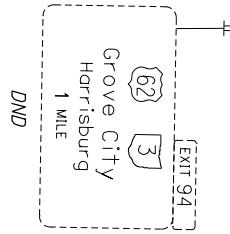
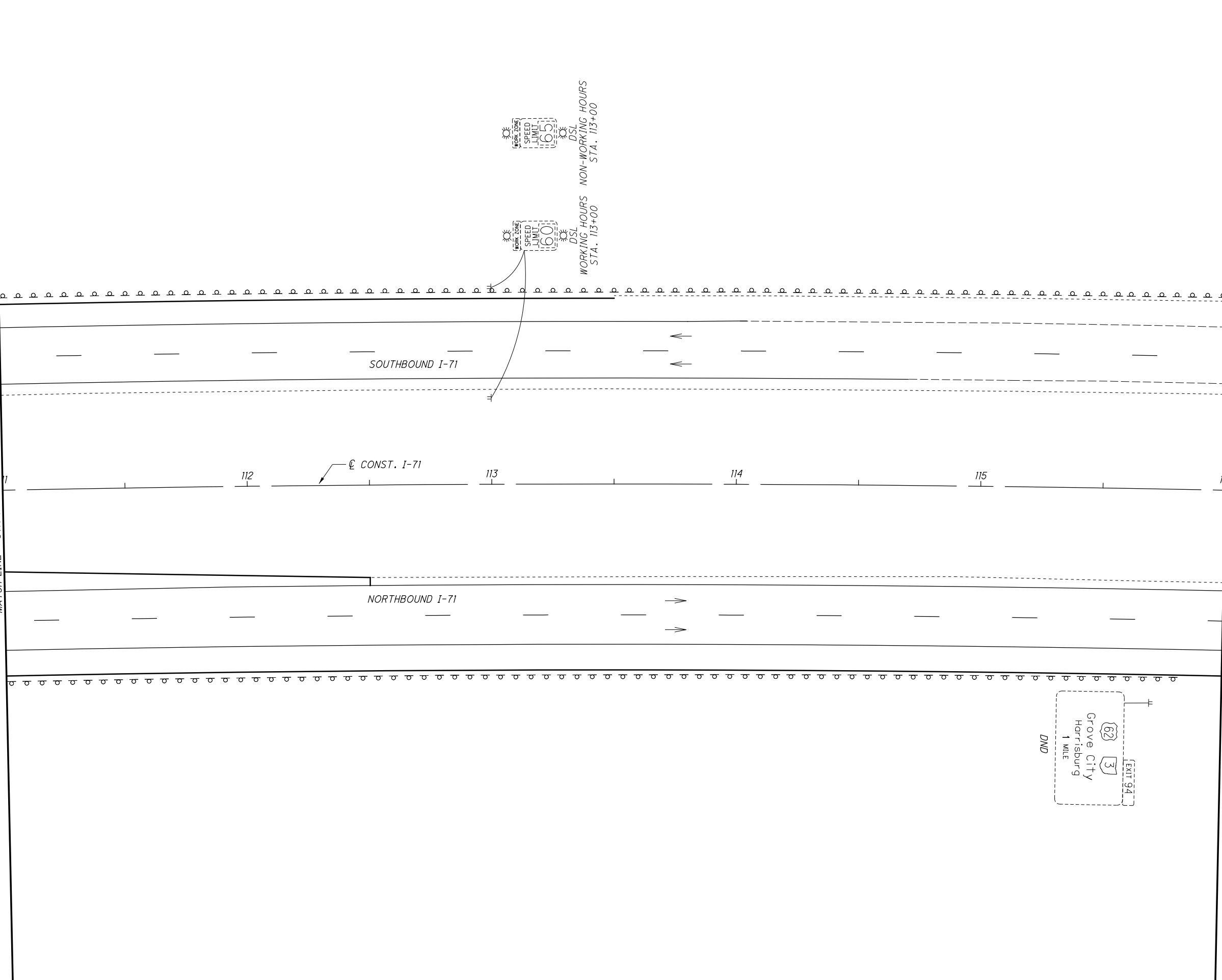
CALCULATED	DLW	CHECKED	EGD

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(ASPHALT) I-71 STA 106+00 TO STA 111+00**

FRA-71-1.53

MATCH LINE - STA 111+00 - I-71 - SEE SHEET 56



FOR LEGEND, SEE SHEET 23

CALCULATED	EGD	CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(ASPHALT) I-71 STA 111+00 TO STA 116+00**

FRA-71-1.53

MATCH LINE - STA 116+00 - I-71 - SEE SHEET 57

p p

117

CONST. I-71

END ROAD WORK
DND



W1-H16L-48
W/ TYPE A FLASHING
WARNING LIGHT
STA 118+00

118

119

SOUTHBOUND I-71

120

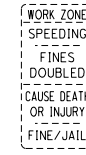
121

NORTHBOUND I-71

THE FOLLOWING ADVANCE WARNING SIGNS ALONG THE SOUTHBOUND I-71 ROADWAY SHALL BE LEFT IN PLACE OR MODIFIED AT THE COMPLETION OF PHASE 1 CONSTRUCTION. COVER R2-1 SOUTHBOUND SIGN AT STA. 145+00.



W20-1-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 160+00



R11-H5a-48
Sta 152+80



R4-5R-48
Sta 146+20



R4-9-36
Sta 133+00



W3-H5b-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 126+50



W8-H6a-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 122+20

ON RIGHT

CALCULATED EGD CHECKED DLW

40
20
0
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(ASPHALT) I-71 STA 116+00 TO STA 121+75**

FRA-71-1.53

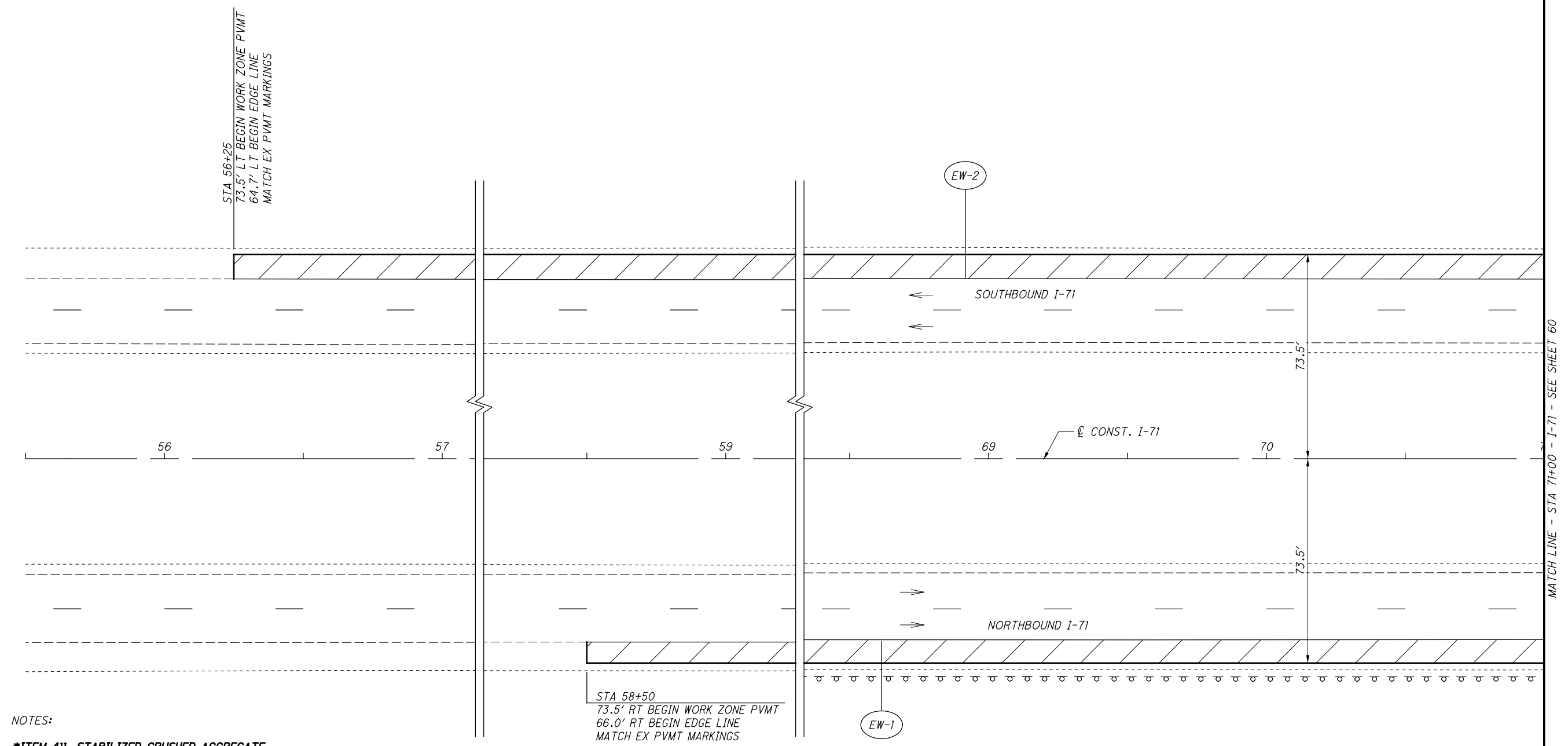
X:\4037000\121957.15\93496\MOT\sheets\93496MP302.dgn Sheet: 11/19/2018 3:00:16 PM 1636dcb

CALCULATED
EGD
CHECKED
DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(CONCRETE) I-71 STA 55+50 TO STA 71+00**

FRA-71-1.53

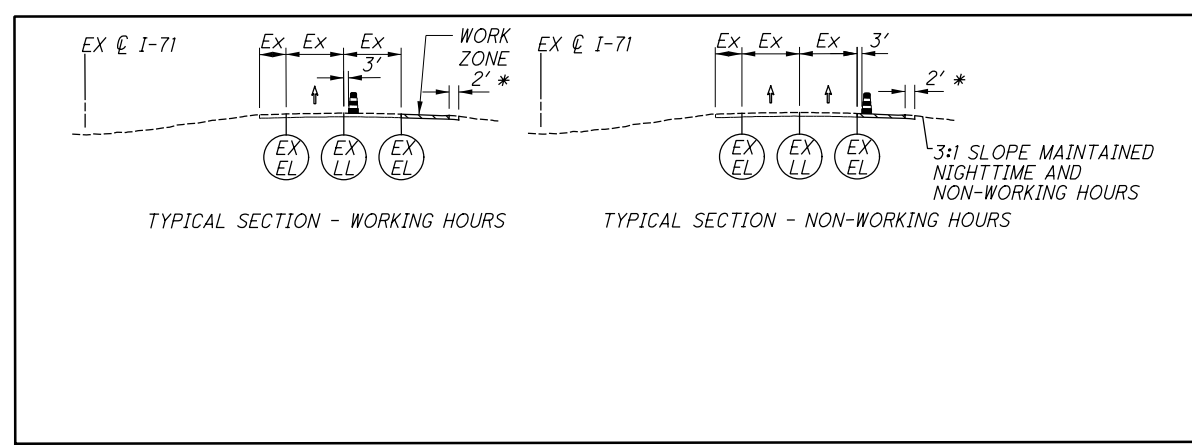


NOTES:

***ITEM 411, STABILIZED CRUSHED AGGREGATE**
THIS AGGREGATE SHOULDER SHALL BE CONSTRUCTED ALONG THE EDGE OF THE WORK ZONE PAVEMENT AND SHALL BE 2 FEET WIDE BY 6 INCHES DEEP AND PLACED AT THE FOLLOWING LOCATIONS:
STA 56+25 TO STA 81+57, LT
STA 58+50 TO STA 81+56, RT
STA 84+83 TO STA 109+10, LT
STA 84+85 TO STA 111+50, RT

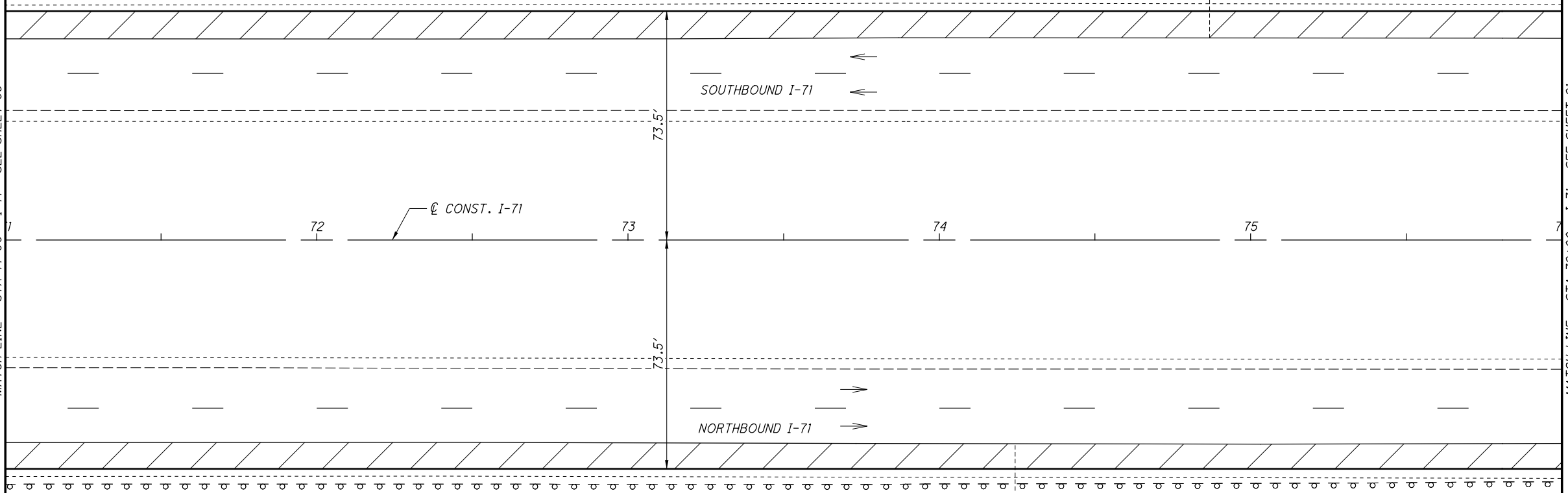
ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE
THE CONTRACTOR SHALL PLANE 9 INCHES OF EXISTING OUTSIDE ASPHALT CONCRETE SHOULDER DOWN TO THE EXISTING ITEM 304, AGGREGATE BASE WHICH WILL REMAIN IN PLACE.

ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN A
ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN A, SHALL BE USED TO RECONSTRUCT THE OUTSIDE SHOULDERS SHOWN IN PRE-PHASE 1A. THE CONTRACTOR SHALL CONSTRUCT 7/8 INCHES OF ITEM 302, ASPHALT CONCRETE BASE IN ONE LIFT AND 1 1/2 INCHES OF ITEM 441, TYPE 1. THE WORK ZONE PAVEMENT OUTSIDE THE PROJECT LIMITS SHALL BE LEFT IN PLACE AT THE END OF THIS PROJECT.



FOR LEGEND, SEE SHEET 23

MATCH LINE - STA 71+00 - I-71 - SEE SHEET 59

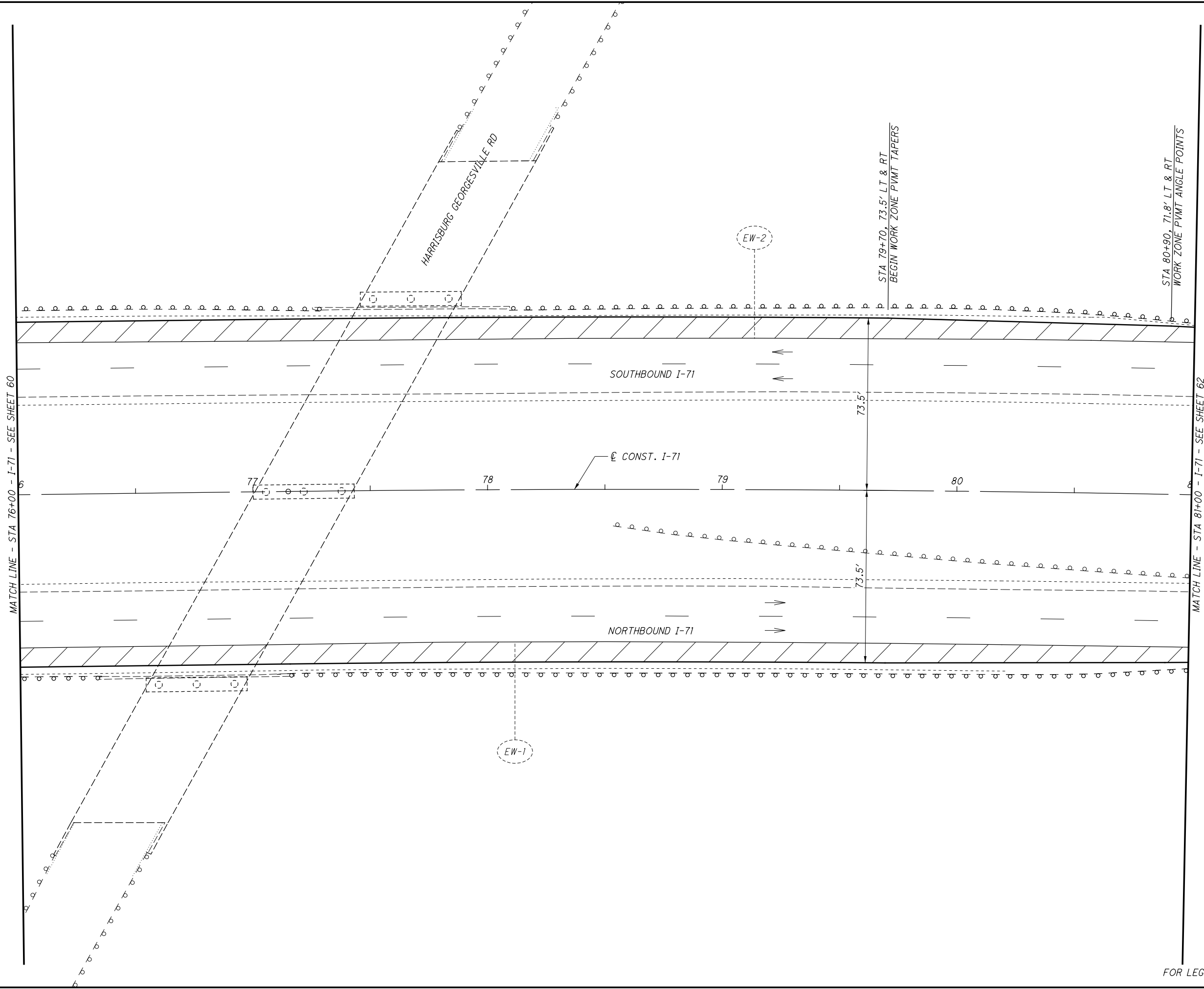


CALCULATED	EGD	CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(CONCRETE) I-71 STA 71+00 TO STA 76+00**

FRA-71-1.53



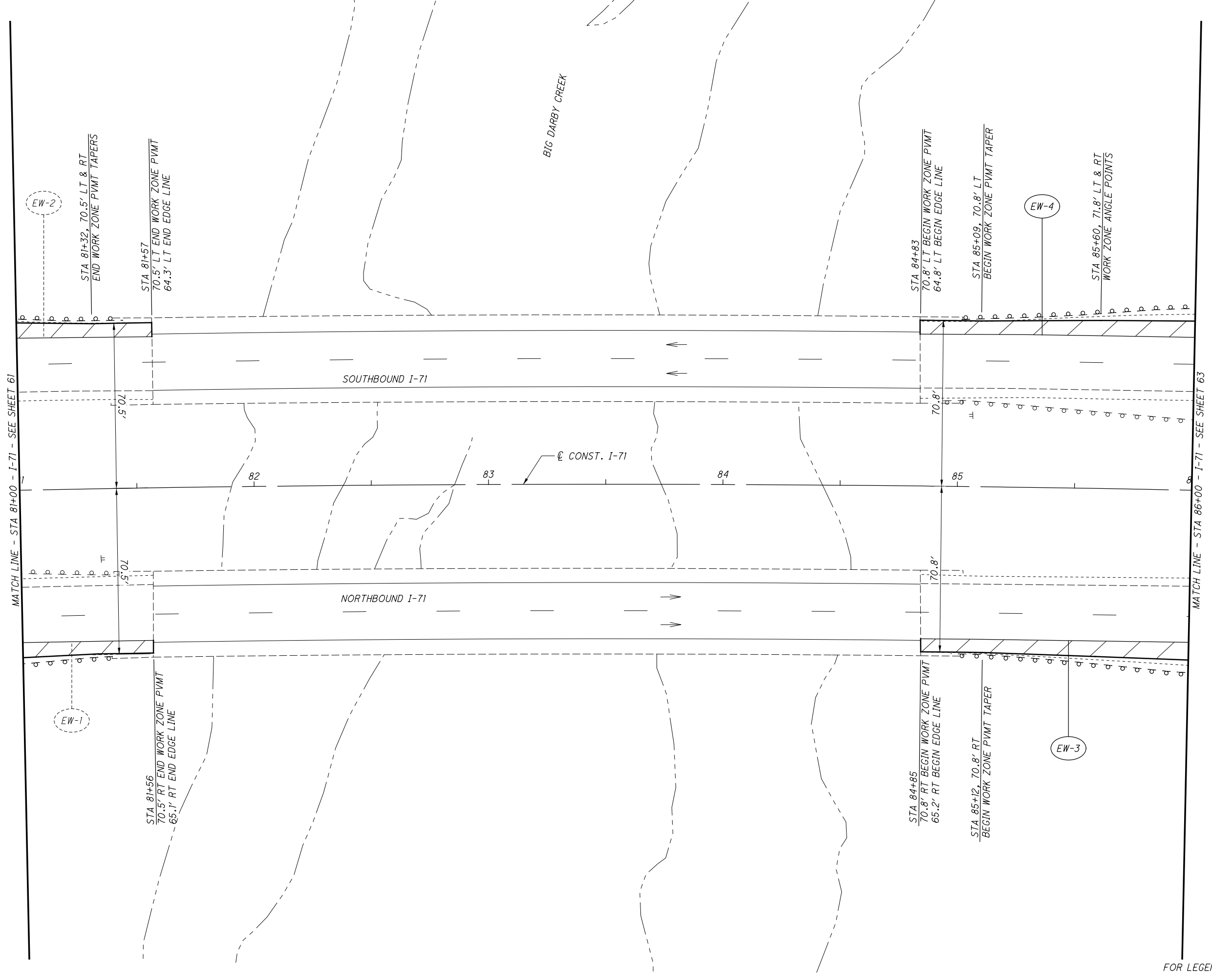
FOR LEGEND, SEE SHEET 23

CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(CONCRETE) I-71 STA 76+00 TO STA 81+00**

FRA-71-1.53



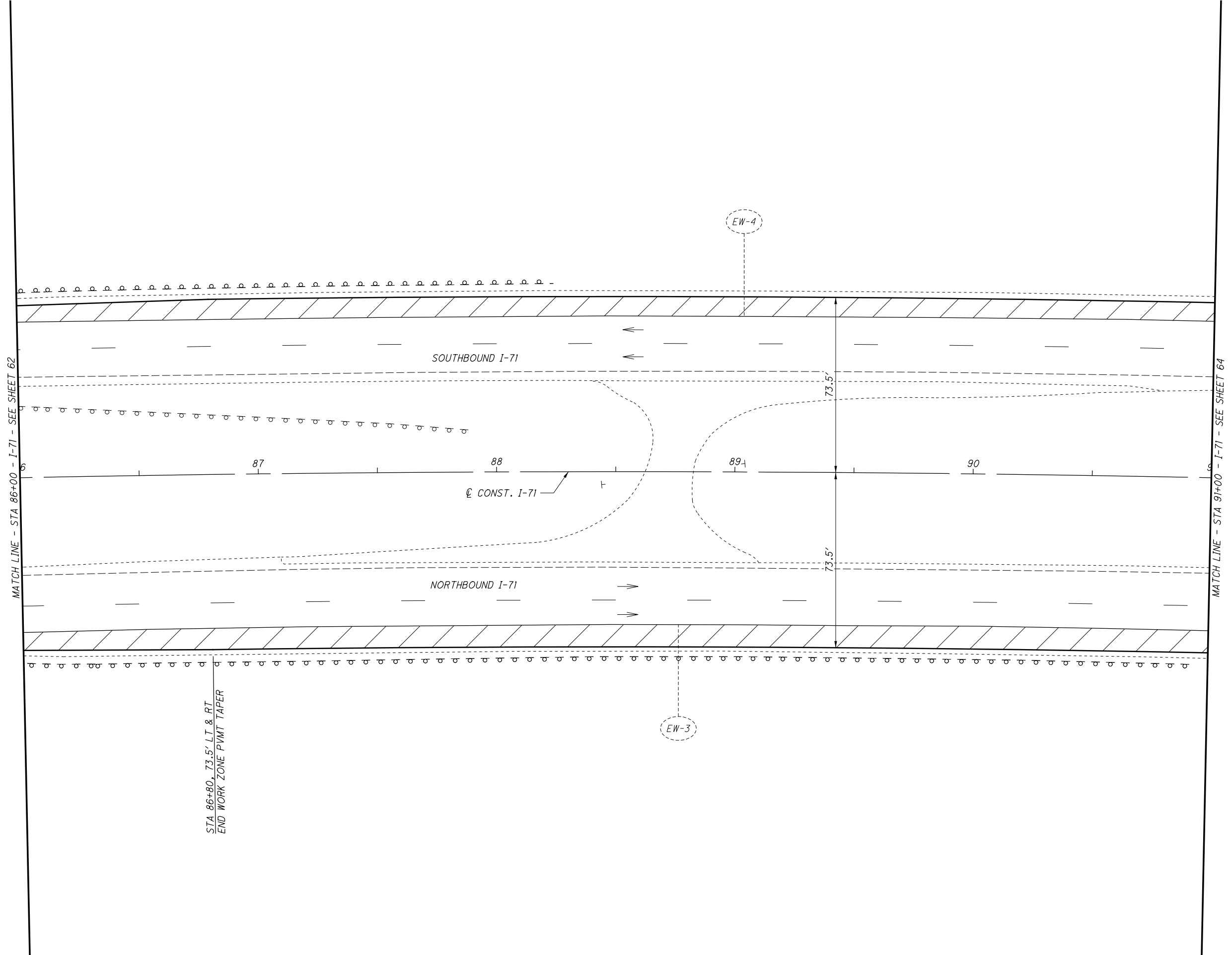
FOR LEGEND, SEE SHEET 23

CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(CONCRETE) I-71 STA 81+00 TO STA 86+00**

FRA-71-1.53



MATCH LINE - STA 86+00 - I-71 - SEE SHEET 62

MATCH LINE - STA 91+00 - I-71 - SEE SHEET 64

STA 86+80, 73.5' LT & RT
END WORK ZONE PIVOT TAPER

EW-3

EW-4

SOUTHBOUND I-71

NORTHBOUND I-71

CONST. I-71

87

88

89

90

CALCULATED	EGD	CHECKED	DLW

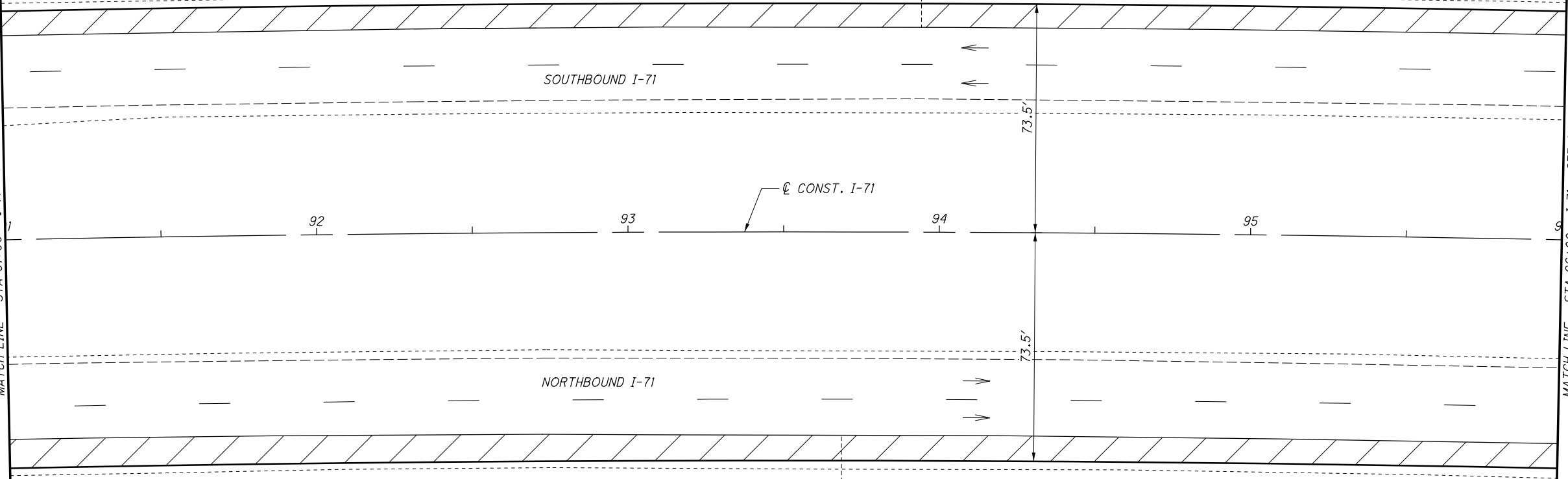
0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(CONCRETE) I-71 STA 86+00 TO STA 91+00**

FRA-71-1.53

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MATCH LINE - STA 91+00 - I-71 - SEE SHEET 63



FOR LEGEND, SEE SHEET 23

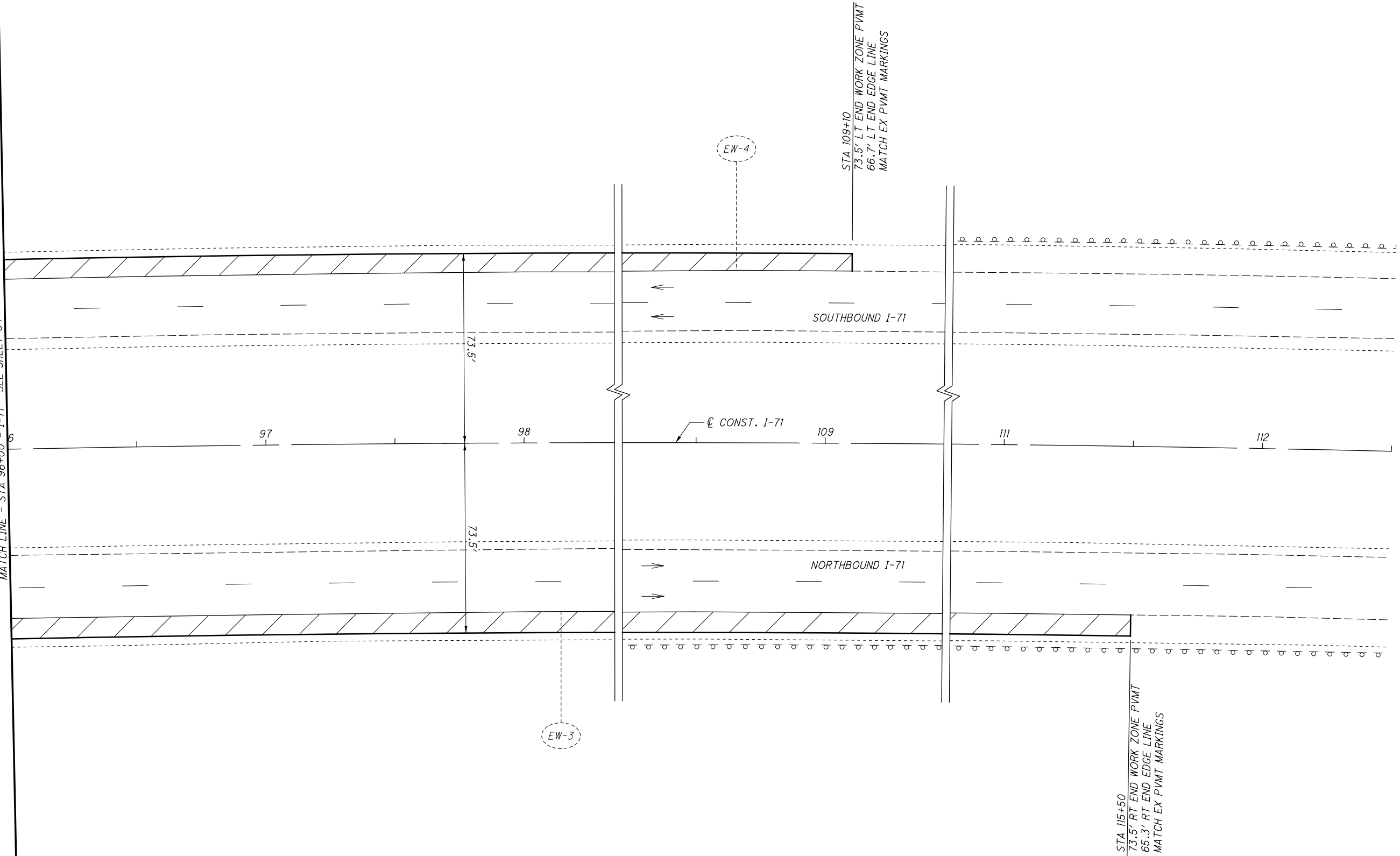
CALCULATED	EGD	CHECKED	DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(CONCRETE) I-71 STA 91+00 TO STA 96+00**

FRA-71-1.53

MATCH LINE - STA 96+00 - I-71 - SEE SHEET 64



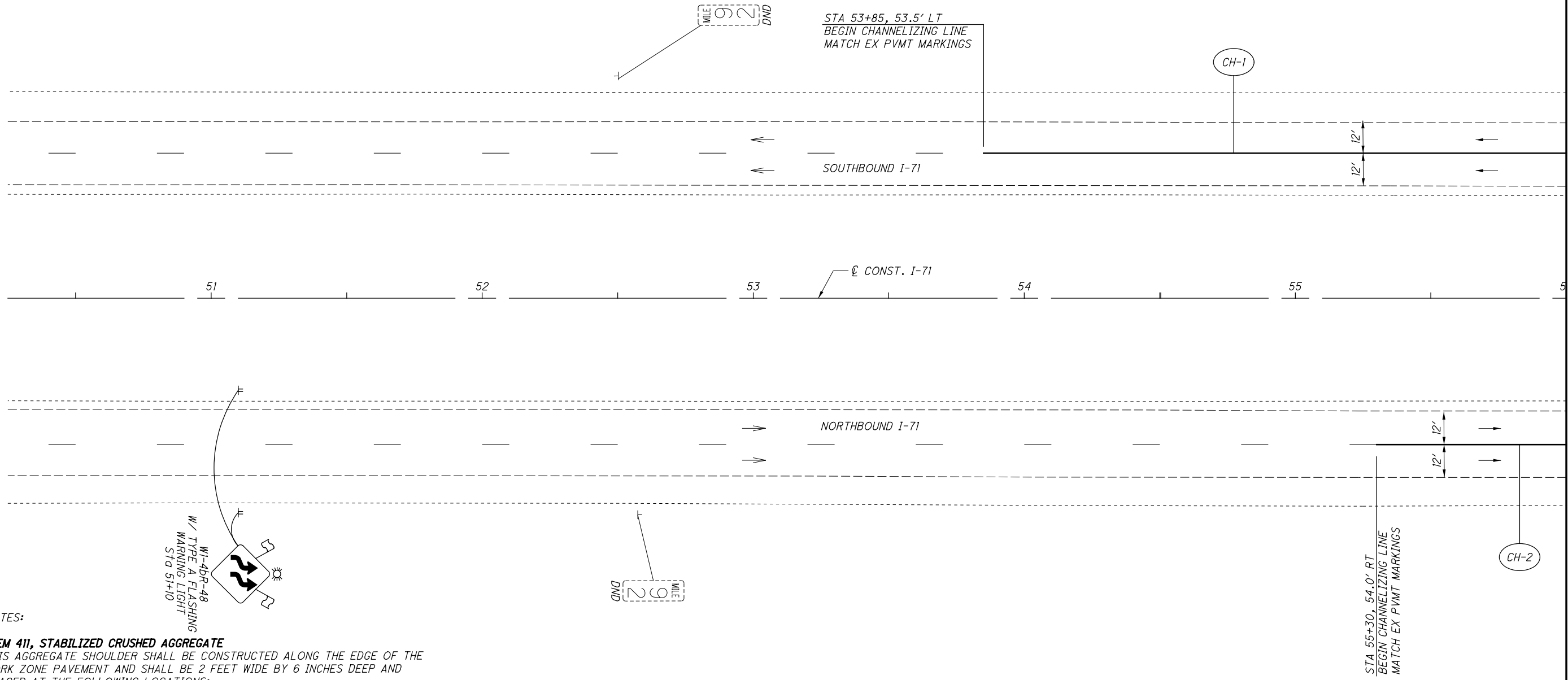
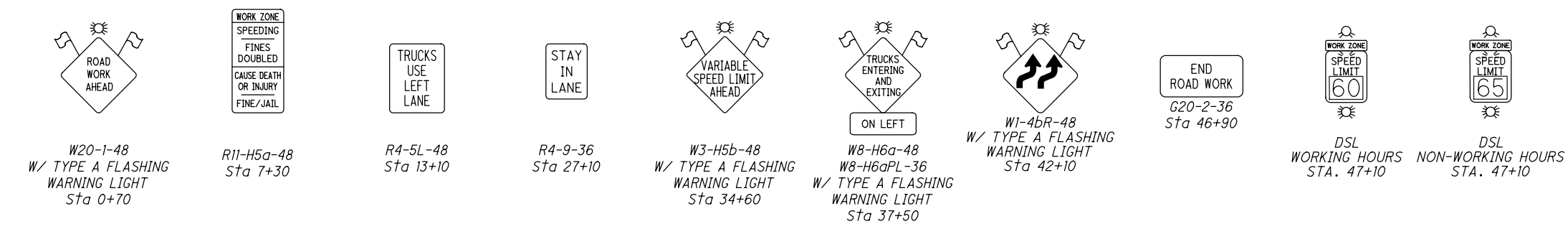
CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1A
(CONCRETE) I-71 STA 96+00 TO STA 112+50**

FRA-71-1.53

THE CONTRACTOR SHALL INSTALL THE FOLLOWING ADVANCE WARNING SIGNS ON BOTH SIDES OF THE NORTHBOUND I-71 ROADWAY AT THE LOCATIONS SHOWN PRIOR TO THE START OF PHASE 1B CONSTRUCTION.



NOTES:

ITEM 411, STABILIZED CRUSHED AGGREGATE
 THIS AGGREGATE SHOULDER SHALL BE CONSTRUCTED ALONG THE EDGE OF THE WORK ZONE PAVEMENT AND SHALL BE 2 FEET WIDE BY 6 INCHES DEEP AND PLACED AT THE FOLLOWING LOCATIONS:
 STA 60+10 TO STA 72+50, LT
 STA 62+20 TO STA 72+50, RT
 STA 97+00 TO STA 105+80, LT
 STA 97+00 TO STA 108+30, RT

ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B
 ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B SHALL BE USED FOR ALL WORK ZONE PAVEMENT CONSTRUCTED IN THE MEDIAN. THE CONTRACTOR WILL BE REQUIRED TO USE ITEM 304, AGGREGATE BASE, IN THE COURSE MAKE UP. THE CONTRACTOR WILL NOT BE PERMITTED TO USE ITEMS 301, 302 OR 441 IN LIEU OF 6 INCHES OF 304 AGGREGATE BASE. THE WORK ZONE PAVEMENT OUTSIDE THE PROJECT LIMITS SHALL BE LEFT IN PLACE AT THE END OF THIS PROJECT.

NEW SHEET

CALCULATED EGD CHECKED DLW

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(CONCRETE) I-71 STA 50+75 TO STA 56+00**

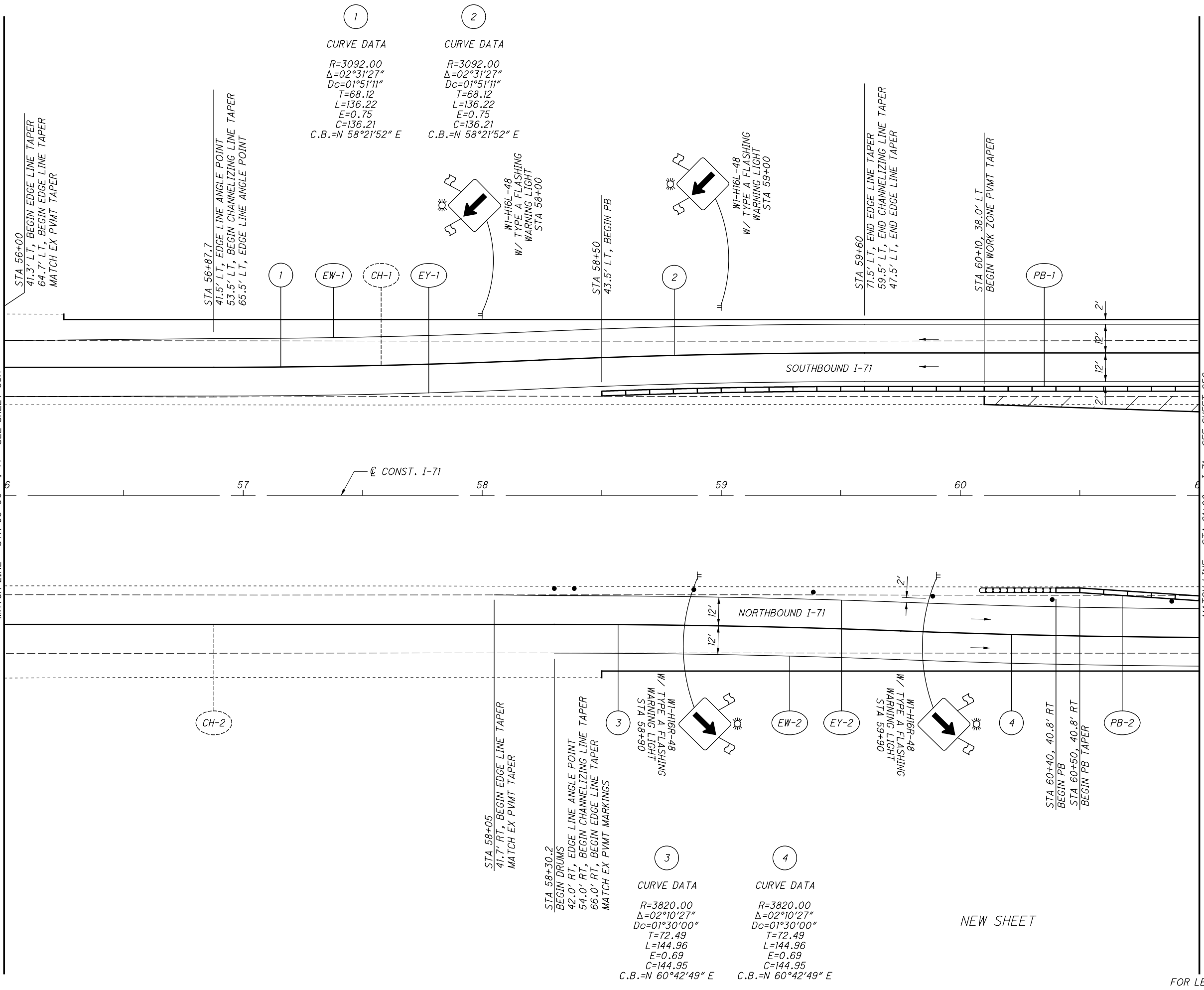
FRA-71-1.53

65A
285

FOR LEGEND, SEE SHEET 23

X:\4037000\121957.15\93496\MOT\sheets\93496MP351.dgn Sheet 11/19/2018 3:00:19 PM 1636dcb

MATCH LINE - STA 56+00 - I-71 - SEE SHEET 65A



NEW SHEET

FOR LEGEND, SEE SHEET 23

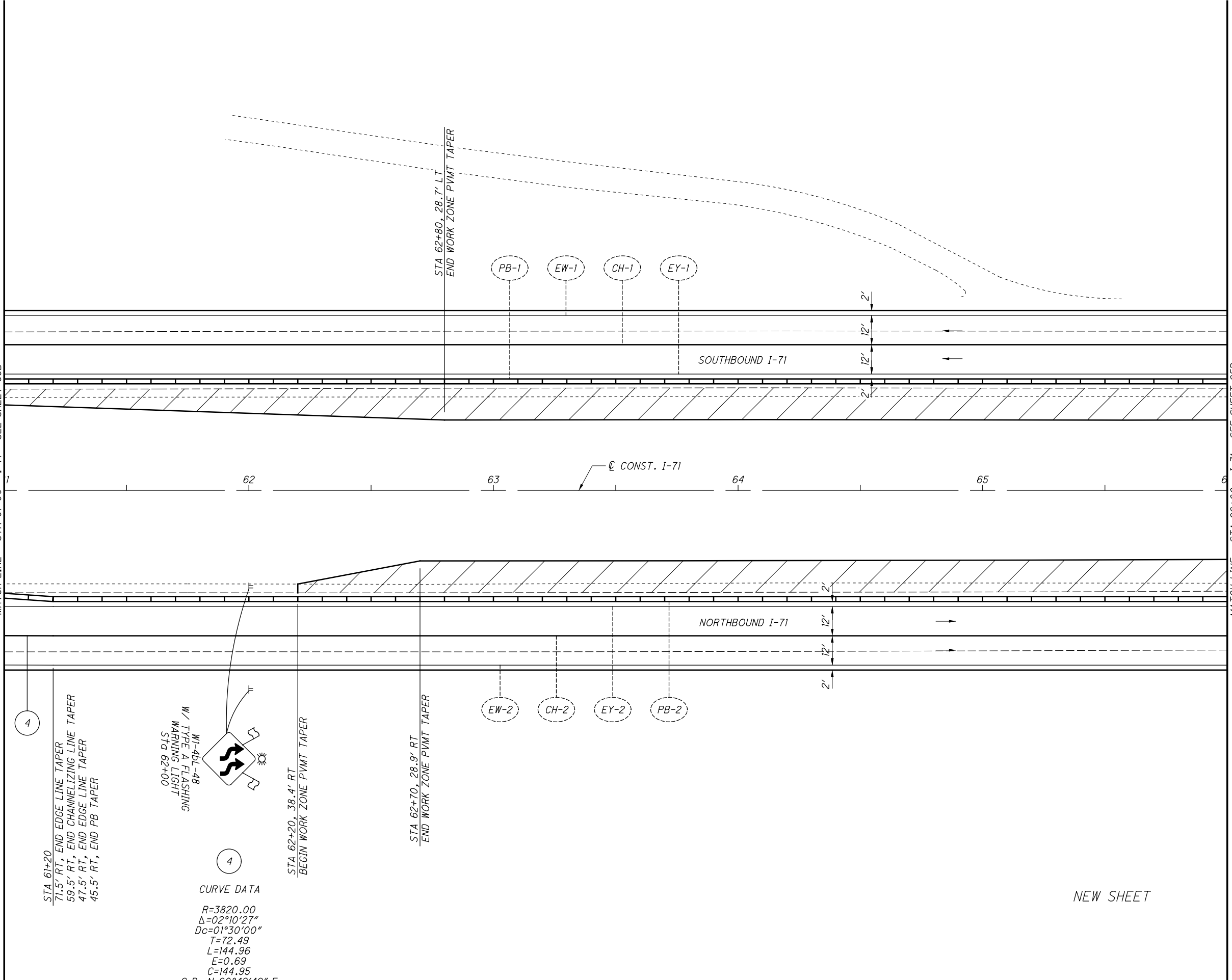
CALCULATED
EGD
CHECKED
DLW

0 20 40
HORIZONTAL
SCALE IN FEET

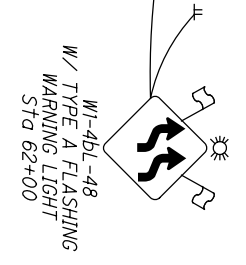
**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(CONCRETE) I-71 STA 56+00 TO STA 61+00**

FRA-71-1.53

MATCH LINE - STA 61+00 - I-71 - SEE SHEET 65B



4
 STA 61+20
 71.5' RT, END EDGE LINE TAPER
 59.5' RT, END CHANNELIZING LINE TAPER
 47.5' RT, END EDGE LINE TAPER
 45.5' RT, END PB TAPER



4
 CURVE DATA
 R=3820.00
 $\Delta=02^{\circ}10'27''$
 $Dc=01^{\circ}30'00''$
 T=72.49
 L=144.96
 E=0.69
 C=144.95
 C.B.=N 60°42'49" E

STA 62+20, 38.4' RT
 BEGIN WORK ZONE PIVMT TAPER

STA 62+70, 28.9' RT
 END WORK ZONE PIVMT TAPER

STA 62+80, 28.7' LT
 END WORK ZONE PIVMT TAPER

NEW SHEET

MATCH LINE - STA 66+00 - I-71 - SEE SHEET 65D

CALCULATED
 EGD
 CHECKED
 DLW

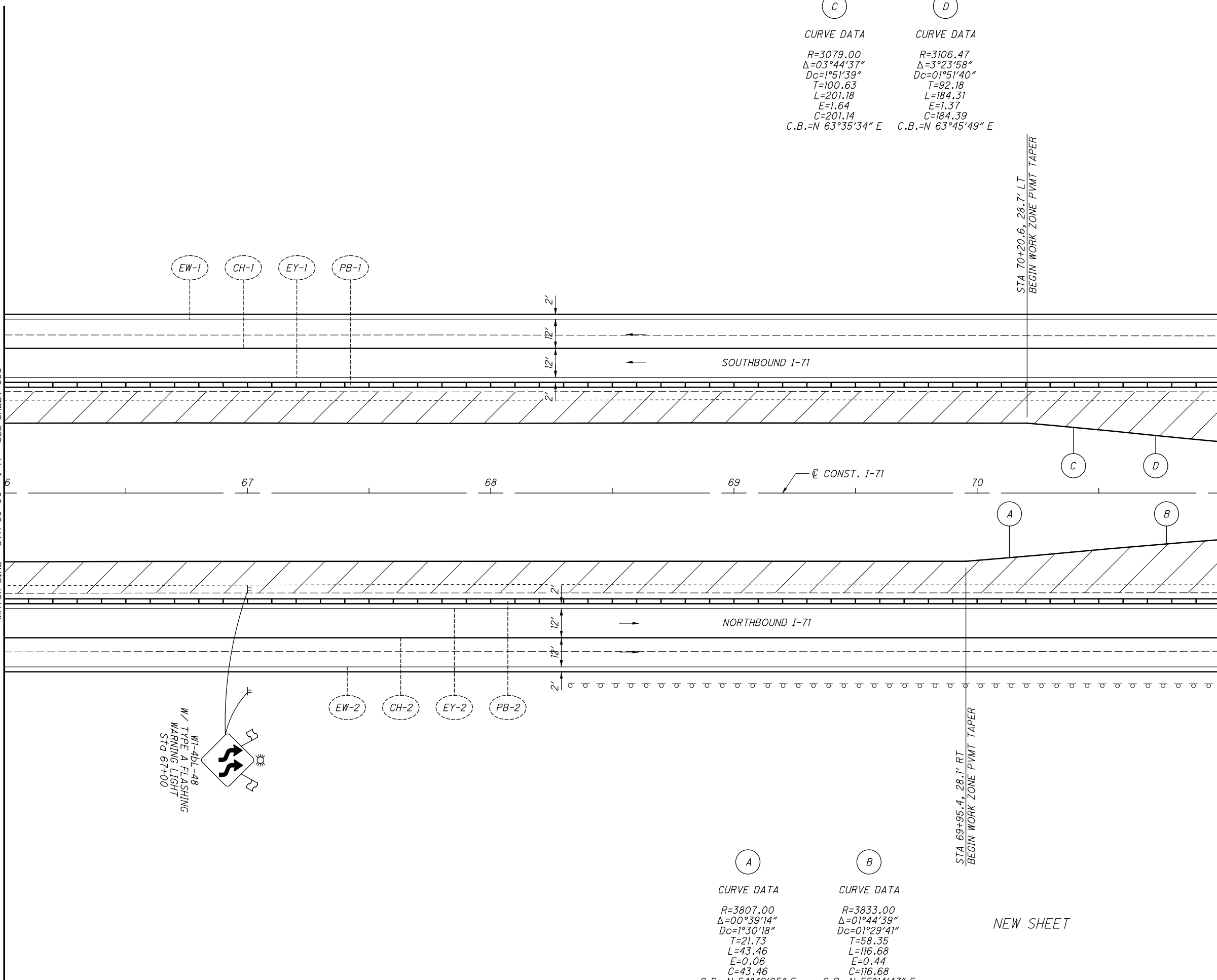
0 20 40
 HORIZONTAL
 SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
 (CONCRETE) I-71 STA 61+00 TO STA 66+00**

FRA-71-1.53

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MATCH LINE - STA 66+00 - I-71 - SEE SHEET 65C



W1-4BL-48
W/ TYPE A FLASHING
WARNING LIGHT
STA 67+00

(C)	(D)
CURVE DATA	CURVE DATA
R=3079.00	R=3106.47
$\Delta=03^{\circ}44'37''$	$\Delta=3^{\circ}23'58''$
Dc=1^{\circ}51'39''	Dc=01^{\circ}51'40''
T=100.63	T=92.18
L=201.18	L=184.31
E=1.64	E=1.37
C=201.14	C=184.39
C.B.=N 63^{\circ}35'34" E	C.B.=N 63^{\circ}45'49" E

(A)	(B)
CURVE DATA	CURVE DATA
R=3807.00	R=3833.00
$\Delta=00^{\circ}39'14''$	$\Delta=01^{\circ}44'39''$
Dc=1^{\circ}30'18''	Dc=01^{\circ}29'41''
T=21.73	T=58.35
L=43.46	L=116.68
E=0.06	E=0.44
C=43.46	C=116.68
C.B.=N 54^{\circ}42'05" E	C.B.=N 55^{\circ}14'47" E

NEW SHEET

STA 69+95.4, 28.1' RT
BEGIN WORK ZONE PVMT TAPER

STA 70+20.6, 28.7' LT
BEGIN WORK ZONE PVMT TAPER

MATCH LINE - STA 71+00 - I-71 - SEE SHEET 65E



**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(CONCRETE) I-71 STA 66+00 TO STA 71+00**

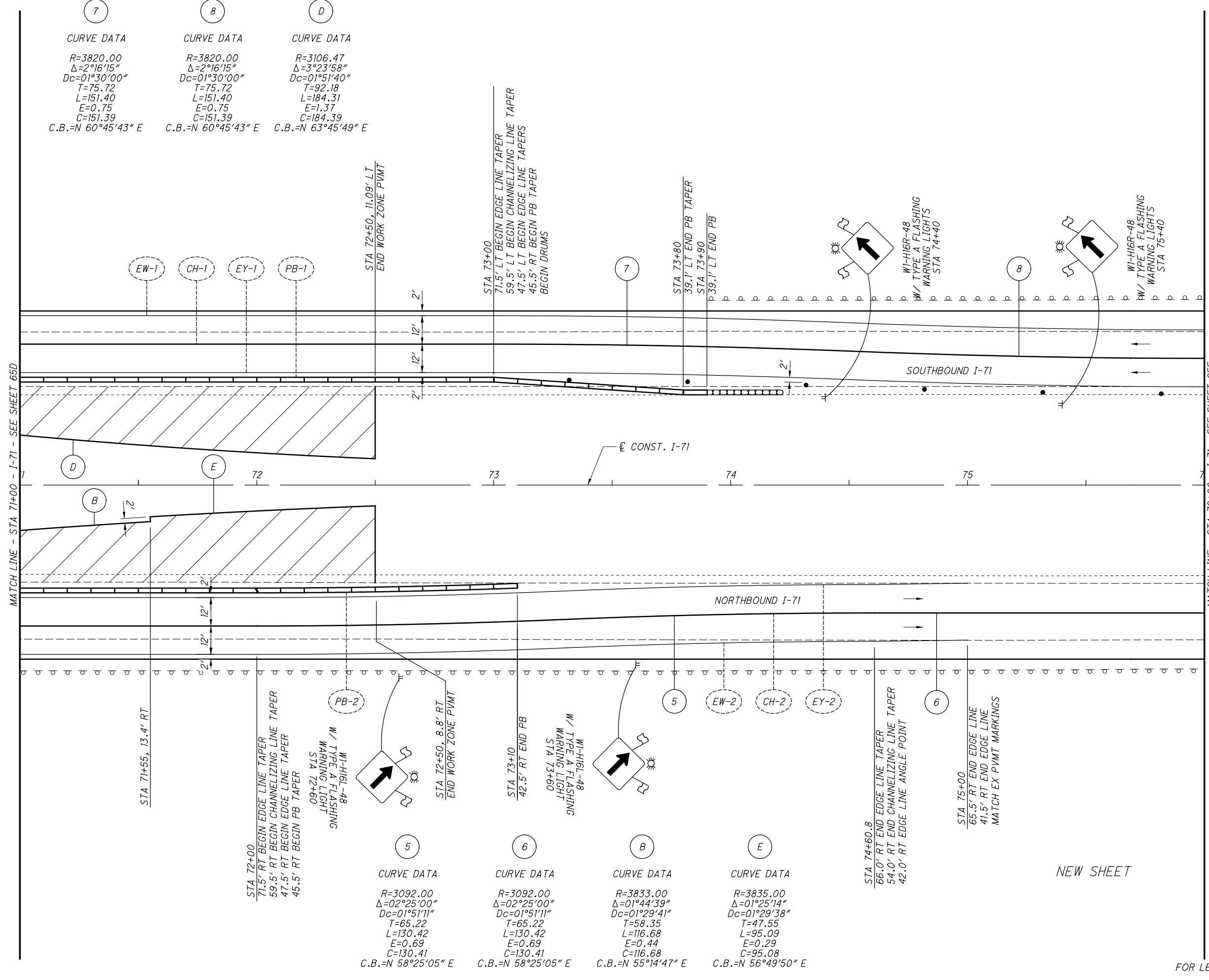
FRA-71-1.53

65D
285

FOR LEGEND, SEE SHEET 23

MATCH LINE - STA 71+00 - I-71 - SEE SHEET 65D

MATCH LINE - STA 76+00 - I-71 - SEE SHEET 65F



7	8	D
CURVE DATA	CURVE DATA	CURVE DATA
R=3820.00	R=3820.00	R=3106.47
Δ=2°16'15"	Δ=2°16'15"	Δ=3°23'58"
Dc=01°30'00"	Dc=01°30'00"	Dc=01°51'40"
T=75.72	T=75.72	T=92.18
L=151.40	L=151.40	L=184.31
E=0.75	E=0.75	E=1.37
C=151.39	C=151.39	C=184.39
C.B.=N 60°45'43" E	C.B.=N 60°45'43" E	C.B.=N 63°45'49" E

5	6	B	E
CURVE DATA	CURVE DATA	CURVE DATA	CURVE DATA
R=3092.00	R=3092.00	R=3833.00	R=3835.00
Δ=02°25'00"	Δ=02°25'00"	Δ=01°44'39"	Δ=01°25'14"
Dc=01°51'11"	Dc=01°51'11"	Dc=01°29'41"	Dc=01°29'38"
T=65.22	T=65.22	T=58.35	T=47.55
L=130.42	L=130.42	L=116.68	L=95.09
E=0.69	E=0.69	E=0.44	E=0.29
C=130.41	C=130.41	C=116.68	C=95.08
C.B.=N 58°25'05" E	C.B.=N 58°25'05" E	C.B.=N 55°14'47" E	C.B.=N 56°49'50" E

NEW SHEET

FOR LEGEND, SEE SHEET 23

CALCULATED
EGD
CHECKED
DLW

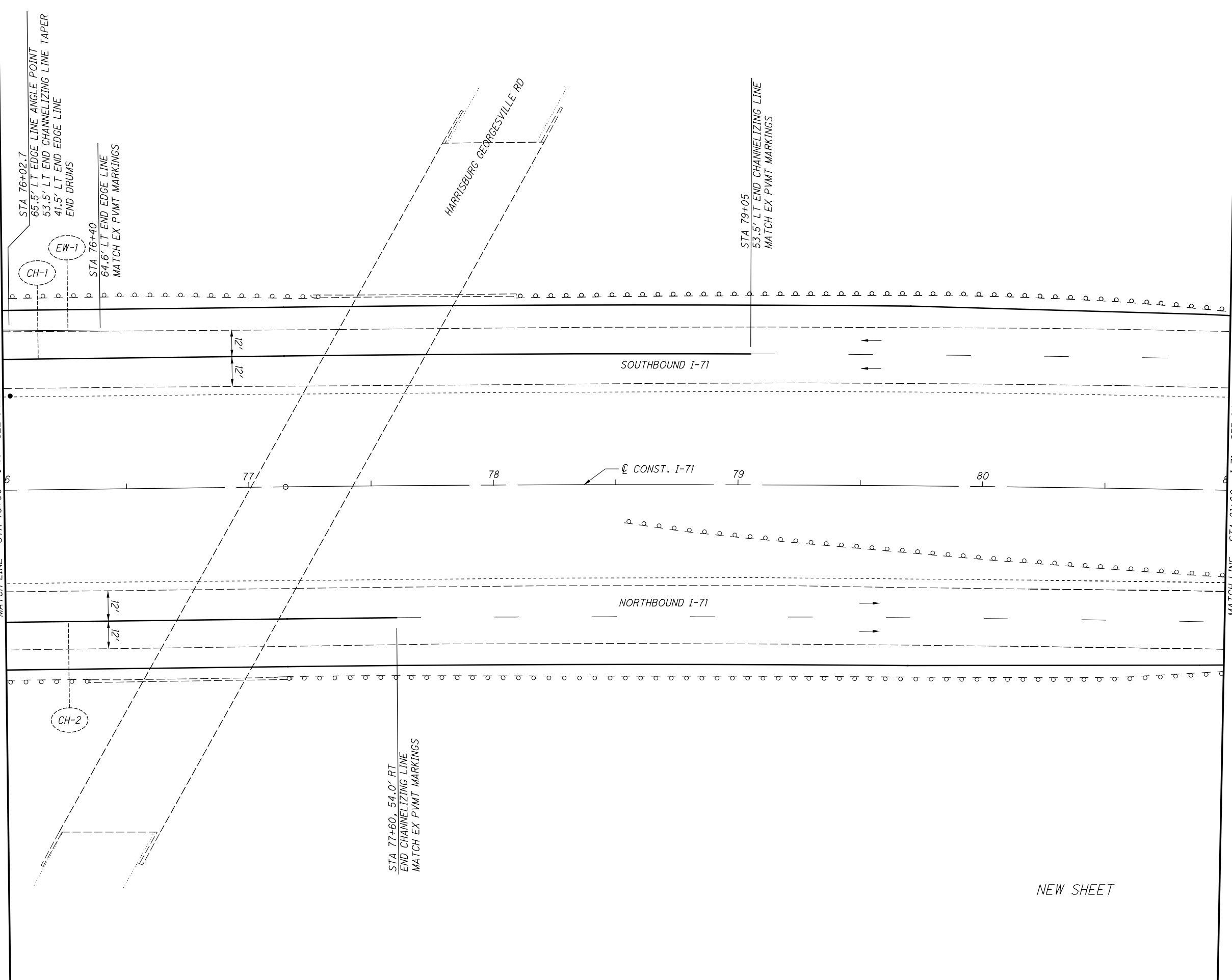
0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(CONCRETE) I-71 STA 71+00 TO STA 76+00**

FRA-71-1.53

MATCH LINE - STA 76+00 - I-71 - SEE SHEET 65E

MATCH LINE - STA 81+00 - I-71 - SEE SHEET 65G



NEW SHEET

FOR LEGEND, SEE SHEET 23

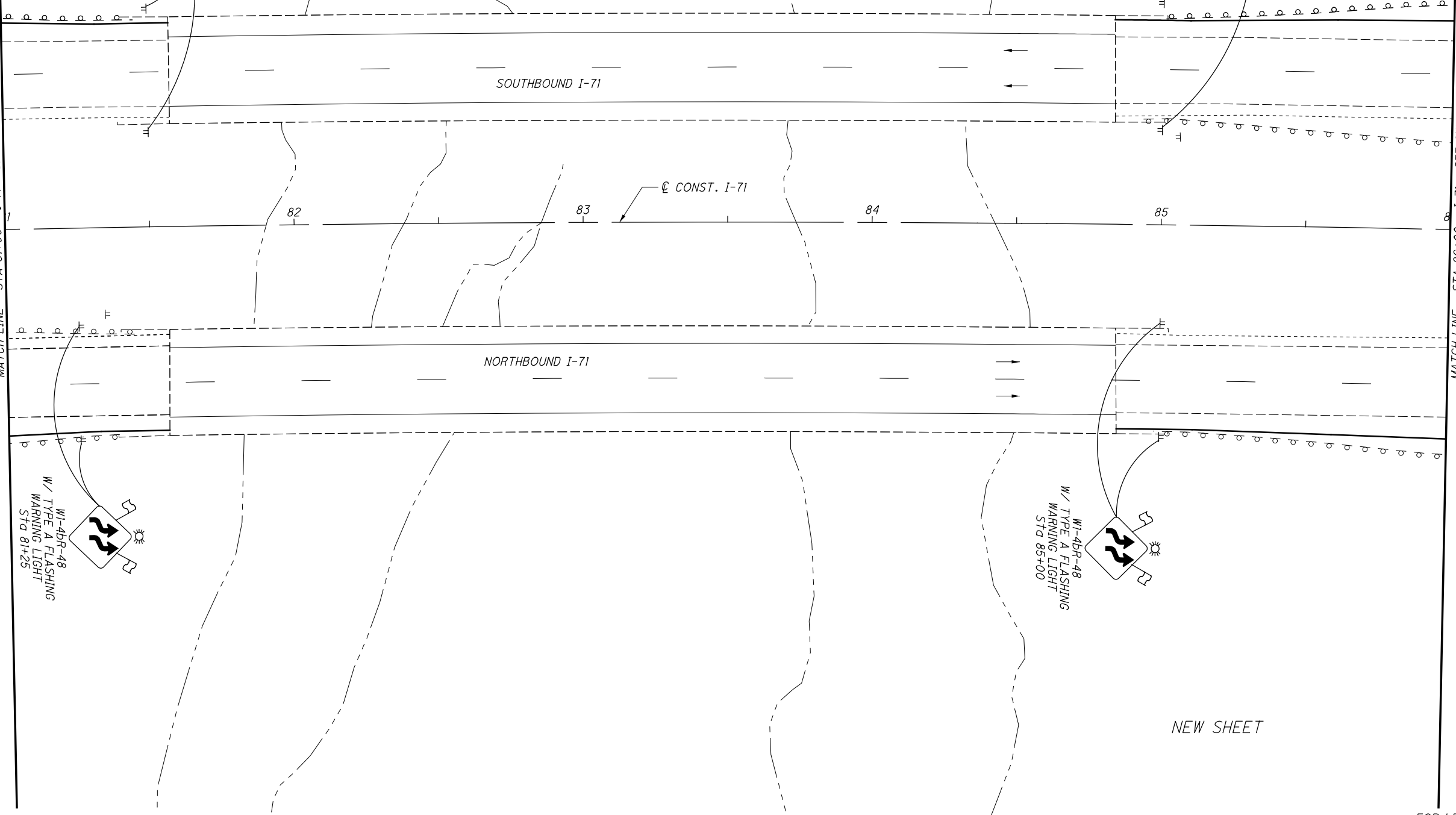
CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(CONCRETE) I-71 STA 76+00 TO STA 81+00**

FRA-71-1.53

MATCH LINE - STA 81+00 - I-71 - SEE SHEET 65F



NEW SHEET

MATCH LINE - STA 86+00 - I-71 - SEE SHEET 65H

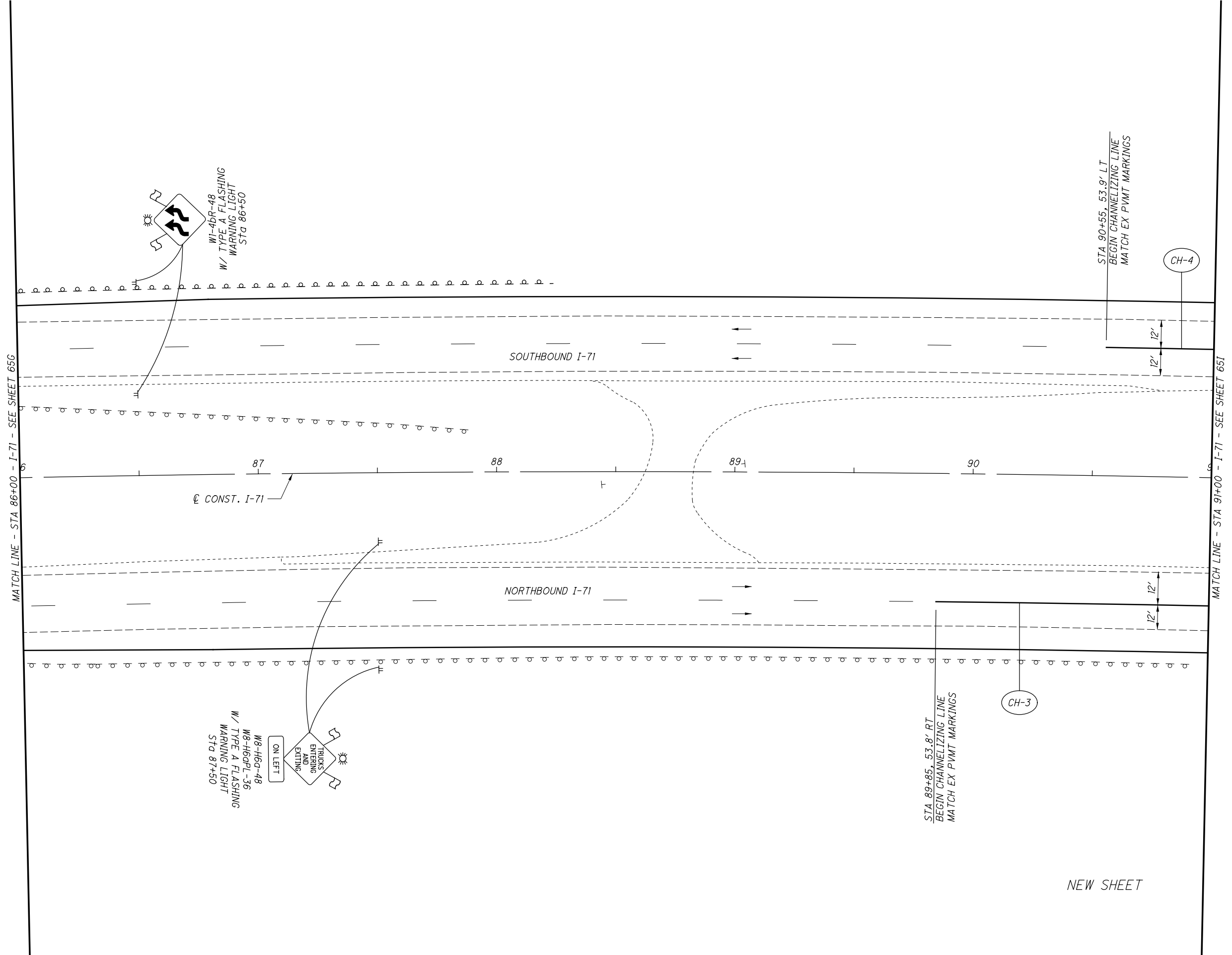
FOR LEGEND, SEE SHEET 23

CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(CONCRETE) I-71 STA 81+00 TO STA 86+00**

FRA-71-1.53



CALCULATED	EGD
CHECKED	DLW

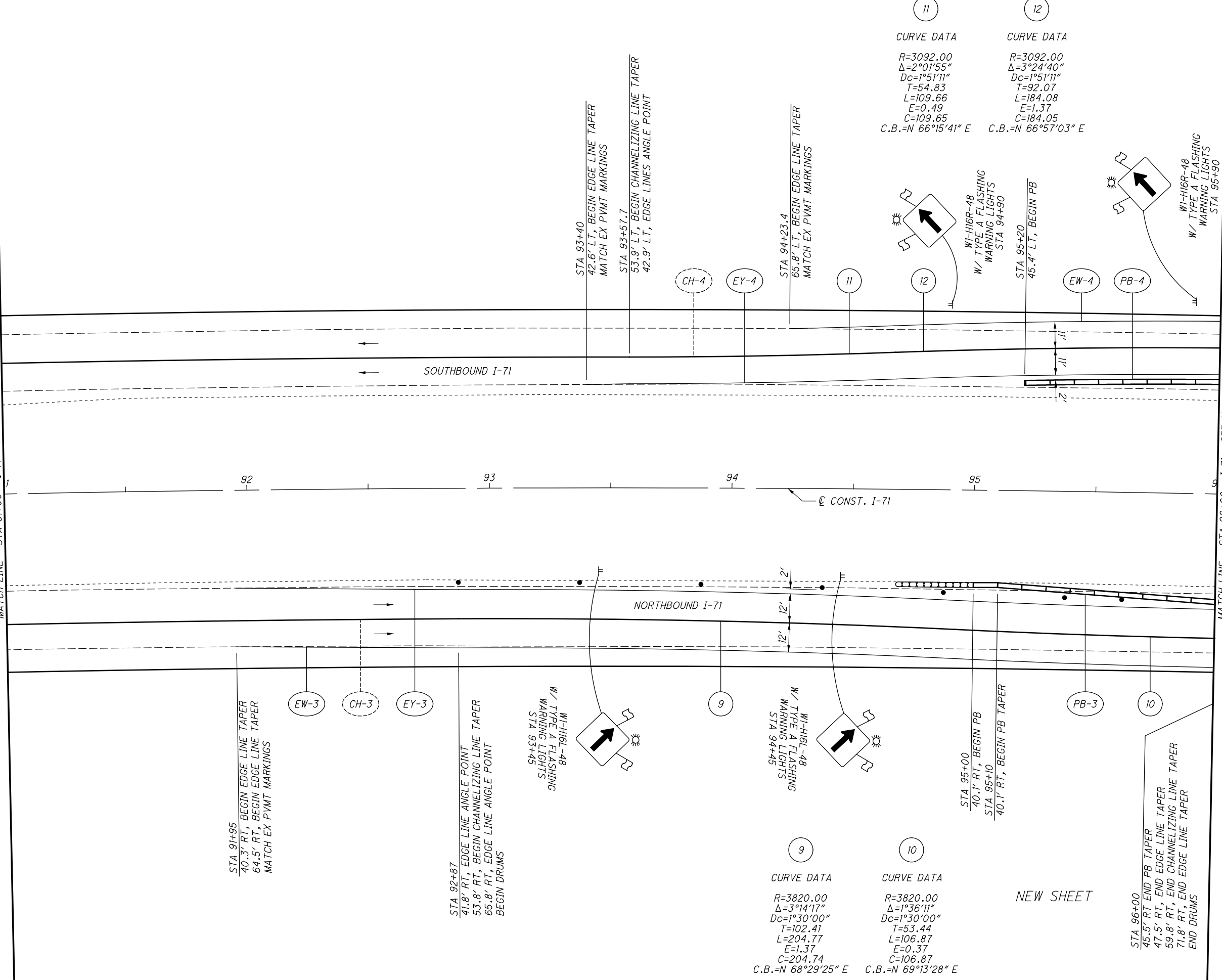
0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(CONCRETE) I-71 STA 86+00 TO STA 91+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23

MATCH LINE - STA 91+00 - I-71 - SEE SHEET 65H



11	12
CURVE DATA	CURVE DATA
R=3092.00	R=3092.00
$\Delta=2^{\circ}01'55''$	$\Delta=3^{\circ}24'40''$
Dc=1^{\circ}51'11''	Dc=1^{\circ}51'11''
T=54.83	T=92.07
L=109.66	L=184.08
E=0.49	E=1.37
C=109.65	C=184.05
C.B.=N 66^{\circ}15'41'' E	C.B.=N 66^{\circ}57'03'' E

9	10
CURVE DATA	CURVE DATA
R=3820.00	R=3820.00
$\Delta=3^{\circ}14'17''$	$\Delta=1^{\circ}36'11''$
Dc=1^{\circ}30'00''	Dc=1^{\circ}30'00''
T=102.41	T=53.44
L=204.77	L=106.87
E=1.37	E=0.37
C=204.74	C=106.87
C.B.=N 68^{\circ}29'25'' E	C.B.=N 69^{\circ}13'28'' E

NEW SHEET



MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(CONCRETE) I-71 STA 91+00 TO STA 96+00

FRA-71-1.53

651
285

FOR LEGEND, SEE SHEET 23

MATCH LINE - STA 96+00 - I-71 - SEE SHEET 65I

MATCH LINE - STA 101+00 - I-71 - SEE SHEET 65K

STA 96+50
71.5' LT END EDGE LINE TAPER
60.5' LT END CHANNELIZING LINE TAPER
49.5' LT END EDGE LINE TAPER
47.5' LT END PB TAPER

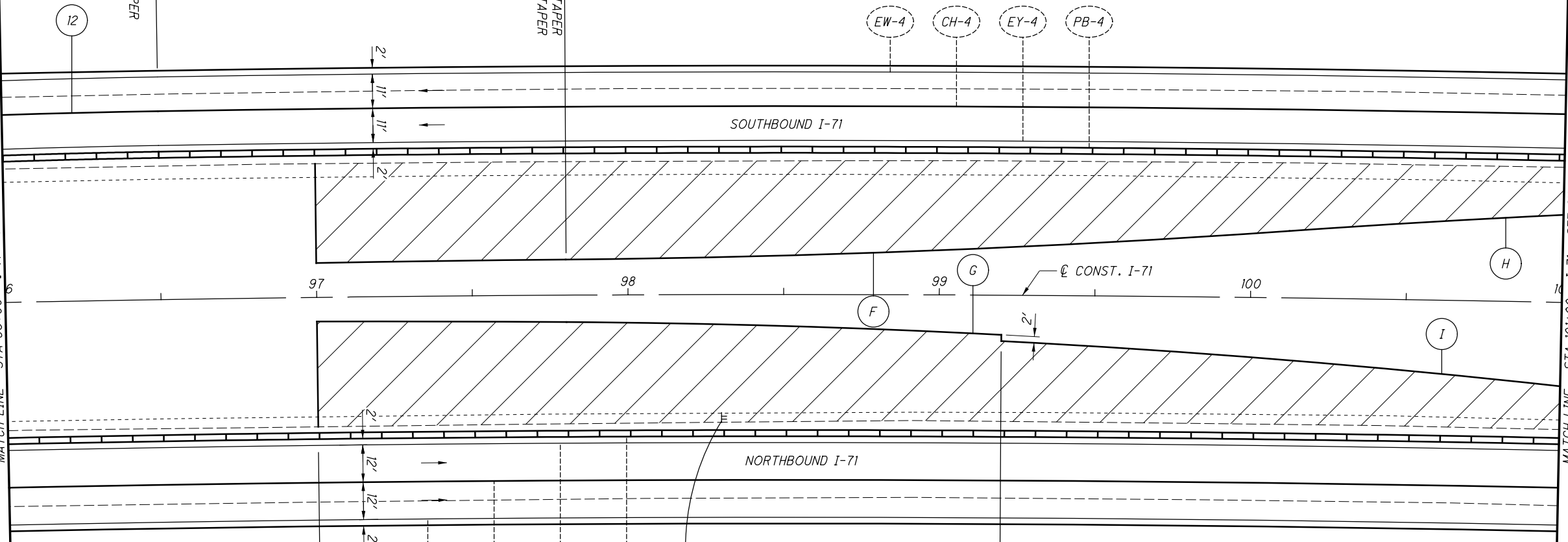
STA 97+80.1
11.4' LT BEGIN WORK ZONE PWT TAPER
8.6' RT BEGIN WORK ZONE PWT TAPER

STA 97+00
11.1' LT BEGIN WORK ZONE PWT
7.7' RT BEGIN WORK ZONE PWT

STA 99+20, 12.7' RT

12	F	H
CURVE DATA	CURVE DATA	CURVE DATA
R=3092.00	R=3834.00	R=3806.00
$\Delta=3^{\circ}24'40''$	$\Delta=3^{\circ}28'40''$	$\Delta=1^{\circ}48'35''$
Dc=1^{\circ}51'11''	Dc=1^{\circ}29'40''	Dc=1^{\circ}30'19''
T=92.07	T=116.40	T=60.11
L=184.08	L=232.72	L=120.21
E=1.37	E=1.77	E=0.47
C=184.05	C=232.69	C=120.20
C.B.=N 66^{\circ}57'03'' E	C.B.=N 67^{\circ}19'29'' E	C.B.=N 66^{\circ} 29' 26'' E

G	I
CURVE DATA	CURVE DATA
R=3108.00	R=3106.00
$\Delta=2^{\circ}34'34''$	$\Delta=3^{\circ}29'54''$
Dc=1^{\circ}50'37''	Dc=1^{\circ}50'41''
T=69.88	T=94.85
L=139.74	L=189.65
E=0.79	E=1.45
C=139.73	C=189.62
C.B.=N 71^{\circ}15'56'' E	C.B.=N 74^{\circ}18'16'' E



NEW SHEET

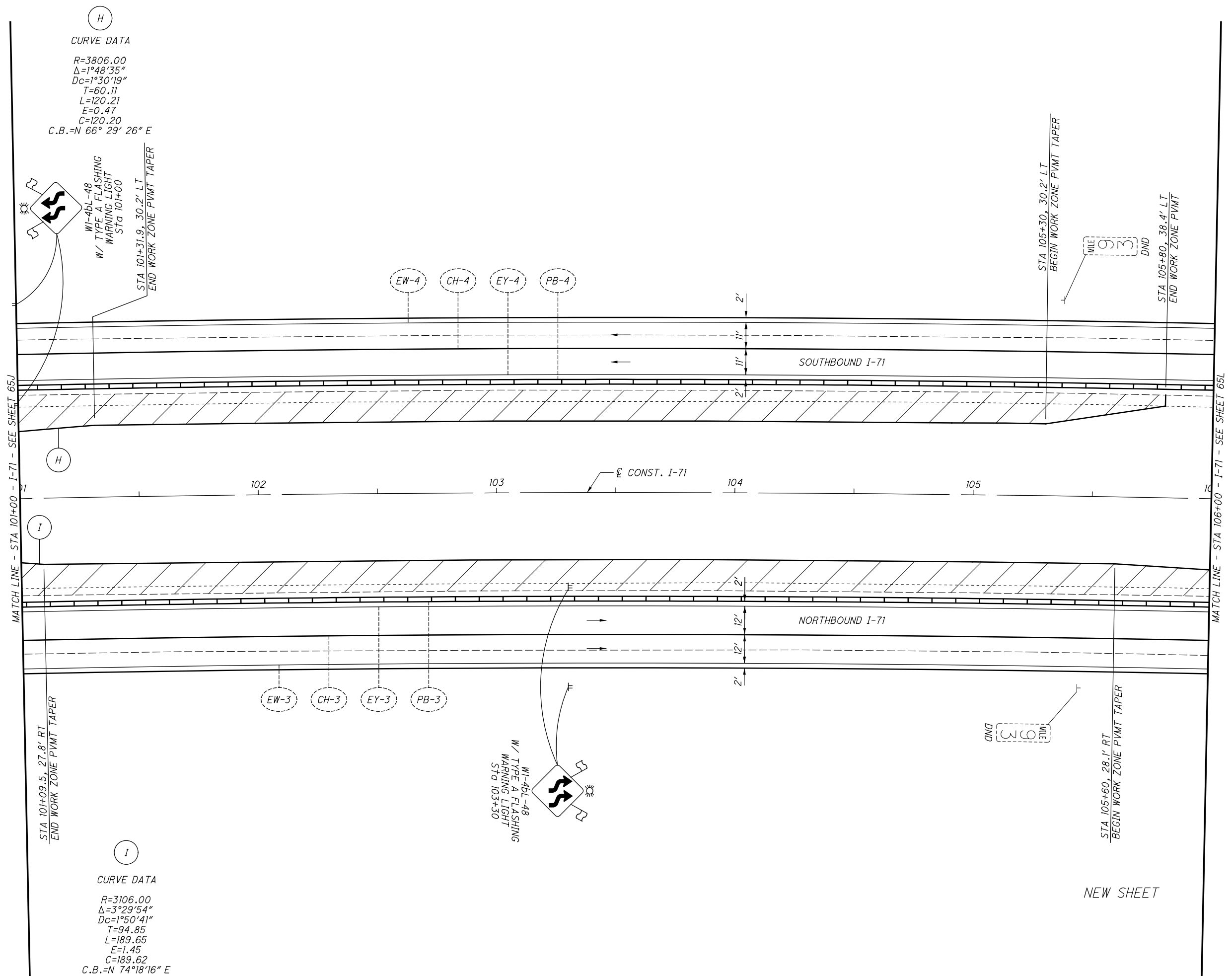
CALCULATED
EGD
CHECKED
DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(CONCRETE) I-71 STA 96+00 TO STA 101+00**

FRA-71-1.53

X:\4037000\121957.15\93496\MOT\sheets\93496MP361.dgn Sheet 11/19/2018 3:00:22 PM 1636dcb



(H)
 CURVE DATA
 R=3806.00
 $\Delta=1^{\circ}48'35''$
 $Dc=1^{\circ}30'19''$
 T=60.11
 L=120.21
 E=0.47
 C=120.20
 C.B.=N 66° 29' 26" E

W1-4BL-48
 W/ TYPE A FLASHING
 WARNING LIGHT
 STA 101+00
 STA 101+31.9, 30.2' LT
 END WORK ZONE PVMT TAPER

(H)

(I)

STA 101+09.5, 27.8' RT
 END WORK ZONE PVMT TAPER

(I)
 CURVE DATA
 R=3106.00
 $\Delta=3^{\circ}29'54''$
 $Dc=1^{\circ}50'41''$
 T=94.85
 L=189.65
 E=1.45
 C=189.62
 C.B.=N 74°18'16" E

W1-4BL-48
 W/ TYPE A FLASHING
 WARNING LIGHT
 STA 103+30

DND
 MILE 93

STA 105+60, 28.1' RT
 BEGIN WORK ZONE PVMT TAPER

NEW SHEET

STA 105+30, 30.2' LT
 BEGIN WORK ZONE PVMT TAPER

STA 105+80, 38.4' LT
 END WORK ZONE PVMT

MATCH LINE - STA 106+00 - I-71 - SEE SHEET 65L

MATCH LINE - STA 101+00 - I-71 - SEE SHEET 65J

CALCULATED EGD CHECKED DLW

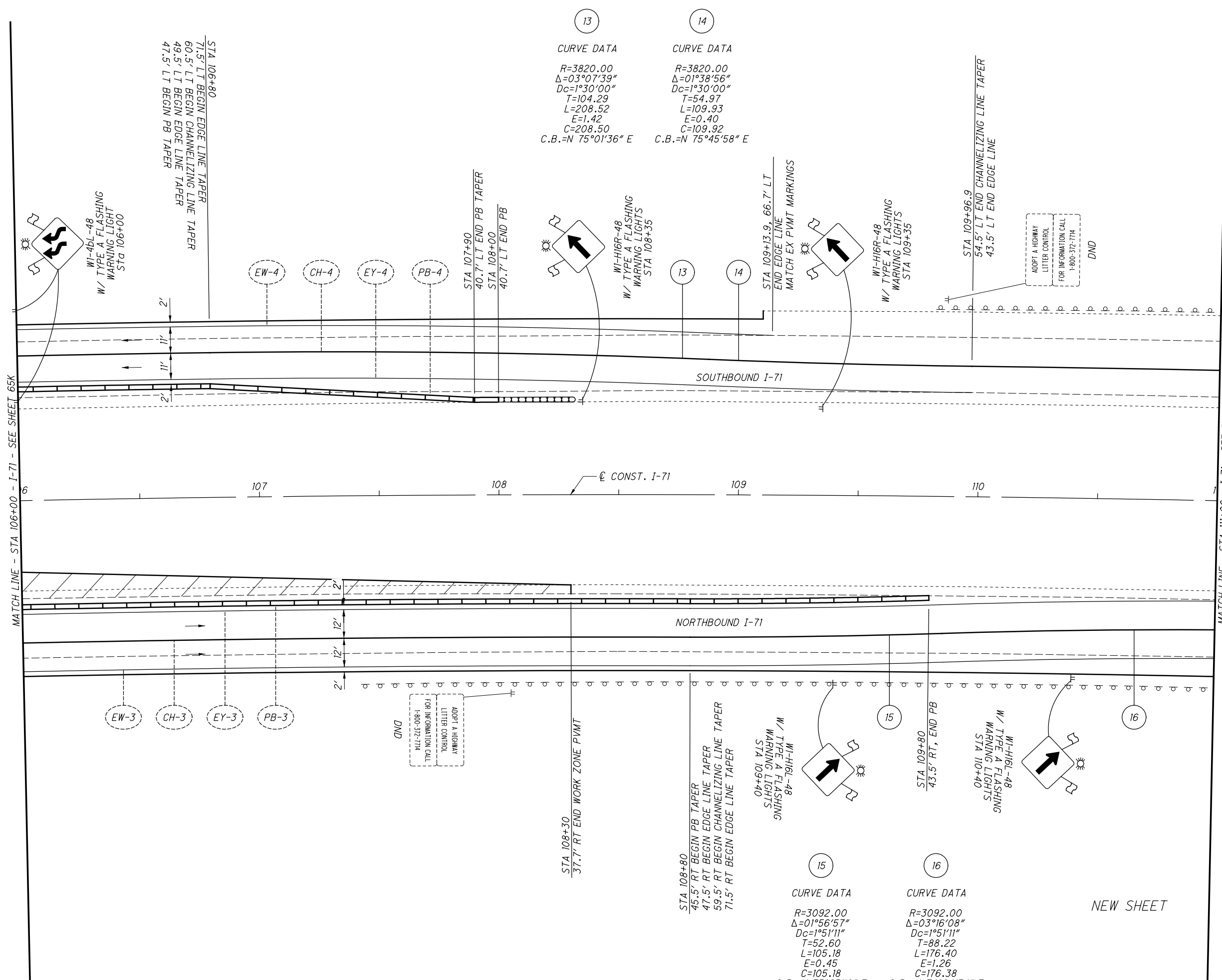
0 20 40
 HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
 (CONCRETE) I-71 STA 101+00 TO STA 106+00**

FRA-71-1.53

65K
 285

FOR LEGEND, SEE SHEET 23



Station	Curve Data
13	R=3820.00 Δ=03°07'39" Dc=1°30'00" T=104.29 L=208.52 E=1.42 C=208.50 C.B.=N 75°01'36" E
14	R=3820.00 Δ=01°38'56" Dc=1°30'00" T=54.97 L=109.93 E=0.40 C=109.92 C.B.=N 75°45'58" E

Station	Curve Data
15	R=3092.00 Δ=01°56'57" Dc=1°51'11" T=52.60 L=105.18 E=0.45 C=105.18 C.B.=N 73°25'18" E
16	R=3092.00 Δ=03°16'08" Dc=1°51'11" T=88.22 L=176.40 E=1.26 C=176.38 C.B.=N 74°04'54" E

ADOPT A HIGHWAY LITTER CONTROL FOR INFORMATION CALL 1-800-372-7714 DND

NEW SHEET

MATCH LINE - STA 106+00 - I-71 - SEE SHEET 65K

MATCH LINE - STA 111+00 - I-71 - SEE SHEET 65M



MAINTENANCE OF TRAFFIC - PRE-PHASE 1B
(CONCRETE) I-71 STA 106+00 TO STA 111+00

FRA-71-1.53

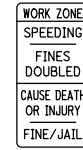
65L
285

FOR LEGEND, SEE SHEET 23

THE CONTRACTOR SHALL INSTALL THE FOLLOWING ADVANCE WARNING SIGNS ON BOTH SIDES OF THE NORTHBOUND I-71 ROADWAY AT THE LOCATIONS SHOWN PRIOR TO THE START OF PHASE I CONSTRUCTION.



W20-1-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 12+70



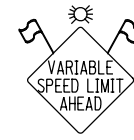
R11-H5a-48
Sta 19+30



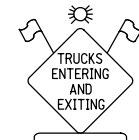
R4-5L-48
Sta 25+10



R4-9-36
Sta 39+10

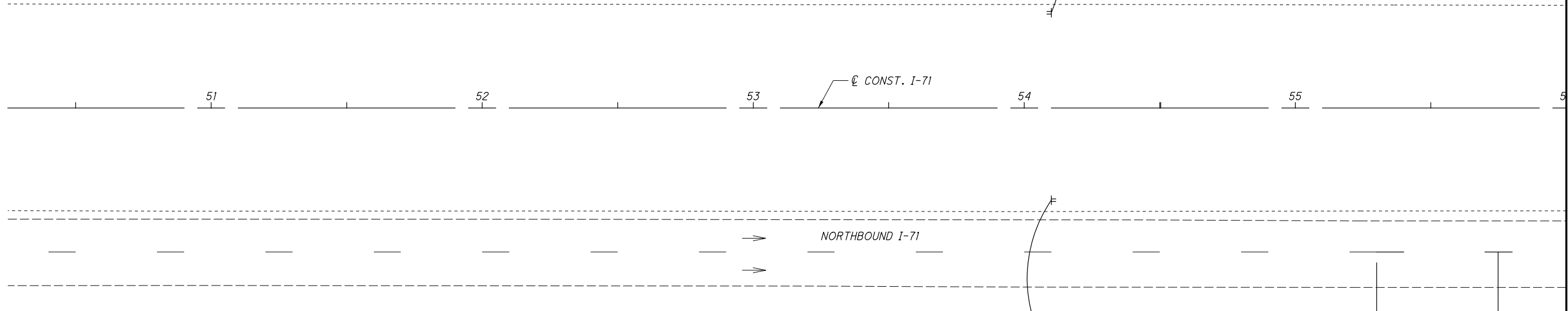
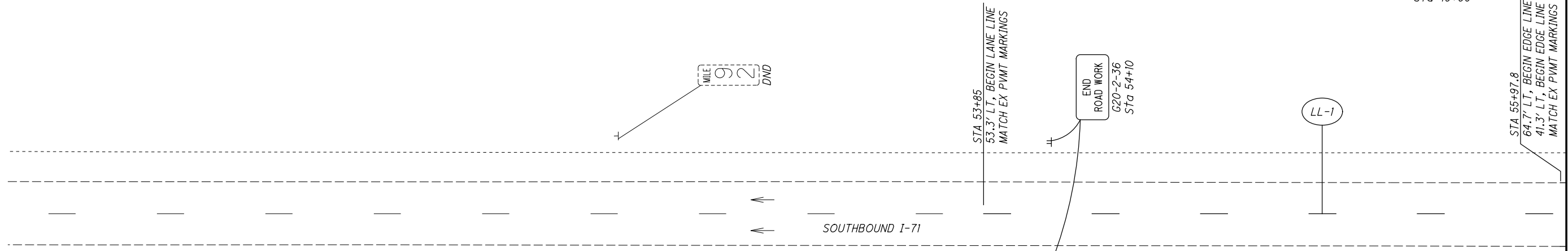


W3-H5b-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 46+60



W8-H6a-48
W8-H6aPL-36
W/ TYPE A FLASHING
WARNING LIGHT
Sta 49+50

ON LEFT



WILE 92 DND

END ROAD WORK
G20-2-36
Sta 54+10

LL-1

WILE 92 DND

W1-4BR-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 54+10

STA 55+30
53.1' LT, BEGIN LANE LINE
MATCH EX PIVMT MARKINGS

LL-2

STA 55+97.8
64.7' LT, BEGIN EDGE LINE
41.3' LT, BEGIN EDGE LINE
MATCH EX PIVMT MARKINGS

MATCH LINE - STA 56+00 - I-71 - SEE SHEET 67

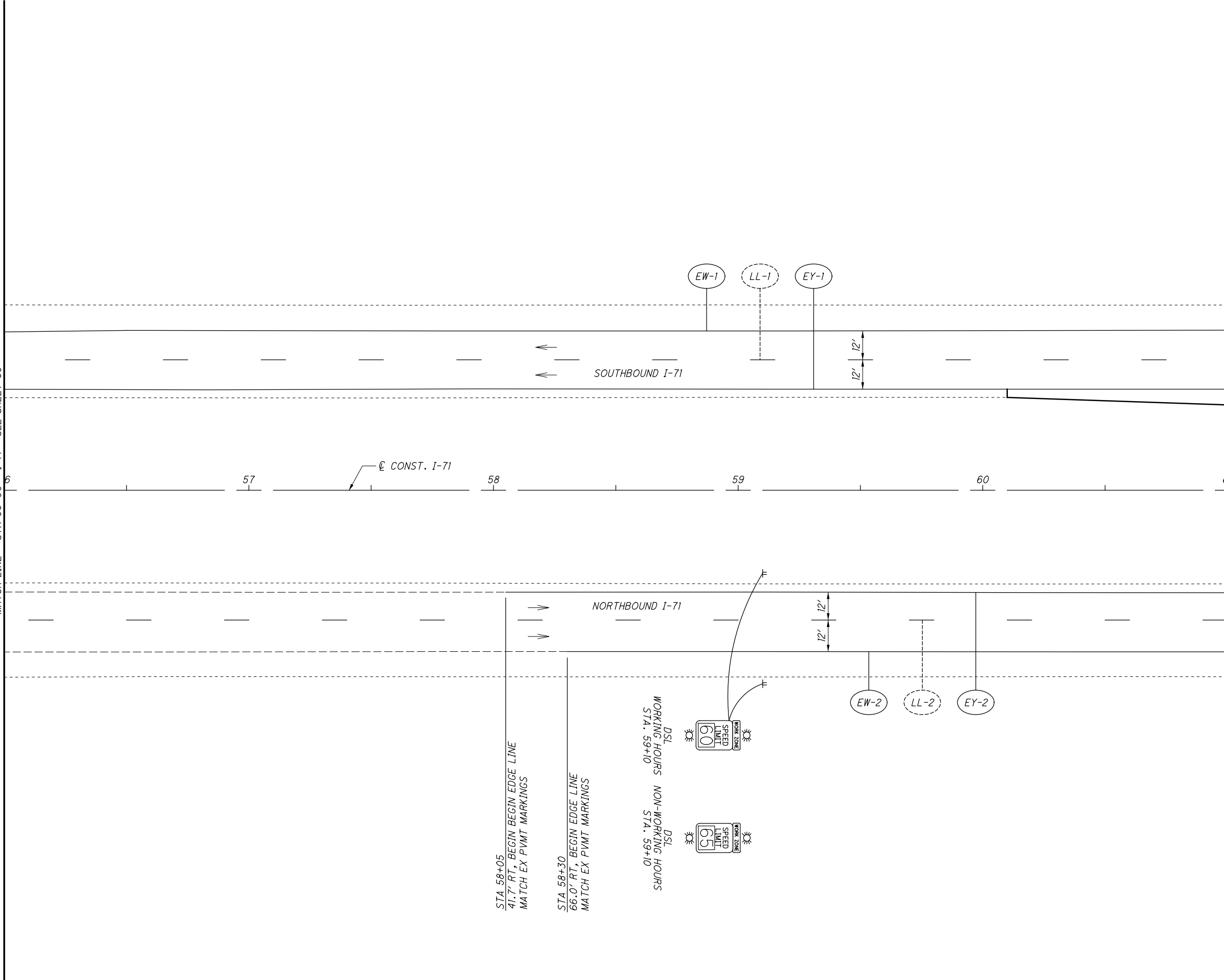


CALCULATED
EGD
CHECKED
DLW

**MAINTENANCE OF TRAFFIC - PHASE 1
(CONCRETE) I-71 STA 50+75 TO STA 56+00**

FRA-71-1.53

MATCH LINE - STA 56+00 - I-71 - SEE SHEET 66



STA 58+05
 41.7' RT, BEGIN BEGIN EDGE LINE
 MATCH EX PVMT MARKINGS

STA 58+30
 66.0' RT, BEGIN EDGE LINE
 MATCH EX PVMT MARKINGS

DSL
 WORKING HOURS
 STA. 59+10

DSL
 NON-WORKING HOURS
 STA. 59+10



EW-1

LL-1

EY-1

EW-2

LL-2

EY-2

MATCH LINE - STA 61+00 - I-71 - SEE SHEET 68

FOR LEGEND, SEE SHEET 23

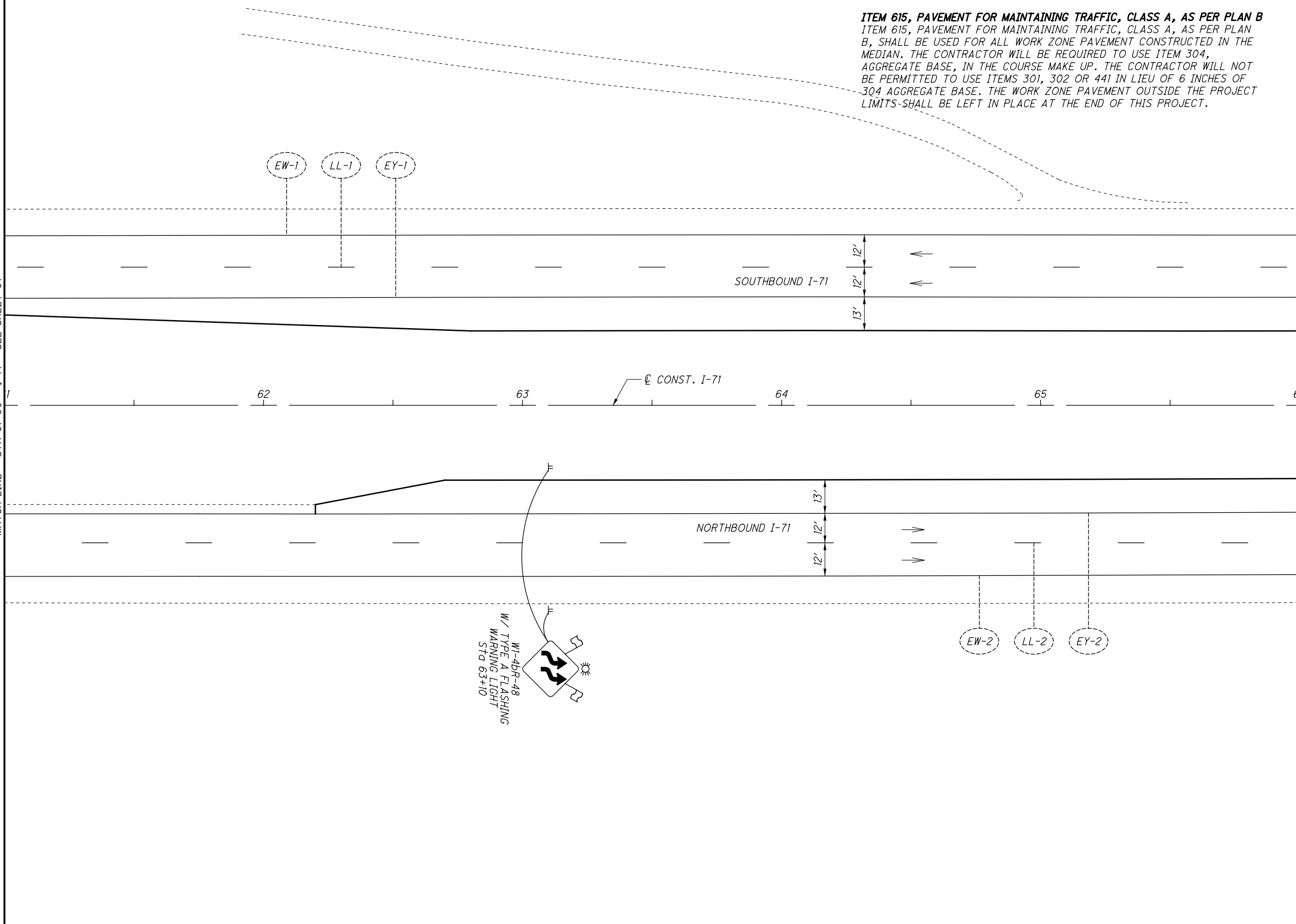
CALCULATED	EGD
CHECKED	DLW

0 20 40
 HORIZONTAL
 SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
 (CONCRETE) I-71 STA 56+00 TO STA 61+00**

FRA-71-1.53

MATCH LINE - STA 61+00 - I-71 - SEE SHEET 67



NOTES:

ITEM 411, STABILIZED CRUSHED AGGREGATE
 THIS AGGREGATE SHOULDER SHALL BE CONSTRUCTED ALONG THE EDGE OF THE WORK ZONE PAVEMENT AND SHALL BE 2 FEET WIDE BY 6 INCHES DEEP AND PLACED AT THE FOLLOWING LOCATIONS:
 STA 72+50 TO STA 81+35 LT STA 72+50 TO STA 81+35, RT
 STA 85+07 TO STA 88+54, RT STA 85+69 TO STA 88+57, LT
 STA 88+91 TO STA 97+00, RT STA 88+97 TO STA 97+00, LT

ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B
 ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN B, SHALL BE USED FOR ALL WORK ZONE PAVEMENT CONSTRUCTED IN THE MEDIAN. THE CONTRACTOR WILL BE REQUIRED TO USE ITEM 304, AGGREGATE BASE, IN THE COURSE MAKE UP. THE CONTRACTOR WILL NOT BE PERMITTED TO USE ITEMS 301, 302 OR 441 IN LIEU OF 6 INCHES OF 304 AGGREGATE BASE. THE WORK ZONE PAVEMENT OUTSIDE THE PROJECT LIMITS SHALL BE LEFT IN PLACE AT THE END OF THIS PROJECT.

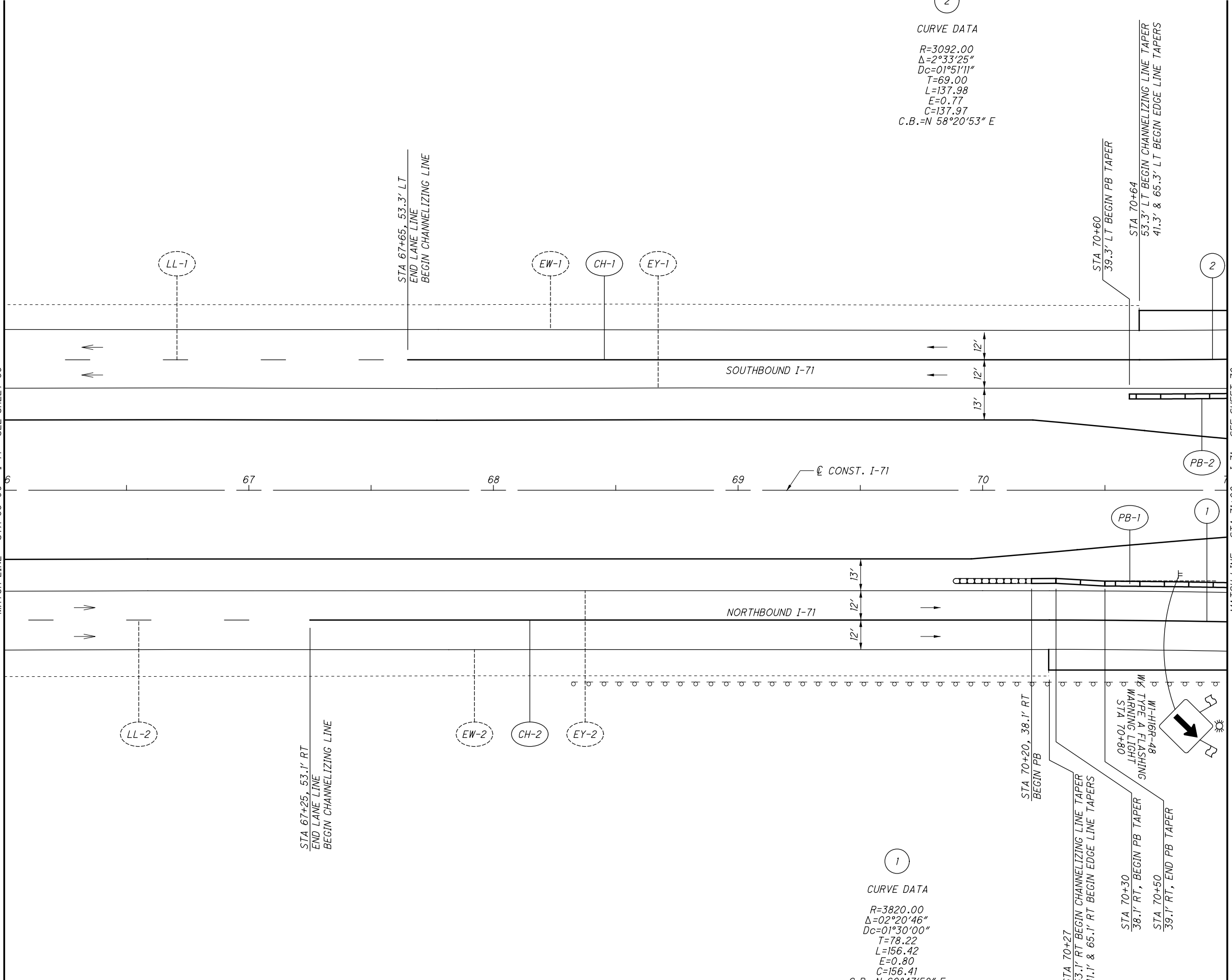


CALCULATED	EGD
CHECKED	DLW

**MAINTENANCE OF TRAFFIC - PHASE 1
 (CONCRETE) I-71 STA 61+00 TO STA 66+00**

FRA-71-1.53

MATCH LINE - STA 66+00 - I-71 - SEE SHEET 68



2
 CURVE DATA
 R=3092.00
 $\Delta=2^{\circ}33'25''$
 $Dc=01^{\circ}51'11''$
 T=69.00
 L=137.98
 E=0.77
 C=137.97
 C.B.=N 58°20'53" E

1
 CURVE DATA
 R=3820.00
 $\Delta=02^{\circ}20'46''$
 $Dc=01^{\circ}30'00''$
 T=78.22
 L=156.42
 E=0.80
 C=156.41
 C.B.=N 60°47'58" E

STA 70+27
 53.1' RT BEGIN CHANNELIZING LINE TAPER
 41.1' & 65.1' RT BEGIN EDGE LINE TAPERS

STA 70+20, 38.1' RT
 BEGIN PB

W1-H16R-48
 W1 TYPE A FLASHING
 LIGHT SIGN
 STA 70+80

STA 70+30
 38.1' RT, BEGIN PB TAPER

STA 70+50
 39.1' RT, END PB TAPER

FOR LEGEND, SEE SHEET 23

CALCULATED
 EGD
 CHECKED
 DLW

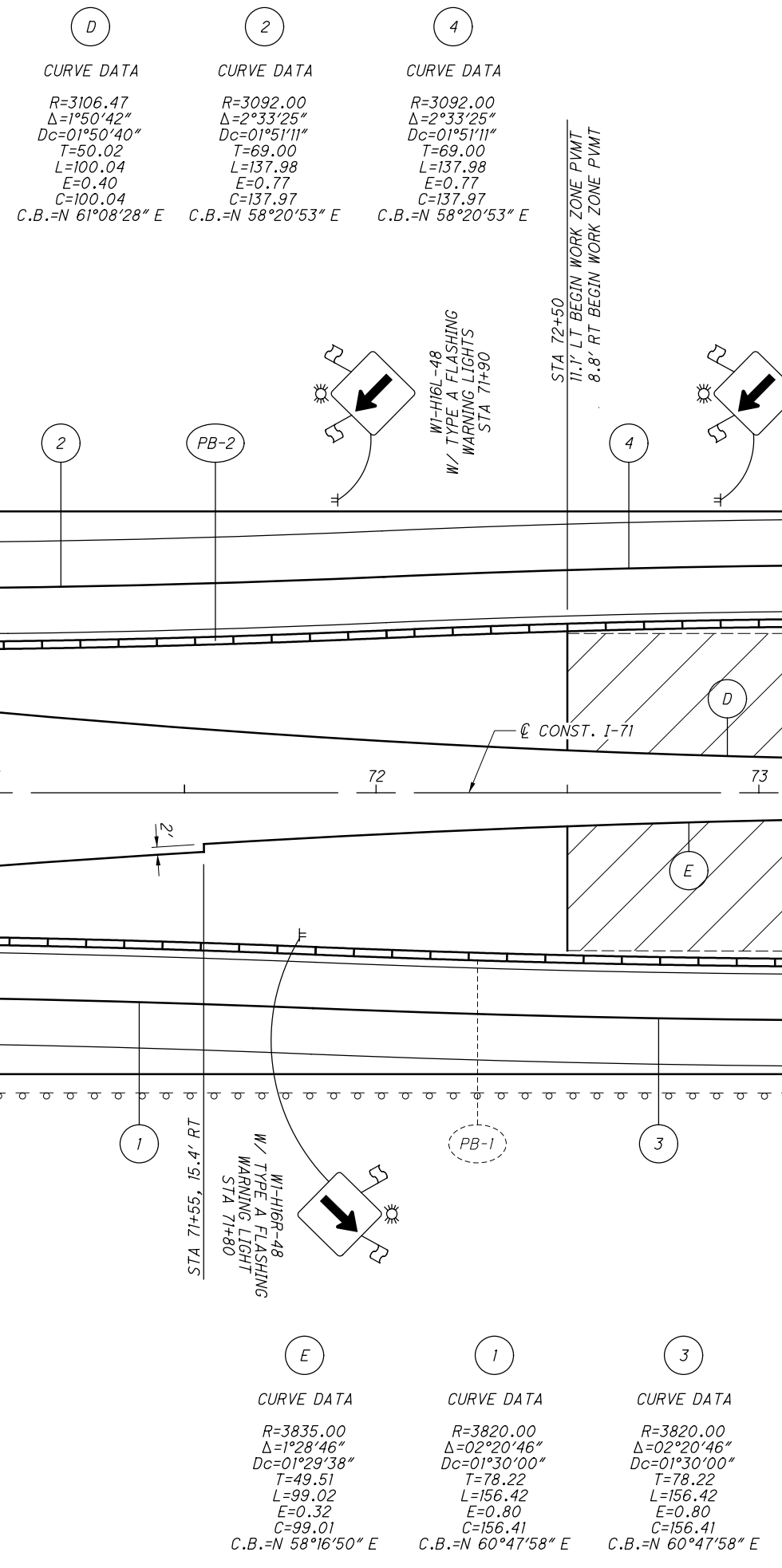
0 20 40
 HORIZONTAL
 SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
 (CONCRETE) I-71 STA 66+00 TO STA 71+00**

FRA-71-1.53

MATCH LINE - STA 71+00 - I-71 - SEE SHEET 69

MATCH LINE - STA 76+00 - I-71 - SEE SHEET 71



(D)	(2)	(4)
CURVE DATA	CURVE DATA	CURVE DATA
R=3106.47	R=3092.00	R=3092.00
$\Delta=1^{\circ}50'42''$	$\Delta=2^{\circ}33'25''$	$\Delta=2^{\circ}33'25''$
Dc=01'50'40"	Dc=01'51'11"	Dc=01'51'11"
T=50.02	T=69.00	T=69.00
L=100.04	L=137.98	L=137.98
E=0.40	E=0.77	E=0.77
C=100.04	C=137.97	C=137.97
C.B.=N 61°08'28" E	C.B.=N 58°20'53" E	C.B.=N 58°20'53" E

(E)	(1)	(3)
CURVE DATA	CURVE DATA	CURVE DATA
R=3835.00	R=3820.00	R=3820.00
$\Delta=1^{\circ}28'46''$	$\Delta=02^{\circ}20'46''$	$\Delta=02^{\circ}20'46''$
Dc=01'29'38"	Dc=01'30'00"	Dc=01'30'00"
T=49.51	T=78.22	T=78.22
L=99.02	L=156.42	L=156.42
E=0.32	E=0.80	E=0.80
C=99.01	C=156.41	C=156.41
C.B.=N 58°16'50" E	C.B.=N 60°47'58" E	C.B.=N 60°47'58" E

STA 72+50
11.1' LT BEGIN WORK ZONE PVMT
8.8' RT BEGIN WORK ZONE PVMT

STA 73+40
59.5' RT END CHANNELIZING LINE TAPER
47.5' & 71.5' LT END EDGE LINE TAPERS
47.5' & 71.5' RT END EDGE LINE TAPERS
45.5' RT END PB TAPER

STA 73+50, 6.5' RT & 8.5' LT
END WORK ZONE PVMT TAPER

CALCULATED
EGD
CHECKED
DLW

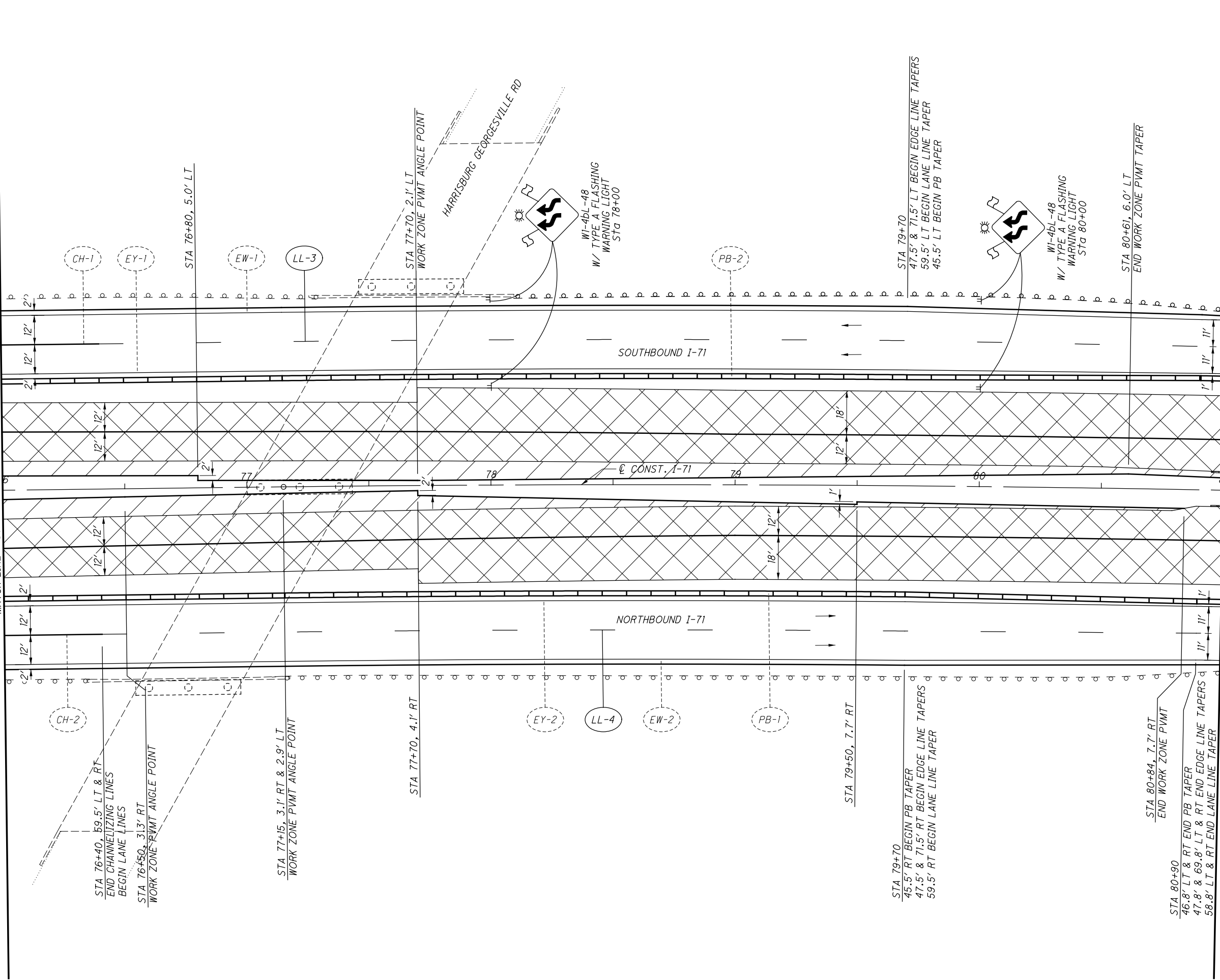
0 20 40
10
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
(CONCRETE) I-71 STA 71+00 TO STA 76+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23

MATCH LINE - STA 76+00 - I-71 - SEE SHEET 70



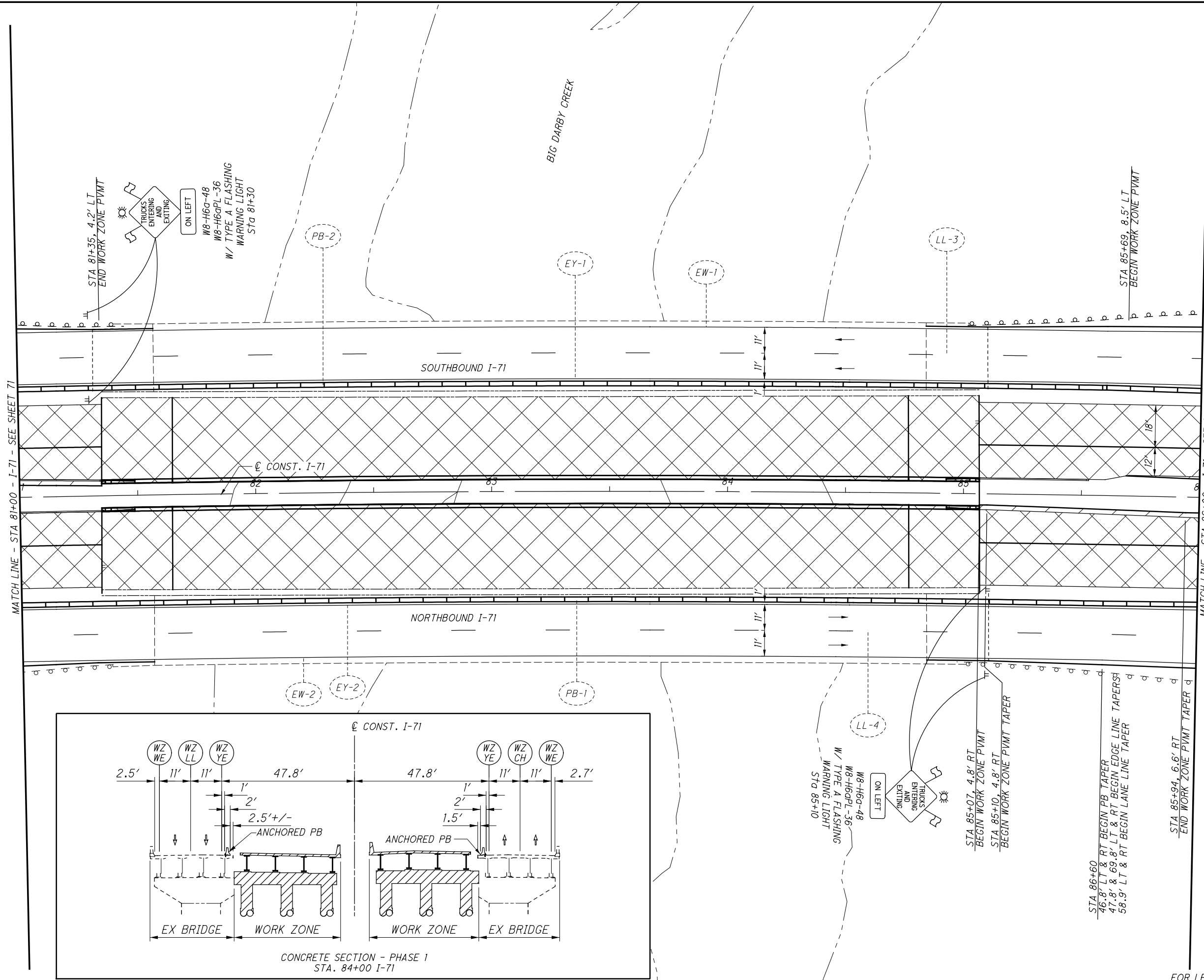
MATCH LINE - STA 81+00 - I-71 - SEE SHEET 72

FOR LEGEND, SEE SHEET 23

CALCULATED
EGD
CHECKED
DLW

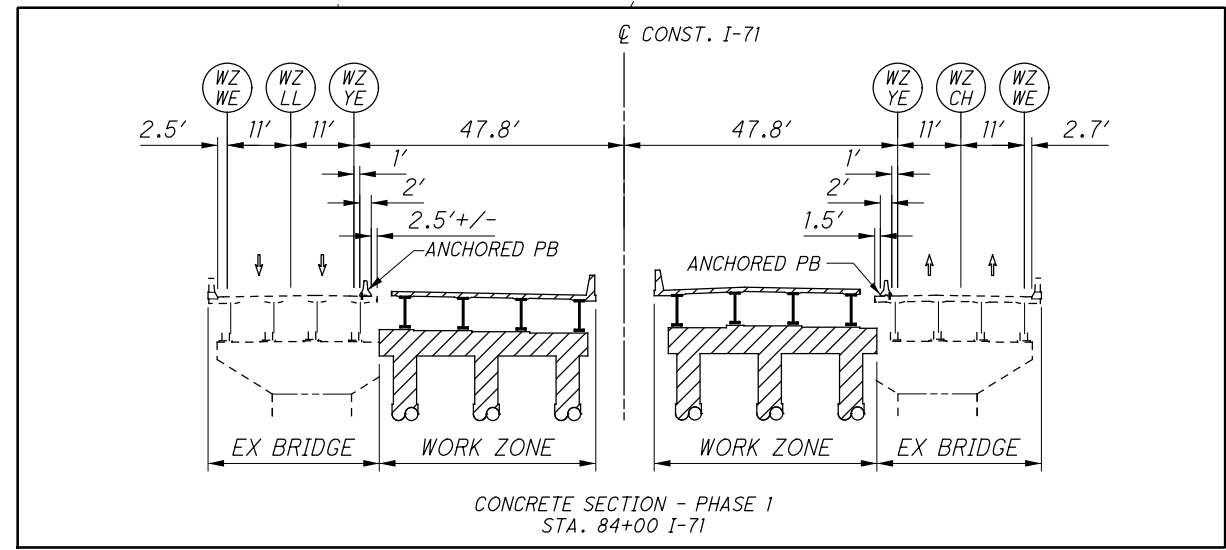
0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
(CONCRETE) I-71 STA 76+00 TO STA 81+00**



MATCH LINE - STA 81+00 - I-71 - SEE SHEET 71

MATCH LINE - STA 86+00 - I-71 - SEE SHEET 73



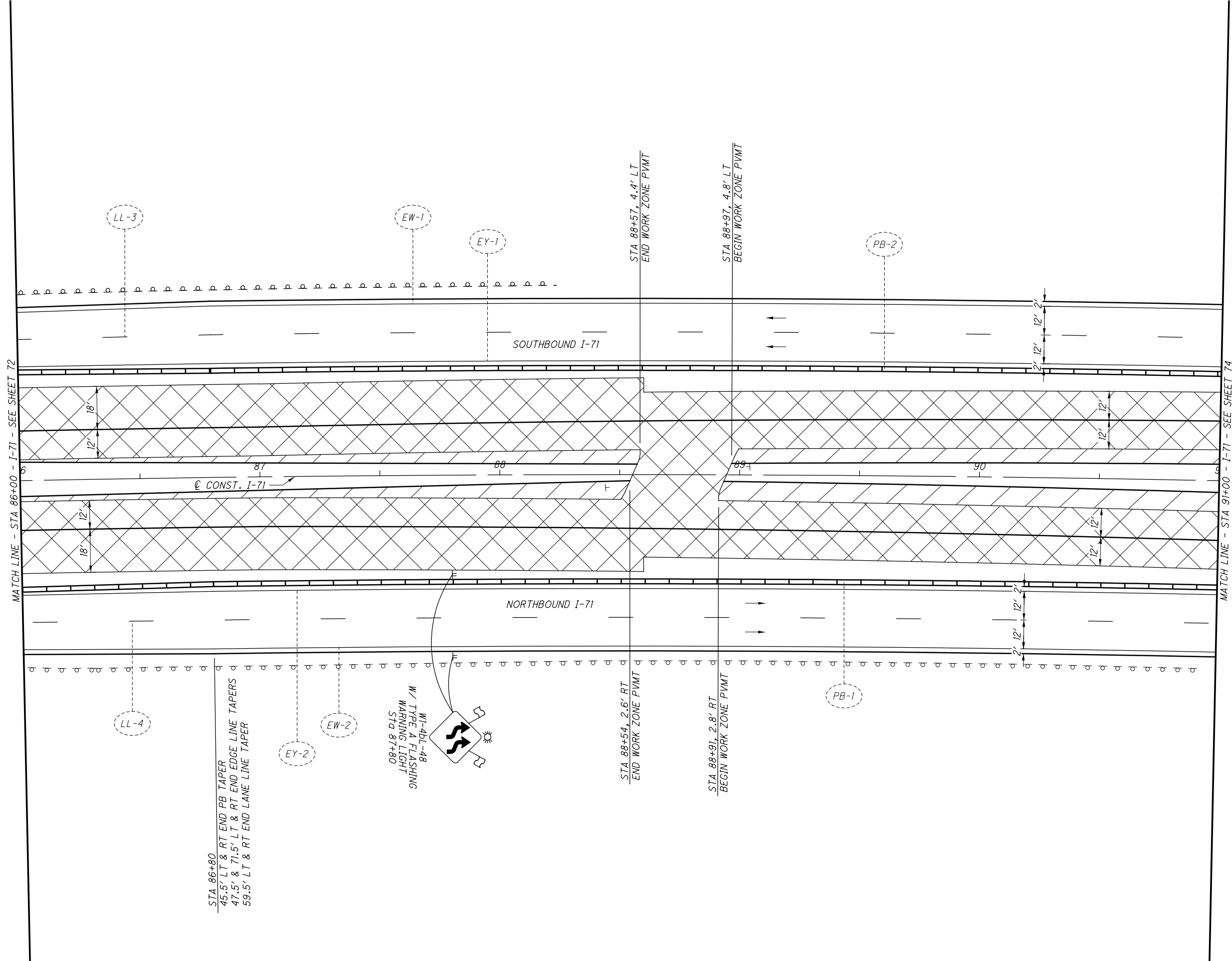
CONCRETE SECTION - PHASE 1
STA. 84+00 I-71

CALCULATED
EGD
CHECKED
DLW

**MAINTENANCE OF TRAFFIC - PHASE 1
(CONCRETE) I-71 STA 81+00 TO STA 86+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23



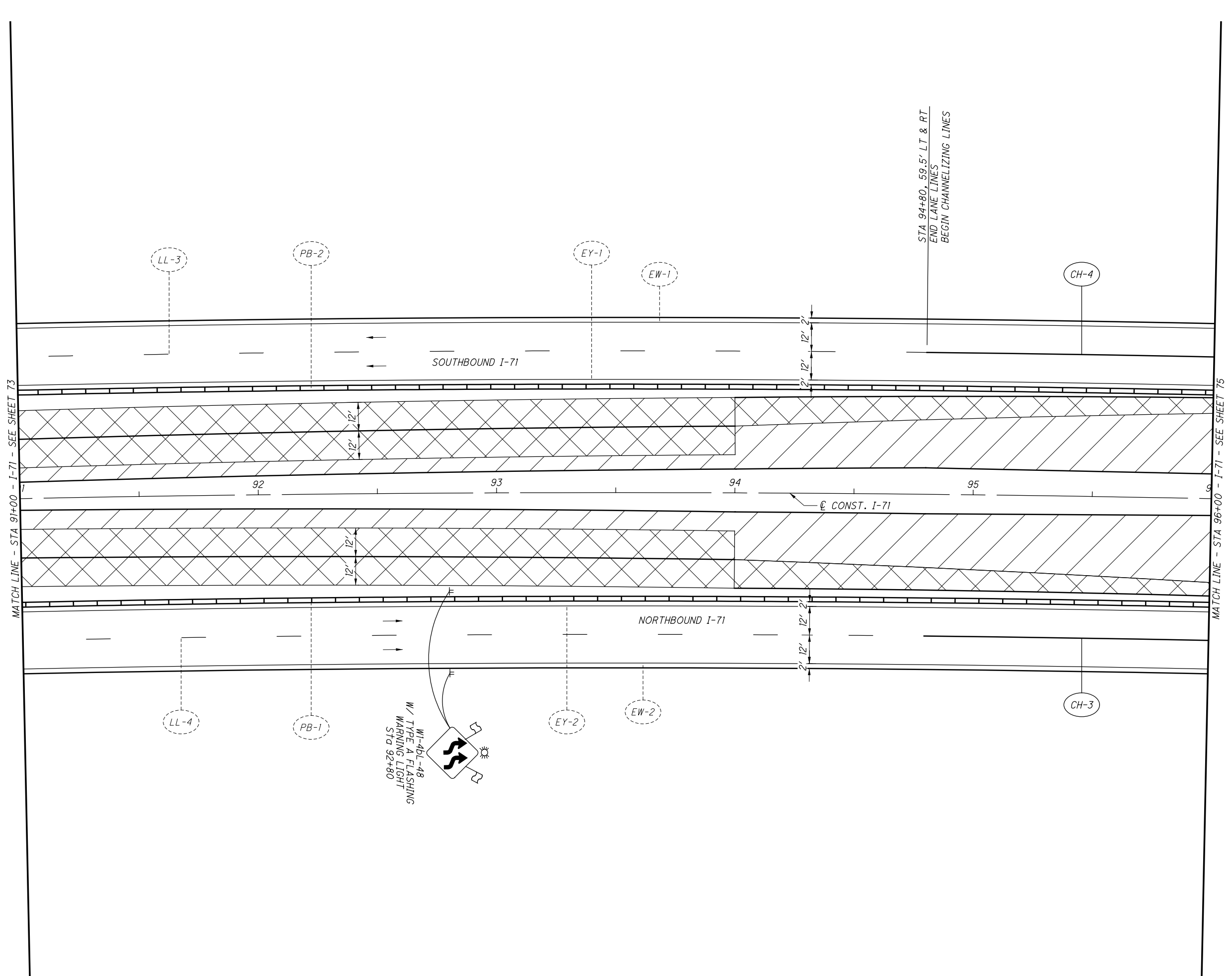
CALCULATED
EGD
CHECKED
DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
(CONCRETE) I-71 STA 86+00 TO STA 91+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23



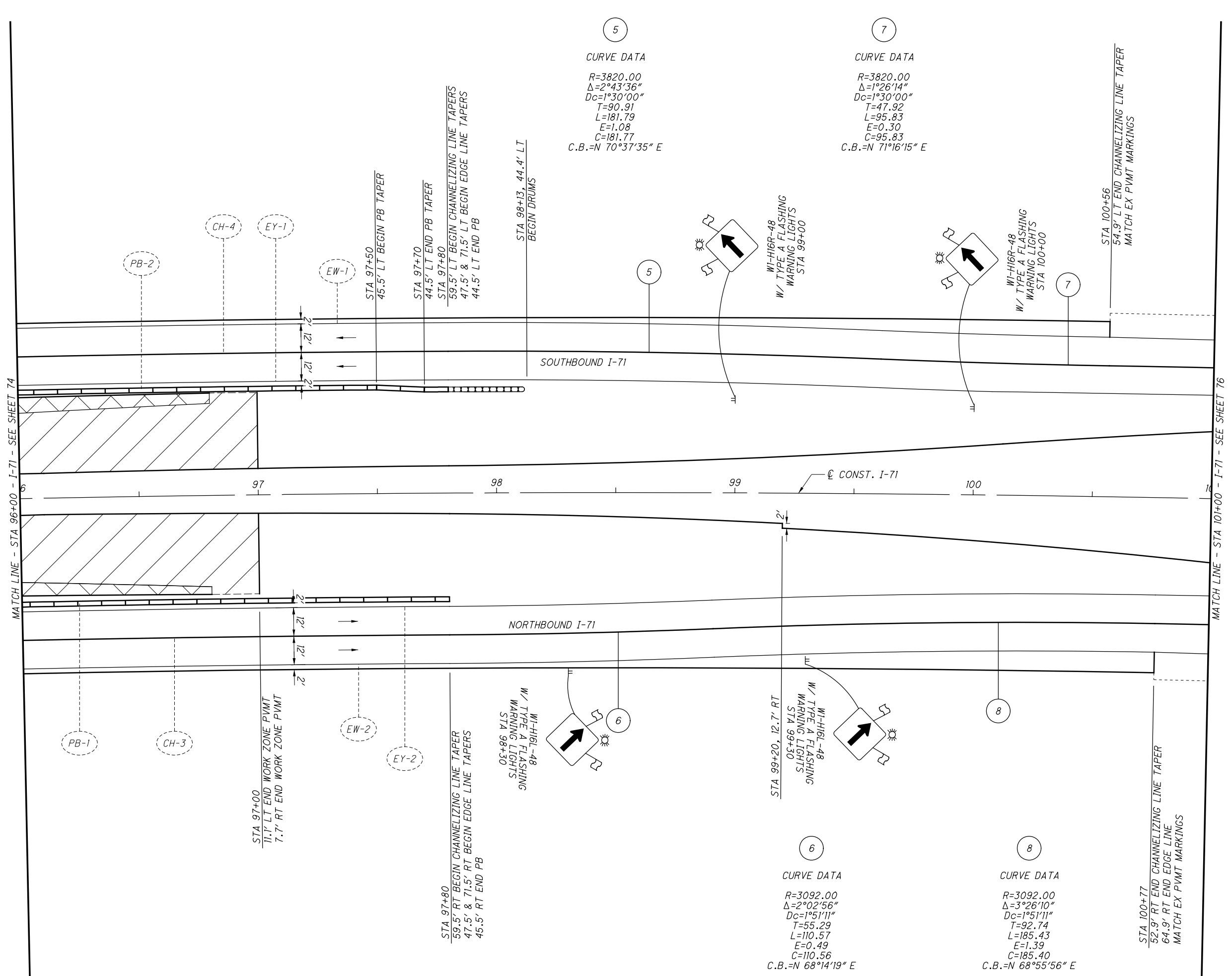
CALCULATED DLW
CHECKED DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
(CONCRETE) I-71 STA 91+00 TO STA 96+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23



5
 CURVE DATA
 R=3820.00
 $\Delta=2^{\circ}43'36''$
 Dc=1^{\circ}30'00''
 T=90.91
 L=181.79
 E=1.08
 C=181.77
 C.B.=N 70^{\circ}37'35'' E

7
 CURVE DATA
 R=3820.00
 $\Delta=1^{\circ}26'14''$
 Dc=1^{\circ}30'00''
 T=47.92
 L=95.83
 E=0.30
 C=95.83
 C.B.=N 71^{\circ}16'15'' E

6
 CURVE DATA
 R=3092.00
 $\Delta=2^{\circ}02'56''$
 Dc=1^{\circ}51'11''
 T=55.29
 L=110.57
 E=0.49
 C=110.56
 C.B.=N 68^{\circ}14'19'' E

8
 CURVE DATA
 R=3092.00
 $\Delta=3^{\circ}26'10''$
 Dc=1^{\circ}51'11''
 T=92.74
 L=185.43
 E=1.39
 C=185.40
 C.B.=N 68^{\circ}55'56'' E

CALCULATED
EGD
CHECKED
DLW

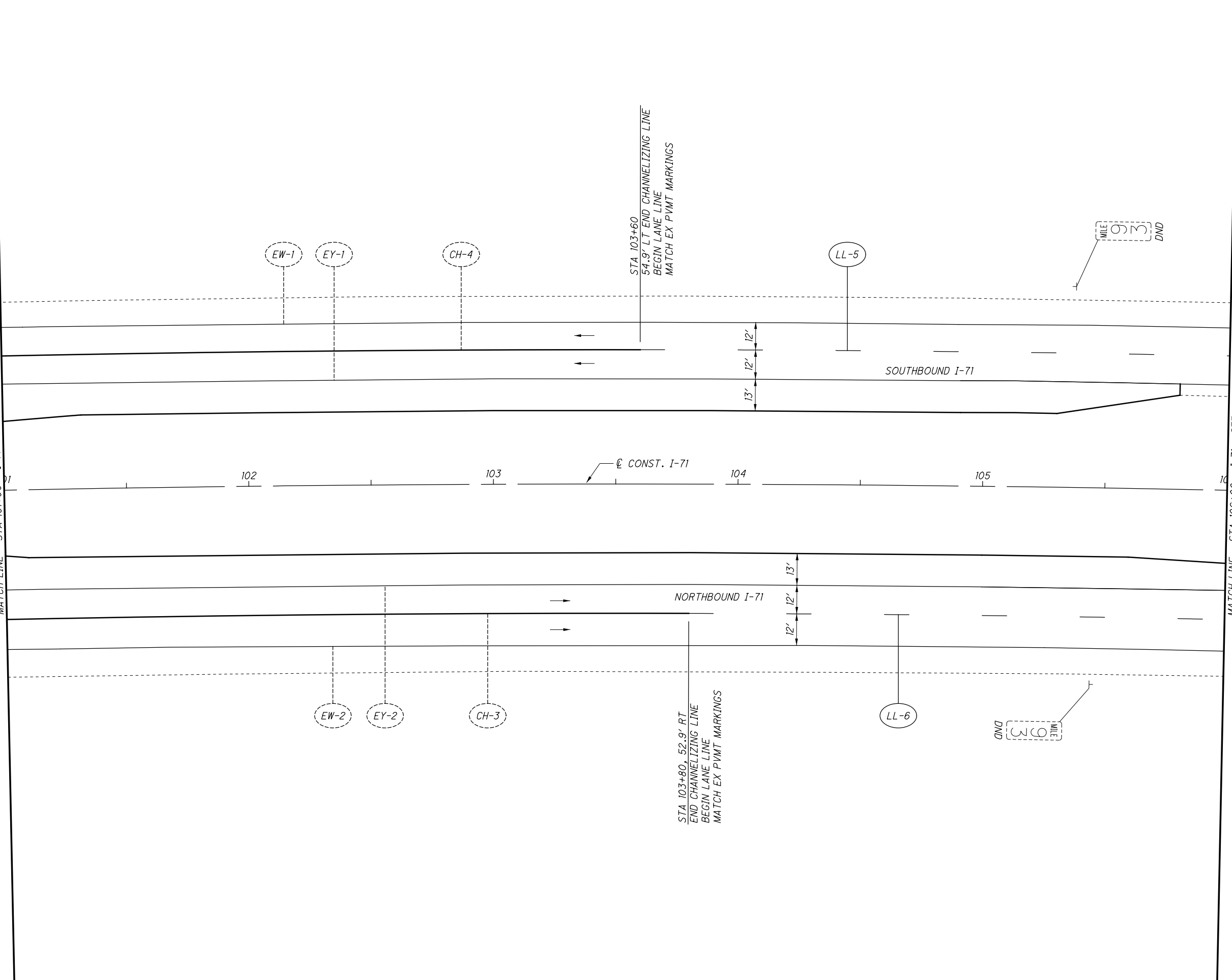
0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
 (CONCRETE) I-71 STA 96+00 TO STA 101+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23

MATCH LINE - STA 101+00 - I-71 - SEE SHEET 75



MATCH LINE - STA 106+00 - I-71 - SEE SHEET 77

FOR LEGEND, SEE SHEET 23

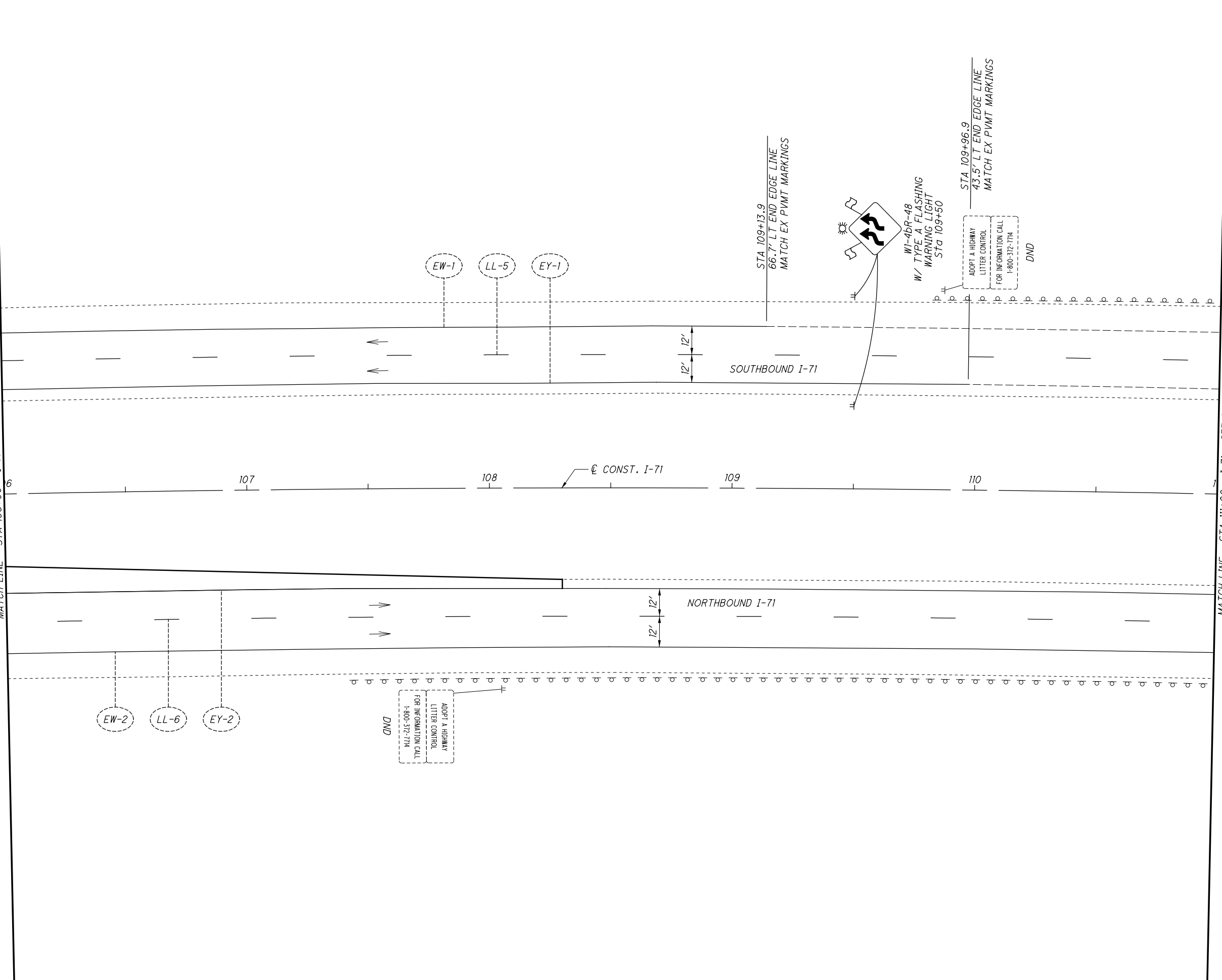
CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
(CONCRETE) I-71 STA 101+00 TO STA 106+00**

FRA-71-1.53

MATCH LINE - STA 106+00 - I-71 - SEE SHEET 76



FOR LEGEND, SEE SHEET 23

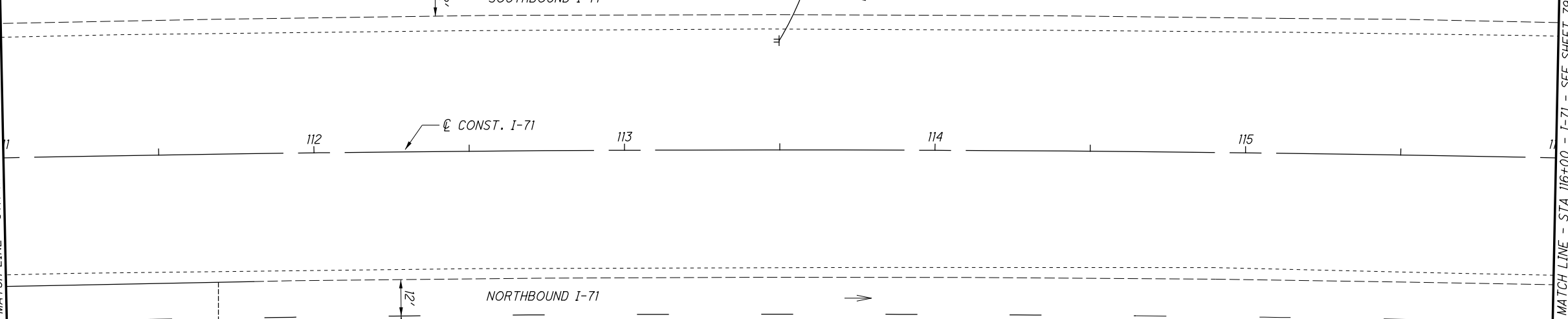
CALCULATED EGD CHECKED DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
(CONCRETE) I-71 STA 106+00 TO STA 111+00**

FRA-71-1.53

MATCH LINE - STA 111+00 - I-71 - SEE SHEET 77



EW-2
LL-6
EY-2

STA 111+80
41.2' RT END EDGE LINE
65.2' RT END EDGE LINE
MATCH EX PVTM MARKINGS

LL-5

STA 113+00
54.9' LT END LANE LINE
MATCH EX PVTM MARKINGS

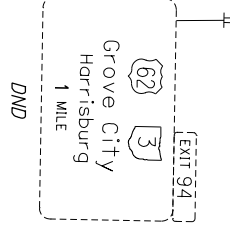
WORK ZONE
SPEED LIMIT
60

DSL
WORKING HOURS
NON-WORKING HOURS
STA. 113+50

WORK ZONE
SPEED LIMIT
65

DSL
NON-WORKING HOURS
STA. 113+50

STA 114+65
52.9' RT END LANE LINE
MATCH EX PVTM MARKINGS



MATCH LINE - STA 116+00 - I-71 - SEE SHEET 79

FOR LEGEND, SEE SHEET 23

CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 1
(CONCRETE) I-71 STA 111+00 TO STA 116+00**

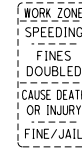
FRA-71-1.53

X:\4037000\121957.15\93496\MOT\sheets\93496MP501.dgn Sheet 11/19/2018 3:00:32 PM 1636dcb

THE FOLLOWING ADVANCE WARNING SIGNS ALONG THE NORTHBOUND I-71 ROADWAY SHALL BE LEFT IN PLACE OR MODIFIED AT THE COMPLETION OF PHASE 1 CONSTRUCTION.



W20-1-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 12+70



R11-H5a-48
Sta 19+30



R4-5R-48
Sta 25+10



R4-9-36
Sta 39+10



W3-H5b-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 46+60



ON RIGHT
W8-H6a-48
W8-H6aPR-36
W/ TYPE A FLASHING
WARNING LIGHT
Sta 49+50

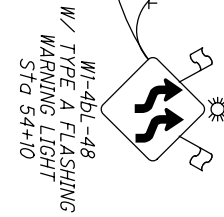
MILE 92 DND

END ROAD WORK
G20-2-36
Sta 54+10

SOUTHBOUND I-71

NORTHBOUND I-71

MILE 92 DND



W1-4bL-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 34+10

MATCH LINE - STA 56+00 - I-71 - SEE SHEET 81

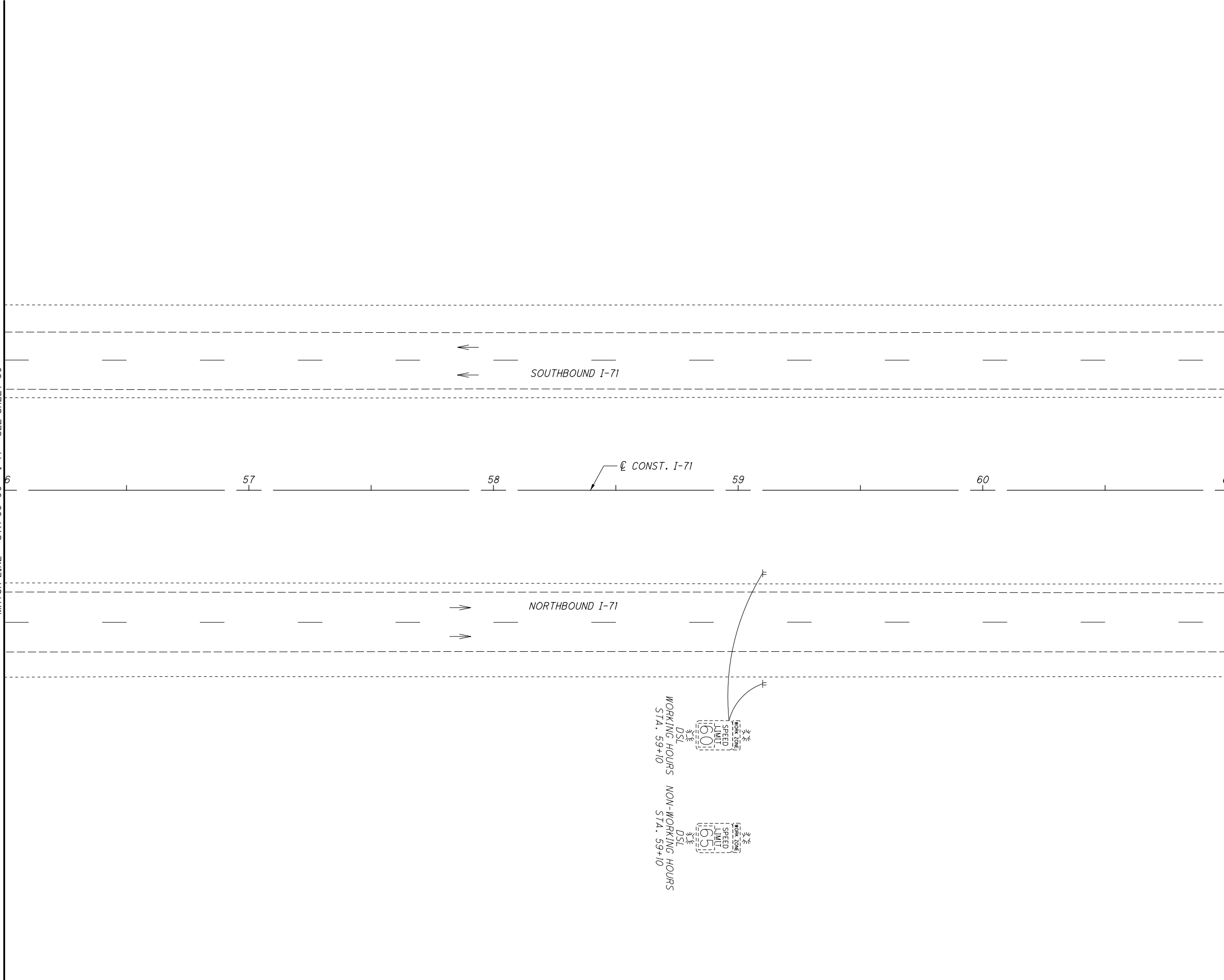


CALCULATED EGD
CHECKED DLW

MAINTENANCE OF TRAFFIC - PHASE 2
(CONCRETE) I-71 STA 51+00 TO STA 56+00

FRA-71-1.53

MATCH LINE - STA 56+00 - I-71 - SEE SHEET 80



MATCH LINE - STA 61+00 - I-71 - SEE SHEET 82

WORKING HOURS
STA.: 59+10

DSL
SPEED LIMIT
60

NON-WORKING HOURS
STA.: 59+10

DSL
SPEED LIMIT
65

FOR LEGEND, SEE SHEET 23

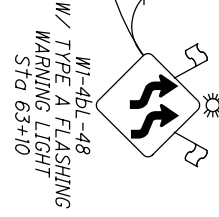
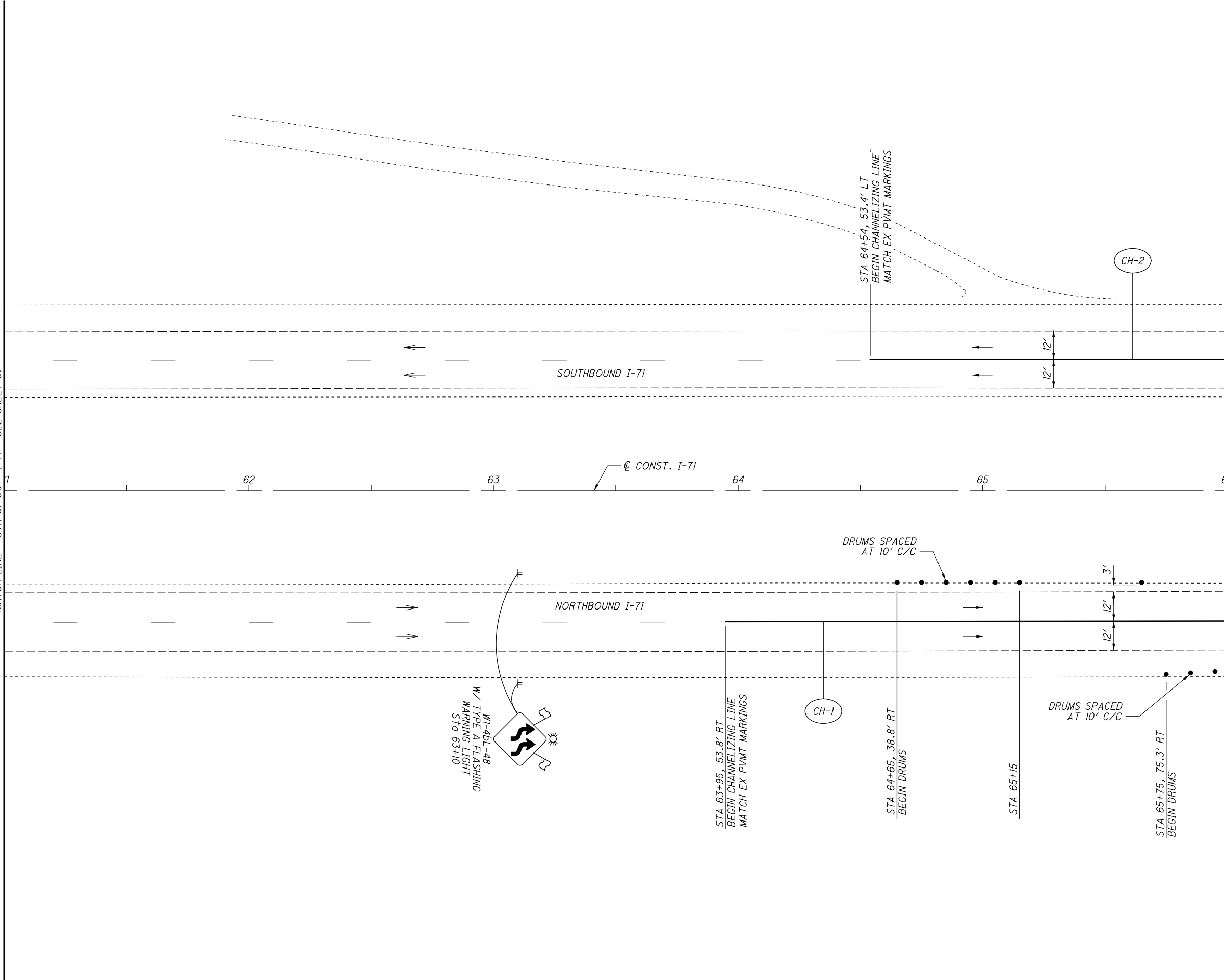
CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(CONCRETE) I-71 STA 56+00 TO STA 61+00**

FRA-71-1.53

MATCH LINE - STA 61+00 - I-71 - SEE SHEET 81



STA 63+95, 53.8' RT
BEGIN CHANNELIZING LINE
MATCH EX PVMT MARKINGS

CH-1

STA 64+65, 38.8' RT
BEGIN DRUMS

STA 65+15

DRUMS SPACED
AT 10' C/C

STA 65+75, 75.3' RT
BEGIN DRUMS

STA 64+54, 53.4' LT
BEGIN CHANNELIZING LINE
MATCH EX PVMT MARKINGS

CH-2

MATCH LINE - STA 66+00 - I-71 - SEE SHEET 83

FOR LEGEND, SEE SHEET 23

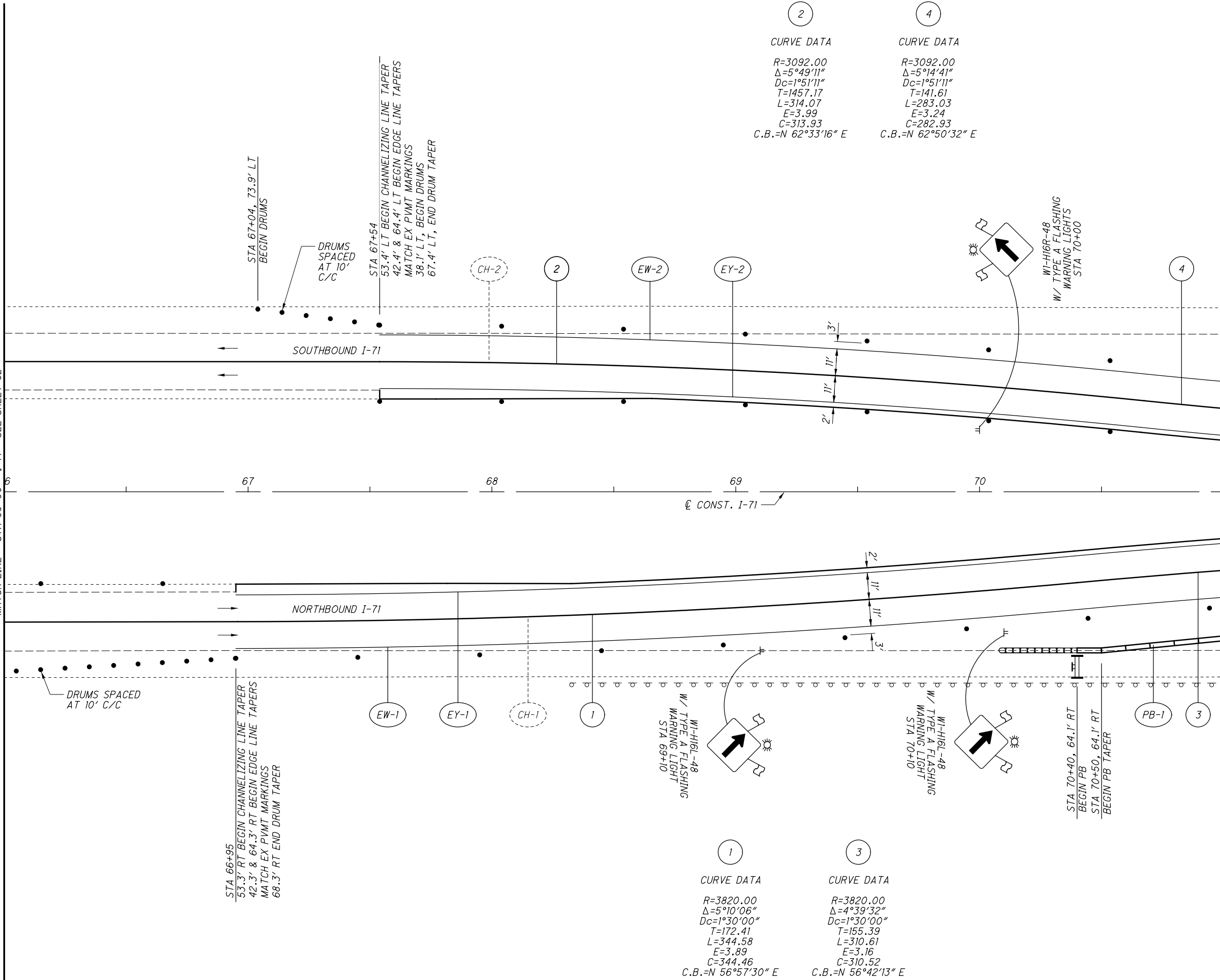
CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(CONCRETE) I-71 STA 61+00 TO STA 66+00**

FRA-71-1.53

MATCH LINE - STA 66+00 - I-71 - SEE SHEET 82



Curve ID	Curve Data
2	CURVE DATA R=3092.00 Δ=5°49'11" Dc=1°51'11" T=1457.17 L=314.07 E=3.99 C=313.93 C.B.=N 62°33'16" E
4	CURVE DATA R=3092.00 Δ=5°14'41" Dc=1°51'11" T=141.61 L=283.03 E=3.24 C=282.93 C.B.=N 62°50'32" E

Curve ID	Curve Data
1	CURVE DATA R=3820.00 Δ=5°10'06" Dc=1°30'00" T=172.41 L=344.58 E=3.89 C=344.46 C.B.=N 56°57'30" E
3	CURVE DATA R=3820.00 Δ=4°39'32" Dc=1°30'00" T=155.39 L=310.61 E=3.16 C=310.52 C.B.=N 56°42'13" E

CALCULATED
EGD
CHECKED
DLW

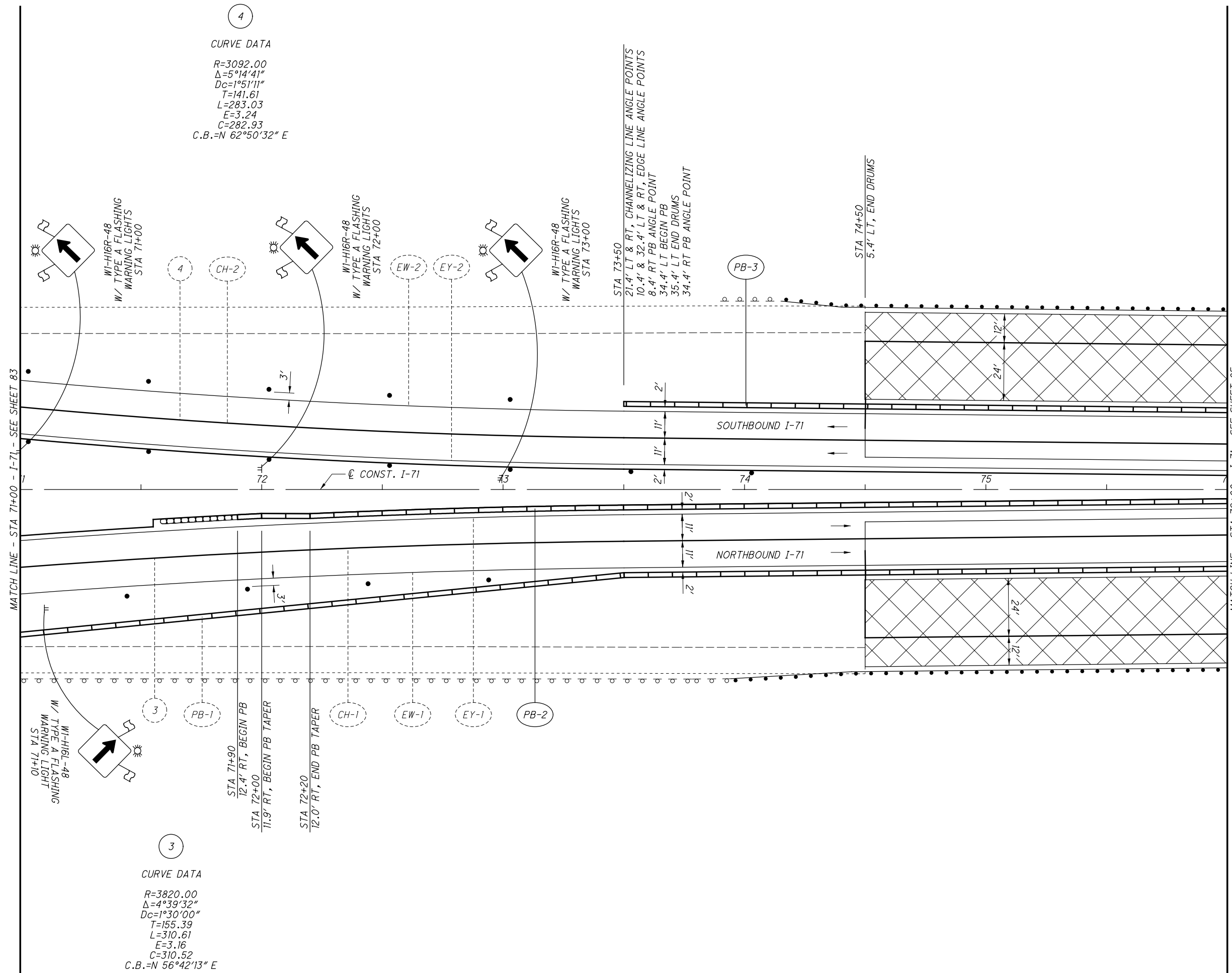
0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(CONCRETE) I-71 STA 66+00 TO STA 71+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23

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CALCULATED
EGD
CHECKED
DLW

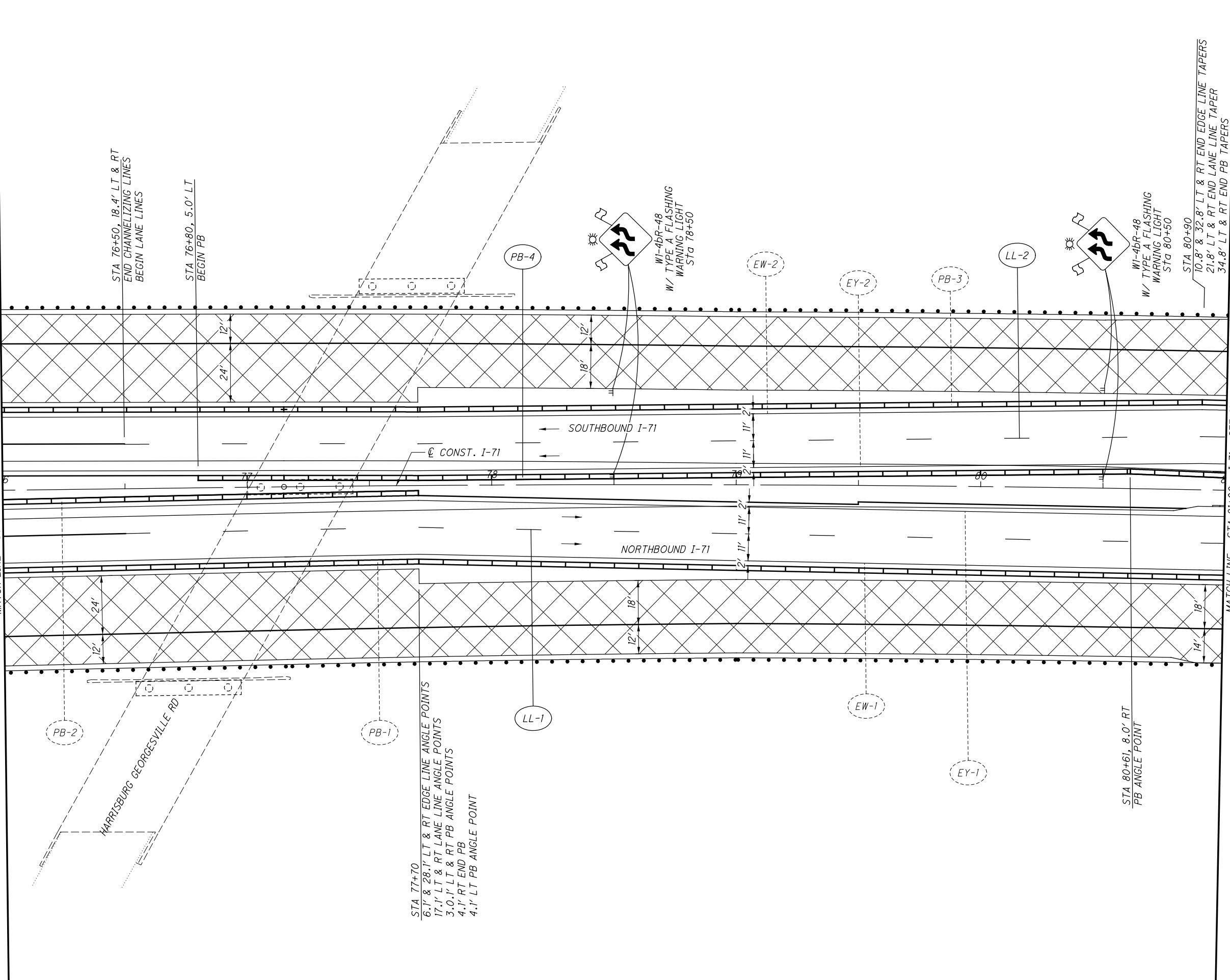
0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(CONCRETE) I-71 STA 71+00 TO STA 76+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23

MATCH LINE - STA 76+00 - I-71 - SEE SHEET 84



STA 76+50, 18.4' LT & RT
END CHANNELIZING LINES
BEGIN LANE LINES

STA 76+80, 5.0' LT
BEGIN PB

STA 77+70
6.1' & 28.1' LT & RT EDGE LINE ANGLE POINTS
17.1' LT & RT LANE LINE ANGLE POINTS
3.0.1' LT & RT PB ANGLE POINTS
4.1' RT END PB
4.1' LT PB ANGLE POINT

STA 80+61, 8.0' RT
PB ANGLE POINT

STA 80+90
10.8' & 32.8' LT & RT END EDGE LINE TAPERS
21.8' LT & RT END LANE LINE TAPER
34.8' LT & RT END PB TAPERS

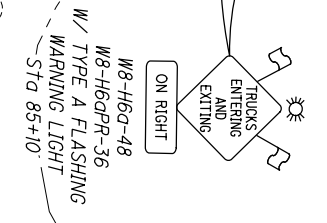
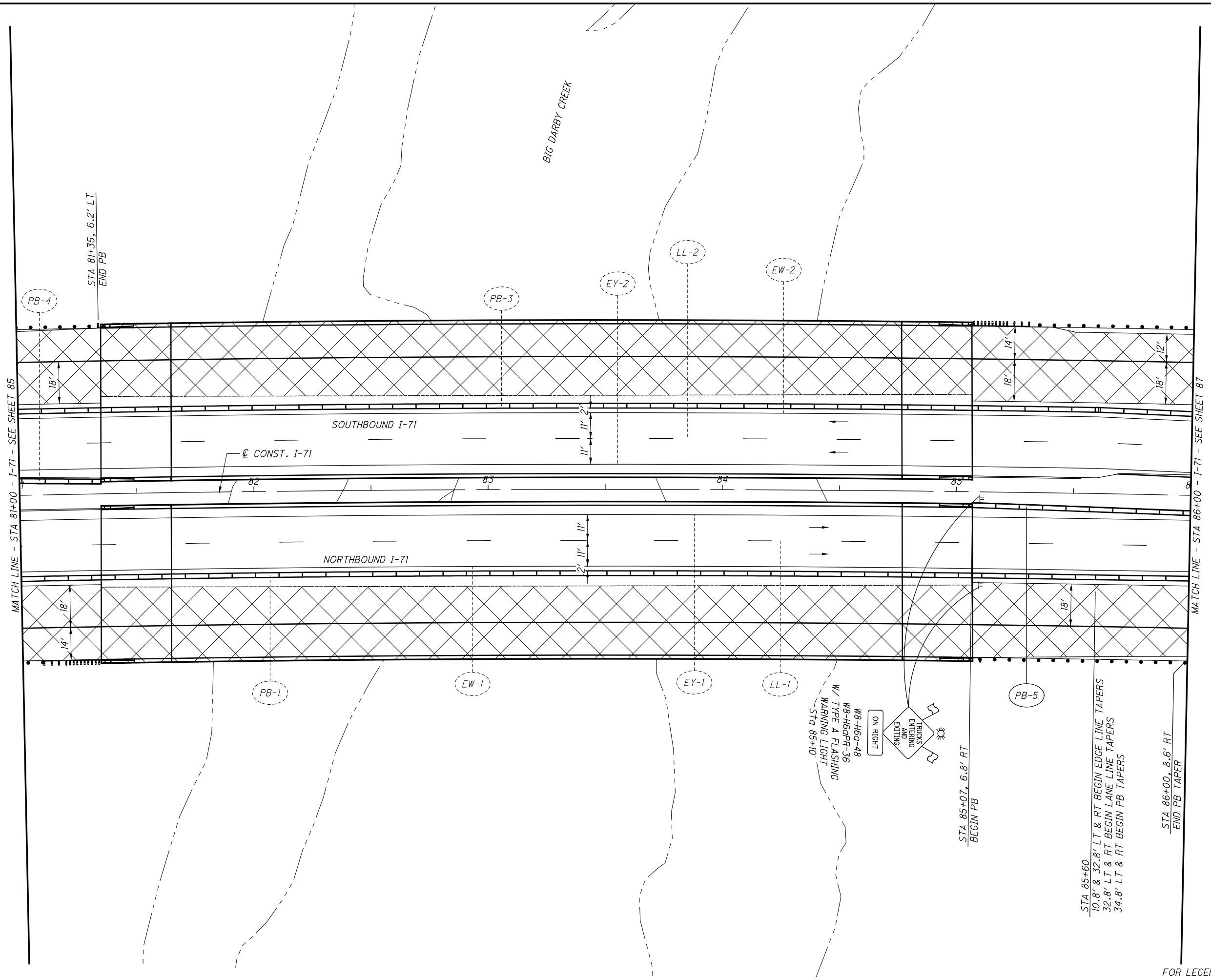
FOR LEGEND, SEE SHEET 23

CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(CONCRETE) I-71 STA 76+00 TO STA 81+00**

FRA-71-1.53



STA 85+60
 10.8' & 32.8' LT & RT BEGIN EDGE LINE TAPERS
 32.8' LT & RT BEGIN LANE LINE TAPERS
 34.8' LT & RT BEGIN PB TAPERS

STA 86+00, 8.6' RT
 END PB TAPER

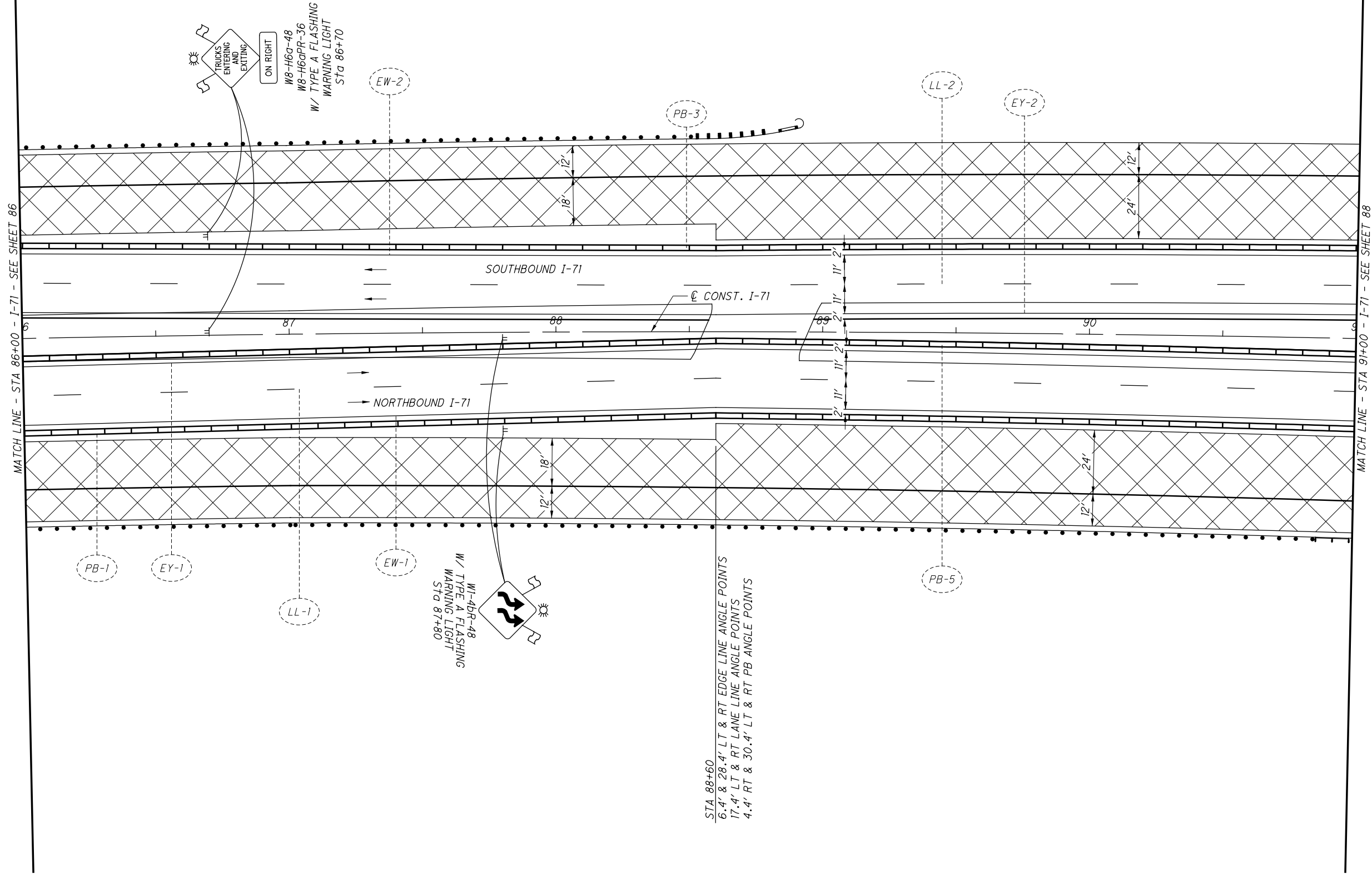
FOR LEGEND, SEE SHEET 23

CALCULATED	EGD	CHECKED	DLW

0 20 40
 HORIZONTAL
 SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
 (CONCRETE) I-71 STA 81+00 TO STA 86+00**

FRA-71-1.53



FOR LEGEND, SEE SHEET 23

CALCULATED EGD CHECKED DLW

0 20 40

HORIZONTAL SCALE IN FEET

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0

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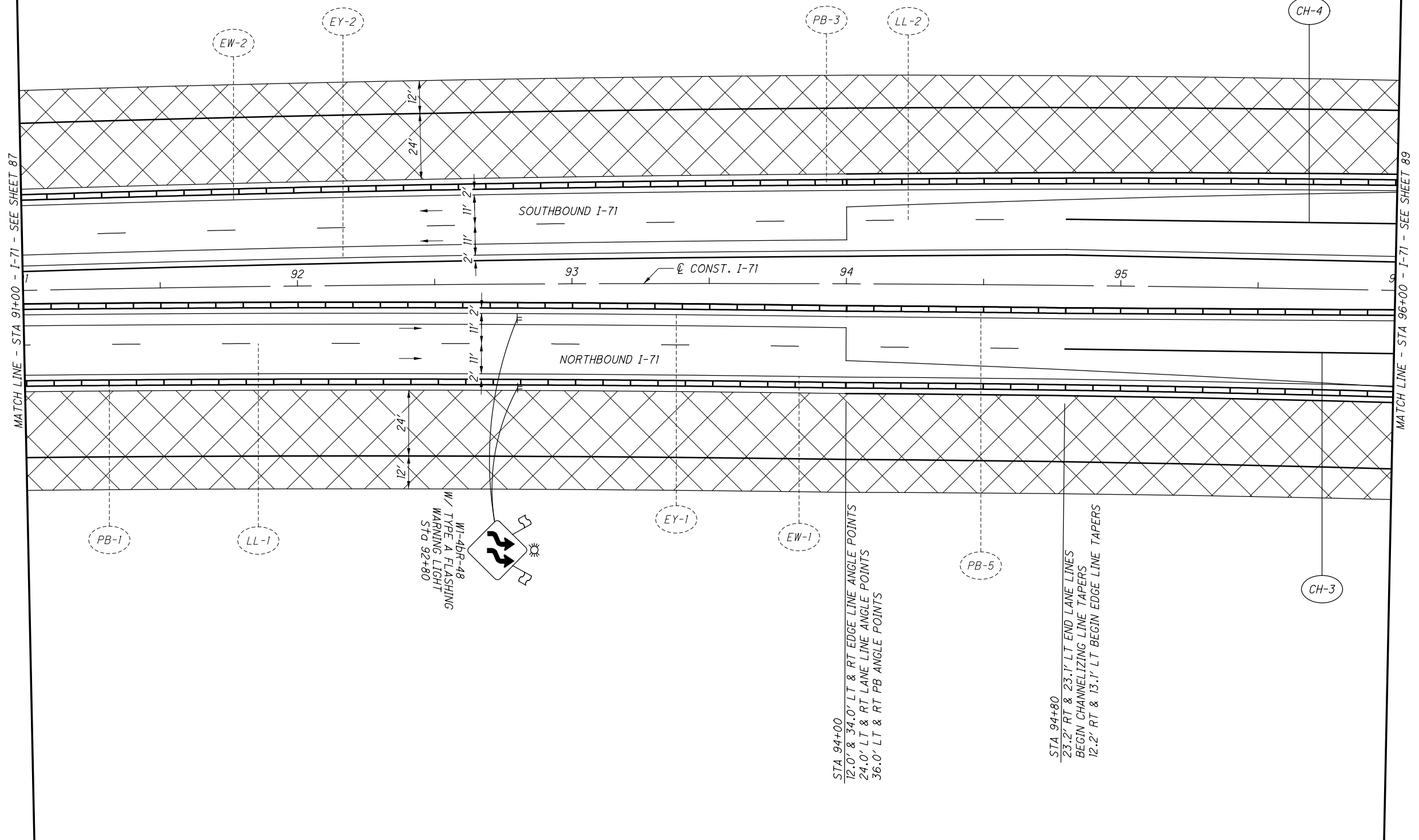
80

90

100

**MAINTENANCE OF TRAFFIC - PHASE 2
(CONCRETE) I-71 STA 86+00 TO STA 91+00**

FRA-71-1.53



STA 94+00
 12.0' RT & 34.0' LT & RT EDGE LINE ANGLE POINTS
 24.0' LT & RT LANE LINE ANGLE POINTS
 36.0' LT & RT PB ANGLE POINTS

STA 94+80
 23.2' RT & 23.1' LT END LANE LINES
 BEGIN CHANNELIZING LINE TAPERS
 12.2' RT & 13.1' LT BEGIN EDGE LINE TAPERS

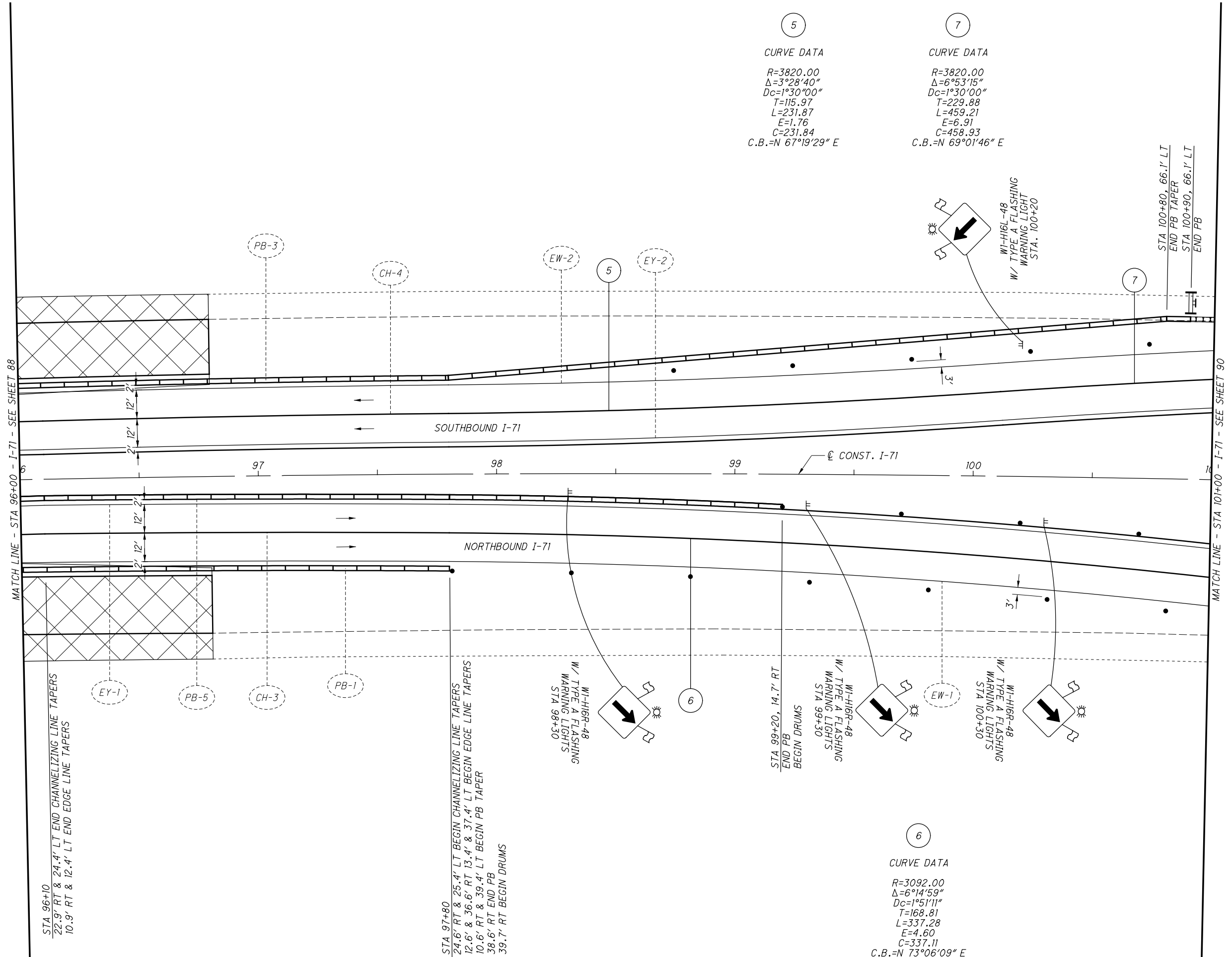
CALCULATED
 EGD
 CHECKED
 DLW

0 20 40
 HORIZONTAL
 SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
 (CONCRETE) I-71 STA 91+00 TO STA 96+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23

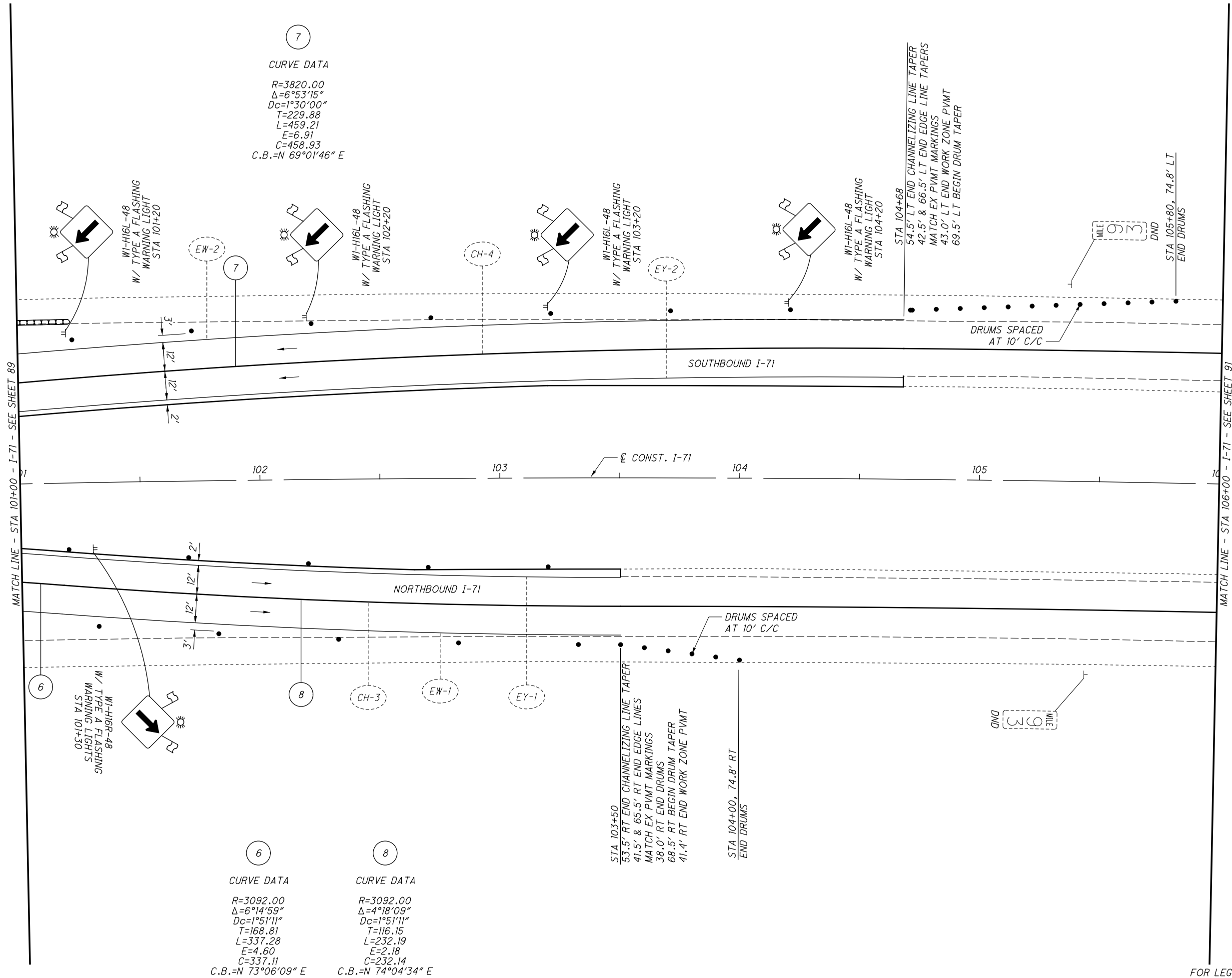


CALCULATED
DLW
CHECKED
EGD

**MAINTENANCE OF TRAFFIC - PHASE 2
(CONCRETE) I-71 STA 96+00 TO STA 101+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23



FOR LEGEND, SEE SHEET 23

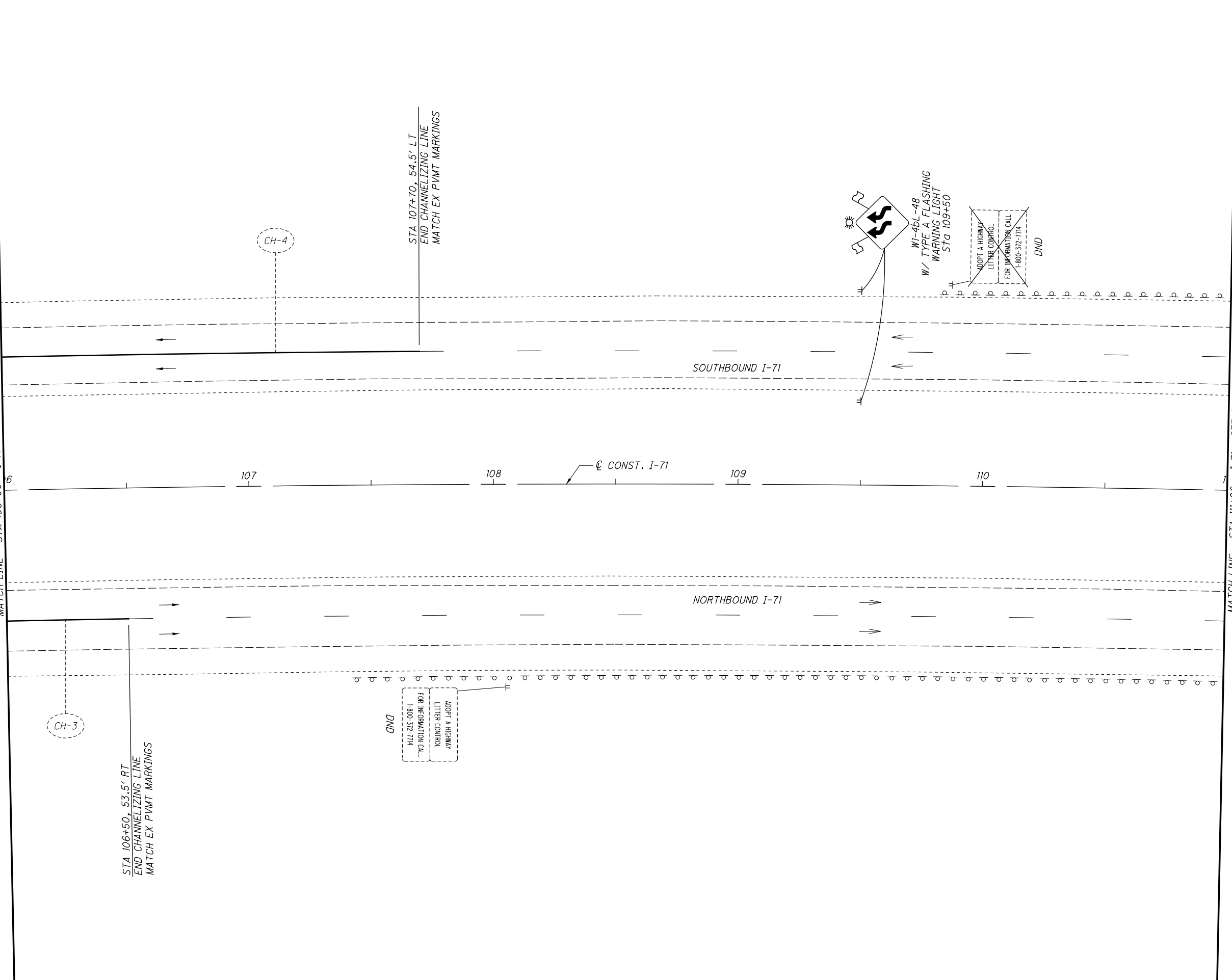
CALCULATED
EGD
CHECKED
DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(CONCRETE) I-71 STA 101+00 TO STA 106+00**

FRA-71-1.53

MATCH LINE - STA 106+00 - I-71 - SEE SHEET 90



MATCH LINE - STA 111+00 - I-71 - SEE SHEET 92

FOR LEGEND, SEE SHEET 23

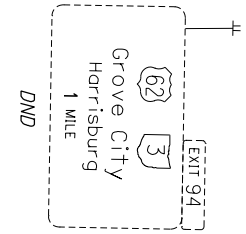
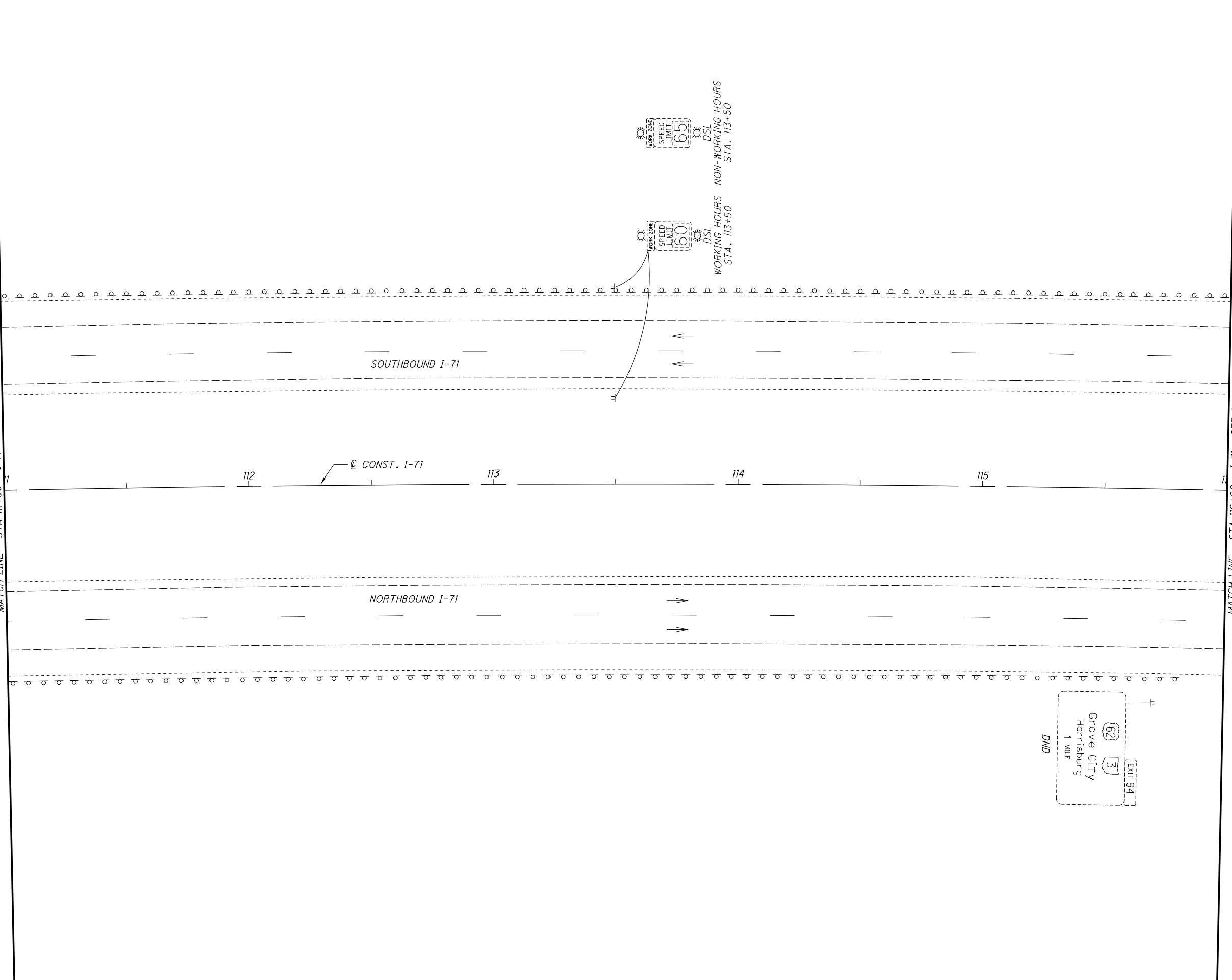
CALCULATED	DLW
CHECKED	EGD

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 2
(CONCRETE) I-71 STA 106+00 TO STA 111+00**

FRA-71-1.53

MATCH LINE - STA 111+00 - I-71 - SEE SHEET 91



FOR LEGEND, SEE SHEET 23

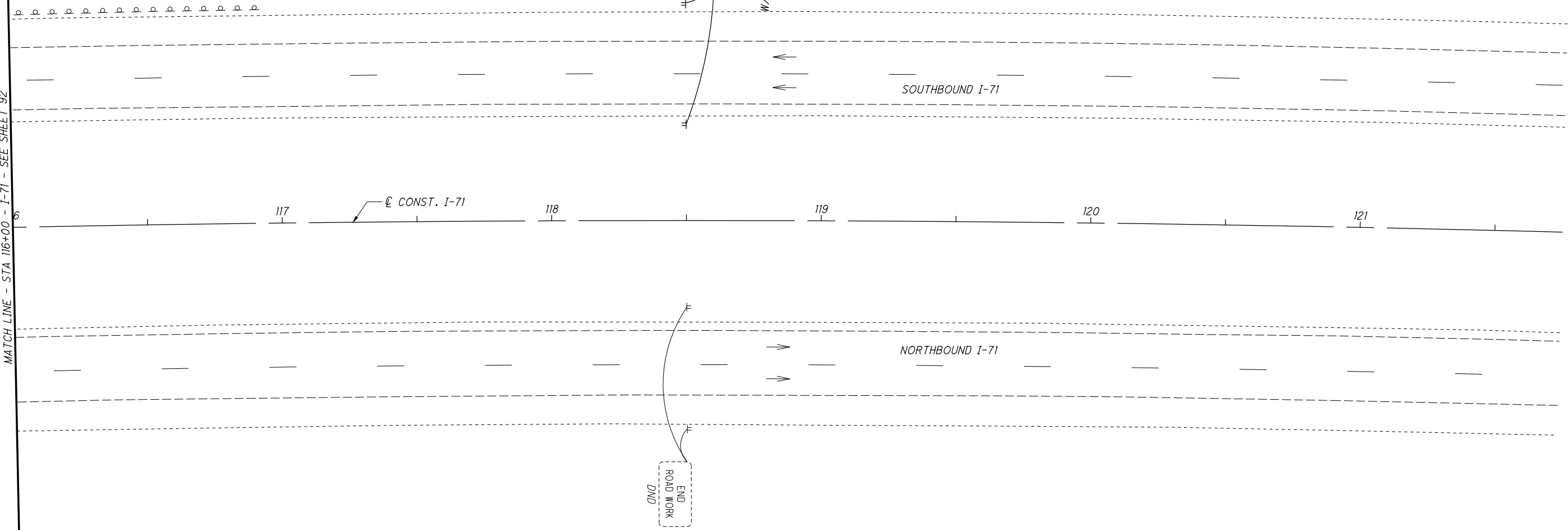
CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET


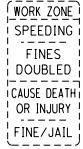




**MAINTENANCE OF TRAFFIC - PHASE 2
(CONCRETE) I-71 STA 111+00 TO STA 116+00**

FRA-71-1.53

MATCH LINE - STA 116+00 - I-71 - SEE SHEET 92



THE FOLLOWING ADVANCE WARNING SIGNS ALONG THE SOUTHBOUND I-71 ROADWAY SHALL BE LEFT IN PLACE OR MODIFIED AT THE COMPLETION OF PHASE 1 CONSTRUCTION. COVER R2-1 SOUTHBOUND SIGN AT STA. 145+00.

- | | | | | | |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| W20-I-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 159+90 | R11-H5a-48
Sta 153+30 | R4-5R-48
Sta 147+50 | R4-9-36
Sta 133+50 | W3-H5b-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 126+00 | W8-H6a-48
W8-H6aPR-36
W/ TYPE A FLASHING
WARNING LIGHT
Sta 122+00 |

CALCULATED EGD
CHECKED DLW

0 20 40
HORIZONTAL SCALE IN FEET

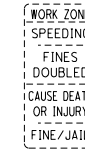
**MAINTENANCE OF TRAFFIC - PHASE 2
(CONCRETE) I-71 STA 116+00 TO STA 121+00**

FRA-71-1.53

THE FOLLOWING ADVANCE WARNING SIGNS ALONG THE NORTHBOUND I-71 ROADWAY SHALL BE LEFT IN PLACE AT THE COMPLETION OF PHASE 2 CONSTRUCTION AND MODIFIED AS SHOWN BELOW.



W20-1-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 12+70



R11-H5a-48
Sta 19+30



W20-1-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 39+10



W3-H5b-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 46+60

MILE 92 DND

END
ROAD WORK
G20-2-36
Sta 54+10

SOUTHBOUND I-71

CONST. I-71

NORTHBOUND I-71

MILE 92 DND

MATCH LINE - STA 56+00 - I-71 - SEE SHEET 95

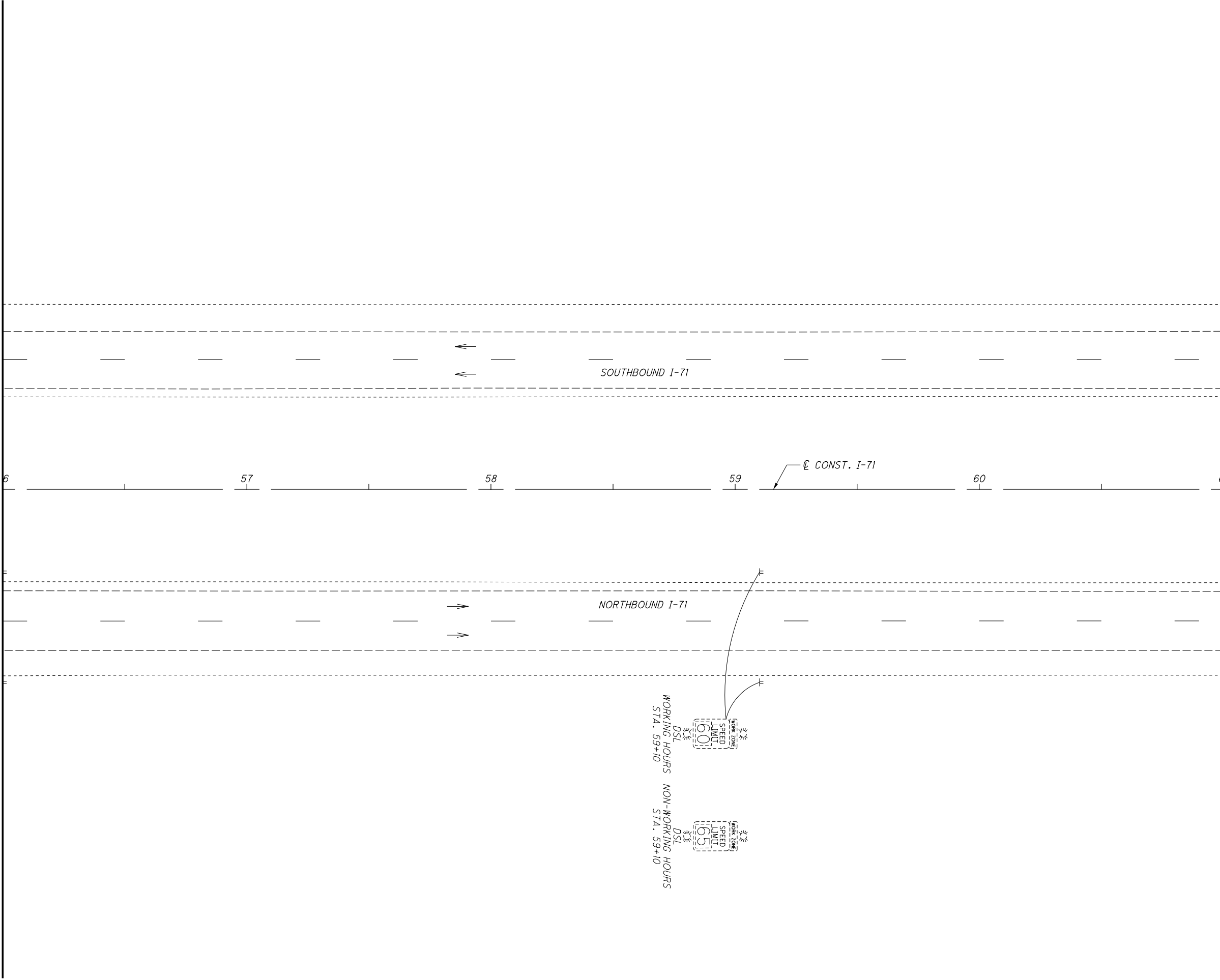


CALCULATED
EGD
CHECKED
DLW

**MAINTENANCE OF TRAFFIC - PHASE 3
(CONCRETE) I-71 STA 51+00 TO STA 56+00**

FRA-71-1.53

MATCH LINE - STA 56+00 - I-71 - SEE SHEET 94

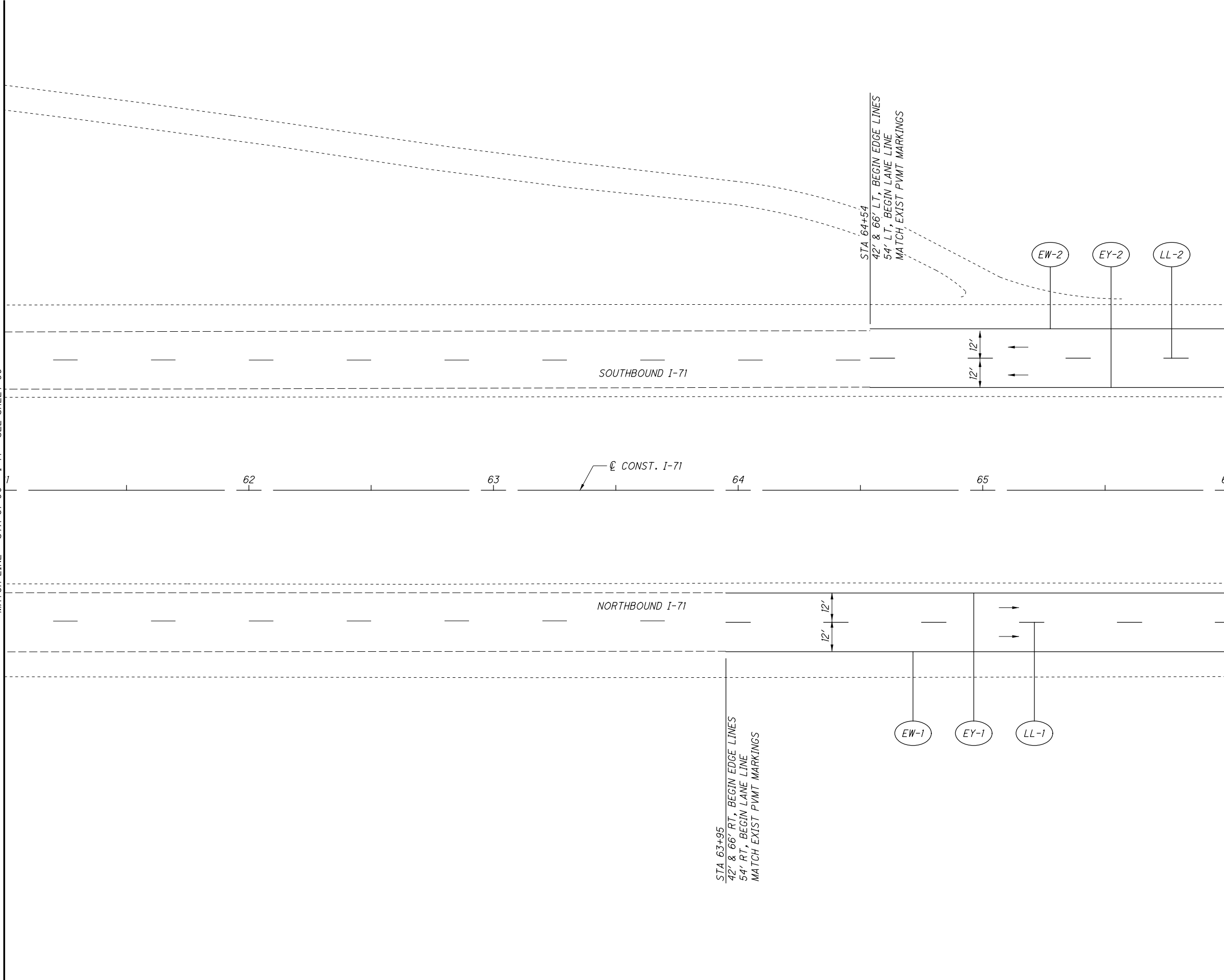


MATCH LINE - STA 61+00 - I-71 - SEE SHEET 96

FOR LEGEND, SEE SHEET 23



MATCH LINE - STA 61+00 - I-71 - SEE SHEET 95



STA 63+95
 42' & 66' RT, BEGIN EDGE LINES
 54' RT, BEGIN LANE LINE
 MATCH EXIST PVMT MARKINGS

STA 64+54
 42' & 66' LT, BEGIN EDGE LINES
 54' LT, BEGIN LANE LINE
 MATCH EXIST PVMT MARKINGS

EW-1
 EY-1
 LL-1

EW-2
 EY-2
 LL-2

SOUTHBOUND I-71

NORTHBOUND I-71

CONST. I-71

62

63

64

65

MATCH LINE - STA 66+00 - I-71 - SEE SHEET 97

FOR LEGEND, SEE SHEET 23

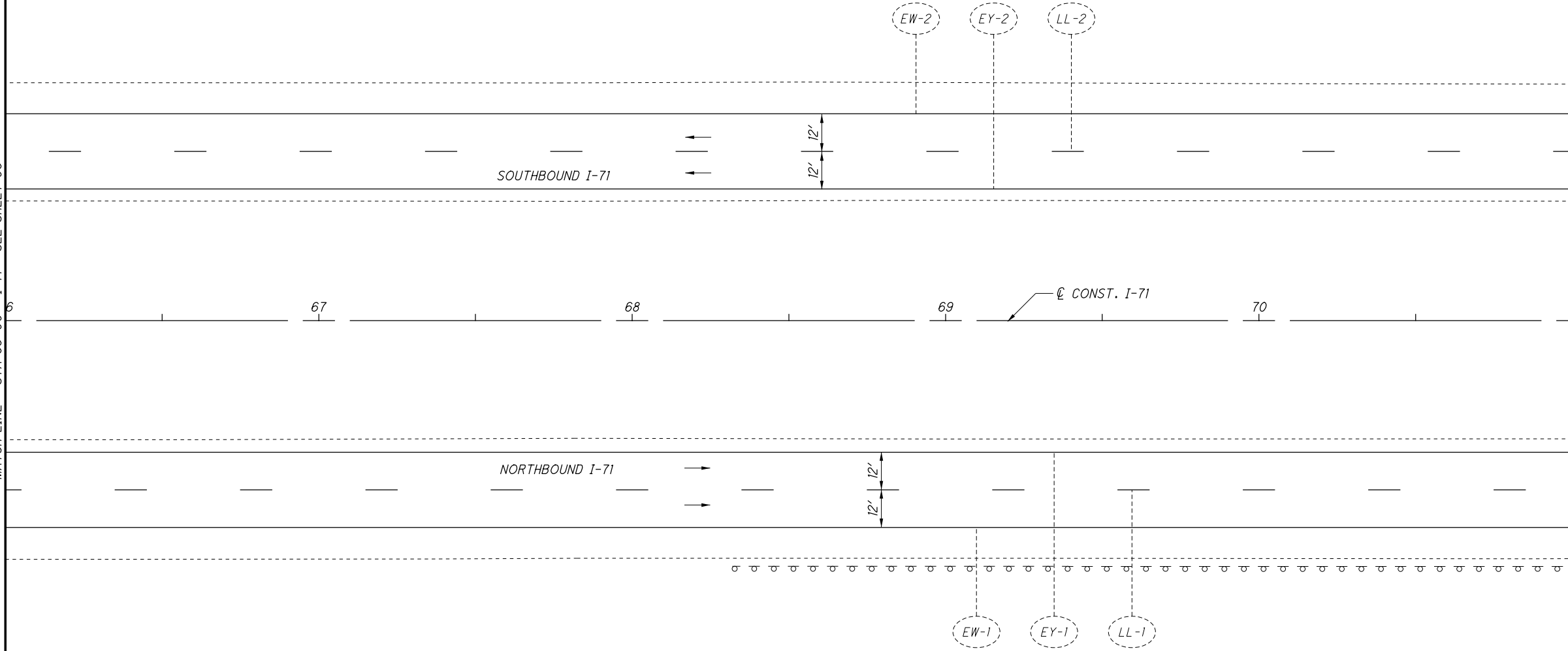
CALCULATED	EGD
CHECKED	DLW

0 20 40
 HORIZONTAL
 SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 3
 (CONCRETE) I-71 STA 61+00 TO STA 66+00**

FRA-71-1.53

MATCH LINE - STA 66+00 - I-71 - SEE SHEET 96



MATCH LINE - STA 71+00 - I-71 - SEE SHEET 98

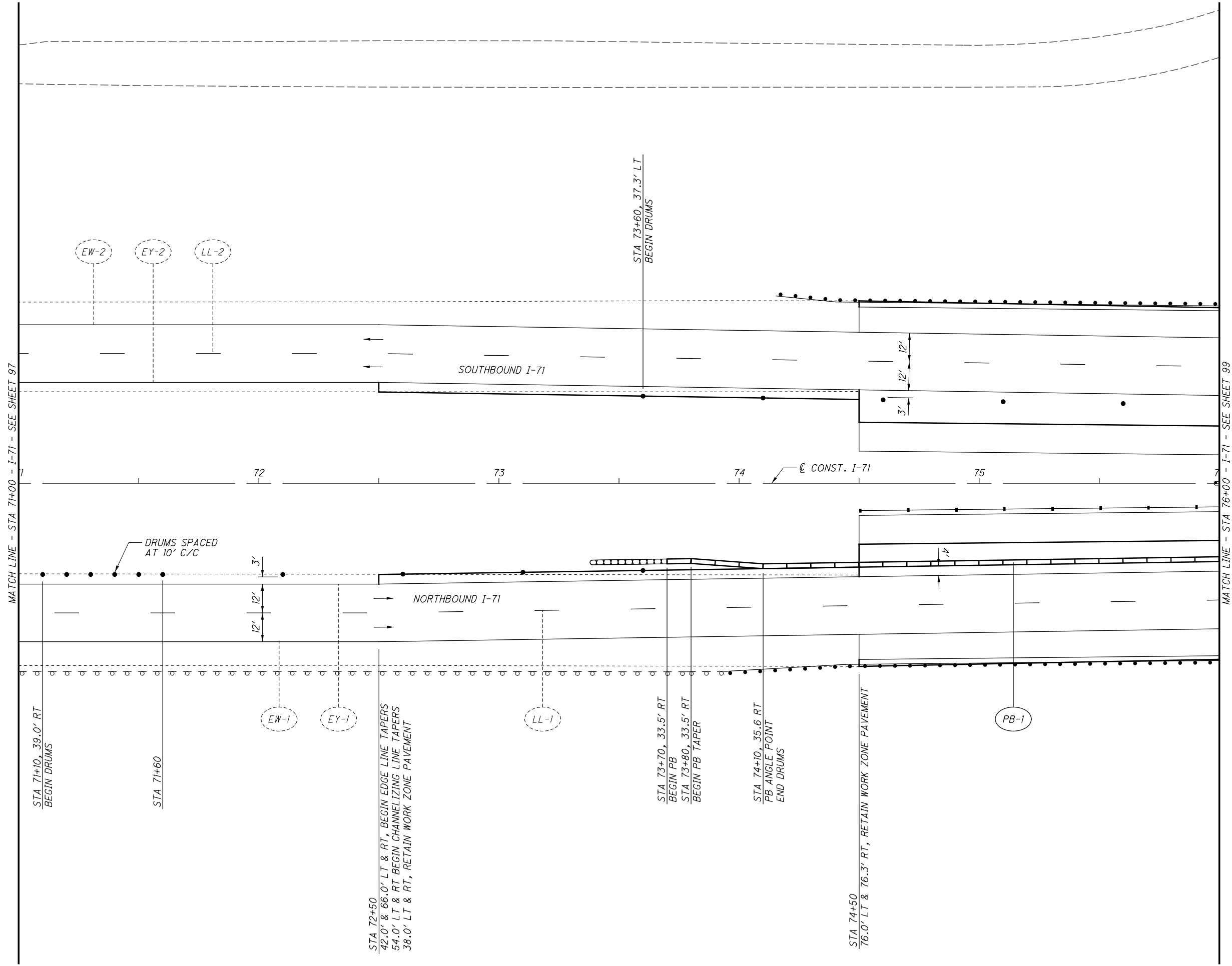
FOR LEGEND, SEE SHEET 23

CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 3
(CONCRETE) I-71 STA 66+00 TO STA 71+00**

FRA-71-1.53



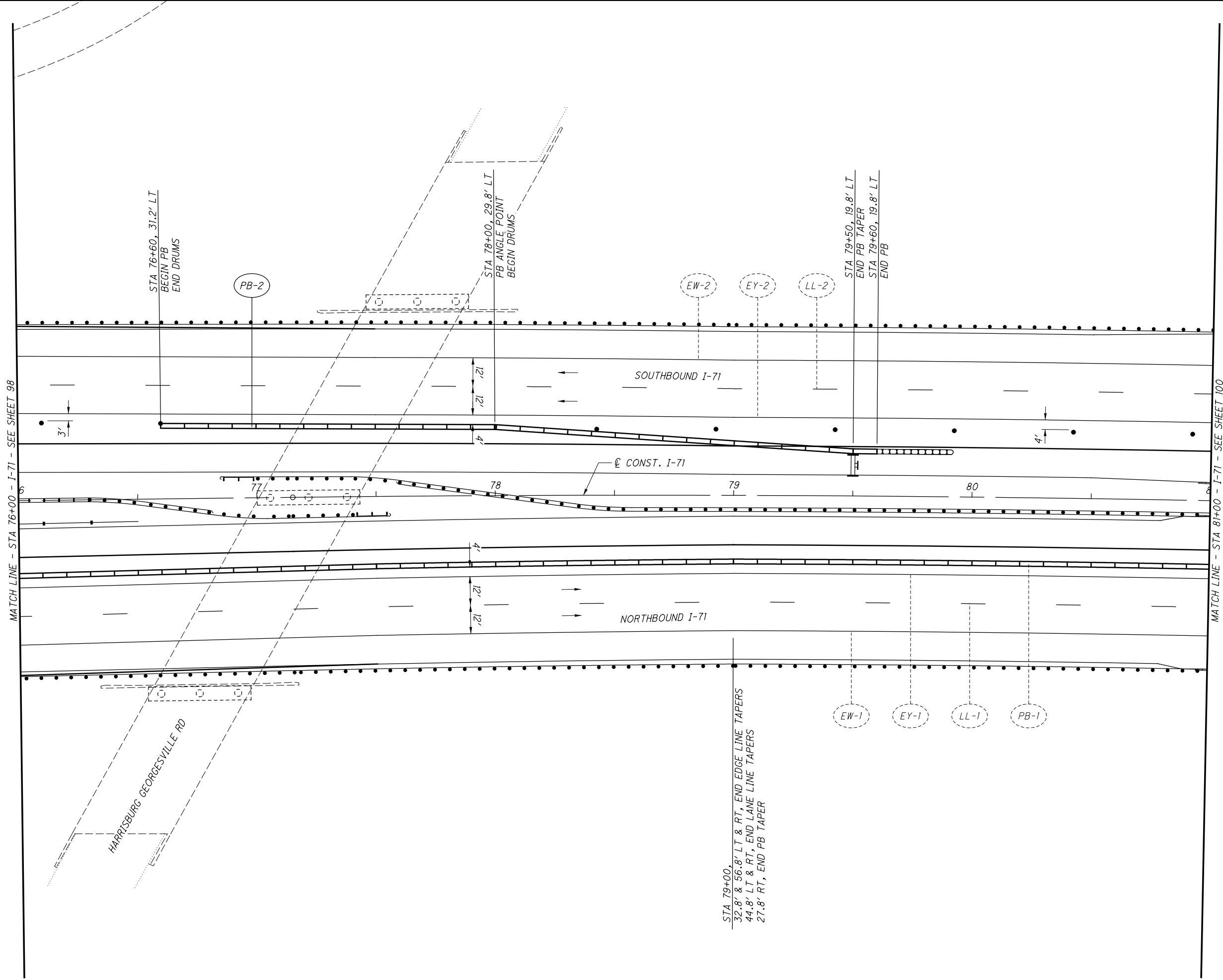
CALCULATED
EGD
CHECKED
DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 3
(CONCRETE) I-71 STA 71+00 TO STA 76+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23



CALCULATED
EGD
CHECKED
DLW

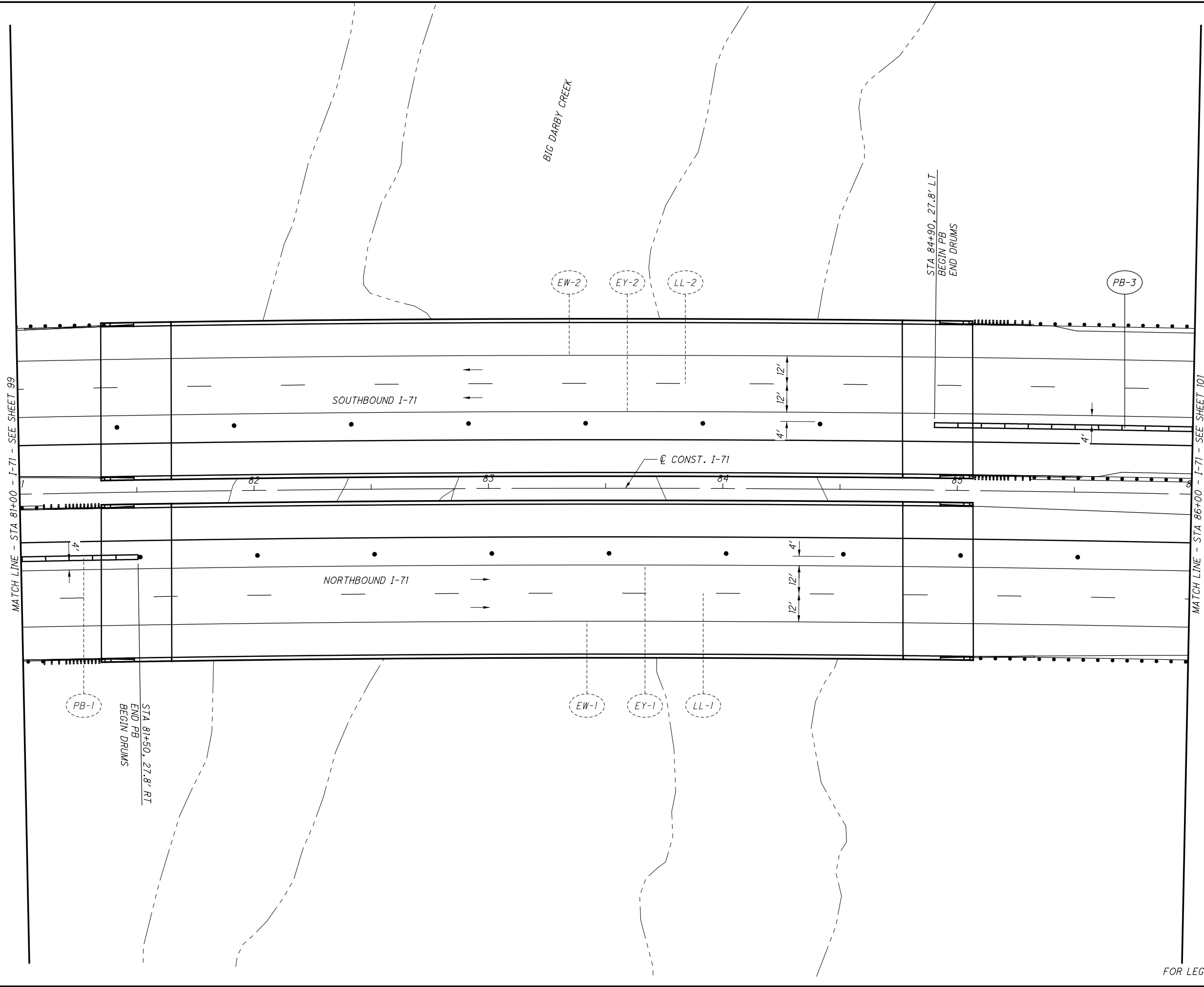
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10
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 3
(CONCRETE) I-71 STA 76+00 TO STA 81+00**

FRA-71-1.53

FOR LEGEND, SEE SHEET 23

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FOR LEGEND, SEE SHEET 23

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		DLW

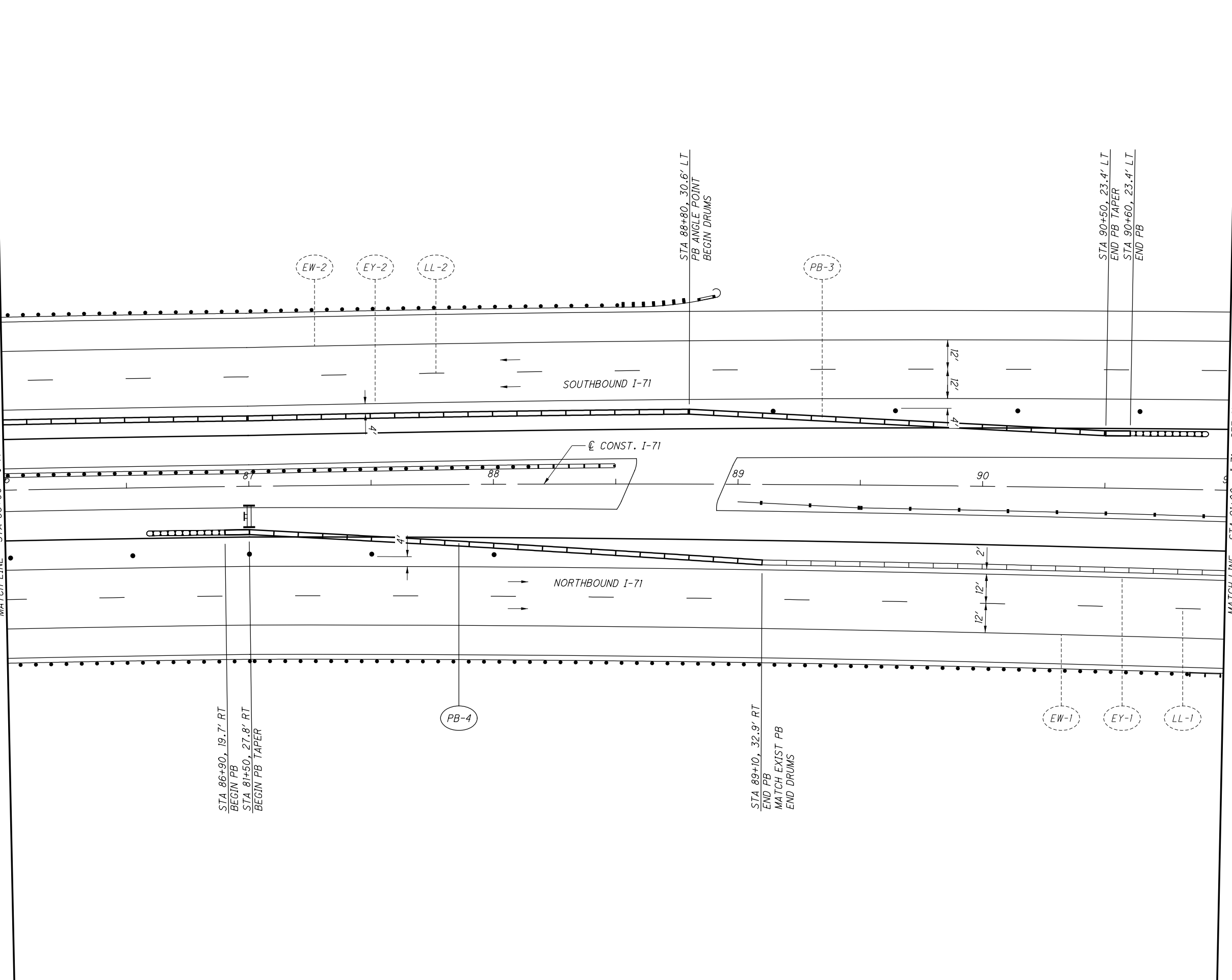
0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 3
(CONCRETE) I-71 STA 81+00 TO STA 86+00**

FRA-71-1.53

100
285

MATCH LINE - STA 86+00 - I-71 - SEE SHEET 100



MATCH LINE - STA 91+00 - I-71 - SEE SHEET 102

FOR LEGEND, SEE SHEET 23

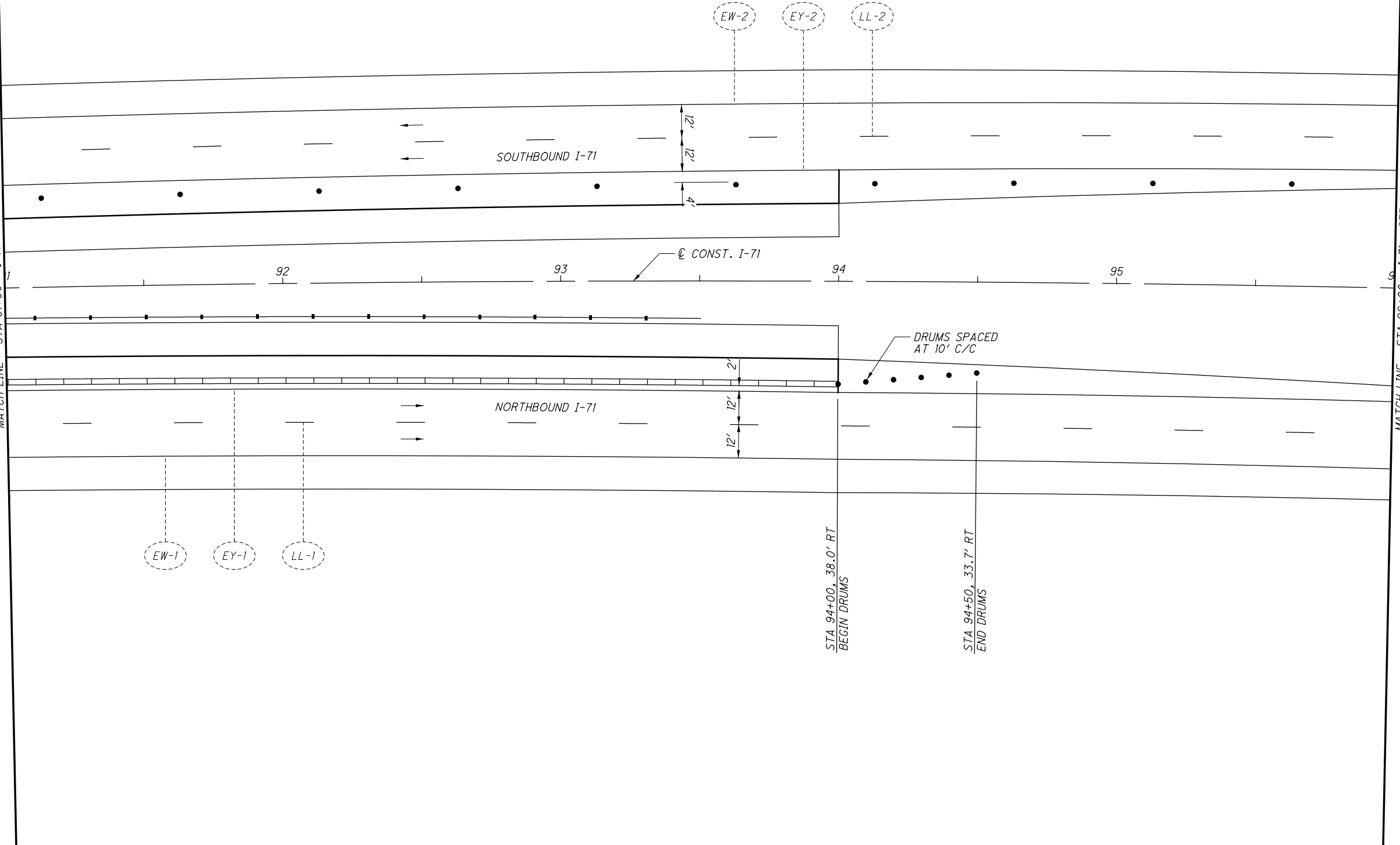
CALCULATED	EGD
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HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 3
(CONCRETE) I-71 STA 86+00 TO STA 91+00**

FRA-71-1.53

MATCH LINE - STA 91+00 - I-71 - SEE SHEET 101



MATCH LINE - STA 96+00 - I-71 - SEE SHEET 103

FOR LEGEND, SEE SHEET 23

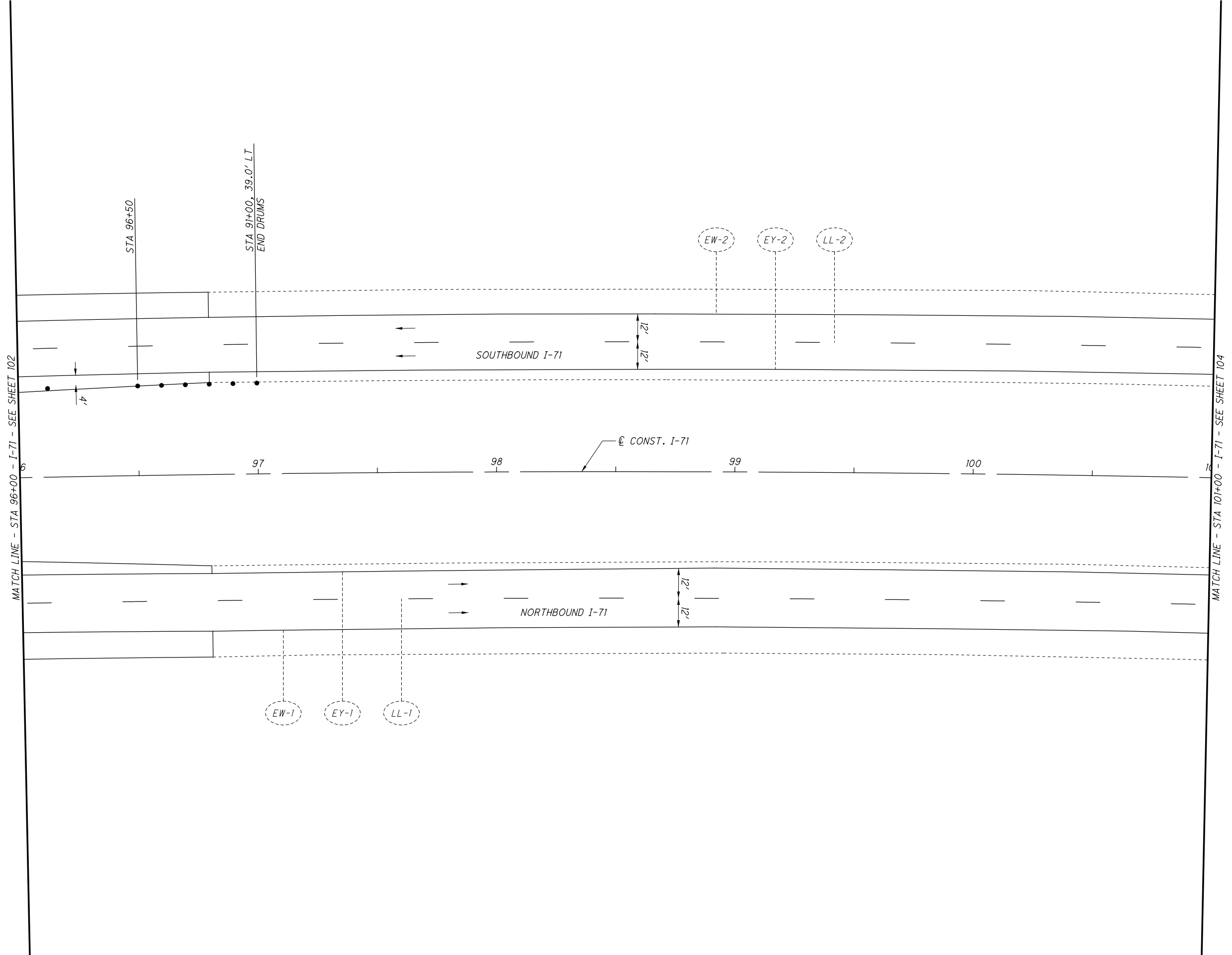
**MAINTENANCE OF TRAFFIC - PHASE 3
(CONCRETE) I-71 STA 91+00 TO STA 96+00**

FRA-71-1.53

102
285

CALCULATED
EGD
CHECKED
DLW





FOR LEGEND, SEE SHEET 23

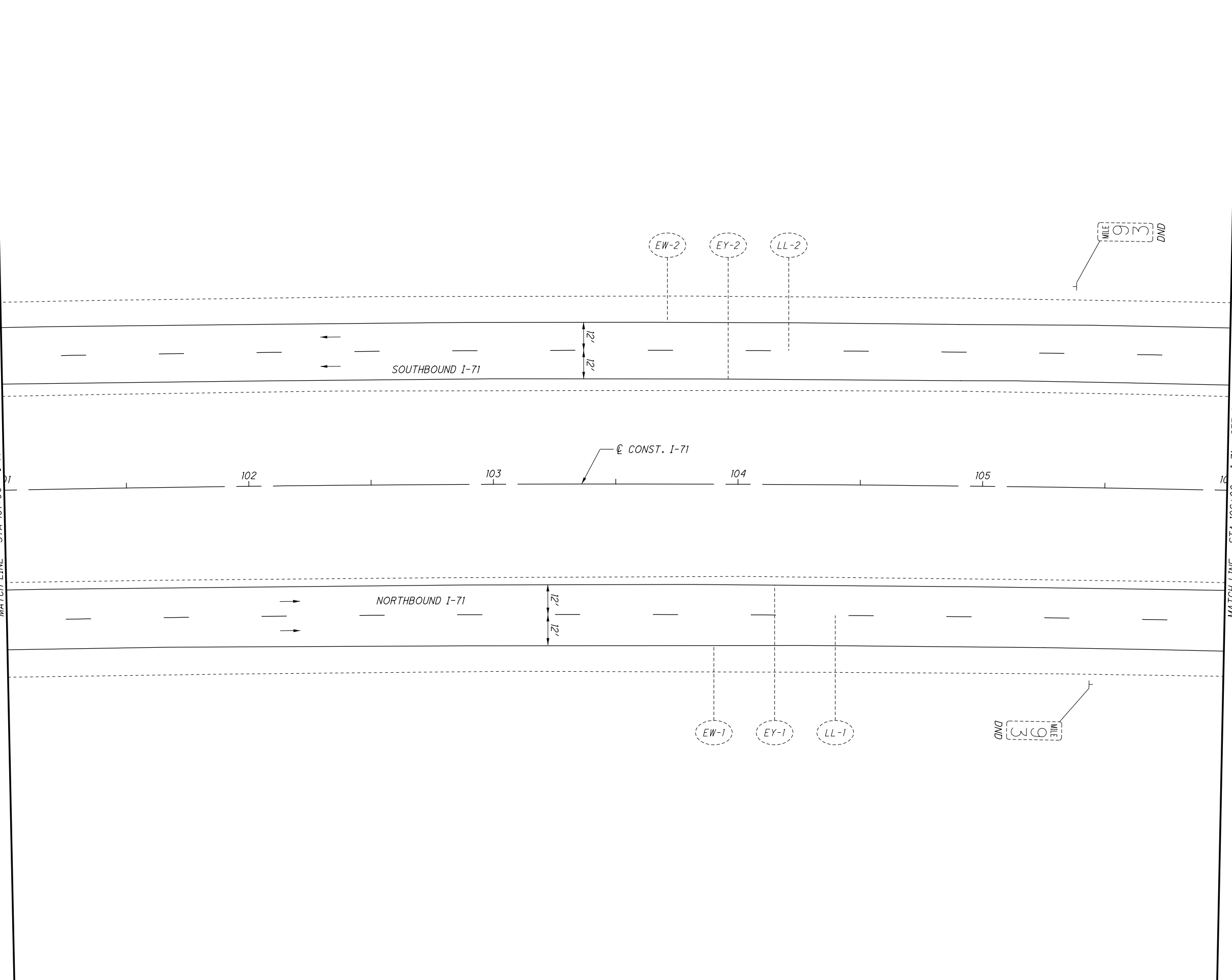
CALCULATED	DLW
CHECKED	EGD

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 3
(CONCRETE) I-71 STA 96+00 TO STA 101+00**

FRA-71-1.53

MATCH LINE - STA 101+00 - I-71 - SEE SHEET 103



MATCH LINE - STA 106+00 - I-71 - SEE SHEET 105

FOR LEGEND, SEE SHEET 23

CALCULATED	EGD	CHECKED	DLW

0 20 40
HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 3
(CONCRETE) I-71 STA 101+00 TO STA 106+00**

FRA-71-1.53

MATCH LINE - STA 106+00 - I-71 - SEE SHEET 104

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MATCH LINE - STA 111+00 - I-71 - SEE SHEET 106

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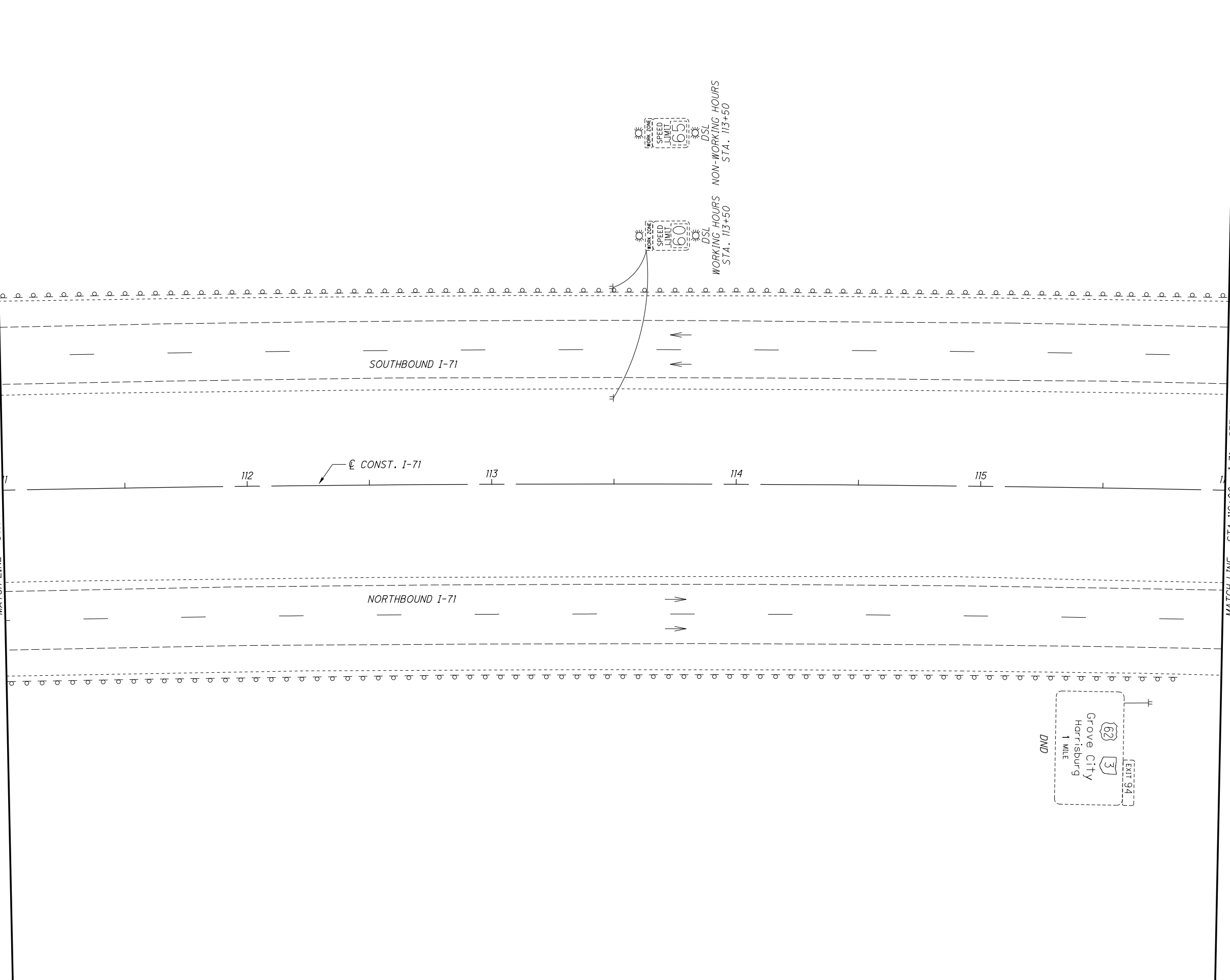
425

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427

42

MATCH LINE - STA 111+00 - I-71 - SEE SHEET 105



FOR LEGEND, SEE SHEET 23

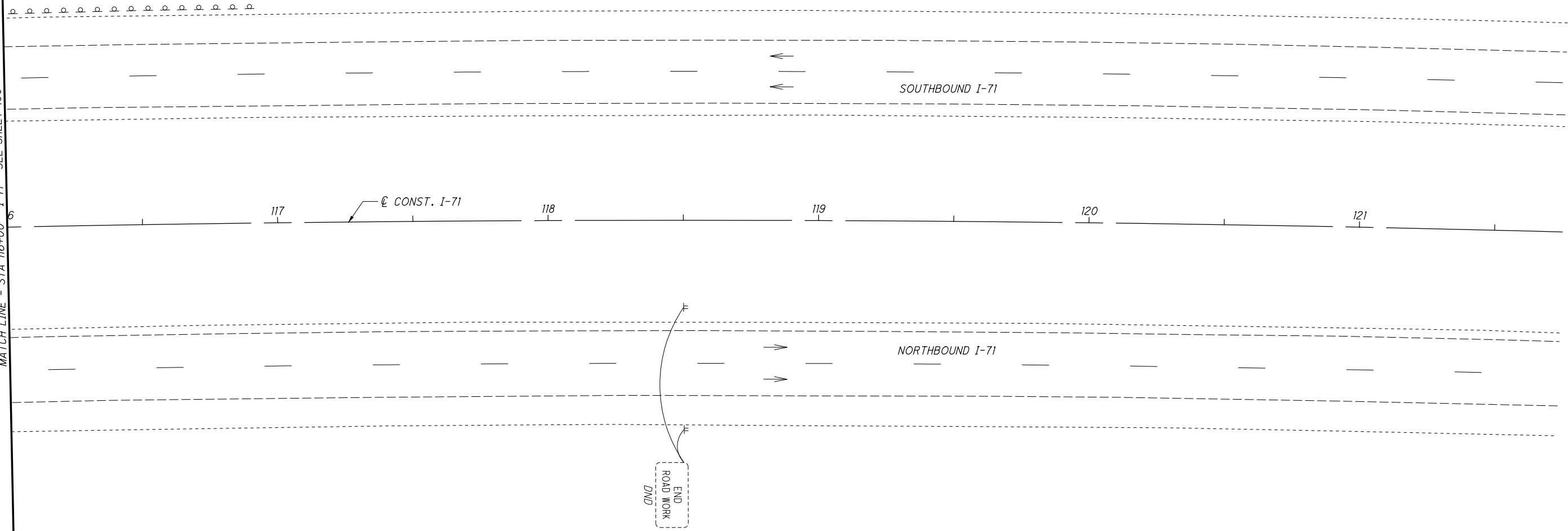
CALCULATED	EGD
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - PHASE 3
(CONCRETE) I-71 STA 111+00 TO STA 116+00**

FRA-71-1.53

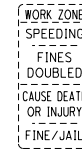
MATCH LINE - STA 116+00 - I-71 - SEE SHEET 106



THE FOLLOWING ADVANCE WARNING SIGNS ALONG THE SOUTHBOUND I-71 ROADWAY SHALL BE LEFT IN PLACE AT THE COMPLETION OF PHASE 2 CONSTRUCTION AND MODIFIED AS SHOWN BELOW. COVER R2-1 SOUTHBOUND SIGN AT STA. 145+00.



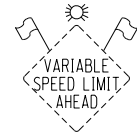
W20-1-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 159+90



R11-H5a-48
Sta 153+30



W20-1-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 133+50



W3-H5b-48
W/ TYPE A FLASHING
WARNING LIGHT
Sta 126+00



CALCULATED EGD
CHECKED DLW

MAINTENANCE OF TRAFFIC - PHASE 3
(CONCRETE) I-71 STA 116+00 TO STA 121+75

FRA-71-1.53

X:\4037000\121957.15\93496\roadway_sheets\93496GG001.dgn Sheet 12/10/2018 11:56:16 AM 1636dcb

SHEET NUM.										PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
7	9	17	113	114	115	118	202	284	CALC	01/MS/P/V	02/NHS/PV	03/IMS/BR	04/NHS/BR						
ROADWAY																			
LS											LS			201	11000	LS	CLEARING AND GRUBBING		
									9,899	6,236	3,663			202	23001	9,899	SY	PAVEMENT REMOVED, AS PER PLAN	9
									5,827	3,671	2,156			202	23010	5,827	SY	PAVEMENT REMOVED, ASPHALT	
			167							167				202	30700	167	FT	CONCRETE BARRIER REMOVED	
			403							150	253			202	35100	403	FT	PIPE REMOVED, 24" AND UNDER	
			2,728							2,182	546			202	38000	2,728	FT	GUARDRAIL REMOVED	
			6							2	4			202	58100	6	EACH	CATCH BASIN REMOVED	
			498							427	71			202	75000	498	FT	FENCE REMOVED	
					10,696					6,738	3,958			203	10000	10,696	CY	EXCAVATION	
					3,610					2,274	1,336			203	20000	3,610	CY	EMBANKMENT	
1,245		3,830								3,299	1,776			204	10000	5,075	SY	SUBGRADE COMPACTION	
415		950								887	478			204	13000	1,365	CY	EXCAVATION OF SUBGRADE	
415		950								887	478			204	30010	1,365	CY	GRANULAR MATERIAL, TYPE B	
1		9								7	3			204	45000	10	HR	PROOF ROLLING	
1,245										810	435			204	50000	1,245	SY	GEOTEXTILE FABRIC	
										43	27	16		206	10500	43	TON	CEMENT	
										1,426	898	528		206	11000	1,426	SY	CURING COAT	
										1,426	898	528		206	15010	1,426	SY	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP	
			2,362.5							2,250	112.5			606	15050	2,362.5	FT	GUARDRAIL, TYPE MGS	
			687.5								687.5			606	15550	687.5	FT	GUARDRAIL, BARRIER DESIGN, TYPE MGS	
			1							1				606	26050	1	EACH	ANCHOR ASSEMBLY, MGS TYPE B	7
			3							1	2			606	26550	3	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
			2							2				606	35002	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
			2								2			606	35006	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, BARRIER DESIGN	
			2							2				606	35102	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
			2								2			606	60012	2	EACH	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)	7
				282						282				607	15100	282	FT	FENCE, TYPE 47RA	
								4		4				623	40500	4	EACH	REFERENCE MONUMENT	
										LS	LS			878	25000	LS		INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS	
										698	440	258		206	10500	698	TON	ROADWAY OPTION A - ASPHALT CEMENT	
										23,480	14,792	8,688		206	11000	23,480	SY	CURING COAT	
										23,480	14,792	8,688		206	15010	23,480	SY	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP	
										681	429	252		206	10500	681	TON	ROADWAY OPTION B - CONCRETE CEMENT	
										22,889	14,420	8,469		206	11000	22,889	SY	CURING COAT	
										22,889	14,420	8,469		206	15010	22,889	SY	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP	
														EROSION CONTROL					
	3.6		52.2							55.0	0.8			601	21050	55.8	SY	TIED CONCRETE BLOCK MAT, TYPE 1	
			272.8							272.8				601	21060	272.8	SY	TIED CONCRETE BLOCK MAT, TYPE 2	
			1,151							771	380			601	32000	1,151	CY	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	
			2.6							2.6				601	32200	2.6	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
2										1	1			659	00100	2	EACH	SOIL ANALYSIS TEST	
2,111										1,689	422			659	00300	2,111	CY	TOPSOIL	
					19,020					15,216	3,804			659	10000	19,020	SY	SEEDING AND MULCHING	
951										761	190			659	14000	951	SY	REPAIR SEEDING AND MULCHING	
951										761	190			659	15000	951	SY	INTER-SEEDING	
2.65										2.12	0.53			659	20000	2.65	TON	COMMERCIAL FERTILIZER	
3.93										3.14	0.79			659	31000	3.93	ACRE	LIME	
106										85	21			659	35000	106	MGAL	WATER	
43										34	9			659	40000	43	MSF	MOWING	
							1,460			1,168	292			659	98000	1,460	SY	SEEDING, MISC.:NATIVE SEED MIX	202
				1,434						72	1,362			670	00700	1,434	SY	DITCH EROSION PROTECTION	
						LS				LS				832	15001	LS		STORM WATER POLLUTION PREVENTION PLAN, AS PER PLAN	118

GENERAL SUMMARY

FRA - 71 - 1.53

108
285

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SHEET NUM.					PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
13	15	16	20	116	01/MS/P/V	02/NHS/PV	03/IMS/BR	04/NHS/BR						
				LS			LS		505	11100	LS	PILE DRIVING EQUIPMENT MOBILIZATION		
				1,760			968	792	507	00200	1,760	FT	STEEL PILES HP12X53, FURNISHED	
				1,440			792	648	507	00250	1,440	FT	STEEL PILES HP12X53, DRIVEN	
				64			35	29	507	93300	64	EACH	STEEL POINTS OR SHOES	
				289,137			159,025	130,112	509	10001	289,137	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	206
				849			466	383	511	21522	849	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE	
				2			1	1	511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	
				64			35	29	511	41010	64	CY	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS	
				214			117	97	511	44112	214	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	
				273			150	123	511	46512	273	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	
				1,269			697	572	512	10100	1,269	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
				11			6	5	512	33000	11	SY	TYPE 2 WATERPROOFING	
				794,144			436,779	357,365	513	10401	794,144	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN	206-207
				7,665			4,215	3,450	513	20000	7,665	EACH	WELDED STUD SHEAR CONNECTORS	
				135			90	45	516	10010	135	FT	ARMORLESS PREFORMED JOINT SEAL (TYPE C)	
				18			9	9	516	13600	18	SF	1" PREFORMED EXPANSION JOINT FILLER	
				366			201	165	516	13900	366	SF	2" PREFORMED EXPANSION JOINT FILLER	
				162			89	73	516	14020	162	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	
				7			4	3	516	44300	7	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (22" X 27" X 4.9" WITH 23" X 28" X 2.5" LOAD PLATE)	
				14			8	6	516	44301	14	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (14" X 20" X 4.35" WITH 15" X 21" X 2.0" LOAD PLATE)	247
				193			106	87	518	21200	193	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
				181			99	82	518	40000	181	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
				20			11	9	518	40011	20	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	243
				50			27	23	524	94904	50	FT	DRILLED SHAFTS, 48" DIAMETER, INTO BEDROCK	
				70			38	32	524	94906	70	FT	DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK	
				449			246	203	526	30011	449	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN	272-276
				135			74	61	526	90030	135	FT	TYPE C INSTALLATION	
				5			3	2	SPECIAL	53000400	5	EACH	STRUCTURES PILOT EXPLORATION HOLES	207
				2,172			1,194	978	SPECIAL	53013000	2,172	SF	FORM LINER	207
													MAINTENANCE OF TRAFFIC	
													LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
													WORKSITE TRAFFIC SUPERVISOR	
													WORK ZONE INCREASED PENALTIES SIGN	
													REPLACEMENT SIGN	
													REPLACEMENT DRUM	
													ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
													MAINTAINING TRAFFIC, MISC.: BRIDGE DECK AND PAVEMENT PATCHING	16
													WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT	
													WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT	
													WORK ZONE CHANNELIZING LINE, CLASS I, 8", 642 PAINT	
													ROADS FOR MAINTAINING TRAFFIC	15
													PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN TYPE 1	15-16
													PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN TYPE 2	15-16
													PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN TYPE 3	15-16
													PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN TYPE 4	15-16
													WATER	
													DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	

GENERAL SUMMARY

FRA - 71 - 1.53

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SHEET NO.	202	202	202	202	202	451	601	601	601	601	602	605		605	605	605	605	606	606	606	606	606	606	606	606		
	CONCRETE BARRIER REMOVED FT	PIPE REMOVED, 24" AND UNDER FT	GUARDRAIL REMOVED FT	CATCH BASIN REMOVED EACH	FENCE REMOVED FT	SPECIAL - PRESSURE RELIEF JOINT, TYPE B FT	TIED CONCRETE BLOCK MAT, TYPE 1 SY	TIED CONCRETE BLOCK MAT, TYPE 2 SY	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER CY	CONCRETE MASONRY CY	6" CONSTRUCTION UNDERDRAINS FT		6" SHALLOW PIPE UNDERDRAINS FT	6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN FT	6" UNCLASSIFIED PIPE UNDERDRAINS FT	6" BASE PIPE UNDERDRAINS FT	GUARDRAIL, TYPE MGS FT	GUARDRAIL - BARRIER DESIGN, TYPE MGS FT	ANCHOR ASSEMBLY, MGS TYPE B EACH	ANCHOR ASSEMBLY, MGS TYPE T EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL) EACH		
128		85		2																							
131			454															1337.5									
134	167	84	1058	1		124	3.6	150.8			0.54							125	400		2		1	1	1		
137		84	1216	1	498	124	1.8	122.0	1151	1.3	0.54							900	287.5	1	1	1	1	1	1		
140		150		2																							
143										1.3	0.27																
146																											
176A							12.6					6844															
176B							7.2					1732		2561	733	240	2693										
177							7.2					3412		2660	887	240	4277										
178							19.8					7191				454											
TOTALS CARRIED TO GENERAL SUMMARY	167	403	2728	6	498	248	52.2	272.8	1151.0	2.6	1.35	19179		5221	1620	934	6970	2362.5	687.5	1	3	2	2	2	2		

ROADWAY SUBSUMMARY	FRA - 71 - 1.53	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">CALCULATED</td> </tr> <tr> <td style="text-align: center;">DCB</td> </tr> <tr> <td style="text-align: center;">CHECKED</td> </tr> <tr> <td style="text-align: center;">JMB</td> </tr> </table>	CALCULATED	DCB	CHECKED	JMB
CALCULATED						
DCB						
CHECKED						
JMB						

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SHEET NO.	607	609	611	611	611	611	611	611	611	611	611	611	611	611	611	611	618	618	670					
	FENCE, TYPE 47RA FT	CURB, TYPE 4-C FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET FT	12" CONDUIT, TYPE C, 706.02 FT	15" CONDUIT, TYPE B FT	15" CONDUIT, TYPE C FT	15" CONDUIT, TYPE C, 706.02 FT	15" CONDUIT, TYPE F FT	CONDUIT BORED OR JACKED, 15", TYPE B FT	CATCH BASIN, NO. 3 EACH	CATCH BASIN, NO. 3A EACH	CATCH BASIN, NO. 8 EACH	CATCH BASIN RECONSTRUCTED TO GRADE EACH	MANHOLE, NO. 3 EACH	PRECAST REINFORCED CONCRETE OUTLET EACH	RUMBLE STRIPS, (ASPHALT CONCRETE) FT	RUMBLE STRIPS, (CONCRETE) FT	DITCH EROSION PROTECTION SY						
128				45		479	29					3	6	1				0						
131																2740.0		279						
134		120				14	95	138	1	2	1							125						
137	282	132			111	347	44			3	2			1		3573.0	240.4	30						
140																		125						
143						100		111				4		1				553						
146													4											
176A																7								
176B						444										4								
177						542										4								
178						100										11								
TOTALS CARRIED TO GENERAL SUMMARY	282	252	1086	45	111	940	29	139	249	1	5	10	10	3	26	6313.0	240.4	1112						

FRA - 71 - 1.53	CALCULATED
	DCB CHECKED JMB

114
285

BRIDGE ESTIMATED QUANTITIES

FRA-71-0153L (SOUTHBOUND)	FRA-71-0153R (NORTHBOUND)				ITEM	EXTENSION	UNIT	DESCRIPTION
LUMP	LUMP				202	11003	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
187	187				202	22900	SY	APPROACH SLAB REMOVED
1227	1227				202	23500	SY	WEARING COURSE REMOVED
LUMP	LUMP				503	11101	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
LUMP	LUMP				503	21300	LS	UNCLASSIFIED EXCAVATION
LUMP	LUMP				505	11100	LS	PILE DRIVING EQUIPMENT MOBILIZATION
1,920	1,760				507	00200	FT	STEEL PILES HP12X53, FURNISHED
1,600	1,440				507	00250	FT	STEEL PILES HP12X53, DRIVEN
64	64				507	93300	EACH	STEEL POINTS OR SHOES
288,328	289,137				509	10001	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN
849	849				511	21522	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE
2	2				511	33500	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE
64	64				511	41010	CY	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS
212	214				511	44112	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING
276	273				511	46512	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING
1,228	1,269				512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
11	11				512	33000	SY	TYPE 2 WATERPROOFING
794,144	794,144				513	10401	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN
7,665	7,665				513	20000	EACH	WELDED STUD SHEAR CONNECTORS
135	135				516	10010	FT	ARMORLESS PREFORMED JOINT SEAL (TYPE C)
135	135				516	13600	SF	1" PREFORMED EXPANSION JOINT FILLER
18	18				516	13900	SF	2" PREFORMED EXPANSION JOINT FILLER
366	366				516	14020	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL
162	162				516	44300	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (22" x 27" x 4.91" WITH 23" x 28" x 2.5" LOAD PLATE)
0	0				516	44301	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (14" x 20" x 4.35" WITH 15" x 21" x 2.0" LOAD PLATE), AS PER PLAN
0	0				518	21200	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC
193	193				518	40000	FT	6" PERFORATED CORRUGATED PLASTIC PIPE
181	181				518	40011	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN
0	0				524	94904	FT	DRILLED SHAFTS, 48" DIAMETER, INTO BEDROCK
50	50				524	94906	FT	DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK
0	0				526	30011	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN
449	449				526	90030	FT	TYPE C INSTALLATION
0	0				SPECIAL	530E00400	EACH	SPECIAL - STRUCTURES: PILOT EXPLORATION HOLES
2172	2172				SPECIAL	530E13000	SF	SPECIAL - FORMLINER
587	564				601	32000	CY	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER

CALCULATED
CMH/DJC
CHECKED
ALM/LYH

STRUCTURE SUBSUMMARY

FRA - 71 - 1.53

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PROJECT DATA			
TOTAL AREA (RIGHT-OF-WAY) - - - - -	17.7 ACRES	RUNOFF COEFFICIENT PRE-CONSTRUCTION - - - - -	0.65
PROJECT EARTH DISTURBED AREA - - - - -	11.8 ACRES	RUNOFF COEFFICIENT POST CONSTRUCTION - - - - -	0.70
NOTICE OF INTENT EARTH DISTURBED AREA - - - - -	15.3 ACRES	POST CONSTRUCTION BMP: VEGETATED BIOFILTERS HAVE BEEN PROVIDED TO MEET NPDES POST-CONSTRUCTION REQUIREMENTS. SEE PLAN SHEETS FOR LOCATIONS.	
IMPERVIOUS (PAVED) AREA PRE-CONSTRUCTION - - - - -	4.41 ACRES	IMMEDIATE RECEIVING WATERS - - - - -	BIG DARBY CREEK, HELLBRANCH RUN
IMPERVIOUS (PAVED) AREA POST CONSTRUCTION - - - - -	6.46 ACRES	SUBSEQUENT RECEIVING WATERS - - - - -	SCIOTO RIVER
PROJECT DESCRIPTION: FULL DEPTH PAVEMENT REPLACEMENT OF MAINLINE WITH MAINLINE WIDENING TO THE INSIDE. REPLACEMENT AND WIDENING OF THE BRIDGE SPANNING BIG DARBY CREEK.		LAND USE IS MOSTLY AGRICULTURAL WITH POCKETS OF LOW DENSITY RESIDENTIAL.	

POST CONSTRUCTION BMP LOCATIONS												
BEGIN	STATION		BOTTOM WIDTH	GRID COORDINATES				LATITUDE/LONGITUDE				EDA TREATMENT CREDITS (AC.)
	END			BEGIN		END		BEGIN		END		
			NORTHING	EASTING	NORTHING	EASTING	NORTH	WEST	NORTH	WEST		
73+50.00	70+70.68	5.5'	663568.4101	1779693.8055	663427.1761	1779452.8229	39.819950	83.172183	39.819557	83.173038	0.67	
75+50.00	73+50.00	10'	663669.5371	1779866.3550	663568.4101	1779693.8055	39.820231	83.171572	39.819950	83.172183	0.46	
91+50.00	95+00.00	10'	664404.6380	1781286.2867	664540.6037	1781608.7849	39.822278	83.166536	39.822658	83.165391	1.32	
95+50.00	95+00.00	10'	664559.2749	1781655.1678	664540.6037	1781608.7849	39.822710	83.165227	39.822658	83.165391	0.12	
95+50.00	102+70.00	10'	664559.2749	1781655.1678	664807.1717	1782331.5046	39.822710	83.165227	39.823404	83.162825	1.78	
										TOTAL EDA TREATMENT CREDITS (AC.)	4.35	
										REQUIRED TREATMENT (AC.)	2.36	

**ITEM 832 STORM WATER POLLUTION PREVENTION PLAN,
AS PER PLAN**

ALL REFERENCES TO THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION EFFLUENT GUIDELINES LISTED IN SUPPLEMENTAL SPECIFICATION 832 (SS832) AND APPENDIX E WILL BE REPLACED WITH THE OEPA GENERAL PERMIT NO. OHC000005, AUTHORIZATION FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY LOCATED WITHIN THE BIG DARBY CREEK WATERSHED (BIG DARBY PERMIT).

THE CONTRACTOR NEEDS TO FULLY UNDERSTAND ALL REQUIREMENTS OF THE BIG DARBY PERMIT BEFORE BEGINNING ANY WORK. FOR ANY DISCREPANCIES BETWEEN SS832 AND THIS PLAN NOTE, RESOLUTION SHOULD BE BASED ON THE BIG DARBY PERMIT.

THE REQUIREMENTS OF SS832 ARE REQUIRED TO BE MET. IN ADDITION, THE CONTRACTOR SHOULD NOTE THE FOLLOWING REQUIRED ITEMS REGARDING IMPLEMENTATION OF SS832 AND THE BIG DARBY PERMIT THAT ARE NOTED BELOW:

SECTION 832.04 REQUIREMENTS.

POST CONSTRUCTION CONTROLS AND MITIGATION FOR RIPARIAN SETBACK AND GROUNDWATER RECHARGE DESCRIBED IN THE BIG DARBY PERMIT ARE NOT TEMPORARY EROSION CONTROL FEATURES. CONSTRUCTION REQUIREMENTS AND COMPENSATION FOR POST CONSTRUCTION CONTROLS AND MITIGATION, IF ANY, FOR RIPARIAN SETBACK AND GROUNDWATER RECHARGE ARE DETAILED IN THE PROJECT PLANS.

SECTION 832.05 LOCATE AND FURNISH BMP.

H. SEDIMENT BASINS AND DAMS

CONSTRUCT BASINS TO RETAIN 134 CUBIC YARDS (102 M3) OF WATER FOR EVERY ACRE (0.4 HA) OF DRAINAGE AREA. SAMPLE AND TEST EFFLUENT ACCORDING TO PART III.G.2.H.II OF THE BIG DARBY PERMIT.

LOCATIONS FOR SEDIMENT BASINS ARE NOT PROVIDED IN THE PLANS. SWPPP PLAN DESIGNER TO PROVIDE LOCATIONS. REVISED SEDIMENT BASIN LOCATIONS DUE TO CONSTRUCTION ISSUES MUST HAVE PRIOR DISTRICT APPROVAL.

SECTION 832.09 STORMWATER POLLUTION PREVENTION PLAN (SWPPP).

THE LOCATION OF THE RIPARIAN SETBACKS AND SEDIMENT BASINS AS SHOWN IN THE PLANS MUST BE INCORPORATED INTO THE SWPPP. THE CONTRACTOR CANNOT AMEND THE LOCATIONS OF THE RIPARIAN SETBACKS. REVISED SEDIMENT BASIN LOCATIONS DUE TO CONSTRUCTION ISSUES MUST HAVE PRIOR DISTRICT APPROVAL.

ON THE SWPPP, FOR EACH SEDIMENT BASIN OR DAM, PROVIDE THE SETTLING VOLUME, CONTRIBUTING DRAINAGE AREA, AND DESIGNATE EACH WITH A UNIQUE THREE DIGIT NUMBER.

SECTION 832.12 COMPENSATION.

ALL WORK CONSISTING OF LOCATING, FURNISHING, INSTALLING, SAMPLING, TESTING AND MAINTAINING TEMPORARY SEDIMENT AND EROSION CONTROL BEST MANAGEMENT PRACTICES FOR EARTH DISTURBING ACTIVITY AREAS AND DEVELOPING A STORM WATER POLLUTION PREVENTION PLAN AND CO-PERMITTEE FORM SHALL MEET SS832 AND THE BIG DARBY PERMIT.

IN ADDITION TO WORK DESCRIBED, ALL TESTING AND REPORTING ASSOCIATED WITH THE ROUTINE INSPECTION OF THE SEDIMENT BASINS, DAMS AND OUTFALLS SHALL ALSO BE INCLUDED.

**ITEM 832 STORM WATER POLLUTION PREVENTION PLAN,
AS PER PLAN - CONTINUED**

ALL WORK TO BE PAID FOR UNDER:

ITEM 832 STORM WATER POLLUTION PREVENTION PLAN,
AS PER PLAN LUMP

SECTION 832.13 METHOD OF MEASUREMENT.

THE DEPARTMENT WILL MEASURE THE SWPPP, AS PER PLAN AS A LUMP SUM ITEM.

SECTION 832.14 BASIS OF PAYMENT.

THE DEPARTMENT WILL PAY THE CONTRACT LUMP SUM BID FOR SWPPP, AS PER PLAN.

ITEM 832 EROSION CONTROL

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR ITEM 832 - EROSION CONTROL:

ITEM 832 - EROSION CONTROL 120,709 EACH

X:\4037000\121957.15\93496\drainage\SWPPP\sheets\93496DN001_sw3p.dgn Sheet 11/19/2018 3:00:48 PM 1636dcb

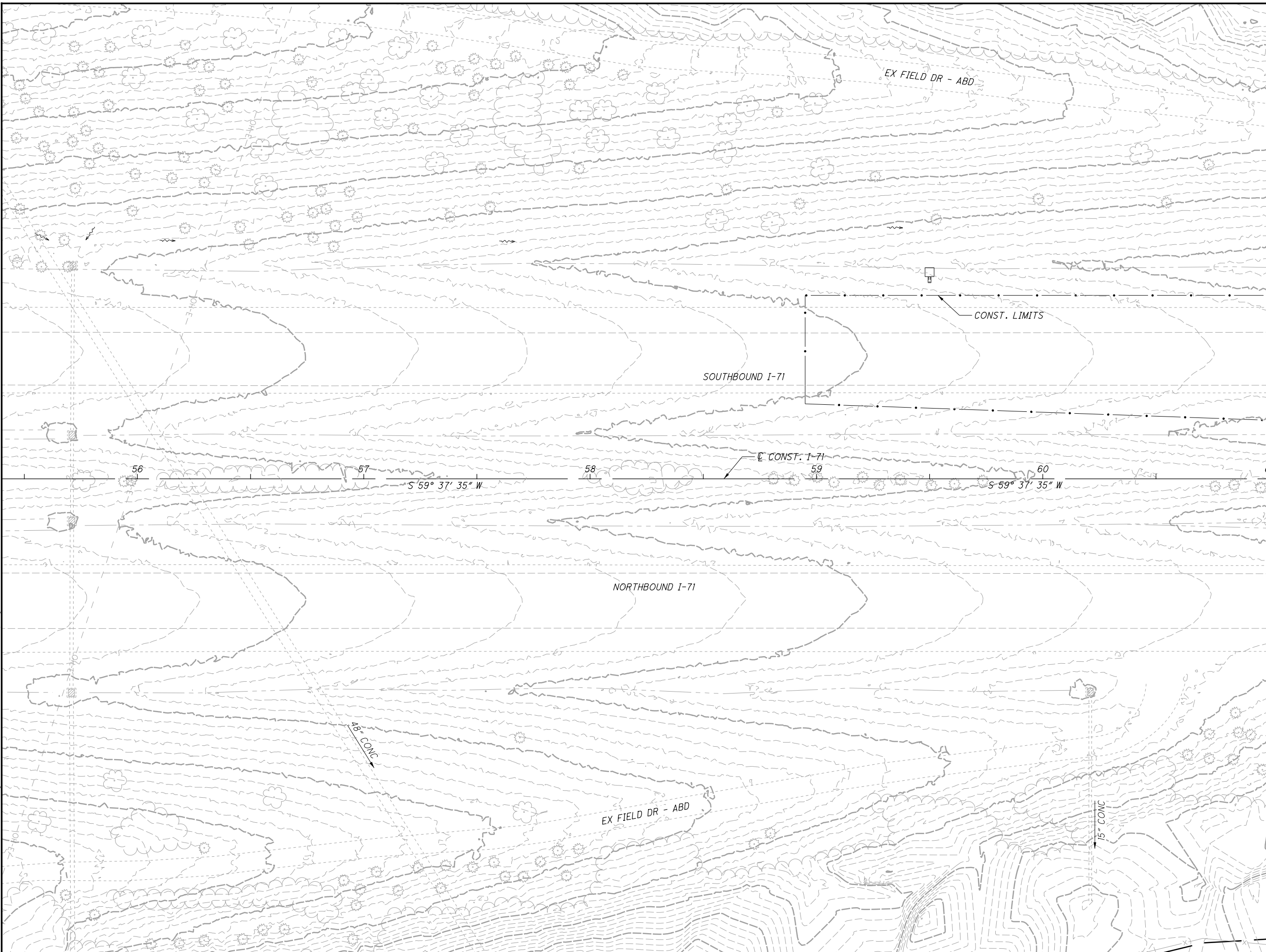
CALCULATED
CTW
CHECKED
MAH

GENERAL NOTES FOR STORM WATER SITE PLAN

FRA - 71 - 1.53

118
285

X:\4037000\121957.15\93496\drainage\SWPPP\sheets\93496DP013_sw3p.dgn Sheet 11/21/2018 9:01:37 AM 16360cb



MATCH LINE - STA 61+00 - I-71 - SEE SHEET 119B

CALCULATED
CTW
CHECKED
MAH

0 20 40
HORIZONTAL
SCALE IN FEET

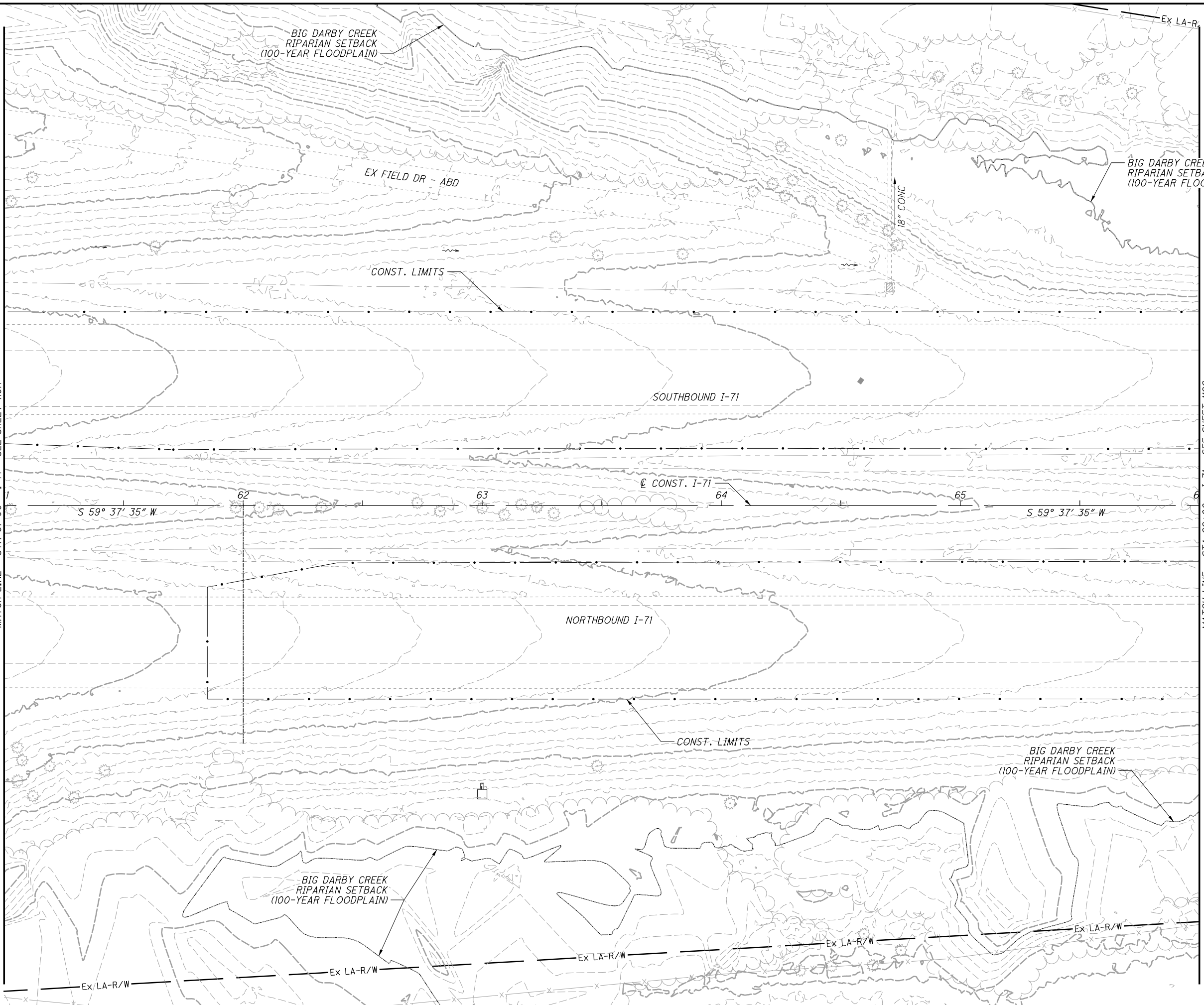
STORM WATER SITE PLAN
STA 55+40 TO STA 61+00

FRA - 71 - 1.53

X:\4037000\121957.15\93496\drainage\SWPPP\sheets\93496DP014_sw3p.dgn Sheet 11/21/2018 9:02:57 AM 1636dcb

MATCH LINE - STA 61+00 - I-71 - SEE SHEET 119A

MATCH LINE - STA 66+00 - I-71 - SEE SHEET 119C



CALCULATED
CTW
CHECKED
MAH

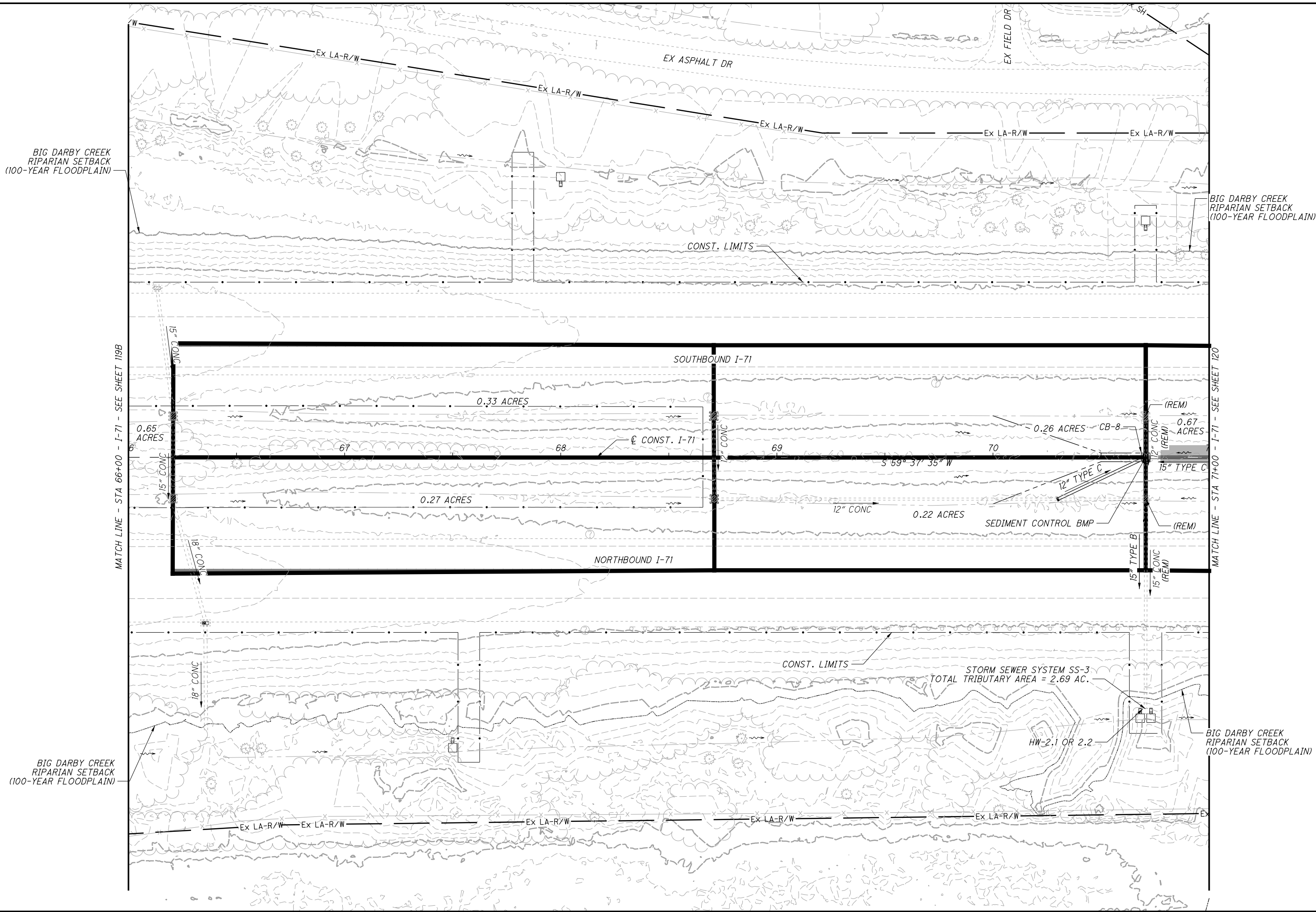
0 20 40
HORIZONTAL
SCALE IN FEET

STORM WATER SITE PLAN
STA 61+00 TO STA 66+00

FRA-71-1.53

119B
285

X:\4037000\121957.15\93496\drainage\SWPPP\sheets\93496DP015_sw3p.dgn Sheet 11/19/2018 3:00:56 PM 1636dcb



CALCULATED
CTW
CHECKED
MAH

0 10 20 40
HORIZONTAL
SCALE IN FEET

STORM WATER SITE PLAN
STA 66+00 TO STA 71+00

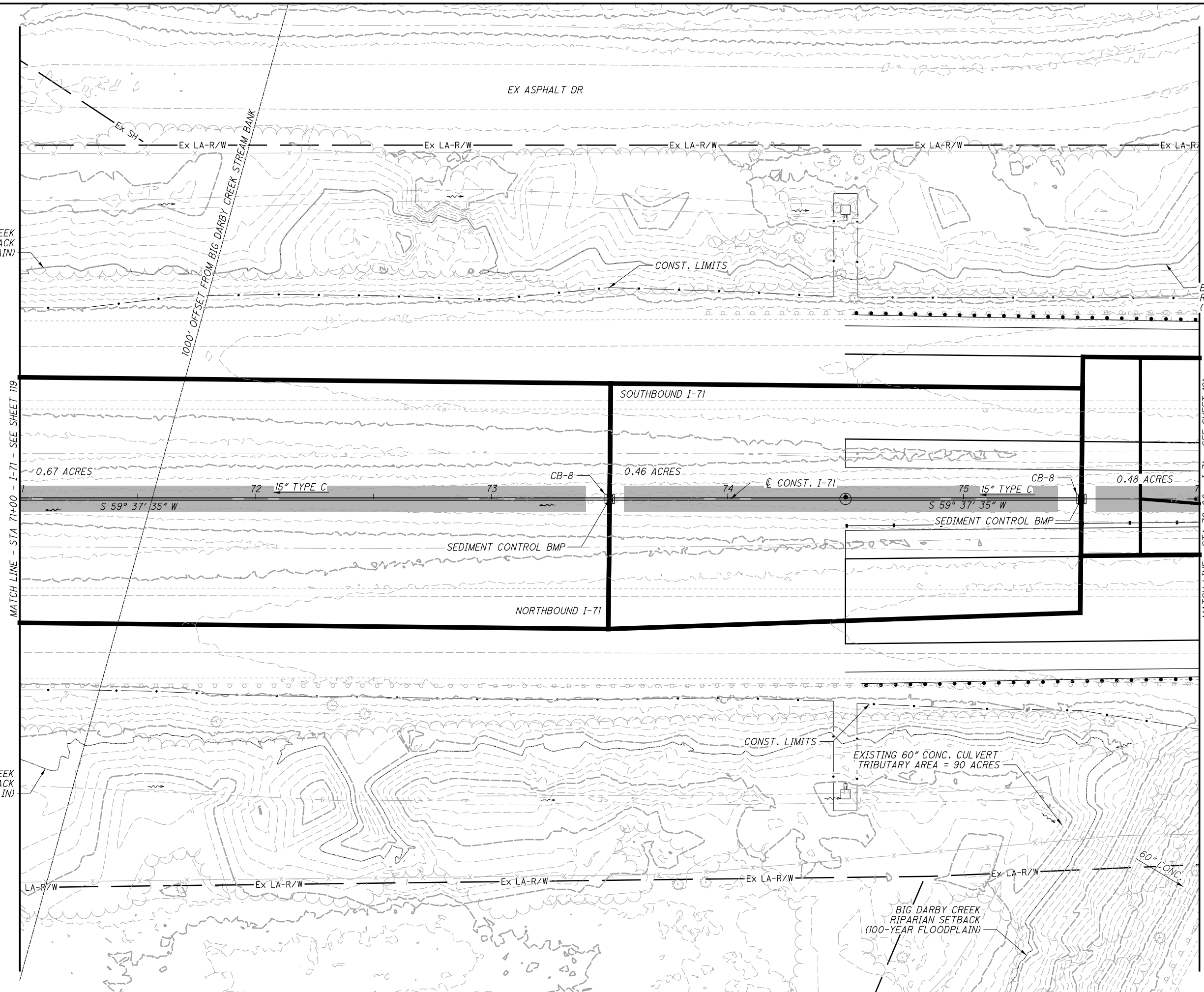
FRA-71-1.53

119C
285

X:\4037000\121957.15\93496\drainage\SWPPP\sheets\93496DP016_sw3p.dgn Sheet 11/19/2018 3:00:58 PM 1636dcb

BIG DARBY CREEK
RIPARIAN SETBACK
(100-YEAR FLOODPLAIN)

BIG DARBY CREEK
RIPARIAN SETBACK
(100-YEAR FLOODPLAIN)



MATCH LINE - STA 71+00 - I-71 - SEE SHEET 119

MATCH LINE - STA 76+00 - I-71 - SEE SHEET 121

CALCULATED
CTW
CHECKED
MAH

0 20 40
HORIZONTAL
SCALE IN FEET

STORM WATER SITE PLAN
STA 71+00 TO STA 76+00

FRA-71-1.53

120
285

X:\4037000\121957.15\93496\drainage\SWPPP\sheets\93496DP018_sw3p.dgn Sheet 11/19/2018 3:01:03 PM 1636dcb

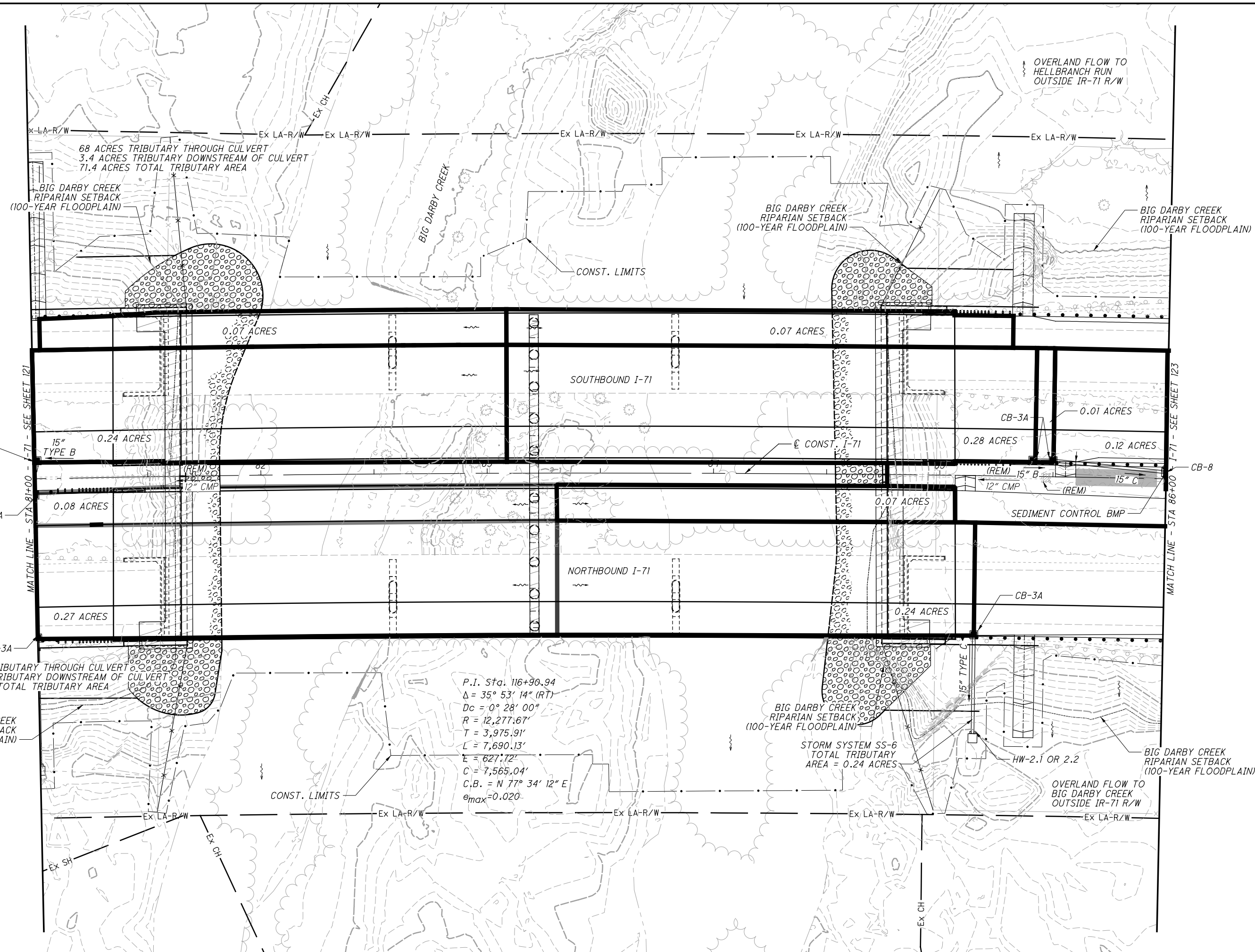




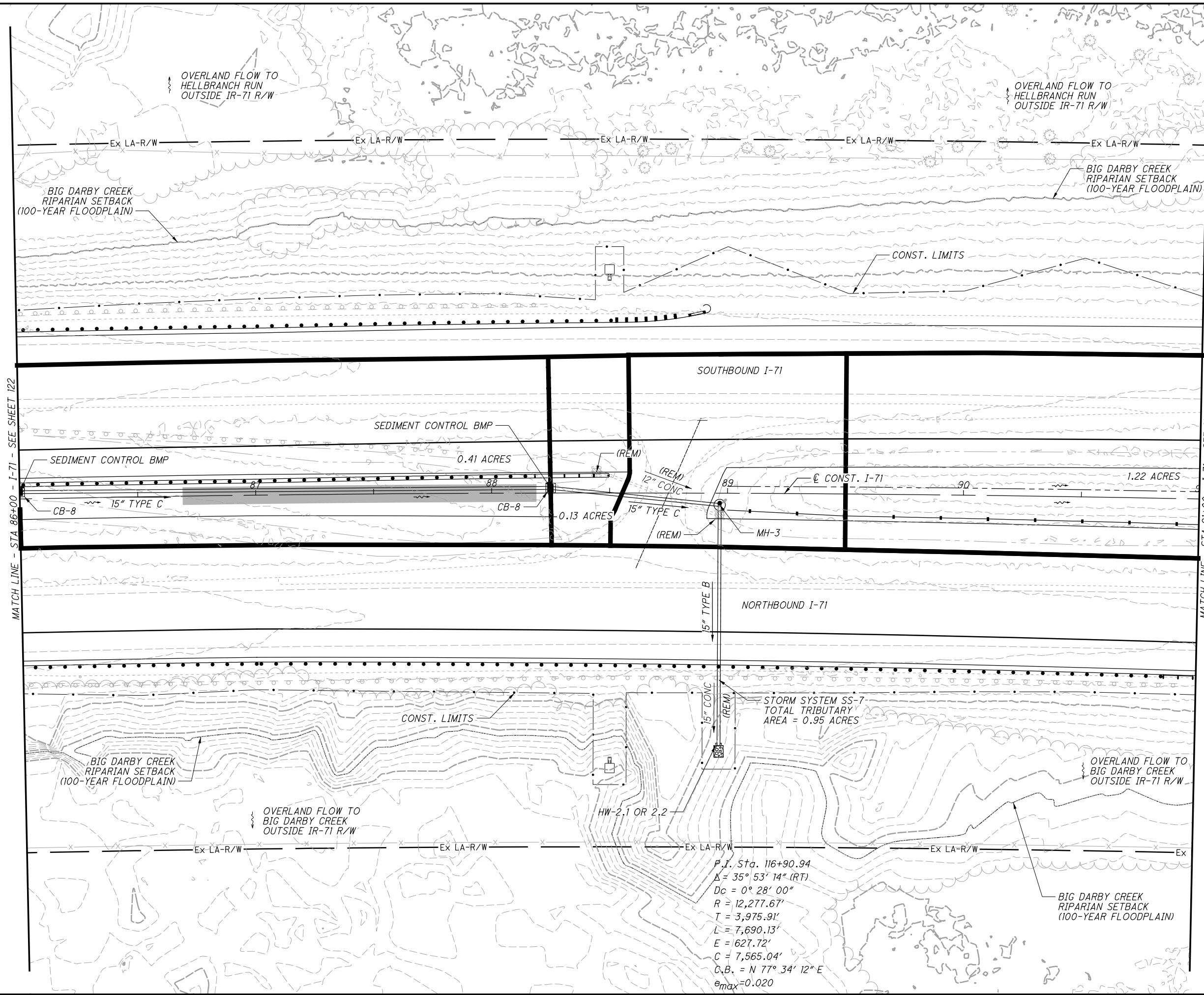
 HORIZONTAL SCALE IN FEET

CALCULATED
 CTW
 CHECKED MAH

STORM WATER SITE PLAN
STA 81+00 TO STA 86+00
FRA-71-1.53
 122
 285



X:\4037000\121957.15\93496\drainage\SWPPP\sheets\93496DP019_sw3p.dgn Sheet 11/19/2018 3:01:05 PM 1636acbc



MATCH LINE - STA 86+00 - I-71 - SEE SHEET 122

MATCH LINE - STA 91+00 - I-71 - SEE SHEET 124

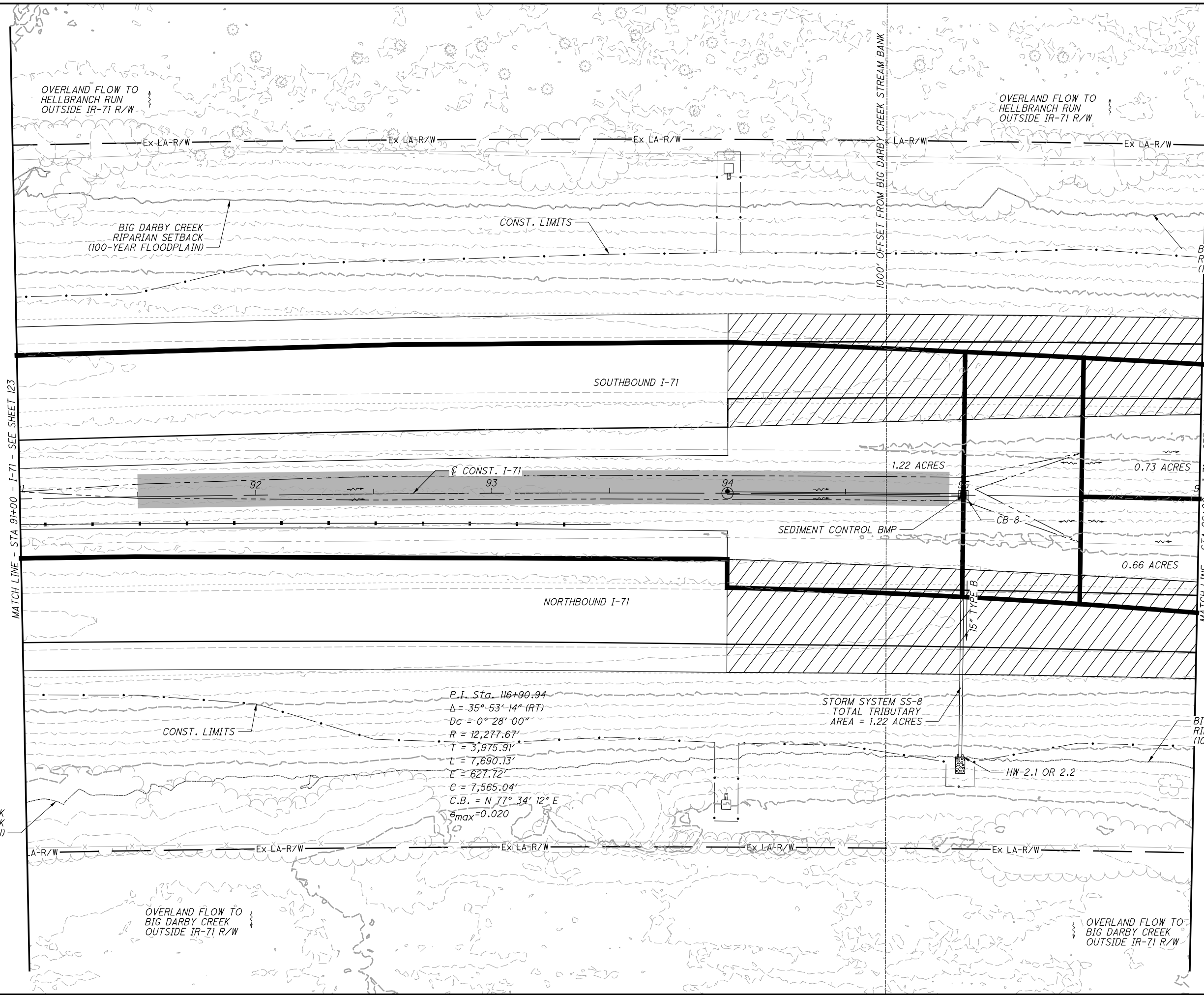
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 $Dc = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $\theta_{max} = 0.020$

CALCULATED
 CTW
 CHECKED MAH

0 20 40
 HORIZONTAL
 SCALE IN FEET

STORM WATER SITE PLAN
STA 86+00 TO STA 91+00

X:\4037000\121957.15\93496\drainage\SWPPP\sheets\93496DP020_sw3p.dgn Sheet 11/19/2018 3:01:06 PM 1636dcb



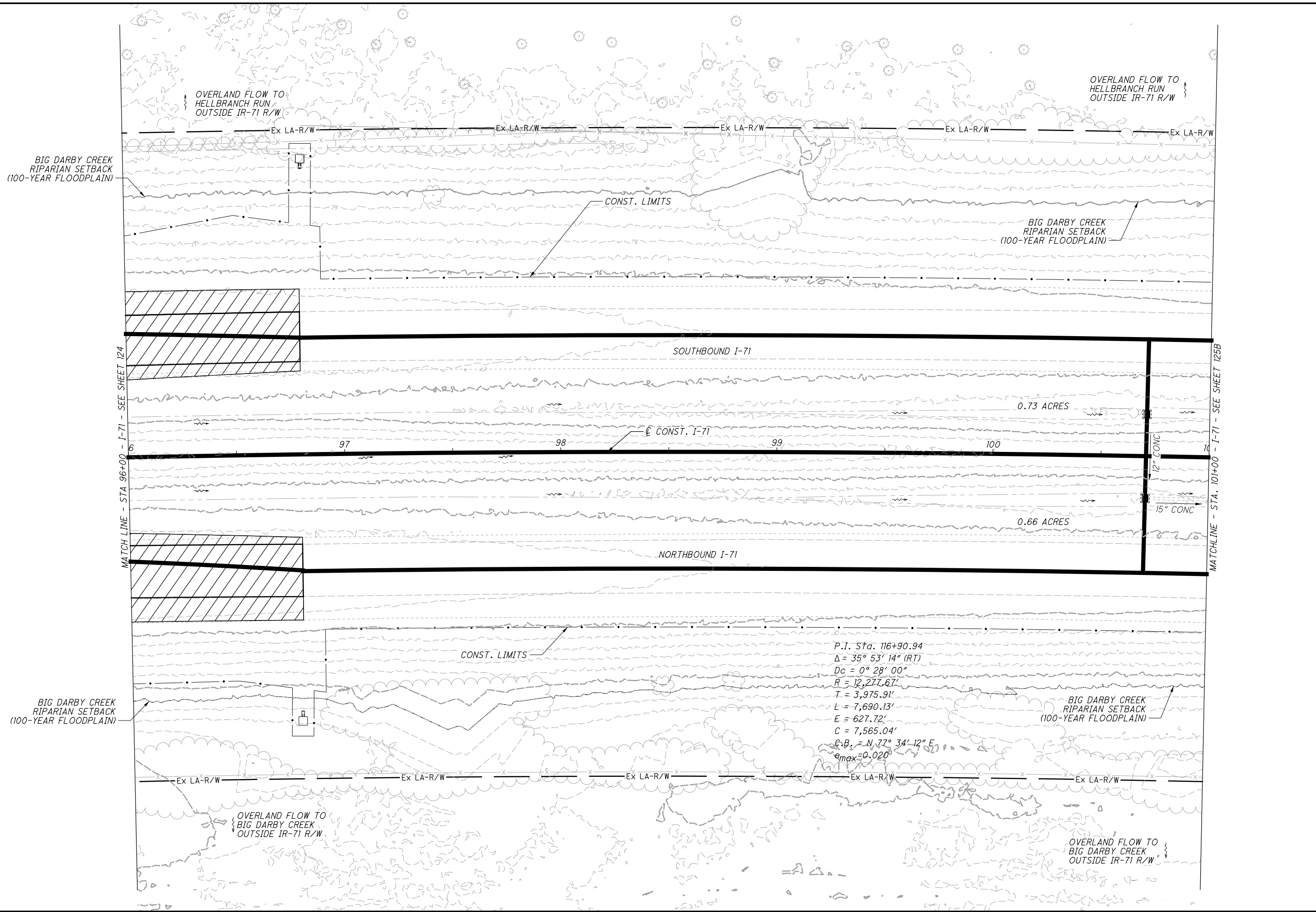
CALCULATED
CTW
CHECKED
MAH

0 20 40
HORIZONTAL
SCALE IN FEET

STORM WATER SITE PLAN
STA 91+00 TO STA 96+00

FRA-71-1.53

X:\4037000\121957.15\93496\drainage\SWPPP\sheets\93496DP021_sw3p.dgn Sheet 11/19/2018 3:01:07 PM 1636dcb



CALCULATED
CTW
CHECKED
MAH

0 20 40
10
HORIZONTAL
SCALE IN FEET

STORM WATER SITE PLAN
STA 96+00 TO STA 101+00

FRA-71-1.53

X:\4037000\121957.15\93496\drainage\SWPPP\sheets\93496DP022_sw3p.dgn Sheet 11/21/2018 9:04:21 AM 1636dcb



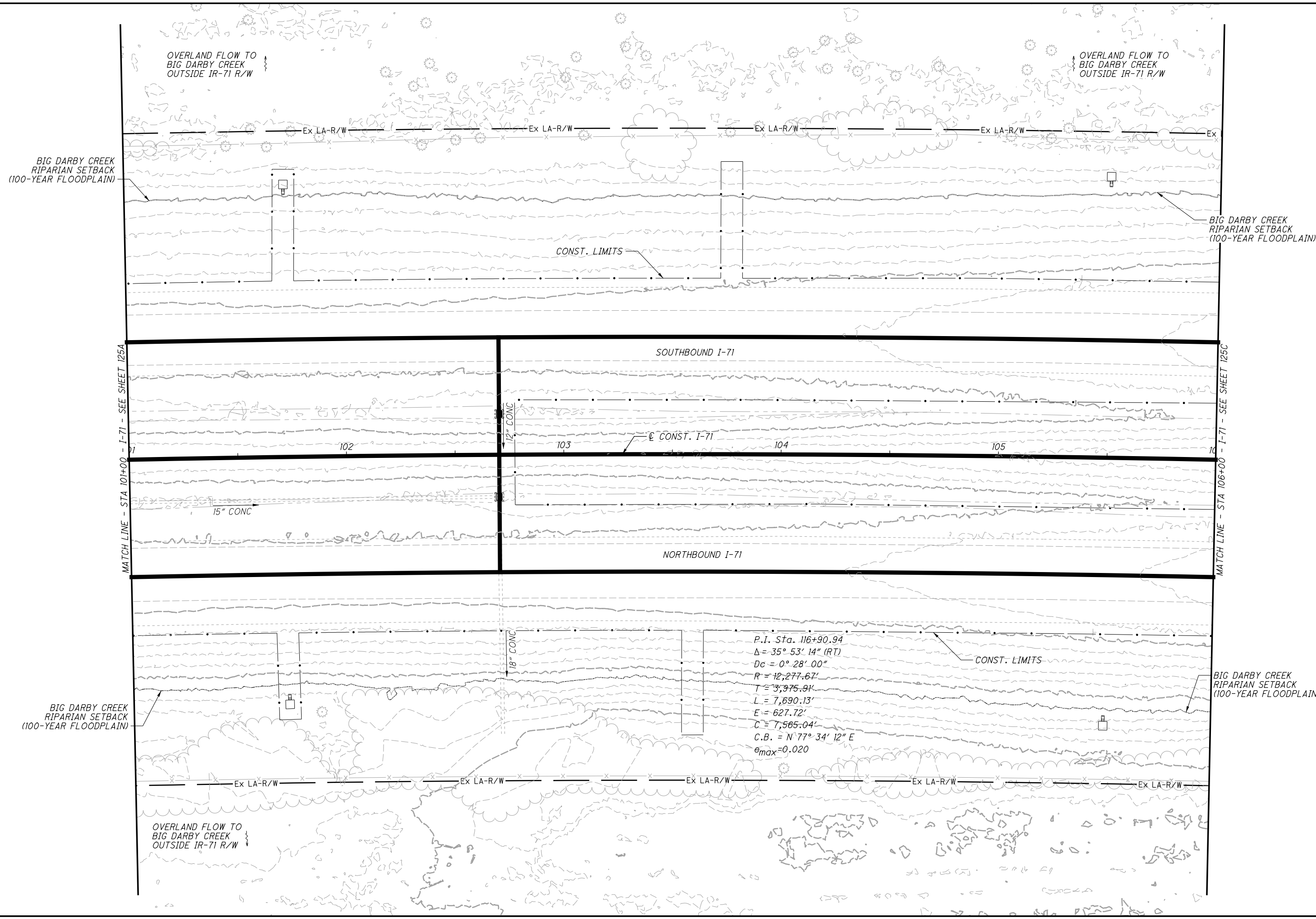
0 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED
CTW
CHECKED
MAH

STORM WATER SITE PLAN
STA 101+00 TO STA 106+00

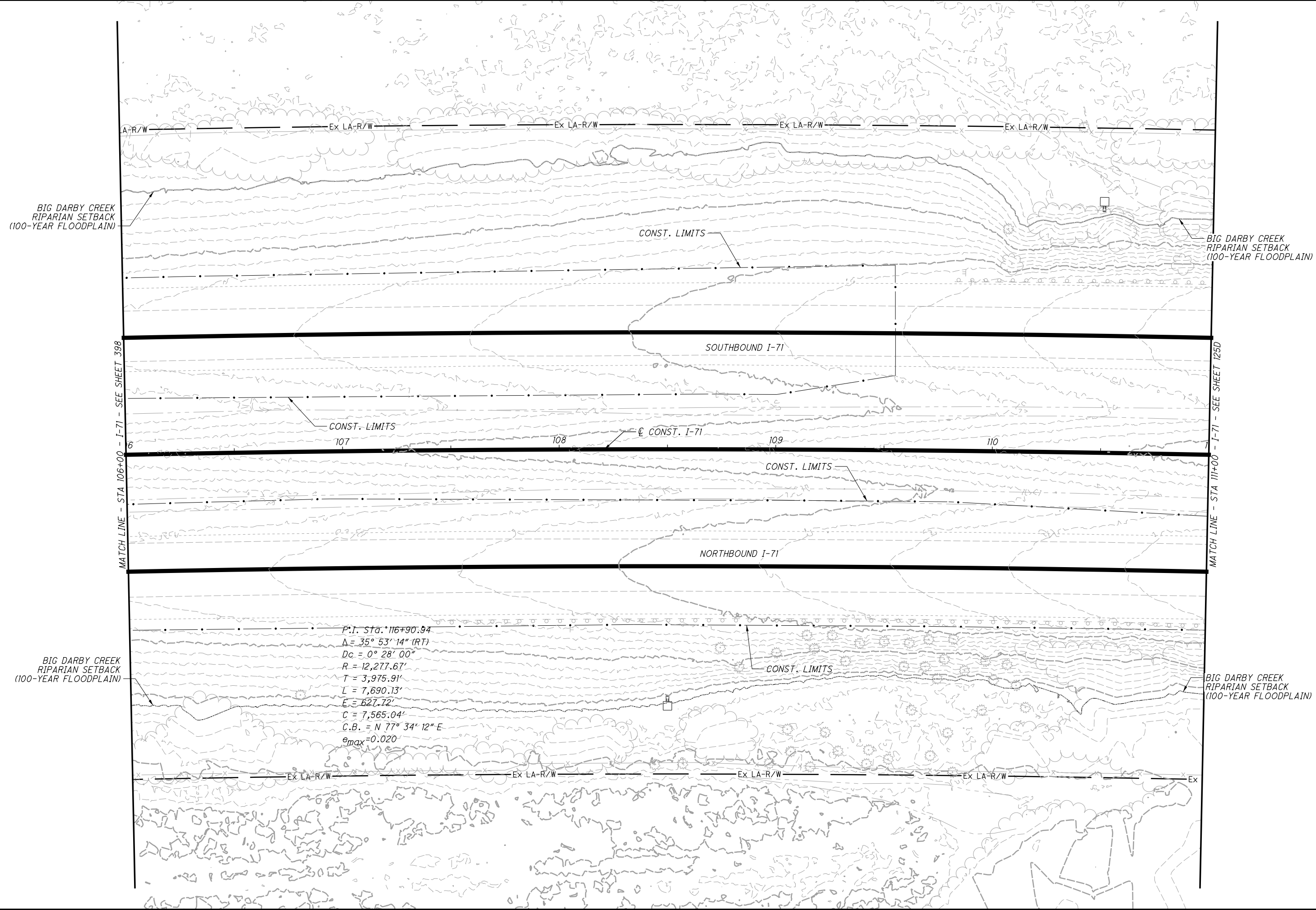
FRA-71-1.53

125B
285



P.I. Sta. 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $Dc = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e_{max} = 0.020$

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CALCULATED
CTW
CHECKED
MAH

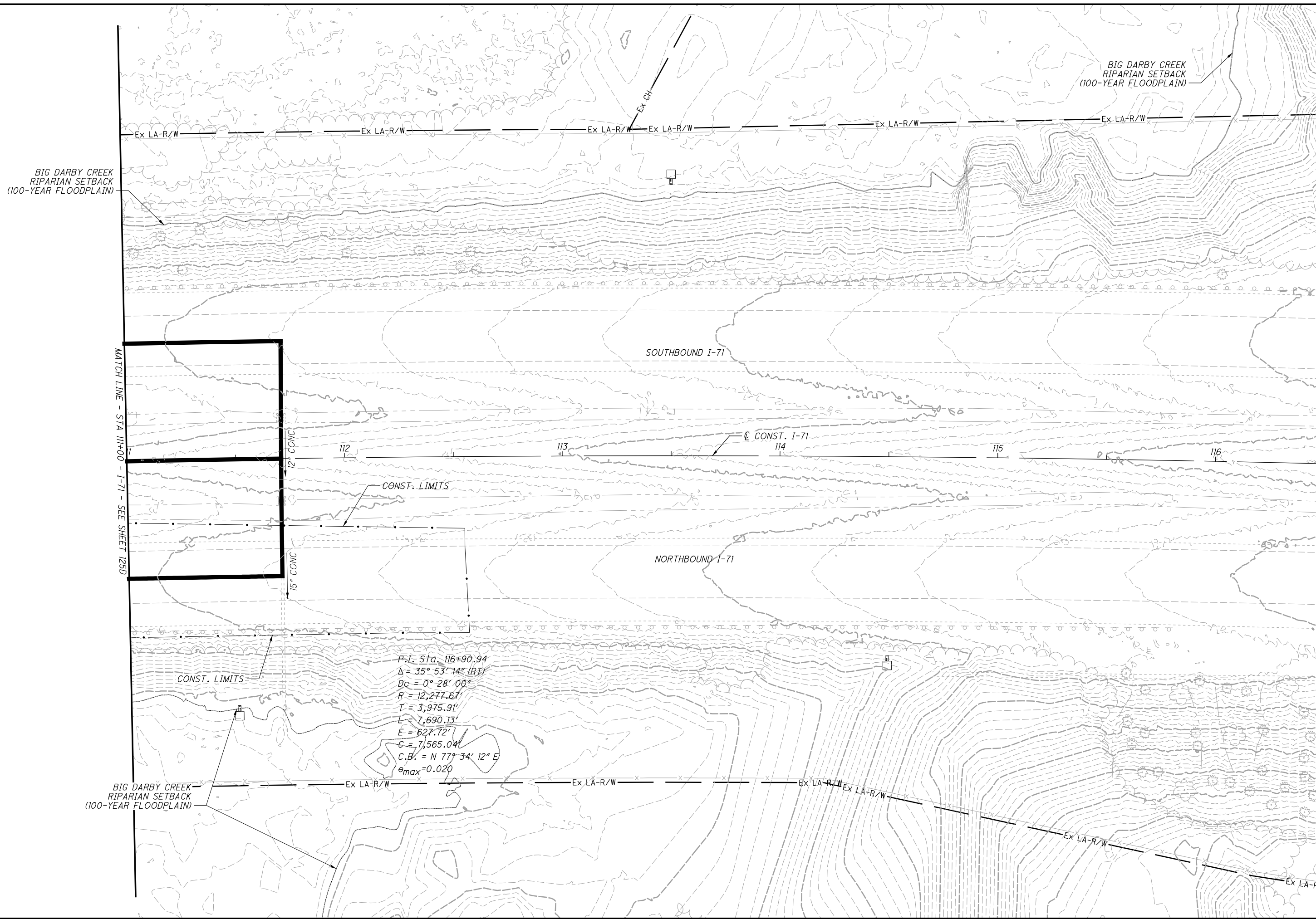
0 20 40
HORIZONTAL
SCALE IN FEET

STORM WATER SITE PLAN
STA 106+00 TO STA 111+00

FRA-71-1.53

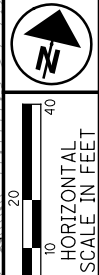
125C
285

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P.I. Sta. 116+90.94
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 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 C.B. = N $77^\circ 34' 12''$ E
 $e_{max} = 0.020$

CALCULATED
 CTW
 CHECKED MAH



STORM WATER SITE PLAN
STA 111+00 TO STA 116+50

FRA-71-1.53

125D
 285

ITEM 670 - DITCH EROSION PROTECTION,
WIDTH = 11' UNLESS NOTED

ROCK CHANNEL PROTECTION,
TYPE C w/FILTER

CALCULATED
DCB
CHECKED
JMB

PLAN - I-71
STA 66+00 TO STA 71+00

FRA-71-1.53
126
285

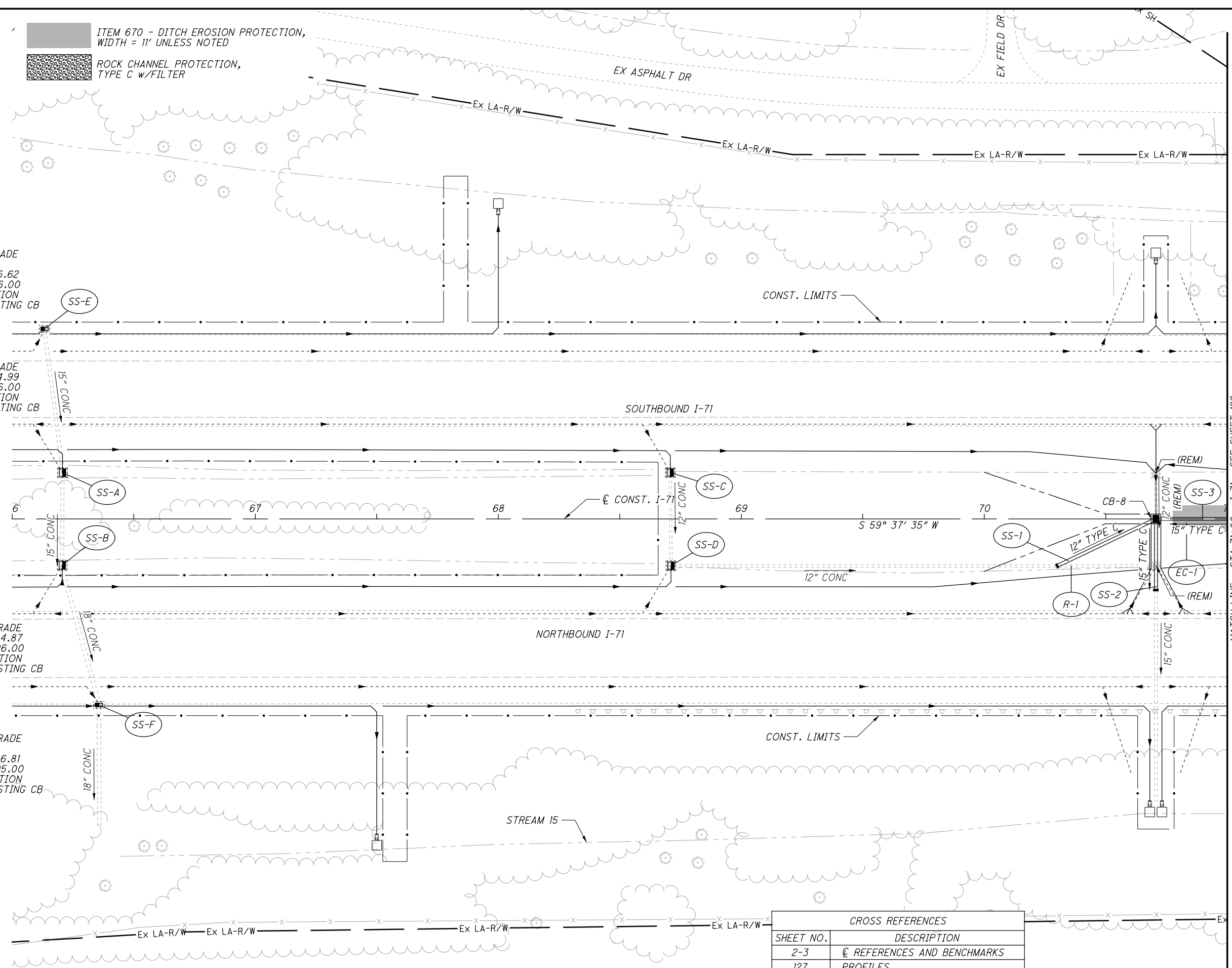
X:\4037000\121957.15\93496\roadway_sheets\93496P015.dgn Sheet 11/20/2018 11:16:51 AM 1636dcb

SS-E
RECONSTRUCT TO GRADE
WITH SOLID TOP
EX. GRATE ELEV. 796.62
PR. GRATE ELEV. 796.00
CONNECT CONSTRUCTION
UNDERDRAIN TO EXISTING CB
6" (S) = 794.00

SS-A
RECONSTRUCT TO GRADE
EX. GRATE ELEV. 794.99
PR. GRATE ELEV. 796.00
CONNECT CONSTRUCTION
UNDERDRAIN TO EXISTING CB
6" (N) = 792.60

SS-B
RECONSTRUCT TO GRADE
EX. GRATE ELEV. 794.87
PR. GRATE ELEV. 796.00
CONNECT CONSTRUCTION
UNDERDRAIN TO EXISTING CB
6" (N) = 792.20

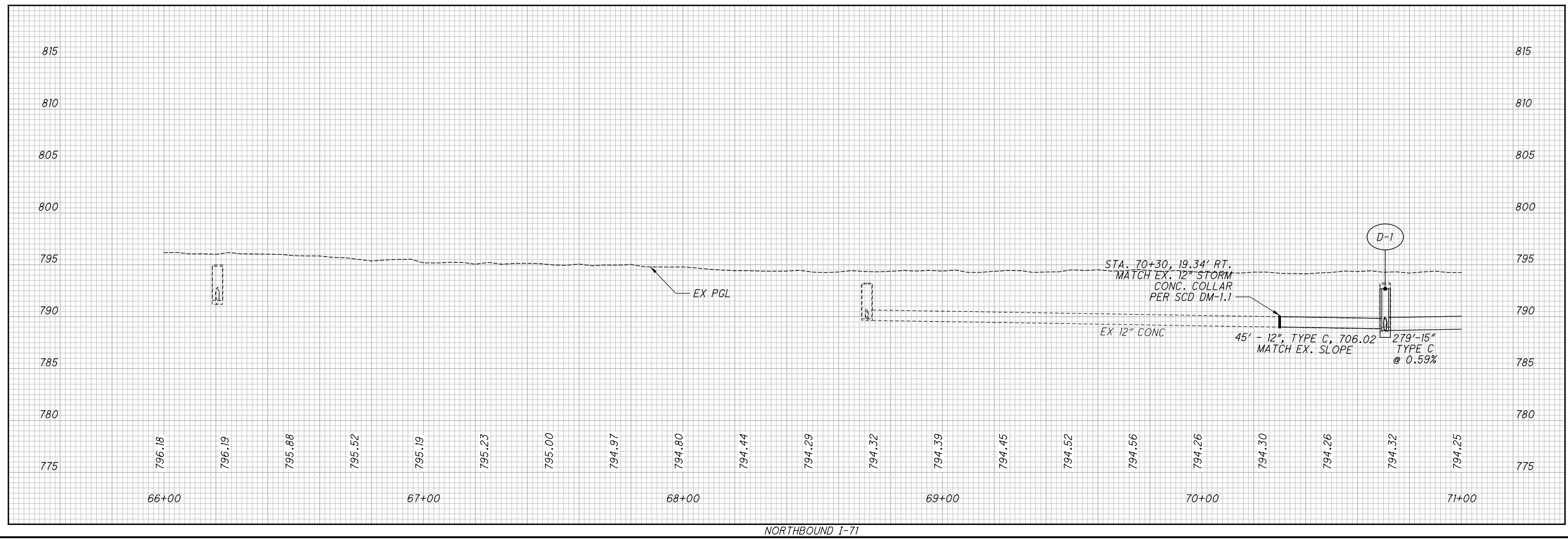
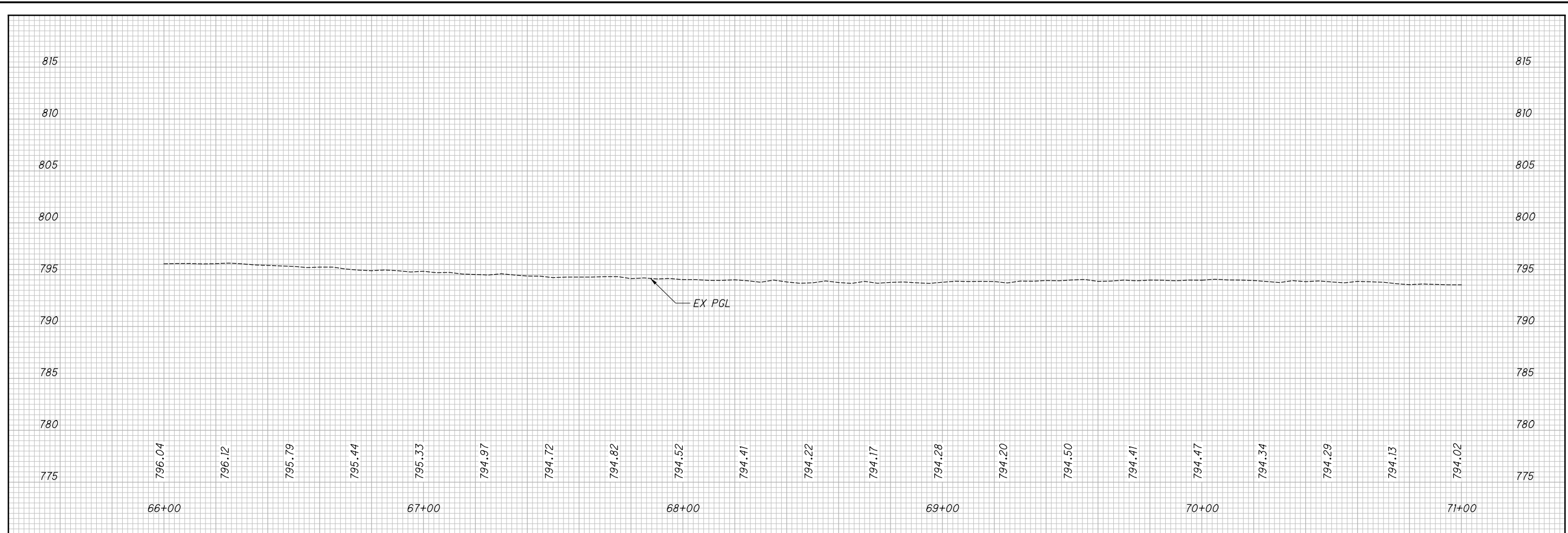
SS-F
RECONSTRUCT TO GRADE
WITH SOLID TOP
EX. GRATE ELEV. 796.81
PR. GRATE ELEV. 795.00
CONNECT CONSTRUCTION
UNDERDRAIN TO EXISTING CB
6" (N) = 792.00



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2-3	☉ REFERENCES AND BENCHMARKS
127	PROFILES
128	ESTIMATED QUANTITIES
179	UNDERDRAIN DETAILS

MATCH LINE - STA 71+00 - I-71 - SEE SHEET 129

X:\4037000\121957.15\93496\roadway_sheets\93496\F015.dgn Sheet 11/19/2018 3:01:13 PM 1636ddb



CALCULATED
DCB
CHECKED
JMB

PROFILE - I-71
STA 66+00 TO STA 71+00

FRA - 71-1.53

127
285

x:\4037000\121957.15\93496\roadway_sheets\93496G015.dgn Sheet 11/20/2018 11:24:57 AM 1636dcb

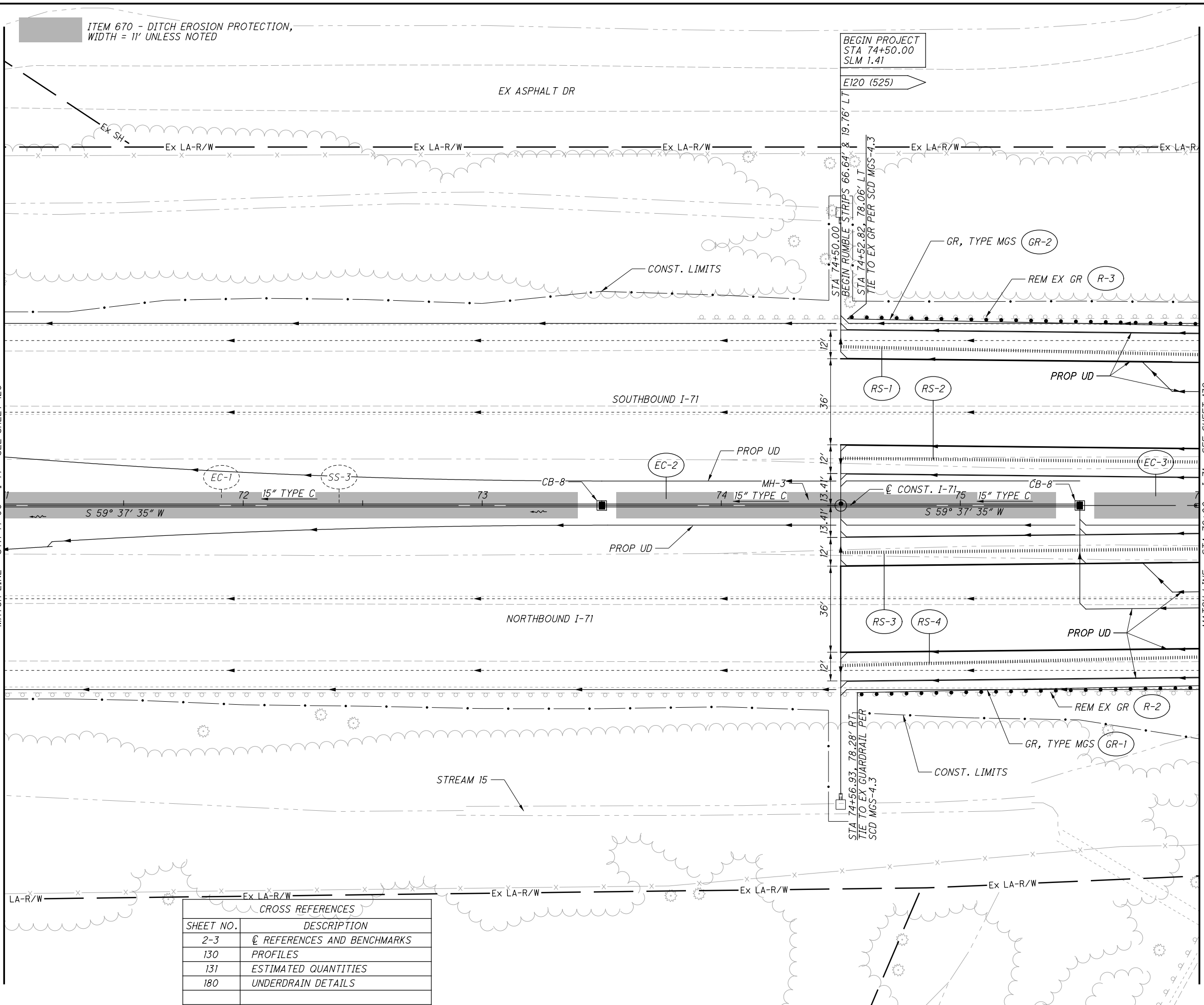
REF. NO.	SHEET NO.	STATION		SIDE	202	202	611	611	611	611	611	611	611	611	670				
		FROM	TO		PIPE REMOVED, 24" AND UNDER FT	CATCH BASIN REMOVED EACH	12" CONDUIT, TYPE C, 706.02 FT	15" CONDUIT, TYPE C FT	15" CONDUIT, TYPE C, 706.02 FT	CATCH BASIN, NO. 8 EACH	CATCH BASIN RECONSTRUCTED TO GRADE EACH	MANHOLE, No. 3 EACH				DITCH EROSION PROTECTION SY			
R-1	126	70+30	70+71	LT/RT	85	2													
EC-1	126, 129	70+78	73+40	CL											322				
SS-A	126	68+21	68+21	LT								1							
SS-B	126	68+21	68+21	RT								1							
SS-C	126	68+71	68+71	LT								1							
SS-D	126	68+71	68+71	RT								1							
SS-E	126	66+13	66+13	LT								1							
SS-F	126	66+36	66+36	RT								1							
SS-1	126	70+30	70+71	RT			45												
SS-2	126	70+71	70+71	RT				29											
SS-3	126, 129	70+71	75+50	CL/RT				479	29	3		1							
TOTALS CARRIED TO SHEETS 113-114					85	2	45	479	29	3		6	1		322				

ESTIMATED QUANTITIES	FRA - 71 - 1.53
CALCULATED DCB CHECKED JMB	128 285

X:\4037000\121957.15\93496\roadway_sheets\93496P016.dgn Sheet 11/2/2018 2:26:20 PM 1636dcb

MATCH LINE - STA 71+00 - I-71 - SEE SHEET 126

MATCH LINE - STA 76+00 - I-71 - SEE SHEET 132



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2-3	☉ REFERENCES AND BENCHMARKS
130	PROFILES
131	ESTIMATED QUANTITIES
180	UNDERDRAIN DETAILS

CALCULATED DCB CHECKED JMB

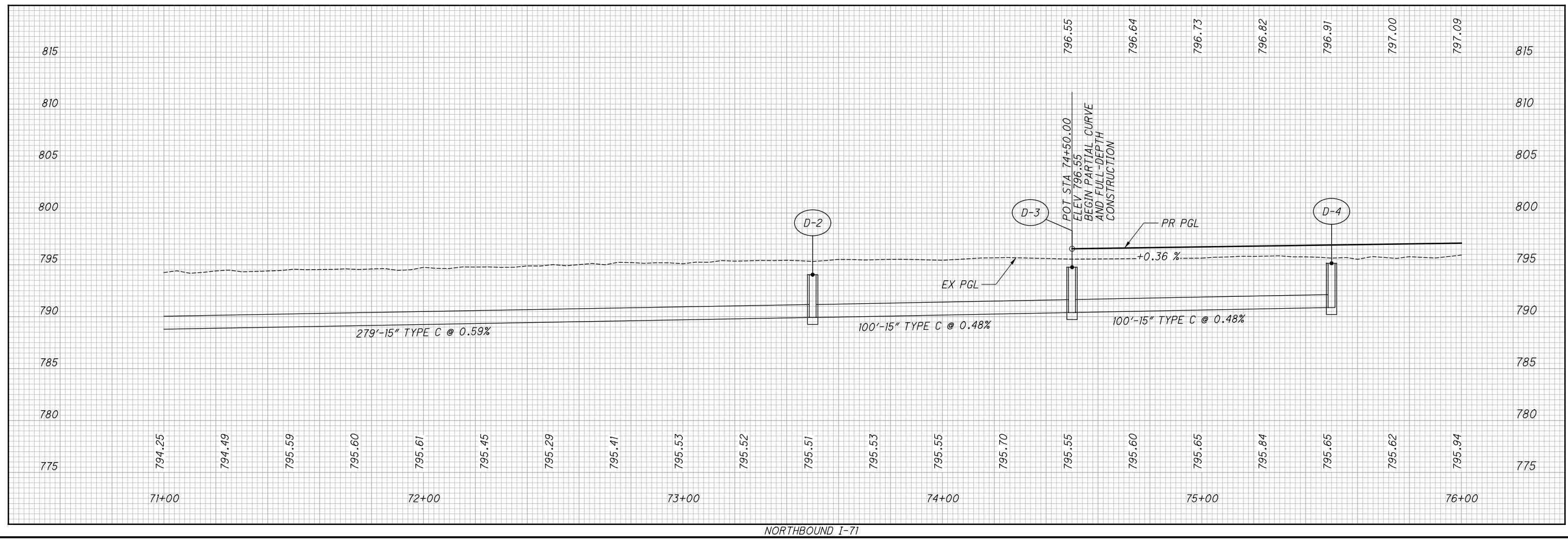
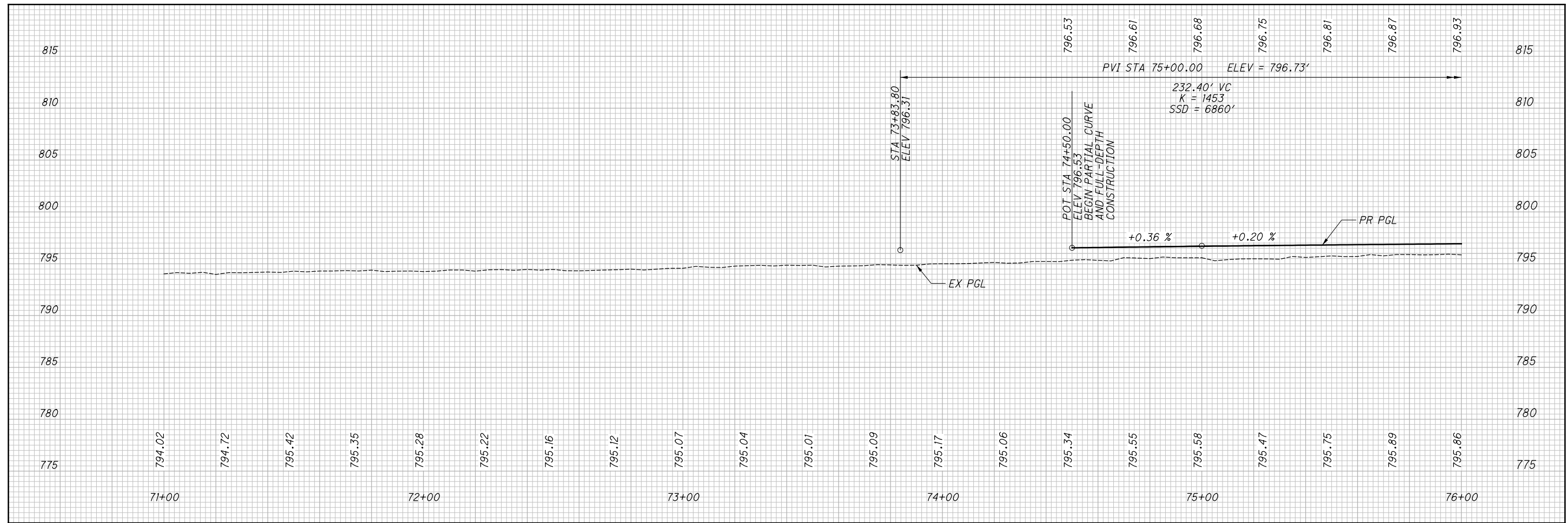
0 20 40 HORIZONTAL SCALE IN FEET

PLAN - I-71
STA 71+00 TO STA 76+00

FRA-71-1.53

129
285

X:\4037000\121957.15\93496\roadway_sheets\93496GF016.dgn Sheet 11/19/2018 3:01:14 PM 1636dcb



CALCULATED
DCB
CHECKED
JMB

PROFILE - I-71
STA 71+00 TO STA 76+00

FRA-71-1.53

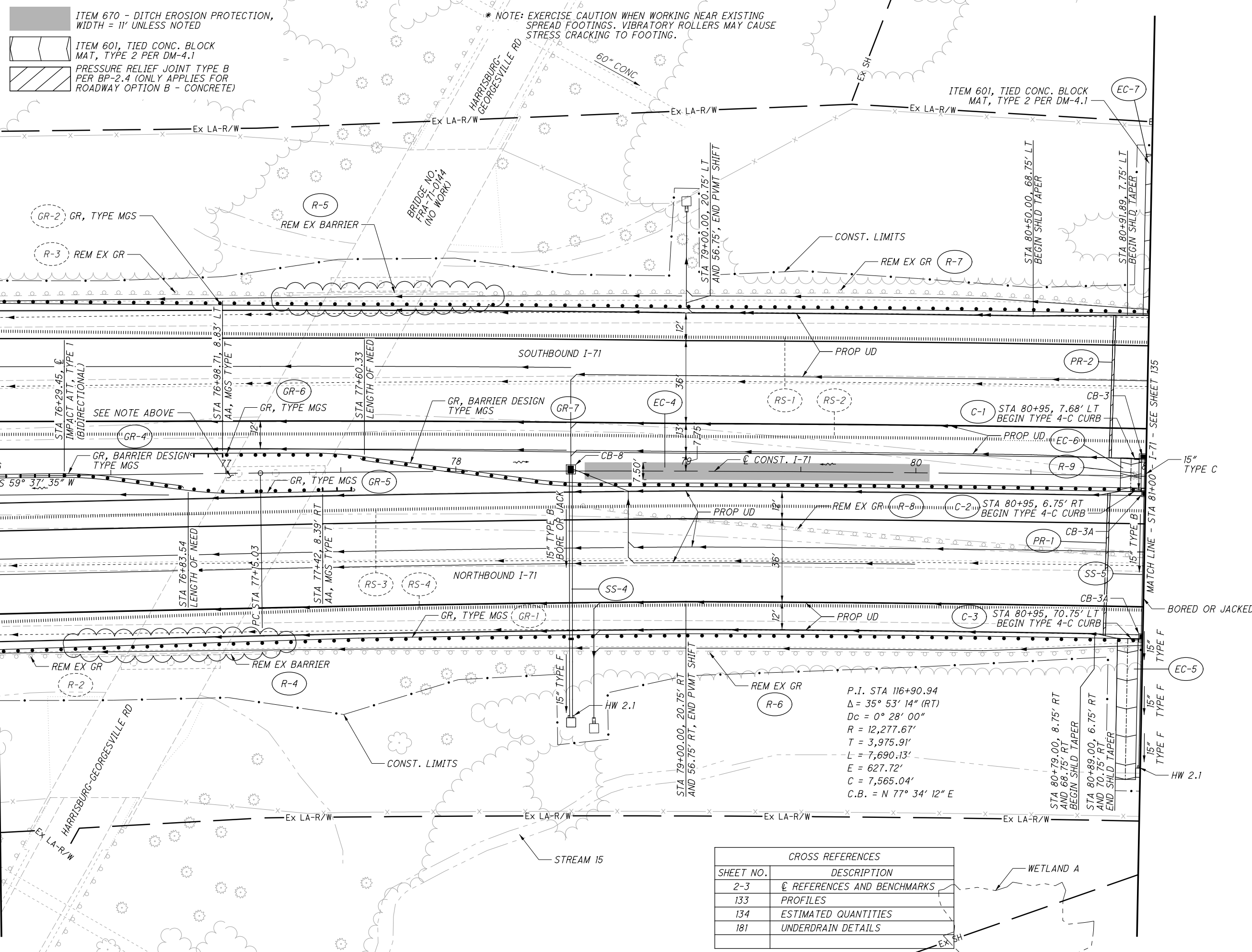
130
285

X:\4037000\121957.15\93496\roadway\sheets\93496G0016.dgn Sheet 11/2/2018 2:31:01 PM 1636dcb

REF. NO.	SHEET NO.	STATION		SIDE	202	606	606	606			618	670						
		FROM	TO		GUARDRAIL REMOVED FT	GUARDRAIL, TYPE MGS FT	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH	RUMBLE STRIPS, (ASPHALT CONCRETE) FT	DITCH EROSION PROTECTION SY								
R-2	129, 132	74+57	76+35	RT	177													
GR-1	129, 132, 135	74+57	81+35	RT		650	1											
R-3	129, 132	74+53	77+29	LT	277													
GR-2	129, 132, 135	74+53	81+35	LT		687.5	1											
EC-2	129	73+56	75+40	CL								225						
EC-3	129	75+56	76+00	CL								54						
GR-3	NOT USED																	
RS-1	129, 132, 135	74+50.00	81+35.00	LT							685.0							
RS-2	129, 132, 135	74+50.00	81+35.00	LT							685.0							
RS-3	129, 132, 135	74+50.00	81+35.00	RT							685.0							
RS-4	129, 132, 135	74+50.00	81+35.00	RT							685.0							
TOTALS CARRIED TO SHEETS 113-114					454	1337.5	1	1			2740.0	279						

ESTIMATED QUANTITIES	FRA - 71 - 1.53
CALCULATED DCB CHECKED JMB	131 285

X:\4037000\121957.15\93496\roadway_sheets\93496P017.dgn Sheet 12/7/2018 3:09:48 PM 1636acb



- ITEM 670 - DITCH EROSION PROTECTION, WIDTH = 11' UNLESS NOTED
- ITEM 601, TIED CONC. BLOCK MAT, TYPE 2 PER DM-4.1
- PRESSURE RELIEF JOINT TYPE B PER BP-2.4 (ONLY APPLIES FOR ROADWAY OPTION B - CONCRETE)

* NOTE: EXERCISE CAUTION WHEN WORKING NEAR EXISTING SPREAD FOOTINGS. VIBRATORY ROLLERS MAY CAUSE STRESS CRACKING TO FOOTING.

P.I. STA 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $D_c = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$

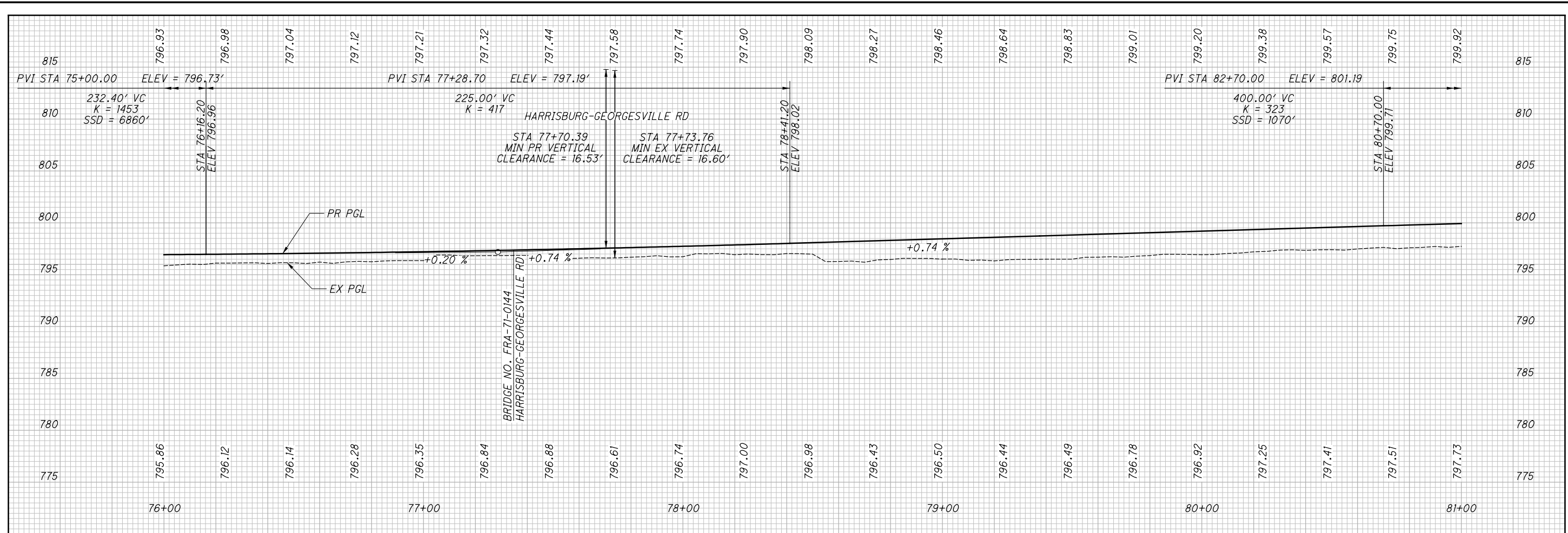
CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2-3	☉ REFERENCES AND BENCHMARKS
133	PROFILES
134	ESTIMATED QUANTITIES
181	UNDERDRAIN DETAILS

0 20 40
 HORIZONTAL SCALE IN FEET

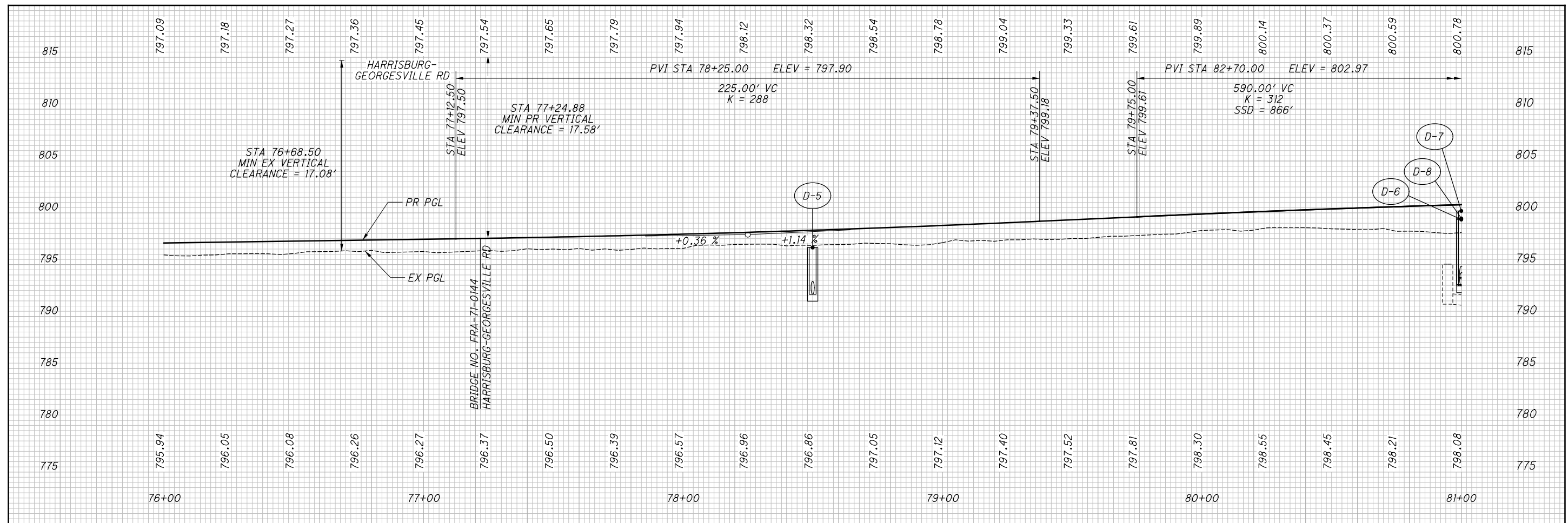
CALCULATED
 DCB
 CHECKED
 JMB

PLAN - I-71
STA 76+00 TO STA 81+00

X:\4037000\121957.15\93496\roadway\sheets\93496GF017.dgn Sheet 11/19/2018 3:01:16 PM 1636dcb



SOUTHBOUND I-71



NORTHBOUND I-71

CALCULATED
DCB
CHECKED
JMB

PROFILE - I-71
STA 76+00 TO STA 81+00

FRA-71-1.53

133
285

X:\4037000\121957.15\93496\roadway\sheets\93496G0017.dgn Sheet 12/7/2018 3:48:25 PM 1636dcb

REF. NO.	SHEET NO.	STATION		SIDE	202	202	202	202	451	601	601	602	606	606	606	606	609	611	611	611	611	611	611	670	
					CONCRETE BARRIER REMOVED	PIPE REMOVED, 24" AND UNDER	GUARDRAIL REMOVED	CATCH BASIN REMOVED	SPECIAL - PRESSURE RELIEF JOINT, TYPE B	TIED CONCRETE BLOCK MAT, TYPE 1	TIED CONCRETE BLOCK MAT, TYPE 2	CONCRETE MASONRY	GUARDRAIL, TYPE MGS	GUARDRAIL, BARRIER DESIGN, TYPE MGS	ANCHOR ASSEMBLY, MGS TYPE T	MGS BRIDGE TERMINAL ASSEMBLY, TYPE I, BARRIER DESIGN	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)	CURB, TYPE 4-C	15" CONDUIT, TYPE C	15" CONDUIT, TYPE F	CONDUIT BORED OR JACKED, 15", TYPE B	CATCH BASIN, NO. 3	CATCH BASIN, NO. 3A	CATCH BASIN, NO. 8	DITCH EROSION PROTECTION
		FT	FT		FT	EACH	FT	SY	SY	CY	FT	FT	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	EACH	SY		
R-4	132	76+34	77+17	RT	83																				
R-5	132	77+26	78+10	LT	84																				
R-6	132, 135	77+17	81+39	RT			427																		
R-7	132, 135	78+10	81+45	LT			338																		
R-8	132, 135	78+53	81+46	RT			293																		
R-9	132, 135	80+95	81+79	CL		84		1																	
C-1	132, 135	80+95	81+35	LT													40								
C-2	132, 135	80+95	81+35	RT													40								
C-3	132, 135	80+95	81+35	RT													40								
GR-4	132	76+29	76+80	CL/RT									50												
GR-5	132	76+80	77+55	RT								62.5		1											
GR-6	132	76+86	77+61	LT								62.5		1											
GR-7	132, 135	77+61	81+35	LT/RT									350		1										
EC-4	132, 135	78+56	80+06	CL																				125	
EC-5	132, 135	80+89	80+98	RT						60.7															
EC-6	132, 135	80+89	80+98	CL						14.5															
EC-7	132, 135	80+98	81+08	LT						75.6															
SS-4	132	78+50		CL/RT					1.8		0.27														
SS-5	132, 135	81+00	81+00	CL/RT					1.8		0.27						14	36	74						
PR-1	132	80+83.43	80+84.43	RT					62																
PR-2	132	80+84.05	80+85.05	LT					62																
TOTALS CARRIED TO SHEETS 113-114					167	84	1058	1	124	3.6	150.8	0.54	125	400	2	1	1	120	14	95	138	1	2	1	125

ESTIMATED QUANTITIES

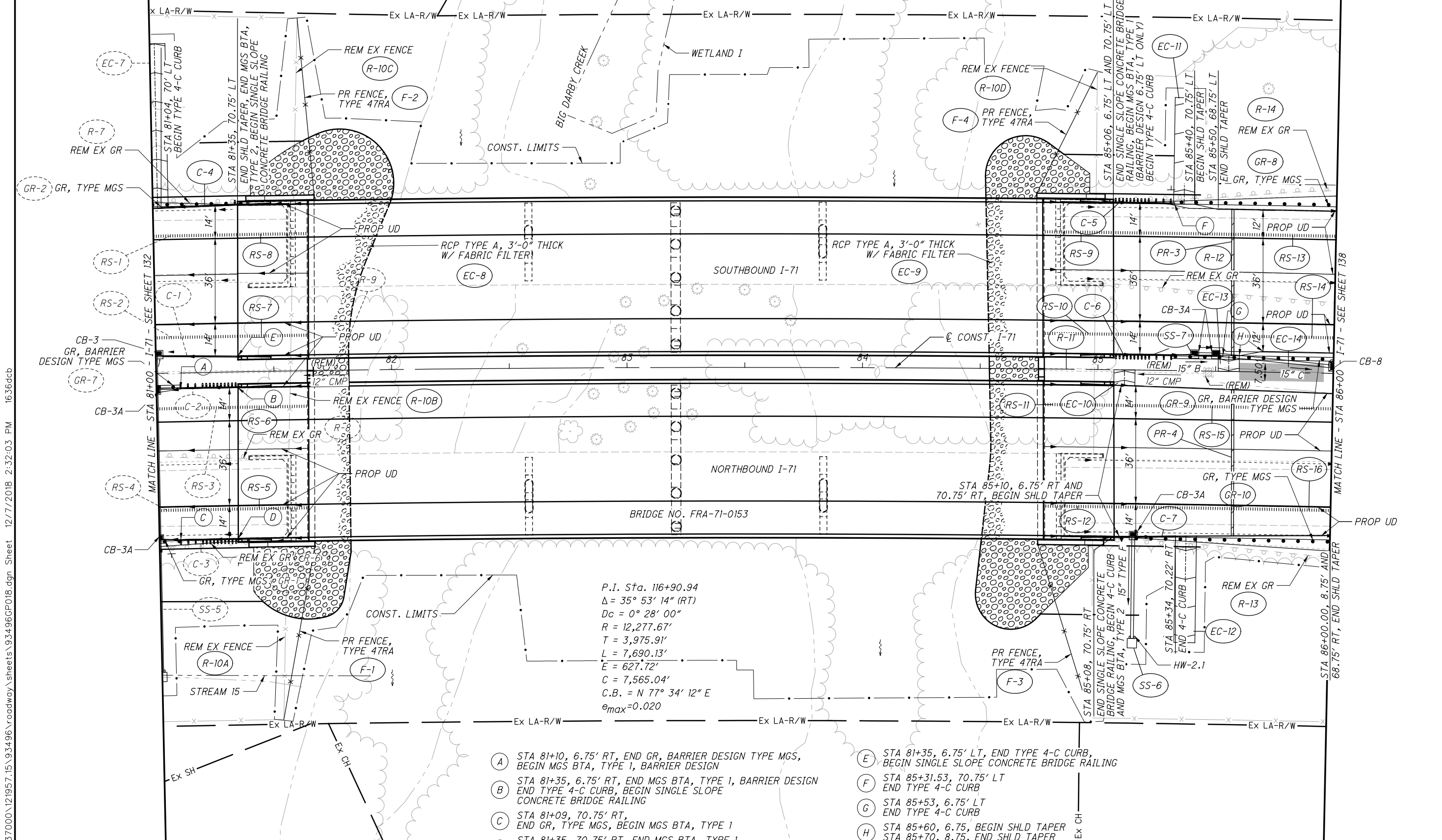
FRA -71-1.53

CALCULATED
DCB
CHECKED
JMB

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2-3	REFERENCES AND BENCHMARKS
136	PROFILES
137	ESTIMATED QUANTITIES
182	UNDERDRAIN DETAILS
203-204	STRUCTURE FRA-71-0153



- ITEM 670 - DITCH EROSION PROTECTION, WIDTH = 11' UNLESS NOTED
- ITEM 601, TIED CONC. BLOCK MAT, TYPE 2 PER DM-4.1
- PRESSURE RELIEF JOINT TYPE B PER BP-2.4 (ONLY APPLIES FOR ROADWAY OPTION B - CONCRETE)



P.I. Sta. 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $Dc = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e_{max} = 0.020$

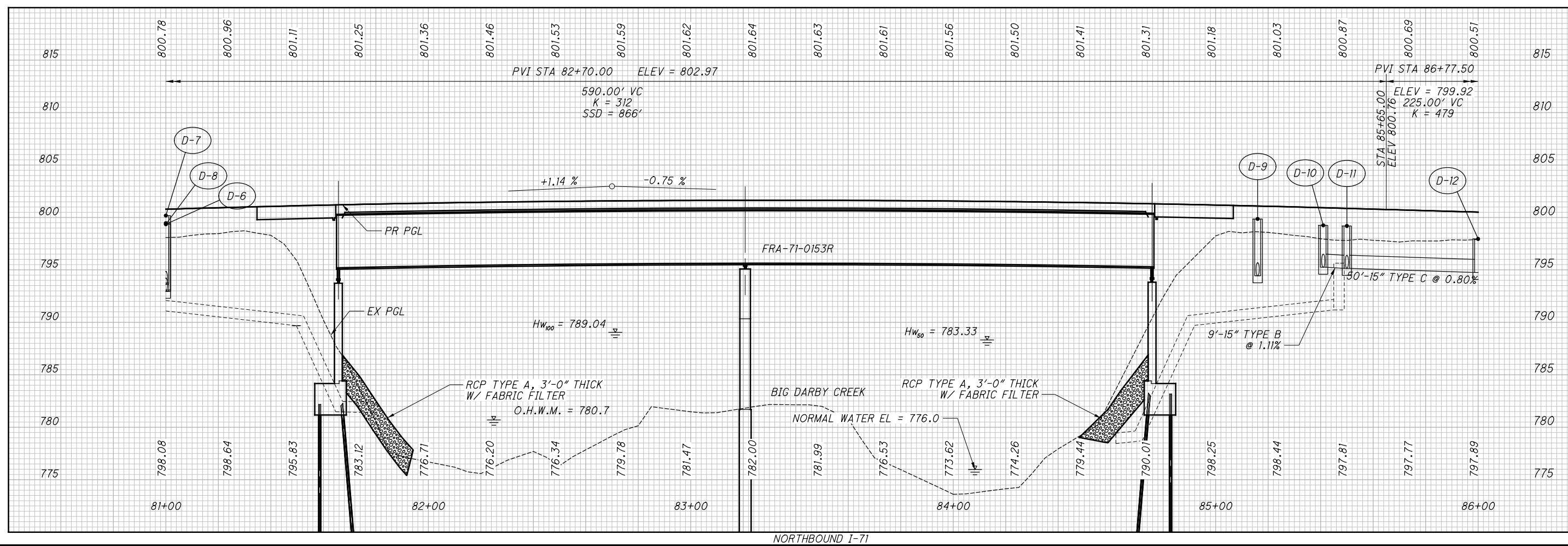
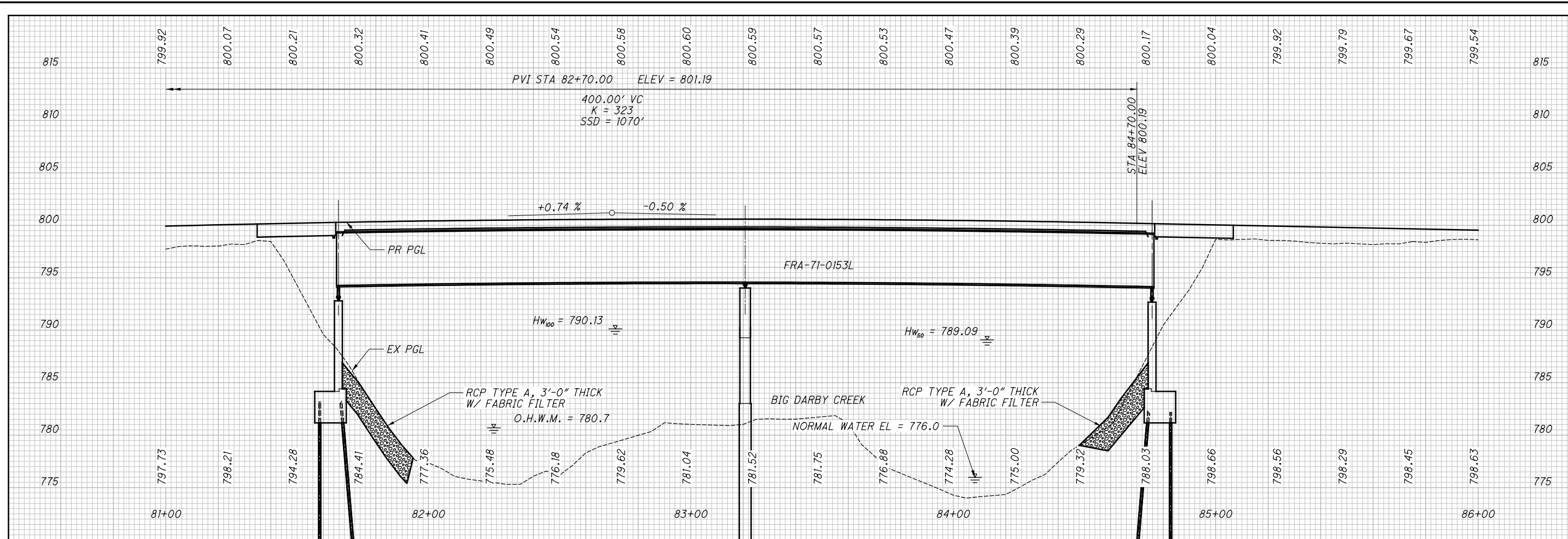
- (A) STA 81+10, 6.75' RT, END GR, BARRIER DESIGN TYPE MGS, BEGIN MGS BTA, TYPE 1, BARRIER DESIGN
- (B) STA 81+35, 6.75' RT, END MGS BTA, TYPE 1, BARRIER DESIGN END TYPE 4-C CURB, BEGIN SINGLE SLOPE CONCRETE BRIDGE RAILING
- (C) STA 81+09, 70.75' RT, END GR, TYPE MGS, BEGIN MGS BTA, TYPE 1
- (D) STA 81+35, 70.75' RT, END MGS BTA, TYPE 1, END TYPE 4-C CURB, BEGIN SINGLE SLOPE CONCRETE BRIDGE RAILING
- (E) STA 81+35, 6.75' LT, END TYPE 4-C CURB, BEGIN SINGLE SLOPE CONCRETE BRIDGE RAILING
- (F) STA 85+31.53, 70.75' LT, END TYPE 4-C CURB
- (G) STA 85+53, 6.75' LT, END TYPE 4-C CURB
- (H) STA 85+60, 6.75, BEGIN SHLD TAPER STA 85+70, 8.75, END SHLD TAPER

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PLAN - I-71
STA 81+00 TO STA 86+00

FRA-71-1.53
135
285

X:\4037000\121957.15\93496\roadway_sheets\93496\F018.dgn Sheet 11/19/2018 3:01:18 PM 1636dcb



CALCULATED
DCB
CHECKED
JMB

PROFILE - I-71
STA 81+00 TO STA 86+00

FRA-71-1.53

136
285

X:\4037000\121957.15\93496\roadway\sheet\93496GQ018.dgn Sheet 12/7/2018 2:37:32 PM 1636dcb

REF. NO.	SHEET NO.	STATION		SIDE	ITEM DESCRIPTION																												670	
					202	202	202	202	451	601	601	601	601	602	606	606	606	606	606	606	606	606	606	607	609	611	611	611	611	611	618	618		
					PIPE REMOVED, 24" AND UNDER	GUARDRAIL REMOVED	CATCH BASIN REMOVED	FENCE REMOVED	SPECIAL - PRESSURE RELIEF JOINT, TYPE B	TIED CONCRETE BLOCK MAT, TYPE 1	TIED CONCRETE BLOCK MAT, TYPE 2	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	CONCRETE MASONRY	GUARDRAIL, TYPE MGS	GUARDRAIL, BARRIER DESIGN, TYPE MGS	ANCHOR ASSEMBLY, MGS TYPE B	ANCHOR ASSEMBLY, MGS TYPE T	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)	FENCE, TYPE 47RA	CURB, TYPE 4-C	15" CONDUIT, TYPE B	15" CONDUIT, TYPE C	15" CONDUIT, TYPE F	CATCH BASIN, NO. 3A	CATCH BASIN, NO. 8	MANHOLE, NO. 3	RUMBLE STRIPS, (ASPHALT CONCRETE)	RUMBLE STRIPS, (CONCRETE)	DITCH EROSION PROTECTION		
FROM	TO	FT	FT	EACH	FT	FT	SY	SY	CY	CY	CY	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	EACH	EACH	EACH	FT	FT	SY				
R-10A	135	81+52	81+54	RT					74																									
R-10B	135	81+56	81+58	RT/LT					71																									
R-10C	135	81+60	81+62	LT					78																									
R-10D	135	84+85	84+97	RT/LT					275																									
R-11	135	84+62	85+47	CL	84		1																											
R-12	135, 138	84+92	87+88	LT		298																												
R-13	135, 138	84+98	90+92	RT		593																												
R-14	135, 138	85+01	88+24	LT		325																												
C-4	135	81+04	81+35	LT																														
C-5	135	85+06	85+32	LT																														
C-6	135	85+06	85+53	LT																														
C-7	135	85+08	85+34	RT																														
EC-8	135	81+41	82+02	LT/RT							564.0																							
EC-9	135	84+49	84+96	LT/RT							587.0																							
EC-10	135	85+07	85+16	RT							7.0																							
EC-11	135	85+31	85+40	LT							54.0																							
EC-12	135	85+34	85+43	RT							54.0																							
EC-13	135	85+51	85+60	LT							7.0																							
EC-14	135	85+60	85+96	CL																										30				
F-1	135	81+52	81+66	RT																														
F-2	135	81+62	81+68	LT																														
F-3	135	84+75	84+85	RT																														
F-4	135	84+73	84+97	LT																														
GR-8	135, 138	85+06	88+57	LT																														
GR-9	135, 138	85+06	88+18	LT																														
GR-10	135, 138	85+08	90+99	RT																														
SS-6	135	85+16	85+16	RT																														
SS-7	135, 138	85+41	89+97	CL/RT																														
RS-5	135	81+34.43	81+64.48	RT																														
RS-6	135	81+34.43	81+64.48	RT																														
RS-7	135	81+35.05	81+65.00	LT																														
RS-8	135	81+35.05	81+65.00	LT																														
RS-9	135	84+76.49	85+06.43	LT																														
RS-10	135	84+76.49	85+06.43	LT																														
RS-11	135	84+77.01	85+07.06	RT																														
RS-12	135	84+77.01	85+07.06	RT																														
RS-13	135, 138, 141	85+06.43	94+00.00	LT																														
RS-14	135, 138, 141	85+06.43	94+00.00	LT																														
RS-15	135, 138, 141	85+07.06	94+00.00	RT																														
RS-16	135, 138, 141	85+07.06	94+00.00	RT																														
PR-3	135	85+56.43	85+57.43	LT																														
PR-4	135	85+57.06	85+58.06	RT																														
TOTALS CARRIED TO SHEETS 113-114					84	1216	1	498	124	1.8	122.0	1151.0	1.3	0.54	900	287.5	1	1	1	1	1	1	1	282	132	111	347	44	3	2	1	3573.0	240.4	30

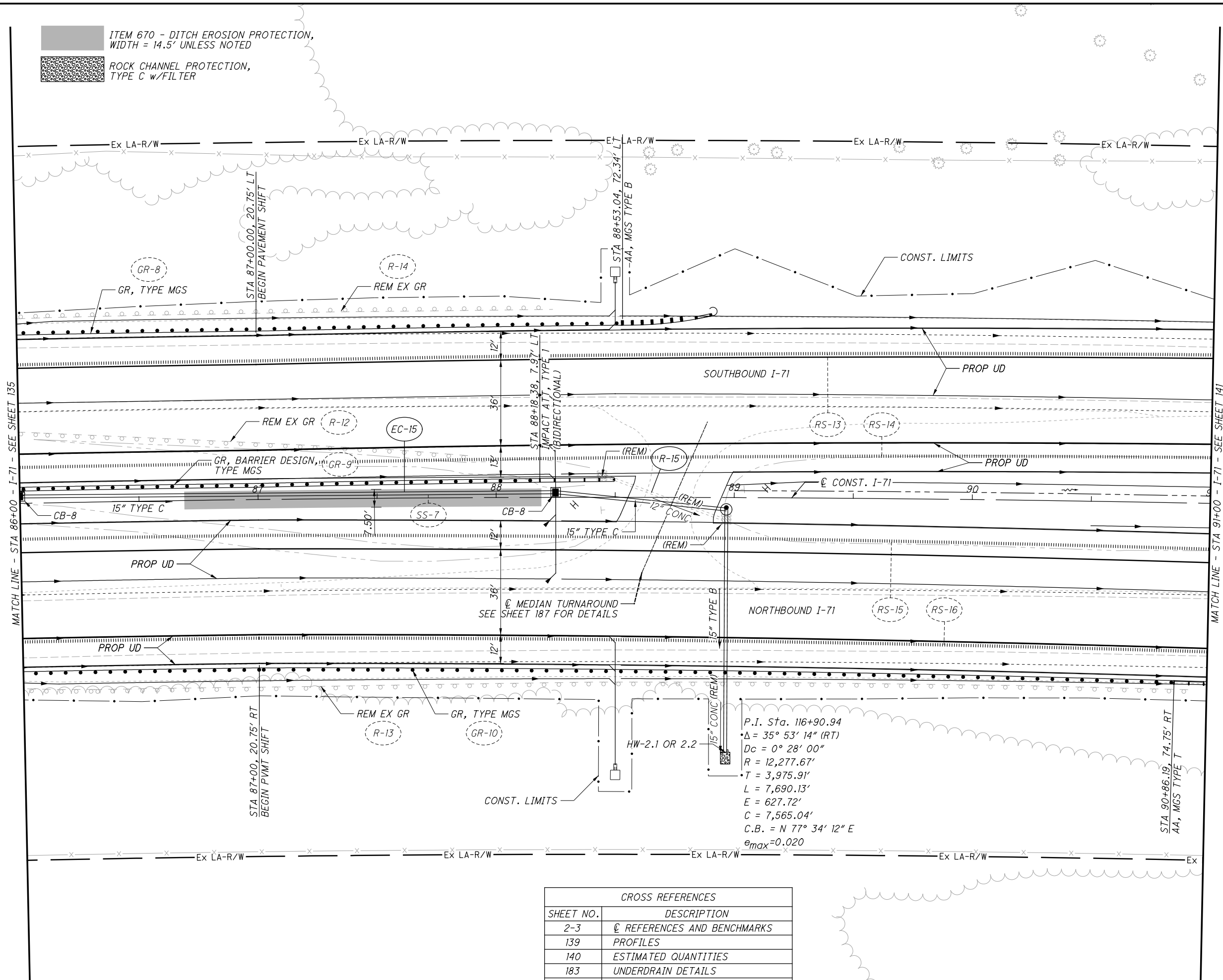
ESTIMATED QUANTITIES

FRA - 71 - 1.53

CALCULATED
DCB
CHECKED
JMB

137
285

X:\4037000\121957.15\93496\roadway\sheets\93496GP019.dgn Sheet 11/26/2018 10:26:13 AM 1473ctw



ITEM 670 - DITCH EROSION PROTECTION, WIDTH = 14.5' UNLESS NOTED
 ROCK CHANNEL PROTECTION, TYPE C w/FILTER

CALCULATED
 DCB
 CHECKED
 JMB

PLAN - I-71
 STA 86+00 TO STA 91+00

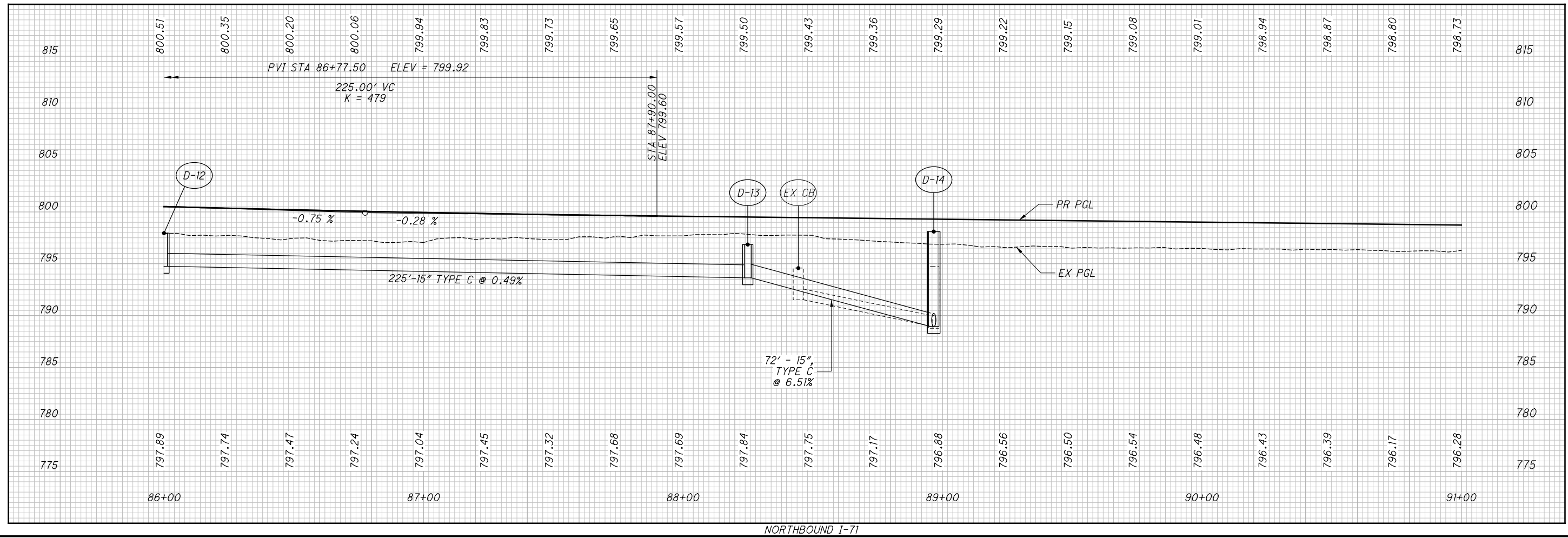
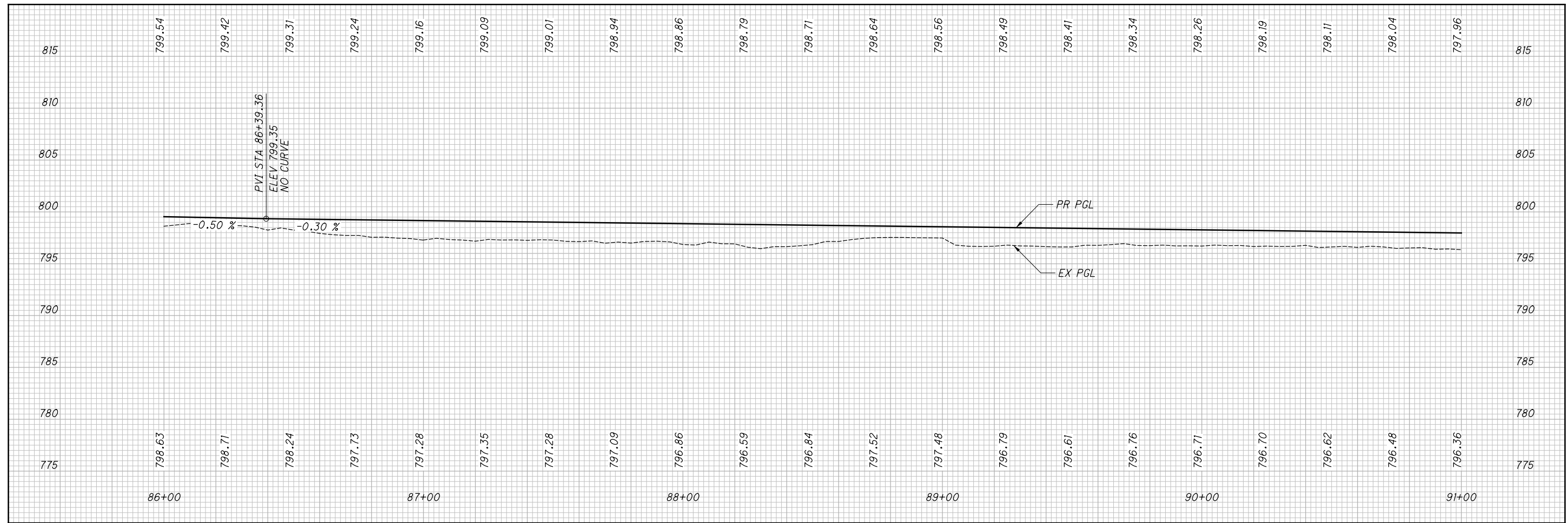
FRA-71-1.53
 138
 285

HORIZONTAL SCALE IN FEET
 0 20 40

P.I. Sta. 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $D_c = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e_{max} = 0.020$

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2-3	☉ REFERENCES AND BENCHMARKS
139	PROFILES
140	ESTIMATED QUANTITIES
183	UNDERDRAIN DETAILS

X:\4037000\121957.15\93496\roadway\sheets\93496GF019.dgn Sheet 11/19/2018 3:01:20 PM 1636dcb



CALCULATED
DCB
CHECKED
JMB

PROFILE - I-71
STA 86+00 TO STA 91+00

FRA - 71-1.53

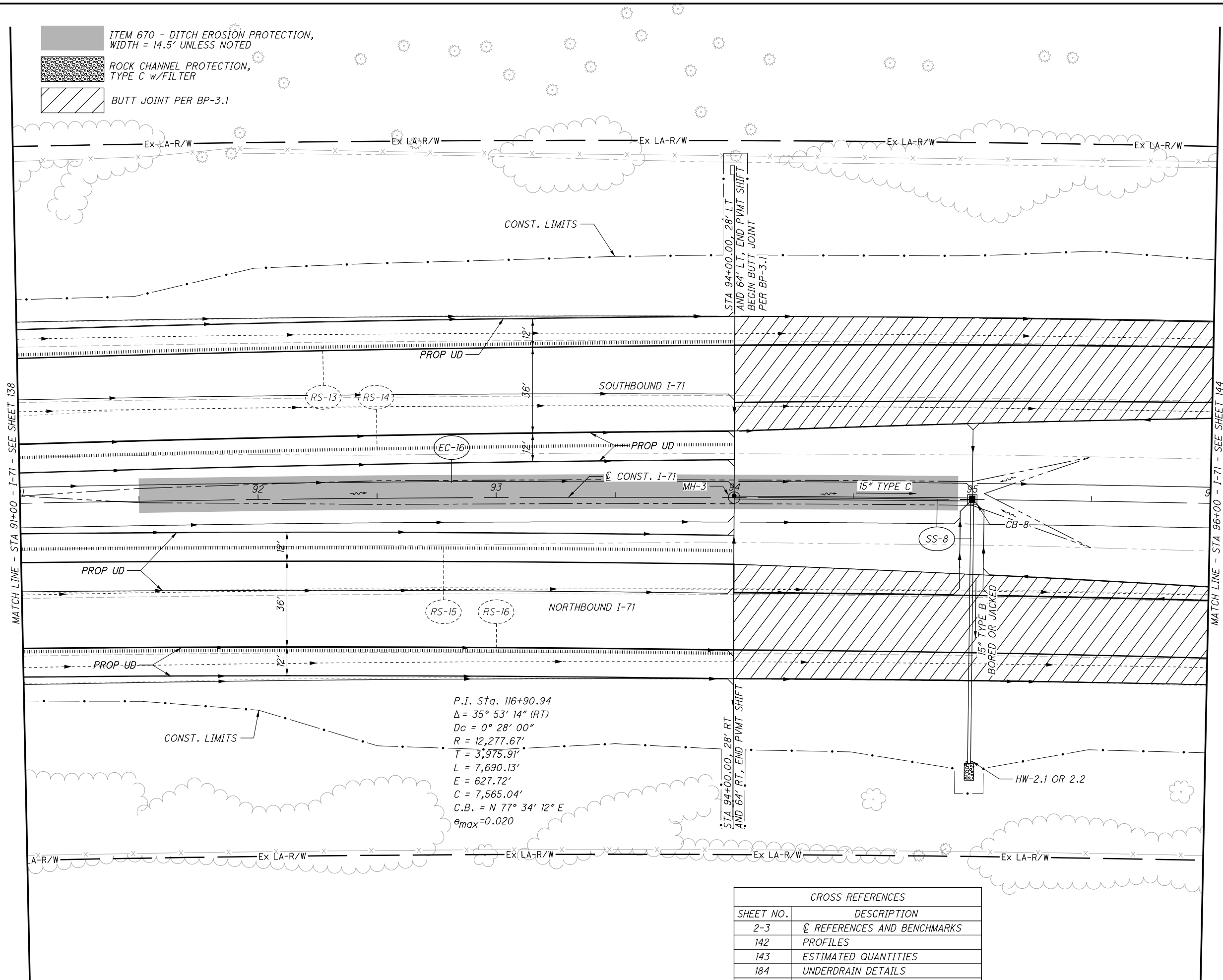
139
285

X:\4037000\121957.15\93496\roadway_sheets\93496GQ019.dgn Sheet 11/2/2018 2:47:54 PM 1636dcb

REF. NO.	SHEET NO.	STATION		SIDE	202	202					670								
		FROM	TO		PIPE REMOVED, 24" AND UNDER FT	CATCH BASIN REMOVED EACH	DITCH EROSION PROTECTION MAT SY												
R-15	138	88+45	88+97	LT/RT	150	2													
EC-15	138	86+68	88+18	CL							125								
GR-11	NOT USED																		
TOTALS CARRIED TO SHEETS 113-114					150	2					125								

ESTIMATED QUANTITIES	FRA - 71 - 1.53
<small>CALCULATED DCB CHECKED JMB</small>	<small>140 285</small>

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- ITEM 670 - DITCH EROSION PROTECTION, WIDTH = 14.5' UNLESS NOTED
- ROCK CHANNEL PROTECTION, TYPE C w/FILTER
- BUTT JOINT PER BP-3.1

N

0 20 40
HORIZONTAL SCALE IN FEET

CALCULATED
DCB
CHECKED
JMB

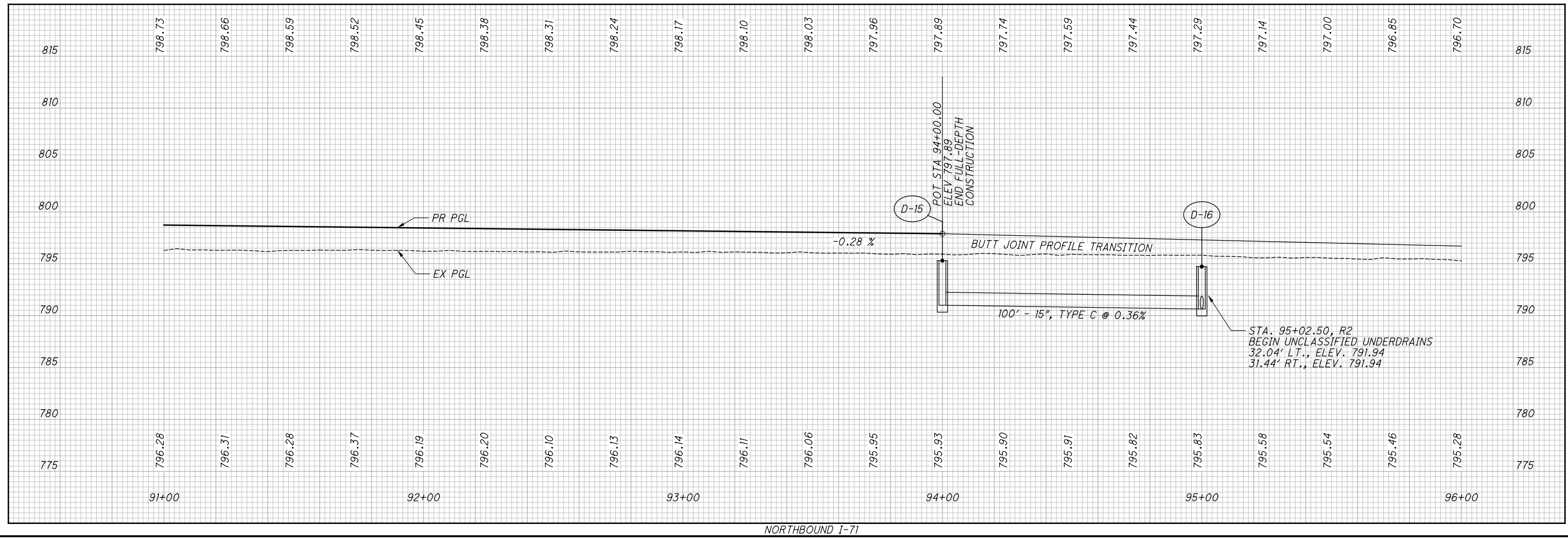
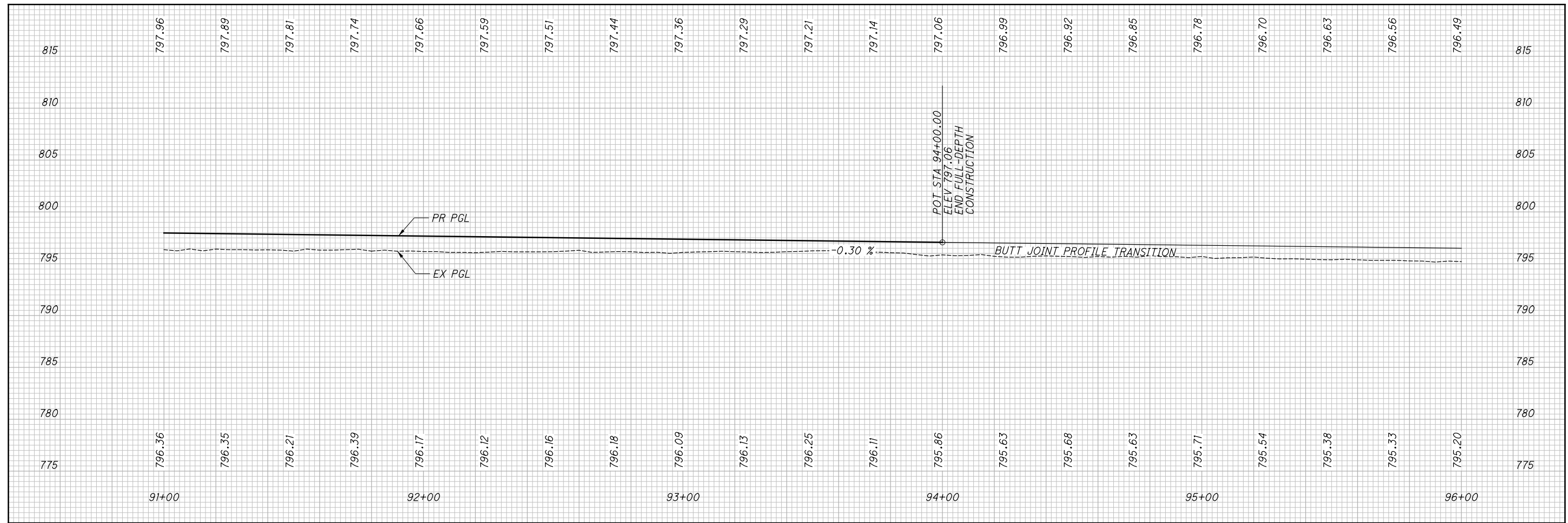
PLAN - I-71
STA 91+00 TO STA 96+00

FRA-71-1.53

141
285

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2-3	☉ REFERENCES AND BENCHMARKS
142	PROFILES
143	ESTIMATED QUANTITIES
184	UNDERDRAIN DETAILS

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CALCULATED
DCB
CHECKED
JMB

**PROFILE - I-71
STA 91+00 TO STA 96+00**

FRA-71-1.53

X:\4037000\121957.15\93496\roadway\sheets\93496G020.dgn Sheet 11/19/2018 3:01:21 PM 1636dcb

REF. NO.	SHEET NO.	STATION		SIDE	601	602	611	611	611	611	670							
		FROM	TO		ROCK CHANNEL PROTECTION, TYPE C W/FILTER CY	CONCRETE MASONRY CY	15" CONDUIT, TYPE C FT	CONDUIT BORED OR JACKED, 15", TYPE B FT	CATCH BASIN, NO. 8 EACH	MANHOLE No. 3 EACH	DITCH EROSION PROTECTION SY							
EC-16	141	91+50	94+93	CL							553							
SS-8	141	94+00	95+00	CL/RT	1.33	0.27	100	111	1	1								
TOTALS CARRIED TO SHEETS 113-114					1.33	0.27	100	111	1	1	553							

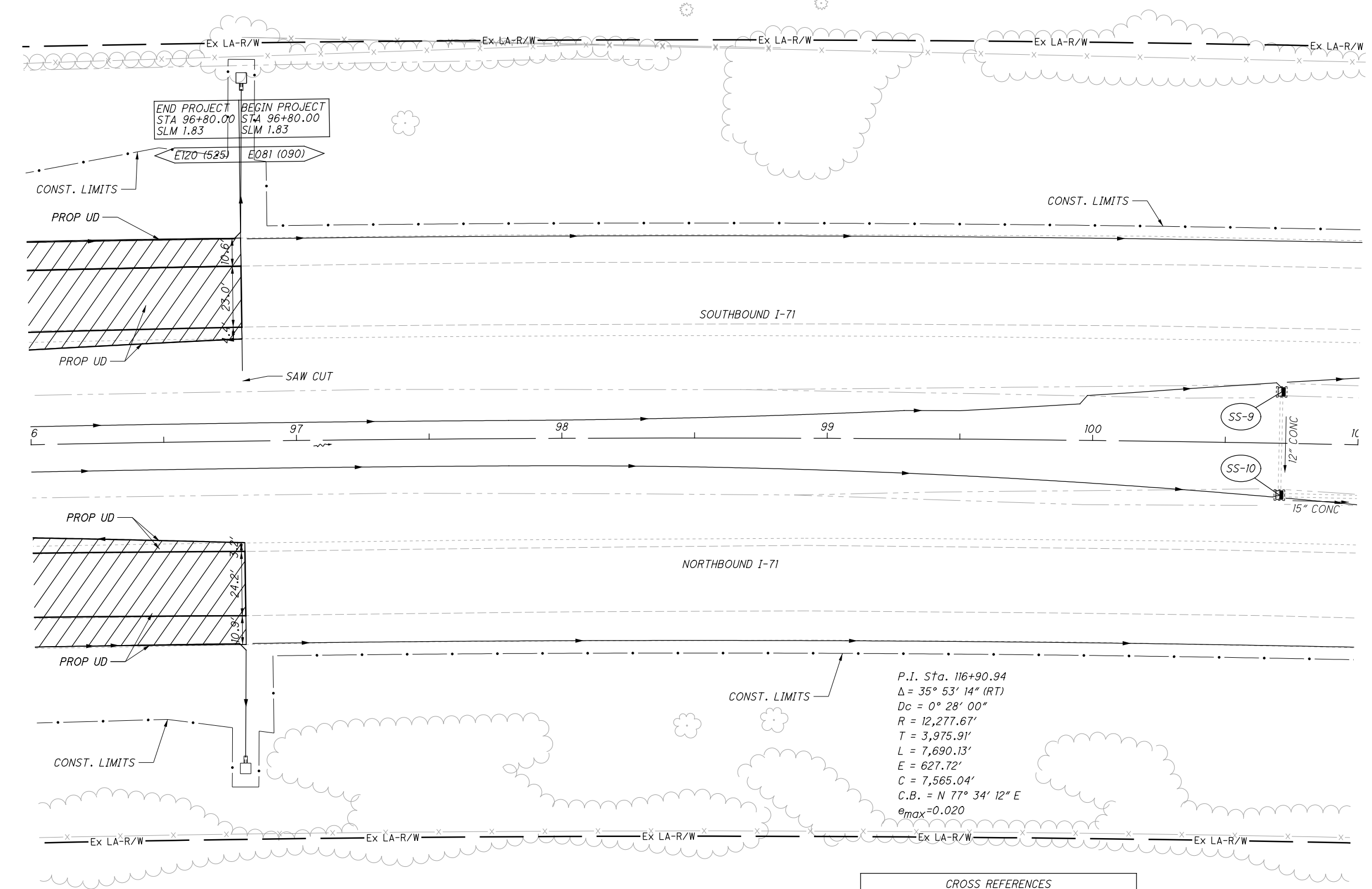
ESTIMATED QUANTITIES	FRA -71-1.53						
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CALCULATED	DCB						
CHECKED	JMB						
143							
285							

ITEM 670 - DITCH EROSION PROTECTION,
WIDTH = 14.5' UNLESS NOTED

BUTT JOINT PER BP-3.1

CALCULATED
DCB
CHECKED
JMB

0 20 40
10
HORIZONTAL
SCALE IN FEET



P.I. Sta. 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $D_c = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e_{max} = 0.020$

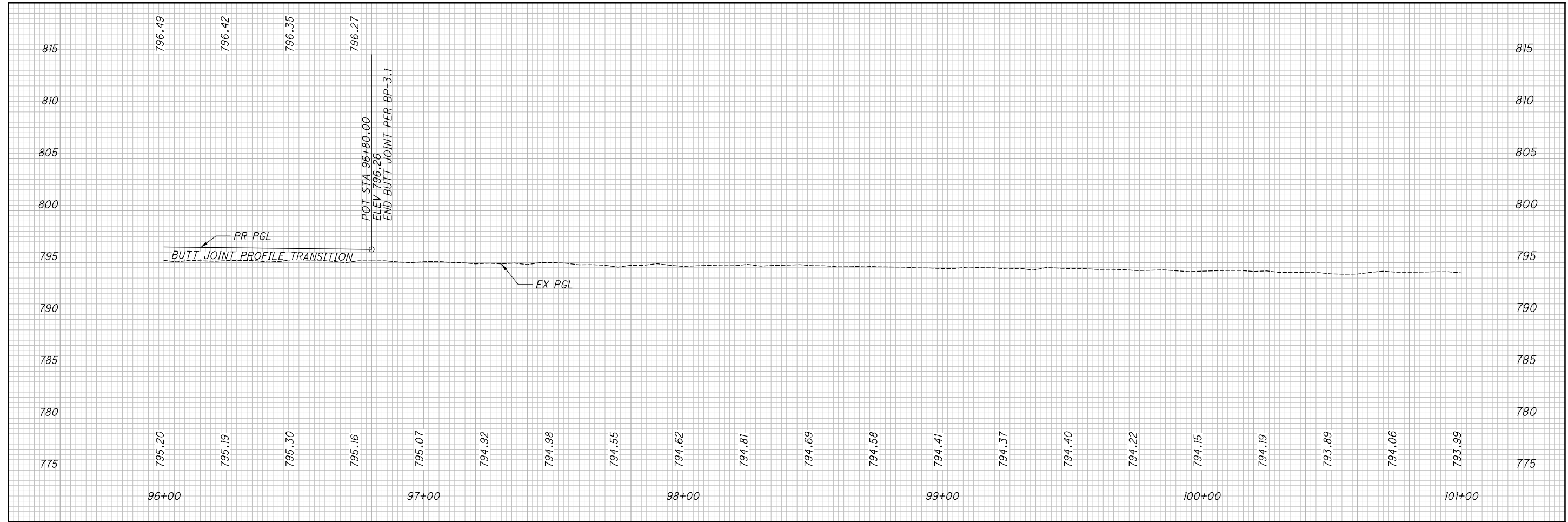
CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2-3	☉ REFERENCES AND BENCHMARKS
145	PROFILES
146	ESTIMATED QUANTITIES
185	UNDERDRAIN DETAILS

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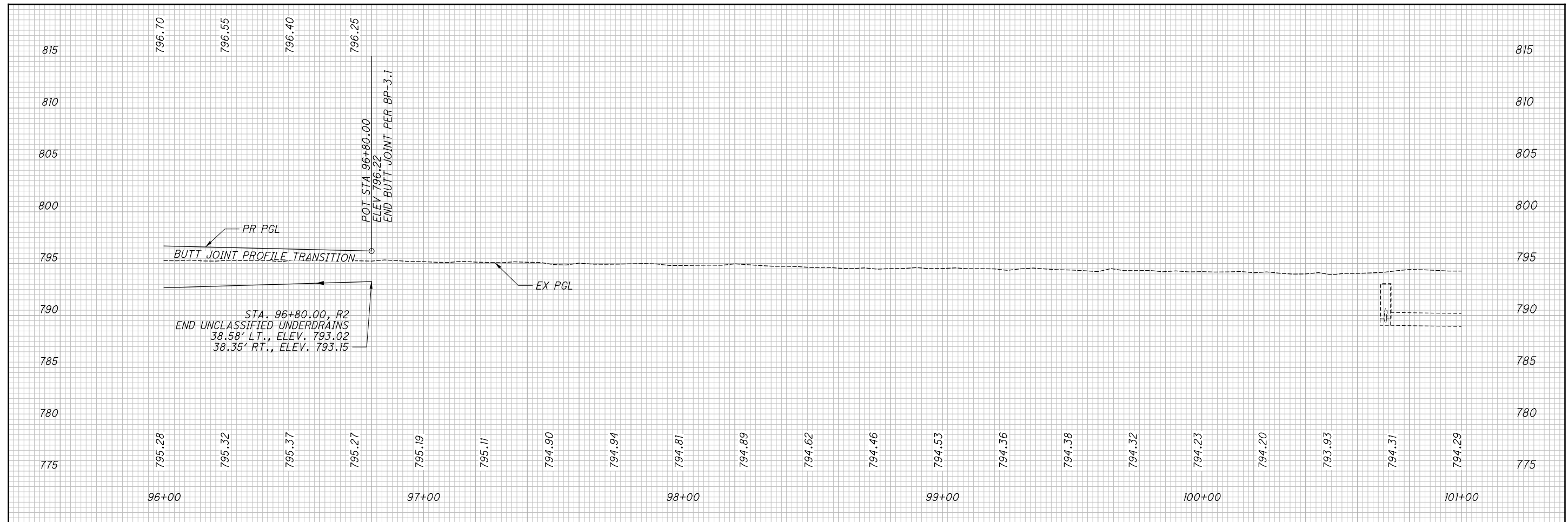
PLAN - I-71
 STA 96+00 TO STA 101+00

FRA-71-1.53

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SOUTHBOUND I-71



NORTHBOUND I-71

CALCULATED
DCB
CHECKED
JMB

PROFILE - I-71
STA 96+00 TO STA 101+00

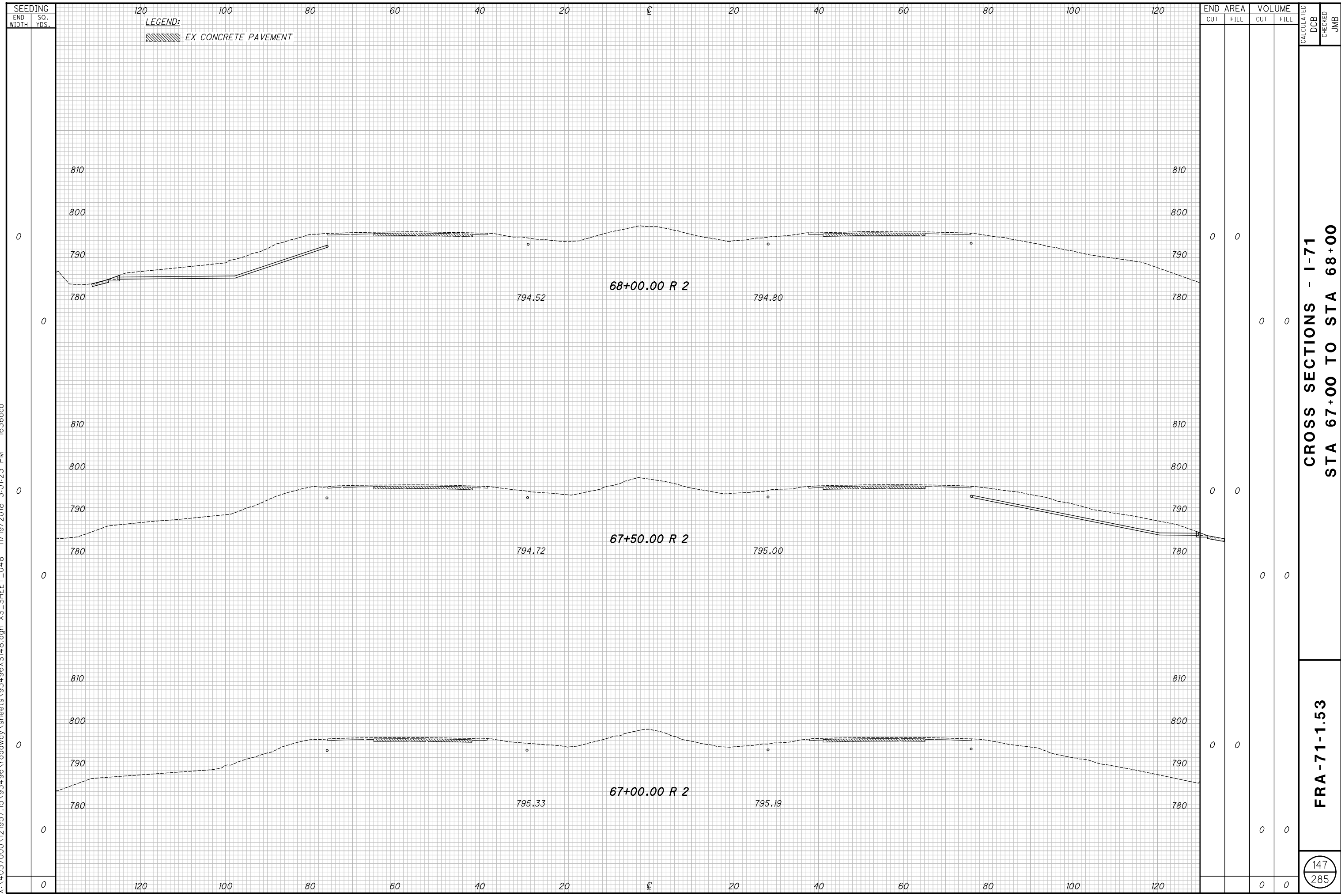
FRA - 71-1.53

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REF. NO.	SHEET NO.	STATION		SIDE	611															
		FROM	TO		CATCH BASIN RECONSTRUCTED TO GRADE	EACH														
SS-9	144	100+71		LT	1															
SS-10	144	100+71		RT	1															
SS-11	186	102+70		LT	1															
SS12	186	102+70		RT	1															
TOTALS CARRIED TO SHEETS 113-114					4															

ESTIMATED QUANTITIES	CALCULATED
	DCB CHECKED JMB
FRA - 71 - 1.53	146 285

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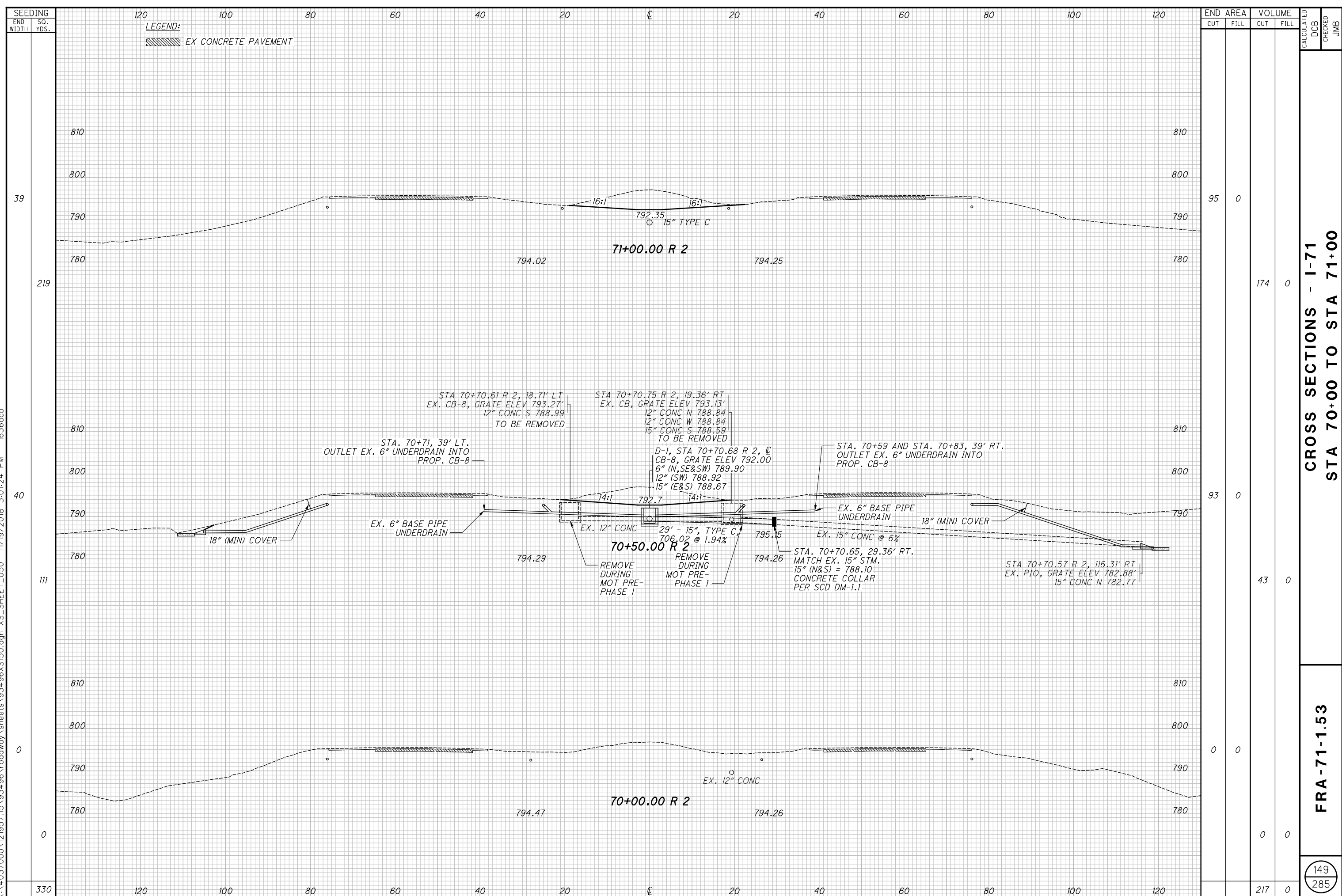


**CROSS SECTIONS - I-71
STA 67+00 TO STA 68+00**

FRA-71-1.53

147
285

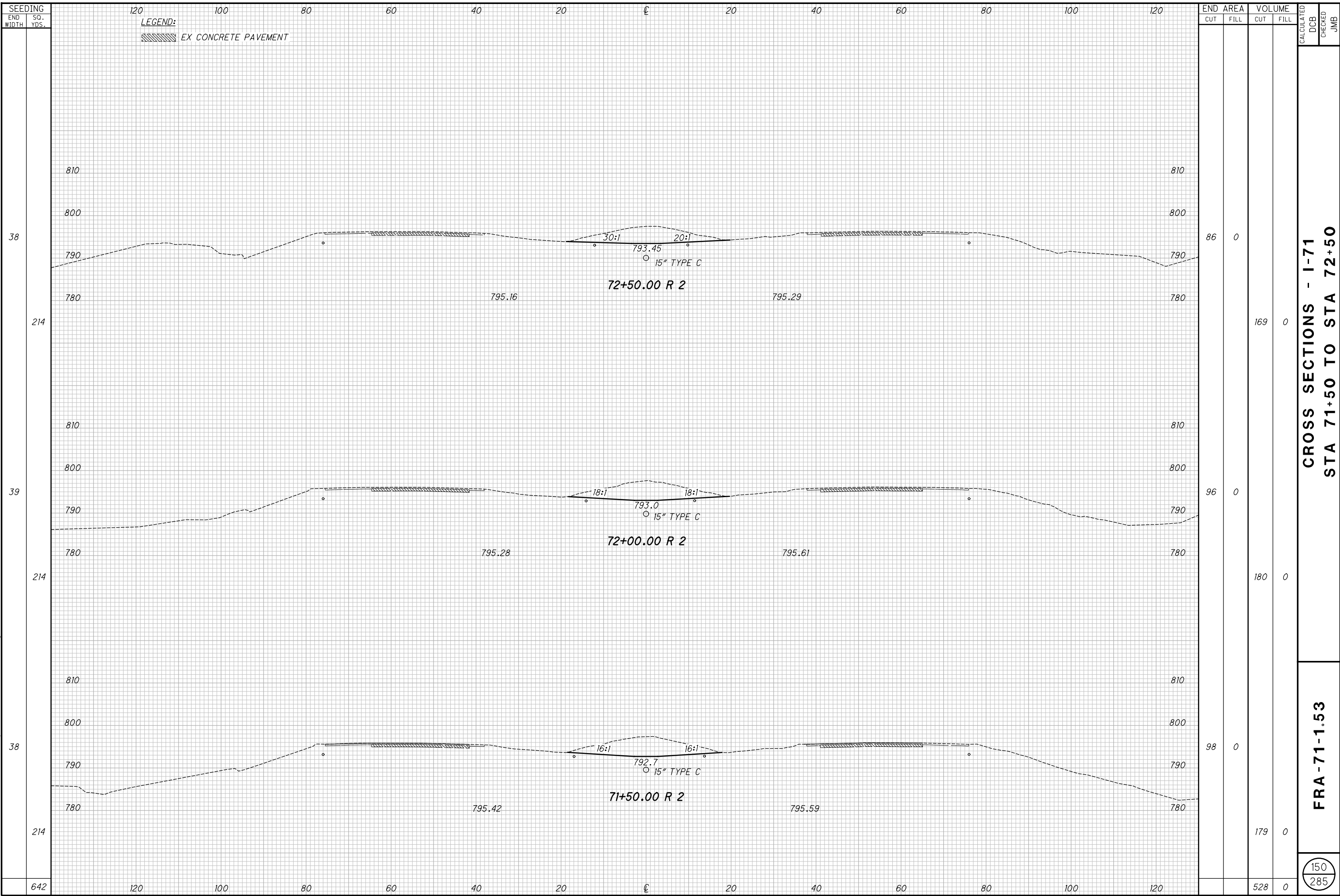
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SEEDING	END WIDTH	SO. YDS.
	39	219
	40	111
	0	0
	0	0
	330	0

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	DCB	CHECKED
95	0	174	0		
93	0	43	0		
0	0	0	0		
0	0	0	0		
		217	0		

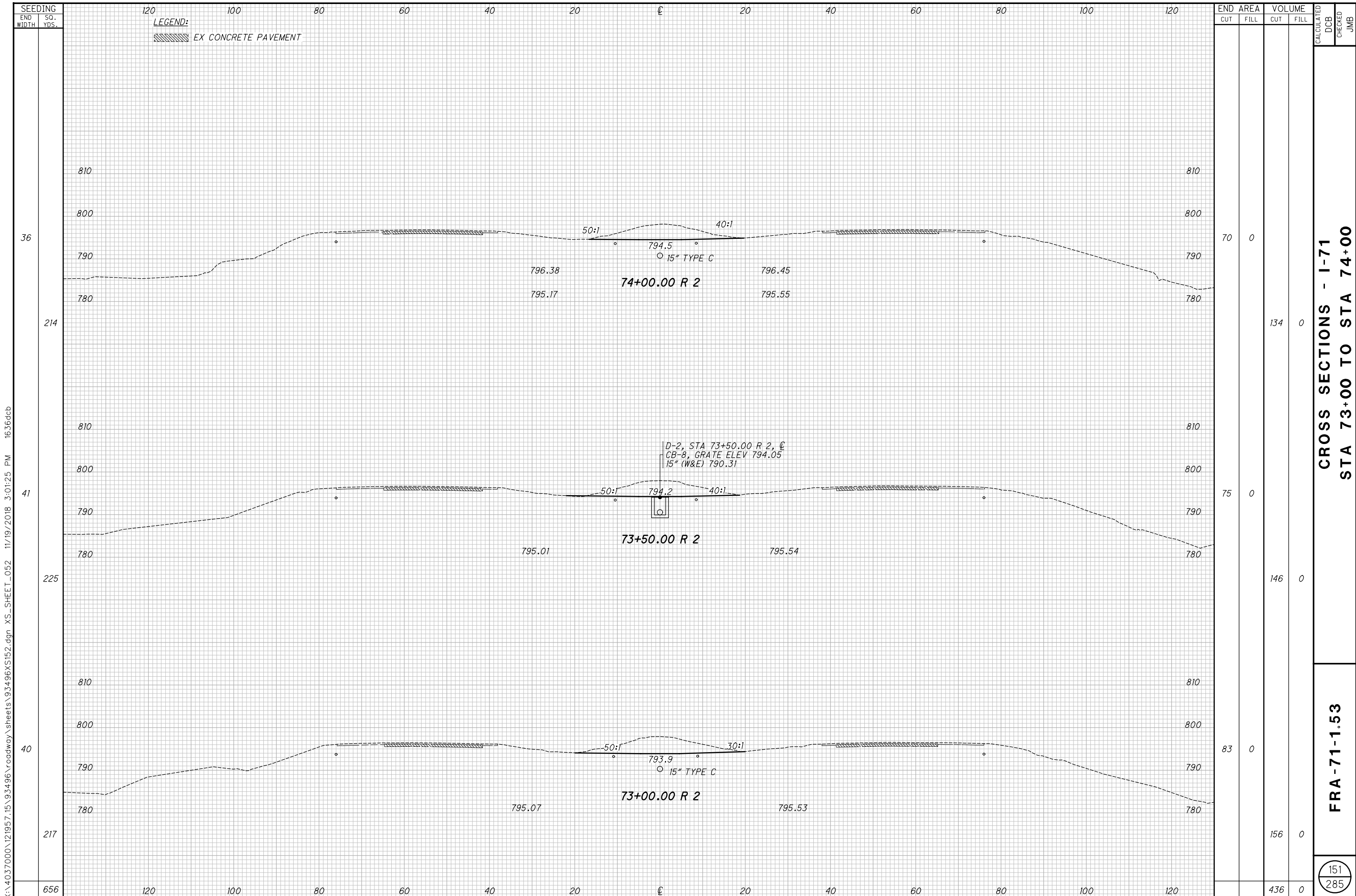
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CROSS SECTIONS - I-71
STA 71+50 TO STA 72+50

FRA-71-1.53

150
285

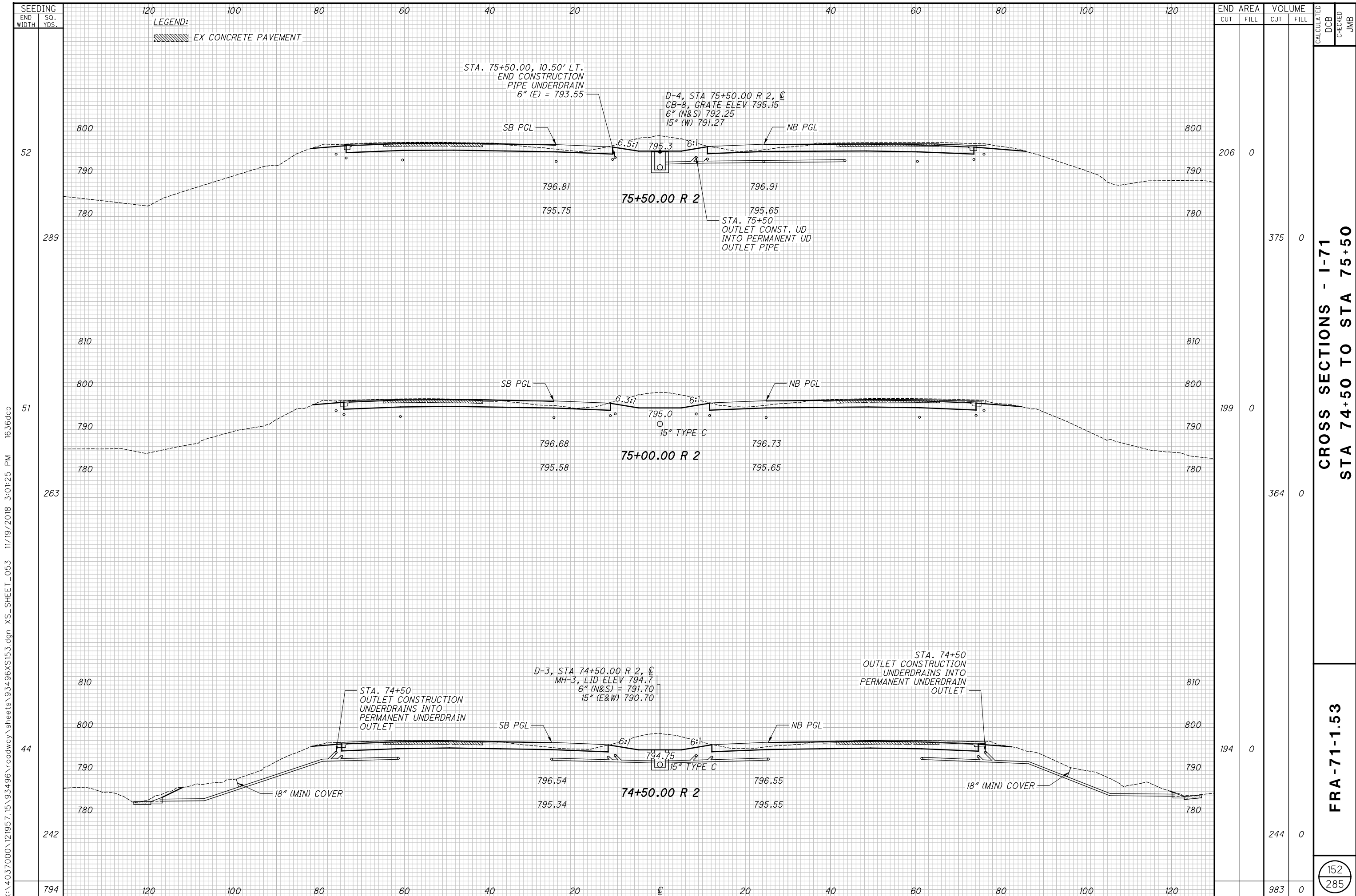


**CROSS SECTIONS - I-71
STA 73+00 TO STA 74+00**

FRA-71-1.53

151
285

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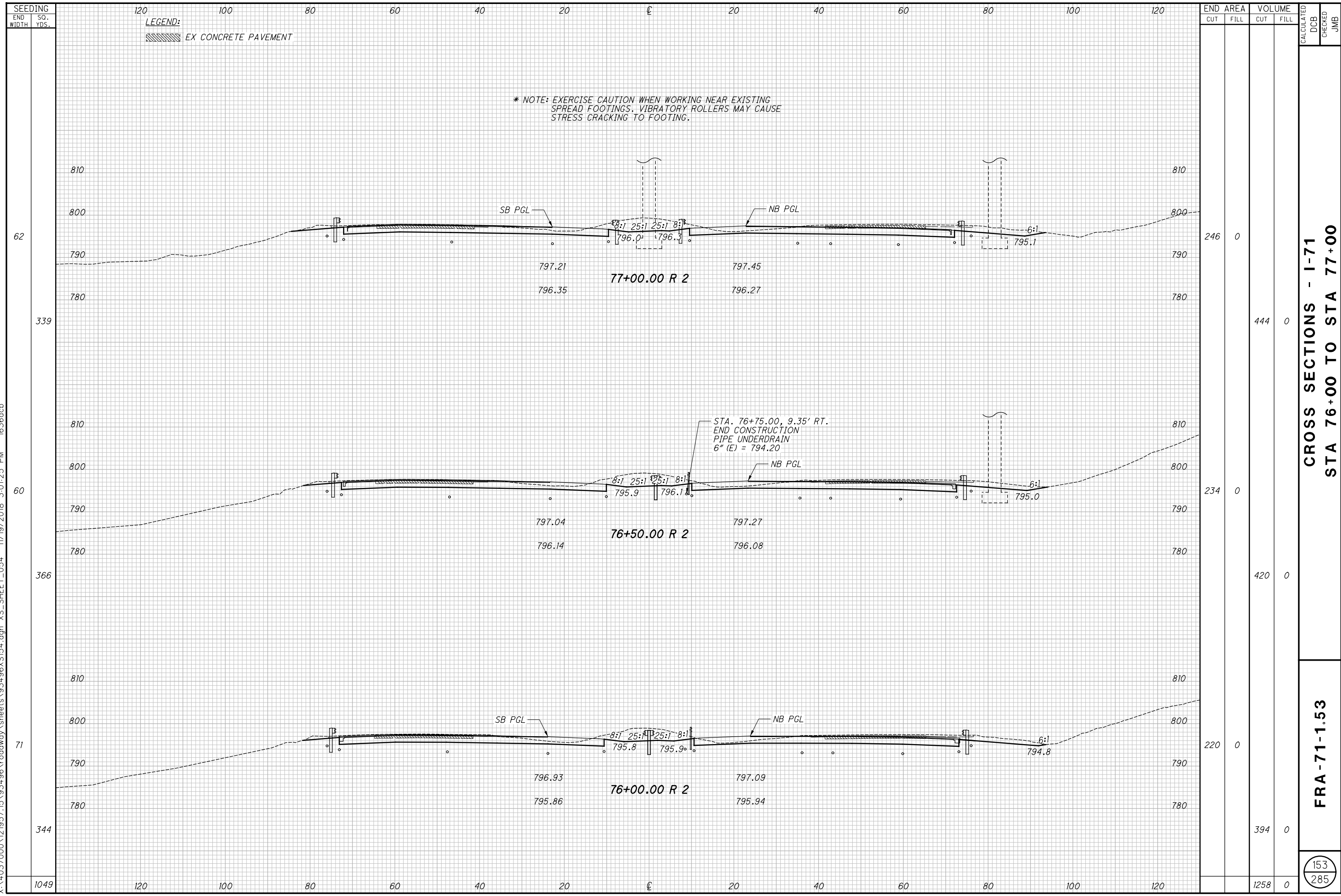
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**CROSS SECTIONS - I-71
STA 74+50 TO STA 75+50**

FRA-71-1.53

152
285

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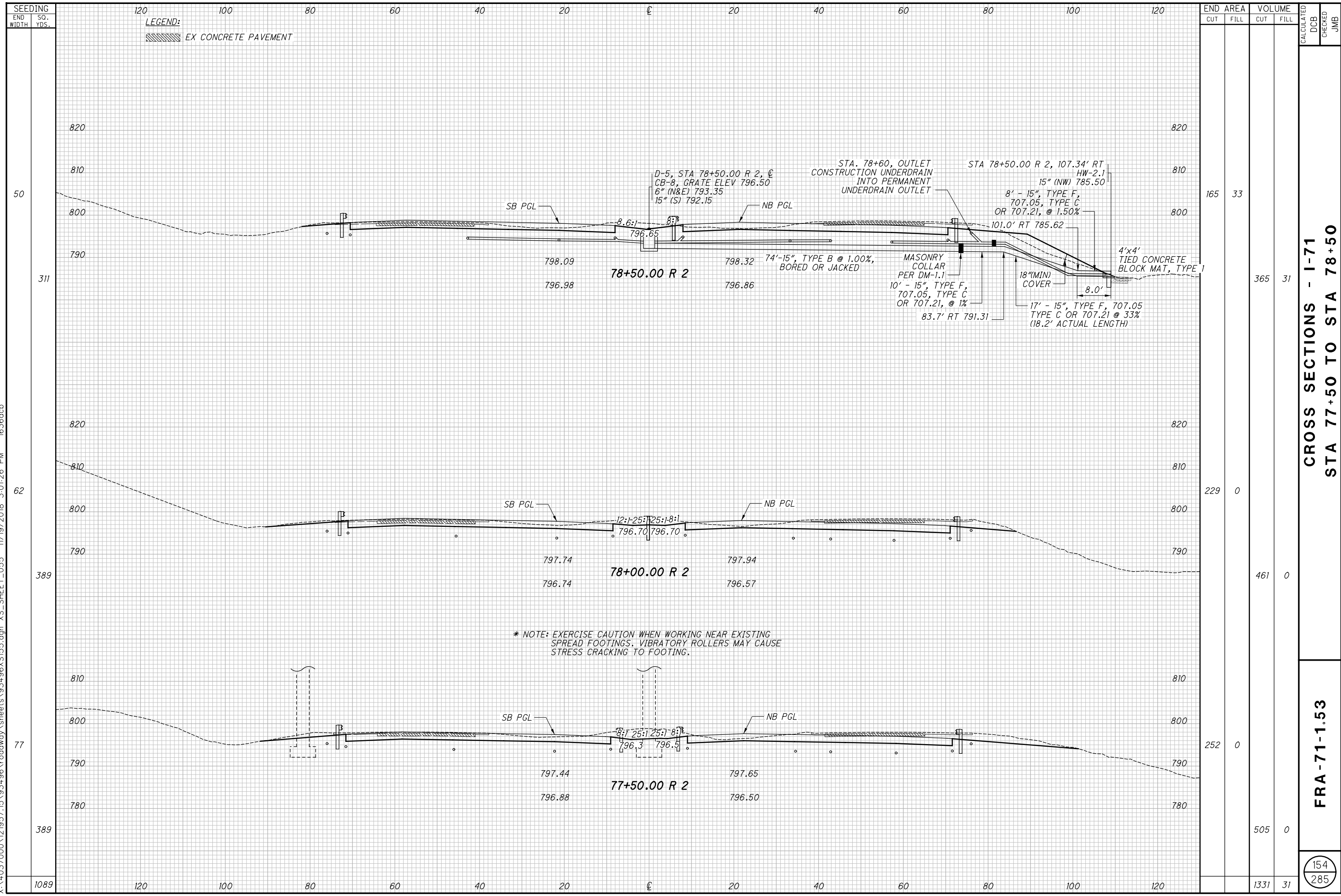


**CROSS SECTIONS - I-71
STA 76+00 TO STA 77+00**

FRA-71-1.53

153
285

X:\4037000\121957.15\93496\roadway_sheets\93496XS155.dgn XS_SHEET_055 11/19/2018 3:01:26 PM 1636dcb



SEEDING
END WIDTH SO. YDS.

LEGEND:
EX CONCRETE PAVEMENT

END AREA	VOLUME	CALCULATED	DCB	CHECKED	JMB
165	33				
229	0				
461	0				
252	0				
505	0				
1331	31				

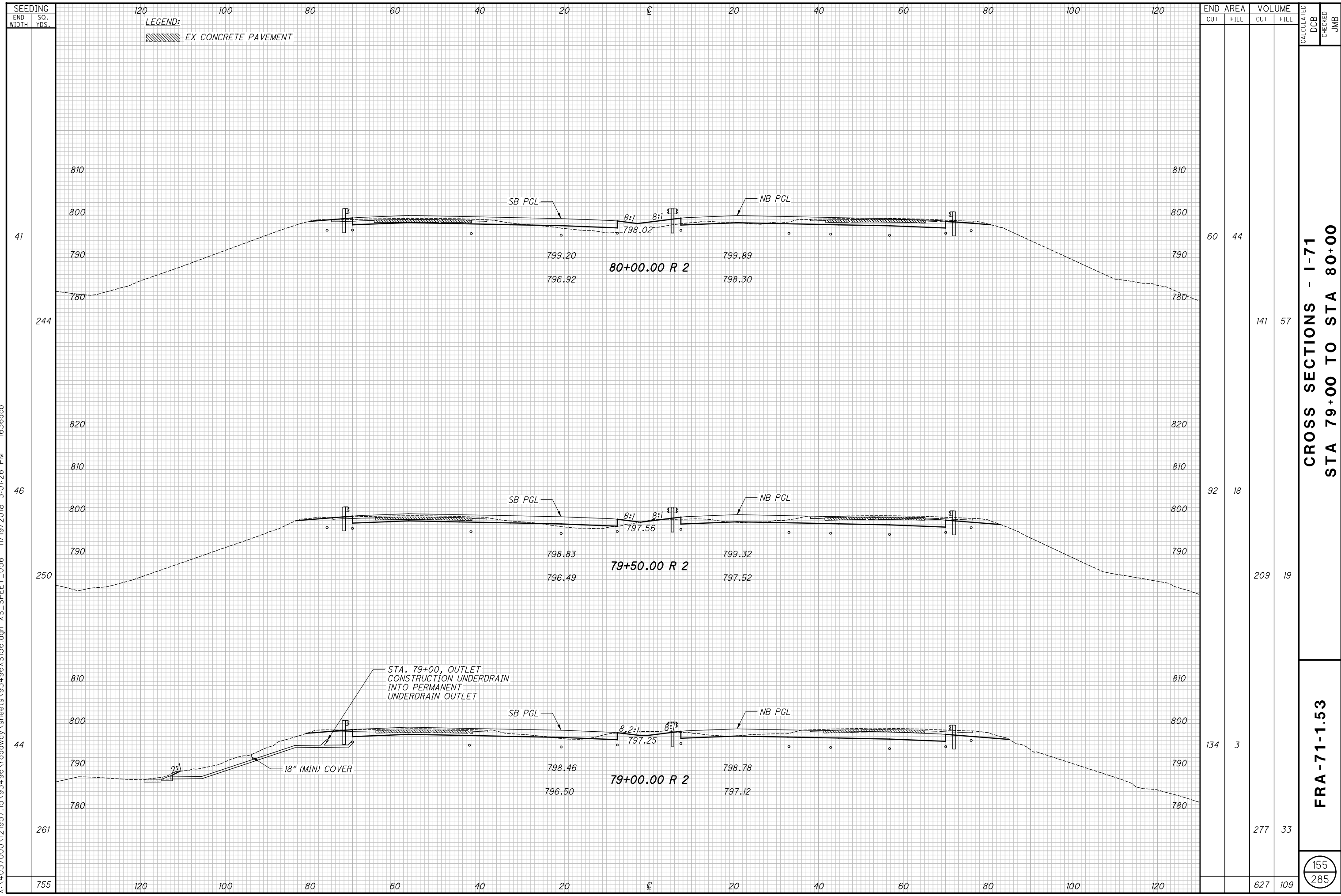
CROSS SECTIONS - I-71
STA 77+50 TO STA 78+50

FRA-71-1.53

154
285

* NOTE: EXERCISE CAUTION WHEN WORKING NEAR EXISTING SPREAD FOOTINGS. VIBRATORY ROLLERS MAY CAUSE STRESS CRACKING TO FOOTING.

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SEEDING	
END WIDTH	SO. YDS.
41	244
46	250
44	261
755	

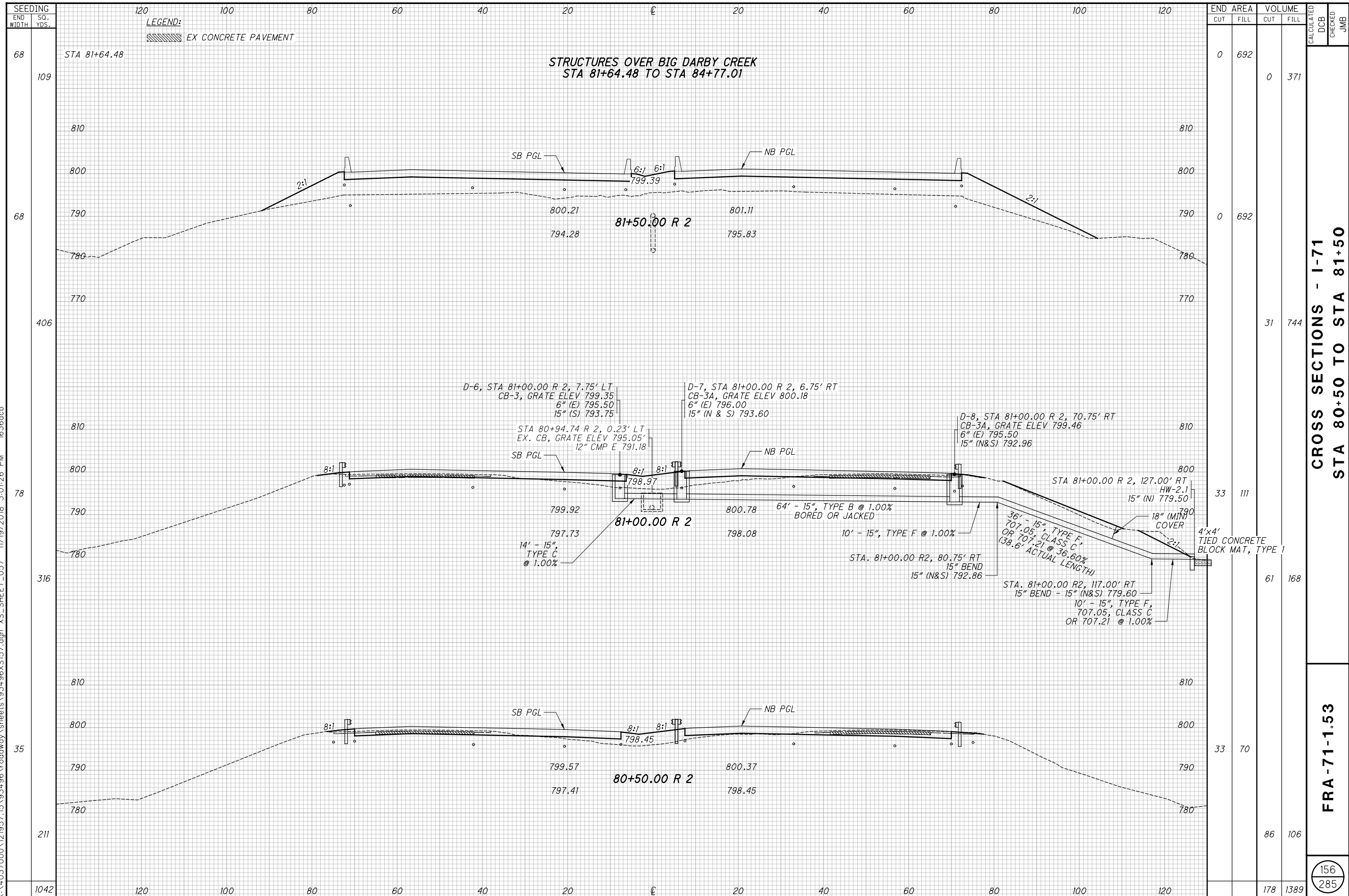
END AREA		VOLUME		CALCULATED	DCB	CHECKED	JMB
CUT	FILL	CUT	FILL				
60	44	141	57				
92	18	209	19				
134	3	277	33				
		627	109				

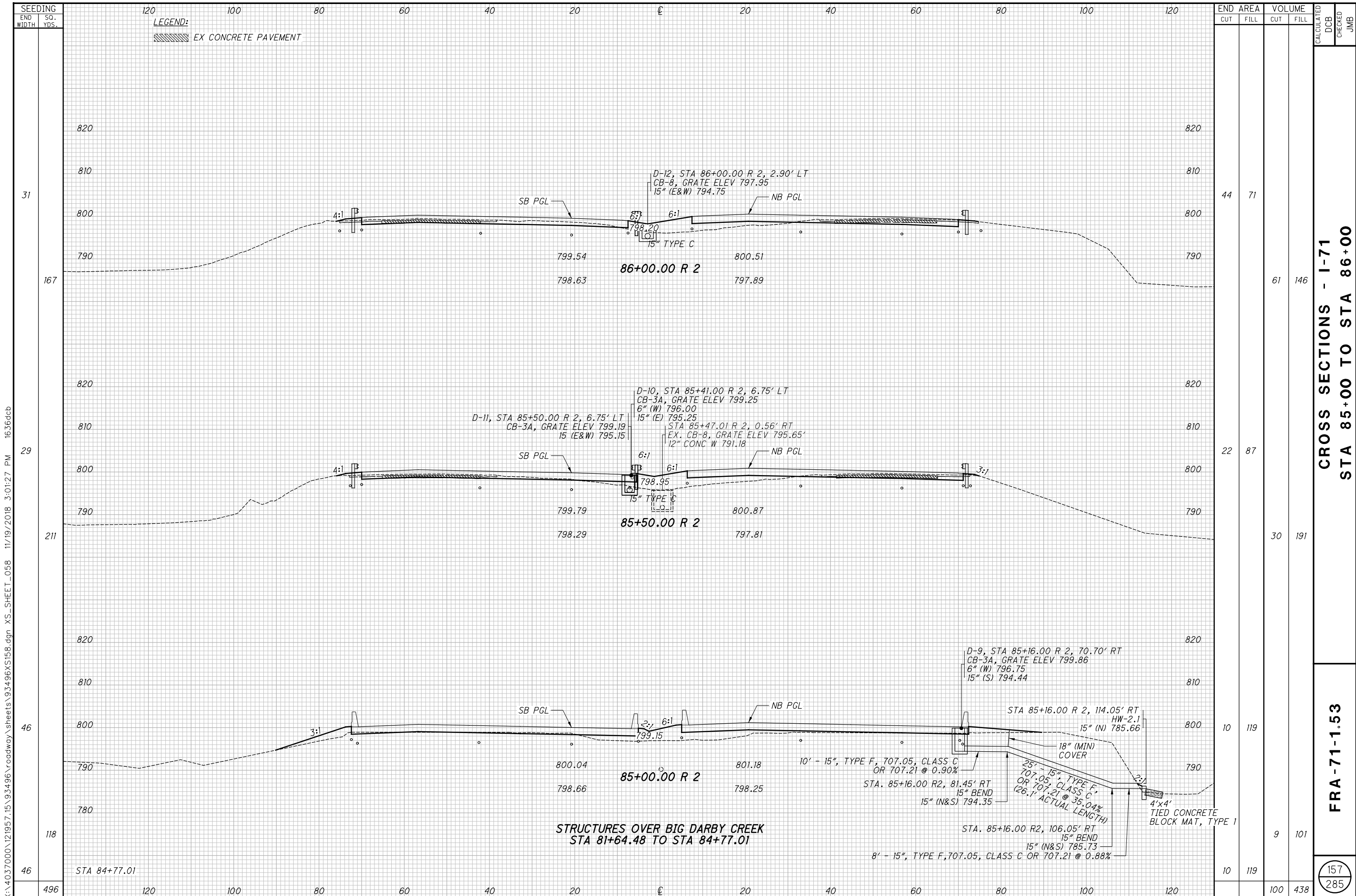
CROSS SECTIONS - I-71
STA 79+00 TO STA 80+00

FRA-71-1.53

155
285

X:\4037000\121957.15\93496\roadway_sheets\93496XS157.dgn XS_SHEET_057 11/19/2018 3:01:26 PM 1636dcb





END AREA	VOLUME	CALCULATED	DCB	CHECKED	JMB
44	71				
61	146				
22	87				
30	191				
10	119				
9	101				
10	119				
100	438				

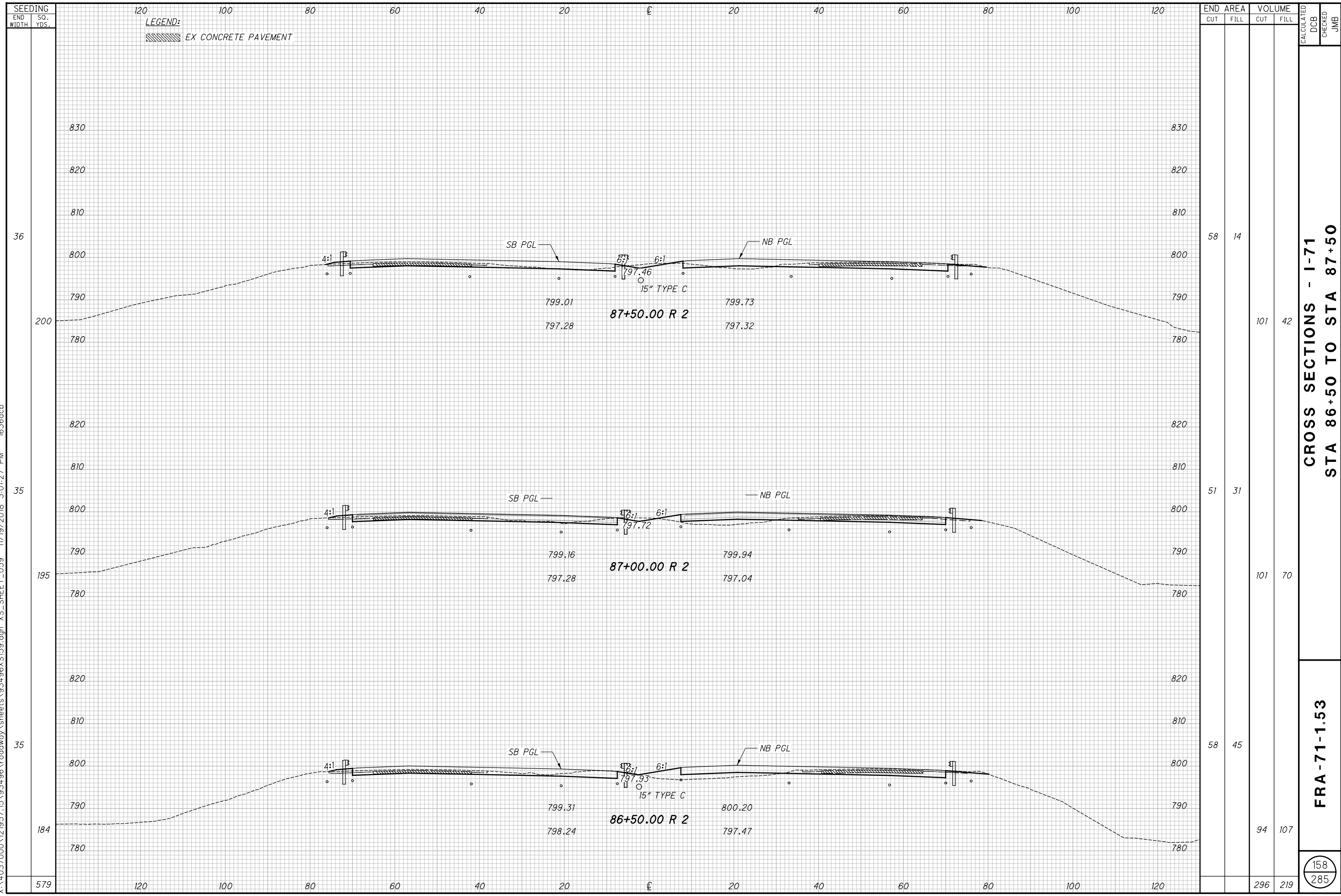
**CROSS SECTIONS - I-71
 STA 85+00 TO STA 86+00**

FRA-71-1.53

157
 285

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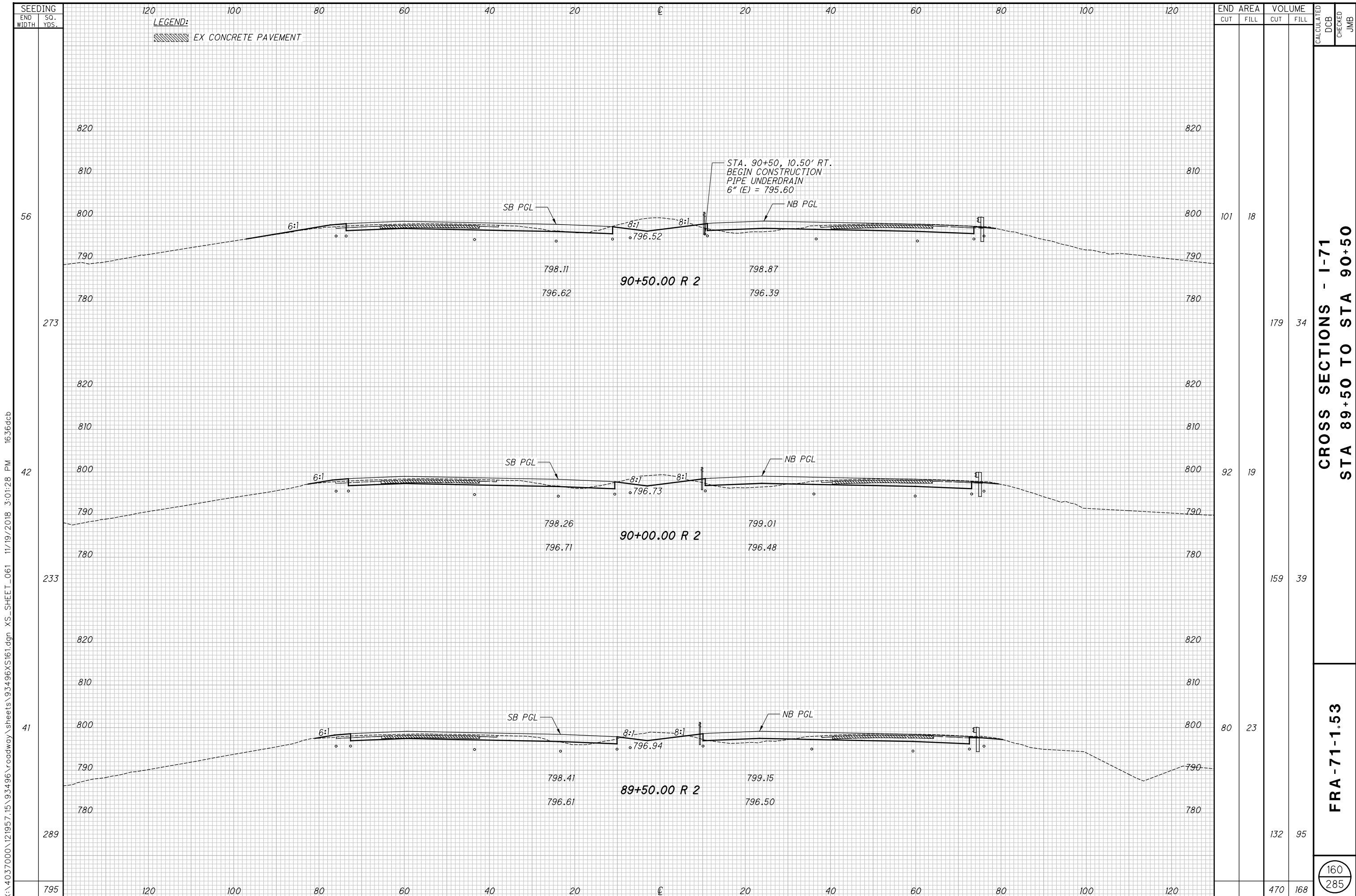
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**CROSS SECTIONS - I-71
 STA 86+50 TO STA 87+50**

FRA-71-1.53

158
285



LEGEND:
 EX CONCRETE PAVEMENT

SEEDING	
END WIDTH	SO. YDS.
56	
273	
42	
233	
41	
289	
795	

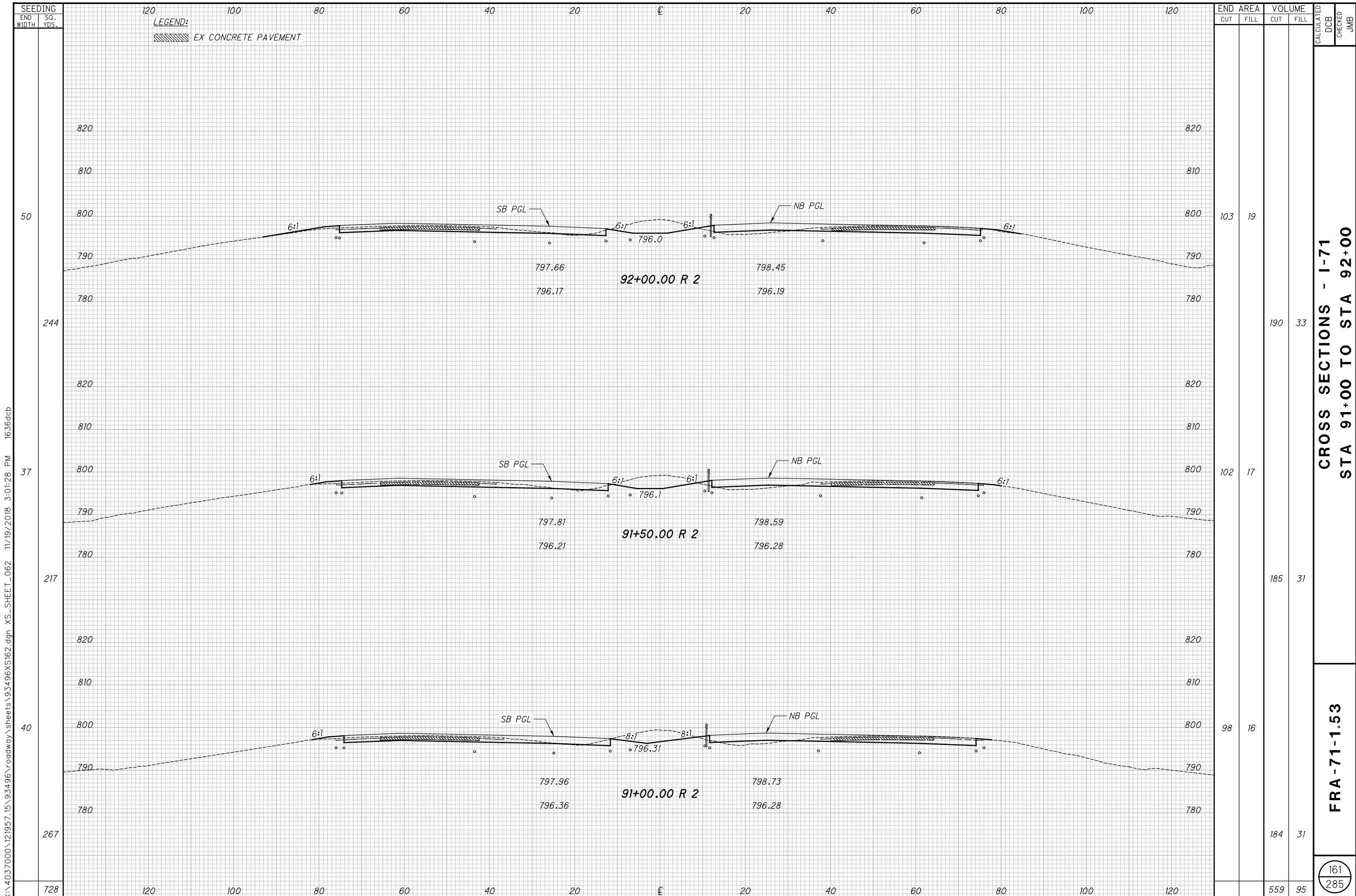
END AREA		VOLUME		CALCULATED DCB	CHECKED JMB
CUT	FILL	CUT	FILL		
101	18	179	34		
92	19	159	39		
80	23	132	95		
		470	168		

CROSS SECTIONS - I-71
 STA 89+50 TO STA 90+50

FRA-71-1.53

160
285

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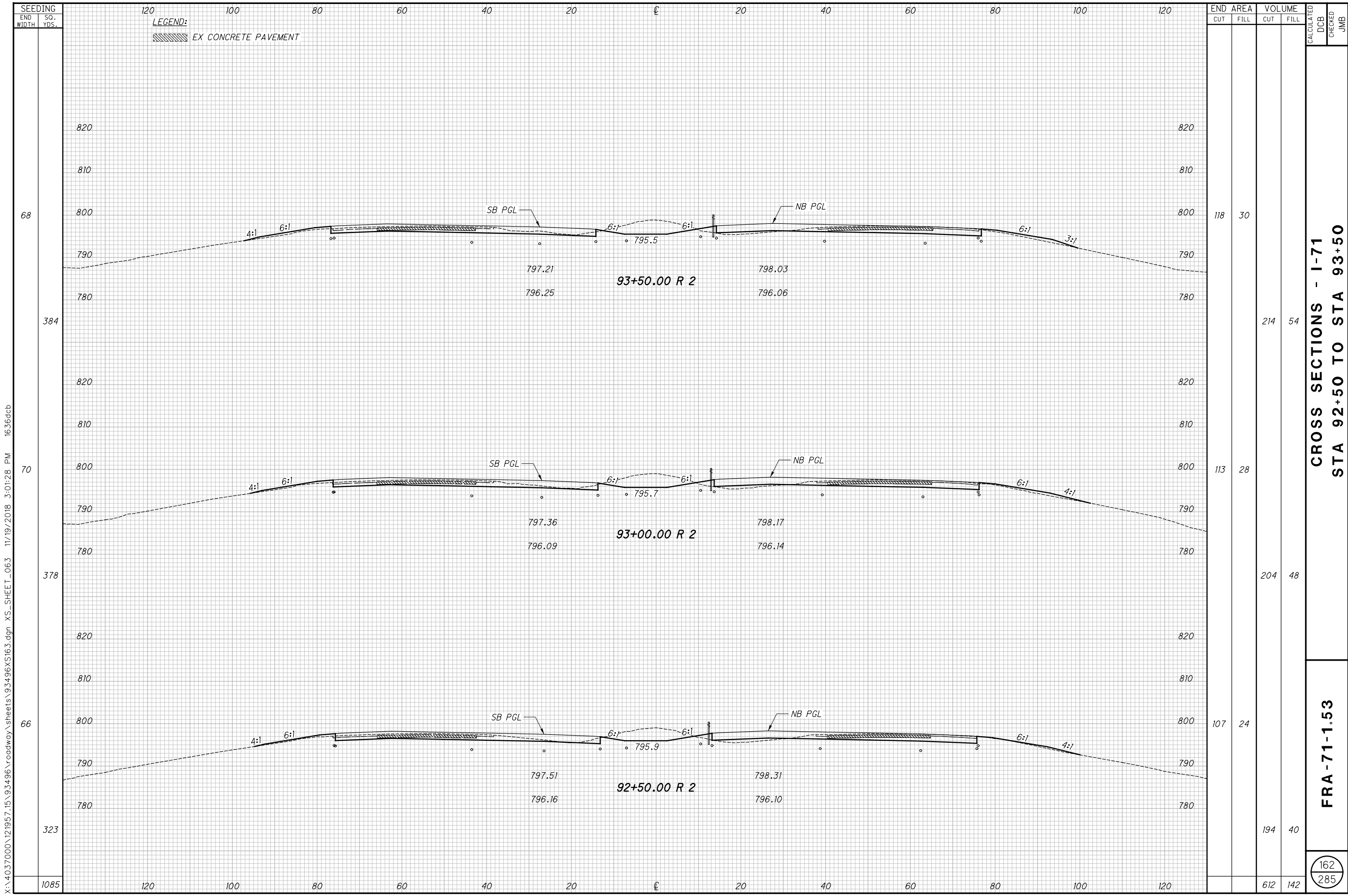


CROSS SECTIONS - I-71
STA 91+00 TO STA 92+00

FRA-71-1.53

161
285

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X:\4037000\121957.15\93496\roadway_sheets\93496XS163.dgn XS_SHEET_063 11/19/2018 3:01:28 PM 1636dcb

SEEDING
END SO.
WIDTH YDS.
120 100 80 60 40 20 0 20 40 60 80 100 120

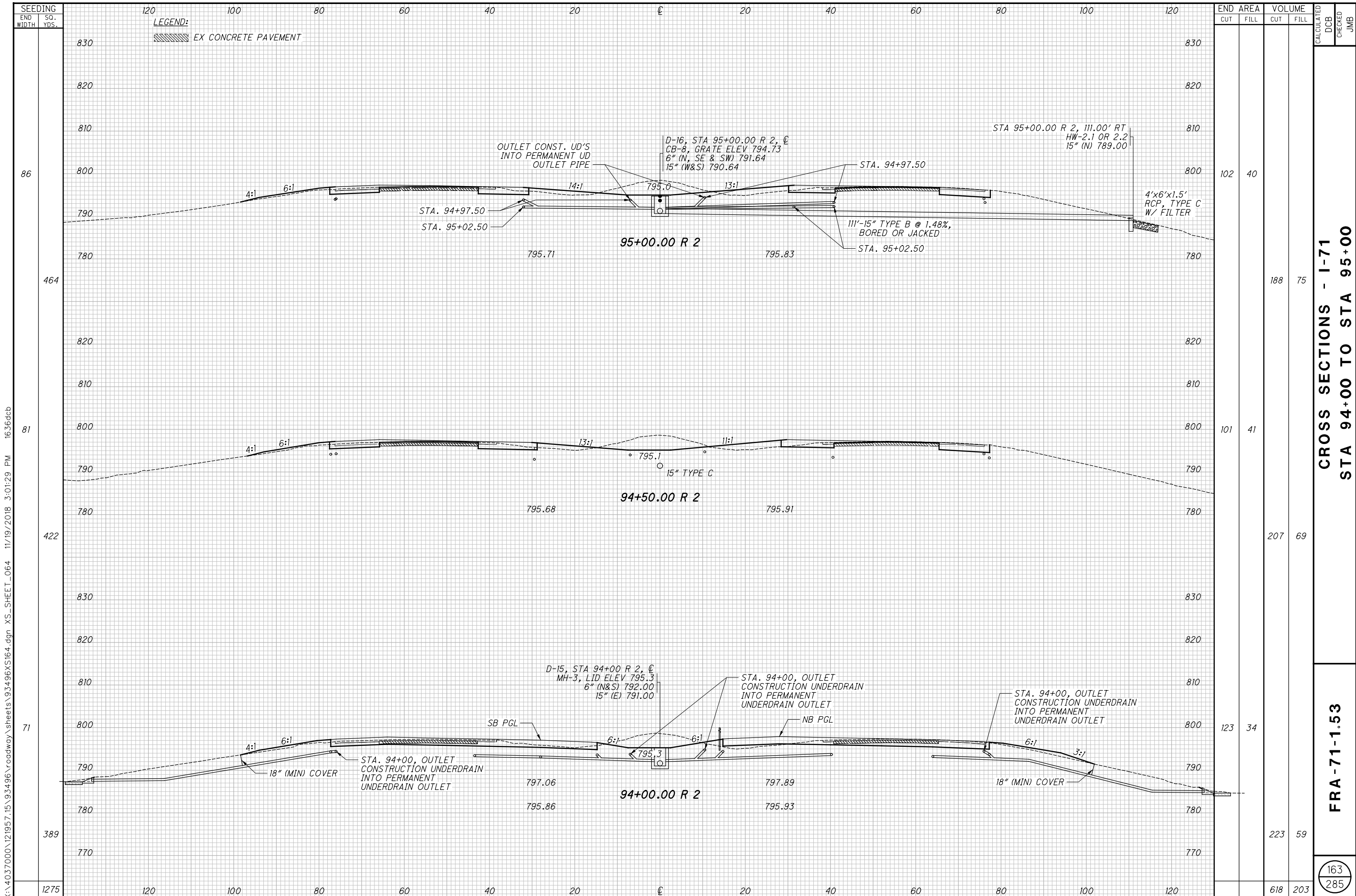
LEGEND:
EX CONCRETE PAVEMENT

END AREA	VOLUME	CALCULATED	DCB	CHECKED	JMB
118	30				
113	28				
107	24				
	194				
	40				
	612				
	142				

**CROSS SECTIONS - I-71
STA 92+50 TO STA 93+50**

FRA-71-1.53

162
285



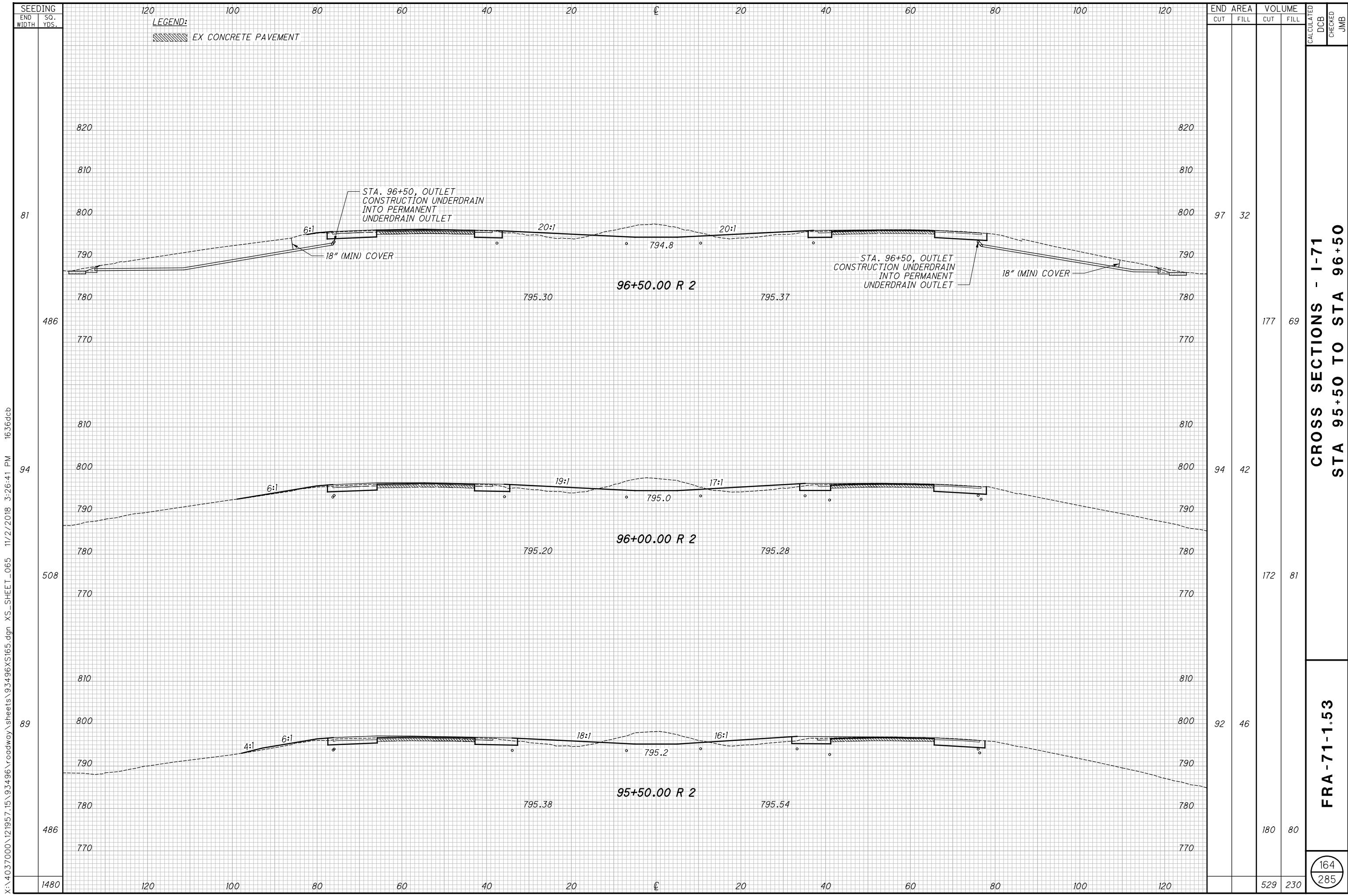
X:\4037000\121957.15\93496\roadway_sheets\93496XS164.dgn XS_SHEET_064 11/19/2018 3:01:29 PM 1636dcb

SEEDING END WIDTH	SO. YDS.	END AREA		VOLUME		CALCULATED DCB	CHECKED JMB
		CUT	FILL	CUT	FILL		
86				102	40		
464					188	75	
81				101	41		
422					207	69	
71				123	34		
389					223	59	
1275					618	203	

**CROSS SECTIONS - I-71
 STA 94+00 TO STA 95+00**

FRA-71-1.53

163
 285

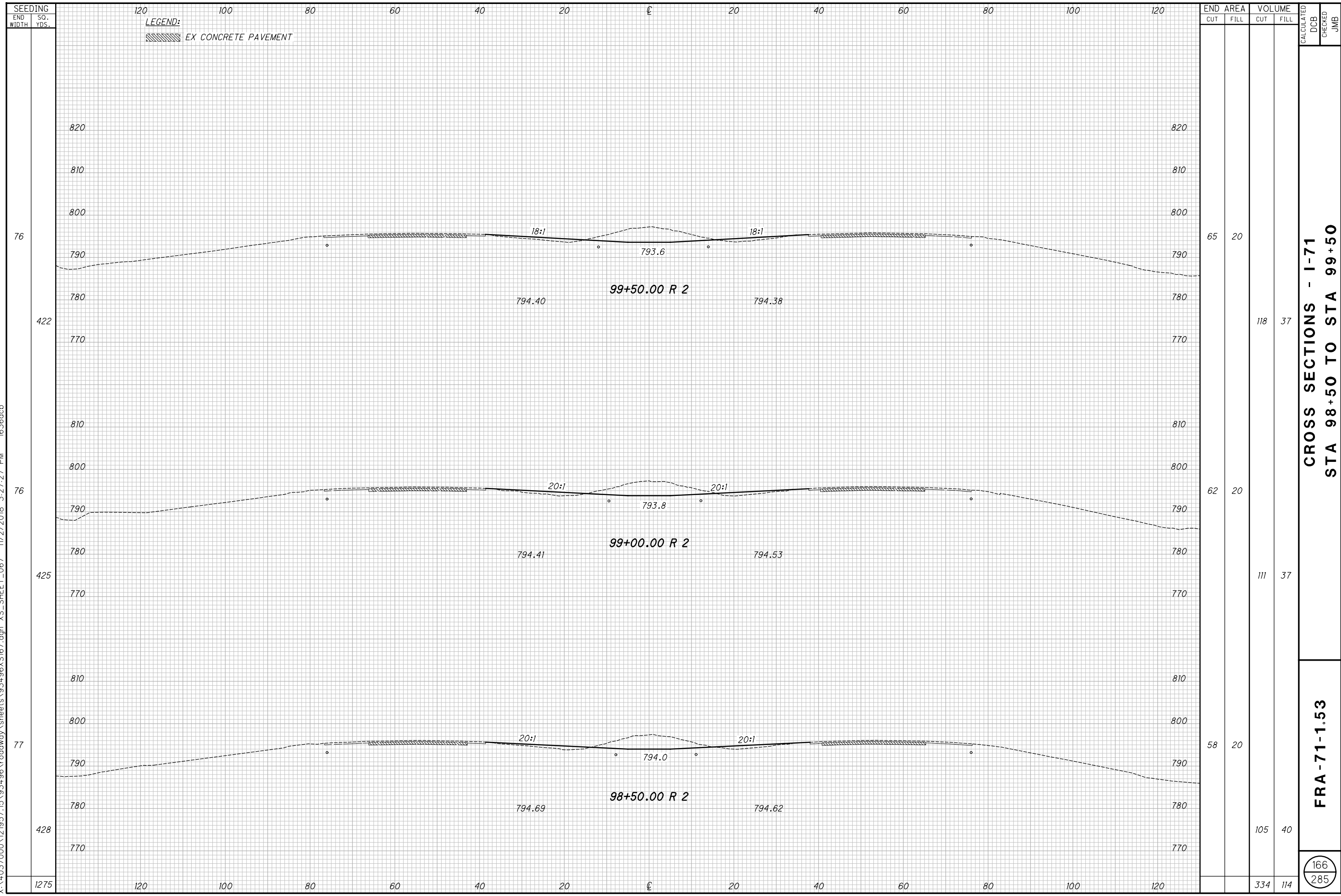


X:\4037000\121957.15\93496\roadway_sheets\93496XS165.dgn XS_SHEET_065 11/21/2018 3:26:41 PM 1636dcb

END STA.	AREA		VOLUME		CALCULATED DCB	CHECKED JMB
	CUT	FILL	CUT	FILL		
97		32				
94		42	177	69		
92		46	172	81		
89		46	180	80		
1480			529	230	164	285

CROSS SECTIONS - I-71
STA 95+50 TO STA 96+50
FRA-71-1.53

X:\4037000\121957.15\93496\roadway\sheets\93496XS167.dgn XS_SHEET_067 11/21/2018 3:27:27 PM 1636dcb



**CROSS SECTIONS - I-71
 STA 98+50 TO STA 99+50**

FRA-71-1.53

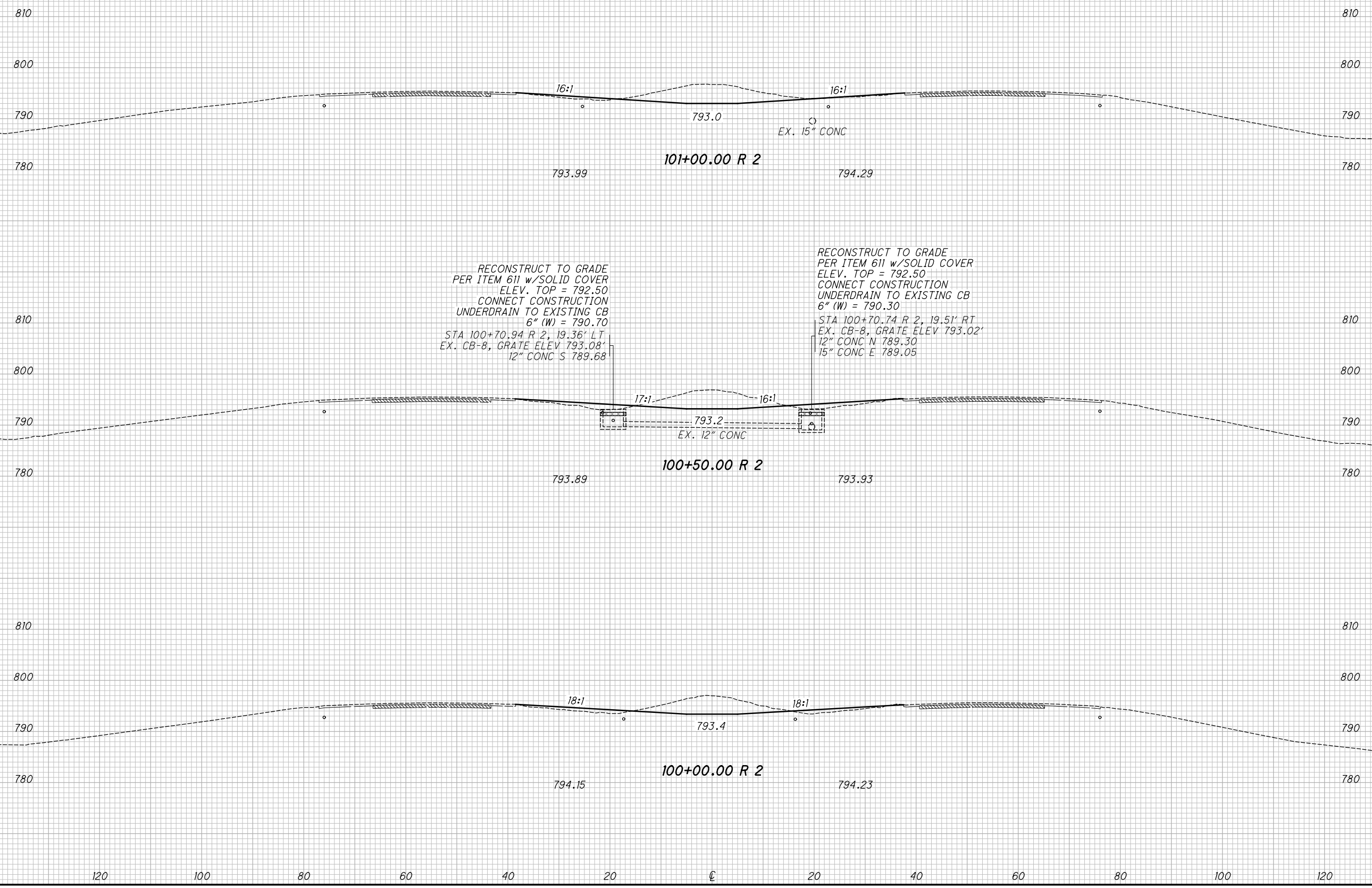
166
285

X:\4037000\121957.15\93496\roadway_sheets\93496XS168.dgn XS_SHEET_068 11/21/2018 3:27:45 PM 1636dcb

SEEDING	END AREA		VOLUME		CALCULATED	DCB	CHECKED	JMB
	CUT	FILL	CUT	FILL				
76	78	8	132	31				
422	65	26	119	43				
76	63	20	119	37				
422			370	111				

120 100 80 60 40 20 0 20 40 60 80 100 120

LEGEND:
 EX CONCRETE PAVEMENT

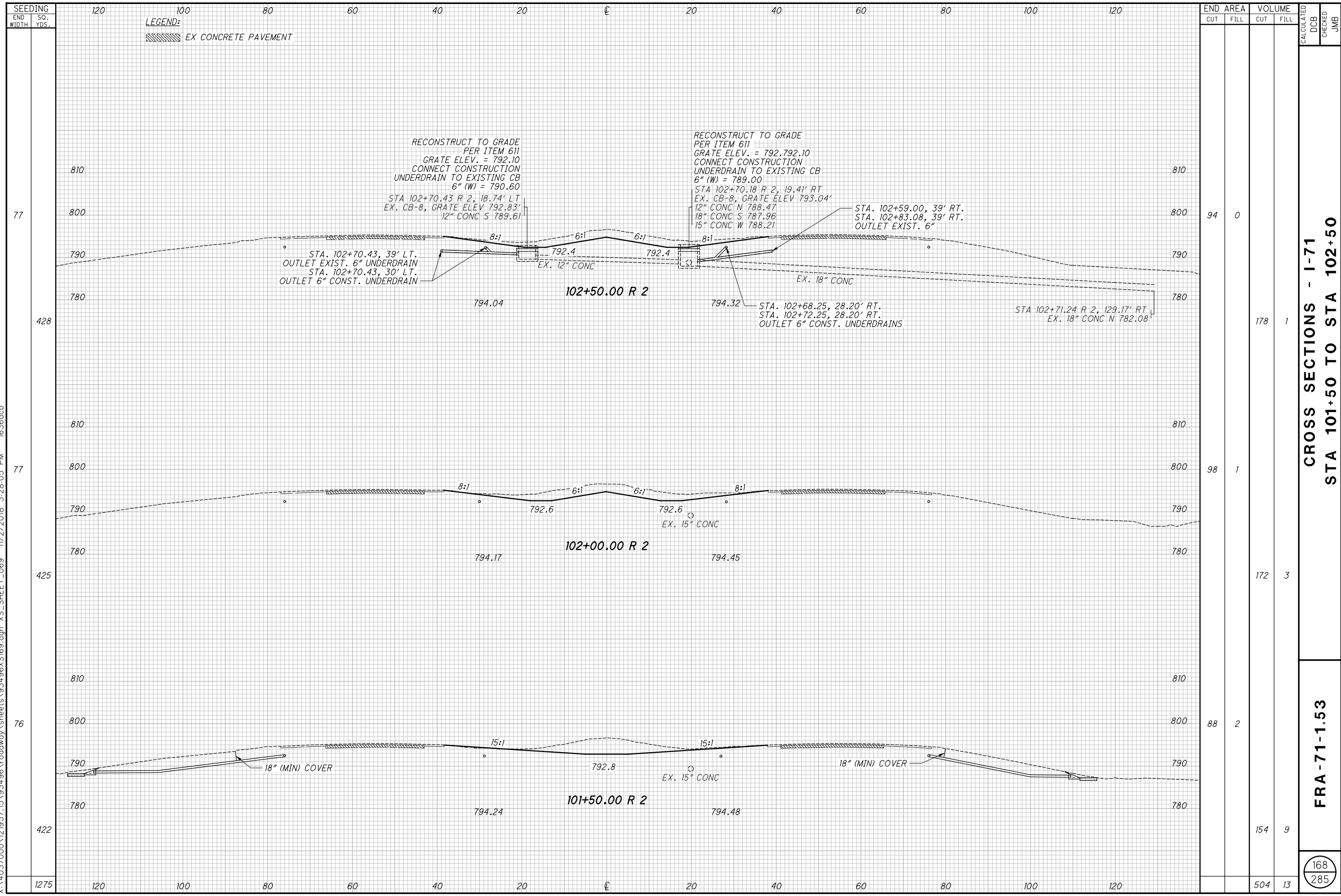


CROSS SECTIONS - I-71
 STA 100+00 TO STA 101+00

FRA-71-1.53

167
 285

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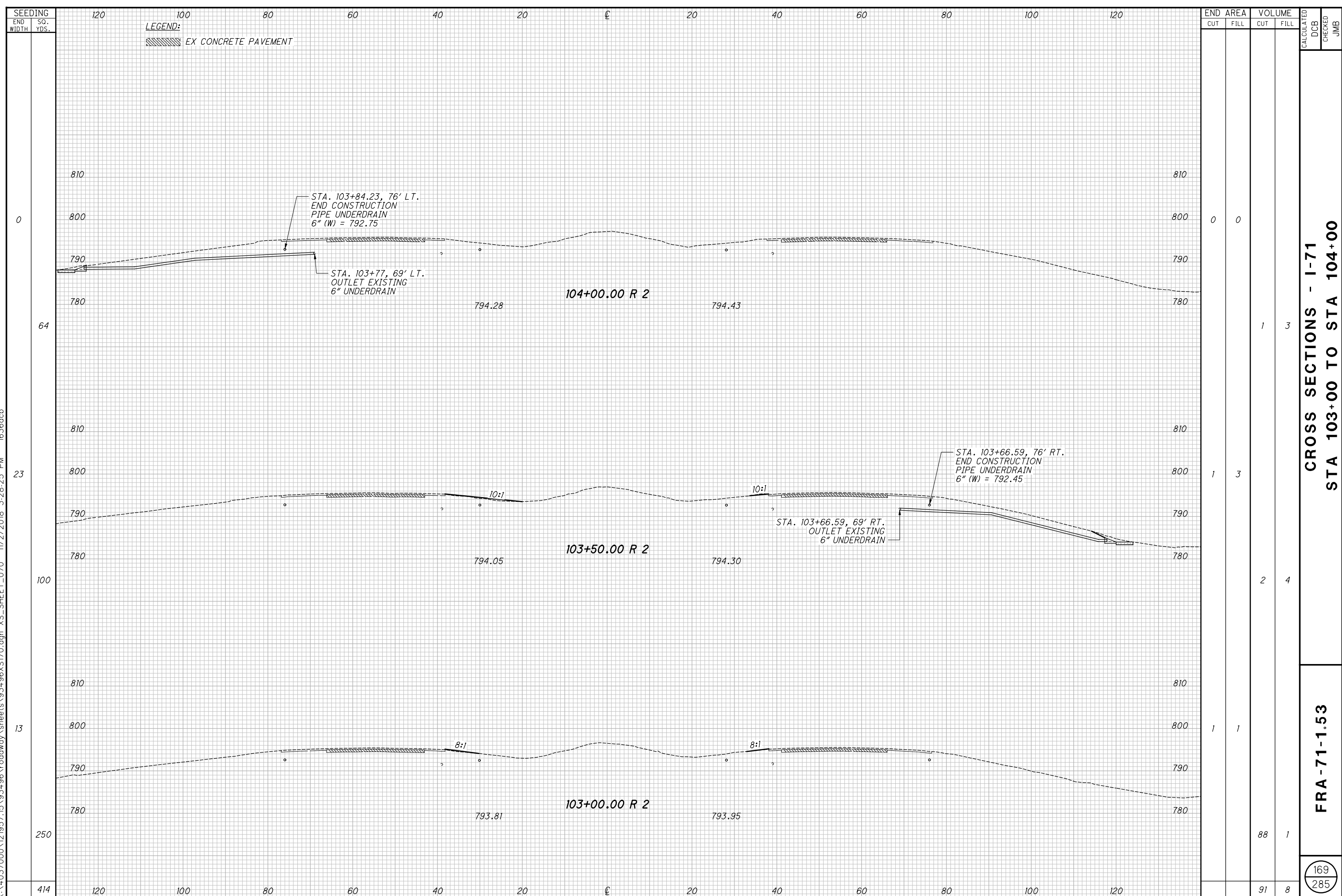
END AREA	VOLUME	CALCULATED	DCB	CHECKED	JMB
94	0				
98	1				
172	3				
88	2				
154	9				
504	13				

**CROSS SECTIONS - I-71
STA 101+50 TO STA 102+50**

FRA-71-1.53

168
285

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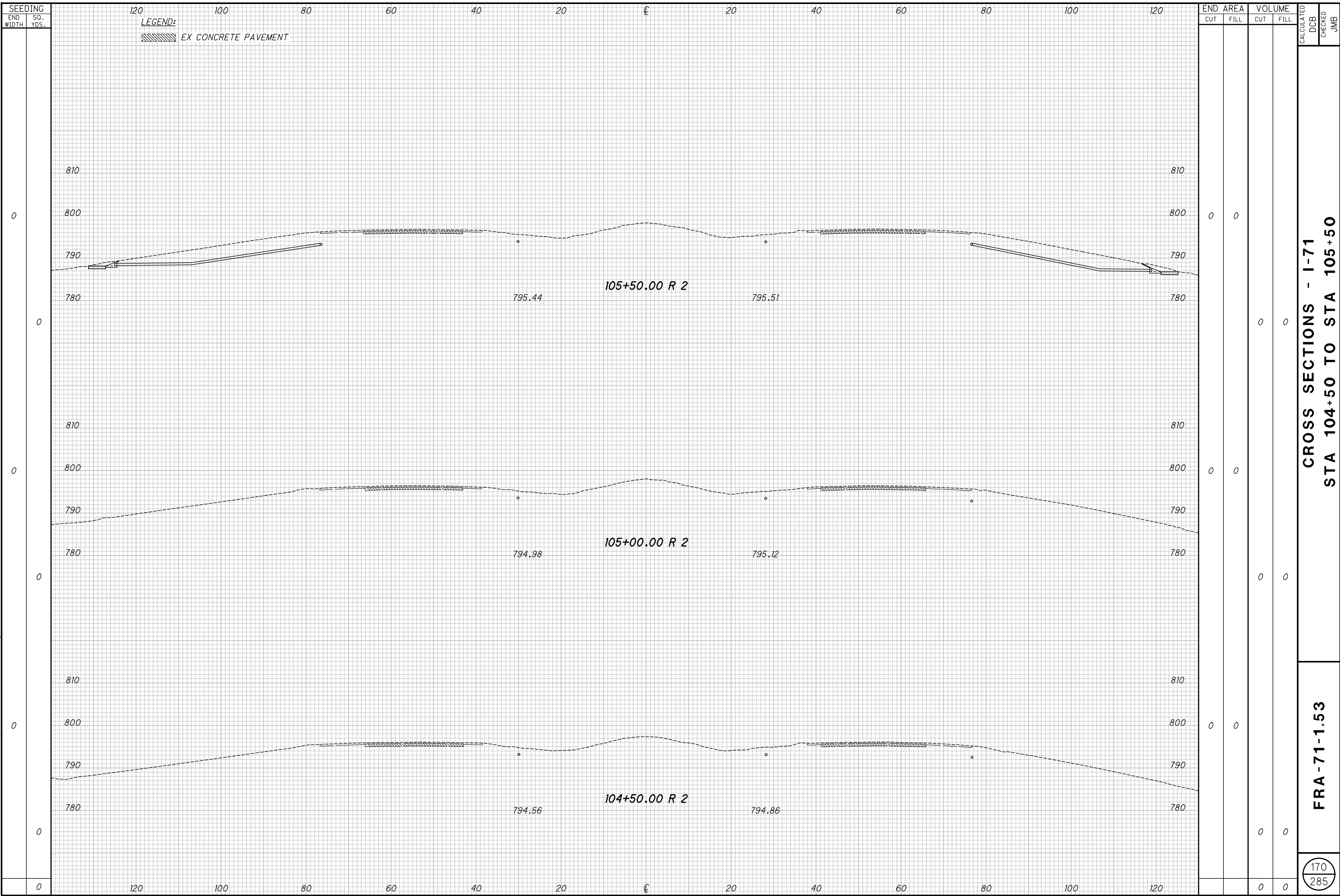


**CROSS SECTIONS - I-71
STA 103+00 TO STA 104+00**

FRA-71-1.53

169
285

X:\4037000\121957.15\93496\roadway_sheets\93496XS171.dgn XS_SHEET_071 11/19/2018 3:01:34 PM 1636dcb



SUPERELEVATION TABLE

P.I. STA. 116+90.94

Dc = 0° 28' 00"

CALCULATED
DCB
CHECKED
JMB

REMARKS	OUTSIDE EDGE - SOUTHBOUND					CROWN					INSIDE EDGE (PROFILE GRADE)		STATION	INSIDE EDGE (PROFILE GRADE)		CROWN					OUTSIDE EDGE - NORTHBOUND					REMARKS			
	ELEVATION	ELEVATION CORRECTION	CROSS SLOPE	TRANSITION RATE	WIDTH	ELEVATION	ELEVATION CORRECTION	CROSS SLOPE	TRANSITION RATE	WIDTH	ELEVATION	OFFSET		OFFSET	ELEVATION	WIDTH	TRANSITION RATE	CROSS SLOPE	ELEVATION CORRECTION	ELEVATION	WIDTH	TRANSITION RATE	CROSS SLOPE	ELEVATION CORRECTION	ELEVATION				
NORMAL CROWN	796.68	-0.19	-0.016	789:1	12	796.87	0.38	0.016		24	796.49	25.55	74+37.03	25.55	796.50	24	395:1	0.016	0.38	796.88	12					-0.016	-0.19	796.69	NORMAL CROWN
	796.74	-0.18	-0.015	789:1	12	796.91	0.38	0.016		24	796.53	25.41	74+50.00	25.41	796.55	24	395:1	0.015	0.35	796.90	12					-0.016	-0.19	796.71	
	796.85	-0.14	-0.012	789:1	12	796.99	0.38	0.016		24	796.61	25.15	74+75.00	25.15	796.64	24	395:1	0.012	0.29	796.93	12					-0.016	-0.19	796.74	
	796.95	-0.11	-0.009	789:1	12	797.06	0.38	0.016		24	796.68	24.89	75+00.00	24.89	796.73	24	395:1	0.009	0.22	796.95	12					-0.016	-0.19	796.76	
	797.05	-0.08	-0.007	789:1	12	797.13	0.38	0.016		24	796.75	24.63	75+25.00	24.63	796.82	24	395:1	0.007	0.16	796.98	12					-0.016	-0.19	796.79	
	797.15	-0.05	-0.004	789:1	12	797.19	0.38	0.016		24	796.81	24.38	75+50.00	24.38	796.91	24	395:1	0.004	0.10	797.01	12					-0.016	-0.19	796.82	
	797.24	-0.02	-0.001	789:1	12	797.25	0.38	0.016		24	796.87	24.12	75+75.00	24.12	797.00	24	395:1	0.001	0.03	797.03	12					-0.016	-0.19	796.84	
1/2 LEVEL	797.28	0.00	0.000	789:1	12	797.28	0.38	0.016		24	796.90	23.98	75+88.59	23.98	797.05	24	395:1	0.000	0.00	797.05	12					-0.016	-0.19	796.86	1/2 LEVEL
	797.32	0.01	0.001	789:1	12	797.31	0.38	0.016		24	796.93	23.86	76+00.00	23.86	797.09	24	395:1	-0.001	-0.03	797.06	12					-0.016	-0.19	796.87	
	797.41	0.05	0.004	789:1	12	797.36	0.38	0.016		24	796.98	23.60	76+25.00	23.60	797.18	24	395:1	-0.004	-0.09	797.09	12					-0.016	-0.19	796.90	
	797.50	0.08	0.006	789:1	12	797.42	0.38	0.016		24	797.04	23.34	76+50.00	23.34	797.27	24	395:1	-0.006	-0.16	797.11	12					-0.016	-0.19	796.92	
	797.61	0.11	0.009	789:1	12	797.50	0.38	0.016		24	797.12	23.08	76+75.00	23.08	797.36	24	395:1	-0.009	-0.22	797.14	12					-0.016	-0.19	796.95	
	797.74	0.14	0.012	789:1	12	797.59	0.38	0.016		24	797.21	22.82	77+00.00	22.82	797.45	24	395:1	-0.012	-0.28	797.17	12					-0.016	-0.19	796.98	
PC	797.82	0.16	0.013	789:1	12	797.66	0.38	0.016		24	797.28	22.67	77+15.03	22.67	797.50	24	395:1	-0.013	-0.32	797.18	12					-0.016	-0.19	796.99	PC
	797.87	0.17	0.014	789:1	12	797.70	0.38	0.016		24	797.32	22.56	77+25.00	22.56	797.54	24	395:1	-0.014	-0.35	797.19	12					-0.016	-0.19	797.00	
REVERSE CROWN	797.97	0.19	0.016	789:1	12	797.77	0.38	0.016	395:1	24	797.39	22.41	77+40.15	22.41	797.61	24	395:1	-0.016	-0.38	797.23	12	789:1				-0.016	-0.19	797.04	REVERSE CROWN
	798.06	0.20	0.017	789:1	12	797.85	0.41	0.017	395:1	24	797.44	22.30	77+50.00	22.30	797.65	24	395:1	-0.017	-0.41	797.24	12	789:1				-0.017	-0.20	797.04	
	798.29	0.24	0.020	789:1	12	798.05	0.47	0.020	395:1	24	797.58	22.04	77+75.00	22.04	797.79	24	395:1	-0.020	-0.47	797.32	12	789:1				-0.020	-0.24	797.08	
FULL SUPER	798.32	0.24	0.020	789:1	12	798.08	0.48	0.020	395:1	24	797.60	22.01	77+78.03	22.01	797.81	24	395:1	-0.020	-0.48	797.33	12	789:1				-0.020	-0.24	797.09	FULL SUPER
	798.46	0.24	0.020		12	798.22	0.48	0.020		24	797.74	21.79	78+00.00	21.79	797.94	24		-0.020	-0.48	797.46	12					-0.020	-0.24	797.22	
	798.62	0.24	0.020		12	798.38	0.48	0.020		24	797.90	21.53	78+25.00	21.53	798.12	24		-0.020	-0.48	797.64	12					-0.020	-0.24	797.40	
	798.81	0.24	0.020		12	798.57	0.48	0.020		24	798.09	21.27	78+50.00	21.27	798.32	24		-0.020	-0.48	797.84	12					-0.020	-0.24	797.60	
	798.99	0.24	0.020		12	798.75	0.48	0.020		24	798.27	21.01	78+75.00	21.01	798.54	24		-0.020	-0.48	798.06	12					-0.020	-0.24	797.82	
	799.18	0.24	0.020		12	798.94	0.48	0.020		24	798.46	20.75	79+00.00	20.75	798.78	24		-0.020	-0.48	798.30	12					-0.020	-0.24	798.06	
	799.36	0.24	0.020		12	799.12	0.48	0.020		24	798.64	20.75	79+25.00	20.75	799.04	24		-0.020	-0.48	798.56	12					-0.020	-0.24	798.32	
	799.55	0.24	0.020		12	799.31	0.48	0.020		24	798.83	20.75	79+50.00	20.75	799.33	24		-0.020	-0.48	798.85	12					-0.020	-0.24	798.61	
	799.73	0.24	0.020		12	799.49	0.48	0.020		24	799.01	20.75	79+75.00	20.75	799.61	24		-0.020	-0.48	799.13	12					-0.020	-0.24	798.89	
	799.92	0.24	0.020		12	799.68	0.48	0.020		24	799.20	20.75	80+00.00	20.75	799.89	24		-0.020	-0.48	799.41	12					-0.020	-0.24	799.17	
	800.10	0.24	0.020		12	799.86	0.48	0.020		24	799.38	20.75	80+25.00	20.75	800.14	24		-0.020	-0.48	799.66	12					-0.020	-0.24	799.42	
	800.29	0.24	0.020		12	800.05	0.48	0.020		24	799.57	20.75	80+50.00	20.75	800.37	24		-0.020	-0.48	799.89	12					-0.020	-0.24	799.65	
	800.47	0.24	0.020		12	800.23	0.48	0.020		24	799.75	20.75	80+75.00	20.75	800.59	24		-0.020	-0.48	800.11	12					-0.020	-0.24	799.87	
	800.64	0.24	0.020		12	800.40	0.48	0.020		24	799.92	20.75	81+00.00	20.75	800.78	24		-0.020	-0.48	800.30	12					-0.020	-0.24	800.06	
	800.79	0.24	0.020		12	800.55	0.48	0.020		24	800.07	20.75	81+25.00	20.75	800.96	24		-0.020	-0.48	800.48	12					-0.020	-0.24	800.24	
	800.93	0.24	0.020		12	800.69	0.48	0.020		24	800.21	20.75	81+50.00	20.75	801.11	24		-0.020	-0.48	800.63	12					-0.020	-0.24	800.39	
	801.04	0.24	0.020		12	800.80	0.48	0.020		24	800.32	20.75	81+75.00	20.75	801.25	24		-0.020	-0.48	800.77	12					-0.020	-0.24	800.53	
	801.13	0.24	0.020		12	800.89	0.48	0.020		24	800.41	20.75	82+00.00	20.75	801.36	24		-0.020	-0.48	800.88	12					-0.020	-0.24	800.64	
	801.21	0.24	0.020		12	800.97	0.48	0.020		24	800.49	20.75	82+25.00	20.75	801.46	24		-0.020	-0.48	800.98	12					-0.020	-0.24	800.74	
	801.26	0.24	0.020		12	801.02	0.48	0.020		24	800.54	20.75	82+50.00	20.75	801.53	24		-0.020	-0.48	801.05	12					-0.020	-0.24	800.81	
	801.30	0.24	0.020		12	801.06	0.48	0.020		24	800.58	20.75	82+75.00	20.75	801.59	24		-0.020	-0.48	801.11	12					-0.020	-0.24	800.87	
	801.32	0.24	0.020		12	801.08	0.48	0.020		24	800.60	20.75	83+00.00	20.75	801.62	24		-0.020	-0.48	801.14	12					-0.020	-0.24	800.90	
	801.31	0.24	0.020		12	801.07	0.48	0.020		24	800.59	20.75	83+25.00	20.75	801.64	24		-0.020	-0.48	801.16	12					-0.020	-0.24	800.92	
	801.29	0.24	0.020		12	801.05	0.48	0.020		24	800.57	20.75	83+50.00	20.75	801.63	24		-0.020	-0.48	801.15	12					-0.020	-0.24	800.91	
	801.25	0.24	0.020		12	801.01	0.48	0.020		24	800.53	20.75	83+75.00	20.75	801.61	24		-0.020	-0.48	801.13	12					-0.020	-0.24	800.89	
	801.19	0.24	0.020		12	800.95	0.48	0.020		24	800.47	20.75	84+00.00	20.75	801.56	24		-0.020	-0.48	801.08	12					-0.020	-0.24	800.84	
	801.11	0.24	0.020		12	800.87	0.48	0.020		24	800.39	20.75	84+25.00	20.75	801.50	24		-0.020	-0.48	801.02	12					-0.020	-0.24	800.78	

SUPERELEVATION TABLE

P.I. STA. 116+90.94

Dc = 0° 28' 00"

CALCULATED
DCB
CHECKED
JMB

REMARKS	OUTSIDE EDGE - SOUTHBOUND					CROWN					INSIDE EDGE (PROFILE GRADE)		STATION	INSIDE EDGE (PROFILE GRADE)		CROWN					OUTSIDE EDGE - NORTHBOUND					REMARKS
	ELEVATION	ELEVATION CORRECTION	CROSS SLOPE	TRANSITION RATE	WIDTH	ELEVATION	ELEVATION CORRECTION	CROSS SLOPE	TRANSITION RATE	WIDTH	ELEVATION	OFFSET		OFFSET	ELEVATION	WIDTH	TRANSITION RATE	CROSS SLOPE	ELEVATION CORRECTION	ELEVATION	WIDTH	TRANSITION RATE	CROSS SLOPE	ELEVATION CORRECTION	ELEVATION	
	799.51	0.24	0.020		12	799.27	0.48	0.020		24	798.79	22.04	88+25.00	22.04	799.50	24		-0.020	-0.48	799.02	12		-0.020	-0.24	798.78	
	799.43	0.24	0.020		12	799.19	0.48	0.020		24	798.71	22.30	88+50.00	22.30	799.43	24		-0.020	-0.48	798.95	12		-0.020	-0.24	798.71	
	799.36	0.24	0.020		12	799.12	0.48	0.020		24	798.64	22.56	88+75.00	22.56	799.36	24		-0.020	-0.48	798.88	12		-0.020	-0.24	798.64	
	799.28	0.24	0.020		12	799.04	0.48	0.020		24	798.56	22.82	89+00.00	22.82	799.29	24		-0.020	-0.48	798.81	12		-0.020	-0.24	798.57	
	799.21	0.24	0.020		12	798.97	0.48	0.020		24	798.49	23.08	89+25.00	23.08	799.22	24		-0.020	-0.48	798.74	12		-0.020	-0.24	798.50	
	799.13	0.24	0.020		12	798.89	0.48	0.020		24	798.41	23.34	89+50.00	23.34	799.15	24		-0.020	-0.48	798.67	12		-0.020	-0.24	798.43	
	799.06	0.24	0.020		12	798.82	0.48	0.020		24	798.34	23.60	89+75.00	23.60	799.08	24		-0.020	-0.48	798.60	12		-0.020	-0.24	798.36	
	798.98	0.24	0.020		12	798.74	0.48	0.020		24	798.26	23.86	90+00.00	23.86	799.01	24		-0.020	-0.48	798.53	12		-0.020	-0.24	798.29	
	798.91	0.24	0.020		12	798.67	0.48	0.020		24	798.19	24.12	90+25.00	24.12	798.94	24		-0.020	-0.48	798.46	12		-0.020	-0.24	798.22	
	798.83	0.24	0.020		12	798.59	0.48	0.020		24	798.11	24.38	90+50.00	24.38	798.87	24		-0.020	-0.48	798.39	12		-0.020	-0.24	798.15	
	798.76	0.24	0.020		12	798.52	0.48	0.020		24	798.04	24.63	90+75.00	24.63	798.80	24		-0.020	-0.48	798.32	12		-0.020	-0.24	798.08	
	798.68	0.24	0.020		12	798.44	0.48	0.020		24	797.96	24.89	91+00.00	24.89	798.73	24		-0.020	-0.48	798.25	12		-0.020	-0.24	798.01	
	798.61	0.24	0.020		12	798.37	0.48	0.020		24	797.89	25.15	91+25.00	25.15	798.66	24		-0.020	-0.48	798.18	12		-0.020	-0.24	797.94	
	798.53	0.24	0.020		12	798.29	0.48	0.020		24	797.81	25.41	91+50.00	25.41	798.59	24		-0.020	-0.48	798.11	12		-0.020	-0.24	797.87	
	798.46	0.24	0.020		12	798.22	0.48	0.020		24	797.74	25.67	91+75.00	25.67	798.52	24		-0.020	-0.48	798.04	12		-0.020	-0.24	797.80	
	798.38	0.24	0.020		12	798.14	0.48	0.020		24	797.66	25.93	92+00.00	25.93	798.45	24		-0.020	-0.48	797.97	12		-0.020	-0.24	797.73	
	798.31	0.24	0.020		12	798.07	0.48	0.020		24	797.59	26.19	92+25.00	26.19	798.38	24		-0.020	-0.48	797.90	12		-0.020	-0.24	797.66	
	798.23	0.24	0.020		12	797.99	0.48	0.020		24	797.51	26.45	92+50.00	26.45	798.31	24		-0.020	-0.48	797.83	12		-0.020	-0.24	797.59	
	798.16	0.24	0.020		12	797.92	0.48	0.020		24	797.44	26.71	92+75.00	26.71	798.24	24		-0.020	-0.48	797.76	12		-0.020	-0.24	797.52	
	798.08	0.24	0.020		12	797.84	0.48	0.020		24	797.36	26.96	93+00.00	26.96	798.17	24		-0.020	-0.48	797.69	12		-0.020	-0.24	797.45	
	798.01	0.24	0.020		12	797.77	0.48	0.020		24	797.29	27.22	93+25.00	27.22	798.10	24		-0.020	-0.48	797.62	12		-0.020	-0.24	797.38	
	797.93	0.24	0.020		12	797.69	0.48	0.020		24	797.21	27.48	93+50.00	27.48	798.03	24		-0.020	-0.48	797.55	12		-0.020	-0.24	797.31	
	797.86	0.24	0.020		12	797.62	0.48	0.020		24	797.14	27.74	93+75.00	27.74	797.96	24		-0.020	-0.48	797.48	12		-0.020	-0.24	797.24	
	797.78	0.24	0.020		12	797.54	0.48	0.020		24	797.06	28.00	94+00.00	28.00	797.89	24		-0.020	-0.48	797.41	12		-0.020	-0.24	797.17	

SUPERELEVATION TABLE
I-71 - STA 88+25 TO STA 94+00

FRA-71-1.53

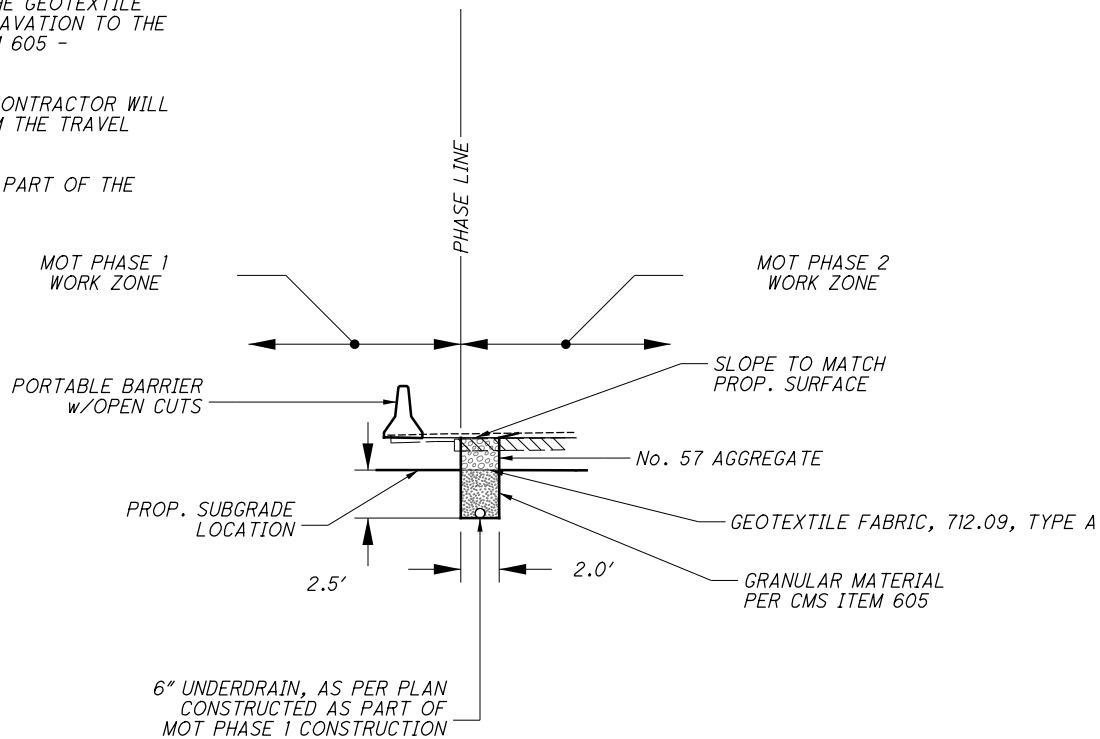
X:\4037000\121957.15\93496\roadway_sheets\93496E002.dgn Sheet 11/19/2018 3:01:36 PM 1636dcb

NOTES - ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN

ALL COSTS ASSOCIATED WITH INSTALLATION OF THIS ITEM WILL INCLUDE THE CONDUIT, TRENCH EXCAVATION, THE GRANULAR MATERIAL PER CMS 605, THE PLACEMENT OF THE No. 57 AGGREGATE AND THE GEOTEXTILE FABRIC. THE COST TO REMOVE THE No. 57 AGGREGATE AND GEOTEXTILE FABRIC AFTER EXCAVATION TO THE SUBGRADE DURING MOT PHASE 2 CONSTRUCTION WILL BE INCLUDED WITH THE COST OF ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN.

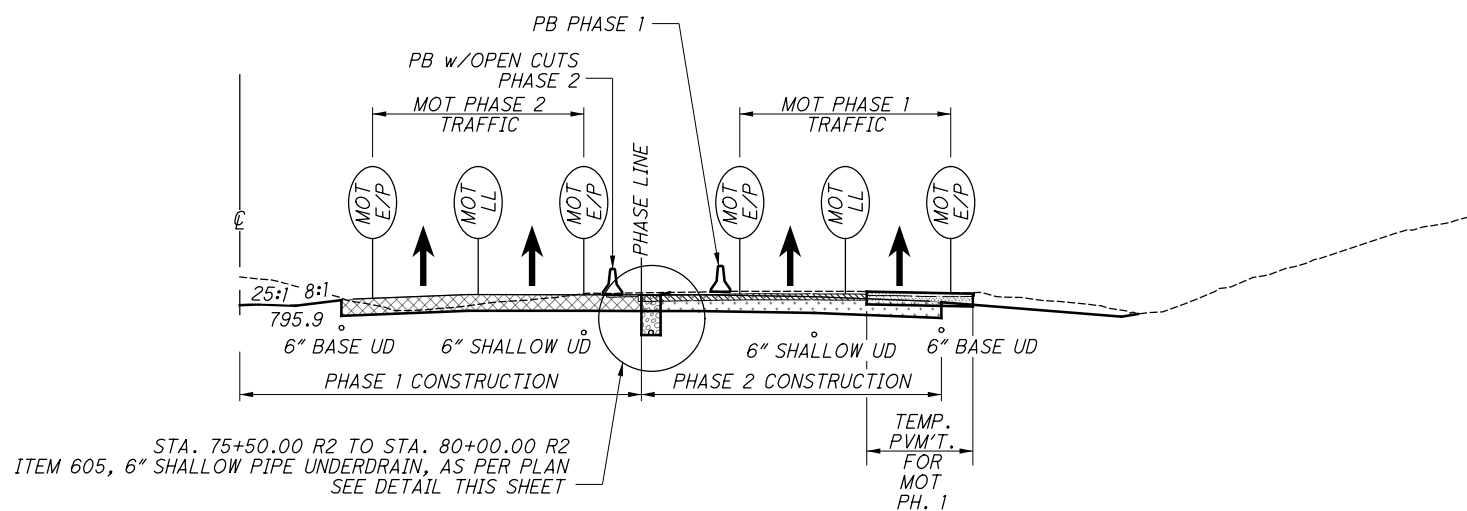
AFTER TRAFFIC IS SHIFTED ONTO THE PAVEMENT CONSTRUCTED UNDER PHASE 1 MOT, THE CONTRACTOR WILL GRADE FOR THE PHASE 2 MOT CONSTRUCTION TO PROMOTE POSITIVE DRAINAGE AWAY FROM THE TRAVEL LANES AS SOON AS IS POSSIBLE.

THE UNDERDRAINS WILL REMAIN IN PLACE AFTER MOT PHASE 2 CONSTRUCTION AND BECOME PART OF THE PERMANENT UNDERDRAIN SYSTEM.



**DETAIL OF ITEM 605, 6" SHALLOW PIPE UNDERDRAIN, AS PER PLAN
NB SIDE SHOWN, MIRROR ABOUT C/L FOR SB SIDE**

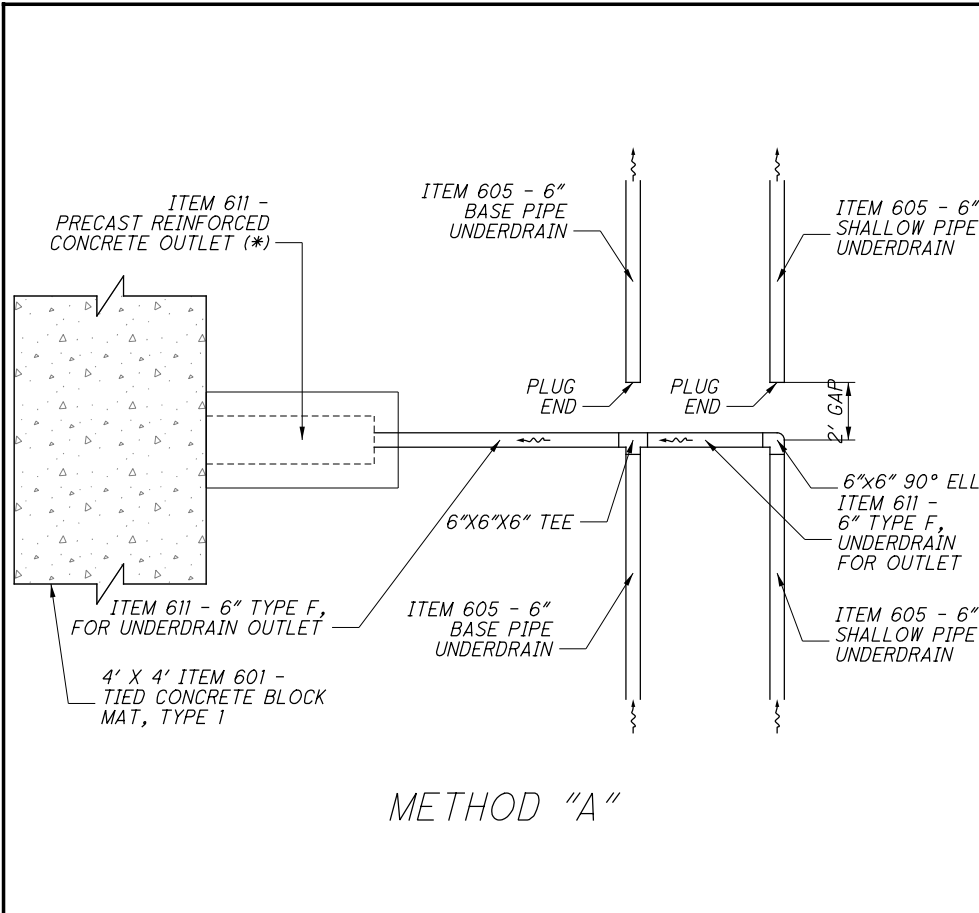
STA. 78+50.00, LT. R2 TO STA. 81+65.26, LT. R2
 STA. 84+76.23, LT. R2 TO STA. 94+00.00, LT. R2
 STA. 75+50.00, RT. R2 TO STA. 80+00.00, RT. R2



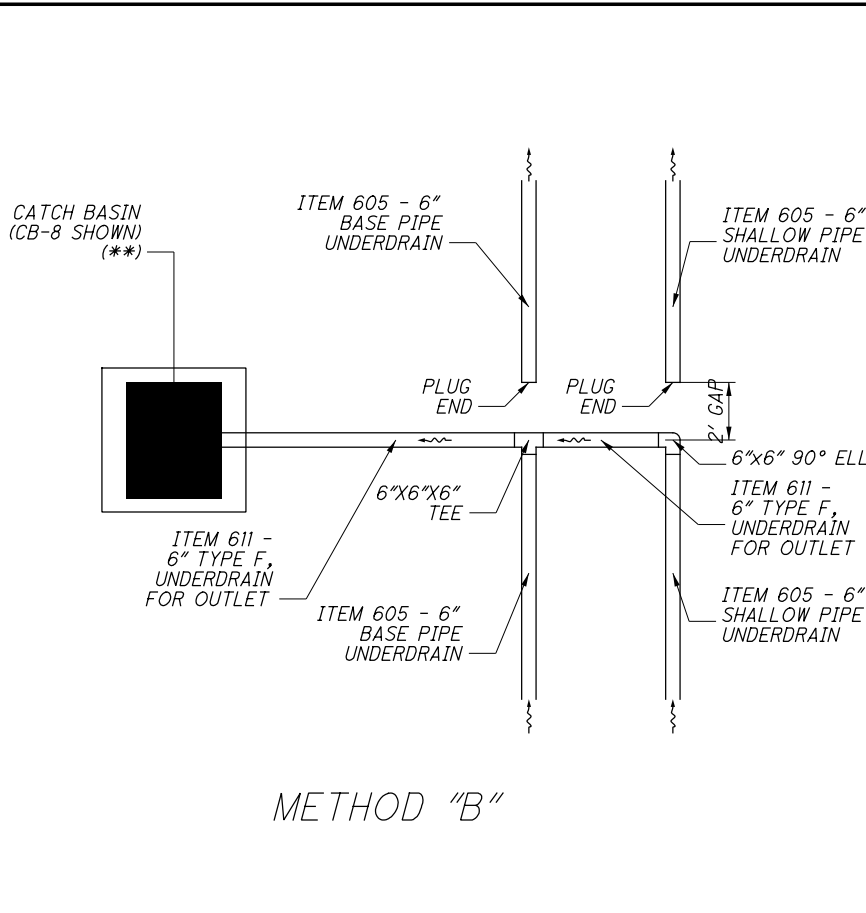
**LOCATION OF ITEM 605, 6" SHALLOW PIPE UNDERDRAIN, AS PER PLAN
NB SIDE SHOWN, MIRROR ABOUT C/L FOR SB SIDE**

STA. 78+50.00, LT. R2 TO STA. 81+65.26, LT. R2
 STA. 84+76.23, LT. R2 TO STA. 94+00.00, LT. R2
 STA. 75+50.00, RT. R2 TO STA. 80+00.00, RT. R2

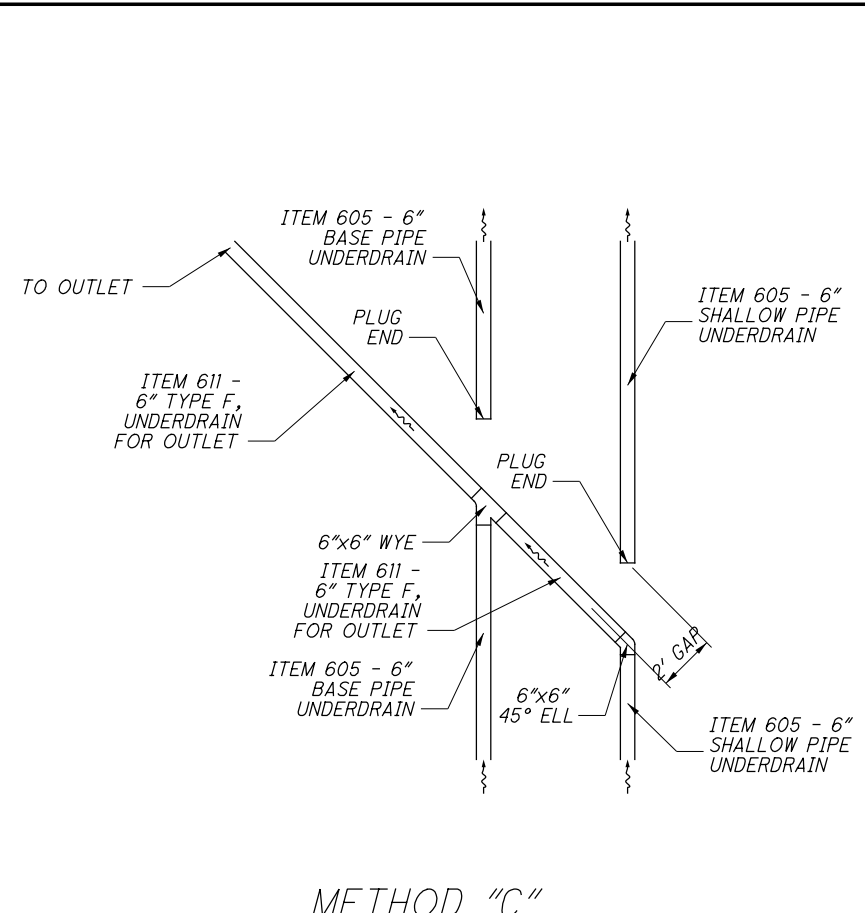
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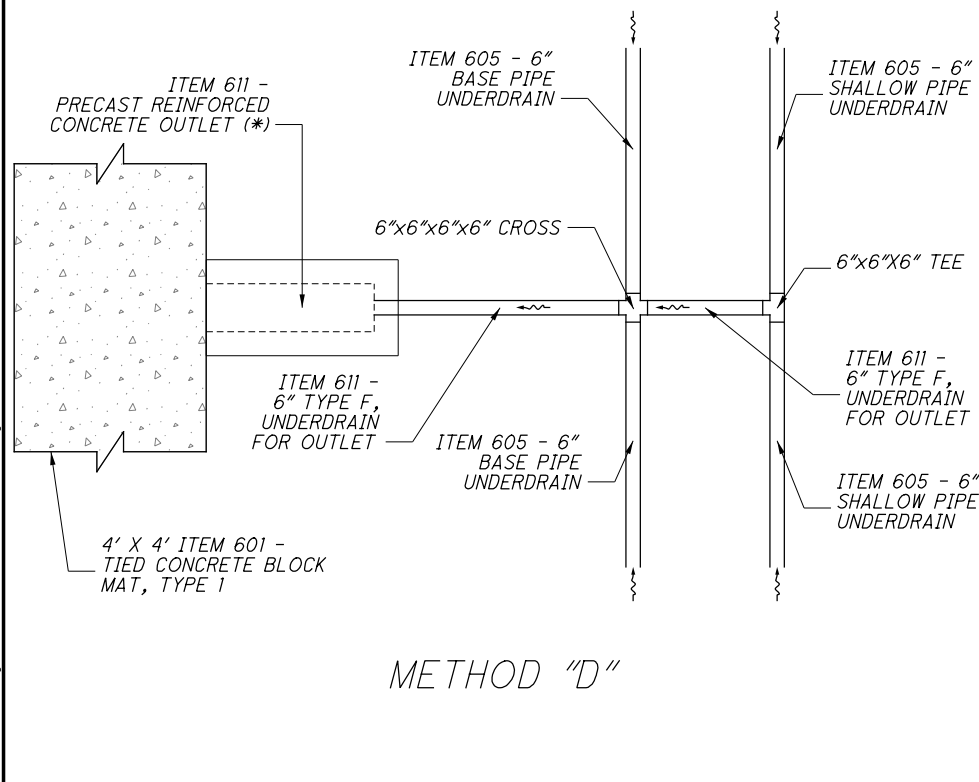
METHOD "A"



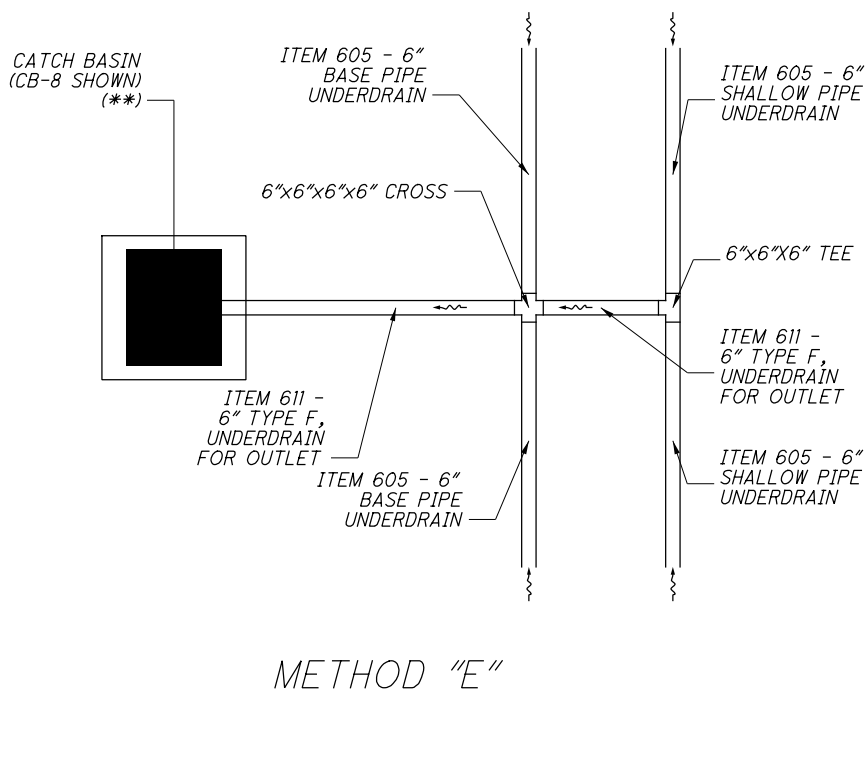
METHOD "B"



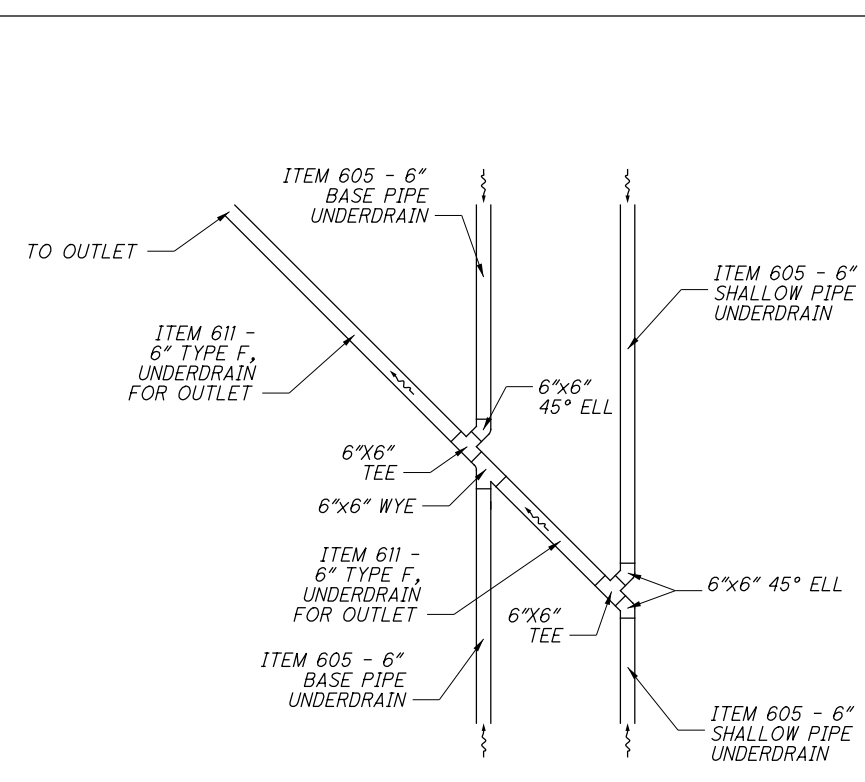
METHOD "C"



METHOD "D"



METHOD "E"



METHOD "F"

NOTES:
 1) DETAILS SHOULD BE MODIFIED AS MEDIAN AND SHAPE REQUIRE.
 2) DISTANCE FROM EDGE OF PAVEMENT SHOULD BE TAKEN FROM APPROVED TYPICAL SECTIONS.

(*) FOR DETAILS, SEE STANDARD DRAWING DM-1.1
 (**) PRECAST REINFORCED CONCRETE OUTLET AND CATCH BASINS ARE SHOWN FOR DEMONSTRATION PURPOSES ONLY. ACTUAL OUTLETS SHOULD BE PLACED IN ACCORDANCE WITH APPROVED PLAN.

X:\4037000\121957.15\93496\drainage\sheets\93496DD002.dgn Sheet 11/19/2018 3:01:37 PM 1636dcb

X:\4037000\121957.15\93496\drainage\sheet\934960005.dgn Sheet 11/20/2018 5:52:04 PM 1473ctw

REF. NO.	SHEET NO.	STATION	SIDE	OFFSET	INVERT	STATION	SIDE	OFFSET	INVERT	BENDS AND BRANCHES FOR INFORMATION ONLY																					
										601		605		605		605		605		611		611		PLUG	6" X 6" TEE	6" X 6" WYE	6" X 6" CROSS	6" X 90° ELL	6" X 45° ELL		
										TIED CONCRETE BLOCK MAT, TYPE 1	6" CONSTRUCTION UNDERDRAINS	6" SHALLOW PIPE UNDERDRAINS	6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN	6" UNCLASSIFIED PIPE UNDERDRAINS	6" BASE PIPE UNDERDRAINS	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	PRECAST REINFORCED CONCRETE OUTLET	NO.	NO.	NO.	NO.	NO.	NO.								
FROM	TO	SQ YD	FT	FT	FT	FT	FT	EACH	NO.	NO.	NO.	NO.	NO.	NO.																	
U-34	180	74+50	LT	61.66	792.55	74+50	LT	117.38	782.73	1.8						58	1		2		1	2									
U-35	180	74+50	LT	25.16	792.35	74+50	℄	0.00	791.70							25			2		1										
U-36	180	74+50	RT	25.16	792.36	74+50	℄	0.00	791.70							25			2		1										
U-37	180	74+50	RT	61.66	792.52	74+50	RT	120.82	783.88	1.8						61	1		2		1	2									
U-38	180-181	74+50	LT	76.20	793.35	78+98	LT	76.20	795.15		448																				
U-39	180-181	74+50	LT	73.66	793.02	78+98	LT	69.02	795.49						448																
U-40	180	74+50	LT	61.66	792.55	75+89	LT	60.23	793.09			139						1													
U-41	180-181	74+50	LT	25.16	792.36	78+48	LT	21.04	793.90			398																			
U-42	180-181	74+50	LT	13.16	792.82	78+48	LT	9.04	794.37						398																
U-43	180	74+50	LT	10.30	792.60	75+50	LT	10.30	792.95			100																			
U-44	180	74+50	RT	8.50	792.55	75+48	RT	8.25	792.95			98																			
U-45	180	74+50	RT	13.16	792.83	75+48	RT	12.15	793.19						98																
U-46	180	74+50	RT	25.16	792.36	75+48	RT	24.15	792.61			98																			
U-47	180-181	74+50	RT	61.66	792.52	78+58	RT	57.44	793.46			408																			
U-48	180-181	74+50	RT	73.66	792.99	78+58	RT	69.44	793.99						408																
U-49	180-181	74+50	RT	77.00	793.35	78+58	RT	77.00	794.95			408																			
U-50	180-181	75+76	LT	60.36	793.05	78+50	LT	45.00	794.30				274									1									
U-51	180	75+50	RT	43.37	792.80	75+50	℄	0.00	792.25						45		3				1										
U-52	180	75+50	RT	24.13	792.60	75+89	RT	23.73	792.85				39				1		1												
U-53	180-181	75+76	RT	23.85	792.81	78+73	RT	33.28	794.09				297									1									
U-54	180-181	75+50	RT	43.37	792.80	78+73	RT	40.03	793.95					323																	
U-55	180-181	75+50	RT	8.25	792.95	76+75	RT	9.09	793.40			125																			
U-56	180-181	75+50	RT	12.12	793.24	78+73	RT	8.78	794.85						323																
U-57	181	78+50	LT	42.06	794.31	78+50	LT	0.67	793.35							46		1	1		1										
U-58	181	78+75	RT	40.00	793.97	78+50	LT	0.67	793.35							58		1	1		1	1									
U-59	181	78+60	RT	57.42	793.48	78+60	RT	107.60	785.50	1.8						52	1		2		1										
U-60	181-182	78+50	LT	21.02	794.37	81+65	LT	20.50	796.04				315		30																
U-61	181	78+50	LT	9.02	794.42	80+97	LT	7.34	796.00							247															
U-62	181	78+75	RT	8.76	794.87	80+98	RT	8.50	796.00							223															
U-63	181-182	78+75	RT	33.26	794.09	81+64	RT	33.00	796.71				289		30																
U-64	181	78+75	RT	40.00	793.97	80+00	RT	39.75	795.32					125																	
U-65	181-182	78+60	RT	57.42	793.48	81+64	RT	57.00	796.23				304		30																
U-66	181	78+60	RT	69.42	794.01	80+98	RT	69.00	796.50							238															
U-67	181-182	78+60	RT	77.00	794.95	81+56	RT	72.00	795.95			296																			
U-68	181	79+00	LT	69.00	795.50	79+00	LT	113.00	786.95	1.8						44	1		1			1									
U-69	181-182	79+00	LT	76.20	795.15	81+57	LT	71.20	796.10																						
U-70	181-182	79+00	LT	69.00	795.50	81+65	LT	71.00	797.29																						
U-71	181-182	78+50	LT	42.06	794.31	81+65	LT	41.40	796.53						30	235															
U-72	182	81+00	LT	8.47	796.35	81+65	LT	6.50	796.00					285	30	25	10														
U-73	182	81+00	RT	8.25	797.00	81+65	RT	6.50	797.30						30	25	10														
U-74	182	81+00	RT	70.38	796.50	81+65	RT	71.00	796.89						30	25	10														
BIG DARBY CREEK BRIDGE																															
TOTALS CARRIED TO SHEETS 113-114											7.2	1732		2561	733	240	2693	444	4	32	6	14		9	7						

CALCULATED DCB CHECKED JMB
ESTIMATED QUANTITIES - UNDERDRAINS
FRA - 71 - 1.53
 176B
 285

X:\4037000\121957.15\93496\drainage\sheet\934960006.dgn Sheet 11/20/2018 5:54:41 PM 1473ctw

REF. NO.	SHEET NO.	STATION	SIDE	OFFSET	INVERT	STATION	SIDE	OFFSET	INVERT	601	605		605	605	605	605	611	611	BENDS AND BRANCHES FOR INFORMATION ONLY						CALCULATED DCB CHECKED JMB
										TIED CONCRETE BLOCK MAT, TYPE I	6" CONSTRUCTION UNDERDRAINS		6" SHALLOW PIPE UNDERDRAINS	6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN	6" UNCLASSIFIED PIPE UNDERDRAINS	6" BASE PIPE UNDERDRAINS	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	PRECAST REINFORCED CONCRETE OUTLET	PLUG	6" X 6" TEE	6" X 6" WYE	6" X 6" CROSS	6" X 90° ELL	6" X 45° ELL	
		FROM				TO				SQ YD	FT		FT	FT	FT	FT	FT	EACH	NO.	NO.	NO.	NO.	NO.	NO.	
BIG DARBY CREEK BRIDGE																									
U-100	182-183	84+83	LT	71.20	795.50	88+48	LT	76.2	794.70		365								1						
U-101	182-183	84+76	LT	71.00	797.17	88+48	LT	70.56	795.77						30	342			1						
U-102	182-183	84+76	LT	42.25	796.41	88+22	LT	43.08	795.00					316					1						
U-103	182-183	84+76	LT	20.50	795.92	88+22	LT	21.79	794.59				316						1						
U-104	182	84+77	LT	6.50	796.69	85+41	LT	7.12	796.00										1						
U-105	182-183	84+77	RT	6.50	797.59	88+22	RT	9.76	795.86										1						
U-106	182-183	84+77	RT	33.00	796.82	88+22	RT	34.26	795.10				315						1						
U-107	182-183	84+77	RT	57.00	796.34	88+48	RT	58.50	794.50				341						1						
U-108	182	84+78	RT	71.00	797.10	85+16	RT	70.30	796.75										1						
U-109	182-183	84+85	RT	71.20	795.30	88+48	RT	76.20	795.05		363								1						
U-110	182-183	85+43	LT	6.75	796.00	88+22	LT	9.76	795.07										1						
U-111	182-183	85+18	RT	70.90	796.63	88+48	RT	70.53	795.00										1						
U-112	183	88+22	LT	43.08	794.95	88+25	LT	2.17	794.40											1	1		1	1	
U-113	183	88+22	RT	34.27	795.00	88+25	LT	2.17	794.40												1		1	1	
U-114	183-184	88+27	LT	21.81	794.59	93+98	LT	27.75	792.88				571						1						
U-115	183-184	88+27	LT	9.81	795.07	93+98	LT	15.75	793.35										1						
U-116	183-184	88+27	RT	9.81	795.83	93+98	RT	15.72	794.18										1						
U-117	183-184	88+27	RT	34.32	795.07	93+98	RT	40.22	793.46				571						1						
U-118	183	88+48	LT	70.56	795.77	88+50	LT	90.44	794.55	1.8										1		1	1	1	
U-119	183	88+48	RT	58.50	794.50	88+50	RT	112.28	784.80	1.8										1		2	1	2	
U-120	183-184	88+52	LT	76.20	795.05	93+98	LT	76.22	793.60		546								1						
U-121	183-184	88+52	LT	70.58	795.76	93+98	LT	76.22	793.55										1						
U-122	183-184	88+27	LT	43.16	795.00	93+98	LT	43.50	793.17										1						
U-123	183-184	88+52	RT	58.32	794.50	93+98	RT	64.25	792.99				546		571				1						
U-124	183-184	88+52	RT	70.32	795.00	93+98	RT	76.25	793.46										1						
U-125	183-184	88+52	RT	76.00	795.05	93+98	RT	76.22	793.60										1						
U-126	183-184	88+97	LT	5.08	794.55	94+00	LT	6.80	792.90										1						
U-127	183-184	90+50	RT	10.30	795.00	93+98	RT	10.30	793.95										1						
U-128	184	93+98	LT	76.22	794.18	94+00	LT	133.35	787.39	1.8										1	1		1		
U-129	184	93+98	LT	43.50	793.17	94+00	℄	0.00	792.00												1	2		1	2
U-130	184	93+98	RT	40.22	793.46	94+00	℄	0.00	792.00													2		1	2
U-131	184	93+98	RT	64.22	792.99	94+00	RT	127.68	784.73	1.8										1	1		1	1	
STATON 94+00 END 6 - LANE FULL DEPTH PAVEMENT, BEGIN FULL DEPTH PAVEMENT TAPERS																									
U-132	184-185	94+02	LT	76.25	793.60	96+78	LT	76.25	792.70		276								1						
U-133	184-185	94+02	LT	76.25	794.07	96+78	LT	76.25	792.80										1						
U-134	184	94+02	LT	27.83	792.88	94+98	LT	31.74	793.59										1						
U-135	184	94+02	LT	6.80	792.90	95+00	LT	6.80	792.95										1						
U-136	184	94+02	RT	10.30	793.95	94+93	RT	10.30	793.55										1						
U-137	184	94+00	RT	39.75	793.46	94+95	RT	40.02	792.98										1						
U-138	184-185	94+02	RT	76.25	793.46	96+78	RT	76.20	792.59										1						
U-139	184-185	94+02	RT	76.25	793.60	96+78	RT	76.20	792.80		276								1						
U-140	184	94+95	RT	40.02	792.98	95+00	℄	0.00	791.64												1		1	1	
U-141	184	94+98	LT	31.74	793.57	95+00	℄	0.00	791.64												1	1		1	
U-142	184	95+05	RT	40.06	792.04	95+00	℄	0.00	791.64												1	1		1	
TOTALS CARRIED TO SHEETS 113-114										7.2	3412		2660	887	240	4277	542	4	32	6	12	0	10	13	

ESTIMATED QUANTITIES - UNDERDRAINS

FRA - 71-1.53

X:\4037000\121957.15\93496\drainage\sheet\934960007.dgn Sheet 1473ctw 12/3/2018 2:58:49 PM

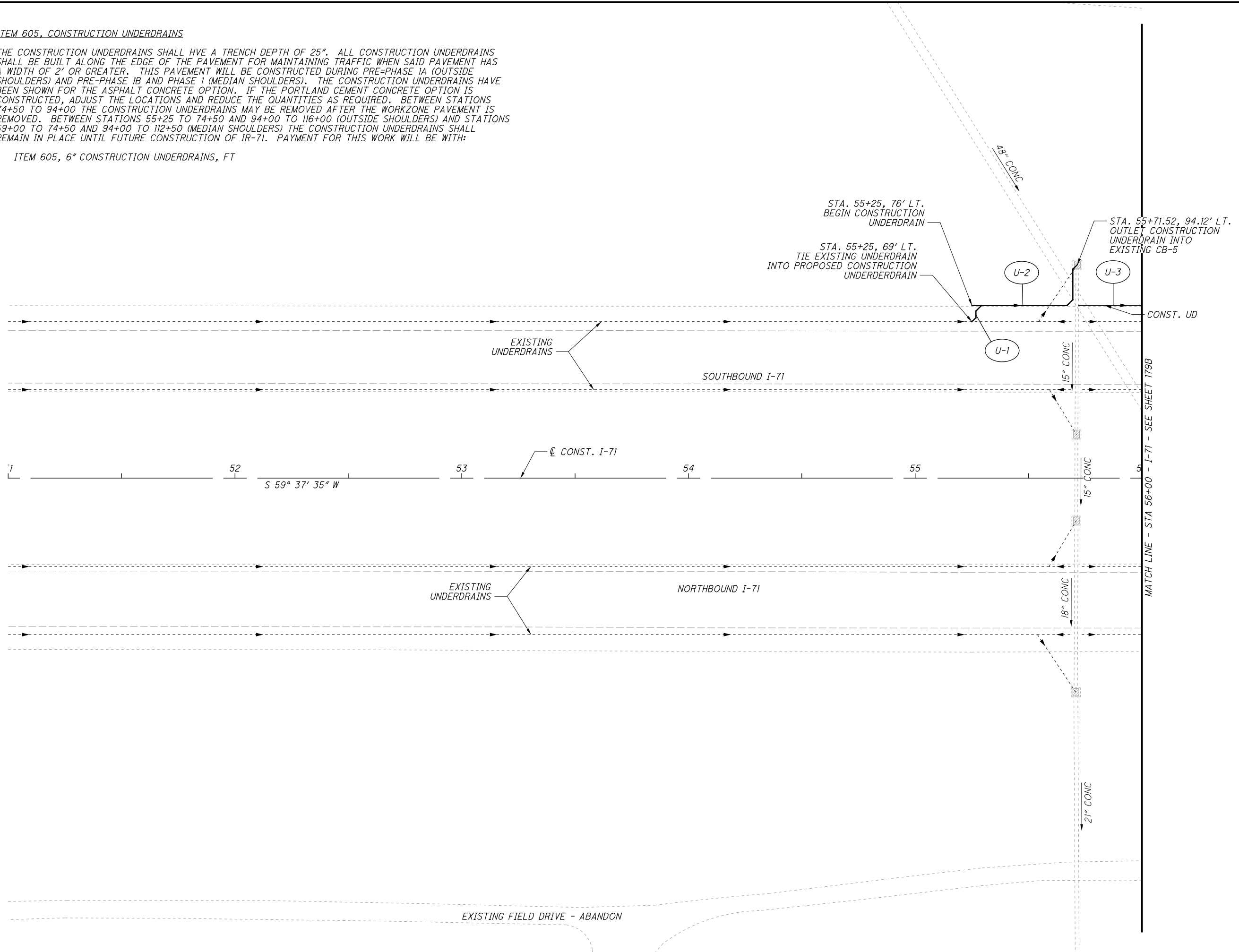
REF. NO.	SHEET NO.	STATION	SIDE	OFFSET	INVERT	STATION	SIDE	OFFSET	INVERT	601	605	605	605	605	605	611	611	BENDS AND BRANCHES FOR INFORMATION ONLY								
										TIED CONCRETE BLOCK MAT, TYPE 1	6" CONSTRUCTION UNDERDRAINS	6" SHALLOW PIPE UNDERDRAINS	6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN	6" UNCLASSIFIED PIPE UNDERDRAINS	6" BASE PIPE UNDERDRAINS	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	PRECAST REINFORCED CONCRETE OUTLET	PLUG	6" X 6" TEE	6" X 6" WYE	6" X 6" CROSS	6" X 90° ELL	6" X 45° ELL			
		FROM				TO				SQ YD	FT		FT	FT	FT	FT	EACH	NO.	NO.	NO.	NO.	NO.	NO.			
U-143	184-185	95+02	LT	31.95	791.94	96+80	LT	38.38	793.20									1								
U-144	184-185	95+02	RT	6.80	792.95	100+71	RT	19.40	790.70		569							1					3			
U-145	184-185	94+97	RT	10.30	793.55	100+71	RT	19.50	790.30		574							1					1			
U-146	184	95+02	RT	31.10	792.00	96+80	RT	38.25	793.20									1								
146A	186	95+02	RT	40.30	792.05	96+00	RT	41.00	792.50									1								
U-147	185	96+78	LT	76.25	793.49	96+80	LT	118.96	787.20	1.8	2					57	1		1				1			
U-148	185	96+78	RT	76.25	792.59	96+80	RT	119.00	787.50	1.8	2					43	1		1			1	1			
STATION 96+80 END FULL DEPTH PAVEMENT TAPER CONSTRUCTION																										
U-149	185-186A	96+82	LT	76.25	793.49	101+72	LT	76.25	791.60		490							1								
U-150	185-186A	9682	RT	76.25	792.59	101+72	RT	76.25	791.60		490							1								
U-151	NOT USED																									
U-152	NOT USED																									
U-153	185-186A	100+73	LT	21.44	791.60	102+59	LT	28.58	791.50		186							1					1			
U-154	185-186A	100+73	RT	20.60	791.50	102+68	RT	27.95	791.40		195							1					1			
U-155	186A	101+69	LT	76.25	791.60	101+73	LT	121.00	788.35	1.8	45						1		1				1			
U-156	186A	101+72	RT	76.20	791.60	101+72	RT	109.50	787.35	1.8	34						1		1				1			
U-157	186A	101+72	LT	76.25	791.60	105+48	LT	76.25	793.00		376							1								
U-158	186A	101+72	RT	76.25	791.60	105+48	RT	76.25	793.00		376							1								
U-159	186A	102+59	RT	39.00	791.25	102+70	RT	19.40	789.00		24								1	1				2		
U-160	186A	102+70	LT	39.00	791.25	102+70	LT	18.70	790.60		20								2	1						
U-161	186A	102+83	RT	39.00	791.25	102+70	RT	19.40	789.00		25								1	1				2		
U-162	186A & B	102+70	LT	30.00	791.50	109+50	LT	38.74	791.60		680							1						1		
U-163	186A - C	102+72	RT	28.00	791.25	111+69	RT	35.4	802.10		897							1								
U-164	186A & B	105+50	RT	119.00	786.85	108+48	RT	76.25	796.50	1.8	332						1	1				1	1			
U-165	186A & B	105+50	LT	125	788.25	110+48	LT	76.25	799.30	1.8	548						1	1				1	1			
U-166	186C	111+71	RT	19.5	800.75	112+50	RT	37.56	804.00		93							1					1	1		
U-167	185B & C	108+50	RT	114.1	788.15	111+48	RT	76.25	801.90	1.8	332						1	1				1	1			
U-168	185B & C	110+50	LT	111.6	787	113+50	LT	76.25	805.80	1.8	336						1	1				1	1			
U-169	186C	111+50	RT	113.5	787.9	114+50	RT	76.25	808.00	1.8	332						1	1				1	1			
U-170	186C	113+50	LT	69	805.5	113+50	LT	125	786.40	1.8	60						1					1	2			
U-171	186C	114+50	RT	76.25	806.7	116+00	RT	69	810.60	1.8	173						1	1				2	2			
TOTALS CARRIED TO SHEETS 113-114										19.8	7191						454		100	11	20	8	3		10	25

CALCULATED DCB CHECKED JMB	ESTIMATED QUANTITIES - UNDERDRAINS	FRA - 71 - 1.53	178 285
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ITEM 605, CONSTRUCTION UNDERDRAINS

THE CONSTRUCTION UNDERDRAINS SHALL HVE A TRENCH DEPTH OF 25". ALL CONSTRUCTION UNDERDRAINS SHALL BE BUILT ALONG THE EDGE OF THE PAVEMENT FOR MAINTAINING TRAFFIC WHEN SAID PAVEMENT HAS A WIDTH OF 2' OR GREATER. THIS PAVEMENT WILL BE CONSTRUCTED DURING PRE-PHASE 1A (OUTSIDE SHOULDERS) AND PRE-PHASE 1B AND PHASE 1 (MEDIAN SHOULDERS). THE CONSTRUCTION UNDERDRAINS HAVE BEEN SHOWN FOR THE ASPHALT CONCRETE OPTION. IF THE PORTLAND CEMENT CONCRETE OPTION IS CONSTRUCTED, ADJUST THE LOCATIONS AND REDUCE THE QUANTITIES AS REQUIRED. BETWEEN STATIONS 74+50 TO 94+00 THE CONSTRUCTION UNDERDRAINS MAY BE REMOVED AFTER THE WORKZONE PAVEMENT IS REMOVED. BETWEEN STATIONS 55+25 TO 74+50 AND 94+00 TO 116+00 (OUTSIDE SHOULDERS) AND STATIONS 59+00 TO 74+50 AND 94+00 TO 112+50 (MEDIAN SHOULDERS) THE CONSTRUCTION UNDERDRAINS SHALL REMAIN IN PLACE UNTIL FUTURE CONSTRUCTION OF IR-71. PAYMENT FOR THIS WORK WILL BE WITH:

ITEM 605, 6" CONSTRUCTION UNDERDRAINS, FT



CALCULATED MAH CHECKED CTW

0 20 40
HORIZONTAL SCALE IN FEET

UNDERDRAIN PLAN - I-71
STA 51+00 TO STA 56+00

FRA -71-1.53

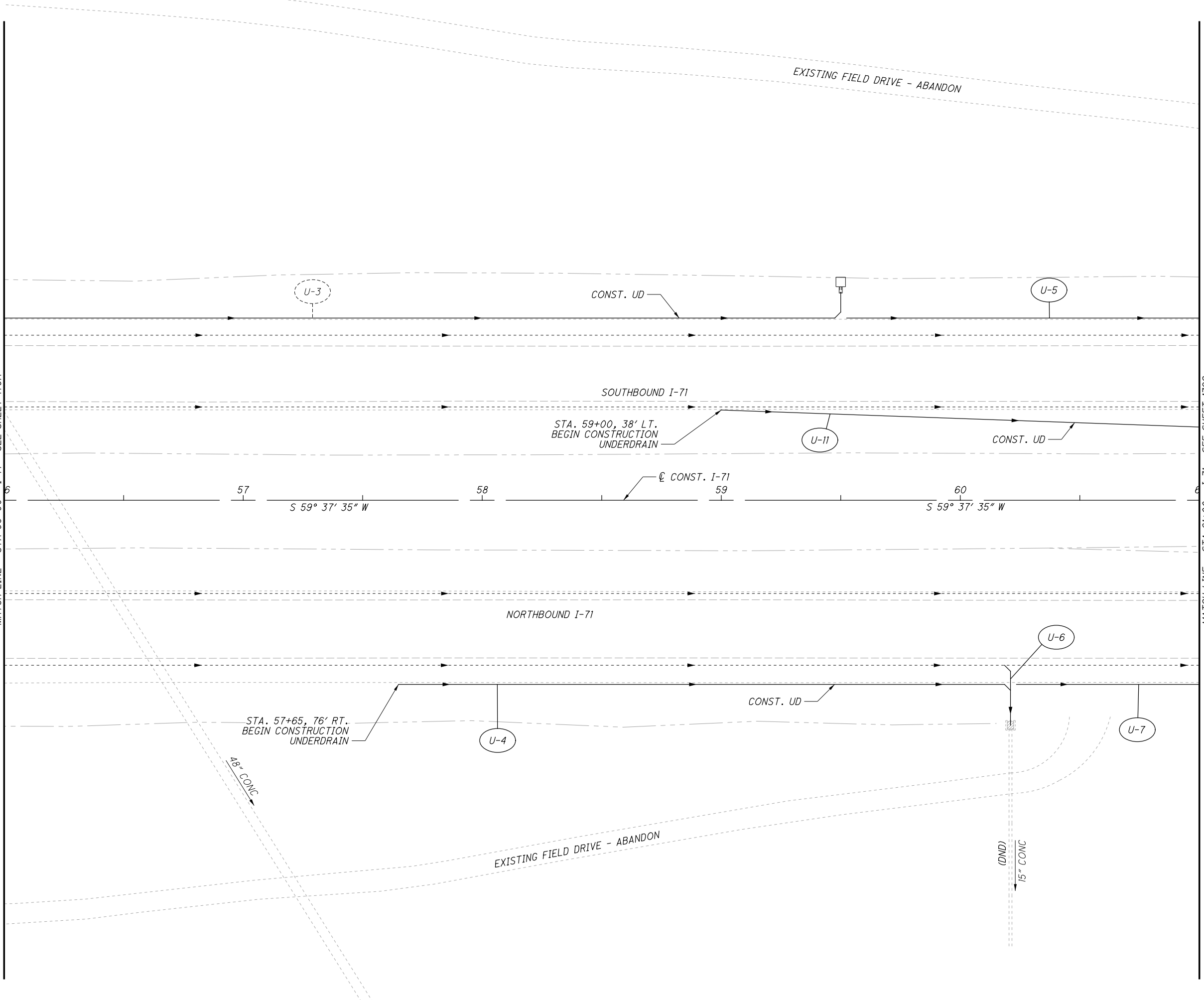
179A
285

X:\4037000\121957.15\93496\drainage\sheets\93496PP012.dgn Sheet 11/20/2018 6:00:37 PM 1473ctw

X:\4037000\121957.15\93496\drainage\sheets\93496PO13.dgn Sheet 11/20/2018 6:03:08 PM 1473ctw

MATCH LINE - STA 56+00 - I-71 - SEE SHEET 179A

MATCH LINE - STA 61+00 - I-71 - SEE SHEET 179C



CALCULATED MAH
CHECKED CTW

0 20 40
HORIZONTAL SCALE IN FEET

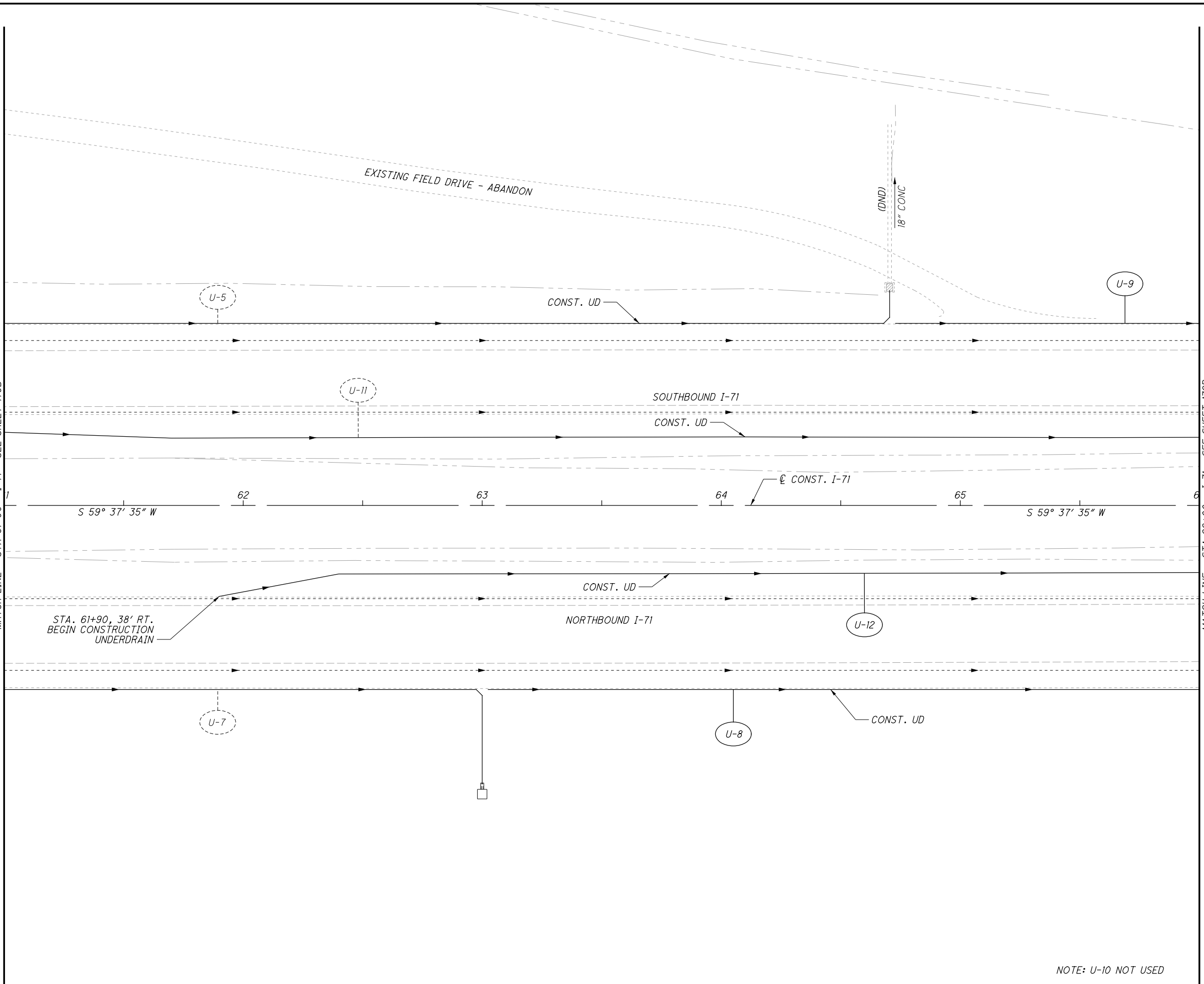
UNDERDRAIN PLAN - I-71
STA 56+00 TO STA 61+00

FRA -71-1.53

179B
285

X:\4037000\121957.15\93496\drainage\sheets\93496DP014.dgn Sheet 11/20/2018 6:05:52 PM 1473ctw

MATCH LINE - STA 61+00 - I-71 - SEE SHEET 179B



CALCULATED	MAH
CHECKED	CTW

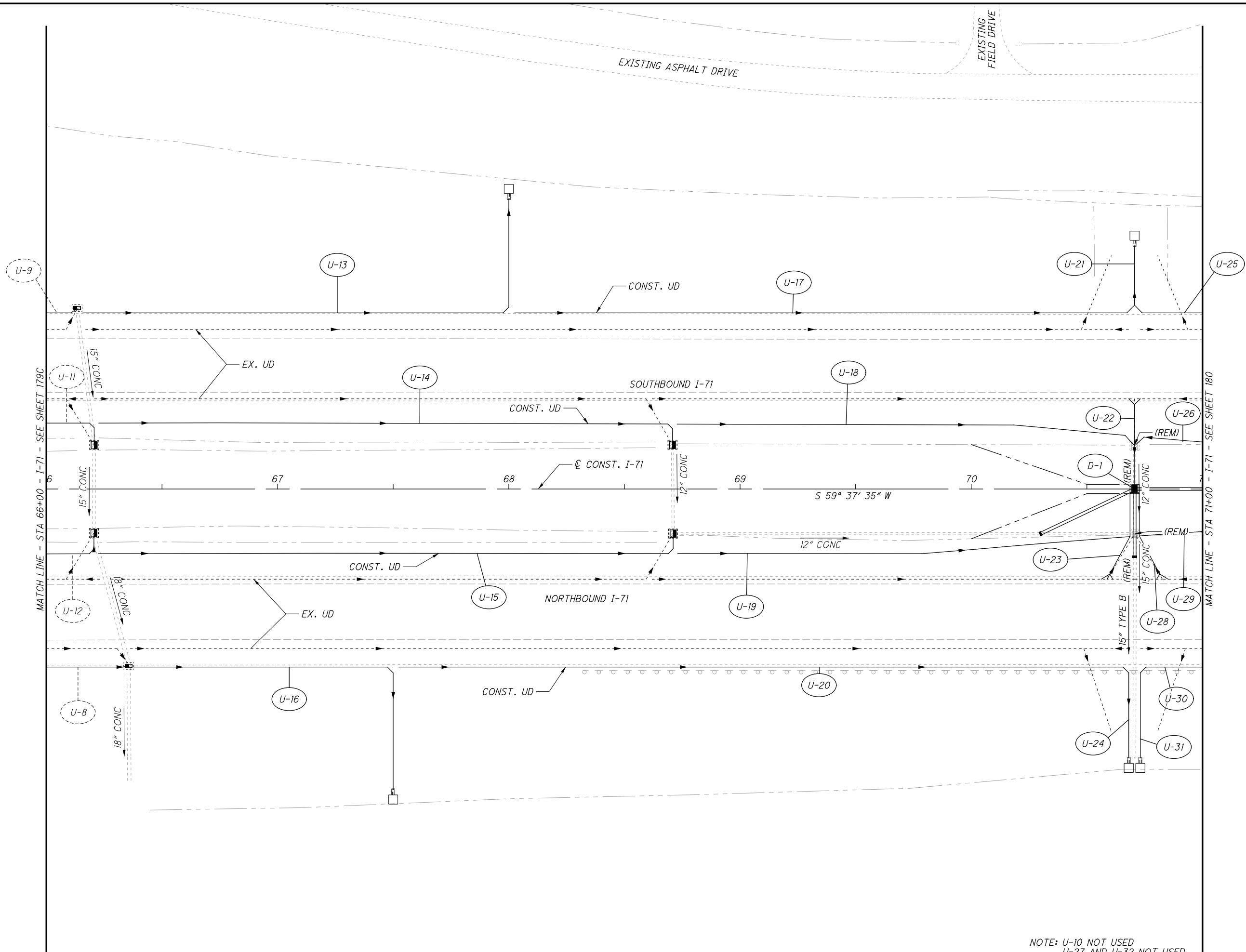
UNDERDRAIN PLAN - I-71
STA 61+00 TO STA 66+00

FRA-71-1.53

179C
285

NOTE: U-10 NOT USED

X:\4037000\121957.15\93496\drainage\sheets\93496DPO15.dgn Sheet 11/20/2018 6:10:21 PM 1473ctw



CALCULATED MAH
CHECKED CTW

0 20 40
HORIZONTAL SCALE IN FEET

UNDERDRAIN PLAN - I-71
STA 66+00 TO STA 71+00

FRA - 71-1.53

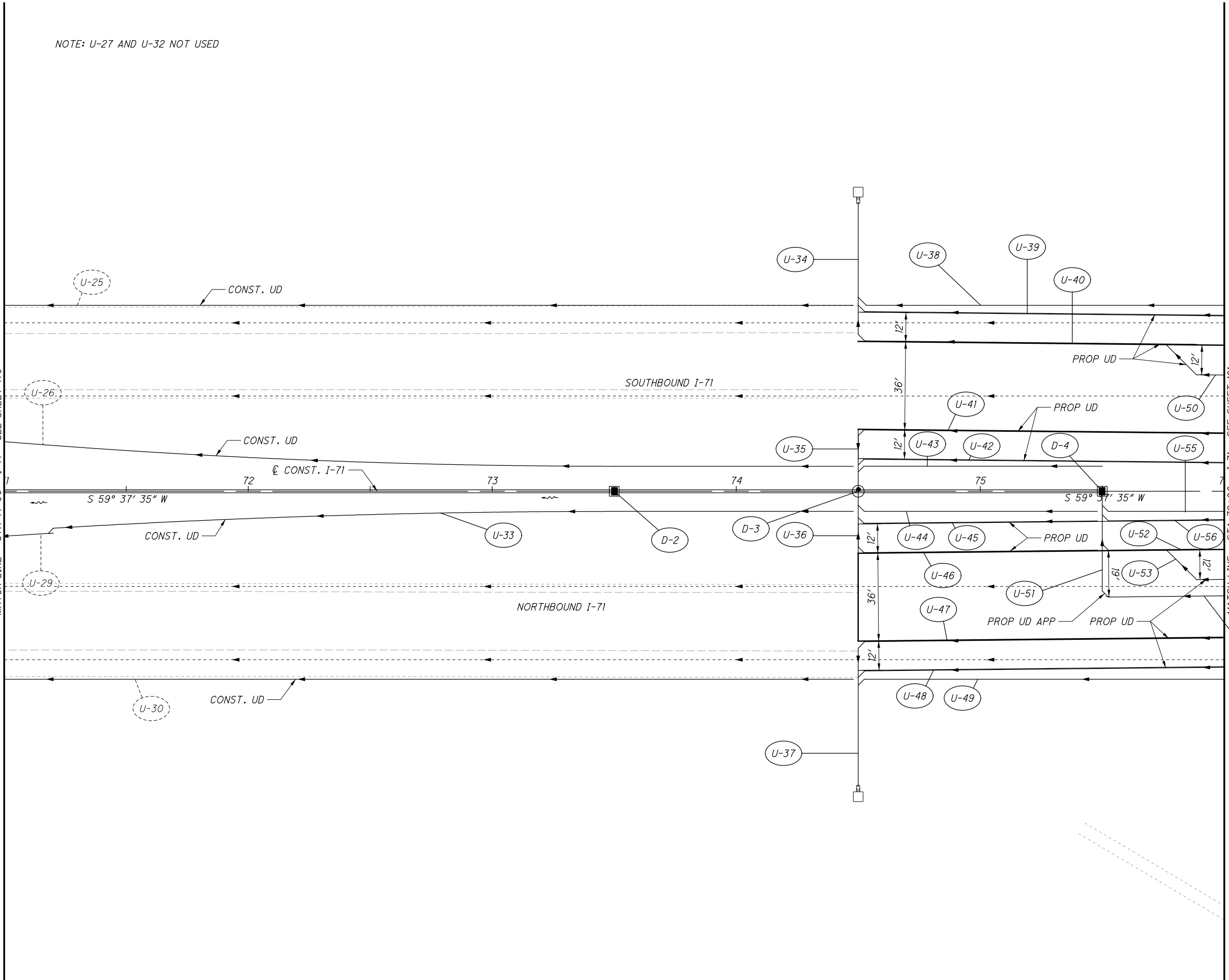
179D
285

NOTE: U-10 NOT USED
U-27 AND U-32 NOT USED

X:\4037000\121957.15\93496\drainage\sheets\93496DPO16.dgn Sheet 11/19/2018 3:01:40 PM 1636acb

NOTE: U-27 AND U-32 NOT USED

MATCH LINE - STA 71+00 - I-71 - SEE SHEET 179



MATCH LINE - STA 76+00 - I-71 - SEE SHEET 181

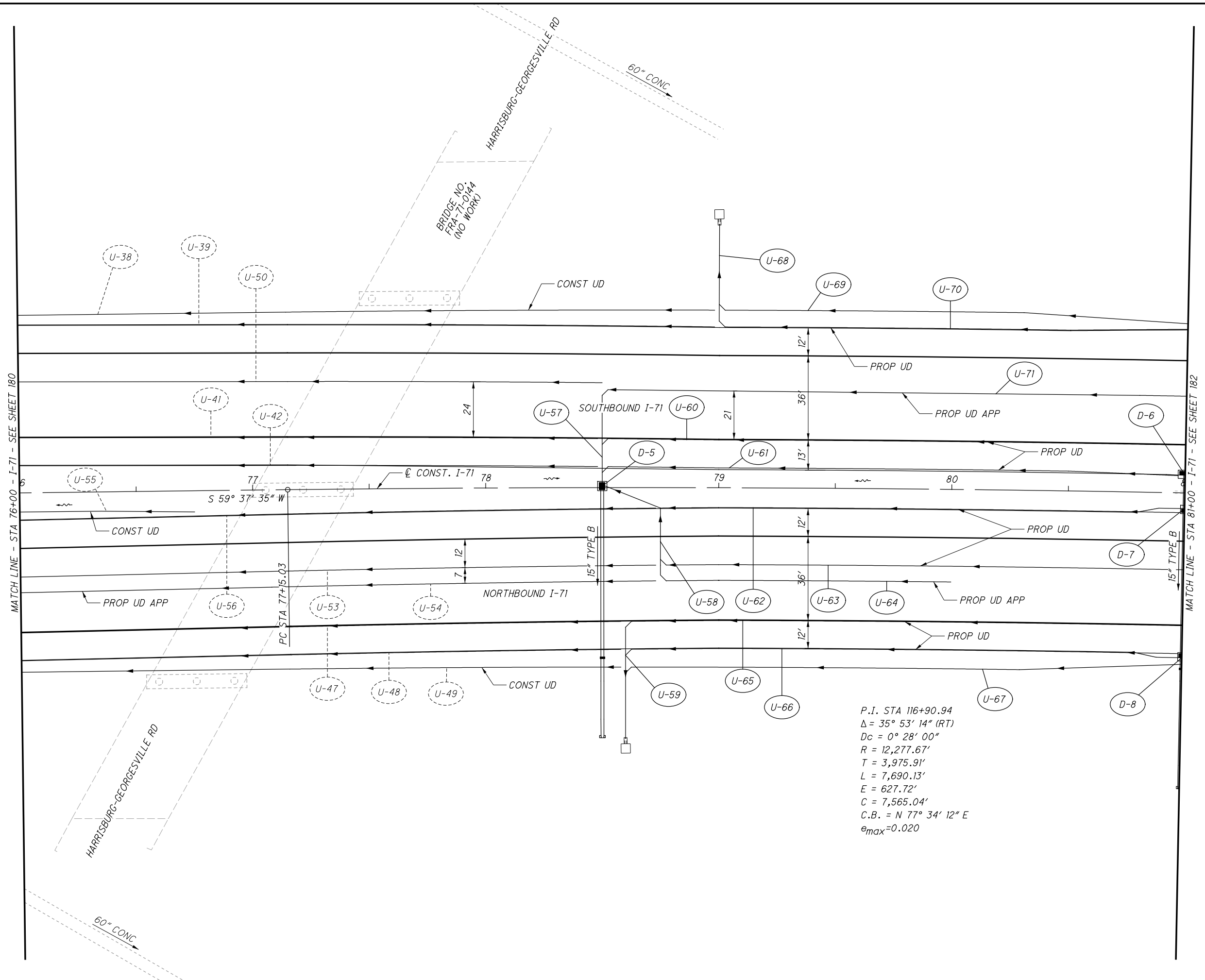
CALCULATED MAH
CHECKED CTW

0 20 40
HORIZONTAL SCALE IN FEET

UNDERDRAIN PLAN - I-71
STA 71+00 TO STA 76+00

FRA -71-1.53

X:\4037000\121957.15\93496\drainage\sheets\93496DP017.dgn Sheet 11/19/2018 3:01:40 PM 1636dcb



P.I. STA 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $D_c = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e_{max} = 0.020$

MATCH LINE - STA 76+00 - I-71 - SEE SHEET 180

MATCH LINE - STA 81+00 - I-71 - SEE SHEET 182

BRIDGE NO. FRA-71-01A4 (NO WORK)

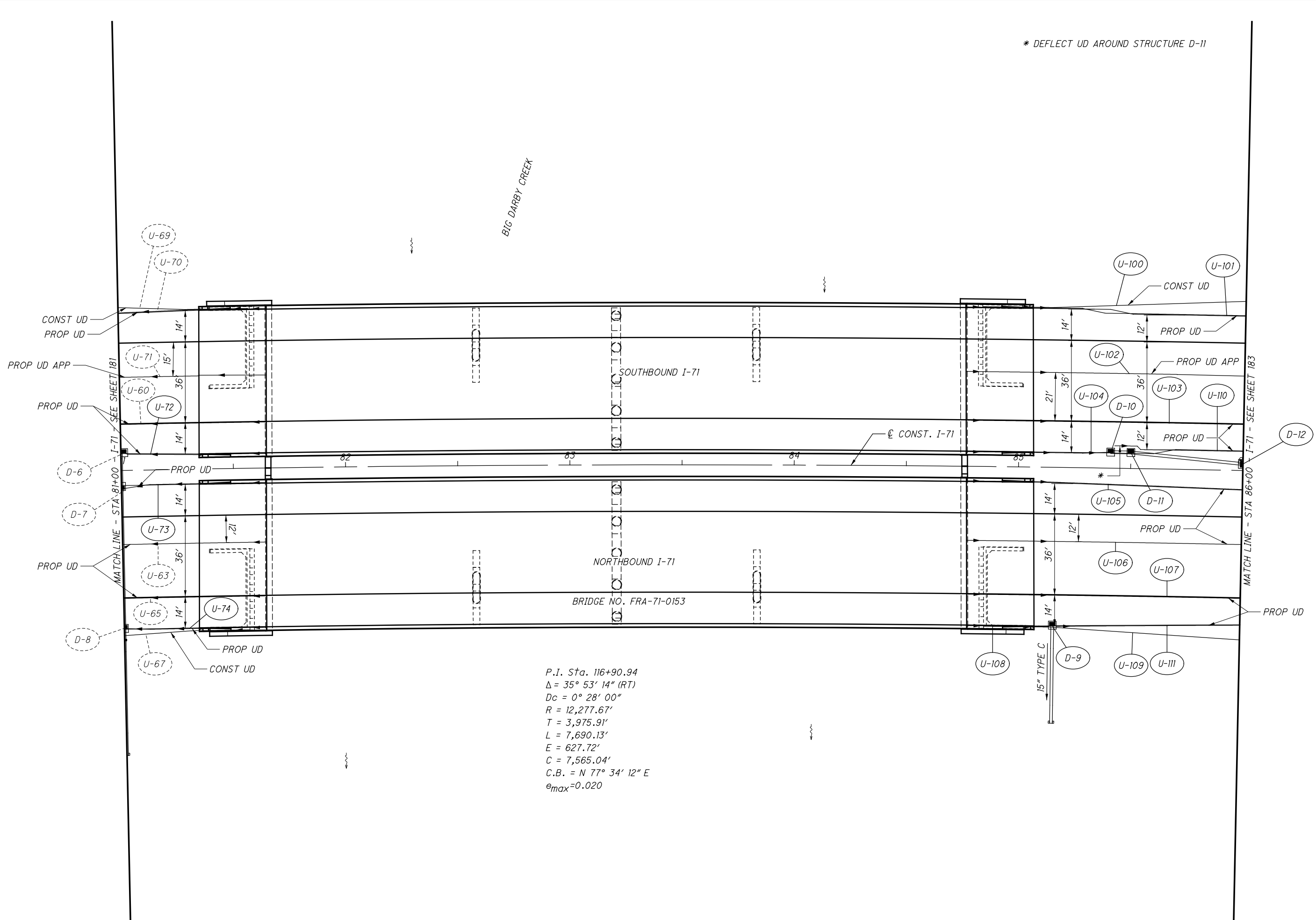
CALCULATED MAH
 CHECKED CTW

0 20 40
 HORIZONTAL SCALE IN FEET

UNDERDRAIN PLAN - I-71
STA 76+00 TO STA 81+00

FRA-71-1.53

X:\4037000\121957.15\93496\drainage\sheets\93496DPO18.dgn Sheet 11/19/2018 3:01:40 PM 1636dcb



P.I. Sta. 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $D_c = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e_{max} = 0.020$

* DEFLECT UD AROUND STRUCTURE D-11

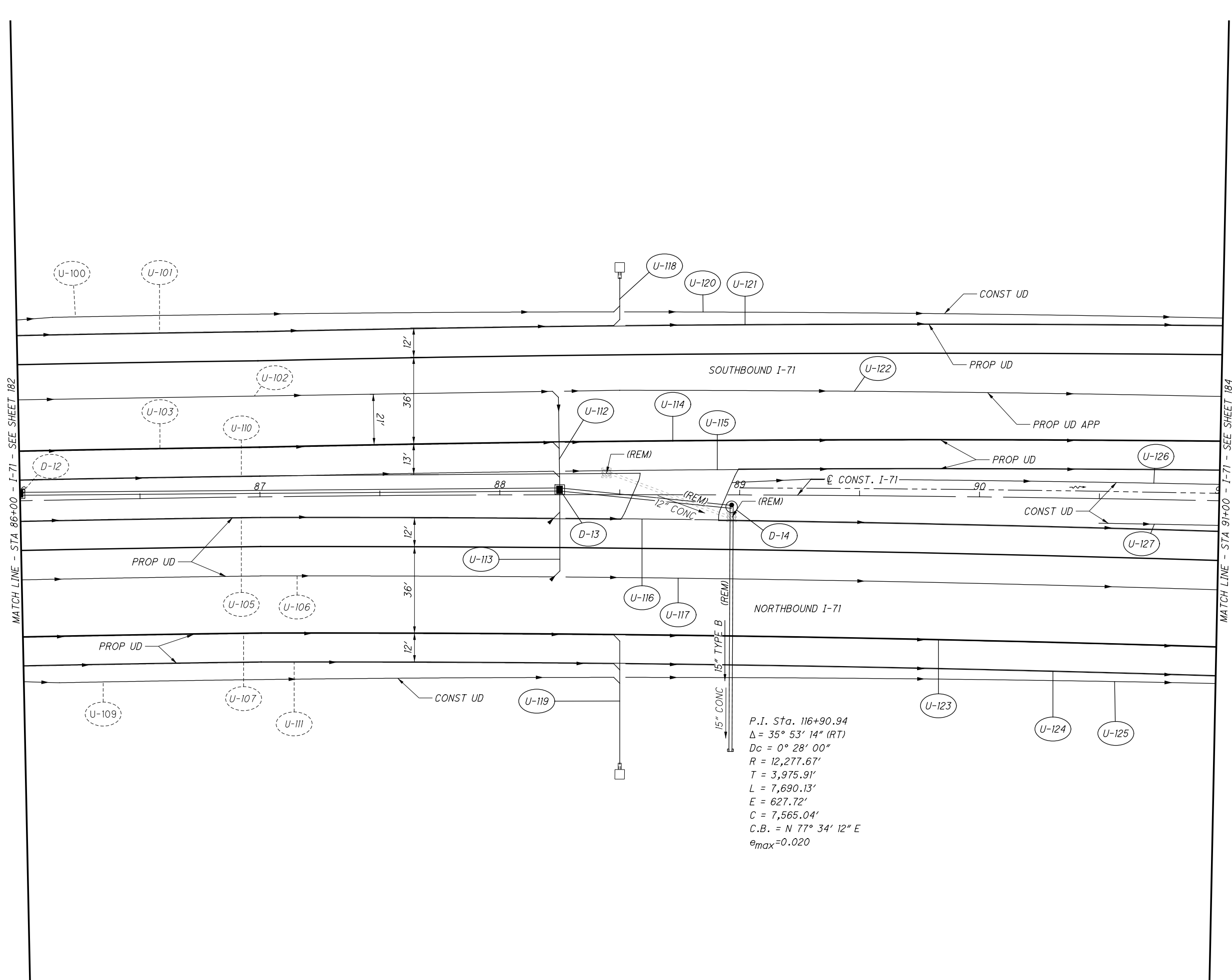
CALCULATED
 MAH
 CHECKED
 CTW

0 20 40
 HORIZONTAL
 SCALE IN FEET

UNDERDRAIN PLAN - I-71
STA 81+00 TO STA 86+00

FRA-71-1.53

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P.I. Sta. 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $Dc = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e_{max} = 0.020$

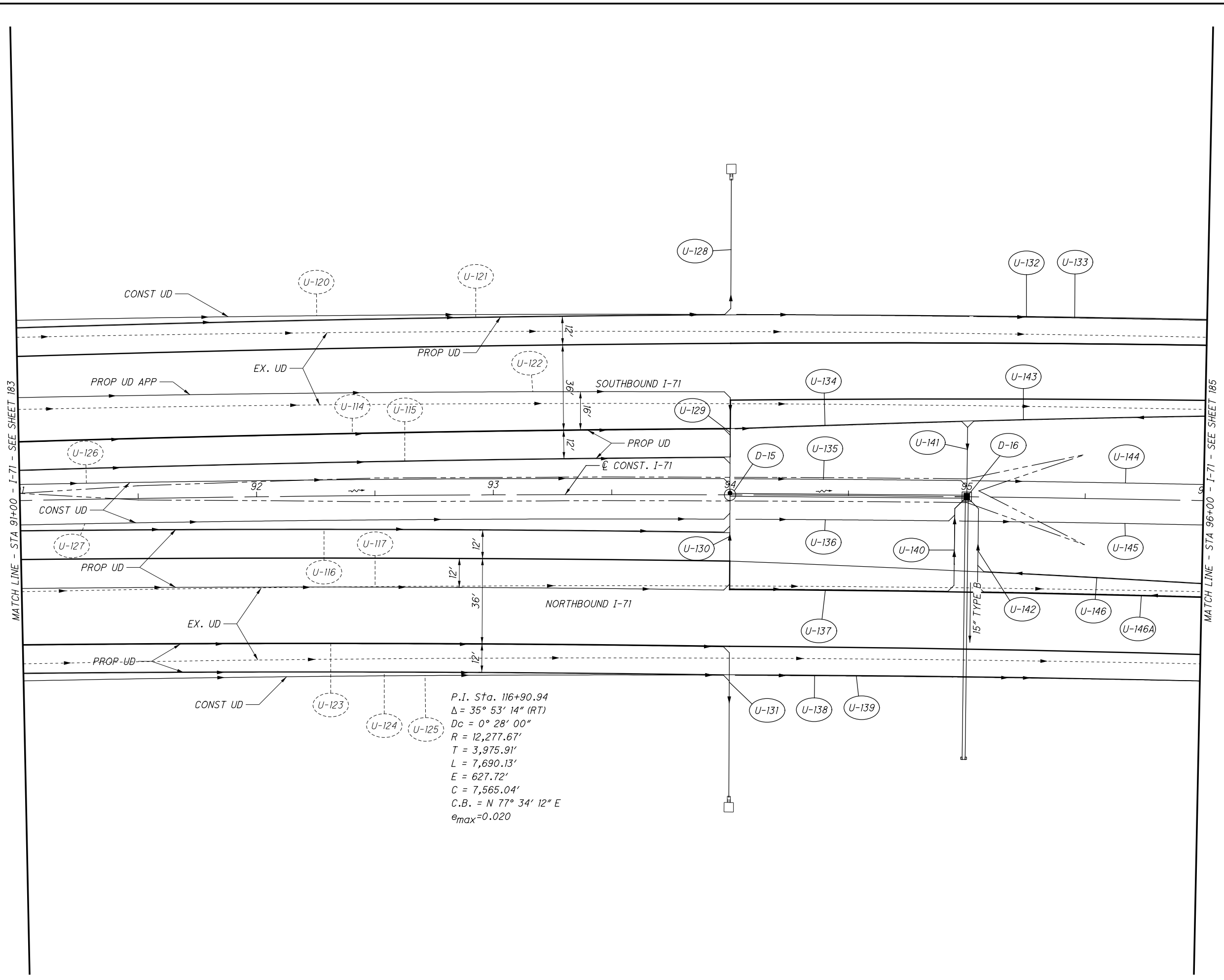
CALCULATED MAH
 CHECKED CTW

0 20 40
 HORIZONTAL SCALE IN FEET

UNDERDRAIN PLAN - I-71
STA 86+00 TO STA 91+00

FRA-71-1.53

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P.I. Sta. 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $D_c = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e_{max} = 0.020$

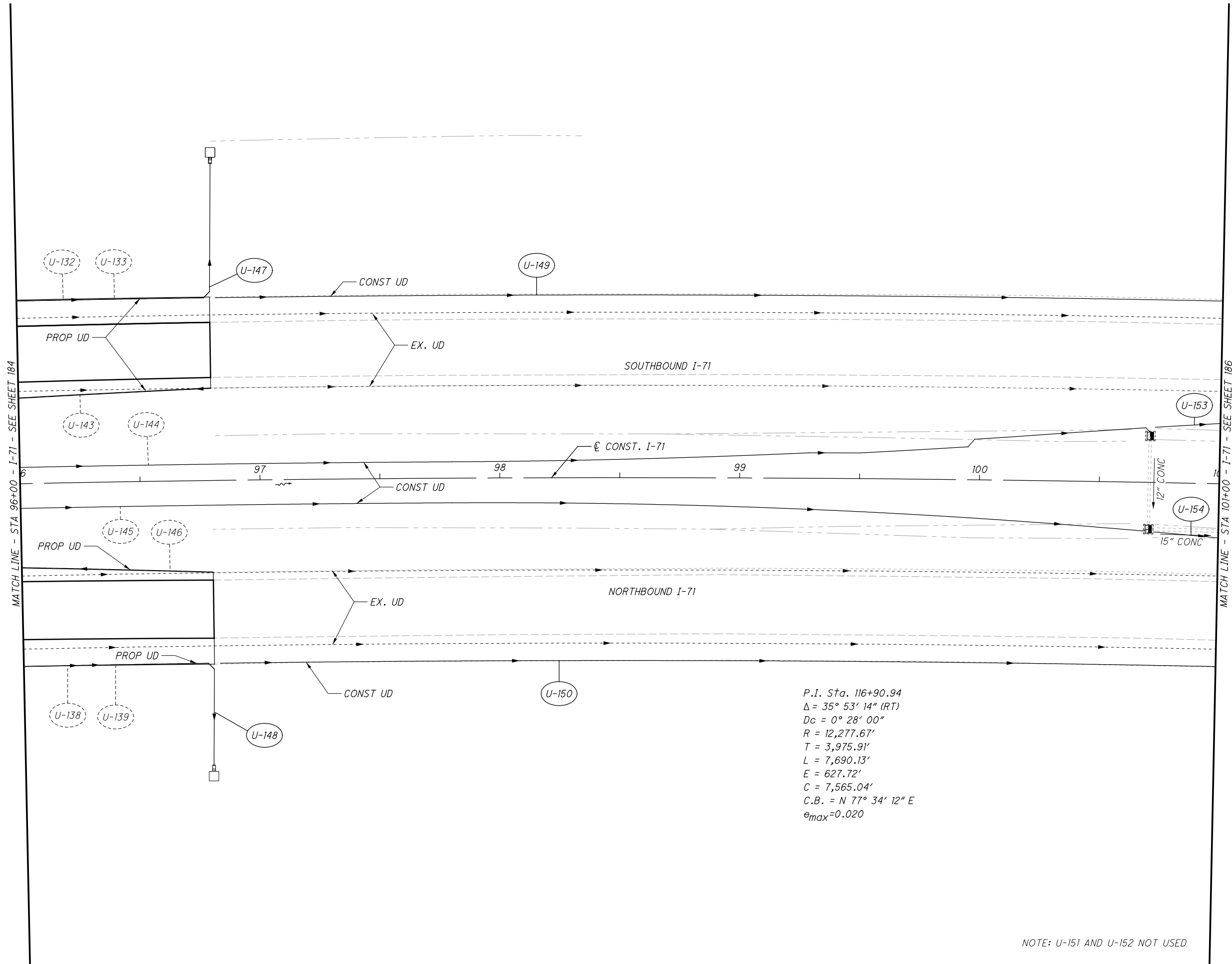
CALCULATED MAH
 CHECKED CTW

0 20 40
 HORIZONTAL SCALE IN FEET

UNDERDRAIN PLAN - I-71
STA 91+00 TO STA 96+00

FRA-71-1.53

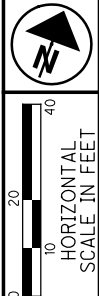
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P.I. Sta. 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $D_c = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e_{max} = 0.020$

NOTE: U-151 AND U-152 NOT USED

CALCULATED MAH
 CHECKED CTW



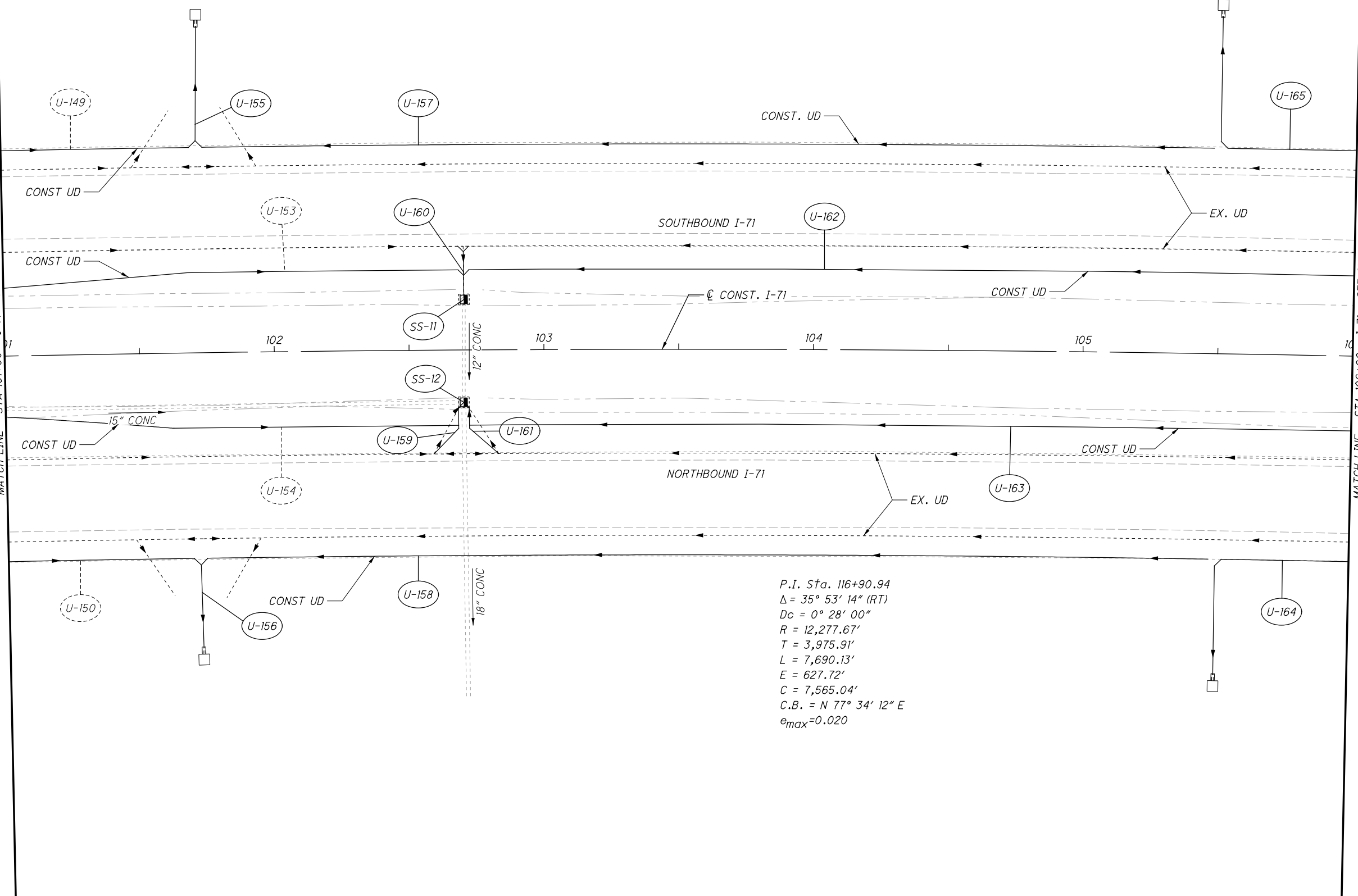
UNDERDRAIN PLAN - I-71
STA 96+00 TO STA 101+00

FRA-71-1.53

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MATCH LINE - STA 101+00 - I-71 - SEE SHEET 185

MATCH LINE - STA 106+00 - I-71 - SEE SHEET 186B



P.I. Sta. 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $Dc = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e_{max} = 0.020$

CALCULATED
 MAH
 CHECKED
 CTW

0 20 40
 HORIZONTAL
 SCALE IN FEET

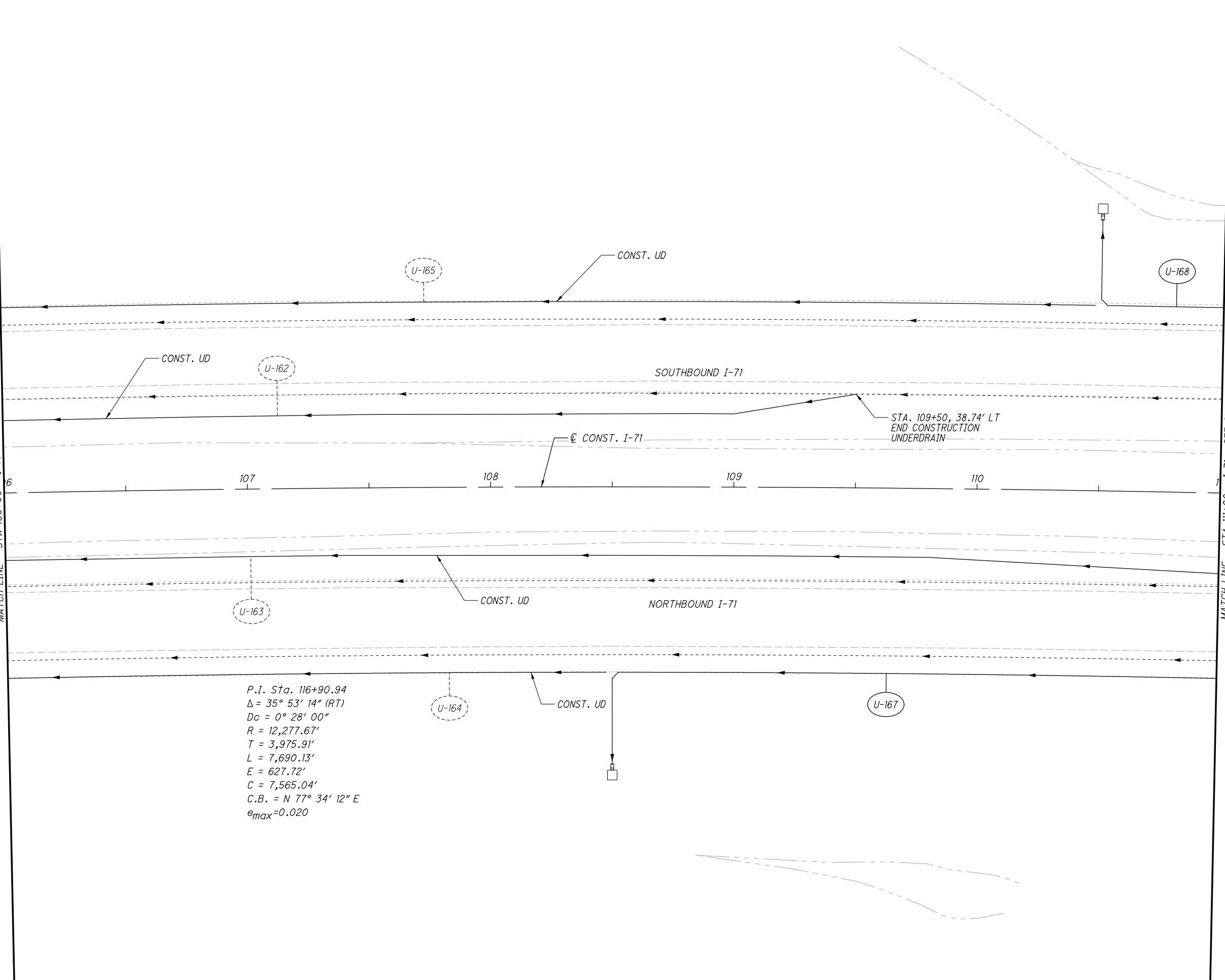
UNDERDRAIN PLAN - I-71
STA 101+00 TO STA 106+00

FRA-71-1.53

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MATCH LINE - STA 106+00 - I-71 - SEE SHEET 185A

MATCH LINE - STA 111+00 - I-71 - SEE SHEET 185C



P.I. Sta. 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $Dc = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e_{max} = 0.020$

CALCULATED MAH
 CHECKED CTW

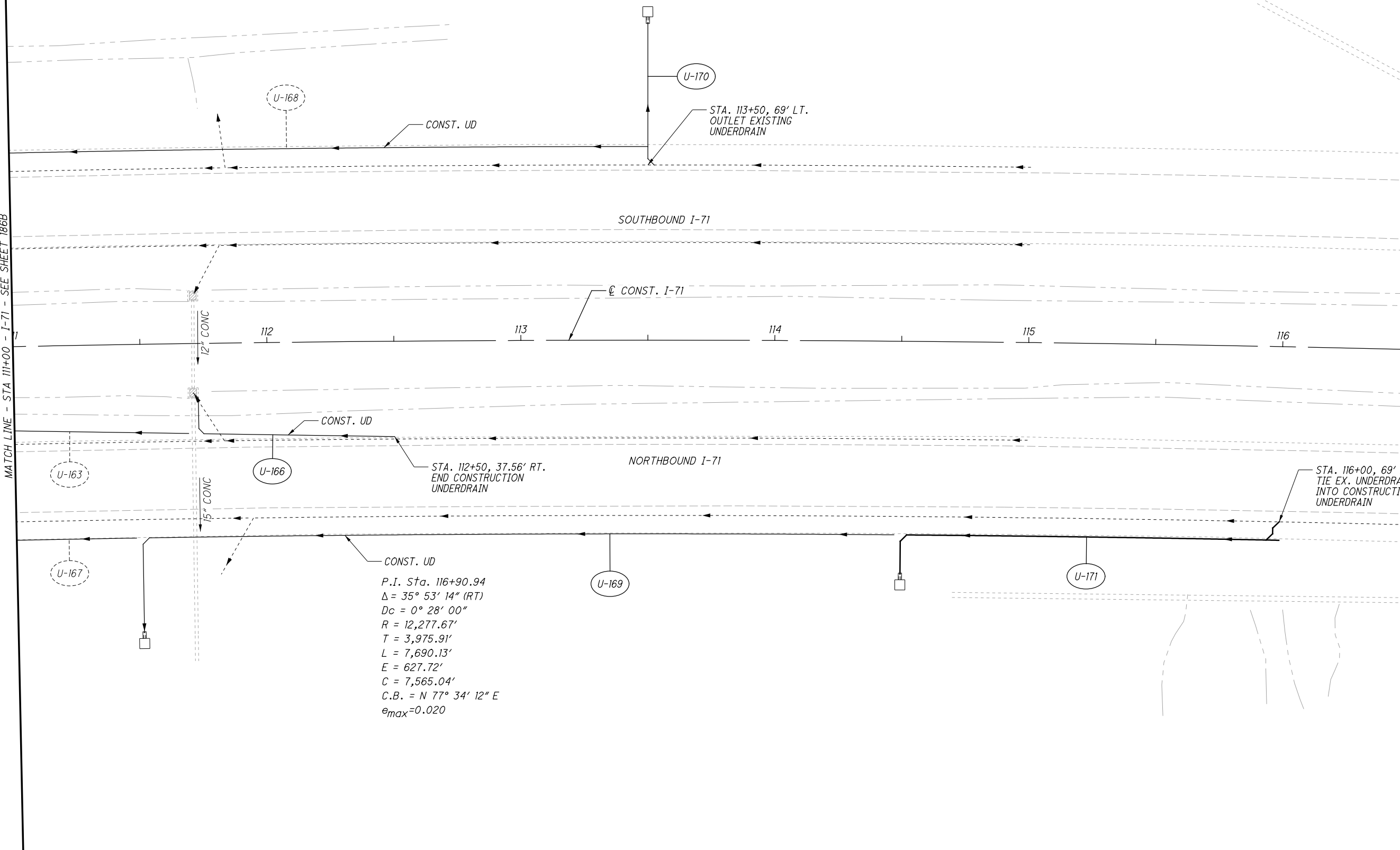
0 20 40
 HORIZONTAL SCALE IN FEET

UNDERDRAIN PLAN - I-71
STA 106+00 TO STA 111+00

FRA-71-1.53

X:\4037000\121957.15\93496\drainage\sheets\93496DPO24.dgn Sheet 11/20/2018 6:26:22 PM 1473ctw

MATCH LINE - STA 111+00 - I-71 - SEE SHEET 186B



P.I. Sta. 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $D_c = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e_{max} = 0.020$

CALCULATED MAH
 CHECKED CTW

0 20 40
 HORIZONTAL SCALE IN FEET

UNDERDRAIN PLAN - I-71
STA 116+00 TO STA 121+00

FRA -71-1.53

186C
285

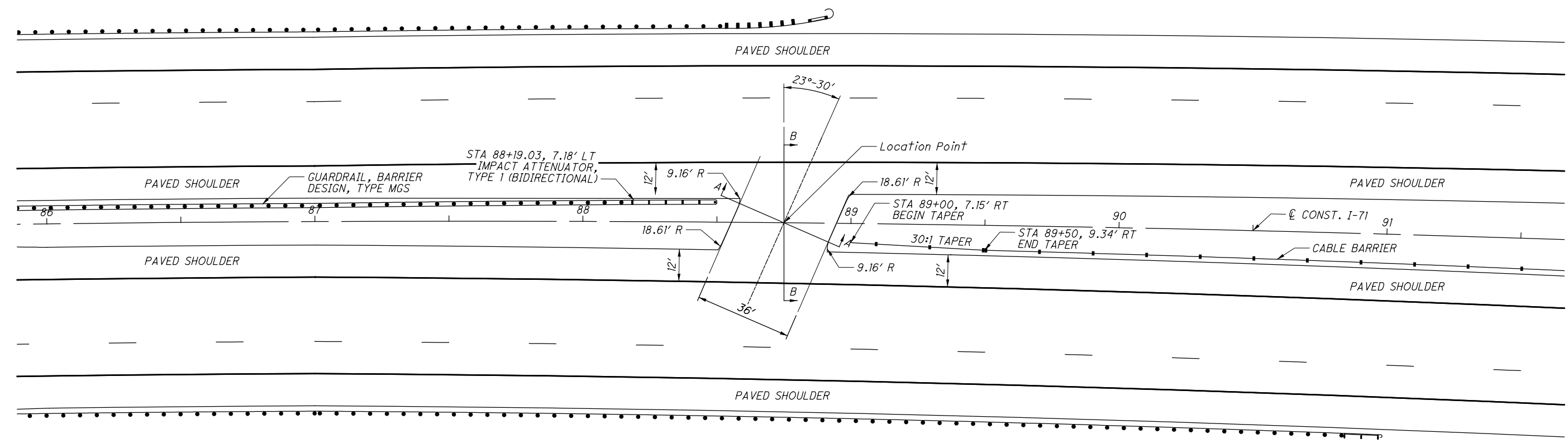


CALCULATED
MAH
CHECKED
JMB

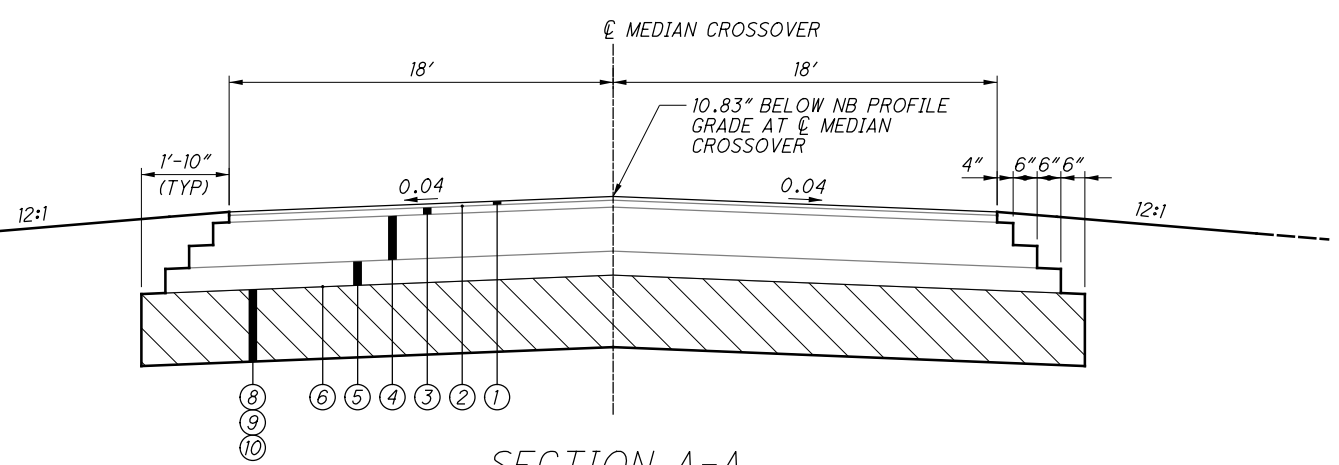
MEDIAN CROSSOVER DETAILS
STA 88+75

FRA - 71-1.53

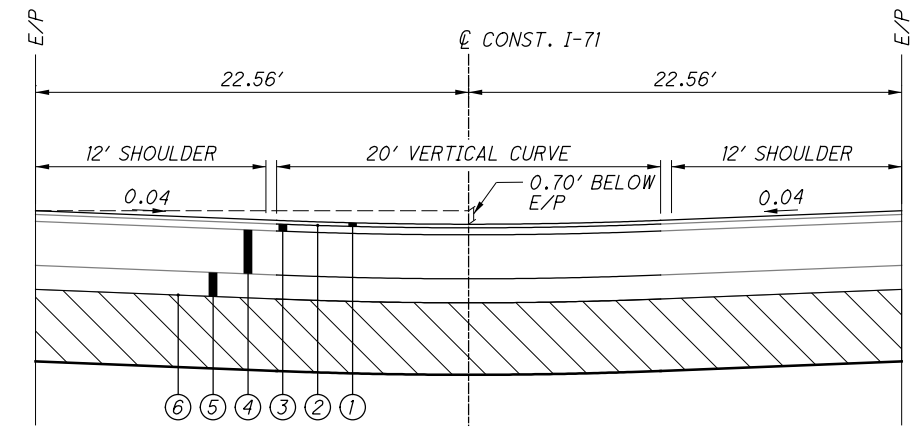
187
285



MEDIAN CROSSOVER DETAIL
APPLIES: STA 88+75



SECTION A-A



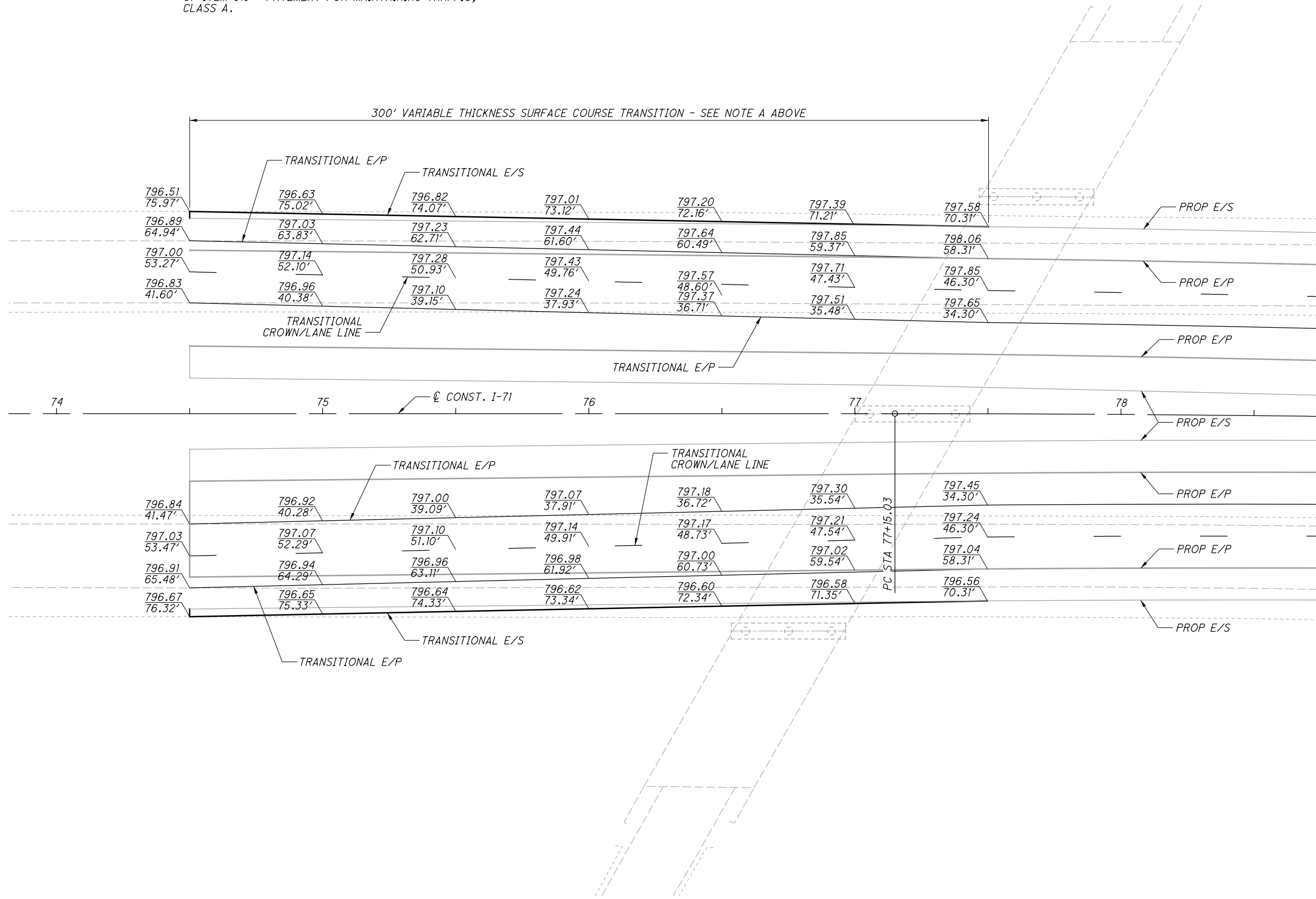
SECTION B-B

LEGEND

- ① ITEM 442 - 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A, (446)
- ② ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL/SY)
- ③ ITEM 442 - 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A, (446)
- ④ ITEM 302 - ASPHALT CONCRETE BASE, 11" (2 EQUAL LIFTS)
- ⑤ ITEM 304 - 6" AGGREGATE BASE
- ⑥ ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING
- ⑦ ITEM 206 - CEMENT STABILIZED SUBGRADE, 12" DEEP
- ⑧ ITEM 204 - EXCAVATION OF SUBGRADE, 12" DEEP
- ⑨ ITEM 204 - GEOTEXTILE FABRIC
- ⑩ ITEM 204 - 12" GRANULAR MATERIAL, TYPE B

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NOTE A: VARIABLE THICKNESS SURFACE COURSE TRANSITION TO ALIGN EXISTING CROWN AND PAVEMENT EDGES TO FULL-BUILD CONDITION - STA 74+50 TO STA 77+50, NORTHBOUND AND SOUTHBOUND DIRECTIONS. OUTSIDE SHOULDER PAVEMENT WEDGES ARE TO BE CONSTRUCTED OF ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A.



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CALCULATED
DCB
CHECKED
ANN

0 20 40
HORIZONTAL
SCALE IN FEET

PAVEMENT TRANSITION DETAILS
STA 74+50 TO STA 77+50

FRA-71-1.53

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SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	LENGTH	620	621	626	644*	644*	644*	644*	646	646	646										
			DELINEATOR, POST GROUND MOUNTED	RPM			BARRIER REFLECTOR	EDGE LINE, 6" (WHITE)	EDGE LINE, 6" (YELLOW)	LANE LINE, 6"	REMOVAL OF PAVEMENT MARKING		EDGE LINE, 6" (WHITE)	EDGE LINE, 6" (YELLOW)	LANE LINE, 6"											
			FROM	TO			EACH	EACH	EACH	MILE	MILE	MILE	FEET		MILE	MILE	MILE									
191	- 196	EW-1	I-71	57+20.00	81+35.00	RT				0.46																
191	- 196	EY-1	I-71	57+20.00	81+35.00	RT					0.46															
191	- 196	LL-1	I-71	54+40.00	81+35.00	RT		22				0.51														
192	- 196	EW-2	I-71	54+75.00	81+35.00	LT				0.50																
192	- 196	EY-2	I-71	54+75.00	81+35.00	LT					0.50															
192	- 196	LL-2	I-71	52+25.00	81+35.00	LT		24				0.55														
196		EW-3	I-71	81+35.00	85+08.00	RT							0.07													
196		EY-3	I-71	81+35.00	85+08.00	RT								0.07												
196		LL-3	I-71	81+35.00	85+08.00	RT		4							0.07											
196		EW-4	I-71	81+35.00	85+08.00	LT							0.07													
196		EY-4	I-71	81+35.00	85+08.00	LT								0.07												
196		LL-4	I-71	81+35.00	85+08.00	LT		4							0.07											
196	201	EW-5	I-71	85+08.00	116+90.00	RT				0.60																
196	201	EY-5	I-71	85+08.00	116+90.00	RT					0.60															
196	201	LL-5	I-71	85+08.00	119+40.00	RT		30				0.65														
196	201	EW-6	I-71	85+08.00	114+70.00	LT				0.56																
196	201	EY-6	I-71	85+08.00	114+70.00	LT					0.56															
196	201	LL-6	I-71	85+08.00	117+05.00	LT		27				0.61														
197	- 201	BR-1	I-71	68+32.00	91+00.00	RT			24																	
198	- 201	BR-2	I-71	74+16.00	88+91.00	LT			16																	
199		BR-3	I-71	76+75.00	77+55.00	RT			2																	
199		BR-4	I-71	76+86.00	77+70.00	LT			2																	
199	- 200	BR-5	I-71	78+33.00	85+07.00	RT			8																	
200	- 201	BR-6	I-71	81+35.00	88+50.00	LT			8																	
191	- 194		MARKINGS REMOVED NB	54+40.00	74+50.00	RT	2010						6,030													
192	- 194		MARKINGS REMOVED SB	52+25.00	74+50.00	LT	2225						6,675													
199	- 201		MARKINGS REMOVED NB	96+80.00	119+40.00	RT	2260						6,780													
199	- 201		MARKINGS REMOVED SB	96+80.00	117+05.00	LT	2025						6,075													
191	- 196		I-71	54+75.00	81+35.00	LT/RT		15																		
197	- 201		I-71	85+08.00	116+90.00	LT/RT		18																		
TOTALS CARRIED TO GENERAL SUMMARY								33	111	60	4.24	2.32	25,560		0.28	0.14										

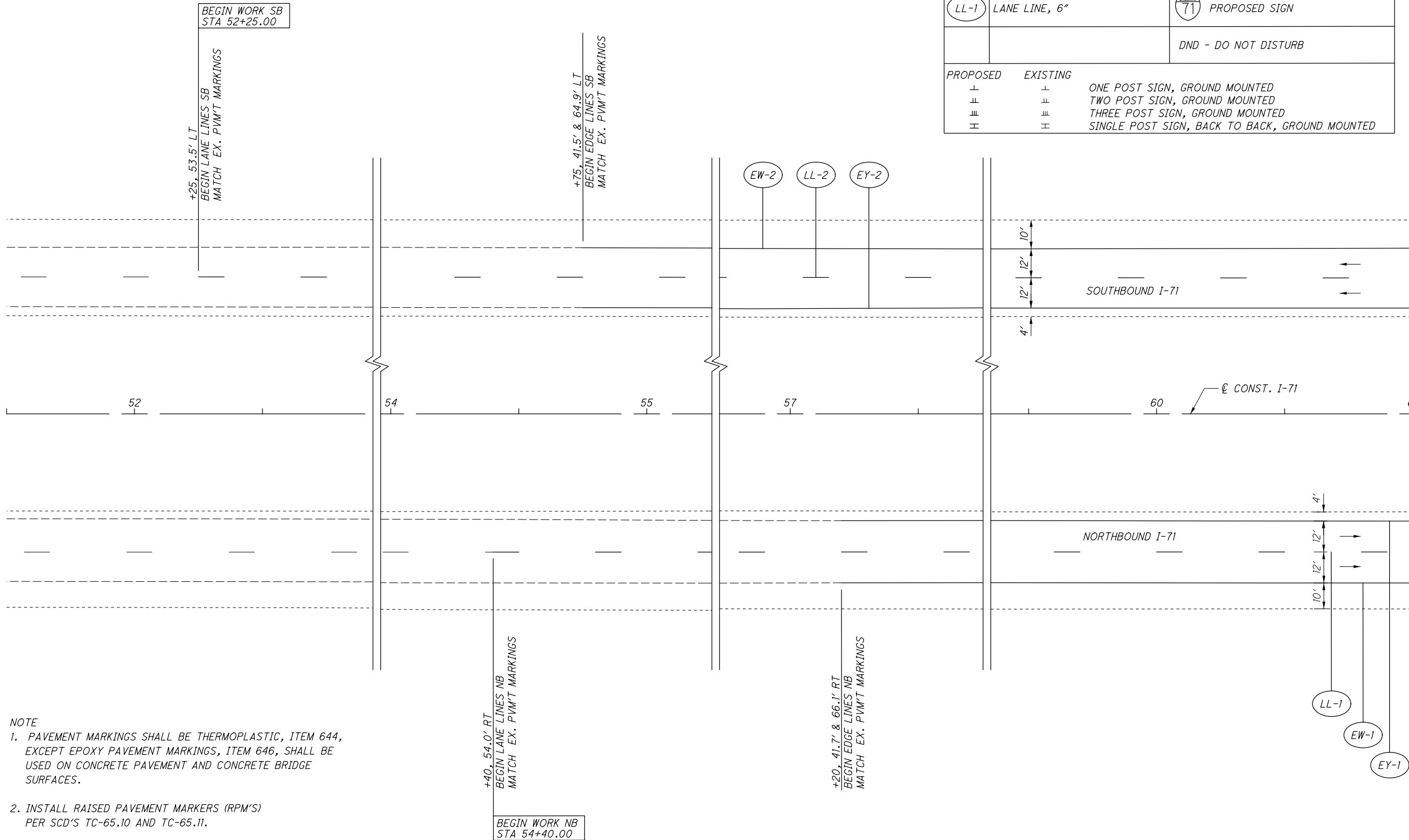
*USE ITEM 644 FOR OPTION A (ASPHALT)
USE ITEM 646 FOR OPTION B (CONCRETE)

SUBSUMMARY - TRAFFIC CONTROL

FRA - 71 - 1.53

CALCULATED EGD CHECKED DLW

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- NOTE**
- PAVEMENT MARKINGS SHALL BE THERMOPLASTIC, ITEM 644, EXCEPT EPOXY PAVEMENT MARKINGS, ITEM 646, SHALL BE USED ON CONCRETE PAVEMENT AND CONCRETE BRIDGE SURFACES.
 - INSTALL RAISED PAVEMENT MARKERS (RPM'S) PER SCD'S TC-65.10 AND TC-65.11.
 - MATCH EXISTING PAVEMENT MARKINGS AT STATIONS 61+35.00 AND 108+10.00 SB AND STATIONS 60+60.00 AND 107+00.00 NB.
 - INSTALL ITEM 620, DELINEATORS, POST GROUND MOUNTED ALONG THE OUTSIDE SHOULDER PER STANDARD CONSTRUCTION DRAWING TC-61.10.

LEGEND		
EW-1	EDGE LINE, 6" (WHITE)	EXISTING SIGN
EY-1	EDGE LINE, 6" (YELLOW)	EXISTING SIGN TO BE REMOVED
LL-1	LANE LINE, 6"	PROPOSED SIGN
		DND - DO NOT DISTURB
PROPOSED	EXISTING	
+	+	ONE POST SIGN, GROUND MOUNTED
±	±	TWO POST SIGN, GROUND MOUNTED
≡	≡	THREE POST SIGN, GROUND MOUNTED
⊥	⊥	SINGLE POST SIGN, BACK TO BACK, GROUND MOUNTED

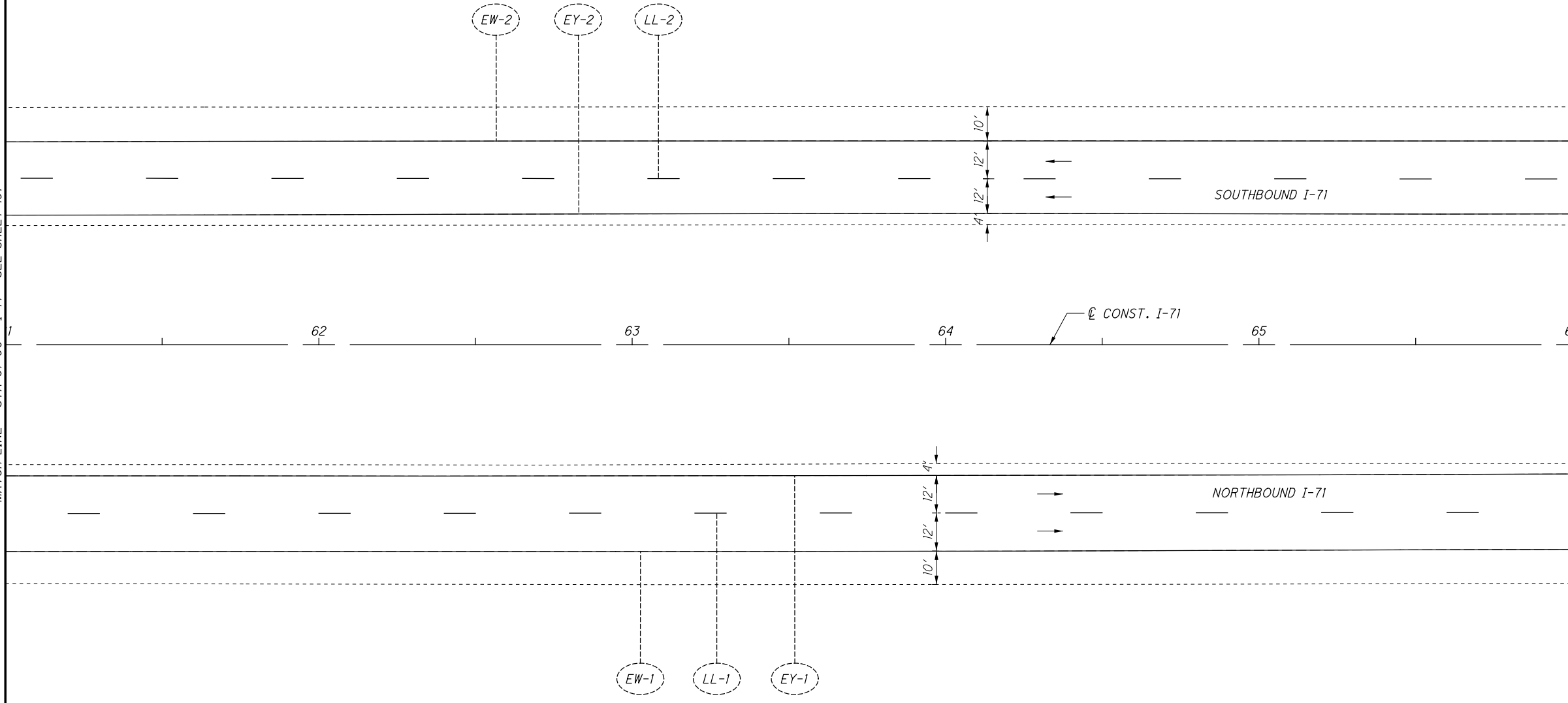


TRAFFIC CONTROL PLAN - I-71
STA 51+50 TO STA 61+00

FRA-71-1.53

191
285

MATCH LINE - STA 61+00 - I-71 - SEE SHEET 191



MATCH LINE - STA 66+00 - I-71 - SEE SHEET 193

FOR LEGEND, SEE SHEET 191

CALCULATED	DLW	CHECKED	EGD

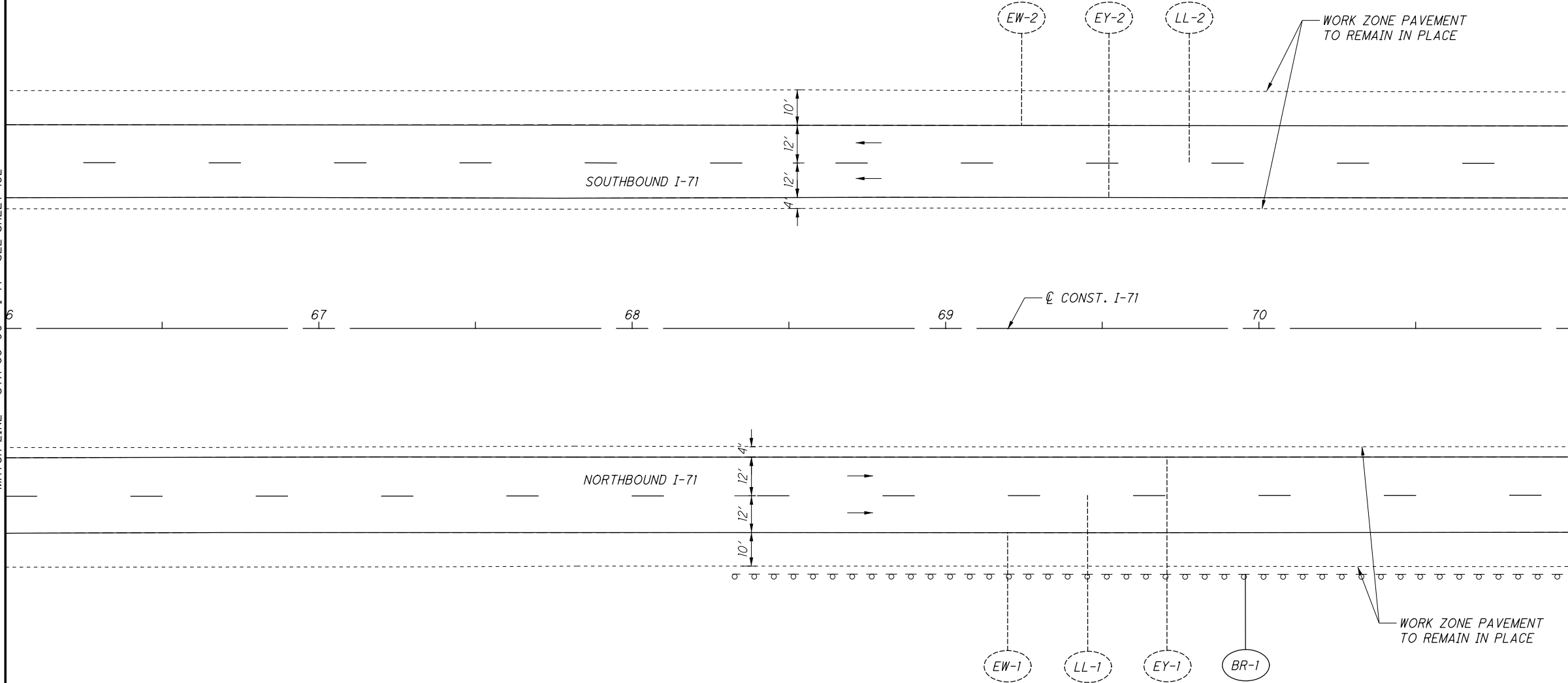
0 20 40
HORIZONTAL SCALE IN FEET

TRAFFIC CONTROL PLAN - I-71
STA 61+00 TO STA 66+00

FRA-71-1.53

X:\4037000\121957.15\93496\traffic\sheets\93496TP015.dgn Sheet 11/19/2018 3:01:45 PM 1636dcb

MATCH LINE - STA 66+00 - I-71 - SEE SHEET 192



FOR LEGEND, SEE SHEET 191

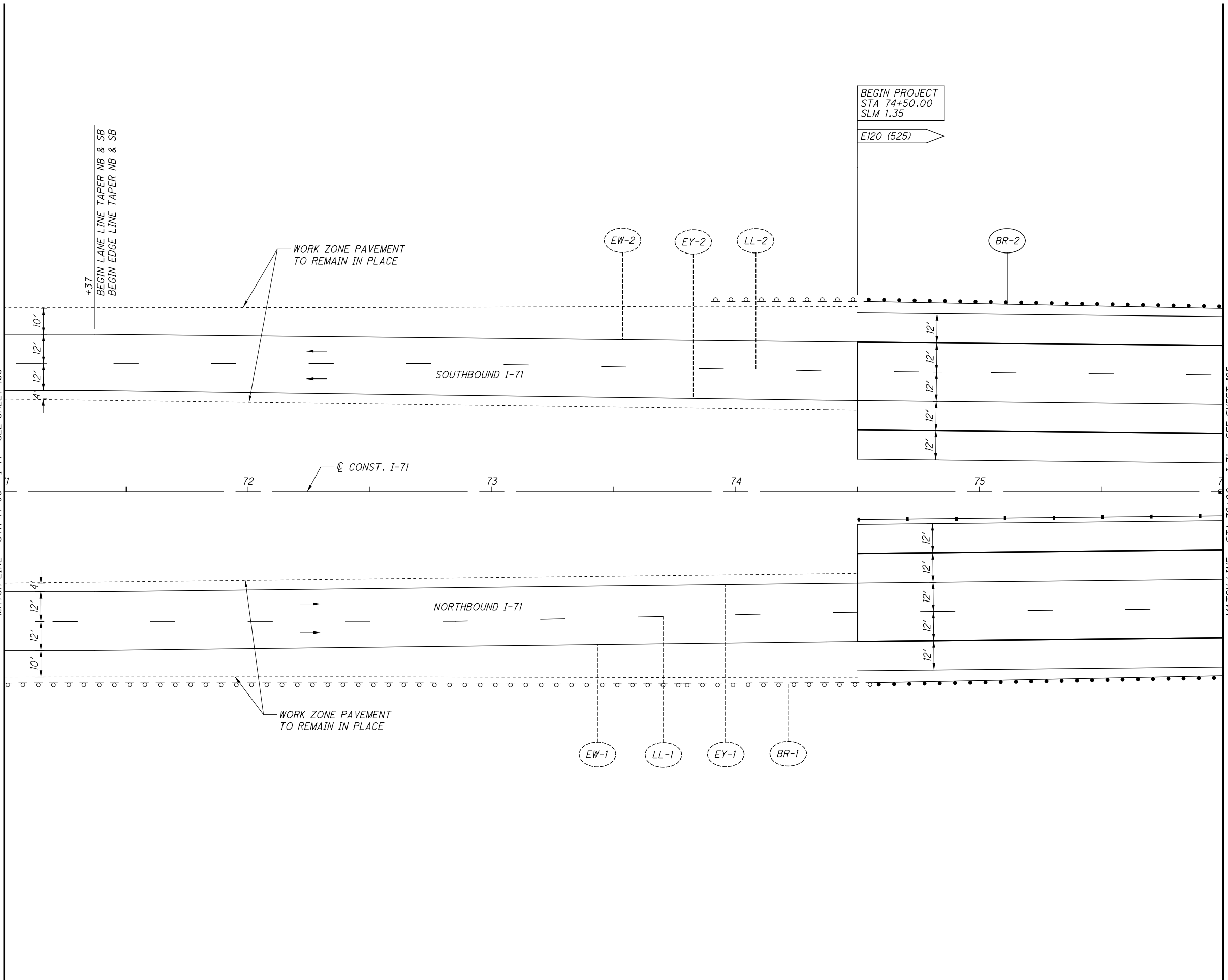
CALCULATED	DLW
CHECKED	EGD

0 20 40
HORIZONTAL SCALE IN FEET

TRAFFIC CONTROL PLAN - I-71
STA 66+00 TO STA 71+00

FRA-71-1.53

MATCH LINE - STA 71+00 - I-71 - SEE SHEET 193



CALCULATED
DLW
CHECKED
EGD

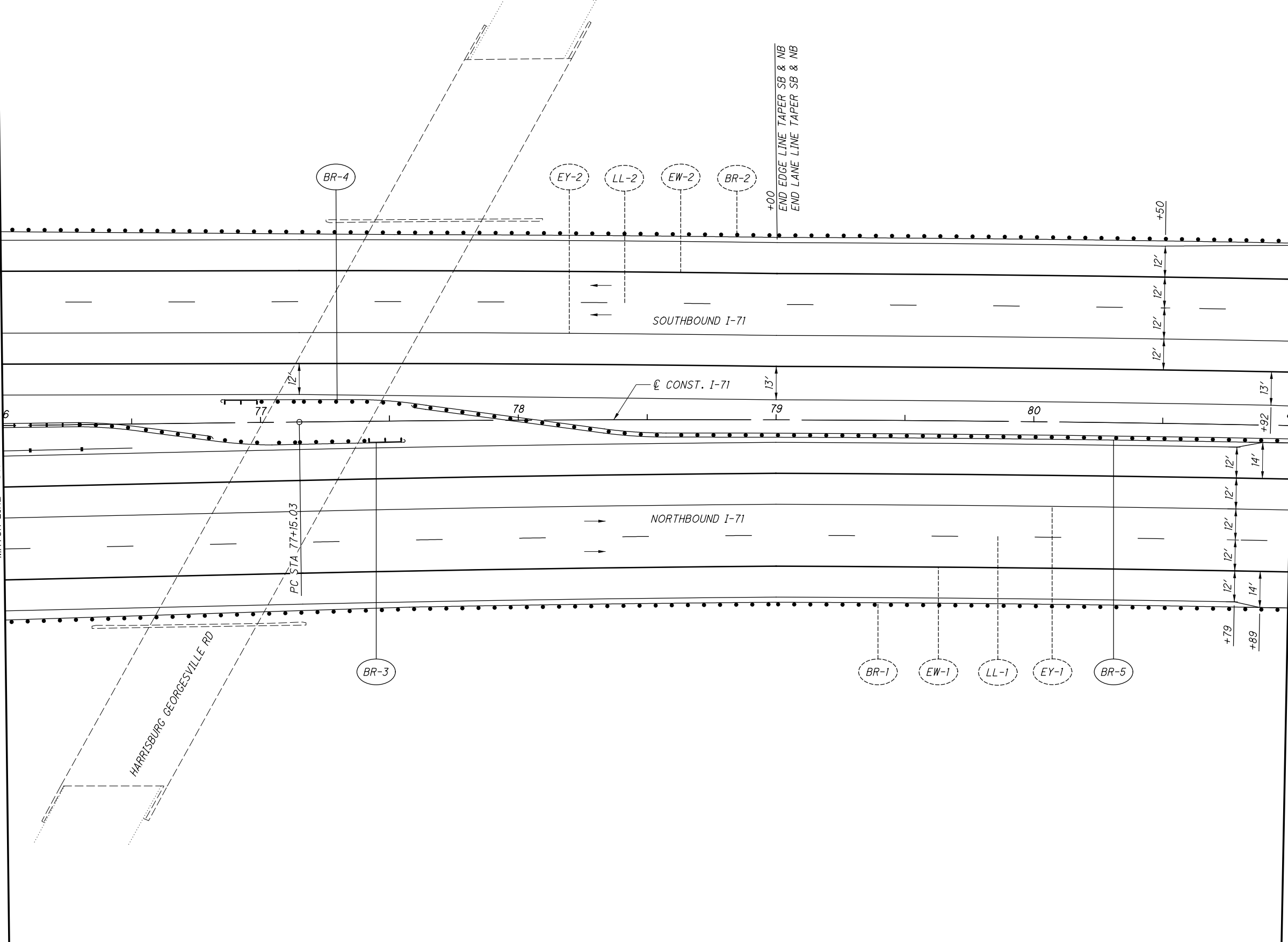
0 20 40
10
HORIZONTAL
SCALE IN FEET

TRAFFIC CONTROL PLAN - I-71
STA 71+00 TO STA 76+00

FRA-71-1.53

FOR LEGEND, SEE SHEET 191

MATCH LINE - STA 76+00 - I-71 - SEE SHEET 194



MATCH LINE - STA 81+00 - I-71 - SEE SHEET 196

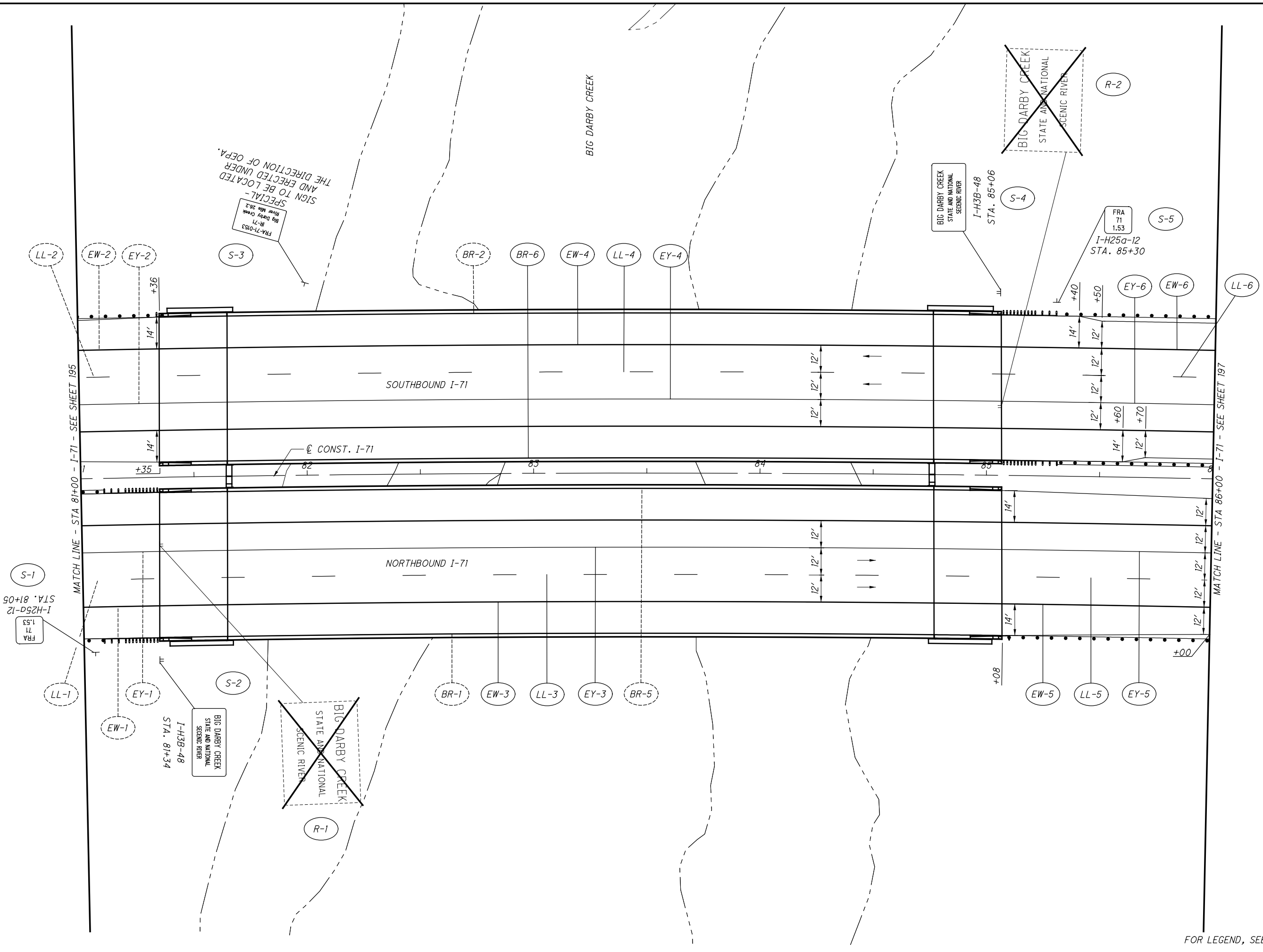
FOR LEGEND, SEE SHEET 191

CALCULATED	DLW
CHECKED	EGD

0 20 40
HORIZONTAL SCALE IN FEET

TRAFFIC CONTROL PLAN - I-71
STA 76+00 TO STA 81+00

FRA-71-1.53



SPECIAL-
FRA-71-0183
R-71
Big Darby Creek
River Mile 20.2
SIGN TO BE LOCATED
AND ERRECTED UNDER
THE DIRECTION OF OCPA.

BIG DARBY CREEK
STATE AND NATIONAL
SCENIC RIVER
I-H3B-48
STA. 85+06

FRA
71
1.53
I-H25a-12
STA. 85+30

I-H3B-48
STA. 81+34
BIG DARBY CREEK
STATE AND NATIONAL
SCENIC RIVER

BIG DARBY CREEK
STATE AND NATIONAL
SCENIC RIVER

FOR LEGEND, SEE SHEET 191

CALCULATED
DLW
CHECKED
EGD

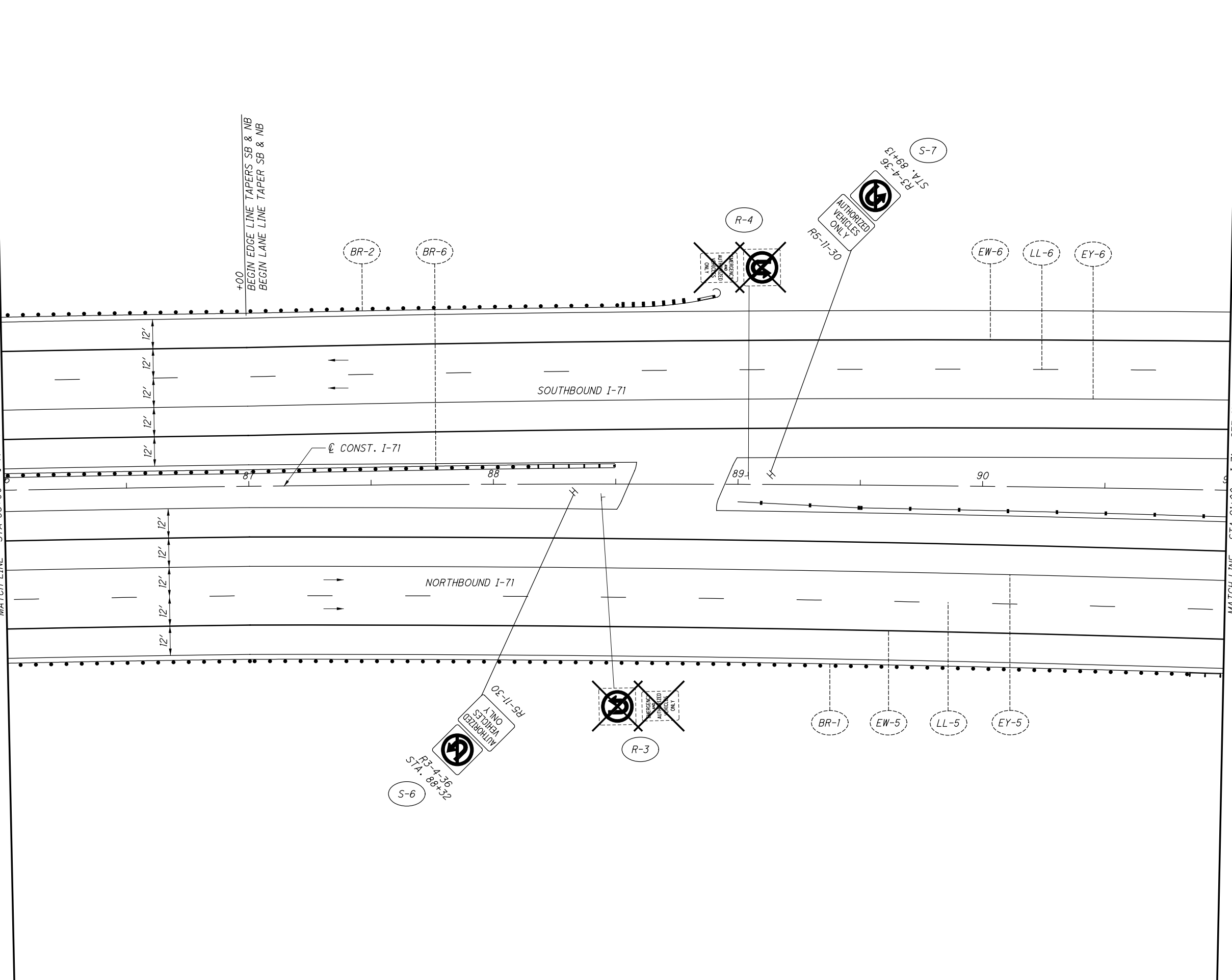
0 20 40
10
HORIZONTAL
SCALE IN FEET

**TRAFFIC CONTROL PLAN - I-71
STA 81+00 TO STA 86+00**

FRA-71-1.53

196
285

MATCH LINE - STA 86+00 - I-71 - SEE SHEET 196



MATCH LINE - STA 91+00 - I-71 - SEE SHEET 198

FOR LEGEND, SEE SHEET 191

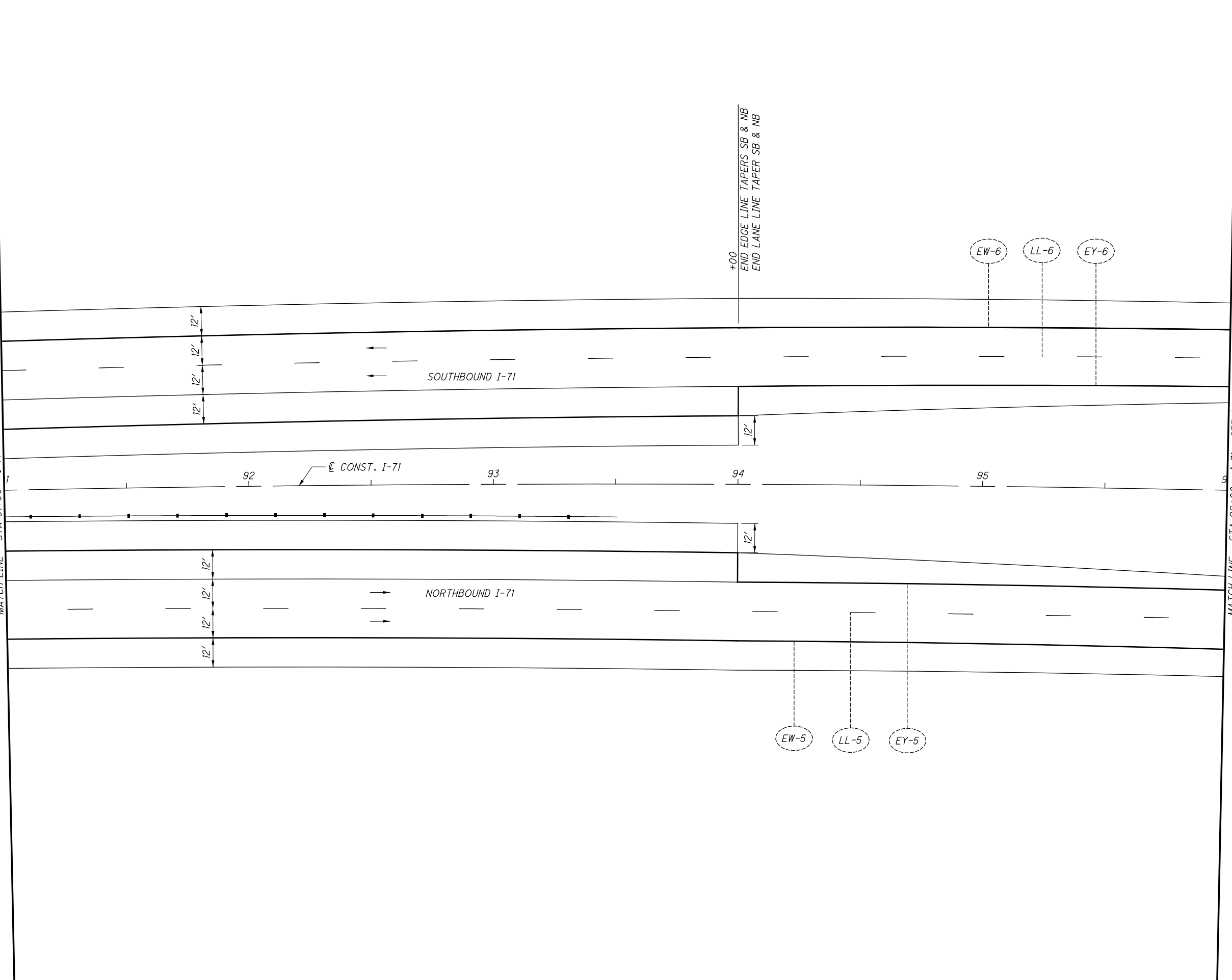
CALCULATED
DLW
CHECKED
EGD

0 20 40
HORIZONTAL
SCALE IN FEET

TRAFFIC CONTROL PLAN - I-71
STA 86+00 TO STA 91+00

FRA-71-1.53

MATCH LINE - STA 91+00 - I-71 - SEE SHEET 197



MATCH LINE - STA 96+00 - I-71 - SEE SHEET 199

FOR LEGEND, SEE SHEET 191

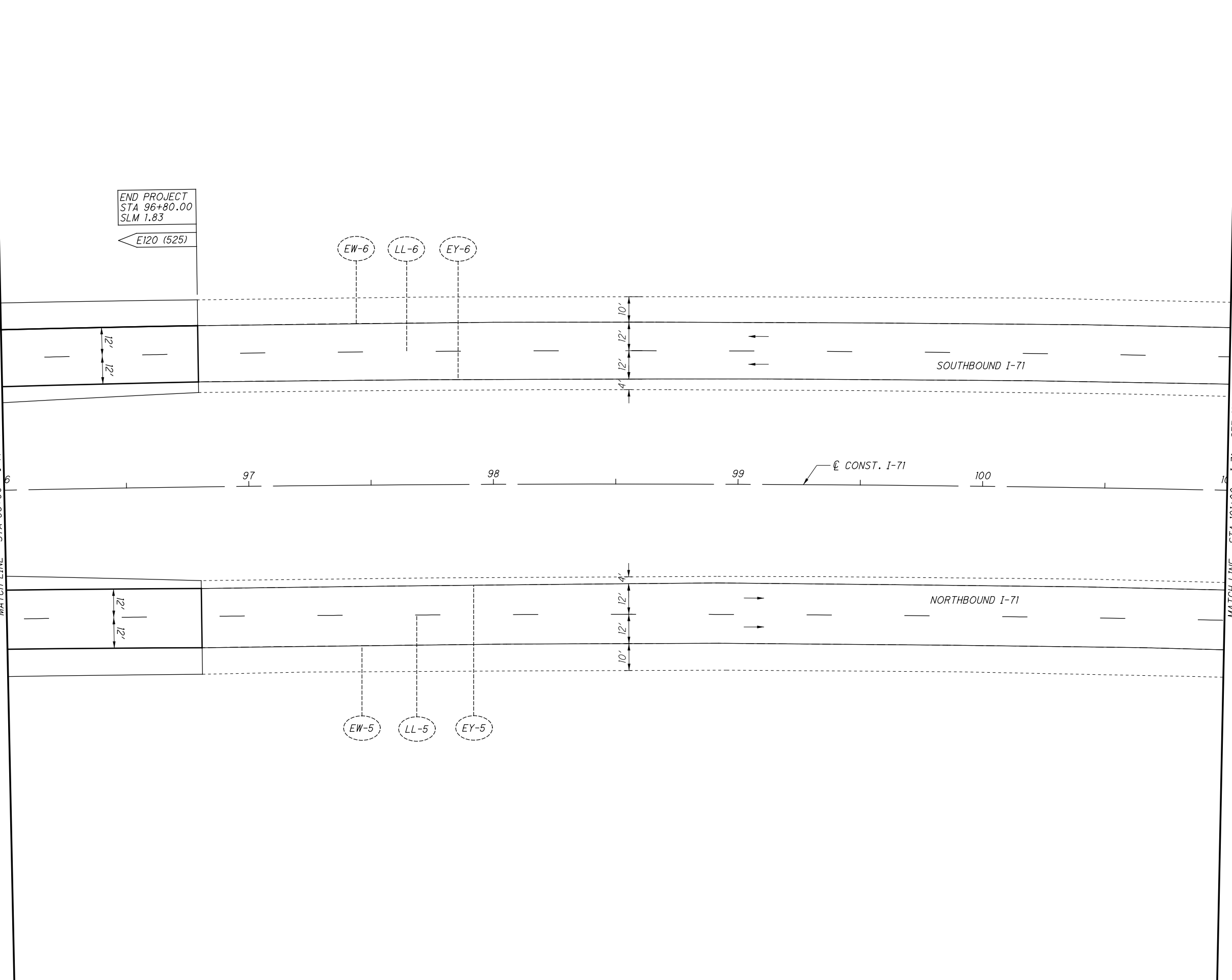
CALCULATED	DLW	CHECKED	EGD

0 20 40
HORIZONTAL SCALE IN FEET

TRAFFIC CONTROL PLAN - I-71
STA 91+00 TO STA 96+00

FRA-71-1.53

MATCH LINE - STA 96+00 - I-71 - SEE SHEET 198



END PROJECT
STA 96+80.00
SLM 1.83

E120 (525)

EW-6 LL-6 EY-6

EW-5 LL-5 EY-5

CONST. I-71

SOUTHBOUND I-71

NORTHBOUND I-71

MATCH LINE - STA 101+00 - I-71 - SEE SHEET 200

FOR LEGEND, SEE SHEET 191

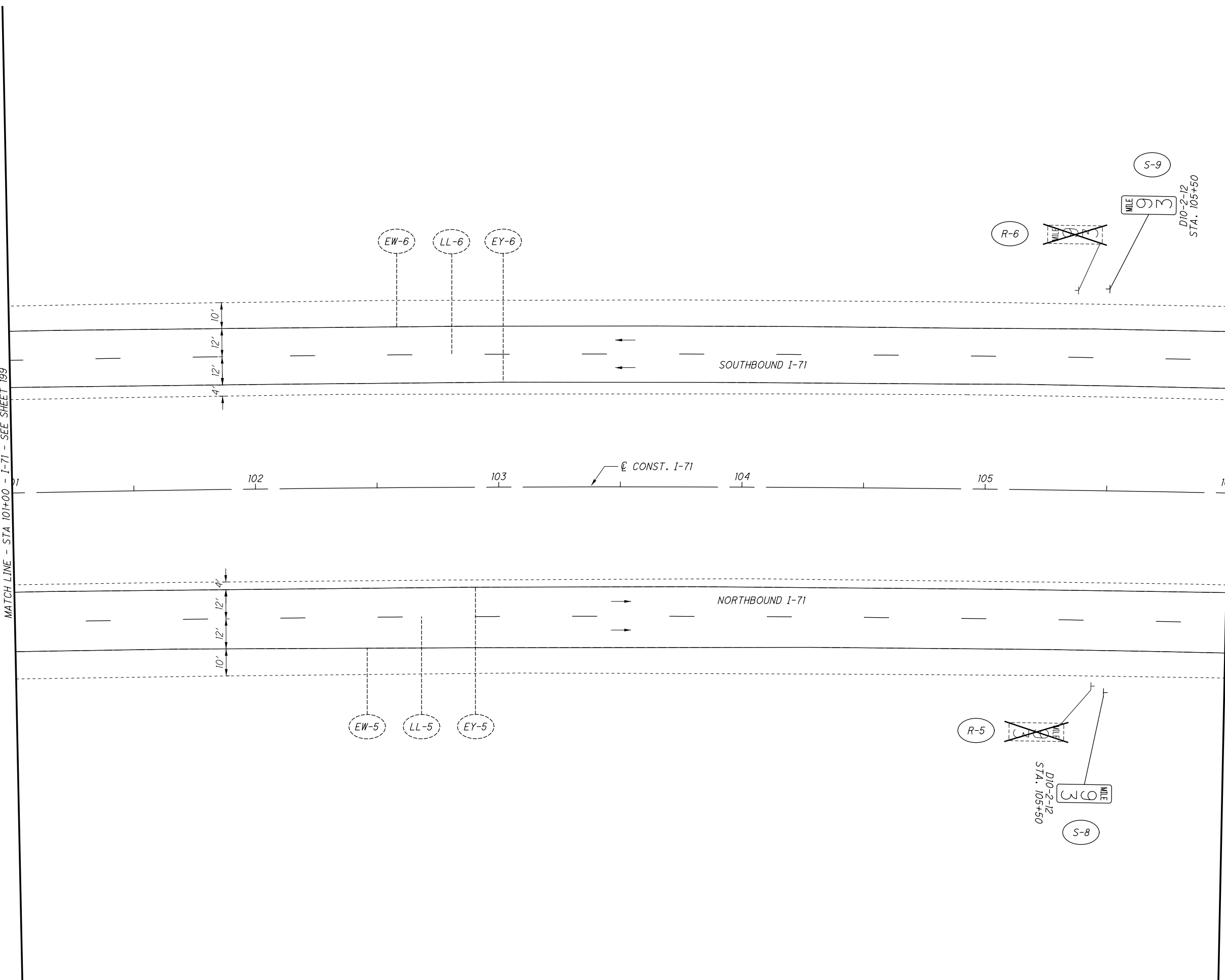
CALCULATED
DLW
CHECKED
EGD

0 20 40
HORIZONTAL
SCALE IN FEET

TRAFFIC CONTROL PLAN - I-71
STA 96+00 TO STA 101+00

FRA-71-1.53

MATCH LINE - STA 101+00 - I-71 - SEE SHEET 199



FOR LEGEND, SEE SHEET 191

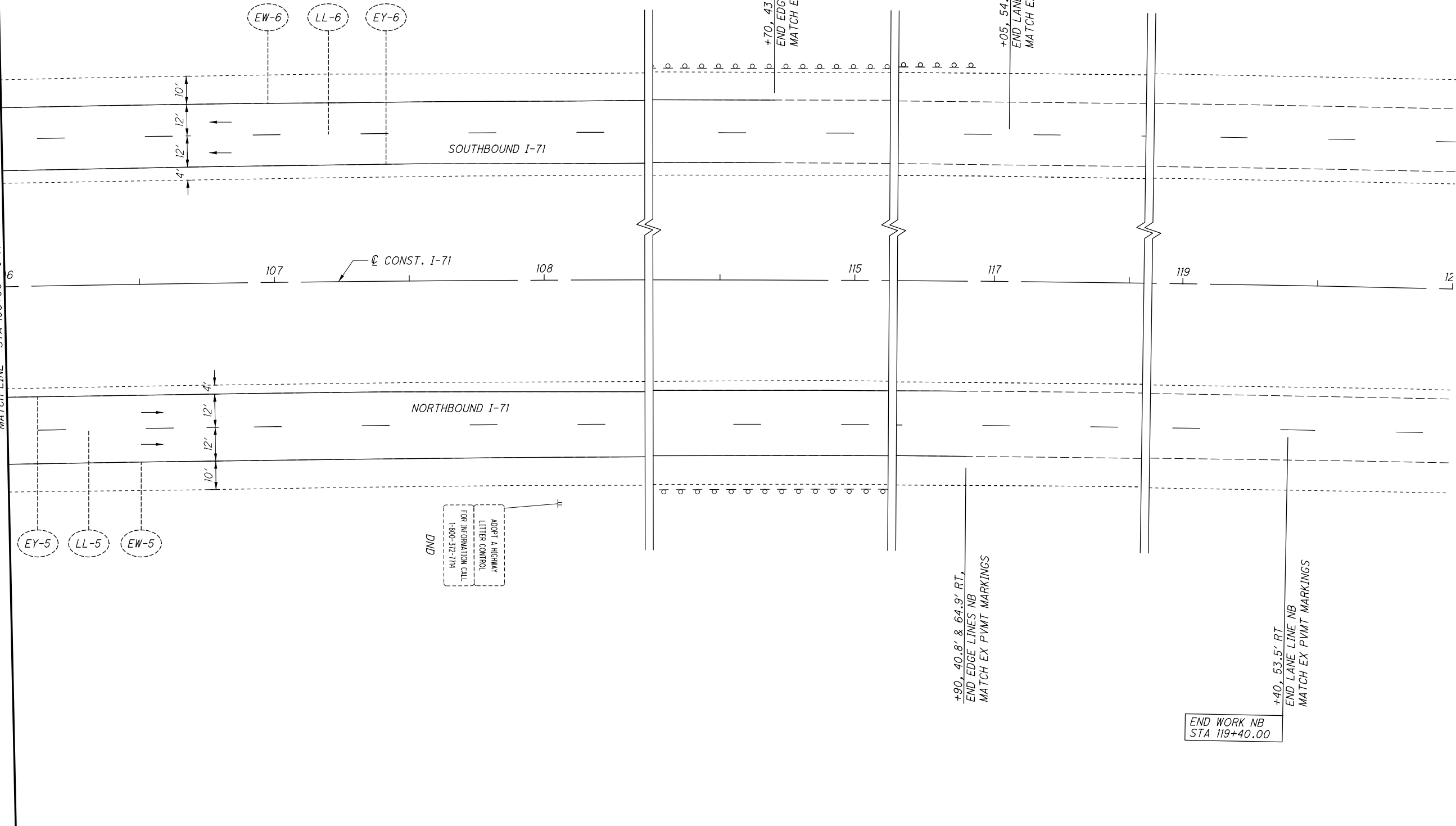
CALCULATED	DLW
CHECKED	EGD

0 20 40
HORIZONTAL SCALE IN FEET

TRAFFIC CONTROL PLAN - I-71
STA 101+00 TO STA 106+00

FRA-71-1.53

MATCH LINE - STA 106+00 - I-71 - SEE SHEET 200



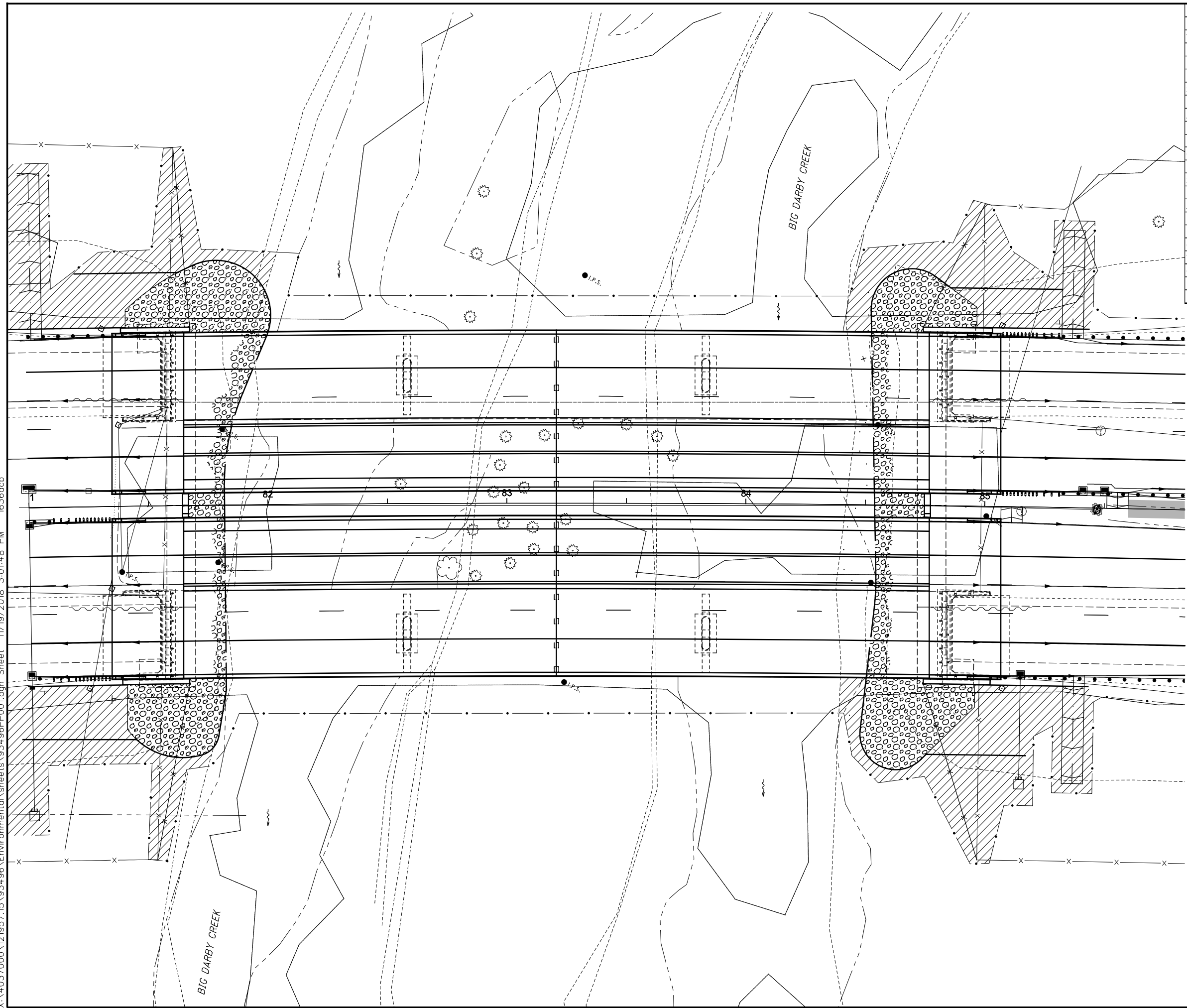
CALCULATED
DLW
CHECKED
EGD

0 20 40
HORIZONTAL
SCALE IN FEET

TRAFFIC CONTROL PLAN - I-71
STA 106+00 TO STA 120+00

FRA-71-1.53

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Native Seed Mix		
Common Name	Species Name	% Seed Mix
Virginia Wild Rye	<i>Elymus virginicus</i>	20.00
Indian Grass	<i>Sorghastrum nutans</i>	16.00
Deertongue	<i>Panicum clandestinum</i>	15.00
Big Bluestem	<i>Andropogon gerardii</i>	12.50
Switch Grass	<i>Panicum virgatum</i>	8.00
Partridge Pea	<i>Chamaecrista fasciculata</i>	5.00
Autum Bentgrass	<i>Agrostis perennans</i>	4.00
Blue Vervain	<i>Verbena hastata</i>	4.00
Black Eyed Susan	<i>Rudbeckia hirta</i>	3.00
Ox Eye Sunflower	<i>Heliopsis helianthoides</i>	3.00
New England Aster	<i>Aster novae-angliae</i>	2.30
Soft Rush	<i>Juncus effusus</i>	2.00
Bonset	<i>Eupatorium perfoliatum</i>	1.00
Joe Pye Weed	<i>Eupatorium fistulosum</i>	1.00
Blue False Indigo	<i>Baptisia australis</i>	1.00
New York Ironweed	<i>Vernonia noveboracensis</i>	1.00
Great Blue Lobelia	<i>Lobelia siphilitica</i>	0.50
Wild Bergamot	<i>Monarda fistulosa</i>	0.50
Grass Leaved Goldenrod	<i>Euthamia graminifolia</i>	0.20
TOTAL		100.00

Zone 1 Planting Area = 0.30 AC.



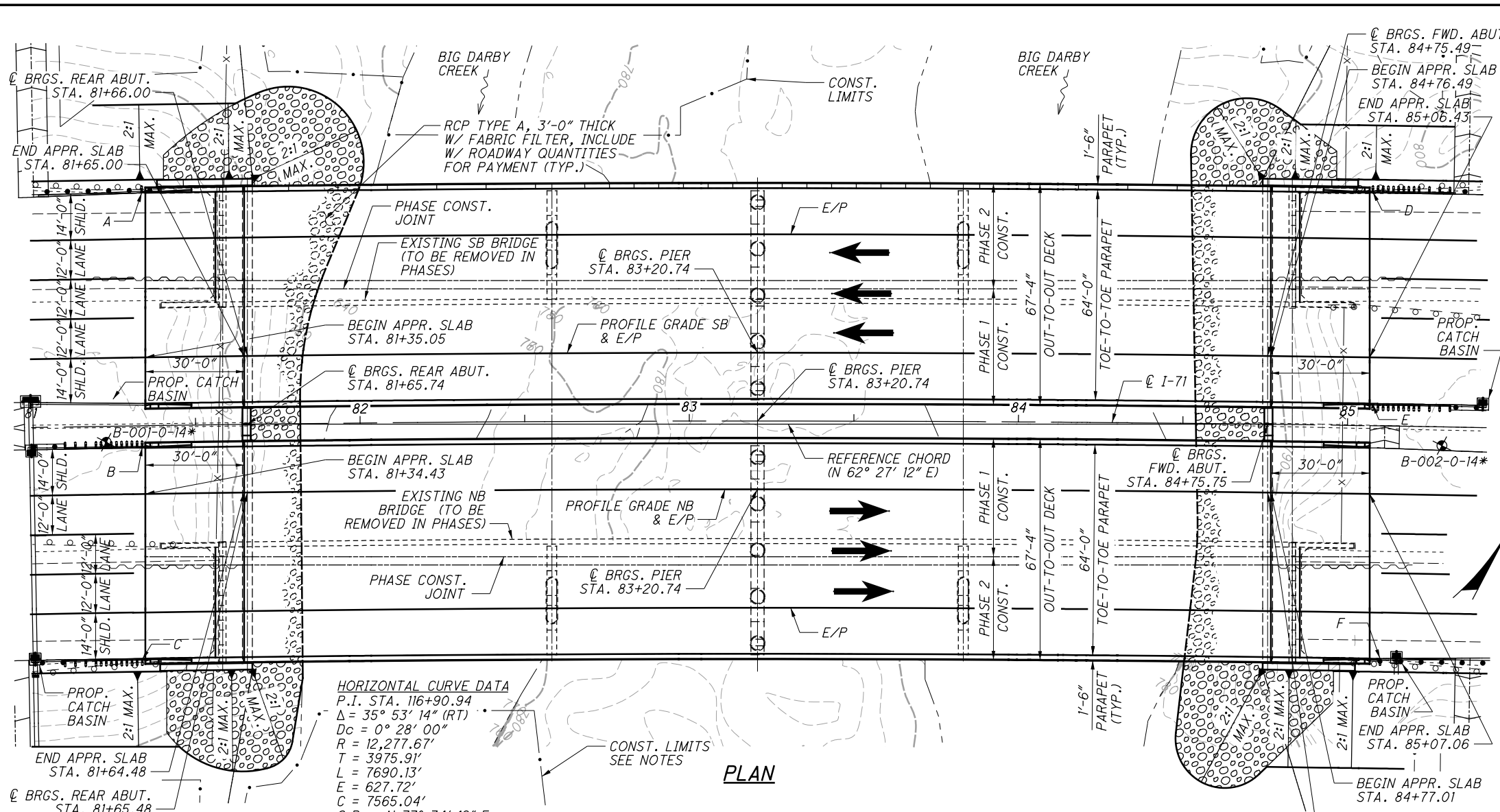
- ITEM 659, SEEDING, MISC.:
NATIVE SEED MIX
- PERMANENT NATIVE SEED MIX SHOULD BE BROADCAST AT A RATE OF 30 LB/ACRE.
 - PERMANENT SEED MIXTURES SHALL BE RIPARIAN BUFFER MIX, AVAILABLE FROM ERNST CONSERVATION NURSERY OR APPROVED EQUAL. SEED MIXES HAVE BEEN LISTED IN THE TABLE ABOVE.
 - ALL SEED IS TO BROADCAST AND RAKED INTO SOIL.
 - ALL OTHER PERTINENT 659 ITEMS NECESSARY FOR PLANTING, CARE AND ANY REPAIRS REQUIRED TO ESTABLISH THE VEGETATION IN PLANTING ZONE 1 WILL BE INCLUDED WITH THE UNIT COST FOR ITEM 659, SEEDING, MISC.: NATIVE SEED MIX.
 - ALL MATERIALS AND WORK TO BE PAID FOR UNDER ITEM 659, SEEDING, MISC.: NATIVE SEED MIX. A QUANTITY OF 1460 SY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

- PLANTING ZONE 1 - SEEDING

PLANTING PLAN
STA 81+00 TO STA 86+00

FRA-71-1.53

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HORIZONTAL CURVE DATA
 P.I. STA. 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $D_c = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3975.91'$
 $L = 7690.13'$
 $E = 627.72'$
 $C = 7565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e = -0.020$

BENCHMARK DATA	
BM #1	STA. 67+71.02, EL. 797.22, 0.02' LT., CONC. MONUMENT
BM #2	STA. 76+70.85, EL. 799.25, 0.05' RT., CONC. MONUMENT
BM #3	STA. 93+71.58, EL. 798.81, 0.04' RT., CONC. MONUMENT
BM #4	STA. 101+71.41, EL. 796.63, 0.03' RT., CONC. MONUMENT

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 5 OF 1369.

NOTES
 EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
 FOR REFERENCE CHORD DIAGRAM, SEE SHEET 2/78.
 FOR CONSTRUCTION AND ISLAND EXCAVATION LIMITS, SEE SHEET 3/78.

DESIGN TRAFFIC:
 2017 ADT = 44,670 2017 ADTT = 13,401
 2037 ADT = 64,070 2037 ADTT = 19,221
 DIRECTIONAL DISTRIBUTION = 55%

- LEGEND**
- ⊕ BORING LOCATION
 - ▭ - LIMITS OF ROCK CHANNEL PROTECTION
 - ▨ - ISLAND EXCAVATION (TO EL. 781.0)
 - * - SEE LEGEND ON SHEET 2/78
- HYDRAULIC DATA**
- DRAINAGE AREA = 495 SQ. MILES
 $Q(50) = 30800$ CFS $V(50) = 10.40$ FT/S
 $Q(100) = 38000$ CFS $V(100) = 11.97$ FT/S
 STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 5.34 FEET.
1. - NORMAL WATER EL. 776.0
 2. - MAX. RECORD H.W. EL. 792.4 (1959 FLOOD EL.)
 3. - FLOW LINE EL. 774.0±
 4. - 50 YR. H.W. EL. 789.09 LEFT BRIDGE, 788.33 RIGHT BRIDGE
 5. - 100 YR. H.W. EL. 790.13 LEFT BRIDGE, 789.04 RIGHT BRIDGE
 6. - O.H.W.M. EL. 780.7

EXISTING STRUCTURE

TYPE: CONTINUOUS WELDED STEEL GIRDER WITH CONCRETE DECK AND SUBSTRUCTURE

SPANS: 100'-0"± - 125'-0"± - 100'-0"± C/C BRGS.

ROADWAY: 33'-6"± T/T BARRIER

LOADING: CF-2000 (57) ADEQUATE FOR AASHO ALTERNATE LOADING

SKREW: 0°-00"±

APPROACH SLABS: AS-1-54 (25'-0"±) SPECIAL

ALIGNMENT: 0° - 28"± CURVE RIGHT

CROWN: 0.016 FT/FT NORMAL CROWN

STRUCTURAL FILE NUMBER: 2506785L/2506815R

DATE BUILT: 1964

DISPOSITION: TO BE REPLACED

PROPOSED STRUCTURE

TYPE: TWO-SPAN CONTINUOUS A709-50W/HPS 70W STEEL PLATE GIRDER WITH COMPOSITE REINFORCED CONCRETE DECK ON SEMI-INTEGRAL ABUTMENTS AND REINFORCED CONCRETE CAP AND COLUMN PIER.

SPANS: 155'-0" - 155'-0" C/C BRGS. ALONG REF. CHORD

ROADWAY: 64'-0" TOE/TOE PARAPET

LOADING: HL-93, 60 PSF FWS

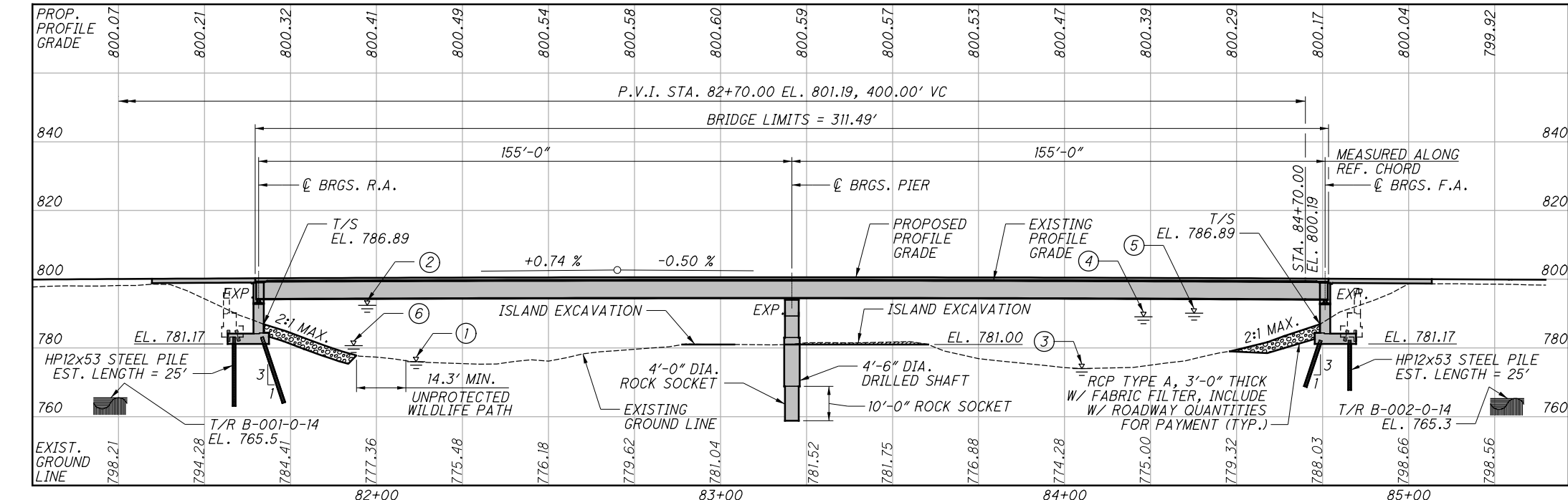
SKREW: 0°-00'

APPROACH SLABS: 30'-0" LONG (AS-1-81)

ALIGNMENT: 0° - 28' CURVE RIGHT

SUPERELEVATION: 0.02 FT/FT

COORDINATES: LATITUDE 39°49'16" N
 LONGITUDE 83°10'11" W



PROFILE ALONG PROFILE GRADE LINE SB

DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016
 (614) 792-5900 PHONE (614) 792-5901 FAX

DATE: 8/1/2016
 REVIEWED: KVB
 STRUCTURE FILE NUMBER: 2506786

DRAWN: DJC
 CHECKED: CMH

FRANKLIN COUNTY
 STA. 81+65.00
 STA. 84+76.49

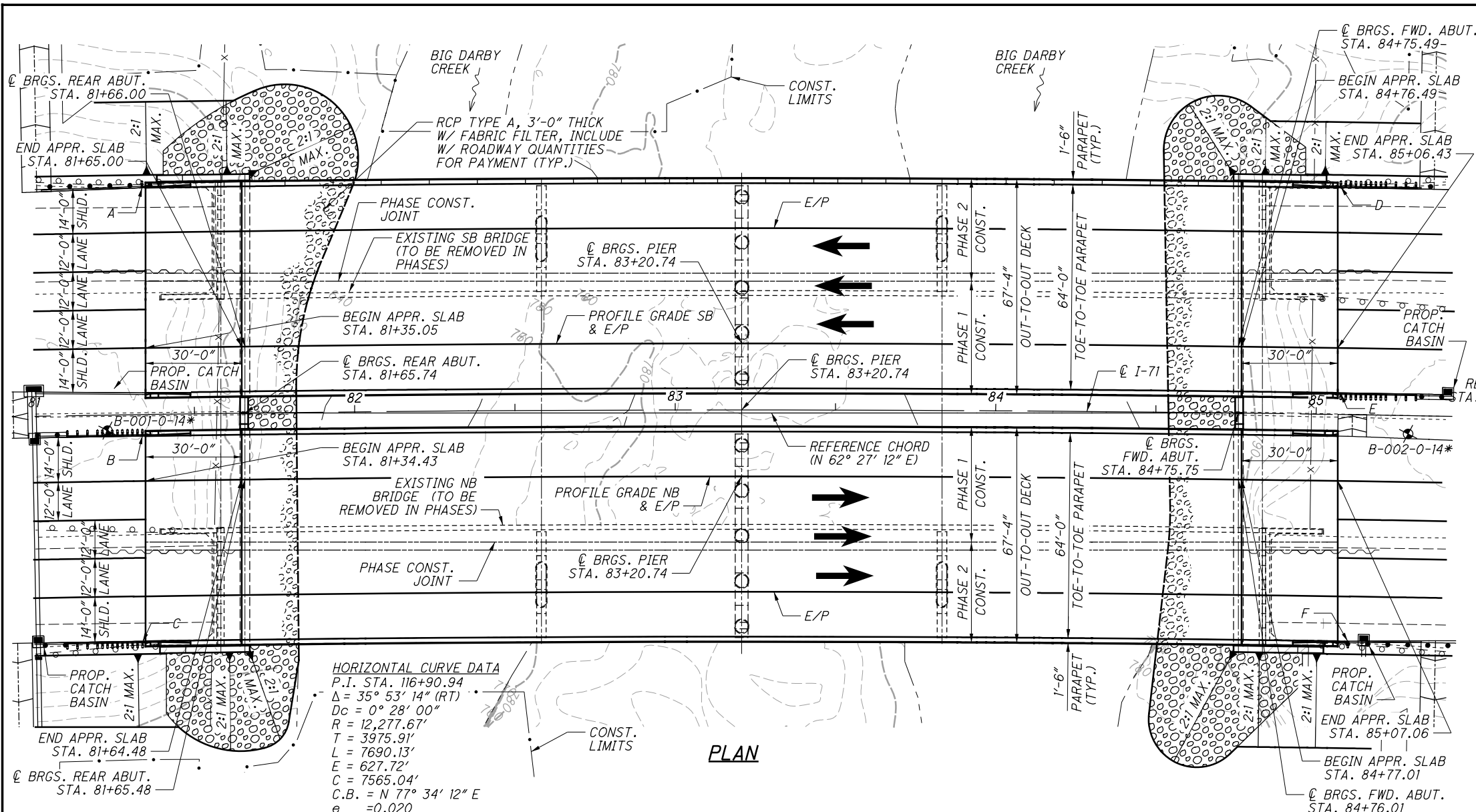
SITE PLAN
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496

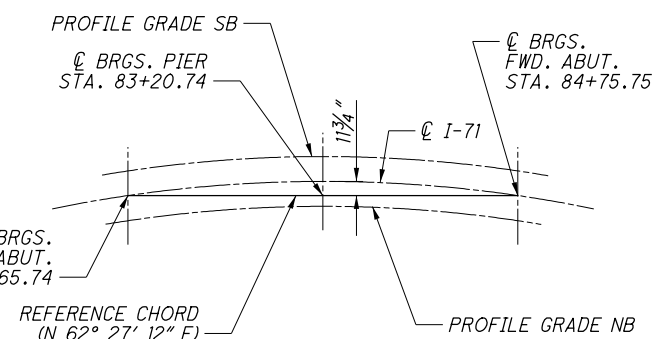
1/78

203
285

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HORIZONTAL CURVE DATA
 P.I. STA. 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $D_c = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3975.91'$
 $L = 7690.13'$
 $E = 627.72'$
 $C = 7565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e = -0.020$



REFERENCE CHORD DIAGRAM

BRGS. GUARDRAIL POST STATIONING

- | | |
|-------------|-------------|
| A: 81+34.68 | D: 85+06.64 |
| B: 81+33.68 | E: 85+07.60 |
| C: 81+32.70 | F: 85+10.97 |

NOTE:

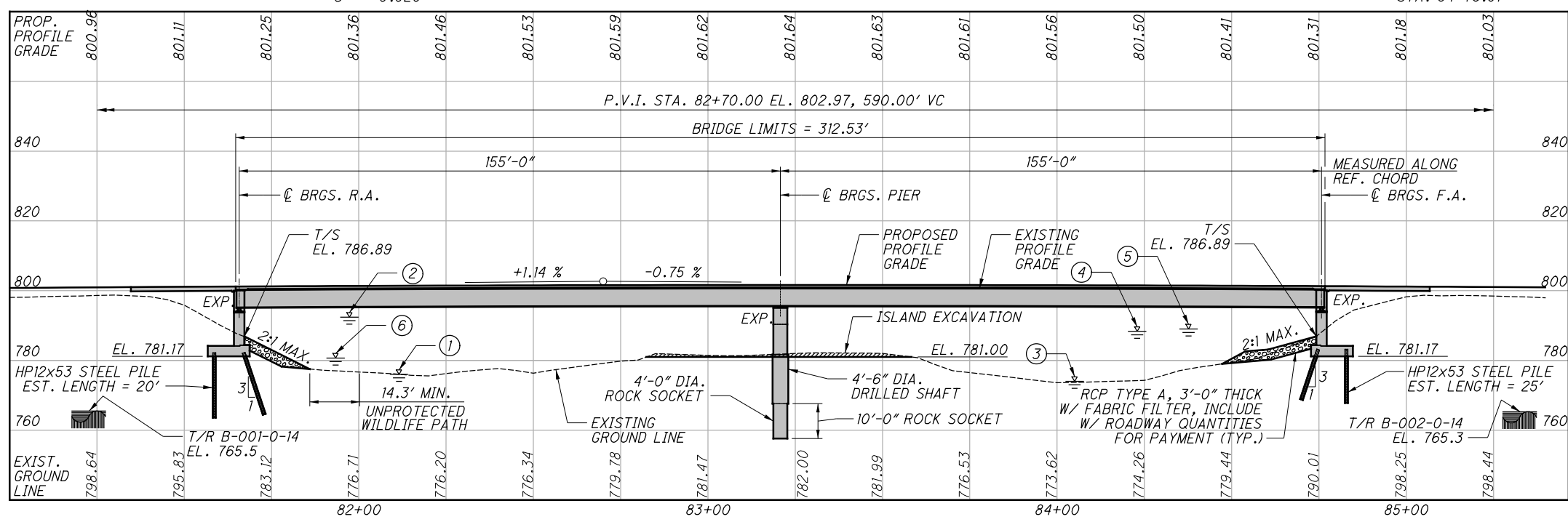
FOR EXISTING, PROPOSED STRUCTURE BLOCK, & HYDRAULIC DATA SEE SHEET 1/78.

FOR THIS PROJECT, PERMITS FOR SECTIONS 401 AND 404 OF THE CLEAN WATER ACT, ARE BASED ON THE LIMITS OF TEMPORARY CONSTRUCTION FILL PLACED IN "WATERS OF THE UNITED STATES" AS SHOWN BELOW. IF EITHER OF THE LIMITS PROVIDED ARE EXCEEDED, THEN A 404/401 PERMIT MODIFICATION WILL BE REQUIRED. IF A PERMIT MODIFICATION IS REQUIRED, REFER TO SUPPLEMENTAL SPECIFICATION 832.09 FOR THE APPLICATION REQUIREMENTS.

PLAN AREA OF TEMPORARY FILL MATERIAL = 0.65 ACRES
 TOTAL VOLUME OF TEMPORARY FILL MATERIAL = 5726.4 CY

LEGEND

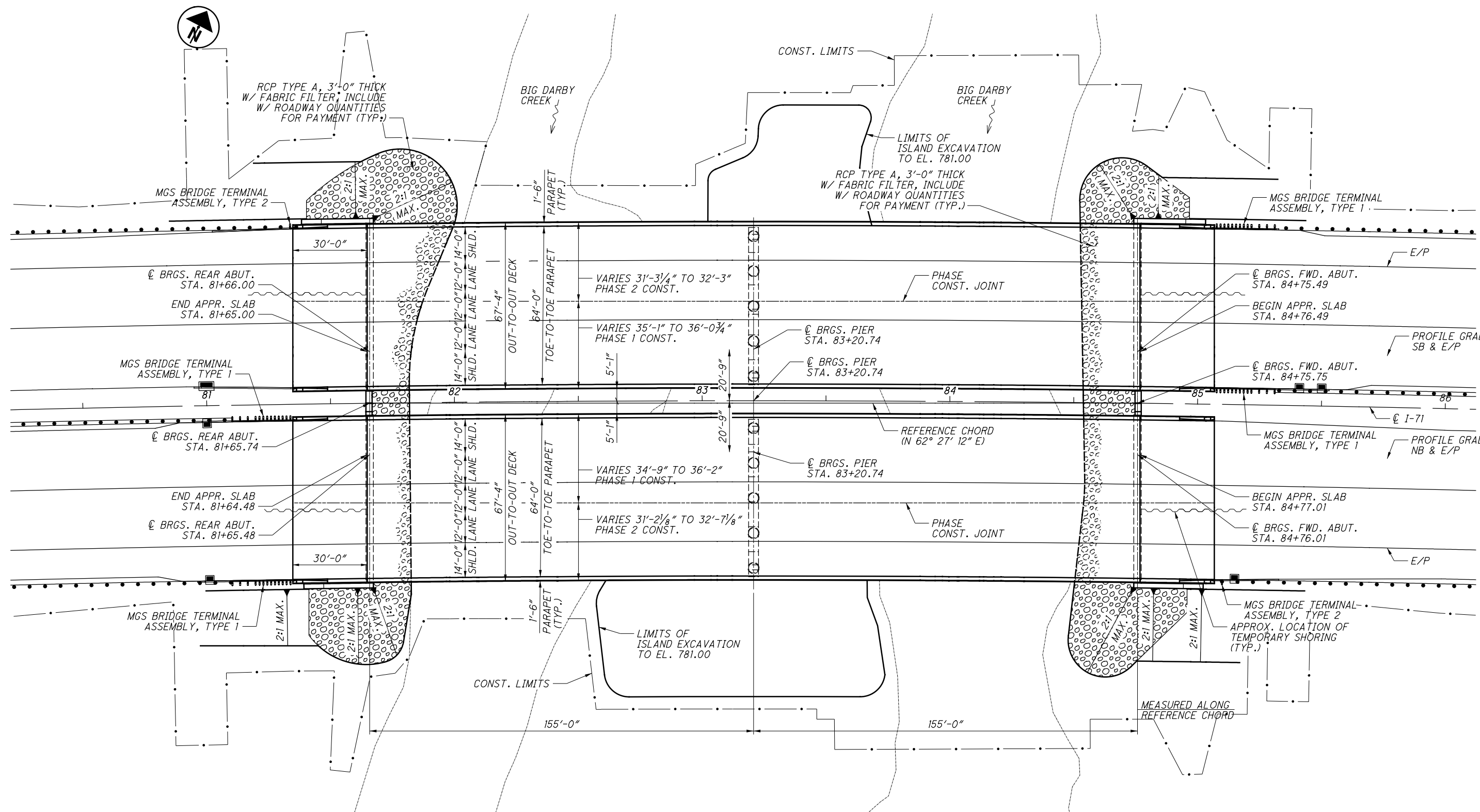
* - BORINGS B-001-0-14 & B-002-0-14 CORRESPOND TO BORINGS B-021-1-14 & B-021-2-14, RESPECTIVELY IN THE SOIL PROFILE AND BORING LOG SHEETS



PROFILE ALONG PROFILE GRADE LINE NB

	DESIGN AGENCY 4700 LAKEHURST CT, STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX	DATE 8/1/2016	STRUCTURE FILE NUMBER 2506816
DRAWN DJC	REVISIONS REVISED	DESIGNED LYH	CHECKED CMH
FRANKLIN COUNTY STA. 81+64.48 STA. 84+77.01	BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK	SITE PLAN	PID No. 93496
2 / 78		204 285	

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NOTE:
 1. FOR TEMPORARY SHORING DETAILS, SEE SHEETS 17/78 & 18/78.

FRA-71-1.53 PID No. 93496	DESIGNED LYH CHECKED CMH	DRAWN DJC REVISED	REVIEWED KVB STRUCTURE FILE NUMBER 2506786L/2506816R	DATE 6/30/2015	DESIGN AGENCY Mead & Hunt 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX
	GENERAL PLAN BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK				

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15	DATED	07-17-15
AS-2-15	DATED	07-17-15
GSD-1-96	REVISED	07-19-02
PCB-91	REVISED	01-18-13
SBR-1-13	REVISED	01-17-14
SICD-1-96	REVISED	07-18-14
SICD-2-14	DATED	07-18-14

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800	REVISED	7-15-16
-----	---------	---------

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 7TH EDITION, 2014, INCLUDING THE 2015 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

DESIGN LOADING: HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ. FT.

DESIGN DATA

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60, MIN. YIELD STRENGTH 60 KSI
STRUCTURAL STEEL - ASTM A709 GRADE 50W - YIELD STRENGTH 50 KSI
ASTM A709 GRADE HPS70W - YIELD STRENGTH 70 KSI
STEEL H-PILES - ASTM A572 GRADE 50 - YIELD STRENGTH 50 KSI

OPERATIONAL IMPORTANCE

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2 1/2" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

ITEM 203 EMBANKMENT, AS PER PLAN

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT.

MAINTENANCE OF TRAFFIC

I-71 TRAFFIC WILL BE MAINTAINED AT ALL TIMES. SEE PHASE CONSTRUCTION DETAILS AND ROADWAY PLANS FOR ADDITIONAL MAINTENANCE OF TRAFFIC NOTES AND DETAILS.

PILES TO BEDROCK

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 354 KIPS PER PILE FOR THE ABUTMENT PILES.

SOUTHBOUND ABUTMENT PILES:

HP12x53 PILES 30 FEET LONG, ORDER LENGTH (MIN. TIP ELEVATION IS 768.17)

NORTHBOUND REAR ABUTMENT PILES:

HP12x53 PILES 25 FEET LONG, ORDER LENGTH (MIN. TIP ELEVATION IS 768.17)

NORTHBOUND FORWARD ABUTMENT PILES:

HP12x53 PILES 30 FEET LONG, ORDER LENGTH (MIN. TIP ELEVATION IS 768.17)

PILE SPLICES

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

DRILLED SHAFTS

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 1,418 KIPS AT THE PIERS. THIS LOAD IS RESISTED BY SIDE RESISTANCE WITHIN A PORTION OF THE BEDROCK SOCKET AND ALSO BY TIP RESISTANCE. THE FACTORED RESISTANCE DEVELOPED BY SIDE RESISTANCE IS 334 KIPS, ASSUMED TO ACT ALONG THE BOTTOM 8 FEET OF THE BEDROCK SOCKET FOR THE PIERS. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 13,001 KIPS.

UTILITY LINES

THERE ARE NO KNOWN UNDERGROUND OR OVERHEAD UTILITIES WITHIN THE BRIDGE CONSTRUCTION LIMITS.

ITEM 503. COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN:

THE DESIGN SHOWN ON THE PLANS FOR THE TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATION. IF CONSTRUCTING AN ALTERNATE PLAN DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERENCED TO CMS SECTIONS 102.05 AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

PROTECTION OF TRAFFIC

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR IN ACCORDANCE WITH CMS SECTION 500. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN THE TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIME EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

DECK PLACEMENT ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.6 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

ITEM 202. STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE SHALL BE REMOVED IN PHASES UPON APPROVAL FROM THE ENGINEER. SEE PHASE CONSTRUCTION DETAILS ON SHEETS 7/78 THRU 15/78.

ITEM 509. EPOXY COATED REINFORCING STEEL, AS PER PLAN

IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACING'S. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

MECHANICAL CONNECTORS:

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES. MECHANICAL CONNECTORS SHALL BE CAPABLE OF DEVELOPING 125 PERCENT OF THE YIELD STRENGTH OF THE BARS CONNECTED AND SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND REINFORCING BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATION WITH RESPECT TO COLOR, CONTINUITY AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL WHICH MEETS THE SPECIFICATIONS. ALL EXPENSES INVOLVED IN REPAIR OR REPLACEMENT SHALL BE BORNE BY THE CONTRACTOR. THE CONNECTORS SHALL CONFORM AND BE INCLUDED WITH ITEM 509 FOR PAYMENT.

ITEM 513. STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX FABRICATION, AS PER PLAN

1. DESCRIPTION:

1.01 THIS WORK CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND ERECT STRUCTURAL STEEL MEMBERS, DESIGNED AS A HYBRID/MIX OF STEEL MATERIALS CONSISTING OF: ASTM A709, HIGH PERFORMANCE GRADE HPS70W IN COMBINATION WITH GRADE 50W STEEL.

1.02 THIS WORK SHALL BE PERFORMED PER ITEM 513 STRUCTURAL STEEL MEMBER, LEVEL SIX(6) EXCEPT AS MODIFIED BY THE JUNE, 2003 2ND EDITION OF THE "GUIDE FOR HIGHWAY BRIDGE FABRICATION WITH HPS70W STEEL (HPS485W), A SUPPLEMENT TO ANSI/AASHTO AWS D1.5" AND AS MODIFIED BY THESE PLAN NOTES.

2. MATERIALS:

2.01 STEEL FOR GIRDER WEBS AND FLANGES SHALL BE A COMBINATION OF ASTM A709 GRADE HPS70W MANUFACTURED BY THE THERMO ECHANICAL CONTROLLED PROCESSING (TMCP) OR QUENCHED AND TEMPERED HEAT TREATMENT PROCESSING ALONG WITH ASTM A588/709 GRADE 50W. ALL OTHER STEEL SHALL BE ASTM A709 GRADE 50W.

2.02 STEEL DESIGNATED CVN SHALL BE IMPACT TESTED TO EXCEED THE TEST VALUES OF ASTM A709 TABLE S1.2 "NON-FRACTURE CRITICAL IMPACT TEST REQUIREMENTS" FOR ZONE 2, TEMPERATURE RANGE.

3. ADDITIONAL FABRICATION RESTRICTIONS / WARNINGS:

3.01 APPLICATION OF HEAT FOR CURVING AND STRAIGHTENING APPLICATIONS, CAMBER AND SWEEP ADJUSTMENT, OR OTHER REASON HEATING IS LIMITED TO 1100°F MAXIMUM, AND MUST BE DONE BY PROCEDURES APPROVED BY THE DIRECTOR OR HIS AUTHORIZED REPRESENTATIVE.

3.02 THE MATCHING SUBMERGED ARC WELDING CONSUMABLES ESAB ENI4 ELECTRODE IN COMBINATION WITH LINCOLN MIL800H, RECOMMENDED IN APPENDIX A OF THE AASHTO GUIDE FOR HIGHWAY BRIDGE FABRICATION WITH HPS70W STEEL, HAS PRODUCED WELDMENT CONTAINING UNACCEPTABLE DISCONTINUITIES IN A SUBSTANTIAL NUMBER OF COMPLETE PENETRATION GROOVE WELDS IN ONE STRUCTURE, BASED ON THE PARAMETERS USED AND EXPERIENCE OF ONE FABRICATOR. EXTREME CAUTION SHOULD BE EXERCISED WHEN USING THIS ELECTRODE/FLUX COMBINATION.

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DESIGN AGENCY	4700 LAKEHURST CT, STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX		
	Mead & Hunt		
DESIGNED	CMH	CHECKED	ALM
DRAWN	CMH	REVISED	
REVIEWED	KVB	STRUCTURE FILE NUMBER	2506786L/2506816R
DATE	8/1/2016		
GENERAL NOTES	BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK		
FRA-71-0.00	PID No. 93496		
4/78	206 285		

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3.03 CONSIDERATION WILL BE GIVEN TO OTHER WELDING PROCESSES IF A WRITTEN REQUEST IS SUBMITTED TO THE OFFICE OF MATERIALS MANAGEMENT IN ACCORDANCE WITH CMS 108.05. OTHER WELDING PROCESSES MUST BE QUALIFIED AND TESTED AS REQUIRED BY THE REFERENCED SPECIFICATIONS AND THESE NOTES.

3.04 IN ADDITION TO THE REQUIREMENTS OF ANSI/AASHTO/AWS D1.5 SECTION 5.17. ALL PROCEDURE QUALIFICATION TESTS MUST BE ULTRASONICALLY TESTED IN CONFORMANCE WITH THE REQUIREMENTS OF AWS D1.5, SECTION 6, PART C. EVALUATION MUST BE IN ACCORDANCE WITH AWS D1.5, TABLE 6.3, ULTRASONIC ACCEPTANCE - REJECTION CRITERIA - TENSILE STRESS. INDICATIONS FOUND AT THE INTERFACE OF THE BACKING BAR MAY BE DISREGARDED, REGARDLESS OF THE DEFECT RATING.

3.05 WHENEVER MAGNETIC PARTICLE TESTING IS DONE, ONLY THE YOKE TECHNIQUE WILL BE ALLOWED, AS DESCRIBED IN SECTION 6.7.6.2 OF THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE, MODIFIED TO TEST USING ALTERNATING CURRENT ONLY. THE PROD TECHNIQUE WILL NOT BE ALLOWED.

4. BASIS OF PAYMENT:
PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	EXT.	UNITS	DESCRIPTION
513	10401	POUNDS	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX FABRICATION, AS PER PLAN

ITEM 530. SPECIAL - FORMLINER:

DESCRIPTION:

CONCRETE FORMLINERS SHALL BE USED ON THE PARAPETS ACCORDING TO THE DETAILS IN PLANS:

THE FORMLINER USED SHALL MEET THE DETAILS SHOWN IN THE PLANS FOR STAGGERED (INTERLOCKING) PATTERNS, INCLUDING DEPTH OF RELIEF AND SIZE OF STONE PATTERN. HORIZONTAL JOINTS IN THE STONE PATTERN SHALL BE ALIGNED AND AT THE SAME ELEVATION. THE FINISHED TEXTURE OF THE ROUGH CUT STONE SHALL BE SIMILAR TO THAT OF RUBBED CONCRETE.

FORMLINERS SHALL MATCH THE DIMENSIONAL SPECIFICATIONS OF THE FOLLOWING MANUFACTURER OR APPROVED EQUAL:

PATTERN #1218
CUSTOM ROCK FORMLINER
2020 W. 7TH STREET
ST. PAUL, MN 55116
800-637-2447
WWW.CUSTOMROCK.COM

THE FORMLINER MANUFACTURER SHALL SUBMIT EVIDENCE OF AT LEAST TWO SIMILAR ARCHITECTURAL CONCRETE CONSTRUCTION PROJECTS WITHIN THE PAST FIVE YEARS FOR A REVIEW AND APPROVAL BY THE ENGINEER. COMPLETE SHOP DRAWINGS DETAILING THE STONE PATTERNS SHALL BE SUBMITTED IN ACCORDANCE WITH 501.04 FOR APPROVAL PRIOR TO PLACING ANY CONCRETE WHERE THE FORMLINERS WILL BE USED. SHOP DRAWINGS SHALL INCLUDE FORMLINER INSTALLATION AND CASTING INSTRUCTIONS, AND INDICATE FORMLINER BACKUP, REVEAL AND CHAMFER STRIP LOCATIONS. THE CONTRACTOR SHALL COORDINATE WITH THE FORMLINER MANUFACTURER TO ASSURE UNDERSTANDING OF FORMLINER USE, TEST PANEL MOCK-UP REQUIREMENTS AND FINAL CONSTRUCTION PROCEDURES.

MATERIALS:

THE FORMLINER SHALL BE FABRICATED WITH SHAPES THAT ALLOW REMOVAL OF THE FORMS WITHOUT DAMAGE OR VISUAL IMPAIRMENT OF THE CONCRETE, AND SHALL HAVE 1/8" MINIMUM RADII WITH NO SHARP EDGES. THE FORMLINER SHALL BE CAPABLE OF WITHSTANDING APPLIED CONCRETE POUR PRESSURE WITHOUT LEAKAGE, PHYSICAL DEFECT, OR VISUAL IMPAIRMENT.

CONSTRUCTION REQUIREMENTS:

FORMLINERS SHALL BE CLEANED BEFORE EACH USE. DAMAGED FORMLINERS WHOSE CONTINUED USE OR REPAIR WOULD NEGATIVELY IMPACT THE AESTHETICS OF THE FINISHED CONCRETE SHALL BE REPLACED. FORMLINER JOINTS SHALL BE SEALED TO PREVENT CEMENT PASTE FROM BLEEDING. FORMLINERS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED SHOP DRAWINGS. CHAMFERED CORNERS SHALL FORM SMOOTH, SOLID UNBROKEN CONTINUOUS SURFACES WHICH ARE UNIFORMLY STRAIGHT. AN APPROVED COMPATIBLE FORMLINER RELEASE AGENT SHALL BE APPLIED AT A RATE RECOMMENDED BY THE MANUFACTURER.

AS PART OF THIS ITEM, A 7 FOOT LONG SECTION OF PARAPET THAT COMPRISES A MINIMUM OF ONE COMPLETE STONE BLOCK WILL BE CAST BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER. IF THE SECTION DOES NOT MEET THE ENGINEER'S APPROVAL, THE PROPOSED FORMLINER MAY BE REJECTED. THE SECTION MUST BE APPROVED BEFORE PLACING ANY CONCRETE WHERE THE FORMLINERS WILL BE USED. REJECTION OF THE SECTION WILL REQUIRE CONSTRUCTION OF ANOTHER SECTION UNTIL APPROVAL IS GRANTED. THE PARAPET SECTION SHALL USE ACTUAL PROJECT SPECIFIC MATERIALS, METHODS, AND WORKMANSHIP, INCLUDING CONCRETE MIX (CEMENT TYPE, AGGREGATE GRADATION, SLUMP, WATER/CEMENT RATIO, PLASTICIZERS, AND ADDITIVES), FORMLINER AND FORMWORK SYSTEMS, INSERTS, FORM RELEASE AGENTS, PLACEMENT RATE, FORM PRESSURES, AND JOINT SEALING, VIBRATING, AND STRIPPING PRACTICES. ANY INTENDED PATCHING OR REPAIR PROCEDURES FOR THE CORRECTION OF MINOR DEFECTS THAT DO NOT RESULT IN REJECTION OF THE ENTIRE PARAPET SECTION SHALL BE DEMONSTRATED ON THE SECTION.

THE ACCEPTED PARAPET SECTION SHALL BE THE STANDARD BY WHICH THE FINAL CONSTRUCTION WILL BE EVALUATED FOR TECHNICAL AND AESTHETIC MERIT. THE PARAPET SECTION SHALL BE CONSTRUCTED AT THE CONSTRUCTION SITE, OR AT AN ALTERNATIVE LOCATION AGREED UPON BY THE ENGINEER. UPON COMPLETION OF THE FINAL CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF THE PARAPET SECTION MOCK-UP.

PORTIONS OF THE PARAPET DETAILED IN THE PLAN SET SHALL BE CAST WITH STONE FACING FORMLINER TEXTURE AND BE SEALED WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

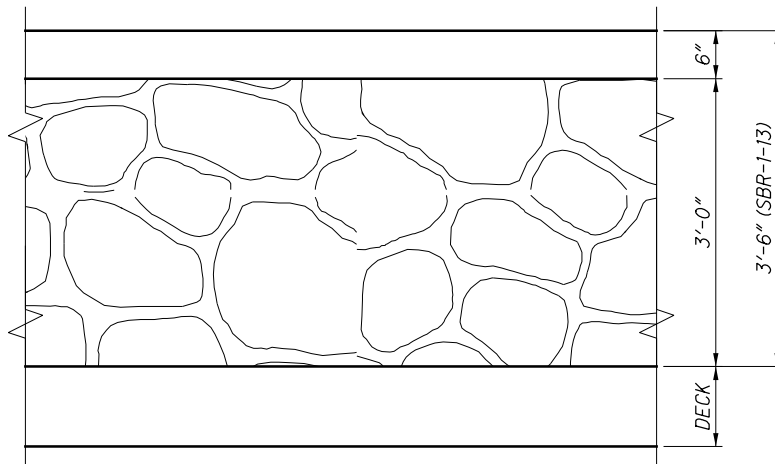
METHOD OF MEASUREMENT:

ROUGH CUT STONE FORMLINERS WILL NOT BE MEASURED INDIVIDUALLY FOR PAYMENT UNDER THIS ITEM.

BASIS OF PAYMENT:

ITEM 530, SPECIAL - FORMLINER, WILL BE PAID FOR AT THE CONTRACT SQ. FT. PRICE. THE WORK SHALL INCLUDE FABRICATION AND ERECTION OF FORMLINERS, PREPARATION OF FORMLINER SHOP DRAWINGS, AND CONSTRUCTION AND REMOVAL OF THE PRE-CONSTRUCTION PARAPET SECTION, AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM.

THE DEPARTMENT WILL PAY FOR SEALING OF CONCRETE SURFACES SEPARATELY UNDER ITEM 512-SEALING OF CONCRETE SURFACES (EPOXY-UREHTANE).



ITEM 530. SPECIAL - STRUCTURES: PILOT EXPLORATION HOLES:

DESCRIPTION:

PILOT EXPLORATION HOLES SHALL BE OBTAINED AT EACH DRILLED SHAFT LOCATION TO INVESTIGATE THE EXISTENCE OF VOIDS IN THE UNDERLYING BEDROCK. PILOT EXPLORATION HOLES SHALL BE PERFORMED AS EARLY AS POSSIBLE DURING THE ALLOWABLE IN-STREAM WORK PERIOD LISTED UNDER ENVIRONMENTAL COMMITMENTS, AGENCY COORDINATION ITEM 8. EACH PILOT EXPLORATION HOLE SHALL CONSIST OF A CONTINUOUS CYLINDRICAL CORE OF BEDROCK EXTENDING FROM THE TOP OF BEDROCK AT EACH SHAFT LOCATION TO A MINIMUM DEPTH OF 25 FEET BELOW THE TOP OF BEDROCK. ANY VOIDS OR IRREGULARITIES ENCOUNTERED DURING DRILLING OF THE PILOT EXPLORATION HOLES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER. THE ENGINEER WITH THE AID OF THE DEPARTMENT'S OFFICE OF GEOTECHNICAL ENGINEERING WILL PROVIDE FURTHER GUIDANCE REGARDING THE TREATMENT OF VOIDS AND IRREGULARITIES AND THE CONSTRUCTION OF THE DRILLED SHAFTS. SUCH AS USING A CAMERA TO INSPECT THE SIZE OF THE VOID AND SUBSURFACE CONDITIONS AND DETERMINING WHETHER TO GROUT THE VOID OR IRREGULARITY OR TO EXTEND THE DRILLED SHAFT THROUGH THE VOID WITH PERMANENT CASING INTO COMPETENT BEDROCK. DELAYS AND EXTRA WORK CAUSED BY UNFORSEEN CONDITIONS COMPRISING OF ENCOUNTERING VOIDS AND IRREGULARITIES AT THE DRILLED SHAFT LOCATIONS SHALL BE ACCORDING TO CMS 109.05 EXCEPT AS NOTED HEREIN. THE CONTRACTOR SHALL MEET WITH THE ENGINEER AND THE DEPARTMENT'S OFFICE OF GEOTECHNICAL ENGINEERING WITHIN 3 BUSINESS DAYS (EXCLUDING HOLIDAYS) TO REACH AN AGREEMENT ON THE NEGOTIATED PRICES AND PLAN OF ACTION.

FINAL CORE LOGS THAT MEET THE REQUIREMENTS OF THE DEPARTMENT'S SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS SHALL BE PROVIDED TO THE ENGINEER PRIOR TO DRILLED SHAFT CONSTRUCTION. PILOT EXPLORATION HOLES WITH NO ENCOUNTERED VOIDS AND IRREGULARITIES SHALL BE FILLED WITH NON-SHRINK GROUT UPON COMPLETION FOR THEIR ENTIRE LENGTH. THE CORES SHALL BE STORED SAFELY BY THE CONTRACTOR UNTIL FINAL ACCEPTANCE BY THE DEPARTMENT PER CMS 109.12.

METHOD OF PAYMENT:

THE UNIT BID PRICE INCLUDES ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE ONE PILOT EXPLORATION HOLE. PAYMENT WILL BE INCLUDED WITH ITEM 530 - SPECIAL: PILOT EXPLORATION HOLES.

DESIGN AGENCY
Mead & Hunt
4700 LAKEHURST CT., STE 110
DUBLIN, OH 43016
(614) 792-5900 PHONE
(614) 792-5901 FAX

DATE: 8/1/2016
REVIEWED: KVB
DRAWN: CMH
DESIGNED: CMH
CHECKED: ALM
STRUCTURE FILE NUMBER: 2506786L/2506816R

GENERAL NOTES
BRIDGE NO. FRA-71-0153 L/R
OVER BIG DARBY CREEK

FRA-71-0.00
PID No. 93496

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ESTIMATED QUANTITIES

ITEM	EXTENSION	SOUTHBOUND	NORTHBOUND	UNIT	DESCRIPTION	SOUTHBOUND				NORTHBOUND				SHEET #
						ABUT.	PIER	SUPER.	GEN.	ABUT.	PIER	SUPER.	GEN.	
202	11003	LUMP	LUMP	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP				LUMP	4, 15
202	22900	187	187	SY	APPROACH SLAB REMOVED				187				187	
202	23500	1,227	1,227	SY	WEARING COURSE REMOVED			1,227			1,227			
503	11101	LUMP	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	LUMP	LUMP			LUMP	LUMP			4, 16-18
503	21300	LUMP	LUMP	LS	UNCLASSIFIED EXCAVATION	LUMP	LUMP		LUMP	LUMP			LUMP	
505	11100	LUMP	LUMP	LS	PILE DRIVING EQUIPMENT MOBILIZATION	LUMP	LUMP			LUMP	LUMP			
507	00200	1,920	1,760	FT	STEEL PILES HP12X53, FURNISHED	1,920				1,760				
507	00250	1,600	1,440	FT	STEEL PILES HP12X53, DRIVEN	1,600				1,440				
507	93300	64	64	EACH	STEEL POINTS OR SHOES	64				64				
509	10001	288,328	289,137	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	49,437	26,274	212,617		50,301	26,407	212,429		4
511	21522	849	849	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE			849				849		
511	33500	2	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	2				2				
511	41010	64	64	CY	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS		64				64			
511	44112	212	214	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	212				214				
511	46512	276	273	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	276				273				
512	10100	1,228	1,269	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	307	155	766		345	158	766		
512	33000	11	11	SY	TYPE 2 WATERPROOFING	11				11				
513	10401	794,144	794,144	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN			794,144				794,144		4, 5
513	20000	7,665	7,665	EACH	WELDED STUD SHEAR CONNECTORS			7,665				7,665		
516	10010	135	135	FT	ARMORLESS PREFORMED JOINT SEAL (TYPE C)				135				135	
516	13600	18	18	SF	1" PREFORMED EXPANSION JOINT FILLER	18				18				
516	13900	366	366	SF	2" PREFORMED EXPANSION JOINT FILLER	366				366				
516	14020	162	162	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	162				162				
516	44300	7	7	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (22" x 27" x 4.91" WITH 23" x 28" x 2.5" LOAD PLATE)		7				7			
516	44301	14	14	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (14" x 20" x 4.35" WITH 15" x 21" x 2.0" LOAD PLATE), AS PER PLAN	14				14				45
518	21200	193	193	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	193				193				
518	40000	181	181	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	181				181				
518	40011	20	20	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	20				20				41
524	94904	50	50	FT	DRILLED SHAFTS, 48" DIAMETER, INTO BEDROCK		50				50			
524	94906	70	70	FT	DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK		70				70			
526	30011	449	449	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN					449			449	70-74
526	90030	135	135	FT	TYPE C INSTALLATION					135			135	
SPECIAL	530E00400	5	5	EACH	SPECIAL - STRUCTURES: PILOT EXPLORATION HOLES		5				5			5
SPECIAL	530E13000	2,172	2,172	SF	SPECIAL - FORMLINER			2,172				2,172		5
* 601	32000	587	564	CY	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	585				566				

* - FOR INFORMATION ONLY. PAID FOR UNDER ROADWAY QUANTITIES.

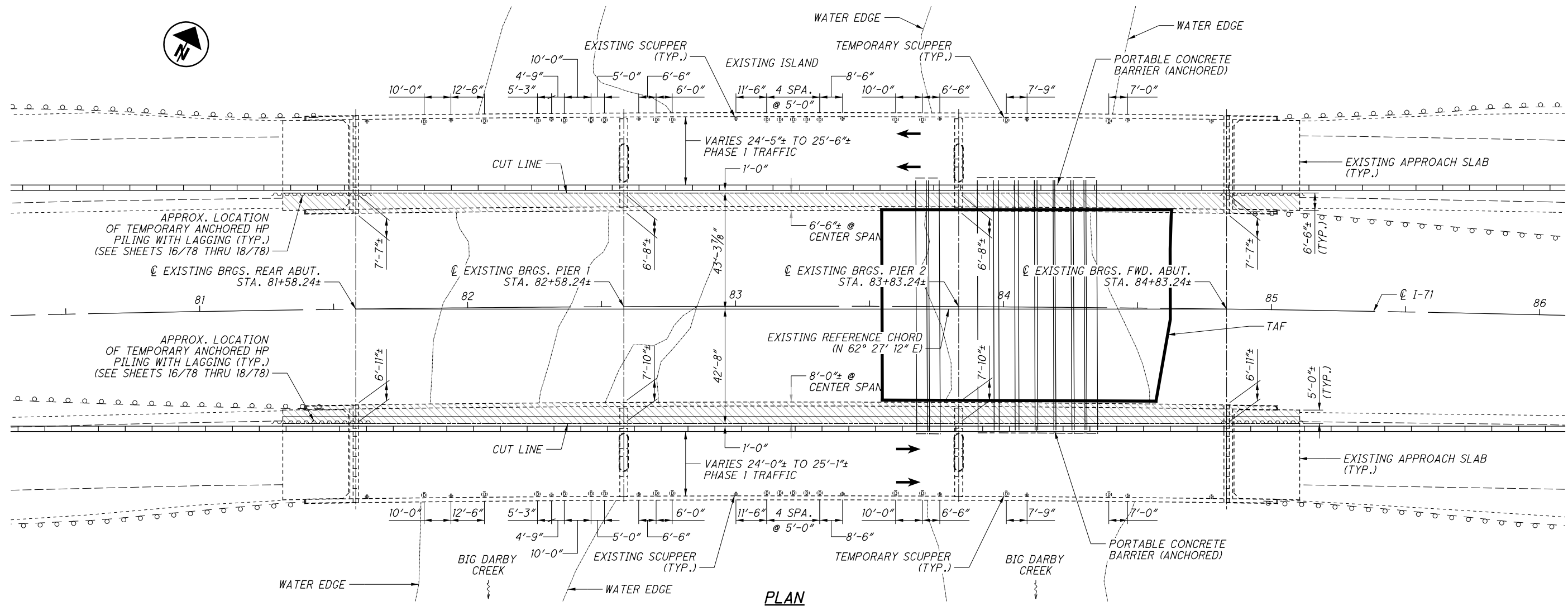
ABBREVIATIONS:

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS TO INDICATE THE DESIGNATIONS CONTAINED IN THE LEGEND BELOW:

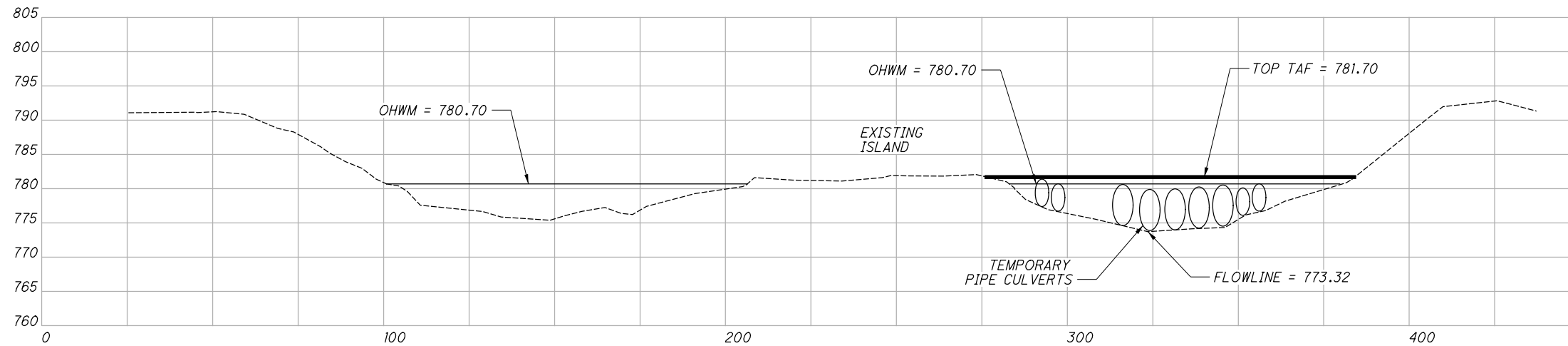
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|--|--|-------------------------|---|--|-----------------------------|
| ABUT. - ABUTMENT | CIP - CAST-IN-PLACE | EL. - ELEVATION | JT. - JOINT | P.C.P.P - PERFORATED CORRUGATED PLASTIC PIPE | TAF - TEMPORARY ACCESS FILL |
| ADT - AVERAGE DAILY TRAFFIC | C.J. - CONSTRUCTION JOINT | EQ. - EQUAL | LT. - LEFT | P.E.J.F. - PREFORMED EXPANSION JOINT FILLER | TEMP. - TEMPORARY |
| ADTT - AVERAGE DAILY TRUCK TRAFFIC | CLR. - CLEARANCE | EX. - EXISTING | MAX. - MAXIMUM | R.A. - REAR ABUTMENT | T/R - TOP OF ROCK |
| APPROX. - APPROXIMATE | CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS | F.A. - FORWARD ABUTMENT | MIN. - MINIMUM | RT. - RIGHT | T/S - TOP OF SLOPE |
| ASTM - AMERICAN SOCIETY OF TESTING AND MATERIALS | CONST. - CONSTRUCTION | F.F. - FRONT FACE | MOT - MAINTENANCE OF TRAFFIC | U.N.O. - UNLESS NOTED OTHERWISE | T/T - TOE TO TOE |
| B.F. - BACK FACE | DIA./φ - DIAMETER | F/F - FACE TO FACE | NB - NORTHBOUND | SB - SOUTHBOUND | TYP. - TYPICAL |
| BOT. - BOTTOM | DWG. - DRAWING | FTG. - FOOTING | N.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE | SPA. - SPACES OR SPACING | VERT. - VERTICAL |
| BRGS. - BEARINGS | E.F. - EACH FACE | FT/FT - FOOT PER FOOT | O/O - OUT TO OUT | STD. - STANDARD | |
| ☉ - CENTERLINE | E/P - EDGE OF PAVEMENT | FWD. - FORWARD | | STR. - STRAIGHT | |
| C/C - CENTER TO CENTER | E/S - EDGE OF SHOULDER | I - INTERSTATE ROUTE | | | |

DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016
 (614) 792-5900 PHONE (614) 792-5901 FAX
 DATE: 8/1/2016
 REVIEWED: KVB
 DRAWN: CMH
 DESIGNED: CMH
 CHECKED: ALM
 STRUCTURE FILE NUMBER: 2506786L/2506816R
ESTIMATED QUANTITIES
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK
FRA-71-1.53
 PID No. 93496
 6 / 78
 208
 285

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PLAN



ELEVATION VIEW

LEGEND:

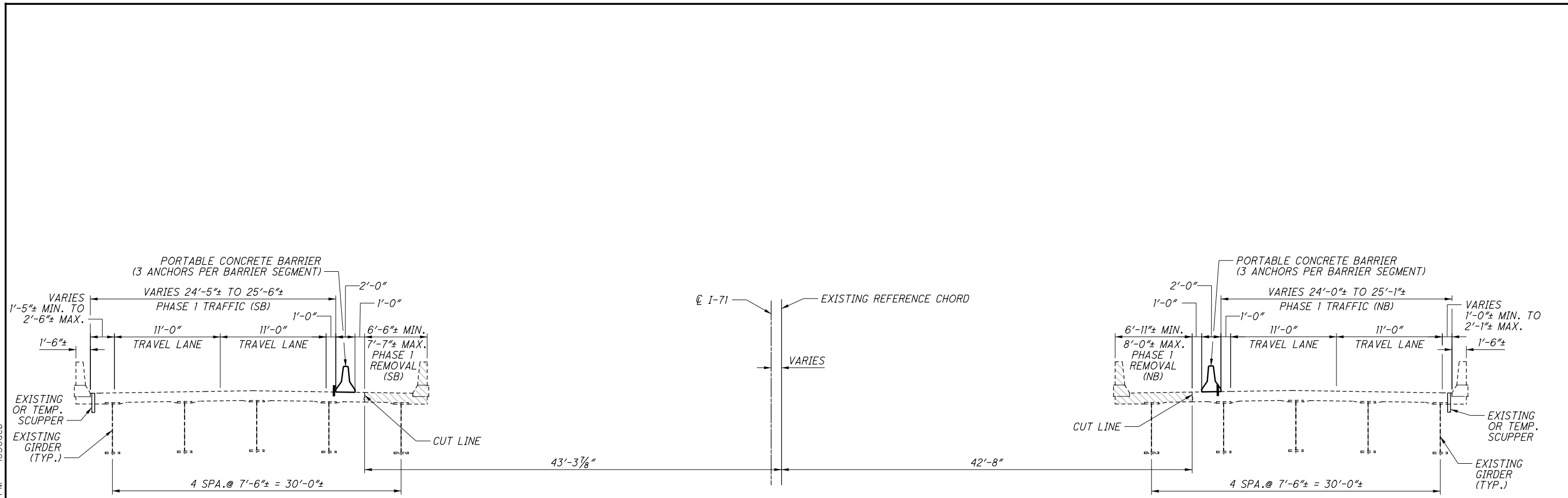
- PORTION OF STRUCTURE TO BE REMOVED
- TAF - TEMPORARY ACCESS FILL
- OHWM - ORDINARY HIGH WATER MARK

NOTES:

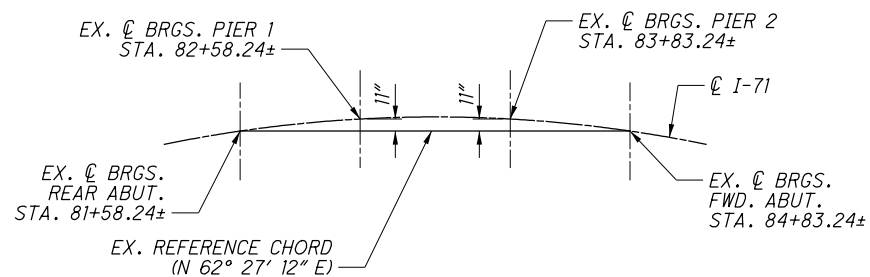
1. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 15/78.
2. ALL PHASE CONSTRUCTION DETAILS SHOWN ARE AT PROPOSED PIER.
3. FOR TEMPORARY SCUPPER DETAIL, SEE SHEET 15/78.
4. THE TEMPORARY ACCESS FILL SHALL ACCOMODATE A FLOW RATE (Q) EQUAL TO TWICE THE HIGHEST MEAN MONTHLY FLOW SUCH THAT THE BACKWATER ELEVATION DOES NOT EXCEED THE OHWM. Q FOR THIS LOCATION IS: $2 \times 957 = 1914$ CFS.

<p>MEAD & HUNT</p>	<p>DESIGN AGENCY: 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX</p>
<p>DATE: 8/1/2016</p>	<p>REVIEWED: KVB</p>
<p>DRAWN: DJC</p>	<p>STRUCTURE FILE NUMBER: 2506786L/2506816R</p>
<p>DESIGNED: DJC</p>	<p>CHECKED: RLC</p>
<p>PHASE CONSTRUCTION DETAILS</p>	
<p>BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK</p>	
<p>FRA-71-1.53</p>	<p>PID No. 93496</p>
<p>7 / 78</p>	
<p>209 285</p>	

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PHASE 1 TRAFFIC & REMOVAL



EXISTING REFERENCE CHORD DIAGRAM

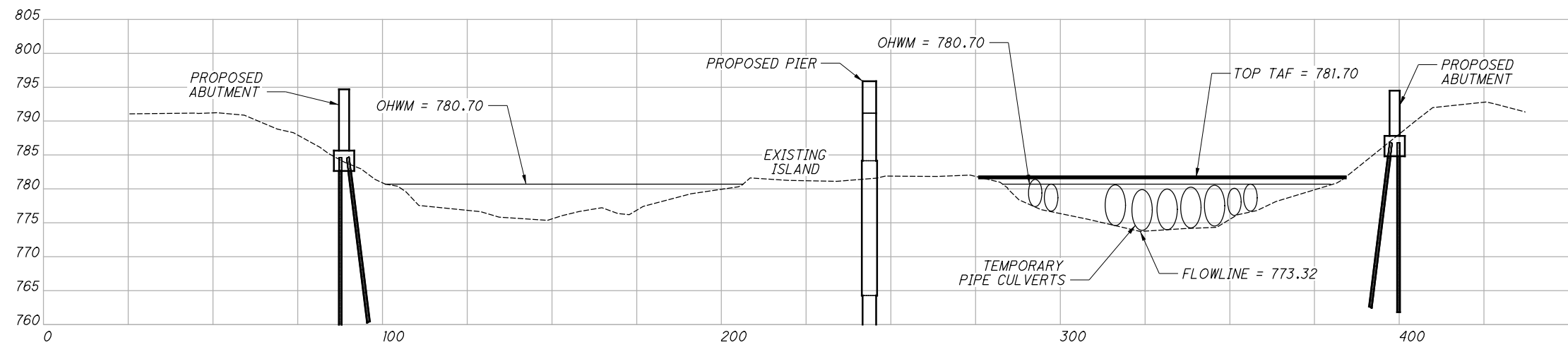
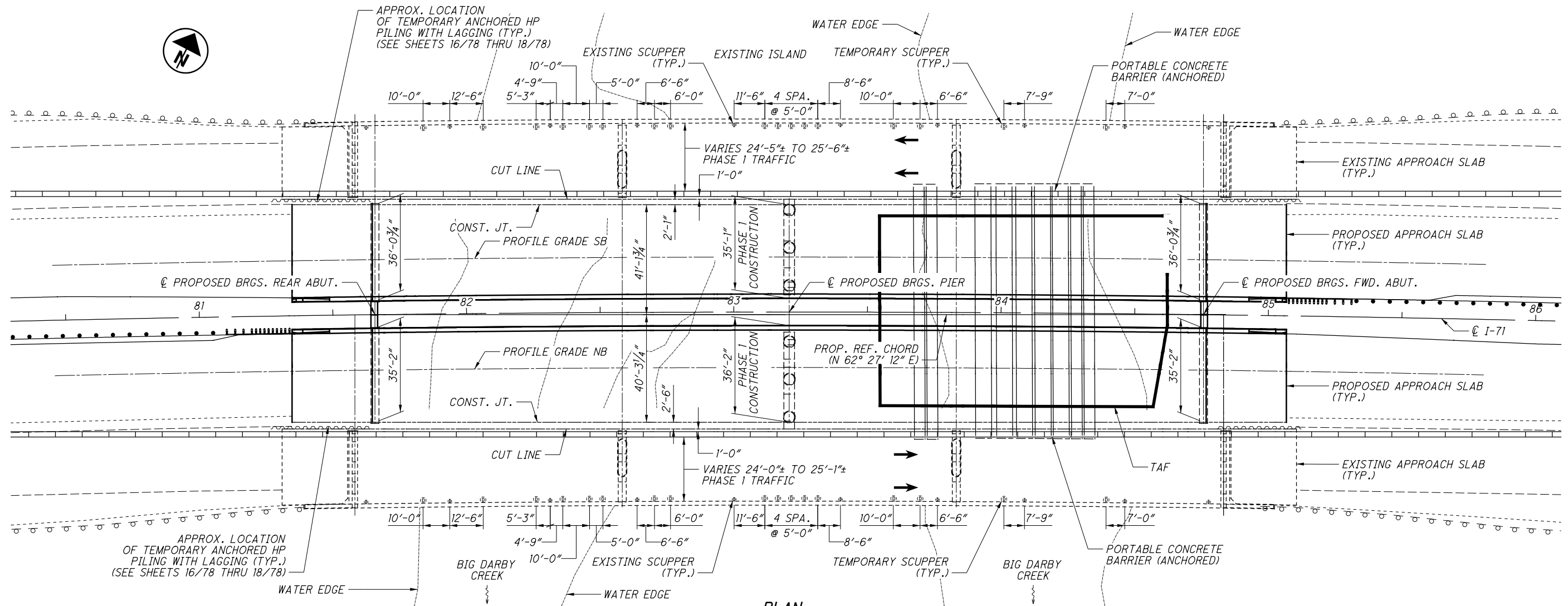
LEGEND:

- PORTION OF STRUCTURE TO BE REMOVED

NOTES:

1. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 15/78.
2. ALL PHASE CONSTRUCTION DETAILS SHOWN ARE AT PROPOSED PIER.
3. FOR TEMPORARY SCUPPER DETAIL, SEE SHEET 15/78.

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LEGEND:
 TAF - TEMPORARY ACCESS FILL
 OHWM - ORDINARY HIGH WATER MARK

NOTES:
 1. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 15/78.
 2. FOR TEMPORARY SCUPPER DETAIL, SEE SHEET 15/78.
 3. THE TEMPORARY ACCESS FILL SHALL ACCOMODATE A FLOW RATE (Q) EQUAL TO THE HIGHEST MEAN MONTHLY FLOW SUCH THAT THE BACKWATER ELEVATION DOES NOT EXCEED THE OHWM. Q FOR THIS LOCATION IS 1914 CFS.

DESIGN AGENCY
Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

DATE
 8/1/2016

REVIEWED
 KVB

STRUCTURE FILE NUMBER
 2506786L/2506816R

DRAWN
 DJC

CHECKED
 RLC

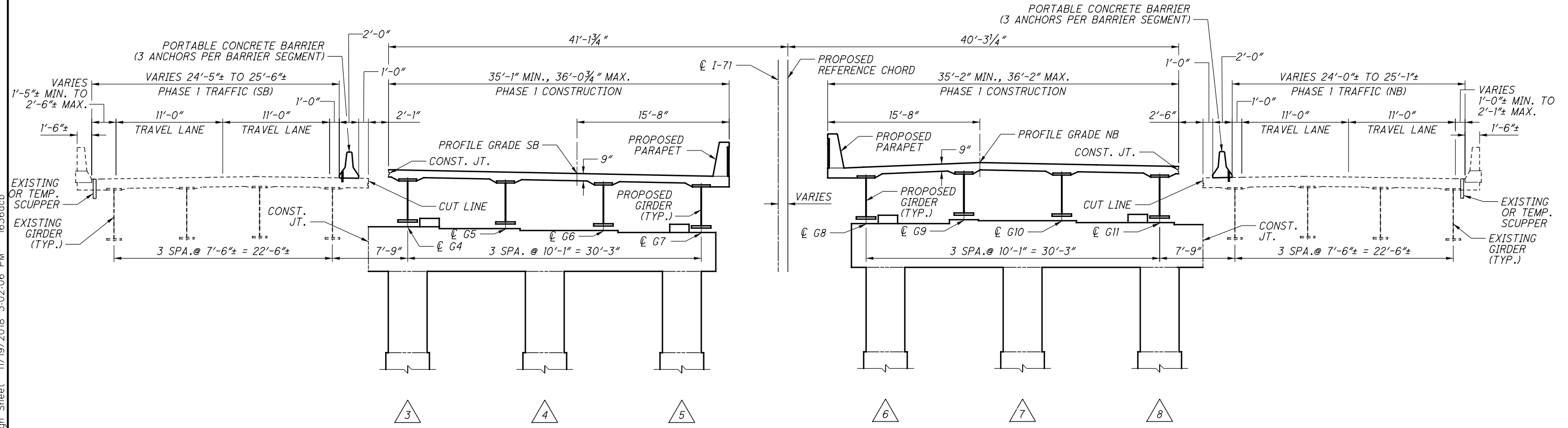
PHASE CONSTRUCTION DETAILS
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496

9/78

211
 285

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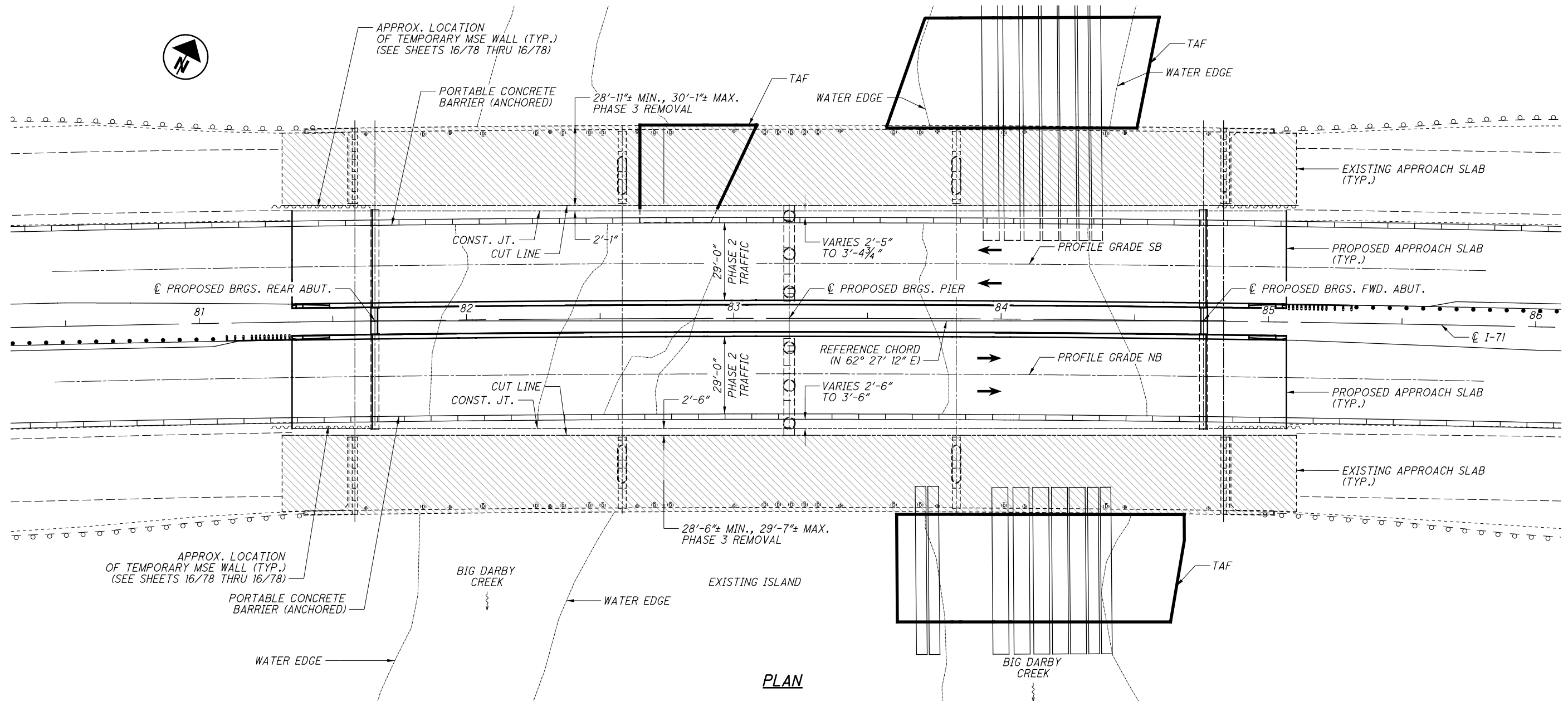


PHASE 1 TRAFFIC & CONSTRUCTION

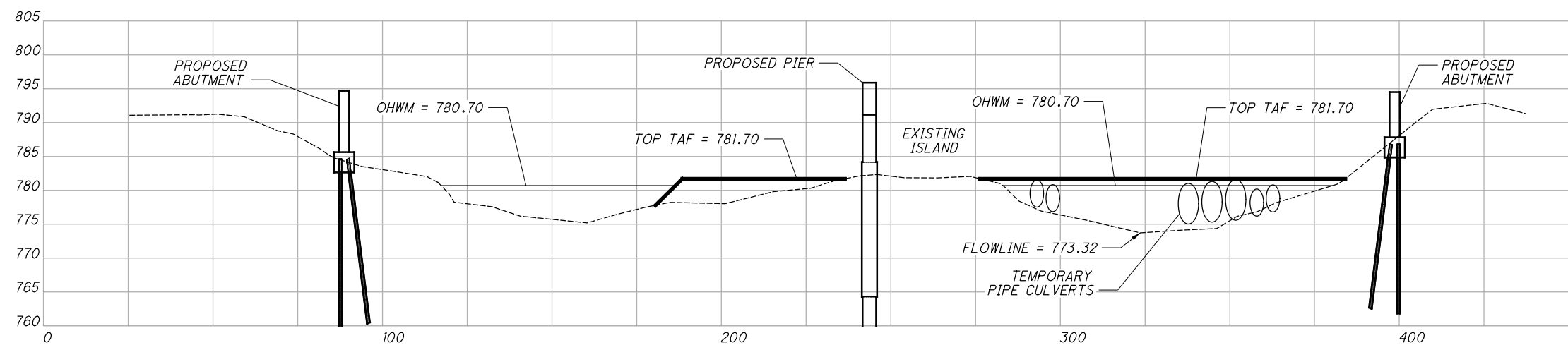
LEGEND:
 # - DRILLED SHAFT NUMBER

- NOTES:**
- FOR PHASE CONSTRUCTION NOTES, SEE SHEET 15/78.
 - ALL PHASE CONSTRUCTION DETAILS SHOWN ARE AT PROPOSED PIER.
 - FOR TEMPORARY SCUPPER DETAIL, SEE SHEET 15/78.

DESIGN AGENCY Mead & Hunt 4700 LAKEHURST CT, STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX	DATE 8/1/2016
	REVIEWED KVB
DRAWN DJC	STRUCTURE FILE NUMBER 2506786L/2506816R
DESIGNED DJC	CHECKED RLC
PHASE CONSTRUCTION DETAILS BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK	
FRA-71-1.53 PID No. 93496	10/78 212/285



PLAN



ELEVATION VIEW

LEGEND:
 - PORTION OF STRUCTURE TO BE REMOVED
 TAF - TEMPORARY ACCESS FILL
 OHWM - ORDINARY HIGH WATER MARK

- NOTES:**
1. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 15/78.
 2. FOR TEMPORARY SCUPPER DETAIL, SEE SHEET 15/78.
 3. THE TEMPORARY ACCESS FILL SHALL ACCOMODATE A FLOW RATE (Q) EQUAL TO THE HIGHEST MEAN MONTHLY FLOW SUCH THAT THE BACKWATER ELEVATION DOES NOT EXCEED THE OHWM. Q FOR THIS LOCATION IS 1914 CFS.

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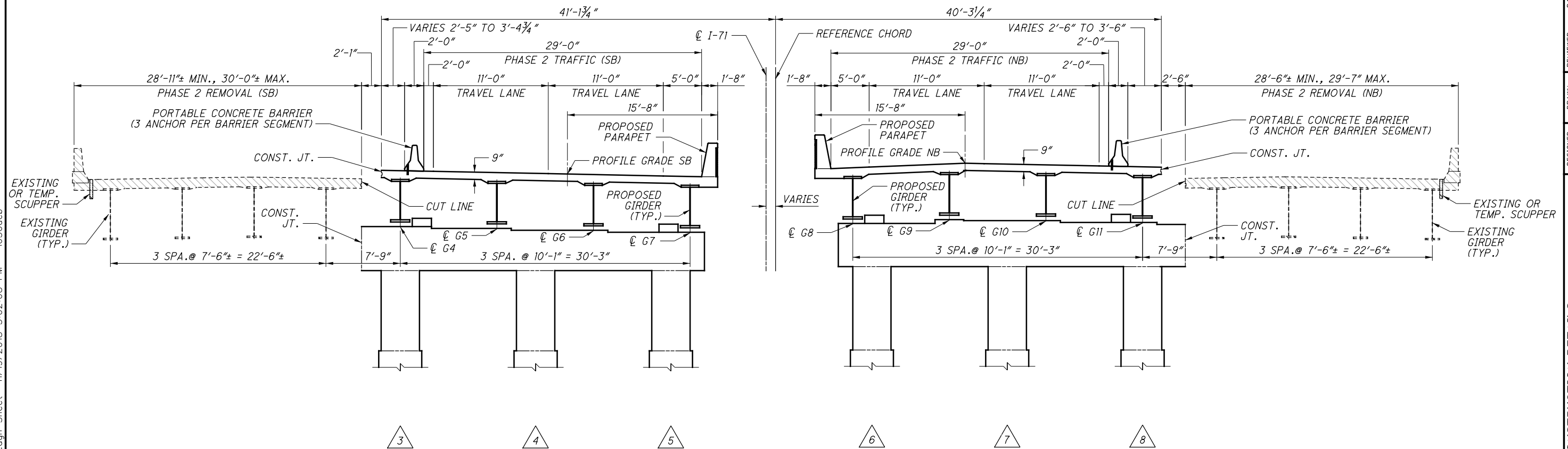
DESIGN AGENCY
Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

DATE: 8/1/2016
 REVIEWED: KVB
 DRAWN: DJC
 DESIGNED: DJC
 CHECKED: RLC
 STRUCTURE FILE NUMBER: 2506786L/2506816R

PHASE CONSTRUCTION DETAILS
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496

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PHASE 2 TRAFFIC & REMOVAL

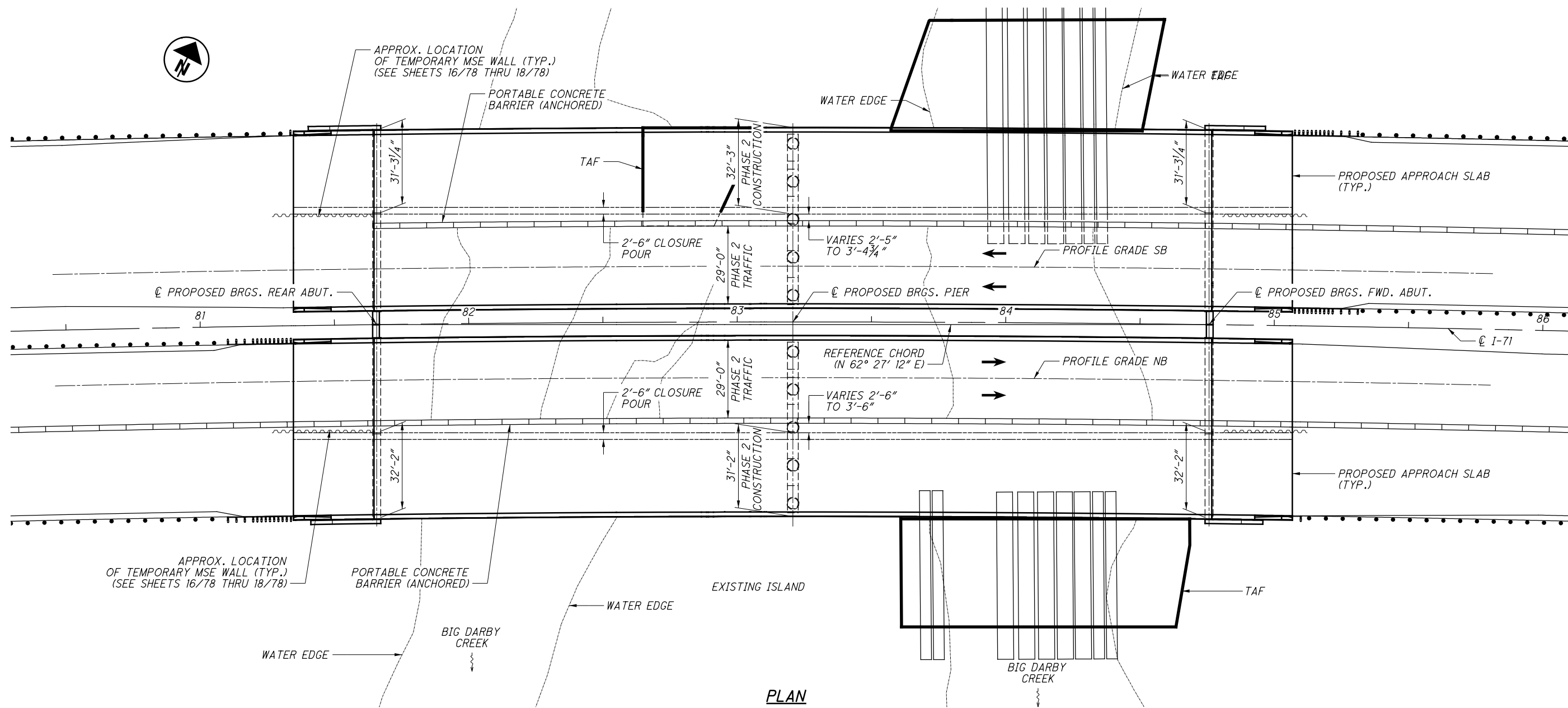
LEGEND:

- PORTION OF STRUCTURE TO BE REMOVED
- DRILLED SHAFT NUMBER

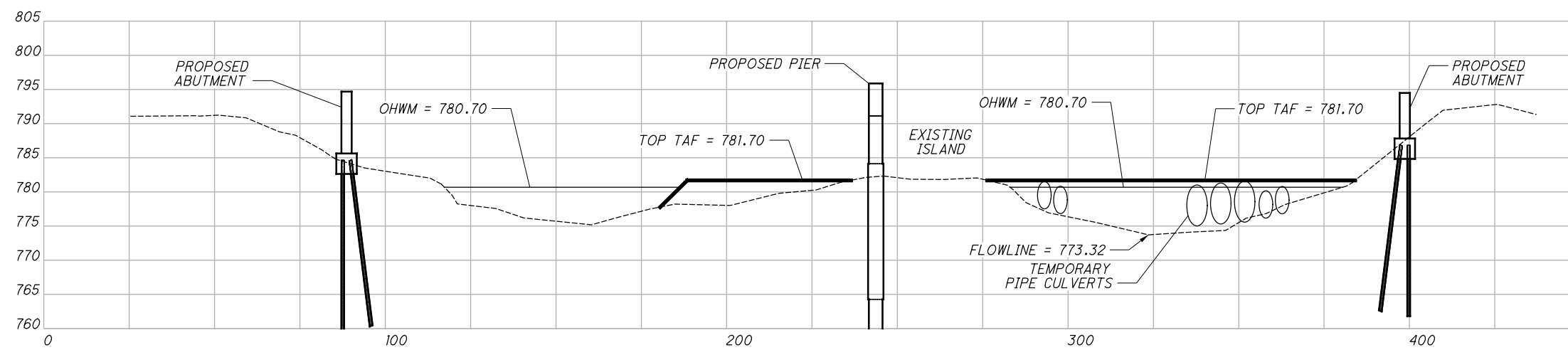
NOTES:

1. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 15/78.
2. ALL PHASE CONSTRUCTION DETAILS SHOWN ARE AT PROPOSED PIER.

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PLAN



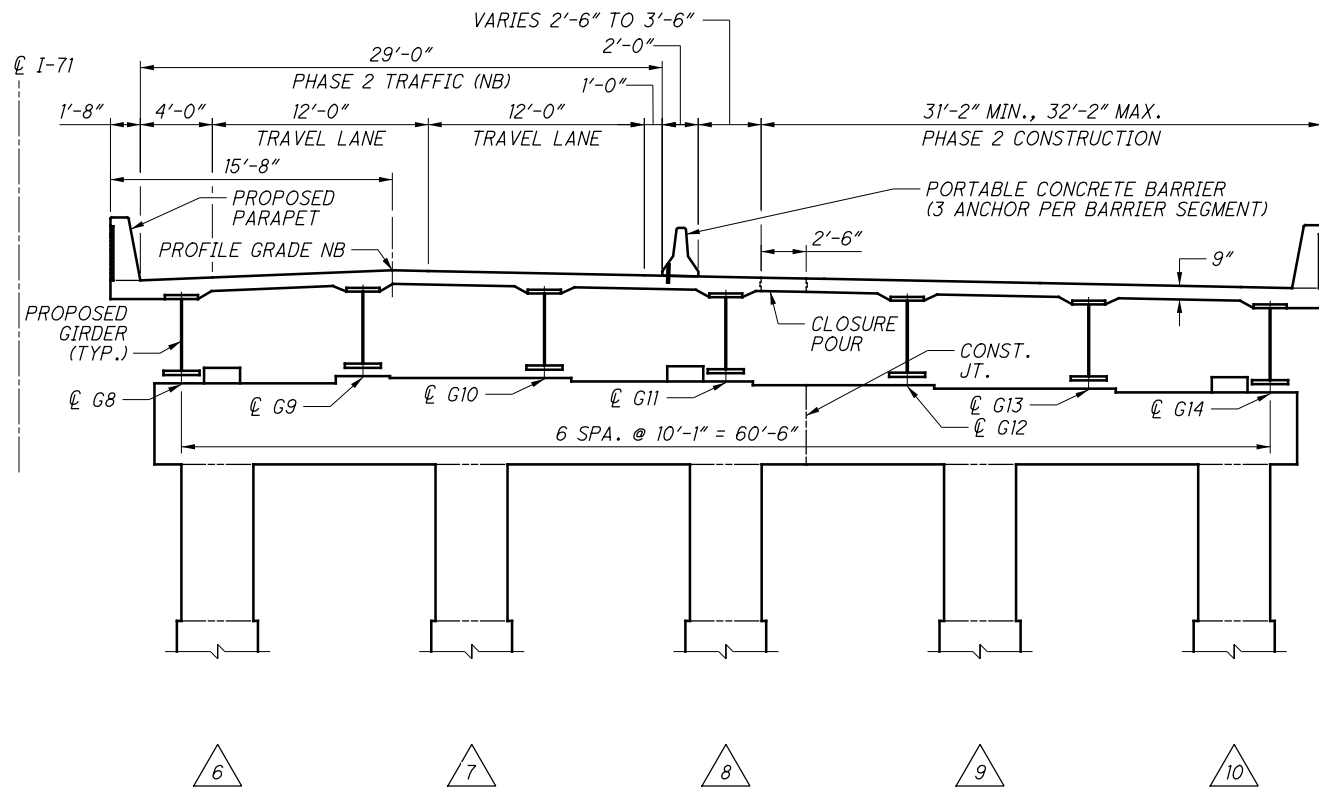
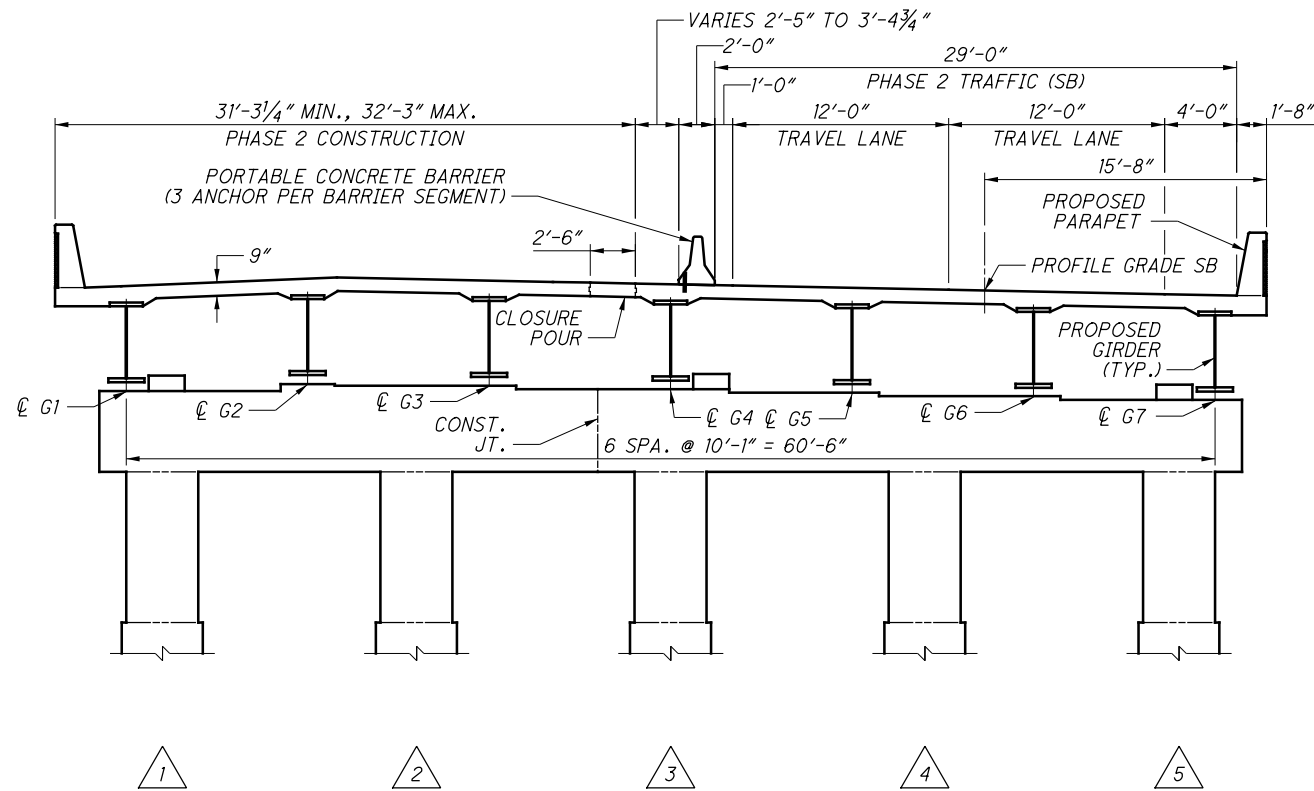
ELEVATION VIEW

LEGEND:
 TAF - TEMPORARY ACCESS FILL
 OHWM - ORDINARY HIGH WATER MARK

- NOTE:**
- FOR PHASE CONSTRUCTION NOTES, SEE SHEET 15/78.
 3. THE TEMPORARY ACCESS FILL SHALL ACCOMMODATE A FLOW RATE (Q) EQUAL TO THE HIGHEST MEAN MONTHLY FLOW SUCH THAT THE BACKWATER ELEVATION DOES NOT EXCEED THE OHWM. Q FOR THIS LOCATION IS 1914 CFS.

DESIGNED DJC CHECKED RLC	DRAWN DJC REVISED	REVIEWED KVB	DATE 8/1/2016	DESIGN AGENCY Mead & Hunt 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX
		STRUCTURE FILE NUMBER 2506786L/2506816R		
PHASE CONSTRUCTION DETAILS BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK				PID No. 93496
FRA-71-1.53				13 / 78
215 285				

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PHASE 3 TRAFFIC & CONSTRUCTION

LEGEND:
 # - DRILLED SHAFT NUMBER

NOTES:
 1. FOR PHASE CONSTRUCTION NOTES, SEE SHEET 15/78.
 2. ALL PHASE CONSTRUCTION DETAILS SHOWN ARE AT PROPOSED PIER.

FRA-71-1.53 PID No. 93496	PHASE CONSTRUCTION DETAILS BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK		DESIGNED DJC CHECKED RLC	DRAWN DJC REVISED	REVIEWED KVB STRUCTURE FILE NUMBER 2506786L/2506816R	DATE 8/1/2016	DESIGN AGENCY Mead & Hunt 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX
	14 / 78	216 285					

COSNTRUCTION SEQUENCE

PHASE 1 TRAFFIC & REMOVAL:

1. CLEAN EXISTING SCUPPERS, INSTALL TEMPORARY SCUPPERS (AS SHOWN ON SHEET 7/78), INSTALL PORTABLE CONCRETE BARRIER AND MAINTAIN TRAFFIC AS SHOWN ON SOUTHBOUND AND NORTHBOUND BRIDGES. INSTALLATION OF TEMPORARY SCUPPERS AND CLEANING OF EXISTING SCUPPERS SHALL BE DONE PRIOR TO SHIFTING TRAFFIC.
2. CONSTRUCT TEMPORARY SHORING PER DETAILS ON SHEETS 16/78 THRU 18/78.
3. REMOVE APPROACH SLAB, PARAPET, AND DECK SLAB ON THE RIGHT PORTION OF THE SOUTHBOUND BRIDGE AND LEFT PORTION OF THE NORTHBOUND BRIDGE AS SHOWN.
4. REMOVE THE RIGHT EXTERIOR GIRDER AND BEARING ASSEMBLIES OF THE SOUTHBOUND BRIDGE AND THE LEFT EXTERIOR GIRDER AND BEARING ASSEMBLIES OF THE NORTHBOUND BRIDGE.
5. REMOVE THE WINGWALLS AND ABUTMENTS ON THE RIGHT PORTION OF THE SOUTHBOUND BRIDGE AND LEFT PORTION OF THE NORTHBOUND BRIDGE.

PHASE 1 TRAFFIC & CONSTRUCTION:

1. CONSTRUCT RIGHT PORTION OF THE SOUTHBOUND BRIDGE AND LEFT PORTION OF THE NORTHBOUND BRIDGE OF THE PROPOSED FORWARD ABUTMENT, REAR ABUTMENT, AND WINGWALLS.
2. CONSTRUCT DRILLED SHAFTS 3 THRU 5 AND RIGHT PORTION OF THE PIER CAP FOR THE SOUTHBOUND BRIDGE AND SHAFTS 6 THRU 8 AND LEFT PORTION OF THE PIER CAP FOR THE NORTHBOUND BRIDGE.
3. INSTALL BEARING ASSEMBLIES FOR GIRDERS 4, 5, 6, AND 7 FOR THE SOUTHBOUND BRIDGE AND GIRDERS 8, 9, 10, AND 11 FOR THE NORTHBOUND BRIDGE.
4. ERECT GIRDERS 4 THRU 11 AND INSTALL SHEAR CONNECTORS AND CROSSFRAMES.
5. CONSTRUCT DECK SLAB, PARAPET, AND APPROACH SLAB OF THE RIGHT PORTION OF THE SOUTHBOUND BRIDGE AND LEFT PORTION OF THE NORTHBOUND BRIDGE.

PHASE 2 TRAFFIC & REMOVAL:

1. RELOCATE PORTABLE CONCRETE BARRIERS AND MAINTAIN TRAFFIC AS SHOWN ON SOUTHBOUND AND NORTHBOUND BRIDGES. ON THE SOUTHBOUND BRIDGE, CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING RUNOFF LEFT OF THE PORTABLE CONCRETE BARRIER ONTO THE RIGHT PORTION OF THE BRIDGE.
2. REMOVE APPROACH SLAB, PARAPET, AND DECK SLAB ON THE LEFT PORTION OF THE SOUTHBOUND BRIDGE AND RIGHT PORTION OF THE NORTHBOUND BRIDGE AS SHOWN, INCLUDING EXISTING AND TEMPORARY SCUPPERS.
4. REMOVE EXISTING GIRDERS AND BEARING ASSEMBLIES ON THE LEFT PORTION OF THE SOUTHBOUND BRIDGE AND RIGHT PORTION OF THE NORTHBOUND BRIDGE.
5. REMOVE THE WINGWALLS AND ABUTMENTS ON THE LEFT OF THE SOUTHBOUND BRIDGE AND THE RIGHT OF THE NORTHBOUND BRIDGE.
6. REMOVE EXISTING SOUTHBOUND AND NORTHBOUND BRIDGE PIERS 1 AND 2.

PHASE 2 TRAFFIC & CONSTRUCTION:

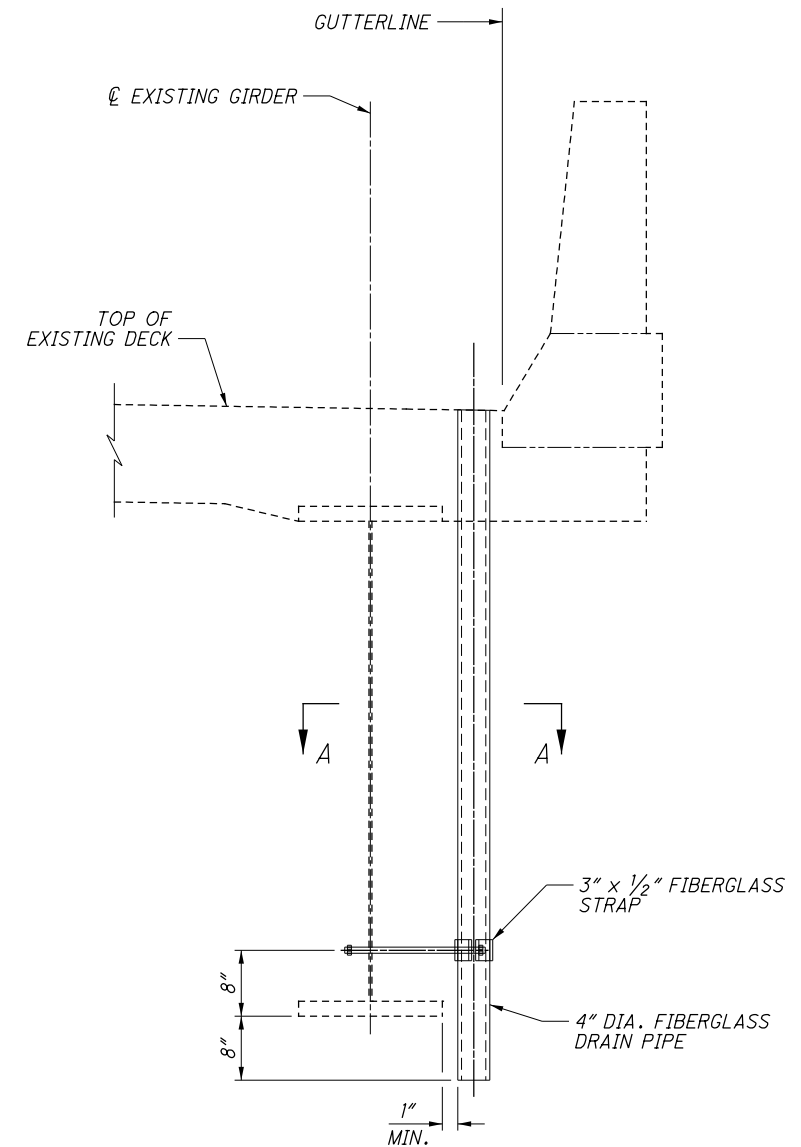
1. CONSTRUCT LEFT PORTION OF THE PROPOSED FORWARD ABUTMENT, REAR ABUTMENT, AND WINGWALLS FOR THE SOUTHBOUND BRIDGE AND RIGHT PORTION OF THE PROPOSED FORWARD ABUTMENT, REAR ABUTMENT AND WINGWALLS FOR THE NORTHBOUND BRIDGE.
2. CONSTRUCT DRILLED SHAFTS 1 & 2 AND LEFT PORTION OF PIER CAP FOR THE SOUTHBOUND BRIDGE AND SHAFTS 9 & 10 AND RIGHT PORTION OF THE PIER CAP FOR THE NORTHBOUND BRIDGE.
3. INSTALL BEARING ASSEMBLIES FOR GIRDERS 1, 2, AND 3 OF THE SOUTHBOUND BRIDGE AND GIRDERS 12, 13, AND 14 OF THE NORTHBOUND BRIDGE.
4. ERECT GIRDERS 1, 2, 3, 12, 13, AND 14, INSTALL SHEAR CONNECTORS AND CROSSFRAMES EXCEPT BETWEEN GIRDERS 3 AND 4 OF THE SOUTHBOUND BRIDGE AND GIRDERS 11 AND 12 OF THE NORTHBOUND BRIDGE.
5. CONSTRUCT DECK SLAB, PARAPET, AND APPROACH SLAB OF THE LEFT PORTION OF THE SOUTHBOUND BRIDGE AND RIGHT PORTION OF THE NORTHBOUND BRIDGE.
6. ERECT AND PERMANENTLY ATTACH CROSS-FRAMES BETWEEN GIRDERS 3 & 4 AND GIRDERS 11 & 12 AND CONSTRUCT CLOSURE POURS.
7. COMPLETE SLOPE PROTECTION OF THE SOUTHBOUND AND NORTHBOUND BRIDGES.

PHASE 3 & 4:

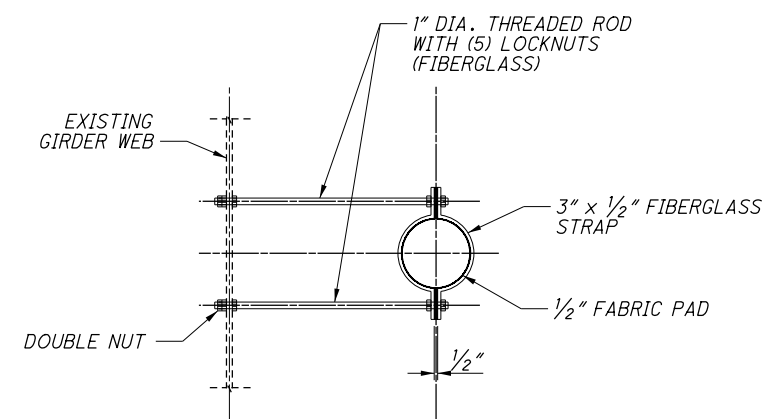
1. NO BRIDGE WORK TO BE PERFORMED. SEE ROADWAY AND MAINTNANCE OF TRAFFIC PLANS FOR WORK AND DETAILS TO BE PERFORMED.

NOTES:

1. PORTABLE CONCRETE BARRIER IS CARRIED IN THE ROADWAY PLANS FOR PAYMENT.
2. FOR MAINTENANCE OF TRAFFIC DETAILS, SEE ROADWAY PLANS.
3. FOR ADDITIONAL PORTABLE CONCRETE BARRIER DETAILS, SEE STANDARD DRAWING PCB-1-91.
4. INCLUDE COST FOR FABRICATION, INSTALLATION AND REMOVAL OF TEMPORARY SCUPPERS WITH ITEM 202, STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN.



TEMPORARY SCUPPER DETAIL



SECTION A-A

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DESIGN AGENCY
Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

DATE
 8/1/2016
 REVIEWED
 KVB
 STRUCTURE FILE NUMBER
 2506786L/2506816R

DRAWN
 DJC
 REVISED

DESIGNED
 DJC
 CHECKED
 RLC

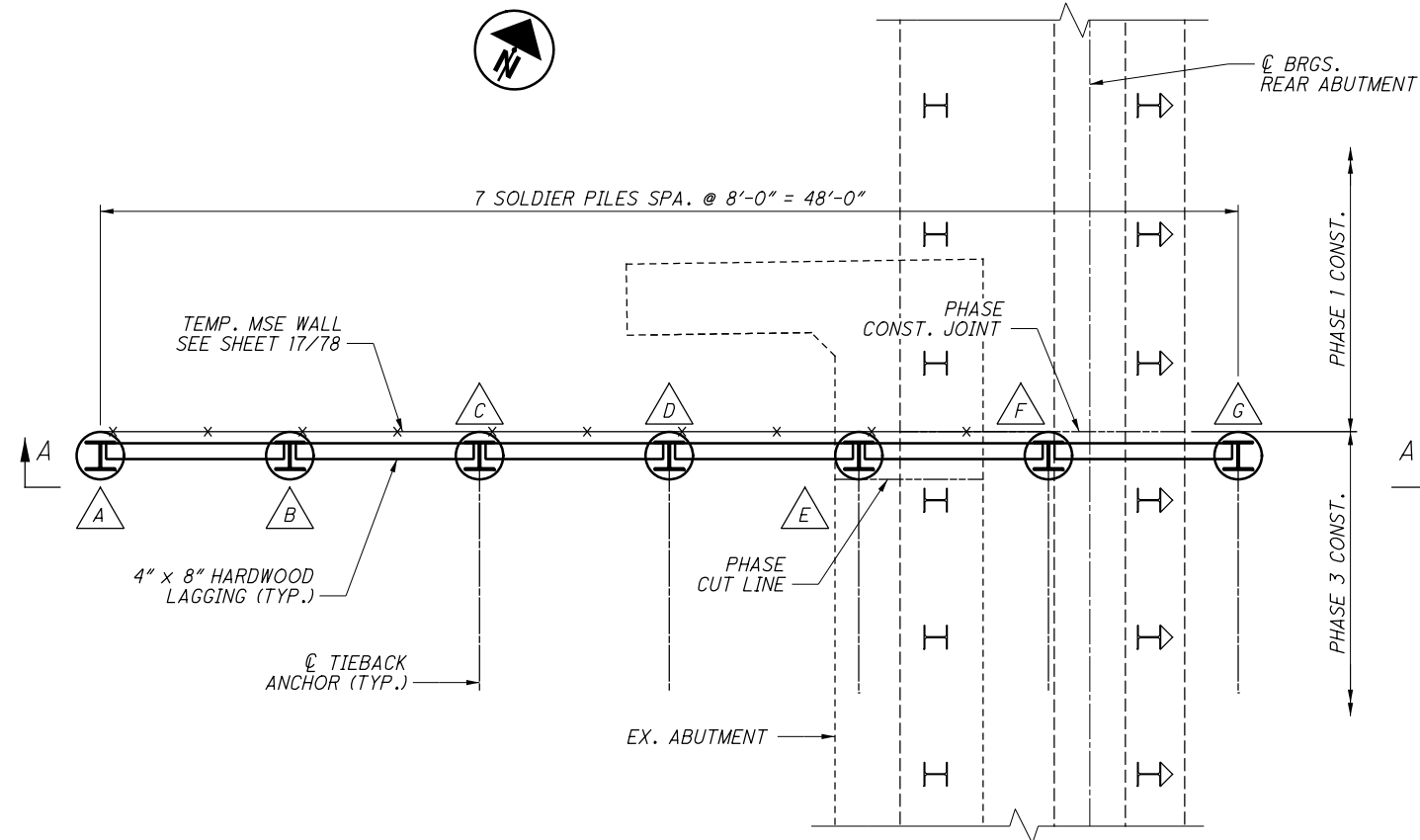
PHASE CONSTRUCTION DETAILS
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496

15 / 78

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 285

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REAR ABUTMENT TEMPORARY SHORING PLAN - NORTHBOUND
(SOUTHBOUND SIMILAR)

FORWARD ABUTMENT TEMPORARY SHORING TABLE OF ELEVATIONS SOUTHBOUND & NORTHBOUND				
SOLDIER PILE NUMBER	TOP OF PILE	TOP OF CONCRETE	BOTTOM OF PILE	TIEBACK ELEVATION
H	789.00	780.00	774.59	785.00
I	793.05	780.80	769.37	788.05
J	798.05	780.80	769.37	793.05
K	799.25	780.80	769.37	794.25
L	799.25	784.00	776.14	794.25
M	799.25	790.00	779.40	-
N	799.25	794.00	785.74	-

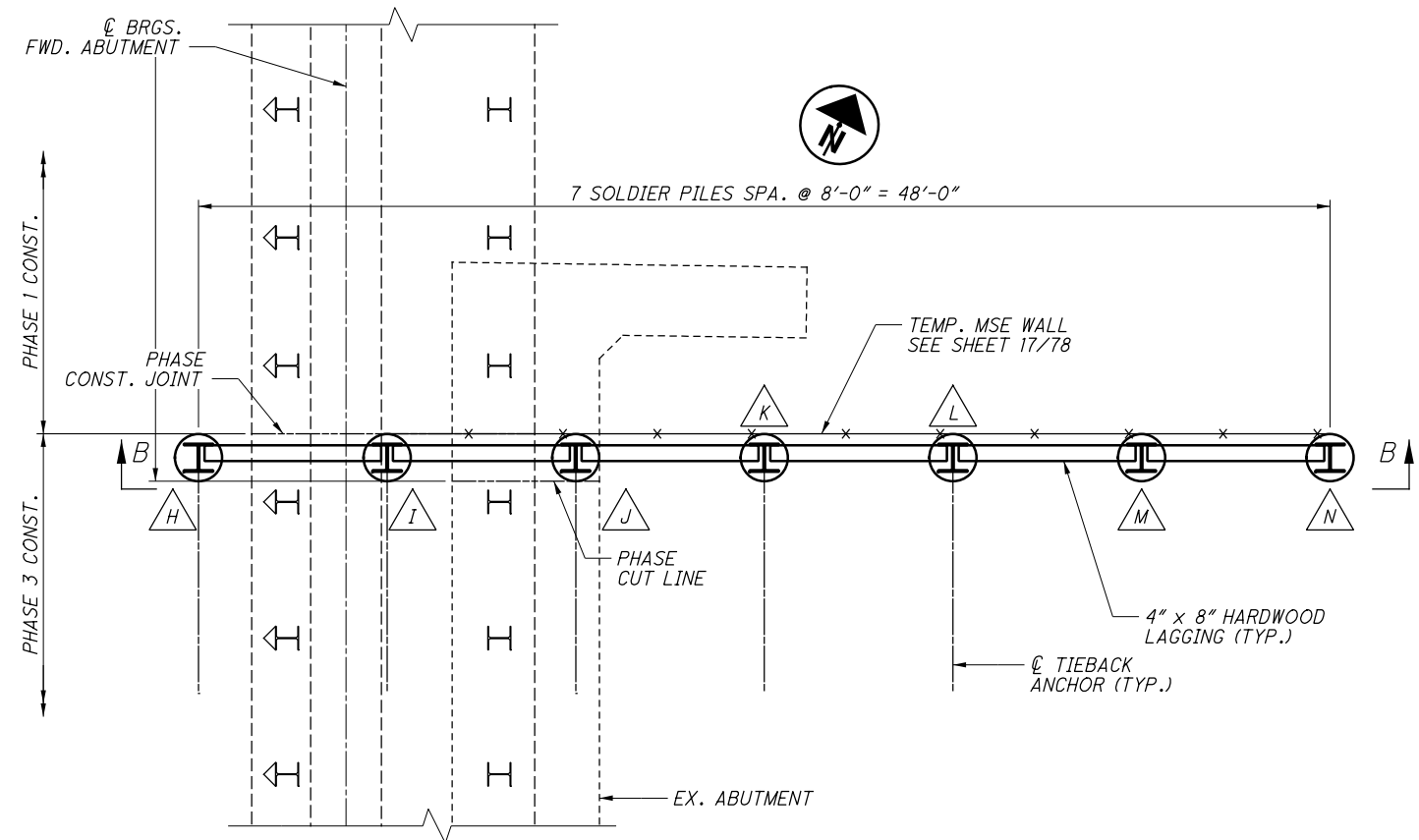
REAR ABUTMENT TEMPORARY SHORING TABLE OF ELEVATIONS SOUTHBOUND & NORTHBOUND				
SOLDIER PILE NUMBER	TOP OF PILE	TOP OF CONCRETE	BOTTOM OF PILE	TIEBACK ELEVATION
A	799.25	794.00	785.74	-
B	799.25	790.00	779.40	-
C	799.25	784.00	776.14	794.25
D	799.25	780.80	769.37	794.25
E	799.05	780.80	769.37	794.05
F	792.05	780.80	769.37	787.05
G	789.00	780.00	774.59	785.00

LEGEND:

- HP14x73 SOLDIER PILE IN A 2'-0" DIA. PRE DRILLED HOLE
- HP14x73 SOLDIER PILE DESIGNATION

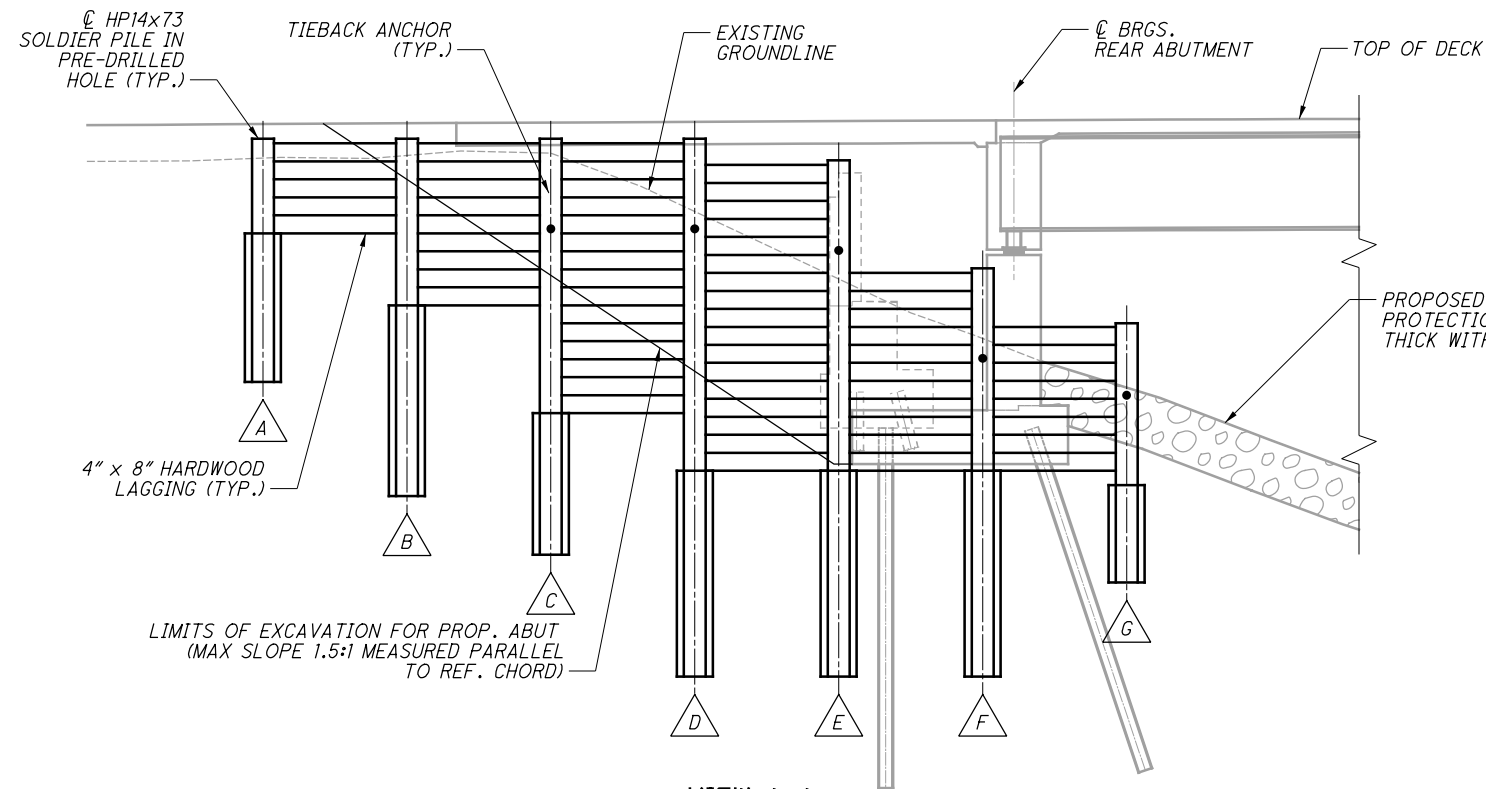
NOTES:

1. FOR VIEWS A-A AND B-B, SEE SHEET 17/78.
2. FOR NOTES AND TIEBACK ANCHOR DETAILS, SEE SHEET 18/78.



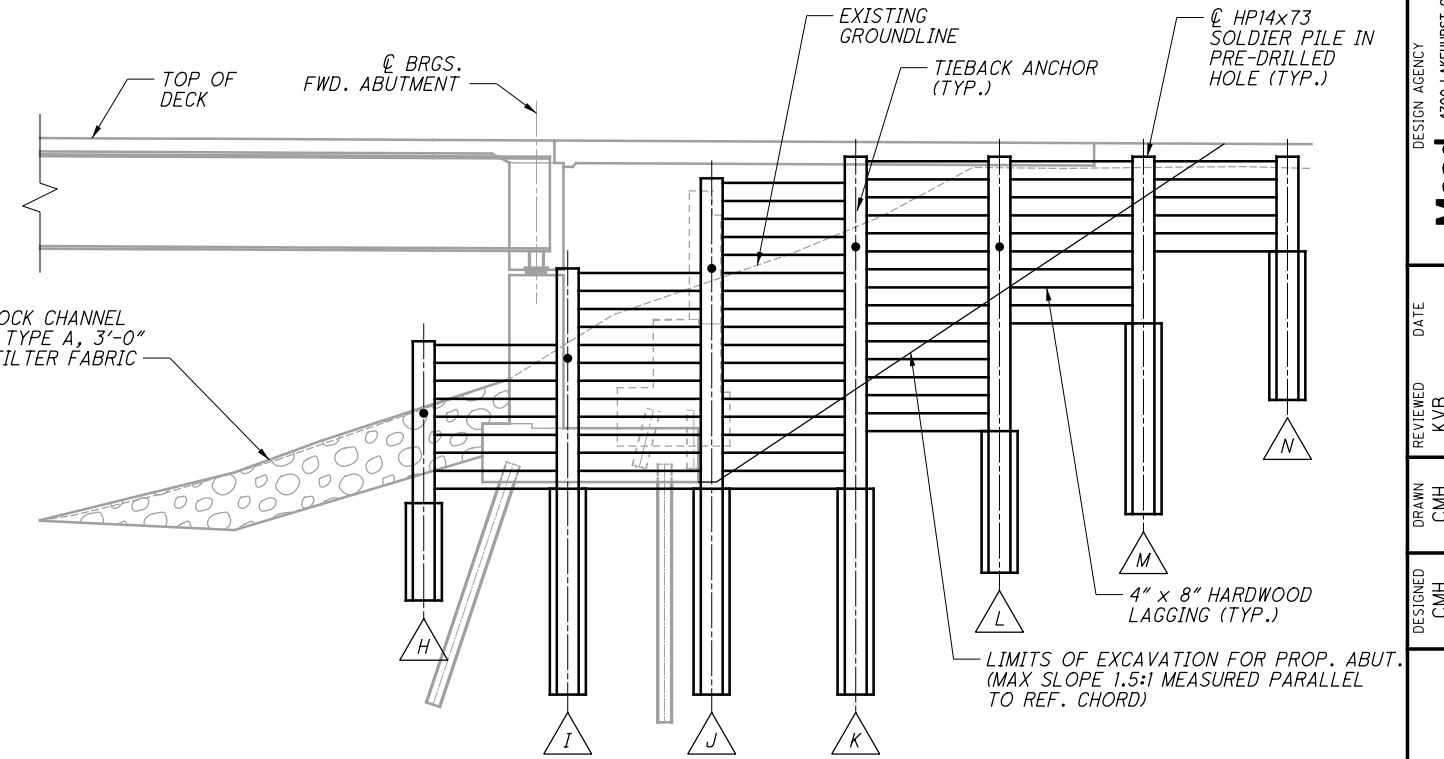
FORWARD ABUTMENT TEMPORARY SHORING PLAN - NORTHBOUND
(SOUTHBOUND SIMILAR)

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VIEW A-A

REAR ABUTMENT TEMPORARY SOLDIER PILE WALL
RETAINING THE EXISTING STRUCTURE DURING PHASE 1 REMOVAL
SOUTHBOUND & NORTHBOUND



VIEW B-B

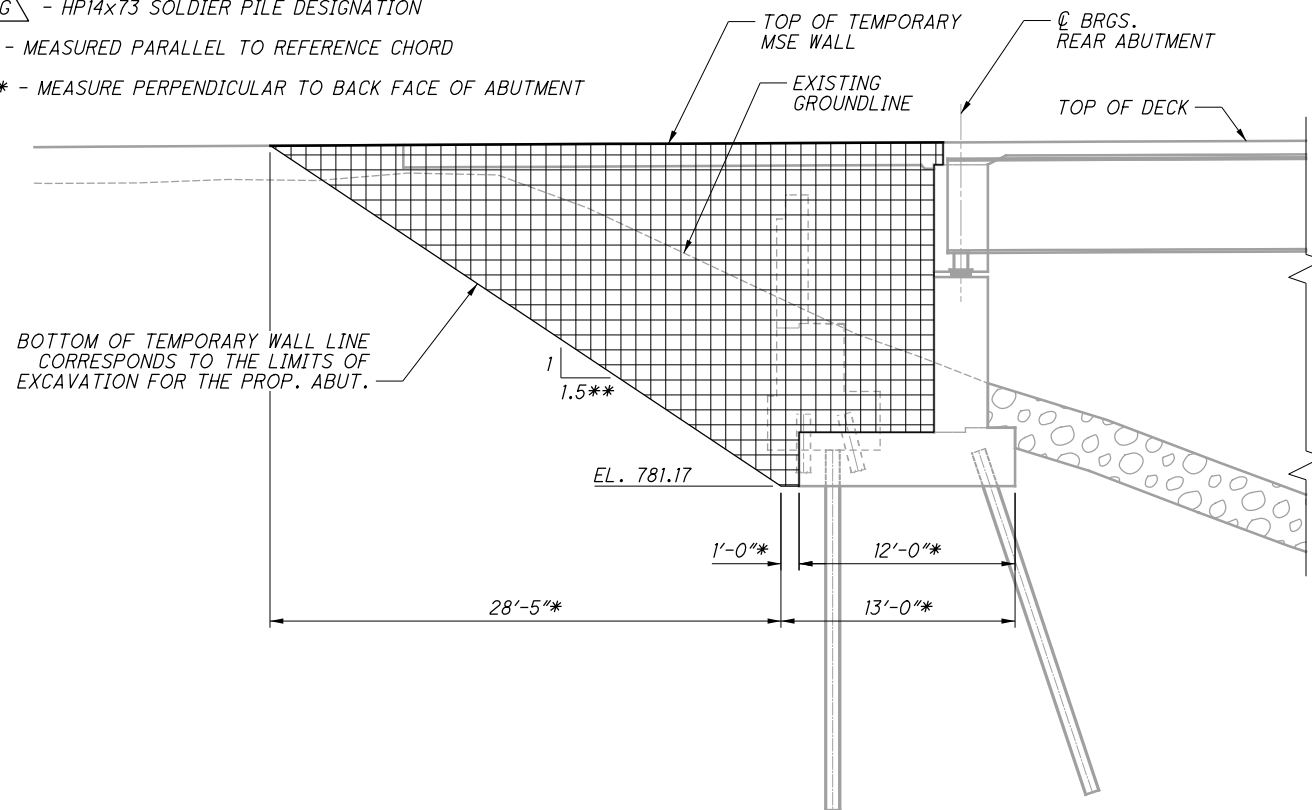
FORWARD ABUTMENT TEMPORARY SOLDIER PILE WALL
RETAINING THE EXISTING STRUCTURE DURING PHASE 1 REMOVAL
SOUTHBOUND & NORTHBOUND

LEGEND:

- FACE OF TEMPORARY MSE WALL
- HP14x73 SOLDIER PILE DESIGNATION
- * - MEASURED PARALLEL TO REFERENCE CHORD
- ** - MEASURE PERPENDICULAR TO BACK FACE OF ABUTMENT

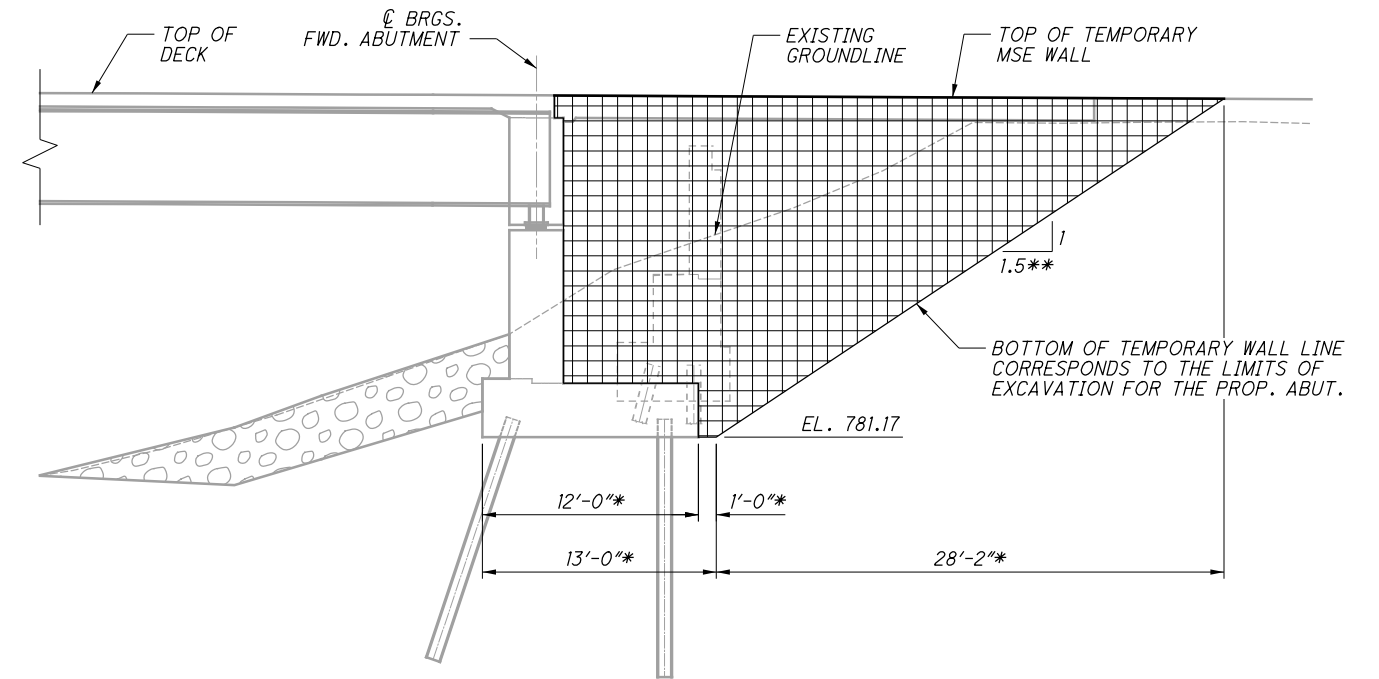
NOTES:

1. FOR LOCATION OF VIEWS A-A & B-B, PILE SPACING AND PILE ELEVATION TABLES, SEE SHEET 16/78.
2. FOR NOTES AND TIEBACK ANCHOR DETAILS, SEE SHEET 18/78.



VIEW A-A

REAR ABUTMENT TEMPORARY MSE WALL
RETAINING PHASE 1 CONSTRUCTION DURING PHASE 3 REMOVAL & CONSTRUCTION
SOUTHBOUND & NORTHBOUND

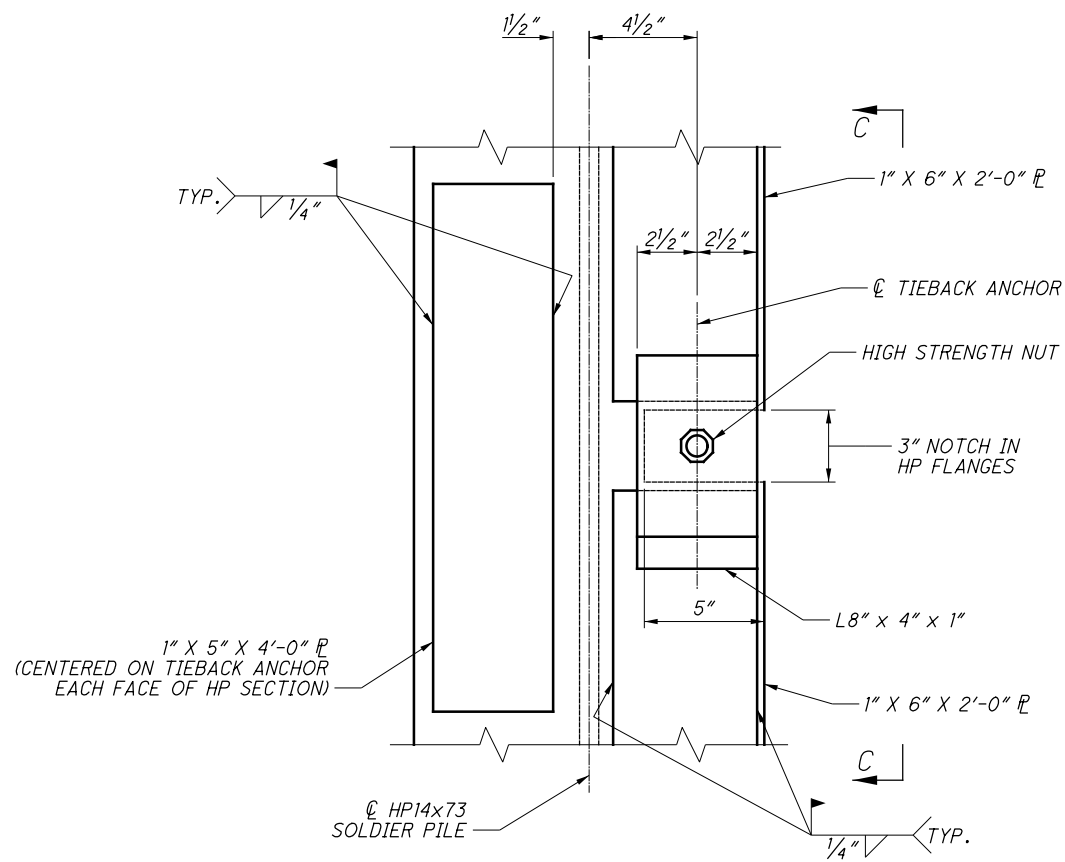


VIEW B-B

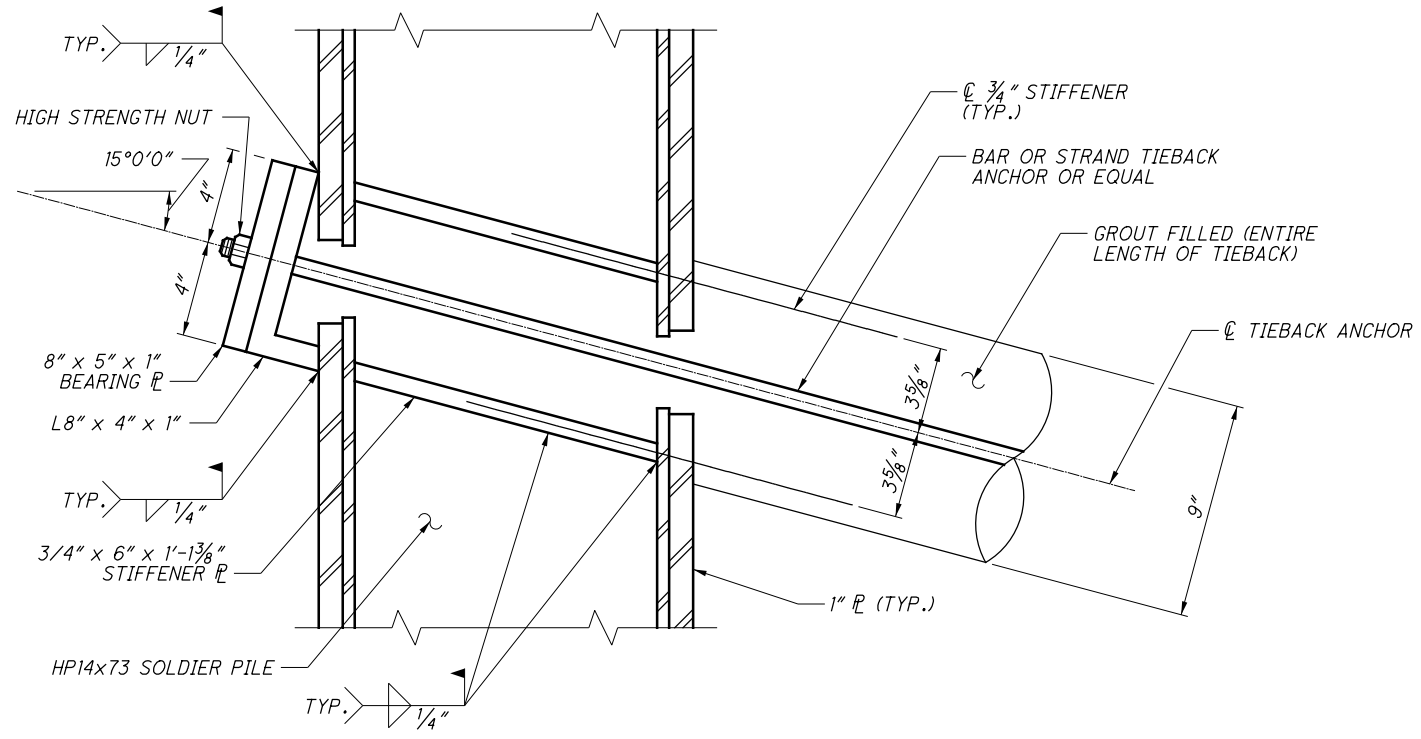
FORWARD ABUTMENT TEMPORARY MSE WALL
RETAINING PHASE 1 CONSTRUCTION DURING PHASE 3 REMOVAL & CONSTRUCTION
SOUTHBOUND & NORTHBOUND

MEAD & HUNT		DESIGN AGENCY 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5801 FAX
DESIGNED CMH	DRAWN CMH	REVIEWED KVB
CHECKED ALM	DATE	DATE
BRIDGE NO. FRA-71-0153 L/R		STRUCTURE FILE NUMBER 2506786L/2506816R
TEMPORARY SHORING DETAILS		
OVER BIG DARBY CREEK		
FRA-71-1.53		PID No. 93496
17 / 78		219 285

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TIEBACK ANCHOR DETAIL



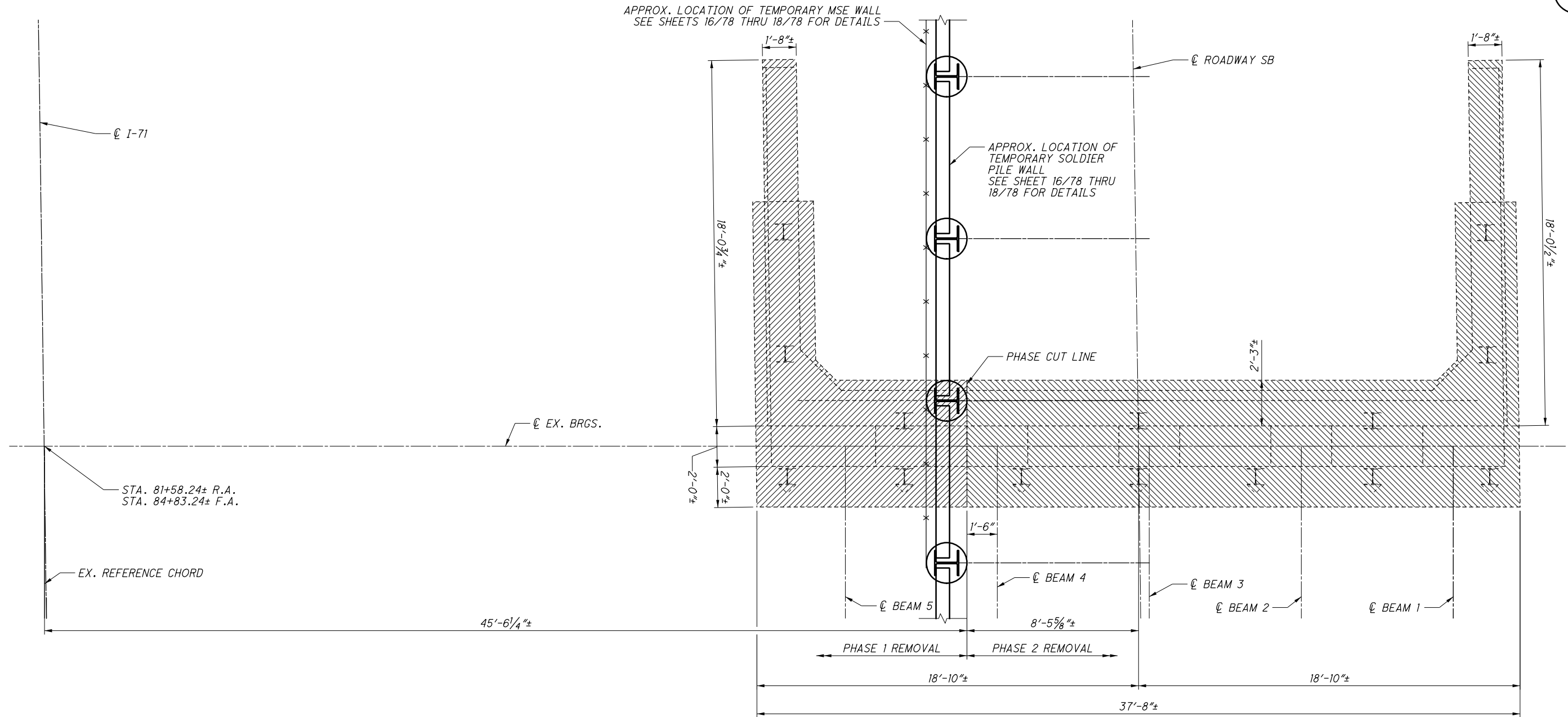
VIEW C-C

NOTES:



1. THE CONTRACTOR MAY ELECT TO USE A DESIGN DIFFERENT THAN THE ONE SHOWN ON THESE PLANS. THE DESIGN SHALL BE PREPARED AND SUBMITTED IN ACCORDANCE WITH CMS 501.05.
2. ALL MATERIAL AND LABOR REQUIRED FOR CONSTRUCTION OF THE TEMPORARY SHORING SHALL BE INCLUDED IN ITEM 503 COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN FOR PAYMENT.
3. 4" x 8" TIMBER LAGGING SHALL SOUTHERN PINE NO. 2 GRADE MIN. WITH 8" BEING THE VERTICAL DIMENSION AND 4" BEING THE HORIZONTAL DIMENSION.
4. THE HP14x73 PILES SHALL BE GRADE 50 (F_y = 50 KSI) IN.
5. THE SOLDIER PILES ARE TO BE INSTALLED PRIOR TO EXCAVATION AND THE LAGGING IS TO BE INSTALLED AS THE EXCAVATION PROCEEDS DOWNWARD.
6. USE CLASS QC1 CONCRETE ACCORDING TO CMS 511. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF WATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.
7. THE STEEL PLATES AND ANGLES USED IN THE CONNECTION OF THE TIEBACK TO THE PILE SHALL BE GRADE 50 (F_y = 50 KSI)
8. THE DESIGN LOAD FOR THE TIEBACKS SHALL BE 5 KIPS. THE DESIGN LENGTH OF THE TIEBACK ANCHORS FROM THE EXPOSED WALL FACE SHALL BE 30'-0" AT A DOWNWARD ANGLE OF 15 DEGREES.
9. THE CONNECTION OF THE TIEBACK TO THE HP PILE SHALL BE FABRICATED AFTER THE PILE IS SET INTO PLACE. NO PORTION OF THE CONNECTION SHALL BE ATTACHED TO THE PILE PRIOR TO PLACEMENT. THE 3" x 5" NOTCH IN THE HP FLANGES SHALL BE CUT AFTER PILE PLACEMENT IS COMPLETED.
10. THE TIEBACKS ARE TO BE INSTALLED AS THE EXCAVATION PROCEEDS DOWNWARD AND PRIOR TO COMPLETION OF THE EXCAVATION TO THE PLAN ELEVATION. EXCAVATION BELOW THE TIEBACK LEVEL SHALL BE KEPT TO A MINIMUM PRIOR TO TIEBACK INSTALLATION.
11. FILL THE HOLE ABOVE THE BOTTOM OF LAGGING TO THE EXISTING GROUND SURFACE WITH ITEM 613 CONTROLLED LOW STRENGTH MORTAR. REMOVE THE CONTROLLED LOW STRENGTH MORTAR IN FRONT OF THE FRONT FLANGE WITH THE EXCAVATION AS REQUIRED TO ATTACH THE WOOD LAGGING FLUSH WITH THE FRONT FLANGE.
12. FOR GENERAL NOTES, SEE SHEET 4/78 & 5/78.
13. FOR ABUTMENT PILE LAYOUT, SEE SHEETS 21/78 AND 22/78.
14. FOR PHASE CONSTRUCTION DETAILS, SEE SHEETS 7/78 THRU 15/78.

<p>TEMPORARY SHORING DETAILS</p> <p>BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK</p>	<p>FRA-71-1.53</p> <p>PID No. 93496</p>	<p>DESIGN AGENCY Mead & Hunt 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX</p>
<p>DESIGNED CMH CHECKED ALM</p>	<p>DRAWN CMH REVISED</p>	<p>REVIEWED KVB STRUCTURE FILE NUMBER 2506786L/2506816R</p>
<p>DATE 6/30/2015</p>	<p>DATE 6/30/2015</p>	<p>DATE 6/30/2015</p>

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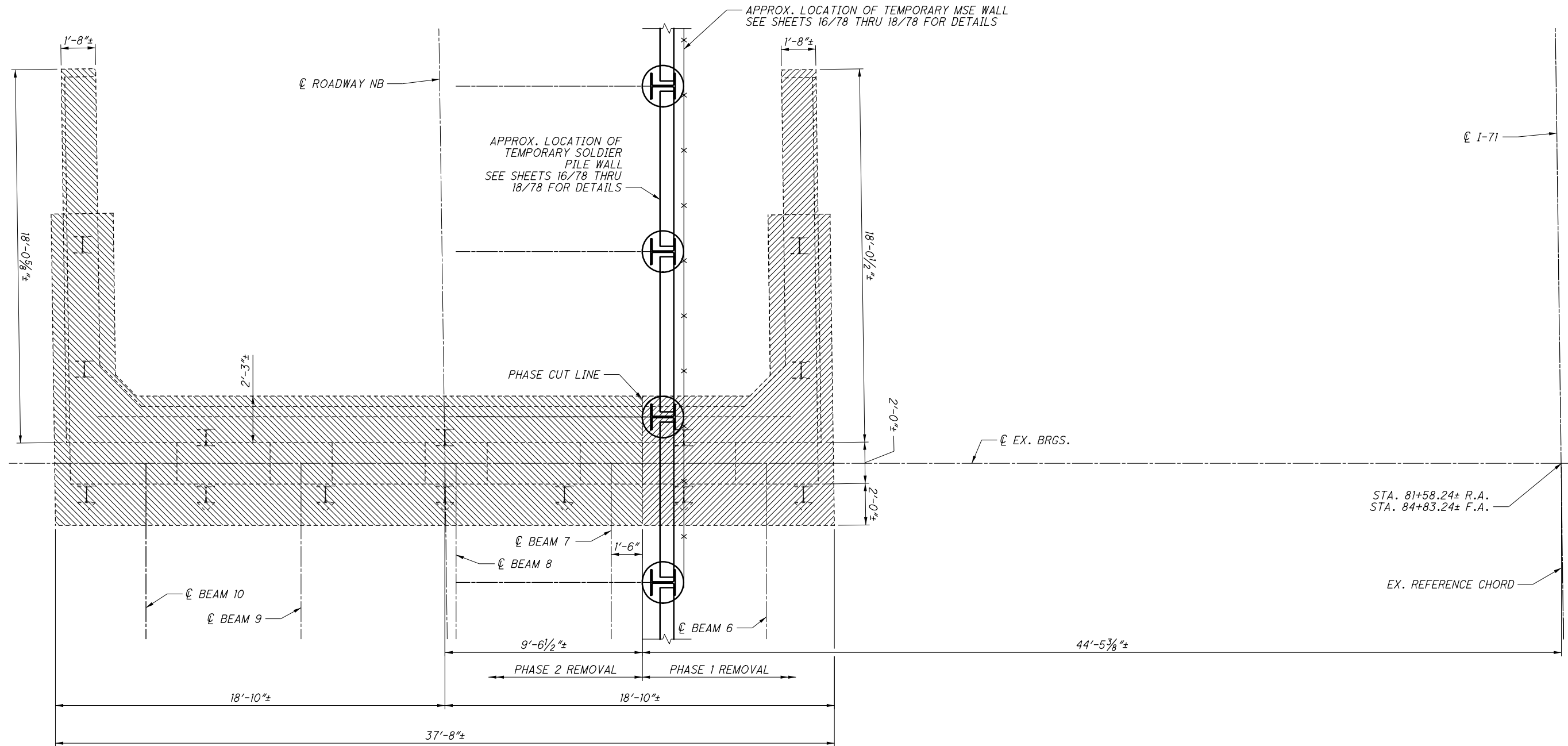


REAR ABUTMENT PLAN - SOUTHBOUND
(FORWARD ABUTMENT SIMILAR)

- LEGEND:**
-  - PORTIONS TO BE REMOVED PHASE 1.
 -  - PORTIONS TO BE REMOVED PHASE 3.

<p>FRA-71-1.53 PID No. 93496</p>	<p>ABUTMENT REMOVAL DETAILS - SOUTHBOUND BRIDGE BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DESIGNED</td> <td>ALM</td> <td>CHECKED</td> <td>CMH</td> </tr> <tr> <td>DRAWN</td> <td>ALM</td> <td>REVISED</td> <td></td> </tr> <tr> <td>REVIEWED</td> <td>KVB</td> <td>DATE</td> <td>6/30/2015</td> </tr> <tr> <td>STRUCTURE FILE NUMBER</td> <td colspan="3">2506786L/2506816R</td> </tr> </table>	DESIGNED	ALM	CHECKED	CMH	DRAWN	ALM	REVISED		REVIEWED	KVB	DATE	6/30/2015	STRUCTURE FILE NUMBER	2506786L/2506816R			<p>DESIGN AGENCY Mead & Hunt 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX</p>
DESIGNED	ALM	CHECKED	CMH																
DRAWN	ALM	REVISED																	
REVIEWED	KVB	DATE	6/30/2015																
STRUCTURE FILE NUMBER	2506786L/2506816R																		
<p>19 / 78</p>		<p>221 285</p>																	

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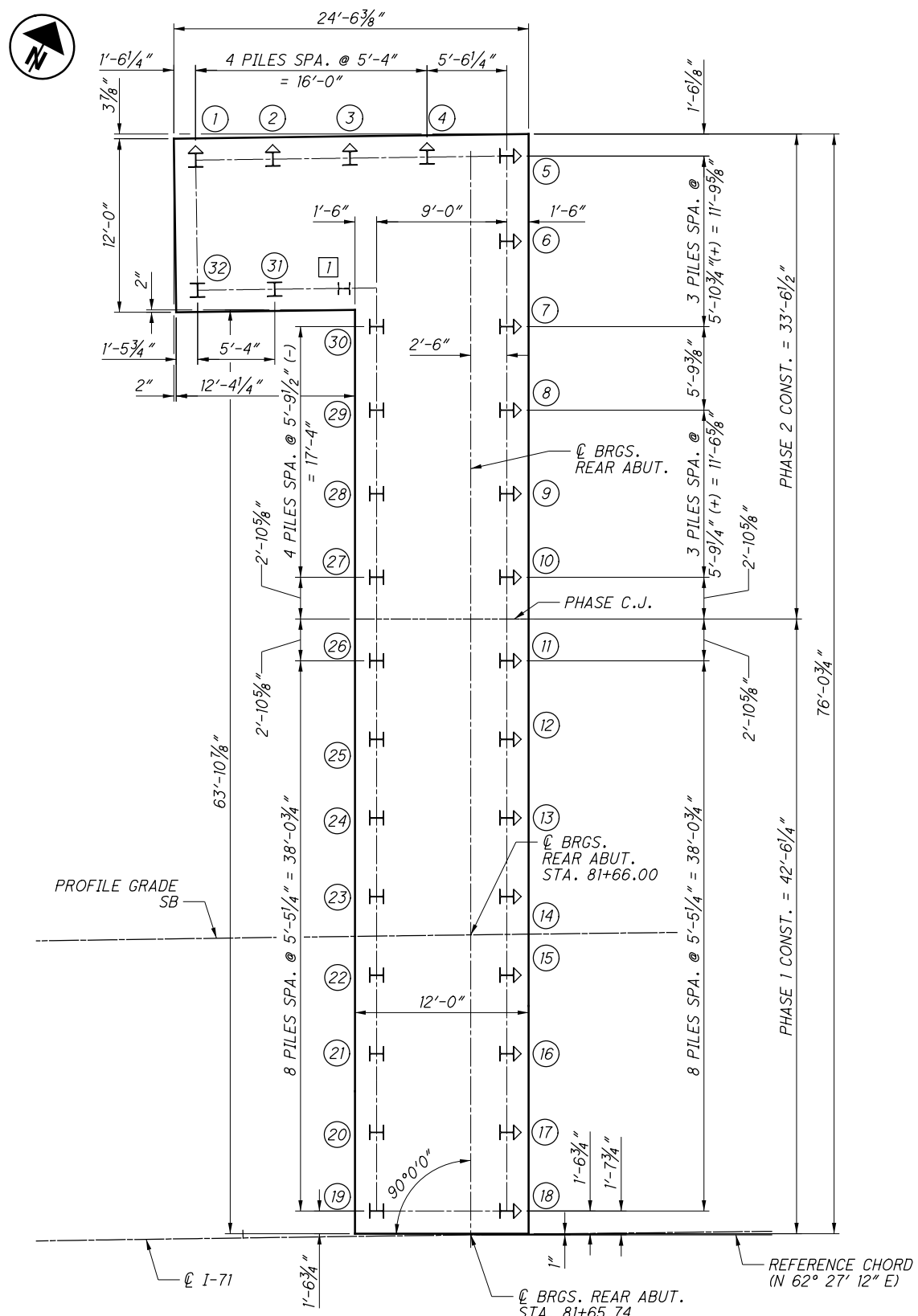


REAR ABUTMENT PLAN - NORTHBOUND
(FORWARD ABUTMENT SIMILAR)

- LEGEND:**
- PORTIONS TO BE REMOVED PHASE 1.
 - PORTIONS TO BE REMOVED PHASE 3.

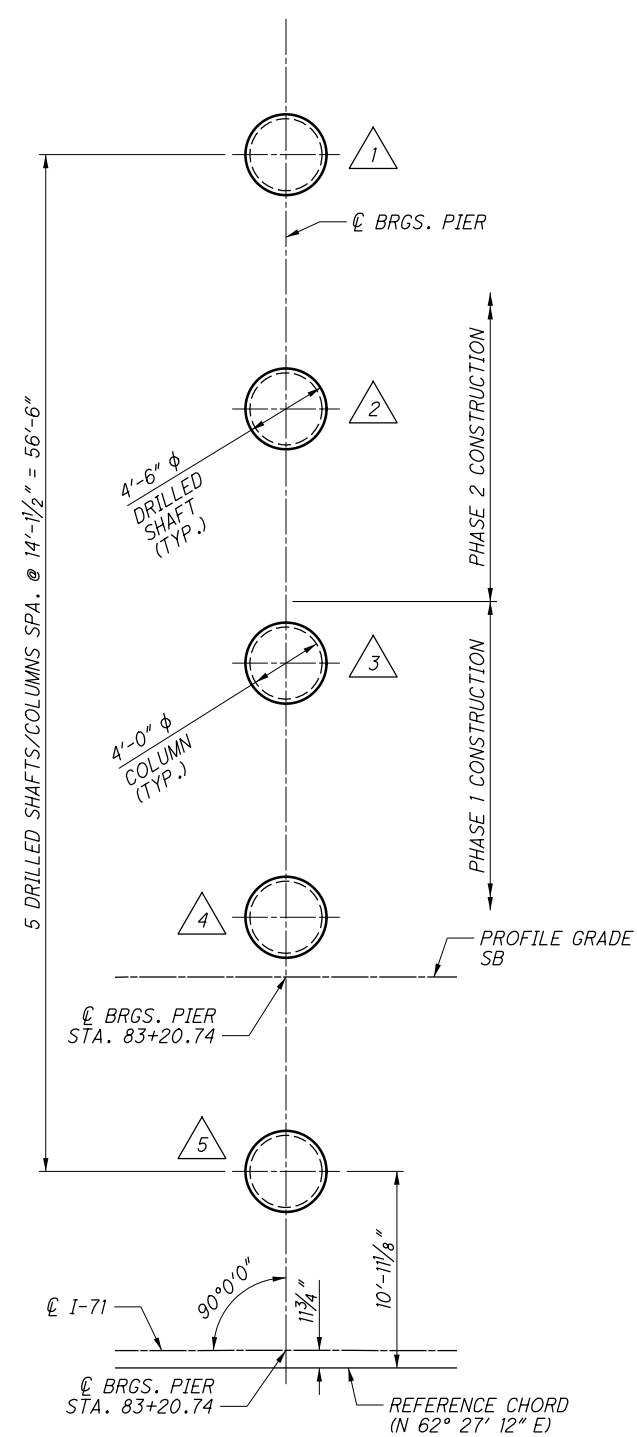
FRA-71-1.53 PID No. 93496	ABUTMENT REMOVAL DETAILS - NORTHBOUND BRIDGE BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK	DESIGNED ALM CHECKED CMH	DRAWN ALM REVISED	REVIEWED KVB STRUCTURE FILE NUMBER 2506786L/2506816R	DATE 6/30/2015	DESIGN AGENCY Mead & Hunt 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX
				20/78		222 285

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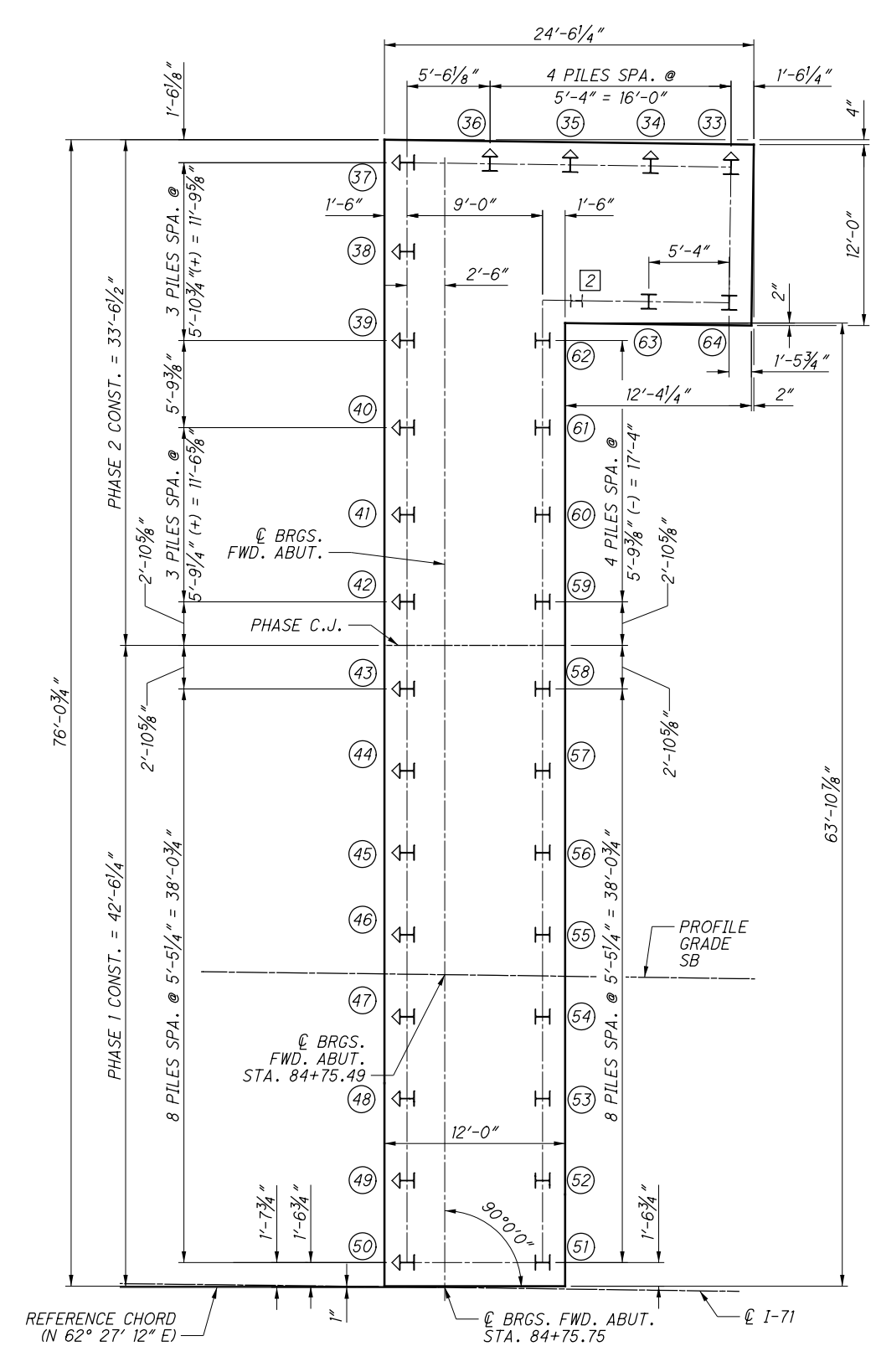


REAR ABUTMENT - SOUTHBOUND

REAR ABUTMENT PILING TABLE			
PILE NO. (#)	PILE SIZE	CUT OFF ELEVATION	ESTIMATED LENGTH
1-32	HP12X53	782.17	25 FT.



PIER - SOUTHBOUND



FORWARD ABUTMENT - SOUTHBOUND

FORWARD ABUTMENT PILING TABLE			
PILE NO. (#)	PILE SIZE	CUT OFF ELEVATION	ESTIMATED LENGTH
33-64	HP12X53	782.17	25 FT.

LEGEND:

- ⊕ - PILE NUMBER
- ⊞ - EXISTING 10BP42 STEEL PILES, CUT @ EL. 782.17 (REAR ABUT.)
@ EL. 782.17 (FWD. ABUT.)
- ⊠ - DRILLED SHAFT NUMBER
- I - HP 12X53 PILE
- ⊣ - HP 12X53 BATTERED PILE 3:1 (V:H)

NOTE:

1. FOR FOOTING REINFORCING STEEL LAYOUT, SEE SHEET 23/78.

DESIGN AGENCY
Mead & Hunt
4700 LAKEHURST CT., STE 110
DUBLIN, OH 43016
(614) 792-5900 PHONE
(614) 792-5801 FAX

DESIGNED	ALM	CHECKED	CMH
DRAWN	ALM	REVISED	
REVIEWED	KVB	DATE	6/30/2015
STRUCTURE FILE NUMBER	2506786L/2506816R		

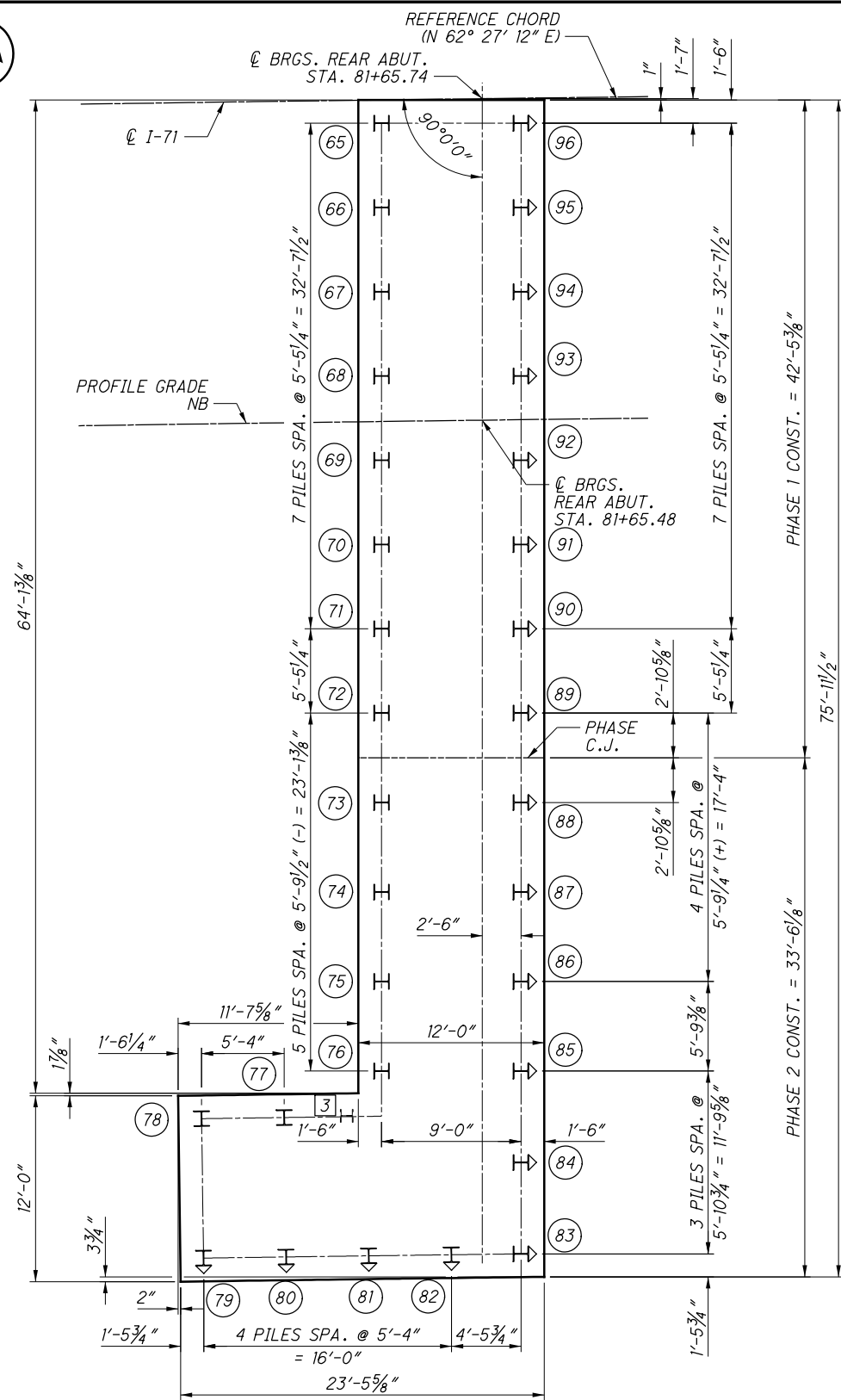
FOUNDATION PLAN - SOUTHBOUND BRIDGE
BRIDGE NO. FRA-71-0153 L/R
OVER BIG DARBY CREEK

FRA-71-1.53
PID No. 93496

21 / 78

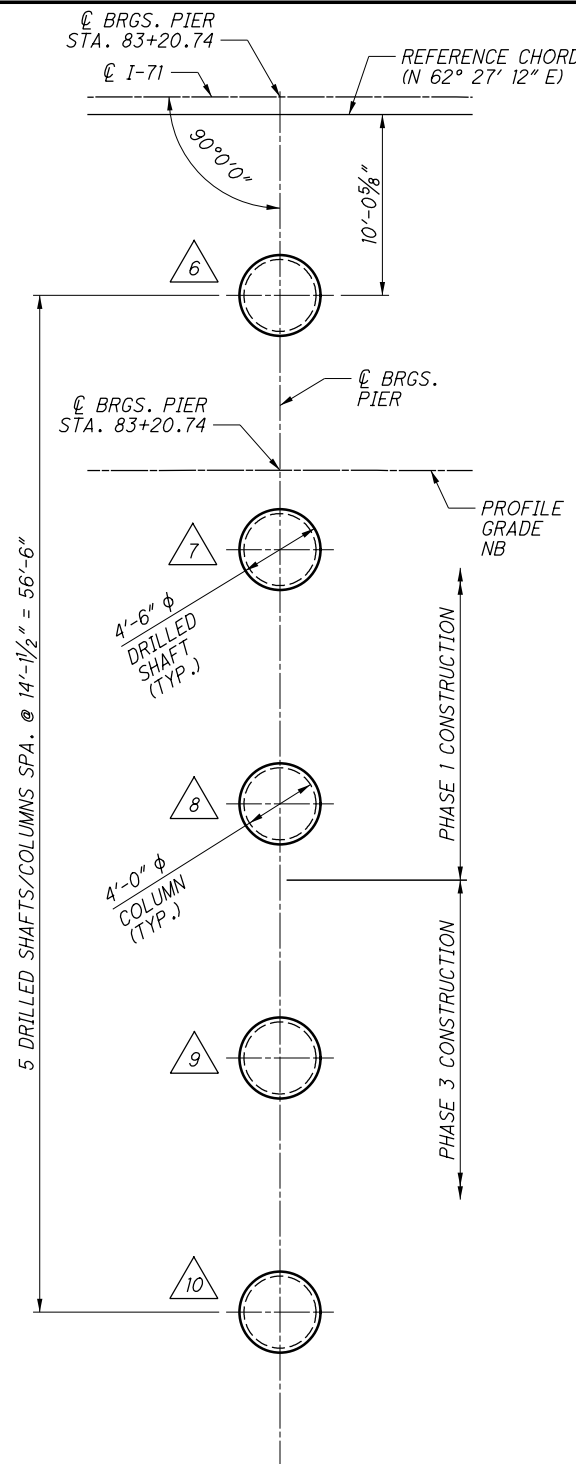
223
285

X:\4037000\121957.15\93496\structures\FRA071_0153C\sheets\071_0153CFP002.dgn Sheet 11/19/2018 3:02:16 PM 1636dcb



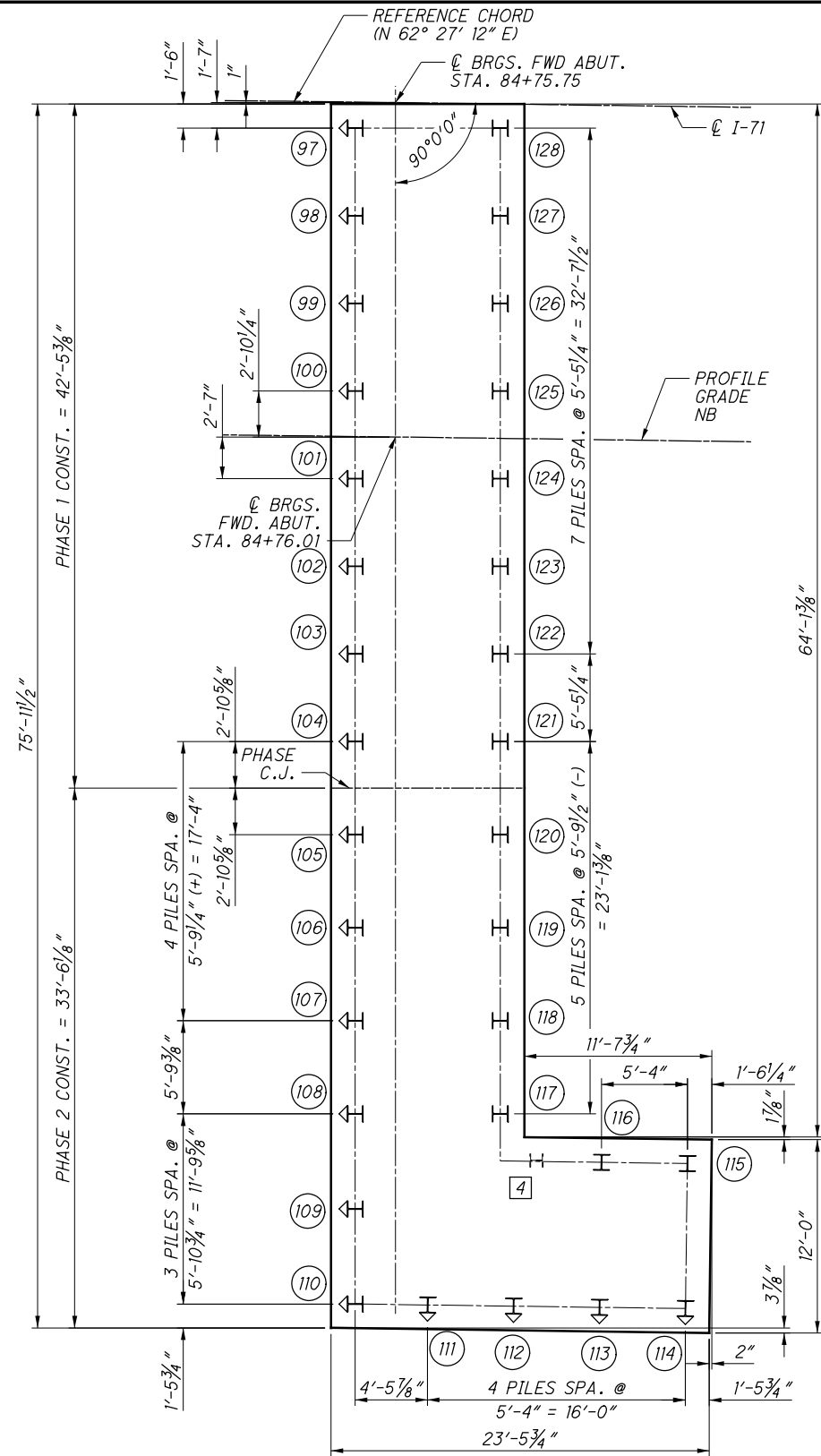
REAR ABUTMENT - NORTHBOUND

REAR ABUTMENT PILING TABLE			
PILE NO. (#)	PILE SIZE	CUT OFF ELEVATION	ESTIMATED LENGTH
65-96	HP12X53	782.17	20 FT.



PIER- NORTHBOUND

FORWARD ABUTMENT PILING TABLE			
PILE NO. (#)	PILE SIZE	CUT OFF ELEVATION	ESTIMATED LENGTH
97-128	HP12X53	782.17	25 FT.



FORWARD ABUTMENT - NORTHBOUND

LEGEND:

- ⊙ - PILE NUMBER
- ⊠ - EXISTING 10BP42 STEEL PILES, CUT @ EL. 782.17 (REAR ABUT.)
@ EL. 782.17 (FWD. ABUT.)
- ⊠ - DRILLED SHAFT NUMBER
- I - HP 12X53 PILE
- ⊠ - HP 12X53 BATTERED PILE 3:1 (V:H)

NOTE:

1. FOR FOOTING REINFORCING STEEL LAYOUT, SEE SHEET 24/78.

FOUNDATION LAYOUT - NORTHBOUND BRIDGE

BRIDGE NO. FRA-71-0153 L/R
OVER BIG DARBY CREEK

DESIGN AGENCY
Mead & Hunt
4700 LAKEHURST CT., STE 110
DUBLIN, OH 43016
(614) 792-5900 PHONE
(614) 792-5801 FAX

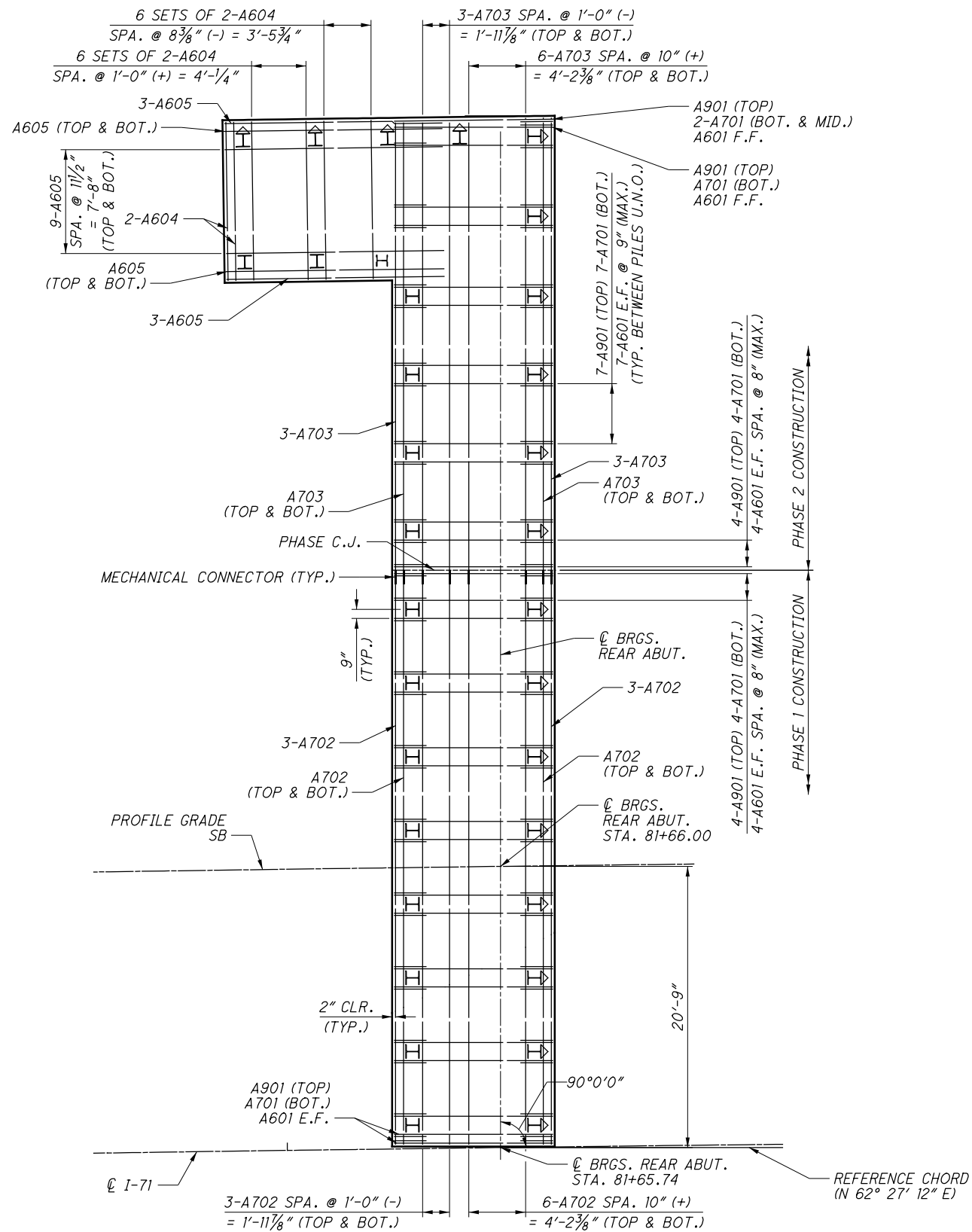
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DRAWN	ALM	REVISED	
REVIEWED	KVB	DATE	6/30/2015
STRUCTURE FILE NUMBER	2506786L/2506816R		

PID No. 93496

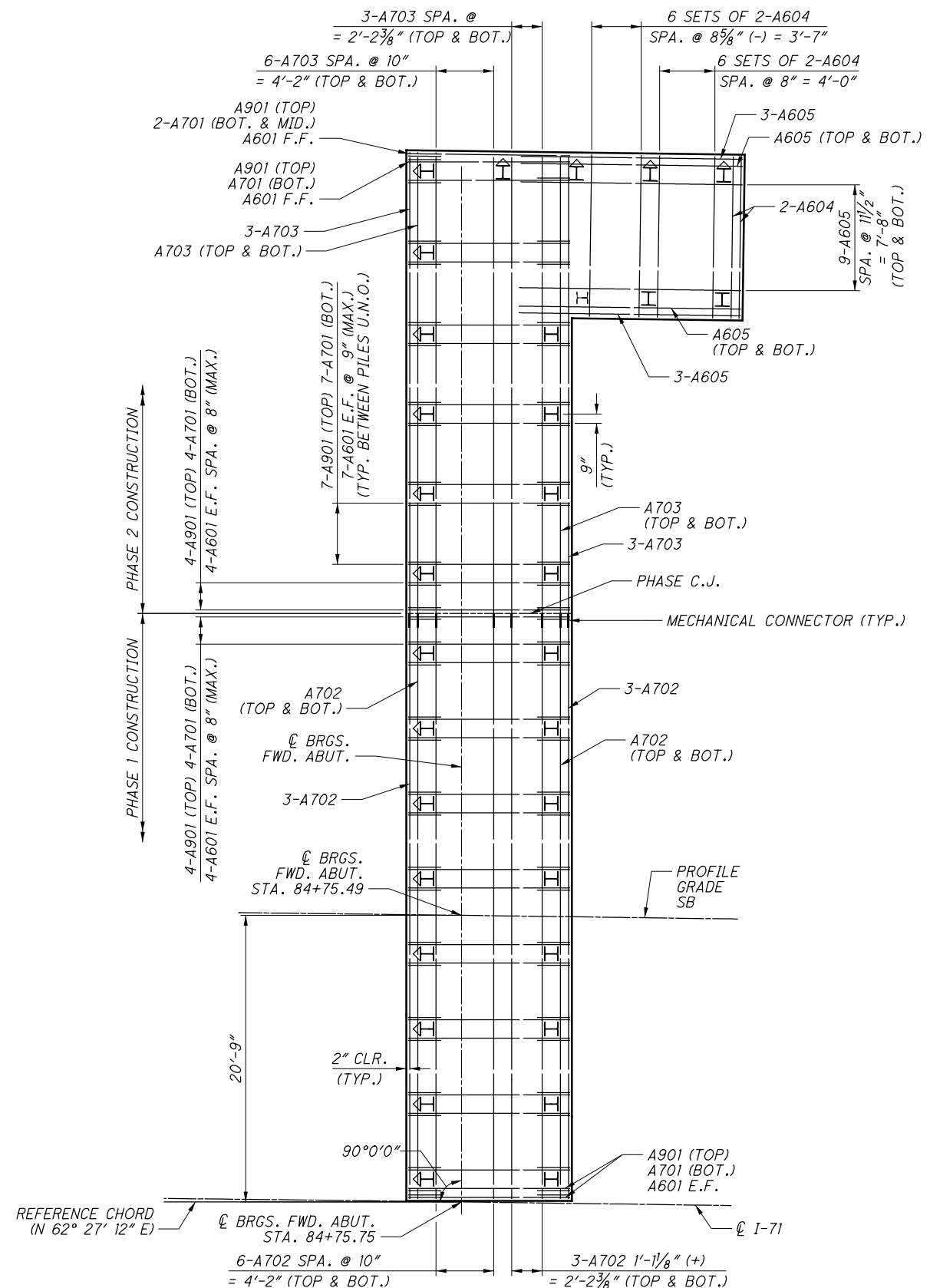
FRA-71-1.53

22/78

224
285



REAR ABUTMENT - SOUTHBOUND



FORWARD ABUTMENT - SOUTHBOUND

MINIMUM LAP LENGTHS	
NO. 6 BAR	3'-6"
NO. 7 BAR	4'-2"

LEGEND:

- ⊥ - HP 12X53 PILE
- ⊥ - HP 12X53 BATTERED PILE 3:1 (V:H)

NOTES:

1. FOR FOOTING DIMENSIONS AND PILE LAYOUT SEE FOUNDATION LAYOUT PLAN, SHEET 21/78.
2. EXISTING PILES TO REMAIN ARE LOCATED BASED ON EXISTING PLANS. FIELD ADJUST REBAR TO FIT.

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DESIGN AGENCY
Mead & Hunt
4700 LAKEHURST CT., STE 110
DUBLIN, OH 43016
(614) 792-5900 PHONE
(614) 792-5901 FAX

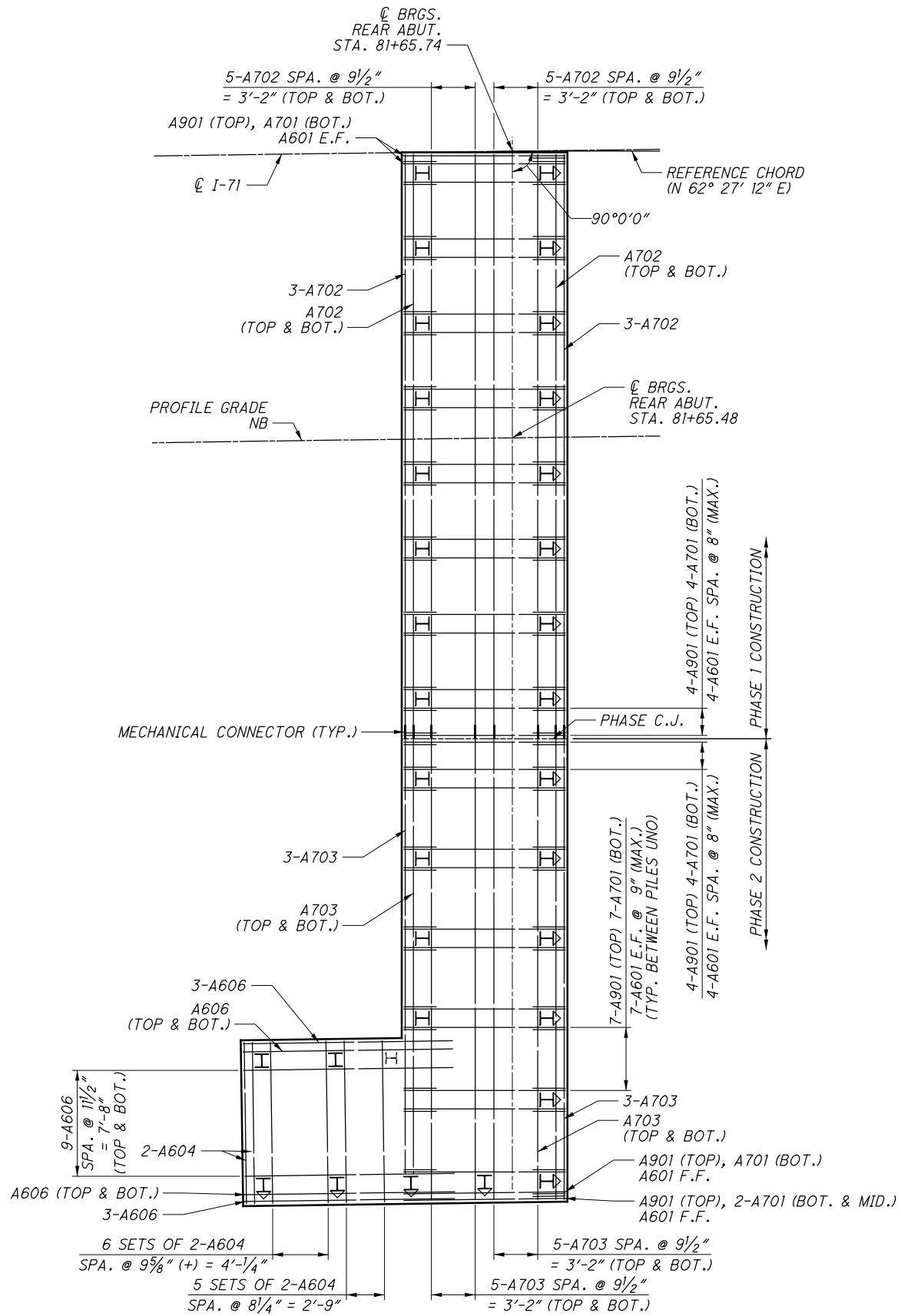
DATE
6/30/2015
REVIEWED
KVB
DRAWN
ALM
CHECKED
CMH
DESIGNED
ALM
STRUCTURE FILE NUMBER
2506786L/2506816R

FOOTING REINFORCING PLAN - SOUTHBOUND BRIDGE
BRIDGE NO. FRA-71-0153 L/R
OVER BIG DARBY CREEK

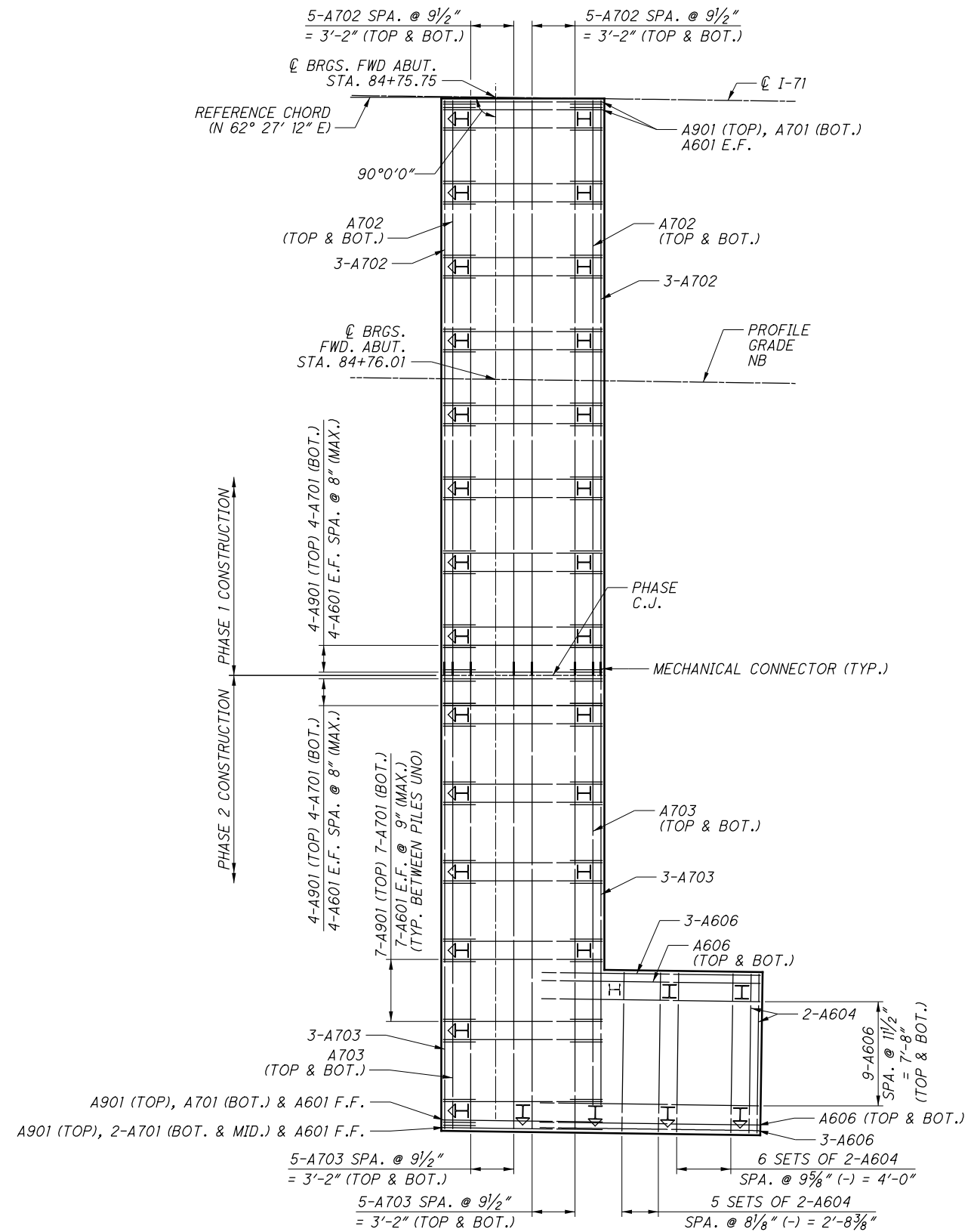
FRA-71-1.53
PID No. 93496

23/78

225
285



REAR ABUTMENT - NORTHBOUND



FORWARD ABUTMENT - NORTHBOUND

MINIMUM LAP LENGTHS	
NO. 6 BAR	3'-6"
NO. 7 BAR	4'-2"

LEGEND:

- HP 12X53 PILE
- HP 12X53 BATTERED PILE 3:1 (V:H)

NOTES:

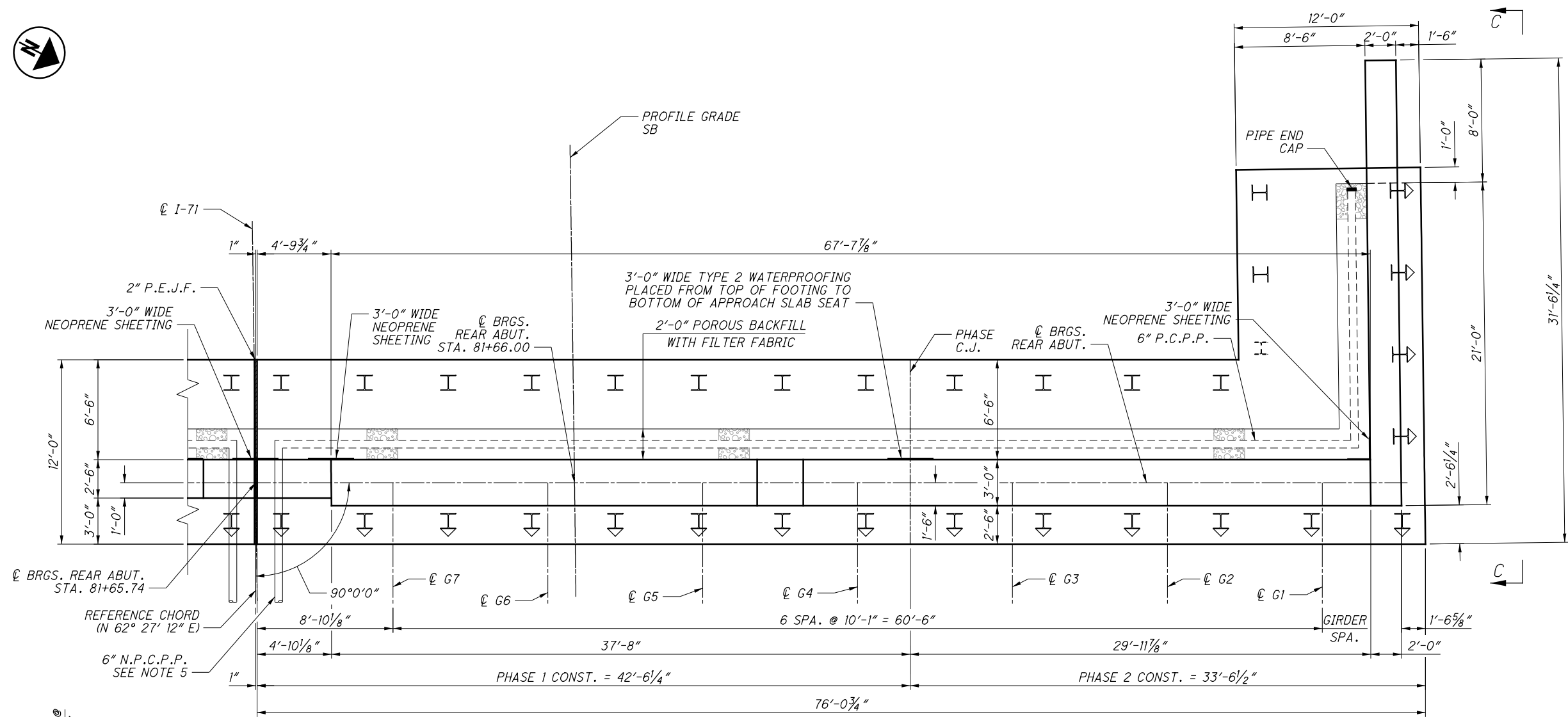
1. FOR FOOTING DIMENSIONS AND PILE LAYOUT SEE FOUNDATION LAYOUT PLAN, SHEET 22/78.
2. EXISTING PILES TO REMAIN ARE LOCATED BASED ON EXISTING PLANS. FIELD ADJUST REBAR TO FIT.

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DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016
 (614) 792-5900 PHONE (614) 792-5801 FAX
 DATE: 6/30/2015
 REVIEWED: KVB
 DRAWN: ALM
 DESIGNED: ALM
 CHECKED: CMH
 STRUCTURE FILE NUMBER: 2506786L/2506816R
FOOTING REINFORCING PLAN - NORTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK
FRA-71-1.53
 PID No. 93496
 24/78
 226
 285



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REAR ABUTMENT PLAN - SOUTHBOUND

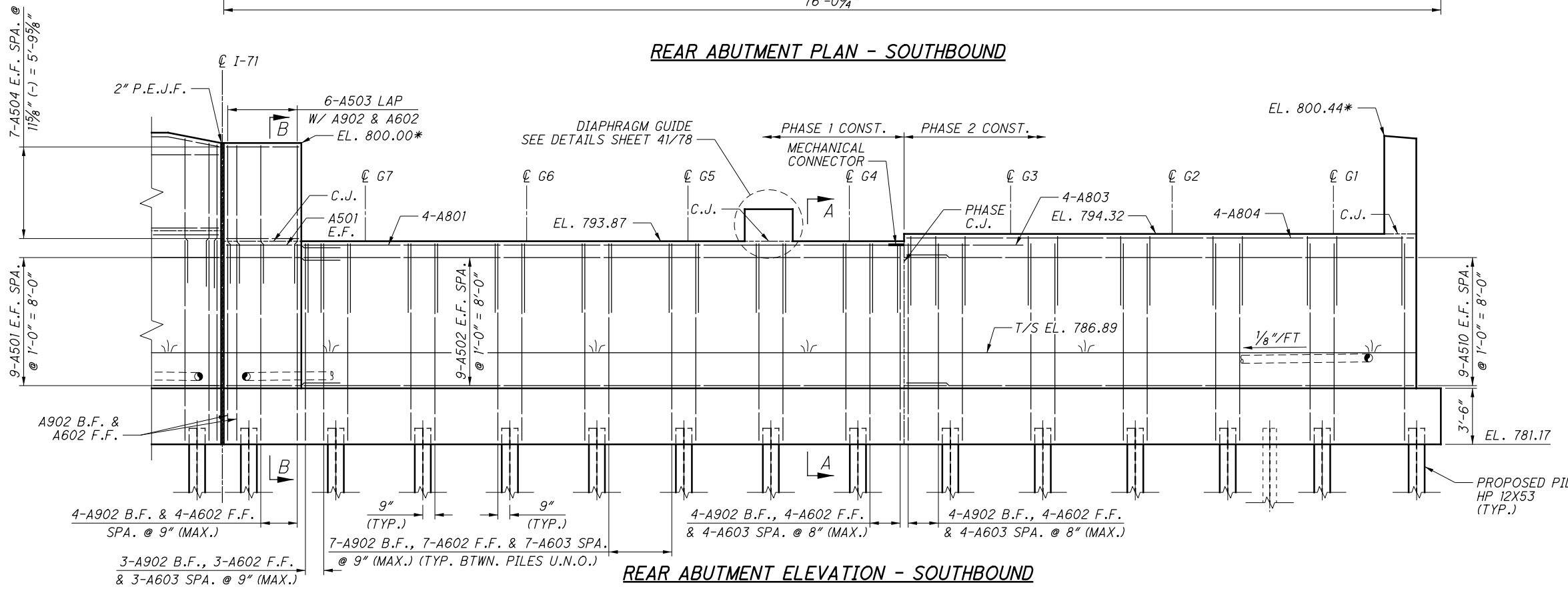
MINIMUM LAP LENGTHS	
NO. 5 BAR	2'-9"
NO. 6 BAR	3'-1"
NO. 8 BAR	5'-10"

NOTES:

- FOR SECTIONS A-A AND B-B, SEE SHEET 26/78.
- FOR VIEW C-C AND TURNBACK WINGWALL DETAILS, SEE SHEET 27/78.
- FOR FOOTING REINFORCING DETAILS, SEE SHEET 23/78.
- FOR ADDITIONAL DETAILS, SEE STD. DWG. SICD-1-96.
- 6" N.P.C.P.P. AT ENDS SPLICED TO PERFORATED PIPE AND OUTLET AS SHOWN IN PIPE TERMINATION DETAIL ON SHEET 41/78.

LEGEND:

- * - ELEVATION GIVEN AT \odot BEARING
- I - HP 12X53 PILE
- I - HP 12X53 BATTERED PILE 3:1 (V:H)
- I - EXISTING PILE CUT OFF TO EL. 782.17



REAR ABUTMENT ELEVATION - SOUTHBOUND

DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

DATE: 6/30/2015
 REVIEWED: KVB
 DRAWN: ALM
 CHECKED: CMH

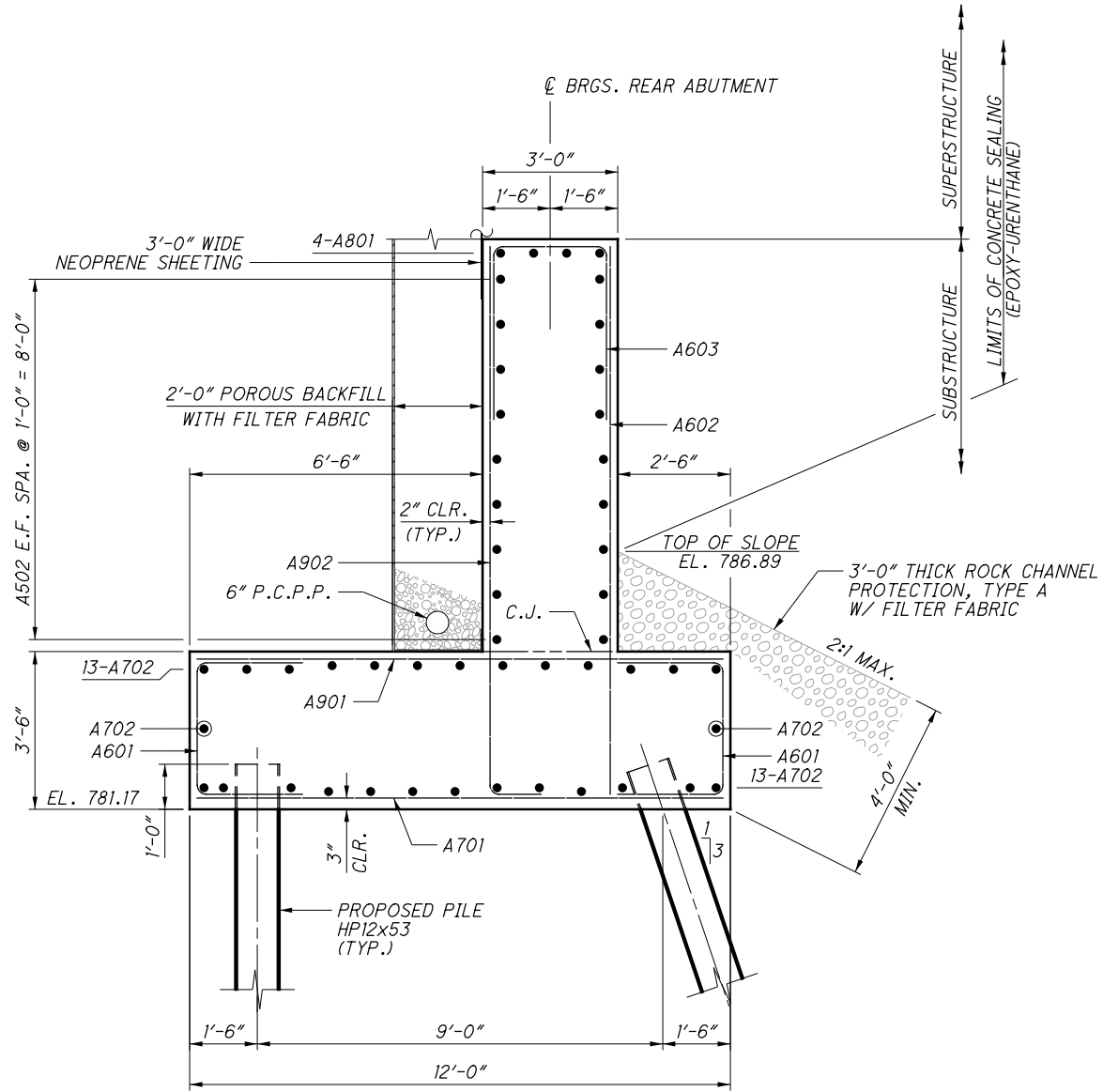
STRUCTURE FILE NUMBER: 2506786L/2506816R

BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

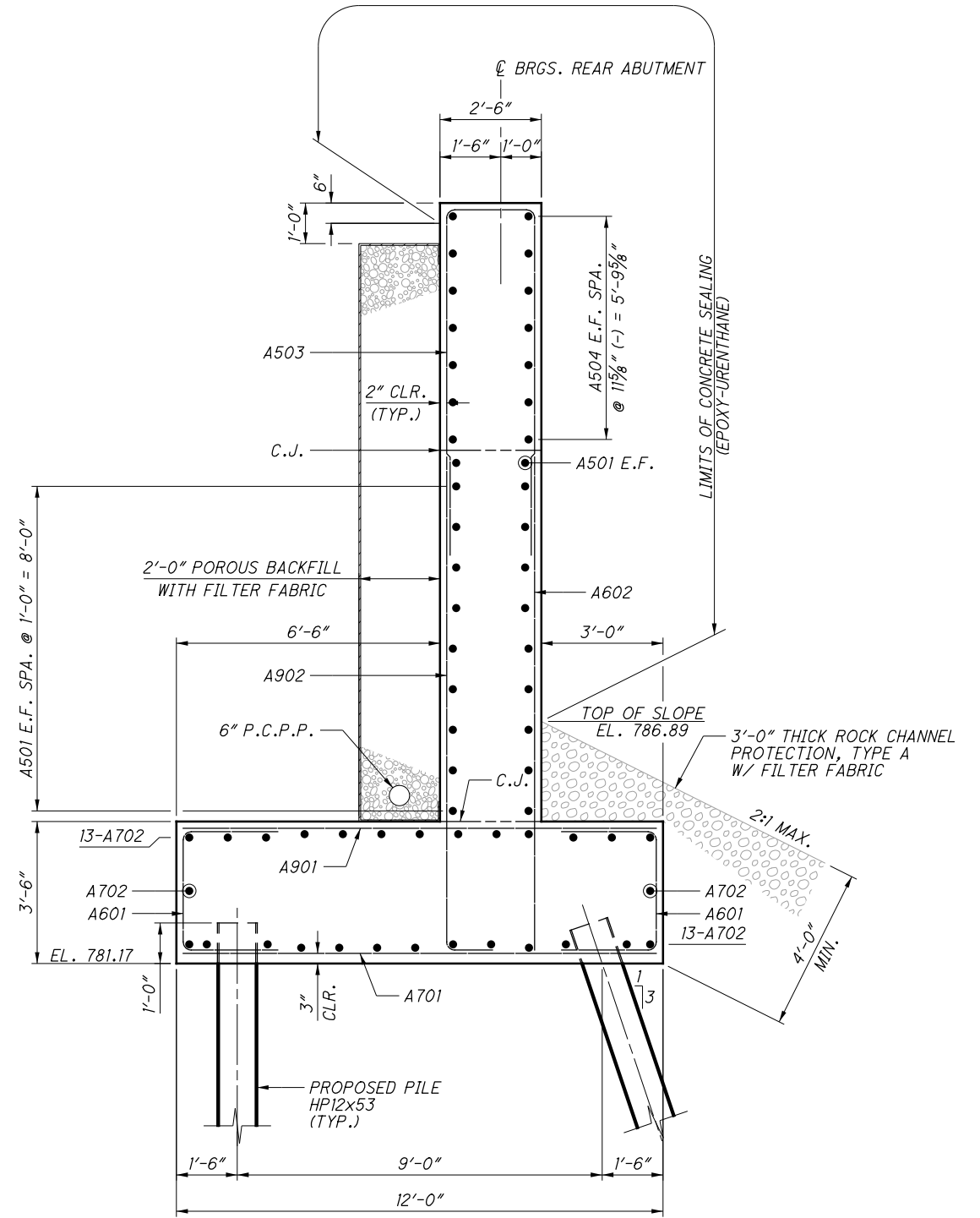
FRA-71-1.53
 PID No. 93496

25/78
 227
 285

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SECTION A-A
(REBAR LABELED AT SECTION ONLY)

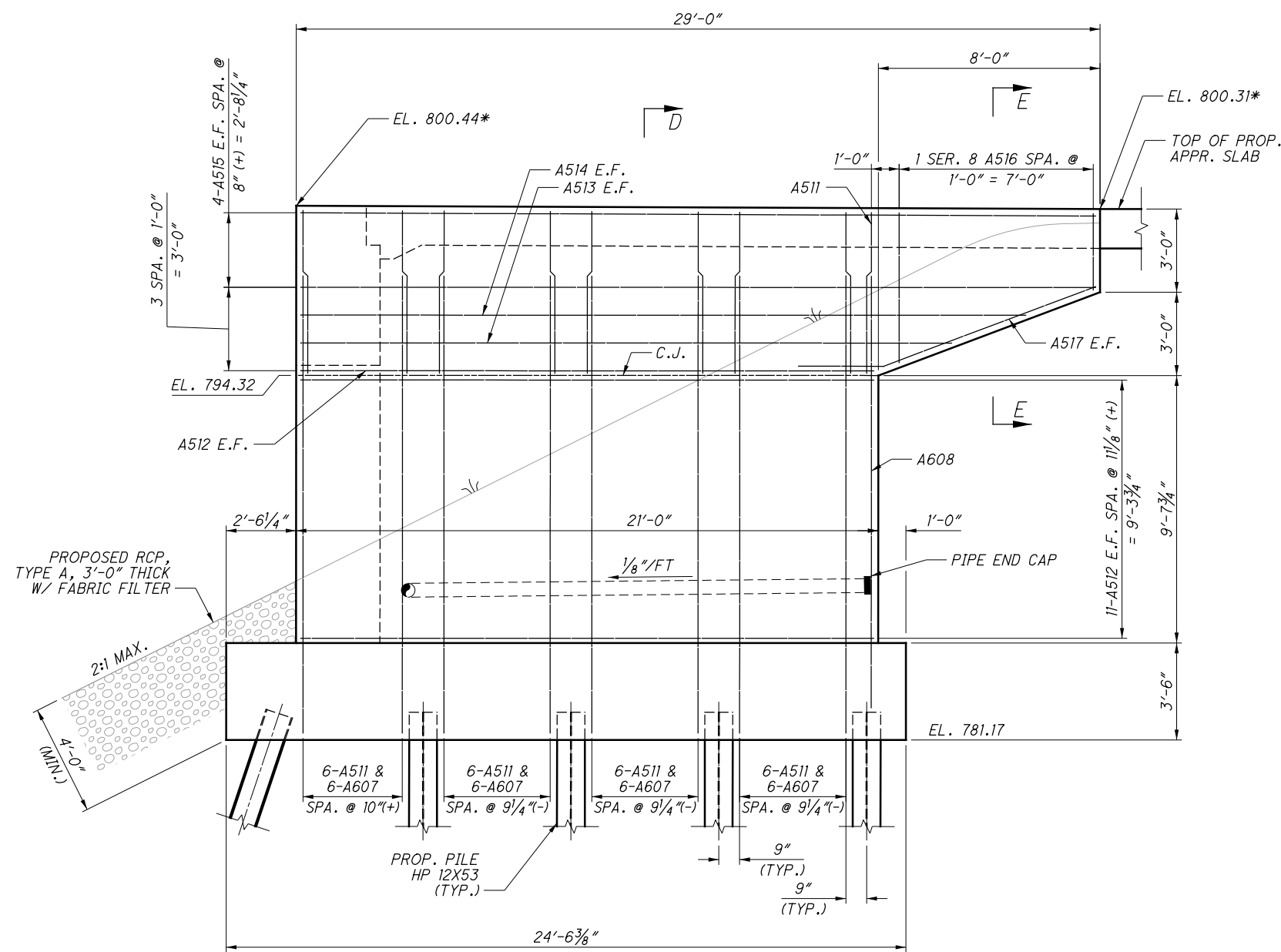


SECTION B-B
(REBAR LABELED AT SECTION ONLY)

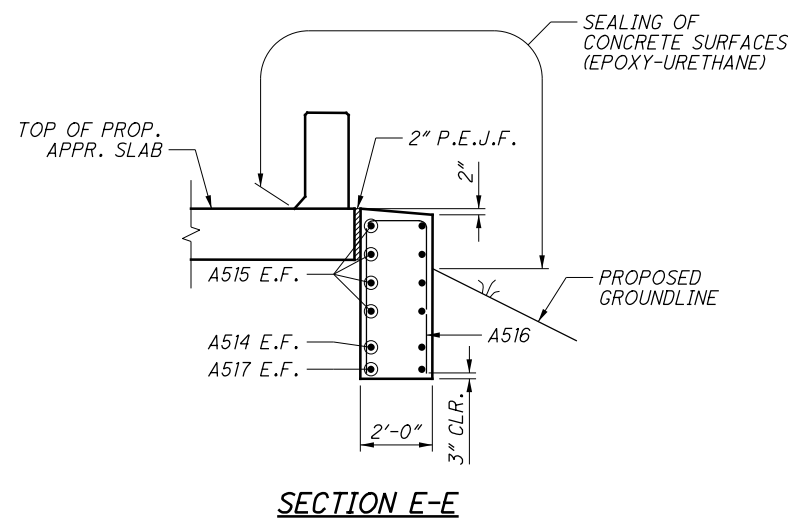
NOTES:

1. FOR ABUTMENT PLAN AND ELEVATION, SEE SHEET 25/78.
2. FOR DIAPHRAGM DETAILS, SEE SHEET 28/78.

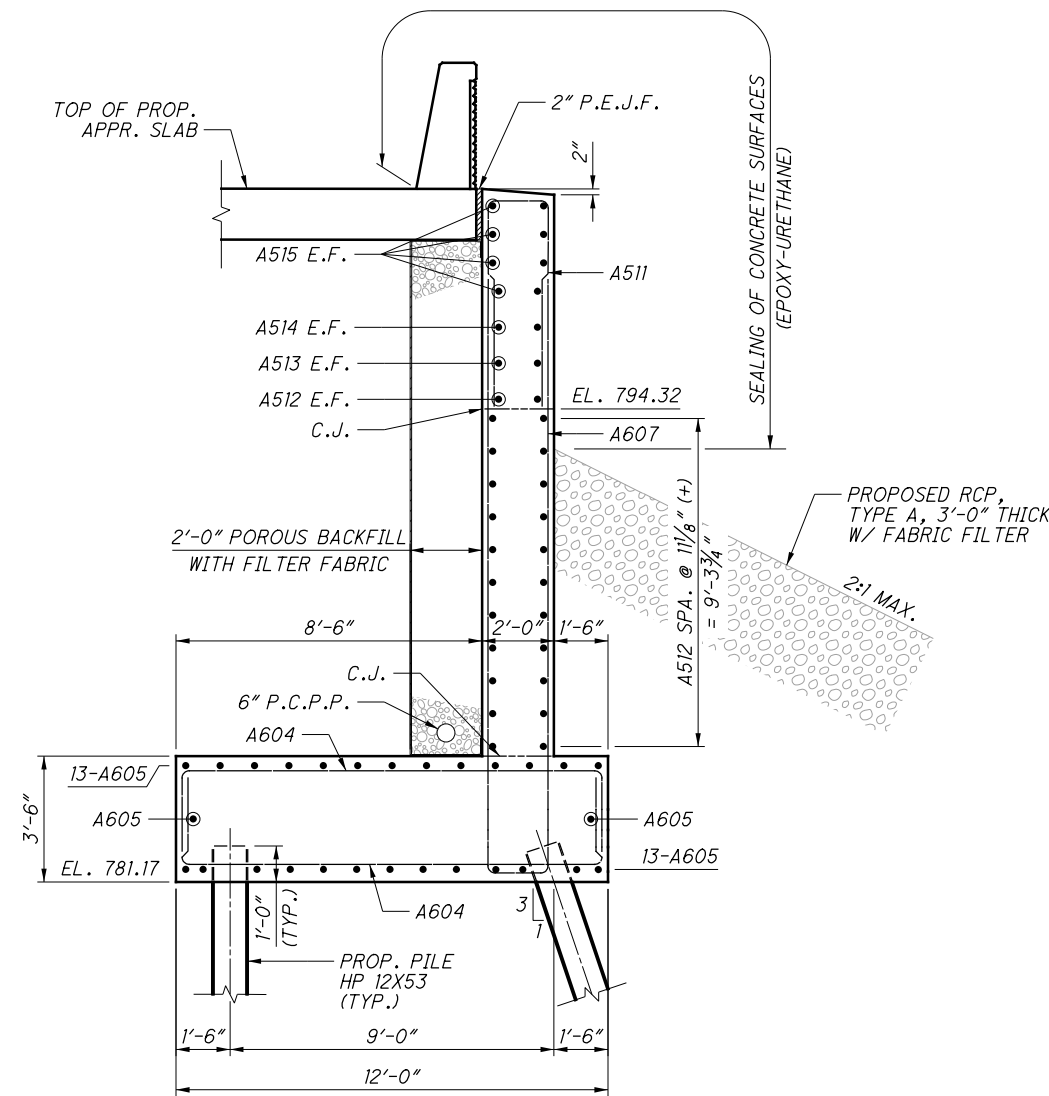
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VIEW C-C



SECTION E-E



SECTION D-D

NOTES:

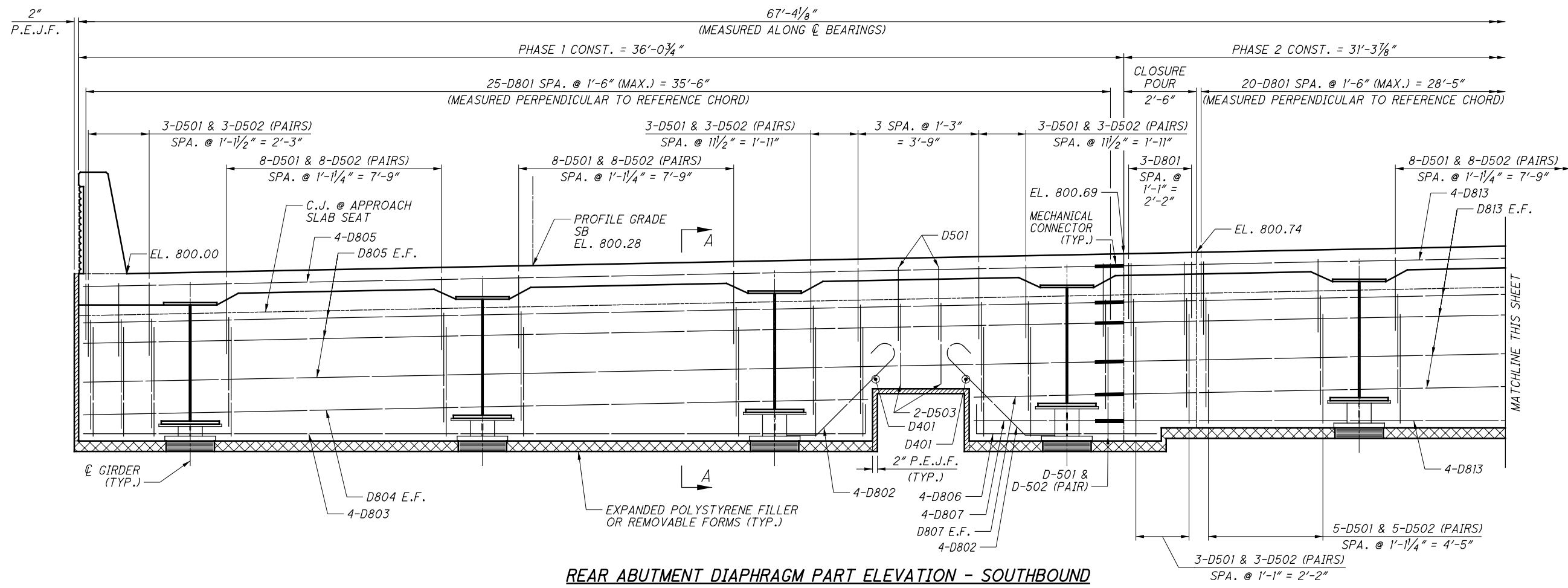
1. FOR FOOTING REINFORCING DETAILS, SEE SHEET 23/78.
2. FOR LOCATION OF VIEW C-C, SEE SHEET 25/78.

LEGEND:

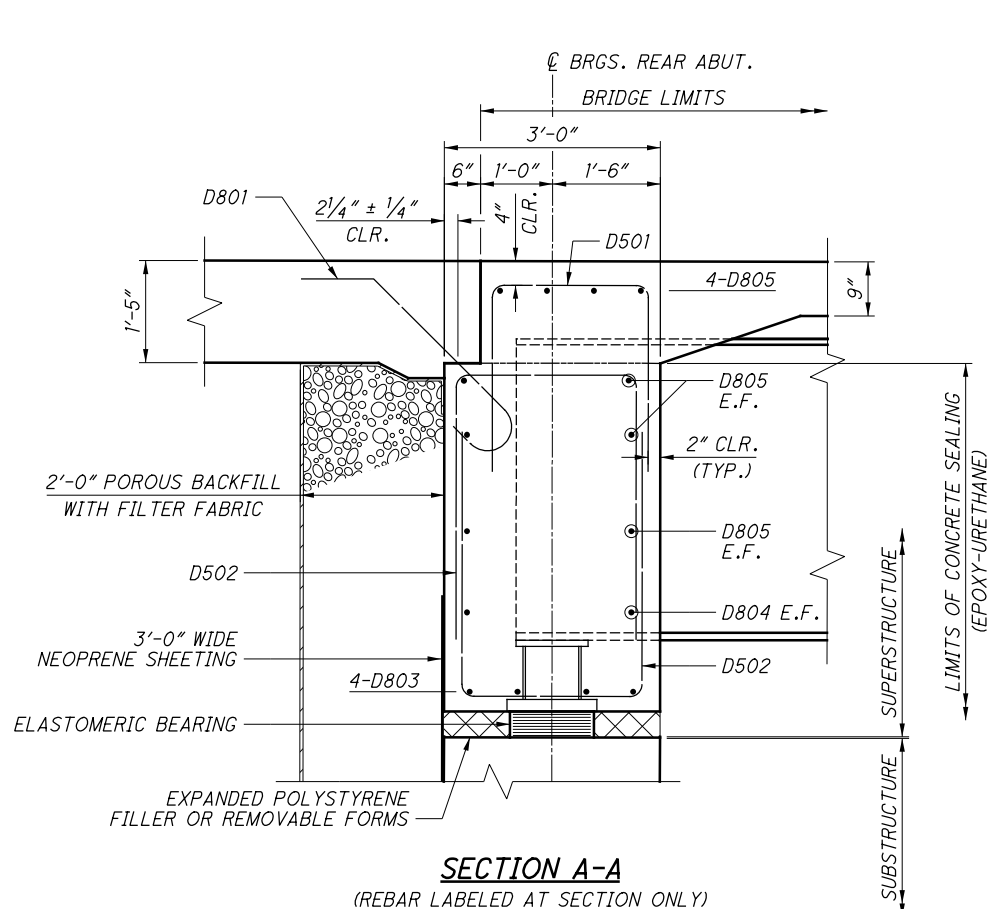
* - ELEVATION GIVEN AT BACK FACE OF WINGWALL

DESIGN AGENCY Mead & Hunt 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX	
DESIGNED ALM	CHECKED CMH
DRAWN ALM	REVISED
REVIEWED KVB	DATE 6/30/2015
STRUCTURE FILE NUMBER 2506786L/2506816R	
REAR ABUTMENT DETAILS - SOUTHBOUND BRIDGE	
BRIDGE NO. FRA-71-0153 L/R	
OVER BIG DARBY CREEK	
FRA-71-1.53	
PID No. 93496	
27/78	
229 285	

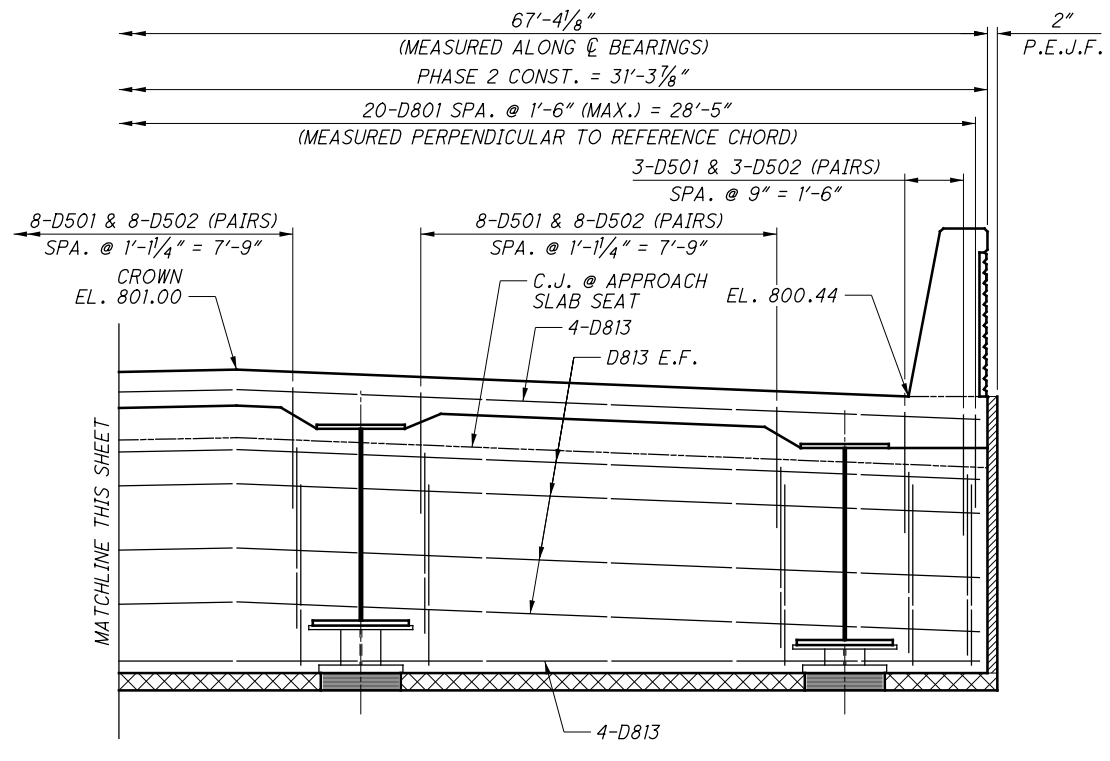
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REAR ABUTMENT DIAPHRAGM PART ELEVATION - SOUTHBOUND
ELEVATIONS GIVEN AT ϕ BEARINGS



SECTION A-A
(REBAR LABELED AT SECTION ONLY)



REAR ABUTMENT DIAPHRAGM PART ELEVATION - SOUTHBOUND
ELEVATIONS GIVEN AT ϕ BEARINGS

- NOTES:**
1. FOR SEMI-INTEGRAL ABUTMENT GUIDE DETAILS, SEE SHEET 41/78.
 2. ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED ITS INITIAL SET. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.

MINIMUM LAP LENGTHS	
NO. 5 BAR	2'-9"

DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

DATE: 6/30/2015
 REVIEWED: KVB
 DRAWN: ALM
 DESIGNED: ALM
 CHECKED: CMH

STRUCTURE FILE NUMBER: 2506786L/2506816R

BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

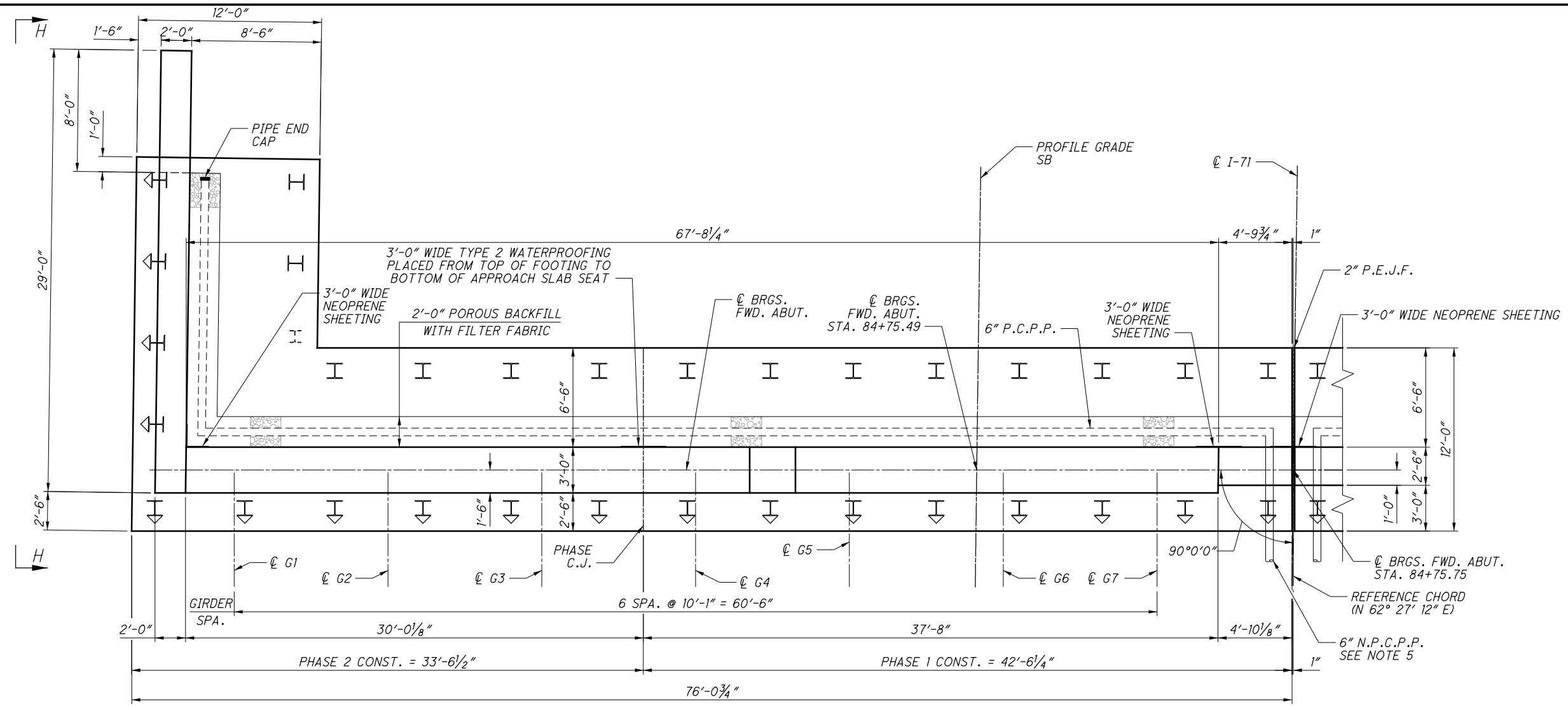
REAR ABUTMENT DIAPHRAGM DETAILS - SOUTHBOUND BRIDGE

FRA-71-1.53
 PID No. 93496

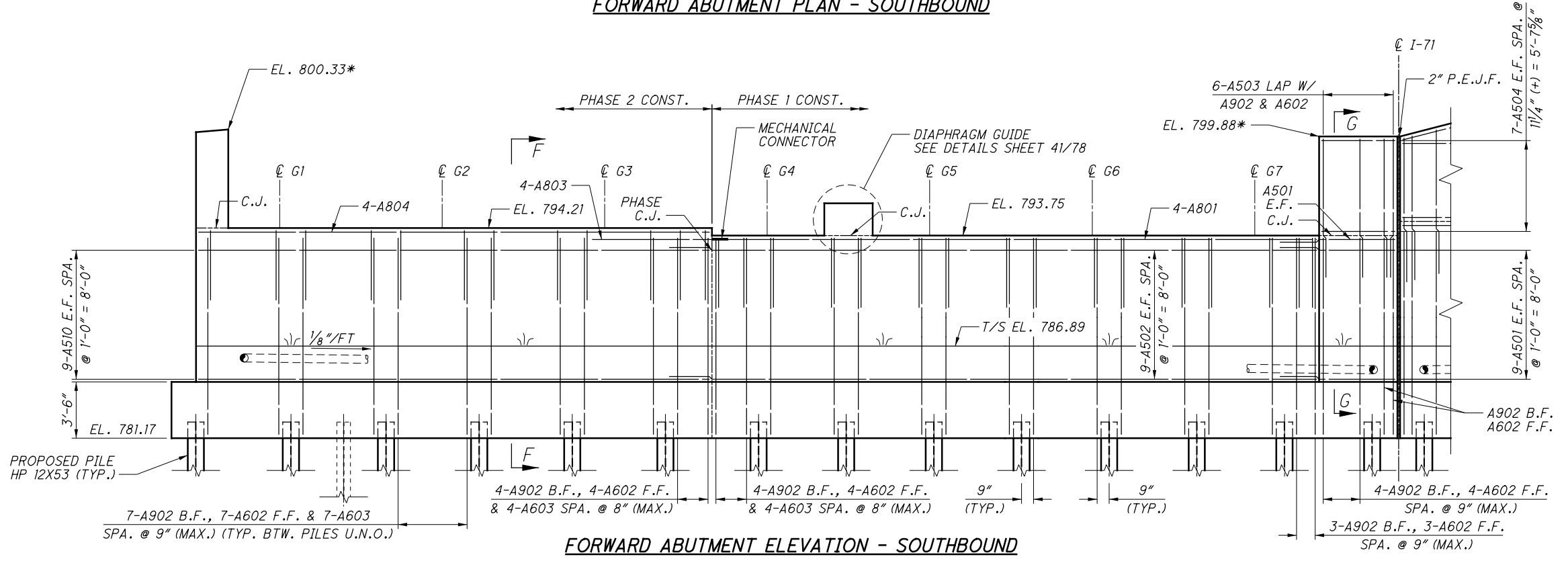
28/78

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285

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FORWARD ABUTMENT PLAN - SOUTHBOUND



FORWARD ABUTMENT ELEVATION - SOUTHBOUND

MINIMUM LAP LENGTHS	
NO. 5 BAR	2'-9"
NO. 6 BAR	3'-1"
NO. 8 BAR	5'-10"

NOTES:

- FOR SECTIONS F-F AND G-G, SEE SHEET 30/78.
- FOR VIEW H-H AND TURNBACK WINGWALL DETAILS, SEE SHEET 31/78.
- FOR FOOTING REINFORCING DETAILS, SEE SHEET 23/78.
- FOR ADDITIONAL DETAILS, SEE STD. DWG. SICD-1-96.
- 6" N.P.C.P.P. AT ENDS SPLICED TO PERFORATED PIPE AND OUTLET AS SHOWN IN PIPE TERMINATION DETAIL ON SHEET 41/78.

LEGEND:

- * - ELEVATION GIVEN AT \odot BEARING
- I - HP 12X53 PILE
- ⌢ - HP 12X53 BATTERED PILE 3:1 (V:H)
- ⌢ - EXISTING PILE CUT OFF TO EL. 782.17

DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

DATE: 6/30/2015
 REVIEWED: KVB
 DRAWN: ALM
 DESIGNED: ALM
 CHECKED: CMH

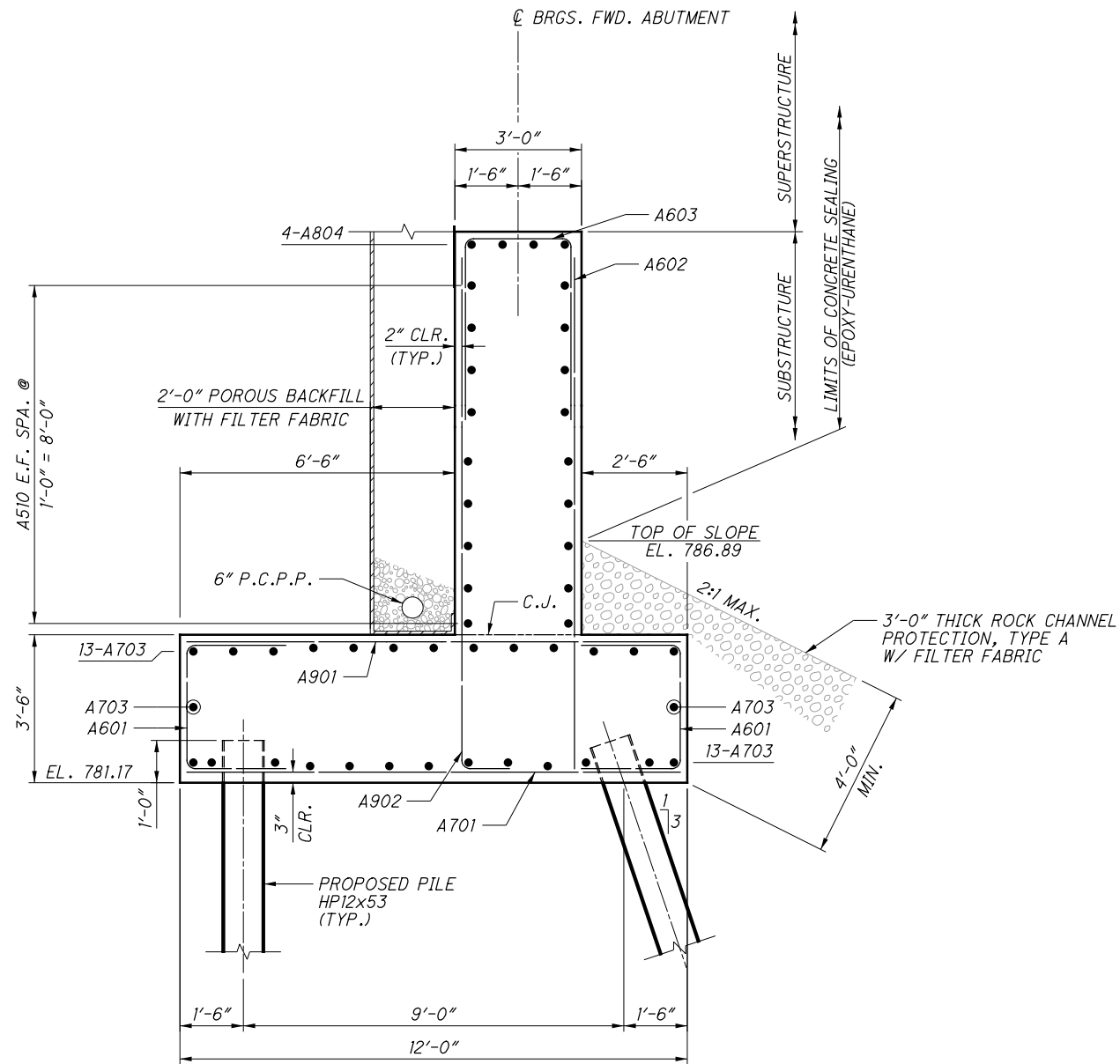
STRUCTURE FILE NUMBER: 2506786L/2506816R

FORWARD ABUTMENT DETAILS - SOUTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

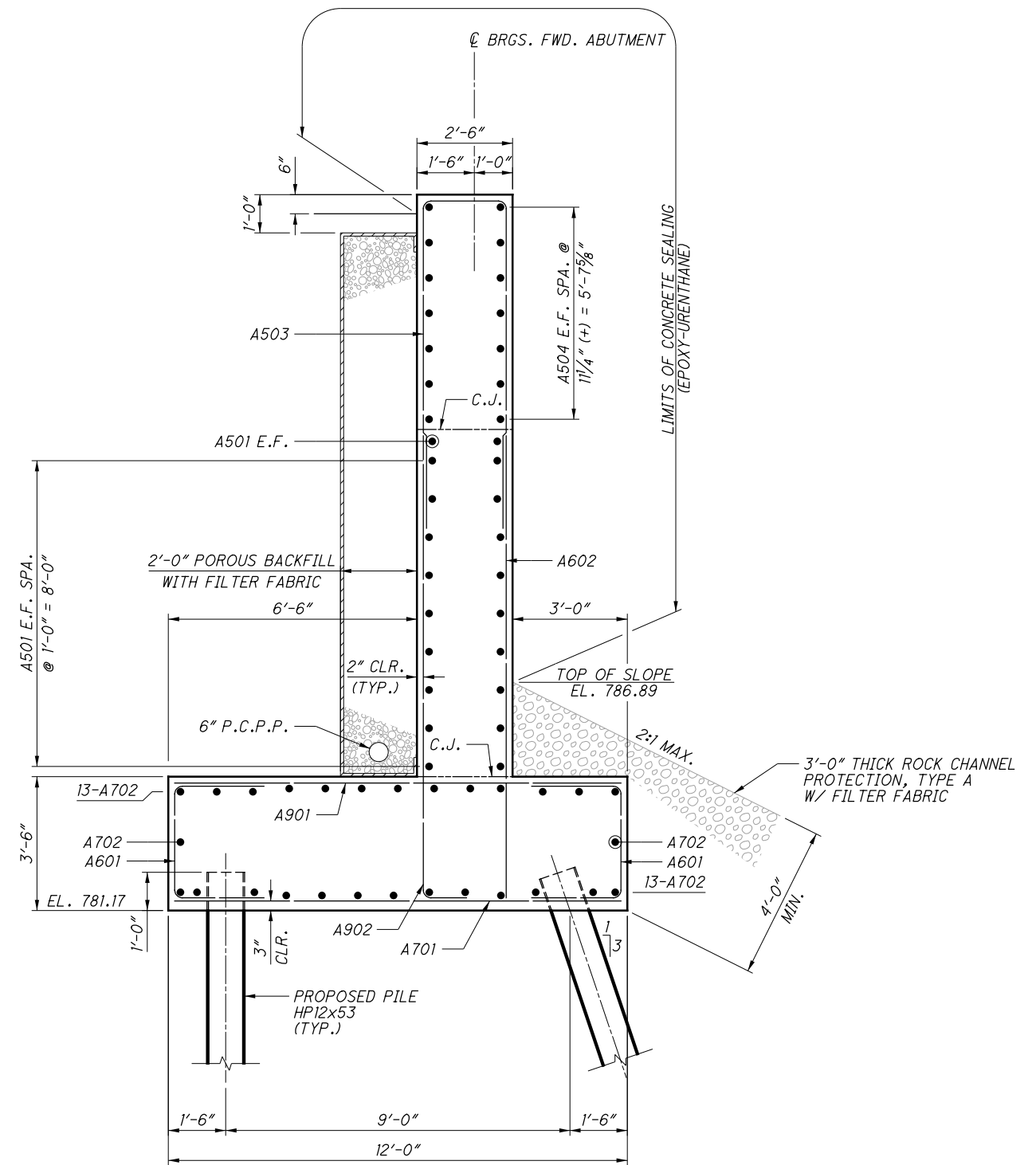
FRA-71-1.53
 PID No. 93496

29/78
 231
 285

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SECTION F-F
(REBAR LABELED AT SECTION ONLY)

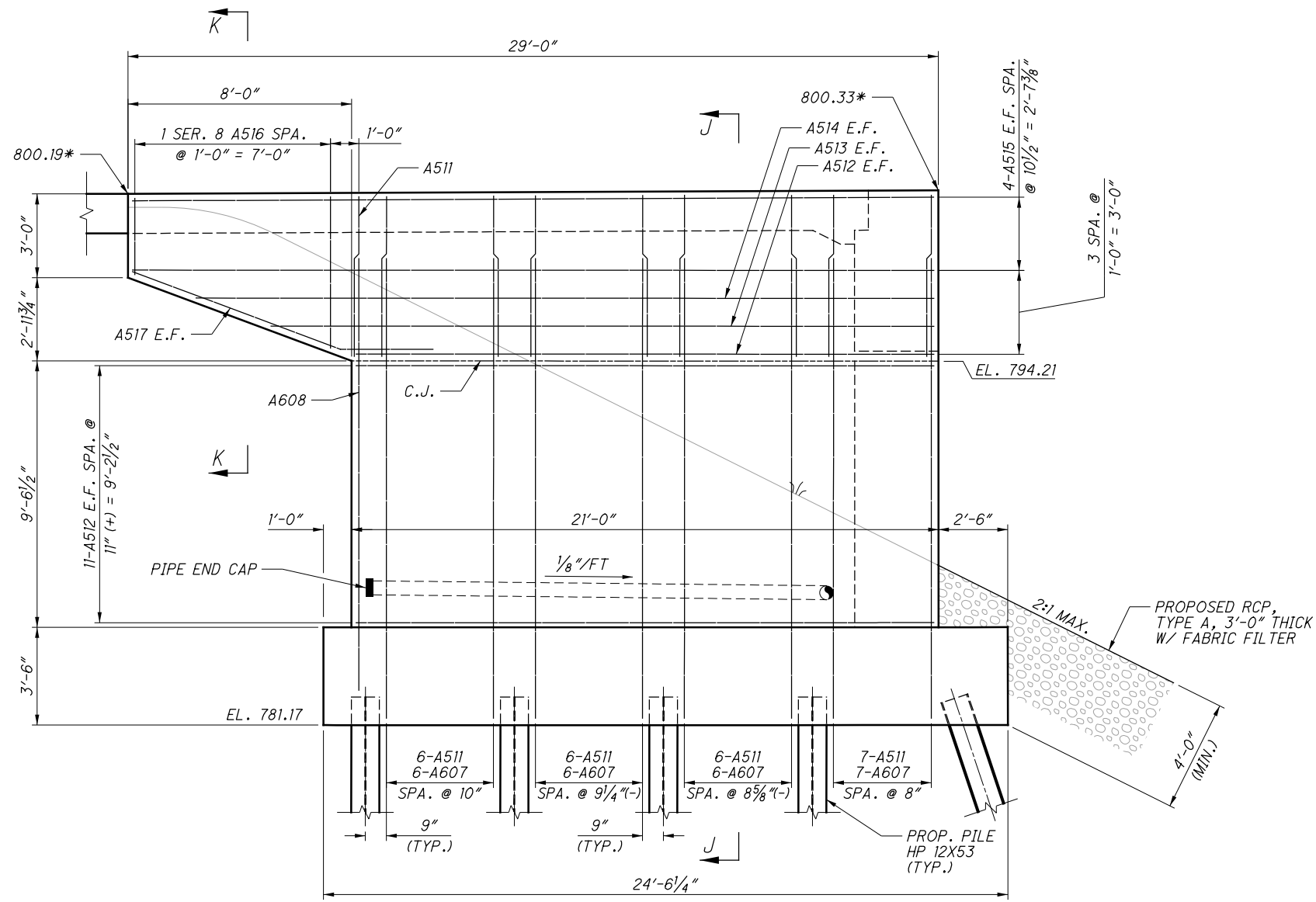


SECTION G-G
(REBAR LABELED AT SECTION ONLY)

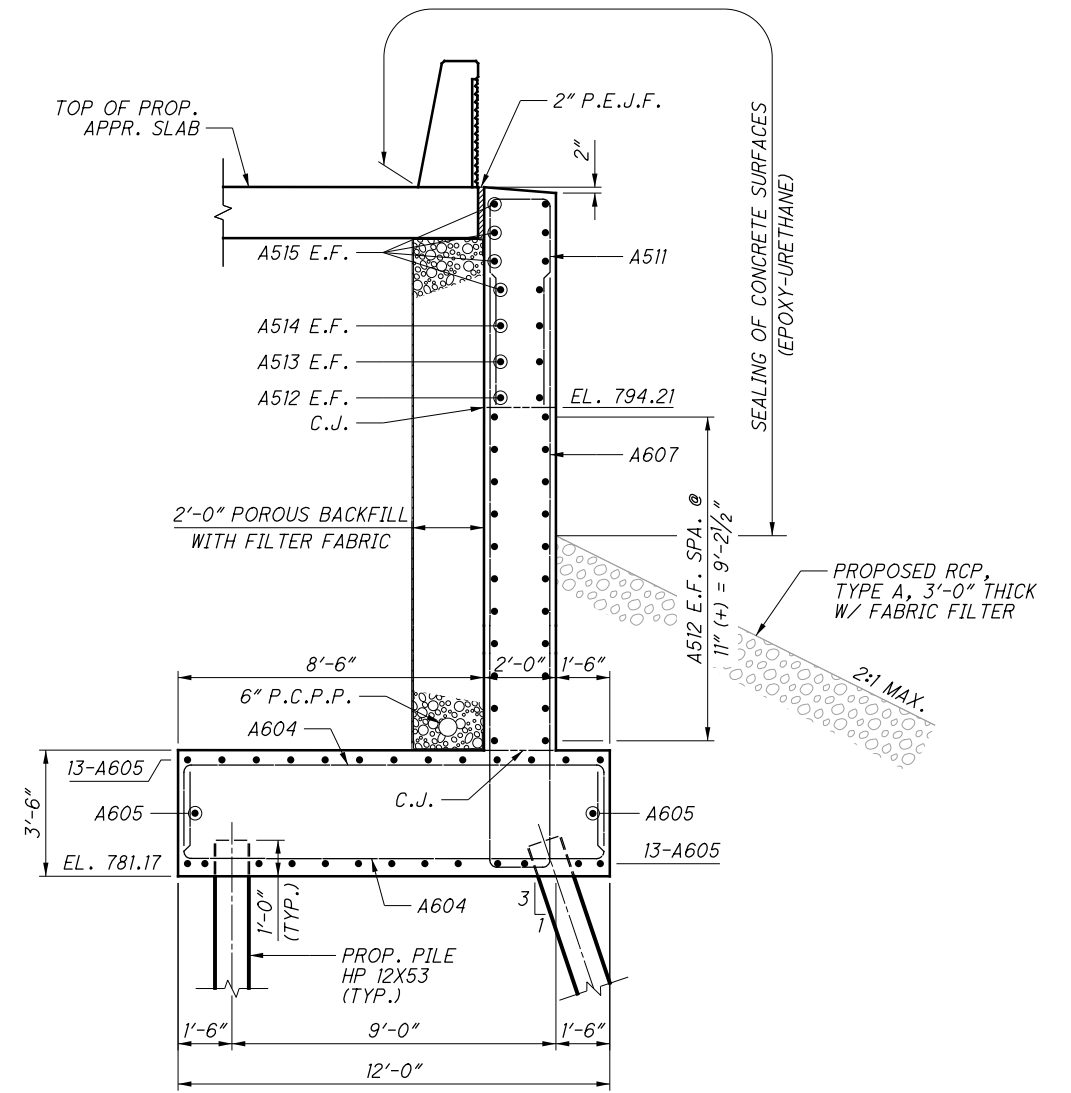
NOTES:

1. FOR ABUTMENT PLAN AND ELEVATION, SEE SHEET 29/78.
2. FOR DIAPHRAGM DETAILS, SEE SHEET 32/78.

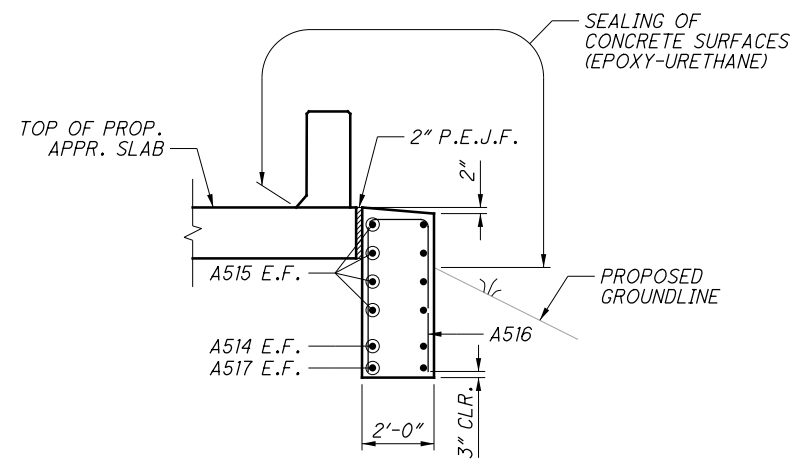
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VIEW H-H



SECTION J-J



SECTION K-K

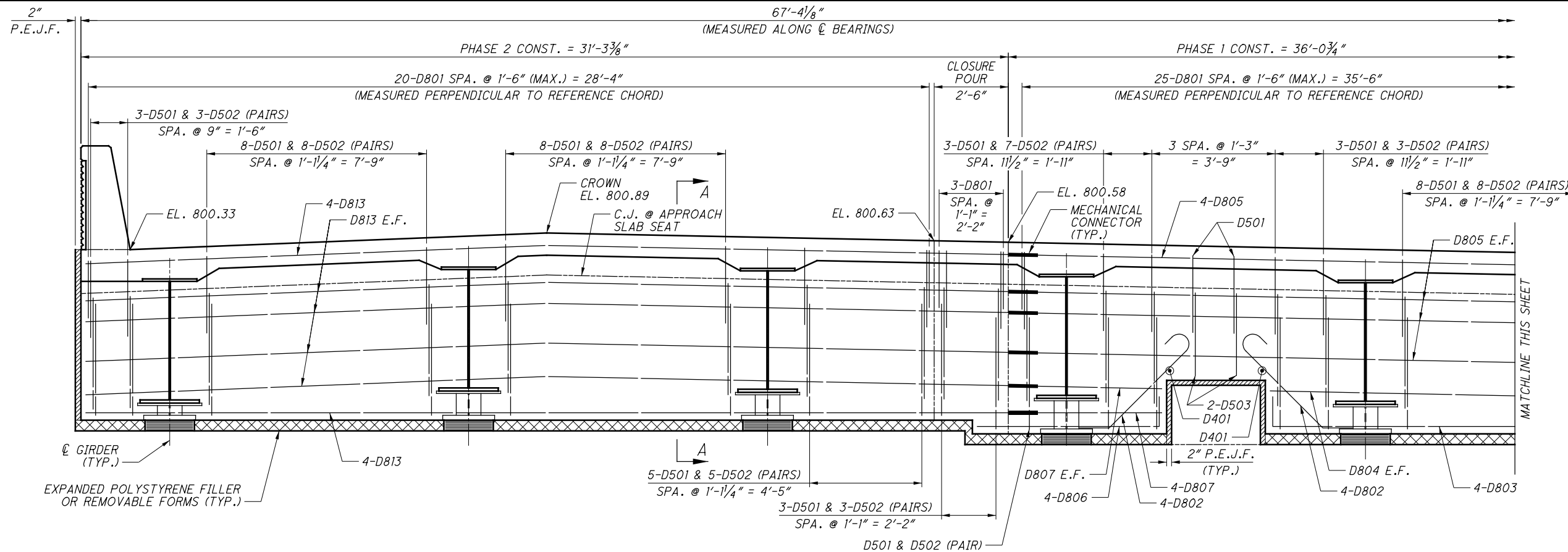
NOTES:

1. FOR FOOTING REINFORCING DETAILS, SEE SHEET 23/78.
2. FOR LOCATION OF VIEW H-H, SEE SHEET 29/78.

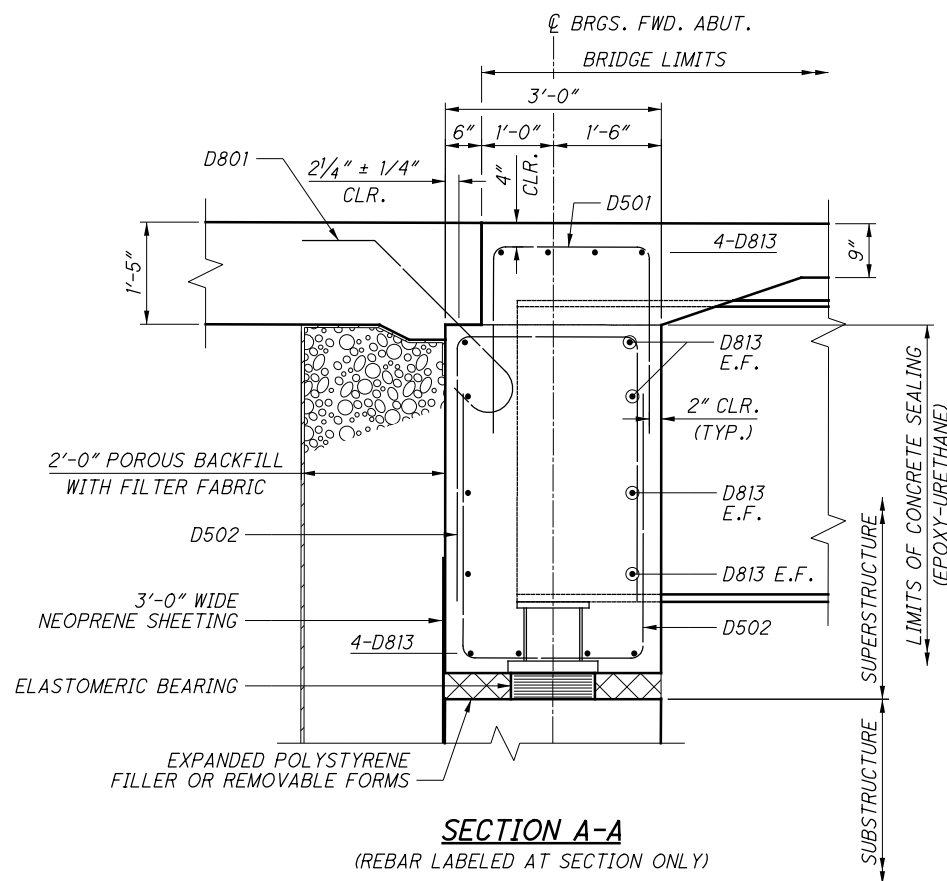
LEGEND:

* - ELEVATION GIVEN AT BACK FACE OF WINGWALL

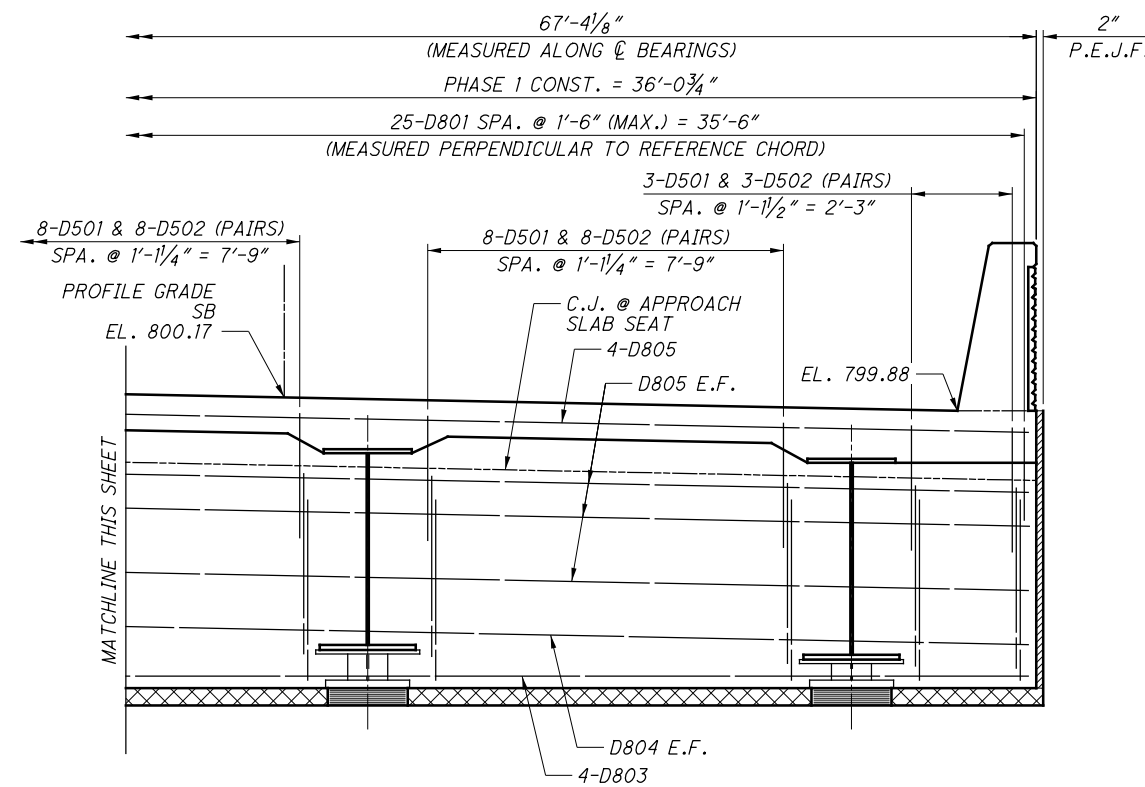
Mead & Hunt DESIGN AGENCY 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX	DATE: 6/30/2015 REVIEWED: KVB DRAWN: ALM DESIGNED: ALM	BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK	FRA-71-1.53 PID No. 93496
	STRUCTURE FILE NUMBER: 2506786L/2506816R CHECKED: CMH	FORWARD ABUTMENT DETAILS - SOUTHBOUND BRIDGE	31 / 78



FORWARD ABUTMENT DIAPHRAGM PART ELEVATION - SOUTHBOUND
ELEVATIONS GIVEN AT \bar{C} BEARINGS



SECTION A-A
(REBAR LABELED AT SECTION ONLY)



FORWARD ABUTMENT DIAPHRAGM PART ELEVATION - SOUTHBOUND
ELEVATIONS GIVEN AT \bar{C} BEARINGS

NOTES:

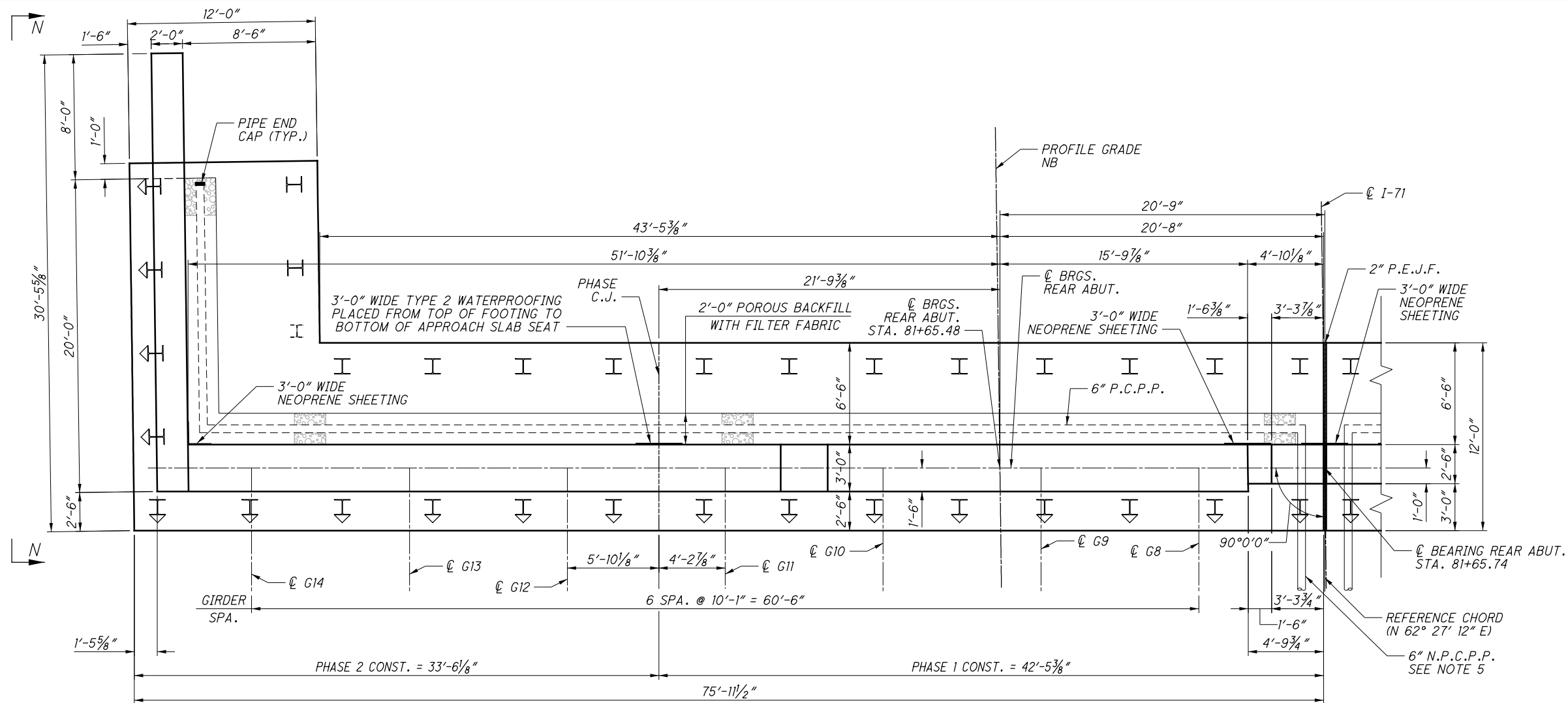
1. FOR SEMI-INTEGRAL ABUTMENT GUIDE DETAILS, SEE SHEET 41/78.
2. ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED ITS INITIAL SET. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.

MINIMUM LAP LENGTHS	
NO. 5 BAR	2'-9"

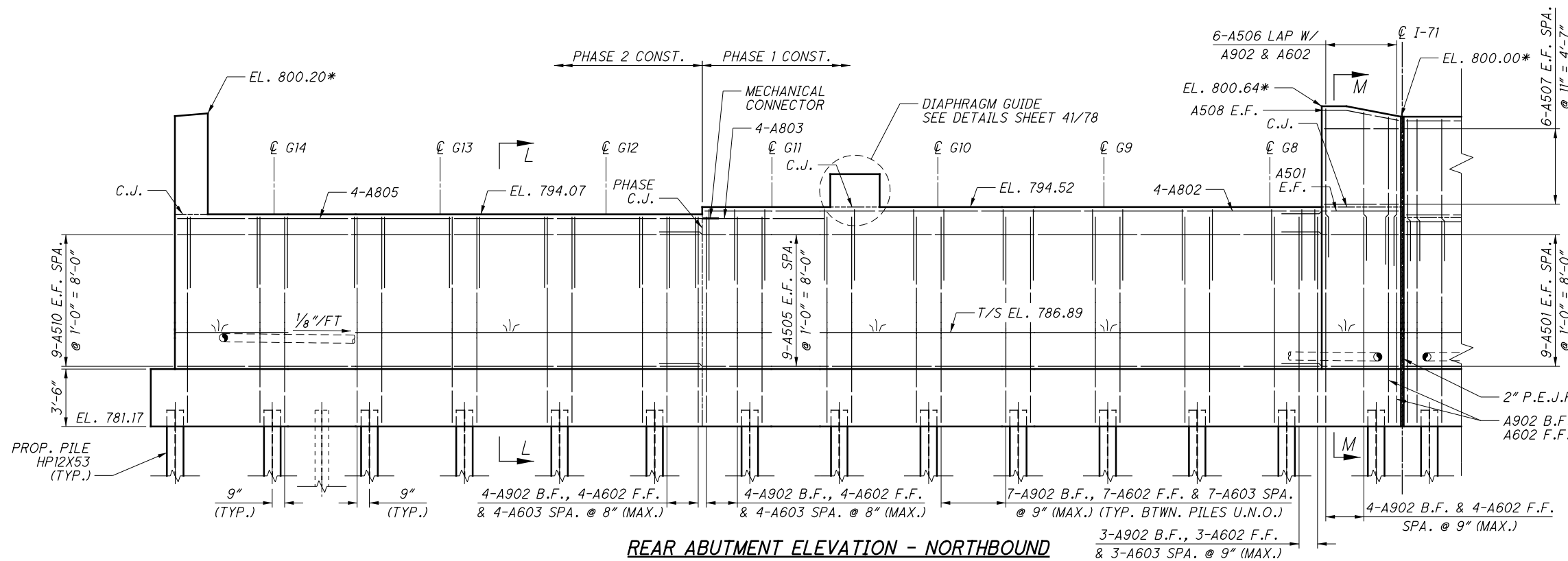
X:\4037000\121957.15\93496\structures\FRA071_0153C\sheets\071_0153CSD026.dgn Sheet 11/19/2018 3:02:24 PM 1636dcb

DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016
 (614) 792-5900 PHONE (614) 792-5801 FAX
 DATE: 6/30/2015
 REVIEWED: KVB
 DRAWN: ALM
 DESIGNED: ALM
 CHECKED: CMH
 STRUCTURE FILE NUMBER: 2506786L/2506816R
FORWARD ABUTMENT DIAPHRAGM DETAILS - SOUTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK
FRA-71-1.53
 PID No. 93496
 32 / 78
 234
 285

X:\4037000\121957.15\93496\structures\FRA071_0153CAR002.dgn_Sheet 11/19/2018 3:02:25 PM 1636dcb



REAR ABUTMENT PLAN - NORTHBOUND



REAR ABUTMENT ELEVATION - NORTHBOUND

MINIMUM LAP LENGTHS	
NO. 5 BAR	2'-9"
NO. 6 BAR	3'-1"
NO. 8 BAR	5'-10"

NOTES:

1. FOR SECTIONS L-L AND M-M, SEE SHEET 34/78.
2. FOR VIEW N-N AND TURNBACK WINGWALL DETAILS, SEE SHEET 35/78.
3. FOR FOOTING REINFORCING DETAILS, SEE SHEET 24/78.
4. FOR ADDITIONAL DETAILS, SEE STD. DWG. SICD-1-96.
5. 6" N.P.C.P.P. AT ENDS SPLICED TO PERFORATED PIPE AND OUTLET AS SHOWN IN PIPE TERMINATION DETAIL ON SHEET 41/78.

LEGEND:

- * - ELEVATION GIVEN AT @ BEARING
- HP 12X53 PILE
- HP 12X53 BATTERED PILE 3:1 (V:H)
- EXISTING PILE CUT OFF TO EL. 782.17

DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

DATE: 6/30/2015
 REVIEWED: KVB
 DRAWN: ALM
 DESIGNED: ALM
 CHECKED: CMH

STRUCTURE FILE NUMBER: 2506786L/2506816R

BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

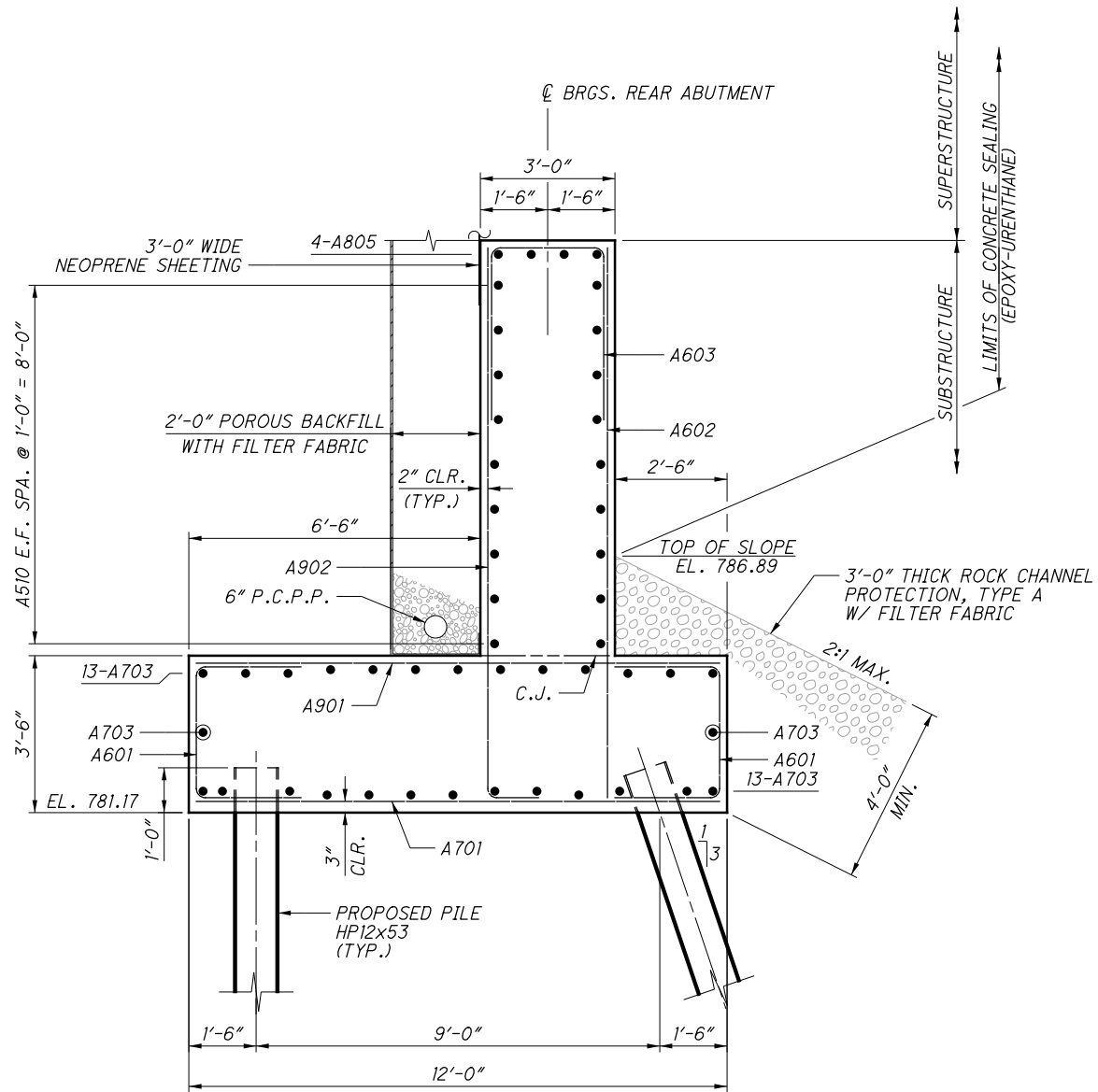
REAR ABUTMENT DETAILS - NORTHBOUND BRIDGE

FRA-71-1.53
 PID No. 93496

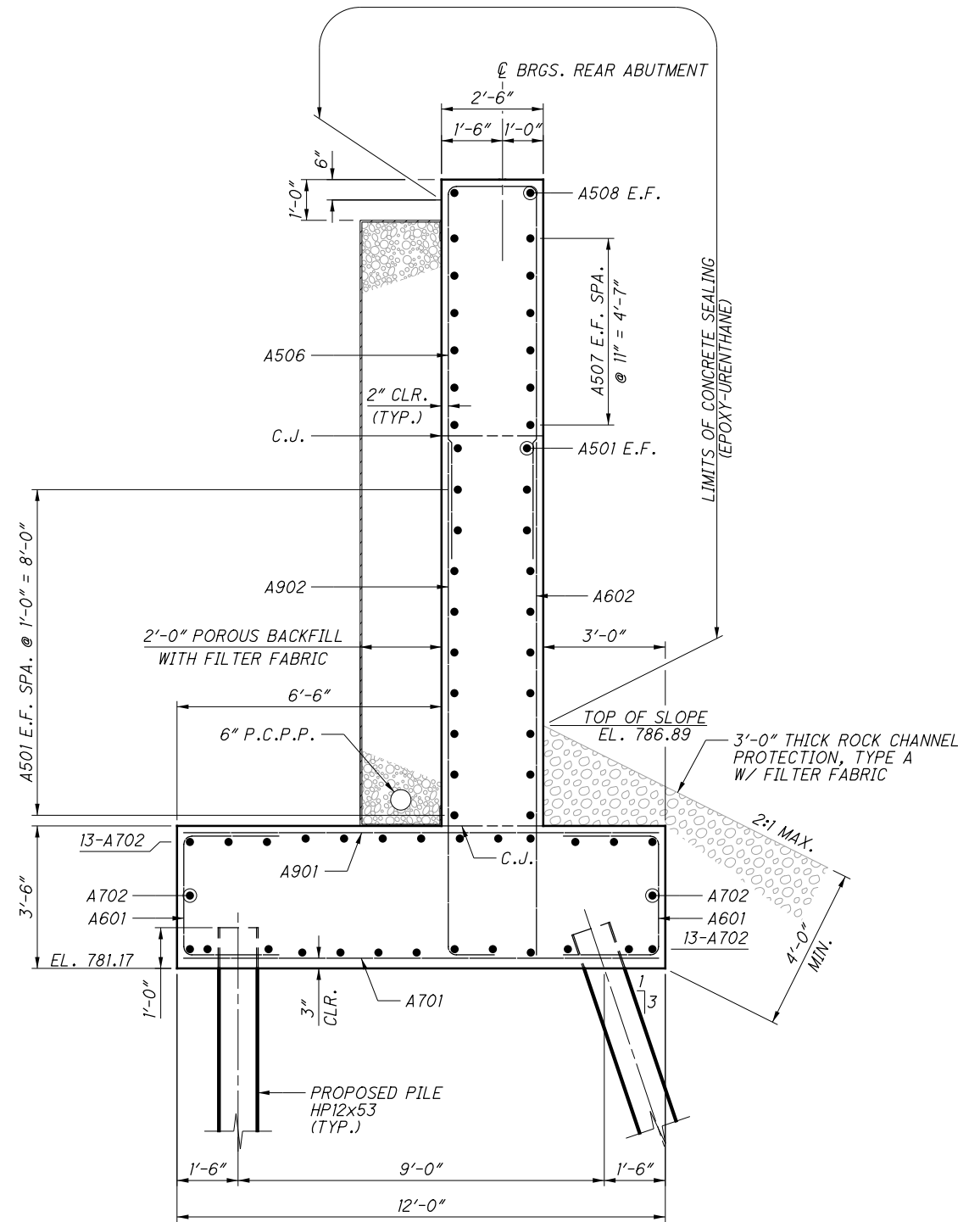
33/78

235
 285

X:\4037000\121957.15\93496\structures\FRA071_0153C\sheets\FRA071_0153CAR005.dgn Sheet 11/19/2018 3:02:25 PM 1636dcb



SECTION L-L
(REBAR LABELED AT SECTION ONLY)



SECTION M-M
(REBAR LABELED AT SECTION ONLY)

NOTES:

1. FOR ABUTMENT PLAN AND ELEVATION, SEE SHEET 33/78.
2. FOR DIAPHRAGM DETAILS, SEE SHEET 36/78.

FRA-71-1.53
PID No. 93496

34/78

236
285

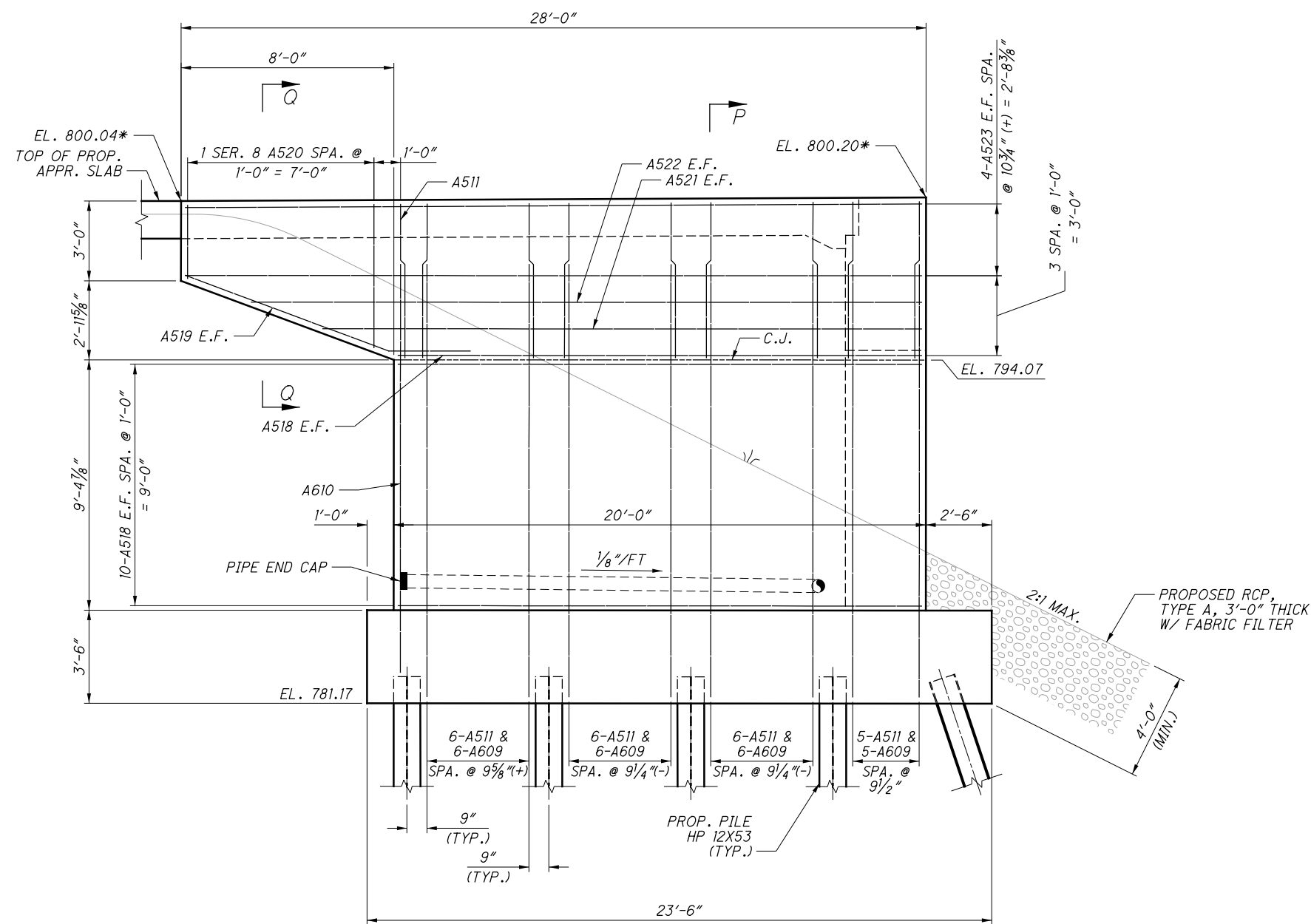
REAR ABUTMENT DETAILS - NORTHBOUND BRIDGE

BRIDGE NO. FRA-71-0153 L/R
OVER BIG DARBY CREEK

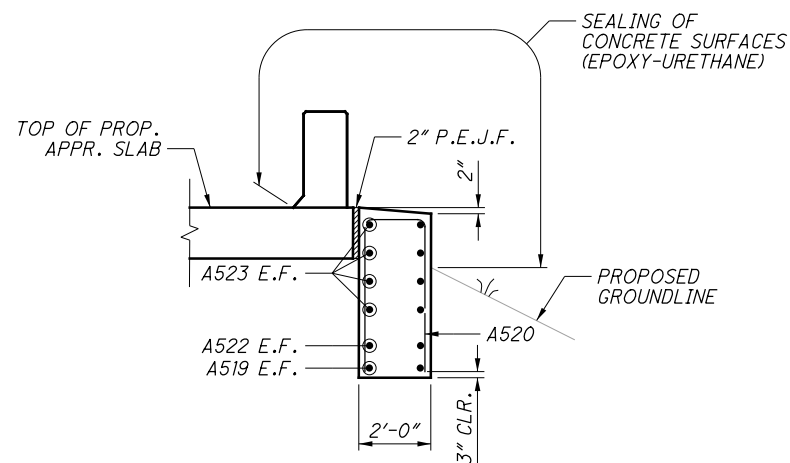
DESIGNED	ALM	CHECKED	CMH
DRAWN	ALM	REVISED	
REVIEWED	KVB	DATE	6/30/2015
STRUCTURE FILE NUMBER	2506786L/2506816R		

DESIGN AGENCY
Mead & Hunt
4700 LAKEHURST CT., STE 110
DUBLIN, OH 43016
(614) 792-5900 PHONE
(614) 792-5801 FAX

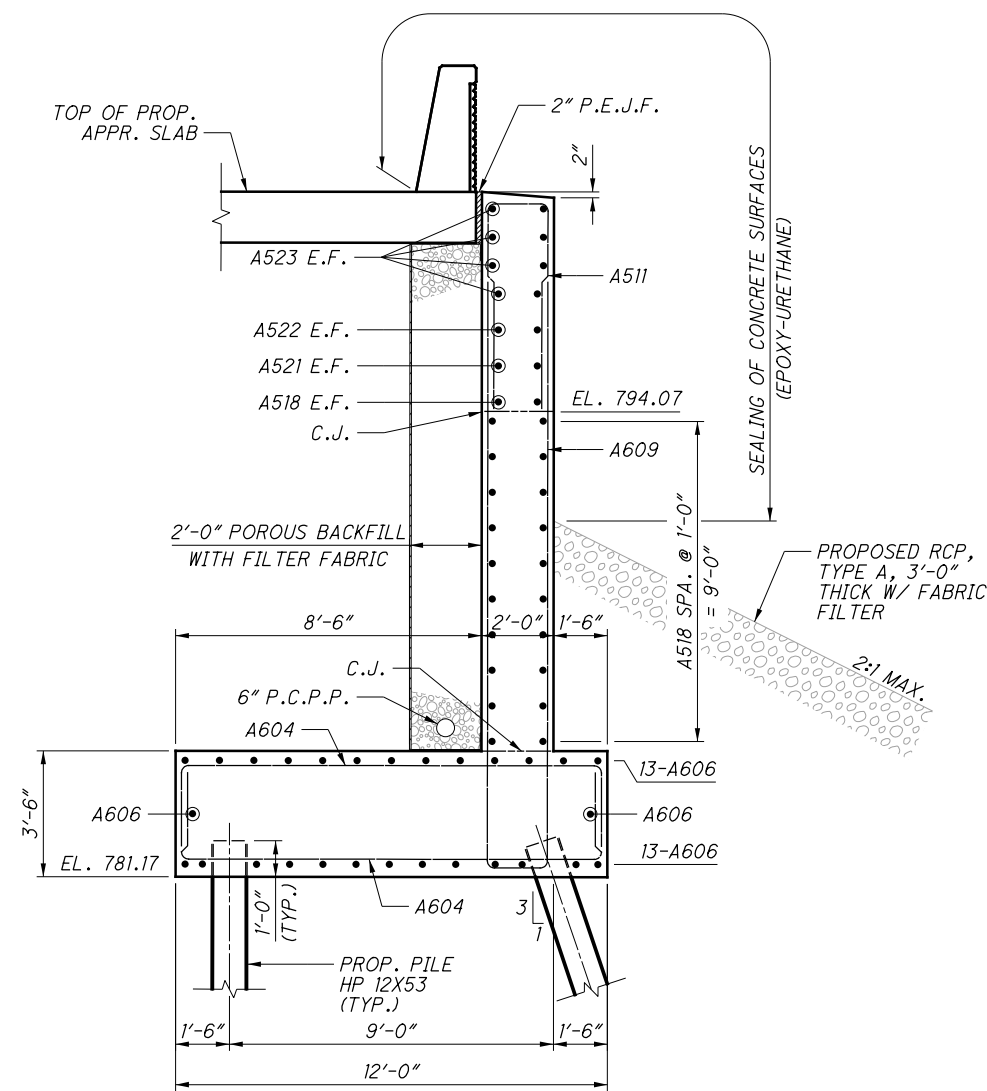
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VIEW N-N



SECTION Q-Q



SECTION P-P

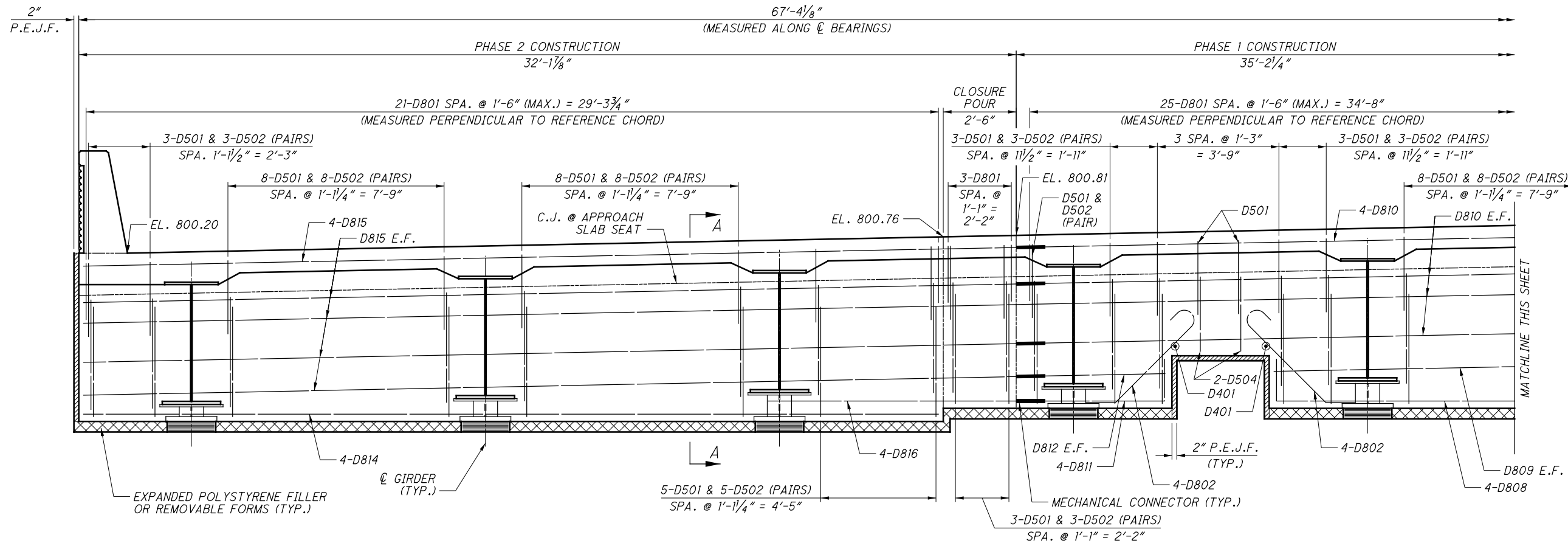
NOTES:

1. FOR FOOTING REINFORCING DETAILS, SEE SHEET 24/78.
2. FOR LOCATION OF VIEW N-N, SEE SHEET 33/78.

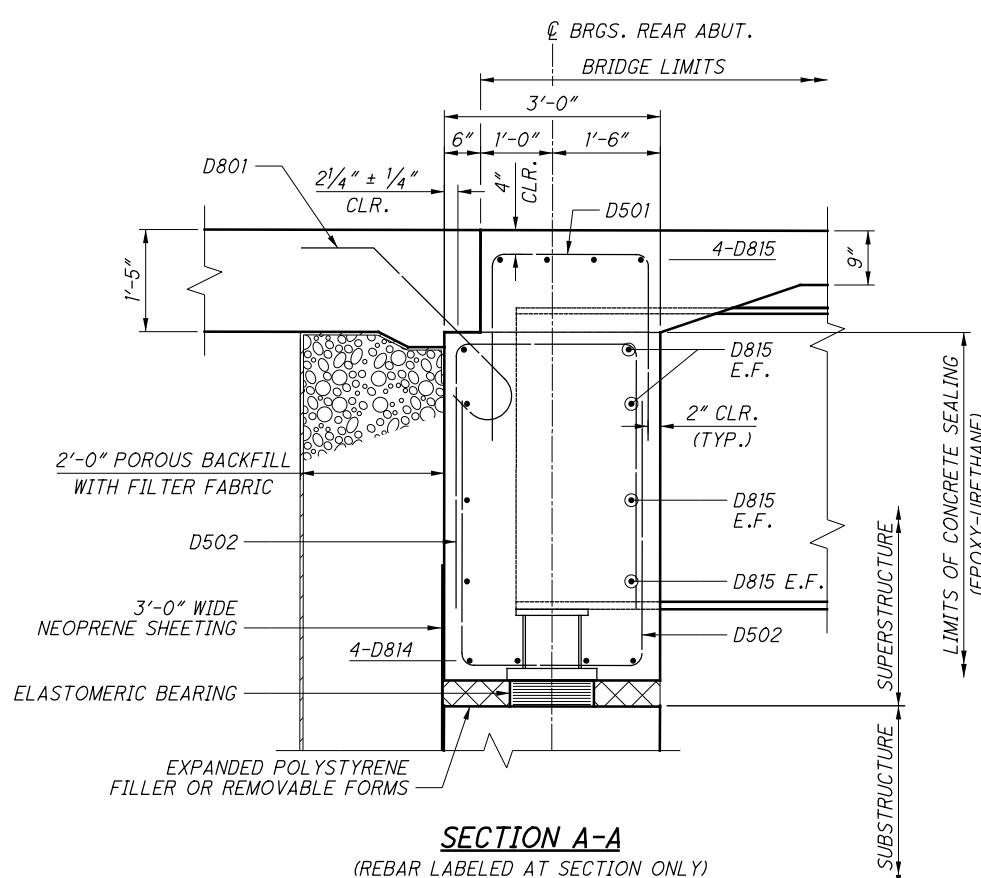
LEGEND:

* - ELEVATION GIVEN AT BACK FACE OF WINGWALL

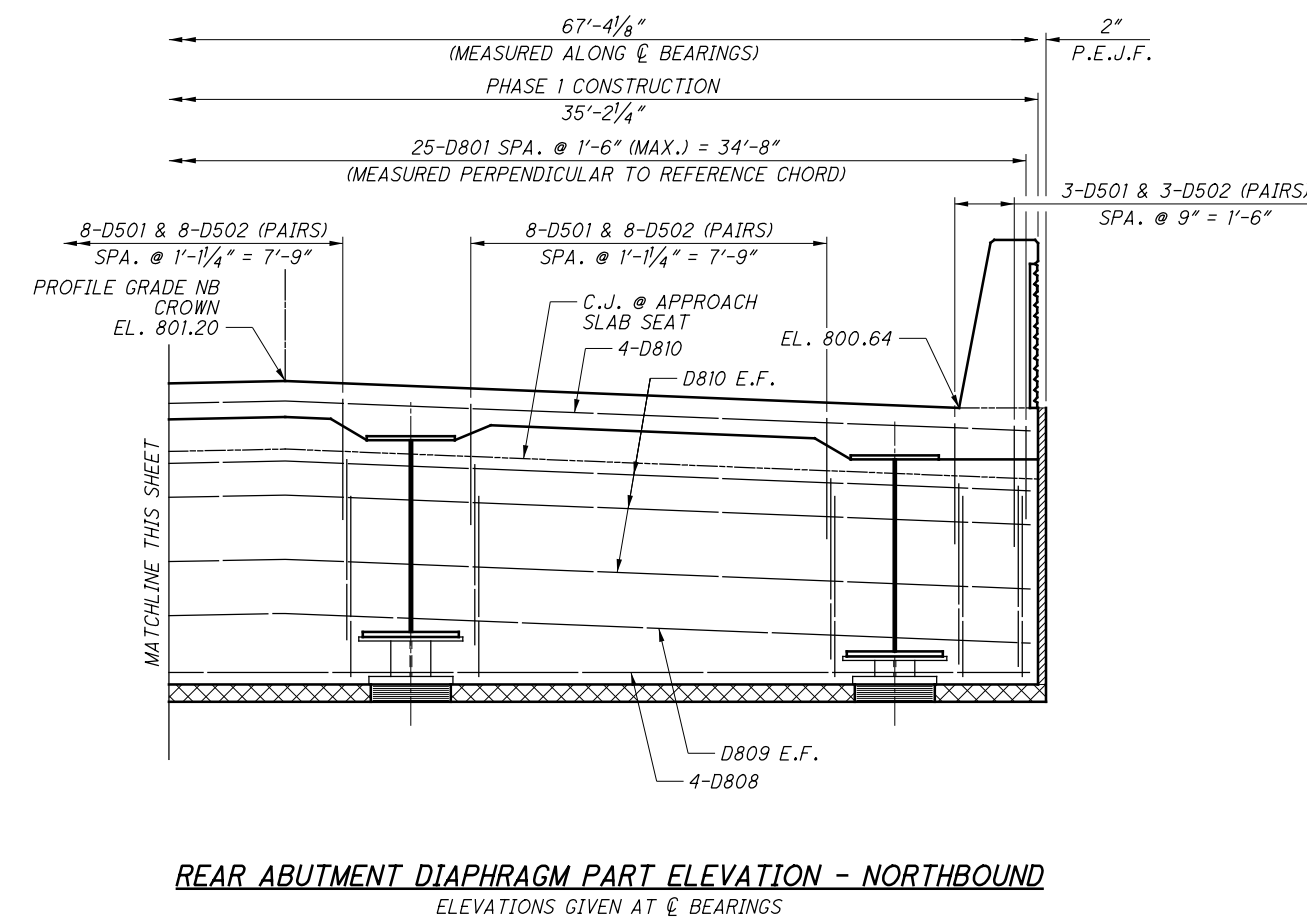
MEAD & HUNT DESIGN AGENCY 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX	DATE: 6/30/2015 REVIEWED: KVB DRAWN: ALM DESIGNED: ALM	FILE NUMBER: 2506786L/2506816R CHECKED: CMH
	REAR ABUTMENT DETAILS - NORTHBOUND BRIDGE BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK	
FRA-71-1.53 PID No. 93496	35 / 78	237 285



REAR ABUTMENT DIAPHRAGM PART ELEVATION - NORTHBOUND
ELEVATIONS GIVEN AT ϕ BEARINGS



SECTION A-A
(REBAR LABELED AT SECTION ONLY)



REAR ABUTMENT DIAPHRAGM PART ELEVATION - NORTHBOUND
ELEVATIONS GIVEN AT ϕ BEARINGS

NOTES:

1. FOR SEMI-INTEGRAL ABUTMENT GUIDE DETAILS, SEE SHEET 41/78.
2. ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE DIAPHRAGM CONCRETE ENCASEING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED ITS INITIAL SET. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.

MINIMUM LAP LENGTHS	
NO. 5 BAR	2'-9"

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DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

DATE: 6/30/2015
 REVIEWED: KVB
 DRAWN: ALM
 DESIGNED: ALM
 CHECKED: CMH

STRUCTURE FILE NUMBER: 2506786L/2506816R

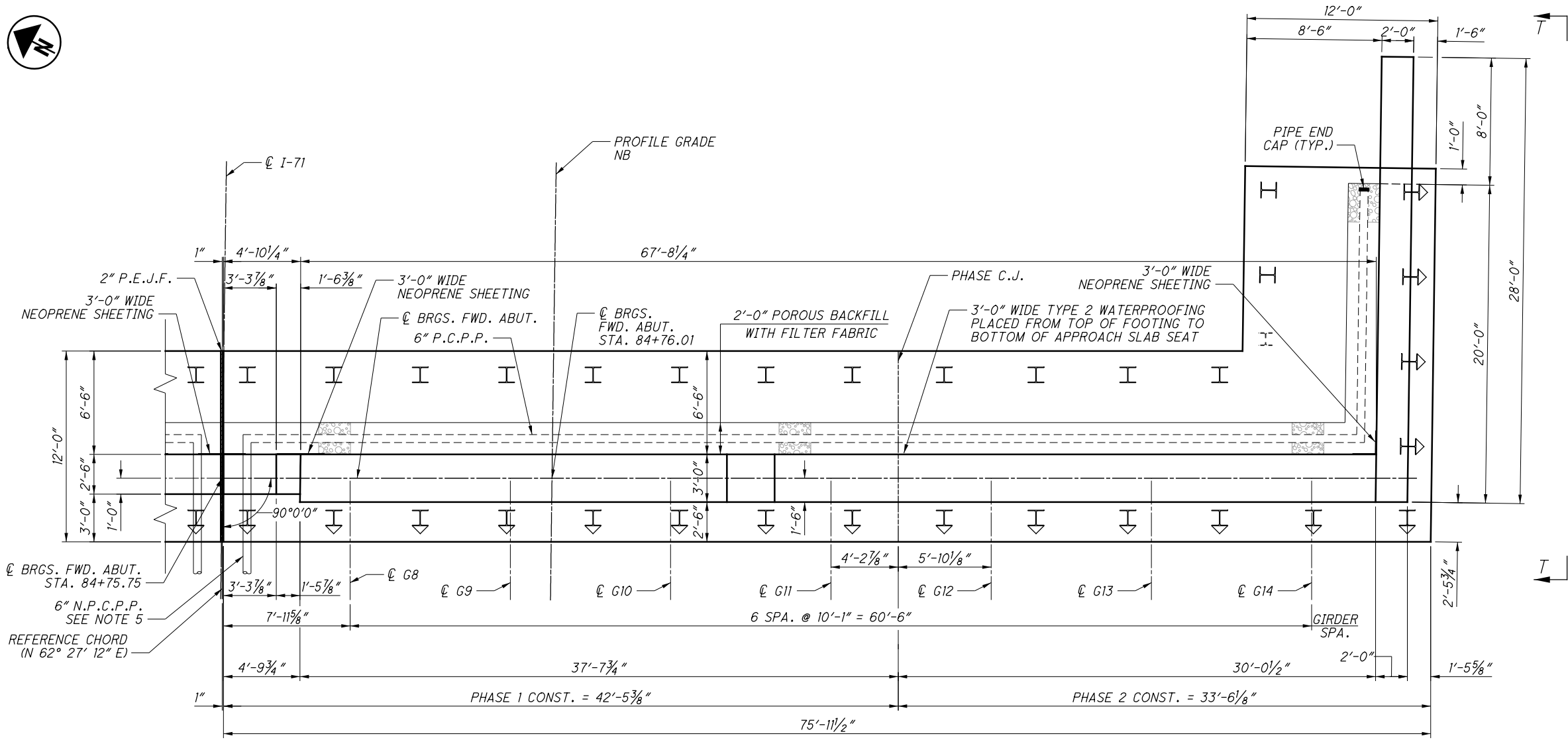
REAR ABUTMENT DIAPHRAGM DETAILS - NORTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496

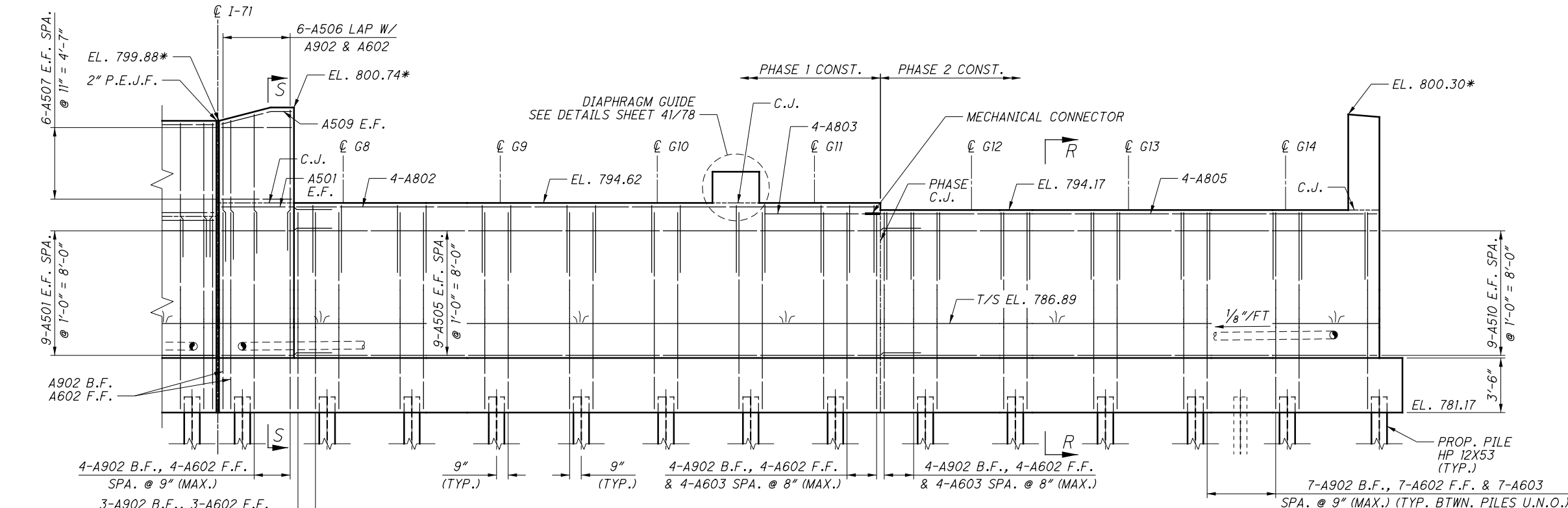
36 / 78
 238
 285



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FORWARD ABUTMENT PLAN - NORTHBOUND



FORWARD ABUTMENT ELEVATION - NORTHBOUND

MINIMUM LAP LENGTHS	
NO. 5 BAR	2'-9"
NO. 6 BAR	3'-1"
NO. 8 BAR	5'-10"

- NOTES:**
1. FOR SECTIONS R-R AND S-S, SEE SHEET 38/78.
 2. FOR VIEW T-T AND TURNBACK WINGWALL DETAILS, SEE SHEET 39/78.
 3. FOR FOOTING REINFORCING DETAILS, SEE SHEET 24/78.
 4. FOR ADDITIONAL DETAILS, SEE STD. DWG. SICD-1-96.
 5. 6" N.P.C.P.P. AT ENDS SPLICED TO PERFORATED PIPE AND OUTLET AS SHOWN IN PIPE TERMINATION DETAIL ON SHEET 41/78.

- LEGEND:**
- * - ELEVATION GIVEN AT @ BEARING
 - ⊥ - HP 12X53 PILE
 - ⊥ - HP 12X53 BATTERED PILE 3:1 (V:H)
 - ⊥ - EXISTING PILE CUT OFF TO EL. 782.17

DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

DATE: 6/30/2015
 REVIEWED: KVB
 DRAWN: ALM
 DESIGNED: ALM
 CHECKED: CMH

STRUCTURE FILE NUMBER: 2506786L/2506816R

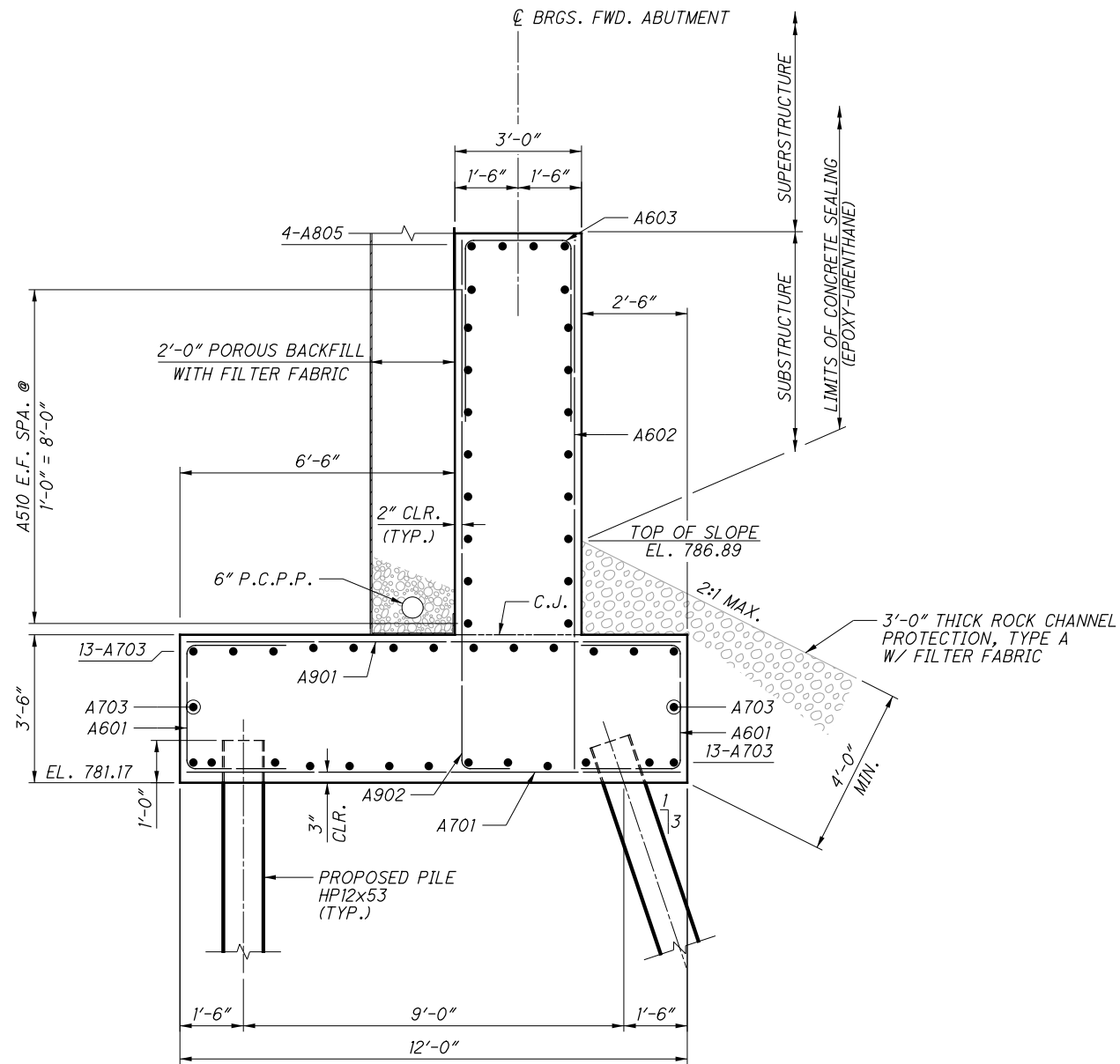
FORWARD ABUTMENT DETAILS - NORTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496

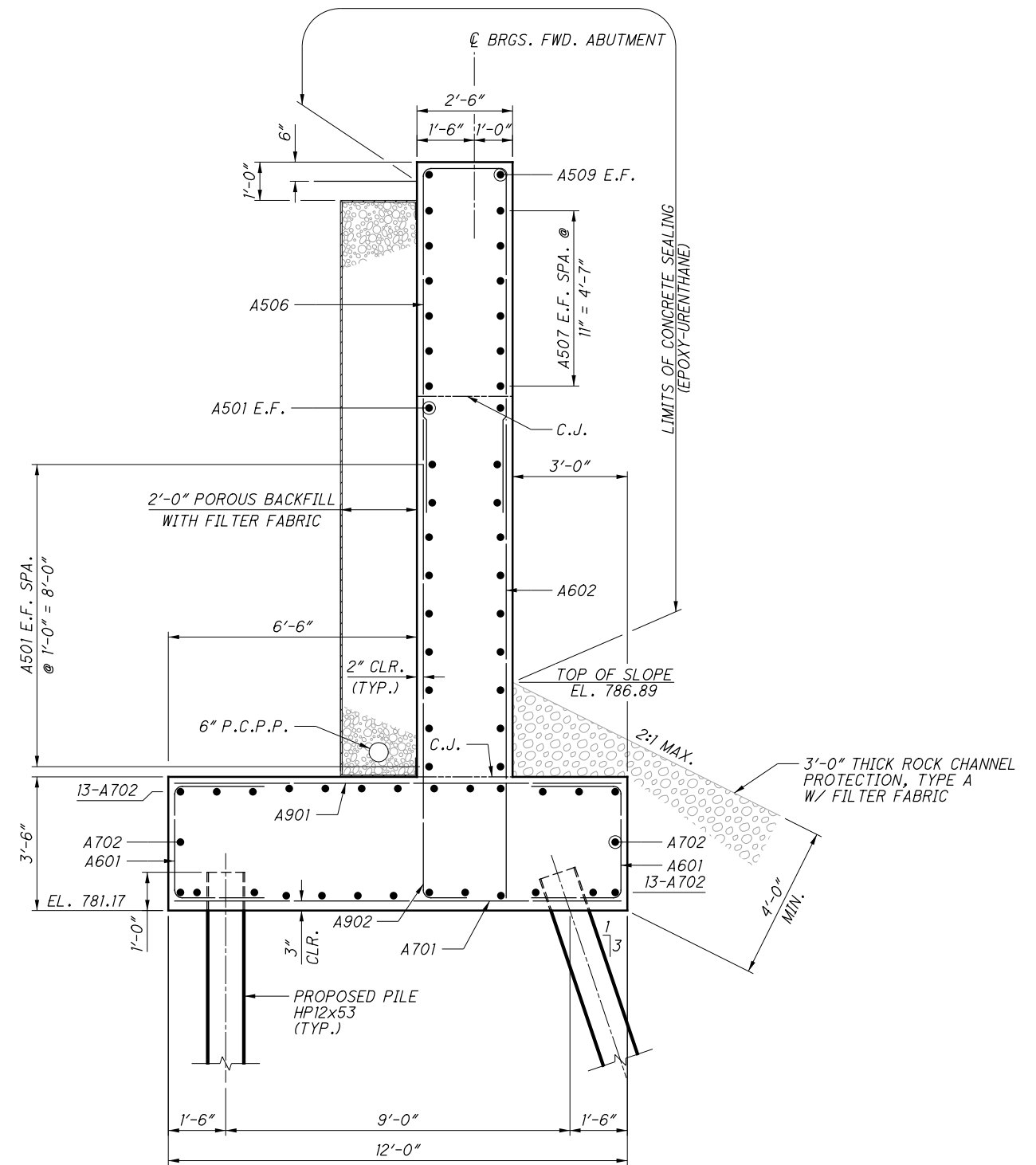
37/78

239
 285

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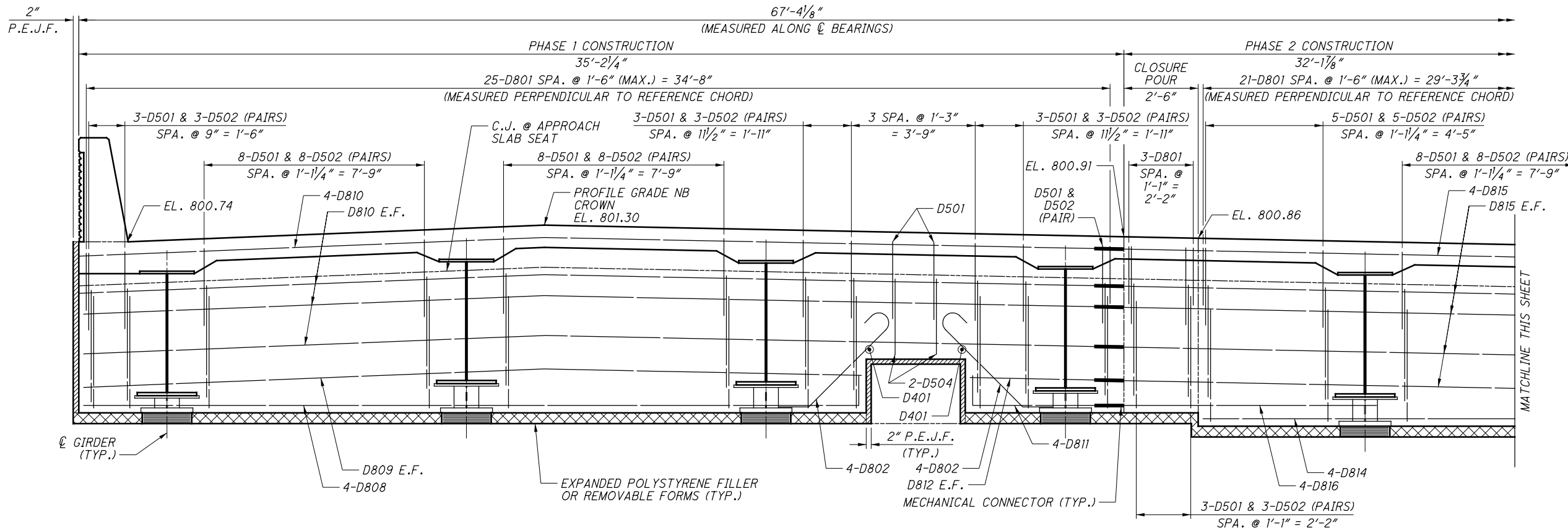
SECTION R-R
(REBAR LABELED AT SECTION ONLY)



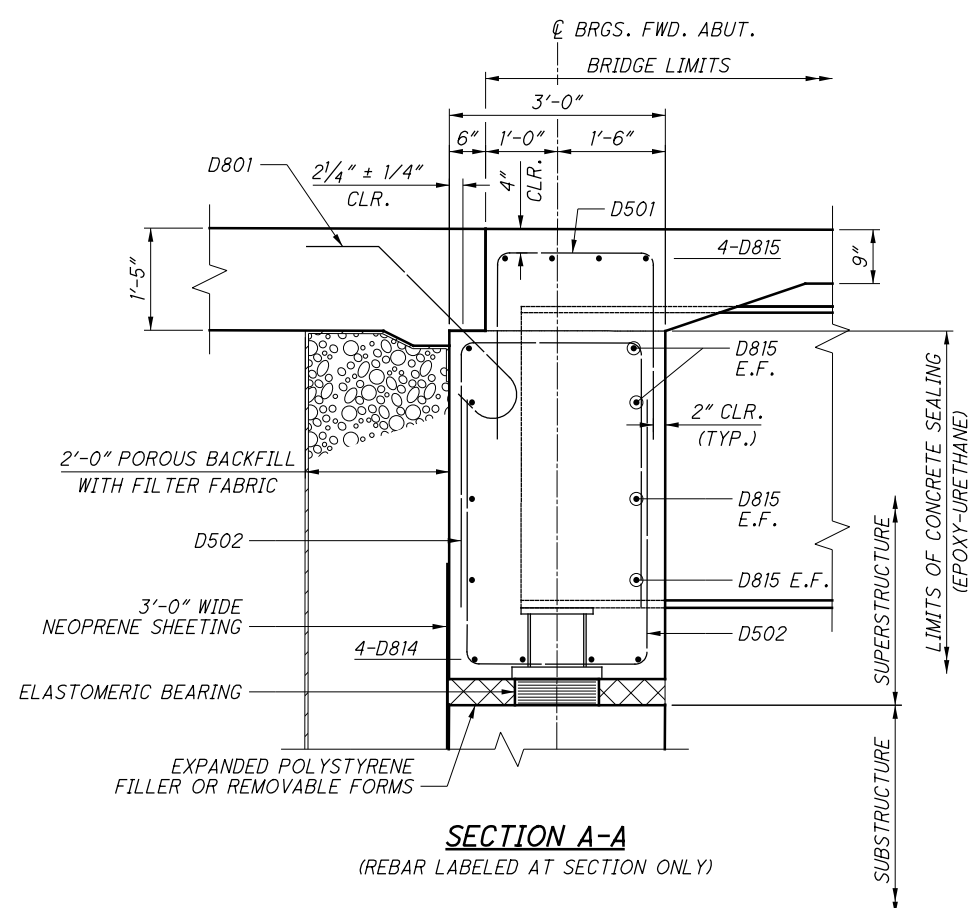
SECTION S-S
(REBAR LABELED AT SECTION ONLY)

NOTES:

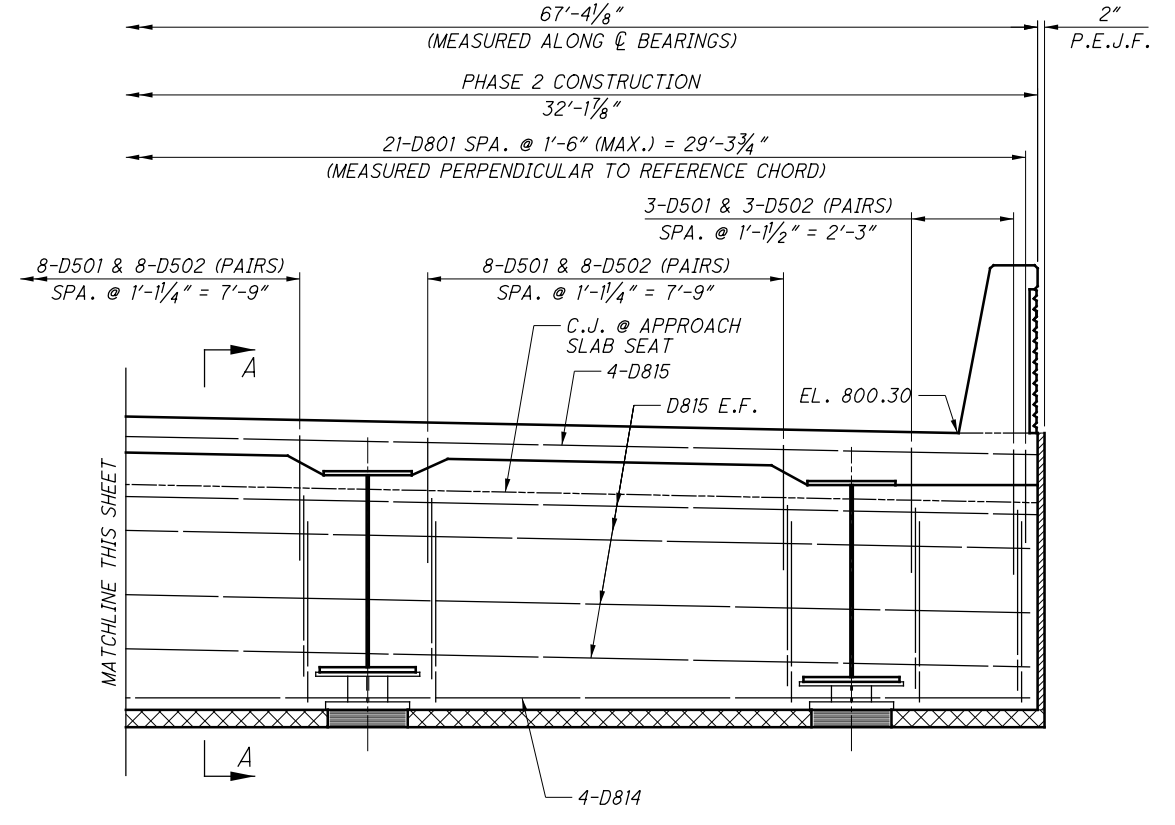
1. FOR ABUTMENT PLAN AND ELEVATION, SEE SHEET 37/78.
2. FOR DIAPHRAGM DETAILS, SEE SHEET 40/78.



FORWARD ABUTMENT DIAPHRAGM PART ELEVATION - NORTHBOUND
ELEVATIONS GIVEN AT \bar{C} BEARINGS



SECTION A-A
(REBAR LABELED AT SECTION ONLY)



FORWARD ABUTMENT DIAPHRAGM PART ELEVATION - NORTHBOUND
ELEVATIONS GIVEN AT \bar{C} BEARINGS

NOTES:

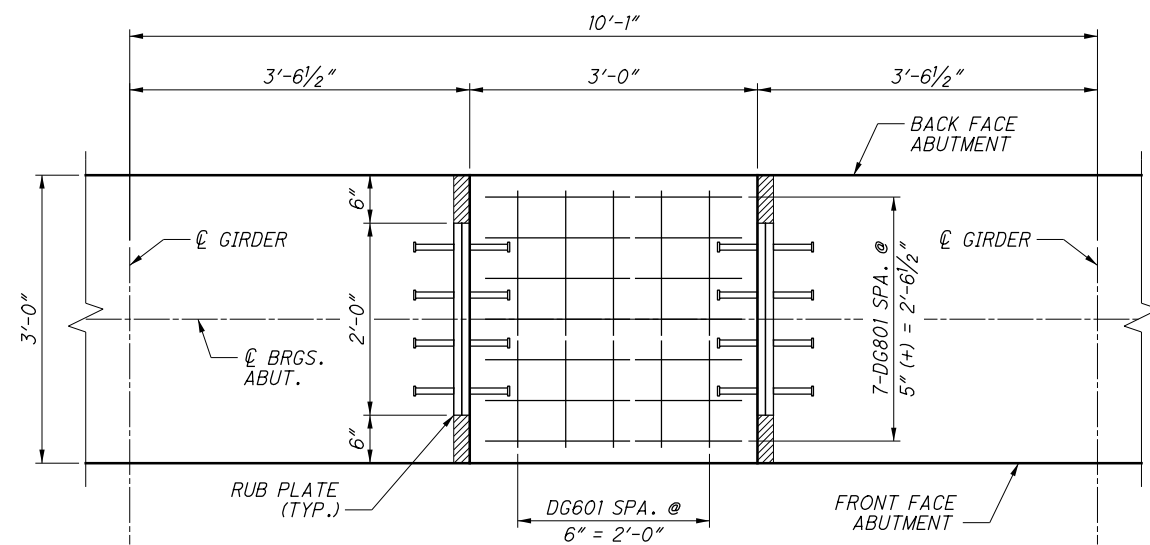
1. FOR SEMI-INTEGRAL ABUTMENT GUIDE DETAILS, SEE SHEET 41/78.
2. ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE DIAPHRAGM CONCRETE ENCASE THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED ITS INITIAL SET. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.

MINIMUM LAP LENGTHS	
NO. 5 BAR	2'-9"

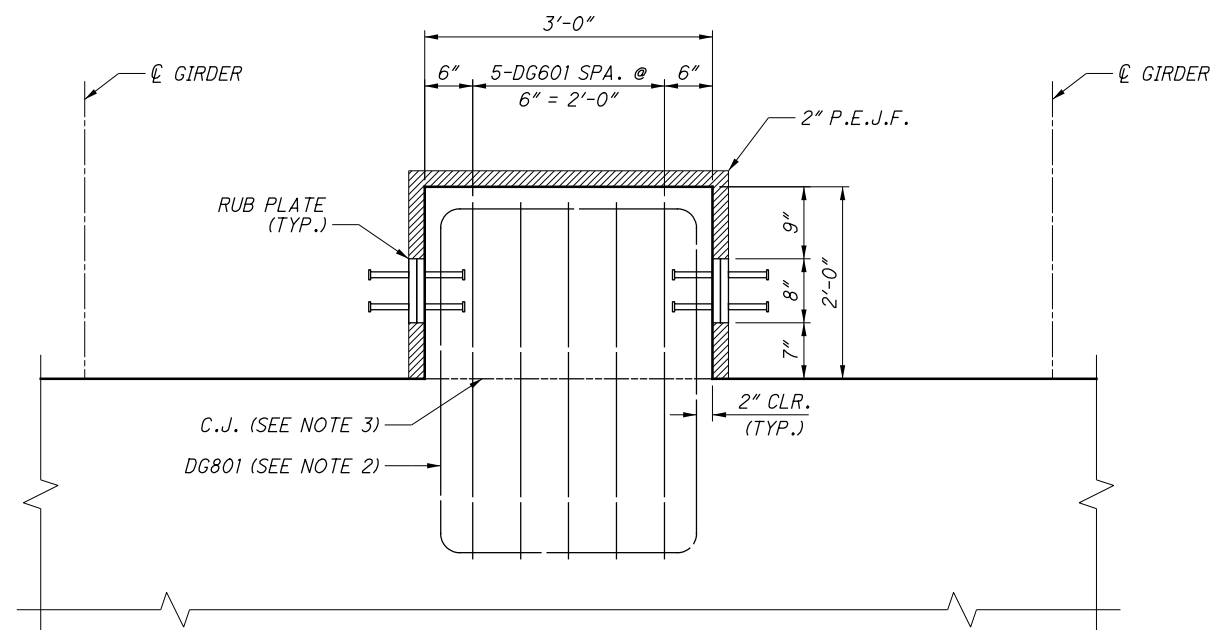
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DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016
 (614) 792-5900 PHONE (614) 792-5901 FAX
 DATE: 6/30/2015
 REVIEWED: KVB
 DRAWN: ALM
 CHECKED: CMH
 STRUCTURE FILE NUMBER: 2506786L/2506816R
FORWARD ABUTMENT DIAPHRAGM DETAILS - NORTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK
FRA-71-1.53
 PID No. 93496
 40/78
 242
 285

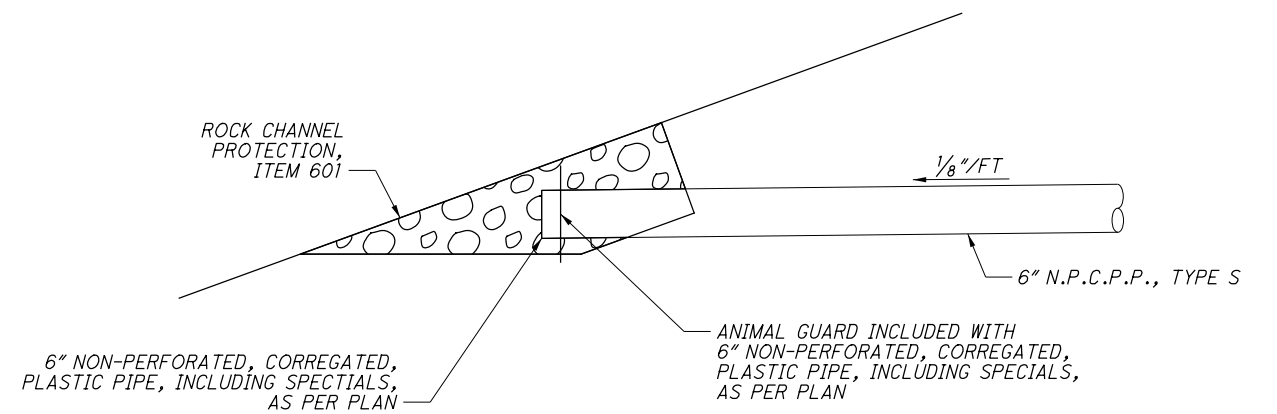
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DIAPHRAGM GUIDE PLAN



DIAPHRAGM GUIDE ELEVATION

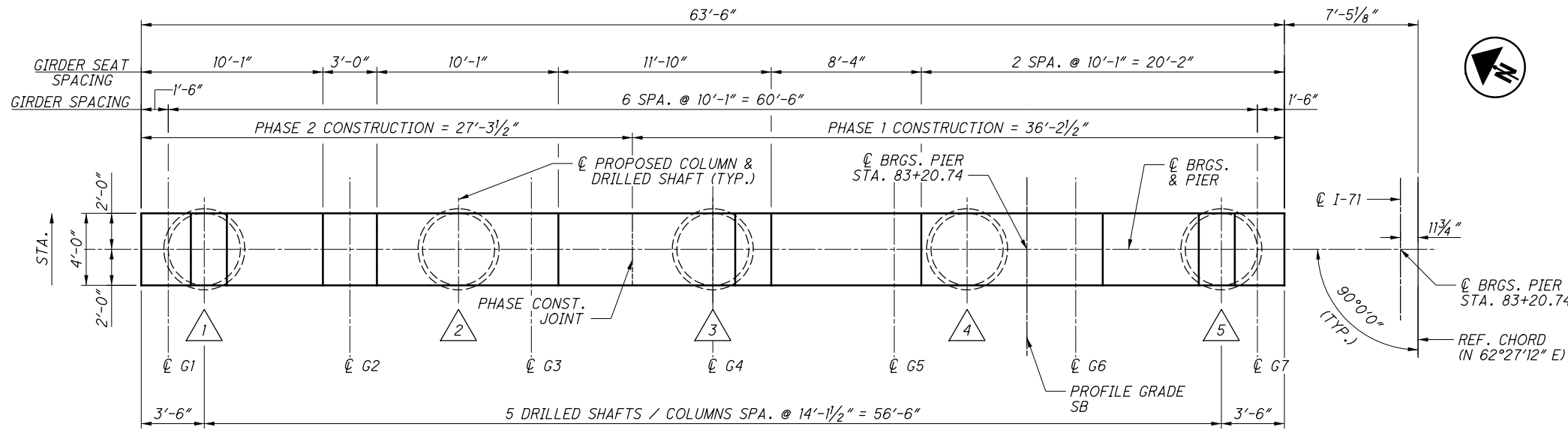


TERMINATION OF 6" N.P.C.P.P. DETAIL

NOTES:

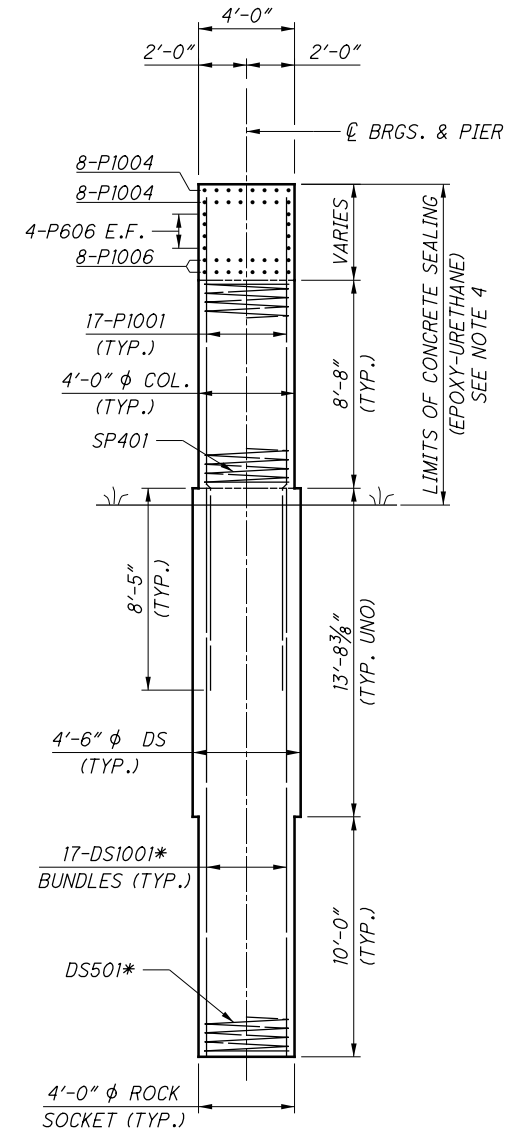
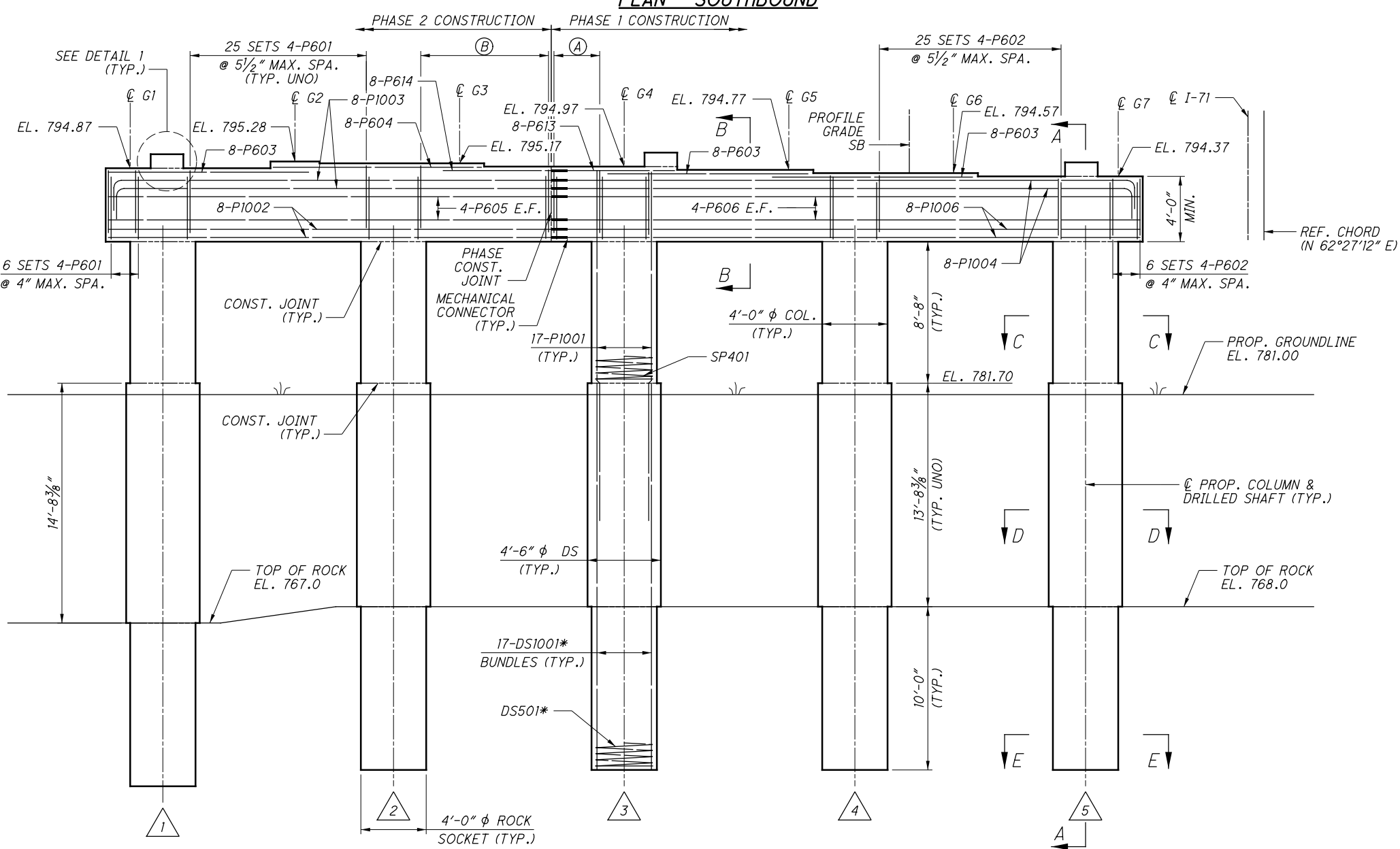
1. FOR ADDITIONAL DIAPHRAGM GUIDE DETAILS, SEE ODOT STANDARD DRAWING SICD-2-14.
2. PLACE DG801 TO AVOID INTERFERENCE WITH LONGITUDINAL REINFORCING IN THE BEAM SEAT.
3. FINISH THE SURFACE OF THE DIAPHRAGM GUIDE CONSTRUCTION JOINT WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE 1/4" DEEP MINIMUM.

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- NOTES:**
- FOR SECTIONS B-B THRU E-E, SEE SHEET 44/78.
 - FOR DETAIL 1, SEE SHEET 44/78.
 - FOR DRILLED SHAFT LAYOUT, SEE SHEET 21/78.
 - SEAL ALL EXPOSED CONCRETE SURFACE AREAS AS SHOWN ON THE PLANS WITH EPOXY-URETHANE EXCEPT TOP OF PIER CAP.

- LEGEND:**
- DS - DRILLED SHAFT
 - # - DRILLED SHAFT NUMBER
 - (A) - 7 SETS 4-P601 @ 5 1/2" SPA.
 - (B) - 18 SETS 4-P601 @ 5 1/2" SPA.

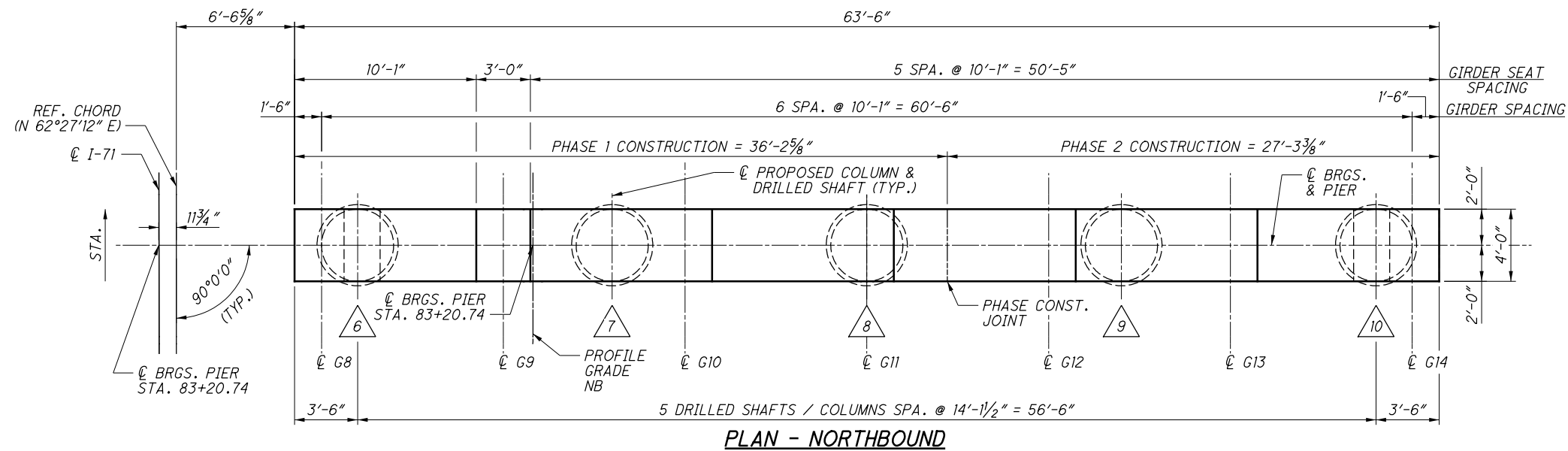


ELEVATION - SOUTHBOUND
* - DS502 & DS1002 @ DRILLED SHAFT 1

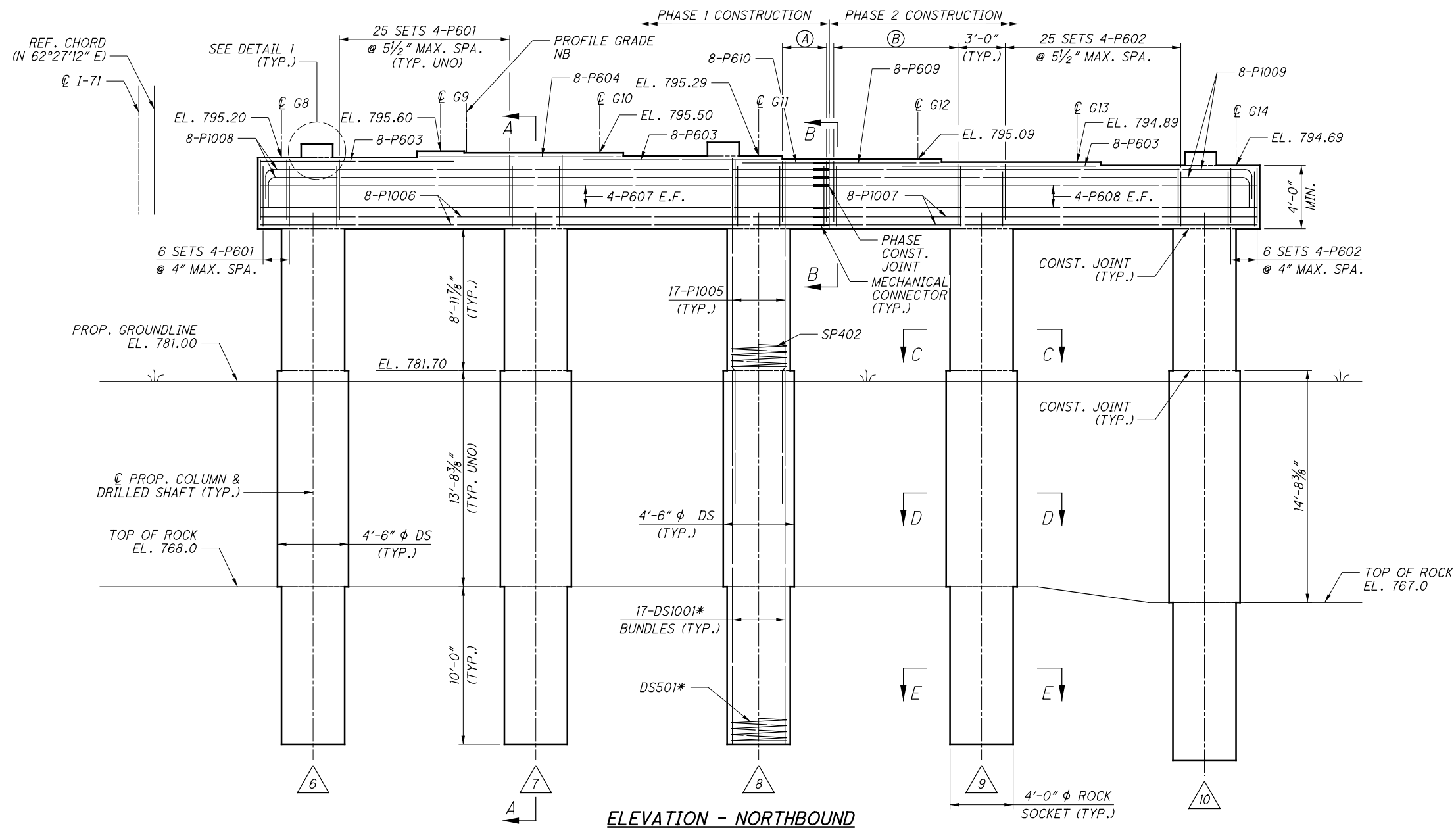
SECTION A-A

DESIGN AGENCY Mead & Hunt	DATE	8/1/2016
	REVIEWED	MAB
DESIGNED	CMH	KVB
	CHECKED	KVB
DRAWN	CMH	REVISED
BRIDGE NO.	FRA-71-0153 L/R	
PROJECT	PIER DETAILS - SOUTHBOUND BRIDGE	
LOCATION	OVER BIG DARBY CREEK	
PID No.	93496	
PROJECT NO.	FRA-71-1.53	
42	78	
244	285	

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PLAN - NORTHBOUND



ELEVATION - NORTHBOUND

* - DS502 & DS1002 @ DRILLED SHAFT 10

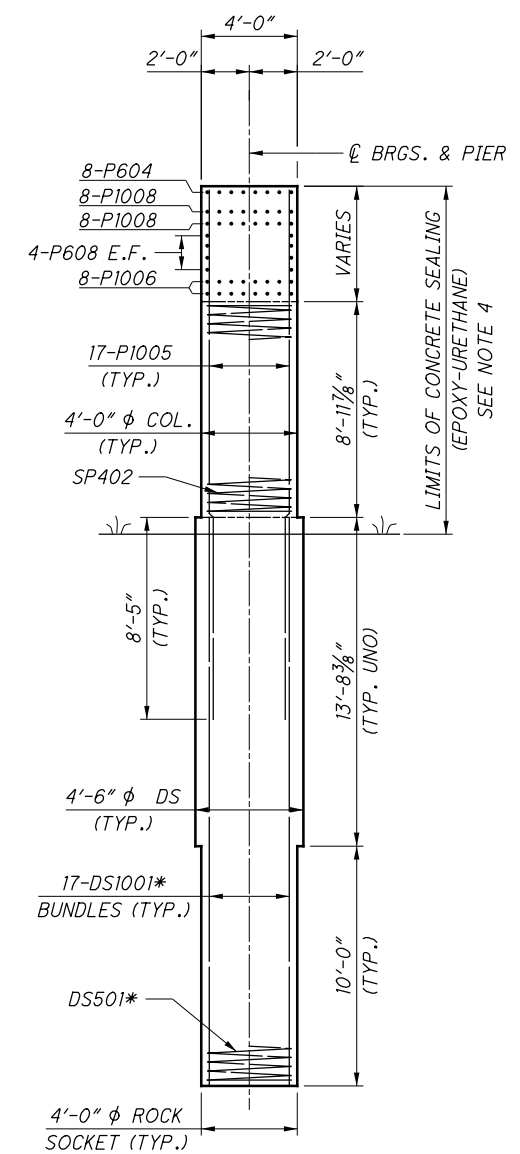


NOTES:

1. FOR SECTIONS B-B THRU E-E, SEE SHEET 44/78.
2. FOR DETAIL 1, SEE SHEET 44/78.
3. FOR DRILLED SHAFT LAYOUT, SEE SHEET 22/78.
4. SEAL ALL EXPOSED CONCRETE SURFACE AREAS AS SHOWN ON THE PLANS WITH EPOXY-URETHANE EXCEPT TOP OF PIER CAP.

LEGEND:

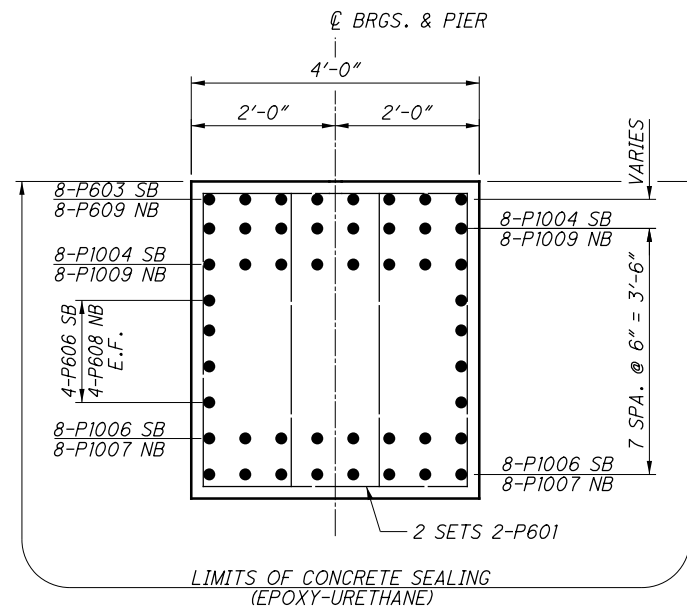
- DS - DRILLED SHAFT
- # - DRILLED SHAFT NUMBER
- (A) - 7 SETS 4-P601 @ 5 1/2" SPA.
- (B) - 18 SETS 4-P601 @ 5 1/2" SPA.



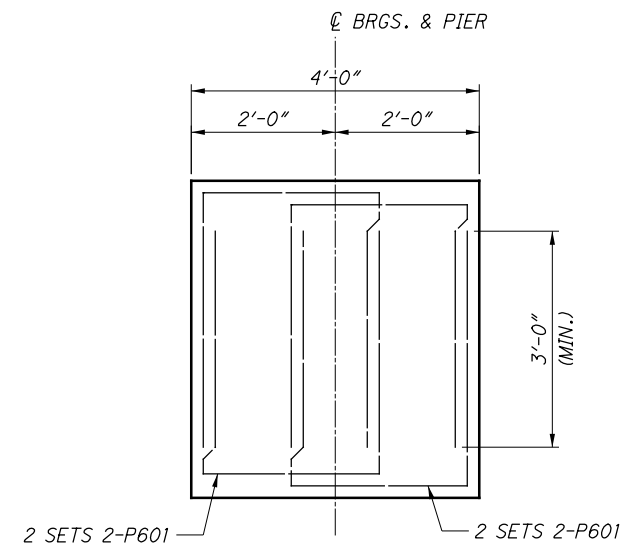
SECTION A-A

DESIGNED CMH	CHECKED KVB	DRAWN CMH	REVISED	DESIGN AGENCY	DATE 8/1/2016
				Mead & Hunt	
BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK				PROJECT NO. FRA-71-1.53	PID No. 93496
PIER DETAILS - NORTHBOUND BRIDGE				DATE 8/1/2016	FILE NUMBER 2506786L/2506816R
BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK				DESIGNED CMH	CHECKED KVB
DRAWN CMH				REVISED	DATE 8/1/2016
PROJECT NO. FRA-71-1.53				PID No. 93496	FILE NUMBER 2506786L/2506816R
DESIGN AGENCY Mead & Hunt				PROJECT NO. FRA-71-0153 L/R	OVER BIG DARBY CREEK
BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK				DATE 8/1/2016	FILE NUMBER 2506786L/2506816R
DRAWN CMH				REVISED	DATE 8/1/2016
PROJECT NO. FRA-71-1.53				PID No. 93496	FILE NUMBER 2506786L/2506816R
DESIGN AGENCY Mead & Hunt				PROJECT NO. FRA-71-0153 L/R	OVER BIG DARBY CREEK
BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK				DATE 8/1/2016	FILE NUMBER 2506786L/2506816R

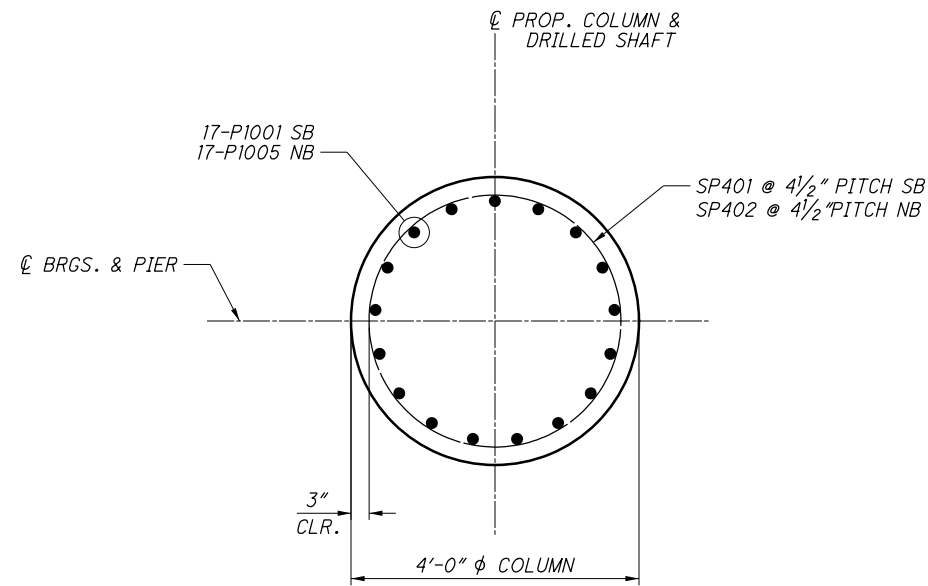
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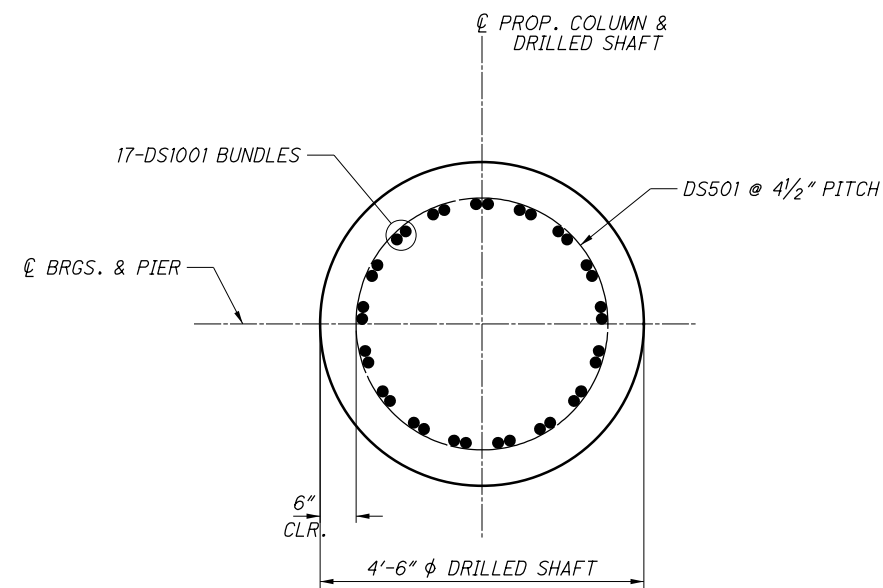
SECTION B-B
(LONGITUDINAL REINFORCEMENT)



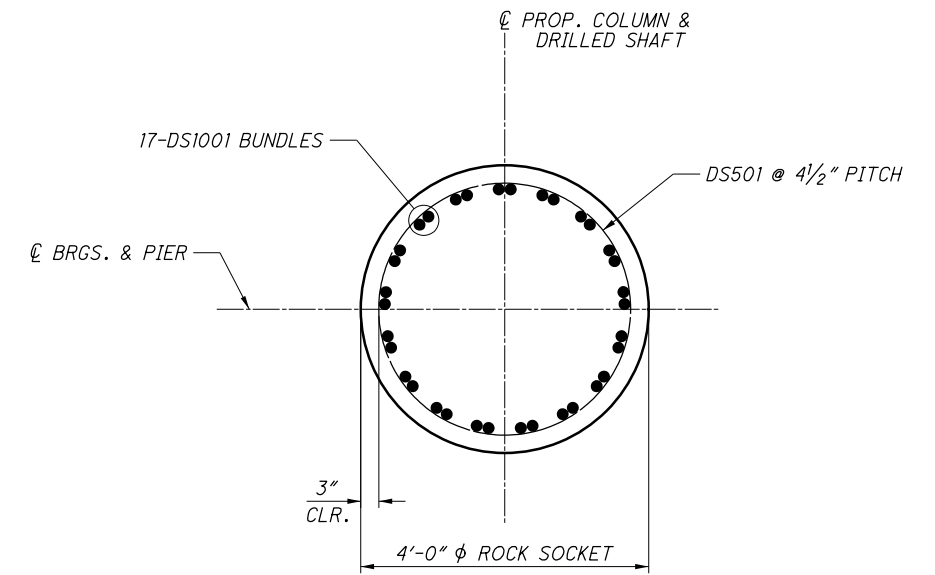
SECTION B-B
(SHEAR REINFORCEMENT)



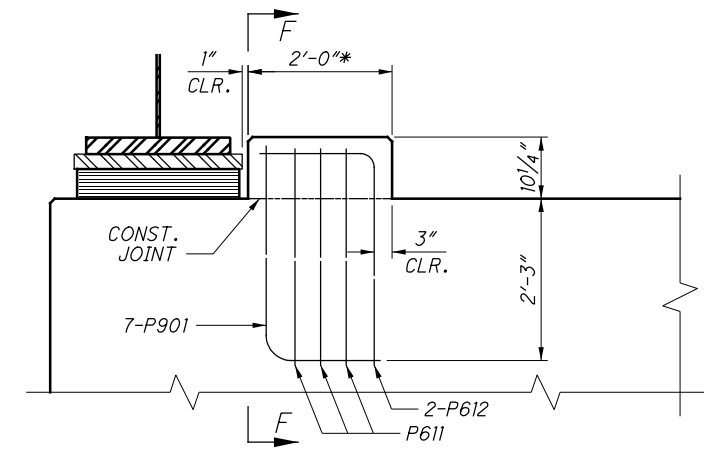
SECTION C-C



SECTION D-D

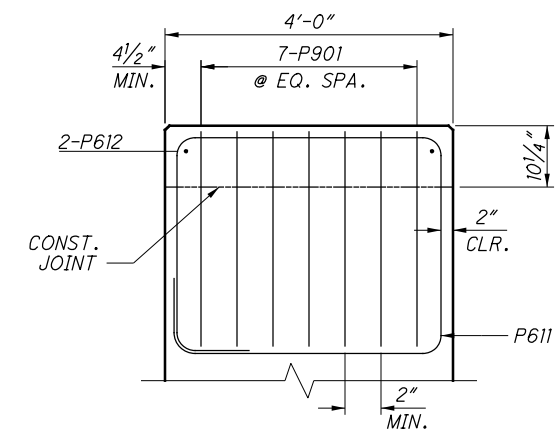


SECTION E-E



DETAIL 1

* - MEASURED ALONG \bar{C} BEARINGS & PIER



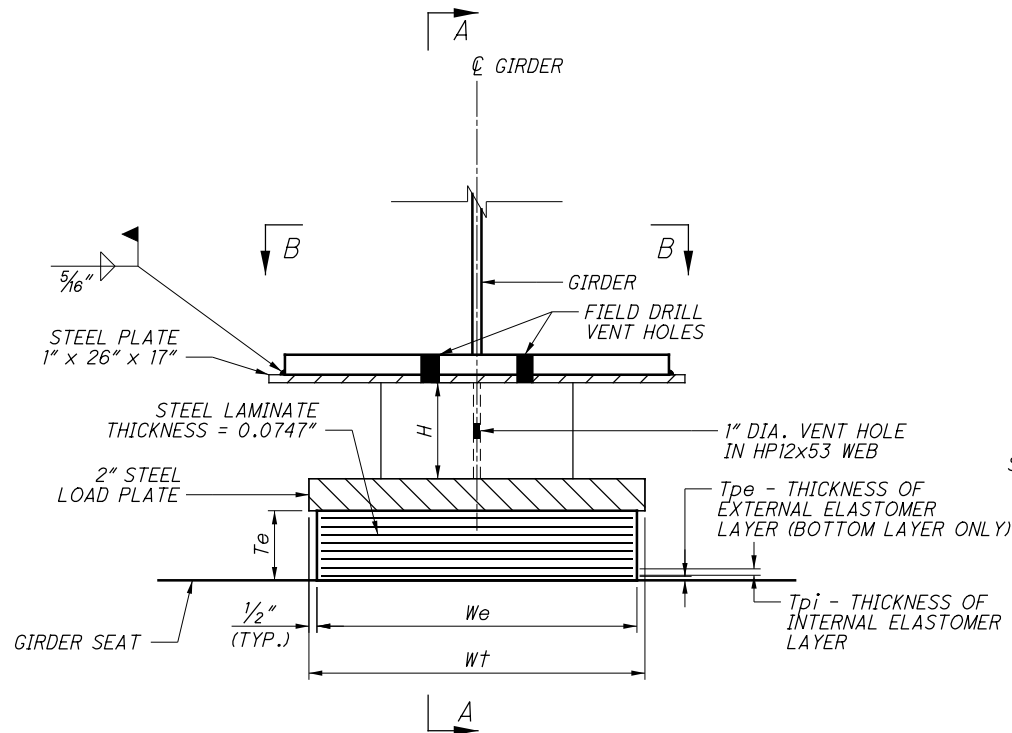
SECTION F-F

NOTES:

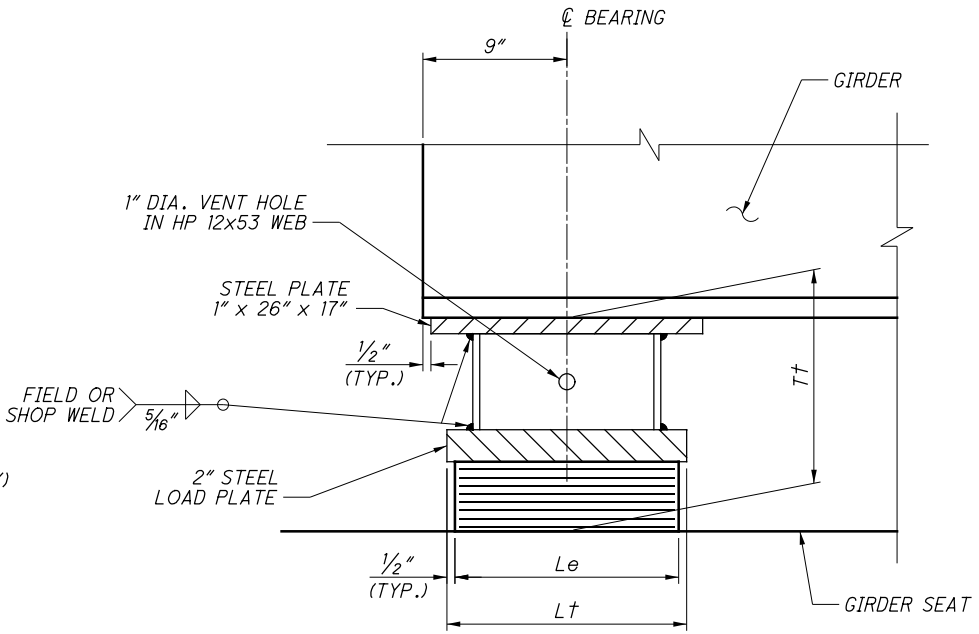
1. FOR LOCATIONS OF SECTIONS B-B THRU E-E, SEE SHEETS 42/78 AND 43/78.
2. FOR PIER PLAN AND ELEVATIONS, SEE SHEETS 42/78 AND 43/78.
3. SEAL AND EXPOSED CONCRETE SURFACE AREAS AS SHOWN ON THE PLANS WITH EPOXY-URETHANE, EXCEPT FOR TOP OF PIER.

Mead & Hunt DESIGN AGENCY 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX	DATE: 8/1/2016 REVIEWED: MAB DRAWN: CMH DESIGNED: CMH CHECKED: KVB	PIER DETAILS BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK	FRA-71-1.53 PID No. 93496
	FILE NUMBER: 2506786L/2506816R		

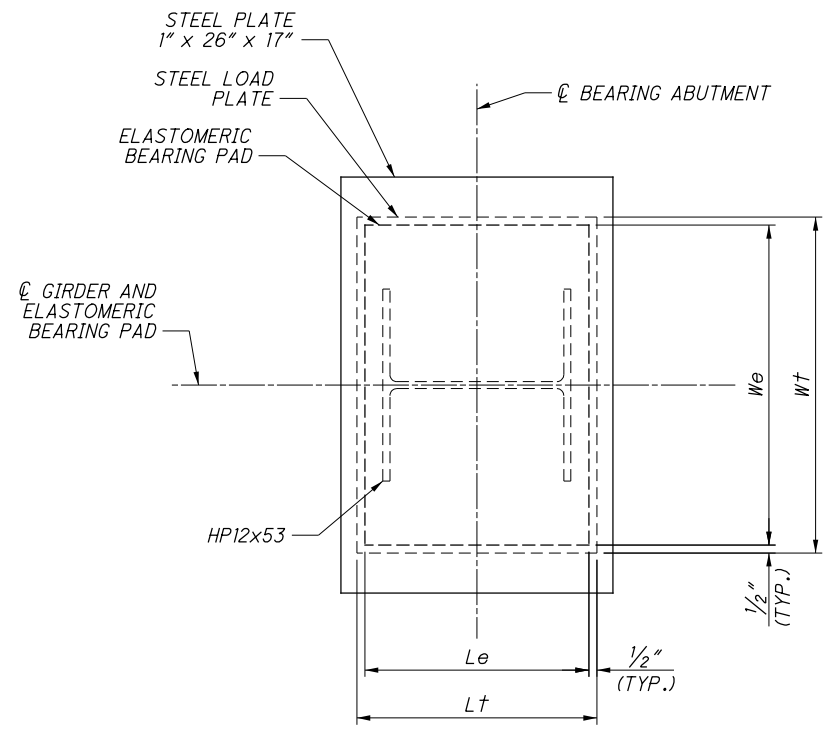
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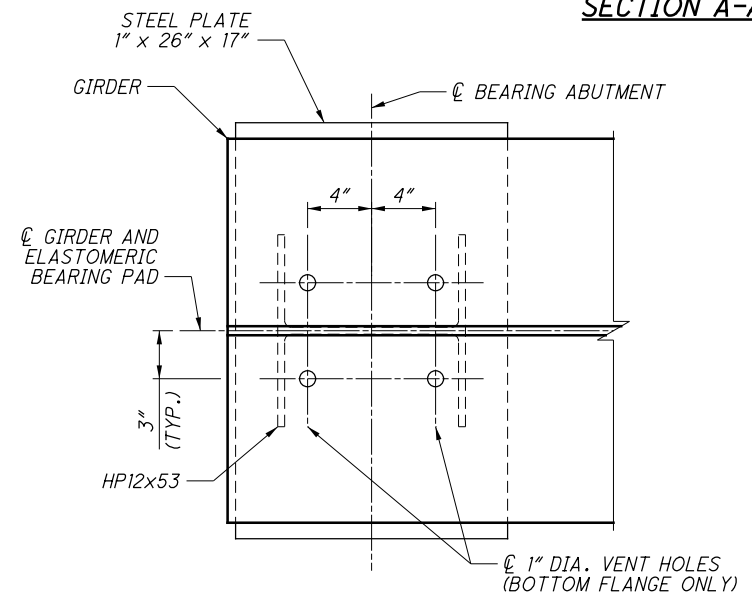
Elastomeric Bearing



SECTION A-A



PLAN



SECTION B-B

	GIRDER NO.	H	Tt
SOUTHBOUND REAR ABUTMENT	1	4"	11 3/8"
	2	8 7/8"	16 1/4"
	3	8 5/16"	15 11/16"
	4	5 7/8"	13 1/4"
	5	8 7/8"	16 3/16"
	6	6 7/16"	13 13/16"
	7	4"	11 3/8"
SOUTHBOUND FORWARD ABUTMENT	1	4"	11 3/8"
	2	8 13/16"	16 1/8"
	3	8 1/4"	15 9/16"
	4	5 13/16"	13 1/8"
	5	8 7/8"	16 1/4"
	6	6 7/16"	13 13/16"
	7	4"	11 3/8"

	GIRDER NO.	H	Tt
NORTHBOUND REAR ABUTMENT	8	4"	11 3/8"
	9	8 7/8"	16 3/16"
	10	8 5/16"	15 11/16"
	11	5 13/16"	13 3/16"
	12	8 7/8"	16 3/16"
	13	6 3/8"	13 3/4"
	14	4"	11 3/8"
NORTHBOUND FORWARD ABUTMENT	8	4"	11 3/8"
	9	8 13/16"	16 3/16"
	10	8 5/16"	15 11/16"
	11	5 7/8"	13 3/16"
	12	8 13/16"	16 3/16"
	13	6 3/8"	13 3/4"
	14	4"	11 3/8"

ELASTOMERIC BEARINGS															
BEARING LOCATION	TYPE	NO. REQ'D	DEAD LOAD KIPS	LIVE LOAD KIPS	TOTAL LOAD (DL+LL) KIPS	Le	We	Tpi	NO. OF Tpi'S	Tpe (1'EA)	N	Te	STEEL LOAD PLATE		REMARK
													Lt	Wt	
REAR ABUTMENTS (SB & NB)	EXP	14	169	105	274	14"	20"	0.4375"	8	0.25"	8	4.348"	15"	21"	H & Tt VARIES
FORWARD ABUTMENTS (SB & NB)	EXP	14	169	105	274	14"	20"	0.4375"	8	0.25"	8	4.348"	15"	21"	H & Tt VARIES

Tpi = THICKNESS OF INTERNAL ELASTOMER LAYER
 Tpe = THICKNESS OF EXTERNAL ELASTOMER LAYER
 Te = TOTAL THICKNESS OF ELASTOMERIC BEARING
 Tt = TOTAL THICKNESS OF BEARING ASSEMBLY
 N = NO. OF STEEL LAMINATES
 STEEL LAMINATE THICKNESS = 0.0747"
 DUROMETER OF ELASTOMER = 50 DUROMETER

NOTES:

- ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
- LOAD PLATES & HP12X53 BEARINGS PEDESTALS: THE STEEL LOAD PLATE SHALL MEET THE GRADE 50 REQUIREMENTS OF STRUCTURAL STEEL ASTM A709 AND SHALL BE GALVANIZED PER CMS 711.02.
- THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
- ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
- TOTAL DESIGN LOAD FOR BEARINGS EQUALS THE SUM OF THE DEAD LOADS AND LIVE LOADS TABULATED IN THE BEARING TABLE. IMPACT IS NOT INCLUDED. LOADS ARE UNFACTORED.
- BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE THE LOAD PLATE, HP12X53 PEDESTAL, STEEL PLATE, AND ALL MATERIALS, LABOR, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. FOR THE ABUTMENTS, PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.
- FOR ADDITIONAL INFORMATION, SEE ODOT STANDARD DRAWING, SICD-1-96.
- ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.

DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

DATE: 8/1/2016
 REVISED: 8/1/2016
 FILE NUMBER: 2506786L/2506816R
 STRUCTURE FILE NUMBER: 2506786L/2506816R

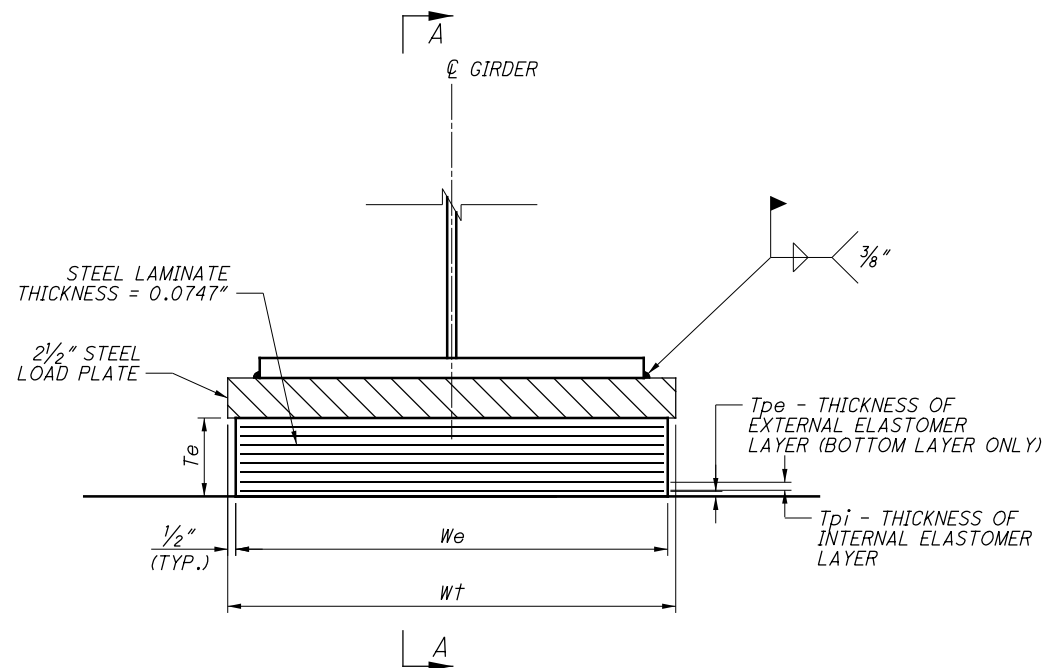
DRAWN: DJC
 CHECKED: KVB
 DESIGNED: RLC
 REVISIONS:

ABUTMENT BEARING DETAILS
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

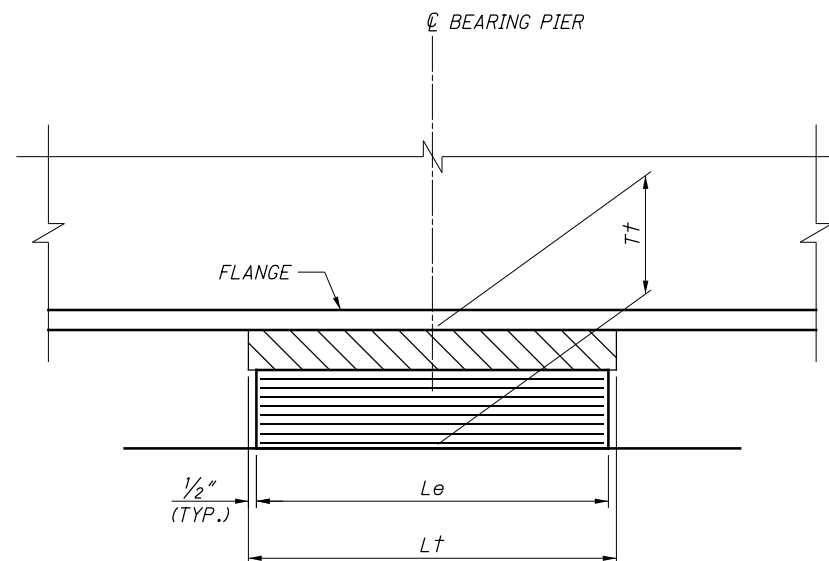
FRA-71-1.53
 PID No. 93496

45 / 78
 247
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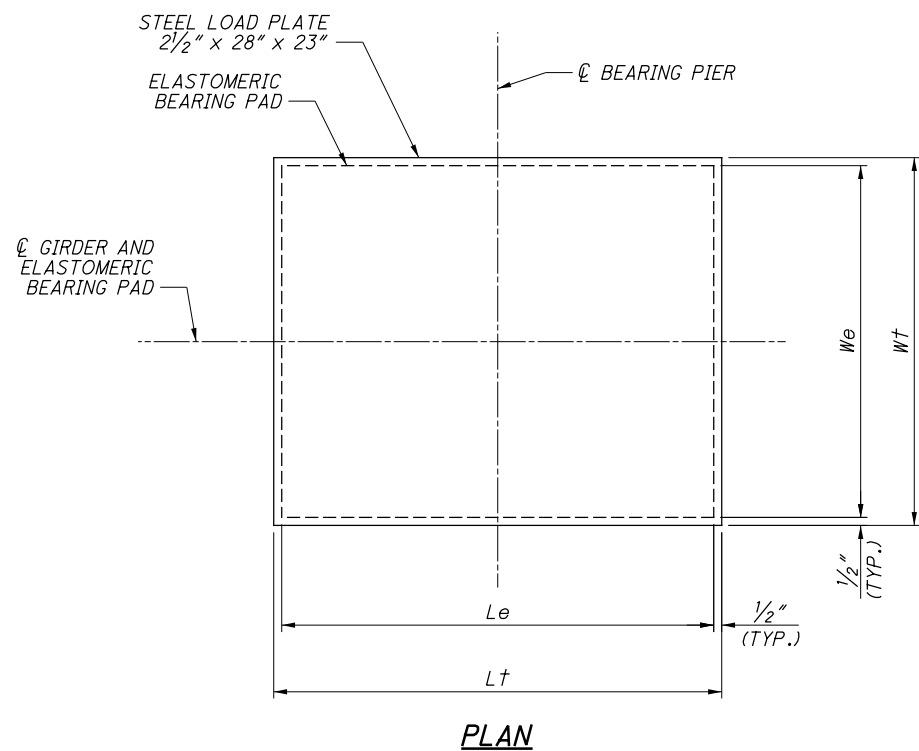
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LAMINATED ELASTOMERIC EXPANSION BEARING



SECTION A-A



PLAN

NOTES:

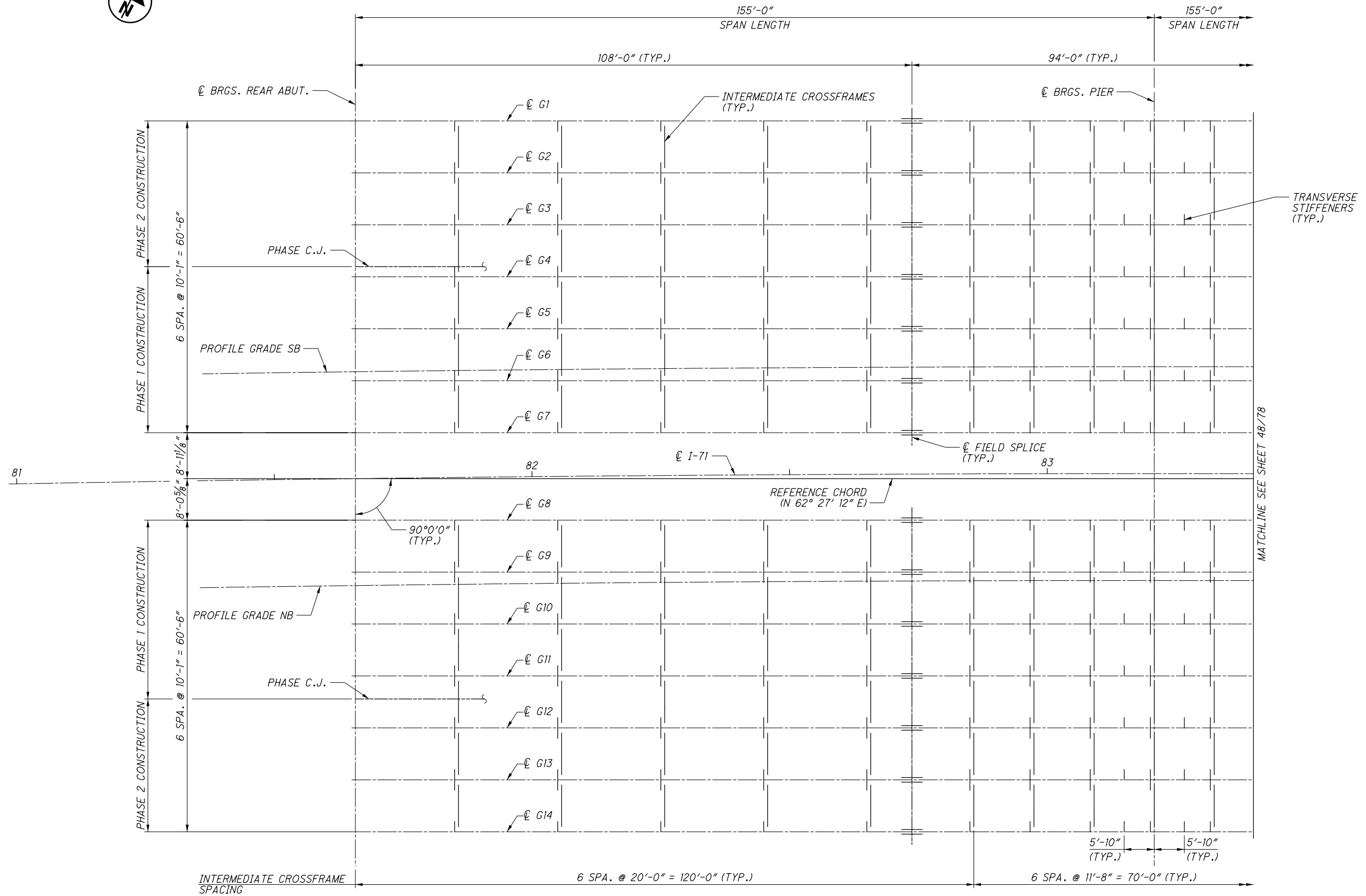
1. ELASTOMERIC BEARING: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 METHOD A OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
2. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
3. TOTAL DESIGN LOAD FOR BEARINGS EQUAL THE SUM OF THE DEAD LOADS AND LIVE LOADS TABULATED IN THE BEARING SCHEDULE.
4. BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. SAMPLE BEARINGS SHALL NOT BE MEASURED FOR PAYMENT.
5. THE STEEL LOAD PLATES SHALL CONFORM TO ASTM A709 GRADE 50W.
6. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED

LAMINATED ELASTOMERIC EXPANSION BEARINGS														
BEARING LOCATION	NO. REQ'D	DEAD LOAD KIPS	LIVE LOAD KIPS	TOTAL LOAD (DL+LL) KIPS	Le	We	Tpi	NO. OF Tpi'S	Tpe (1 EA)	N	Te	STEEL LOAD PLATE		Tt
												Lt	Wt	
PIER (SB & NB)	14	471	221	692	22"	27"	0.5"	8	0.3125"	8	4.910"	23"	28"	7.410"

Tpi = THICKNESS OF INTERNAL ELASTOMER LAYER
 Tpe = THICKNESS OF EXTERNAL ELASTOMER LAYER
 Te = TOTAL THICKNESS OF ELASTOMERIC BEARING
 Tt = TOTAL THICKNESS OF BEARING ASSEMBLY

N = NO. OF STEEL LAMINATES
 STEEL LAMINATE THICKNESS = 0.0747"
 DUROMETER OF ELASTOMER = 50 DUROMETER

DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016
 (614) 792-5900 PHONE (614) 792-5901 FAX
 DATE: 8/1/2016
 REVISED: 2506786L/2506816R
 DRAWN: DJC
 CHECKED: KVB
 REVISIONS:
 FILE NUMBER: 2506786L/2506816R
 BRIDGE NO.: FRA-71-0153 L/R
 OVER BIG DARBY CREEK
 PIER BEARING DETAILS
 FRA-71-1.53
 PID No. 93496
 46/78
 248
 285



NOTES:

1. FOR GIRDER ELEVATION, SEE SHEET 49/78.
2. FOR FIELD SPLICE DETAILS, SEE SHEET 50/78.
3. FOR ADDITIONAL NOTES, SEE SHEETS 49/78, 50/78 AND 51/78.
4. PROVIDE ADDITIONAL INTERMEDIATE TRANSVERSE STIFFENERS WHERE INDICATED ON THE PLAN.
5. INTERMEDIATE CROSSFRAMES BETWEEN GIRDERS G3 AND G4 (SOUTHBOUND) AND GIRDERS G11 AND G12 (NORTHBOUND) (UNDER THE CLOSURE POUR) SHALL NOT BE INSTALLED UNTIL AFTER THE ADJACENT SLABS HAVE BEEN POURED AND PERMANENTLY CONNECTED PRIOR TO THE CONSTRUCTION OF THE CLOSURE POUR.

FRAMING PLAN

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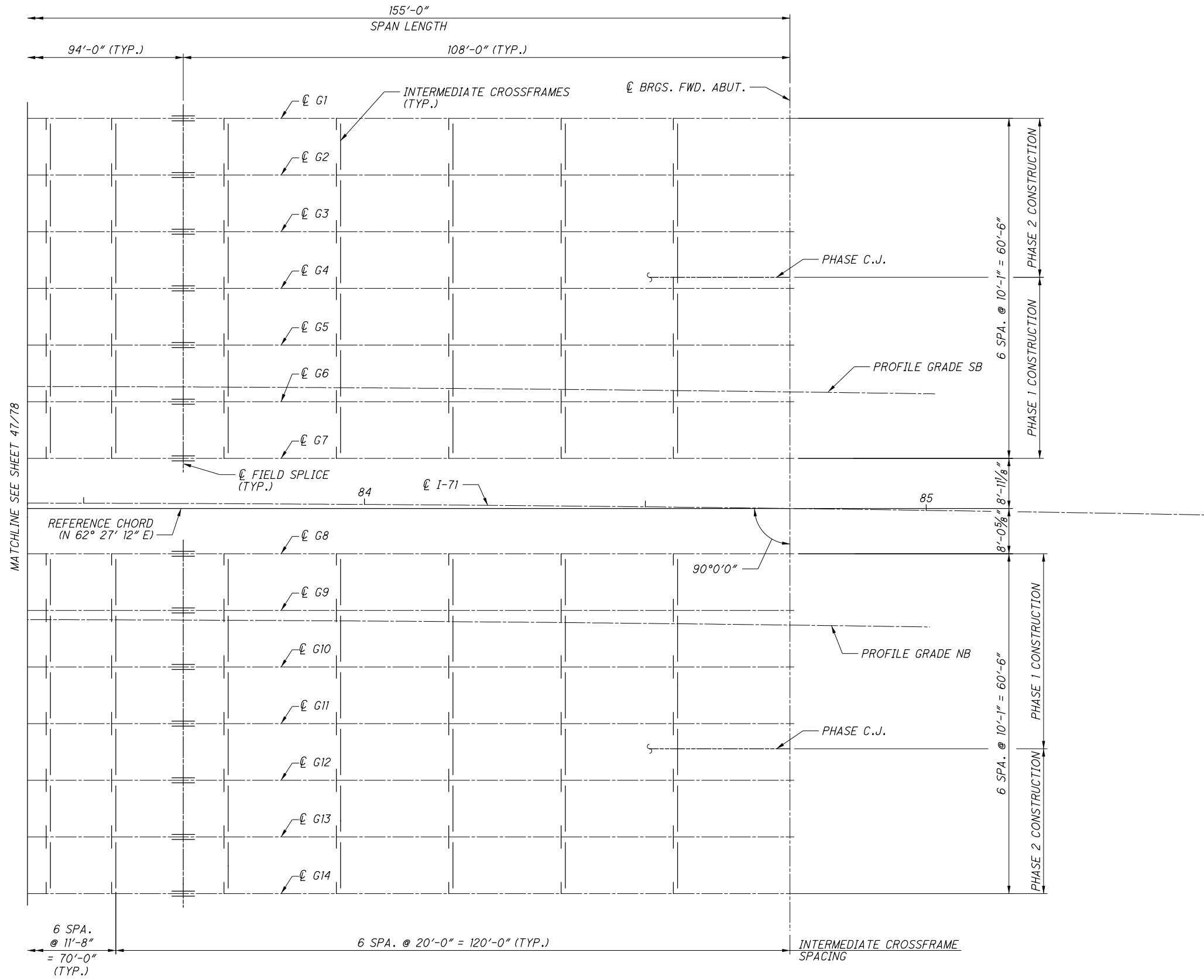
DESIGN AGENCY
Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

DESIGNED	RLC	CHECKED	KVB
DRAWN	DJC	REVISED	
REVIEWED	REP	STRUCTURE FILE NUMBER	2506786L/2506816R
DATE	8/1/2016		

FRAMING PLAN
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496

47/78
 249
 285



FRAMING PLAN

NOTES:

1. FOR NOTES, SEE SHEET 47/78.

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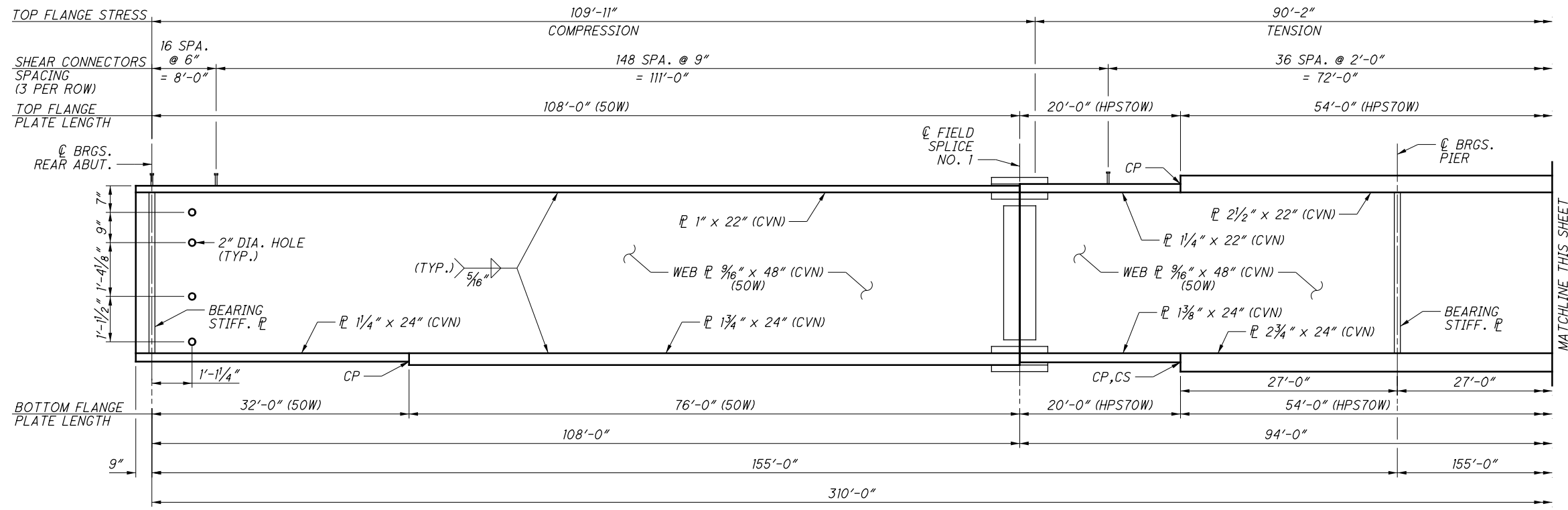
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PID No. 93496

FRAMING PLAN
BRIDGE NO. FRA-71-0153 L/R
OVER BIG DARBY CREEK

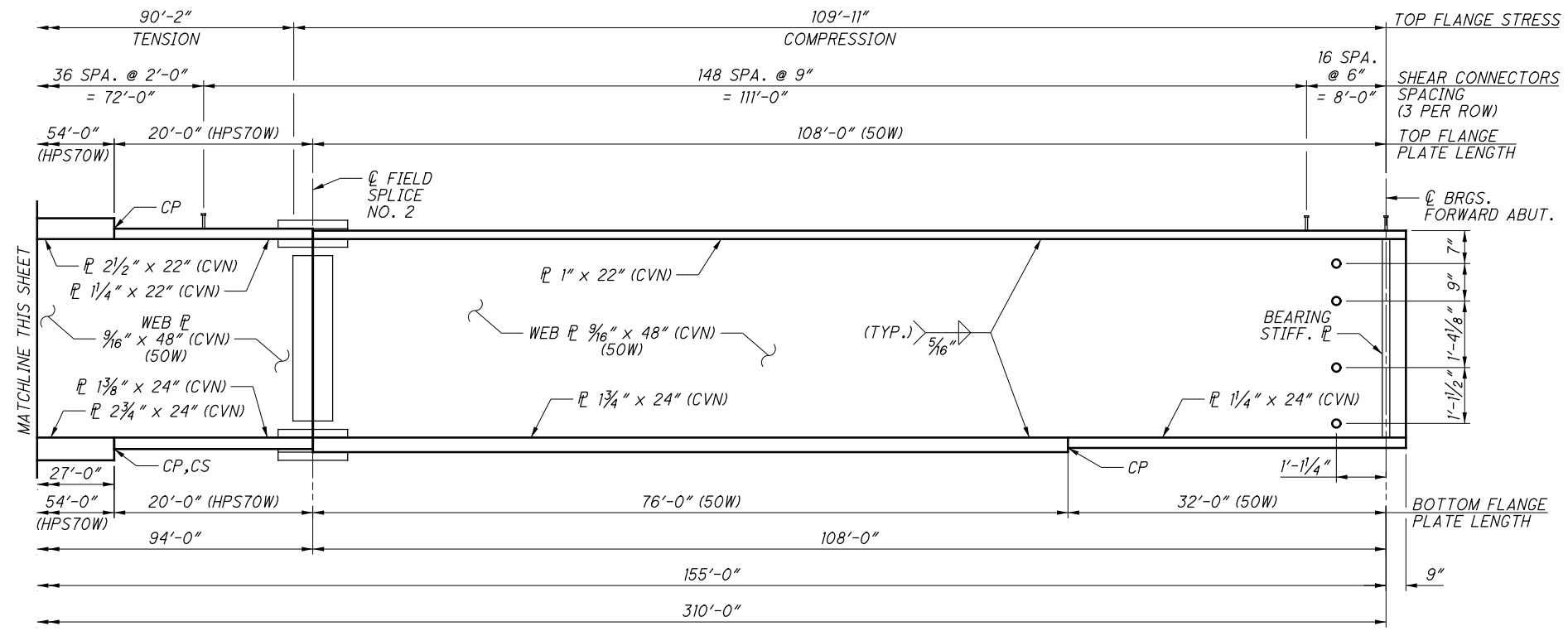
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DRAWN	DJC	REVISED	
REVIEWED	REP	STRUCTURE FILE NUMBER	2506786L/2506816R
DATE	8/1/2016		

DESIGN AGENCY
Mead & Hunt
4700 LAKEHURST CT., STE 110
DUBLIN, OH 43016
(614) 792-5900 PHONE
(614) 792-5901 FAX

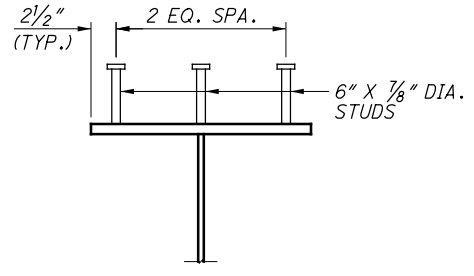
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TYPICAL GIRDER ELEVATION



TYPICAL GIRDER ELEVATION



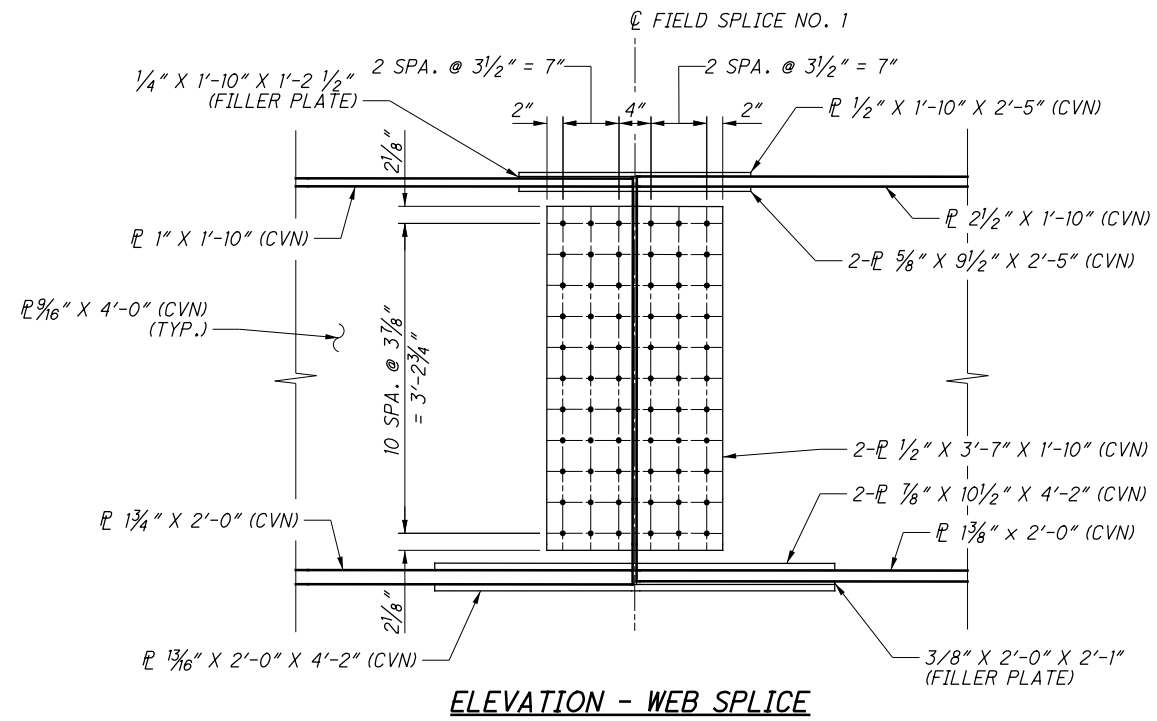
LATERAL AND LONGITUDINAL SPACING OF WELDED STUD SHEAR CONNECTORS MAY BE ALTERED AT FIELD SPLICE LOCATIONS TO AVOID INTERFERENCE WITH FLANGE SPLICE BOLTS PROVIDED THAT AT LEAST THE NUMBER OF STUDS SPECIFIED IN THE BEAM ELEVATION ARE PROVIDED.

NOTES:

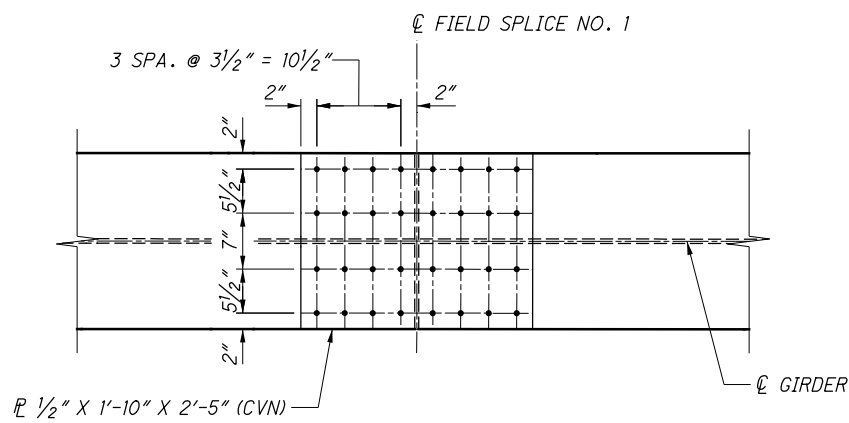
1. WELDED ATTACHMENT: WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FLANGES DESIGNATED "COMPRESSION" ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 1" FROM EDGE OF THE FLANGE, BE NOT MORE THAN 2" LONG AND BE NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO.
2. CHARTY V-NOTCH TOUGHNESS REQUIREMENT: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIALS THAT MEETS MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.
3. ALL STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50W OR GRADE HPS70W, AS INDICATED IN THE GIRDER ELEVATION.
4. CS INDICATES BUTT WELD SUBJECTED TO COMPRESSIVE STRESSES ONLY.
5. ALL CROSSFRAMES ARE TO BE PLACED PERPENDICULAR TO THE GIRDERS.
6. FOR FIELD SPLICE DETAILS, SEE SHEET 50/78.
7. FOR ADDITIONAL NOTES AND DETAILS, SEE STD. DWG. GSD-1-96.

DESIGN AGENCY 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5801 FAX	DATE 8/1/2016	REVIEWED REP	STRUCTURE FILE NUMBER 2506786L/2506816R	DESIGNED RLC	DRAWN DJC
GIRDER ELEVATION BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK		DESIGNED RLC	CHECKED KVB	REVIS REVISED	DATE 8/1/2016
FRA-71-1.53 PID No. 93496		49 / 78		251 285	

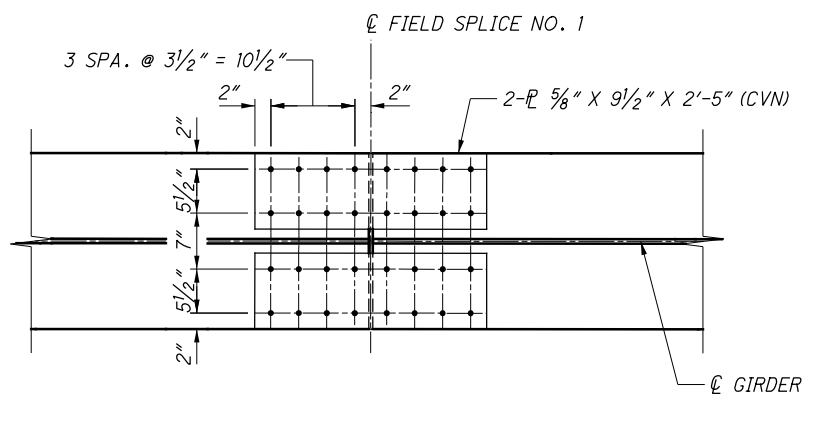
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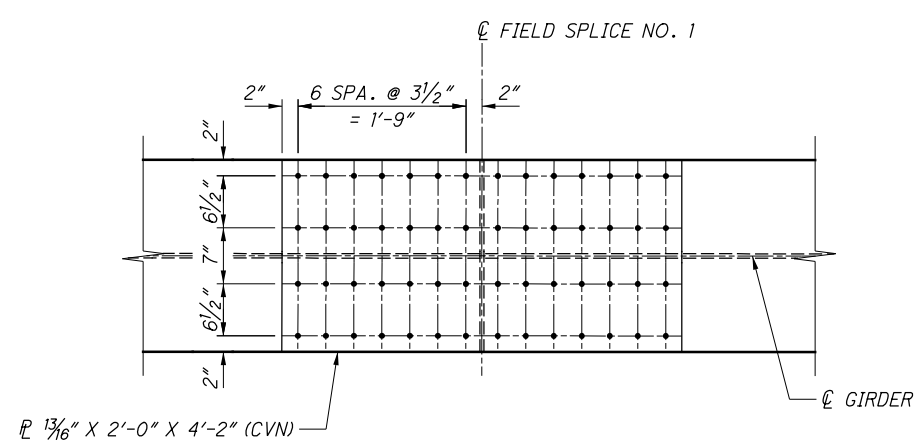
ELEVATION - WEB SPLICE



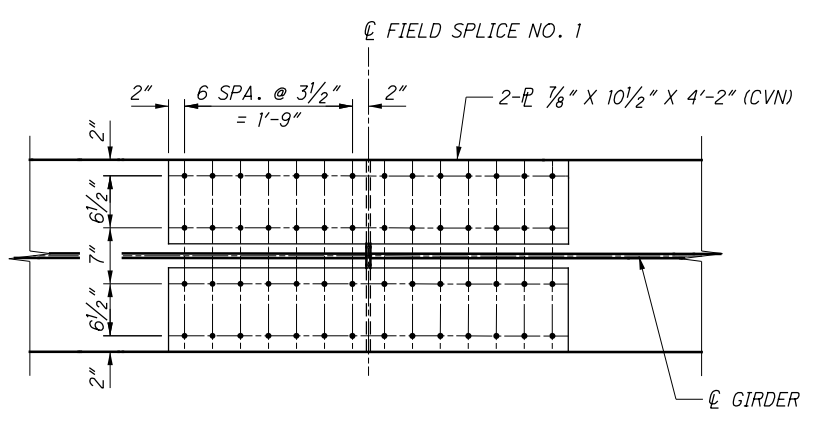
PLAN - TOP FLANGE SPLICE OUTER PLATES



PLAN - TOP FLANGE SPLICE INNER PLATES



PLAN - BOTTOM FLANGE SPLICE OUTER PLATES



PLAN - BOTTOM FLANGE SPLICE INNER PLATES

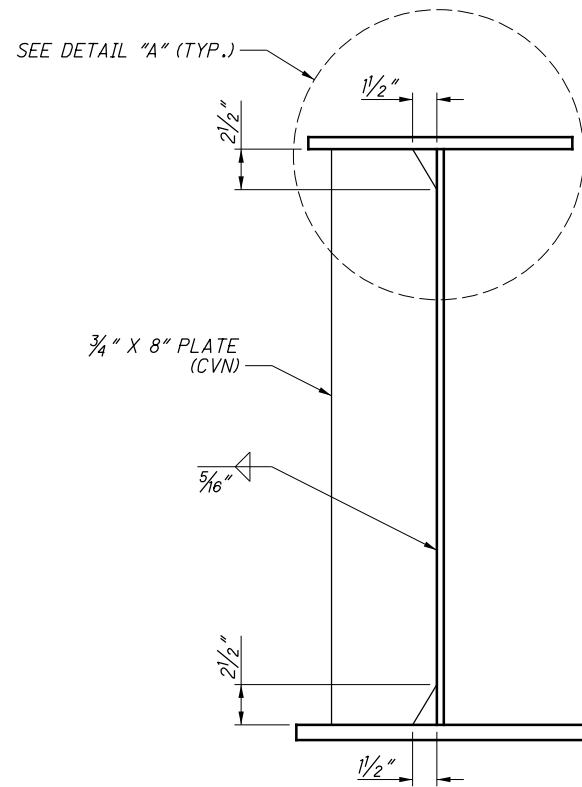
TYPICAL FIELD SPLICE DETAILS
FIELD SPLICE NO. 1 SHOWN
FIELD SPLICE NO 2 OPPOSITE HAND

NOTES:

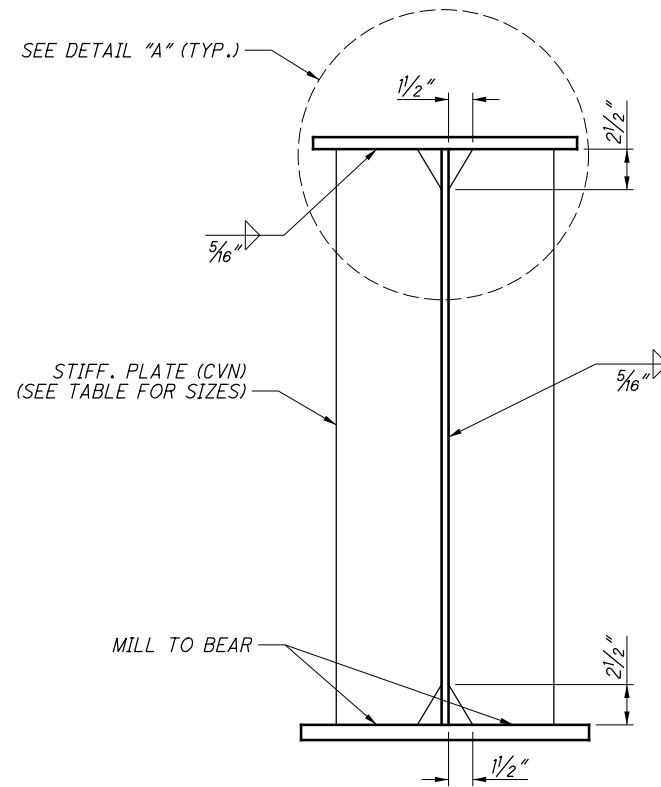
1. ALL PLATES ARE GRADE 50W UNLESS NOTED OTHERWISE.
2. ALL FASTENERS IN FIELD SPLICES SHALL BE 1\"/>

FRA-71-1.53 PID No. 93496	GIRDER FIELD SPLICE DETAILS BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK	DESIGNED RLC CHECKED KVB	DRAWN DJC REVISED	REVIEWED REP STRUCTURE FILE NUMBER 2506786L/2506816R	DATE 8/1/2016 FILE NUMBER	DESIGN AGENCY Mead & Hunt 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX
		50/78	252 285			

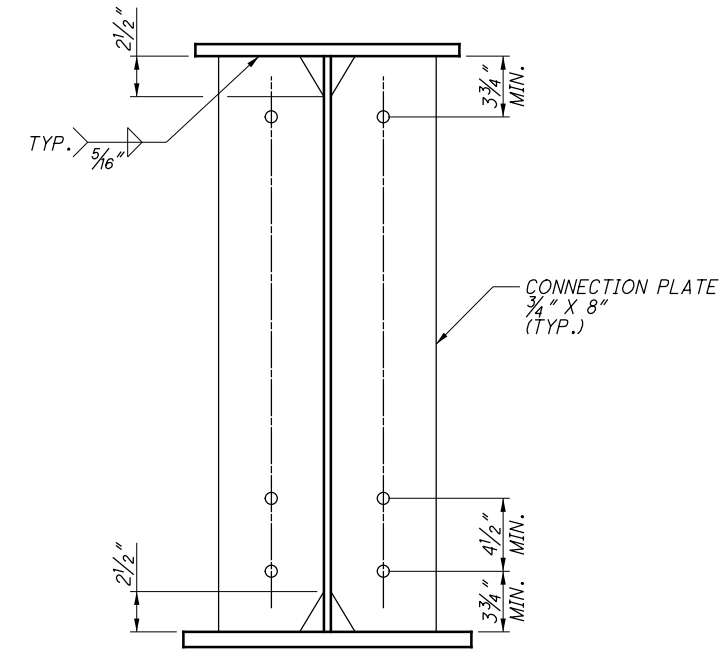
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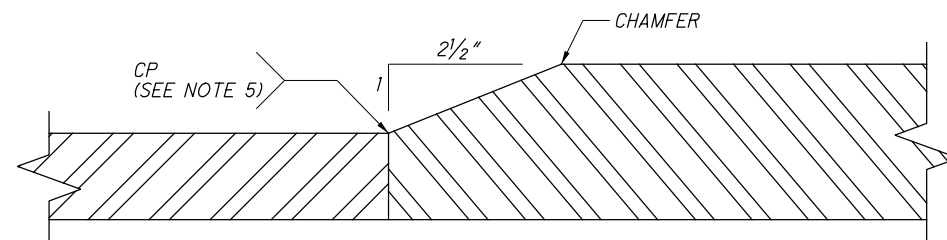
**INTERMEDIATE STIFFENER
PLATE DETAIL**



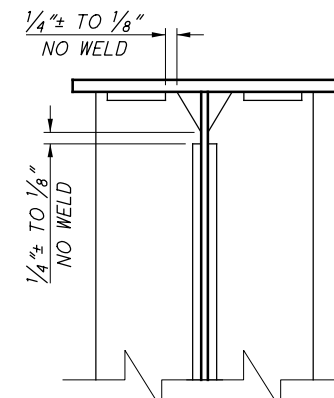
**BEARING STIFFENER
PLATE DETAIL**



**CROSSFRAME CONNECTION
PLATE DETAIL**



FLANGE WELD DETAILS



DETAIL "A"

BEARING STIFFENER PLATE DIMENSIONS SCHEDULE			
GIRDER MARK	LOCATION		
	REAR ABUT.	PIER	FWD. ABUT.
G1-G14	7/8" x 10"	1 1/8" x 10"	7/8" x 10"

NOTES:

1. CHARPY V-NOTCH TOUGHNESS REQUIREMENT: ALL GIRDER COMPONENTS IE. FLANGE PLATES, WEB PLATES, CROSS-FRAME MEMBERS, CONNECTION PLATES AND SPLICE PLATES SHALL MEET MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.
2. ALL STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50W OR GRADE HPSTOW.
3. ALL CROSSFRAMES ARE TO BE PLACED PERPENDICULAR TO THE GIRDERS.
4. FOR FIELD SPLICE DETAILS, SEE SHEET 50/78.
5. WHERE A WELD BUTT JOINT IS DESIGNATED CP, THE WELD SHALL BE COMPLETE PENETRATION.
6. CS INDICATES BUTT WELD SUBJECT TO COMPRESSIVE STRESSES ONLY.
7. WELD REINFORCEMENT AT COMPLETE PENETRATION WELDS SHALL BE REMOVED BY GRINDING IN THE DIRECTION OF THE PRIMARY STRESS.
8. CROSSFRAMES SHALL BE TYPE 3, ODOT STANDARD DRAWING GSD-1-96, EXCEPT THE CONNECTION PLATE SHALL BE 3/4" X 8".

DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

STEEL DETAILS

DESIGNED: RLC
 CHECKED: KVB

DRAWN: DJC
 REVISED:

REVIEWED: REP
 STRUCTURE FILE NUMBER: 2506786L/2506816R

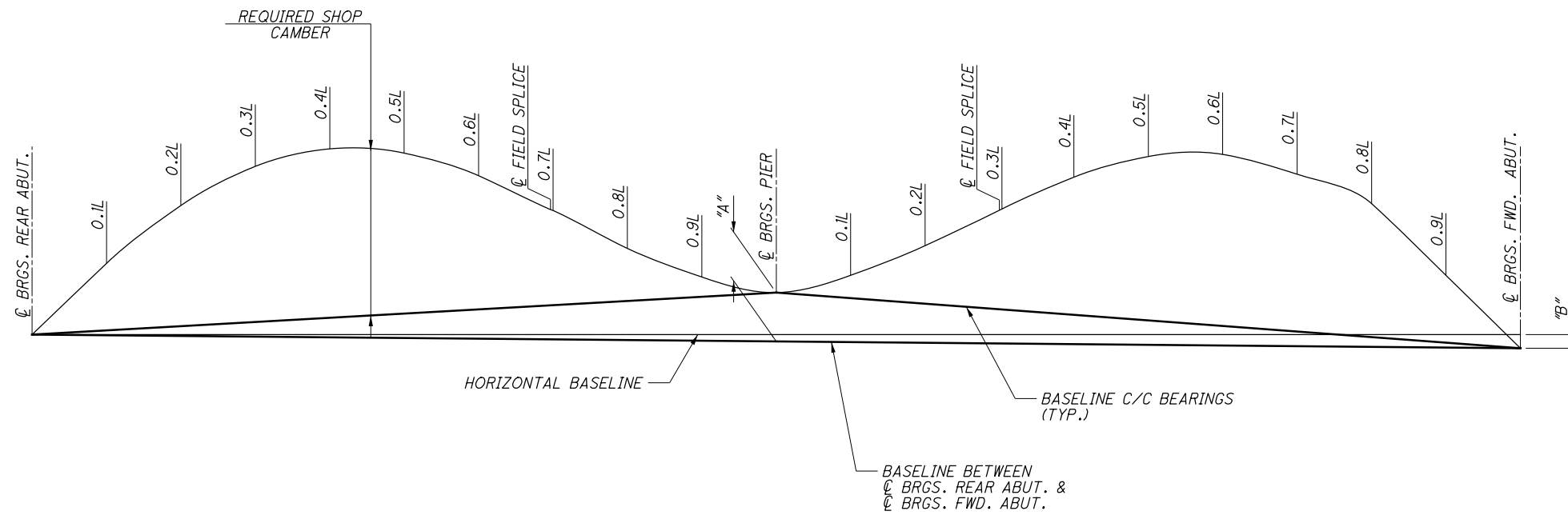
DATE: 8/1/2016

FRA-71-1.53
 PID No. 93496

51/78

253
 285

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CAMBER DIAGRAM - SOUTHBOUND AND NORTHBOUND

GIRDERS G1 THRU G14
(NTS)

SOUTHBOUND - VERTICAL OFFSETS		
GIRDER MARK	BLOCKING DIMENSION	
	"A"	"B"
G1	4 7/8"	-1 3/8"
G2	4 7/8"	-1 3/8"
G3	4 3/16"	-1 3/8"
G4	4 3/16"	-1 3/8"
G5	4 1/4"	-1 3/8"
G6	4 3/16"	-1 3/8"
G7	4 1/4"	-1 3/8"

NORTHBOUND - VERTICAL OFFSETS		
GIRDER MARK	BLOCKING DIMENSION	
	"A"	"B"
G8	5 1/8"	1 3/16"
G9	5 1/8"	1 3/16"
G10	4 3/8"	1 3/16"
G11	4 7/16"	1 3/16"
G12	4 7/16"	1 3/16"
G13	4 7/16"	1 3/16"
G14	4 7/16"	1 3/16"

NOTE:

1. FOR CAMBER VALUES AND LOCATIONS,
SEE SHEETS 53/78 AND 54/78.

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SOUTHBOUND - CAMBER AND DEFLECTION

GIRDER MARK	LOCATION	€ BRGS. REAR ABUTMENT	SPAN 1										€ BRGS. PIER	SPAN 2									€ BRGS. FORWARD ABUTMENT	
			0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	€ FIELD SPLICE	0.7L	0.8L	0.9L		0.1L	0.2L	0.3L	€ FIELD SPLICE	0.4L	0.5L	0.6L	0.7L	0.8L		0.9L
G1	DEFLECTION DUE TO WEIGHT OF STEEL	0"	7/16"	13/16"	1 1/16"	1 1/8"	1 1/16"	7/8"	9/16"	9/16"	1/4"	1/16"	0"	1/8"	5/16"	5/8"	5/8"	7/8"	1 1/8"	1 3/16"	1 1/16"	7/8"	7/16"	0"
	DEFLECTION DUE TO REMAINING DEAD LOAD	0"	1 7/8"	3 7/16"	4 7/16"	4 3/4"	4 7/16"	3 9/16"	2 3/8"	2 3/8"	1 1/8"	5/16"	0"	7/16"	1 5/16"	2 1/2"	2 9/16"	3 11/16"	4 9/16"	4 13/16"	4 1/2"	3 1/2"	1 15/16"	0"
	ADJUSTMENT DUE TO VERTICAL CURVE	0"	7/16"	3/4"	1 1/16"	1 3/16"	1 1/4"	1 3/16"	1 1/16"	1 1/16"	3/4"	7/16"	0"	7/16"	3/4"	1"	1 1/16"	1 3/16"	1 1/4"	1 3/16"	1"	3/4"	7/16"	0"
	REQUIRED SHOP CAMBER	0"	2 13/16"	5 1/16"	6 1/2"	7 1/16"	6 3/4"	5 5/8"	4"	3 15/16"	2 3/16"	13/16"	0"	15/16"	2 7/16"	4 1/8"	4 3/16"	5 3/4"	6 7/8"	7 3/16"	6 9/16"	5 1/8"	2 13/16"	0"
G2	DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/2"	7/8"	1 1/8"	1 3/16"	1 1/8"	15/16"	5/8"	5/8"	5/16"	1/16"	0"	1/8"	5/16"	5/8"	5/8"	15/16"	1 3/16"	1 1/4"	1 1/8"	7/8"	1/2"	0"
	DEFLECTION DUE TO REMAINING DEAD LOAD	0"	2"	3 9/16"	4 9/16"	4 15/16"	4 9/16"	3 11/16"	4 15/16"	2 7/16"	1 3/16"	5/16"	0"	7/16"	1 3/8"	2 9/16"	1/4"	3 13/16"	4 11/16"	5"	4 5/8"	3 5/8"	2"	0"
	ADJUSTMENT DUE TO VERTICAL CURVE	0"	7/16"	3/4"	1 1/16"	1 3/16"	1 1/4"	1 3/16"	1 1/16"	1 1/16"	3/4"	7/16"	0"	7/16"	3/4"	1 1/16"	1 1/16"	1 3/16"	1 1/4"	1 3/16"	1"	3/4"	7/16"	0"
	REQUIRED SHOP CAMBER	0"	2 15/16"	5 1/4"	6 3/4"	7 5/16"	6 15/16"	5 3/4"	6 9/16"	4 1/16"	2 1/4"	13/16"	0"	1"	2 1/2"	4 1/4"	1 15/16"	5 15/16"	7 1/16"	7 7/16"	6 13/16"	5 5/16"	2 15/16"	0"
G3	DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/2"	7/8"	1 1/8"	1 3/16"	1 1/8"	15/16"	5/8"	5/8"	5/16"	1/16"	0"	1/8"	5/16"	5/8"	5/8"	15/16"	1 3/16"	1 1/4"	1 1/8"	7/8"	1/2"	0"
	DEFLECTION DUE TO REMAINING DEAD LOAD	0"	2"	3 9/16"	4 9/16"	4 15/16"	4 9/16"	3 11/16"	4 15/16"	2 7/16"	1 3/16"	5/16"	0"	7/16"	1 3/8"	2 9/16"	1/4"	3 13/16"	4 11/16"	5"	4 5/8"	3 5/8"	2"	0"
	ADJUSTMENT DUE TO VERTICAL CURVE	0"	3/8"	11/16"	7/8"	1"	1 1/16"	1"	7/8"	7/8"	11/16"	3/8"	0"	3/8"	11/16"	7/8"	7/8"	1"	1 1/16"	1"	7/8"	11/16"	3/8"	0"
	REQUIRED SHOP CAMBER	0"	2 7/8"	5 1/8"	6 5/8"	7 1/8"	6 3/4"	5 9/16"	6 7/16"	3 7/8"	2 1/8"	3/4"	0"	7/8"	2 3/8"	4 1/8"	1 13/16"	5 3/4"	6 7/8"	7 1/4"	6 11/16"	5 3/16"	2 7/8"	0"
G4	DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/2"	7/8"	1 1/8"	1 3/16"	1 1/8"	15/16"	5/8"	5/8"	5/16"	1/16"	0"	1/8"	5/16"	5/8"	5/8"	15/16"	1 3/16"	1 1/4"	1 1/8"	7/8"	1/2"	0"
	DEFLECTION DUE TO REMAINING DEAD LOAD	0"	2"	3 9/16"	4 9/16"	4 15/16"	4 9/16"	3 11/16"	4 15/16"	2 7/16"	1 3/16"	5/16"	0"	7/16"	1 3/8"	2 9/16"	1/4"	3 13/16"	4 11/16"	5"	4 5/8"	3 5/8"	2"	0"
	ADJUSTMENT DUE TO VERTICAL CURVE	0"	3/8"	11/16"	7/8"	1"	1 1/16"	1"	7/8"	7/8"	11/16"	3/8"	0"	3/8"	11/16"	7/8"	7/8"	1"	1 1/16"	1"	7/8"	11/16"	3/8"	0"
	REQUIRED SHOP CAMBER	0"	2 7/8"	5 1/8"	6 5/8"	7 1/8"	6 3/4"	5 9/16"	6 7/16"	3 15/16"	2 1/8"	3/4"	0"	15/16"	2 3/8"	4 1/8"	1 13/16"	5 3/4"	6 7/8"	7 1/4"	6 11/16"	5 3/16"	2 7/8"	0"
G5	DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/2"	7/8"	1 1/8"	1 3/16"	1 1/8"	15/16"	5/8"	5/8"	5/16"	1/16"	0"	1/8"	5/16"	5/8"	5/8"	15/16"	1 3/16"	1 1/4"	1 1/8"	7/8"	1/2"	0"
	DEFLECTION DUE TO REMAINING DEAD LOAD	0"	2"	3 9/16"	4 9/16"	4 15/16"	4 9/16"	3 11/16"	4 15/16"	2 7/16"	1 3/16"	5/16"	0"	7/16"	1 3/8"	2 9/16"	1/4"	3 13/16"	4 11/16"	5"	4 5/8"	3 5/8"	2"	0"
	ADJUSTMENT DUE TO VERTICAL CURVE	0"	3/8"	11/16"	7/8"	1"	1 1/16"	1"	7/8"	7/8"	11/16"	3/8"	0"	3/8"	11/16"	7/8"	7/8"	1"	1 1/16"	1"	7/8"	11/16"	3/8"	0"
	REQUIRED SHOP CAMBER	0"	2 7/8"	5 1/8"	6 5/8"	7 1/8"	6 3/4"	5 5/8"	6 7/16"	3 15/16"	2 1/8"	3/4"	0"	15/16"	2 3/8"	4 1/8"	1 13/16"	5 3/4"	6 15/16"	7 1/4"	6 11/16"	5 3/16"	2 7/8"	0"
G6	DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/2"	7/8"	1 1/8"	1 3/16"	1 1/8"	15/16"	5/8"	5/8"	5/16"	1/16"	0"	1/8"	5/16"	5/8"	5/8"	15/16"	1 3/16"	1 1/4"	1 1/8"	7/8"	1/2"	0"
	DEFLECTION DUE TO REMAINING DEAD LOAD	0"	2"	3 9/16"	4 9/16"	4 15/16"	4 9/16"	3 11/16"	4 15/16"	2 7/16"	1 3/16"	5/16"	0"	7/16"	1 3/8"	2 9/16"	1/4"	3 13/16"	4 11/16"	5"	4 5/8"	3 5/8"	2"	0"
	ADJUSTMENT DUE TO VERTICAL CURVE	0"	3/8"	11/16"	7/8"	1"	1 1/16"	1"	7/8"	7/8"	11/16"	3/8"	0"	3/8"	11/16"	7/8"	7/8"	1"	1 1/16"	1"	7/8"	11/16"	3/8"	0"
	REQUIRED SHOP CAMBER	0"	2 7/8"	5 1/8"	6 5/8"	7 1/8"	6 3/4"	5 9/16"	6 7/16"	3 15/16"	2 1/8"	3/4"	0"	15/16"	2 3/8"	4 1/8"	1 13/16"	5 3/4"	6 15/16"	7 1/4"	6 11/16"	5 3/16"	2 7/8"	0"
G7	DEFLECTION DUE TO WEIGHT OF STEEL	0"	7/16"	13/16"	1 1/16"	1 1/8"	1 1/16"	7/8"	9/16"	9/16"	1/4"	1/16"	0"	1/8"	5/16"	5/8"	5/8"	7/8"	1 1/8"	1 3/16"	1 1/16"	7/8"	7/16"	0"
	DEFLECTION DUE TO REMAINING DEAD LOAD	0"	1 13/16"	3 5/16"	4 1/4"	4 1/2"	4 3/16"	3 3/8"	2 1/4"	2 1/4"	1 1/16"	5/16"	0"	3/8"	1 1/4"	2 3/8"	2 7/16"	3 1/2"	4 5/16"	4 5/8"	4 5/16"	3 3/8"	1 7/8"	0"
	ADJUSTMENT DUE TO VERTICAL CURVE	0"	3/8"	11/16"	7/8"	1"	1 1/16"	1"	7/8"	7/8"	11/16"	3/8"	0"	3/8"	11/16"	7/8"	7/8"	1"	1 1/16"	1"	7/8"	11/16"	3/8"	0"
	REQUIRED SHOP CAMBER	0"	2 11/16"	4 13/16"	6 3/16"	6 11/16"	6 5/16"	5 1/4"	3 3/4"	3 11/16"	2"	3/4"	0"	7/8"	2 1/4"	3 7/8"	3 15/16"	5 3/8"	6 1/2"	6 13/16"	6 1/4"	4 7/8"	2 11/16"	0"

NOTE:

1. FOR CAMBER DIAGRAM AND BLOCKING DIMENSIONS, SEE SHEET 52/78.

DESIGN AGENCY
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DATE
6/30/2015

REVIEWED
REP
6/30/2015

STRUCTURE FILE NUMBER
2506786L/2506816R

DRAWN
RLC

CHECKED
MAB

DESIGNED
RLC

REVISIONS

BRIDGE NO. FRA-71-0153 L/R

OVER BIG DARBY CREEK

FRA-71-1.53

PID No. 93496

53/78

255
285

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NORTHBOUND - CAMBER AND DEFLECTION

GIRDER MARK	LOCATION	€ BRGS. REAR ABUTMENT	SPAN 1										€ BRGS. PIER	SPAN 2										€ BRGS. FORWARD ABUTMENT
			0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	€ FIELD SPLICE	0.7L	0.8L	0.9L		0.1L	0.2L	0.3L	€ FIELD SPLICE	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	
G8	DEFLECTION DUE TO WEIGHT OF STEEL	0"	7/16"	13/16"	1 1/16"	1 1/8"	1 1/16"	7/8"	9/16"	9/16"	1/4"	1/16"	0"	1/8"	5/16"	5/8"	5/8"	7/8"	1 1/8"	1 3/16"	1 1/16"	7/8"	7/16"	0"
	DEFLECTION DUE TO REMAINING DEAD LOAD	0"	1 7/8"	3 7/16"	4 7/16"	4 3/4"	4 7/16"	3 9/16"	2 3/8"	2 3/8"	1 1/8"	5/16"	0"	7/16"	1 5/16"	2 1/2"	2 9/16"	3 11/16"	4 9/16"	4 13/16"	4 1/2"	3 1/2"	1 15/16"	0"
	ADJUSTMENT DUE TO VERTICAL CURVE	0"	7/16"	13/16"	1 1/16"	1 1/4"	1 1/4"	1 1/4"	1 1/16"	1 1/16"	13/16"	7/16"	0"	7/16"	13/16"	1 1/16"	1 1/16"	1 1/4"	1 1/4"	1 1/4"	1 1/16"	13/16"	7/16"	0"
	REQUIRED SHOP CAMBER	0"	2 13/16"	5 1/8"	6 9/16"	7 1/8"	6 3/4"	5 5/8"	4 1/16"	4"	2 1/4"	13/16"	0"	1"	2 7/16"	4 3/16"	4 1/4"	5 13/16"	6 15/16"	7 1/4"	6 5/8"	5 1/8"	2 7/8"	0"
G9	DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/2"	7/8"	1 1/8"	1 3/16"	1 1/8"	15/16"	5/8"	5/8"	5/16"	1/16"	0"	1/8"	5/16"	5/8"	5/8"	15/16"	1 3/16"	1 1/4"	1 1/8"	7/8"	1/2"	0"
	DEFLECTION DUE TO REMAINING DEAD LOAD	0"	2"	3 9/16"	4 9/16"	4 15/16"	4 9/16"	3 11/16"	4 15/16"	2 7/16"	1 3/16"	5/16"	0"	7/16"	1 3/8"	2 9/16"	1/4"	3 13/16"	4 11/16"	5"	4 5/8"	3 5/8"	2"	0"
	ADJUSTMENT DUE TO VERTICAL CURVE	0"	7/16"	13/16"	1 1/16"	1 1/4"	1 1/4"	1 1/4"	1 1/16"	1 1/16"	13/16"	7/16"	0"	7/16"	13/16"	1 1/16"	1 1/16"	1 1/4"	1 1/4"	1 1/4"	1 1/16"	13/16"	7/16"	0"
	REQUIRED SHOP CAMBER	0"	2 15/16"	5 1/4"	6 3/4"	7 3/8"	7"	5 13/16"	6 5/8"	4 1/8"	2 5/16"	7/8"	0"	1"	2 1/2"	4 5/16"	2"	6"	7 1/8"	7 1/2"	6 7/8"	5 5/16"	2 15/16"	0"
G10	DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/2"	7/8"	1 1/8"	1 3/16"	1 1/8"	15/16"	5/8"	5/8"	5/16"	1/16"	0"	1/8"	5/16"	5/8"	5/8"	15/16"	1 3/16"	1 1/4"	1 1/8"	7/8"	1/2"	0"
	DEFLECTION DUE TO REMAINING DEAD LOAD	0"	2"	3 9/16"	4 9/16"	4 15/16"	4 9/16"	3 11/16"	4 15/16"	2 7/16"	1 3/16"	5/16"	0"	7/16"	1 3/8"	2 9/16"	1/4"	3 13/16"	4 11/16"	5"	4 5/8"	3 5/8"	2"	0"
	ADJUSTMENT DUE TO VERTICAL CURVE	0"	3/8"	11/16"	15/16"	1 1/16"	1 1/8"	1 1/16"	15/16"	15/16"	11/16"	3/8"	0"	3/8"	11/16"	15/16"	15/16"	1 1/16"	1 1/8"	1 1/16"	15/16"	11/16"	3/8"	0"
	REQUIRED SHOP CAMBER	0"	2 7/8"	5 3/16"	6 5/8"	7 3/16"	6 13/16"	5 5/8"	6 7/16"	3 15/16"	2 3/16"	13/16"	0"	15/16"	2 7/16"	4 3/16"	1 7/8"	5 13/16"	6 15/16"	7 5/16"	6 3/4"	5 1/4"	2 7/8"	0"
G11	DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/2"	7/8"	1 1/8"	1 3/16"	1 1/8"	15/16"	5/8"	5/8"	5/16"	1/16"	0"	1/8"	5/16"	5/8"	5/8"	15/16"	1 3/16"	1 1/4"	1 1/8"	7/8"	1/2"	0"
	DEFLECTION DUE TO REMAINING DEAD LOAD	0"	2"	3 9/16"	4 9/16"	4 15/16"	4 9/16"	3 11/16"	4 15/16"	2 7/16"	1 3/16"	5/16"	0"	7/16"	1 3/8"	2 9/16"	1/4"	3 13/16"	4 11/16"	5"	4 5/8"	3 5/8"	2"	0"
	ADJUSTMENT DUE TO VERTICAL CURVE	0"	3/8"	11/16"	15/16"	1 1/16"	1 1/8"	1 1/16"	15/16"	15/16"	11/16"	3/8"	0"	5/16"	11/16"	15/16"	15/16"	1 1/16"	1 1/8"	1 1/16"	15/16"	11/16"	3/8"	0"
	REQUIRED SHOP CAMBER	0"	2 7/8"	5 3/16"	6 5/8"	7 3/16"	6 13/16"	5 5/8"	6 7/16"	3 15/16"	2 3/16"	13/16"	0"	13/16"	2 7/16"	4 3/16"	1 7/8"	5 13/16"	6 15/16"	7 5/16"	6 3/4"	5 1/4"	2 7/8"	0"
G12	DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/2"	7/8"	1 1/8"	1 3/16"	1 1/8"	15/16"	5/8"	5/8"	5/16"	1/16"	0"	1/8"	5/16"	5/8"	5/8"	15/16"	1 3/16"	1 1/4"	1 1/8"	7/8"	1/2"	0"
	DEFLECTION DUE TO REMAINING DEAD LOAD	0"	2"	3 9/16"	4 9/16"	4 15/16"	4 9/16"	3 11/16"	4 15/16"	2 7/16"	1 3/16"	5/16"	0"	7/16"	1 3/8"	2 9/16"	1/4"	3 13/16"	4 11/16"	5"	4 5/8"	3 5/8"	2"	0"
	ADJUSTMENT DUE TO VERTICAL CURVE	0"	3/8"	11/16"	15/16"	1 1/16"	1 1/8"	1 1/16"	15/16"	15/16"	11/16"	3/8"	0"	3/8"	11/16"	15/16"	15/16"	1 1/16"	1 1/8"	1 1/16"	15/16"	11/16"	3/8"	0"
	REQUIRED SHOP CAMBER	0"	2 7/8"	5 3/16"	6 5/8"	7 3/16"	6 13/16"	5 5/8"	6 7/16"	3 15/16"	2 3/16"	13/16"	0"	15/16"	2 7/16"	4 3/16"	1 7/8"	5 13/16"	6 15/16"	7 5/16"	6 3/4"	5 1/4"	2 7/8"	0"
G13	DEFLECTION DUE TO WEIGHT OF STEEL	0"	1/2"	7/8"	1 1/8"	1 3/16"	1 1/8"	15/16"	5/8"	5/8"	5/16"	1/16"	0"	1/8"	5/16"	5/8"	5/8"	15/16"	1 3/16"	1 1/4"	1 1/8"	7/8"	1/2"	0"
	DEFLECTION DUE TO REMAINING DEAD LOAD	0"	2"	3 9/16"	4 9/16"	4 15/16"	4 9/16"	3 11/16"	4 15/16"	2 7/16"	1 3/16"	5/16"	0"	7/16"	1 3/8"	2 9/16"	1/4"	3 13/16"	4 11/16"	5"	4 5/8"	3 5/8"	2"	0"
	ADJUSTMENT DUE TO VERTICAL CURVE	0"	3/8"	11/16"	15/16"	1 1/16"	1 1/8"	1 1/16"	15/16"	15/16"	11/16"	3/8"	0"	3/8"	11/16"	15/16"	15/16"	1 1/16"	1 1/8"	1 1/16"	15/16"	11/16"	3/8"	0"
	REQUIRED SHOP CAMBER	0"	2 7/8"	5 3/16"	6 5/8"	7 3/16"	6 13/16"	5 5/8"	6 7/16"	3 15/16"	2 3/16"	13/16"	0"	15/16"	2 7/16"	4 3/16"	1 7/8"	5 13/16"	6 15/16"	7 5/16"	6 3/4"	5 1/4"	2 7/8"	0"
G14	DEFLECTION DUE TO WEIGHT OF STEEL	0"	7/16"	13/16"	1 1/16"	1 1/8"	1 1/16"	7/8"	9/16"	9/16"	1/4"	1/16"	0"	1/8"	5/16"	5/8"	5/8"	7/8"	1 1/8"	1 3/16"	1 1/16"	7/8"	7/16"	0"
	DEFLECTION DUE TO REMAINING DEAD LOAD	0"	1 13/16"	3 5/16"	4 1/4"	4 1/2"	4 3/16"	3 3/8"	2 1/4"	2 1/4"	1 1/16"	5/16"	0"	3/8"	1 1/4"	2 3/8"	2 7/16"	3 1/2"	4 5/16"	4 5/8"	4 5/16"	3 3/8"	1 7/8"	0"
	ADJUSTMENT DUE TO VERTICAL CURVE	0"	3/8"	11/16"	15/16"	1 1/16"	1 1/8"	1 1/16"	15/16"	15/16"	11/16"	3/8"	0"	3/8"	11/16"	15/16"	15/16"	1 1/16"	1 1/8"	1 1/16"	15/16"	11/16"	3/8"	0"
	REQUIRED SHOP CAMBER	0"	2 11/16"	4 7/8"	6 1/4"	6 3/4"	6 3/8"	5 5/16"	3 3/4"	3 3/4"	2 1/16"	3/4"	0"	7/8"	2 1/4"	3 15/16"	3 15/16"	5 7/16"	6 1/2"	6 7/8"	6 5/16"	4 15/16"	2 3/4"	0"

NOTE:

1. FOR CAMBER DIAGRAM AND BLOCKING DIMENSIONS, SEE SHEET 52/78.

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DATE: 6/30/2015
 REVIEWED: REP: 6/30/2015
 STRUCTURE FILE NUMBER: 2506786L/2506816R

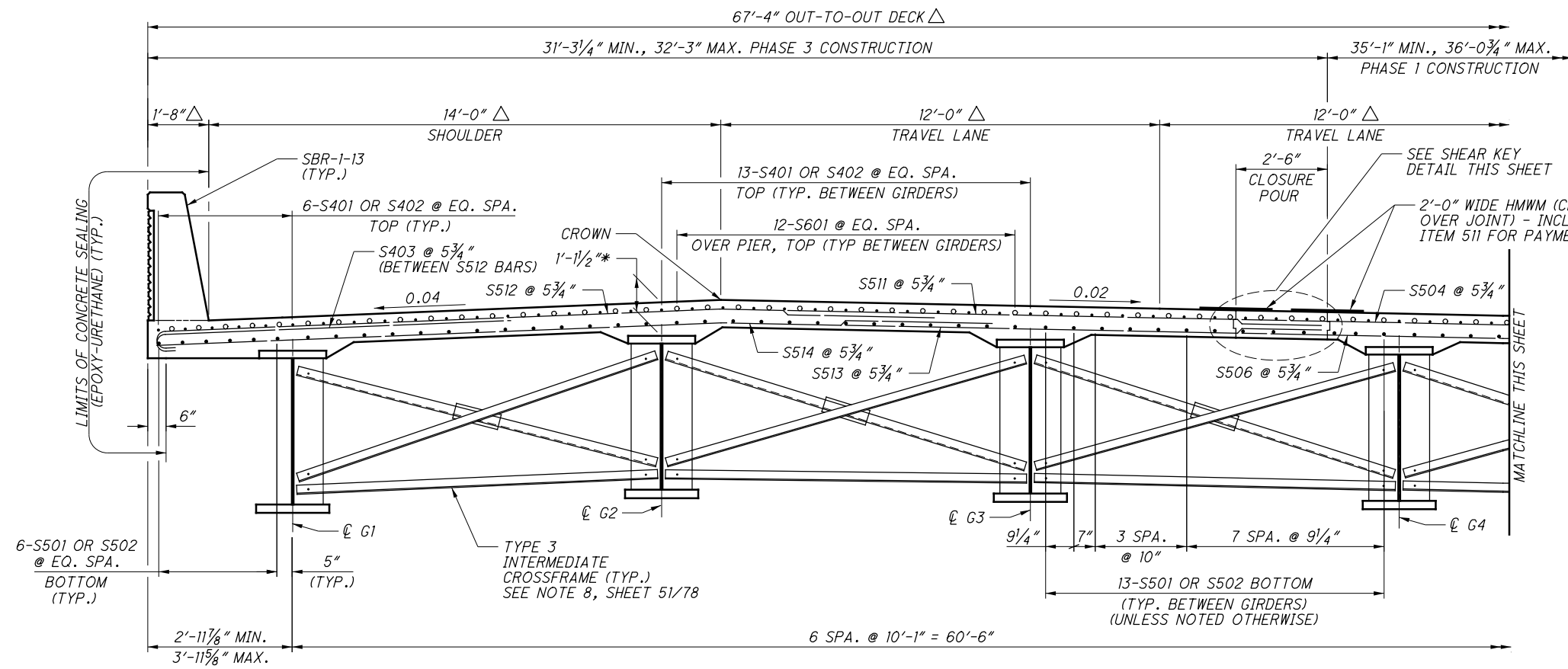
DRAWN: RLC
 CHECKED: MAB
 REVISIONS:

CAMBER AND DEFLECTION TABLE - NORTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

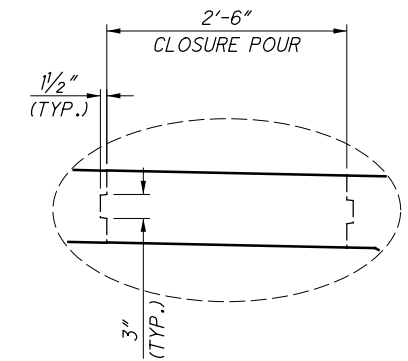
FRA-71-1.53
 PID No. 93496

54/78
 256
 285

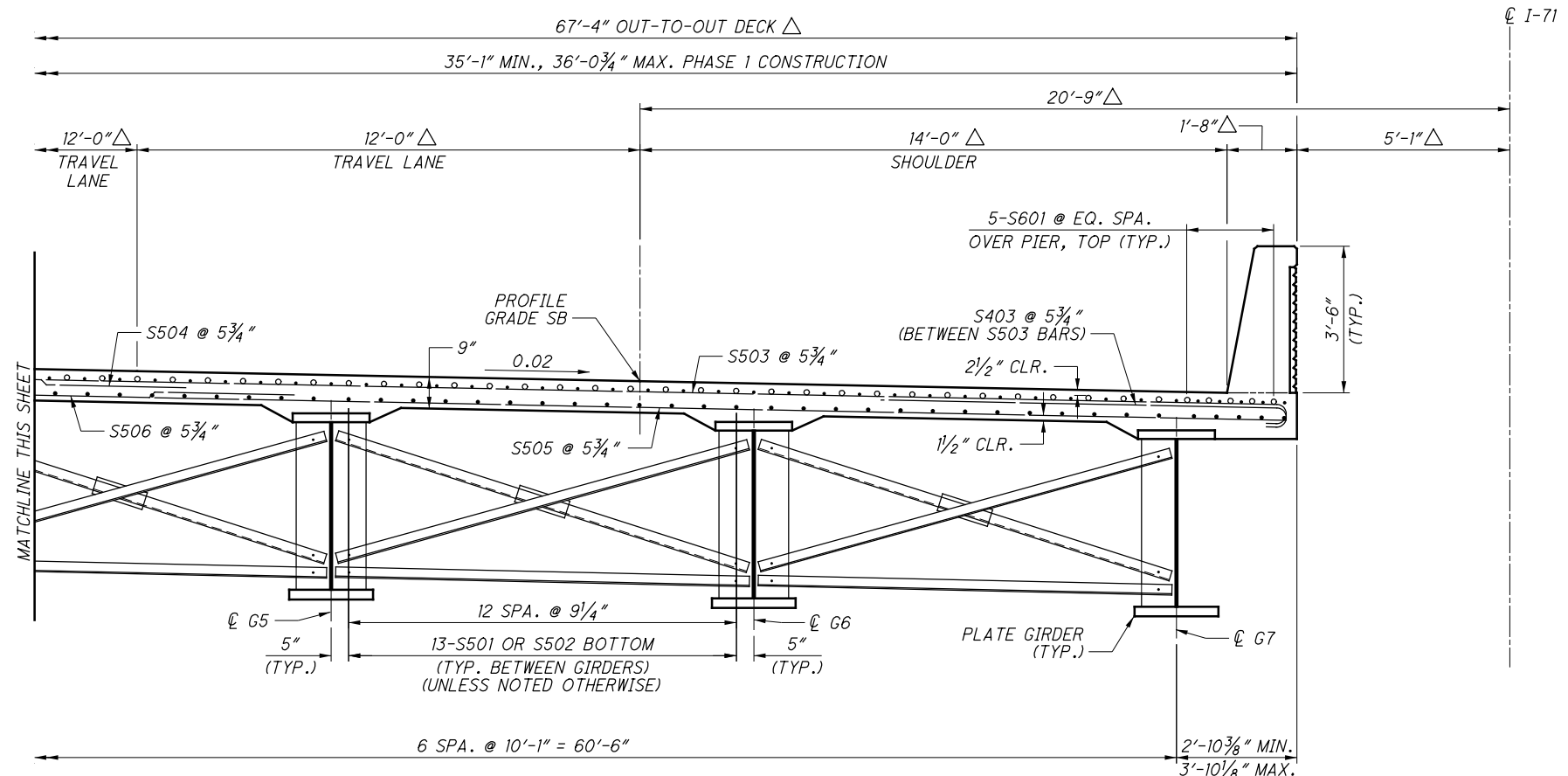
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TRANSVERSE SECTION - SOUTHBOUND BRIDGE



SHEAR KEY DETAIL



TRANSVERSE SECTION - SOUTHBOUND BRIDGE

NOTES:

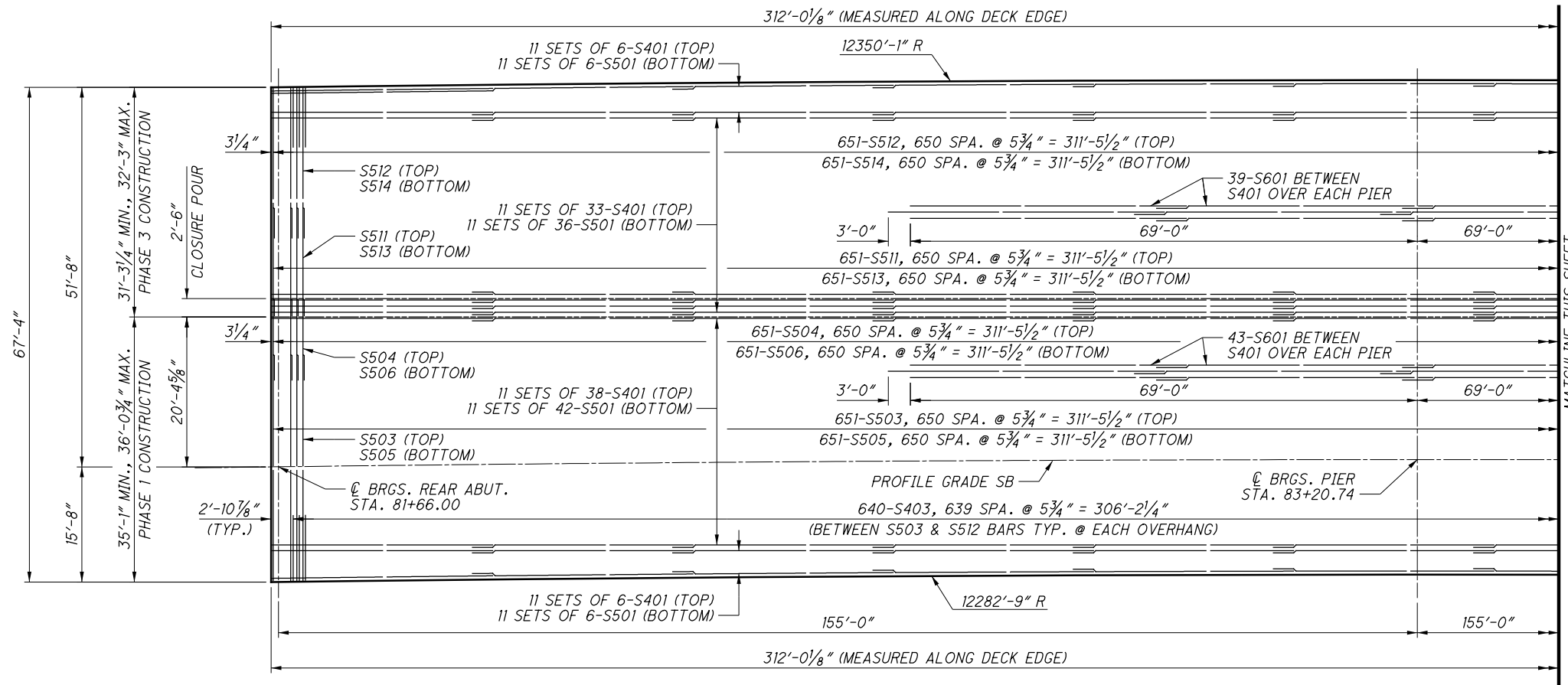
- FOR DECK REINFORCING PLAN, SEE SHEET 56/78.
- FOR PARAPET ELEVATION AND REINFORCING, SEE SHEETS 69/78 AND 73/78.
- FIELD BEND TRANSVERSE BARS TO FIT THE CROWN. SEE GENERAL NOTES, SHEETS 4/78 AND 5/78 FOR ADDITIONAL INFORMATION.
- FOR DECK OVERHANG DIMENSIONS, SEE SHEETS 60/78 AND 61/78.
- CROSSFRAMES SHALL NOT BE PERMANENTLY ATTACHED IN THE CLOSURE POUR BETWEEN GIRDERS G3 & G4 UNTIL THE CONCRETE ON BOTH SIDES OF THE CLOSURE POUR HAS BEEN COMPLETED. CROSSFRAMES SHALL BE INSTALLED AND ATTACHED PERMANENTLY PRIOR TO THE PLACEMENT OF THE CLOSURE POUR.
- DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 4 1/2 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE IS ± 3 INCHES. THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.

LEGEND:

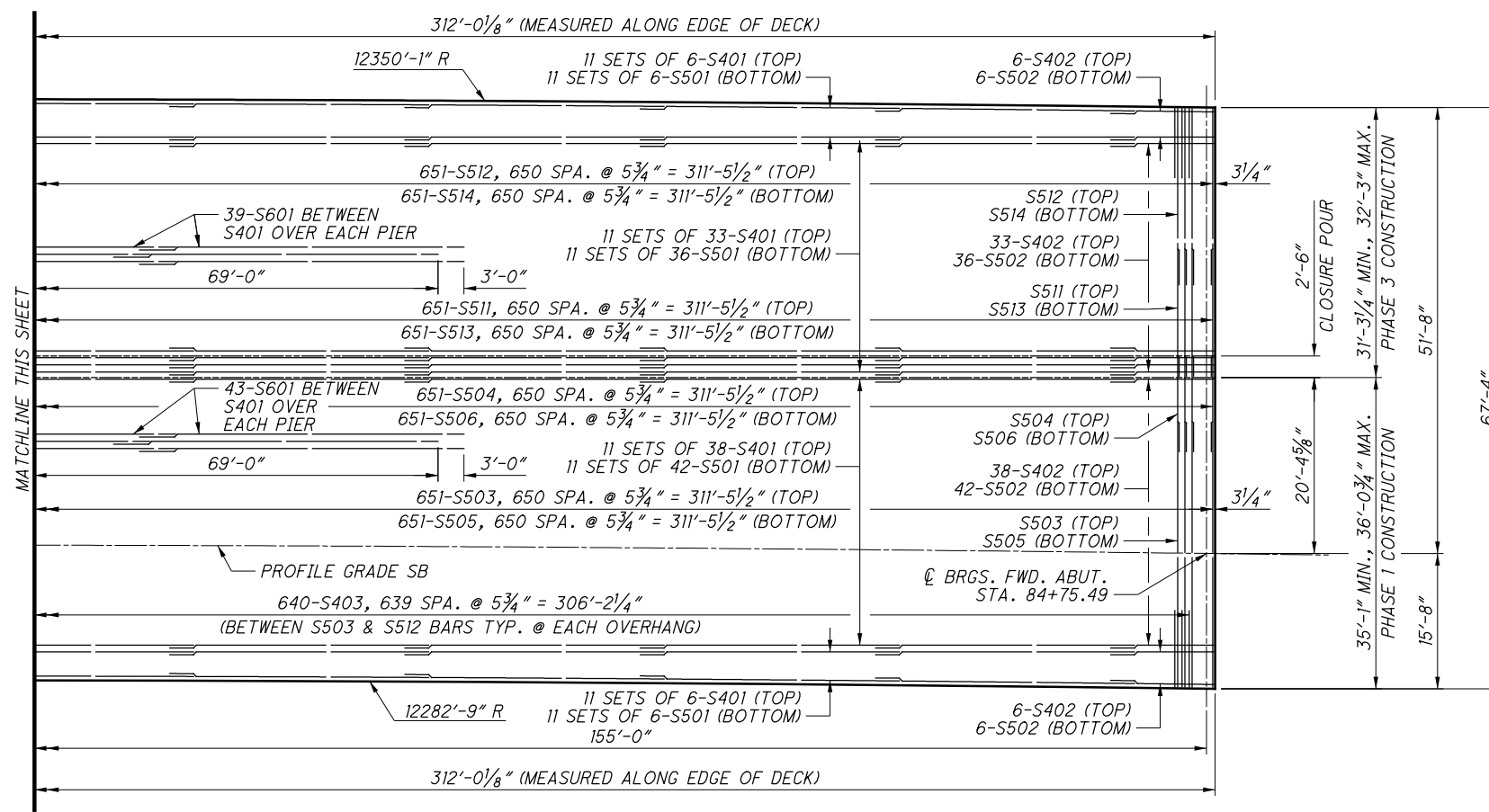
- * - TOP OF SLAB/TOP OF GIRDER WEB
- ** - MINIMUM LAP LENGTH FOR NO. 5 BARS LOCATED INSIDE THE CLOSURE POUR IS 2'-4". MINIMUM LAP LENGTH FOR NO. 5 BARS IN ALL OTHER LOCATIONS IS 3'-2".
- Δ - DIMENSIONS MEASURED RADIALLY

MINIMUM LAP LENGTHS	
NO. 4 BAR	2'-9"
NO. 5 BAR	3'-2" **
NO. 6 BAR	4'-1"

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 REVIEWED: KVB
 DRAWN: DJC
 DESIGNED: RLC
 CHECKED: MLH
 STRUCTURE FILE NUMBER: 2506786L/2506816R
TRANSVERSE SECTION - SOUTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK
FRA-71-0.00
 PID No. 93496
 55/78
 257
 285



DECK REINFORCING PLAN - SOUTHBOUND



DECK REINFORCING PLAN - SOUTHBOUND

NOTES:

1. FOR TRANSVERSE SECTION, SEE SHEET 55/78.
2. ALL TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY.

LEGEND:

* - MINIMUM LAP LENGTH FOR NO. 5 BARS LOCATED INSIDE THE CLOSURE POUR IS 2'-4". MINIMUM LAP LENGTH FOR NO. 5 BARS IN ALL OTHER LOCATIONS IS 3'-2".

MINIMUM LAP LENGTHS	
NO. 4 BAR	2'-9"
NO. 5 BAR	3'-2" *
NO. 6 BAR	4'-1"

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REVIEWED
 REP 6/30/2015
 STRUCTURE FILE NUMBER
 2506786L/2506816R

DRAWN
 DJC
 REVISED

DESIGNED
 RLC
 CHECKED
 MLH

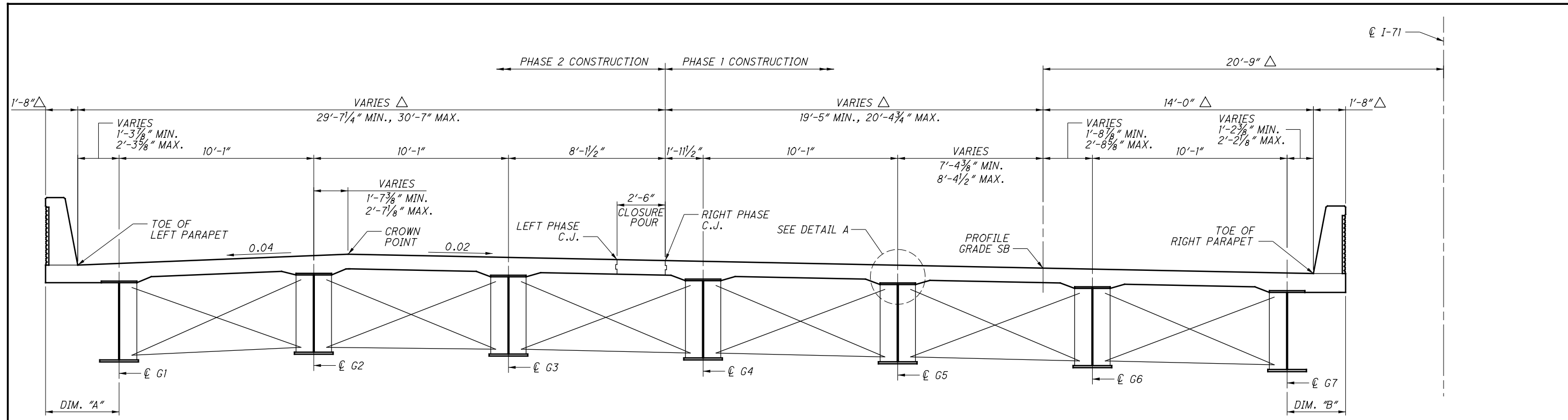
DECK REINFORCING PLAN - SOUTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-0.00
 PID No. 93496

56/78

258
 285

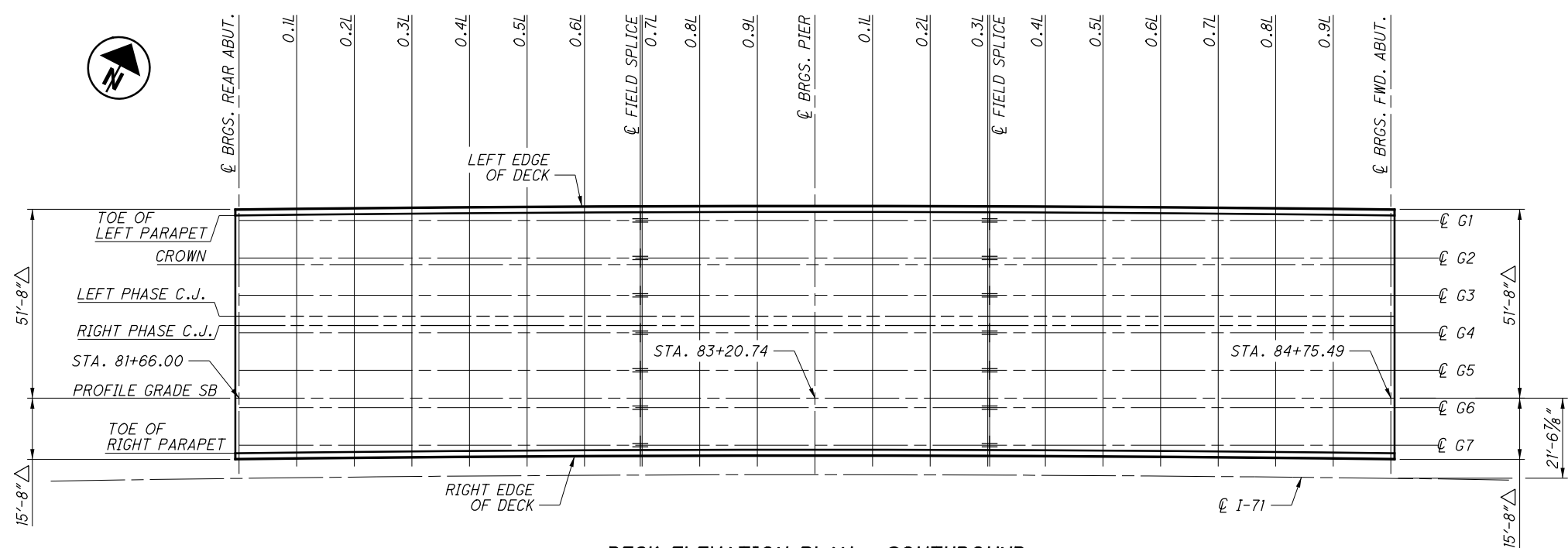
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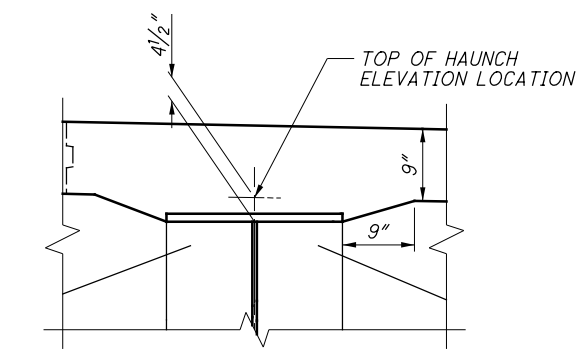
TOP OF HAUNCH & SCREED LOCATIONS - SOUTHBOUND

NOTES:

1. FOR SCREED ELEVATIONS, SEE SHEET 58/78.
2. FOR TOP OF HAUNCH ELEVATIONS, SEE SHEET 59/78.
3. FOR FINAL DECK SURFACE ELEVATIONS AND DIMENSIONS "A" AND "B", SEE SHEETS 60/78 AND 61/78.
4. L=SPAN LENGTH.
5. ALL TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY.



DECK ELEVATION PLAN - SOUTHBOUND



DETAIL A

LEGEND:

△ - DIMENSIONS MEASURED RADIALLY

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DESIGNED RLC	CHECKED MAB
DRAWN DJC	REVISED
REVIEWED REP	DATE 6/30/2015
STRUCTURE FILE NUMBER 2506786L/2506816R	
BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK	
TOP OF HAUNCH & SCREED LOCATIONS - SOUTHBOUND BRIDGE	
FRA-71-1.53	PID No. 93496
57/78	259 285

SOUTHBOUND SCREED ELEVATION TABLE

LOCATION		LEFT PARAPET TOE		CROWN POINT		LEFT PHASE C.J.		RIGHT PHASE C.J.		PROFILE GRADE SB		RIGHT PARAPET TOE	
		STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
SPAN 1	☒ BRGS. R.A.	81+66.63	800.44	81+66.45	801.00	81+66.29	800.74	81+66.26	800.69	81+66.00	800.28	81+65.83	800.00
	0.1L	81+82.04	800.67	81+81.88	801.23	81+81.74	800.97	81+81.71	800.92	81+81.47	800.51	81+81.32	800.22
	0.2L	81+97.45	800.85	81+97.31	801.42	81+97.18	801.15	81+97.16	801.10	81+96.95	800.70	81+96.81	800.40
	0.3L	82+12.86	800.98	82+12.74	801.56	82+12.63	801.28	82+12.60	801.23	82+12.42	800.83	82+12.30	800.52
	0.4L	82+28.27	801.05	82+28.17	801.63	82+28.07	801.35	82+28.05	801.30	82+27.90	800.90	82+27.79	800.59
	0.5L	82+43.69	801.06	82+43.60	801.63	82+43.52	801.35	82+43.50	801.30	82+43.37	800.91	82+43.29	800.60
	0.6L	82+59.10	801.01	82+59.02	801.58	82+58.96	801.31	82+58.95	801.26	82+58.84	800.86	82+58.78	800.56
	☒ FIELD SPLICE	82+74.01	800.94	82+73.96	801.52	82+73.91	801.24	82+73.90	801.19	82+73.82	800.80	82+73.77	800.49
	0.7L	82+74.51	800.93	82+74.45	801.50	82+74.41	801.22	82+74.40	801.17	82+74.32	800.78	82+74.27	800.48
	0.8L	82+89.92	800.85	82+89.88	801.41	82+89.85	801.13	82+89.84	801.08	82+89.79	800.69	82+89.76	800.40
	0.9L	83+05.33	800.78	83+05.31	801.34	83+05.30	801.06	83+05.29	801.01	83+05.27	800.62	83+05.25	800.34
☒ BRGS. PIER	83+20.74	800.75	83+20.74	801.31	83+20.74	801.03	83+20.74	800.98	83+20.74	800.59	83+20.74	800.31	
SPAN 2	0.1L	83+36.15	800.78	83+36.17	801.34	83+36.19	801.06	83+36.19	801.01	83+36.22	800.62	83+36.23	800.34
	0.2L	83+51.56	800.84	83+51.60	801.40	83+51.63	801.12	83+51.64	801.07	83+51.69	800.68	83+51.72	800.39
	0.3L	83+66.98	800.91	83+67.03	801.48	83+67.08	801.20	83+67.09	801.15	83+67.17	800.76	83+67.22	800.46
	☒ FIELD SPLICE	83+67.48	800.92	83+67.53	801.47	83+67.58	801.19	83+67.59	801.14	83+67.67	800.75	83+67.72	800.46
	0.4L	83+82.39	800.98	83+82.46	801.55	83+82.52	801.27	83+82.54	801.22	83+82.64	800.83	83+82.71	800.52
	0.5L	83+97.80	801.01	83+97.89	801.58	83+97.97	801.31	83+97.99	801.26	83+98.12	800.86	83+98.20	800.55
	0.6L	84+13.21	800.99	84+13.32	801.56	84+13.42	801.29	84+13.43	801.24	84+13.59	800.84	84+13.69	800.53
	0.7L	84+28.62	800.91	84+28.75	801.48	84+28.86	801.21	84+28.88	801.16	84+29.07	800.76	84+29.18	800.45
	0.8L	84+44.04	800.76	84+44.18	801.33	84+44.31	801.06	84+44.33	801.01	84+44.54	800.61	84+44.68	800.31
	0.9L	84+59.45	800.56	84+59.61	801.13	84+59.75	800.86	84+59.78	800.81	84+60.02	800.41	84+60.17	800.12
	☒ BRGS. F. A.	84+74.86	800.33	84+75.04	800.89	84+75.20	800.62	84+75.23	800.57	84+75.49	800.17	84+75.66	799.88

NOTES:

- FOR SCREED LINE LOCATIONS, SEE SHEET 57/78.
- SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
- L=SPAN LENGTH.

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DATE
 6/30/2015
 REVIEWED
 REP
 STRUCTURE FILE NUMBER
 2506786L/2506816R

DRAWN
 DJC
 REVISIONS

DESIGNED
 RLC
 CHECKED
 MAB

SCREED TABLE - SOUTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496
 58/78
 260
 285

SOUTHBOUND TOP OF HAUNCH ELEVATION TABLE

LOCATION	€ G1		€ G2		€ G3		€ G4		€ G5		€ G6		€ G7		
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	
SPAN 1	€ BRGS. R.A.	81+66.61	799.75	81+66.49	800.15	81+66.36	800.10	81+66.23	799.90	81+66.11	799.70	81+65.98	799.50	81+65.85	799.29
	0.1L	81+82.03	799.98	81+81.91	800.39	81+81.80	800.33	81+81.68	800.13	81+81.57	799.92	81+81.46	799.72	81+81.34	799.51
	0.2L	81+97.44	800.17	81+97.34	800.58	81+97.24	800.52	81+97.14	800.31	81+97.04	800.11	81+96.93	799.91	81+96.83	799.68
	0.3L	82+12.85	800.30	82+12.76	800.72	82+12.68	800.65	82+12.59	800.44	82+12.50	800.24	82+12.41	800.04	82+12.32	799.81
	0.4L	82+28.26	800.38	82+28.19	800.80	82+28.11	800.71	82+28.04	800.51	82+27.96	800.31	82+27.89	800.11	82+27.81	799.87
	0.5L	82+43.68	800.39	82+43.62	800.81	82+43.55	800.72	82+43.49	800.52	82+43.43	800.31	82+43.36	800.11	82+43.30	799.88
	0.6L	82+59.09	800.35	82+59.04	800.76	82+58.99	800.67	82+58.94	800.47	82+58.89	800.26	82+58.84	800.06	82+58.79	799.84
	€ FIELD SPLICE	82+74.01	800.28	82+73.97	800.70	82+73.93	800.60	82+73.89	800.40	82+73.85	800.20	82+73.81	800.00	82+73.77	799.76
	0.7L	82+74.50	800.27	82+74.47	800.68	82+74.43	800.58	82+74.39	800.38	82+74.35	800.18	82+74.32	799.98	82+74.28	799.76
	0.8L	82+89.92	800.19	82+89.89	800.59	82+89.87	800.49	82+89.84	800.29	82+89.82	800.09	82+89.79	799.88	82+89.77	799.67
0.9L	83+05.33	800.12	83+05.32	800.53	83+05.31	800.42	83+05.29	800.22	83+05.28	800.02	83+05.27	799.82	83+05.26	799.61	
€ BRGS. PIER	83+20.74	800.10	83+20.74	800.50	83+20.74	800.39	83+20.74	800.19	83+20.74	799.99	83+20.74	799.79	83+20.74	799.59	
SPAN 2	0.1L	83+36.16	800.12	83+36.17	800.52	83+36.18	800.42	83+36.20	800.22	83+36.21	800.02	83+36.22	799.82	83+36.23	799.61
	0.2L	83+51.57	800.18	83+51.60	800.58	83+51.62	800.48	83+51.65	800.28	83+51.67	800.08	83+51.70	799.88	83+51.72	799.67
	0.3L	83+66.98	800.25	83+67.02	800.66	83+67.06	800.56	83+67.10	800.36	83+67.14	800.16	83+67.17	799.96	83+67.21	799.74
	€ FIELD SPLICE	83+67.48	800.25	83+67.52	800.65	83+67.56	800.55	83+67.60	800.35	83+67.64	800.14	83+67.68	799.94	83+67.71	799.74
	0.4L	83+82.40	800.32	83+82.45	800.73	83+82.50	800.63	83+82.55	800.43	83+82.60	800.23	83+82.65	800.03	83+82.70	799.80
	0.5L	83+97.81	800.34	83+97.87	800.76	83+97.94	800.67	83+98.00	800.47	83+98.06	800.27	83+98.13	800.06	83+98.19	799.83
	0.6L	84+13.22	800.32	84+13.30	800.74	84+13.38	800.65	84+13.45	800.45	84+13.53	800.25	84+13.60	800.05	84+13.68	799.81
	0.7L	84+28.64	800.23	84+28.73	800.65	84+28.81	800.57	84+28.90	800.37	84+28.99	800.17	84+29.08	799.96	84+29.17	799.73
	0.8L	84+44.05	800.08	84+44.15	800.49	84+44.25	800.43	84+44.35	800.22	84+44.45	800.02	84+44.56	799.82	84+44.66	799.60
	0.9L	84+59.46	799.87	84+59.58	800.28	84+59.69	800.23	84+59.80	800.02	84+59.92	799.82	84+60.03	799.62	84+60.15	799.41
€ BRGS. F.A.	84+74.88	799.63	84+75.00	800.03	84+75.13	799.99	84+75.26	799.79	84+75.38	799.58	84+75.51	799.38	84+75.64	799.18	

NOTES:

- FOR TOP OF HAUNCH LOCATIONS, SEE SHEET 57/78.
- TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY THE DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
- FOR HAUNCH DETAILS, SEE SHEET 57/78.
- L=SPAN LENGTH.

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DATE: 6/30/2015
 REVIEWED: KVB
 DRAWN: DJC
 CHECKED: MAB
 STRUCTURE FILE NUMBER: 2506786L/2506816R

TOP OF HAUNCH TABLE - SOUTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496

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FINAL DECK SURFACE ELEVATION TABLE - SOUTHBOUND

LOCATION	DECK OVERHANG		LEFT TOE OF PARAPET		€ G1		€ G2		CROWN		€ G3		LEFT PHASE C.J.		RIGHT PHASE C.J.	
	STATION	DIM. "A"	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
€ BRGS. R.A.	81+66.65	3'-0"	81+66.63	800.44	81+66.61	800.50	81+66.49	800.90	81+66.45	801.00	81+66.36	800.85	81+66.29	800.74	8166.26	800.74
0.1L	81+82.06	3'-2 1/8"	81+82.04	800.51	81+82.03	800.57	81+81.91	800.97	81+81.88	801.07	81+81.80	800.91	81+81.74	800.80	8181.71	800.74
0.2L	81+97.47	3'-4 1/8"	81+97.45	800.56	81+97.44	800.63	81+97.34	801.03	81+97.31	801.12	81+97.24	800.97	81+97.18	800.85	8197.16	800.74
0.3L	82+12.88	3'-5 7/8"	82+12.86	800.61	82+12.85	800.69	82+12.76	801.09	82+12.74	801.17	82+12.68	801.01	82+12.63	800.90	8212.60	800.74
0.4L	82+28.29	3'-7 3/8"	82+28.27	800.66	82+28.26	800.73	82+28.19	801.14	82+28.17	801.22	82+28.11	801.05	82+28.07	800.94	8228.05	800.74
0.5L	82+43.70	3'-8 3/4"	82+43.69	800.69	82+43.68	800.77	82+43.62	801.18	82+43.60	801.25	82+43.55	801.09	82+43.52	800.97	8243.50	800.74
0.6L	82+59.11	3'-9 3/4"	82+59.10	800.72	82+59.09	800.80	82+59.04	801.21	82+59.02	801.28	82+58.99	801.11	82+58.96	801.00	8258.95	800.74
€ FIELD SPLICE	-	-	82+74.01	800.74	82+74.01	800.83	82+73.97	801.23	82+73.96	801.30	82+73.93	801.13	82+73.91	801.02	8273.90	800.74
0.7L	82+74.52	3'-10 5/8"	82+74.51	800.74	82+74.50	800.83	82+74.47	801.23	82+74.45	801.30	82+74.43	801.13	82+74.41	801.02	8274.40	800.74
0.8L	82+89.93	3'-11 1/8"	82+89.92	800.75	82+89.92	800.84	82+89.89	801.24	82+89.88	801.31	82+89.87	801.14	82+89.85	801.03	8289.84	800.74
0.9L	83+05.33	3'-11 1/2"	83+05.33	800.76	83+05.33	800.85	83+05.32	801.25	83+05.31	801.32	83+05.31	801.15	83+05.30	801.03	8305.29	800.74
€ BRGS. PIER	83+20.74	3'-11 5/8"	83+20.74	800.75	83+20.74	800.85	83+20.74	801.25	83+20.74	801.31	83+20.74	801.14	83+20.74	801.03	8320.74	800.74
0.1L	83+36.15	3'-11 1/2"	83+36.15	800.74	83+36.16	800.84	83+36.17	801.24	83+36.17	801.30	83+36.18	801.14	83+20.74	801.03	8320.74	800.74
0.2L	83+51.56	3'-11 1/8"	83+51.56	800.73	83+51.57	800.82	83+51.60	801.22	83+51.60	801.29	83+51.62	801.12	83+36.19	801.02	8336.19	800.74
0.3L	83+66.97	3'-10 5/8"	83+66.98	800.70	83+66.98	800.79	83+67.02	801.20	83+67.03	801.26	83+67.06	801.10	83+51.63	801.01	8351.64	800.74
€ FIELD SPLICE	-	-	83+67.48	800.70	83+67.48	800.79	83+67.52	801.19	83+67.53	801.26	83+67.56	801.10	83+67.08	800.98	8367.09	800.74
0.4L	83+82.38	3'-9 3/4"	83+82.39	800.67	83+82.40	800.76	83+82.45	801.16	83+82.46	801.23	83+82.50	801.07	83+67.58	800.98	8367.59	800.74
0.5L	83+97.79	3'- 8 3/4"	83+97.80	800.63	83+97.81	800.72	83+97.87	801.12	83+97.89	801.19	83+97.94	801.03	83+82.52	800.95	8382.54	800.74
0.6L	84+13.20	3'-7 3/8"	84+13.21	800.59	84+13.22	800.66	84+13.30	801.07	84+13.32	801.15	84+13.38	800.98	83+97.97	800.92	8397.99	800.74
0.7L	84+28.61	3'- 5 7/8"	84+28.62	800.53	84+28.64	800.61	84+28.73	801.01	84+28.75	801.09	84+28.81	800.93	84+13.42	800.87	8413.43	800.74
0.8L	84+44.02	3'-4 1/8"	84+44.04	800.47	84+44.05	800.54	84+44.15	800.94	84+44.18	801.03	84+44.25	800.87	84+28.86	800.82	8428.88	800.74
0.9L	84+59.43	3'-2 1/8"	84+59.45	800.40	84+59.46	800.46	84+59.58	800.87	84+59.61	800.96	84+59.69	800.81	84+44.31	800.76	8444.33	800.74
€ BRGS. F.A.	84+74.84	3'-0"	84+74.86	800.33	84+74.88	800.38	84+75.00	800.78	84+75.04	800.89	84+75.13	800.74	84+59.75	800.70	8459.78	800.74

NOTES:

- FOR FINAL DECK ELEVATION LOCATIONS, SEE SHEET 57/78.
- FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.
- DIMENSION "A" IS MEASURED PERPENDICULAR TO THE € G1. DIMENSION "B" IS MEASURED PERPENDICULAR TO THE € G7.
- L=SPAN LENGTH.

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DATE: 6/30/2015
 REVIEWED: REP: 6/30/2015
 STRUCTURE FILE NUMBER: 2506786L/2506816R

DESIGNED: RLC
 CHECKED: MAB

DRAWN: DJC
 REVISIONS:

FINAL DECK SURFACE ELEVATIONS - SOUTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496

60/78
 262
 285

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FINAL DECK SURFACE ELEVATION TABLE - SOUTHBOUND

LOCATION	£ G4		£ G5		PROFILE GRADE SB		£ G6		£ G7		RIGHT TOE OF PARAPET		DECK OVERHANG	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	DIM. "B"
£ BRGS. R.A.	81+66.23	800.65	81+66.11	800.45	81+66.00	800.28	81+65.98	800.25	81+65.85	800.04	81+65.83	800.00	81+65.80	3'-10 1/8"
0.1L	81+81.68	800.71	81+81.57	800.51	81+81.47	800.35	81+81.46	800.31	81+81.34	800.10	81+81.32	800.06	81+81.30	3'-8"
0.2L	81+97.14	800.76	81+97.04	800.56	81+96.95	800.40	81+96.93	800.36	81+96.83	800.16	81+96.81	800.12	81+96.79	3'-6"
0.3L	82+12.59	800.81	82+12.50	800.61	82+12.42	800.45	82+12.41	800.41	82+12.32	800.21	82+12.30	800.17	82+12.29	3'-4 1/4"
0.4L	82+28.04	800.85	82+27.96	800.65	82+27.90	800.49	82+27.89	800.45	82+27.81	800.25	82+27.79	800.21	82+27.78	3'-2 5/8"
0.5L	82+43.49	800.88	82+43.43	800.68	82+43.37	800.53	82+43.36	800.48	82+43.30	800.28	82+43.29	800.25	82+43.27	3'-1 3/8"
0.6L	82+58.94	800.91	82+58.89	800.71	82+58.84	800.56	82+58.84	800.51	82+58.79	800.30	82+58.78	800.28	82+58.77	3'-0 3/8"
£ FIELD SPLICE	82+73.89	800.93	82+73.85	800.73	82+73.82	800.58	82+73.81	800.52	82+73.77	800.32	82+73.77	800.30	-	-
0.7L	82+74.39	800.93	82+74.35	800.73	82+74.32	800.58	82+74.32	800.53	82+74.28	800.32	82+74.27	800.30	82+74.26	2'-11 1/2"
0.8L	82+89.84	800.94	82+89.82	800.74	82+89.79	800.59	82+89.79	800.54	82+89.77	800.34	82+89.76	800.31	82+89.76	2'-10 7/8"
0.9L	83+05.29	800.95	83+05.28	800.74	83+05.27	800.60	83+05.27	800.54	83+05.26	800.34	83+05.25	800.32	83+05.25	2'-10 1/2"
£ BRGS. PIER	83+20.74	800.94	83+20.74	800.74	83+20.74	800.59	83+20.74	800.54	83+20.74	800.34	83+20.74	800.31	83+20.74	2'-10 1/2"
0.1L	83+36.20	800.93	83+36.21	800.73	83+36.22	800.58	83+36.22	800.53	83+36.23	800.33	83+36.23	800.30	83+36.24	2'-10 1/2"
0.2L	83+51.65	800.92	83+51.67	800.72	83+51.69	800.57	83+51.70	800.51	83+51.72	800.31	83+51.72	800.29	83+51.73	2'-10 7/8"
0.3L	83+67.10	800.89	83+67.14	800.69	83+67.17	800.54	83+67.17	800.49	83+67.21	800.29	83+67.22	800.26	83+67.23	2'-11 1/2"
£ FIELD SPLICE	83+67.60	800.89	83+67.64	800.69	83+67.67	800.54	83+67.68	800.49	83+67.71	800.29	83+67.72	800.26	-	-
0.4L	83+82.55	800.86	83+82.60	800.66	83+82.64	800.51	83+82.65	800.46	83+82.70	800.26	83+82.71	800.23	83+82.72	3'-0 3/8"
0.5L	83+98.00	800.83	83+98.06	800.62	83+98.12	800.47	83+98.13	800.42	83+98.19	800.22	83+98.20	800.19	83+98.21	3'-1 3/8"
0.6L	84+13.45	800.78	84+13.53	800.58	84+13.59	800.43	84+13.60	800.38	84+13.68	800.18	84+13.69	800.15	84+13.71	3'-2 5/8"
0.7L	84+28.90	800.73	84+28.99	800.53	84+29.07	800.37	84+29.08	800.33	84+29.17	800.12	84+29.18	800.09	84+29.20	3'-4 1/4"
0.8L	84+44.35	800.67	84+44.45	800.47	84+44.54	800.31	84+44.56	800.27	84+44.66	800.07	84+44.68	800.03	84+44.70	3'-6"
0.9L	84+59.80	800.61	84+59.92	800.40	84+60.02	800.24	84+60.03	800.20	84+60.15	800.00	84+60.17	799.96	84+60.19	3'-8"
£ BRGS. F.A.	84+75.26	800.54	84+75.38	800.33	84+75.49	800.17	84+75.51	800.13	84+75.64	799.93	84+75.66	799.88	84+75.68	3'-10 1/8"

NOTE:

1. FOR NOTES, SEE SHEET 60/78.

FINAL DECK SURFACE ELEVATIONS - SOUTHBOUND BRIDGE
BRIDGE NO. FRA-71-0153 L/R
OVER BIG DARBY CREEK

DESIGNED RLC CHECKED MAB	DRAWN DJC REVISED	REVIEWED REP STRUCTURE FILE NUMBER 2506786L/2506816R	DATE 6/30/2015
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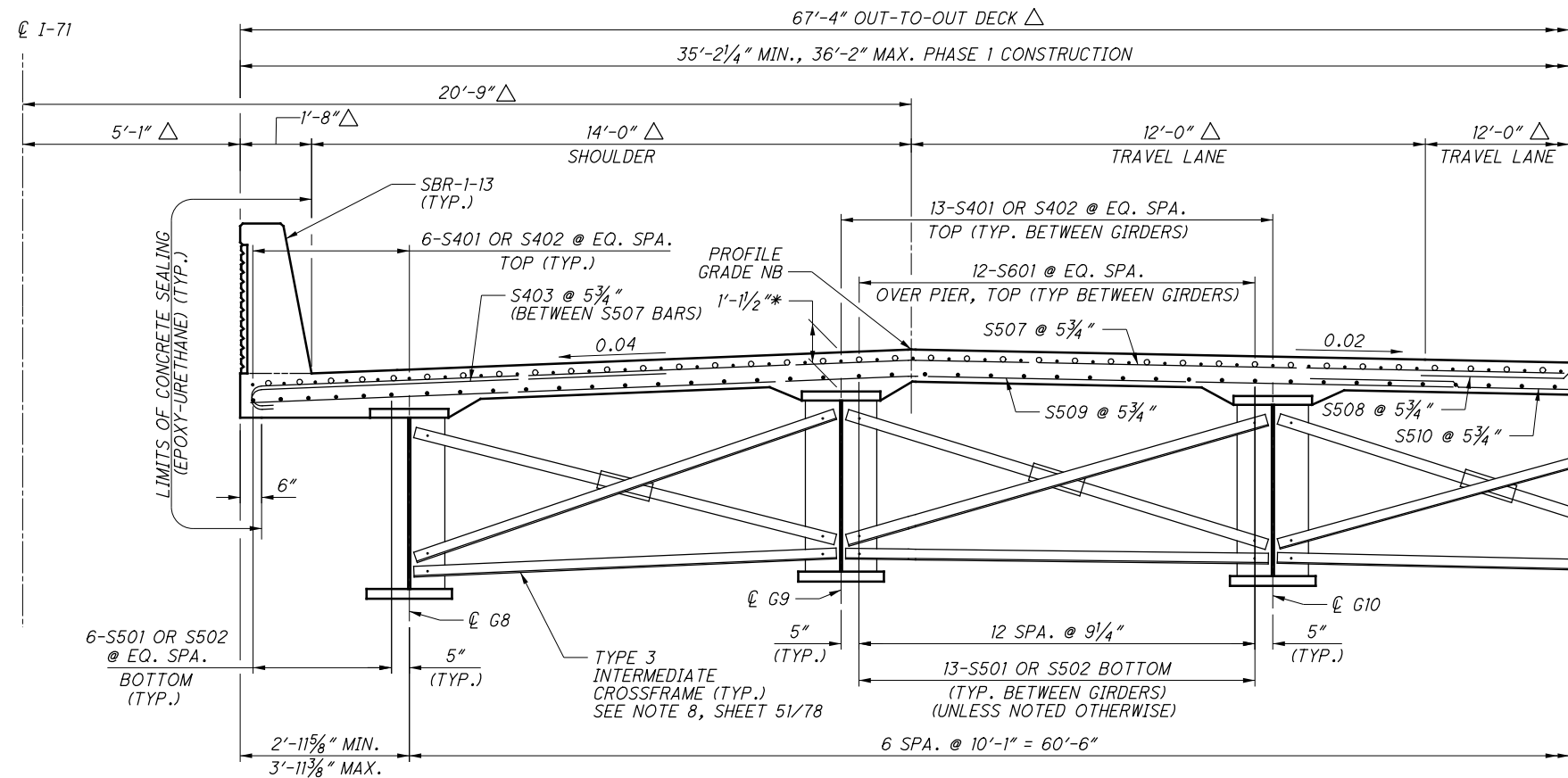
DESIGN AGENCY
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FRA-71-1.53
PID No. 93496

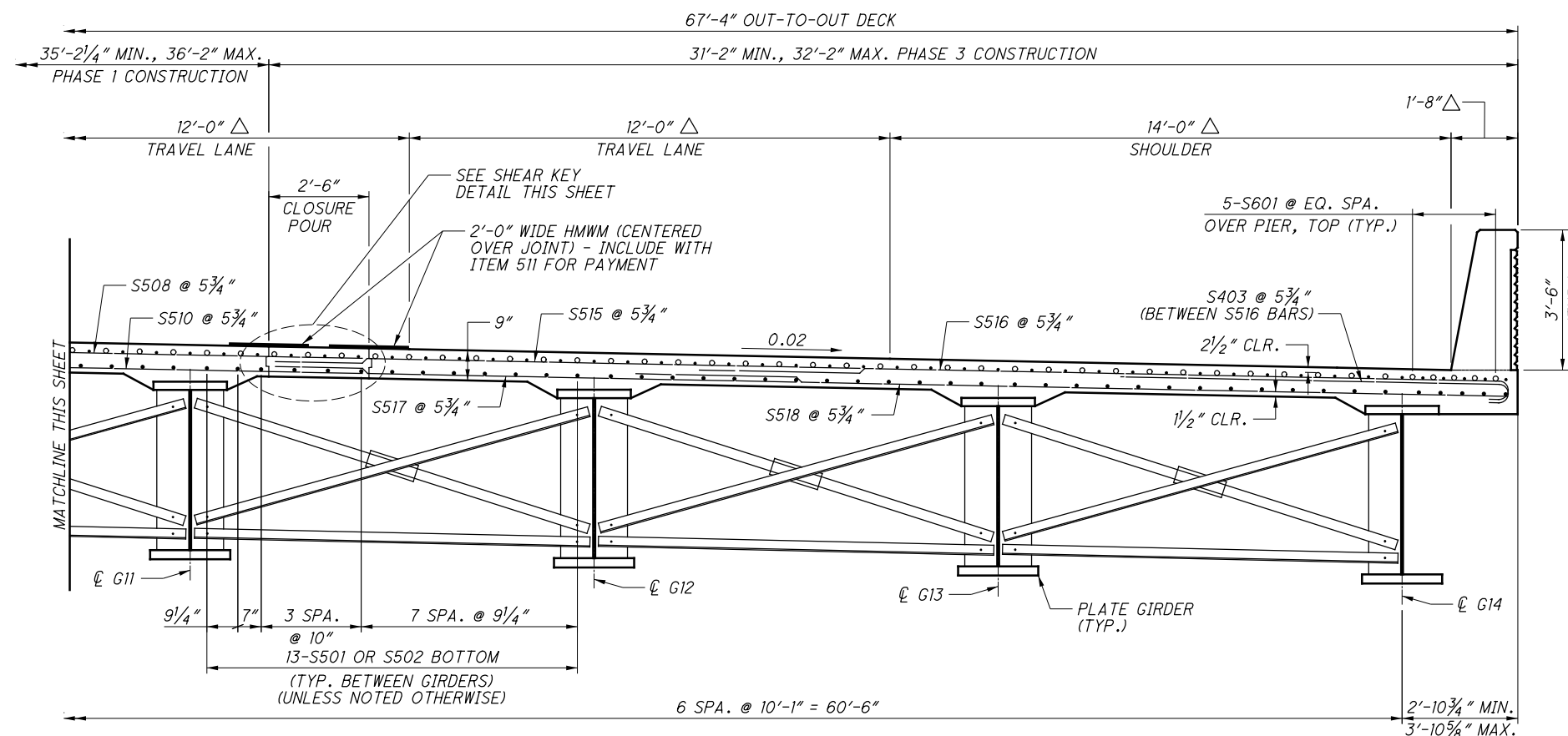
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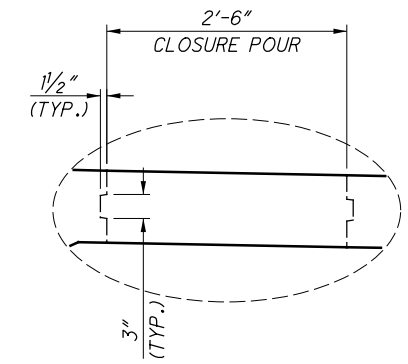
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TRANSVERSE SECTION - NORTHBOUND BRIDGE



TRANSVERSE SECTION - NORTHBOUND BRIDGE



SHEAR KEY DETAIL

NOTES:

- FOR DECK REINFORCING PLAN, SEE SHEET 63/78.
- FOR PARAPET ELEVATION AND REINFORCING, SEE SHEETS 69/78 AND 73/78.
- FIELD BEND TRANSVERSE BARS TO FIT THE CROWN. SEE GENERAL NOTES, SHEETS 4/78 AND 5/78 FOR ADDITIONAL INFORMATION.
- FOR DECK OVERHANG DIMENSIONS, SEE SHEETS 67/78 AND 68/78.
- CROSSFRAMES SHALL NOT BE PERMANENTLY ATTACHED IN THE CLOSURE POUR BETWEEN GIRDERS G11 AND G12 UNTIL THE CONCRETE ON BOTH SIDES OF THE CLOSURE POUR HAS BEEN COMPLETED. CROSSFRAMES SHALL BE INSTALLED AND ATTACHED PERMANENTLY PRIOR TO THE PLACEMENT OF THE CLOSURE POUR.
- DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 41#2 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE IS ± 3 INCHES. THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.

LEGEND:

- * - TOP OF SLAB/TOP OF GIRDER WEB
- ** - MINIMUM LAP LENGTH FOR NO. 5 BARS LOCATED INSIDE THE CLOSURE POUR IS 2'-4". MINIMUM LAP LENGTH FOR NO. 5 BARS IN ALL OTHER LOCATIONS IS 3'-2".
- △ - DIMENSIONS MEASURED RADIALLY

MINIMUM LAP LENGTHS	
NO. 4 BAR	2'-9"
NO. 5 BAR	3'-2" **
NO. 6 BAR	4'-1"

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DATE: 6/30/2015
 REVIEWED: KVB
 DRAWN: DJC
 DESIGNED: RLC
 CHECKED: MLH

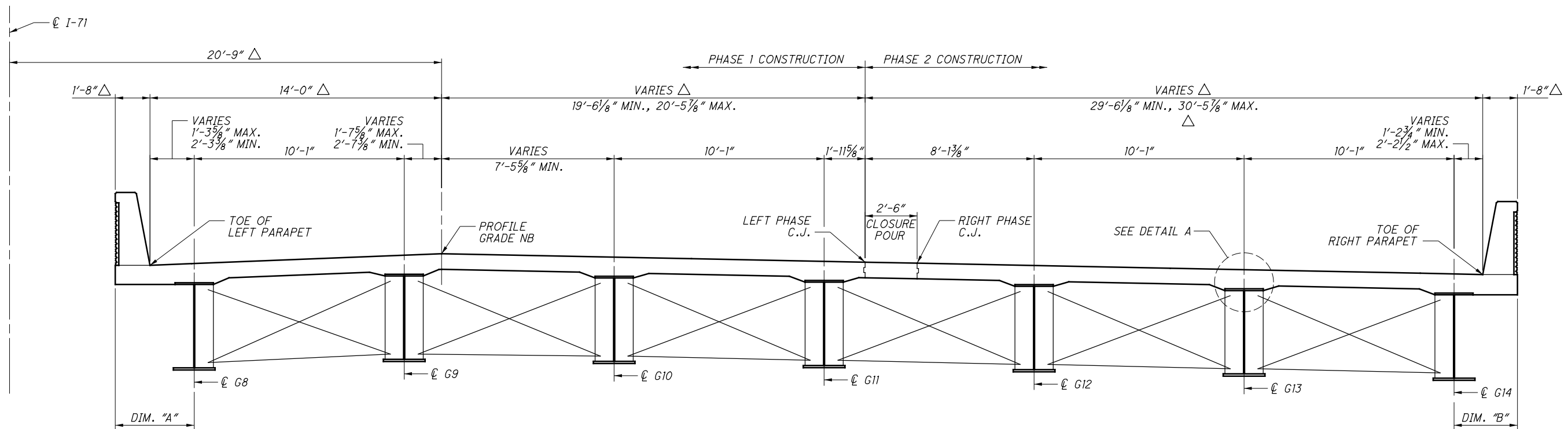
STRUCTURE FILE NUMBER: 2506786L/2506816R

BRIDGE NO.: FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-0.00
 PID No. 93496

62/74
 264
 285

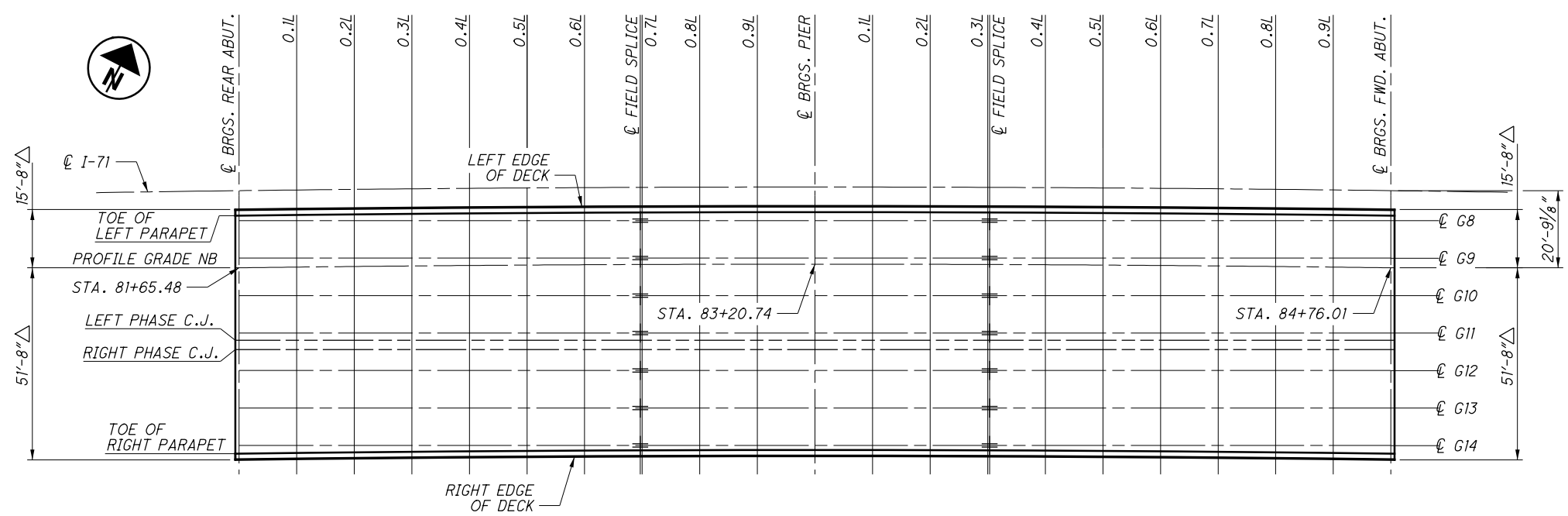
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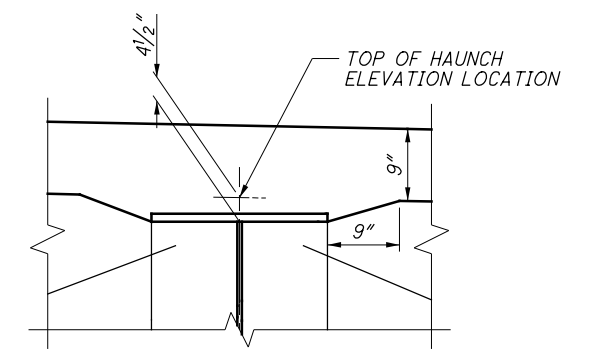
TOP OF HAUNCH & SCREED LOCATIONS-NORTHBOUND

NOTES:

1. FOR SCREED ELEVATIONS, SEE SHEET 65/78.
2. FOR TOP OF HAUNCH ELEVATIONS, SEE SHEET 66/78.
3. FOR FINAL DECK SURFACE ELEVATIONS AND DIMENSIONS "A" AND "B", SEE SHEETS 67/78 AND 68/78.
4. L=SPAN LENGTH.
5. ALL TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY.



DECK ELEVATION PLAN-NORTHBOUND



DETAIL A

LEGEND:

△ - DIMENSIONS MEASURED RADIALLY

<p>Mead & Hunt</p>	<p>DESIGN AGENCY 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX</p>	<p>DATE 6/30/2015</p>	<p>REVIEWED REP</p>	<p>STRUCTURE FILE NUMBER 2506786L/2506816R</p>
<p>DRAWN DJC</p>	<p>CHECKED MAB</p>	<p>DESIGNED RLC</p>	<p>REVISED</p>	<p>FILE NUMBER</p>
<p>TOP OF HAUNCH & SCREED LOCATIONS - NORTHBOUND BRIDGE</p>				
<p>BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK</p>				
<p>FRA-71-1.53</p>				
<p>PID No. 93496</p>				
<p>64/78</p>				
<p>266 285</p>				

NORTHBOUND SCREED ELEVATION TABLE

LOCATION		LEFT PARAPET TOE		PROFILE GRADE NB AND CROWN POINT		LEFT PHASE C.J.		RIGHT PHASE C.J.		RIGHT PARAPET TOE	
		STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
SPAN 1	€ BRGS. R.A.	81+65.65	800.64	81+65.48	801.20	81+65.23	800.81	81+65.20	800.76	81+64.84	800.20
	0.1L	81+81.16	800.88	81+81.01	801.44	81+80.78	801.05	81+80.75	801.00	81+80.43	800.43
	0.2L	81+96.67	801.08	81+96.53	801.65	81+96.33	801.25	81+96.31	801.20	81+96.02	800.62
	0.3L	82+12.18	801.22	82+12.06	801.79	82+11.88	801.39	82+11.86	801.34	82+11.61	800.76
	0.4L	82+27.69	801.30	82+27.58	801.88	82+27.43	801.47	82+27.42	801.42	82+27.20	800.84
	0.5L	82+43.20	801.32	82+43.11	801.90	82+42.99	801.49	82+42.97	801.44	82+42.79	800.86
	0.6L	82+58.70	801.29	82+58.64	801.86	82+58.54	801.45	82+58.52	801.40	82+58.38	800.84
	€ FIELD SPLICE	82+73.72	801.23	82+73.66	801.81	82+73.59	801.40	82+73.58	801.35	82+73.47	800.77
	0.7L	82+74.21	801.22	82+74.16	801.79	82+74.09	801.38	82+74.08	801.33	82+73.97	800.77
	0.8L	82+89.72	801.15	82+89.69	801.71	82+89.64	801.30	82+89.63	801.25	82+89.56	800.70
	0.9L	83+05.23	801.09	83+05.21	801.65	83+05.19	801.24	83+05.19	801.19	83+05.15	800.65
	€ BRGS. PIER	83+20.74	801.08	83+20.74	801.64	83+20.74	801.23	83+20.74	801.18	83+20.74	800.64
SPAN 2	0.1L	83+36.25	801.11	83+36.27	801.67	83+36.29	801.26	83+36.30	801.21	83+36.33	800.67
	0.2L	83+51.76	801.18	83+51.79	801.74	83+51.84	801.34	83+51.85	801.29	83+51.92	800.74
	0.3L	83+67.27	801.27	83+67.32	801.83	83+67.40	801.42	83+67.41	801.37	83+67.51	800.81
	€ FIELD SPLICE	83+67.77	801.27	83+67.82	801.82	83+67.90	801.41	83+67.91	801.36	83+68.02	800.82
	0.4L	83+82.78	801.34	83+82.85	801.91	83+82.95	801.51	83+82.96	801.46	83+83.10	800.89
	0.5L	83+98.29	801.38	83+98.38	801.96	83+98.50	801.55	83+98.52	801.50	83+98.70	800.92
	0.6L	84+13.79	801.37	84+13.90	801.95	84+14.05	801.54	84+14.07	801.49	84+14.29	800.91
	0.7L	84+29.30	801.30	84+29.43	801.87	84+29.60	801.47	84+29.63	801.42	84+29.88	800.84
	0.8L	84+44.81	801.16	84+44.96	801.73	84+45.16	801.33	84+45.18	801.28	84+45.47	800.71
	0.9L	84+60.32	800.97	84+60.48	801.54	84+60.71	801.14	84+60.74	801.09	84+61.06	800.52
	€ BRGS. F. A.	84+75.83	800.74	84+76.01	801.30	84+76.26	800.91	84+76.29	800.86	84+76.65	800.30

NOTES:

1. FOR SCREED LINE LOCATIONS, SEE SHEET 64/78.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. L=SPAN LENGTH.

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REVIEWED DATE 6/30/2015
 REP STRUCTURE FILE NUMBER 2506786L/2506816R
 DRAWN DJC
 CHECKED MAB
 REVISIONS

SCREEN TABLE - NORTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496

65/78
 267
 285

NORTHBOUND TOP OF HAUNCH ELEVATION TABLE

LOCATION	€ G8		€ G9		€ G10		€ G11		€ G12		€ G13		€ G14		
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	
SPAN 1	€ BRGS. R.A.	81+65.64	799.94	81+65.51	800.35	81+65.38	800.30	81+65.26	800.10	81+65.13	799.90	81+65.00	799.69	81+64.87	799.49
	0.1L	81+81.15	800.19	81+81.03	800.60	81+80.92	800.54	81+80.81	800.34	81+80.69	800.14	81+80.57	799.93	81+80.46	799.72
	0.2L	81+96.66	800.39	81+96.56	800.81	81+96.45	800.74	81+96.36	800.54	81+96.25	800.34	81+96.15	800.13	81+96.04	799.91
	0.3L	82+12.17	800.54	82+12.08	800.96	82+11.99	800.88	82+11.90	800.68	82+11.81	800.48	82+11.72	800.28	82+11.63	800.05
	0.4L	82+27.68	800.63	82+27.60	801.05	82+27.52	800.97	82+27.45	800.76	82+27.37	800.56	82+27.30	800.36	82+27.22	800.13
	0.5L	82+43.19	800.66	82+43.13	801.07	82+43.06	800.98	82+43.00	800.78	82+42.94	800.58	82+42.87	800.38	82+42.81	800.14
	0.6L	82+58.70	800.63	82+58.65	801.04	82+58.60	800.95	82+58.55	800.74	82+58.50	800.54	82+58.44	800.34	82+58.39	800.11
	€ FIELD SPLICE	82+73.71	800.56	82+73.67	800.99	82+73.63	800.89	82+73.59	800.69	82+73.55	800.49	82+73.52	800.28	82+73.48	800.05
	0.7L	82+74.21	800.56	82+74.17	800.97	82+74.13	800.87	82+74.10	800.67	82+74.06	800.47	82+74.02	800.27	82+73.98	800.05
	0.8L	82+89.72	800.49	82+89.69	800.89	82+89.67	800.79	82+89.64	800.59	82+89.62	800.39	82+89.59	800.19	82+89.57	799.98
SPAN 2	€ BRGS. PIER	83+20.74	800.42	83+20.74	800.82	83+20.74	800.72	83+20.74	800.52	83+20.74	800.31	83+20.74	800.11	83+20.74	799.91
	0.1L	83+36.25	800.45	83+36.26	800.86	83+36.28	800.75	83+36.29	800.54	83+36.30	800.35	83+36.32	800.15	83+36.33	799.94
	0.2L	83+51.76	800.52	83+51.79	800.93	83+51.81	800.83	83+51.84	800.63	83+51.86	800.42	83+51.89	800.22	83+51.92	800.01
	0.3L	83+67.27	800.60	83+67.31	801.01	83+67.35	800.92	83+67.39	800.71	83+67.43	800.51	83+67.47	800.31	83+67.50	800.09
	€ FIELD SPLICE	83+67.78	800.61	83+67.82	801.00	83+67.86	800.90	83+67.89	800.70	83+67.93	800.50	83+67.97	800.30	83+68.01	800.09
	0.4L	83+82.78	800.68	83+82.84	801.09	83+82.89	801.00	83+82.94	800.80	83+82.99	800.59	83+83.04	800.39	83+83.09	800.16
	0.5L	83+98.30	800.72	83+98.36	801.13	83+98.43	801.04	83+98.49	800.84	83+98.55	800.64	83+98.62	800.44	83+98.68	800.20
	0.6L	84+13.81	800.70	84+13.88	801.12	84+13.96	801.03	84+14.03	800.83	84+14.11	800.63	84+14.19	800.43	84+14.27	800.19
	0.7L	84+29.32	800.62	84+29.41	801.04	84+29.50	800.96	84+29.58	800.76	84+29.67	800.56	84+29.77	800.36	84+29.86	800.12
	0.8L	84+44.83	800.48	84+44.93	800.89	84+45.04	800.83	84+45.13	800.62	84+45.24	800.42	84+45.34	800.22	84+45.44	799.99
0.9L	84+60.34	800.28	84+60.46	800.69	84+60.57	800.63	84+60.68	800.43	84+60.80	800.23	84+60.92	800.03	84+61.03	799.81	
€ BRGS. F.A.	84+75.85	800.04	84+75.98	800.45	84+76.11	800.40	84+76.23	800.20	84+76.36	800.00	84+76.49	799.79	84+76.62	799.59	

NOTES:

1. FOR TOP OF HAUNCH LOCATIONS, SEE SHEET 64/78.
2. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY THE DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FOR HAUNCH DETAILS, SEE SHEET 64/78.
4. L=SPAN LENGTH.

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 STRUCTURE FILE NUMBER
 2506786L/2506816R

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 DJC
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 MAB

TOP OF HAUNCH TABLE - NORTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496

66/78

268
 285

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FINAL DECK SURFACE ELEVATION TABLE - NORTHBOUND

LOCATION	DECK OVERHANG		LEFT TOE OF PARAPET		€ G8		€ G9		PROFILE GRADE NB/ CROWN		€ G10		€ G11		LEFT PHASE C.J.	
	STATION	DIM. "A"	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	I WILL	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
€ BRGS. R.A.	81+65.68	2'-11 5/8"	81+65.65	800.64	81+65.64	800.69	81+65.51	801.10	81+65.48	801.20	81+65.38	801.05	81+65.26	800.85	81+65.23	800.81
0.1L	81+81.18	3'-1 7/8"	81+81.16	800.72	81+81.15	800.78	81+81.03	801.18	81+81.01	801.28	81+80.92	801.13	81+80.81	800.92	81+80.78	800.88
0.2L	81+96.69	3'-3 7/8"	81+96.67	800.79	81+96.66	800.86	81+96.56	801.26	81+96.53	801.35	81+96.45	801.19	81+96.36	800.99	81+96.33	800.95
0.3L	82+12.20	3'-5 5/8"	82+12.18	800.85	82+12.17	800.92	82+12.08	801.33	82+12.06	801.41	82+11.99	801.25	82+11.90	801.05	82+11.88	801.01
0.4L	82+27.70	3'-7 1/8"	82+27.69	800.91	82+27.68	800.98	82+27.60	801.39	82+27.58	801.47	82+27.52	801.31	82+27.45	801.10	82+27.43	801.06
0.5L	82+43.21	3'-8 1/2"	82+43.20	800.96	82+43.19	801.04	82+43.13	801.44	82+43.11	801.52	82+43.06	801.35	82+43.00	801.15	82+42.99	801.11
0.6L	82+58.72	3'-9 1/2"	82+58.70	801.00	82+58.70	801.08	82+58.65	801.48	82+58.64	801.55	82+58.60	801.39	82+58.55	801.19	82+58.54	801.15
€ FIELD SPLICE	-	-	82+73.72	801.03	82+73.71	801.11	82+73.67	801.52	82+73.66	801.59	82+73.63	801.42	82+73.59	801.22	82+73.59	801.18
0.7L	82+74.22	3'-10 3/8"	82+74.21	801.03	82+74.21	801.11	82+74.17	801.52	82+74.16	801.59	82+74.13	801.42	82+74.10	801.22	82+74.09	801.18
0.8L	82+89.73	3'-10 7/8"	82+89.72	801.05	82+89.72	801.14	82+89.69	801.54	82+89.69	801.61	82+89.67	801.44	82+89.64	801.24	82+89.64	801.20
0.9L	83+05.24	3'-11 1/4"	83+05.23	801.07	83+05.23	801.16	83+05.22	801.56	83+05.21	801.63	83+05.20	801.46	83+05.19	801.26	83+05.19	801.22
€ BRGS. PIER	83+20.74	3'-11 3/8"	83+20.74	801.08	83+20.74	801.17	83+20.74	801.57	83+20.74	801.64	83+20.74	801.47	83+20.74	801.27	83+20.74	801.23
0.1L	83+36.25	3'-11 1/4"	83+36.25	801.08	83+36.25	801.17	83+36.26	801.57	83+36.27	801.64	83+36.28	801.47	83+36.29	801.26	83+36.29	801.23
0.2L	83+51.76	3'-10 7/8"	83+51.76	801.07	83+51.76	801.16	83+51.79	801.56	83+51.79	801.63	83+51.81	801.46	83+51.84	801.26	83+51.84	801.22
0.3L	83+67.26	3'-10 3/8"	83+67.27	801.06	83+67.27	801.14	83+67.31	801.55	83+67.32	801.62	83+67.35	801.45	83+67.39	801.25	83+67.40	801.21
€ FIELD SPLICE	-	-	83+67.77	801.06	83+67.78	801.14	83+67.82	801.55	83+67.82	801.62	83+67.86	801.45	83+67.89	801.25	83+67.90	801.21
0.4L	83+82.77	3'-9 1/2"	83+82.78	801.04	83+82.78	801.12	83+82.84	801.52	83+82.85	801.60	83+82.89	801.43	83+82.94	801.23	83+82.95	801.19
0.5L	83+98.28	3'-8 1/2"	83+98.29	801.01	83+98.30	801.09	83+98.36	801.49	83+98.38	801.57	83+98.43	801.40	83+98.49	801.20	83+98.50	801.16
0.6L	84+13.79	3'-7 1/8"	84+13.79	800.97	84+13.81	801.05	84+13.88	801.45	84+13.90	801.53	84+13.96	801.37	84+14.03	801.16	84+14.05	801.12
0.7L	84+29.29	3'-5 5/8"	84+29.30	800.92	84+29.32	801.00	84+29.41	801.40	84+29.43	801.48	84+29.50	801.32	84+29.58	801.12	84+29.60	801.08
0.8L	84+44.80	3'-3 7/8"	84+44.81	800.87	84+44.83	800.94	84+44.93	801.34	84+44.96	801.43	84+45.04	801.27	84+45.13	801.07	84+45.16	801.03
0.9L	84+60.31	3'-1 7/8"	84+60.32	800.81	84+60.34	800.87	84+60.46	801.27	84+60.48	801.37	84+60.57	801.22	84+60.68	801.01	84+60.71	800.97
€ BRGS. F.A.	84+75.81	2'-11 5/8"	84+75.83	800.74	84+75.85	800.79	84+75.98	801.20	84+76.01	801.30	84+76.11	801.15	84+76.23	800.95	84+76.26	800.91

NOTES:

- FOR FINAL DECK ELEVATION LOCATIONS, SEE SHEET 64/78.
- FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.
- DIMENSION "A" IS MEASURED PERPENDICULAR TO THE € G8. DIMENSION "B" IS MEASURED PERPENDICULAR TO THE € G14.
- L=SPAN LENGTH.

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STRUCTURE FILE NUMBER
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DJC
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CHECKED
MAB

FINAL DECK SURFACE ELEVATIONS - NORTHBOUND BRIDGE
BRIDGE NO. FRA-71-0153 L/R
OVER BIG DARBY CREEK

FRA-71-1.53
PID No. 93496

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FINAL DECK SURFACE ELEVATION TABLE - NORTHBOUND

LOCATION	RIGHT PHASE C.J.		€ G12		€ G13		€ G14		RIGHT TOE OF PARAPET		DECK OVERHANG	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	DIM. "B"
€ BRGS. R.A.	81+65.20	800.76	81+65.13	800.65	81+65.00	800.44	81+64.87	800.24	81+64.84	800.20	81+64.82	3'-10 1/2"
0.1L	81+80.75	800.83	81+80.69	800.72	81+80.57	800.52	81+80.46	800.32	81+80.43	800.28	81+80.41	3'-8 1/4"
0.2L	81+96.31	800.90	81+96.25	800.79	81+96.15	800.59	81+96.04	800.38	81+96.02	800.35	81+96.01	3'-6 1/4"
0.3L	82+11.86	800.96	82+11.81	800.85	82+11.72	800.65	82+11.63	800.44	82+11.61	800.41	82+11.60	3'-4 1/2"
0.4L	82+27.42	801.01	82+27.37	800.90	82+27.30	800.70	82+27.22	800.50	82+27.20	800.47	82+27.19	3'-3"
0.5L	82+42.97	801.06	82+42.94	800.95	82+42.87	800.75	82+42.81	800.54	82+42.79	800.51	82+42.78	3'-1 5/8"
0.6L	82+58.52	801.10	82+58.50	800.99	82+58.44	800.78	82+58.39	800.58	82+58.38	800.55	82+58.37	3'-0 5/8"
€ FIELD SPLICE	82+73.58	801.13	82+73.55	801.02	82+73.52	800.81	82+73.48	800.61	82+73.47	800.59	-	-
0.7L	82+74.08	801.13	82+74.06	801.02	82+74.02	800.81	82+73.98	800.61	82+73.97	800.59	82+73.97	2'-11 3/4"
0.8L	82+89.63	801.15	82+89.62	801.04	82+89.59	800.84	82+89.57	800.64	82+89.56	800.61	82+89.56	2'-11 1/8"
0.9L	83+05.19	801.17	83+05.18	801.06	83+05.17	800.85	83+05.15	800.65	83+05.15	800.63	83+05.15	2'-10 7/8"
€ BRGS. PIER	83+20.74	801.18	83+20.74	801.06	83+20.74	800.86	83+20.74	800.66	83+20.74	800.64	83+20.74	2'-10 3/4"
0.1L	83+36.30	801.18	83+36.30	801.07	83+36.32	800.86	83+36.33	800.66	83+36.33	800.64	83+36.34	2'-10 7/8"
0.2L	83+51.85	801.17	83+51.86	801.06	83+51.89	800.86	83+51.92	800.66	83+51.92	800.63	83+51.93	2'-11 1/8"
0.3L	83+67.41	801.16	83+67.43	801.05	83+67.47	800.84	83+67.50	800.64	83+67.51	800.62	83+67.52	2'-11 3/4"
€ FIELD SPLICE	83+67.91	801.16	83+67.93	801.05	83+67.97	800.84	83+68.01	800.64	83+68.02	800.62	-	-
0.4L	83+82.96	801.14	83+82.99	801.03	83+83.04	800.82	83+83.09	800.62	83+83.10	800.59	83+83.11	3'-0 5/8"
0.5L	83+98.52	801.11	83+98.55	801.00	83+98.62	800.80	83+98.68	800.59	83+98.70	800.56	83+98.71	3'-1 5/8"
0.6L	84+14.07	801.07	84+14.11	800.96	84+14.19	800.76	84+14.27	800.56	84+14.29	800.53	84+14.30	3'-3"
0.7L	84+29.63	801.03	84+29.67	800.92	84+29.77	800.72	84+29.86	800.52	84+29.88	800.48	84+29.89	3'-4 1/2"
0.8L	84+45.18	800.98	84+45.24	800.87	84+45.34	800.67	84+45.44	800.47	84+45.47	800.43	84+45.48	3'-6 1/4"
0.9L	84+60.74	800.92	84+60.80	800.81	84+60.92	800.61	84+61.03	800.41	84+61.06	800.37	84+61.08	3'-8 1/4"
€ BRGS. F.A.	84+76.29	800.86	84+76.36	800.75	84+76.49	800.54	84+76.62	800.34	84+76.65	800.30	84+76.67	3'-10 1/2"

NOTE:

1. FOR NOTES, SEE SHEET 67/78.

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 2506786L/2506816R

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 M/AB

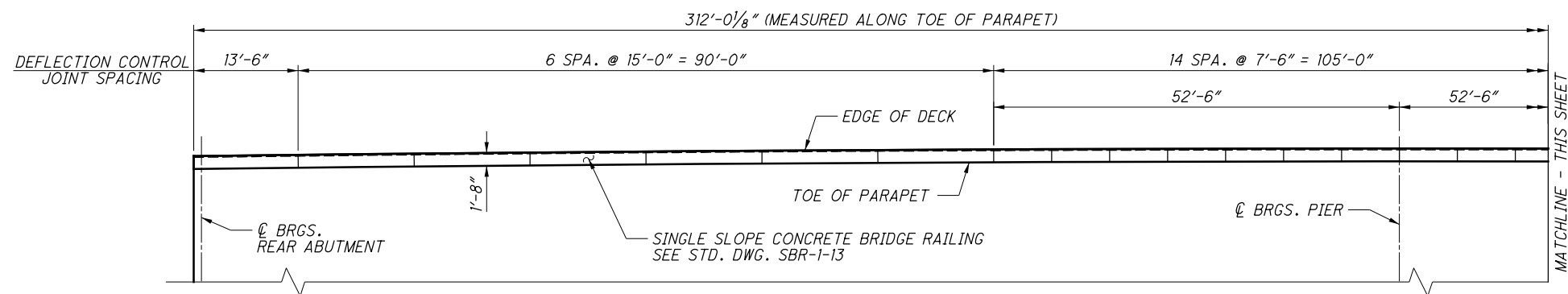
DESIGNED
 R/LC
 CHECKED
 M/AB

FINAL DECK SURFACE ELEVATIONS - NORTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

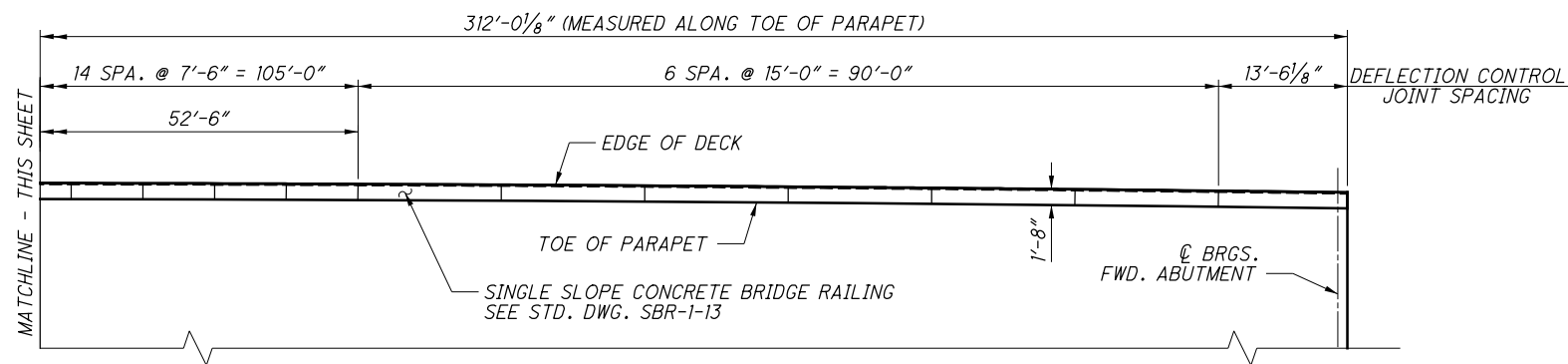
FRA-71-1.53
 PID No. 93496

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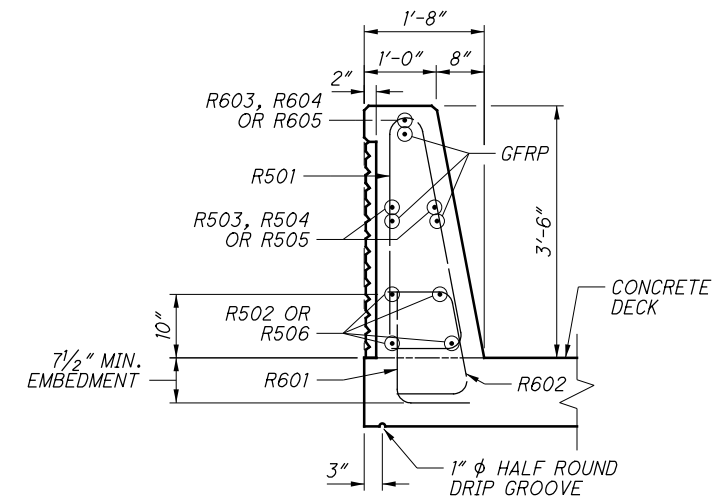
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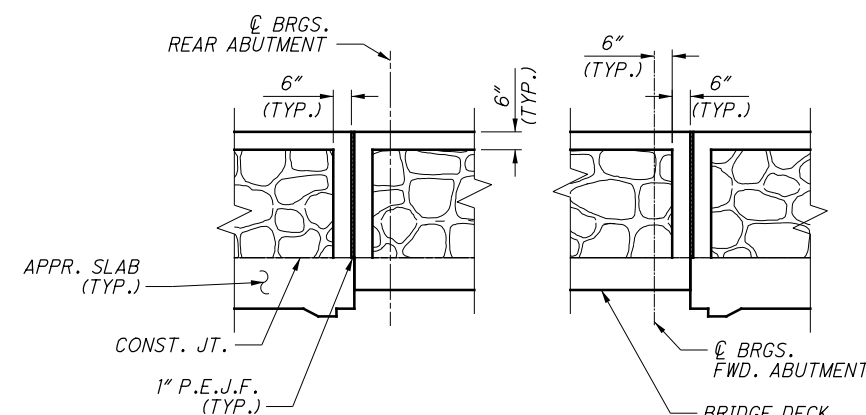
PARAPET PART PLAN
(SOUTHBOUND BRIDGE LEFT SIDE SHOWN)
OTHERS SIMILAR



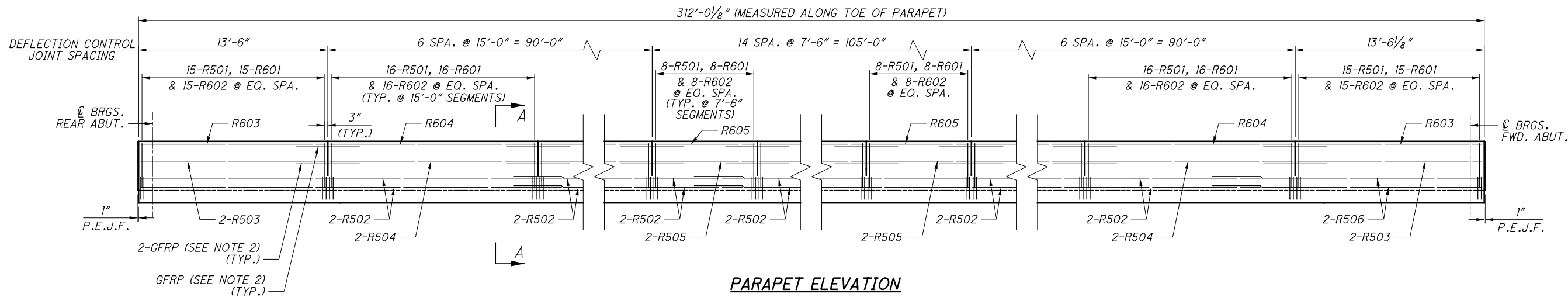
PARAPET PART PLAN
(SOUTHBOUND BRIDGE LEFT SIDE SHOWN)
OTHERS SIMILAR



SECTION A-A



AESTHETIC DETAILS



PARAPET ELEVATION
(SOUTHBOUND BRIDGE LEFT SIDE SHOWN)
OTHERS SIMILAR

NOTES:

- FOR ADDITIONAL PARAPET DETAILS AND NOTES, SEE STD. DWG. SBR-1-13.
- 1/2" DIAMETER GLASS FIBER REINFORCED POLYMER (GFRP) BAR, 4'-6" LONG, CENTERED ON 4" SAWCUT. INCLUDE WITH ITEM 509 - EPOXY COATED REINFORCING STEEL FOR PAYMENT.

MINIMUM LAP LENGTHS	
NO. 5 BAR	3'-5"
NO. 6 BAR	4'-1"

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 STRUCTURE FILE NUMBER: 2506786L/2506816R

DRAWN: DJC
 CHECKED: MLH

DESIGNED: RLC
 CHECKED: MLH

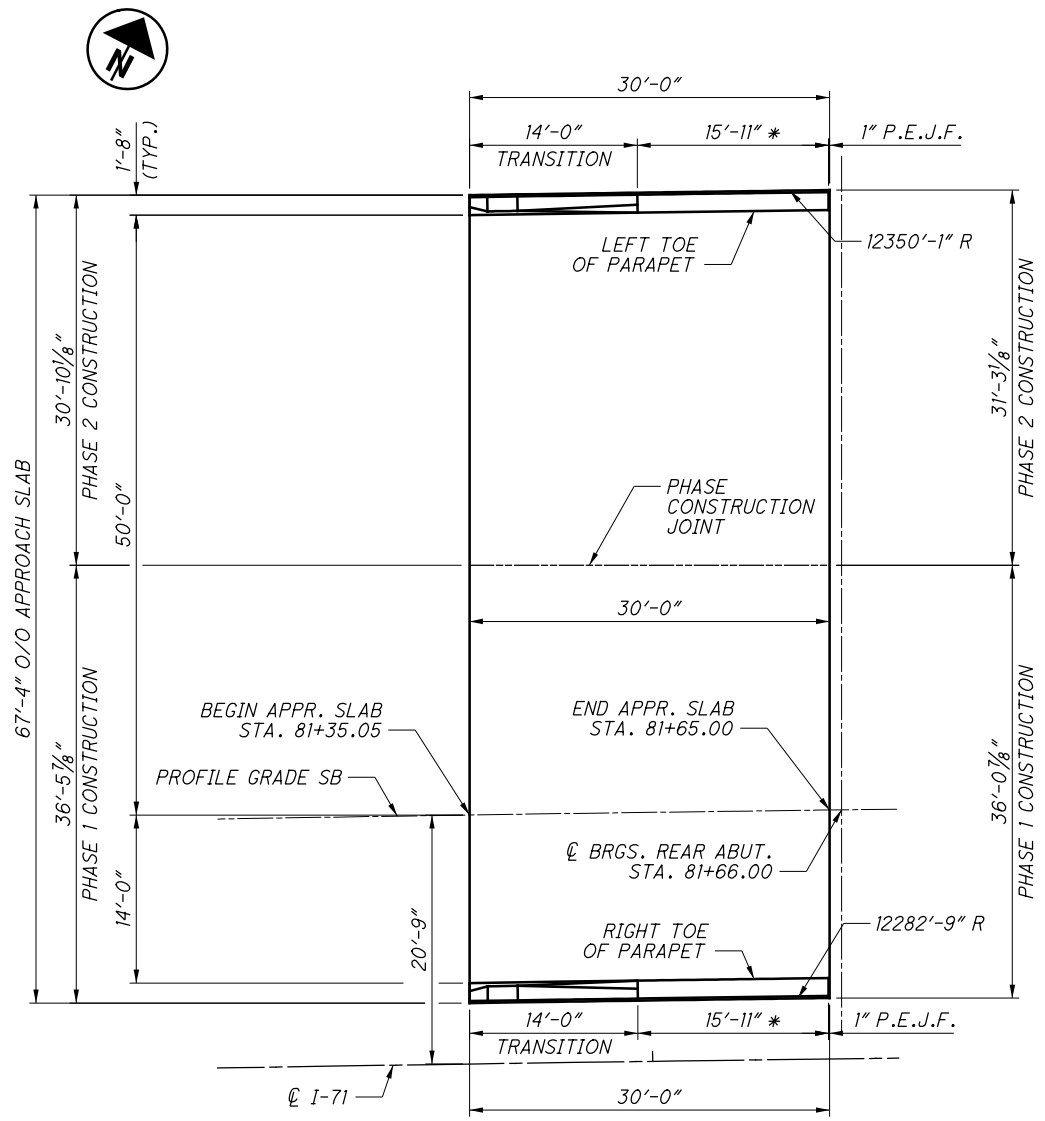
PARAPET DETAILS
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496

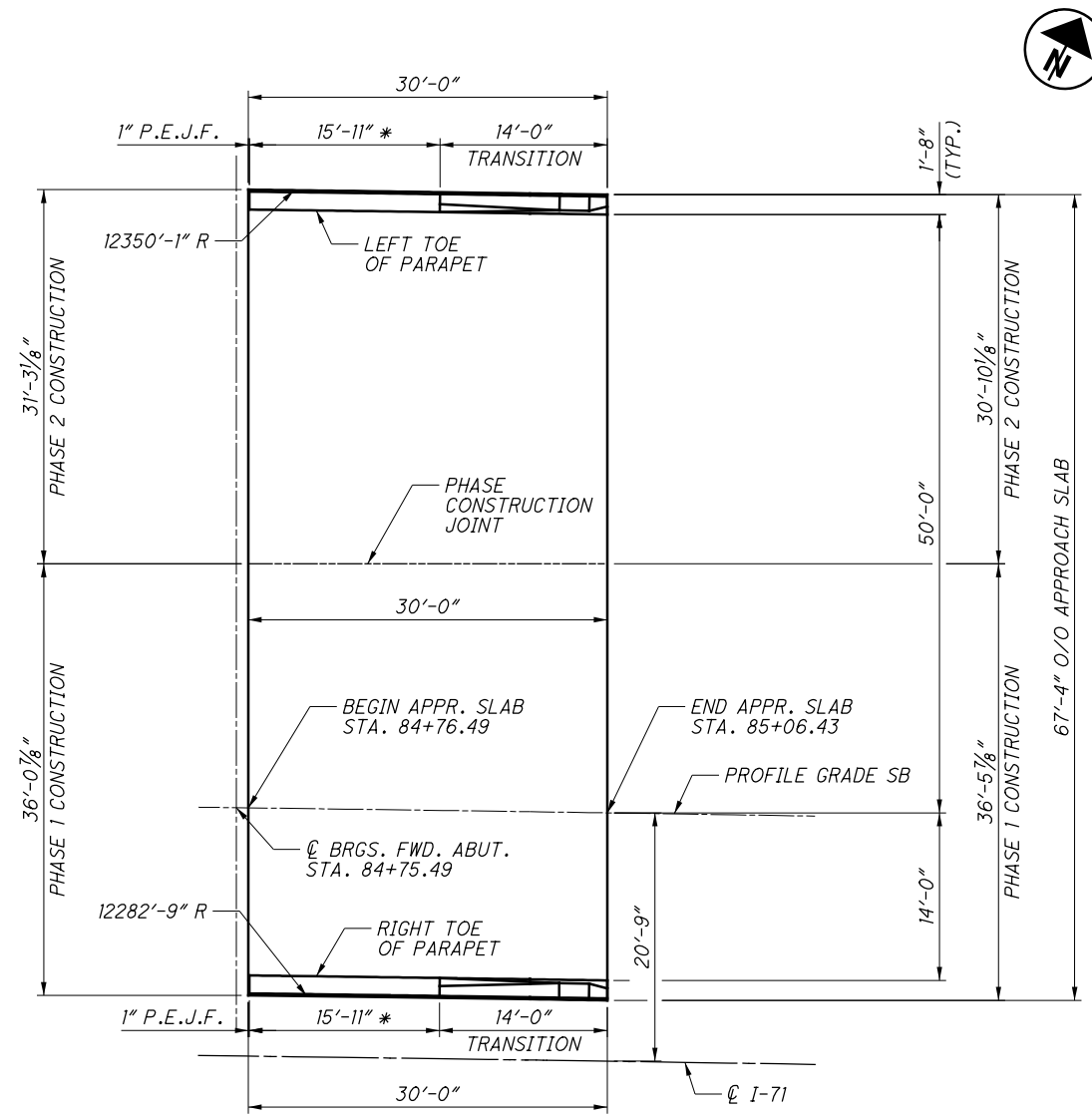
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REAR APPROACH SLAB PLAN-SOUTHBOUND



FORWARD APPROACH SLAB PLAN-SOUTHBOUND

TOP OF APPROACH SLAB ELEVATION TABLE-SOUTHBOUND

APPROACH SLAB	LOCATION	LEFT TOE OF PARAPET			CROWN			PHASE CONSTRUCTION JOINT			PROFILE GRADE SB			RIGHT TOE OF PARAPET		
		STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION
REAR ABUT.	0.0 L	81+35.80	70.75	800.29	81+35.59	56.75	800.85	81+35.36	41.57	800.55	81+35.05	20.75	800.13	81+34.83	6.75	799.85
	0.5 L	81+50.72	70.75	800.37	81+50.53	56.75	800.93	81+50.31	41.35	800.62	81+50.03	20.75	800.21	81+49.83	6.75	799.92
	1.0 L	81+65.63	70.75	800.44	81+65.46	56.75	801.00	81+65.26	41.15	800.69	81+65.00	20.75	800.28	81+64.83	6.75	800.00
FORWARD ABUT.	0.0 L	84+75.85	70.75	800.32	84+76.03	56.75	800.88	84+76.23	41.15	800.57	84+76.49	20.75	800.16	84+76.66	6.75	799.88
	0.5 L	84+90.77	70.75	800.25	84+90.98	56.75	800.81	84+91.18	41.35	800.50	84+91.46	20.75	800.09	84+91.66	6.75	799.80
	1.0 L	85+05.68	70.75	800.17	85+05.89	56.75	800.73	85+06.12	41.57	800.43	85+06.43	20.75	800.01	85+06.65	6.75	799.73

- NOTES:**
- FOR ADDITIONAL DETAIL NOTES, SEE ODOT STD. DWG. AS-1-15 AND AS-2-15.
 - FOR DETAILS AND NOTES OF THE CONCRETE PARAPET, SEE ODOT STD. DWG. SBR-1-13.
 - FOR APPROACH SLAB REINFORCING DETAILS, SEE SHEET 71/78.
 - ALL TRANSVERSE DIMENSIONS ARE MEASURED RADially.

LEGEND:
* - MEASURED ALONG BACKFACE OF PARAPET

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 CHECKED: CMH

DRAWN: DJC
 REVISED:

REVIEWED: REP
 DATE: 6/30/2015
 STRUCTURE FILE NUMBER: 2506786L/2506816R

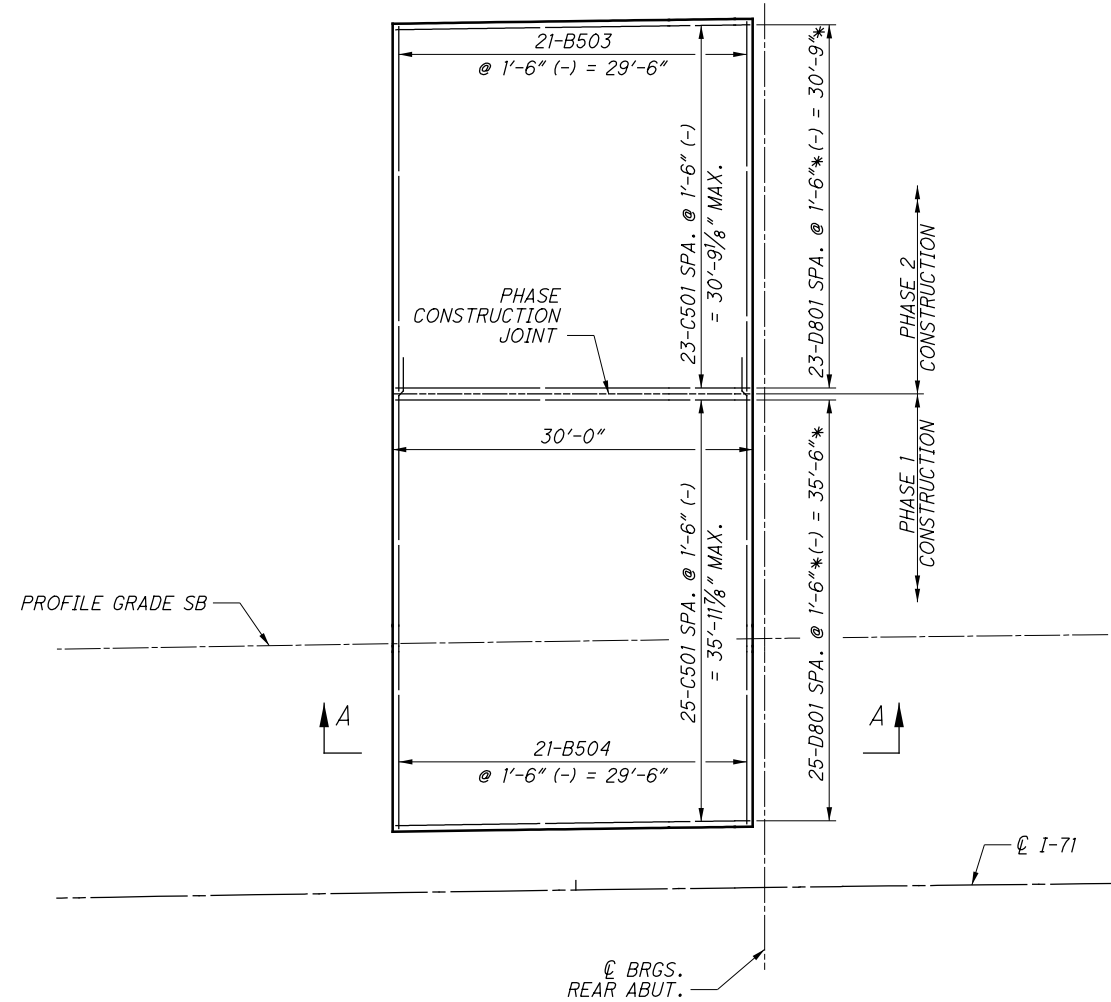
BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

APPROACH SLAB DETAILS - SOUTHBOUND BRIDGE

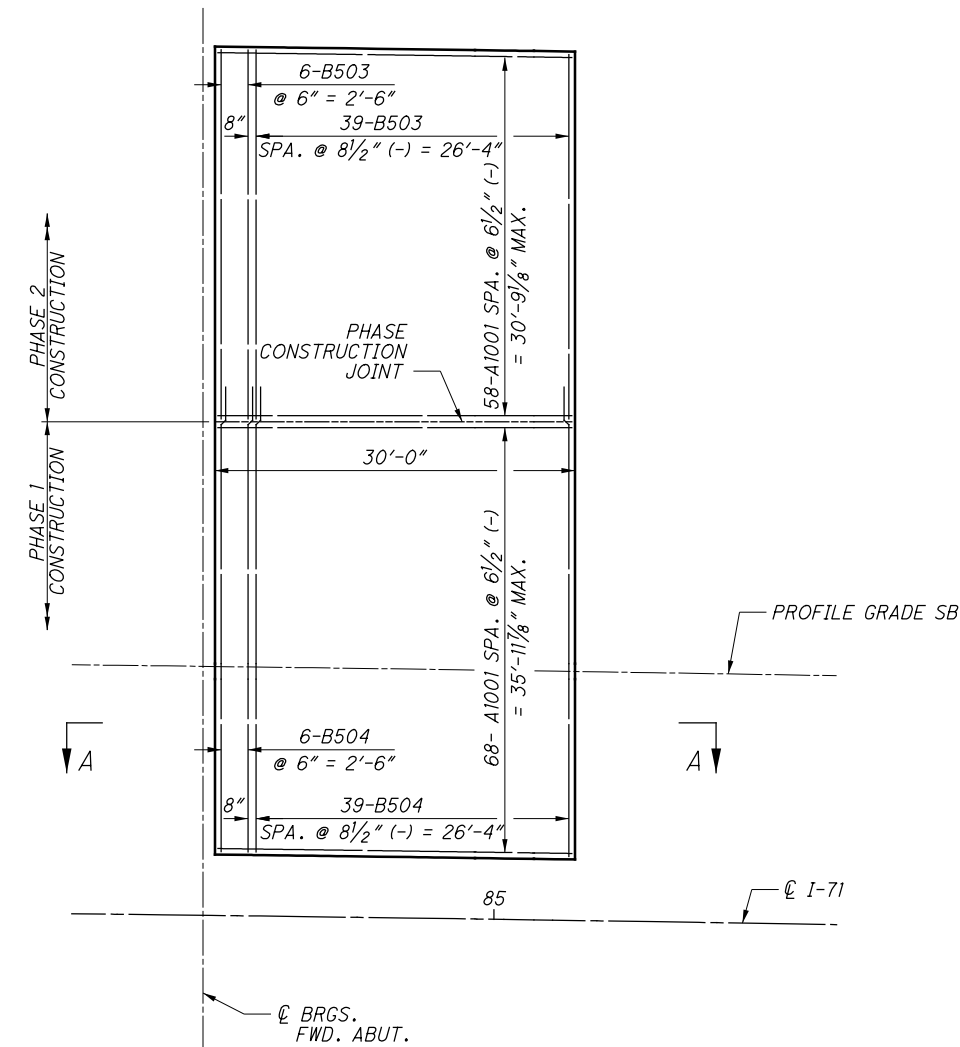
FRA-71-1.53
 PID No. 93496

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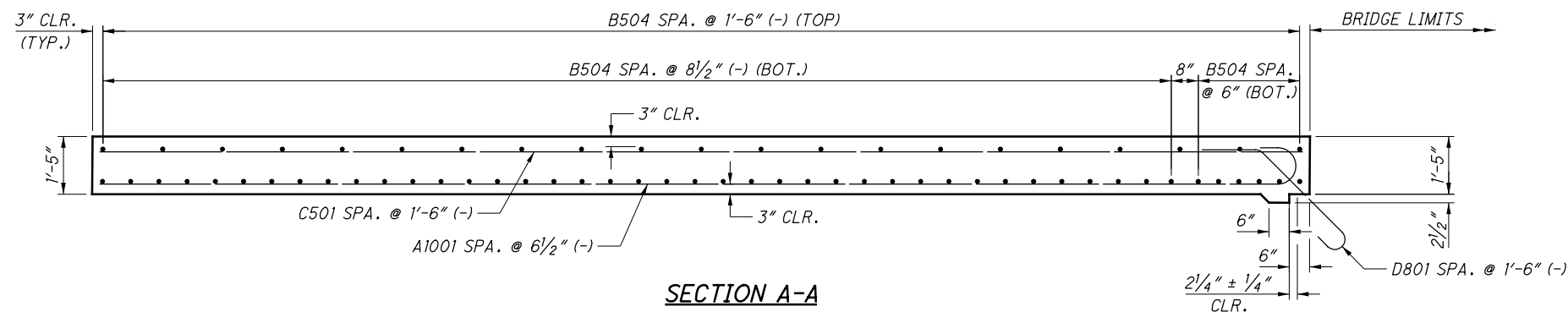


REAR APPROACH TOP REINFORCING SLAB PLAN-SOUTHBOUND
FORWARD APPROACH SIMILAR



FORWARD APPROACH BOTTOM REINFORCING SLAB PLAN-SOUTHBOUND
REAR APPROACH SIMILAR

MINIMUM LAP LENGTHS	
NO. 5 BAR	2'-9"



SECTION A-A

NOTE:
1. FOR ADDITIONAL DETAILS, NOTES, AND SLAB REINFORCING SEE ODOT STD. DWG. AS-1-15 AND AS-2-15.

LEGEND:
* - MEASURED PERPENDICULAR TO REFERENCE CHORD.

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DESIGNED: RLC / CMH
 CHECKED: CMH
 DRAWN: DJC / REVISED
 REVISIONS: 2506786L/2506816R

REVIEWED: REP 6/30/2015
 STRUCTURE FILE NUMBER: 2506786L/2506816R
 DATE: 6/30/2015

BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

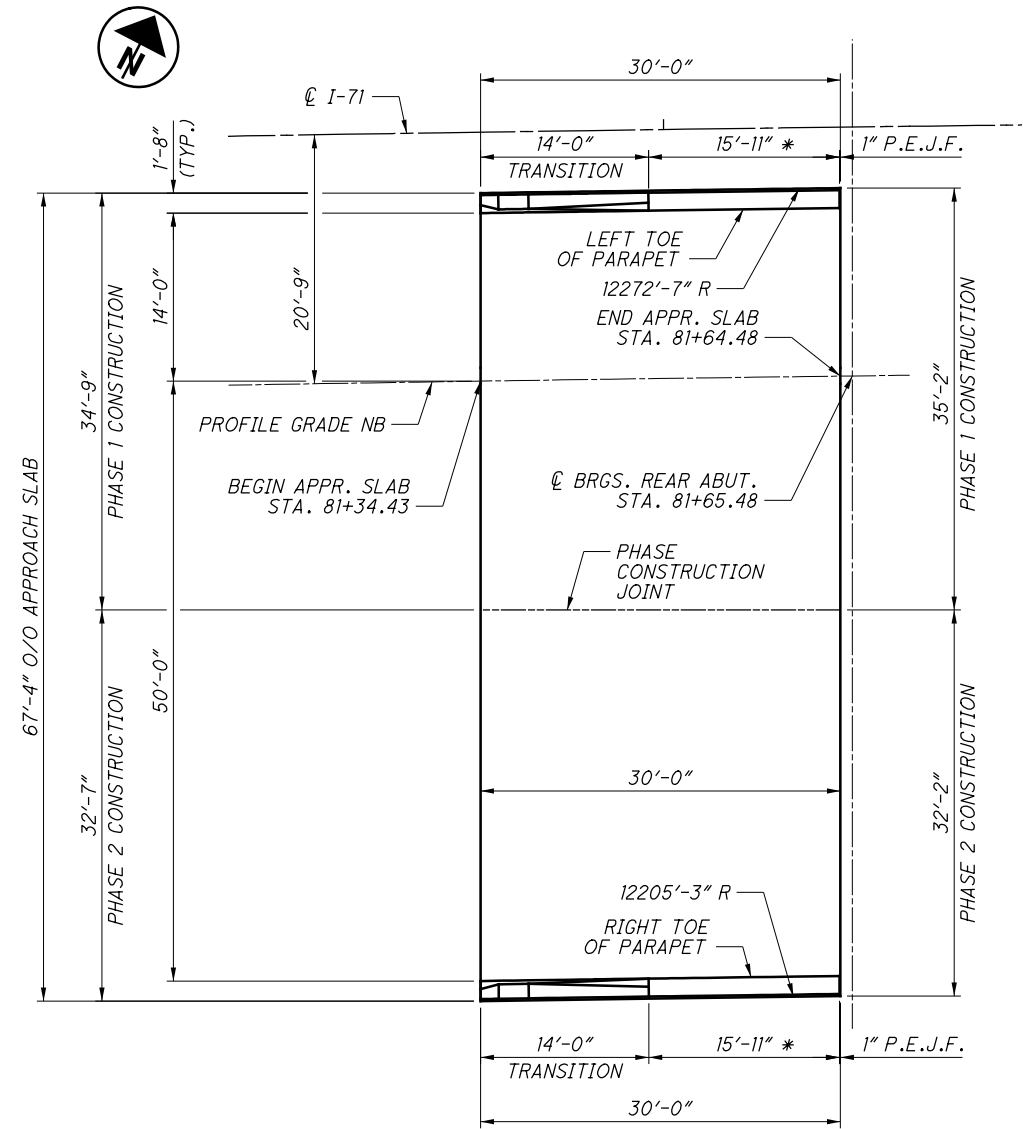
APPROACH SLAB DETAILS - SOUTHBOUND BRIDGE

FRA-71-1.53
 PID No. 93496

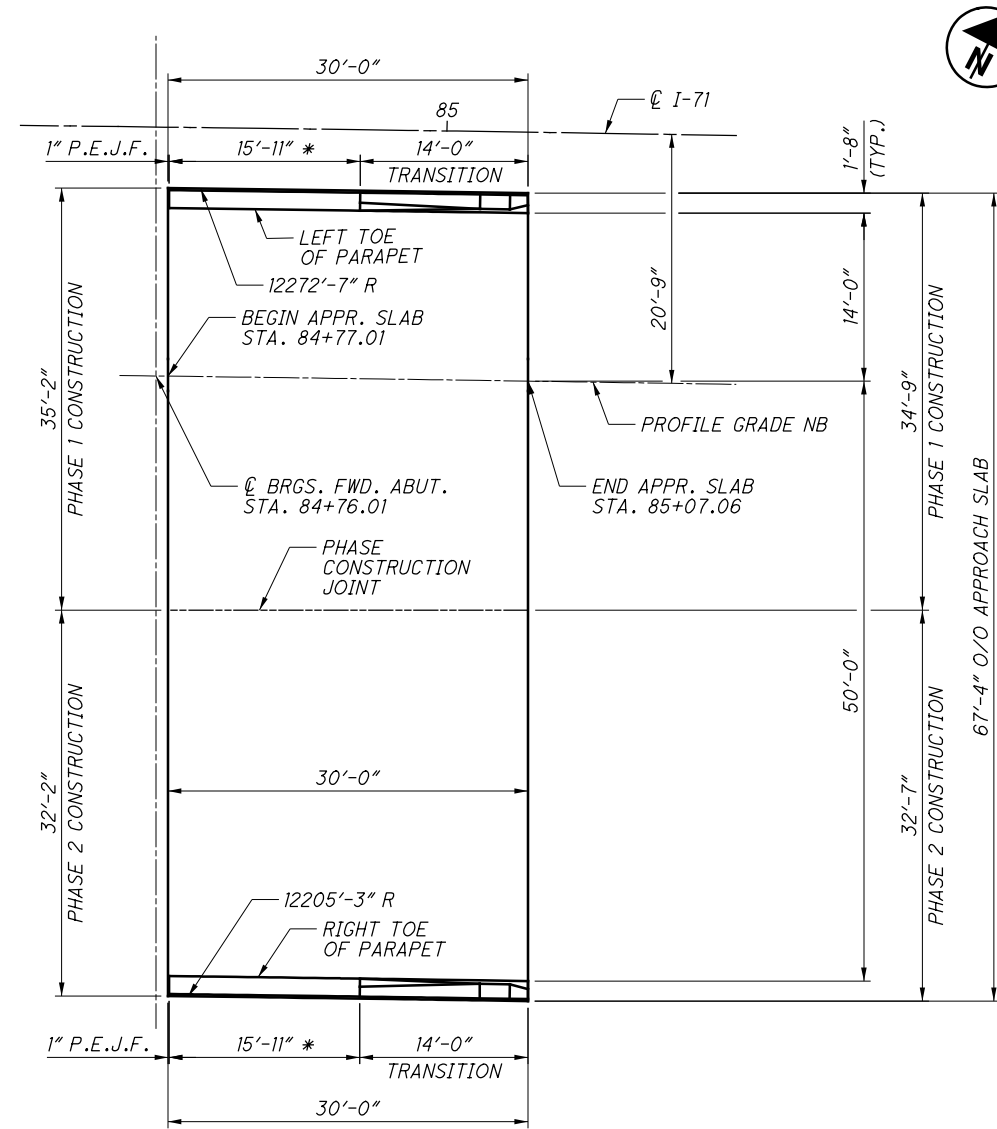
71 / 78

273
 285

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REAR APPROACH SLAB PLAN-NORTHBOUND



FORWARD APPROACH SLAB PLAN-NORTHBOUND

TOP OF APPROACH SLAB ELEVATION TABLE-NORTHBOUND													
APPROACH SLAB	LOCATION	LEFT TOE OF PARAPET			PROFILE GRADE NB/CROWN			PHASE CONSTRUCTION JOINT			RIGHT TOE OF PARAPET		
		STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION
REAR ABUT.	0.0 L	81+34.64	6.75	800.46	81+34.43	20.75	801.02	81+34.13	39.83	800.64	81+33.66	70.75	800.02
	0.5 L	81+49.64	6.75	800.55	81+49.45	20.75	801.11	81+49.18	40.05	800.72	81+48.75	70.75	800.11
	1.0 L	81+64.65	6.75	800.64	81+64.48	20.75	801.20	81+64.23	40.25	800.80	81+63.84	70.75	800.19
FORWARD ABUT.	0.0 L	84+76.83	6.75	800.74	84+77.01	20.75	801.30	84+77.26	40.25	800.91	84+77.65	70.75	800.29
	0.5 L	84+91.84	6.75	800.66	84+92.04	20.75	801.22	84+92.31	40.05	800.84	84+92.74	70.75	800.22
	1.0 L	85+06.85	6.75	800.58	85+07.06	20.75	801.14	85+07.35	39.83	800.76	85+07.83	70.75	800.14

NOTES:

- FOR ADDITIONAL DETAIL NOTES, SEE ODOT STD. DWG. AS-1-15 AND AS-2-15.
- FOR DETAILS AND NOTES OF THE CONCRETE PARAPET, SEE ODOT STD. DWG. SBR-1-13.
- FOR APPROACH SLAB REINFORCING DETAILS, SEE SHEET 73/78.
- ALL TRANSVERSE DIMENSIONS ARE MEASURED RADIALLY.

LEGEND:

* - MEASURED ALONG BACKFACE OF PARAPET

DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5801 FAX

DATE: 6/30/2015
 REVISED: 2506786L/2506816R

DESIGNED: RLC
 CHECKED: CMH

DRAWN: DJC
 REVISED:

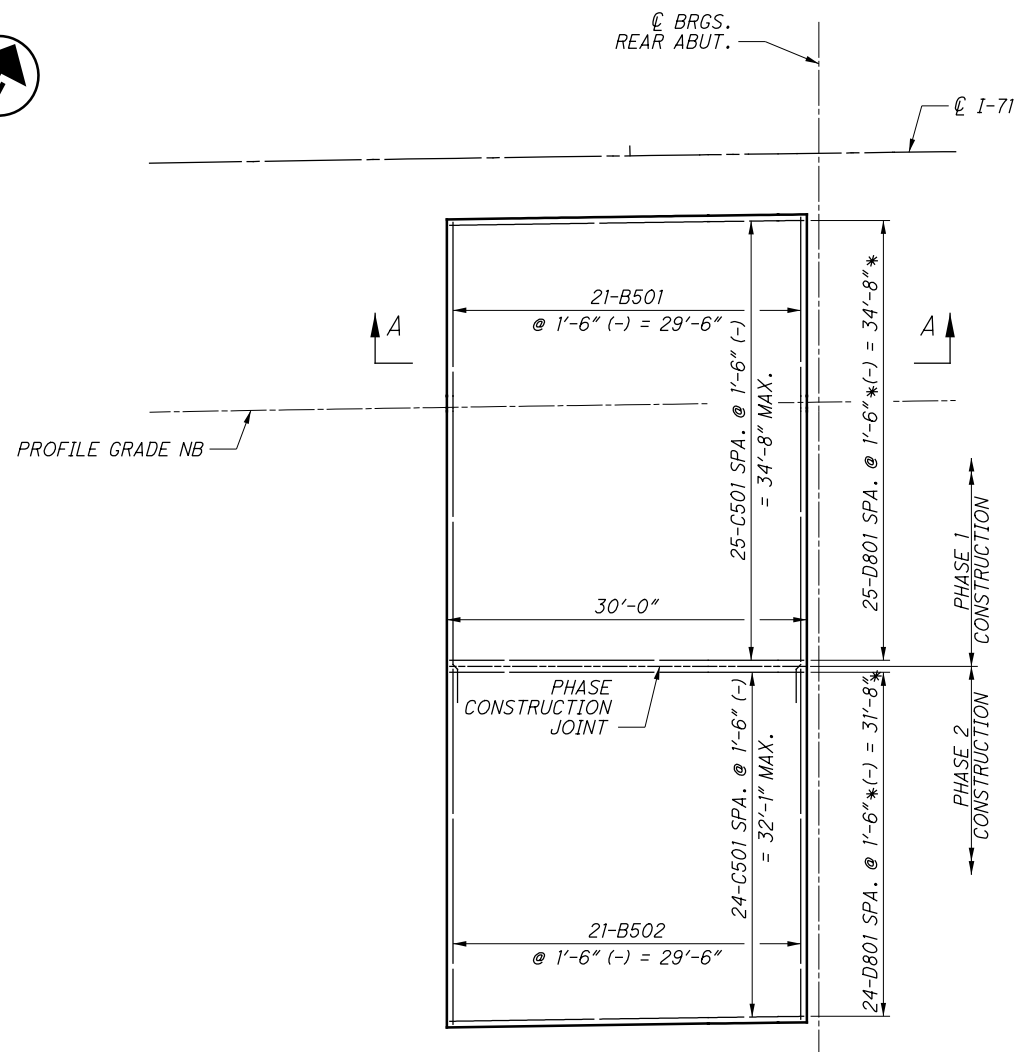
BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

APPROACH SLAB DETAILS - NORTHBOUND BRIDGE

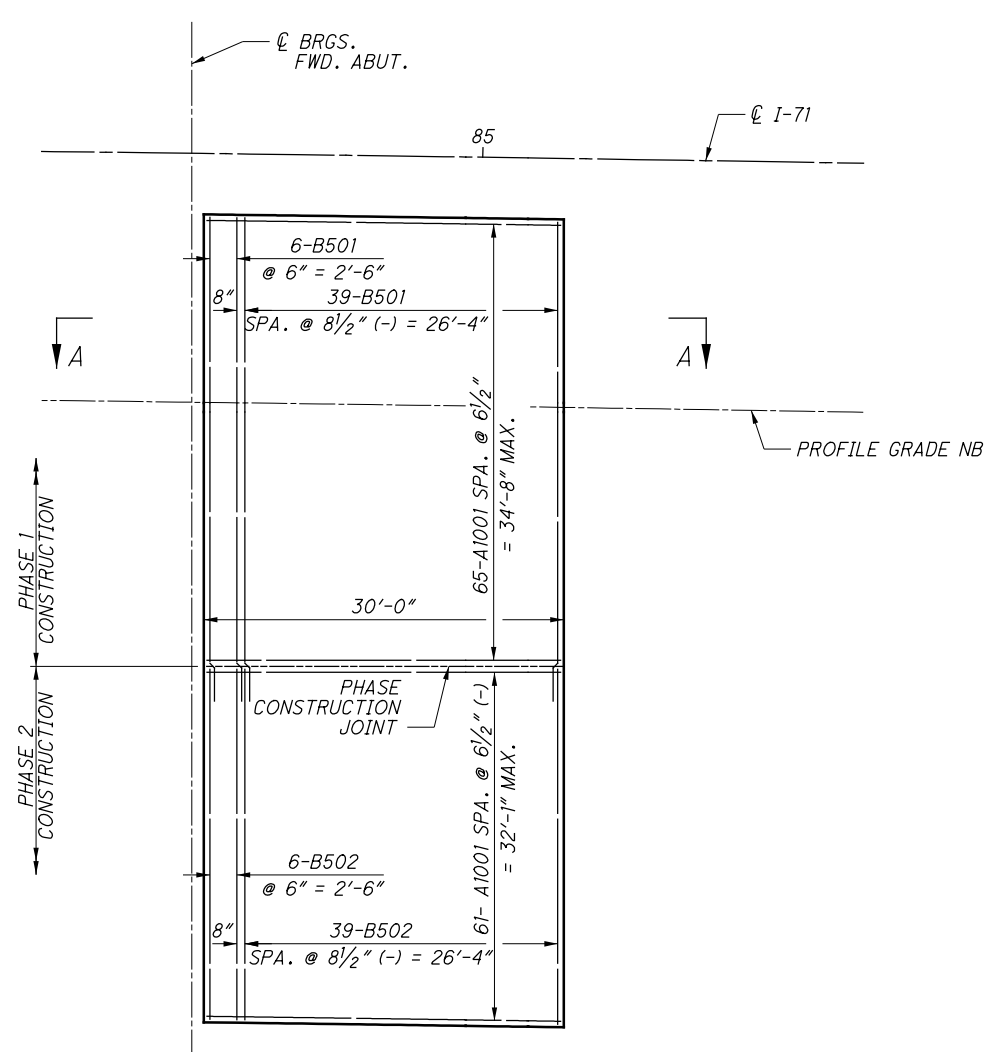
FRA-71-1.53
 PID No. 93496

72/78
 274
 285

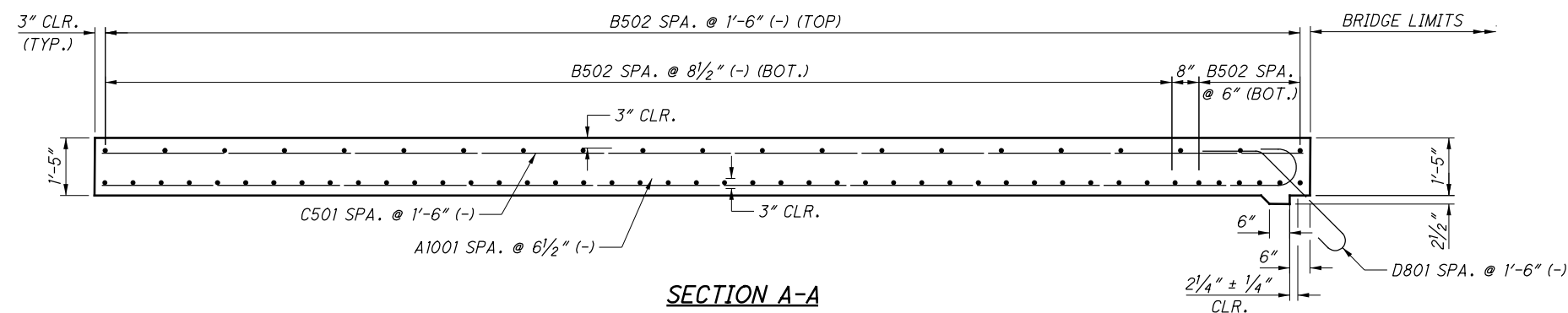
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REAR APPROACH TOP REINFORCING SLAB PLAN-NORTHBOUND
FORWARD APPROACH SIMILAR



FORWARD APPROACH BOTTOM REINFORCING SLAB PLAN-NORTHBOUND
REAR APPROACH SIMILAR



SECTION A-A

MINIMUM LAP LENGTHS	
NO. 5 BAR	2'-9"

NOTE:

1. FOR ADDITIONAL DETAILS, NOTES, AND SLAB REINFORCING SEE ODOT STD. DWG. AS-1-15 AND AS-2-15.

LEGEND:

* - MEASURED PERPENDICULAR TO REFERENCE CHORD.

DESIGN AGENCY: MEAD & HUNT
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5801 FAX

DATE: 6/30/2015
 REVISED: 2506786L/2506816R

DESIGNED: RLC
 CHECKED: CMH

DRAWN: DJC
 REVISED:

BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

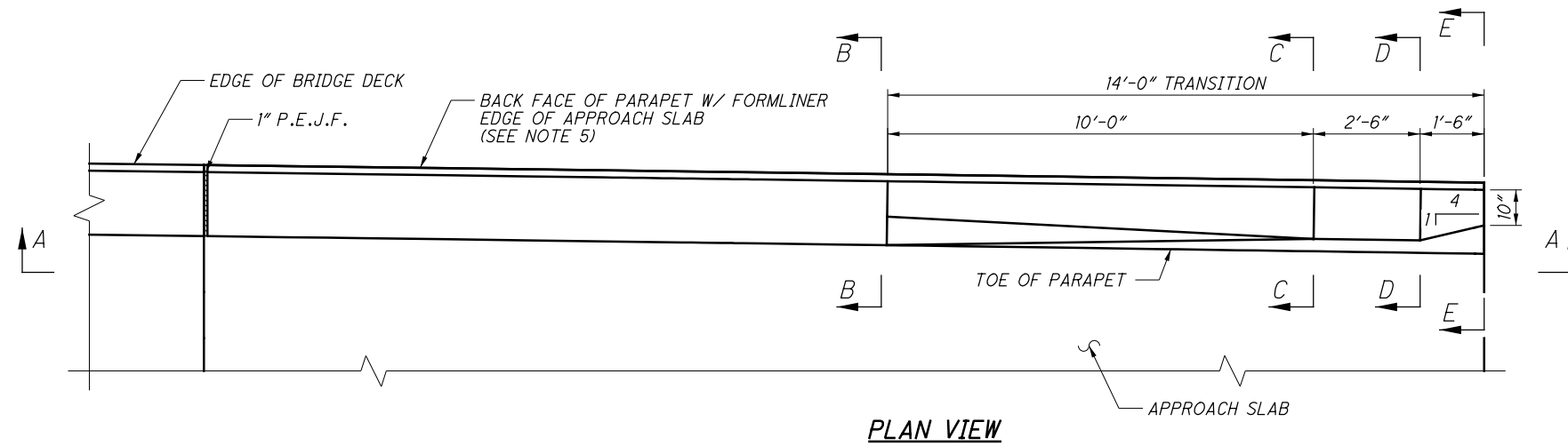
APPROACH SLAB DETAILS - NORTHBOUND BRIDGE

FRA-71-1.53
 PID No. 93496

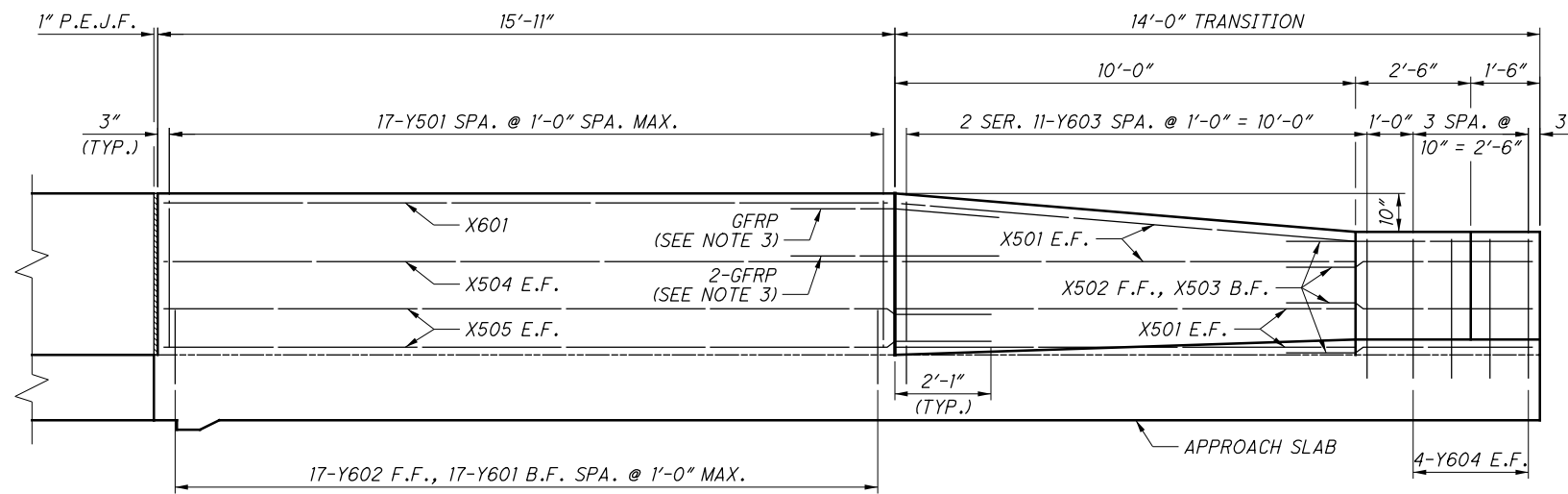
73/78

275
 285

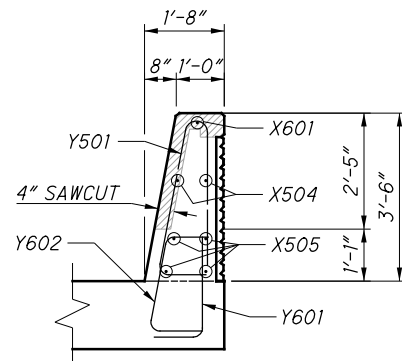
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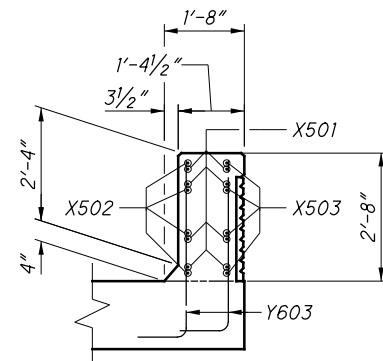
PLAN VIEW



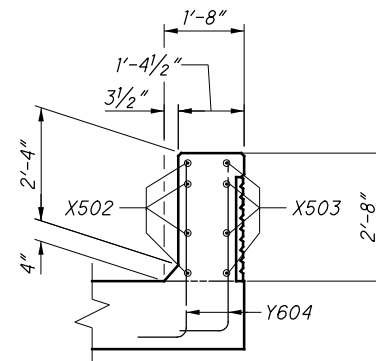
SECTION A-A



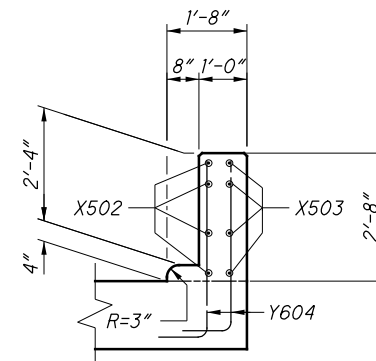
SECTION B-B
(GFRP NOT SHOWN)



SECTION C-C



SECTION D-D



SECTION E-E

NOTES:

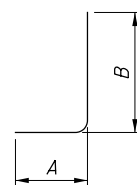
1. FOR ADDITIONAL DETAILS AND NOTES, SEE ODOT STD. DWG. SBR-1-13.
2. FOR BRIDGE PARAPET DETAILS, SEE SHEETS 69/78.
3. 1/2" DIAMETER GLASS FIBER REINFORCED POLYMER (GFRP) BAR, 4'-6" LONG, CENTERED ON 4" SAWCUT.
4. PARAPETS AND TRANSITIONS ON THE APPROACH SLABS SHALL BE PAID FOR UNDER ITEM 511 - CLASS QC/QA CONCRETE, SUPERSTRUCTURE, AS PER PLAN.
5. FOR RADIUS OF OUTER EDGE OF APPROACH SLAB, SEE SHEETS 70/78 AND 71/78.

DESIGN AGENCY Mead & Hunt 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016 (614) 792-5900 PHONE (614) 792-5901 FAX	
DESIGNED RLC	DATE 8/1/2016
DRAWN DJC	REVIEWED KVB
CHECKED CMH	STRUCTURE FILE NUMBER 2506786L/2506816R
PARAPET TRANSITIONS DETAILS BRIDGE NO. FRA-71-0153 L/R OVER BIG DARBY CREEK	
FRA-71-1.53 PID No. 93496	
74/78	
276 285	

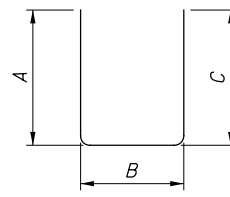
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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
ABUTMENTS - SOUTHBOUND BRIDGE											
A501	24	7'-2"	179	STR							
A502	24	40'-2"	1005	STR							
A503	12	19'-11"	249	2	9'-0"	2'-2"	9'-0"				
A504	10	13'-10"	144	3	2'-1"	4'-6"					
A510	24	31'-9"	795	STR							
A511	52	12'-11"	701	2	5'-9"	1'-8"	5'-9"				
A512	36	20'-8"	776	STR							
A513	4	24'-7"	103	STR							
A514	2	28'-4"	59	STR							
A515	10	28'-8"	299	STR							
	2 SR	6'-9"			2'-8"		2'-8"				
A516	OF	TO	157	2	TO	1'-8"	TO				0'-4 1/2"
	8	12'-1"			5'-4"		5'-4"				
A517	4	11'-3"	47	19	3'-2"	7'-7"	2'-10"				
A601	422	9'-10"	6233	2	3'-6"	3'-2"	3'-6"				
A602	188	12'-2"	3436	STR							
A603	176	11'-2"	2952	2	4'-5"	2'-8"	4'-5"				
A604	54	17'-6"	1419	2	3'-1"	11'-8"	3'-1"				
A605	28	16'-1"	676	STR							
A606	28	15'-2"	638	STR							
A607	50	34'-6"	2591	2	16'-7"	1'-8"	16'-7"				
A608	2	32'-6"	98	2	15'-7"	1'-8"	15'-7"				
A701	194	11'-8"	4626	STR							
*A702	58	11'-8"	452	STR							
A703	58	33'-4"	3952	STR							
*A801	8	37'-6"	801	STR							
A803	8	6'-0"	128	STR							
A804	8	31'-8"	676	STR							
A901	192	11'-8"	7616	STR							
A902	188	13'-6"	8629	1	12'-2"	1'-7"					
SUB-TOTAL			49,437								

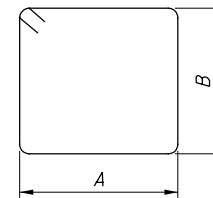
* - MECHANICAL CONNECTOR REQUIRED



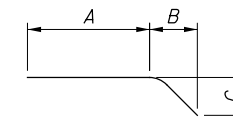
TYPE-1



TYPE-2



TYPE-3



TYPE-19

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
ABUTMENTS - NORTHBOUND BRIDGE											
A501	28	7'-2"	209	STR							
A505	28	40'-1"	1171	STR							
A506	12	21'-5"	268	2	9'-9"	2'-2"	9'-9"				
A507	8	13'-8"	114	3	2'-1"	4'-5"					
A508	2	4'-6"	9	19	1'-3"	3'-2"	0'-8"				
A509	2	4'-6"	9	19	1'-3"	3'-2"	0'-10"				
A510	28	31'-9"	927	STR							
A511	50	12'-11"	674	2	5'-9"	1'-8"	5'-9"				
A518	36	19'-8"	738	STR							
A519	4	11'-3"	47	19	3'-2"	7'-7"	2'-10"				
	2 SR	6'-9"			2'-8"		2'-8"				
A520	OF	TO	157	2	TO	1'-8"	TO				0'-4 1/2"
	8	12'-1"			5'-4"		5'-4"				
A521	2	23'-8"	49	STR							
A522	12	27'-8"	346	STR							
A523	2	23'-10"	50	STR							
A601	422	9'-10"	6233	2	3'-6"	3'-2"	3'-6"				
A602	188	12'-2"	3436	STR							
A603	176	11'-2"	2952	2	4'-5"	2'-8"	4'-5"				
A604	54	17'-6"	1419	2	3'-1"	11'-8"	3'-1"				
A605	28	16'-1"	676	STR							
A606	28	15'-2"	638	STR							
A609	24	34'-0"	1226	2	16'-4"	1'-8"	16'-4"				
A610	1	32'-0"	48	2	15'-4"	1'-8"	15'-4"				
A611	24	34'-2"	1232	2	16'-5"	1'-8"	16'-5"				
A612	1	32'-2"	48	2	15'-5"	1'-8"	15'-5"				
A701	194	11'-8"	4626	STR							
*A702	56	11'-8"	1335	STR							
A703	56	33'-4"	3815	STR							
A802	8	37'-3"	796	STR							
*A803	8	6'-0"	128	STR							
A805	8	31'-10"	680	STR							
A901	192	11'-8"	7616	STR							
A902	188	13'-6"	8629	1	12'-2"	1'-7"					
SUB-TOTAL			50,301								

* - MECHANICAL CONNECTOR REQUIRED

REINFORCING STEEL LIST

BRIDGE NO. FRA-71-0153 L/R
OVER BIG DARBY CREEK

FRA-71-1.53

PID No. 93496

DESIGNED BY
DJC
CHECKED
RLC

DRAWN BY
DJC
REVISED

REVIEWED BY
KVB
STRUCTURE FILE NUMBER
2506786L/2506816R

DATE
8/1/2016

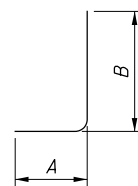
DESIGN AGENCY
Mead & Hunt
4700 LAKEHURST CT., STE 110
DUBLIN, OH 43016
(614) 792-5900 PHONE
(614) 792-5901 FAX

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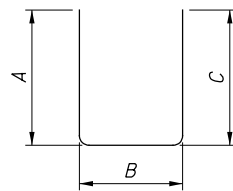
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
PIER - SOUTHBOUND BRIDGE											
SP401	5	293'-9"	981	27	0'-4 1/2"	3'-6"	9'-0"				
**DS501	4	719'-6"	3002	27	0'-4 1/2"	3'-6"	23'-9"				
**DS502	1	748'-6"	781	27	0'-4 1/2"	3'-6"	24'-9"				
P601	324	9'-9"	4745	2	3'-10"	2'-5"	3'-10"				
P602	124	9'-5"	1754	2	3'-8"	2'-5"	3'-8"				
P603	24	13'-5"	484	STR							
P604	8	12'-9"	153	STR							
P605	8	27'-1"	325	STR							
*P606	8	36'-0"	433	STR							
P611	6	14'-6"	131	33	3'-8"	3'-0"					
P612	4	4'-6"	27	1	1'-8"	3'-0"					
P613	8	7'-6"	90	STR							
P614	8	7'-8"	92	STR							
P901	14	4'-5"	210	1	1'-8"	3'-0"					
P1001	85	21'-9"	7955	STR							
P1002	16	27'-1"	1865	STR							
P1003	16	28'-7"	1968	1	1'-10"	27'-1"					
*P1004	16	37'-6"	2582	1	1'-10"	36'-0"					
*P1006	16	36'-0"	2479	STR							
**DS1001	136	23'-9"	13899	STR							
**DS1002	34	24'-9"	3621	STR							
SUB-TOTAL			26,274								

* - MECHANICAL CONNECTOR REQUIRED

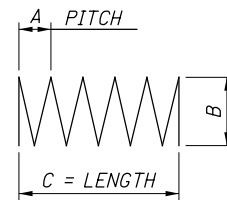
** - FOR INFORMATION ONLY. BARS TO BE INCLUDED WITH ITEM 524, DRILLED SHAFTS, 54" DIAMTER, ABOVE BEDROCK



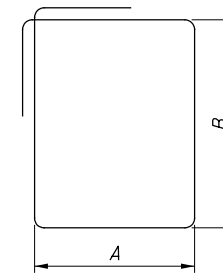
TYPE-1



TYPE-2



TYPE-27



TYPE-33

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
PIER - NORTHBOUND BRIDGE											
SP402	5	303'-5"	1013	27	0'-4 1/2"	3'-6"	9'-4"				
**DS501	4	719'-6"	3002	27	0'-4 1/2"	3'-6"	23'-9"				
**DS502	1	748'-6"	781	27	0'-4 1/2"	3'-6"	24'-9"				
P601	324	9'-9"	4745	2	3'-10"	2'-5"	3'-10"				
P602	124	9'-5"	1754	2	3'-8"	2'-5"	3'-8"				
P603	24	13'-5"	484	STR							
P604	8	12'-9"	153	STR							
*P607	8	36'-0"	433	STR							
P608	8	27'-1"	325	STR							
P609	8	6'-11"	83	STR							
*P610	8	6'-6"	78	STR							
P611	6	14'-6"	131	33	3'-8"	3'-0"					
P612	4	4'-6"	27	1	1'-8"	3'-0"					
P901	14	4'-5"	210	1	1'-8"	3'-0"					
P1005	85	22'-1"	8077	STR							
*P1006	16	36'-0"	2479	STR							
P1007	16	27'-1"	1865	STR							
*P1008	16	37'-6"	2582	1	1'-10"	36'-0"					
P1009	16	28'-7"	1968	1	1'-10"	27'-1"					
**DS1001	136	23'-9"	13899	STR							
**DS1002	34	24'-9"	3621	STR							
SUB-TOTAL			26,407								

* - MECHANICAL CONNECTOR REQUIRED

** - FOR INFORMATION ONLY. BARS TO BE INCLUDED WITH ITEM 524, DRILLED SHAFTS, 54" DIAMTER, ABOVE BEDROCK

FRA-71-1.53
PID No. 93496

76/78

278
285

REINFORCING STEEL LIST
BRIDGE NO. FRA-71-0153 L/R
OVER BIG DARBY CREEK

DESIGNED ALM
CHECKED CMH
DRAWN DJC
REVISED

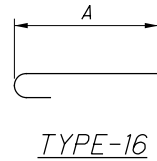
REVIEWED KVB
DATE 8/1/2016
STRUCTURE FILE NUMBER 2506786L/2506816R

DESIGN AGENCY
Mead & Hunt
4700 LAKEHURST CT., STE 110
DUBLIN, OH 43016
(614) 792-5900 PHONE
(614) 792-5801 FAX

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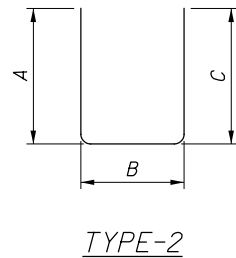
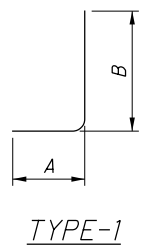
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUPERSTRUCTURE - SOUTHBOUND BRIDGE											
S401	913	30'-0"	18297	STR							
S402	83	12'-0"	665	STR							
S403	1280	10'-2"	8693	16	9'-8"						
S501	990	30'-0"	30977	STR							
S502	90	16'-7"	1557	STR							
S503	651	31'-1"	21105	16	30'-6"						
S504	651	11'-0"	7469	STR							
S505	651	27'-11"	18955	STR							
S506	651	13'-7"	9223	STR							
S511	651	14'-8"	9958	STR							
S512	651	21'-1"	14315	16	20'-6"						
S513	651	13'-1"	8883	STR							
S514	651	22'-1"	14994	STR							
S601	328	37'-7"	18516	STR							
SUB-TOTAL			183,607								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUPERSTRUCTURE - NORTHBOUND BRIDGE											
S401	913	30'-0"	18297	STR							
S402	83	12'-0"	665	STR							
S403	1280	10'-2"	8693	16	9'-8"						
S501	990	30'-0"	30977	STR							
S502	90	16'-7"	1557	STR							
S507	651	31'-2"	21162	16	30'-7"						
S508	651	10'-11"	7412	STR							
S509	651	28'-0"	19012	STR							
S510	651	13'-6"	9166	STR							
S515	651	14'-7"	9902	STR							
S516	651	21'-0"	14259	16	20'-5"						
S517	651	13'-0"	8827	STR							
S518	651	22'-0"	14938	STR							
S601	328	37'-7"	18516	STR							
SUB-TOTAL			183,383								



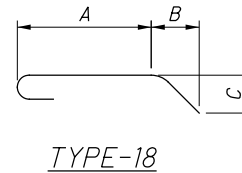
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
ABUTMENT DIAPHRAGMS - SOUTHBOUND BRIDGE											
D401	4	2'-8"	7	STR							
D501	98	7'-1"	724	2	2'-7"	2'-2"	2'-7"				
D502	188	9'-11"	1944	2	3'-9"	2'-8"	3'-9"				
D503	2	11'-6"	24	3	2'-9"	2'-8"					
D504	2	11'-0"	23	3	2'-6"	2'-8"					
D801	90	5'-0"	1202	18	2'-10"	1'-0"	1'-0"				
D802	32	6'-2"	527	18	4'-0"	1'-0"	1'-0"				
D803	8	28'-1"	600	1	27'-0"	1'-4"					
D804	4	27'-0"	288	STR							
*D805	20	35'-8"	1905	STR							
D806	8	7'-4"	157	1	6'-3"	1'-4"					
*D807	12	5'-1"	163	STR							
D813	32	30'-11"	2642	STR							
SUB-TOTAL			10,206								

* - MECHANICAL CONNECTOR REQUIRED



MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
ABUTMENT DIAPHRAGMS - NORTHBOUND BRIDGE											
D401	4	2'-8"	7	STR							
D501	98	7'-1"	724	2	2'-7"	2'-2"	2'-7"				
D502	188	9'-11"	1944	2	3'-9"	2'-8"	3'-9"				
D503	2	11'-6"	24	3	2'-9"	2'-8"					
D504	2	11'-0"	23	3	2'-6"	2'-8"					
D801	92	5'-0"	1228	18	2'-10"	1'-0"	1'-0"				
D802	32	6'-2"	527	18	4'-0"	1'-0"	1'-0"				
D808	8	27'-4"	584	1	26'-2"	1'-4"					
D809	4	26'-2"	279	STR							
*D810	20	34'-10"	1860	STR							
*D811	8	6'-4"	135	1	5'-2"	1'-4"					
*D812	4	5'-2"	55	STR							
D814	8	29'-3"	625	STR							
D815	24	31'-11"	2045	STR							
D816	8	8'-6"	182	STR							
SUB-TOTAL			10,242								

* - MECHANICAL CONNECTOR REQUIRED



DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

REINFORCING STEEL LIST
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

DESIGNED: DJC
 CHECKED: RLC

DRAWN: DJC
 REVISED:

REVIEWED: KVB
 STRUCTURE FILE NUMBER: 2506786L/2506816R

DATE: 8/1/2016

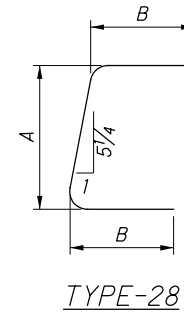
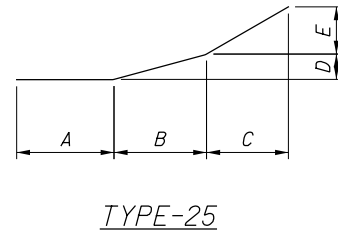
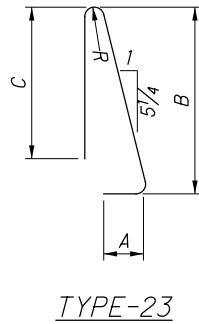
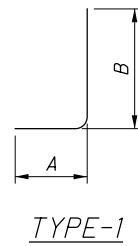
FRA-71-1.53
 PID No. 93496

77/78

279
285

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MARK	NUMBER		LENGTH	WEIGHT	TYPE	DIMENSIONS					
	TOTAL					A	B	C	D	E	R
PARAPET - SOUTHBOUND BRIDGE											
R501	668		7'-4"	5109	23	0'-11"	3'-3"	3'-0"			0'-3"
R502	88		30'-0"	2754	STR						
R503	8		13'-2"	110	STR						
R504	48		14'-8"	734	STR						
R505	56		7'-2"	419	STR						
R506	8		19'-3"	161	STR						
X501	32		10'-0"	334	STR						
X502	16		5'-9"	96	25	1'-10"	2'-5"	1'-5"	0'-1 1/2"	0'-5"	
X503	16		5'-8"	95	STR						
X504	8		15'-7"	130	STR						
X505	16		17'-10"	298	STR						
Y501	68		7'-4"	520	23	0'-11"	3'-3"	3'-0"			0'-3"
R601	668		2'-5"	2425	1	1'-0"	1'-7"				
R602	668		3'-3"	3261	28	1'-7"	1'-0"				
R603	4		13'-2"	79	STR						
R604	24		14'-8"	529	STR						
R605	28		7'-2"	301	STR						
X601	4		15'-7"	94	STR						
Y601	68		2'-5"	247	1	1'-0"	1'-7"				
Y602	68		3'-3"	332	28	1'-7"	1'-0"				
		8 SR	4'-0"				3'-2"				
Y603	OF	TO	584	1	1'-0"	TO					0'-1"
		11	4'-10"				4'-0"				
Y604	32		4'-0"	192	1	1'-0"	3'-2"				
SUB-TOTAL				18,804							



MARK	NUMBER		LENGTH	WEIGHT	TYPE	DIMENSIONS					
	TOTAL					A	B	C	D	E	R
PARAPET - NORTHBOUND BRIDGE											
R501	668		7'-4"	5109	23	0'-11"	3'-3"	3'-0"			0'-3"
R502	88		30'-0"	2754	STR						
R503	8		13'-2"	110	STR						
R504	48		14'-8"	734	STR						
R505	56		7'-2"	419	STR						
R506	8		19'-3"	161	STR						
X501	32		10'-0"	334	STR						
X502	16		5'-9"	96	25	1'-10"	2'-5"	1'-5"	0'-1 1/2"	0'-5"	
X503	16		5'-8"	95	STR						
X504	8		15'-7"	130	STR						
X505	16		17'-10"	298	STR						
Y501	68		7'-4"	520	23	0'-11"	3'-3"	3'-0"			0'-3"
R601	668		2'-5"	2425	1	1'-0"	1'-7"				
R602	668		3'-3"	3261	28	1'-7"	1'-0"				
R603	4		13'-2"	79	STR						
R604	24		14'-8"	529	STR						
R605	28		7'-2"	301	STR						
X601	4		15'-7"	94	STR						
Y601	68		2'-5"	247	1	1'-0"	1'-7"				
Y602	68		3'-3"	332	28	1'-7"	1'-0"				
		8 SR	4'-0"				3'-2"				
Y603	OF	TO	584	1	1'-0"	TO					0'-1"
		11	4'-10"				4'-0"				
Y604	32		4'-0"	192	1	1'-0"	3'-2"				
SUB-TOTAL				18,804							

REINFORCING STEEL LIST
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496

78/78

280
285

DESIGN AGENCY
Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

DESIGNED
DJC
CHECKED
RLC

DRAWN
DJC
REVISED

REVIEWED
KVB
STRUCTURE FILE NUMBER
2506786L/2506816R

DATE
8/1/2016

RECEIVED _____, 20____
 RECORDED _____, 20____
 BOOK _____ PAGE _____
 COUNTY RECORDER

FRANKLIN COUNTY
 (PICKAWAY COUNTY)
 PLEASANT TOWNSHIP
 (DARBY TOWNSHIP)
 VMS 931, 947, 1405, 1466, & 2595

FOR RAMP DETAILS, SEE SHEET 4 OF 12
 FOR EXISTING & PROPOSED MONUMENT TABLES, SEE SHEETS 5-6 OF 12

THE INTENT OF THE I-71 CENTERLINE IS TO DUPLICATE THE CENTERLINE SHOWN ON THE PIC-1-3.06 FRA-1-0.00 AND FRA-62-2.12 SET OF PLANS. THE STATIONING USED ON FRA-71-0.00 IS SUCH THAT IT FOLLOWS THE COUNTY LINE STA. 0+00.00. THE ORIGINAL SET OF PLANS SHOW THE COUNTY LINE AS STA. 840+28.99.

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING
 PIC-1-3.06/FRA-1-0.00 (1962)
 FRA-62-2.12 (1957)
 FRA-71-4.31 (2005)
 FRA-62-1.34 (2008)

THIS PLAT SUPERSEDES
 PB 122 P 043.
 SEE NOTE ON SHEET 4 / 5.

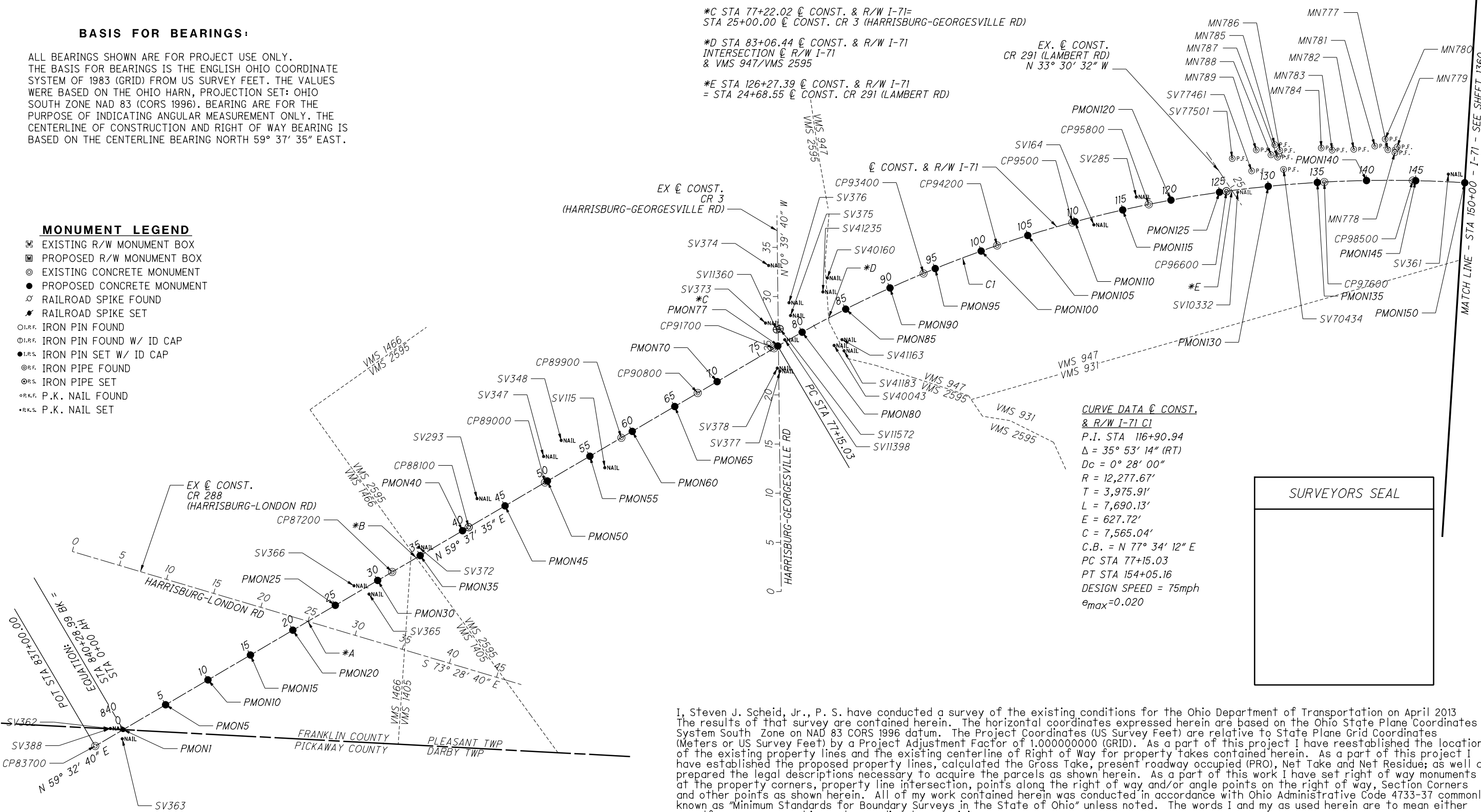
BASIS FOR BEARINGS:

ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY. THE BASIS FOR BEARINGS IS THE ENGLISH OHIO COORDINATE SYSTEM OF 1983 (GRID) FROM US SURVEY FEET. THE VALUES WERE BASED ON THE OHIO HARN, PROJECTION SET: OHIO SOUTH ZONE NAD 83 (CORS 1996). BEARING ARE FOR THE PURPOSE OF INDICATING ANGULAR MEASUREMENT ONLY. THE CENTERLINE OF CONSTRUCTION AND RIGHT OF WAY BEARING IS BASED ON THE CENTERLINE BEARING NORTH 59° 37' 35" EAST.

MONUMENT LEGEND

- ☐ EXISTING R/W MONUMENT BOX
- ▣ PROPOSED R/W MONUMENT BOX
- ⊙ EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- ⚡ RAILROAD SPIKE FOUND
- ⚡ RAILROAD SPIKE SET
- I.R.F. IRON PIN FOUND
- ⊙ I.R.F. IRON PIN FOUND W/ ID CAP
- I.R.S. IRON PIN SET W/ ID CAP
- ⊙ I.R.F. IRON PIPE FOUND
- ⊙ I.R.S. IRON PIPE SET
- ⊙ P.K.F. P.K. NAIL FOUND
- ⊙ P.K.S. P.K. NAIL SET

- *A STA 21+78.11 @ CONST. & R/W I-71 = STA 25+00.00 @ CONST. CR 288 (HARRISBURG-LONDON RD)
- *B STA 34+54.98 @ CONST. & R/W I-71 INTERSECTION @ R/W I-71 & VMS 2595/VMS 1405
- *C STA 77+22.02 @ CONST. & R/W I-71= STA 25+00.00 @ CONST. CR 3 (HARRISBURG-GEORGESVILLE RD)
- *D STA 83+06.44 @ CONST. & R/W I-71 INTERSECTION @ R/W I-71 & VMS 947/VMS 2595
- *E STA 126+27.39 @ CONST. & R/W I-71 = STA 24+68.55 @ CONST. CR 291 (LAMBERT RD)



CURVE DATA @ CONST. & R/W I-71 C1
 P.I. STA 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $D_c = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 C.B. = N 77° 34' 12" E
 PC STA 77+15.03
 PT STA 154+05.16
 DESIGN SPEED = 75mph
 $e_{max} = 0.020$

SURVEYORS SEAL

I, Steven J. Scheid, Jr., P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation on April 2013. The results of that survey are contained herein. The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates System South Zone on NAD 83 CORS 1996 datum. The Project Coordinates (US Survey Feet) are relative to State Plane Grid Coordinates (Meters or US Survey Feet) by a Project Adjustment Factor of 1.000000000 (GRID). As a part of this project I have reestablished the locations of the existing property lines and the existing centerline of Right of Way for property takes contained herein. As a part of this project I have established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire the parcels as shown herein. As a part of this work I have set right of way monuments at the property corners, property line intersection, points along the right of way and/or angle points on the right of way, Section Corners and other points as shown herein. All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "Minimum Standards for Boundary Surveys in the State of Ohio" unless noted. The words I and my as used herein are to mean either myself or someone working under my direct supervision.

PID NO. **107201**
 93496
 R/W DESIGNER TIME
 R/W REVIEWER SJS
CENTERLINE PLAT
 FRA-71-0.00
 FRA-71-1.53
 1/5
 281
 285

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PID NO. 107201
93496

R/W DESIGNER TIME
R/W REVIEWER SJS

CENTERLINE PLAT

FRA-71-0.00
FRA-71-1.53

RECEIVED _____, 20____
RECORDED _____, 20____
BOOK _____ PAGE _____
COUNTY RECORDER

FRANKLIN COUNTY
PLEASANT TOWNSHIP
JACKSON TOWNSHIP
VMS 931, 947, 1365, & 6178

CURVE DATA @ CONST.
& R/W I-71 C1
P.I. STA 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $Dc = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
C.B. = N $77^\circ 34' 12''$ E
PC STA 77+15.03
PT STA 154+05.16
DESIGN SPEED = 75mph
 $e_{max} = 0.020$

R/W INDIANA & OHIO RAILWAY
AKA BALTIMORE AND OHIO RAILROAD
AKA CSX TRANSPORTATION, INC.
N $32^\circ 41' 19''$ E

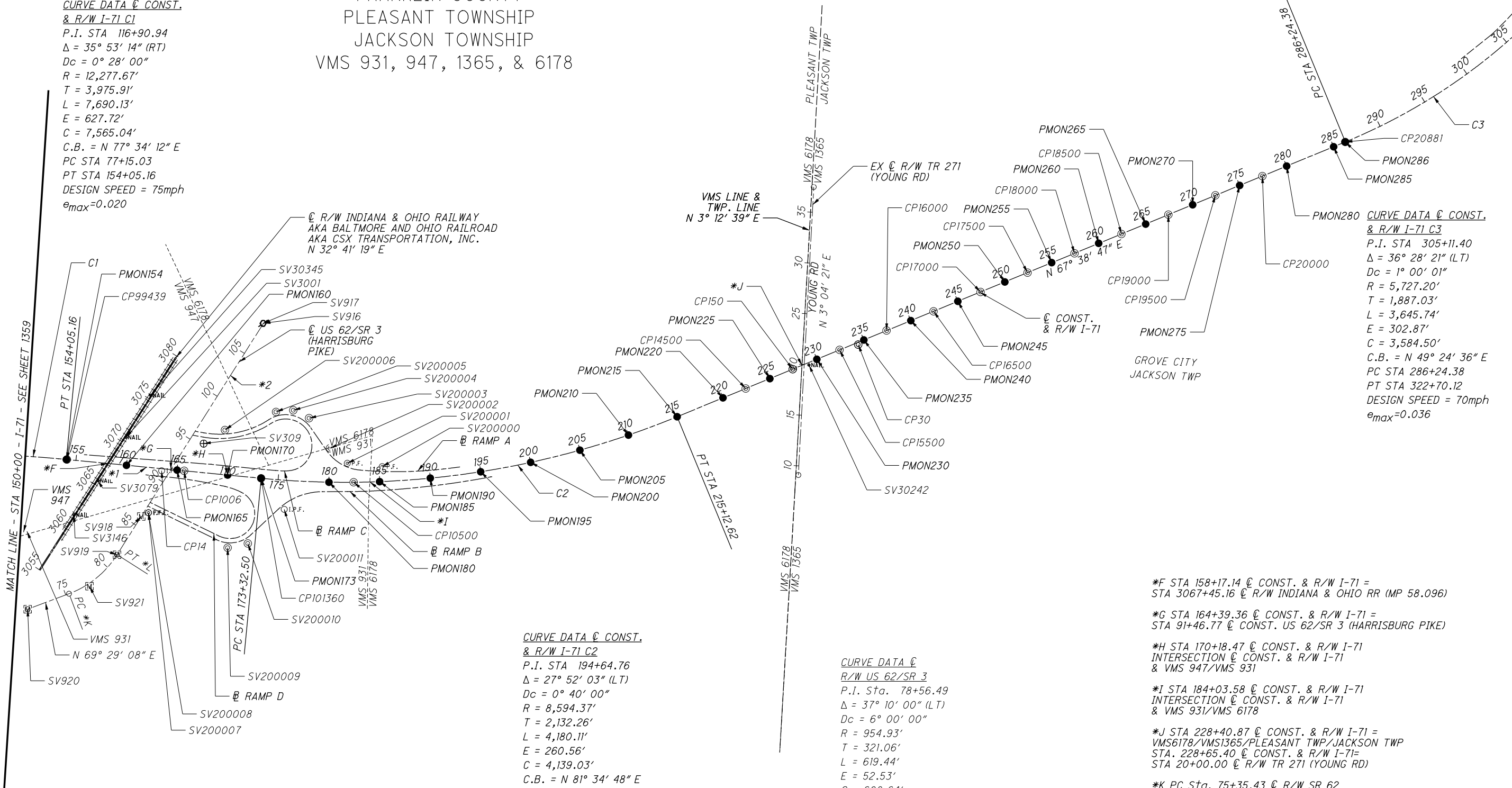
CURVE DATA @ CONST.
& R/W I-71 C3
P.I. STA 305+11.40
 $\Delta = 36^\circ 28' 21''$ (LT)
 $Dc = 1^\circ 00' 01''$
 $R = 5,727.20'$
 $T = 1,887.03'$
 $L = 3,645.74'$
 $E = 302.87'$
 $C = 3,584.50'$
C.B. = N $49^\circ 24' 36''$ E
PC STA 286+24.38
PT STA 322+70.12
DESIGN SPEED = 70mph
 $e_{max} = 0.036$

CURVE DATA @ CONST.
& R/W I-71 C2
P.I. STA 194+64.76
 $\Delta = 27^\circ 52' 03''$ (LT)
 $Dc = 0^\circ 40' 00''$
 $R = 8,594.37'$
 $T = 2,132.26'$
 $L = 4,180.11'$
 $E = 260.56'$
 $C = 4,139.03'$
C.B. = N $81^\circ 34' 48''$ E
PC STA 173+32.50
PT STA 215+12.62
DESIGN SPEED = 75mph
 $e_{max} = 0.028$

CURVE DATA @
R/W US 62/SR 3
P.I. Sta. 78+56.49
 $\Delta = 37^\circ 10' 00''$ (LT)
 $Dc = 6^\circ 00' 00''$
 $R = 954.93'$
 $T = 321.06'$
 $L = 619.44'$
 $E = 52.53'$
 $C = 608.64'$
C.B. = N $50^\circ 54' 08''$ E

- *F STA 158+17.14 @ CONST. & R/W I-71 = STA 3067+45.16 @ R/W INDIANA & OHIO RR (MP 58.096)
- *G STA 164+39.36 @ CONST. & R/W I-71 = STA 91+46.77 @ CONST. US 62/SR 3 (HARRISBURG PIKE)
- *H STA 170+18.47 @ CONST. & R/W I-71 INTERSECTION @ CONST. & R/W I-71 & VMS 947/VMS 931
- *I STA 184+03.58 @ CONST. & R/W I-71 INTERSECTION @ CONST. & R/W I-71 & VMS 931/VMS 6178
- *J STA 228+40.87 @ CONST. & R/W I-71 = VMS6178/VMS1365/PLEASANT TWP/JACKSON TWP STA. 228+65.40 @ CONST. & R/W I-71= STA 20+00.00 @ R/W TR 271 (YOUNG RD)
- *K PC Sta. 75+35.43 @ R/W SR 62
- *L PT Sta. 81+54.87 @ R/W SR 62
- *1 @ CONST. & R/W I-71 = S $84^\circ 29' 11''$ E
- *2 @ R/W SR 62 = N $32^\circ 19' 08''$ E

MATCH LINE - STA 150+00 - I-71 - SEE SHEET 1359



FOR RAMP DETAILS, SEE SHEET 3 OF 5
FOR EXISTING & PROPOSED MONUMENT TABLES, SEE SHEETS 4-5 OF 5

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PID NO. 107201
93496

R/W DESIGNER
TIME
R/W REVIEWER
SJS

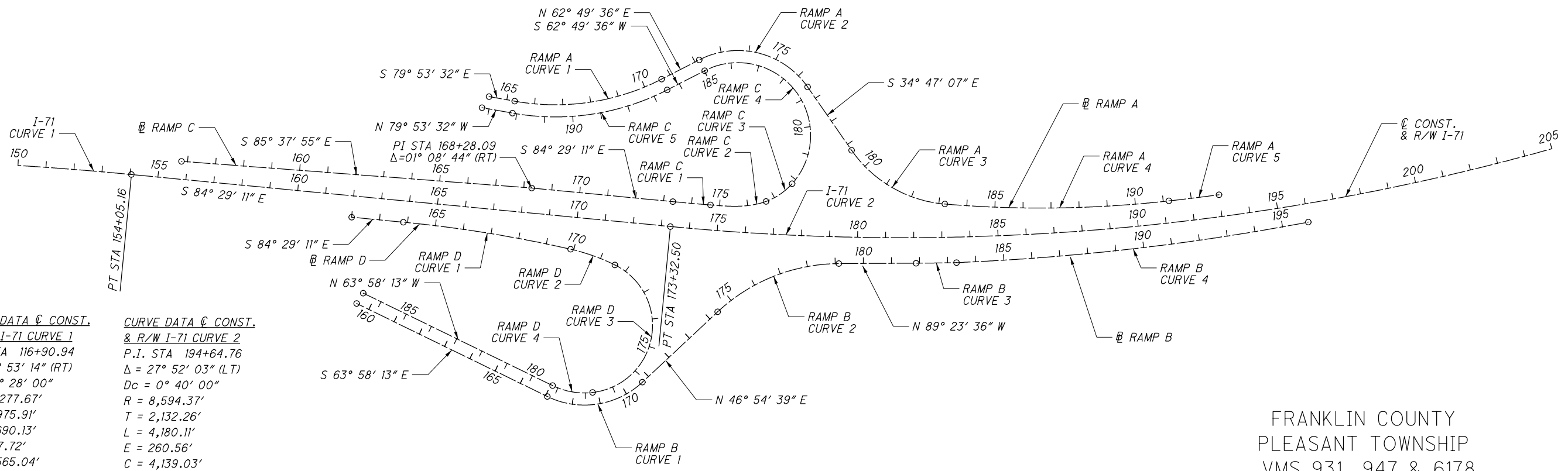
CENTERLINE PLAT

FRA-71-0.00
FRA-71-1.53

3 / 5

283
285

FRANKLIN COUNTY
PLEASANT TOWNSHIP
VMS 931, 947 & 6178



CURVE DATA & CONST. & R/W I-71 CURVE 1
P.I. STA 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
Dc = 0° 28' 00"
R = 12,277.67'
T = 3,975.91'
L = 7,690.13'
E = 627.72'
C = 7,565.04'
C.B. = N 77° 34' 12" E
PC STA 77+15.03
PT STA 154+05.16
DESIGN SPEED = 75mph
 $e_{max} = 0.020$

CURVE DATA & CONST. & R/W I-71 CURVE 2
P.I. STA 194+64.76
 $\Delta = 27^\circ 52' 03''$ (LT)
Dc = 0° 40' 00"
R = 8,594.37'
T = 2,132.26'
L = 4,180.11'
E = 260.56'
C = 4,139.03'
C.B. = N 81° 34' 48" E
PC STA 173+32.50
PT STA 215+12.62
DESIGN SPEED = 75mph
 $e_{max} = 0.028$

RAMP A CURVE 1
P.I. STA 168+07.44
 $\Delta = 37^\circ 16' 52''$ (LT)
Dc = 6° 55' 15"
R = 827.88'
T = 279.26'
L = 538.68'
E = 45.83'
C = 529.23'
C.B. = N 81° 28' 02" E
PC STA 165+28.17
PT STA 170+66.86
DESIGN SPEED = 30mph
NDC = 40mph
 $e_{max} = 0.046$

RAMP A CURVE 2
P.I. STA 174+81.18
 $\Delta = 82^\circ 23' 17''$ (RT)
Dc = 18° 58' 20"
R = 302.00'
T = 264.32'
L = 434.25'
E = 99.34'
C = 397.80'
C.B. = S 75° 58' 45" E
PC STA 172+16.86
PT STA 176+51.11
DESIGN SPEED = 30mph
NDC = 40mph
 $e_{max} = -0.075$

RAMP A CURVE 3
P.I. STA 181+37.39
 $\Delta = 50^\circ 25' 26''$ (LT)
Dc = 12° 45' 00"
R = 449.38'
T = 211.58'
L = 395.48'
E = 47.32'
C = 382.84'
C.B. = S 59° 59' 50" E
PC STA 179+25.81
PT STA 183+21.30
DESIGN SPEED = 40mph
 $e_{max} = 0.080$

RAMP A CURVE 4
P.I. STA 187+21.97
 $\Delta = 11^\circ 11' 00''$ (LT)
Dc = 1° 24' 00"
R = 4,092.56'
T = 400.68'
L = 798.81'
E = 19.57'
C = 797.54'
C.B. = N 89° 11' 57" E
PCC STA 183+21.30
PCC STA 191+20.11
DESIGN SPEED = 65mph
 $e_{max} = 0.043$

RAMP A CURVE 5
P.I. STA 192+10.06
 $\Delta = 1^\circ 12' 37''$ (LT)
Dc = 0° 40' 22"
R = 8,516.37'
T = 89.95'
L = 179.89'
E = 0.48'
C = 179.89'
C.B. = N 83° 00' 08" E
PCC STA 191+20.11
PT STA 193+00.00
DESIGN SPEED = 75mph
 $e_{max} = 0.028$ (MATCH I-71)

RAMP C CURVE 1
P.I. STA 173+99.90
 $\Delta = 0^\circ 54' 17''$ (LT)
Dc = 0° 40' 25"
R = 8,505.37'
T = 67.15'
L = 134.30'
E = 0.27'
C = 134.30'
C.B. = S 84° 56' 19" E
PC STA 173+32.75
CS STA 174+67.05
DESIGN SPEED = 75mph
 $e_{max} = 0.028$ (MATCH I-71)

RAMP C CURVE 2
P.I. STA 176+01.71
Ls = 200.00'
fs = 24° 45' 00"
LT = 134.66'
ST = 67.87'
x = 196.30'
y = 28.42'
k = 99.38'
p = 7.15'
CS STA 174+67.05
SC STA 176+67.05
DESIGN SPEED = 30mph
 $e_{max} = 0.080$

RAMP C CURVE 3
P.I. STA 177+24.87
 $\Delta = 28^\circ 02' 45''$ (LT)
Dc = 24° 45' 00"
R = 231.50'
T = 57.82'
L = 113.32'
E = 7.11'
C = 112.19'
C.B. = N 55° 50' 10" E
SC STA 176+67.05
PCC STA 177+80.36
DESIGN SPEED = 30mph
 $e_{max} = 0.080$

RAMP C CURVE 4
P.I. STA 191+75.52
 $\Delta = 158^\circ 59' 12''$ (LT)
Dc = 22° 08' 37"
R = 258.75'
T = 1,395.16'
L = 717.98'
E = 1,160.20'
C = 508.82'
C.B. = N 37° 40' 48" W
PCC STA 177+80.36
PT STA 184+98.34
DESIGN SPEED = 30mph
 $e_{max} = 0.078$

RAMP C CURVE 5
P.I. STA 189+42.20
 $\Delta = 37^\circ 16' 52''$ (RT)
Dc = 6° 34' 38"
R = 871.13'
T = 293.85'
L = 566.83'
E = 48.23'
C = 556.88'
C.B. = S 81° 28' 02" W
PT STA 186+48.34
PT STA 192+15.17
DESIGN SPEED = 30mph
 $e_{max} = -0.045$

RAMP B CURVE 1
P.I. STA 169+14.53
 $\Delta = 69^\circ 07' 08''$ (LT)
Dc = 18° 58' 20"
R = 302.00'
T = 208.02'
L = 364.31'
E = 64.71'
C = 342.62'
C.B. = N 81° 28' 13" E
PC STA 167+06.51
PT STA 170+70.83
DESIGN SPEED = 30mph
NDC = 40mph
 $e_{max} = -0.075$

RAMP B CURVE 2
P.I. STA 176+86.95
 $\Delta = 42^\circ 46' 01''$ (RT)
Dc = 9° 00' 00"
R = 636.62'
T = 249.28'
L = 475.19'
E = 47.06'
C = 464.23'
C.B. = N 68° 17' 39" E
PC STA 174+37.68
CS STA 179+12.87
DESIGN SPEED = 40mph
 $e_{max} = 0.080$

RAMP B CURVE 3
P.I. STA 182+59.67
 $\Delta = 0^\circ 56' 50''$ (LT)
Dc = 0° 39' 35"
R = 8,685.37'
T = 71.80'
L = 143.60'
E = 0.30'
C = 143.60'
C.B. = N 89° 12' 15" E
PC STA 181+87.87
PCC STA 183+31.47
DESIGN SPEED = 75mph
 $e_{max} = 0.028$ (MATCH I-71)

RAMP B CURVE 4
P.I. STA 189+63.41
 $\Delta = 8^\circ 20' 00''$ (LT)
Dc = 0° 39' 38"
R = 8,674.56'
T = 631.95'
L = 1,261.66'
E = 22.99'
C = 1,260.55'
C.B. = N 83° 25' 49" E
PCC STA 183+31.47
PT STA 195+93.13
DESIGN SPEED = 75mph
 $e_{max} = 0.028$ (MATCH I-71)

RAMP D CURVE 1
P.I. STA 166+87.05
 $\Delta = 7^\circ 20' 40''$ (RT)
Dc = 1° 13' 00"
R = 4,709.24'
T = 302.24'
L = 603.66'
E = 9.69'
C = 603.24'
C.B. = S 80° 48' 50" E
PC STA 163+84.80
PCC STA 169+88.46
DESIGN SPEED = 65mph
 $e_{max} = 0.038$

RAMP D CURVE 2
P.I. STA 170+72.67
 $\Delta = 13^\circ 24' 44''$ (RT)
Dc = 8° 00' 00"
R = 716.20'
T = 84.21'
L = 167.65'
E = 4.93'
C = 167.27'
C.B. = S 70° 26' 08" E
PCC STA 169+88.46
PCC STA 171+56.12
DESIGN SPEED = 45mph
 $e_{max} = 0.080$

RAMP D CURVE 3
P.I. STA 179+75.80
 $\Delta = 147^\circ 19' 49''$ (RT)
Dc = 23° 51' 00"
R = 240.23'
T = 819.69'
L = 617.74'
E = 613.93'
C = 461.07'
C.B. = S 9° 56' 09" W
PCC STA 171+56.12
PCC STA 177+73.85
DESIGN SPEED = 30mph
 $e_{max} = 0.080$

RAMP D CURVE 4
P.I. STA 178+49.10
 $\Delta = 32^\circ 25' 43''$ (RT)
Dc = 22° 08' 37"
R = 258.75'
T = 75.24'
L = 146.45'
E = 10.72'
C = 144.50'
C.B. = N 80° 11' 05" W
PCC STA 177+73.85
PT STA 179+20.30
DESIGN SPEED = 30mph
 $e_{max} = 0.080$

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MONUMENT TABLE								
POINT NUMBER	C. OF CONST. & R/W I-71		PROJECT COORDINATES U.S. SURVEY FEET		REFERENCE MONUMENTS TO BE SET DURING CONSTRUCTION		R/W MON. EXPECTED TO BE DISTURBED	DESCRIPTION
	STATION	OFFSET	NORTHING (Y)	EASTING (X)	PID 93496	PID 107201	R/W MON.	
PMON1	840+28.99	0.00	659,851.99	1,773,352.61		1		REFERENCE MONUMENT SET
PMON5	5+00.00	0.00	660,104.81	1,773,783.99		1		REFERENCE MONUMENT SET
PMON10	10+00.00	0.00	660,357.63	1,774,215.36		1		REFERENCE MONUMENT SET
PMON15	15+00.00	0.00	660,610.44	1,774,646.73		1		REFERENCE MONUMENT SET
PMON20	20+00.00	0.00	660,863.26	1,775,078.11		1		REFERENCE MONUMENT SET
PMON25	25+00.00	0.00	661,116.08	1,775,509.48		1		REFERENCE MONUMENT SET
PMON30	30+00.00	0.00	661,368.90	1,775,940.85		1		REFERENCE MONUMENT SET
PMON35	35+00.00	0.00	661,621.71	1,776,372.23		1		REFERENCE MONUMENT SET
PMON40	40+00.00	0.00	661,874.53	1,776,803.60		1		REFERENCE MONUMENT SET
PMON45	45+00.00	0.00	662,127.35	1,777,234.98		1		REFERENCE MONUMENT SET
PMON50	50+00.00	0.00	662,380.17	1,777,666.35		1		REFERENCE MONUMENT SET
PMON55	55+00.00	0.00	662,632.99	1,778,097.72		1		REFERENCE MONUMENT SET
PMON60	60+00.00	0.00	662,885.80	1,778,529.10		1		REFERENCE MONUMENT SET
PMON65	65+00.00	0.00	663,138.62	1,778,960.47		1		REFERENCE MONUMENT SET
PMON70	70+00.00	0.00	663,391.44	1,779,391.84		1		REFERENCE MONUMENT SET
PMON77	77+15.03	0.00	663,752.98	1,780,008.74	1			REFERENCE MONUMENT SET
PMON80	80+00.00	0.00	663,894.21	1,780,256.24	1			REFERENCE MONUMENT SET
PMON85	85+00.00	0.00	664,127.98	1,780,698.19	1			REFERENCE MONUMENT SET
PMON90	90+00.00	0.00	664,343.56	1,781,149.28	1			REFERENCE MONUMENT SET
PMON95	95+00.00	0.00	664,540.60	1,781,608.78		1		REFERENCE MONUMENT SET
PMON100	100+00.00	0.00	664,718.77	1,782,075.93		1		REFERENCE MONUMENT SET
PMON105	105+00.00	0.00	664,877.78	1,782,549.93		1		REFERENCE MONUMENT SET
PMON110	110+00.00	0.00	665,017.35	1,783,030.02		1		REFERENCE MONUMENT SET
PMON115	115+00.00	0.00	665,137.26	1,783,515.40		1		REFERENCE MONUMENT SET
PMON120	120+00.00	0.00	665,237.31	1,784,005.25		1		REFERENCE MONUMENT SET
PMON125	125+00.00	0.00	665,317.33	1,784,498.77		1		REFERENCE MONUMENT SET
PMON130	130+00.00	0.00	665,377.20	1,784,995.14		1		REFERENCE MONUMENT SET
PMON135	135+00.00	0.00	665,416.81	1,785,493.53		1		REFERENCE MONUMENT SET
PMON140	140+00.00	0.00	665,436.09	1,785,993.12		1		REFERENCE MONUMENT SET
PMON145	145+00.00	0.00	665,435.02	1,786,493.09		1		REFERENCE MONUMENT SET
PMON150	150+00.00	0.00	665,413.59	1,786,992.59		1		REFERENCE MONUMENT SET
PMON154	154+05.16	0.00	665,381.32	1,787,396.45		1		REFERENCE MONUMENT SET
PMON160	160+00.00	0.00	665,324.17	1,787,988.54		1		REFERENCE MONUMENT SET
PMON165	165+00.00	0.00	665,276.12	1,788,486.22		1		REFERENCE MONUMENT SET
PMON170	170+00.00	0.00	665,228.08	1,788,983.91		1		REFERENCE MONUMENT SET
PMON173	173+32.50	0.00	665,196.13	1,789,314.88		1		REFERENCE MONUMENT SET
PMON180	180+00.00	0.00	665,157.85	1,789,981.10		1		REFERENCE MONUMENT SET
PMON185	185+00.00	0.00	665,163.11	1,790,481.01		1		REFERENCE MONUMENT SET
PMON190	190+00.00	0.00	665,197.43	1,790,979.76		1		REFERENCE MONUMENT SET
PMON195	195+00.00	0.00	665,260.69	1,791,475.67		1		REFERENCE MONUMENT SET
PMON200	200+00.00	0.00	665,352.68	1,791,967.06		1		REFERENCE MONUMENT SET
PMON205	205+00.00	0.00	665,473.08	1,792,452.27		1		REFERENCE MONUMENT SET
PMON210	210+00.00	0.00	665,621.49	1,792,929.67		1		REFERENCE MONUMENT SET
PMON215	215+12.62	0.00	665,802.20	1,793,409.29		1		REFERENCE MONUMENT SET
PMON220	220+00.00	0.00	665,987.56	1,793,860.05		1		REFERENCE MONUMENT SET
PMON225	225+00.00	0.00	666,177.73	1,794,322.48		1		REFERENCE MONUMENT SET
PMON230	230+00.00	0.00	666,367.89	1,794,784.91		1		REFERENCE MONUMENT SET
PMON235	235+00.00	0.00	666,558.05	1,795,247.33		1		REFERENCE MONUMENT SET
PMON240	240+00.00	0.00	666,748.21	1,795,709.76		1		REFERENCE MONUMENT SET
PMON245	245+00.00	0.00	666,938.37	1,796,172.19		1		REFERENCE MONUMENT SET
PMON250	250+00.00	0.00	667,128.53	1,796,634.61		1		REFERENCE MONUMENT SET
PMON255	255+00.00	0.00	667,318.69	1,797,097.04		1		REFERENCE MONUMENT SET
PMON260	260+00.00	0.00	667,508.86	1,797,559.47		1		REFERENCE MONUMENT SET
PMON265	265+00.00	0.00	667,699.02	1,798,021.89		1		REFERENCE MONUMENT SET
PMON270	270+00.00	0.00	667,889.18	1,798,484.32		1		REFERENCE MONUMENT SET
PMON275	275+00.00	0.00	668,079.34	1,798,946.75		1		REFERENCE MONUMENT SET
PMON280	280+00.00	0.00	668,269.50	1,799,409.17		1		REFERENCE MONUMENT SET
PMON285	285+00.00	0.00	668,459.66	1,799,871.60		1		REFERENCE MONUMENT SET
PMON286	286+24.38	0.00	668,506.97	1,799,986.63		1		REFERENCE MONUMENT SET
TOTAL CARRIED TO GENERAL SUMMARY SHEET PID 93496					4			
TOTAL CARRIED TO GENERAL SUMMARY SHEET PID 107201						55		

FRANKLIN COUNTY
(PICKAWAY COUNTY)
PLEASANT TOWNSHIP
JACKSON TOWNSHIP
(DARBY TOWNSHIP)
VMS 931, 947, 1365, 1405, 1466, 2595 & 6178

PB 122 P 043 SHOWS THE PROJECT FRA-71-0.00, PID 93496 AS ORIGINALLY DESIGNED AND IS THE BASIS FOR THE RIGHT OF WAY PURCHASED FROM CSX TRANSPORTATION, INC. IN INSTRUMENT 201704270056732.

FOR CONSTRUCTION PURPOSES, THE PROJECT HAS BEEN SPLIT INTO TWO SEPARATE PROJECTS. THE FIRST PROJECT, FRA-71-1.53, PID 93496, CONSTRUCTS THE BRIDGE OVER THE BIG DARBY CREEK AND THE ASSOCIATED APPROACH ROADWAY. SAID PROJECT DOES NOT CONTAIN PROPOSED RIGHT OF WAY. THE SECOND PROJECT, FRA-71-0.00, PID 107201, CONSTRUCTS THE REMAINDER OF THE ORIGINAL PROJECT AND INCLUDES THE RIGHT OF WAY PURCHASED FROM THE INDIANA AND OHIO RAILWAY.

CENTERLINE MONUMENTS WILL BE SET WITH THE PROJECT THAT CONTAINS THE MONUMENT AS INDICATED ON THE TABLE ON THIS SHEET.

SETTING OF ALL MONUMENTS SHALL BE PERFORMED BY A SURVEYOR REGISTERED IN THE STATE OF OHIO. THE MONUMENT ASSEMBLIES AND REFERENCE MONUMENTS WILL BE INSTALLED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION. THE IRON PINS AND CAPS (WHEN REQUIRED) ARE TO BE INSTALLED BY THE CONTRACTOR'S SURVEYOR.

CHANGES OR ALTERATIONS TO THE LOCATION OF ANY MONUMENTS SHOWN IN THIS TABLE, REQUIRE PRIOR APPROVAL FROM THE DISTRICT REAL ESTATE ADMINISTRATOR OF THE OHIO DEPARTMENT OF TRANSPORTATION. IN THE EVENT THAT CHANGES OR ALTERATIONS ARE APPROVED, A REVISED CENTERLINE PLAT WITH THE NEW LOCATIONS SHALL BE RECORDED IN THE APPLICABLE COUNTY RECORDS AND THE OHIO DEPARTMENT OF TRANSPORTATION. SPECIFICATIONS FOR MONUMENT ASSEMBLIES, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1.

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CENTERLINE PLAT

FRA-71-0.00
FRA-71-1.53

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COUNTY RECORDER

4 / 5
284
285

FRANKLIN COUNTY
(PICKAWAY COUNTY)
PLEASANT TOWNSHIP
JACKSON TOWNSHIP
(DARBY TOWNSHIP)
VMS 931, 947, 1365, 1405,
1466, 2595, & 6178

CENTERLINE PLAT

FRA-71-0-00
FRA-71-1-53

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CONST. & R/W I-71 ADDITIONAL MONUMENTS FOUND						
POINT NUMBER	STATION	OFFSET	GRID COORDINATES U.S. SURVEY FEET		ORTHOMETRIC HEIGHT (ELEVATION)	DESCRIPTION
			NORTHING (Y)	EASTING (X)		
SV362	839+23.20	75.97' LT	659863.85	1773222.92	904.82	NAIL
SV388	839+23.22	75.95' LT	659863.85	1773222.94	904.71	NAIL
SV363	839+73.90	75.79' RT	659758.73	1773343.54	904.54	NAIL
SV366	27+64.29	75.37' LT	661314.74	1775699.39	872.83	NAIL
SV365	28+53.43	75.05' RT	661230.04	1775852.35	870.70	NAIL
SV372	35+31.51	80.21' LT	661706.85	1776358.85	857.46	NAIL
SV293	42+92.07	207.57' LT	662201.30	1776950.63	860.90	NAIL
SV347	50+92.25	234.98' LT	662629.54	1777627.12	856.45	NAIL
SV348	53+29.52	285.71' LT	662793.28	1777806.18	851.15	NAIL
SV115	55+72.08	177.66' RT	662516.15	1778249.74	829.60	NAIL
SV378	75+96.75	190.94' RT	663528.44	1780003.24	816.52	NAIL
SV377	76+04.62	231.83' RT	663497.15	1780030.70	815.61	NAIL
SV373	77+24.58	265.83' LT	663987.25	1779882.74	786.41	NAIL
SV11360	77+87.49	151.27' LT	663920.39	1779995.65	821.13	BM
SV11398	78+07.80	20.02' LT	663816.94	1780078.96	796.83	NAIL
SV11572	78+20.33	141.06' LT	663928.15	1780029.53	821.75	BM
SV375	79+79.17	205.19' LT	664063.30	1780138.12	786.91	NAIL
SV376	80+28.21	327.05' LT	664194.16	1780122.80	786.10	NAIL
SV374	80+28.71	758.62' LT	664572.20	1779914.62	789.44	NAIL
SV40043	82+23.03	273.92' RT	663758.85	1780580.81	779.04	NAIL
SV41183	82+89.28	368.64' RT	663705.24	1780682.10	781.95	NAIL
SV41163	83+23.60	258.56' RT	663818.29	1780660.71	781.93	NAIL
SV41235	83+74.79	262.27' LT	664304.20	1780466.36	781.84	NAIL
SV40160	84+76.83	366.71' LT	664444.81	1780512.06	781.65	NAIL
SV164	111+77.41	79.33' RT	664985.25	1783221.16	805.04	NAIL
SV285	116+62.31	99.89' LT	665269.65	1783653.28	814.64	NAIL
SV77501	126+71.36	321.70' LT	665659.26	1784628.04	861.35	IPIPE
SV10332	126+83.54	23.81' RT	665318.04	1784683.66	834.79	NAIL
SV77461	128+49.08	173.66' LT	665533.83	1784825.66	864.04	IPIPE
MN789	129+17.45	380.87' LT	665747.43	1784872.58	862.78	IPIPE
MN788	130+57.21	316.04' LT	665697.37	1785022.10	864.81	IPIPE
MN785	131+04.31	414.85' LT	665800.27	1785061.20	864.23	IPIPE
MN787	131+20.29	286.90' LT	665674.32	1785089.14	865.79	IPIPE
MN786	131+48.55	351.38' LT	665741.12	1785112.31	865.42	IPIPE
SV70434	131+69.11	157.05' LT	665549.34	1785150.05	869.41	IPIPE
MN784	135+58.60	347.52' LT	665767.13	1785533.22	867.18	IPIPE
MN783	136+65.11	320.46' LT	665745.56	1785643.84	867.17	IPIPE
MN782	138+79.51	320.14' LT	665753.31	1785863.69	867.01	IPIPE
MN781	140+88.46	349.36' LT	665786.73	1786077.73	865.74	IPIPE
MN780	141+91.17	419.55' LT	665857.63	1786183.17	865.27	IPIPE
MN777	142+17.51	310.99' LT	665749.11	1786210.46	865.95	IPIPE
MN778	142+87.20	280.95' LT	665718.91	1786281.76	866.48	IPIPE
MN779	143+10.42	340.34' LT	665778.15	1786305.93	866.22	IPIPE
SV361	148+29.26	77.78' LT	665500.87	1786825.96	878.88	NAIL
SV920	151+34.40	1501.24' RT	663907.26	1787015.42	843.45	MONBOX
SV3146	155+32.02	535.17' RT	664836.43	1787471.30	861.98	NAIL
SV3079	157+33.13	176.61' RT	665174.01	1787705.93	864.08	NAIL
SV921	157+51.69	1219.68' RT	664133.98	1787624.19	868.13	MONBOX
SV3001	159+66.94	273.85' LT	665599.92	1787981.94	866.34	NAIL
SV919	159+92.06	885.31' RT	664443.71	1787895.57	871.15	MONBOX
SV30345	161+70.17	709.24' LT	666013.77	1788226.07	869.62	NAIL
SV918	161+93.15	488.43' RT	664819.44	1788133.86	873.58	MONBOX
SV200007	162+60.43	444.17' RT	664857.03	1788205.08	872.62	IPIN
SV200008	162+60.67	444.00' RT	664857.17	1788205.34	872.24	IPIPE
CP14	163+49.34	20.62' RT	665270.08	1788334.28		IPIN
SV309	167+35.52	285.44' LT	665537.61	1788748.08	868.65	BM
SV200006	169+31.00	438.19' LT	665670.87	1788957.33	875.90	CMON
SV200009	170+68.51	712.73' RT	664512.06	1788983.62	875.04	CMON
SV917	172+01.47	1519.17' LT	666720.86	1789330.42	877.67	RSPK
SV916	172+07.42	1520.16' LT	666721.28	1789336.43	877.75	RSPK
SV200010	172+62.35	651.47' RT	664554.42	1789182.45	875.37	CMON
SV200005	174+21.06	663.83' LT	665849.46	1789460.04	877.02	CMON
SV200011	175+79.01	286.46' RT	664890.16	1789541.21	874.06	IPIN

CONST. & R/W I-71 ADDITIONAL MONUMENTS FOUND						
POINT NUMBER	STATION	OFFSET	GRID COORDINATES U.S. SURVEY FEET		ORTHOMETRIC HEIGHT (ELEVATION)	DESCRIPTION
			NORTHING (Y)	EASTING (X)		
SV200004	176+03.90	693.02' LT	665865.90	1789630.16	877.40	CMON
SV200003	177+76.98	623.91' LT	665788.17	1789785.97	875.78	CMON
SV200002	180+04.53	333.75' LT	665491.47	1789991.65	876.71	CMON
SV200001	181+81.27	187.15' LT	665343.55	1790161.90	875.54	IPIPE
SV200000	185+31.39	147.06' LT	665311.33	1790506.01	873.93	IPIPE
SV30242	229+06.23	22.17' RT	666311.72	1794706.62	873.82	NAIL
CP30	234+30.94	20.80' RT	666512.54	1795191.38		CMON

CONST. & R/W I-71 EXISTING REFERENCE POINTS						
POINT NUMBER	STATION	OFFSET	GRID COORDINATES U.S. SURVEY FEET		ORTHOMETRIC HEIGHT (ELEVATION)	DESCRIPTION
			NORTHING (Y)	EASTING (X)		
CP83700	837+00.00	0.00' RT	659,685.24	1,773,069.02	908.97	CMON
CP87200	31+70.67	0.19' LT	661,455.35	1,776,088.01	866.21	CMON
CP88100	40+71.26	0.09' LT	661,910.64	1,776,865.04	847.95	CMON
CP89000	49+71.15	0.03' LT	662,365.61	1,777,641.44	830.15	CMON
CP89900	58+70.98	0.04' RT	662,820.53	1,778,417.80	811.92	CMON
CP90800	67+71.02	0.02' LT	663,275.67	1,779,194.28	797.22	CMON
CP91700	76+70.85	0.05' RT	663,730.60	1,779,970.65	799.25	CMON
CP93400	93+71.58	0.04' RT	664,491.75	1,781,490.02	798.81	CMON
CP94200	101+71.41	0.03' RT	664,775.43	1,782,237.70	796.63	CMON
CP95000	109+71.25	0.03' RT	665,009.83	1,783,002.28	803.43	CMON
CP95800	117+71.24	0.02' LT	665,194.03	1,783,780.62	819.36	CMON
CP96600	125+71.21	0.05' RT	665,327.04	1,784,569.31	835.44	CMON
CP97600	135+70.95	0.14' LT	665,420.92	1,785,564.36	855.69	CMON
CP98500	144+70.84	0.22' LT	665,435.86	1,786,463.93	873.71	CMON
CP99439	154+09.79	0.27' LT	665,381.15	1,787,401.08	889.71	CMON
CP1006	165+70.88	0.08' LT	665,269.39	1,788,556.79	890.64	CMON
CP101360	173+31.13	0.05' RT	665,196.22	1,789,313.50	879.92	CMON
CP10500	182+43.17	0.07' RT	665,156.70	1,790,224.26	877.04	CMON
CP14500	222+43.00	0.10' RT	666,079.89	1,794,084.83	872.24	CMON
CP150	227+42.23	0.04' RT	666,269.81	1,794,546.52	869.11	CMON
CP15500	232+42.19	0.02' LT	666,460.02	1,795,008.89	869.11	CMON
CP16000	237+42.32	0.08' LT	666,650.28	1,795,471.41	867.23	CMON
CP16500	242+42.29	0.02' LT	666,840.37	1,795,933.84	865.60	CMON
CP17000	247+42.07	0.06' LT	667,030.49	1,796,396.04	864.12	CMON
CP17500	252+42.07	0.03' LT	667,220.63	1,796,858.48	862.68	CMON
CP18000	257+42.06	0.02' RT	667,410.74	1,797,320.92	861.44	CMON
CP18500	262+42.12	0.03' LT	667,600.96	1,797,783.38	859.85	CMON
CP19000	267+42.09	0.02' LT	667,791.11	1,798,245.79	858.60	CMON
CP19500	272+42.21	0.03' LT	667,981.33	1,798,708.32	857.22	CMON
CP20000	277+42.19	0.09' RT	668,171.37	1,799,170.77	855.89	CMON
CP20881	286+24.37	0.03' RT	668,506.94	1,799,986.63	851.89	CMON

R/W US 62/SR 3 (HARRISBURG PIKE) ADDITIONAL MONUMENTS FOUND						
POINT NUMBER	STATION	OFFSET	GRID COORDINATES U.S. SURVEY FEET		ORTHOMETRIC HEIGHT (ELEVATION)	DESCRIPTION
			NORTHING (Y)	EASTING (X)		
SV920	71+00.00	0.03' RT	663907.26	1787015.42	843.45	MONBOX
SV921	77+45.91	24.72' RT	664133.98	1787624.19	868.13	MONBOX
SV919	81+54.87	0.00' RT	664443.71	1787895.57	871.15	MONBOX
SV918	85+99.79	0.50' RT	664819.44	1788133.86	873.58	MONBOX
SV200007	86+69.64	40.59' RT	664857.03	1788205.08	872.62	IPIN
SV200008	86+69.89	40.74' RT	664857.17	1788205.34	872.24	IPIPE
SV917	108+46.37	4.86' LT	666720.86	1789330.42	877.67	RSPK
SV916	108+49.94	0.00' RT	666721.28	1789336.43	877.75	RSPK
CP14	90+87.77	71.05' LT	665270.08	1788334.28		IPIPE

PROJECT DESCRIPTION

THE FRA-71-0.00 PROJECT INVOLVES IMPROVEMENTS TO APPROXIMATELY 5.29 MILES OF INTERSTATE 71 (IR 71) FROM THE FRANKLIN/PICKAWAY COUNTY LINE TO APPROXIMATELY 4,400 FEET (FT) SOUTH OF THE INTERSECTION OF IR-71 AND LONDON GROVEPORT ROAD (STATE ROUTE 665). THE PROJECT CONSISTS OF RECONSTRUCTION OF EXISTING LANES AND THE ADDITION OF A THIRD LANE IN THE MEDIAN, IN EACH DIRECTION. THE PROJECT ALSO INCLUDES THE FOLLOWING BRIDGES AND A NEW NOISE WALL:

1. FRA-71-0153 L&R - REPLACEMENT
2. FRA-71-0296 L&R - WIDENING
3. FRA-71-0308 L&R - WIDENING
4. NOISE WALL - SEGMENT 1 STATION 126+00, 155' RT TO 145+50, 139' RT
5. NOISE WALL - SEGMENT 2 STATION 143+50, 80' RT TO 148+00, 77' RT

HISTORIC RECORDS

HISTORICAL STRUCTURE FOUNDATION INVESTIGATIONS ARE AVAILABLE THROUGH THE ODOT FALCON DATABASE SYSTEM FOR ALL THE PROJECT BRIDGES. LISTED BELOW ARE INVESTIGATION'S PROJECT NUMBERS, DATES AND LIST OF HISTORICAL BORINGS BEING RELIED UPON FOR THIS EXPLORATION, BY BRIDGE.

- FRA-71-0153 L&R
 - o REPORT OF FOUNDATION INVESTIGATION, INTERSTATE I-71, BRIDGE NO. FRA-1-0153 (R & L) -1962
 - o BORINGS B-001-B-62 AND B-010-B-62.
- FRA-71-0296 L&R
 - o REPORT OF FOUNDATION INVESTIGATION, INTERSTATE I-71, BRIDGE NO. FRA-1-0298 (I-71 OVER B&O RAILROAD) AUGUST 17, 1962
 - o BORINGS B-001-C-62, B-004-C-62, B-005-C-62 AND B-008-C-62.
- FRA-71-0308 L&R
 - o REPORT OF FOUNDATION INVESTIGATION, INTERSTATE I-71, BRIDGE NO. FRA-1-0308 (R & L) - 1962
 - o BORINGS B-001-U-62, B-004-U-62, B-005-U-62, B-006-U-62, B-007-U-62 AND B-010-U-62.

WHILE BORINGS WERE AVAILABLE FOR THE ORIGINAL SUBGRADE, DUE TO THE CHANGES IN GRADE FROM THE ORIGINAL EXPLORATION THEY ARE NOT BEING RELIED UPON FOR THE SUBGRADE EXPLORATION.

GEOLOGY

THE ALIGNMENT CROSSES THROUGH THE DARBY PLAIN REGION OF THE SOUTHERN OHIO LOAMY TILL PLAIN, PART OF THE CENTRAL LOWLANDS. THIS AREA IS CHARACTERIZED AS BROADLY HUMMOCKY GROUND MORAINIC WITH INDISTINCT RECESSIONAL MORAINES AND FEW LARGE STREAMS. THE HIGHEST ELEVATION ALONG THE ALIGNMENT OCCURS AT THE EXTREME SOUTHERN END WHERE IT REACHES AN APPROXIMATE ELEVATION OF 905 FT. FROM THIS POINT THE TERRAIN SLOPES TOWARDS BIG DARBY CREEK, WHICH IS AT APPROXIMATE ELEVATION 780 FT WHERE IT FLOWS BENEATH IR-71. FROM BIG DARBY CREEK THE TERRAIN RISES; AT THE NORTHERN TERMINUS THE ELEVATION REACHES 860 FT. THE SURFICIAL GEOLOGY ALONG THE ALIGNMENT CAN BE DIVIDED IN TWO PRIMARY AREAS: THE FLOODPLAIN OF BIG DARBY CREEK (ABOUT 1 MILE WIDE) AND THE REMAINDER OF THE ALIGNMENT. MAPPING INDICATES THE FLOODPLAIN IS UNDERLAIN BY (TOP TO BOTTOM): 10 FT OF PATCHY ALLUVIUM/10 FT OF SAND AND GRAVEL/50 FT OF TILL/90 FT OF CLAY OVER SILURIAN AND/OR DEVONIAN-AGE DOLOMITE BEDROCK. THE REMAINDER OF THE ALIGNMENT IS UNDERLAIN BY BETWEEN 30 AND 40 FT OF LOAM TILL OVER 60 TO 120 FT OF TILL. IN ALL BUT THE NORTHERN 25%, THIS IS OVER EITHER DOLOMITE BEDROCK OR DEVONIAN-AGE SHALE. IN THE NORTHERN 25% THE TILL IS UNDERLAIN BY UP TO 170 FT OF SAND AND GRAVEL OVER DOLOMITE. THE SURFICIAL UNITS MAY BE MASKED BY EMBANKMENT PLACED DURING CONSTRUCTION OF IR-71.

BEDROCK ELEVATIONS ARE MAPPED FROM 727 FT AT THE SOUTHERN END TO 631 FT AT BIG DARBY CREEK BACKUP TO 708 FT AT THE NORTHERN END. THIS SUGGESTS THAT BEDROCK WOULD VARY BETWEEN 150 AND 180 FT IN DEPTH BASED ON IR-71 ELEVATIONS. THE SILURIAN/DEVONIAN CARBONATE BEDROCK IS SHOWN AS KARST GEOLOGY ON ODNR'S KNOWN AND PROBABLE KARST IN OHIO. THE MAP ALSO INDICATES THAT THE CARBONATE ROCK IS OVERLAIN BY MORE THAN 20 FEET OF GLACIAL DRIFT AND/OR ALLUVIUM, AND NO KNOWN OR PROBABLE KARST FEATURES ARE DEPICTED.

SURFACE WATER DRAINAGE IN THE AREA IS DOMINATED BY THE SOUTH-FLOWING BIG DARBY CREEK, LOCATED ABOUT 1.5 MILES NORTH OF THE FRANKLIN AND PICKAWAY COUNTY BOUNDARY; THE ALIGNMENT ALSO CROSSES THREE OF ITS TRIBUTARIES (SPRINGWATER RUN AND TWO UNNAMED INTERMITTENT TRIBUTARIES).

RECONNAISSANCE

THE SITE RECONNAISSANCE WAS CONDUCTED IN TWO PHASES: ONCE DURING THE SUBGRADE EXPLORATION IN 2012 AND AGAIN IN 2014 DURING THE STRUCTURE FOUNDATION INVESTIGATIONS. THE FIRST RECONNAISSANCE TOOK PLACE BETWEEN SEPTEMBER 24 AND OCTOBER 5, 2012 AT WHICH TIME IT WAS NOTED THAT DRAINAGE ALONG THE ROADWAY ALIGNMENT APPEARED TO BE ADEQUATE, AS NO EVIDENCE OF FLOODING OR POTENTIAL FLOODING OF THE ROADWAY WAS OBSERVED. THERE WAS NO VISIBLE EVIDENCE OF LANDSLIDE SUSCEPTIBILITY DURING FIELD OBSERVATIONS OR DRILLING.

THE SECOND PHASE INVOLVED THREE SITE VISITS: 2/4/14 IN FEBRUARY, 5/24/14 AND 1/28/15. THE OBSERVATIONS ARE PRESENTED BELOW BY STRUCTURE.

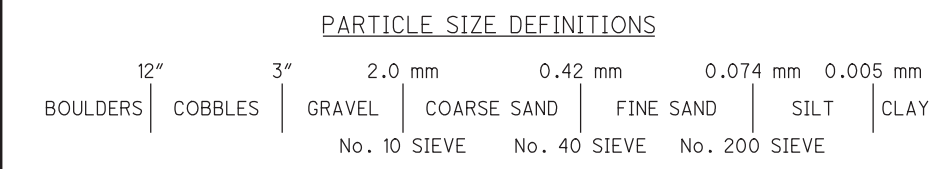
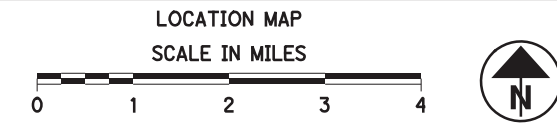
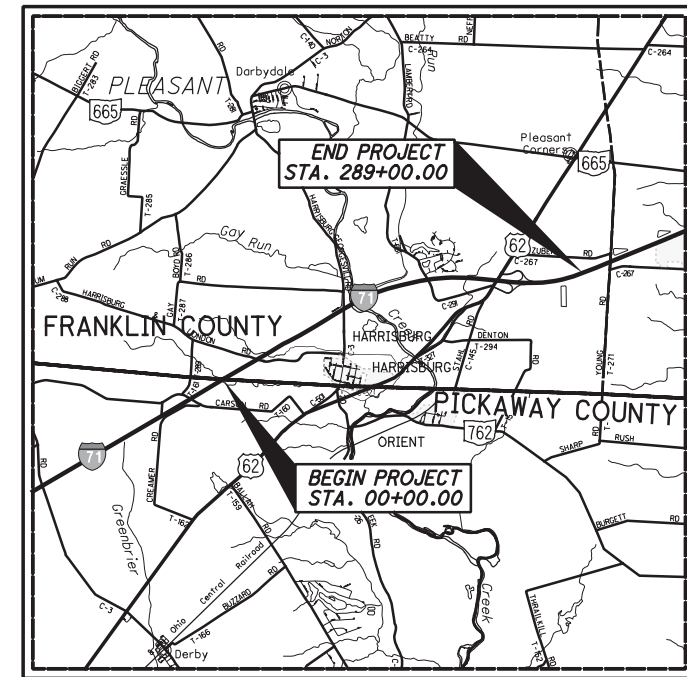
FRA-71-0153 L&R
RURAL AND RECREATIONAL LAND SURROUNDS THE BRIDGE SITE. IMMEDIATELY NORTH AND SOUTH ARE PARCELS INCLUDED IN THE BATTLELLE DARBY CREEK METRO PARK (CENTRAL OHIO METRO PARKS).

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL
GRAVEL AND/OR STONE FRAG	A-1-a	0 2
GRAVEL AND/OR STONE FRAG. W/ SAND	A-1-b	4 5
GRAV. AND/OR STONE FRAG. W/ SAND, SILT & CLAY	A-2-4	9 5
COARSE AND FINE SAND	A-3a	0 1
SANDY SILT	A-4a	141 179
SILT	A-4b	6 4
SILT AND CLAY	A-6a	54 33
SILTY CLAY	A-6b	35 38
CLAY	A-7-6	22 7
	TOTAL	262 268
BOULDERY ZONE	VISUAL	
DOLOMITE	VISUAL	
LIMESTONE	VISUAL	
SILTSTONE	VISUAL	
BACKFILL / UNCONTROLLED FILL	VISUAL	
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL	
SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL	
BORING LOCATION - PLAN VIEW.		
HISTORIC BORING LOCATION - PLAN VIEW.		
DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.		
WC	INDICATES WATER CONTENT IN PERCENT.	
N₆₀	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.	
X/Y/Z	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X= NUMBER OF BLOWS FOR FIRST 6 INCHES. Y= NUMBER OF BLOWS FOR SECOND 6 INCHES. Z= NUMBER OF BLOWS FOR THIRD 6 INCHES.	
W—	INDICATES FREE WATER ELEVATION.	
▼—	INDICATES STATIC WATER ELEVATION.	
●	INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.	
⊕	INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25 % OR GREATER THAN 19 % WITH A WET APPEARANCE.	
*	INDICATES A SAMPLE TAKEN WITHIN 3 FT OF PROPOSED GRADE.	
SS	INDICATES A SPLIT SPOON SAMPLE.	
NP	INDICATES A NON-PLASTIC SAMPLE.	
TR	INDICATES A TOP OF ROCK ELEVATION	

RECONNAISSANCE (CONTINUED)

THE AREA TO THE NORTH IS FOREST AND TO THE SOUTH IS ALLOCATED FOR FIELDS AND MEADOWS. MORE FOREST, FOLLOWED BY AGRICULTURAL FIELDS LAY TO THE EAST AND WEST. THE EXISTING TWIN STRUCTURES ARE EACH SUPPORTED ON PILED ABUTMENTS WITH SPILL-THROUGH SLOPES AND TWO HAMMER-HEAD PIERS FOUNDED ON BEDROCK USING SPREAD FOOTINGS. NO EVIDENCE OF DISTRESS OR POOR PERFORMANCE WAS OBSERVED AT THE SUPPORTS THAT COULD BE ATTRIBUTED TO GEOTECHNICAL FACTORS.



HISTORIC BORING DESCRIPTIONS	ODOT CLASS	CLASSIFIED MECH./VISUAL
GRAVEL AND/OR STONE FRAGMENTS	A-1-a	31 3
GRAVEL AND/OR ST. FRAGS. W/SAND	A-1-b	11 -
GRAVEL AND/OR ST. FRAGS. W/SAND & SILT	A-2-4	9 -
GRAVEL AND/OR ST. FRAGS. W/SAND, SILT & CLAY	A-2-6	2 -
SANDY SILT	A-4a	133 2
SILT	A-4b	5 -
SILT AND CLAY	A-6a	30 2
SILTY CLAY	A-6b	7 -
ELASTIC CLAY	A-7-5	3 -
CLAY	A-7-6	18 -
	TOTAL	249 7
DOLOMITE	VISUAL	

RECON. - STANTEC 9/24-10/5/12; Z.J. 2/4/14; S.E. 5/24/14; M.L. 1/28/15
 DRILLING - STANTEC 9/24-10/5/12; Z.J., J.G. 3/29/14-3/31/15
 DRAWN - C.H., D.M.L., G.L., K.A. 4/13-6/16/15
 REVIEWED - L.E. 6/11/15-6-16-15

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DESIGN AGENCY: BARR ENGINEERING INC.
 4760 RED BANK EXPRESSWAY, STE. 300
 CINCINNATI, OH 45227
 PID NO.: 93496
SOIL PROFILE
FRA-71-0.00
 1/111

RECONNAISSANCE (CONTINUED)

FRA-71-0153 L&R (CONTINUED)

THE BRIDGE PARAPET LINES APPEAR TO BE STRAIGHT AND TRUE WHICH IS INTERPRETED TO INDICATE ABSENCE OF SIGNIFICANT DIFFERENTIAL SETTLEMENT. THE SPILL THROUGH SLOPES HAVE EXPERIENCED SOME EROSION AND RIPRAP THAT IS SHOWN ON THE ORIGINAL DRAWINGS IS ABSENT IN SOME PLACES, AND ADDITIONAL ARMORING APPEARS TO HAVE BEEN PLACED AT OTHERS. A BENCH THAT WAS SHOWN AT APPROXIMATE ELEVATION 782 FT (ABOUT 10 FT BELOW THE GIRDERS) IN THE CONSTRUCTION DRAWINGS IS ABSENT, SUGGESTING SOME EROSION OF THE SLOPE. AN ISLAND EXISTS IN THE CHANNEL BETWEEN PIERS 1 AND 2 THAT EXTENDS THE FULL LENGTH OF THE PROJECT AREA. THIS MATERIAL HAS ACCUMULATED SINCE THE END OF ORIGINAL CONSTRUCTION AND THE ISLAND NOW SUPPORTS MATURE WOODLANDS. THE HELLBRANCH RUN CHANNEL IS APPARENTLY NOT (OR ONLY POORLY) CONNECTED TO BIG DARBY CREEK UPSTREAM OF THE BRIDGE AND DURING LOW FLOW IN THE RUN, PROBABLY FUNCTIONS AS A FAIRLY STATIC BACKWATER CHANNEL TO BIG DARBY CREEK.

FRA-71-0296 L&R

THE SINGLE CSX TRACK PARALLELS HARRISBURG PIKE APPROXIMATELY 600 FT TO THE EAST. THE AREA BETWEEN THE TRACK AND THE PIKE HAS BEEN DEVELOPED WITH PREDOMINANTLY LIGHT COMMERCIAL FACILITIES; THE AREA TO THE WEST IS AGRICULTURAL FARMLAND. THE RAIL LINE IS LOCATED IN A SHALLOW (ABOUT 6 FT DEEP) CUT, AND THE APPROACH EMBANKMENTS ARE ON THE ORDER OF 24 FT HIGH CREATING APPROXIMATELY 25 FT OF CLEARANCE ABOVE THE TRACK. NO EVIDENCE OF DISTRESS OR POOR PERFORMANCE WAS OBSERVED AT THE SUPPORTS THAT COULD BE ATTRIBUTED TO GEOTECHNICAL FACTORS. THE BRIDGE PARAPET LINES APPEAR TO BE STRAIGHT AND TRUE WHICH IS INTERPRETED TO INDICATE ABSENCE OF SIGNIFICANT DIFFERENTIAL SETTLEMENT. SPILL THROUGH SLOPES APPEAR TO BE STABLE AND ARE GENERALLY WELL VEGETATED. SURFACE DRAINAGE IS POOR IN THE VICINITY OF PIERS 2 (L&R) WHERE STANDING WATER CAN BE SEEN. WIDENING WILL TAKE PLACE IN THE AREA BETWEEN THE TWO EXISTING STRUCTURES.

FRA-71-0308 L&R

IMMEDIATELY EAST ARE THE INFIELDS FOR THE EXIT AND ENTRANCE RAMPS TO IR-71 AT US-62. TO THE WEST LAND USE INCLUDES A GOLF CART MANUFACTURER, AN ACTIVE GASOLINE STATION AND AN ABANDONED GASOLINE STATION. THE EMBANKMENTS ARE VEGETATED WITH BUSHES, GRASS AND A FEW TREES. US 62 (HARRISBURG PIKE) PARALLELS THE CSX RAILROAD APPROXIMATELY 600 FT TO THE WEST. THE AREA BETWEEN THE TRACK AND THE PIKE HAS BEEN DEVELOPED WITH PREDOMINANTLY LIGHT COMMERCIAL FACILITIES; THE AREA TO THE EAST IS AGRICULTURAL FARMLAND AND LIGHT RURAL RESIDENTIAL DEVELOPMENT. THE TWIN BRIDGES ARE CONFIGURED FOR SEPARATE NORTHBOUND AND SOUTHBOUND LANES, BUT PRESENTLY SPAN ONLY A SINGLE, TWO-LANE ROAD BETWEEN PIERS 1 AND 2. THE AREA BETWEEN PIERS 2 AND 3 IS GRASS COVERED. NO EVIDENCE OF DISTRESS OR POOR PERFORMANCE WAS OBSERVED AT THE SUPPORTS THAT COULD BE ATTRIBUTED TO GEOTECHNICAL FACTORS. THE BRIDGE PARAPET LINES APPEAR TO BE STRAIGHT AND TRUE WHICH IS INTERPRETED TO INDICATE ABSENCE OF SIGNIFICANT DIFFERENTIAL SETTLEMENT. SPILL THROUGH SLOPES APPEAR TO BE STABLE AND ARE GENERALLY WELL MAINTAINED WITH CRUSHED ROCK. SURFACE DRAINAGE APPEARS TO BE ADEQUATE. WIDENING WILL TAKE PLACE IN THE AREA BETWEEN THE TWO EXISTING STRUCTURES.

NOISE WALL

AT THE TIME OF THE RECONNAISSANCE SNOW COVERED MUCH OF THE SURFACE UP TO 2 INCHES THICK. LAND USE TO THE NORTH OF THE PROPOSED WALL CONSISTS OF SINGLE-FAMILY RESIDENCES. AGRICULTURAL FIELDS ARE LOCATED TO THE SOUTH OF IR-71. THE NOISE WALL ALIGNMENT PARALLELS A SLOPE THAT MAY EXCEED 2:1 IN PLACES, BUT DECREASES IN STEEPNESS TO THE EAST. THE TREES ON THE SLOPE APPEAR TO BE CLOSE TO VERTICAL, SO CREEP DOES NOT SEEM TO HAVE OCCURRED, INDICATING STABLE SLOPES. THE UPPER PORTION OF THE SLOPE IS COVERED IN THICK VEGETATION, COMPOSED OF TREES, BUSHES, AND GRASS. THE REMAINDER OF THE SLOPE HAS A WELL-ESTABLISHED GRASS COVER, WITH TREES INTERSPERSED THROUGHOUT. PROPERTIES TO THE NORTH OF THE SITE AT THE TOP OF THE SLOPE APPEAR TO BE RELATIVELY FLAT. POWER LINES AND FIBER OPTIC CABLE MARKERS WERE OBSERVED ALONG THE TOP OF THE SLOPE AT THE REAR OF THE RESIDENTIAL PROPERTIES. AN OLD CULVERT PIPE WAS ENCOUNTERED AT THE EAST END OF THE SITE ALONG AN INTERMITTENT TRIBUTARY TO BIG DARBY CREEK; THE BOTTOM HALF WAS CORRODED. THE NEARBY CULVERT CARRYING THE TRIBUTARY BENEATH IR-71 WAS OBSERVED TO BE IN GOOD CONDITION. SITE DRAINAGE APPEARED TO BE ADEQUATE, AS SNOW WAS MELTING AND NO LARGE POOLS OF WATER WERE ENCOUNTERED.

SUBSURFACE EXPLORATION

THE SUBSURFACE EXPLORATION WAS CONDUCTED IN TWO PHASES: THE SUBGRADE EXPLORATION WAS CONDUCTED BY STANTEC CONSULTING SERVICES, INC. (STANTEC) BETWEEN SEPTEMBER 24 AND OCTOBER 5, 2012 AND THE STRUCTURE FOUNDATION EXPLORATIONS WERE CONDUCTED BY BARR ENGINEERING, INC. (BEI) BETWEEN MARCH 31, 2014 AND MARCH 31, 2015.

STANTEC DRILLED 70 ROADWAY BORINGS TO DEPTHS BETWEEN 6.5 AND 9.5 FT BELOW GROUND SURFACE; 56 BORINGS WERE ADVANCED WITHIN THE EXISTING TRAFFIC LANES AND 14 BORINGS WERE ADVANCED WITHIN THE MEDIAN. THE BORINGS WERE ADVANCED USING ONE OF TWO CME 45 (C2 AND C3) TRUCK-MOUNTED DRILL RIGS WITH 3.5-INCH INSIDE DIAMETER SOLID-STEM AUGERS. DISTURBED SOIL SAMPLES WERE OBTAINED CONTINUOUSLY BY STANDARD PENETRATION TEST (SPT) WITH AUTOMATIC HAMMERS CALIBRATED OCTOBER 4, 2012 AS 88.7% EFFICIENT (C3) AND 86.2% EFFICIENT (C2).

BEI DRILLED 16 OF THE 24 STRUCTURE BORINGS; OF THE REMAINING 8, BEI SUBCONTRACTED 5 TO CENTRAL STAR DRILLING AND 3 TO STOCK DRILLING, INC. ALL WERE SUPERVISED AND LOGGED BY A BEI REPRESENTATIVE. THE BORINGS WERE DRILLED TO DEPTHS BETWEEN 25 FT AND 74.9 FT BELOW GROUND SURFACE USING ONE OF THE FOLLOWING DRILL RIGS:

SUBSURFACE EXPLORATION (CONTINUED)

OWNER	RIG	AUGERS	AUTO-HAMMER ENERGY RATIO	CALIBRATION DATE
BEI	CME 550X	3.25" HSA	85.3%	1/26/14
BEI	CME 55X	3.25" HSA	81.5%	1/26/14
STAR	CME 55	2.25" HSA	74.9%	6/12/12
STOCK	CME 750X	2.25" HSA	78.6%	3/1/13

SOIL SAMPLES WERE RECOVERED AT 2.5-FT SAMPLE INTERVALS TO 30 FT AND 5-FT THEREAFTER, USING A SPLIT SPOON SAMPLER (AASHTO T-206 "STANDARD METHOD FOR PENETRATION TEST AND SPLIT BARREL SAMPLING OF SOILS."). SPT WAS CONDUCTED DURING SAMPLING USING AN AUTO-HAMMER. AT BEDROCK, THE SAMPLES WERE COLLECTED IN 5.0-FT INCREMENTS USING AN NQ2, TRIPLE TUBE, CORE BARREL, WATER METHOD TO CORE. FIELD BORING LOGS WERE PREPARED BY THE DRILLER INDICATING THE LITHOLOGICAL DESCRIPTION AND STANDARD PENETRATION TEST RESULTS RECORDED AS BLOWS PER 6-INCH INCREMENT OF PENETRATION. GROUNDWATER OBSERVATIONS WERE RECORDED DURING THE INVESTIGATION. HAND PENETROMETER TESTING WAS CONDUCTED ON A MAJORITY OF SPT SAMPLES PRIOR TO REMOVAL FROM THE SAMPLER. BORINGS WERE BACKFILLED WITH EITHER SOIL CUTTINGS OR BENTONITE GROUT AS INDICATED ON THE LOGS.

EXPLORATION FINDINGS

NINETY-ONE PERCENT OF THE ROADWAY SOIL SAMPLES TESTED WERE CLASSIFIED AS FINE-GRAINED, COHESIVE SOILS AND INCLUDED SANDY SILT (A-4A 50%), SILT AND CLAY (A-6A 21%), SILTY CLAY (A-6B-13%) AND CLAY (A-7-6 6%). TWO SAMPLES WERE CLASSIFIED AS SILT (A-4B-1%). THE REMAINING 9% WERE CLASSIFIED AS COARSE-GRAINED SOILS, OR WHICH 5% WERE GRAVEL AND/OR STONE FRAGMENTS WITH SAND AND SILT (A-2-4), 3% WERE GRAVEL AND/OR STONE FRAGMENTS WITH SAND (A-1-B) AND 1% WERE GRAVEL AND/OR STONE FRAGMENTS (A-1-A). THE CONSISTENCY OF THE FINE-GRAINED SOILS RANGED FROM STIFF TO HARD. HAND PENETROMETER VALUES OVERALL VARIED BETWEEN 1.5 AND GREATER THAN 4.5 TONS PER SQUARE FOOT (TSF) WITH THE MAJORITY GREATER THAN 4.5 TSF. SPT, N-VALUES RANGED FROM 10 BLOWS PER FOOT (BPF) TO 121 BPF, WITH 50% BETWEEN 21 AND 39 BPF. LIQUID LIMITS RANGED FROM 17 TO 58 WITH 50% BETWEEN 21 AND 28. PLASTIC LIMITS RANGED FROM 10 TO 22 WITH 50% BETWEEN 13 AND 16. NATURAL MOISTURE CONTENTS RANGED FROM 4 AND 28%, WITH 50% BETWEEN 10 AND 14 PERCENT. GROUNDWATER WAS NOT ENCOUNTERED IN ANY OF THE BORINGS.

FRA-71-1053 L&R

OVERBURDEN SOILS ARE FAIRLY CONSISTENT. THE APPROACH EMBANKMENTS ARE COMPOSED OF SAND, SILT AND CLAY MIXTURES (A-4A, A-6A, A-6B) THAT ARE TYPICALLY STIFF TO VERY STIFF, OR DENSE. THE EMBANKMENTS ARE FOUNDED ON NATURAL SOILS THAT ARE ALSO FINE GRAINED AND APPEAR TO BE FLOODPLAIN DEPOSITS WITH TRACES OF ORGANICS (ROOTS), AND SHELLS BEING REPORTED IN THE SAMPLES. THIS STRATUM IS ON THE ORDER OF 1.5 - 2.5 FT THICK AT THE TWO PROJECT BORING LOCATIONS WHERE IT WAS OBSERVED. THE REMAINING OVERBURDEN IS DOMINANTLY SAND AND GRAVEL MIXTURES WITH VARYING AMOUNTS OF SILT AND CLAY (A-1-A, A-2-6) AND IS MEDIUM DENSE TO DENSE. BEDROCK IS OCCASIONALLY MANTLED BY A THIN STRATUM OF HIGHLY PLASTIC REDDISH BROWN CLAY (A-7-5, A-7-6) UP TO ABOUT 4 FT IN THICKNESS. ALTERNATIVELY, THIS STRATUM MAY BE COMPRISED OF BROWN SILT AND CLAY MIXTURES (A-6A). BEDROCK WAS ENCOUNTERED AT AN ELEVATION OF 761-770 FT AND CONSISTS OF LIMESTONE WITH OCCASIONAL DOLOMITE AND SILTSTONE STRATA IN THE UPPER 30 FT. AS INDICATED ABOVE, THE SITE LIES IN AN AREA OF KARST GEOLOGY. SURFACE FEATURES INDICATIVE OF A KARSTIC LANDSCAPE ARE NOT PRESENT IN THE AREA, BUT THIS DOES NOT PRECLUDE THE EXISTENCE OF PALEO-KARST SOLUTION FEATURES WITHIN THE BEDROCK ITSELF THAT WERE FORMED IN THE DISTANT PAST. ONE HISTORICAL BORING (B-007-B-62) SHOWS EVIDENCE OF SOLUTIONING. PROJECT BORINGS B-021-1-14 SHOWED SIMILAR RECOVERIES IN THE TOP 16 FT OF BEDROCK. GROUNDWATER WAS ENCOUNTERED IN ALL THE BORINGS AND MAY BE EXPECTED AT, OR A LITTLE ABOVE, THE CREEK LEVEL OF 780 FT.

FRA-71-0296 L&R AND FRA-71-0308 L&R

THE STRATIGRAPHY AT BOTH BRIDGE SITES ARE GENERALLY CONSISTENT WITH OVER 50 FT OF GLACIAL TILL OVERBURDEN ENCOUNTERED TO THE DEPTH EXPLORED. BEDROCK WAS NOT REACHED IN ANY OF THE BORINGS AND IS ESTIMATED TO BE ON THE ORDER OF 100 FT DEEP. THREE DISTINCT OVERBURDEN FORMATIONS ARE DESCRIBED, EACH OF WHICH IS GLACIALLY DERIVED TILL, BUT WITH DIFFERING DEPOSITIONAL HISTORIES AND PROPERTIES. THE REAR APPROACH EMBANKMENT WAS EXPLORED (B-040-1-14 AND B-042-1-14, RESPECTIVELY) AND FOUND TO CONSIST OF REWORKED GLACIAL TILL COMPRISED PRIMARILY OF HARD SANDY SILT (A-4A) WITH MINOR AMOUNTS OF SILT AND CLAY (A-6A) AT FRA-71-0296 AND LESSER AMOUNTS OF SILT AND CLAY (A-6A, A-6B, A-7-6) NEAR THE BASE OF THE EMBANKMENT AT FRA-71-0308. THE SAMPLE DRIVING ENERGY (N) AVERAGED 23 AND 31 (RESPECTIVELY) BPF WHICH IS NOT A HIGH VALUE, BUT THE HAND PENETROMETER READINGS WERE CONSISTENTLY GREATER THAN 4.5 TSF EXCEPT IN THE MORE CLAYEY SOILS WHERE THEY WERE IN THE RANGE 2 - 4.5+ TSF. THE ORIGINAL GROUND ELEVATION AT THE HISTORICAL BORING LOCATIONS WAS 869 - 870 FT (FRA-71-0296) AND 871-874 FT (FRA-71-0308) AND IS TAKEN TO BE THE BASE OF THE FREEWAY EMBANKMENT. BELOW THE EMBANKMENT IS A LAYER OF INTACT GLACIAL TILL, EXTENDING TO ELEVATION 845 FT, THAT IS ALMOST EXCLUSIVELY SANDY SILT (A-4A). IT IS GENERALLY LOGGED AS MEDIUM STIFF TO STIFF WITH AN AVERAGE BLOW COUNT OF 18 AND 19 BPF, RESPECTIVELY. AT FRA-71-0296 THIS MATERIAL IS FREQUENTLY MANTLED WITH A 1-3 FT LAYER OF CLAY THAT INCLUDES A THIN LAYER OF A-7-6 ON TOP OF A THIN LAYER OF A-6A. AT ELEVATION 844 - 845 FT A MUCH HARDER TILL WAS ENCOUNTERED, AGAIN CONSISTING PRIMARILY OF SANDY SILT (A-4A), BUT WITH A BLOW COUNT IN THE RANGE 32-89 AND AN AVERAGE OF 61 BPF. AT FRA-71-0308 THIS MATERIAL INCLUDES A SURFACE MANTLED LAYER OF CLAY UP TO 8 FT THICK (A-7-6, A-6A, A-6B). IN B-042-3-14 AND B-042-2-14 THIS STRATUM WAS LESS STRONG WITH BLOW COUNTS AVERAGING 9 BPF AND HAND PENETROMETER VALUES OF 1.0-2.75 TSF. AT ELEVATION 844 - 845 FT A MUCH HARDER TILL WAS ENCOUNTERED, AGAIN CONSISTING PRIMARILY OF SANDY SILT (A-4A), BUT WITH A BLOW COUNT IN THE RANGE 32-89 AND AN AVERAGE OF 61 BPF. THIS MATERIAL WAS PRESENT IN EACH OF THE HISTORICAL BORINGS TO THE DEPTHS EXPLORED. THIS IS A UNIFORM MATERIAL BASED ON LIQUID LIMIT AND PLASTICITY INDEX. TILL (2) IS INTERPRETED TO BE AN ILLINOIAN GLACIAL DEPOSIT AND TILL (1), A MORE RECENT WISCONSINAN.

EXPLORATION FINDINGS (CONTINUED)

FRA-71-0296 L&R AND FRA-71-0308 L&R (CONTINUED)

GROUNDWATER WAS ENCOUNTERED IN THE HISTORICAL BORINGS BETWEEN 5 AND 11 FT DEEP (AROUND ELEVATION 864 AND 865 FT) AND STANDING WATER WAS OBSERVED AT ELEVATION 865 FT.

NOISE WALL

THE STRATIGRAPHY AT THE SITE IS GENERALLY CONSISTENT WITH OVER 25 FT OF GLACIAL TILL OVERBURDEN TO THE DEPTH EXPLORED. BEDROCK WAS NOT ENCOUNTERED IN ANY OF THE BORINGS AND IS ESTIMATED TO BE ON THE ORDER OF 100 FT DEEP. GROUNDWATER WAS NOT ENCOUNTERED IN ANY OF THE BORINGS. THE SOIL PROFILE IS DOMINATED BY HARD SANDY SILT (A-4A) THAT IS OVERLAIN BY UP TO ABOUT 10 FT OF VERY STIFF TO HARD CLAY AND SILT/CLAY MIXTURES (A-6A, A-7-6). MUCH OF THE ALIGNMENT IS MANTLED BY 2-7 FT OF FILL CONSISTING OF THE FINER GRAINED CLAY/SILT MIXTURES DESCRIBED ABOVE. THE THICKNESS OF FILL AT THE EAST END OF THE SHORTER WALL INCREASES TO ABOUT 15 FT REFLECTING THE PRESENCE OF EMBANKMENT CROSSING THE SMALL VALLEY.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, IN PLACE AT THE TIME OF THE EXPLORATIONS (I.E. JULY 2012 AND JULY 2014).

AVAILABLE INFORMATION

ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE GEOTECHNICAL EXPLORATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET.

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PID NO. 93496

SOIL PROFILE

FRA-71-0.00

2/111



DESIGN AGENCY
BARR ENGINEERING INC.
4760 RED BANK EXPRESSWAY, STE. 300
CINCINNATI, OH 45227

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INDEX OF SHEETS						
LOCATION		PLAN VIEW SHEET	PROFILE SHEET	CROSS-SECTION SHEET	CUT MAX.	FILL EMB. MAX.
FROM STA.	TO STA.					
IR 71						
0+00	5+00	12	13	-	1 FT	0 FT
5+00	17+50	14	15	-	1 FT	0 FT
17+50	30+00	16	17	-	1 FT	0 FT
30+00	42+50	18	19	-	1 FT	0 FT
42+50	55+00	20	21	-	1 FT	0 FT
55+00	67+50	22	23	-	1 FT	0 FT
67+50	80+00	24	25	-	1 FT	1 FT
80+00	92+50	26	27	-	1 FT	12 FT
92+50	105+00	28	29	-	1 FT	1 FT
105+00	117+50	30	31	-	1 FT	1 FT
117+50	130+00	32	33	-	2 FT	1 FT
130+00	142+50	34	35	-	1 FT	1 FT
142+50	155+00	36	37	-	2 FT	1 FT
155+00	167+50	41	42, 43	-	1 FT	8 FT
167+50	180+00	44	45	-	1 FT	1 FT
180+00	192+50	46	47	-	2 FT	0 FT
192+50	205+00	48	49	-	2 FT	0 FT
205+00	217+50	50	51	-	2 FT	0 FT
217+50	230+00	52	53	-	1 FT	0 FT
230+00	242+50	54	55	-	1 FT	0 FT
242+50	255+00	56	57	-	1 FT	0 FT
255+00	267+50	58	59	-	1 FT	0 FT
267+50	280+00	60	61	-	1 FT	0 FT
280+00	286+24.38	62	63	-	0 FT	0 FT

STRUCTURES	PLAN SHEET VIEW	PROFILE SHEET VIEW
BRIDGES		
FRA-71-0153 L&R	26	27
FRA-71-0296 L&R	41	42, 43
FRA-71-0308 L&R	41	42, 43
WALLS	PLAN SHEET VIEW	PROFILE SHEET VIEW
NOISE WALL 1	32, 34, 36, 38, 39	38, 39
NOISE WALL 2	36, 39, 40	40

BORING NAME	PLAN VIEW SHEET	PROFILE VIEW SHEET
B-001-0-12	12	13
B-002-0-12	12	13
B-003-0-12	14	15
B-004-0-12	14	15
B-005-0-12	14	15
B-006-0-12	16	17
B-007-0-12	16	17
B-008-0-12	16	17
B-009-0-12	18	19
B-010-0-12	18	19
B-011-0-12	18	19
B-012-0-12	20	21
B-013-0-12	20	21
B-014-0-12	20	21
B-015-0-12	22	23
B-016-0-12	22	23
B-017-0-12	22	23
B-018-0-12	24	25
B-019-0-12	24	25
B-020-0-12	24	25
B-021-0-12	24	25
B-021-1-14	26	27
B-021-2-14	26	27
B-022-0-12	26	27
B-023-0-12	26	27
B-024-0-12	26	27
B-025-0-12	28	29
B-026-0-12	28	29
B-027-0-12	28	29
B-028-0-12	30	31
B-029-0-12	30	31
B-030-0-12	30	31
B-031-0-12	32	33
B-032-0-12	32	33
B-032-1-14	32, 38	38
B-033-0-12	32	33
B-033-1-14	32, 38	38
B-033-2-14	34, 38	38
B-034-0-12	34	35
B-034-1-14	34, 38	38
B-034-2-14	34, 38	38
B-035-0-12	34	35
B-035-1-14	34, 38	38
B-035-2-14	34, 39	39
B-036-0-12	34	35
B-036-1-14	34, 39	39
B-036-2-14	34, 39	39
B-036-3-14	36, 39	39
B-037-0-12	36	37
B-037-1-14	36, 39, 40	39, 40
B-037-2-14	36, 39, 40	39, 40
B-037-3-14	36, 39, 40	39, 40
B-038-0-12	36	37
B-038-1-14	36, 40	40
B-039-0-12	36	37
B-040-0-12	41	42
B-040-1-14	41	42
B-040-2-14	41	43

BORING NAME	PLAN VIEW SHEET	PROFILE VIEW SHEET
B-040-3-14	41	42
B-041-0-12	41	43
B-042-0-12	41	42
B-042-1-14	41	43
B-042-2-14	41	43
B-042-3-14	41	42
B-042-4-14	41	43
B-042-5-14	41	42
B-043-0-12	44	45
B-044-0-12	44	45
B-045-0-12	44	45
B-046-0-12	46	47
B-047-0-12	46	47
B-048-0-12	46	47
B-049-0-12	46	47
B-050-0-12	48	49
B-051-0-12	48	49
B-052-0-12	48	49
B-053-0-12	50	51
B-054-0-12	50	51
B-055-0-12	50	51
B-056-0-12	52	53
B-057-0-12	52	53
B-058-0-12	52	53
B-059-0-12	54	55
B-060-0-12	54	55
B-061-0-12	54	55
B-062-0-12	56	57
B-063-0-12	56	57
B-064-0-12	56	57
B-065-0-12	58	59
B-066-0-12	58	59
B-067-0-12	58	59
B-068-0-12	58	59
B-069-0-12	60	61
B-070-0-12	60	61
B-001-B-62	26	27
B-001-C-62	41	42
B-001-U-62	41	42
B-002-B-62	26	27
B-003-B-62	26	27
B-004-B-62	26	27
B-004-C-62	41	42
B-004-U-62	41	42
B-005-B-62	26	27
B-005-C-62	41	43
B-005-U-62	41	42
B-006-B-62	26	27
B-006-U-62	41	42
B-007-B-62	26	27
B-007-U-62	41	43
B-008-B-62	26	27
B-008-C-62	41	42
B-009-B-62	26	27
B-010-B-62	26	27
B-010-U-62	41	43
B-011-B-62	26	27
B-012-B-62	26	27



SUMMARY OF SOIL TEST DATA

EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	% REC	HP tsf	% AGG	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	OHIO CLASS (GI)	SO4 ppm	EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	% REC	HP tsf	% AGG	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	OHIO CLASS (GI)	SO4 ppm
B-001-0-12 STA. 0+86, 61.6' RT LATITUDE = 39.809591 LONGITUDE = -83.194282	01.30	02.80	SS-1	47	-	56	12	9	14	9	20	14	6	16	A-1-b (0)		B-011-0-12 STA. 40+27, 45.3' RT LATITUDE = 39.815171 LONGITUDE = -83.182263	02.00	03.50	SS-1	67	4.5+	23	5	16	30	26	21	13	8	10	A-4a (4)	653
	02.80	04.30	SS-2	53	-	19	12	15	31	23	24	14	10	15	A-4a (4)	793		03.50	05.00	SS-2	100	4.5+	9	7	18	36	30	20	13	7	8	A-4a (6)	
	04.30	05.80	SS-3	73	-			SAME AS SS-2						20	A-4a (VISUAL)			05.00	06.50	SS-3	100	4.5+			SAME AS SS-2				9	A-4a (VISUAL)			
	05.80	07.30	SS-4	94	-			SAME AS SS-2						16	A-4a (VISUAL)			06.50	08.00	SS-4	100	4.5+			SAME AS SS-2				9	A-4a (VISUAL)			
B-002-0-12 STA. 4+78, 45.5 LT LATITUDE = 39.810396 LONGITUDE = -83.193277	02.00	03.50	SS-1	56	2.25 - 3.25	10	8	11	17	54	58	22	36	26	A-7-6 (18)	<100	B-012-0-12 STA. 44+21, 60.0' LT LATITUDE = 39.815974 LONGITUDE = -83.181249	02.00	03.50	SS-1	100	3.0 - 4.5+	21	6	15	33	25	26	15	11	17	A-6a (5)	253
	03.50	05.00	SS-2	72	-	46	20	11	14	9	22	13	9	8	A-2-4 (0)			03.50	05.00	SS-2	100	4.5+	16	16	16	33	19	21	13	8	11	A-4a (3)	
	05.00	06.50	SS-3	67	-	43	24	9	14	10	21	13	8	7	A-2-4 (0)			05.00	06.50	SS-3	100	-	27	32	19	12	10	17	13	4	7	A-1-b (0)	
	06.50	07.33	SS-4	80	-			SAME AS SS-3						10	A-2-4 (VISUAL)			06.50	08.00	SS-4	100	-			SAME AS SS-3				7	A-1-b (VISUAL)			
B-003-0-12 STA. 8+71, 46.1' RT LATITUDE = 39.810731 LONGITUDE = -83.191911	02.00	03.50	SS-1	50	3.0 - 3.5	25	5	12	33	25	25	15	10	13	A-4a (5)	593	B-013-0-12 STA. 48+14, 58.7' RT LATITUDE = 39.816246 LONGITUDE = -83.179832	02.00	03.50	SS-1	78	3.5 - 4.5+	10	9	19	33	29	22	12	10	11	A-4a (5)	1320
	03.50	05.00	SS-2	72	4.5+	26	10	14	30	20	21	12	9	9	A-4a (3)			03.50	05.00	SS-2	100	4.5+	12	9	16	36	27	22	12	10	10	A-4a (6)	
	05.00	06.50	SS-3	83	4.5+			SAME AS SS-2						11	A-4a (VISUAL)			05.00	06.50	SS-3	28	-			SAME AS SS-2				10	A-4a (VISUAL)			
	06.50	08.00	SS-4	100	4.5+			SAME AS SS-2						12	A-4a (VISUAL)			06.50	08.00	SS-4	100	4.5+			SAME AS SS-2				10	A-4a (VISUAL)			
B-004-0-12 STA. 12+64, 59.6' LT LATITUDE = 39.811534 LONGITUDE = -83.190900	02.00	03.50	SS-1	67	-	54	17	10	13	6				6	A-1-a (VISUAL)	607	B-014-0-12 STA. 52+08, 45.8' LT LATITUDE = 39.817046 LONGITUDE = -83.178818	02.00	03.50	SS-1	67	4.5+	18	9	15	33	25	24	13	11	12	A-6a (5)	1033
	03.50	05.00	SS-2	83	-	50	6	9	20	15	20	16	4	8	A-2-4 (0)			03.50	05.00	SS-2	72	3.5 - 4.0	31	0	18	36	15	20	13	7	10	A-4a (3)	
	05.00	06.50	SS-3	89	-			SAME AS SS-2						11	A-2-4 (VISUAL)			05.00	06.50	SS-3	39	-	62	0	10	20	8	21	14	7	8	A-2-4 (0)	
	06.50	08.00	SS-4	94	-			SAME AS SS-2						15	A-2-4 (VISUAL)			06.50	08.00	SS-4	89	-			SAME AS SS-3				9	A-2-4 (VISUAL)			
B-005-0-12 STA. 16+59, 59.6' RT LATITUDE = 39.811808 LONGITUDE = -83.189477	01.30	02.80	SS-1	72	-	42	14	13	18	13	22	14	8	9	A-2-4 (0)	667	B-015-0-12 STA. 56+51, 45.7' RT LATITUDE = 39.817454 LONGITUDE = -83.177295	02.00	03.50	SS-1	100	4.5+	17	9	15	32	27	26	15	11	13	A-6a (5)	1013
	02.80	04.30	SS-2	11	-	65	14	15	SAND, TRACE	SILT & CLAY	7			7	A-1-a (VISUAL)			03.50	05.00	SS-2	100	4.5+	16	11	13	31	29	26	14	12	11	A-6a (6)	
	04.30	05.80	SS-3	50	-	23	11	14	30	22	21	12	9	9	A-4a (3)			05.00	06.50	SS-3	100	4.5+			SAME AS SS-2				12	A-6a (VISUAL)			
	05.80	07.30	SS-4	6	-			SAME AS SS-3						8	A-4a (VISUAL)			06.50	08.00	SS-4	100	4.5+			SAME AS SS-2				10	A-6a (VISUAL)			
B-006-0-12 STA. 20+55, 47.2' LT LATITUDE = 39.812616 LONGITUDE = -83.188461	02.00	03.50	SS-1	50	4.5+	18	10	14	31	27	27	15	12	14	A-6a (5)	1113	B-016-0-12 STA. 59+96, 60.2' LT LATITUDE = 39.818189 LONGITUDE = -83.176432	02.00	03.50	SS-1	100	4.5+	28	7	12	28	25	26	15	11	10	A-6a (4)	1127
	03.50	05.00	SS-2	89	3.5 - 4.0	25	10	14	32	19	21	14	7	10	A-4a (3)			03.50	05.00	SS-2	100	4.5+	8	10	14	41	27	21	12	9	10	A-4a (7)	
	05.00	06.50	SS-3	100	4.5+			SAME AS SS-2						10	A-4a (VISUAL)			05.00	06.50	SS-3	100	2.5 - 4.5+			SAME AS SS-2				10	A-4a (VISUAL)			
	06.50	08.00	SS-4	67	2.5			SAME AS SS-2						12	A-4a (VISUAL)			06.50	08.00	SS-4	100	4.5+			SAME AS SS-2				9	A-4a (VISUAL)			
B-007-0-12 STA. 24+48, 44.7' RT LATITUDE = 39.812953 LONGITUDE = -83.187090	02.00	03.50	SS-1	100	4.5+	30	7	13	28	22	23	14	9	10	A-4a (3)	513	B-017-0-12 STA. 63+90, 59.0' RT LATITUDE = 39.818461 LONGITUDE = -83.175012	02.00	03.50	SS-1	73	4.25	11	9	19	34	27	22	13	9	11	A-4a (5)	793
	03.50	05.00	SS-2	100	4.5+	19	9	14	33	25	21	12	9	9	A-4a (5)			03.50	05.00	SS-2	87	4.5+	13	10	18	35	24	21	12	9	8	A-4a (5)	
	05.00	06.50	SS-3	100	4.0-4.5+			SAME AS SS-2						9	A-4a (VISUAL)			05.00	06.50	SS-3	100	4.5+			SAME AS SS-2				10	A-4a (VISUAL)			
	06.50	08.00	SS-4	83	4.5+			SAME AS SS-2						10	A-4a (VISUAL)			06.50	08.00	SS-4	67	4.5+			SAME AS SS-2				11	A-4a (VISUAL)			
B-008-0-12 STA. 28+42, 60.9' LT LATITUDE = 39.813755 LONGITUDE = -83.186080	02.00	03.50	SS-1	67	4.5+	19	7	13	31	30	28	16	12	14	A-6a (6)	1020	B-018-0-12 STA. 67+86, 45.3' LT LATITUDE = 39.819264 LONGITUDE = -83.173991	02.00	03.50	SS-1	67	4.5+	16	9	16	33	26	24	14	10	12	A-4a (5)	533
	03.50	05.00	SS-2	100	4.5+	13	12	15	33	27	26	13	13	12	A-6a (6)			03.50	05.00	SS-2	73	4.25	16	10	26	24	24	25	12	13	10	A-6a (4)	
	05.00	06.50	SS-3	61	4.5+			SAME AS SS-2						12	A-6a (VISUAL)			05.00	06.50	SS-3	100	4.5+			SAME AS SS-2				10	A-6a (VISUAL)			
	06.50	08.00	SS-4	100	4.5+			SAME AS SS-2						10	A-6a (VISUAL)			06.50	08.00	SS-4	80	4.5+			SAME AS SS-2				11	A-6a (VISUAL)			
B-009-0-12 STA. 32+33, 58.1' RT LATITUDE = 39.814025 LONGITUDE = -83.184666	01.30	02.80	SS-1	87	-	57	18	8	12	5	18	14	4	7	A-1-b (0)		B-019-0-12 STA. 71+79, 44.9' RT LATITUDE = 39.819603 LONGITUDE = -83.172625	02.00	03.50	SS-1	56	3	28	11	12	27	22	25	16	9	14	A-4a (3)	913
	02.80	04.30	SS-2	80	-	62	11	8	13	6	21	16	5	10	A-1-b (0)	233		03.50	05.00	SS-2	100	2.25 - 4.5+	25	7	15	36	17	20	13	7	9	A-4a (4)	
	04.30	05.80	SS-3	67	-			SAME AS SS-2						13	A-1-b (VISUAL)			05.00	06.50	SS-3	89	4.5+			SAME AS SS-2				9	A-4a (VISUAL)			
	05.10	05.10	SS-4		-			SAME AS SS-2						12	A-1-b (VISUAL)			06.50	08.00	SS-4	100	4.5+			SAME AS SS-2				9	A-4a (VISUAL)			
	05.80	07.30	SS-5	7	-			SAME AS SS-2						10	A-1-b (VISUAL)																		
	07.30	08.80	SS-6	100	-			SAME AS SS-2						14	A-1-b (VISUAL)																		
B-010-0-12 STA. 36+32, 46.3' LT LATITUDE = 39.814833 LONGITUDE = -83.183636	02.00	03.50	SS-1	67	4.5+	14	9	13	34	30	25	16	9	11	A-4a (6)	193	B-020-0-12 STA. 75+71, 61.3' LT LATITUDE = 39.820405 LONGITUDE = -83.171620	02.00	03.50	SS-1	61	-	41	13	13	19	14	24	15	9	12	A-2-4 (0)	413
	03.50	05.00	SS-2	100	4.5+	12	10	23	26	29	24	13	11	13	A-6a (4)			03.50	05.00	SS-2	83	4.5+	11	10	15	37	27	22	12	10	10	A-4a (6)	
	05.00	06.50	SS-3	100	4.25 - 4.5+	16	10	13	32	29	24	14	10	13	A-4a (5)			05.00	06.50	SS-3	100	4.5+			SAME AS SS-2				10	A-4a (VISUAL)			
	06.50	08.00	SS-4	100																													

SUMMARY OF SOIL TEST DATA

EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	% REC	HP †sf	% AGG	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	OHIO CLASS (GI)	SO4 ppm	EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	% REC	HP †sf	% AGG	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	OHIO CLASS (GI)	SO4 ppm
B-022-0-12 STA. 85+67, 44.8' LT LATITUDE = 39.821700 LONGITUDE = -83.168480	02.00	03.50	SS-1	67	3.5 - 4.5+	21	11	14	31	23	24	14	10	13	A-4a (4)	993	B-033-0-12 STA. 127+85, 59.7' RT LATITUDE = 39.824792 LONGITUDE = -83.154091	02.00	03.50	SS-1	100	4.5+	19	10	15	32	24	21	13	8	9	A-4a (4)	1220
	03.50	05.00	SS-2	50	2.5	22	0	16	34	28	24	11	13	13	A-6a (7)			03.50	05.00	SS-2	67	4.5+	12	10	16	39	23	20	13	7	9	A-4a (5)	
	05.00	06.50	SS-3	17	-			SAME AS SS-2						14	A-6a (VISUAL)			05.00	06.50	SS-3	100	4.5+			SAME AS SS-2				10	A-4a (VISUAL)			
	06.50	08.00	SS-4	17	-			SAME AS SS-2						16	A-6a (VISUAL)			06.50	08.00	SS-4	100	4.5+			SAME AS SS-2				9	A-4a (VISUAL)			
B-023-0-12 STA. 87+83, 43.8' RT LATITUDE = 39.821744 LONGITUDE = -83.167654	02.00	03.50	SS-1	67	4.5+	19	11	15	32	23	22	14	8	12	A-4a (4)	847	B-034-0-12 STA. 131+73, 48.4' LT LATITUDE = 39.825202 LONGITUDE = -83.152759	02.00	03.50	SS-1	53	4.5+	39	8	11	24	18	25	15	10	11	A-4a (1)	3347
	03.50	05.00	SS-2	0	-			SAME AS SS-1							A-4a (VISUAL)			03.50	05.00	SS-2	93	4.5+	10	0	12	52	26	21	12	9	9	A-4b (8)	
	05.00	06.50	SS-3	100	1.5 - 2.0	13	10	20	33	24	21	11	10	12	A-4a (4)			05.00	06.50	SS-3	73	4.5+			SAME AS SS-2				10	A-4b (VISUAL)			
	06.50	08.00	SS-4	100	-			SAME AS SS-3						11	A-4a (VISUAL)			06.50	08.00	SS-4	100	4.5+			SAME AS SS-2				10	A-4b (VISUAL)			
B-024-0-12 STA. 91+76, 60.8' LT LATITUDE = 39.822459 LONGITUDE = -83.166541	02.00	03.50	SS-1	67	4.5+	19	11	15	32	23	22	14	8	9	A-4a (4)	3240	B-035-0-12 STA. 135+66, 45.6' RT LATITUDE = 39.825027 LONGITUDE = -83.151338	02.00	03.50	SS-1	72	4.5+	17	10	17	34	22	19	13	6	9	A-4a (4)	953
	03.50	05.00	SS-2	67	4.5+	15	11	16	34	24	20	13	7	9	A-4a (5)			03.50	05.00	SS-2	83	4.5+	14	11	16	35	24	21	14	7	9	A-4a (5)	
	05.00	06.50	SS-3	50	-			SAME AS SS-2						10	A-4a (VISUAL)			05.00	06.50	SS-3	89	4.5+			SAME AS SS-2				10	A-4a (VISUAL)			
	06.50	08.00	SS-4	89	4.5+			SAME AS SS-2						9	A-4a (VISUAL)			06.50	08.00	SS-4	100	4.5+			SAME AS SS-2				10	A-4a (VISUAL)			
B-025-0-12 STA. 95+69, 61.8' RT LATITUDE = 39.822573 LONGITUDE = -83.165080	02.00	03.50	SS-1	80	4	16	11	16	31	26	24	14	10	13	A-4a (4)	1220	B-036-0-12 STA. 139+59, 60.9' LT LATITUDE = 39.825368 LONGITUDE = -83.149957	02.00	03.50	SS-1	67	4.5+	10	8	13	35	34	29	16	13	18	A-6a (8)	1087
	03.50	05.00	SS-2	93	2.5	11	11	16	37	25	21	13	8	9	A-4a (5)			03.50	05.00	SS-2	100	4.0 - 4.5+	14	10	14	34	28	23	13	10	13	A-4a (5)	
	05.00	06.50	SS-3	67	4.5+			SAME AS SS-2						13	A-4a (VISUAL)			05.00	06.50	SS-3	6	-			SAME AS SS-2				13	A-4a (VISUAL)			
	06.50	08.00	SS-4	100	1.5 - 4.5+			SAME AS SS-2						10	A-4a (VISUAL)			06.50	08.00	SS-4	100	2.0 - 3.5			SAME AS SS-2				12	A-4a (VISUAL)			
B-026-0-12 STA. 99+63, 46.4' LT LATITUDE = 39.823241 LONGITUDE = -83.163914	02.00	03.50	SS-1	61	3.5 - 4.0	20	11	16	32	21	21	14	7	10	A-4a (4)	3107	B-037-0-12 STA. 143+51, 61.0' RT LATITUDE = 39.825047 LONGITUDE = -83.148557	02.00	03.50	SS-1	73	4.5+	10	11	16	37	26	23	14	9	10	A-4a (6)	2880
	03.50	05.00	SS-2	83	4.5+	20	0	17	40	23	21	11	10	10	A-4a (6)			03.50	05.00	SS-2	100	4.5+	15	9	14	36	26	24	15	9	9	A-4a (5)	
	05.00	06.50	SS-3	100	4.5+			SAME AS SS-2						8	A-4a (VISUAL)			05.00	06.50	SS-3	73	2.5			SAME AS SS-2				13	A-4a (VISUAL)			
	06.50	08.00	SS-4	72	4.5+			SAME AS SS-2						9	A-4a (VISUAL)			06.50	08.00	SS-4	73	4.5+			SAME AS SS-2				14	A-4a (VISUAL)			
B-027-0-12 STA. 103+57, 45.7' RT LATITUDE = 39.823361 LONGITUDE = -83.162481	02.00	03.50	SS-1	67	4.5+	23	10	15	31	21	21	14	7	11	A-4a (3)	2040	B-038-0-12 STA. 147+41, 47.5' LT LATITUDE = 39.825324 LONGITUDE = -83.147162	02.00	03.50	SS-1	93	4.5+	16	10	15	34	25	23	14	9	10	A-4a (5)	1827
	03.50	05.00	SS-2	100	1.5 - 2.0	15	8	11	53	13	21	14	7	11	A-4b (6)			03.50	05.00	SS-2	80	4.5+	18	0	16	40	26	22	13	9	8	A-4a (6)	
	05.00	06.50	SS-3	100	3.5 - 4.5+			SAME AS SS-2						9	A-4b (VISUAL)			05.00	06.50	SS-3	80	4.5+			SAME AS SS-2				9	A-4a (VISUAL)			
	06.50	08.00	SS-4	67	3.5			SAME AS SS-2						11	A-4b (VISUAL)			06.50	08.00	SS-4	100	4.5+			SAME AS SS-2				10	A-4a (VISUAL)			
B-028-0-12 STA. 107+50, 61.4' LT LATITUDE = 39.823967 LONGITUDE = -83.161262	02.00	03.50	SS-1	17	-	49	9	10	18	14	24	15	9	14	A-2-4 (0)	1440	B-039-0-12 STA. 151+35, 45.8' RT LATITUDE = 39.825013 LONGITUDE = -83.145776	02.00	03.50	SS-1	83	4.5+	15	10	16	33	26	22	13	9	9	A-4a (5)	2667
	03.50	05.00	SS-2	67	4.5+	18	12	16	33	21	21	13	8	10	A-4a (4)			03.50	05.00	SS-2	56	4.0 - 4.5	27	11	13	30	19	21	14	7	10	A-4a (3)	
	05.00	06.50	SS-3	83	4.5+			SAME AS SS-2						10	A-4a (VISUAL)			05.00	06.50	SS-3	78	4.5+			SAME AS SS-2				8	A-4a (VISUAL)			
	06.50	08.00	SS-4	100	4.5+			SAME AS SS-2						11	A-4a (VISUAL)			06.50	08.00	SS-4	100	4.5+			SAME AS SS-2				8	A-4a (VISUAL)			
	08.00	09.50		89	4.5+			SAME AS SS-2						9	A-4a (VISUAL)																		
B-029-0-12 STA. 111+42, 60.8' RT LATITUDE = 39.809591 LONGITUDE = -83.159799	01.50	03.00	SS-1	56	4.5+	16	11	16	33	24	23	14	9	11	A-4a (4)	887	B-040-0-12 STA. 155+29, 59.9' LT LATITUDE = 39.825214 LONGITUDE = -83.144348	02.00	03.50	SS-1	61	4	16	14	14	31	25	26	15	11	12	A-6a (5)	1653
	03.00	04.50	SS-2	72	3.5 - 4.5+	17	12	15	33	23	21	15	6	10	A-4a (4)			03.50	05.00	SS-2	72	4.5+	26	11	13	29	21	21	13	8	10	A-4a (3)	
	04.50	06.00	SS-3	100	4.5+			SAME AS SS-2						9	A-4a (VISUAL)			05.00	06.50	SS-3	100	4.5+			SAME AS SS-2				11	A-4a (VISUAL)			
	06.00	07.50	SS-4	67	4.0 - 4.5+			SAME AS SS-2						10	A-4a (VISUAL)			06.50	08.00	SS-4	100	3.5 - 4.5+			SAME AS SS-2				10	A-4a (VISUAL)			
B-030-0-12 STA. 115+35, 48.4' LT LATITUDE = 39.824485 LONGITUDE = -83.158537	02.00	03.50	SS-1	87	3.25	12	11	18	36	23	21	14	7	11	A-4a (5)	2813	B-041-0-12 STA. 159+45, 61.6' RT LATITUDE = 39.824780 LONGITUDE = -83.142912	02.00	03.50	SS-1	72	4.5+	20	10	14	31	25	23	14	9	11	A-4a (4)	2467
	03.50	05.00	SS-2	47	4.5+	13	0	18	44	25	22	13	9	10	A-4a (7)			03.50	05.00	SS-2	67	4.5+	14	12	15	35	24	21	12	9	9	A-4a (5)	
	05.00	06.50	SS-3	73	4.5+			SAME AS SS-2						9	A-4a (VISUAL)			05.00	06.50	SS-3	11	-			SAME AS SS-2				4	A-4a (VISUAL)			
	06.50	08.00	SS-4	93	4.5+			SAME AS SS-2						9	A-4a (VISUAL)			06.50	08.00	SS-4	11	-			SAME AS SS-2				10	A-4a (VISUAL)			
B-031-0-12 STA. 119+25, 45.5' RT LATITUDE = 39.824457 LONGITUDE = -83.157109	02.00	03.50	SS-1	100	4.5+	16	11	16	35	22	20	13	7	10	A-4a (4)	620	B-042-0-12 STA. 162+84, 45.9' LT LATITUDE = 39.824992 LONGITUDE = -83.141675	02.00	03.50	SS-1	53	1.5	26	8	13	30	23	25	14	11	12	A-6a (4)	1073
	03.50	05.00	SS-2	100	4.0 - 4.5	15	11	26	25	23	21	10	11	11	A-6a (3)			03.50	05.00	SS-2	87	4.25 - 4.5+	11	0	18	44	27	22	14	8	10	A-4a (7)	
	05.00	06.50	SS-3	100	3.0 - 3.75	16	11	15	33	25	21	11	10	11	A-4a (5)			05.00	06.50	SS-3	100	4.5+			SAME AS SS-2				9	A-4a (VISUAL)			
	06.50	08.00	SS-4	100	-			SAME AS SS-3						12	A-4a (VISUAL)			06.50	08.00	SS-4	100	3.25 - 4.5+			SAME AS SS-2				8	A-4a (VISUAL)			
B-032-0-12 STA. 123+19, 61.7' LT 																																	

SUMMARY OF SOIL TEST DATA

EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	% REC	HP tsf	% AGG	% CS	% FS	% SILT	% CLAY	LL	PL	PI	WC	OHIO CLASS (GI)	SO4 ppm	EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	% REC	HP tsf	% AGG	% CS	% FS	% SILT	% CLAY	LL	PL	PI	WC	OHIO CLASS (GI)	SO4 ppm
B-044-0-12 STA. 172+32, 46.0' LT LATITUDE = 39.824760 LONGITUDE = -83.138315	02.00	03.50	SS-1	78	2.5 - 4.0	10	5	9	32	44	41	18	23	19	A-7-6 (13)	<100	B-055-0-12 STA. 215+54, 32.9' RT LATITUDE = 39.826313 LONGITUDE = -83.123228	00.50	02.00	SS-1	100	4.5+	20	10	13	32	25	25	15	10	8	A-4a (4)	4747
	03.50	05.00	SS-2	72	3.0 - 4.5+	13	0	12	39	36	34	16	18	18	A-6b (11)			02.00	03.50	SS-2	100	4.5+	12	13	15	35	25	23	15	8	9	A-4a (5)	
	05.00	06.50	SS-3	61	3.5	31	0	9	32	28	36	15	21	19	A-6b (9)			03.50	05.00	SS-3	100	4.5	21	6	9	31	33	37	16	21	20	A-6b (10)	
	06.50	08.00	SS-4	100	3.5 - 4.0									23	A-6b (VISUAL)			05.00	06.50	SS-4	100	3.0 - 4.5+	-	-	SAME AS SS-3	-	-	-	24	A-6b (VISUAL)			
B-045-0-12 STA. 176+26, 32.6' LT LATITUDE = 39.824641 LONGITUDE = -83.136923	00.50	02.00	SS-1	100	4.5+	12	4	8	31	45	43	17	26	16	A-7-6 (15)	200	B-056-0-12 STA. 219+48, 62.2' LT LATITUDE = 39.826972 LONGITUDE = -83.122066	02.00	03.50	SS-1	100	4.5+	13	10	17	36	24	21	14	7	9	A-4a (5)	2840
	02.00	03.50	SS-2	83	4.5+	14	3	8	28	47	48	19	29	14	A-7-6 (17)			03.50	05.00	SS-2	78	4.5+	20	11	13	31	25	22	13	9	9	A-4a (4)	
	03.50	05.00	SS-3	100	3.25	8	6	9	29	48	43	19	24	21	A-7-6 (14)			05.00	06.50	SS-3	100	4.5+	-	-	SAME AS SS-2	-	-	-	9	A-4a (VISUAL)			
	05.00	06.50	SS-4	78	3.75 - 4.0									20	A-7-6 (VISUAL)			06.50	08.00	SS-4	89	3.0 - 4.5	-	-	SAME AS SS-2	-	-	-	16	A-4a (VISUAL)			
B-046-0-12 STA. 180+19, 46.4' RT LATITUDE = 39.824390 LONGITUDE = -83.135534	02.00	03.50	SS-1	89	2.5 - 4.5	10	8	11	34	37	33	17	16	17	A-6b (10)	<100	B-057-0-12 STA. 223+38, 33.0' LT LATITUDE = 39.827312 LONGITUDE = -83.120746	00.50	02.00	SS-1	100	4.5+	14	8	13	36	29	29	17	12	13	A-6a (7)	8427
	03.50	05.00	SS-2	83	2.0 - 3.5	6	4	8	38	44	42	17	25	24	A-7-6 (14)			02.00	03.50	SS-2	100	4.5+	13	11	15	36	25	23	14	9	10	A-4a (5)	
	05.00	06.50	SS-3	100	2.0 - 3.0									24	A-7-6 (VISUAL)			03.50	05.00	SS-3	78	4.5+	-	-	SAME AS SS-2	-	-	-	12	A-4a (VISUAL)			
	06.50	08.00	SS-4	100	4.5+									23	A-7-6 (VISUAL)			05.00	06.50	SS-4	100	2.5 - 3.0	-	-	SAME AS SS-2	-	-	-	20	A-4a (VISUAL)			
B-047-0-12 STA. 184+12, 31.8' RT LATITUDE = 39.824445 LONGITUDE = -83.134128	00.50	02.00	SS-1	100	4.5+	23	11	14	30	22	23	14	9	9	A-4a (3)	5813	B-058-0-12 STA. 227+11, 62.1' RT LATITUDE = 39.827468 LONGITUDE = -83.119388	02.00	03.50	SS-1	67	4.5+	16	11	16	32	25	23	14	9	12	A-4a (4)	787
	02.00	03.50	SS-2	83	4.5+	15	9	17	37	22	22	13	9	9	A-4a (5)			03.50	05.00	SS-2	87	2.75	11	9	14	36	30	26	13	13	A-6a (7)		
	03.50	05.00	SS-3	67	4.5+									10	A-4a (VISUAL)			05.00	06.50	SS-3	80	2	-	-	SAME AS SS-2	-	-	-	12	A-6a (VISUAL)			
	05.00	06.50	SS-4	89	4.0 - 4.5+									17	A-4a (VISUAL)			06.50	08.00	SS-4	93	4.5+	-	-	SAME AS SS-2	-	-	-	19	A-6a (VISUAL)			
B-048-0-12 STA. 188+07, 64.4' LT LATITUDE = 39.824772 LONGITUDE = -83.132749	02.00	03.50	SS-1	67	4.0 - 4.5+	14	13	15	36	22	21	15	6	12	A-4a (5)	367	B-059-0-12 STA. 231+29, 32.2' RT LATITUDE = 39.827986 LONGITUDE = -83.118059	00.50	02.00	SS-1	100	3.5	15	10	14	33	28	27	15	12	7	A-6a (6)	2827
	03.50	05.00	SS-2	67	4.5+	23	11	14	30	22	21	11	10	11	A-4a (3)			02.00	03.50	SS-2	83	4.0 - 4.5	16	5	10	28	41	40	18	22	20	A-6b (12)	
	05.00	06.50	SS-3	89	4.5+									10	A-4a (VISUAL)			03.50	05.00	SS-3	94	4.5+	-	-	SAME AS SS-2	-	-	-	14	A-6b (VISUAL)			
	06.50	08.00	SS-4	100	3.25 - 4.5									18	A-4a (VISUAL)			05.00	06.50	SS-4	100	4.5+	-	-	SAME AS SS-2	-	-	-	14	A-6b (VISUAL)			
B-049-0-12 STA. 192+00, 32.2' LT LATITUDE = 39.824797 LONGITUDE = -83.131353	00.50	02.00	SS-1	100	4.5+	14	9	14	35	28	25	15	10	13	A-4a (6)	2507	B-060-0-12 STA. 235+18, 45.9' LT LATITUDE = 39.828597 LONGITUDE = -83.116888	02.00	03.50	SS-1	87	4.5+	12	7	13	34	34	30	16	14	16	A-6a (8)	<100
	02.00	03.50	SS-2	100	4.0 - 4.5+	15	9	13	34	29	28	14	14	16	A-6a (7)			03.50	05.00	SS-2	73	4.5+	8	0	8	51	33	35	15	20	22	A-6b (12)	
	03.50	05.00	SS-3	83	2.0 - 2.5									7	A-6a (VISUAL)			05.00	06.50	SS-3	80	3.5 - 4.5	-	-	SAME AS SS-2	-	-	-	17	A-6b (VISUAL)			
	05.00	06.50	SS-4	100	4.5+									14	A-6a (VISUAL)			06.50	08.00	SS-4	87	4.5+	-	-	SAME AS SS-2	-	-	-	13	A-6b (VISUAL)			
B-050-0-12 STA. 195+92, 61.2' RT LATITUDE = 39.824706 LONGITUDE = -83.129921	02.00	03.50	SS-1	73	4.5+	12	9	15	34	30	24	14	10	10	A-4a (5)	527	B-061-0-12 STA. 239+15, 32.6' LT LATITUDE = 39.828984 LONGITUDE = -83.115568	00.50	02.00	SS-1	100	4.5+	14	9	14	35	28	26	15	11	11	A-6a (6)	6347
	03.50	05.00	SS-2	100	4.5+	11	10	16	38	25	22	13	9	8	A-4a (6)			02.00	03.50	SS-2	100	4.5+	14	9	13	33	31	28	14	14	13	A-6a (7)	
	05.00	06.50	SS-3	87	4.5+									9	A-4a (VISUAL)			03.50	05.00	SS-3	78	4.0 - 4.5+	9	7	12	36	36	35	15	20	17	A-6b (11)	
	06.50	08.00	SS-4	93	4.5+									15	A-4a (VISUAL)			05.00	06.50	SS-4	100	4.0 - 4.5+	-	-	SAME AS SS-3	-	-	-	21	A-6b (VISUAL)			
B-051-0-12 STA. 199+84, 31.9' RT LATITUDE = 39.824996 LONGITUDE = -83.128564	00.50	02.00	SS-1	100	4.5+	9	10	16	36	29	26	15	11	11	A-6a (6)	14027	B-062-0-12 STA. 243+07, 45.6' RT LATITUDE = 39.829203 LONGITUDE = -83.114171	02.00	03.50	SS-1	83	4.0 - 4.5+	21	12	15	32	20	22	14	8	10	A-4a (3)	513
	02.00	03.50	SS-2	100	4.5+	13	12	16	36	23	22	14	8	9	A-4a (5)			03.50	05.00	SS-2	78	4.5+	16	11	14	36	23	23	15	8	12	A-4a (5)	
	03.50	05.00	SS-3	100	4.5+									12	A-4a (VISUAL)			05.00	06.50	SS-3	94	2.5 - 2.75	-	-	SAME AS SS-2	-	-	-	18	A-4a (VISUAL)			
	05.00	06.50	SS-4	100	2.75 - 4.5+									11	A-4a (VISUAL)			06.50	08.00	SS-4	100	3.75 - 4.5	-	-	SAME AS SS-2	-	-	-	17	A-4a (VISUAL)			
B-052-0-12 STA. 203+78, 46.1' LT LATITUDE = 39.825463 LONGITUDE = -83.127271	02.00	03.50	SS-1	67	3.5	21	8	13	31	27	25	15	10	13	A-4a (5)	213	B-063-0-12 STA. 247+07, 32.9' RT LATITUDE = 39.829660 LONGITUDE = -83.112875	00.50	02.00	SS-1	100	4.5+	11	10	15	37	27	29	17	12	8	A-6a (7)	2307
	03.50	05.00	SS-2	100	4.5+	12	0	20	43	25	21	13	8	8	A-4a (7)			02.00	03.50	SS-2	78	4.5+	8	10	13	38	31	28	15	13	16	A-6a (8)	
	05.00	06.50	SS-3	100	2	12	0	14	40	34	28	13	15	14	A-6a (10)			03.50	05.00	SS-3	100	4.0 - 4.5	13	4	9	34	40	40	18	22	22	A-6b (13)	
	06.50	08.00	SS-4	80	2.75									15	A-6a (VISUAL)			05.00	06.50	SS-4	78	3.5 - 4.0	-	-	SAME AS SS-3	-	-	-	22	A-6b (VISUAL)			
B-053-0-12 STA. 207+70, 33.0' LT LATITUDE = 39.825732 LONGITUDE = -83.125925	00.50	02.00	SS-1	100	4.5+	8	6	12	35	39	34	16	18	11	A-6b (11)	2933	B-064-0-12 STA. 251+10, 62.5' LT LATITUDE = 39.830329 LONGITUDE = -83.111683	02.00	03.50	SS-1	39	4.5+	29	12	13	27	19	22	14	8	12	A-4a (2)	427
	02.00	03.50	SS-2	72	4.5+	7	8	11	37	37	36	18	18	11	A-6b (11)			03.50	05.00	SS-2	72	4.5+	23	5	10	30	32	33	15	18	17	A-6b (9)	
	03.50	05.00	SS-3	83	4.5+									8	A-6b (VISUAL)			05.00	06.50	SS-3	89	3	21	11	14	31	23	39	17	22	19	A-6b (8)	

SUMMARY OF SOIL TEST DATA

EXPLORATION NO., STATION & OFFSET	FROM TO	SAMPLE ID	% REC	HP tsf	% AGG	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	OHIO CLASS (GI)	SO4 ppm
B-066-0-12	02.00 - 03.50	SS-1	60	4.0 - 4.5+	17	6	12	32	33	31	16	15	18	A-6a (8)	<100
STA. 259+ 09, 61.2' RT	03.50 - 05.00	SS-2	80	4.5+	5	5	12	39	39	34	17	17	21	A-6b (11)	
LATITUDE = 39.830864	05.00 - 06.50	SS-3	87	4.5+	0	3	12	39	46	43	19	24	24	A-7-6 (14)	
LONGITUDE = -83.108890	06.50 - 08.00	SS-4	93	3			SAME AS SS-3						22	A-7-6 (VISUAL)	
B-067-0-12	00.50 - 02.00	SS-1	100	4.5+	6	3	10	34	47	41	18	23	17	A-7-6 (13)	<100
STA. 263+09, 33.2' RT	02.00 - 03.50	SS-2	100	4.5+	7	6	13	42	32	30	17	13	7	A-6a (9)	
LATITUDE = 39.831359	03.50 - 05.00	SS-3	100	3.5 - 4.5	3	5	11	42	39	38	18	20	16	A-6b (12)	
LONGITUDE = -83.107615	05.00 - 06.50	SS-4	100	3.5			SAME AS SS-3						23	A-6b (VISUAL)	
B-068-0-12	02.00 - 03.50	SS-1	72	3	11	6	12	34	37	32	16	16	21	A-6b (10)	220
STA. 267+10, 46.5' LT	03.50 - 05.00	SS-2	89	3.5 - 4.0	5	0	9	47	39	30	16	14	22	A-6a (10)	
LATITUDE = 39.831987	05.00 - 06.50	SS-3	100	3.5 - 4.0			SAME AS SS-2						26	A-6a (VISUAL)	
LONGITUDE = -83.106407	06.50 - 08.00	SS-4	100	4.0 - 4.5			SAME AS SS-2						16	A-6a (VISUAL)	
B-069-0-12	00.50 - 02.00	SS-1	100	4.5	20	10	13	31	26	25	16	9	7	A-4a (4)	<100
STA 271+11, 32.6' LT	02.00 - 03.50	SS-2	100	4.5+	8	6	12	34	40	34	17	17	18	A-6b (11)	
LATITUDE = 39.832377	03.50 - 05.00	SS-3	94	4	3	4	10	35	48	40	17	23	21	A-6b (13)	
LONGITUDE = -83.105070	05.00 - 06.50	SS-4	100	4.25			SAME AS SS-3						18	A-6b (VISUAL)	
B-070-0-12	02.00 - 03.50	SS-1	89	4.5+	11	9	14	36	30	25	14	11	10	A-6a (7)	<100
STA 275+11, 45.1' RT	03.50 - 05.00	SS-2	72	4.5+	23	9	12	33	23	25	15	10	21	A-4a (4)	
LATITUDE = 39.832604	05.00 - 06.50	SS-3	100	1.5 - 3.5	8	5	10	37	40	39	17	22	17	A-6b (13)	
LONGITUDE = -83.103652	06.50 - 08.00	SS-4	100	-			SAME AS SS-3						28	A-6b (VISUAL)	

SOIL PROFILE
SUMMARY OF SOIL TEST DATA

FRA - 71 - 00.00



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Unconfined Compressive Strength of Rock Core

(Project: FRA-71-0.00, Boring Location: B-021-1-14, NQ2-1, Depth: 31.8 - 32.1 ft)

Tested Date: 4/22/14

Specimen Properties

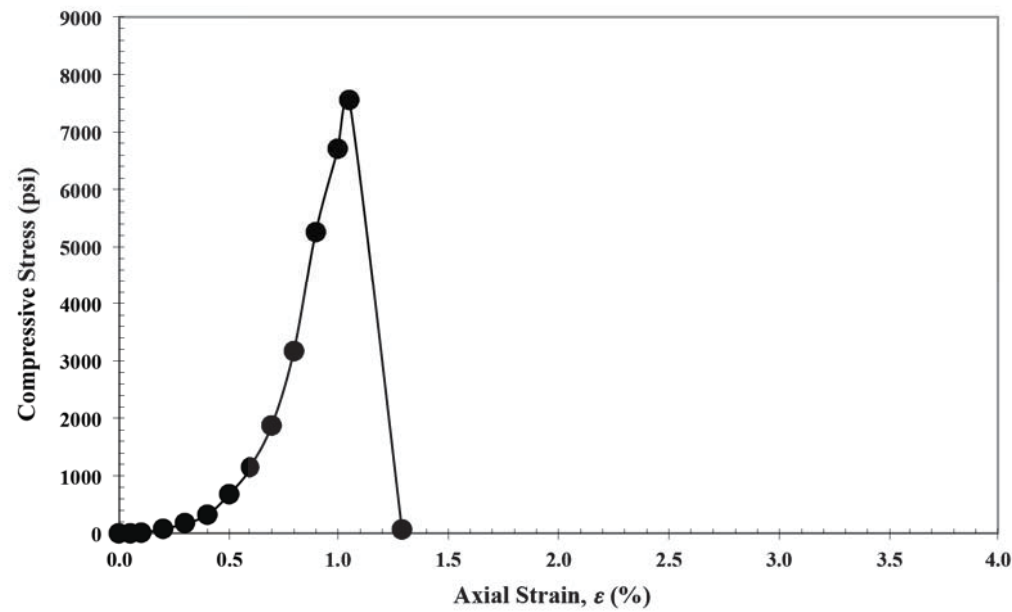
Average Dia., D_{avg} (in):	1.97
Average Height, H_{avg} (in):	4.18
Area, A (in ²):	3.03
Volume, V (in ³):	12.69
Wet Mass of Specimen (lb):	1.2
Moisture Content (%):	0.5
Dry Mass of Specimen (lb):	1.2
Wet Unit Weight, γ (lb/ft ³):	161.0
Dry Unit Weight, γ_d (lb/ft ³):	160.2

Final Specimen Figure



Results

Unconfined Compressive Strength (psi):	7558
Strain (%):	1.1



Notes: Stong, light gray LIMESTONE

Unconfined Compressive Strength of Rock Core

(Project: FRA-71-0.00, Boring Location: B-021-1-14, NQ2-1, Depth: 31.8 - 32.1 ft)

Tested Date: 4/22/14

Specimen Properties

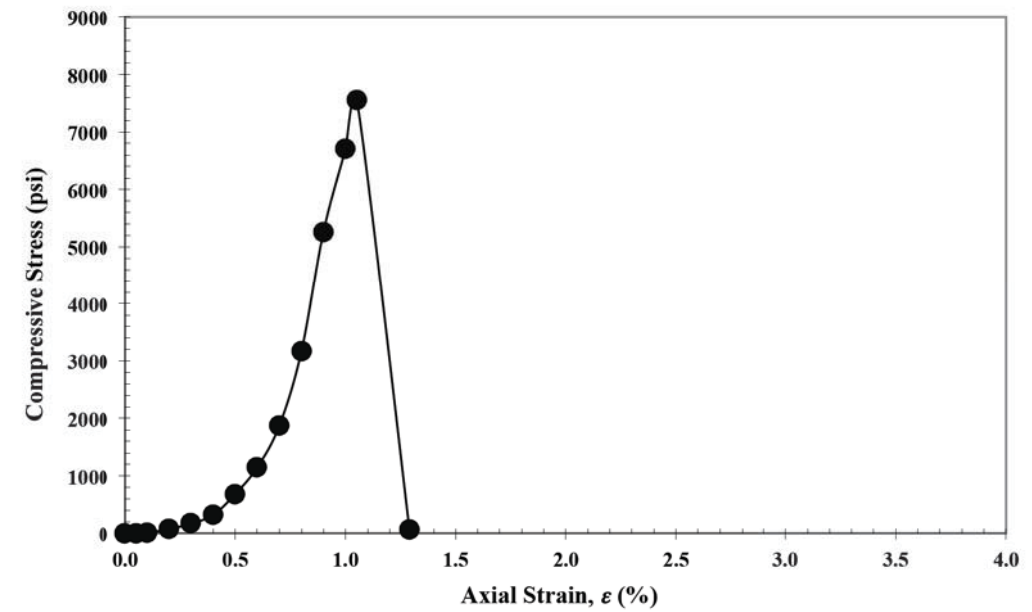
Average Dia., D_{avg} (in):	1.97
Average Height, H_{avg} (in):	4.18
Area, A (in ²):	3.03
Volume, V (in ³):	12.69
Wet Mass of Specimen (lb):	1.2
Moisture Content (%):	0.5
Dry Mass of Specimen (lb):	1.2
Wet Unit Weight, γ (lb/ft ³):	161.0
Dry Unit Weight, γ_d (lb/ft ³):	160.2

Final Specimen Figure



Results

Unconfined Compressive Strength (psi):	7558
Strain (%):	1.1



Notes: Stong, light gray LIMESTONE



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Unconfined Compressive Strength of Rock Core

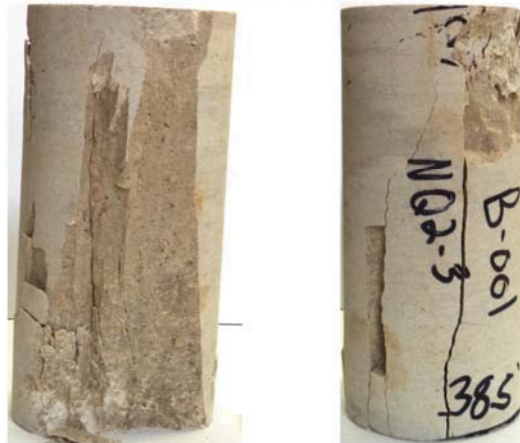
(Project: FRA-71-0.00, Boring Location: B-021-1-14, NQ2-1, Depth: 31.8 - 32.1 ft)

Tested Date: 4/22/14

Specimen Properties

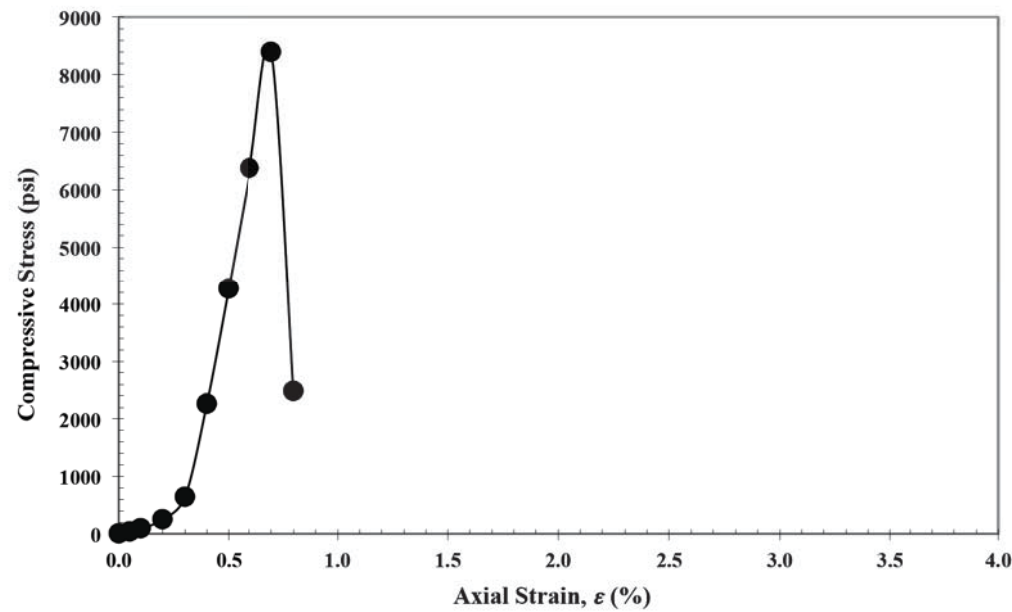
Average Dia., D_{avg} (in):	1.97
Average Height, H_{avg} (in):	4.75
Area, A (in ²):	3.04
Volume, V (in ³):	14.44
Wet Mass of Specimen (lb):	1.4
Moisture Content (%):	0.4
Dry Mass of Specimen (lb):	1.4
Wet Unit Weight, γ (lb/ft ³):	166.4
Dry Unit Weight, γ_d (lb/ft ³):	165.7

Final Specimen Figure



Results

Unconfined Compressive Strength (psi): **8396**
Strain (%): **0.8**



Notes: Strong, light gray, LIMESTONE

Unconfined Compressive Strength of Rock Core

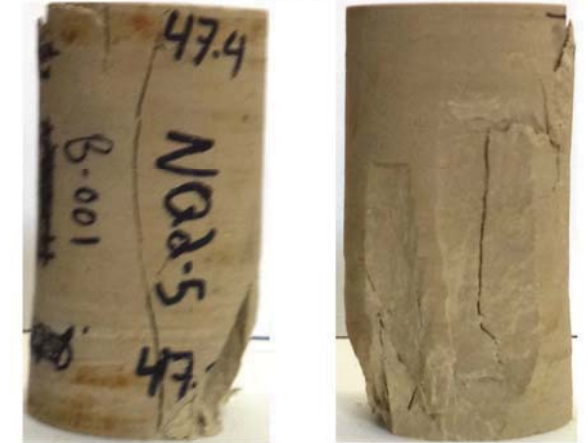
(Project: FRA-71-0.00, Boring Location: B-021-1-14, NQ2-1, Depth: 31.8 - 32.1 ft)

Tested Date: 4/22/14

Specimen Properties

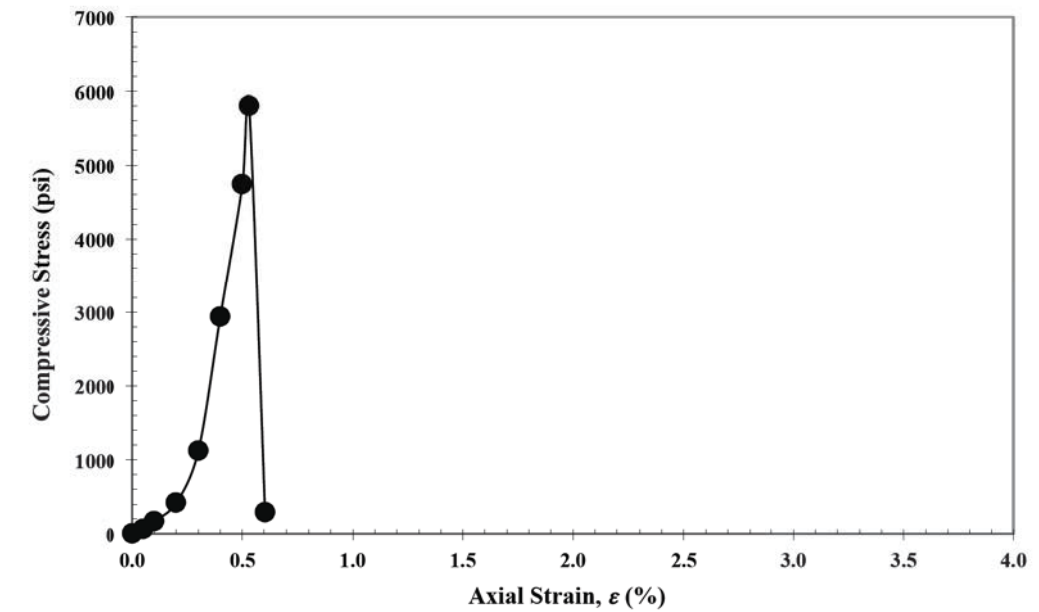
Average Dia., D_{avg} (in):	1.96
Average Height, H_{avg} (in):	4.15
Area, A (in ²):	3.02
Volume, V (in ³):	12.54
Wet Mass of Specimen (lb):	1.1
Moisture Content (%):	9.2
Dry Mass of Specimen (lb):	1.0
Wet Unit Weight, γ (lb/ft ³):	147.7
Dry Unit Weight, γ_d (lb/ft ³):	135.3

Final Specimen Figure



Results

Unconfined Compressive Strength (psi): **5803**
Strain (%): **0.5**



Notes: Moderately strong, grayish brown, SILTSTONE



Unconfined Compressive Strength of Rock Core

(Project: FRA-71-0.00, Boring Location: B-021-1-14, NQ2-1, Depth: 31.8 - 32.1 ft)

Tested Date: 4/22/14

Specimen Properties

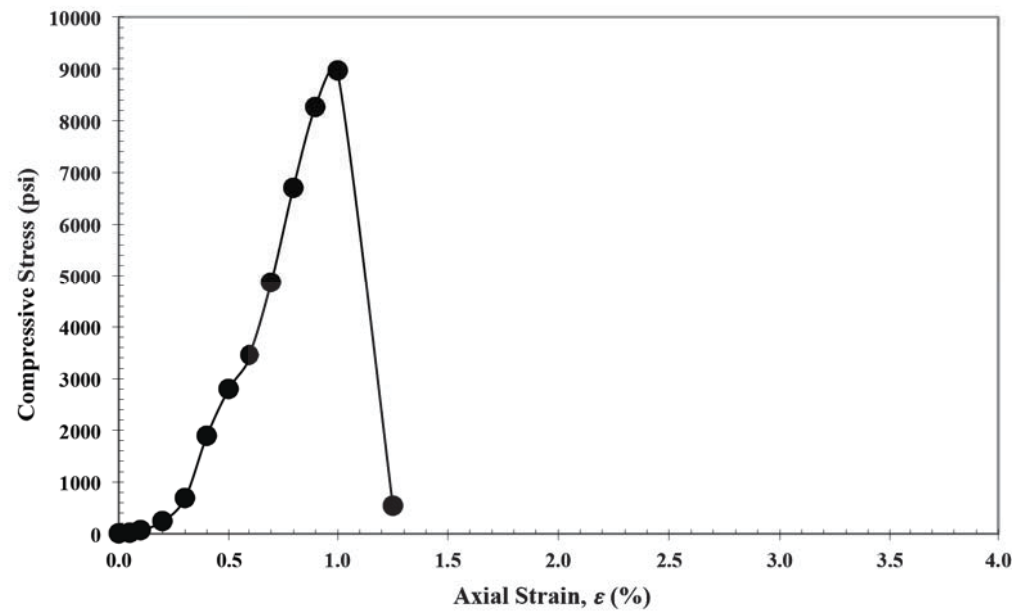
Average Dia., D_{avg} (in):	1.97
Average Height, H_{avg} (in):	4.16
Area, A (in ²):	3.04
Volume, V (in ³):	12.64
Wet Mass of Specimen (lb):	1.2
Moisture Content (%):	4.1
Dry Mass of Specimen (lb):	1.1
Wet Unit Weight, γ (lb/ft ³):	157.9
Dry Unit Weight, γ_d (lb/ft ³):	151.7

Final Specimen Figure



Results

Unconfined Compressive Strength (psi): **8960**
Strain (%): **1.0**



Notes: Strong, grayish brown, DOLOMITE

Unconfined Compressive Strength of Rock Core

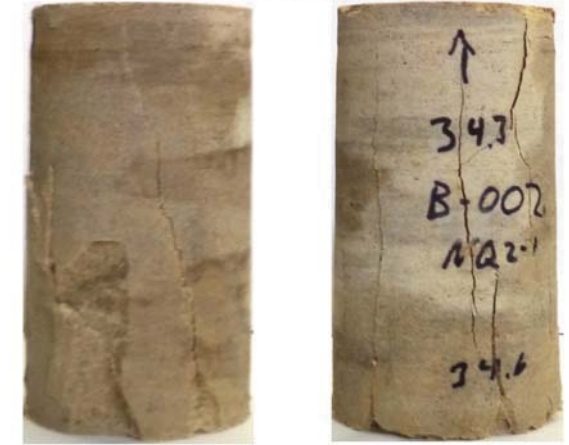
(Project: FRA-71-0.00, Boring Location: B-021-1-14, NQ2-1, Depth: 31.8 - 32.1 ft)

Tested Date: 4/22/14

Specimen Properties

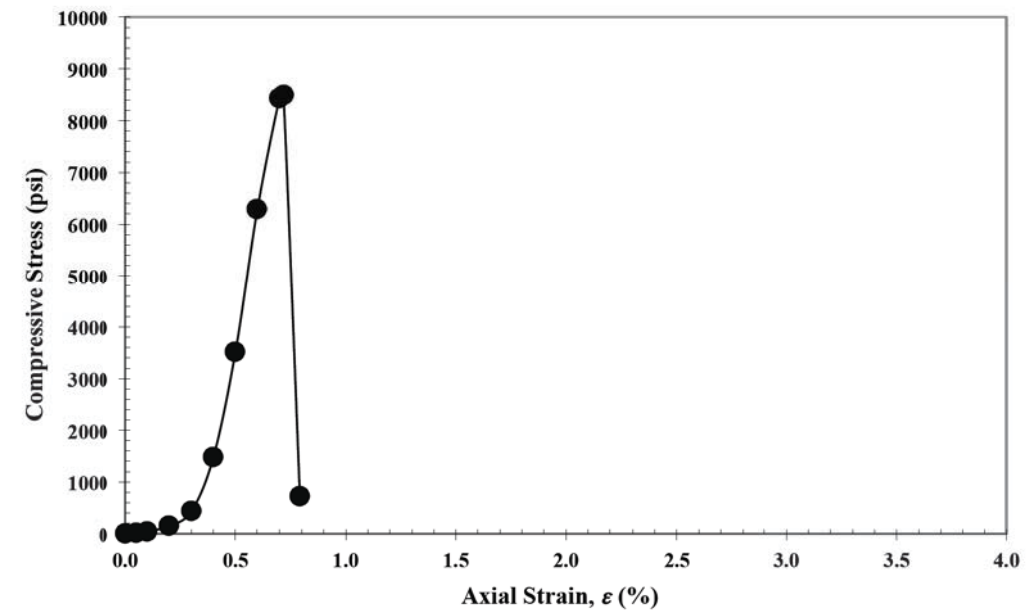
Average Dia., D_{avg} (in):	1.97
Average Height, H_{avg} (in):	4.04
Area, A (in ²):	3.04
Volume, V (in ³):	12.26
Wet Mass of Specimen (lb):	1.2
Moisture Content (%):	1.8
Dry Mass of Specimen (lb):	1.1
Wet Unit Weight, γ (lb/ft ³):	162.2
Dry Unit Weight, γ_d (lb/ft ³):	159.3

Final Specimen Figure



Results

Unconfined Compressive Strength (psi): **8491**
Strain (%): **0.7**



Notes: Strong, light grayish brown, LIMESTONE



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Unconfined Compressive Strength of Rock Core

(Project: FRA-71-0.00, Boring Location: B-021-1-14, NQ2-1, Depth: 31.8 - 32.1 ft)

Tested Date: 4/22/14

Specimen Properties

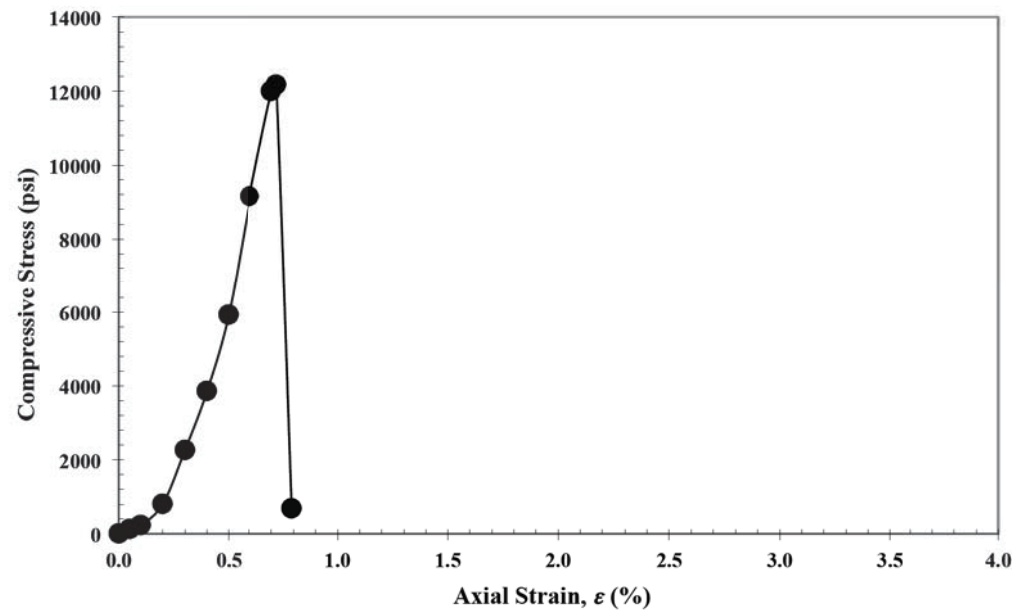
Average Dia., D_{avg} (in):	1.97
Average Height, H_{avg} (in):	4.29
Area, A (in ²):	3.05
Volume, V (in ³):	13.08
Wet Mass of Specimen (lb):	1.2
Moisture Content (%):	0.9
Dry Mass of Specimen (lb):	1.2
Wet Unit Weight, γ (lb/ft ³):	164.2
Dry Unit Weight, γ_d (lb/ft ³):	162.7

Final Specimen Figure



Results

Unconfined Compressive Strength (psi): 12175
Strain (%): 0.7



Notes: Strong, light gray, LIMESTONE

Unconfined Compressive Strength of Rock Core

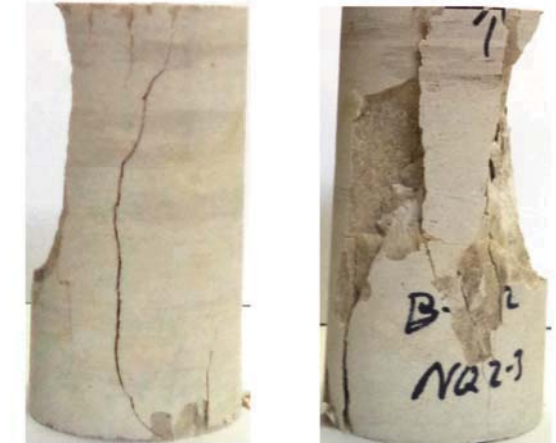
(Project: FRA-71-0.00, Boring Location: B-021-1-14, NQ2-1, Depth: 31.8 - 32.1 ft)

Tested Date: 4/22/14

Specimen Properties

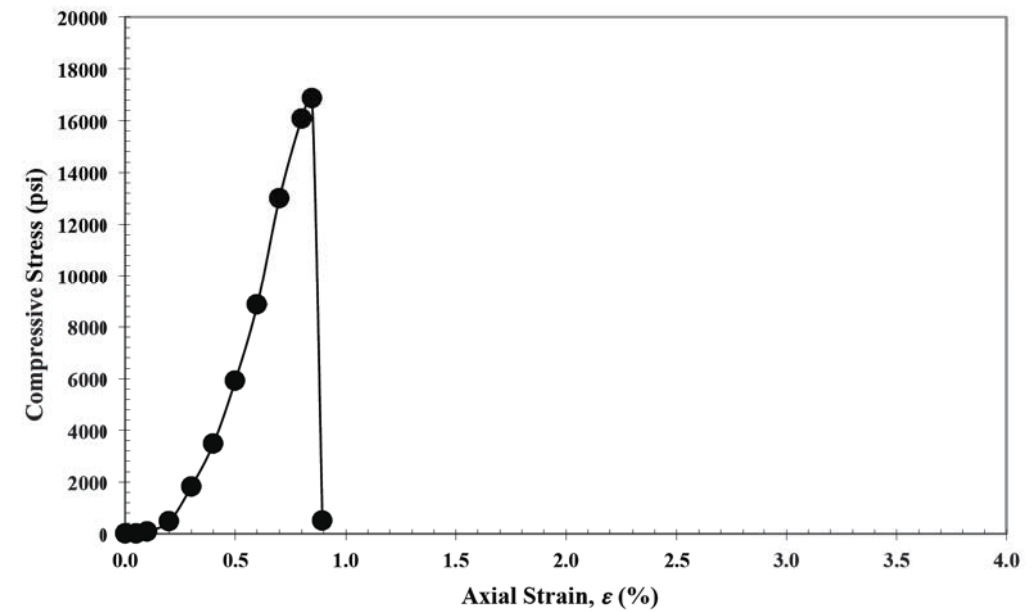
Average Dia., D_{avg} (in):	1.97
Average Height, H_{avg} (in):	4.25
Area, A (in ²):	3.04
Volume, V (in ³):	12.89
Wet Mass of Specimen (lb):	1.2
Moisture Content (%):	0.7
Dry Mass of Specimen (lb):	1.2
Wet Unit Weight, γ (lb/ft ³):	166.5
Dry Unit Weight, γ_d (lb/ft ³):	165.4

Final Specimen Figure



Results

Unconfined Compressive Strength (psi): 16868
Strain (%): 0.9

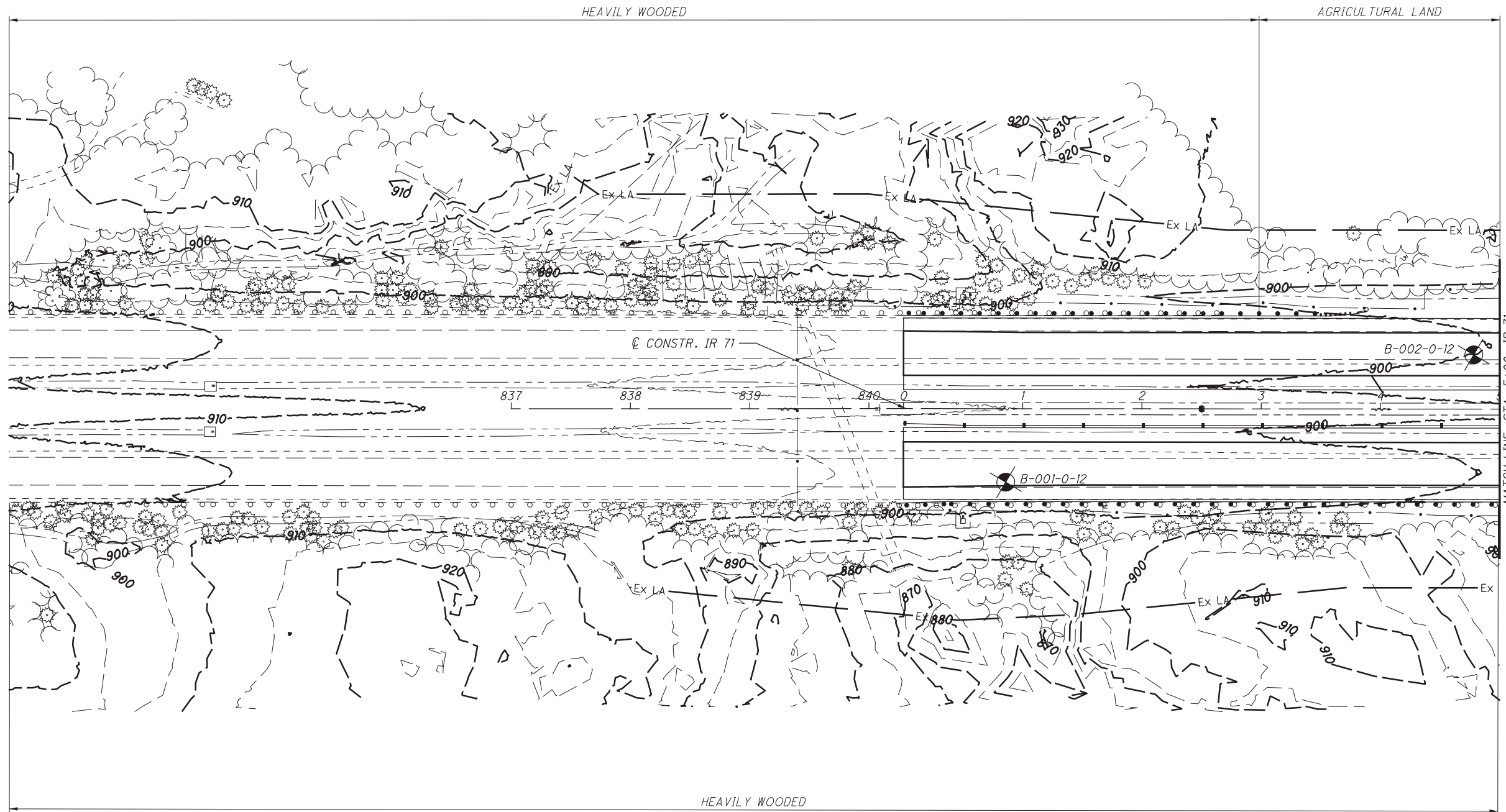


Notes: Very strong, light gray, LIMESTONE



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BORING PROFILE LOCATION REFERENCE	
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BORING ID	PROFILE (SEE SHEET)
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B-002-0-12	13



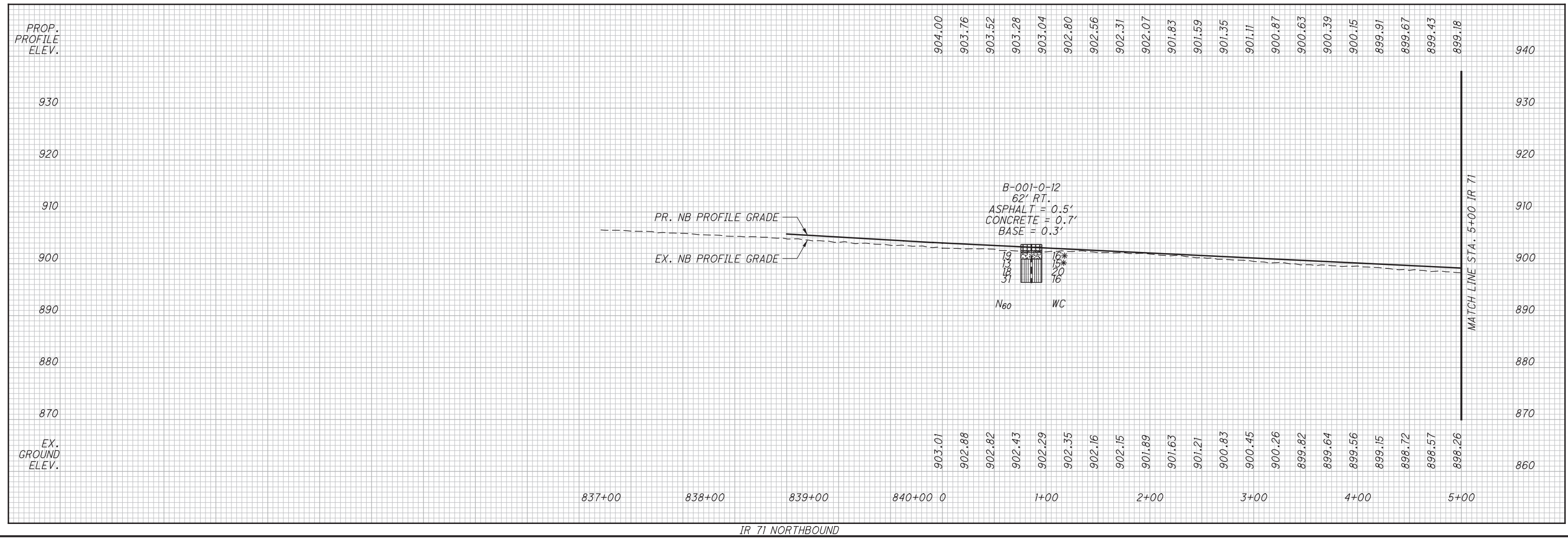
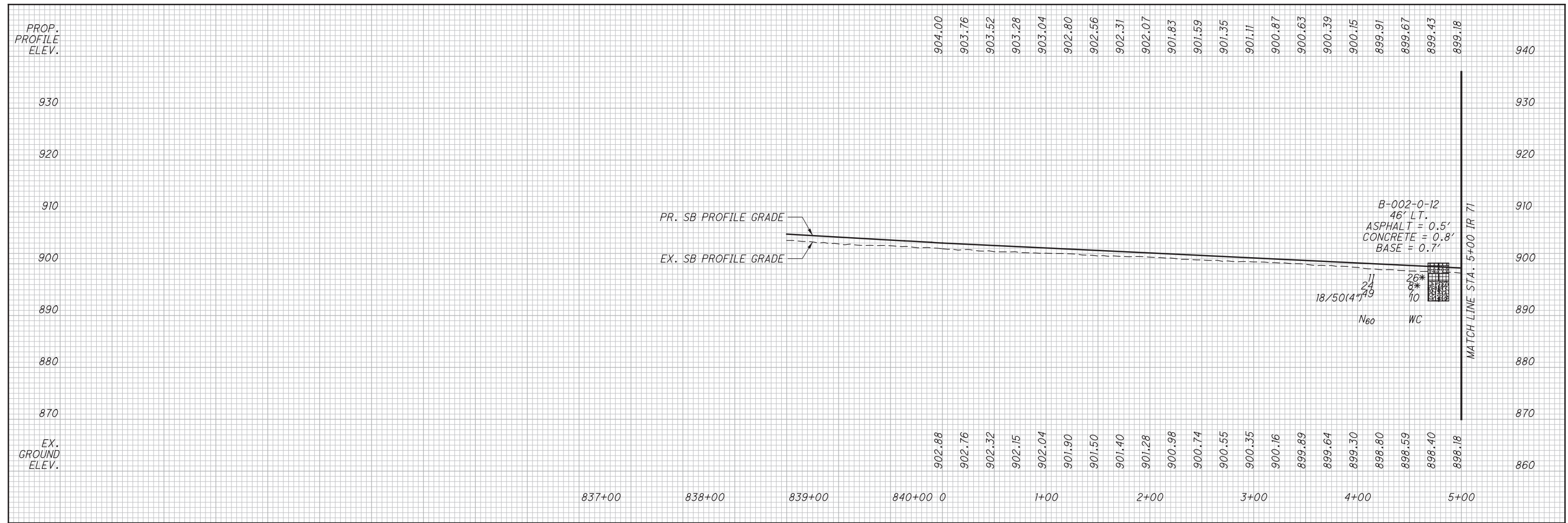
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SOIL PROFILE - IR 71
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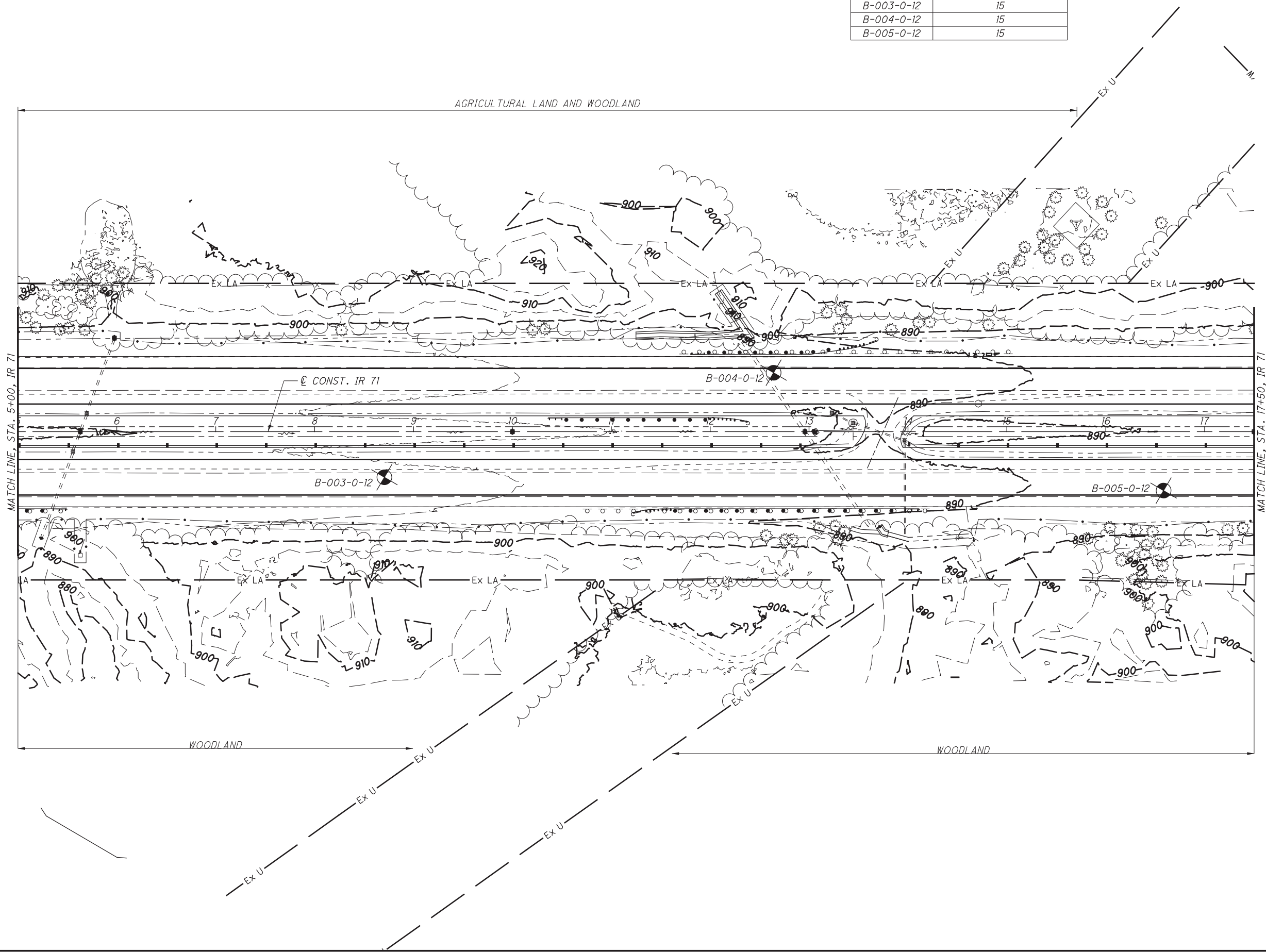
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FRA-71-0.00



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BORING PROFILE LOCATION REFERENCE	
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BORING ID	PROFILE (SEE SHEET)
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B-004-0-12	15
B-005-0-12	15







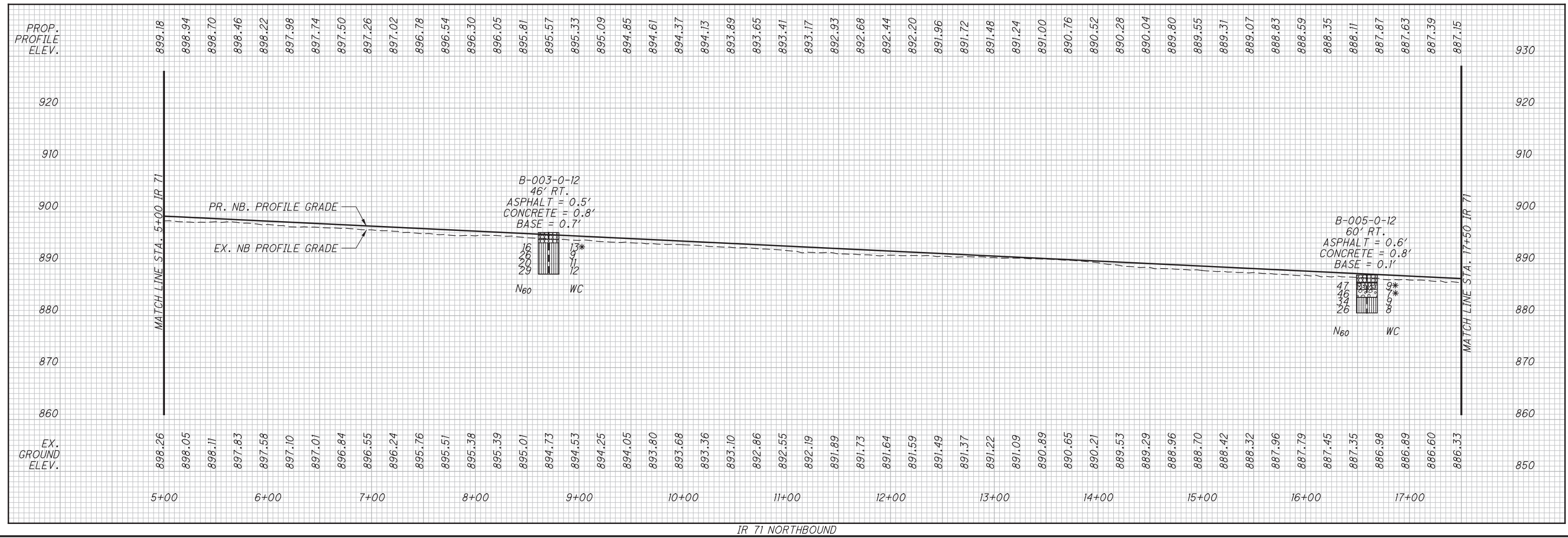
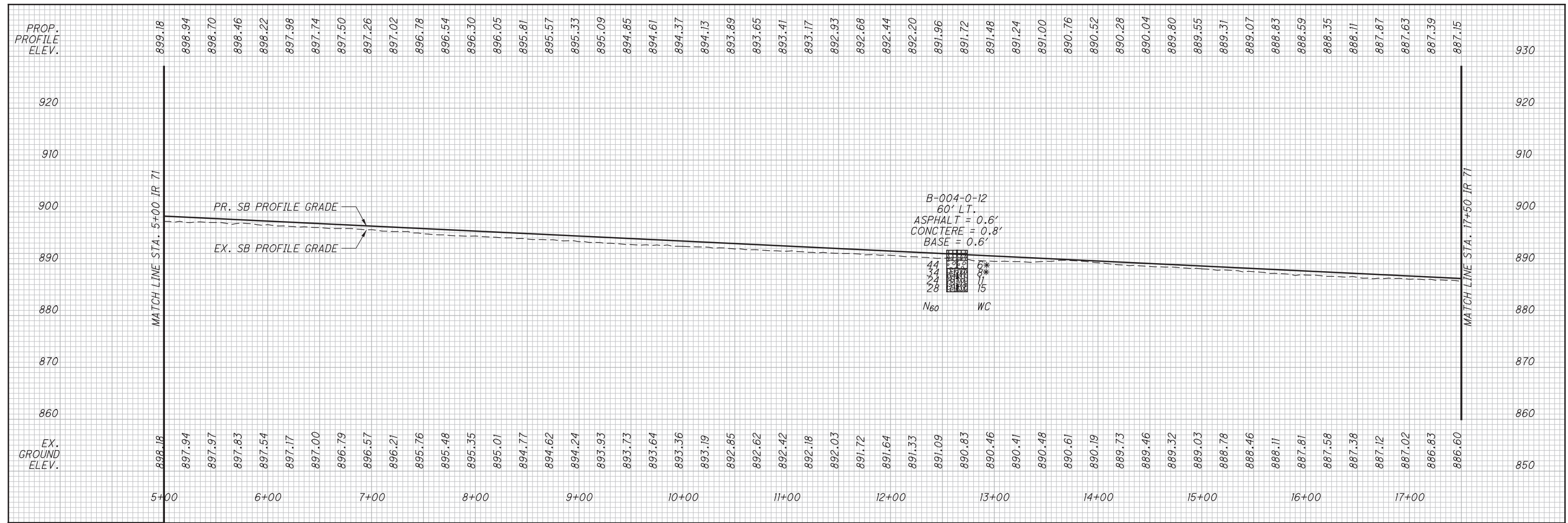
 HORIZONTAL SCALE IN FEET

DRAWN KA
 CHECKED LE

PROFILE - IR 71
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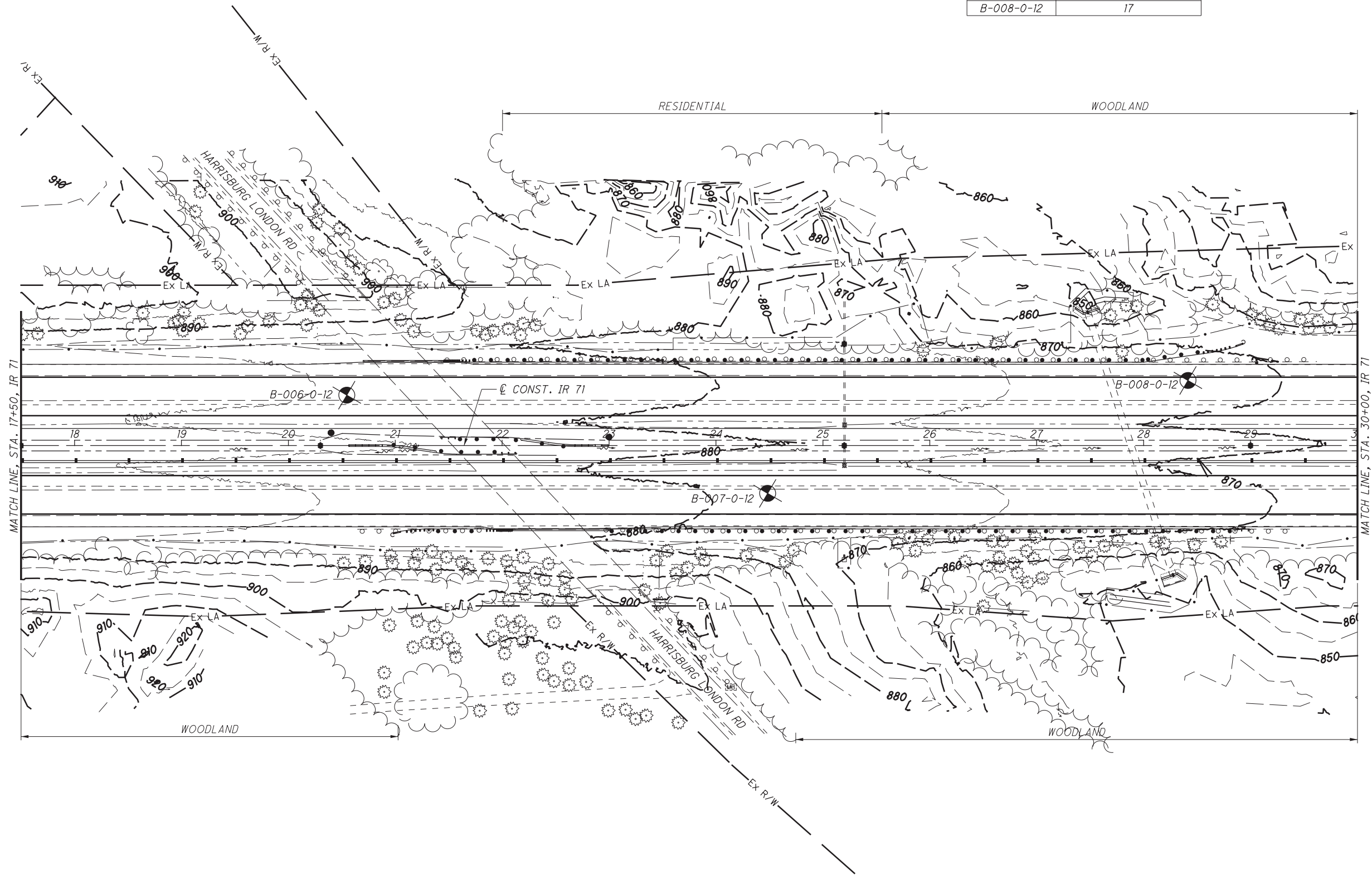
FRA-71-0.00





SOIL PROFILE - IR 71
STA. 5+00 TO STA. 17+50

BORING PROFILE LOCATION REFERENCE	
STA. 17+50 TO STA. 30+00 IR 71	
BORING ID	PROFILE (SEE SHEET)
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B-007-0-12	17
B-008-0-12	17



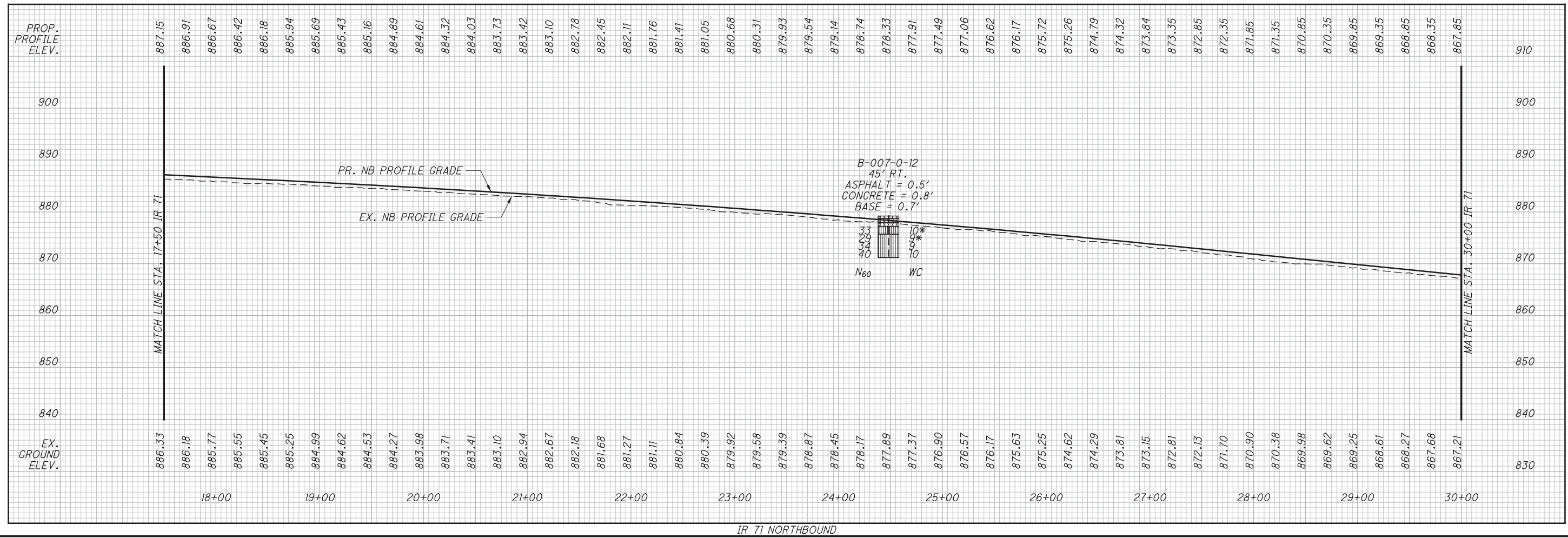
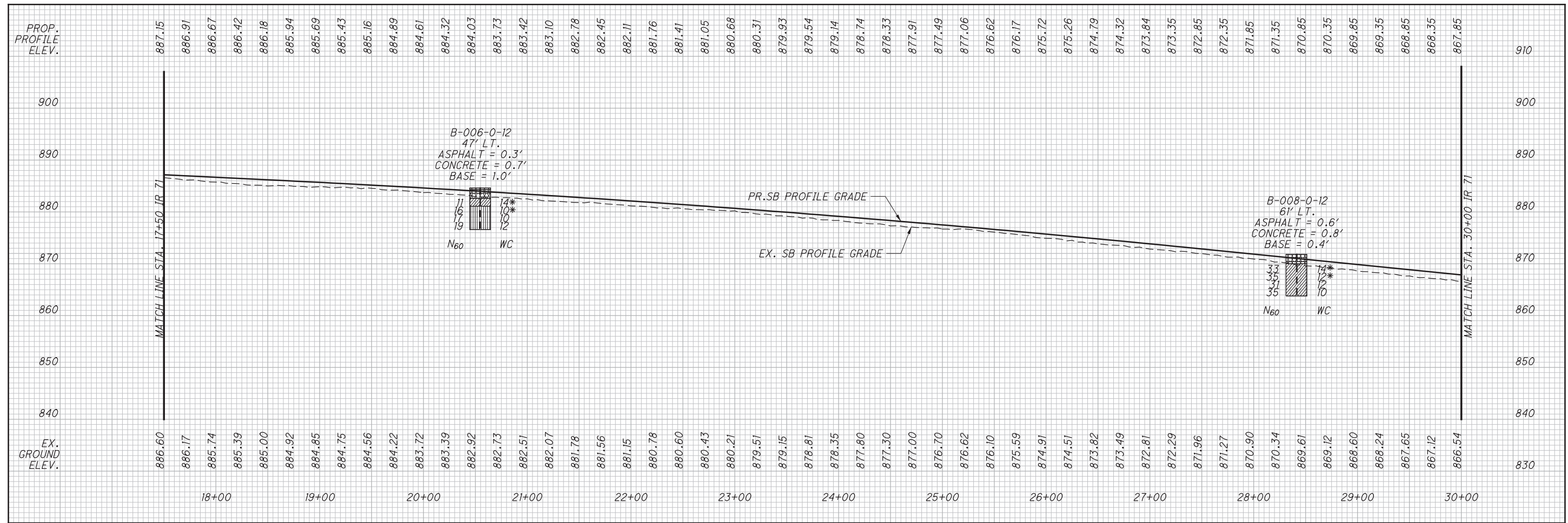
HORIZONTAL SCALE IN FEET

DRAWN: KA
 CHECKED: LE

PROFILE - IR 71
STA. 17+50 TO STA. 30+00

FRA-71-0.00



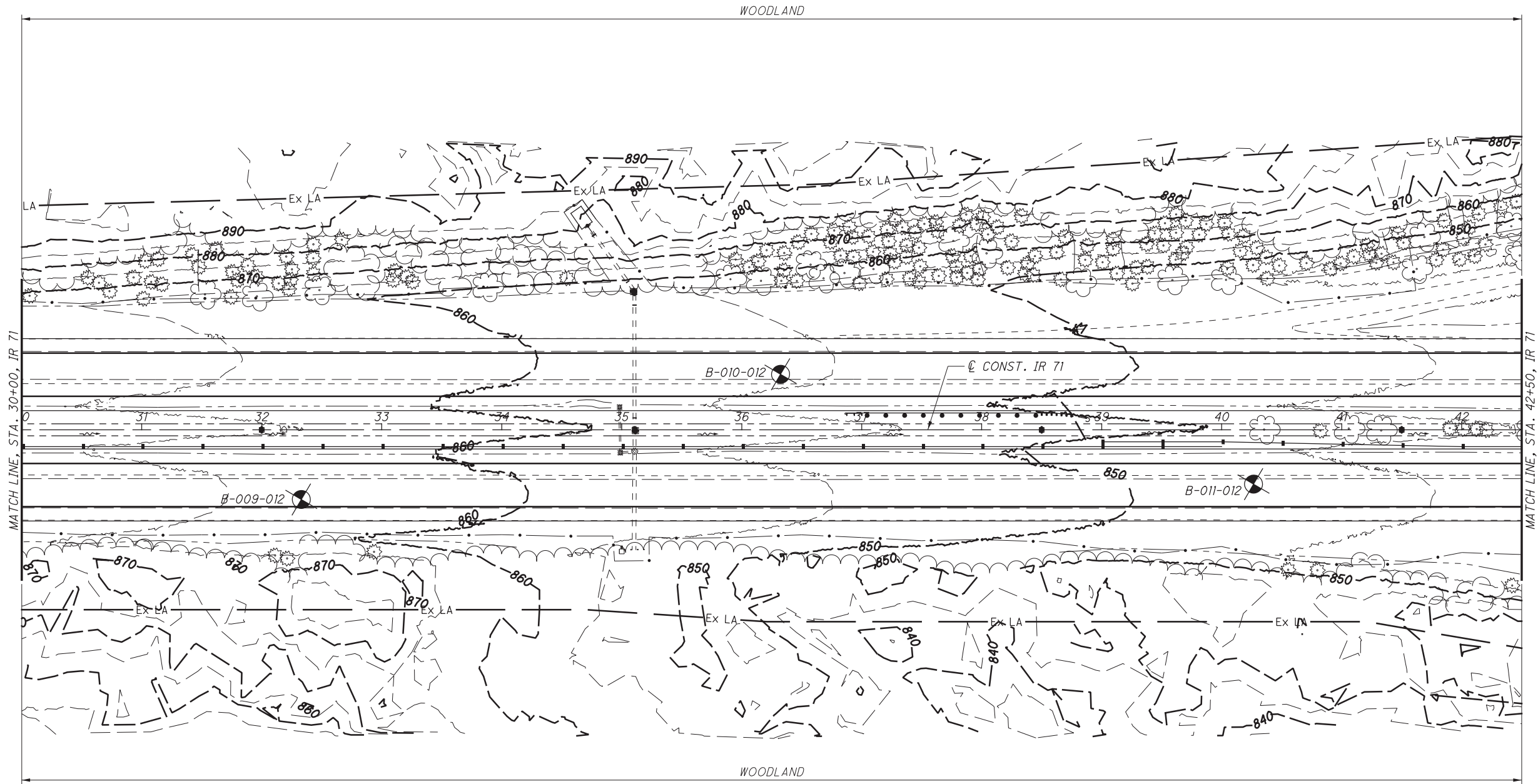


SOIL PROFILE - IR 71
STA. 17+50 TO STA. 30+00

FRA-71-0.00



BORING PROFILE LOCATION REFERENCE	
STA. 30+00 TO STA. 42+50 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-009-0-12	19
B-010-0-12	19
B-011-0-12	19

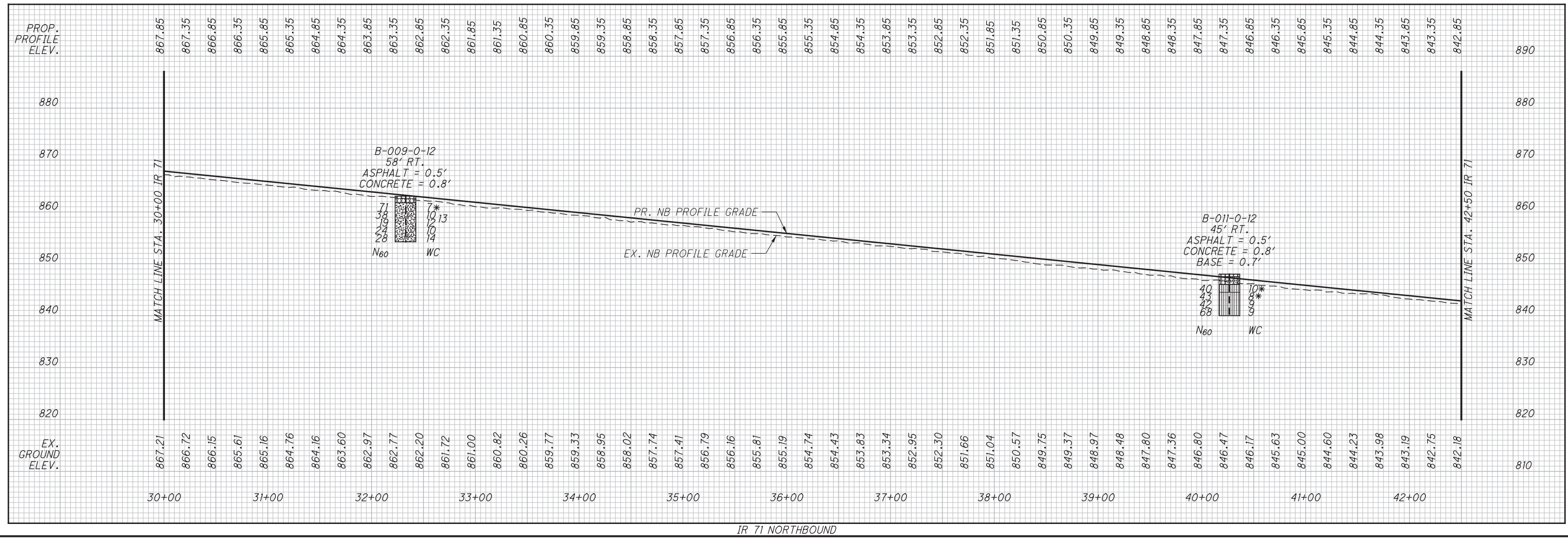
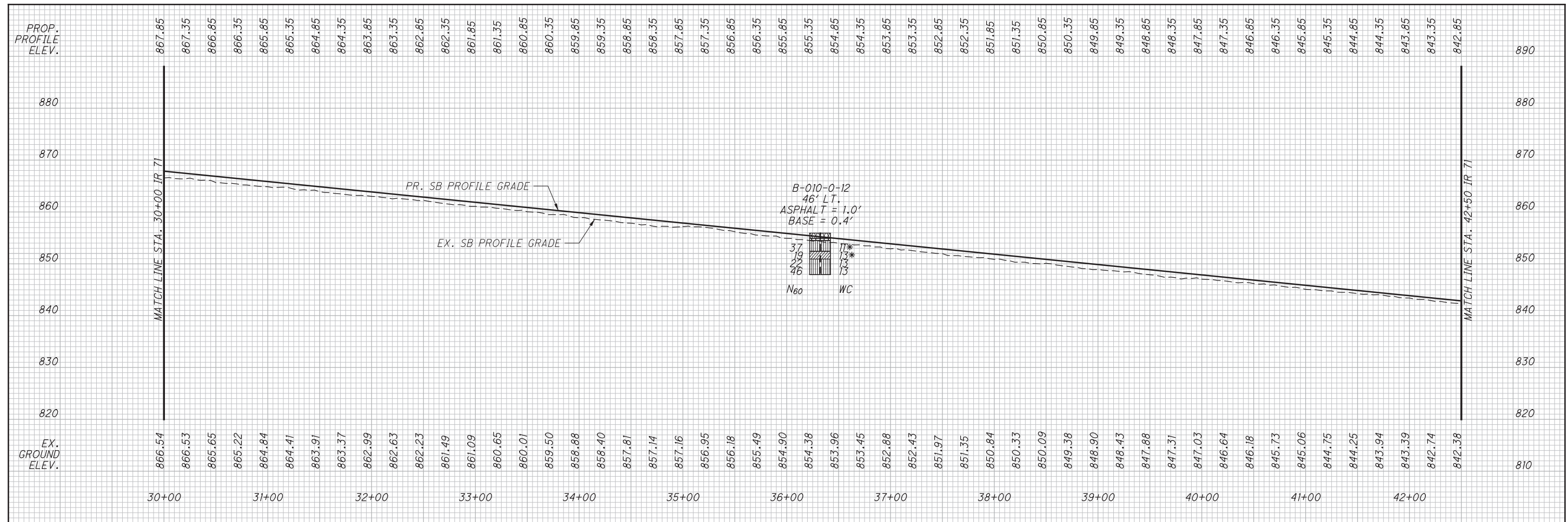


DRAWN KA
CHECKED LE

SOIL PROFILE - IR 71
STA. 30+00 TO STA. 42+50

FRA-71-0.00





DRAWN: KA
 CHECKED: LE

SOIL PROFILE - IR 71
STA. 30+00 TO STA. 42+50

FRA-71-0.00

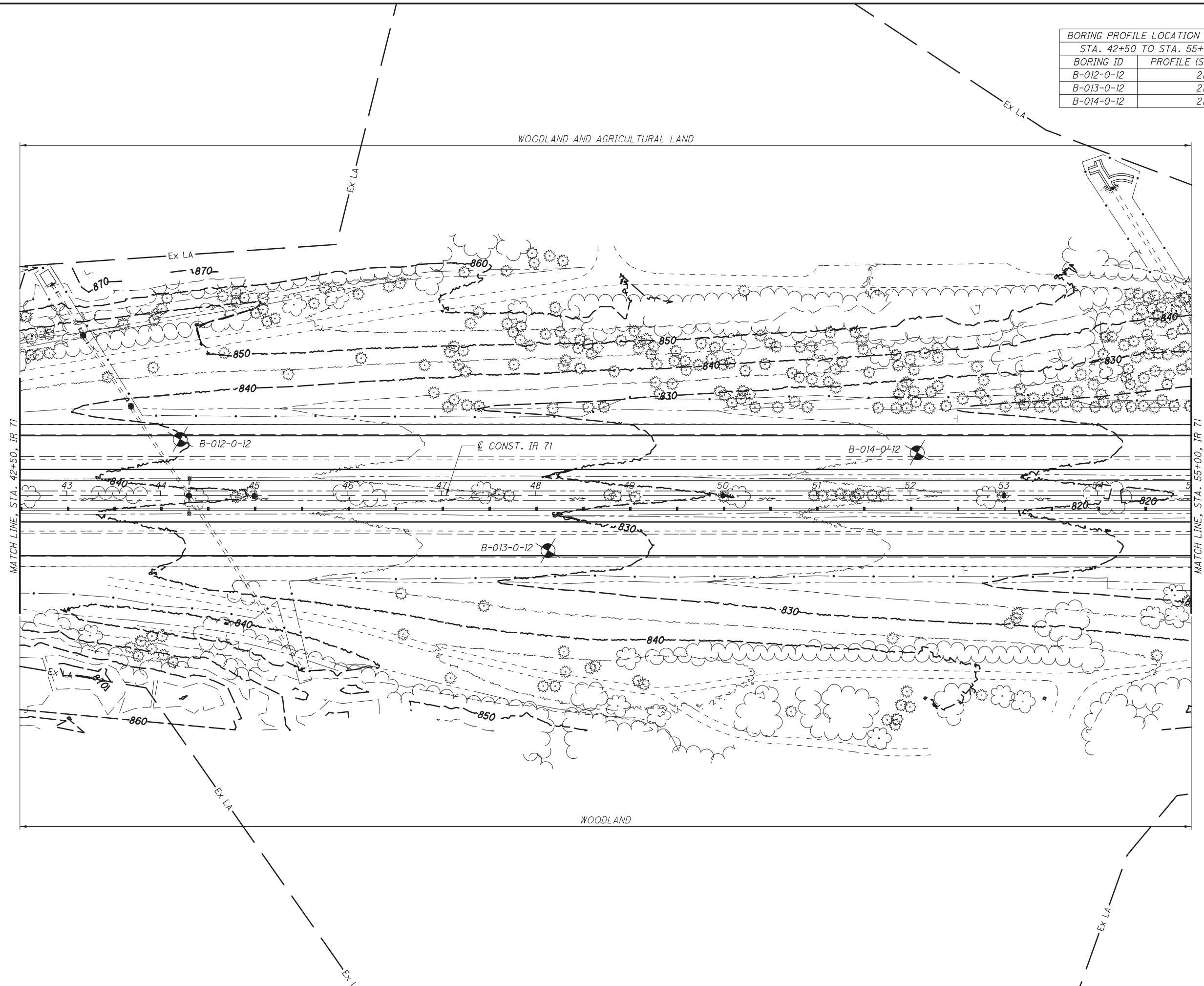


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BORING PROFILE LOCATION REFERENCE	
STA. 42+50 TO STA. 55+00 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-012-0-12	21
B-013-0-12	21
B-014-0-12	21

0 50 100
25
HORIZONTAL
SCALE IN FEET

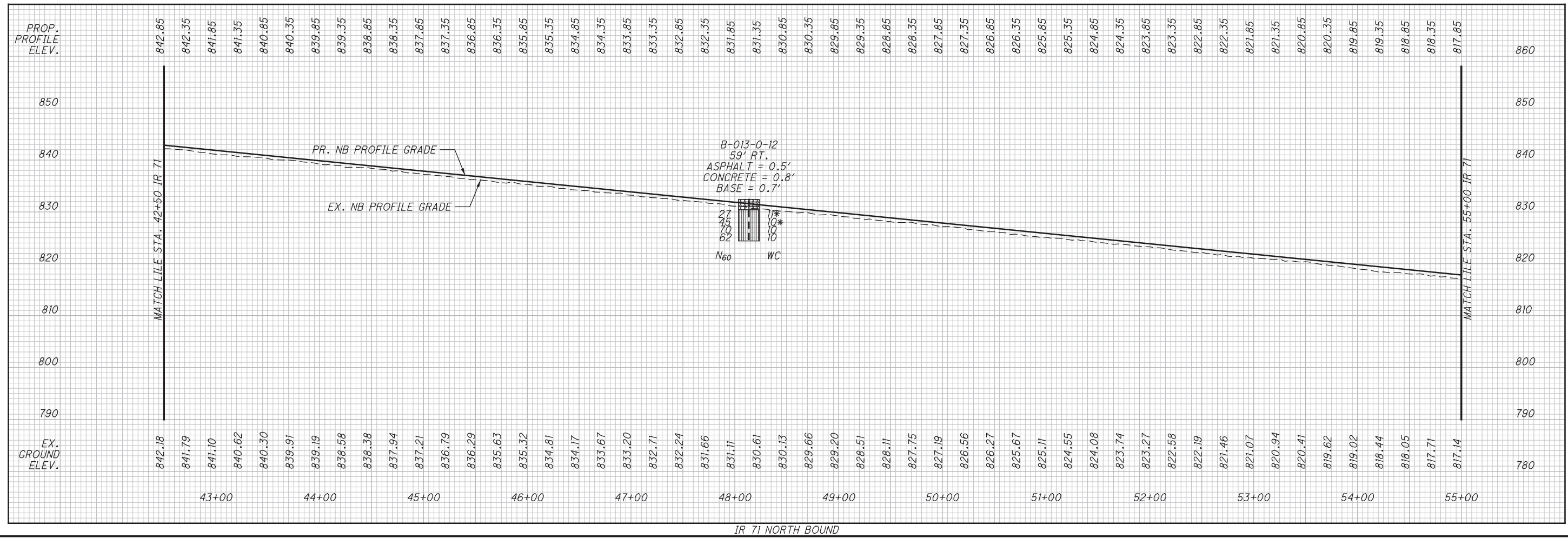
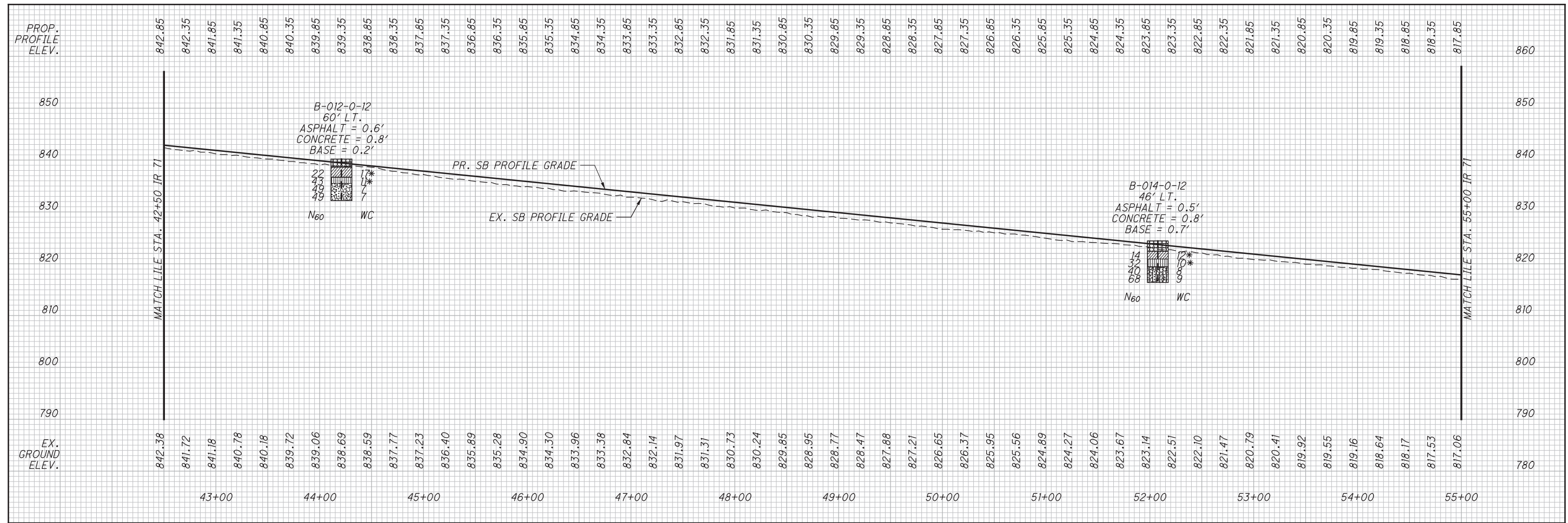
DRAWN KA
CHECKED LE



SOIL PROFILE - IR 71
STA. 42+50 TO STA. 55+00

FRA-71-0.00





DRAWN KA
 CHECKED LE

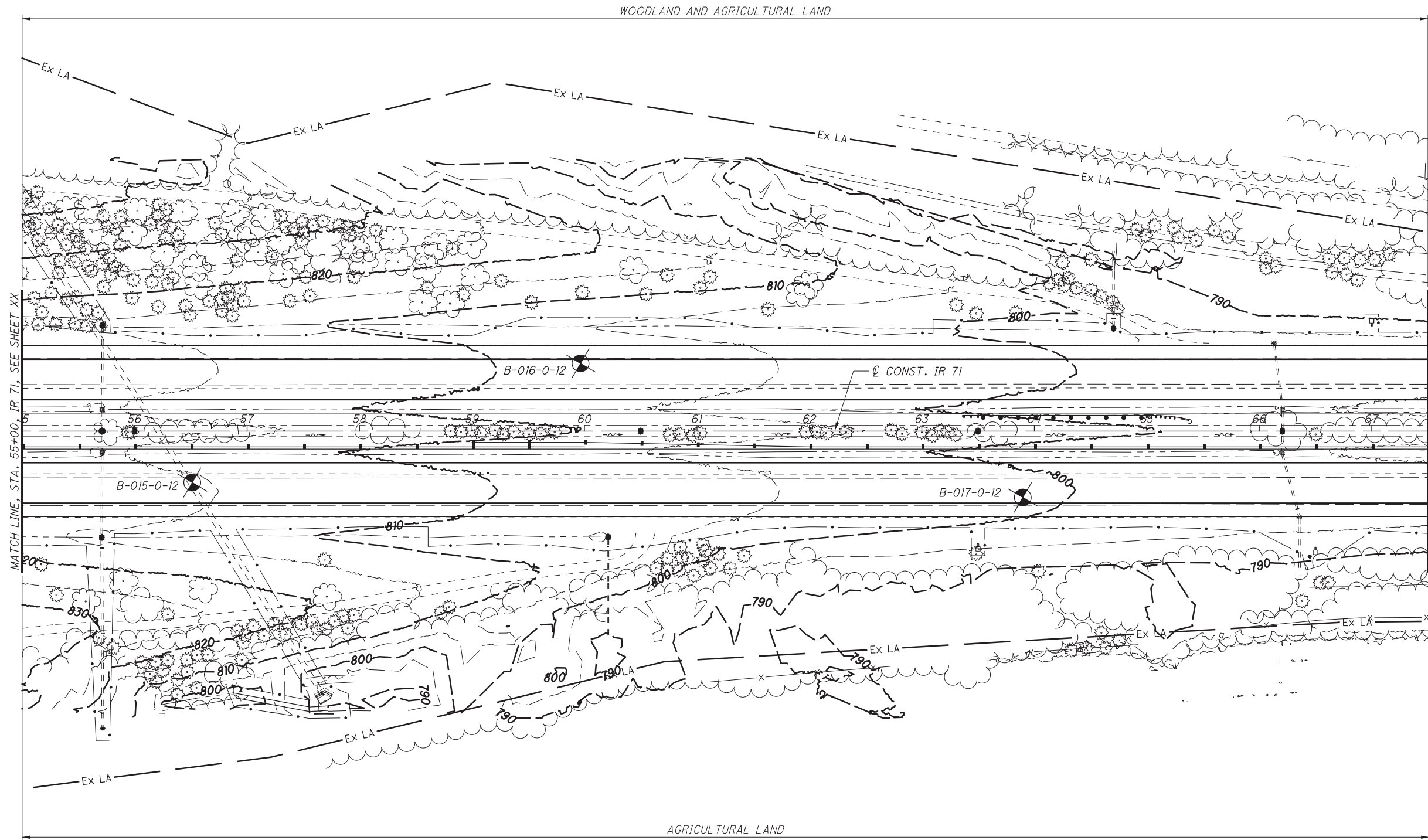
SOIL PROFILE - IR 71
STA. 42+50 TO STA. 55+00

FRA-71-0.00



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BORING PROFILE LOCATION REFERENCE	
STA. 55+00 TO STA. 67+50 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-015-0-12	23
B-016-0-12	23
B-017-0-12	23

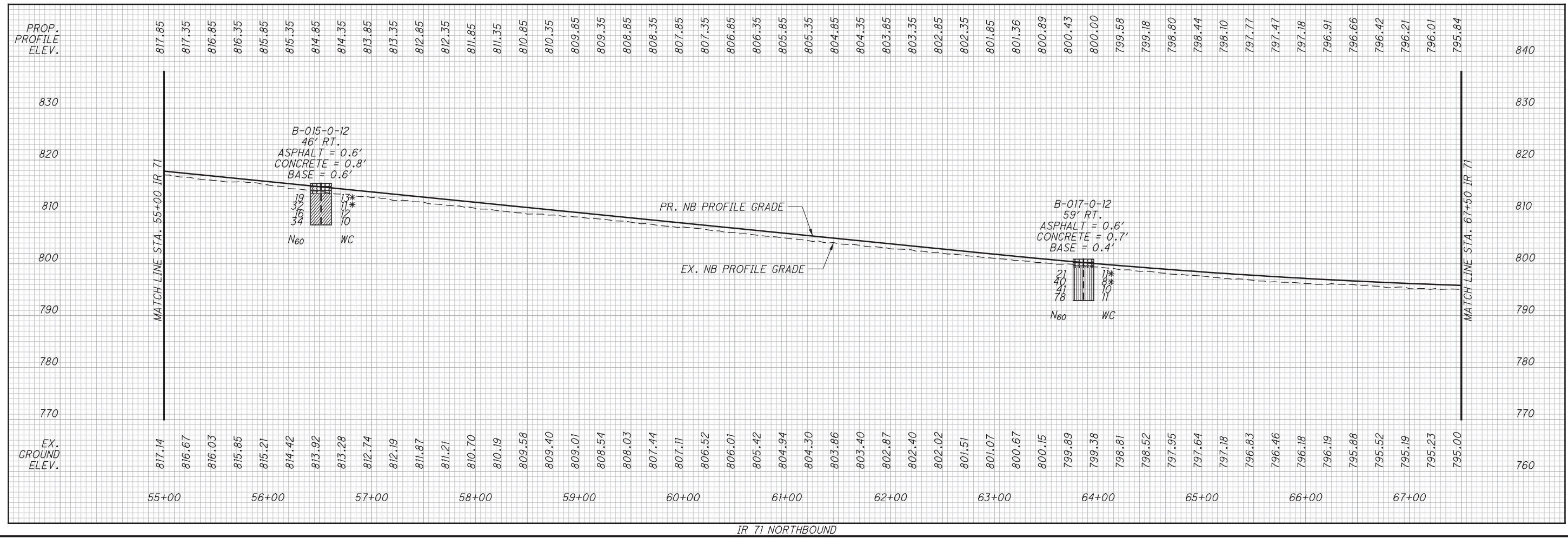
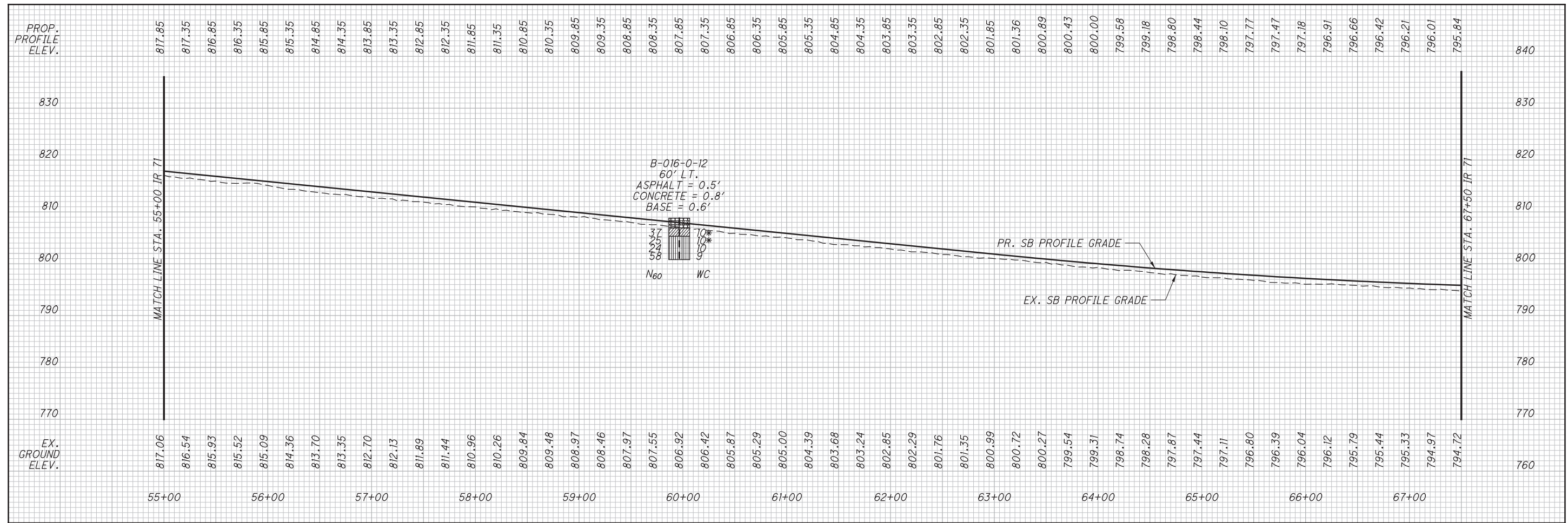


DRAWN KA
CHECKED LE

SOIL PROFILE - IR 71
STA. 55+00 TO STA. 67+50

FRA-71-0.00

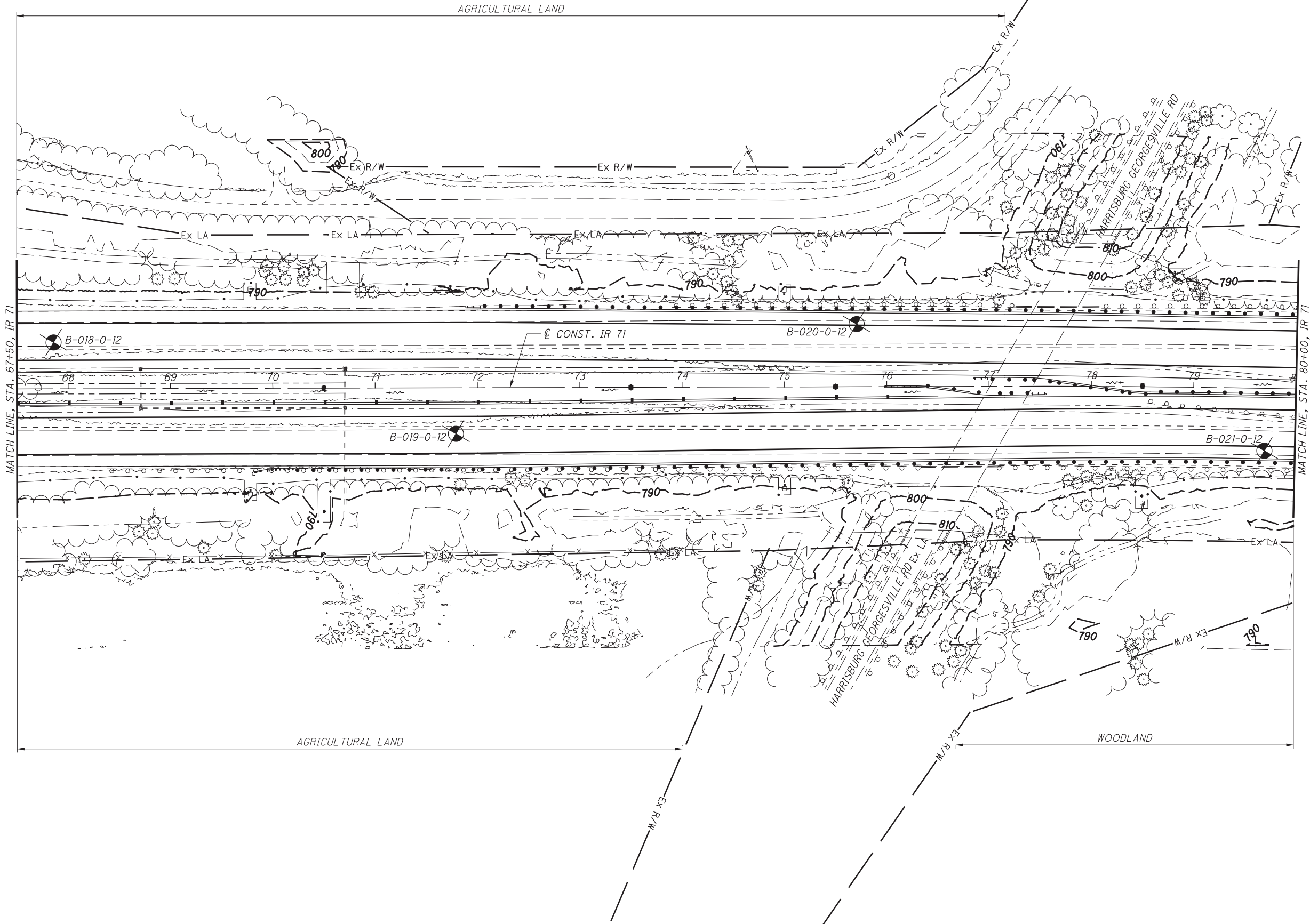




DRAWN KA
 CHECKED LE

SOIL PROFILE - IR 71
STA. 55+00 TO STA. 67+50

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BORING PROFILE LOCATION REFERENCE	
STA. 67+50 TO STA. 80+00 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-018-0-12	25
B-019-0-12	25
B-020-0-12	25
B-021-0-12	25

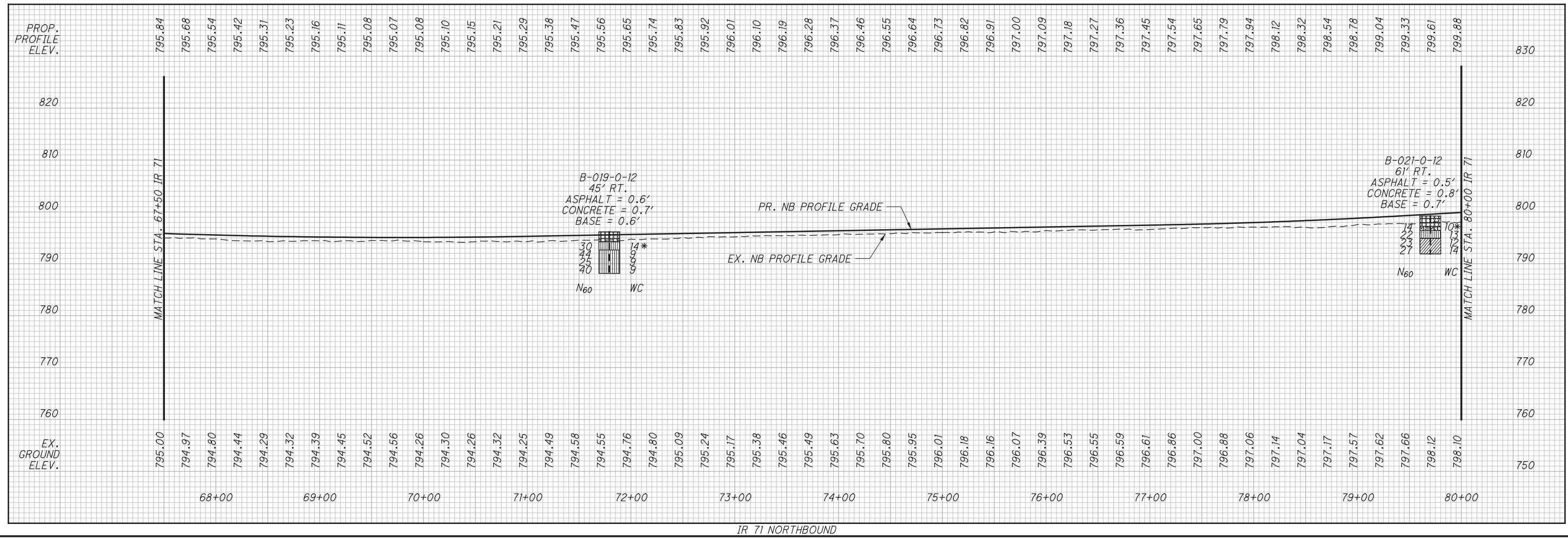
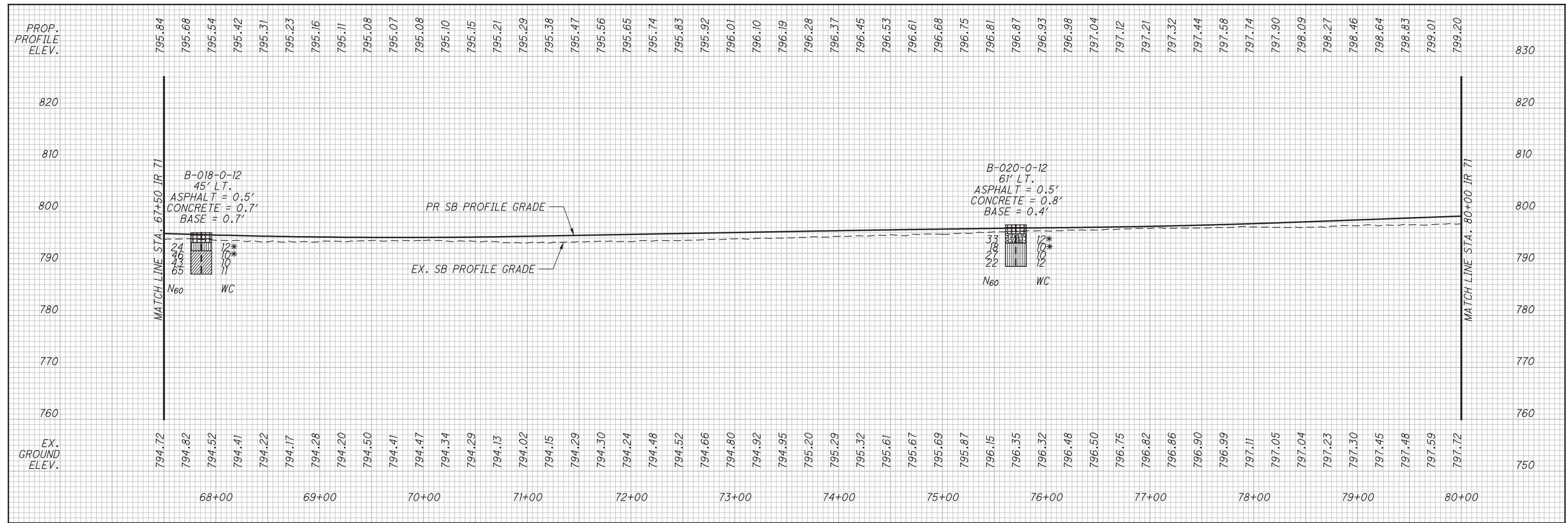


DRAWN KA
CHECKED LE

SOIL PROFILE - IR 71
STA. 67+50 TO STA. 80+00

FRA-71-0.00





DRAWN: KA
 CHECKED: LE

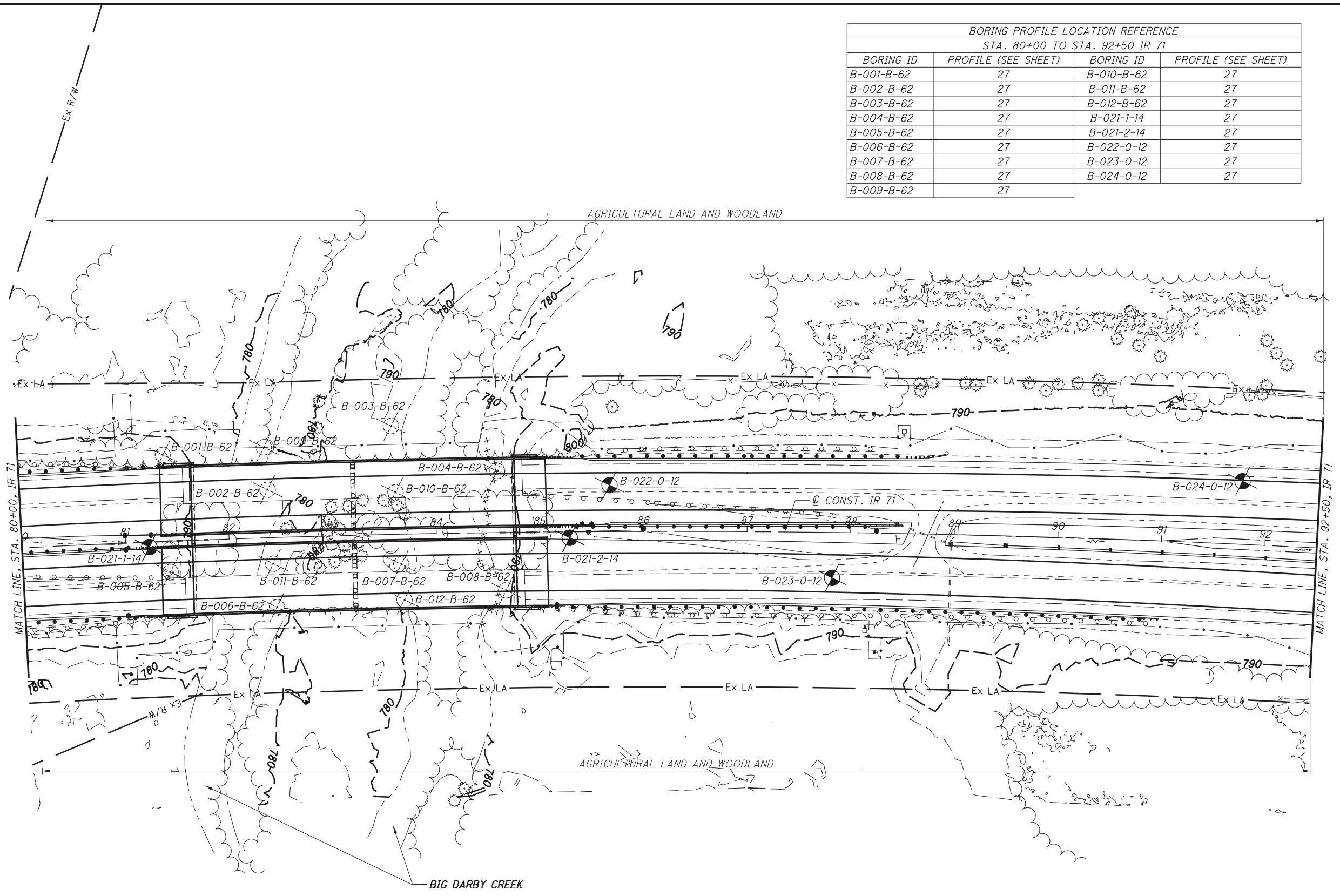
SOIL PROFILE - IR 71
STA. 67+50 TO STA. 80+00

FRA-71-0.00



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BORING PROFILE LOCATION REFERENCE			
STA. 80+00 TO STA. 92+50 IR 71			
BORING ID	PROFILE (SEE SHEET)	BORING ID	PROFILE (SEE SHEET)
B-001-B-62	27	B-010-B-62	27
B-002-B-62	27	B-011-B-62	27
B-003-B-62	27	B-012-B-62	27
B-004-B-62	27	B-021-1-14	27
B-005-B-62	27	B-021-2-14	27
B-006-B-62	27	B-022-0-12	27
B-007-B-62	27	B-023-0-12	27
B-008-B-62	27	B-024-0-12	27
B-009-B-62	27		



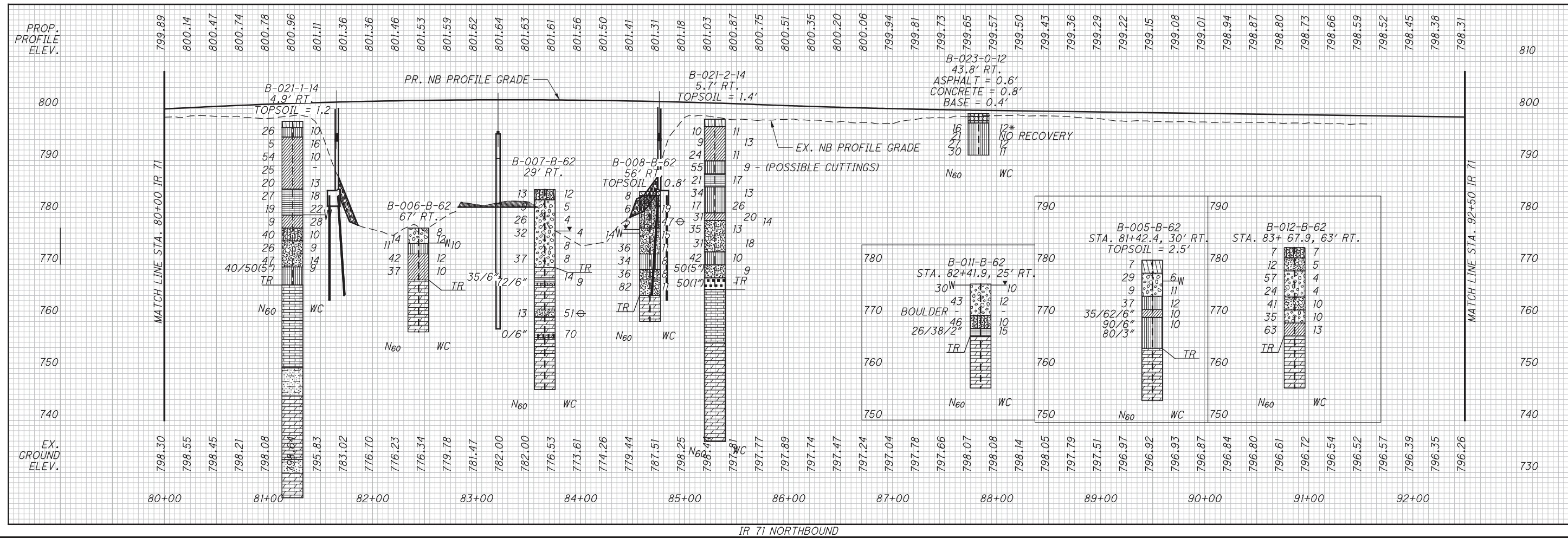
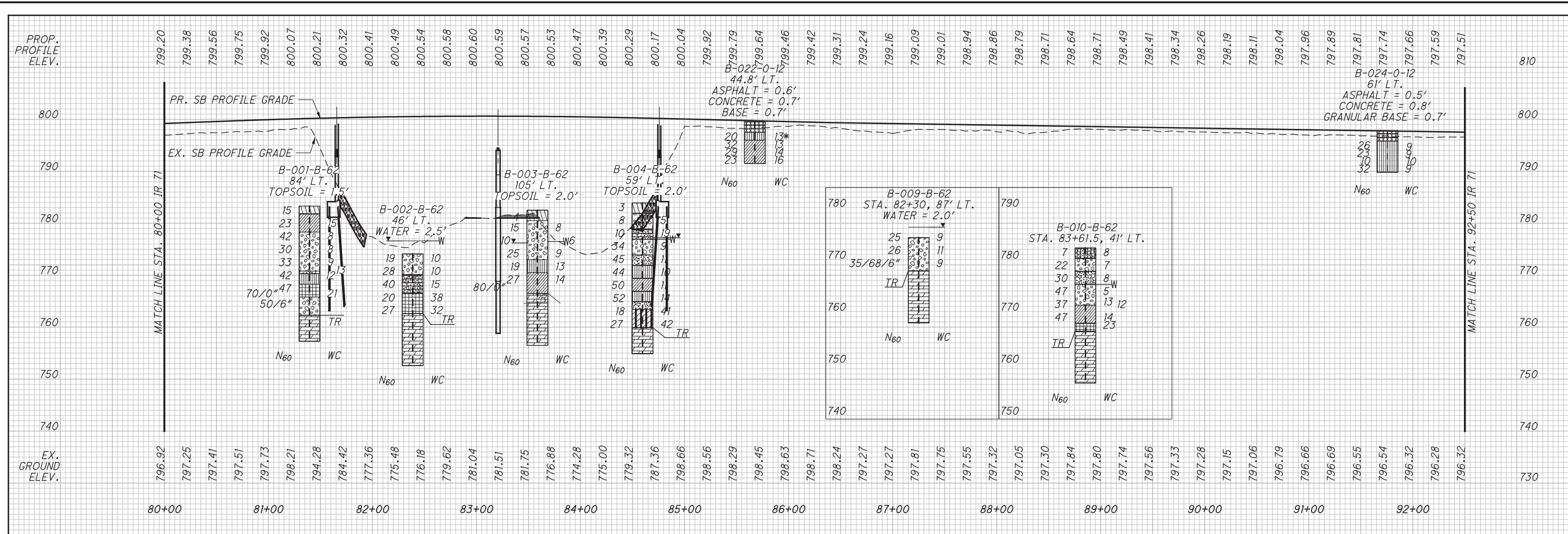


 HORIZONTAL SCALE IN FEET
 DRAWN: KA
 CHECKED: LE

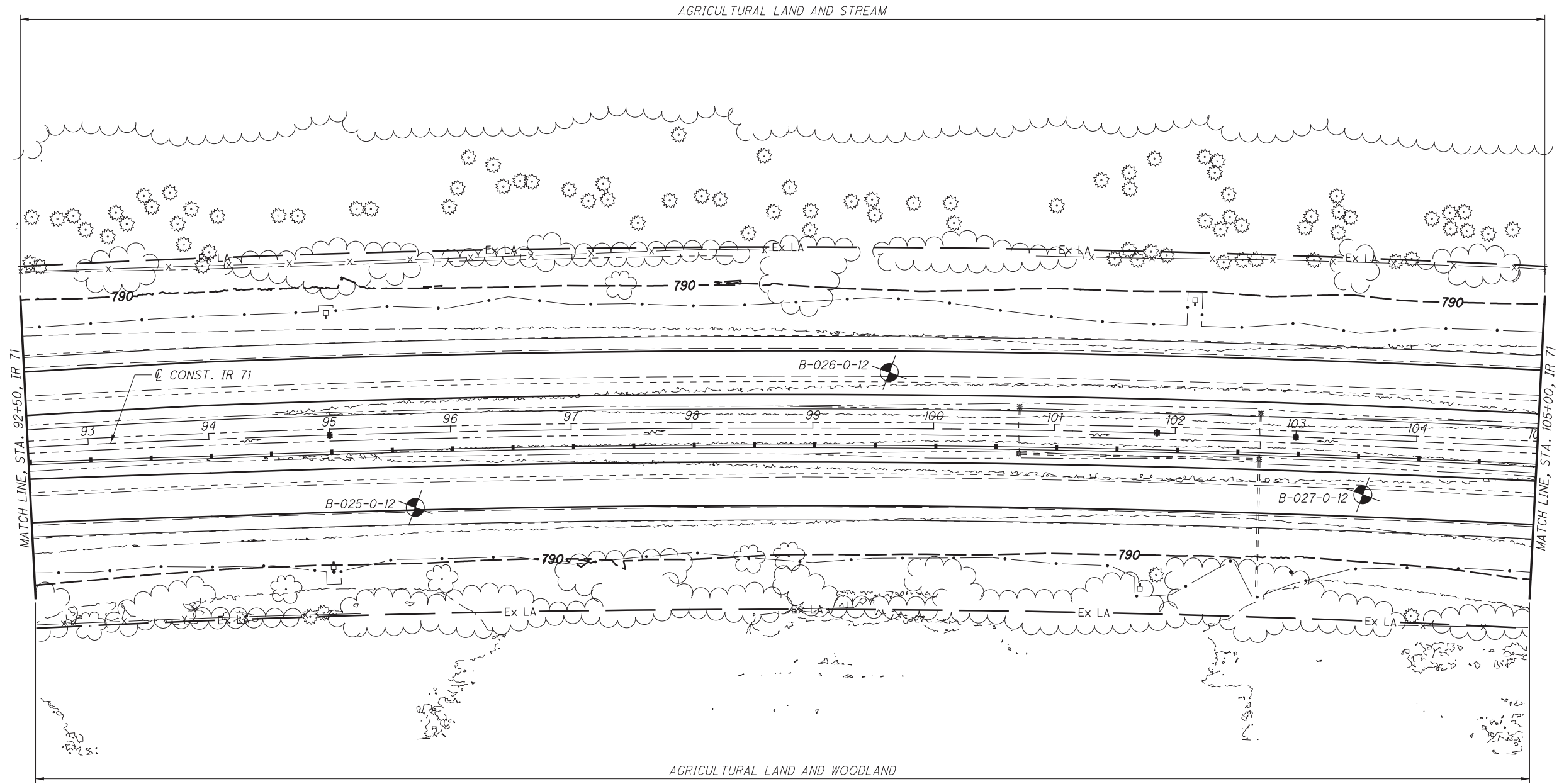
SOIL PROFILE - IR 71
STA. 80+00 TO STA 92+50

FRA-71-0.00





BORING PROFILE LOCATION REFERENCE	
STA. 92+50 TO STA. 105+00 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-025-0-12	29
B-026-0-12	29
B-027-0-12	29



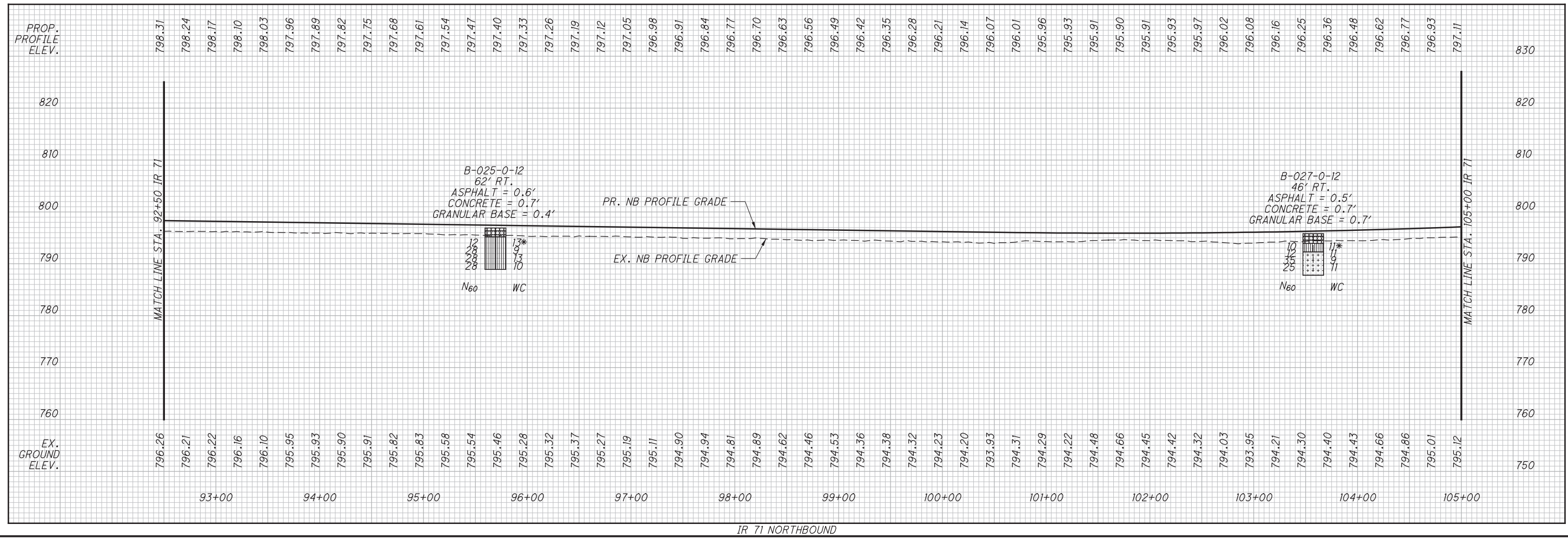
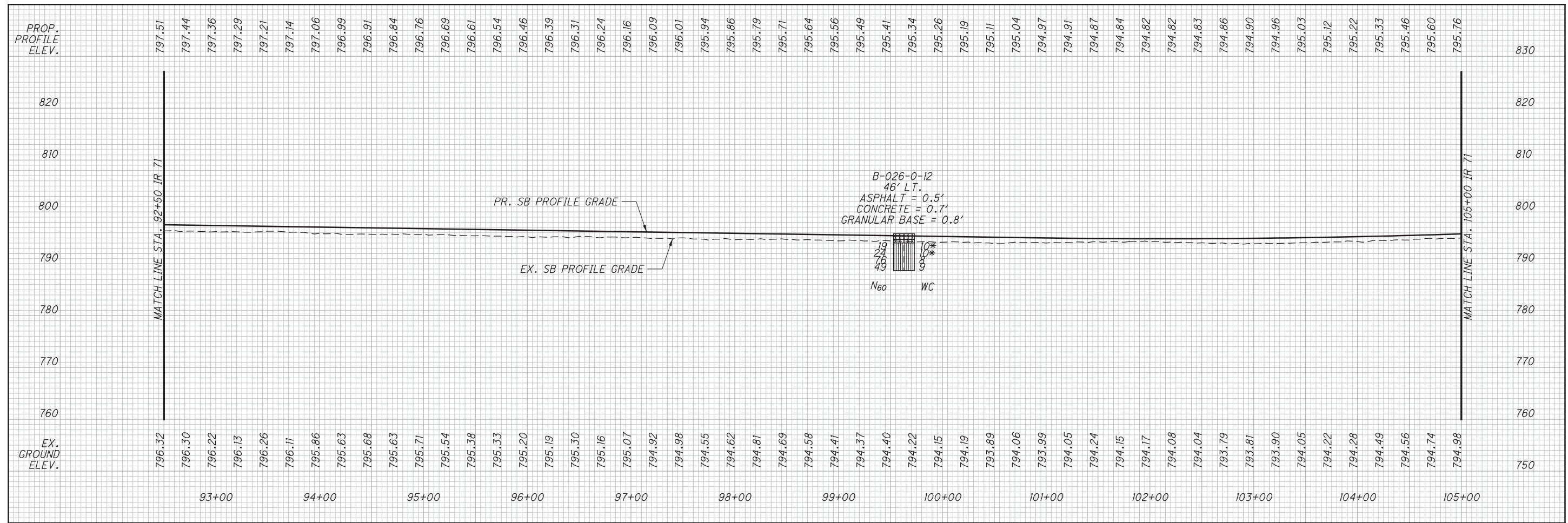
0 50 100
HORIZONTAL SCALE IN FEET

DRAWN KA
CHECKED LE

SOIL PROFILE - IR 71
STA. 92+50 TO STA. 105+00

FRA-71-0.00



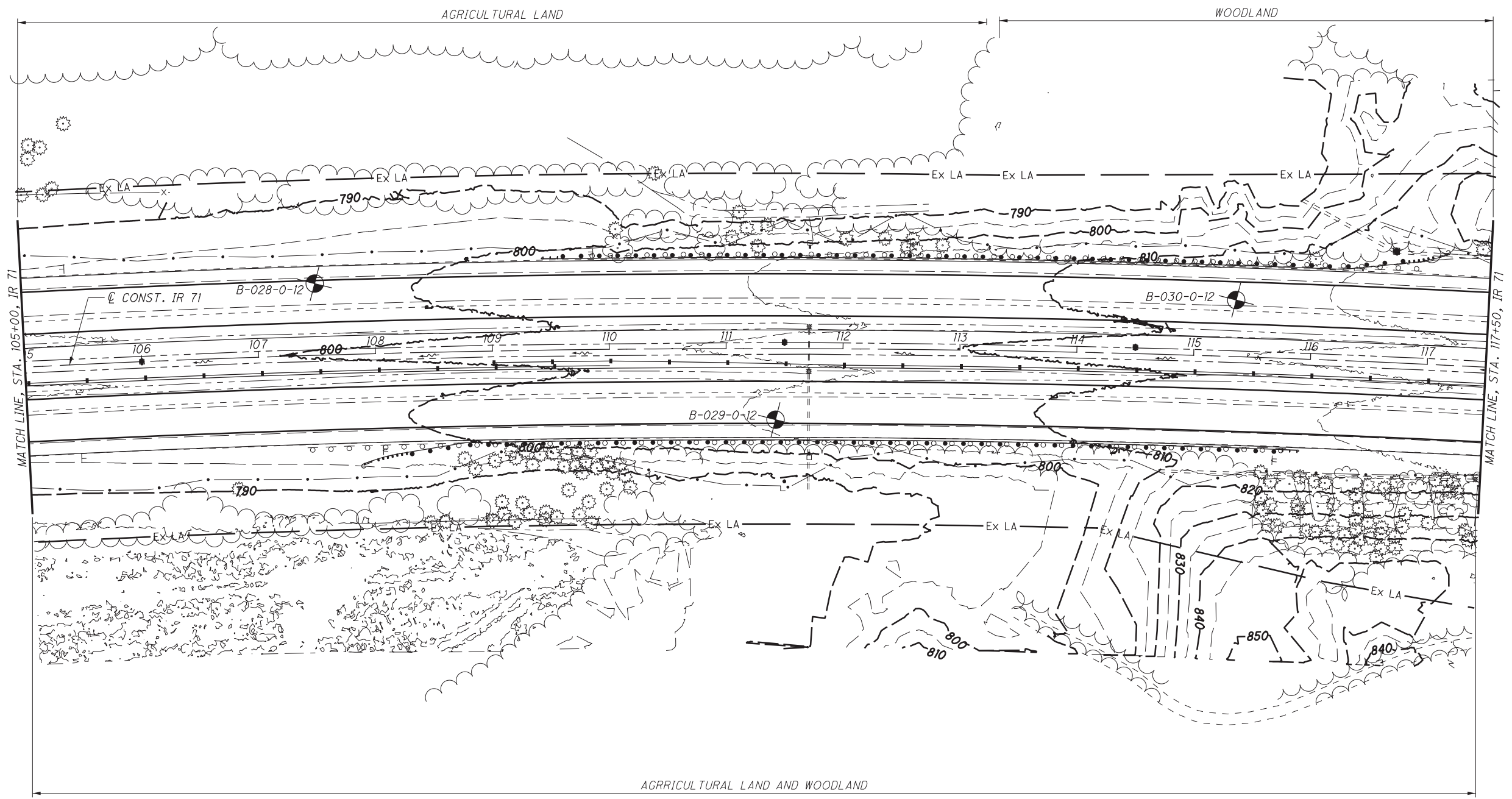


SOIL PROFILE - IR 71
STA. 92+50 TO STA. 105+00



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BORING PROFILE LOCATION REFERENCE	
STA. 105+00 TO STA. 117+50 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-028-0-12	31
B-029-0-12	31
B-030-0-12	31



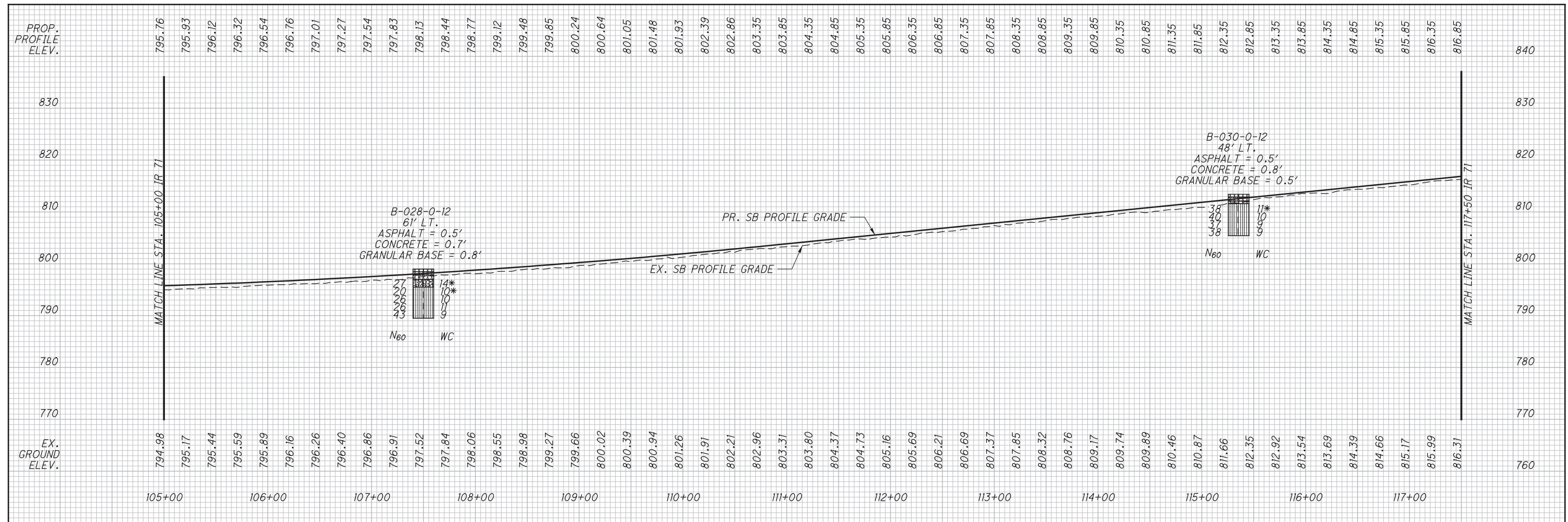
SOIL PROFILE - IR 71
STA. 105+00 TO STA. 117+50

FRA-71-0.00

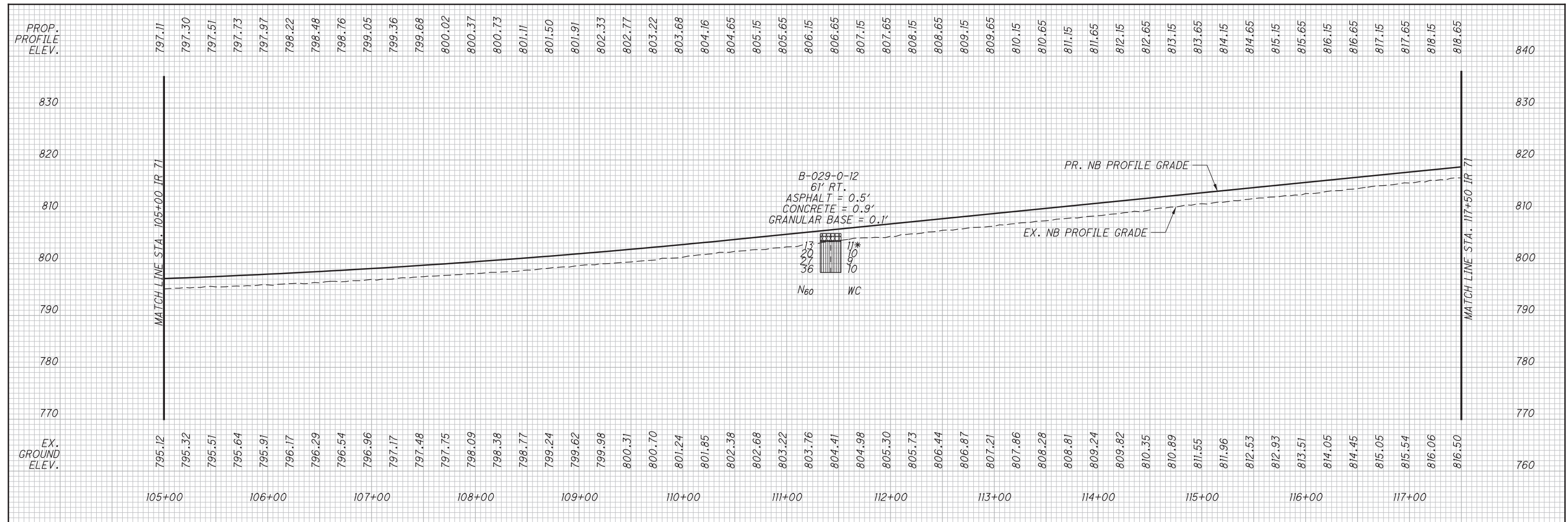
30/111



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IR 71 SOUTHBOUND



IR 71 NORTHBOUND



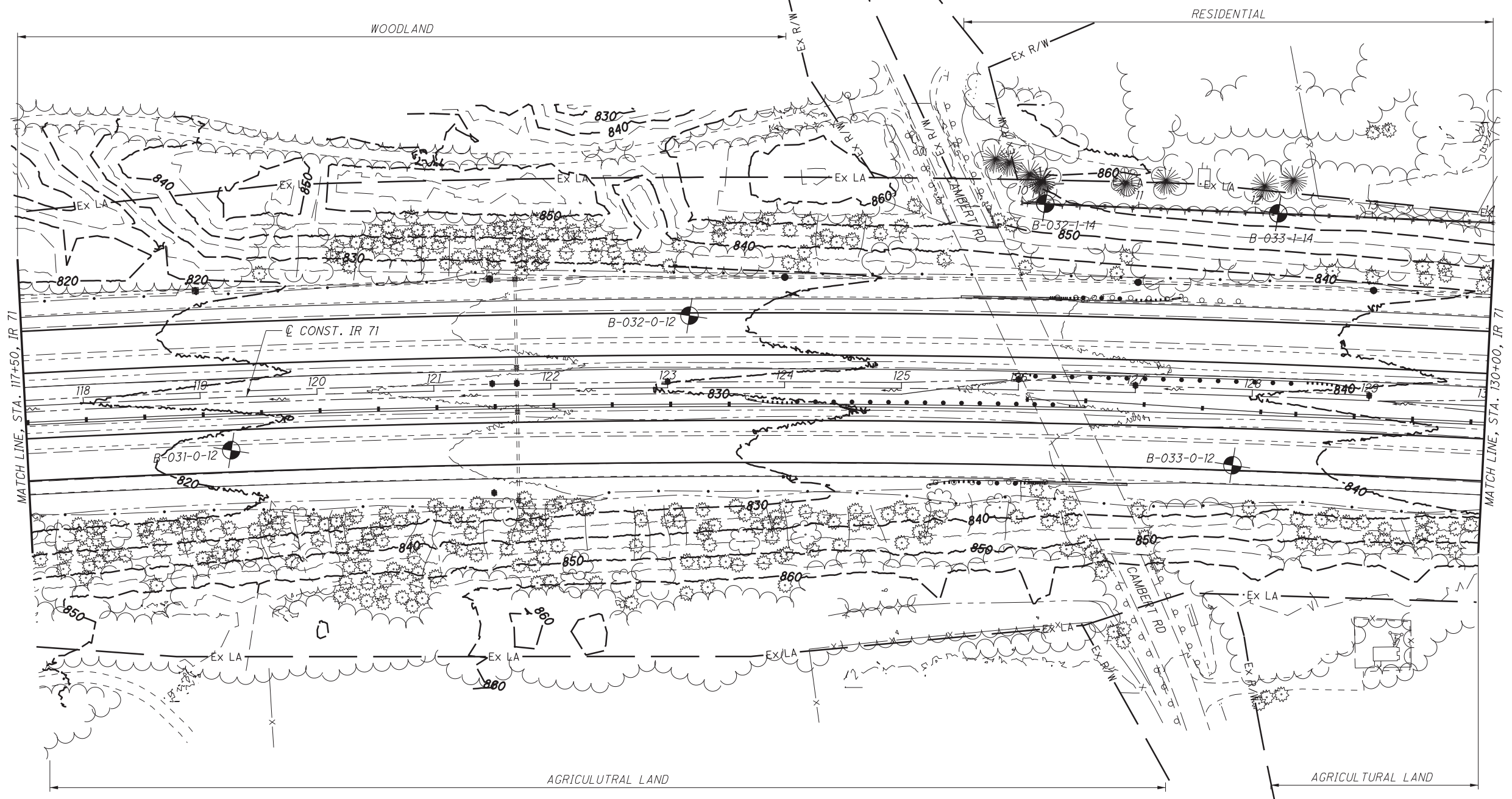
SOIL PROFILE - IR 71
STA. 105+00 TO STA. 117+50

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BORING PROFILE LOCATION REFERENCE	
STA. 117+50 TO STA. 130+00 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-031-0-12	33
B-032-0-12	33
B-032-1-14	38
B-033-0-12	33
B-033-1-14	38



DRAWN KA
CHECKED LE

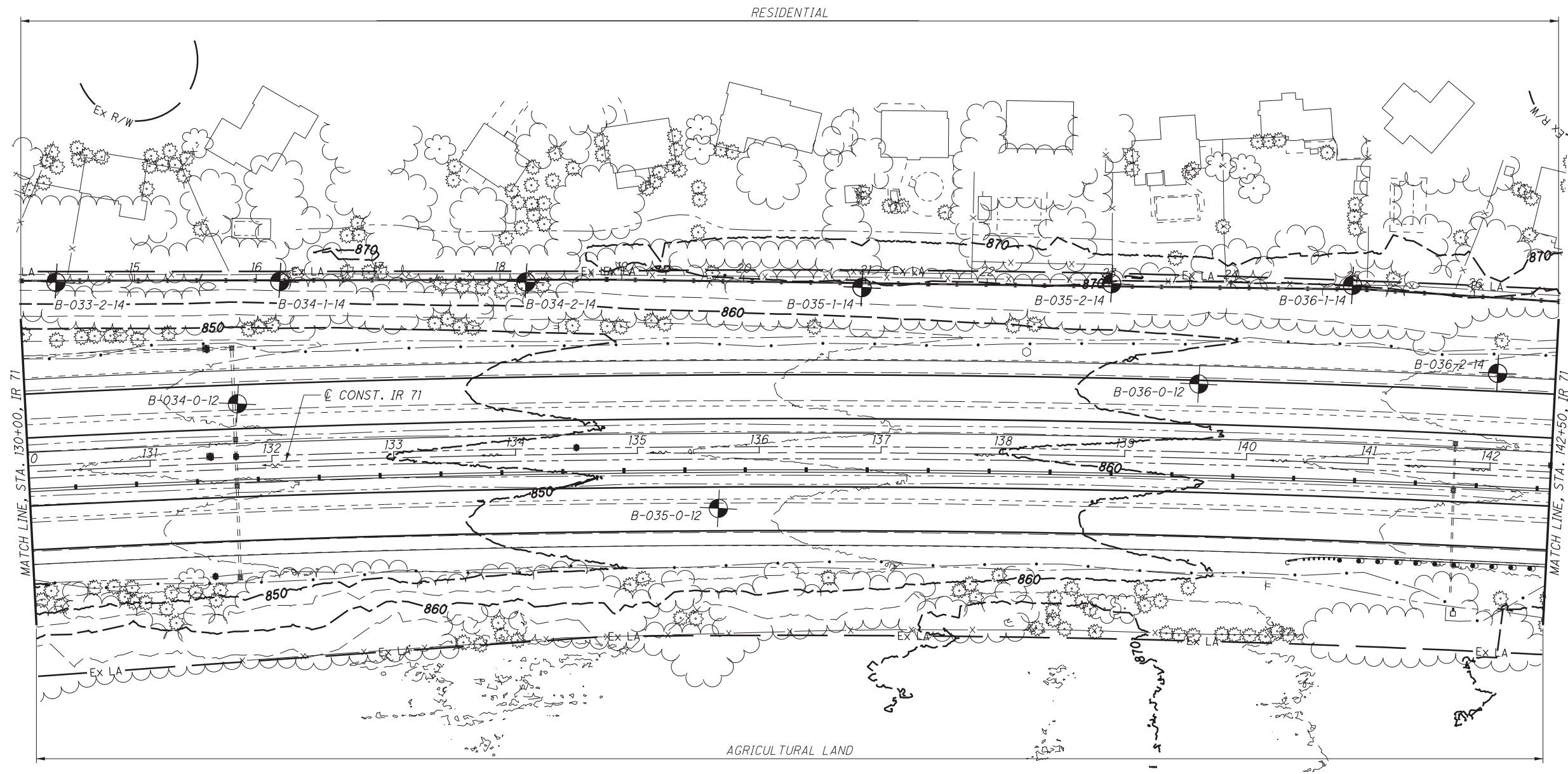
SOIL PROFILE - IR 71
STA. 117+50 TO STA. 130+00

FRA-71-0.00



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BORING PROFILE LOCATION REFERENCE			
STA. 130+00 TO STA. 142+50 IR 71			
BORING ID	PROFILE (SEE SHEET)	BORING ID	PROFILE (SEE SHEET)
B-033-2-14	38	B-035-1-14	38
B-034-0-12	35	B-035-2-14	39
B-034-1-14	38	B-036-0-12	35
B-034-2-14	38	B-036-1-14	39
B-035-0-12	35	B-036-2-14	39

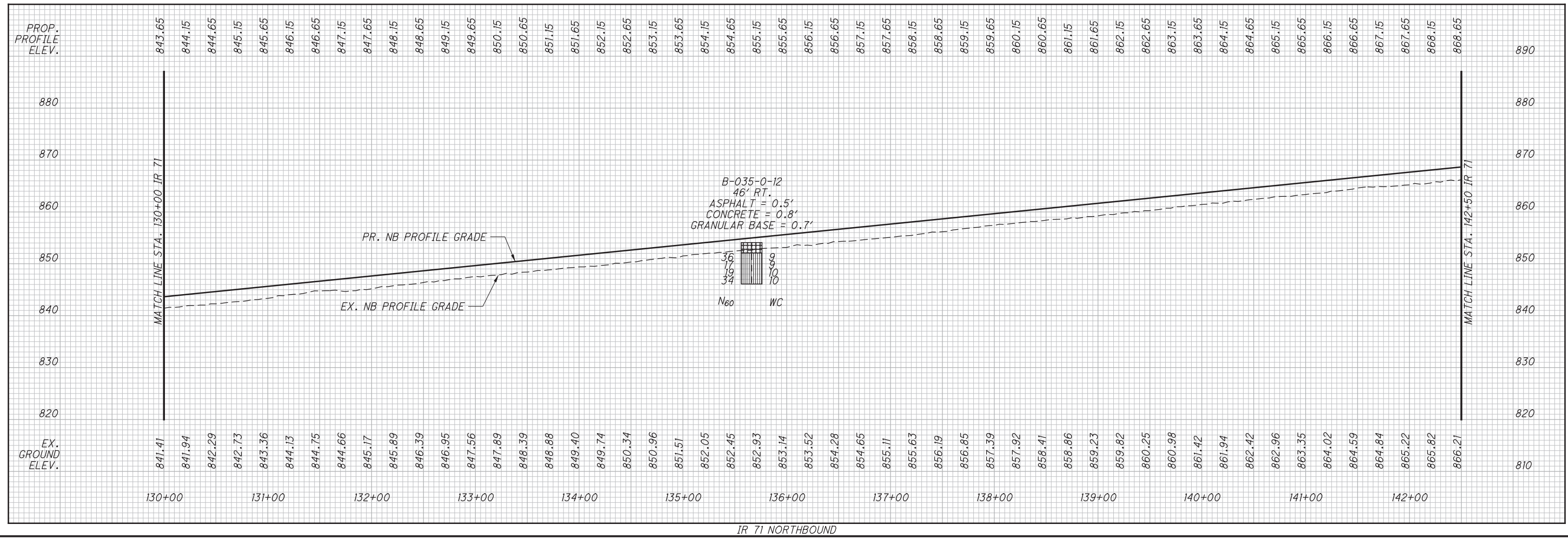
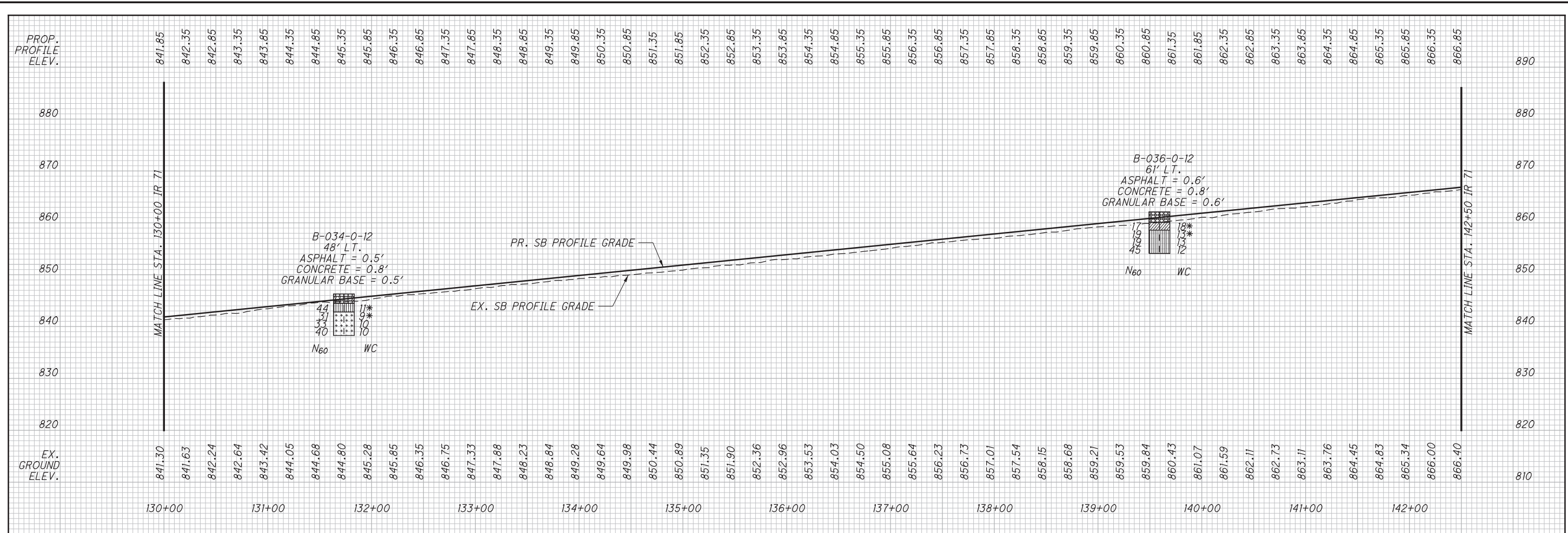


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CHECKED

SOIL PROFILE - IR 71
STA. 130+00 TO STA. 142+50

FRA-71-0.00





DRAWN: KA
 CHECKED: LE

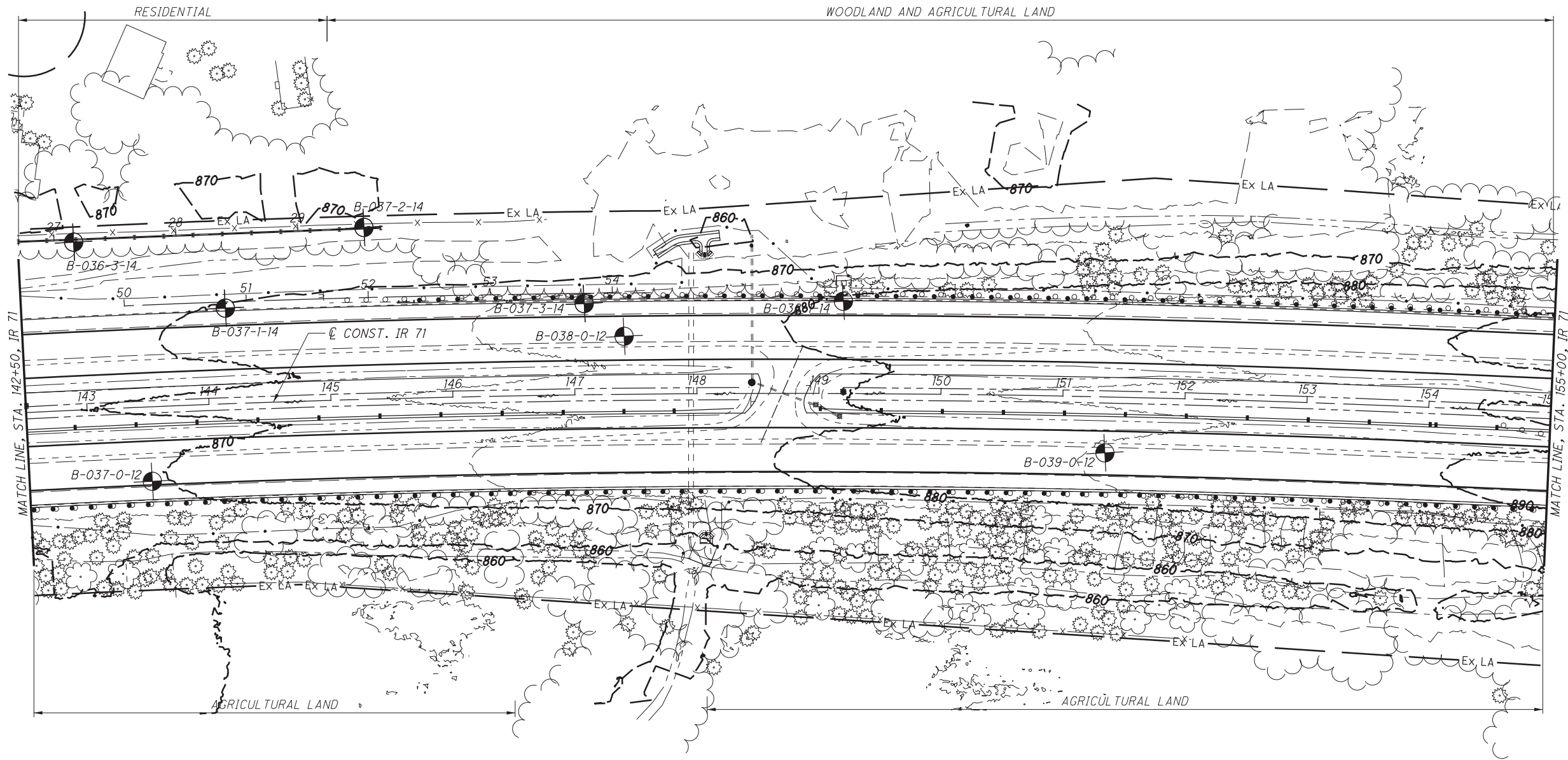
SOIL PROFILE - IR 71
STA. 130+00 TO STA. 142+50

FRA-71-0.00



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BORING PROFILE LOCATION REFERENCE	
STA. 142+50 TO STA. 155+00 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-036-3-14	39
B-037-0-12	37
B-037-1-14	39, 40
B-037-2-14	39, 40
B-037-3-14	39, 40
B-038-0-12	37
B-038-1-14	40
B-039-0-12	37

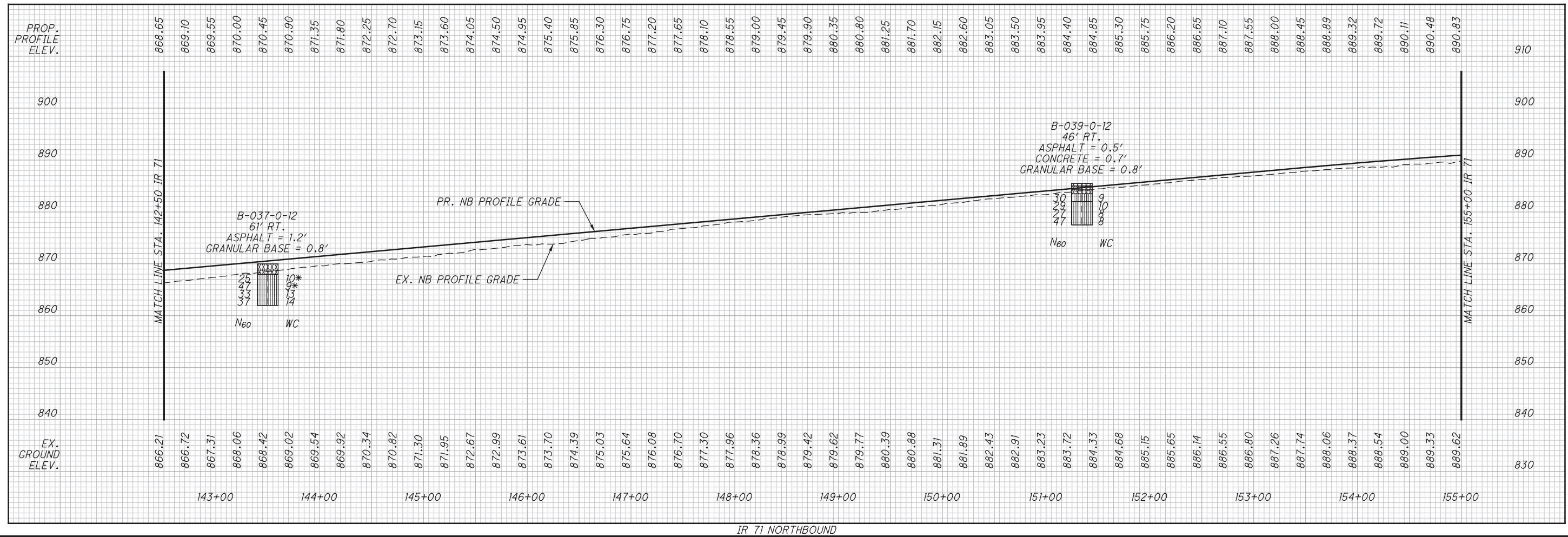
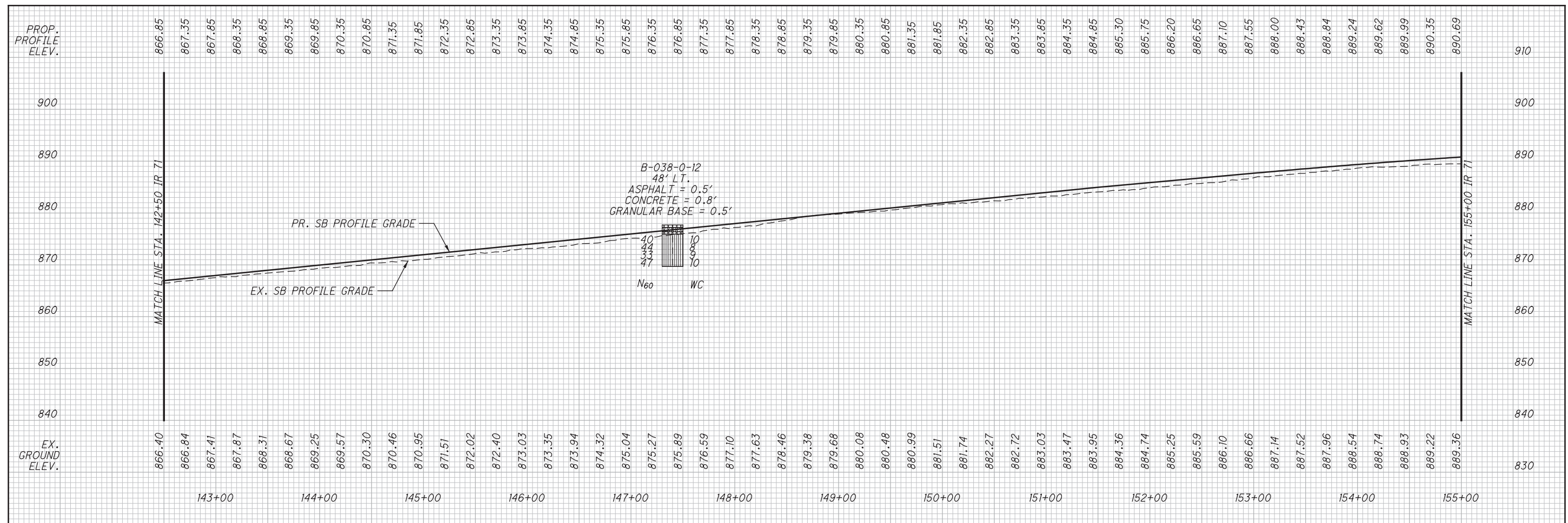


0 50 100
25
HORIZONTAL
SCALE IN FEET

DRAWN KA
CHECKED LE

SOIL PROFILE - IR 71
STA. 142+50 TO STA. 155+00

FRA-71-0.00



DRAWN: DML
 CHECKED: LE

SOIL PROFILE - IR 71
STA. 142+50 TO STA. 155+00



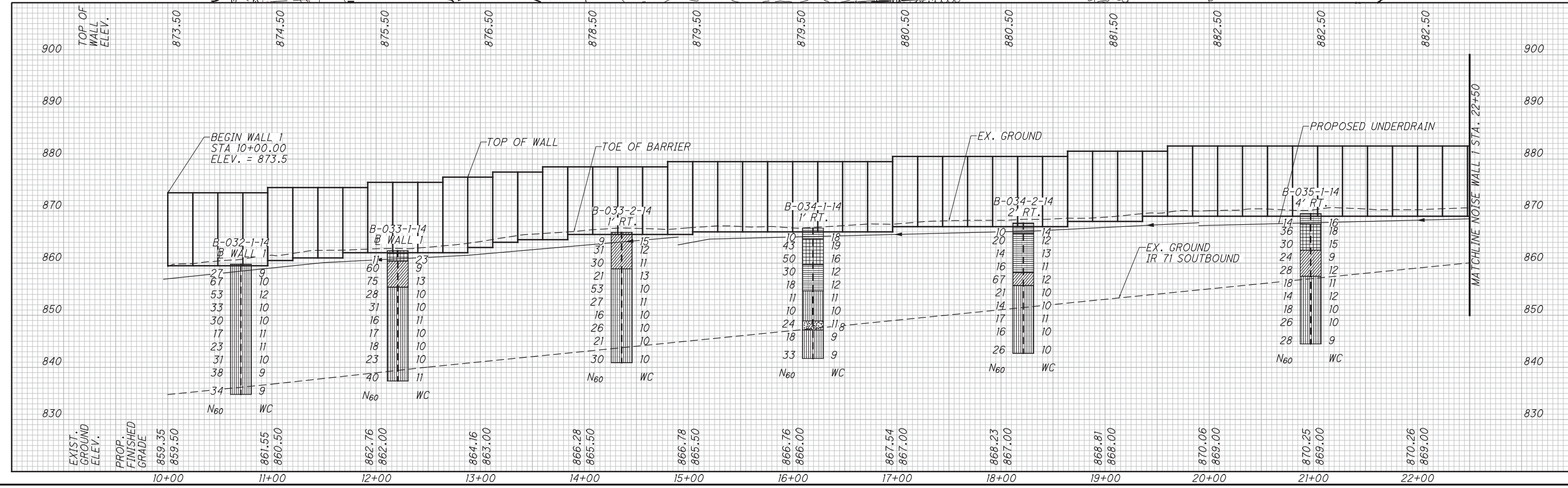
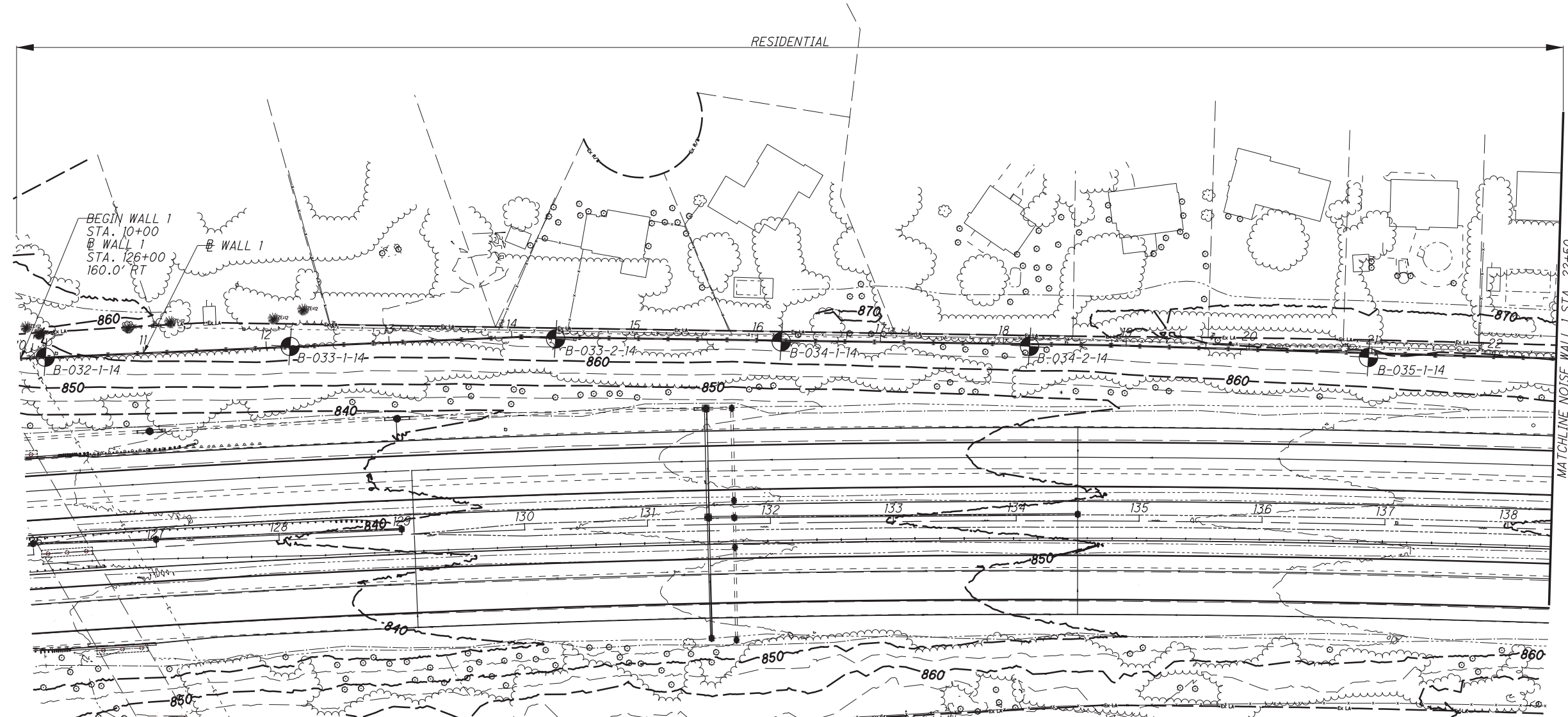
0 50 100
25
HORIZONTAL
SCALE IN FEET

DRAWN KA
CHECKED LE

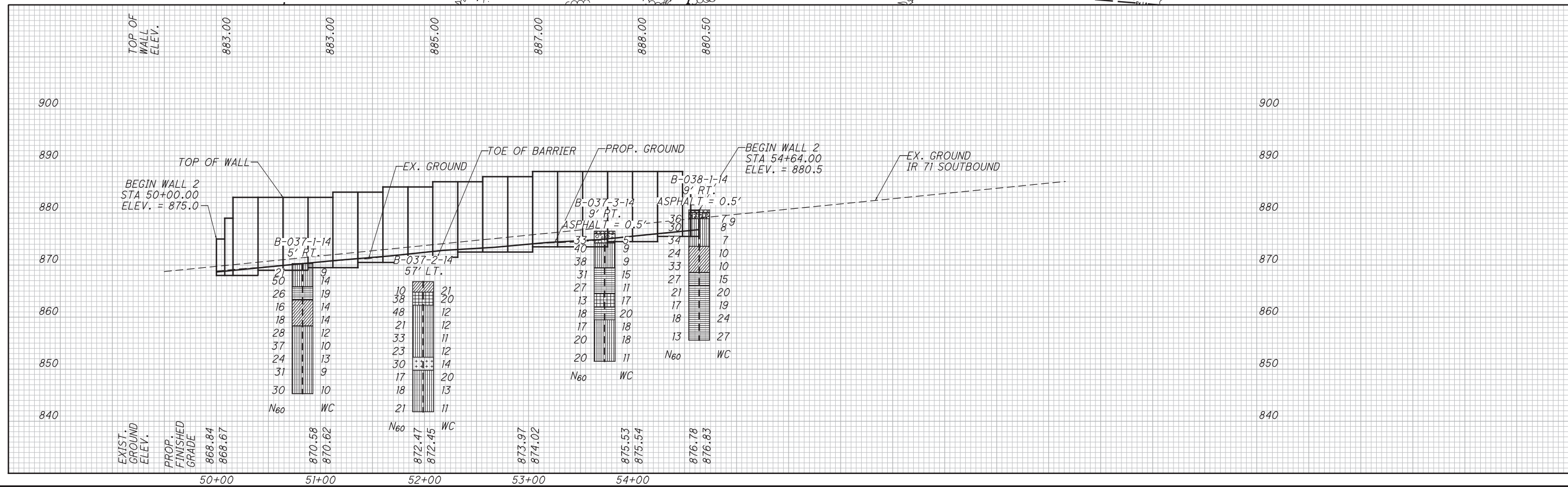
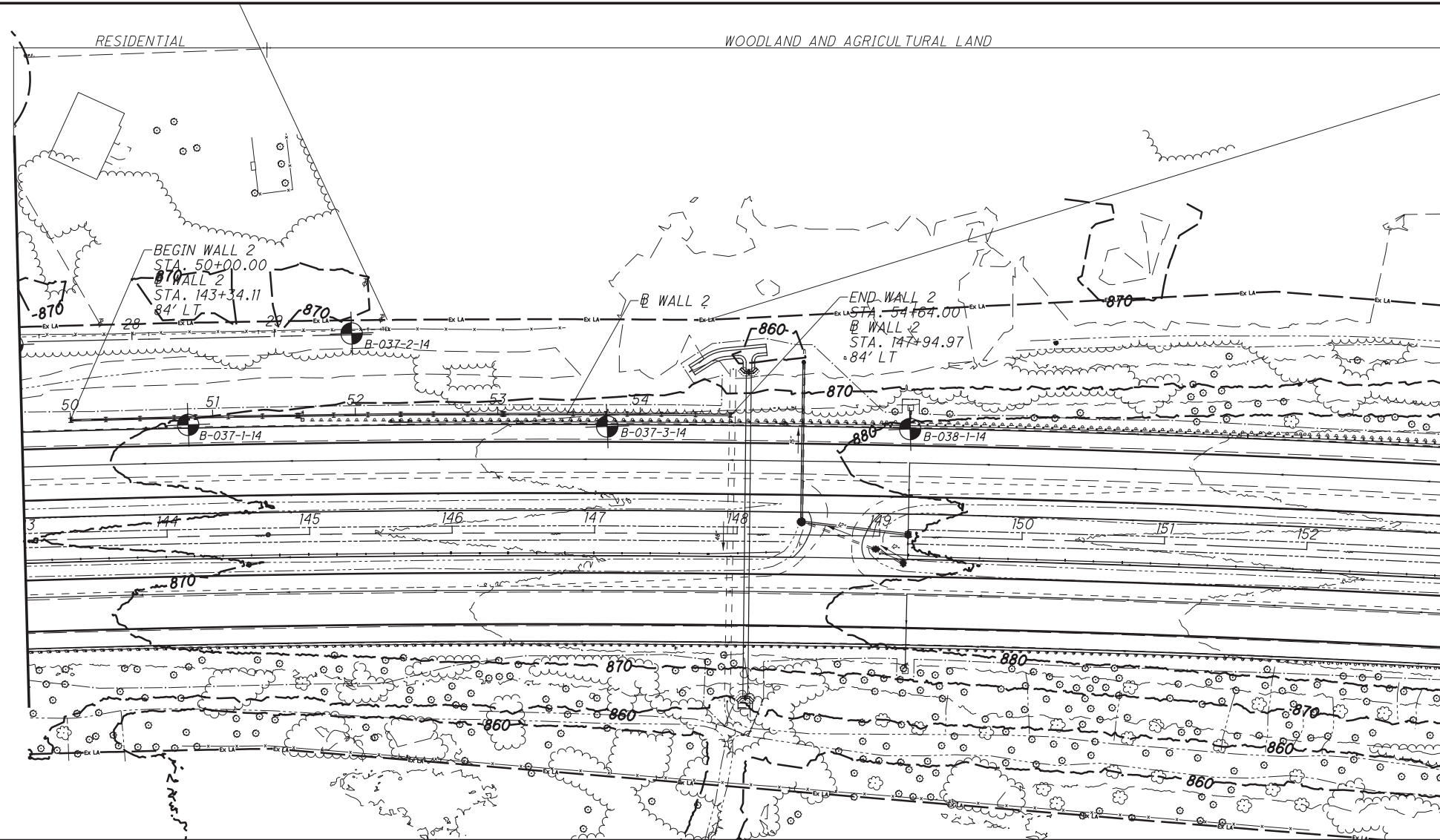
SOIL PROFILE NOISE WALL 1 ALONG BASELINE WALL 1

FRA-71-0.00

38 / 111



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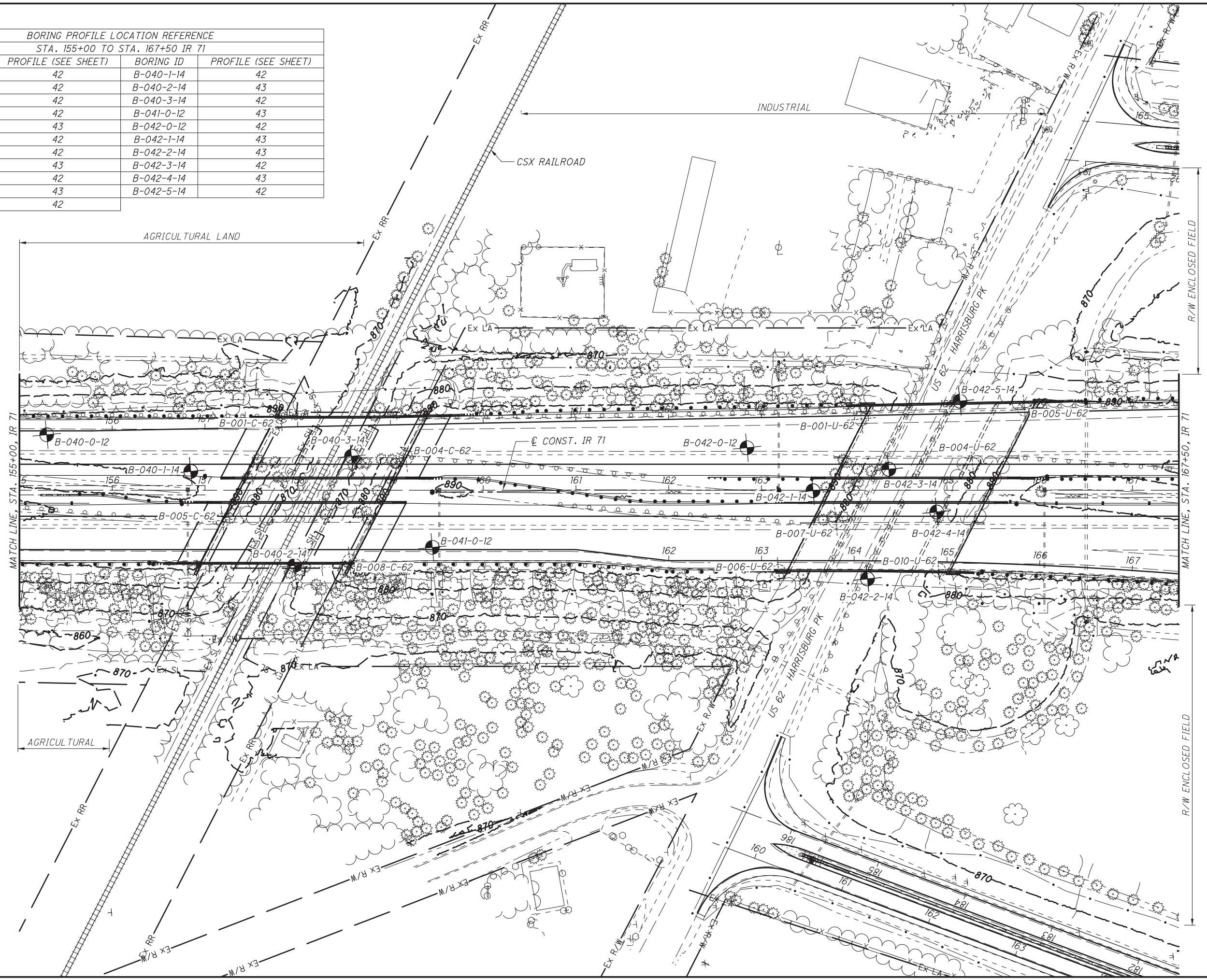
DRAWN: KA
CHECKED: LE

SOIL PROFILE
NOISE WALL 2 ALONG BASELINE WALL 2

FRA-71-0.00



BORING PROFILE LOCATION REFERENCE			
STA. 155+00 TO STA. 167+50 IR 71			
BORING ID	PROFILE (SEE SHEET)	BORING ID	PROFILE (SEE SHEET)
B-001-C-62	42	B-040-1-14	42
B-001-U-62	42	B-040-2-14	43
B-004-C-62	42	B-040-3-14	42
B-004-U-62	42	B-041-0-12	43
B-005-C-62	43	B-042-0-12	42
B-005-U-62	42	B-042-1-14	43
B-006-U-62	42	B-042-2-14	43
B-007-U-62	43	B-042-3-14	42
B-008-C-62	42	B-042-4-14	43
B-010-U-62	43	B-042-5-14	42
B-040-0-12	42		

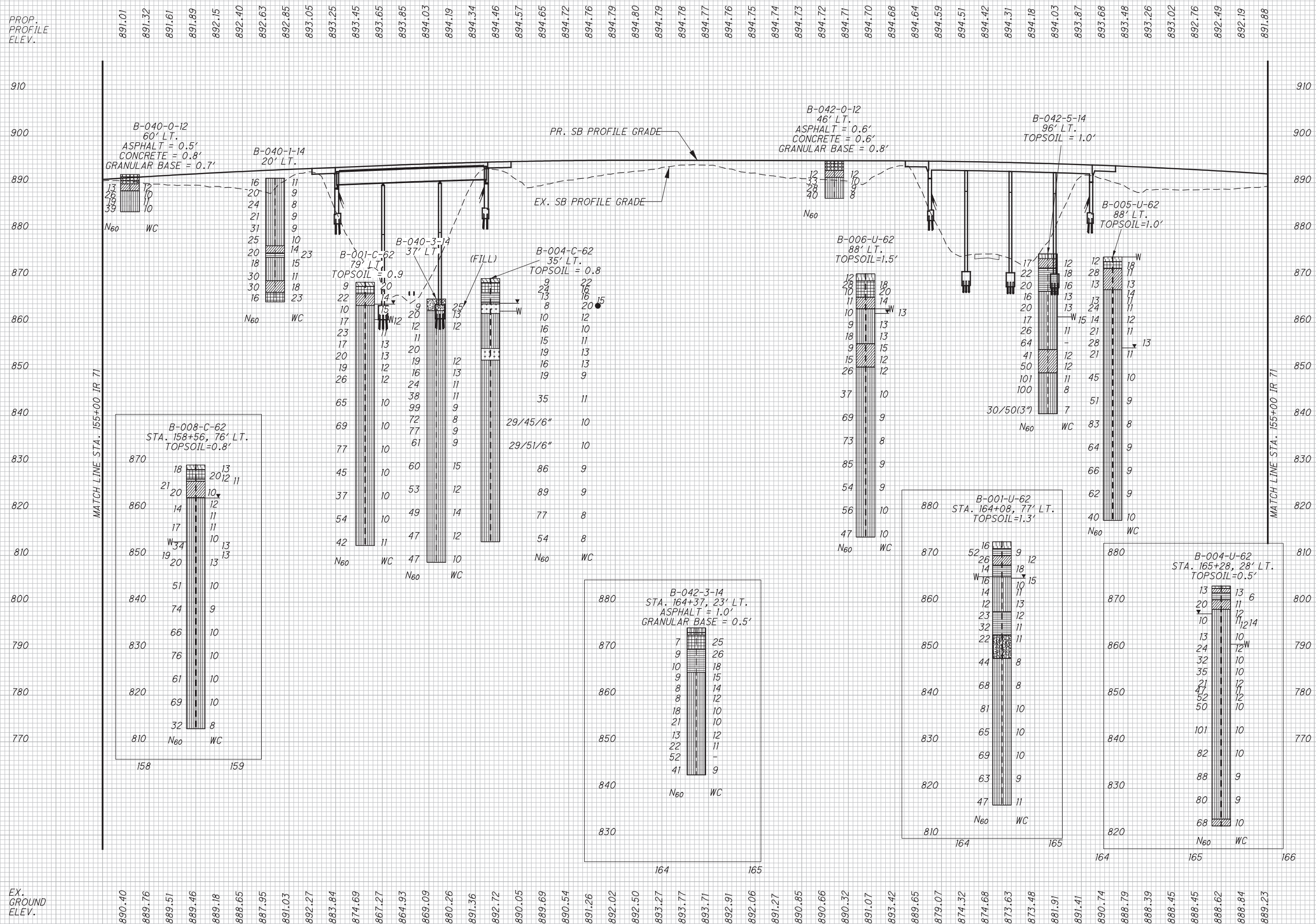


HORIZONTAL SCALE IN FEET

DRAWN KA
 CHECKED LE
SOIL PROFILE - IR 71
STA. 155+00 TO STA. 167+50

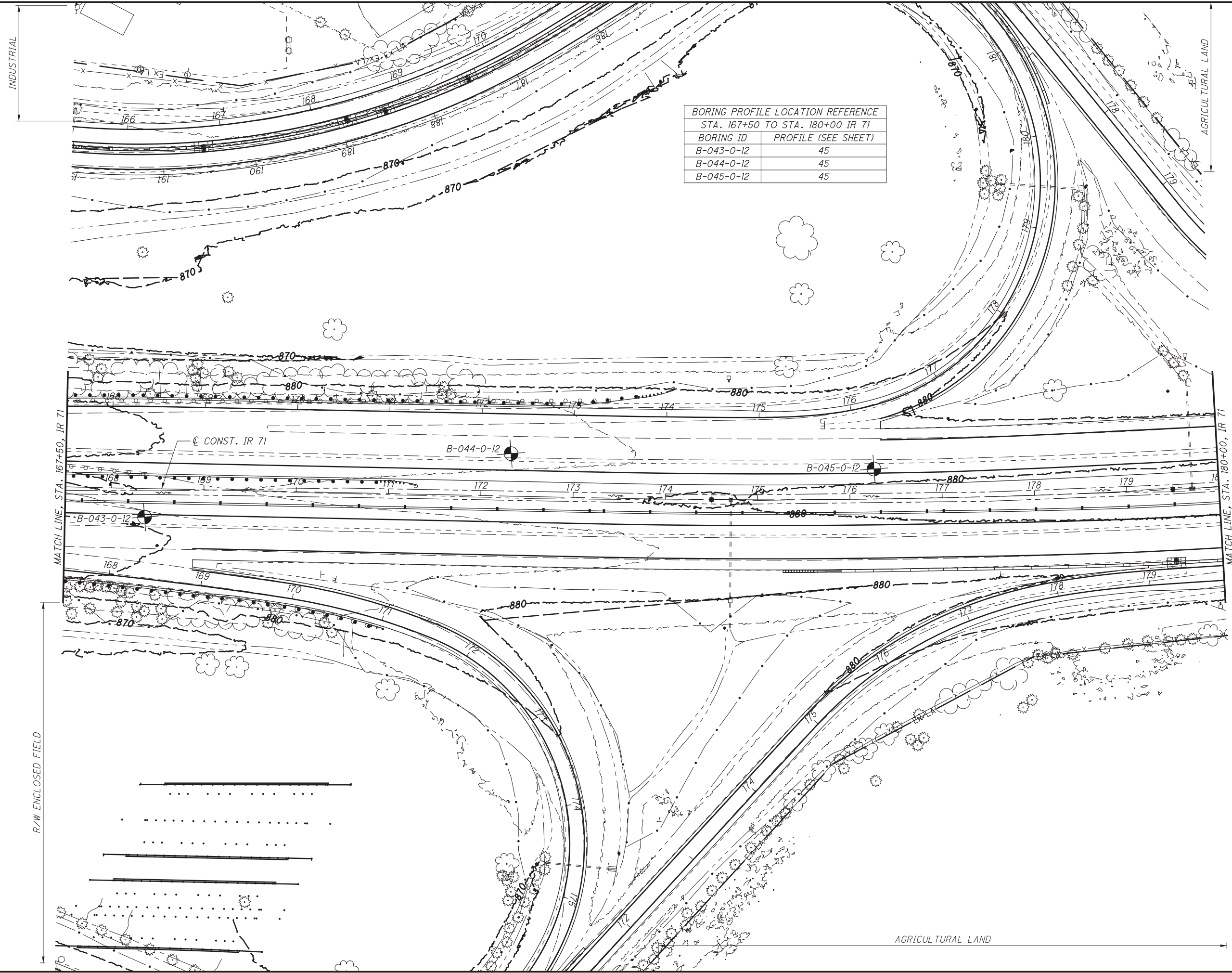
FRA-71-0.00
 41/111

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SOIL PROFILE - IR 71 SOUTHBOUND
STA. 155+00 TO STA. 167+50

FRA-71-0.00



BORING PROFILE LOCATION REFERENCE STA. 167+50 TO STA. 180+00 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-043-0-12	45
B-044-0-12	45
B-045-0-12	45

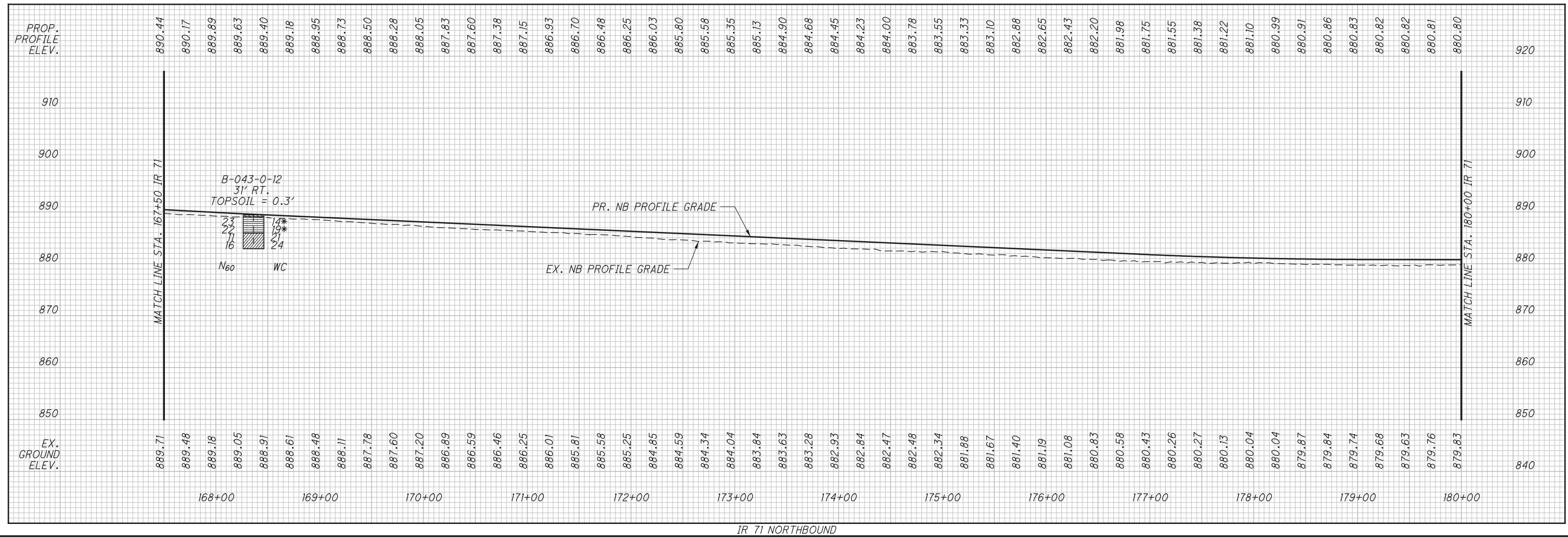
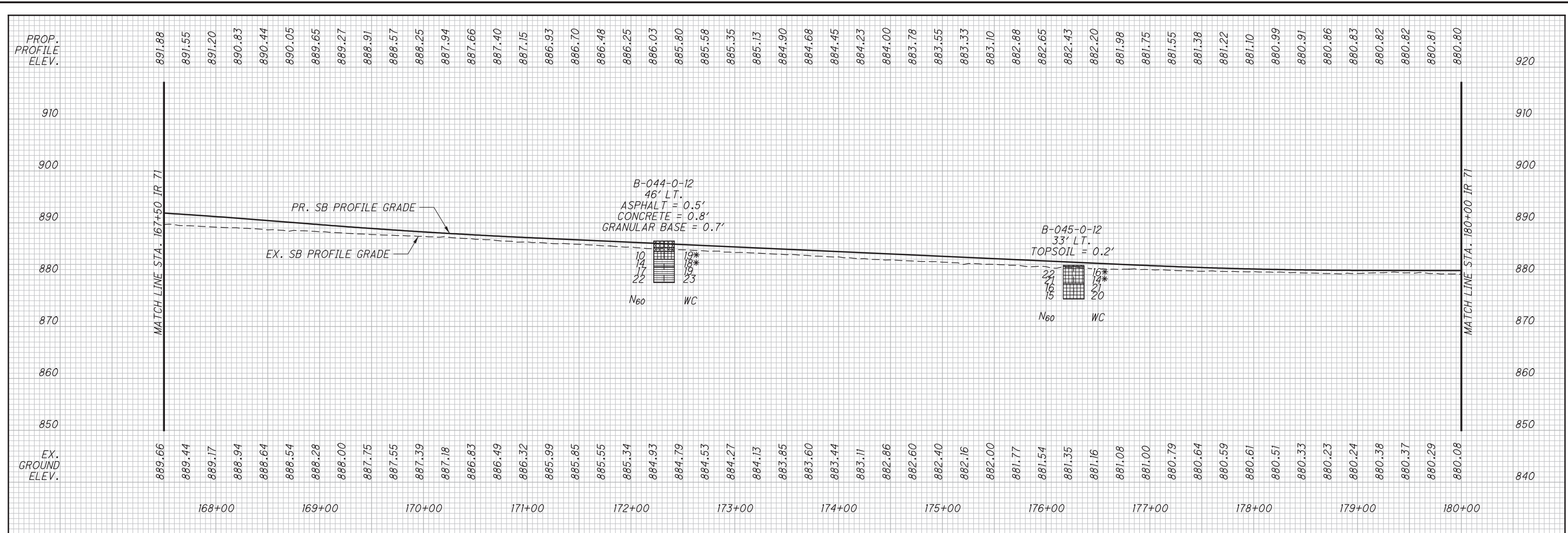
0 50 100
25
HORIZONTAL
SCALE IN FEET

DRAWN KA
CHECKED

SOIL PROFILE - IR 71
STA. 167+50 TO STA. 180+00

FRA-71-0.00





SOIL PROFILE - IR 71
STA. 167+50 TO STA. 180+00

FRA-71-0.00



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BORING PROFILE LOCATION REFERENCE	
STA. 180+00 TO STA. 192+50 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-046-0-12	47
B-047-0-12	47
B-048-0-12	47
B-049-0-12	47

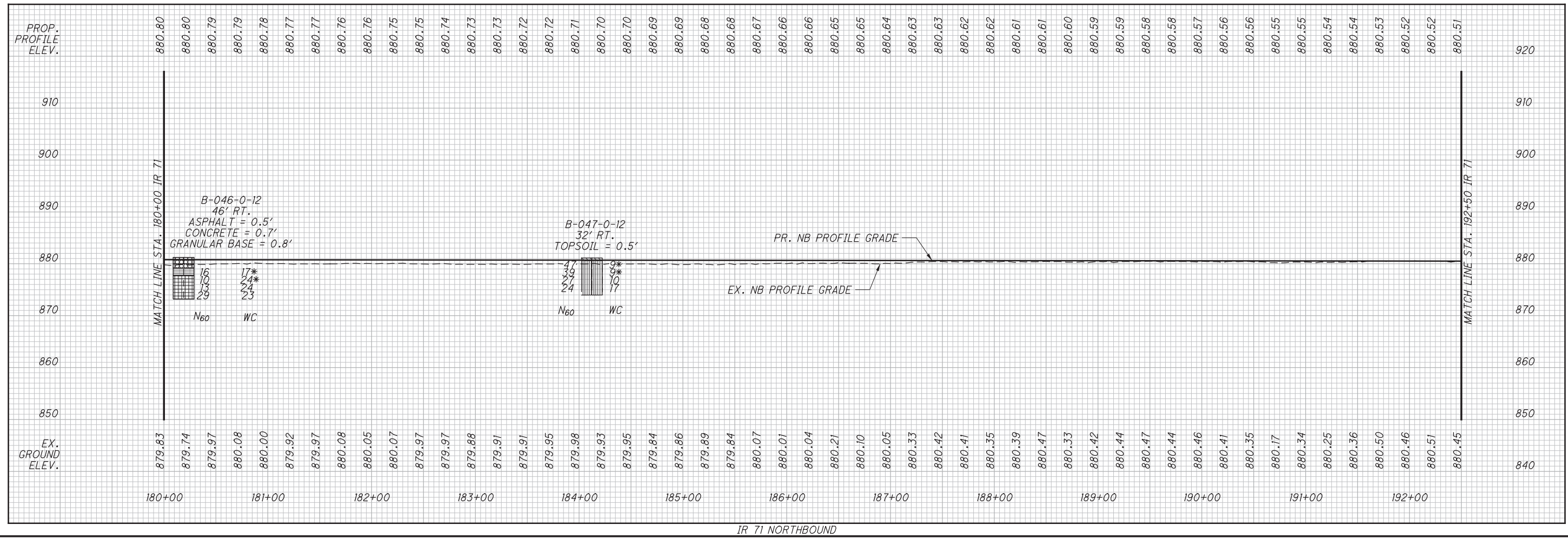
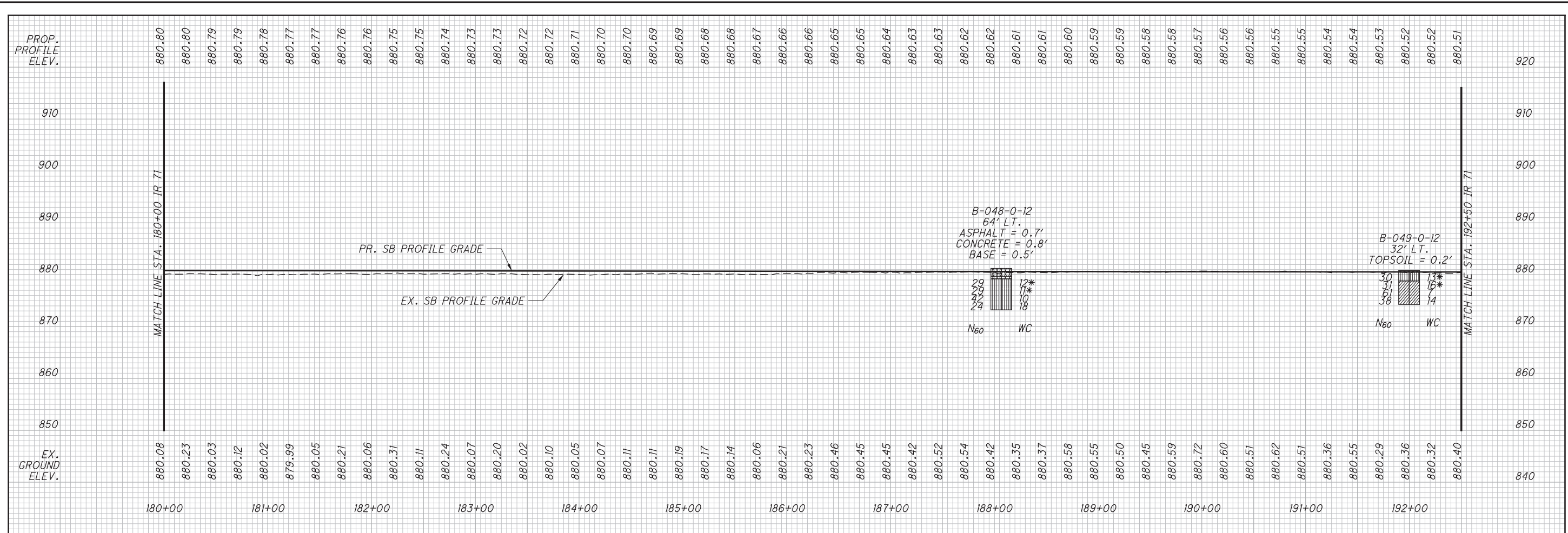


0 50 100
HORIZONTAL SCALE IN FEET

DRAWN KA
CHECKED LE

SOIL PROFILE - IR 71
STA. 180+00 TO STA. 192+50

FRA-71-0.00



DRAWN: DML
CHECKED: LE

**SOIL PROFILE - IR 71
STA. 180+00 TO STA. 192+50**

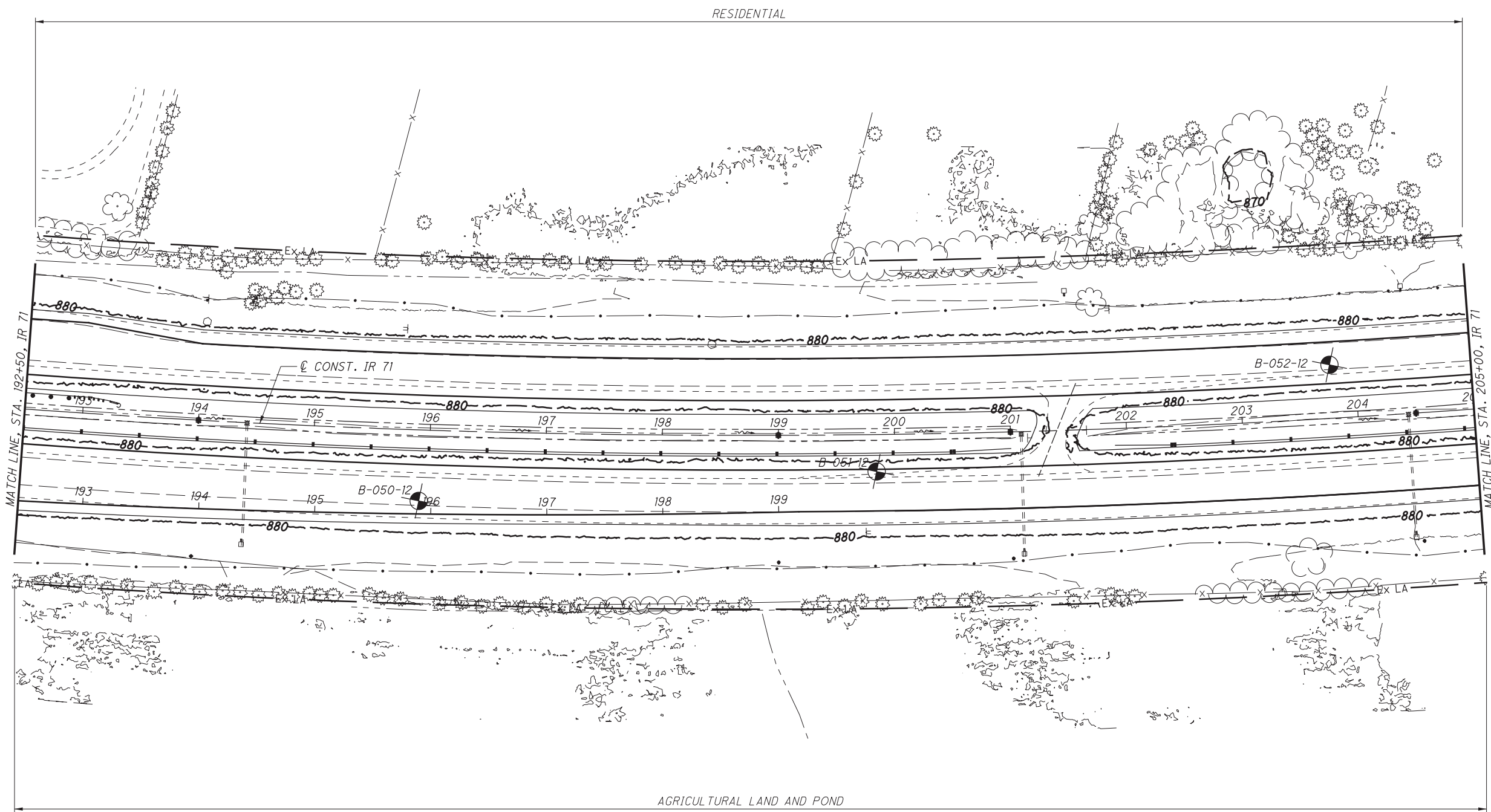
FRA-71-0.00





DRAWN KA
CHECKED LE

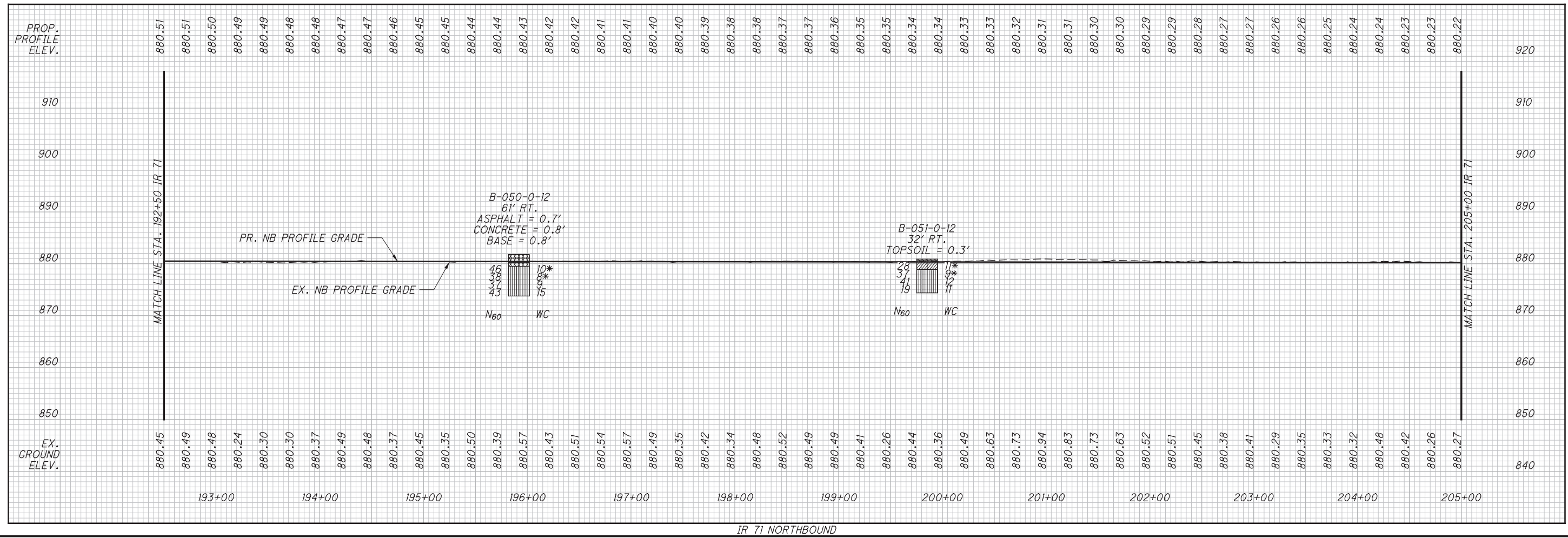
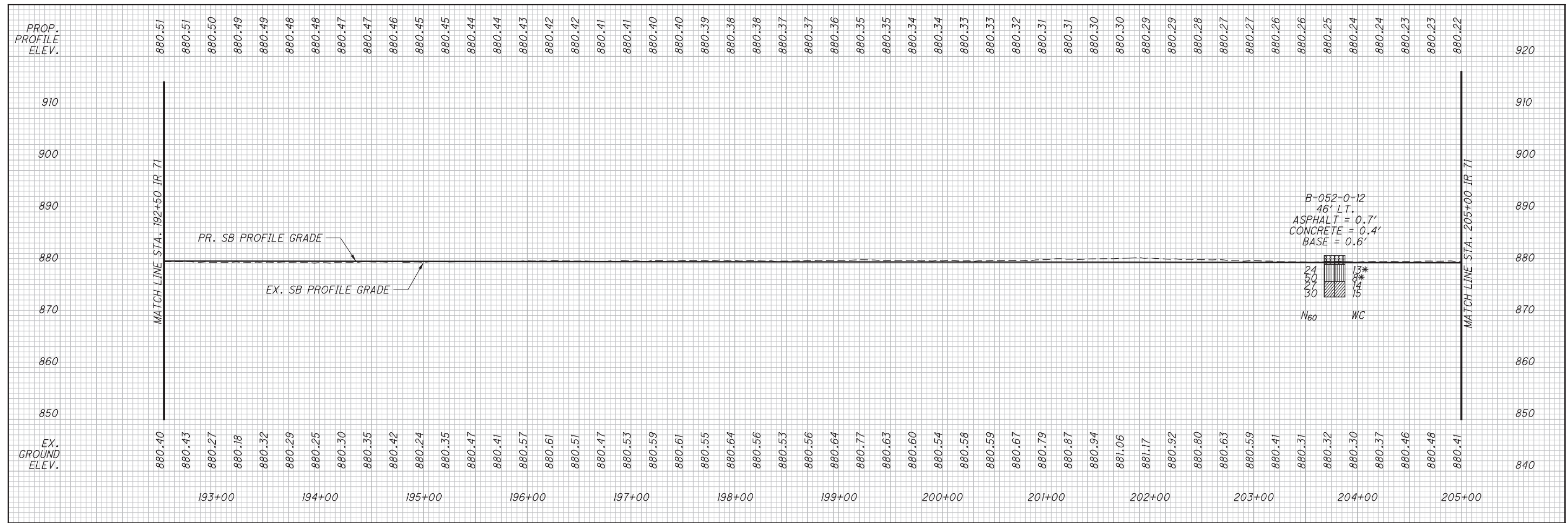
BORING PROFILE LOCATION REFERENCE	
STA. 192+50 TO STA. 205+00 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-050-0-12	49
B-051-0-12	49
B-052-0-12	49



SOIL PROFILE - IR 71
STA. 192+50 TO STA. 205+00

FRA-71-0.00





DRAWN: DML
 CHECKED: LE

SOIL PROFILE - IR 71
STA. 192+50 TO STA. 205+00

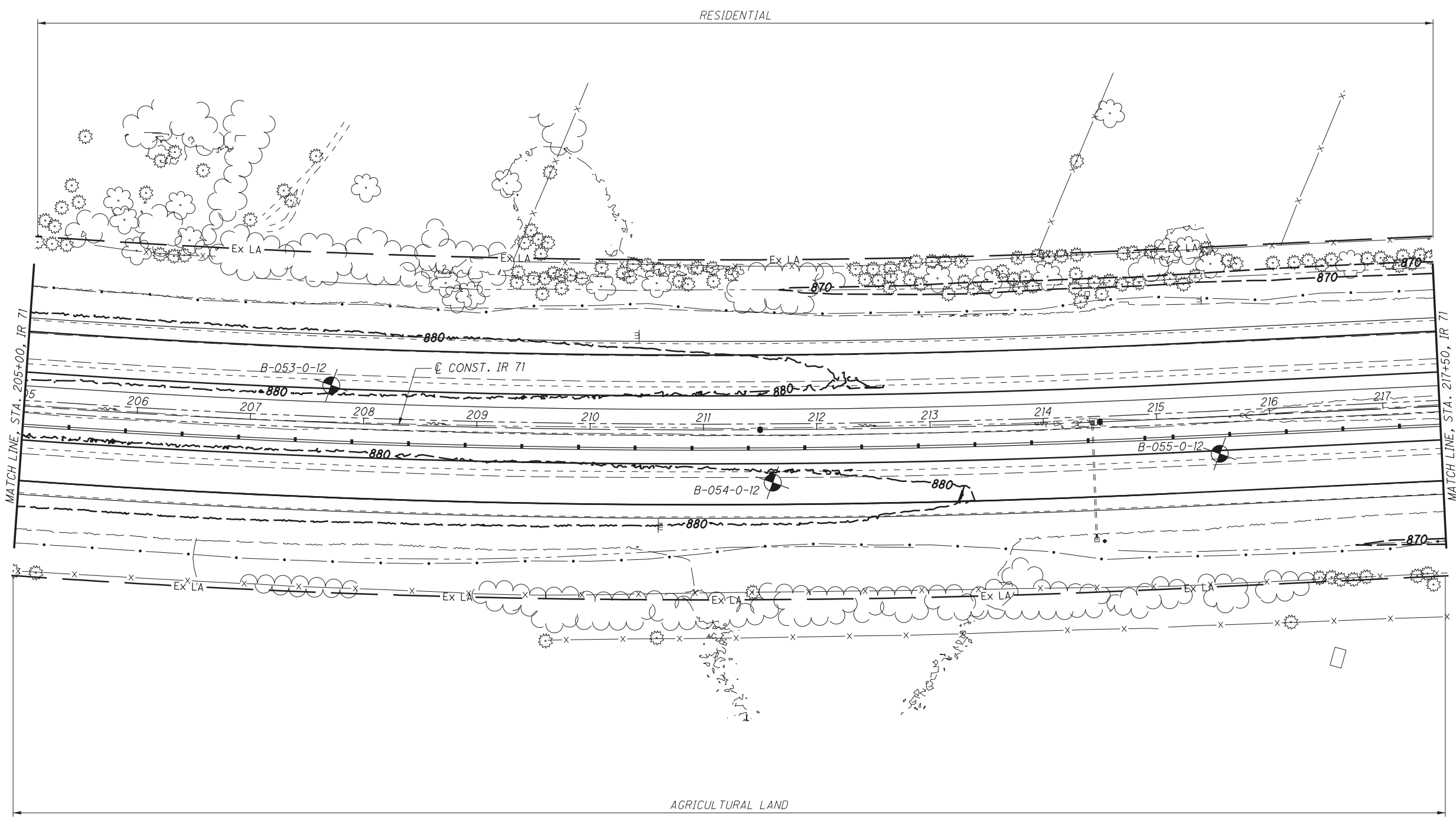
FRA-71-0.00





DRAWN KA
CHECKED LE

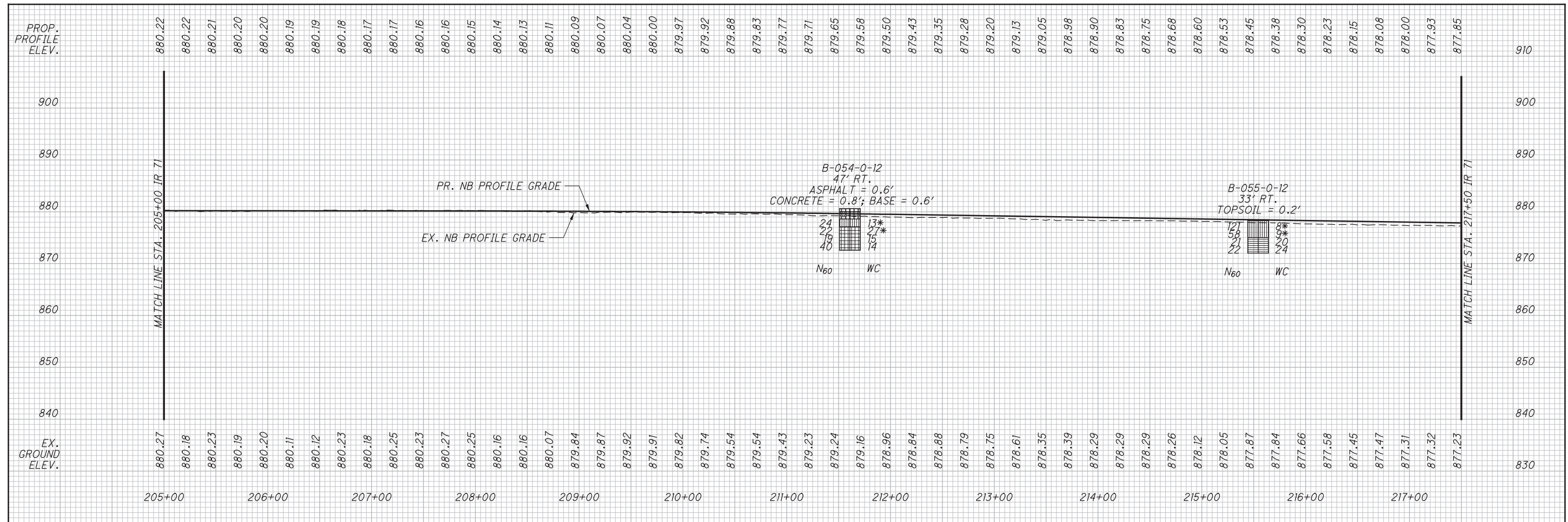
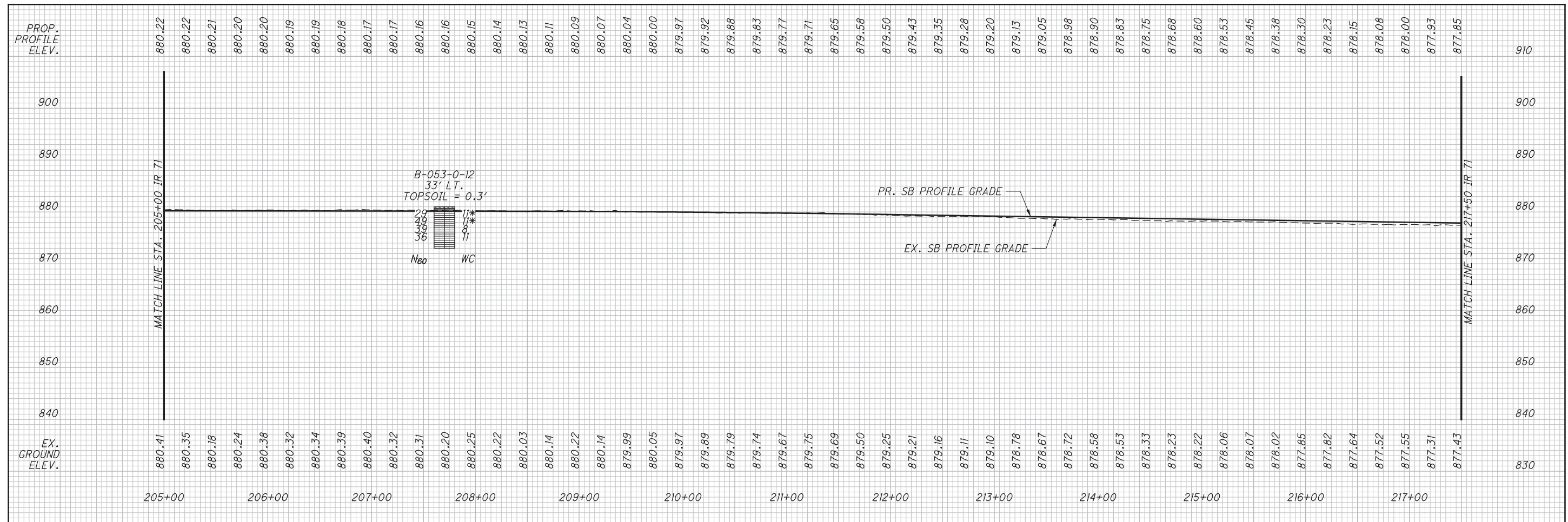
BORING PROFILE LOCATION REFERENCE	
STA. 205+00 TO STA. 217+50 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-053-0-12	51
B-054-0-12	51
B-055-0-12	51



SOIL PROFILE - IR 71
STA. 205+00 TO STA. 217+50

FRA-71-0.00





DRAWN: DML
 CHECKED: LE

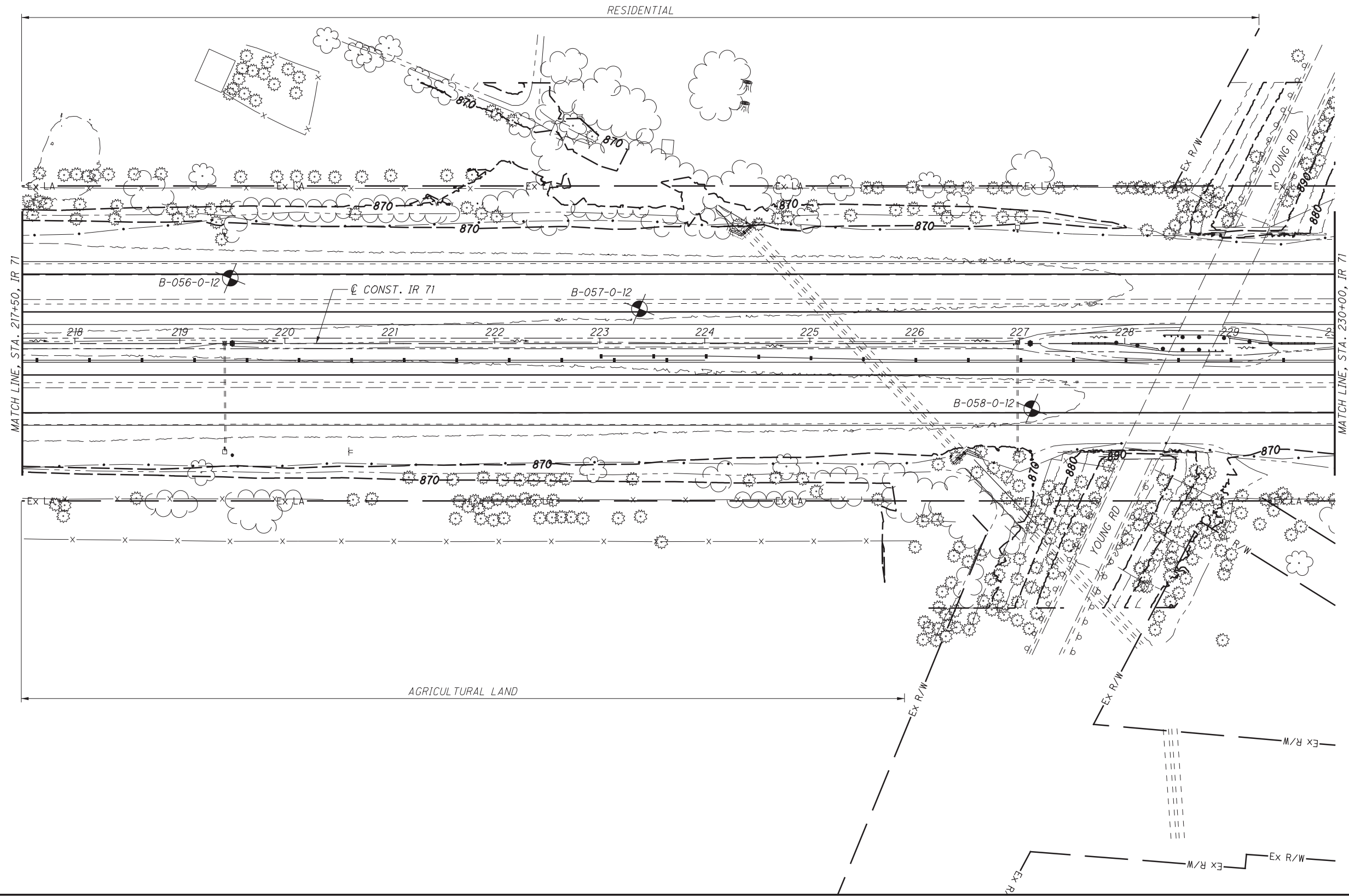
SOIL PROFILE - IR 71
STA. 205+00 TO STA. 217+50

FRA-71-0.00



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BORING PROFILE LOCATION REFERENCE STA. 217+50 TO STA. 230+00 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-056-0-12	53
B-057-0-12	53
B-058-0-12	53



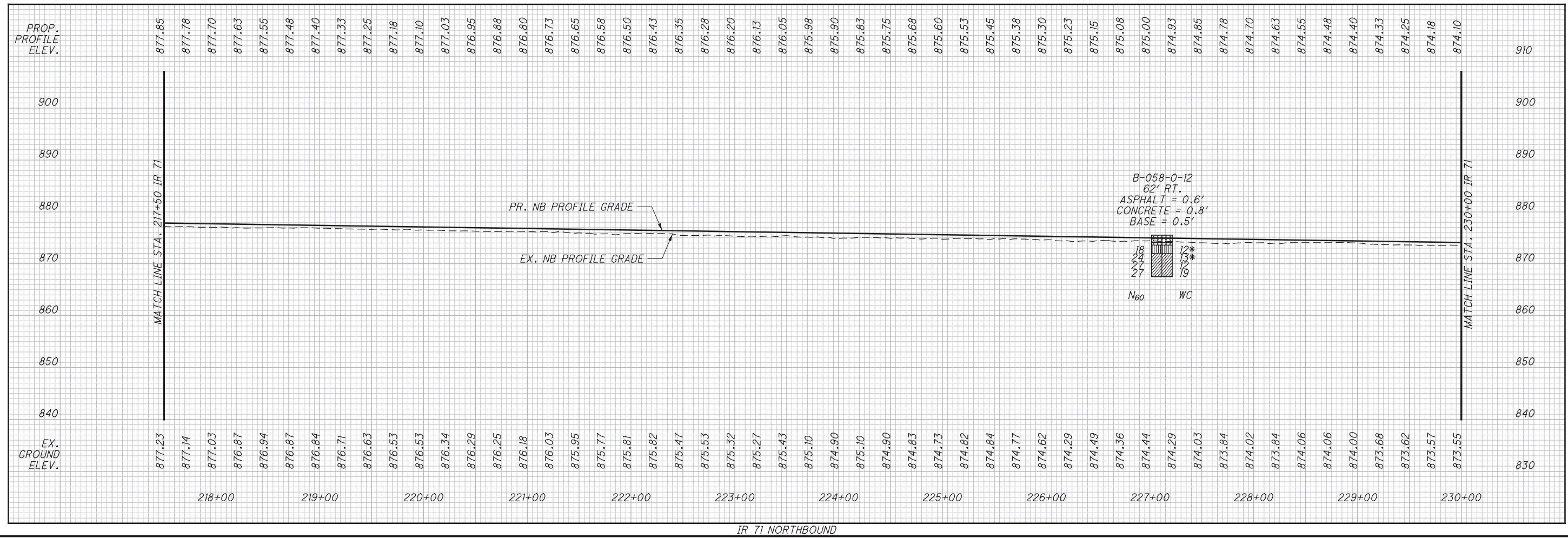
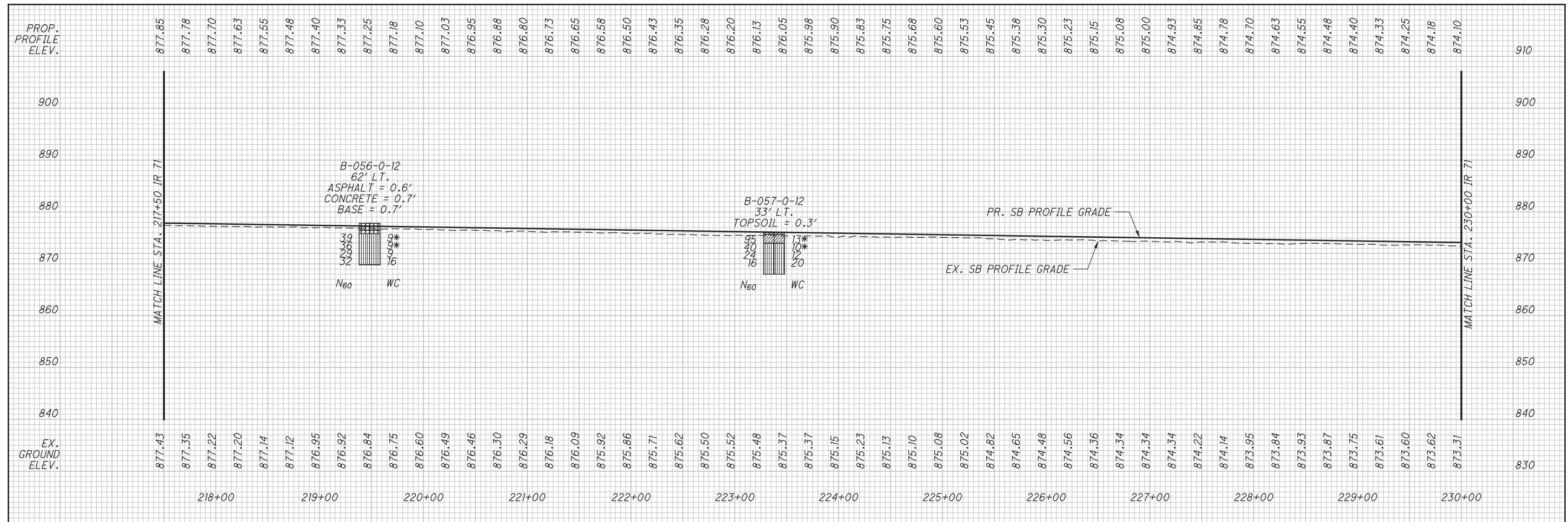
0 50 100
25
HORIZONTAL
SCALE IN FEET

DRAWN KA
CHECKED LE

SOIL PROFILE - IR 71
STA. 217+50 TO STA. 230+00

FRA-71-0.00





DRAWN: DML
CHECKED: LE

SOIL PROFILE - IR 71
STA. 217+50 TO STA. 230+00

FRA-71-0.00

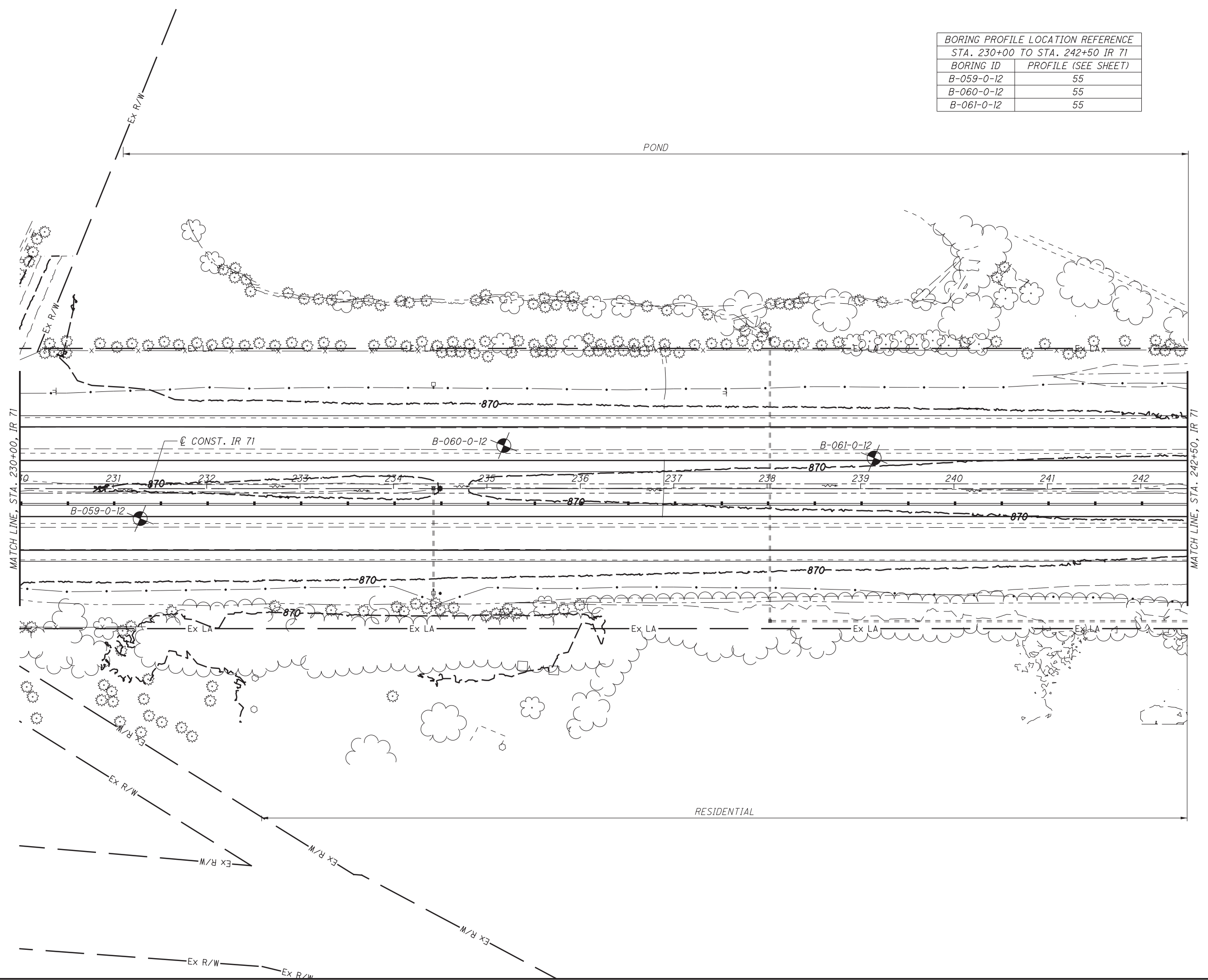


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BORING PROFILE LOCATION REFERENCE	
STA. 230+00 TO STA. 242+50 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-059-0-12	55
B-060-0-12	55
B-061-0-12	55

0 25 50 100
HORIZONTAL SCALE IN FEET

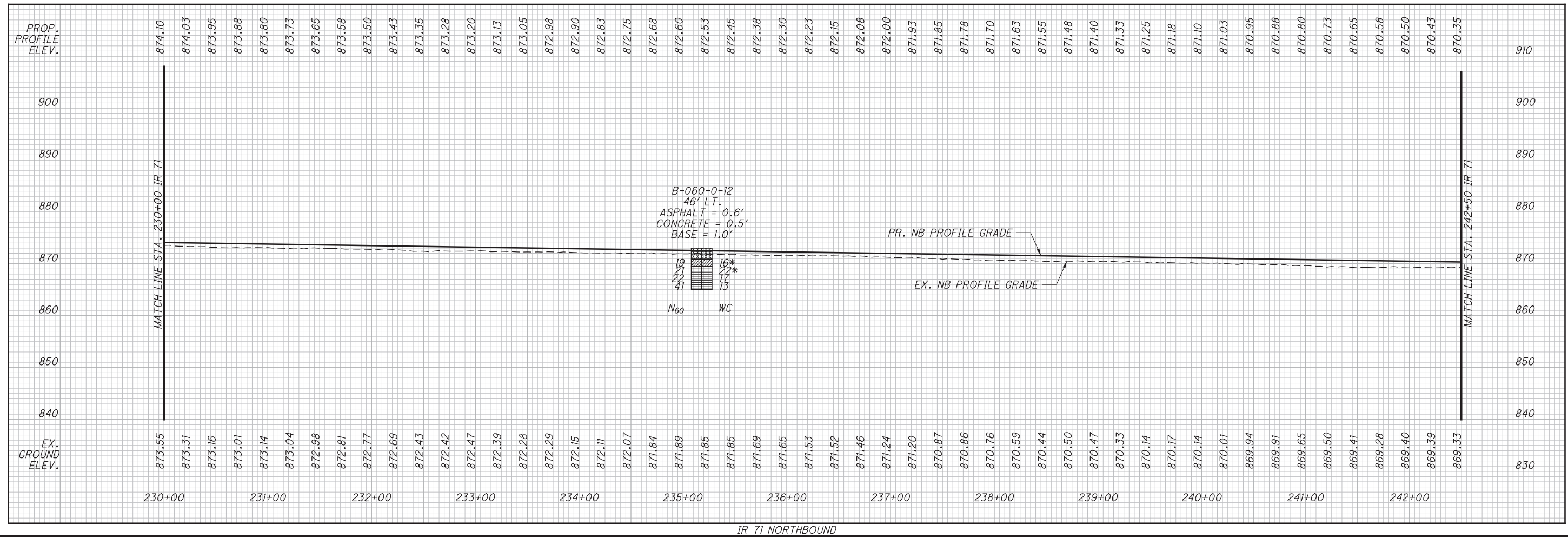
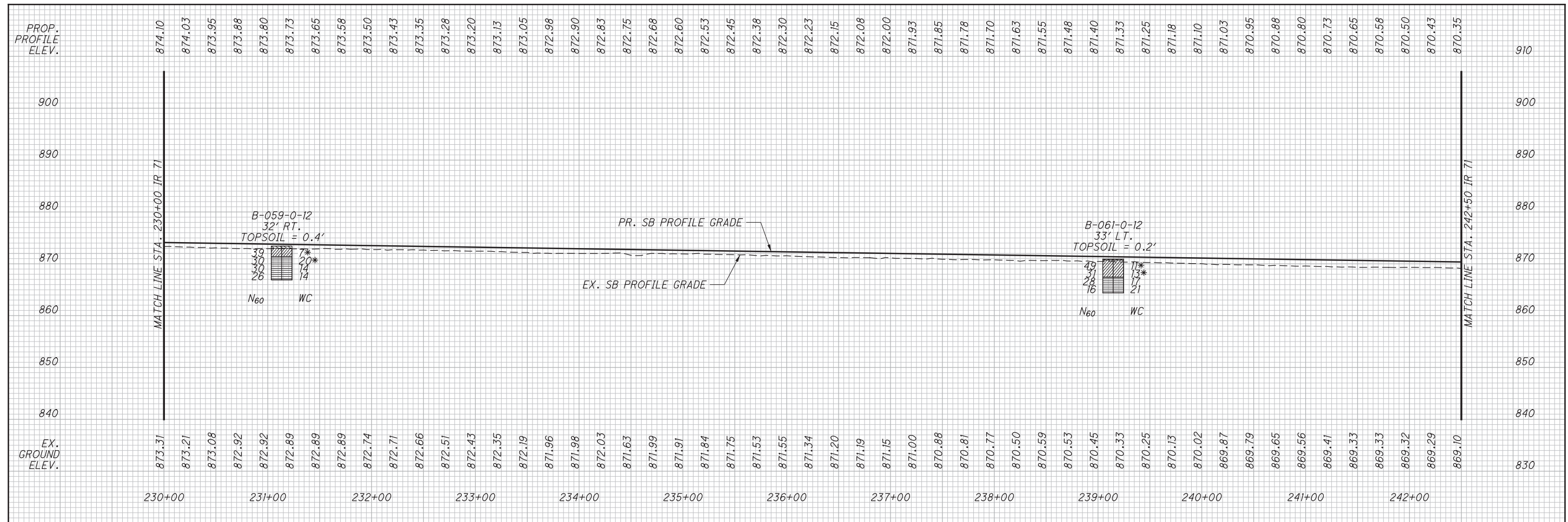
DRAWN KA
CHECKED LE



SOIL PROFILE - IR 71
STA. 230+00 TO STA. 242+50

FRA-71-0.00





SOIL PROFILE - IR 71
STA. 230+00 TO STA. 242+50

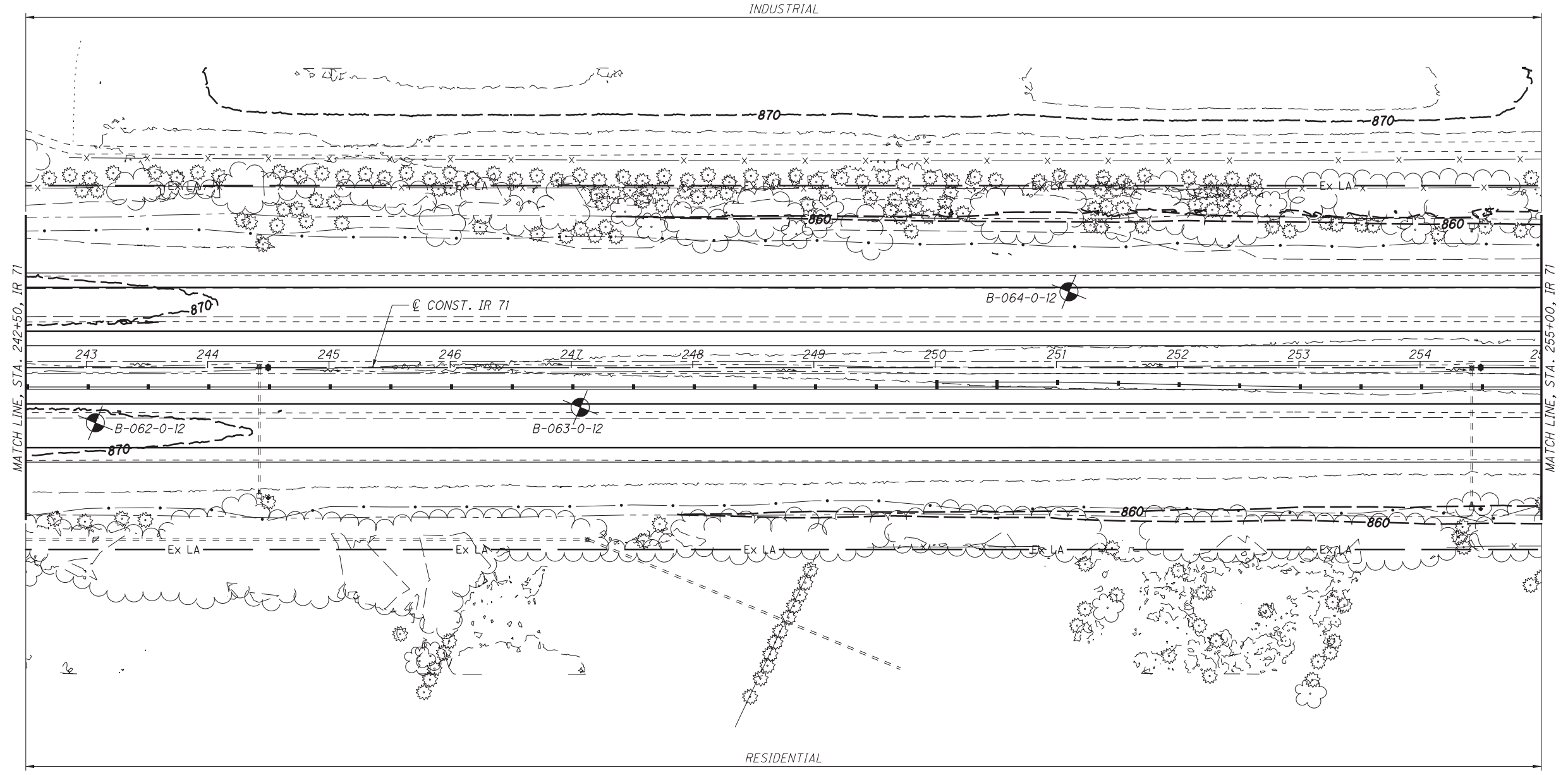
FRA-71-0.00



BORING PROFILE LOCATION REFERENCE	
STA. 242+50 TO STA. 255+00 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-062-0-12	57
B-063-0-12	57
B-064-0-12	57



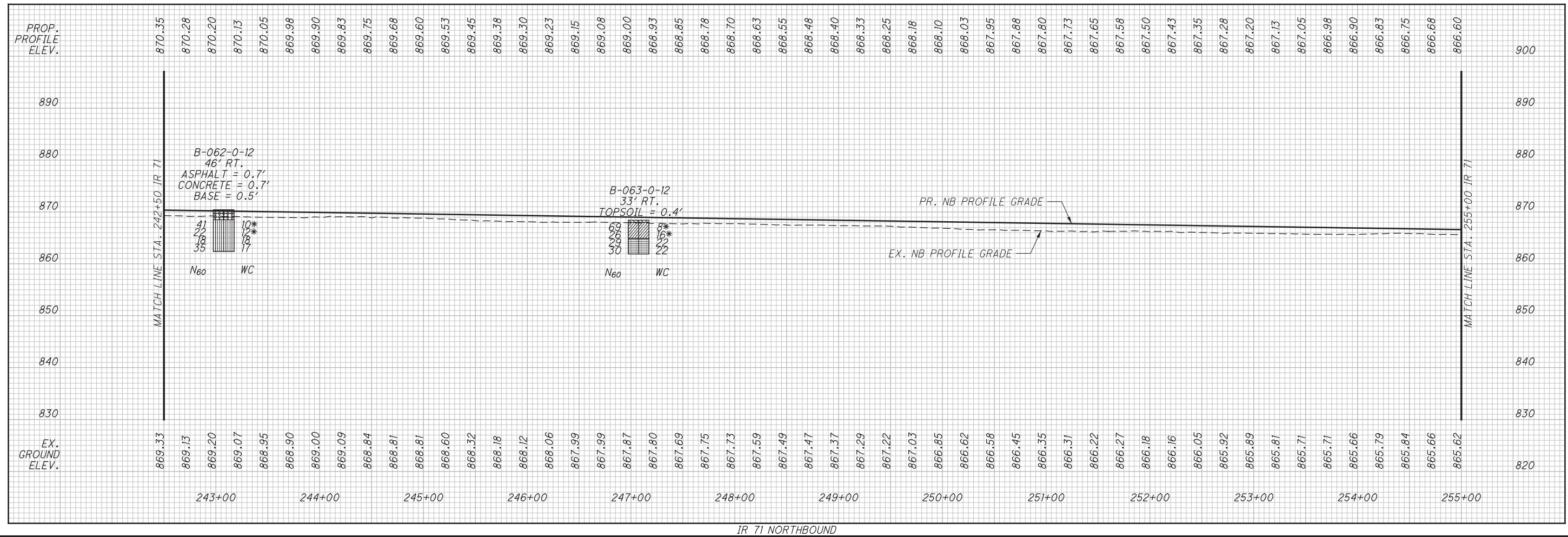
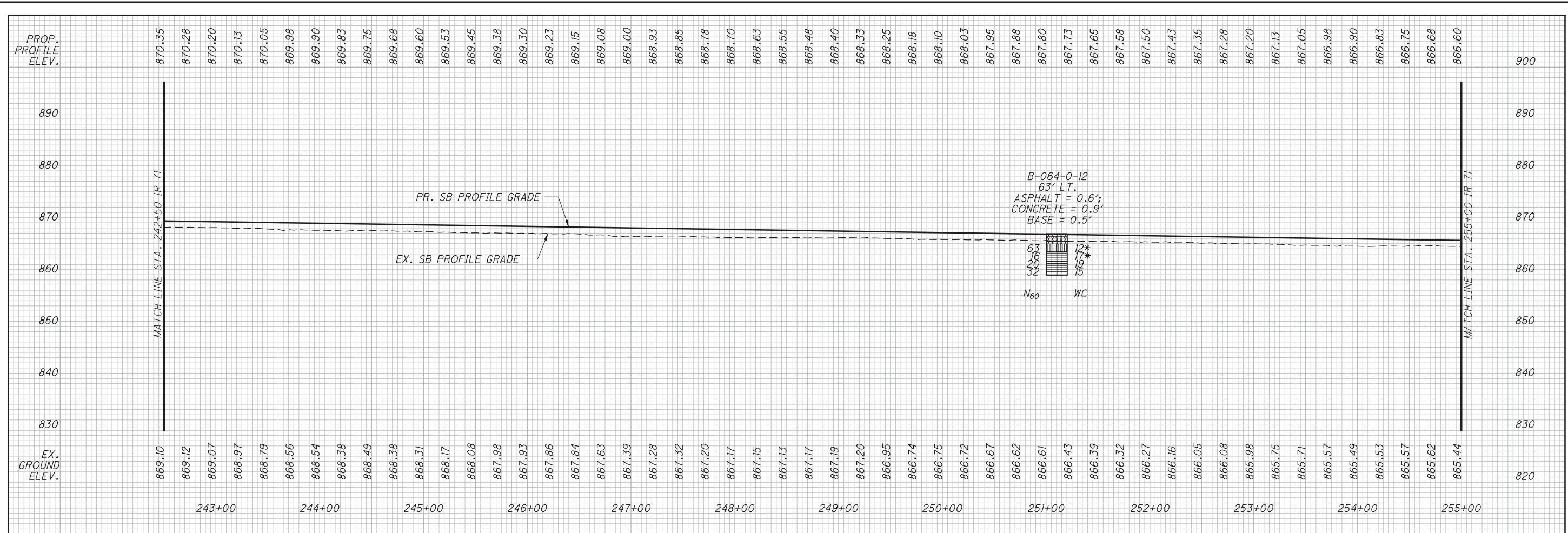
 HORIZONTAL SCALE IN FEET
 DRAWN: KA
 CHECKED: LE



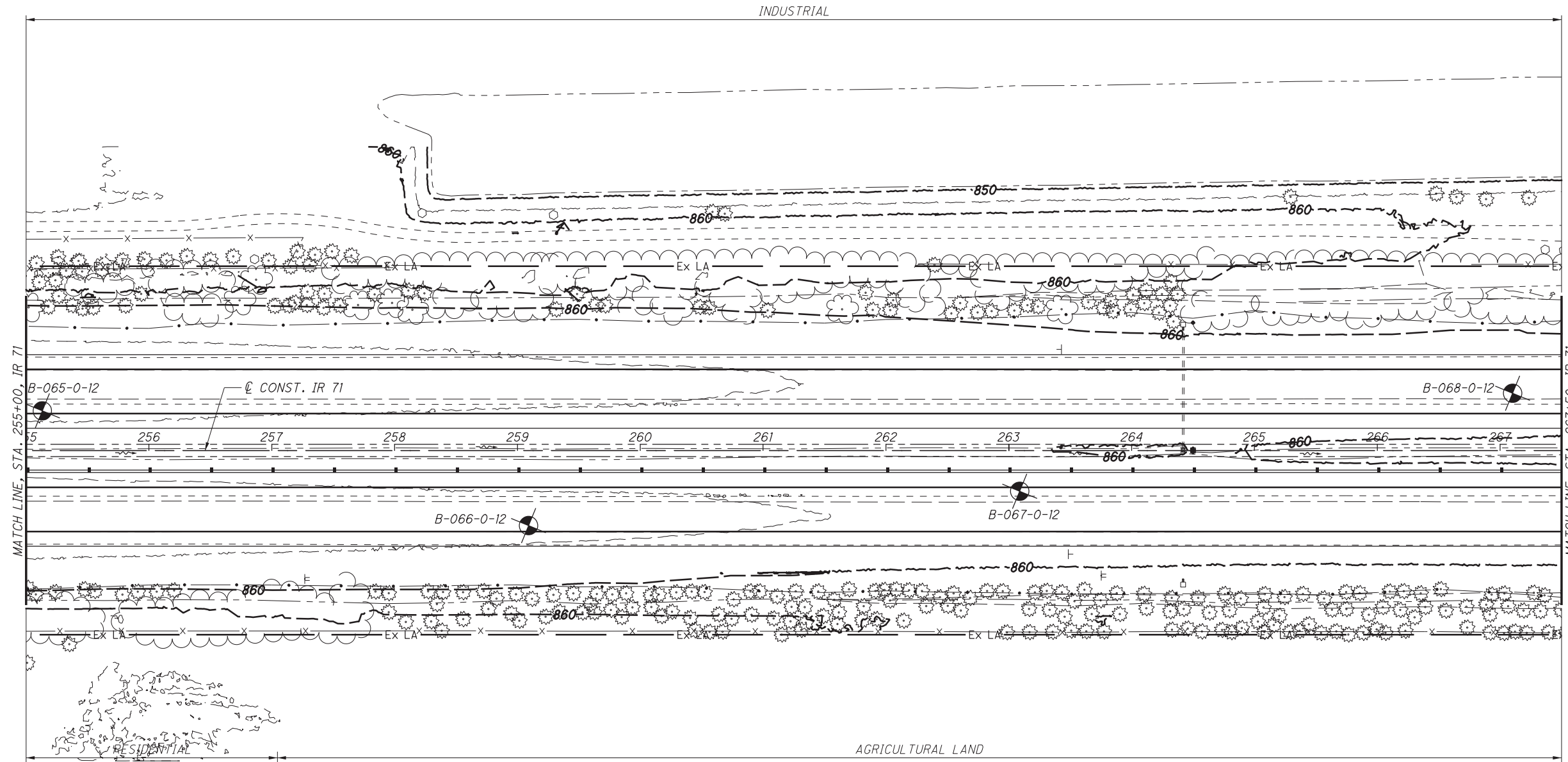
SOIL PROFILE - IR 71
STA. 242+50 TO STA. 255+00

FRA-71-0.00





BORING PROFILE LOCATION REFERENCE	
STA. 255+00 TO STA. 267+50 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-065-0-12	59
B-066-0-12	59
B-067-0-12	59
B-068-0-12	59







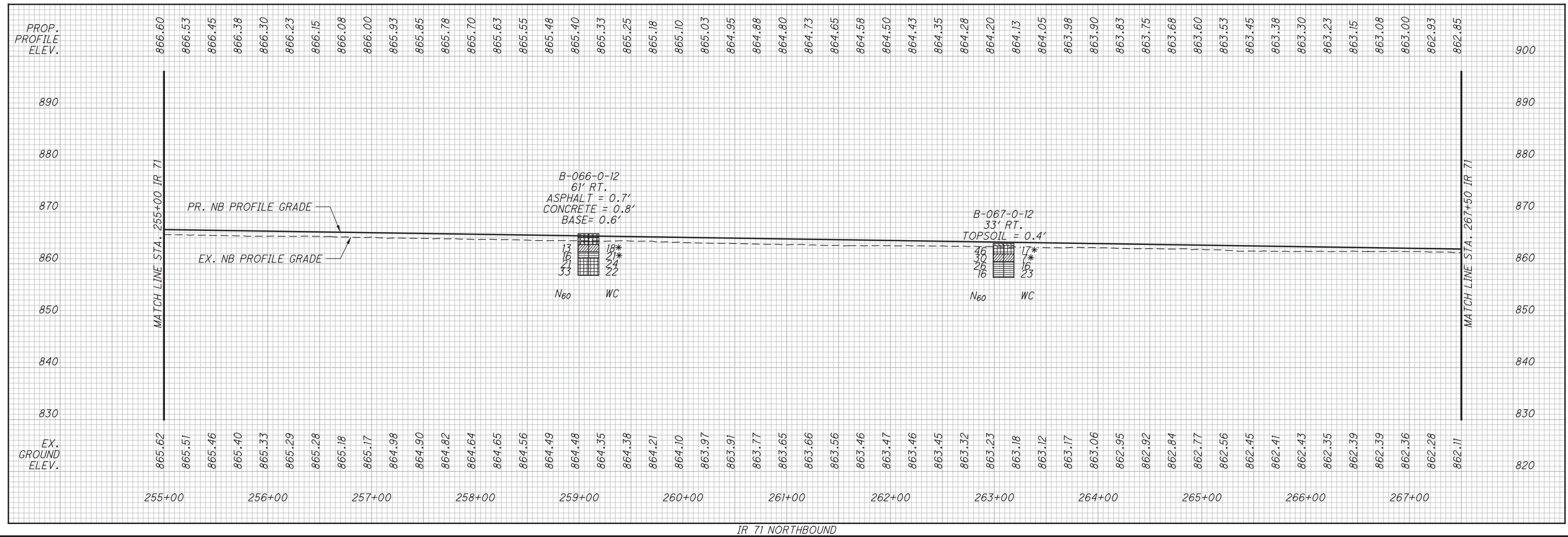
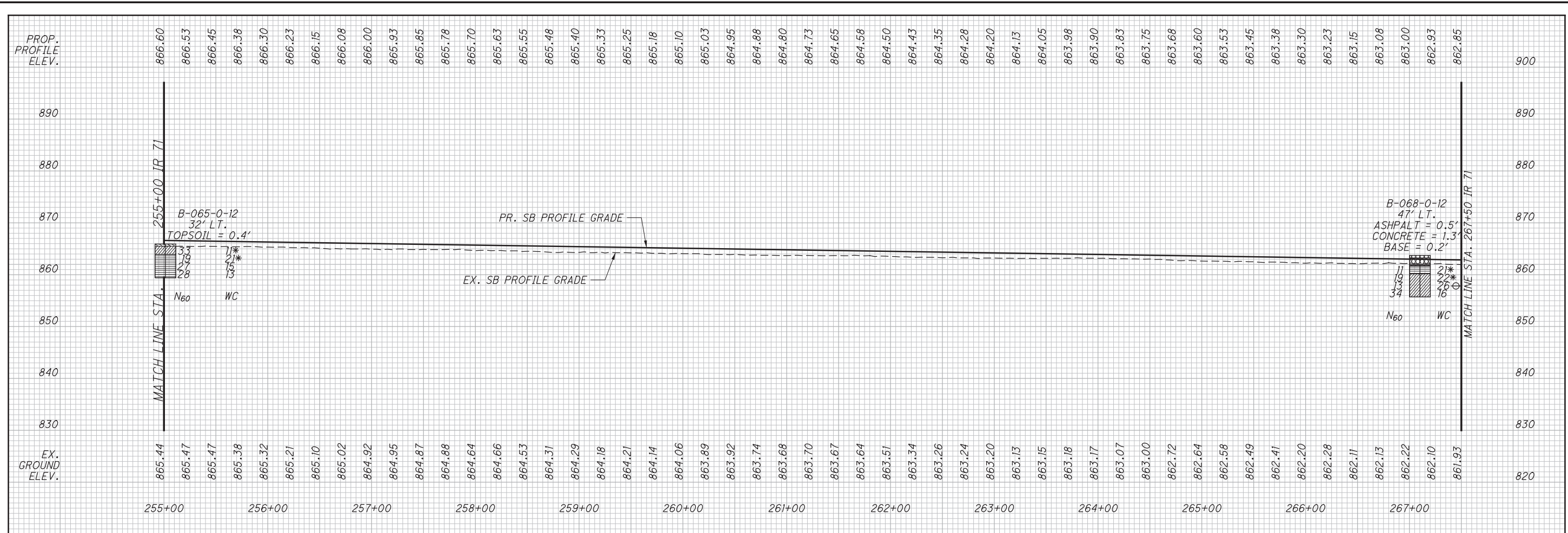
 HORIZONTAL SCALE IN FEET

DRAWN: KA
 CHECKED: LE

SOIL PROFILE - IR 71
STA. 255+00 TO STA. 267+50

FRA-71-0.00





SOIL PROFILE - IR 71
STA. 255+00 TO STA. 267+50





0 50 100
HORIZONTAL
SCALE IN FEET

DRAWN KA
CHECKED LE

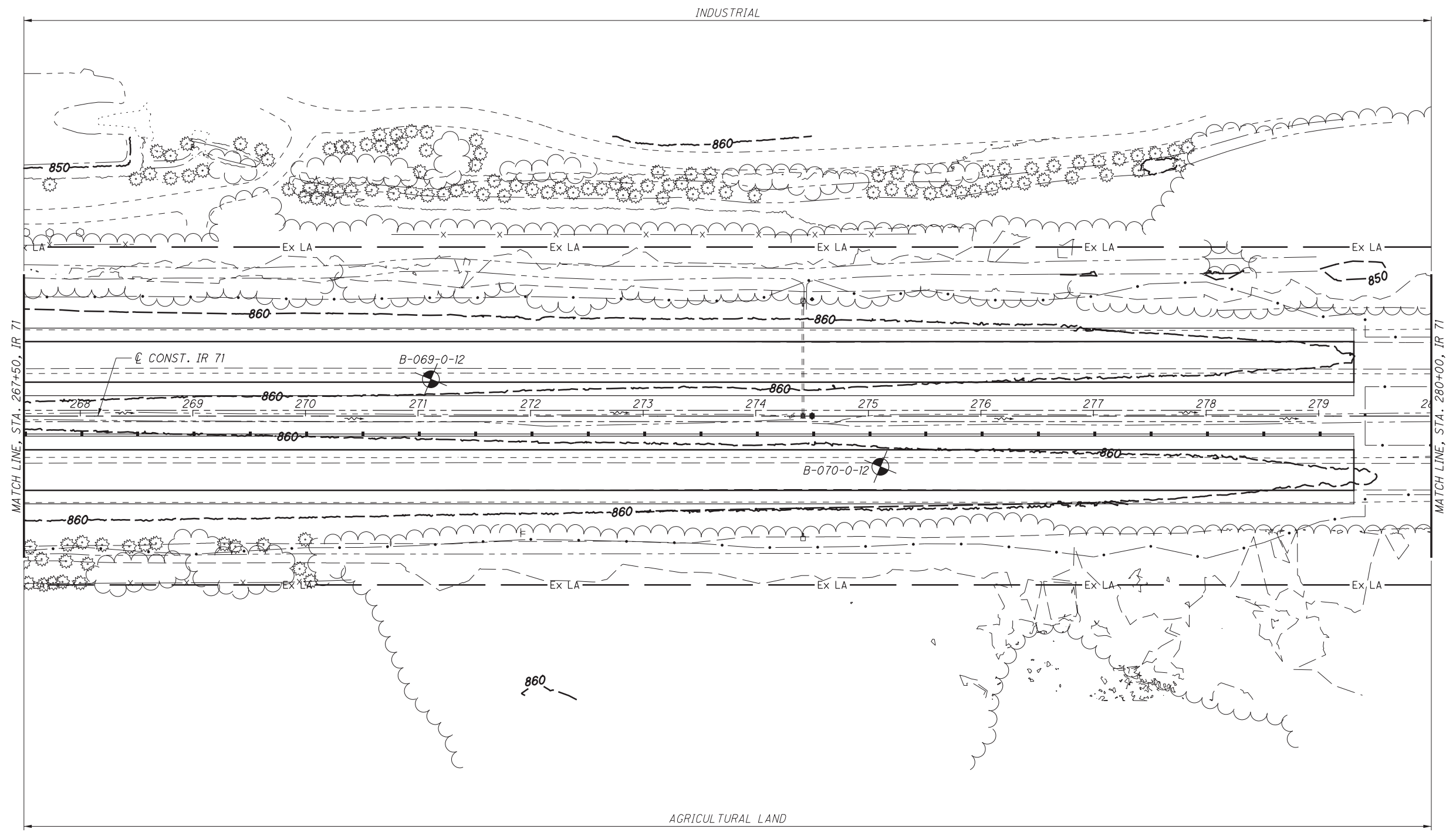
SOIL PROFILE - IR 71
STA. 267+50 TO STA. 280+00

FRA-71-0.00

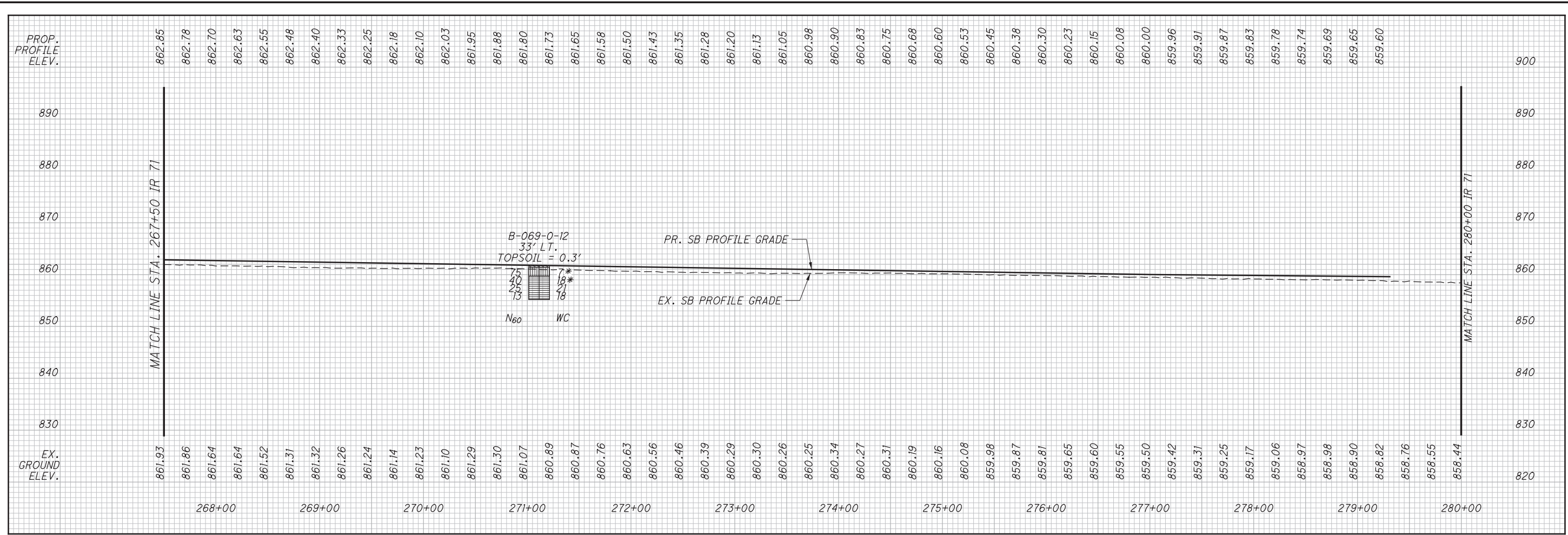
60/111



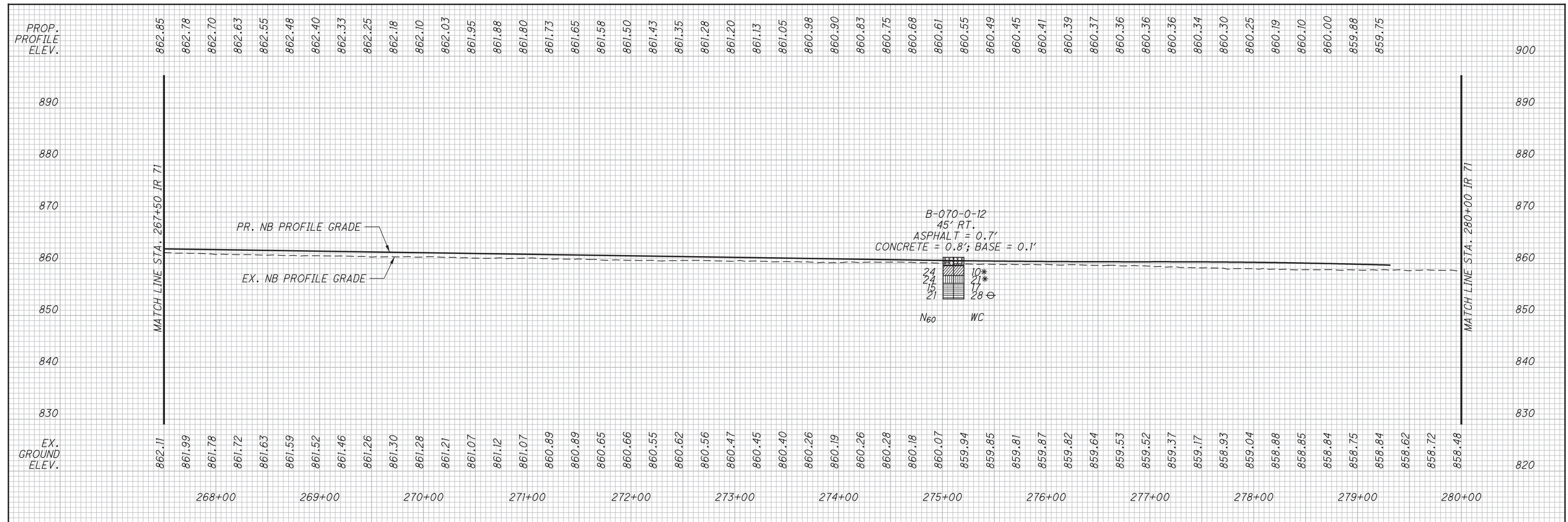
BORING PROFILE LOCATION REFERENCE	
STA. 267+50 TO STA. 280+00 IR 71	
BORING ID	PROFILE (SEE SHEET)
B-069-0-12	61
B-070-0-12	61



F:\FRA\93496\geotechnical\sheets\93496\026.dgn 6/16/15 2:38:48 PM kevin

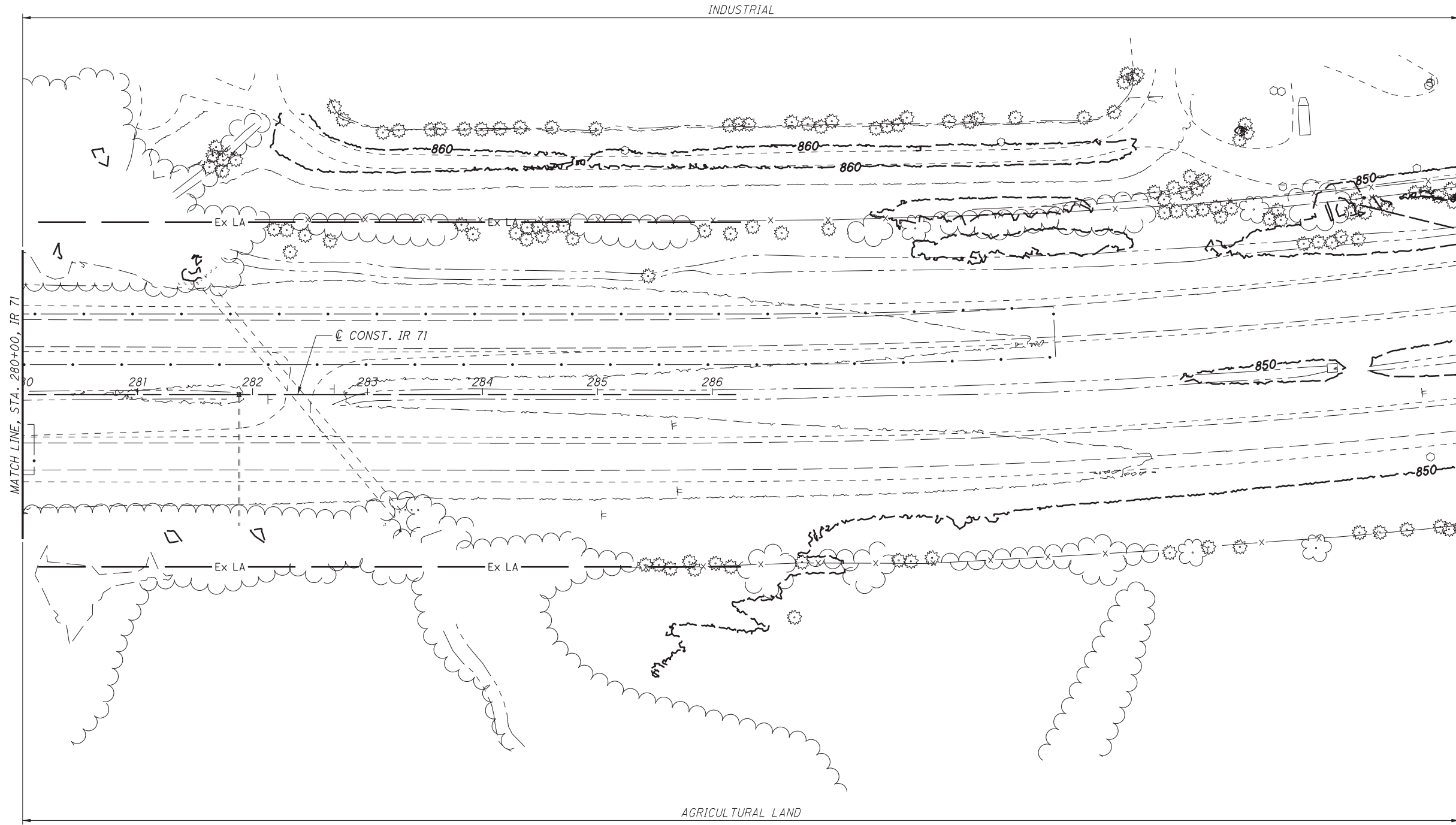


IR 71 SOUTHBOUND



IR 71 NORTHBOUND





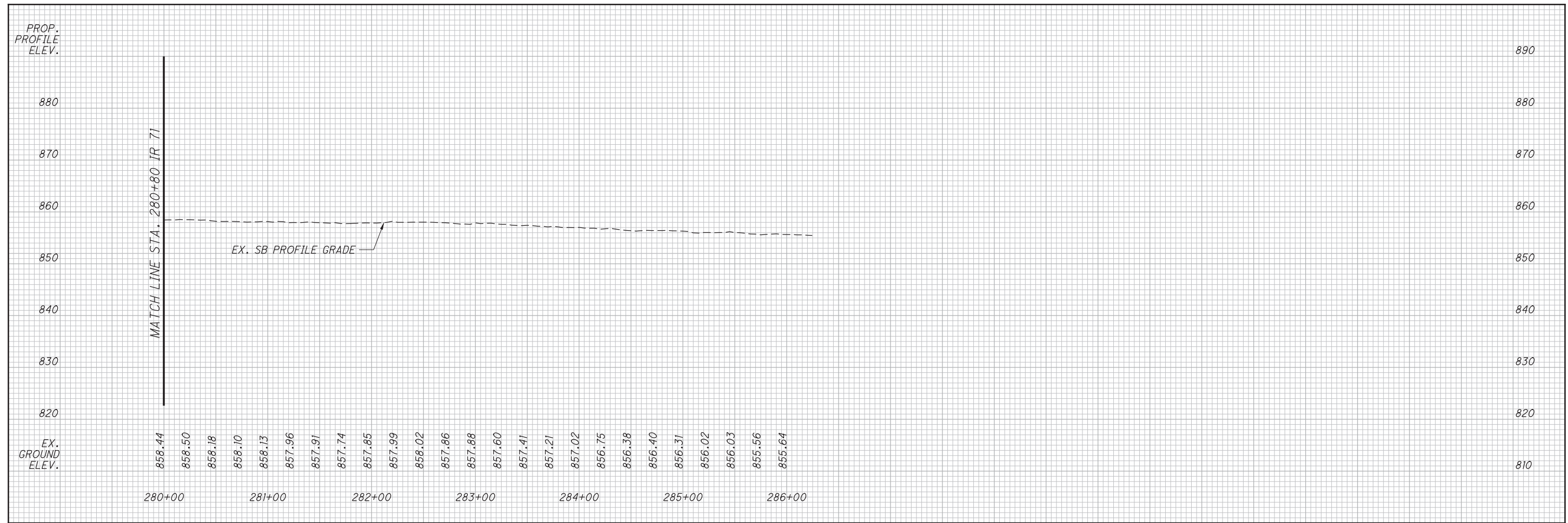
DRAWN	KA
CHECKED	LE

0 50 100
HORIZONTAL
SCALE IN FEET

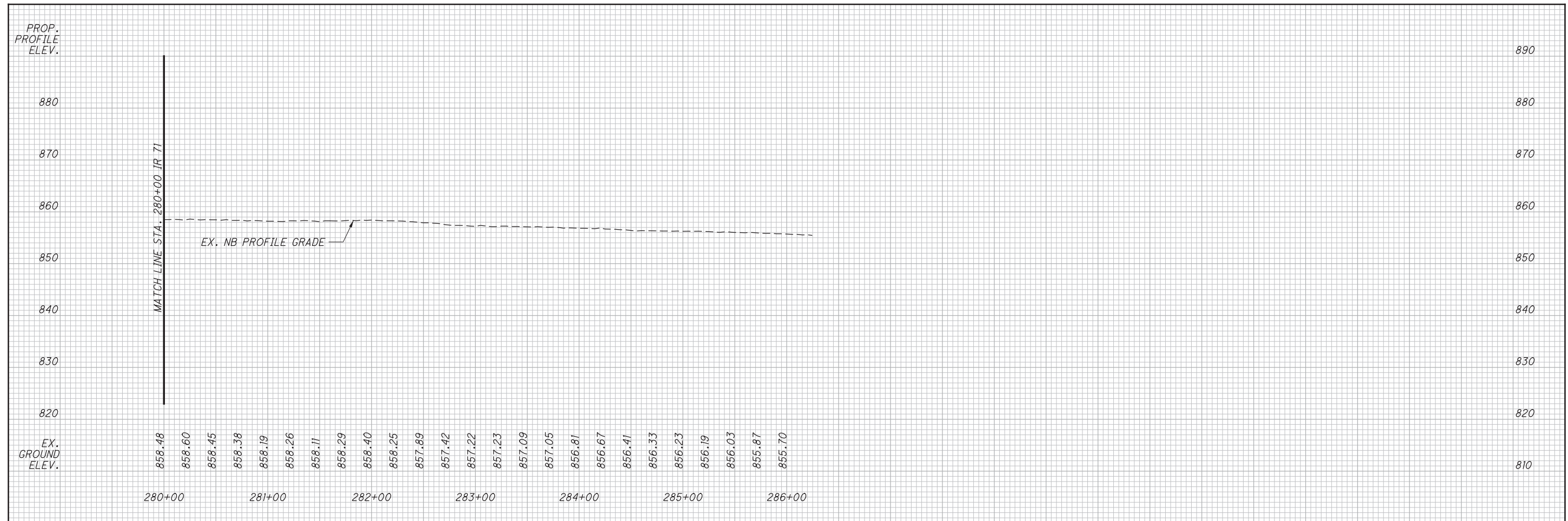
SOIL PROFILE - IR 71
280+00 TO STA. 286+24

FRA-71-0.00





IR 71 SOUTHBOUND



IR 71 NORTHBOUND



DRAWN: DML
CHECKED: LE

SOIL PROFILE - IR 71
STA. 280+00 TO STA. 286+24.38

FRA-71-0.00



PROJECT: FRA-71-00.00 TYPE: BRIDGE		DRILLING FIRM / OPERATOR: CENTRAL STAR / M/J		DRILL RIG: CME 55 (CS)		STATION / OFFSET: 81+23.5 RT		EXPLORATION ID							
PID: 93496 BR ID: FRA-71-0153		SAMPLING FIRM / LOGGER: B&P / Z. JEWELL		HAMMER: CME AUTOMATIC		ALIGNMENT: CL CONST. IR 71		B-021-1-14							
START: 4/1/14 END: 4/1/14		DRILLING METHOD: 2.25" HSA / NQ2		CALIBRATION DATE: 6/12/12		ELEVATION: 797.0 (MSL) EOB: 72.4 ft.		PAGE							
MATERIAL DESCRIPTION AND NOTES		SAMPLING METHOD: SPT / NQ2		ENERGY RATIO (%): 74.9		LAT / LONG: 39.821008, -83.169800		1 OF 2							
DEPTH (ft)	ELEV. (ft)	SPT / RQD	N ₆₀ (%)	REC SAMPLE ID	HP (tsf)	GR (%)	CS (%)	FS (%)	SI (%)	CL (%)	LL (%)	PL (%)	WC (%)	SOOT CLASS (G)	HOLE SEaled
12.0'	797.0														
1	795.8	3	26	SS-1	4.50	30	11	12	28	19	25	15	10	A-4a (2)	
2	794.0	8	5	SS-2	7.5	10	12	16	34	28	30	16	14	A-6a (7)	
3		13	54	SS-3	4.5+									A-6a (V)	
4		2	25												
5		2	9	SS-4										A-6a (V)	
6		21	25												
7		18	0												
8		25	25												
9		11	67	SS-5	2.25	10	12	15	35	28	28	15	13	A-6a (7)	
10		9	20												
11		8	8												
12	784.0	8	27	SS-6	2.0									A-6b (V)	
13		10	50		3.25										
14		12	67												
15		10	19	SS-7	2.25	1	2	28	37	32	37	21	16	A-6b (9)	
16	779.0	6	9												
17		8	100		0.50	1	4	44	30	21	32	19	13	A-6a (4)	
18		7	40												
19		3	2	SS-8											
20	776.5	2	40												
21		5	39												
22		18	40												
23		19	26												
24	774.0	13	44												
25		8	26												
26		13	47												
27		11	44												
28	769.0	16	22												
29		40	100												
30		50/5"	-	SS-12										A-4a (V)	
31															
32	765.5	59	98	NQ2-1										CORE	
33															
34															
35		28	56	NQ2-2										CORE	
36															
37															
38															
39															
40		14	25	NQ2-3										CORE	
41															
42															
43															
44															
45		0	24	NQ2-4										CORE	
46															
47	749.6														
48															
49															
50		66	96	NQ2-5										CORE	
51															
52	744.2														
53															
54															
55		83	100	NQ2-6										CORE	
56															
57															
58															
59															

STANDARD ODOT BORING LOG (1 X 17) - OH DOT GDT - 5/9/15 11:18 - \\COLUMBUS\SUBS\LAB\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-00 2014-15\COMBINED GINTS.RENNUMBERED\FRA-71-00 2014.GPJ

PID: 93496	BR ID: FRA-71-0153	PROJECT: FRA-71-00.00	STATION / OFFSET: 81+22.77, 4.9 RT	START: 4/1/14	END: 4/1/14	PG 2 OF 2			B-021-1-14				
						GR	CS	FS					
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	REC SAMPLE (%)	HP ID (tsf)	GRADATION (%)			ODOT CLASS (G)	HOLE SEALED		
		737.0		45	100	NQ2-7	LL	PL	PI	WC			
<p>DOLOMITE GRAYISH BROWN, SLIGHTLY WEATHERED, MODERATELY STRONG, MEDIUM BEDDED, FOSSILIFEROUS; INCREASES WITH DEPTH, PARTLY VUGGY; IRON STAINS; BEDDING DISCONTINUITIES; LOW ANGLE FRACTURES WITH HIGH ANGLES FRACTURES AT 55.4' TO 55.7' AND 57.3' TO 57.5'; MODERATELY FRACTURED, NARROW; RQD 57.4%, REC 100%. (continued)</p>			61								CORE		
			62										
			63										
			64										
<p>SILTSTONE GRAY, UNWEATHERED, MODERATELY STRONG, VERY THICK BEDDED, JOINT DISCONTINUITIES; LOW ANGLE FRACTURE, FRACTURED TO MODERATELY FRACTURED, NARROW, SLIGHTLY ROUGH; RQD 54%, REC 97.2%.</p>		732.0	65	48	100	NQ2-8					CORE		
			66										
			67										
			68										
<p>DOLOMITE GRAY, MODERATELY WEATHERED, SLIGHTLY STRONG, THICK BEDDED, VUGGY, CONTAINS IRON STAINING, JOINT DISCONTINUITIES; LOW ANGLE FRACTURES WITH DIAGONAL, TO HIGH ANGLE FRACTURE AT 70.6' TO 72.4'; MODERATELY FRACTURED TO FRACTURED, NARROW TO OPEN, SLIGHTLY ROUGH; RQD 42.6%, REC 94.9%.</p>		729.3	69										
			70	40	95	NQ2-9						CORE	
			71										
			72										
		724.6										EOB	

NOTES: GROUNDWATER ENCOUNTERED AT 18.0' DURING DRILLING. CAVE DEPTH 29.5'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 20 GAL. BENTONITE GROUT

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 11:18 - \\COLUMBUS\SLAB\ABACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-00 2014-15\COMBINED GINTS.RENUMBERED\FRA-71-00 2014.GPJ



PROJECT: TYPE: PID: START:	FRA-71-00.00 BRIDGE 93496 BR ID: FRA-71-0153 3/31/14 END: 3/31/14	DRILLING FIRM / OPERATOR: SAMPLING FIRM / LOGGER: DRILLING METHOD: SAMPLING METHOD:	CENTRAL STAR / M/J B&P / Z. JEWELL 2.25" HSA / NQ2 SPT / NQ2	DRILL RIG: HAMMER: CALIBRATION DATE: ENERGY RATIO (%):	CME 55 (CS) CME AUTOMATIC 6/12/12 74.9	STATION / OFFSET: ALIGNMENT: ELEVATION: LAT / LONG:											EXPLOSION ID		
						85+29.6 RT CL CONST. IR 71 798.0 (MSL) EOB: 39.821528, -83.168522													
MATERIAL DESCRIPTION AND NOTES				ELEV.	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	OOOT CLASS (G)	HOLE SEALED	
DEPTHS					N ₆₀														
14.0' TOPSOIL				798.0															
VERY STIFF TO HARD, GRAY WITH GRAYISH BROWN, SILT AND CLAY SOME SAND, LITTLE GRAVEL, SS-1 FEW ROOT HAIRS, DAMP				796.6	100	SS-1	2.5-3.5	11	14	16	35	24	27	14	13	11		A-6a (6)	
@3.5'; BECOMES GRAY					94	SS-2	4.00	-	-	-	-	-	-	-	-	13		A-6a (V)	
VERY DENSE, REDDISH BROWN, SANDY SILT, "AND" GRAVEL, LITTLE CLAY, DAMP (Possible cuttings)				790.0	100	SS-3	4.5+	-	-	-	-	-	-	-	-	11		A-6a (V)	
VERY STIFF, GRAYISH BROWN MOTTLED WITH DARK GRAY, SILTY CLAY, SOME SAND, LITTLE GRAVEL, DAMP				787.5	100	SS-5	3.0-3.25	14	12	20	27	27	38	18	20	17		A-6b (8)	
MEDIUM DENSE TO DENSE, DARK GRAYISH BROWN, SANDY SILT, TRACE TO LITTLE CLAY, TRACE TO LITTLE GRAVEL, DAMP TO WET				785.0															
@16.0'; SS-7 BECOMES DARK GRAY, CONTAINS WOOD FRAGMENTS					100	SS-7	-	2	11	39	29	19	NP	NP	NP	26		A-4a (3)	
MEDIUM STIFF TO STIFF, DARK GRAY, SILT AND CLAY "AND" SAND, TRACE GRAVEL, CONTAINS SHELLS AND WOOD FRAGMENTS, MOIST				780.0	100	SS-8	1.00	10	22	28	20	20	33	19	14	20		A-6a (2)	
DENSE, GRAYISH BROWN, GRAVEL WITH SAND LITTLE SILT, TRACE CLAY, MOIST TO WET				778.5				45	21	11	15	8	NP	NP	NP	14		A-1-b (0)	
HARD, GRAY, SANDY SILT, LITTLE CLAY, LITTLE GRAVEL, DAMP				772.5	100	SS-9	-	28	38	15	13	6	NP	NP	NP	13		A-1-b (0)	
VERY DENSE, GRAY, GRAVEL WITH SAND LITTLE SILT, TRACE CLAY, DAMP				770.0	100	SS-11	4.5+	13	12	20	35	20	20	13	7	10		A-4a (4)	
DARK GRAY, LIMESTONE BOULDER				767.5	45	SS-12	-	-	-	-	-	-	-	-	-	9		A-1-b (V)	
LIMESTONE LIGHT GRAYISH BROWN, BECOMES GRAY, UNWEATHERED TO SLIGHTLY WEATHERED, MODERATELY STRONG, MEDIUM BEDDED, CONGLOMERATIC, JOINT DISCONTINUITIES; LOW ANGLE FRACTURES WITH HIGH ANGLE FRACTURES AT 32.3' TO 33.0', 36.5' TO 36.8', AND 39.3' TO 40.0'. FRACTURED TO MODERATELY FRACTURED, TIGHT TO NARROW, VERY ROUGH; RQD 33.7%, REC 95.2%.				765.3	90	NQ2-1												CORE	
DOLOMITE LIGHT GRAY, UNWEATHERED TO SLIGHTLY WEATHERED, MODERATELY STRONG, THICK BEDDED, FEW VUGGY ZONES, FEW FOSSILS, CONGLOMERATIC AT 43.5' TO 43.7', JOINT DISCONTINUITIES; LOW ANGLE FRACTURES WITH HIGH ANGLE FRACTURES AT 52.8' TO 53.1'. MODERATELY FRACTURED, NARROW, SLIGHTLY ROUGH; RQD 63.6%, REC 97.4%.				755.0	100	NQ2-2												CORE	
48.1' to 48.3' Clay Seam					97	NQ2-4												CORE	
56.4' to 56.5' Shale Layer					93	NQ2-5												CORE	

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 11:18 - \\COLUMBUS\SLAB\ABACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-0-00\2014-15\COMBINED GINTS.RENUNBERED\FRA-71-0-00 2014.GPJ

PROJECT: FRA-71-00.00 TYPE: NOISE BARRIER		DRILLING FIRM / OPERATOR: BARR / J.GILBERT		DRILL RIG: CME 550X		STATION / OFFSET: 126+20, 160 LT		EXPLORATION ID																											
PID: 93496 BR ID: 12/18/14		SAMPLING FIRM / LOGGER: BARR / J.GILBERT		HAMMER: CME AUTOMATIC		ALIGNMENT: CL CONST. IR 71		B-032-1-14																											
START: 12/18/14 END: 12/18/14		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 1/26/14		ELEVATION: 859.8 (MSL) EOB: 25.0 ft.		PAGE																											
SAMPLING METHOD: SPT		SAMPLING METHOD: SPT		ENERGY RATIO (%): 85.3		COORD: 39.825329, -83.154778		1 OF 1																											
MATERIAL DESCRIPTION AND NOTES		ELEV. 859.8		SPT/ RQD		GRADATION (%)		ATTERBERG		BACK FILL																									
		DEPTHS		N ₆₀		GR CS FS SI		LL PL PI		OOOT CLASS (GI)																									
HARD, BROWN TO BROWN MOTTLED WITH GRAY, SANDY SILT, SOME CLAY, TRACE GRAVEL, SS-1 TO SS-3 CONTAINS FEW ROOTS, DAMP @12.5'; SS-6 CHANGES TO DARK GRAY		1		3		6		-		-		9		A-4a (V)																					
		2		6		13		-		-		-		-		-																			
		3		19		67		8		12		14		36		30		27		17		10		10		A-4a (6)									
		4		24		23		-		-		-		-		-		-		-		-		-		-									
		5		11		53		100		SS-3		4.5+		-		-		-		-		-		-		12		A-4a (V)							
		6		16		21		-		-		-		-		-		-		-		-		-		-		-							
		7		-		-		-		-		-		-		-		-		-		-		-		-		-							
		8		9		11		33		100		SS-4		4.5+		8		13		16		40		23		14		9		10		A-4a (6)			
		9		11		12		-		-		-		-		-		-		-		-		-		-		-		-					
		10		7		9		30		100		SS-5		4.5+		-		-		-		-		-		-		-		10		A-4a (V)			
		11		12		-		-		-		-		-		-		-		-		-		-		-		-		-		-			
		12		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-			
		13		4		5		17		100		SS-6		4.5+		10		12		16		36		26		22		13		9		11		A-4a (5)	
		14		4		7		23		100		SS-7		4.5+		-		-		-		-		-		-		-		-		-		-	
		15		4		7		9		-		-		-		-		-		-		-		-		-		-		-		-		-	
		16		7		9		31		100		SS-8		4.5+		-		-		-		-		-		-		-		-		-		-	
		17		9		13		-		-		-		-		-		-		-		-		-		-		-		-		-		-	
		18		9		12		38		100		SS-9		4.5+		10		12		17		37		24		23		13		10		9		A-4a (5)	
		19		12		15		-		-		-		-		-		-		-		-		-		-		-		-		-		-	
		20		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-	
		21		8		11		34		100		SS-10		4.5+		-		-		-		-		-		-		-		-		-		-	
		22		11		13		-		-		-		-		-		-		-		-		-		-		-		-		-		-	
		23		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-	
		24		8		11		34		100		SS-10		4.5+		-		-		-		-		-		-		-		-		-		-	
		25		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-	
EOB		834.8		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-			

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 15:51 - \COLUMBUS\SUBLAB\ABACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-0-00 2014-15\COMBINED GINTS RENUMBERED\FRA-71-0-00 NOISE WALL.GPJ

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: FRA-71-00.00 TYPE: NOISE BARRIER		DRILLING FIRM / OPERATOR: BARR / J.GILBERT		DRILL RIG: CME 550X		STATION / OFFSET: 128+17.157 LT		EXPLORATION ID											
PID: 93496 BR ID: 12/19/14		SAMPLING FIRM / LOGGER: BARR / J.GILBERT		HAMMER: CME AUTOMATIC		ALIGNMENT: CL CONST. IR 71		B-033-1-14											
START: 12/19/14 END: 12/19/14		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 1/26/14		ELEVATION: 862.5 (MSL) EOB: 25.0 ft.		PAGE											
SAMPLING METHOD: SPT		SAMPLING METHOD: SPT		ENERGY RATIO (%): 85.3		COORD: 39.825393, -83.154073		1 OF 1											
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL		
VERY STIFF TO HARD, BROWN MOTTLED WITH ORANGISH BROWN, CLAY, AND SILT, LITTLE SAND, TRACE GRAVEL, CONTAINS ROOTS, IRON STAINED, MOIST	1	862.5	1	2	11	78	2.75-4.5+	1	5	8	39	47	51	20	31	23	A-7-6 (18)	TL	
	2		3	5														TL	
	3		11	16	60	100	SS-2	4.5+	8	12	15	36	29	28	16	12	9	A-6a (7)	TL
	4		26																TL
	5		18																TL
	6		22																TL
	7		31																TL
HARD, BROWN MOTTLED WITH GRAY, SANDY SILT, SOME CLAY, TRACE TO LITTLE GRAVEL, DAMP	8	855.5	8	9	28	89	4.5+	10	14	16	38	22	22	14	8	10	A-4a (5)	TL	
	9		10															TL	
	10		10															TL	
@10.0': SS-5 BECOMES BROWN MOTTLED WITH GRAYISH BROWN AND ORANGISH BROWN, CONTAINS IRON STAINING	11	837.5	11	8	31	100	4.5+	11	14	15	39	21	22	14	8	10	A-4a (5)	TL	
	12		9	13														TL	
@12.5': SS-6 TO SS-10 BECOMES DARK GRAY	13	837.5	13	3	16	100	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)	TL	
	14		4	7														TL	
	15		3	5	17	100	SS-7	4.5+	-	-	-	-	-	-	-	-	10	A-4a (V)	TL
	16		5	7															TL
	17		5	8															TL
	18		5	18	67	SS-8	4.5+	-	-	-	-	-	-	-	-	-	10	A-4a (V)	TL
	19		8																TL
	20		6	7	23	100	SS-9	4.5+	-	-	-	-	-	-	-	-	10	A-4a (5)	TL
	21		9																TL
	22																		TL
	23																		TL
	24		10	13	40	28	SS-10	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)	TL
	25		15																TL

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 15:52 - \COLUMBUS\SUBLAB\ABRACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-0-00 2014-15\COMBINED GINTS RENUMBERED\FRA-71-0-00 NOISE WALL.GPJ

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: FRA-71-00.00 TYPE: NOISE BARRIER		DRILLING FIRM / OPERATOR: BARR / J.GILBERT		DRILL RIG: CME 550X		STATION / OFFSET: 130+30.154 LT		EXPLORATION ID											
PID: 93496 BR ID: 12/19/14		SAMPLING FIRM / LOGGER: BARR / J.GILBERT		HAMMER: CME AUTOMATIC		ALIGNMENT: CL CONST. IR 71		B-033-2-14											
START: 12/19/14 END: 12/19/14		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 1/26/14		ELEVATION: 865.9 (MSL) EOB: 25.0 ft.		PAGE											
SAMPLING METHOD: SPT		SAMPLING METHOD: SPT		ENERGY RATIO (%): 85.3		COORD: 39.825453, -83.153308		1 OF 1											
MATERIAL DESCRIPTION AND NOTES		ELEV.		REC SAMPLE ID		GRADATION (%)		ATTERBERG		BACK FILL									
		865.9		HP (tsf)		GR CS FS SI CL LL PL WC		LL PL PI		OOOT CLASS (GI)									
				N ₆₀		SPT/ RQD													
		DEPTHS		N ₆₀		SPT/ RQD													
VERY STIFF TO HARD, BROWN MOTTLED WITH GRAY, DARK GRAY AND ORANGISH BROWN, SILT AND CLAY, SOME SAND, TRACE TO LITTLE GRAVEL, SS-1 AND SS-2 CONTAIN ROOTS, DAMP @2.5'; SS-2 AND SS-3 BECOME LIGHT BROWN MOTTLED WITH GRAY VERY STIFF TO HARD, BROWN MOTTLED WITH GRAY, SANDY SILT, SOME CLAY, TRACE GRAVEL, DAMP @10.0'; SS-5 AND SS-6 BECOME BROWN MOTTLED WITH GRAY AND ORANGISH BROWN, CONTAIN IRON STAINS @15.0'; SS-7 BECOMES GRAY	1	2	3	9	89	SS-1	3.2-3.6	13	9	12	37	29	32	17	15	15	A-6a (8)	↖ ↗ ↘ ↙ ↕	
	2	3	3																↖ ↗ ↘ ↙ ↕
	3	8	10	31	100	SS-2	4.5+	-	-	-	-	-	-	-	-	-	12	A-6a (V)	↖ ↗ ↘ ↙ ↕
	4	8	10	30	100	SS-3	4.5+	-	-	-	-	-	-	-	-	-	11	A-6a (V)	↖ ↗ ↘ ↙ ↕
	5	8	10	30	100	SS-3	4.5+	-	-	-	-	-	-	-	-	-			↖ ↗ ↘ ↙ ↕
	6	8	10	30	100	SS-3	4.5+	-	-	-	-	-	-	-	-	-			↖ ↗ ↘ ↙ ↕
	7	8	10	30	100	SS-3	4.5+	-	-	-	-	-	-	-	-	-			↖ ↗ ↘ ↙ ↕
	8	3	5	21	100	SS-4	4.5+	6	12	16	39	27	25	17	8	13	A-4a (6)	↖ ↗ ↘ ↙ ↕	
	9	3	5	21	100	SS-4	4.5+	6	12	16	39	27	25	17	8	13	A-4a (6)	↖ ↗ ↘ ↙ ↕	
	10	11	18	53	100	SS-5	4.5+	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
	11	11	18	53	100	SS-5	4.5+	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
	12	11	18	53	100	SS-5	4.5+	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
	13	6	6	27	67	SS-6	2.75	-	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙ ↕
	14	6	6	27	67	SS-6	2.75	-	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙ ↕
	15	5	5	16	100	SS-7	4.0-4.5+	10	14	16	39	21	20	13	7	10	A-4a (5)	↖ ↗ ↘ ↙ ↕	
	16	5	5	16	100	SS-7	4.0-4.5+	10	14	16	39	21	20	13	7	10	A-4a (5)	↖ ↗ ↘ ↙ ↕	
	17	5	5	16	100	SS-7	4.0-4.5+	10	14	16	39	21	20	13	7	10	A-4a (5)	↖ ↗ ↘ ↙ ↕	
	18	8	7	26	100	SS-8	4.5+	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
	19	8	7	26	100	SS-8	4.5+	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
	20	4	6	21	100	SS-9	4.5+	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
	21	4	6	21	100	SS-9	4.5+	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
	22																		↖ ↗ ↘ ↙ ↕
	23																		↖ ↗ ↘ ↙ ↕
	24	7	9	30	100	SS-10	4.5+	10	13	16	36	25	22	14	8	10	A-4a (5)	↖ ↗ ↘ ↙ ↕	
	25	7	9	30	100	SS-10	4.5+	10	13	16	36	25	22	14	8	10	A-4a (5)	↖ ↗ ↘ ↙ ↕	

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 15:52 - \COLLUMBUS\SUBLAB\ABACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-0-00 2014-15\COMBINED GINTS RENUMBERED\FRA-71-0-00 NOISE WALL.GPJ

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS



PROJECT:	FRA-71-00.00	DRILLING FIRM / OPERATOR:	BARR / D.ROSE	DRILL RIG:	CME 550X	STATION / OFFSET:	132+11, 148 LT	EXPLORATION ID	B-034-1-14								
TYPE:	NOISE BARRIER	SAMPLING FIRM / LOGGER:	BARR / D.ROSE	HAMMER:	CME AUTOMATIC	ALIGNMENT:	CL CONST. IR 71										
PID:	93496	DRILLING METHOD:	3.25" HSA	CALIBRATION DATE:	1/26/14	ELEVATION:	866.7 (MSL), EOB:	25.0 ft.	PAGE								
START:	12/29/14	SAMPLING METHOD:	SPT	ENERGY RATIO (%):	85.3	COORD:	39.825483, -83.152655		1 OF 1								
MATERIAL DESCRIPTION AND NOTES																	
VERY STIFF TO HARD, BROWN, SILTY CLAY, LITTLE SAND, TRACE GRAVEL, CONTAINS FEW ROOTS, DAMP (FILL)	866.7	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GR	GRADATION (%)	ATTERBERG	OOOT CLASS (GI)	BACK FILL					
		1	2	10	89	SS-1	2.6-4.5+	-	-	-	18	A-6b (V)					
	864.7	2															
HARD, BROWN MOTTLED WITH DARK GRAY AND GRAY, CLAY, "AND" SILT, TRACE TO LITTLE SAND, TRACE GRAVEL, SS-2 CONTAINS FEW ROOTS, DAMP		3	11	43	94	SS-2	4.5+	1	4	8	87	53	21	32	19	A-7-6 (19)	
		4	16														
		5															
@5.0'; SS-3 CONTAINS IRON STAINS	859.7	6	11	50	100	SS-3	4.5+	1	3	7	42	47	48	18	30	16	A-7-6 (18)
		7	16														
		8	19														
HARD, BROWN MOTTLED WITH GRAY, SILTY CLAY, LITTLE SAND, TRACE TO LITTLE GRAVEL, CONTAINS IRON STAINING, DAMP		9	6	30	100	SS-4	4.5+	-	-	-	-	-	-	-	-	12	A-6b (V)
	854.7	10	11														
		11	4	18	94	SS-5	4.5+	-	-	-	-	-	-	-	-	12	A-6b (V)
@15.0'; SS-7 BECOMES BROWN, SOME GRAVEL		12	6	7													
		13	3	11	89	SS-6	2.7-4.3+	12	12	16	40	20	21	14	7	11	A-4a (5)
		14	4														
		15															
@15.0'; SS-7 BECOMES BROWN, SOME GRAVEL		16	3	10	17	SS-7	-	-	-	-	-	-	-	-	-	10	A-4a (V)
		17	4														
	848.9	18	5	24	100	SS-8	4.5+	-	16	46	22	11	5	NP	NP	8	A-1-b (0)
MEDIUM DENSE, GRAY, GRAVEL WITH SAND LITTLE SILT, TRACE CLAY, DAMP		19	10	7													
	847.2	20	7														
HARD, GRAY, SANDY SILT, SOME CLAY, LITTLE GRAVEL, DAMP		21	4	18	100	SS-9	4.5+	17	12	15	35	21	23	14	9	9	A-4a (4)
		22	6	7													
		23															
		24	7	10	33	SS-10	4.5+	-	-	-	-	-	-	-	-	9	A-4a (V)
	841.7	25	13														
		EOB															

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 15:52 - \COLLUMBUS\SUBLAB\ABACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-0-00 2014-15\COMBINED GINTS RENUMBERED\FRA-71-0-00 NOISE WALL.GPJ

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: FRA-71-00.00 TYPE: NOISE BARRIER		DRILLING FIRM / OPERATOR: BARR / J.GILBERT		DRILL RIG: CME 550X		STATION / OFFSET: 138+86.142 LT		EXPLORATION ID									
PID: 93496 BR ID: 12/18/14		SAMPLING FIRM / LOGGER: BARR / J.GILBERT		HAMMER: CME AUTOMATIC		ALIGNMENT: CL CONST. IR 71		B-035-2-14									
START: 12/18/14 END: 12/18/14		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 1/26/14		ELEVATION: 869.7 (MSL) EOB: 25.0 ft.		PAGE									
SAMPLING METHOD: SPT		SAMPLING METHOD: SPT		ENERGY RATIO (%): 85.3		COORD: 39.825563, -83.150227		1 OF 1									
MATERIAL DESCRIPTION AND NOTES		ELEV.		REC SAMPLE ID		GRADATION (%)		ATTERBERG		BACK FILL							
		869.7		HP (tsf)		GR CS FS SI CL LL PL WC		LL PL PI		OOOT CLASS (GI)							
		865.2		N ₆₀ (%)		GR CS FS SI CL LL PL WC		LL PL PI		OOOT CLASS (GI)							
		862.0		SPT/ RQD		GR CS FS SI CL LL PL WC		LL PL PI		OOOT CLASS (GI)							
		844.7		N ₆₀ (%)		GR CS FS SI CL LL PL WC		LL PL PI		OOOT CLASS (GI)							
VERY STIFF TO HARD, DARK GRAYISH BROWN AND BROWN, SILTY CLAY, SOME SAND, TRACE GRAVEL, DAMP (FILL)	1	2	2	9	56	SS-1	2.25-3.75	8	10	14	39	29	40	21	19	20	A-6b (10)
	2																
	3	9	12	34	100	SS-2	4.5+	-	-	-	-	-	-	-	-	15	A-6b (V)
	4																
HARD, DARK GRAYISH BROWN WITH ORANGISH BROWN, AND DARK GRAY, CLAY, "AND" SILT, LITTLE SAND, TRACE GRAVEL, DAMP (FILL)	5	8	10	31	100	SS-3	4.5+	2	4	9	36	49	53	20	33	20	A-7-6 (19)
	6																
	7																
	8	8	8	21	100	SS-4	4.5+	5	12	15	39	29	26	16	10	12	A-7-6 (V)
	9																
	10																
@15.0'; SS-7 BECOMES GRAYISH BROWN	11	3	4	11	100	SS-5	4.5+	-	-	-	-	-	-	-	-	14	A-4a (V)
	12																
	13	4	4	11	100	SS-6	1.75-2.75	13	14	18	36	19	21	14	7	12	A-4a (4)
	14																
	15	3	5	16	100	SS-7	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)
	16																
	17																
@17.5'; SS-8 BECOMES GRAY	18	4	5	20	100	SS-8	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)
	19																
	20																
@20.0'; SS-9 BECOMES DARK GRAY	21	5	7	23	100	SS-9	4.5+	12	14	17	35	22	23	14	9	9	A-4a (4)
	22																
	23																
	24	10	12	36	67	SS-10	4.5+	-	-	-	-	-	-	-	-	10	A-4a (V)
	25		13														

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 15:52 - \COLUMBUS\SUBLAB\ABACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-0-00 2014-15\COMBINED GINTS RENUMBERED\FRA-71-0-00 NOISE WALL.GPJ

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS



PROJECT:	FRA-71-00.00	DRILLING FIRM / OPERATOR:	BARR / J.GILBERT	DRILL RIG:	CME 550X	STATION / OFFSET:	140+82.146 LT	EXPLORATION ID	B-036-1-14									
TYPE:	NOISE BARRIER	SAMPLING FIRM / LOGGER:	BARR / J.GILBERT	HAMMER:	CME AUTOMATIC	ALIGNMENT:	CL CONST. IR 71											
PID:	93496	DRILLING METHOD:	3.25" HSA	CALIBRATION DATE:	1/26/14	ELEVATION:	870.3 (MSL)	EOB:	25.0 ft.									
START:	12/17/14	SAMPLING METHOD:	SPT	ENERGY RATIO (%):	85.3	COORD:	39.825609, -83.149524		PAGE									
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
HARD, BROWN, SILT AND CLAY LITTLE SAND, LITTLE GRAVEL, DAMP		870.3	1	3	21	56	4.5+	17	8	10	37	28	32	18	14	13	A-6a (8)	↖ ↗ ↘ ↙ ↕
HARD, LIGHT BROWN WITH GRAY AND BROWN, SILTY CLAY, LITTLE SAND, TRACE GRAVEL, CONTAINS ROOTS, DAMP (FILL)		868.3	2	8	27	100	4.5+	3	4	10	49	34	36	20	16	12	A-6b (10)	↖ ↗ ↘ ↙ ↕
HARD, BROWN MOTTLED WITH GRAY, SILT AND CLAY. SOME SAND, LITTLE GRAVEL, DAMP		863.3	3	14	51	100	4.5+	-	-	-	-	-	-	-	-	6	A-6b (V)	↖ ↗ ↘ ↙ ↕
@10.0'; SS-5 CONTAINS ROOTS		858.3	4	3	23	100	4.5+	13	11	14	37	25	30	16	14	14	A-6a (7)	↖ ↗ ↘ ↙ ↕
HARD, GRAYISH BROWN, SILT, LITTLE CLAY, LITTLE SAND, TRACE GRAVEL, DAMP		855.8	5	3	13	100	4.0-4.2	-	-	-	-	-	-	-	-	16	A-6a (V)	↖ ↗ ↘ ↙ ↕
VERY STIFF, GRAYISH BROWN, SANDY SILT, LITTLE CLAY, TRACE TO LITTLE GRAVEL, DAMP TO MOIST		845.3	6	7	23	100	4.5+	1	3	9	70	17	23	18	5	17	A-4b (8)	↖ ↗ ↘ ↙ ↕
			7	3	16	100	2.0-3.5	-	-	-	-	-	-	-	-	14	A-4a (V)	↖ ↗ ↘ ↙ ↕
			8	6	24	100	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
			9	4	16	100	2.75-3.5	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙ ↕
			10	5	16	100	2.75-3.5	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙ ↕
			11	6	24	100	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
			12	4	16	100	2.75-3.5	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙ ↕
			13	7	23	100	4.5+	1	3	9	70	17	23	18	5	17	A-4b (8)	↖ ↗ ↘ ↙ ↕
			14	8	24	100	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
			15	3	16	100	2.0-3.5	-	-	-	-	-	-	-	-	14	A-4a (V)	↖ ↗ ↘ ↙ ↕
			16	5	16	100	2.0-3.5	-	-	-	-	-	-	-	-	14	A-4a (V)	↖ ↗ ↘ ↙ ↕
			17	6	24	100	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
			18	8	24	100	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
			19	4	16	100	2.75-3.5	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙ ↕
			20	5	16	100	2.75-3.5	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙ ↕
			21	6	24	100	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
			22	4	16	100	2.75-3.5	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙ ↕
			23	7	23	100	4.5+	1	3	9	70	17	23	18	5	17	A-4b (8)	↖ ↗ ↘ ↙ ↕
			24	8	24	100	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
			25	6	34	100	2.25-2.75	10	14	17	40	19	20	13	7	11	A-4a (5)	↖ ↗ ↘ ↙ ↕
			EOB	10	34	100	2.25-2.75	10	14	17	40	19	20	13	7	11	A-4a (5)	↖ ↗ ↘ ↙ ↕

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 15:52 - \COLUMBUS\SUBLAB\ABACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-0-00 2014-15\COMBINED GINTS RENUMBERED\FRA-71-0-00 NOISE WALL.GPJ

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: FRA-71-00.00		DRILLING FIRM / OPERATOR: BARR / D.ROSE		DRILL RIG: CME 550X		STATION / OFFSET: 142+03.79 LT		EXPLORATION ID								
TYPE: NOISE BARRIER		SAMPLING FIRM / LOGGER: BARR / D.ROSE		HAMMER: CME AUTOMATIC		ALIGNMENT: CL CONST. IR 71		B-036-2-14								
PID: 93496 BR ID: 12/31/14		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 1/26/14		ELEVATION: 865.9 (MSL) EOB: 25.0 ft.		PAGE								
START: 12/31/14 END: 12/31/14		SAMPLING METHOD: SPT		ENERGY RATIO (%): 85.3		COORD: 39.825429, -83.149086		1 OF 1								
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	FS	SI	CL	LL	PL	WC	ODOT CLASS (GI)	BACK FILL
VERY STIFF TO HARD, BROWN, CLAY, "AND" SILT, LITTLE SAND, TRACE GRAVEL, MOIST	1	865.9	1	4	21	100	3.0-4.5+	4	5	10	38	43	18	30	19	A-7-6 (18)
	2		2	7	8											
HARD, BROWN, SILTY CLAY, SOME SAND, LITTLE GRAVEL, DAMP	3	863.9	3	5	26	100	4.5+	-	-	-	-	-	-	-	13	A-6b (V)
	4		4	8	10											
HARD, BROWN, SANDY SILT, SOME CLAY, LITTLE GRAVEL, DAMP	5	861.4	5	6	26	100	4.2-4.5+	13	11	15	38	23	16	8	13	A-4a (5)
	6		6	7	11											
MEDIUM DENSE, BROWN AND GRAY, SILT, LITTLE CLAY, LITTLE SAND, TRACE GRAVEL, WET	7	858.9	7	3	13	100	1.2-1.5	1	1	14	68	16	21	19	2	A-4b (8)
	8		8	4	5											
VERY STIFF TO HARD, GRAYISH BROWN, SANDY SILT, LITTLE CLAY, LITTLE GRAVEL, DAMP	9	856.4	9	3	23	100	4.5+	16	11	16	40	17	19	13	6	A-4a (4)
	10		10	7	9											
@17.5'; SS-8 TO SS-10 BECOME GRAY, SS-8 CONTAINS FEW FINE SAND LENSES	11		11	7	27	100	4.5+	-	-	-	-	-	-	-	10	A-4a (V)
	12		12	9	10											
	13		13	6	27	100	3.5-4.5+	-	-	-	-	-	-	-	11	A-4a (V)
	14		14	10	9											
	15		15	7	27	100	4.5+	-	-	-	-	-	-	-	10	A-4a (V)
	16		16	9	10											
	17		17	5	43	100	4.5+	12	8	21	42	17	19	13	6	A-4a (5)
	18		18	13	17											
	19		19	9	48	100	4.5+	-	-	-	-	-	-	-	9	A-4a (V)
	20		20	15	19											
	21		21	9	51	100	4.5+	-	-	-	-	-	-	-	12	A-4a (V)
	22		22	18	18											
	23		23	9	18	100	4.5+	-	-	-	-	-	-	-	12	A-4a (V)
	24		24	18	18											
	25		25	9	18	100	4.5+	-	-	-	-	-	-	-	12	A-4a (V)
	EOB		EOB	25	18											

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 15:52 - \COLLUMBUS\SUBLAB\ABACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-0-00 2014-15\COMBINED GINTS RENUMBERED\FRA-71-0-00 NOISE WALL.GPJ

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS



PROJECT: FRA-71-00.00 TYPE: NOISE BARRIER		DRILLING FIRM / OPERATOR: BARR / J.GILBERT		DRILL RIG: CME 550X		STATION / OFFSET: 142+95.138 LT		EXPLORATION ID											
PID: 93496 BR ID: 12/22/14		SAMPLING FIRM / LOGGER: BARR / J.GILBERT		HAMMER: CME AUTOMATIC		ALIGNMENT: CL CONST. IR 71		B-036-3-14											
START: 12/22/14 END: 12/22/14		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 1/26/14		ELEVATION: 868.9 (MSL) EOB: 25.0 ft.		PAGE											
SAMPLING METHOD: SPT		SPT		ENERGY RATIO (%): 85.3		COORD: 39.825592, -83.148754		1 OF 1											
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	GRADATION (%)			ATTERBERG	WC	ODOT CLASS (GI)	BACK FILL				
		868.9							GR	FS	SI	LL	PL						
VERY STIFF TO HARD, BROWN, SILTY CLAY. SOME SAND, LITTLE GRAVEL, SS-1 CONTAINS MANY ROOTS, DAMP (FILL)			1	2	9	33	3.75	12	10	12	43	40	24	16	20	A-6b (9)	TL		
			2		10			4.0										TL	
			3		9	33	56	3.75	-	-	-	-	-	-	-	21	A-6b (V)	TL	
			4	864.4		12			4.1										TL
@2.5' SS-2 CHANGES TO DARK GRAYISH BROWN AND BROWN, CONTAINS ONE PIECE OF 1.0"+ COARSE GRAVEL, ROOTS			5															TL	
			6		10	33	100	4.5+	1	2	9	37	51	20	31	19	A-7-6 (18)	TL	
			7	861.9		12													TL
			8		5	7	21	100	4.5+	-	-	-	-	-	-	13	A-4a (V)	TL	
HARD, BROWN TO BROWN MOTTLED WITH GRAY, SANDY SILT, SOME CLAY, LITTLE GRAVEL, DAMP			9															TL	
			10		6	7	21	100	4.00	13	11	14	37	25	17	9	A-4a (5)	TL	
			11		8														TL
			12		6	7	21	100	4.5+	-	-	-	-	-	-	13	A-4a (V)	TL	
@12.5' SS-6 BECOMES GRAYISH BROWN MOTTLED WITH BROWN			13															TL	
			14	854.4		8													TL
			15		7	36	100	4.0	1	5	28	52	14	17	14	3	15	A-4b (6)	TL
			16		11	14			4.5+										
HARD, GRAYISH BROWN, SILT, SOME SAND, LITTLE CAY, TRACE GRAVEL, INTERBEDDED SILT AND SAND, DAMP			17															TL	
			18		10	48	100	4.5+	-	-	-	-	-	-	10	A-4a (V)	TL		
			19		22														TL
			20		10	34	100	4.5+	21	11	13	37	18	21	13	8	A-4a (4)	TL	
HARD, GRAYISH BROWN TO BROWN, SANDY SILT, LITTLE CLAY, LITTLE TO SOME GRAVEL, DAMP			21															TL	
			22		11	13												TL	
			23		8	9	28	100	4.5+	-	-	-	-	-	-	11	A-4a (V)	TL	
			24	843.9		11													TL
			25															TL	
			EOB															TL	

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 15:52 - \COLUMBUS\SLAB\LABACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-00 2014-15\COMBINED GINTS RENUMBERED\FRA-71-0-00 NOISE WALL.GPJ

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS



PROJECT:	FRA-71-00.00	DRILLING FIRM / OPERATOR:	BARR / J.GILBERT	DRILL RIG:	CME 550X	STATION / OFFSET:	140+82.146 LT	EXPLORATION ID	B-036-1-14									
TYPE:	NOISE BARRIER	SAMPLING FIRM / LOGGER:	BARR / J.GILBERT	HAMMER:	CME AUTOMATIC	ALIGNMENT:	CL CONST. IR 71											
PID:	93496 BR ID:	DRILLING METHOD:	3.25" HSA	CALIBRATION DATE:	1/26/14	ELEVATION:	870.3 (MSL) EOB:	25.0 ft.	PAGE									
START:	12/17/14	END:	12/18/14	SPT		COORD:	39.825609, -83.149524		1 OF 1									
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
HARD, BROWN, SILT AND CLAY LITTLE SAND, LITTLE GRAVEL, DAMP		870.3	1	3	21	56	4.5+	17	8	10	37	28	32	18	14	13	A-6a (8)	↖ ↗ ↘ ↙ ↕
HARD, LIGHT BROWN WITH GRAY AND BROWN, SILTY CLAY, LITTLE SAND, TRACE GRAVEL, CONTAINS ROOTS, DAMP (FILL)		868.3	2	8	27	100	4.5+	3	4	10	49	34	36	20	16	12	A-6b (10)	↖ ↗ ↘ ↙ ↕
HARD, BROWN MOTTLED WITH GRAY, SILT AND CLAY. SOME SAND, LITTLE GRAVEL, DAMP		863.3	3	14	51	100	4.5+	-	-	-	-	-	-	-	-	6	A-6b (V)	↖ ↗ ↘ ↙ ↕
@10.0'; SS-5 CONTAINS ROOTS		858.3	4	17	23	100	4.5+	13	11	14	37	25	30	16	14	14	A-6a (7)	↖ ↗ ↘ ↙ ↕
HARD, GRAYISH BROWN, SILT, LITTLE CLAY, LITTLE SAND, TRACE GRAVEL, DAMP		855.8	5	3	13	100	4.0-4.2	-	-	-	-	-	-	-	-	16	A-6a (V)	↖ ↗ ↘ ↙ ↕
VERY STIFF, GRAYISH BROWN, SANDY SILT, LITTLE CLAY, TRACE TO LITTLE GRAVEL, DAMP TO MOIST		845.3	6	4	16	100	2.0-3.5	-	-	-	-	-	-	-	-	14	A-4a (V)	↖ ↗ ↘ ↙ ↕
			7	7	23	100	4.5+	1	3	9	70	17	23	18	5	17	A-4b (8)	↖ ↗ ↘ ↙ ↕
			8	3	16	100	2.0-3.5	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙ ↕
			9	6	24	100	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
			10	4	16	100	2.75-3.5	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙ ↕
			11	5	16	100	2.75-3.5	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙ ↕
			12	6	24	100	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
			13	8	24	100	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
			14	7	23	100	4.5+	1	3	9	70	17	23	18	5	17	A-4b (8)	↖ ↗ ↘ ↙ ↕
			15	3	16	100	2.0-3.5	-	-	-	-	-	-	-	-	14	A-4a (V)	↖ ↗ ↘ ↙ ↕
			16	5	16	100	2.0-3.5	-	-	-	-	-	-	-	-	14	A-4a (V)	↖ ↗ ↘ ↙ ↕
			17	6	24	100	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
			18	8	24	100	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
			19	7	23	100	4.5+	1	3	9	70	17	23	18	5	17	A-4b (8)	↖ ↗ ↘ ↙ ↕
			20	4	16	100	2.75-3.5	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙ ↕
			21	5	16	100	2.75-3.5	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙ ↕
			22	6	24	100	-	-	-	-	-	-	-	-	-	10	A-4a (V)	↖ ↗ ↘ ↙ ↕
			23	7	23	100	4.5+	1	3	9	70	17	23	18	5	17	A-4b (8)	↖ ↗ ↘ ↙ ↕
			24	3	16	100	2.0-3.5	-	-	-	-	-	-	-	-	14	A-4a (V)	↖ ↗ ↘ ↙ ↕
			25	6	34	100	2.25-2.75	10	14	17	40	19	20	13	7	11	A-4a (5)	↖ ↗ ↘ ↙ ↕

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 15:52 - \COLUMBUS\SUBLAB\ABACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-0-00 2014-15\COMBINED GINTS RENUMBERED\FRA-71-0-00 NOISE WALL.GPJ

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS



PROJECT:	FRA-71-00.00	DRILLING FIRM / OPERATOR:	BARR / J.GILBERT	DRILL RIG:	CME 550X	STATION / OFFSET:	145+31.141 LT	EXPLORATION ID										
TYPE:	NOISE BARRIER	SAMPLING FIRM / LOGGER:	BARR / J.GILBERT	HAMMER:	CME AUTOMATIC	ALIGNMENT:	CL CONST. IR 71	B-037-2-14										
PID:	93496	DRILLING METHOD:	3.25" HSA	CALIBRATION DATE:	1/26/14	ELEVATION:	866.8 (MSL), EOB:	25.0 ft.										
START:	12/22/14	SAMPLING METHOD:	SPT	ENERGY RATIO (%):	85.3	COORD:	39.825595, -83.147906	PAGE										
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
VERY STIFF TO HARD, BROWN, SILT AND CLAY LITTLE SAND, TRACE GRAVEL, CONTAINS MANY ROOTS, DAMP (FILL)		866.8	1	3	10	89	2.00-4.5+	6	7	11	47	29	37	22	15	21	A-6a (10)	↖ ↗ ↘ ↙
HARD, BROWN MOTTLED WITH LIGHT BROWN, CLAY "AND" SILT, LITTLE SAND, TRACE GRAVEL, CONTAINS ROOTS, MOIST		864.8	2															↖ ↗ ↘ ↙
HARD, BROWN MOTTLED WITH GRAY, SANDY SILT, SOME CLAY, TRACE GRAVEL, DAMP		862.3	3	9	38	89	4.5+	1	4	8	39	48	53	19	34	20	A-7-6 (19)	↖ ↗ ↘ ↙
@7.5'; SS-4 BECOMES BROWN			4															↖ ↗ ↘ ↙
@10.0'; SS-5 BECOMES DARK GRAY, CONTAINS IRON STAINING			5	11	48	100	4.5+	-	-	-	-	-	-	-	-	12	A-4a (V)	↖ ↗ ↘ ↙
HARD, GRAYISH BROWN, SILT, LITTLE SAND, LITTLE CLAY, TRACE GRAVEL, CONTAINS SAND LENSES, DAMP		852.3	6	15	21	100	4.5+	4	15	16	40	25	24	16	8	12	A-4a (6)	↖ ↗ ↘ ↙
HARD, GRAYISH BROWN, SANDY SILT, LITTLE TO SOME GRAVEL, LITTLE CLAY, DAMP TO MOIST		849.8	7	5	7	100	4.5+	-	-	-	-	-	-	-	-	-		↖ ↗ ↘ ↙
			8	7	21	100	4.5+	4	15	16	40	25	24	16	8	12	A-4a (6)	↖ ↗ ↘ ↙
			9	9	33	100	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙
			10	11	12													↖ ↗ ↘ ↙
			11	11	33	100	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙
			12	12														↖ ↗ ↘ ↙
			13	3	7	23	100	4.5+	-	-	-	-	-	-	-	12	A-4a (V)	↖ ↗ ↘ ↙
			14	7	10	30	100	4.5+	4	13	65	14	20	17	3	14	A-4b (8)	↖ ↗ ↘ ↙
			15	10	30	100	4.5+	4	13	65	14	20	17	3	14	A-4b (8)	↖ ↗ ↘ ↙	
			16	10	30	100	4.5+	4	13	65	14	20	17	3	14	A-4b (8)	↖ ↗ ↘ ↙	
			17	11	30	100	4.5+	4	13	65	14	20	17	3	14	A-4b (8)	↖ ↗ ↘ ↙	
			18	2	17	100	3.25-4.5+	-	-	-	-	-	-	-	-	20	A-4a (V)	↖ ↗ ↘ ↙
			19	2	17	100	3.25-4.5+	-	-	-	-	-	-	-	-	20	A-4a (V)	↖ ↗ ↘ ↙
			20	4	18	67	4.5+	21	9	13	41	16	21	16	5	13	A-4a (4)	↖ ↗ ↘ ↙
			21	6	18	67	4.5+	21	9	13	41	16	21	16	5	13	A-4a (4)	↖ ↗ ↘ ↙
			22	6	18	67	4.5+	21	9	13	41	16	21	16	5	13	A-4a (4)	↖ ↗ ↘ ↙
			23	7	18	67	4.5+	21	9	13	41	16	21	16	5	13	A-4a (4)	↖ ↗ ↘ ↙
			24	4	21	100	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙
			25	4	21	100	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 15:52 - \COLUMBUS\SUBLAB\ABACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-00 2014-15\COMBINED GINTS RENUMBERED\FRA-71-0-00 NOISE WALL.GPJ

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: FRA-71-00.00 TYPE: NOISE BARRIER		DRILLING FIRM / OPERATOR: BARR / J.GILBERT		DRILL RIG: CME 550X		STATION / OFFSET: 147+09.75 LT		EXPLORATION ID									
PID: 93496 BR ID: 12/22/14		SAMPLING FIRM / LOGGER: BARR / J.GILBERT		HAMMER: CME AUTOMATIC		ALIGNMENT: CL CONST. IR 71		B-037-3-14									
START: 12/22/14 END: 12/22/14		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 1/26/14		ELEVATION: 876.5 (MSL) EOB: 25.0 ft.		PAGE									
SAMPLING METHOD: SPT		SPT		ENERGY RATIO (%): 85.3		COORD: 39.825402, -83.147274		1 OF 1									
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
6.0" ASPHALT		876.5	1	14													
DENSE BROWN GRAVEL, SOME SAND, TRACE SILT, TRACE CLAY, DAMP (FILL)		876.0	2	12	33	44	62	18	7	10	3	NP	NP	NP	5	A-1-a (0)	
HARD, GRAYISH BROWN, BROWN AND GRAY, SANDY SILT, SOME CLAY, TRACE GRAVEL, DAMP (FILL)		874.2	3	7	40	100	4.5+	9	13	16	39	23	14	8	9	A-4a (5)	
			4	18													
			5	9	38	100	4.5+	-	-	-	-	-	-	-	9	A-4a (V)	
			6	11	16												
		869.5	7														
HARD, BROWN, GRAY, AND LIGHT BROWN, SILTY CLAY, SOME SAND, TRACE GRAVEL, DAMP (FILL)			8	10	31	100	4.5+	3	8	13	40	36	16	18	15	A-6b (11)	
			9	9	13												
			10	6	27	100	4.5+	-	-	-	-	-	-	-	11	A-6b (V)	
		864.5	11	9	10												
			12														
VERY STIFF, GRAY MOTTLED WITH LIGHT AND DARK GRAY, CLAY, "AND" SILT, TRACE SAND, DAMP			13	2	13	100	3.0-3.25	0	1	4	53	42	46	17	29	A-7-6 (17)	
			14	3	6												
		862.0	15	5	18	100	4.5+	1	1	6	48	44	40	20	20	A-6b (12)	
HARD, BROWN MOTTLED WITH GRAY, SILTY CLAY, TRACE TO LITTLE SAND, TRACE GRAVEL, CONTAINS LITTLE IRON STAINING, DAMP			16	6	7												
			17														
VERY STIFF TO HARD, BROWN MOTTLED WITH GRAY, SANDY SILT, SOME CLAY, TRACE GRAVEL, DAMP		859.5	18	2	17	100	3.75-4.5+	-	-	-	-	-	-	-	18	A-4a (V)	
			19	5	7												
			20														
@20.0': SS-9 BECOMES BROWN, CONTAINS LITTLE IRON STAINING			21	4	20	100	4.5+	4	8	12	44	32	29	19	10	A-4a (8)	
			22	5	9												
			23														
			24	6	7	100	4.5+	-	-	-	-	-	-	-	11	A-4a (V)	
@23.5': SS-10 BECOMES GRAY MOTTLED WITH ORANGISH BROWN		851.5	25	7	7												

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 15:52 - \COLLUMBUS\SUBLAB\ABACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-00 2014-15\COMBINED GINTS RENUMBERED\FRA-71-0-00 NOISE WALL.GPJ

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: FRA-71-00.00		DRILLING FIRM / OPERATOR: BARR / J.GILBERT		DRILL RIG: CME 550X		STATION / OFFSET: 149+20.76 LT		EXPLORATION ID									
TYPE: NOISE BARRIER		SAMPLING FIRM / LOGGER: BARR / J.GILBERT		HAMMER: CME AUTOMATIC		ALIGNMENT: CL CONST. IR 71		B-038-1-14									
PID: 93496 BR ID:		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 1/26/14		ELEVATION: 880.6 (MSL) EOB: 25.0 ft.		PAGE									
START: 12/22/14 END: 12/22/14		SAMPLING METHOD: SPT		ENERGY RATIO (%): 85.3		COORD: 39.825380, -83.146518		1 OF 1									
MATERIAL DESCRIPTION AND NOTES																	
		ELEV.		DEPTHS		SPT / RQD		REC SAMPLE ID		HP (tsf)		GRADATION (%)		ATTENBERG		BACK FILL	
		880.6		1		19		SS-1		4.5+		40 21 13 19 7 20 16 4		7		A-2.4 (0)	
		878.9		2		11						-		-		9	
				3		8		SS-2		4.5+		18 13 15 36 18 22 14 8		8		A-4a (4)	
				4													
				5													
				6		10		SS-3		4.5+		-		-		7	
				7		11											
				8		13											
		873.6		8		6		SS-4		4.5+		16 11 13 38 22 25 13 12		10		A-6a (6)	
				9		8											
				10		9											
				11		11		SS-5		4.5+		-		-		10	
				12		12											
		868.6		13		5		SS-6		4.5+		6 8 12 38 36 17 19		15		A-6b (11)	
				14		8											
				15		6		SS-7		4.5+		-		-		20	
				16		7											
				17		8											
				18		2		SS-8		3.0-4.5+		3 7 11 42 37 38 17 21		19		A-6b (12)	
				19		5											
				20		6		SS-9		4.25		-		-		24	
				21		7											
				22													
				23													
				24		4		SS-10		2.0-2.25		-		-		27	
		855.6		25		4											
6.0" ASPHALT																	
DENSE BROWN GRAVEL WITH SAND AND SILT TRACE CLAY DAMP (FILL - GRANULAR BASE)																	
HARD GRAY SANDY SILT LITTLE CLAY, LITTLE GRAVEL, DAMP (FILL)																	
HARD BROWN SILT AND CLAY SOME SAND, LITTLE GRAVEL, DAMP (FILL)																	
HARD BROWN WITH LIGHT BROWN AND GRAY SILTY CLAY, LITTLE SAND, TRACE GRAVEL, DAMP (FILL)																	
VERY STIFF TO HARD BROWN MOTTLED WITH GRAY SILTY CLAY LITTLE SAND, TRACE GRAVEL, SS-7 CONTAINS DECAYED ROOTS AND IRON STAINS, HAS ORGANIC ODOR, MOIST																	
@17.5' SS-8 BECOMES DARK GRAY MOTTLED WITH BROWN																	
@20.0' SS-9 BECOMES DARK GRAYISH BROWN, CONTAINS ROOTS AND HAS ORGANIC ODOR																	
@23.5' SS-10 BECOMES DARK GRAY MOTTLED WITH ORANGISH BROWN, CONTAINS IRON STAINING																	

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 15:53 - \COLLUMBUS\SUBLAB\ABACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-0-00 NOISE WALL.GPJ

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT:	FRA-71-00.00	DRILLING FIRM / OPERATOR:	BARR / J.GILBERT	DRILL RIG:	CME 55X	STATION / OFFSET:	157+97.81 RT	EXPLORATION ID	B-040-2-14											
TYPE:	BRIDGE	SAMPLING FIRM / LOGGER:	BARR / Z.JEWELL	HAMMER:	CME AUTOMATIC	ALIGNMENT:	CL CONST. IR 71													
PID:	93496 BR ID: FRA-71-0296	DRILLING METHOD:	3.25" HSA	CALIBRATION DATE:	1/26/14	ELEVATION:	863.8 (MSL) EOB:	56.5 ft.	PAGE											
START:	3/31/15 END: 3/31/15	SAMPLING METHOD:	SPT	ENERGY RATIO (%):	81.2	LAT / LONG:	39.824764, -83.413445		1 OF 1											
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	OOOT CLASS (GI)	BACK FILL		
VERY SOFT TO SOFT, GRAYISH BROWN, SILT AND CLAY, SOME SAND, TRACE GRAVEL, CONTAINS MANY ROOT HAIRS AND COAL FRAGMENTS, WET (FILL)		863.8	1	4	5	50	0.2-0.25	-	-	-	-	-	-	-	-	-	-	A-6a (V)	TL	
		861.8	2	4	5	50	0.2-0.25	-	-	-	-	-	-	-	-	-	-	-	TL	
SOFT TO STIFF, GRAYISH BROWN, SANDY SILT, LITTLE CLAY, LITTLE GRAVEL, MOIST (POSSIBLE FILL)		858.8	3	1	4	100	0.25-1.25	12	13	16	39	20	21	14	7	15	-	A-4a (5)	TL	
		858.3	4	2	4	100	0.25-1.25	12	13	16	39	20	21	14	7	15	-	-	TL	
LOOSE, DARK BROWN, COARSE AND FINE SAND LITTLE GRAVEL, LITTLE SILT, TRACE CLAY, (GRAVEL IS DEGRADING SANDSTONE), DAMP (POSSIBLE FILL)		851.8	5	6	16	28	4.25	-	-	-	-	-	-	-	-	-	-	-	A-3a (V)	TL
		851.8	6	6	16	28	4.25	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)	TL
VERY STIFF TO HARD, GRAYISH BROWN, SANDY SILT, SOME GRAVEL, LITTLE CLAY, DAMP (POSSIBLE FILL)		851.8	7	5	18	83	3.75-4.2	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)	TL
		851.8	8	8	18	83	3.75-4.2	-	-	-	-	-	-	-	-	-	-	-	-	TL
@10.0': SS-5 CHANGES TO VERY SOFT, BROWN, LITTLE GRAVEL, WET		851.8	9	5	18	83	3.75-4.2	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)	TL
		851.8	10	2	3	56	SS-5	-	20	10	15	36	19	21	14	7	21	-	A-4a (4)	TL
VERY STIFF TO HARD, GRAY, SANDY SILT, SOME CLAY, TRACE GRAVEL, DAMP TO MOIST		851.8	11	4	19	67	SS-6	4.25	-	-	-	-	-	-	-	-	-	-	A-4a (V)	TL
		851.8	12	7	19	67	SS-6	4.25	-	-	-	-	-	-	-	-	-	-	-	TL
@20.0': SS-9 BECOMES DARK GRAY		851.8	13	4	15	100	SS-7	3.75-4.0	-	-	-	-	-	-	-	-	-	-	A-4a (V)	TL
		851.8	14	7	15	100	SS-7	3.75-4.0	-	-	-	-	-	-	-	-	-	-	-	TL
@22.0': SS-10 BECOMES GRAYISH BROWN AND BROWN		851.8	15	4	18	100	SS-8	2.9-3.25	8	11	14	39	28	24	15	9	13	-	A-4a (6)	TL
		851.8	16	7	18	100	SS-8	2.9-3.25	8	11	14	39	28	24	15	9	13	-	-	TL
@25.0': SS-11 TO SS-15 BECOME GRAY		851.8	17	8	23	100	SS-9	2.5-4.25	-	-	-	-	-	-	-	-	-	-	A-4a (V)	TL
		851.8	18	9	23	100	SS-9	2.5-4.25	-	-	-	-	-	-	-	-	-	-	-	TL
@45.0': SS-16 TO SS-18 BECOME DARK GRAY		851.8	19	8	28	100	SS-10	3.4-4.5+	-	-	-	-	-	-	-	-	-	-	A-4a (V)	TL
		851.8	20	11	28	100	SS-10	3.4-4.5+	-	-	-	-	-	-	-	-	-	-	-	TL
@45.0': SS-16 TO SS-18 BECOME DARK GRAY		851.8	21	13	91	100	SS-11	4.5+	-	-	-	-	-	-	-	-	-	-	A-4a (V)	TL
		851.8	22	28	91	100	SS-11	4.5+	-	-	-	-	-	-	-	-	-	-	-	TL
@45.0': SS-16 TO SS-18 BECOME DARK GRAY		851.8	23	14	88	100	SS-12	4.5+	-	-	-	-	-	-	-	-	-	-	A-4a (V)	TL
		851.8	24	41	88	100	SS-12	4.5+	-	-	-	-	-	-	-	-	-	-	-	TL
@45.0': SS-16 TO SS-18 BECOME DARK GRAY		851.8	25	11	72	100	SS-13	4.5+	6	11	17	39	27	23	13	10	8	-	A-4a (6)	TL
		851.8	26	30	72	100	SS-13	4.5+	6	11	17	39	27	23	13	10	8	-	-	TL
@45.0': SS-16 TO SS-18 BECOME DARK GRAY		851.8	27	13	83	100	SS-14	4.5+	-	-	-	-	-	-	-	-	-	-	A-4a (V)	TL
		851.8	28	34	83	100	SS-14	4.5+	-	-	-	-	-	-	-	-	-	-	-	TL
@45.0': SS-16 TO SS-18 BECOME DARK GRAY		851.8	29	16	68	100	SS-15	4.5+	-	-	-	-	-	-	-	-	-	-	A-4a (V)	TL
		851.8	30	26	68	100	SS-15	4.5+	-	-	-	-	-	-	-	-	-	-	-	TL
@45.0': SS-16 TO SS-18 BECOME DARK GRAY		851.8	31	13	60	100	SS-16	4.5+	4	7	20	44	25	22	12	10	9	-	A-4a (7)	TL
		851.8	32	25	60	100	SS-16	4.5+	4	7	20	44	25	22	12	10	9	-	-	TL
@45.0': SS-16 TO SS-18 BECOME DARK GRAY		851.8	33	9	49	100	SS-17	4.25-4.5+	-	-	-	-	-	-	-	-	-	-	A-4a (V)	TL
		851.8	34	21	49	100	SS-17	4.25-4.5+	-	-	-	-	-	-	-	-	-	-	-	TL
@45.0': SS-16 TO SS-18 BECOME DARK GRAY		851.8	35	11	45	100	SS-18	4.5+	-	-	-	-	-	-	-	-	-	-	A-4a (V)	TL
		851.8	36	18	45	100	SS-18	4.5+	-	-	-	-	-	-	-	-	-	-	-	TL
@45.0': SS-16 TO SS-18 BECOME DARK GRAY		851.8	37	11	45	100	SS-18	4.5+	-	-	-	-	-	-	-	-	-	-	A-4a (V)	TL
		851.8	38	18	45	100	SS-18	4.5+	-	-	-	-	-	-	-	-	-	-	-	TL

NOTES: NONE
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 11:23 - \COLLUMBUS\LAB\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-0-00 2014-15\COMBINED GINTS RENUMBERED\FRA-71-0-00 RRRIDGE.GPJ

PROJECT: FRA-71-00.00 TYPE: BRIDGE		DRILLING FIRM / OPERATOR: CENTRAL STAR / M/J		DRILL RIG: CME 55 (CS)		STATION / OFFSET: 163+56.1 RT		EXPLORATION ID					
PID: 93496 BR ID: FRA-71-0308		SAMPLING FIRM / LOGGER: B&P / Z. JEWELL		HAMMER: CME AUTOMATIC		ALIGNMENT: CL CONST. IR 71		B-042-1-14					
START: 3/29/14 END: 3/29/14		DRILLING METHOD: 2.25" HSA		CALIBRATION DATE: 6/12/12		ELEVATION: 894.0 (MSL) EOB: 25.0 ft.		PAGE					
		SAMPLING METHOD: SPT		ENERGY RATIO (%): 74.9		LAT / LONG: 39.824847, -83.141437		1 OF 1					
MATERIAL DESCRIPTION AND NOTES		ELEV.		SPT / RQD		REC SAMPLE ID		GRADATION (%)		ATTERBERG		BACK FILL	
		894.0				HP (tsf)		GR CS FS SI CL		LL PL PI		OOOT CLASS (GI) WC	
		893.0		6 10 14		SS-1 4.5+		8 13 17 35 27		23 15 8		14 A-4a (5)	
				10 12 12		SS-2 4.5+						9 A-4a (V)	
				10 11 9		SS-3 4.5+						9 A-4a (V)	
				14 20 12		SS-4 4.5+						8 A-4a (V)	
		881.0		11 12 17		SS-5 4.5+		10 14 35 22		22 14 8		8 A-4a (4)	
				10 12 14		SS-6 4.5+		9 12 35 38		34 18 16		15 A-6b (10)	
		878.5		12 15 15		SS-7 4.5+						10 A-6a (V)	
		876.0		7 8 10		SS-8 3.25-4.5+		5 11 38 42		44 19 25		19 A-7-6 (15)	
				7 9 12		SS-9 4.5+		10 13 37 33		28 16 12		14 A-6a (8)	
		871.0		5 7 9		SS-10 3.0-3.5						21 A-6b (V)	
		869.0											
12.0' TOPSOIL													
HARD, GRAYISH BROWN, SANDY SILT, SOME CLAY, TRACE TO LITTLE GRAVEL, DAMP													
@3.5'; SS-2 BECOMES BROWN MOTTLED WITH GRAY													
@6.0'; SS-3 BECOMES GRAY													
@8.5'; SS-4 BECOMES GRAY MOTTLED WITH BROWN, CONTAINS ONE PIECE OF COARSE GRAVEL													
@11.0'; SS-5 BECOMES BROWN MOTTLED WITH GRAY													
HARD, BROWN MOTTLED WITH GRAY AND ORANGISH BROWN, SILTY CLAY, SOME SAND, TRACE GRAVEL, DAMP													
HARD, BROWN, SILT AND CLAY SOME SAND, LITTLE GRAVEL, DAMP													
VERY STIFF TO HARD, BROWN MOTTLED WITH GRAY, CLAY, "AND" SILT, LITTLE SAND, TRACE GRAVEL, DAMP													
HARD, BROWN MOTTLED WITH GRAY, SILT AND CLAY SOME SAND, TRACE GRAVEL, DAMP													
VERY STIFF, GRAY MOTTLED WITH BROWN, SILTY CLAY, LITTLE SAND, TRACE GRAVEL, DAMP TO MOIST													

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 11:22 - \COLLUMBUS\SUBLAB\ABACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-00 2014-15\COMBINED GINTS RENUMBERED\FRA-71-00 2014 GPT

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. CAVE DEPTH 10.0'.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT:	FRA-71-00.00	DRILLING FIRM / OPERATOR:	CENTRAL STAR / MJ	DRILL RIG:	CME 55 (CS)	STATION / OFFSET:	165+14.96 LT	EXPLORATION ID	
TYPE:	BRIDGE	SAMPLING FIRM / LOGGER:	B&P / Z. JEWELL	HAMMER:	CME AUTOMATIC	ALIGNMENT:	CL CONST. IR 71	B-042-5-14	
PID:	93496 BR ID: FRA-71-0308	DRILLING METHOD:	2.25" HSA	CALIBRATION DATE:	6/12/12	ELEVATION:	875.0 (MSL) EOB:	34.3 ft.	
START:	3/29/14 END: 3/29/14	SAMPLING METHOD:	SPT	ENERGY RATIO (%):	74.9	LAT / LONG:	39.825073, -83.140845	PAGE	
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT / RQD	REC SAMPLE (%)	HP (tsf)	GRADATION (%)	ATTERBERG	BACK FILL
		875.0					GR CS FS SI CL	LL PL PI	OOOT CLASS (GI) WC
12.0' TOPSOIL									
VERY STIFF, BROWN, SILT AND CLAY, SOME GRAVEL, LITTLE SAND, DAMP		874.0	1	5	50	2.5-3.5	8 11 29 25	28 17 11	12 A-6a (4)
VERY STIFF, BROWN MOTTLED WITH GRAY, SILTY CLAY, LITTLE SAND, TRACE GRAVEL, SS-2 CONTAINS IRON STAINING, MOIST		872.0	2	7					
			3						
			4	5	100	2.75-3.0	7 10 34 41	36 16 20	18 A-6b (12)
			5	11					
			6	4	72	2.0-3.0	- - -	- - -	16 A-6b (V)
			7	7					
			8	9					
STIFF, BROWN MOTTLED WITH GRAY, SANDY SILT, LITTLE TO SOME CLAY, TRACE TO LITTLE GRAVEL, DAMP TO MOIST		867.0	9	6	89	1.75-2.0	12 16 36 24	21 15 6	13 A-4a (5)
			10	6					
			11	3	20	1.0-2.0	- - -	- - -	13 A-4a (V)
			12	6					
			13	10					
			14	5	28	1.0-1.5	- - -	- - -	15 A-4a (V)
			15	6					
			16	8					
			17	9	89	4.5+	- - -	- - -	11 A-4a (V)
			18	12					
			19	24					
			20	31					
			21	20					
HARD, GRAYISH BROWN, SILT AND CLAY, SOME SAND, TRACE GRAVEL, DAMP		854.5	22	14	17		- - -	- - -	12 A-6a (V)
			23	16					
			24	17					
			25	10	56	4.5+	9 15 39 31	27 15 12	12 A-6a (8)
			26	15					
			27	25					
VERY DENSE, GRAYISH BROWN, SANDY SILT, SOME CLAY, LITTLE GRAVEL, DAMP		849.5	28	20	100		- - -	- - -	11 A-4a (V)
			29	40					
			30	41					
			31	28					
			32	33					
			33	47					
			34	30					
			EOB	50/3"	100	4.5+	- - -	- - -	7 A-4a (V)

NOTES: GROUNDWATER ENCOUNTERED AT 13.5' DURING DRILLING. CAVE DEPTH 8.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 5/9/15 11:22 - \\COLUMBUS\BUSBAS\LAB\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\FRA-71-00 2014-15\COMBINED GINTS.RENUMBERED\FRA-71-00 2014.GPJ

B-001-B-62

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7/20/62 SAMPLER: TYPE Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE None CLIENT: Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 7/20/62 & NXM Core Barrel DIA. 3.5" I.D. AFTER 24 HOURS Hole PROJECT: Interstate 71
CASEING LENGTH Cased at 779.3. Bridge No. FRA-1-0153 (R&L)

BORING No. 1 STATION AND OFFSET 921+94, 86' L. of C.L. of SR-1 SURFACE ELEV. 783.3

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS			
						% AGG	% C.S.	% F.S.	% SILT	% CLAY	LL	PL		W.C.		
783.3	0				Topsoil.	No Tests	Performed									
781.8	2	1	7-6-9	15"												
	4	2	10-11-12	10"	Dark brown silt and clay, some sand, some gravel, moist - stiff.	24	8	25	27	16	32	13	15	A-6a		
778.3	6	3	17-21-21	14"	Brown sandy gravel, little clay, wet - dense.	76	9	3	-1	0	-	8	8	A-1-a		
	8	4	13-13-17	10"	Brown sandy gravel, trace of silt, wet - medium dense.	79	10	3	-	8	-	8	8	A-1-a		
	10	5	12-16-17	8"	Brown sandy gravel, trace of silt, wet - dense.	77	10	5	-	8	-	9	9	A-1-a		
770.8	12															
770.3	14	6	14	4"	Brown sandy gravel, little silt, moist - dense.	57	17	8	17	1	17	2	13	A-1-b		
	14	7	17-25	8"	Brown sandy silt, some medium dense, moist - stiff.	35	13	15	24	13	24	10	12	A-4a		
768.3	16	8	11-21-26	14"	Gray and brown clay, trace of sand, trace rock fragments, moist - stiff (fat).	4	4	4	15	73	52	29	21	A-7-6		
765.8	18	9	70	*	Brown sandy gravel.									A-1-a		
	18	10	50	4"	(Field Classification) Brown sandy gravel, little clay, wet - very dense. (Visual)									A-1-a		
762.3	20															
	22															
	24	11	NXM	88%	Dolomite, cream white, crystalline, fine-grained, dense, hard, thinly bedded (1/2" to 9", averaging 5"); evidence of high angle jointing.											
757.3	26															
	28				Boring Completed.											
	30															
	32															
	34															

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B-001-C-62

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7-16-62 SAMPLER: TYPE Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 861.2 CLIENT: Barrett-Cargo-Withers & Assoc., Ltd.
 DATE COMPLETED 7-17-62 CASING: LENGTH Stem Augers DIA. 3.5" I.D. Hollow After 24 HOURS 864.5 PROJECT: I-71, Bridge No. FRA-1-0298
 BORING No. 1 STATION AND OFFSET 998+07, 79' L. of CL of SR-1 SURFACE ELEV. 869.2

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS				
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PL		W.C.			
869.2	0																
868.2	2	1	1-2	11"	Topsoil	No tests performed											
866.7	4	2	1-7	4"	Brown clay, little sand, moist - stiff	0	3	8	43	46	51	32	20				A-7-6
864.2	6	3	9-11-11	17"	Mottled brown and gray silt and clay, little sand, little gravel, moist - stiff	18	7	10	36	29	30	14	14				A-6a
	8	4	4-4-6	17"	Mottled brown and gray sandy silt, some sand, very moist - medium stiff	22	11	15	37	15	23	7	15				A-4a
	10	5	5-8-9	18"	Brown sandy silt, with sand seams, little gravel, very moist - medium stiff	17	24	20	28	11	18	4	12				A-4a
	12	6	6-11-12	15"	Brown sandy silt, some gravel, moist - stiff	20	11	13	83	18	20	6	11				A-4a
	14	7	8-8-9	16"	do	21	9	15	35	20	22	8	13				A-4a
	16	8	6-8-12	17"	Brownish gray sandy silt, little gravel, moist - stiff	15	10	13	37	25	22	8	13				A-4a
	18	9	7-8-11	18"	do	20	10	15	35	20	23	9	12				A-4a
	20																
	22	10	10-12-14	17 1/2"	Brown sandy silt, little gravel, moist - stiff	14	7	16	40	23	24	10	12				A-4a
	24																
	26	11	13-24-41	18"	Brownish gray sandy silt, little gravel, moist - very stiff	17	7	14	39	23	24	10	10				A-4a
	28																
	30	12	29-40	12"	Brownish gray sandy silt, trace of gravel, moist - very stiff	9	8	18	44	21	21	8	10				A-4a
	32																
	34																

"AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC, AND OURSELVES, ALL REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS, AND AUTHORIZATION FOR PUBLICATION OF STATEMENTS, CONCLUSIONS, OR EXTRACTS FROM OR REGARDING OUR REPORTS IS RESERVED PENDING OUR WRITTEN APPROVAL."

B-001-C-62

Form No. 530-16-55

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7-16-62 SAMPLER: TYPE Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 961.2 CLIENT: Barrett-Cargo-Withers & Assoc., Ltd.
 DATE COMPLETED 7-17-62 CASING: LENGTH Stem Augers DIA. 3.5" I.D. Hollow After 24 HOURS 864.5 PROJECT: I-71, Bridge No. FRA-1-0298
 BORING No. 1 STATION AND OFFSET 998+07, 79' L. of CL of SR-1 SURFACE ELEV. 869.2

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS				
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PL		W.C.			
	34																
	36	13	23-31-46	18"	Brown sandy silt, trace of gravel, moist - very stiff	7	8	17	42	26	21	8	10				A-4a
	38																
	40																
	42	14	18-20-25	18"	Brownish gray sandy silt, little gravel, moist - very stiff	10	8	17	41	24	21	8	10				A-4a
	44																
	46	15	16-17-20	18"	do	16	8	16	38	22	20	7	10				A-4a
	48																
	50																
	52	16	16-23-31	18"	Brown sandy silt, little gravel, moist - stiff	11	8	18	40	23	20	8	10				A-4a
	54																
812.7	56	17	10-16-26	18"	do	13	8	18	39	22	20	8	11				A-4a
	58				Boring completed												
	60																
	62																
	64																
	66																
	68																

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FRA-71-0.00

SOIL PROFILE
BORING LOG B-001-C-62

DRAWN
DML
CHECKED
LE

B-001-U-62

Form No. 530-16

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7/10/62 SAMPLER TYPE Spoon DIA. 2"O.D. WATER ELEV. IMMEDIATE 866.0 CLIENT: Barrett-Cargo-Withers & Assoc.
 DATE COMPLETED 7/11/62 CASING LENGTH DIA. 3.5" I.D. AFTER 24 HOURS 865.7 PROJECT: I-71 - Bridge No. FRA-1-0310
 BORING No. 1 STATION AND OFFSET 30+41, 55' L. of C.L. of SR-3 SURFACE ELEV. 873.5 R & L

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS				
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PL		W.C.			
873.5	0					No Tests Performed.											
872.0	2	1	3-7-9	16"	Topsoil, dry - hard.												
870.5	4	2	10-19-33	15"	Brown silty clay, little sand, trace gravel, dry - hard.	9	7	11	38	35	38	22	9	A-6b			
868.5	6	3	15-14-12	16"	Brown silt and clay, some sand, little gravel, moist - very stiff.	12	12	13	38	25	29	14	12	A-6a			
866.0	8	4	5-6-8	17"	Mottled brown and gray silt and clay, some sand, little gravel, moist - stiff.	10	9	12	37	32	40	23	18	A-6b			
	10	5	4-5	12"	Brown sandy silt, little gravel, very moist - medium stiff.	13	15	18	39	15	21	6	15	A-4a			
	12	6	11	6"	Brown sandy silt, little gravel, moist - stiff.	15	20	17	38	10	19	6	10	A-4a			
	14	7	10-7-7	16"	do do do	17	11	13	40	19	21	8	11	A-4a			
	16	8	6-6-6	17"	Brown sandy silt, little gravel, moist - medium stiff.	15	12	13	42	18	21	8	13	A-4a			
	18	9	5-9-14	18"	Brown silt and clay, some sand, little gravel, moist - medium stiff.	13	11	15	39	22	25	11	13	A-6a			
	20	10	11-14-18	16½"	Brown silt and clay, some sand, trace gravel, moist - medium stiff.	8	11	15	41	25	25	12	12	A-6a			
	22	11	8-10-12	17"	Gray sandy silt, little gravel, moist - stiff.	10	9	15	40	26	23	8	11	A-4a			
	24																
	26	12	10-16-28	18"	Brownish gray silty sand, little gravel, moist - dense.	11	9	61	4	15	23	9	11	A-2-4			
	28																
	30	13	24-44	12"	Brownish gray sandy silt, little gravel, moist - very stiff.	10	7	17	41	25	23	10	8	A-4a			
	32																
	34																

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B-001-U-62

Form No. 530-16

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7/10/62 SAMPLER TYPE Spoon DIA. 2"O.D. WATER ELEV. IMMEDIATE 866.0 CLIENT: Barrett-Cargo-Withers & Assoc.
 DATE COMPLETED 7/11/62 CASING LENGTH DIA. 3.5" I.D. AFTER 24 HOURS 865.7 PROJECT: I-71 - Bridge No. FRA-1-0310
 BORING No. 1 STATION AND OFFSET 30+41, 55' L. of C.L. of SR-3 SURFACE ELEV. 873.5 R & L

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS				
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PL		W.C.			
873.5	0					No Tests Performed.											
872.0	2																
870.5	4	14	32-49	12"	Brownish gray sandy silt, little gravel, moist - very stiff.	10	7	17	41	25	22	9	8	A-4a			
868.5	6																
866.0	8	15	17-26-39	17½"	do do do	11	8	16	39	26	22	9	10	A-4a			
864.0	10																
862.0	12	16	22-29-40	18"	do do do	16	7	16	39	22	21	8	10	A-4a			
860.0	14																
858.0	16	17	20-26-37	18"	do do do	12	8	16	40	24	22	8	9	A-4a			
856.0	18																
854.0	20	18	13-23-24	18"	Brownish gray sandy silt, little gravel, moist - very stiff.	10	9	18	40	23	21	8	11	A-4a			
852.0	22																
850.0	24																
848.0	26																
846.0	28																
844.0	30																
842.0	32																
840.0	34																

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B-002-B-62

Form No. 530-16-59

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7/24/62 SAMPLER: TYPE Spoon DIA. 2"O.D. WATER ELEV. IMMEDIATE 776.6 CLIENT: Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 7/24/62 CASING: LENGTH DIA. 3.5" I.D. AFTER 24 HOURS 776.6 PROJECT: Interstate 71
BRIDGE NO. FRA-1-0153 (R&L)

BORING No. 2 STATION AND OFFSET 924+88.46 L. of C.L. of SR-1 SURFACE ELEV. 774.1 (Creek Bed Elevation)

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics						SHTL CLASS		
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.		P.I.	W.C.
776.6	0				WATER									
774.1	2													
	4	1	7-8-11	10"	Brown sandy gravel, little silt, wet - medium dense.	71	12	6	- 11	-			10	A-1-a
770.1	6	2	15-15-13	8"	Brown sandy gravel, little silt, wet - dense.	70	13	6	- 11	-			10	A-1-a
	8	3	16-18-22	6"	Reddish brown and gray clayey gravel, with sand, moist - stiff.	45	11	12	27	5	29	16	15	A-2-6
766.6	10	4	10-8-12	12"	Reddish brown clay, some sand, trace of gravel, moist - stiff.	7	11	11	12	59	74	48	38	A-7-6
	12													
762.6	14	5	14-13-14	10"	Reddish brown clay, some sand, little gravel, moist - stiff.	11	20	12	9	48	61	43	32	A-7-6
	16	6	NXM	74%	Dolomite, cream white, crystalline, fine-grained, dense, hard, thinly bedded (1" to 8", averaging about 5" with the thinner beds near top of core); 2" broken zone 3" below top of core, and more broken pieces near the bottom of the last run (Sample No. 8).									
	18	7	NXM	100%										
	20													
	22	8	NXM	34%										
752.6	24				Boring Completed.									
	26													
	28													
	30													
	32													
	34													

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Form No. 530-16-59

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7/26/62 SAMPLER: TYPE Spoon DIA. 2"O.D. WATER ELEV. IMMEDIATE 777.1 CLIENT: Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 7/26/62 CASING: LENGTH DIA. 3.5" I.D. AFTER 24 HOURS 776.8 PROJECT: Interstate 71
BRIDGE NO. FRA-1-0153 (R&L)

BORING No. 3 STATION AND OFFSET 924+13 L. of C.L. of SR-1 SURFACE ELEV. 783.1

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics						SHTL CLASS		
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.		P.I.	W.C.
783.1	0													
	2	1	1-2-2	10"	Topsoil.	No Tests Performed.								
	4	2	9-8-7	12"	Brown sandy gravel, trace of silt, dry - medium dense.	68	20	5	- 7	-			8	A-1-a
	6	3	6-5-5	10"	Brown sandy gravel, trace of silt, moist - loose.	71	17	4	- 8	-			6	A-1-a
	8	4	12-12-13	12"	Brown sandy gravel, little silt, wet - medium dense.	69	13	6	- 12	-			9	A-1-a
773.6	10	5	8-9-10	16"	Brown sandy silt, some gravel, moist - stiff.	22	14	16	32	16	23	10	13	A-4a
771.1	12	6	8-11-16	12"	Brownish gray silt and clay, some sand, little gravel, moist - med. stiff.	17	11	18	38	16	24	11	14	A-6a
	14	7	80	*	Brownish gray silt and clay. (Field Classification)									A-6a
767.1	16													
	18	8	NXM	100%	Dolomite, cream white, crystalline, fine-grained, dense, hard, thinly bedded (1/2" to 7", averaging 2 1/4" near top to 5" near bottom of core).									
	20													
	22	9	NXM	90%	4" broken zone at depth of 5-ft. (at top of 2nd run or Sample No. 9), probably high angle joint.									
757.1	24				Boring Completed.									
	26													
	28													
	30													
	32													
	34													

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THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

Form No. 530-16-5

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

B-004-B-62

DATE STARTED 7/26/62 SAMPLER: TYPE Spoon DIA. 2"O.D. WATER ELEV. IMMEDIATE 777.5 CLIENT: Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 7/26/62 CASING: TYPE NXM Core Barrel DIA. 3.5" I.D. AFTER 24 HOURS 777.8 PROJECT: Interstate 71
Bridge No. FRA-1-0153 (R&L)

BORING No. 4 STATION AND OFFSET 925+10, 57' L. of C.L. of SR-1 SURFACE ELEV. 784.5

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics						SHTL CLASS		
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.		P.I.	W.C.
784.5	0				Topsoil.	No Tests	Performed.							
782.5	2	1	1-1-2	8"	Brown sandy gravel, little silt,	55	23	12	-	10			5	A-1-a
779.5	4	2	7-5-3	10"	Brown clayey sand, some gravel, moist - loose.	24	23	29	19	5	29	11	19	A-2-6
777.5	6	3	5-5-5	14"	Brown sandy gravel, little silt, wet - dense.	63	15	8	-	14			9	A-1-a
774.5	8	4	12-12-22	10"	Brown gravelly sand, little silt, wet - dense.	58	15	7	18	2	17	2	11	A-1-b
772.5	10	5	18-21-24	6"	Brown sandy silt, little gravel, moist stiff.	12	12	20	41	15	23	10	10	A-4a
770.0	12	6	14-20-22	8"	Brownish gray silt and clay, some sand, little gravel, moist - stiff.	10	9	16	36	29	27	13	11	A-6a
767.5	14	7	21-24-26	14"	Brown sandy silt, trace of gravel, moist - medium stiff.	8	5	21	38	28	23	10	14	A-4a
765.5	16	8	21-26-26	10"	Reddish brown gravelly sand, little silt, moist - medium dense.	71	7	3	-	19			41	A-1-b
764.0	18	9	14	4"	Reddish brown elastic clay, moist-stiff	0	0	0	8	92	129	86	41	A-7-5
	20	10	7-11	10"	Reddish brown elastic clay, trace of sand, moist - stiff.	0	0	1	9	90	124	83	42	A-7-5
760.5	22	11	8-11-16	15"	Dolomite, cream white, crystalline, fine-grained, dense, hard, thinly bedded (1" to 4", averaging 3"), with 1/4" disconnected solution openings in upper 1/2 ft. of core.									
	24				Boring Completed.									
755.5	25	12	NXM	76%										
	28													
	30													
	32													
	34													

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B-004-C-62

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7-11-62 SAMPLER: TYPE Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 863.0 Barrett-Cargo-Withers & Assoc., Ltd.
 DATE COMPLETED 7-12-62 CASING: LENGTH 24 Stem Augers DIA. 3.5" I.D. Hollow AFTER 24 HOURS 865.6 PROJECT: I-71, Bridge No. FRA-1-0298
 BORING No. 4 STATION AND OFFSET 999+45, 36' L. of CL of SR-1 SURFACE ELEV. 870.0

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics						SMTL CLASS					
						Agg	% C.S.	% F.S.	% SILT	% CLAY	LL		PI	W.C.			
870.0	0				Topsoil												
869.0	1	1	1-3	10"	Dark brown clay, little sand, moist-stiff	0	3	8	43	46	52	32	22	A-7-6			
	2	2	6	5"	Mottled brown and gray clay, little sand, moist - very stiff	0	2	8	39	51	47	29	16	A-7-6			
867.0	4	3	8-10-14	16"	Mottled brown and gray silty clay, little sand, trace of gravel, moist-very stiff	9	3	8	41	39	39	25	16	A-6b			
865.9	6	4	6-6-7	14"	Mottled brown and gray sandy silt, little gravel, moist - stiff	15	11	15	42	17	22	7	15	A-4a			
864.5	6	5	4	4"	Brown silt, and sand, trace of gravel, wet - loose	6	7	28	52	7	19	3	20	A-4b			
862.5	8	6	4-4	12"	Brown sandy silt, some gravel, very moist - medium stiff	28	13	14	30	15	19	6	12	A-4a			
	10	7	3-3-7	17"	Brown sandy silt, some gravel, moist - stiff	20	11	13	38	18	21	7	10	A-4a			
855.0	12	8	4-7-9	16"	do	28	7	10	35	20	21	8	11	A-4a			
	14	9	6-7-8	14"	Brownish gray silt, some sand, trace of gravel, moist - stiff	6	9	13	51	21	22	6	13	A-4b			
852.5	16	10	4-8-11	18"	Brownish gray sandy silt, trace of gravel, moist - stiff	9	9	14	49	19	24	10	13	A-4a			
	18	11	5-7-9	18"	do	15	15	14	33	23	21	6	9	A-4a			
	20	12	9-10-9	17 1/2"	Brownish gray sandy silt, little gravel, moist - stiff	7	9	16	45	23	21	8	11	A-4a			
	22																
	24																
	26	13	10-13-22	18"	Brownish gray sandy silt, trace of gravel, moist - stiff	8	9	18	43	22	20	8	10	A-4a			
	28																
	30	14	29-45	12"	Brown sandy silt, trace of gravel, moist - very stiff												
	32																
	34																

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B-004-C-62

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7-11-62 SAMPLER: TYPE Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 863.0 Barrett-Cargo-Withers & Assoc., Ltd.
 DATE COMPLETED 7-12-62 CASING: LENGTH 24 Stem Augers DIA. 3.5" I.D. Hollow AFTER 24 HOURS 865.6 PROJECT: I-71, Bridge No. FRA-1-0298
 BORING No. 4 STATION AND OFFSET 999+45, 36' L. of CL of SR-1 SURFACE ELEV. 870.0

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics						SMTL CLASS		
						Agg	% C.S.	% F.S.	% SILT	% CLAY	LL		PI	W.C.
	34													
	36	15	29-51	12"	Brown sandy silt, trace of gravel, moist - very stiff	8	8	17	42	25	21	9	10	A-4a
	38													
	40				do									
	42	16	20-35-51	18"	do	9	7	17	42	25	21	9	9	A-4a
	44													
	46	17	23-36-53	18"	Brownish gray sandy silt, little gravel, moist - stiff	12	8	17	41	22	21	9	9	A-4a
	48													
	50													
	52	18	17-30-47	18"	Brownish gray sandy silt, little gravel, moist - very stiff	11	8	18	39	24	20	8	10	A-4a
	54													
813.5	56	19	16-22-32	18"	do	15	9	17	38	21	20	8	11	A-4a
	58				Boring completed									
	60													
	62													
	64													
	66													
	68													

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THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

B-005-B-62

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7/24/62 SAMPLER: TYPE Split Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 777.4 CLIENT: Barrett-Cargo-Withers & Assoc.
 DATE COMPLETED 7/24/62 & NXM Core Barrel DIA. 3.5" I.D. AFTER HOURS PROJECT: Interstate 71
 CASE: LENGTH DIA. BRIDGE No. FRA-1-0153 (R&L)

BORING No. 5 STATION AND OFFSET 921+90, 31' R. of C.L. of SR-1 SURFACE ELEV. 781.4

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS			
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PL		W.C.		
781.4	0				Topsoil.	No Tests Performed.										
778.9	2	1	2-3-4	7%	Brown sandy gravel, little silt, moist - medium dense.	66	15	6	-	13	-		6	A-1-a		
774.4	4	2	14-15-14	6"	Brown sandy gravel, trace of silt, wet - loose.	70	19	5	-	6	-		11	A-1-a		
771.9	6	3	2-3-6	10"	Gray sandy silt, little gravel, moist - dense.	18	7	24	44	7	16	3	12	A-4a		
770.4	8	4	11-16-21	14"	Brown silt, and clay, some sand, little gravel, moist - stiff.	15	10	18	43	14	25	12	10	A-6a		
764.4	10	5	35-62	7"	Brownish gray sandy silt, some gravel, moist - stiff.	21	13	20	32	14	19	6	10	A-4a		
	12	6	90	4"	do											
	14	7	80	3"	do (Visual) - Insufficient Sample.											
	16															
	18															
	20	8	NXM	76%	Dolomite, cream white, crystalline, fine-grained, dense, hard, thinly bedded (1" to 7", averaging 2 1/2" near top of core and 4" in bottom half). Top 1-ft. of core broken.											
	22															
	24	9	NXM	96%												
	26	10	NXM	78%												
754.4	28				Boring Completed.											
	30															
	32															
	34															

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THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

Form No. 530-16

B-006-B-62

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7/25/62 SAMPLER: TYPE Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 775.6 CLIENT Barrett-Cargo-Withers & Assoc.
 DATE COMPLETED 7/25/62 & NXM Core Barrel CASING LENGTH 3.5' I.D. AFTER HOURS PROJECT: Interstate 71
Bridge No. FRA-1-0153 (R&L)

BORING No. 6 STATION AND OFFSET 922+85, 69' R. of C.L. of SR-1 SURFACE ELEV. 777.6

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS				
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PL		W.C.			
777.6	0																
	2	1	5-6-8	14"	Brown sandy gravel, little silt, wet medium dense.	65	17	7	-	11					8	A-1-a	
774.6	4	2	9	6"	Brown sandy gravel; trace of silt, wet - medium dense.	64	23	6	-	7					12	A-1-a	
772.6	4	3	5-6	8"	Gray sandy silt, little gravel, moist medium stiff.	16	11	21	41	11	17	4		10	A-4a		
	6	4	11-20-22	8"	Brown silt and clay, some sand, little gravel, moist - stiff.	14	8	16	35	27	27	13		12	A-6a		
	8				do												
767.6	10	5	10-16-21	10"	do	11	9	17	36	27	27	14		10	A-6a		
	12	6	NXM	62%	Dolomite, cream white, crystalline, fine-grained, dense, hard, thinly bedded (1/2" to 6", averaging 1 1/2" in top 5-ft. and 3" in bottom 5-ft. of core). Broken zone near top of core and again near bottom of second run (Sample No. 7); bottom two runs give evidence of high angle jointing.												
	14	7	NXM	68%													
	16	8	NXM	80%													
	18																
757.6	20	9	NXM	100%													
	22				Boring Completed.												
	24																
	26																
	28																
	30																
	32																
	34																

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Form No. 530-16-

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

B-007-B-62

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 8/11/62 SAMPLER: TYPE Spoon DIA. 2"O.D. WATER ELEV. IMMEDIATE None CLIENT: Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 8/11/62 & NXM Core Barrel DIA. 3.5"O.D. AFTER 24 HOURS 777.0 PROJECT: Interstate 71
CASING LENGTH 31' R. of C.L. of SR-1 SURFACE ELEV. 785.0 Bridge No. FRA-1-0153 (R&L)

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS				
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.		W.C.			
785.0	0																
783.0	2	1	2-5-8	12"	Brown silty sand and gravel, moist - medium dense.	46	20	15	12	7	28	10	12	A-2-4			
	4	2	5-4-5	5"	Brown sandy gravel, trace of silt, moist - loose.	71	14	6	-	-			5	A-1-a			
	6	3	11-11-15	16"	Brown sandy gravel, little silt, moist - medium dense.	56	21	10	-	-			4	A-1-a			
	8	4	11-14-18	11"	Brown sandy gravel, trace of silt, moist - dense.	72	12	6	-	-			4	A-1-a			
	10																
	12	5	17-24-27	14"	Brown sandy gravel, trace of silt, wet - very dense.	74	9	8	-	-			8	A-1-a			
	14	6	16-18-19	10"	Brown sandy gravel, little silt, wet - dense.	68	12	7	-	-			8	A-1-a			
770.0	16	6A	NXM	25%	Dolomite, white, crystalline, dense, hard, broken, evidence of vertical joint.												
	18	7	-35-	4"	Reddish brn. silty clay, some sand, some gravel, some sand.*	31	10	13	23	23	38	25	14	A-6b			
	20	8	-72-	6"	Brownish gray silty gravel, some sand.*	46	15	12	18	9	20	7	9	A-2-4			
	22	9	NXM	25%	Dolomite, white, crystalline, dense, hard, broken, evidence of vertical joint.												
	24	10	3-5-8	4"	Reddish brown gravel and rock fragments, trace of sand, some silt. *	68	7	2	-	-			51	A-1-b			
	26																
	28	11	NXM	30%	Dolomite, white, crystalline, medium dense, hard, broken, evidence of vertical joint.												
	30	12	- 0 -	6"	Reddish brown elastic clay. *												
	32	13	NXM	96%	Dolomite, cream white, crystalline, fine grained, dense, hard, thinly bedded, (1" to 6", averaging 3"). Evidence of high angle jointing near middle of sample No. 14.												
	34	14															

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Form No. 530-16-

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

B-007-B-62

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 8/11/62 SAMPLER: TYPE Spoon DIA. 2"O.D. WATER ELEV. IMMEDIATE None CLIENT: Barrett-Cargo-Wither & Assoc.
DATE COMPLETED 8/11/62 & NXM Core Barrel DIA. 3.5"O.D. AFTER 24 HOURS 777.0 PROJECT: Interstate 71
CASING LENGTH 31' R. of C.L. of SR-1 SURFACE ELEV. 785.0 Bridge No. FRA-1-0153 (R&L)

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS				
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.		W.C.			
746.5	34																
	36	14 (Continued)			Dolomite. (See description on previous page.)												
	38	15															
	40				Boring Completed.												
	42																
	44																

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THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

B-008-B-62 **LOG OF BORING**

DATE STARTED 7/25/62 SAMPLER: TYPE Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 776.6 CLIENT: Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 7/25/62 & NXM Core Barrel DIA. 3.5" I.D. AFTER 24 HOURS 777.3 PROJECT: Interstate 71
BRIDGE No. FRA-1-0153 (R&L)

BORING No. 8 STATION AND OFFSET 925+11, 58' R. of C.L. of SR-1 SURFACE ELEV. 784.6

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS			
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.		W.C.		
784.6	0					No Tests Performed.										
783.1	2	1	2-3-5	10"	Topsoil.											
	4	2	3-3-3	12"	Brown silty sand, some gravel, moist - loose.	23	14	36	19	8	23	7	19		A-2-4	
	6	3	3-3-2	10"	Brown and gray silt sand, trace of gravel, moist - loose.	4	16	46	25	9	31	9	47		A-2-4	
777.6	8	4	3-5-9	10"	Brown and gray gravelly sand, some silt, moist - medium dense.	31	21	27	16	5	28	6	15		A-1-b	
	10															
772.6	12	5	26-18-18	12"	Brown gravelly sand, little silt, wet - dense.	63	13	7	-	17	-		11		A-1-b	
	14	6	15-15-19	14"	Gray sandy silt, some gravel, moist - stiff.	22	16	18	31	13	19	7	8		A-4a	
769.6	16	7	13-15-21	15"	Brown silty sand and gravel, moist - dense.	37	13	15	24	11	20	8	8		A-2-4	
767.6	18															
764.6	20	8	34-37-45	10"	Brown gravelly sand, little silt, wet - very dense.	46	18	21	-	15	-		11		A-1-b	
	22	9	NXM	100%	Dolomite, cream white, crystalline, fine-grained, dense, hard, thinly bedded (1/2" to 4", averaging 2"). Two 1" broken zones near center of run 2 (Sample No. 10).											
	24	10	NXM	100%												
759.6	26	11	NXM	92%												
	28				Boring Completed.											
	30															
	32															
	34															

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Form No. 530-16-59

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7-13-62 SAMPLER: TYPE Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 853.3 CLIENT: Barrett-Cargo-Withers & Assoc., Ltd.
 DATE COMPLETED 7-13-62 CASING: LENGTH 24' DIA. 3.5" I.D. Hollow AFTER 24' Stem Augers HOURS 862.8 PROJECT: I-71, Bridge No. FRA-1-0298

BORING No. 8 STATION AND OFFSET 998+85, 79' R. of CL of SR-1 SURFACE ELEV. 869.8

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS	
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PI		W.C.
869.8	0		2-4	10"	Topsoil	No tests performed	4	8	44	44	42	26	13	A-7-6
868.8	2		14	4"	Mottled brown clay, little sand, moist - stiff									
866.8	4	S-1	10-10-11	18"	Brown clay, little sand, moist - stiff	0	2	12	37	55	32	20	10	A-7-6
866.3	4		10-10-11	15"	Mottled brown and gray silt and clay	0	6	25	45	36	19	20	10	A-6b
	6		5-9-11	17"	Mottled brown and gray silt and clay, some sand, some gravel, moist - stiff	23	9	11	34	23	12	11	10	A-6a
862.8	6		5-9-11	17"	Brown silt and clay, some sand, trace of gravel, moist - stiff	8	12	14	40	26	11	10	10	A-6a
	8	S-2	7-6-8	18"	Brown sandy silt, little gravel, moist - stiff	13	14	15	37	21	6	12	10	A-4a
	10		7-6-8	18"	do	15	13	16	39	17	6	11	10	A-4a
	12													
	14		6-8-9	17"	Brownish gray sandy silt, some gravel, moist - stiff	27	8	11	35	19	7	11	10	A-4a
	16	S-3		8"	Brownish gray sandy silt, trace of gravel, moist - stiff	9	11	16	39	25	9	10	10	A-4a
	18		16-16-18	16"	Brownish gray sandy silt, trace of gravel, moist - very stiff	23	10	17	34	16	7	13	10	A-4a
	20		5-8-11	18"	Brownish gray sandy silt, some gravel, moist - stiff	23	10	17	34	16	7	13	10	A-4a
	22		5-9-11	18"	Brownish gray sandy silt, little gravel, moist - stiff	14	9	15	46	16	8	13	10	A-4a
	24													
	26	10	12-19-32	18"	Brownish gray sandy silt, little gravel, moist - very stiff	10	9	17	40	24	10	10	10	A-4a
	28													
	30	11	30-44	12"	do	11	8	18	40	23	9	9	10	A-4a
	32													
	34													

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B-001-C-62

Form No. 530-16-59

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7-16-62 SAMPLER: TYPE Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 861.2 CLIENT: Barrett-Cargo-Withers & Assoc., Ltd.
 DATE COMPLETED 7-17-62 CASING: LENGTH 24' DIA. 3.5" I.D. Hollow AFTER 24' Stem Augers HOURS 864.5 PROJECT: I-71, Bridge No. FRA-1-0298

BORING No. 1 STATION AND OFFSET 998+07, 79' L. of CL of SR-1 SURFACE ELEV. 869.2

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS	
						% AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PI		W.C.
869.2	0		1-2	11"	Topsoil	No tests performed	3	8	43	46	51	32	20	A-7-6
868.2	2		7	4"	Brown clay, little sand, moist - stiff	0	7	10	36	29	14	14	14	A-6a
866.7	4		9-11-11	17"	Mottled brown and gray silt and clay, little sand, little gravel, moist - stiff	18	7	10	36	29	30	14	14	A-6a
864.2	4		4-4-6	17"	Mottled brown and gray sandy silt, some sand, very moist - medium stiff	22	11	15	37	15	23	7	15	A-4a
	6		5-8-9	18"	Brown sandy silt, with sand seams, little gravel, very moist - medium stiff	17	24	20	28	11	18	4	12	A-4a
	8		6-11-12	15"	Brown sandy silt, some gravel, moist - stiff	20	11	13	83	18	20	6	11	A-4a
	10		8-8-9	16"	do	21	9	15	35	20	22	8	13	A-4a
	12		6-8-12	17"	Brownish gray sandy silt, little gravel, moist - stiff	15	10	13	37	25	22	8	13	A-4a
	14		7-8-11	18"	do	20	10	15	35	20	23	9	12	A-4a
	16		10-12-14	17 1/2"	Brown sandy silt, little gravel, moist - stiff	14	7	16	40	23	24	10	12	A-4a
	18													
	20													
	22													
	24													
	26	11	13-24-41	18"	Brownish gray sandy silt, little gravel, moist - very stiff	17	7	14	39	23	24	10	10	A-4a
	28													
	30													
	32	12	29-40	12"	Brownish gray sandy silt, trace of gravel, moist - very stiff	9	8	18	44	21	21	8	10	A-4a
	34													

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THE H. C. NUTTING COMPANY

4126 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS
LOG OF BORING

B-009-B-62

DATE STARTED 8/9/62 SAMPLER TYPE Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 776.6 CLIENT: Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 8/10/62 & NXM Core Barrel DIA. 3.5" I.D. AFTER 48 HOURS 776.6 PROJECT: Interstate 71
Bridge No. FRA-1-0153 (R&L)

BORING No. 9 STATION AND OFFSET 922+88, 91' L. of C.L. of SR-1 SURFACE ELEV. 774.5 (Creek Bed Elevation)

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics						SHTL CLASS		
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL		PL	W.C.
776.6	0				WATER									
774.5	2													
	4	1	8-10-15	12"	Brown sandy gravel, little silt, wet - medium dense.	67	15	7	- 1	1			9	A-1-a
	6	2	10-14-12	14"	do	67	17	6	- 1	0			11	A-1-a
768.1	8	3	35-68	10"	Brown sandy gravel, trace of silt, wet - very dense.	68	19	5	- 8	-			9	A-1-a
	10	4	NXM	78%	Dolomite, cream white, crystalline, fine-grained, dense, hard, thinly bedded (1" to 8", averaging 2" in top half and 5" in bottom half of 10' core). Several broken zones at top and center of run 2 (Sample No. 5), probably high angle joints.									
	12	5	NXM	84%										
	14	6	NXM	100%										
	16													
	18													
758.1	20				Boring Completed.									
	22													
	24													
	26													
	28													
	30													
	32													
	34													

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Form No. 530-16

THE H. C. NUTTING COMPANY

4126 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS
LOG OF BORING

B-010-B-62

DATE STARTED 8/12/62 SAMPLER TYPE Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 776.1 CLIENT: Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 8/12/62 & NXM Core Barrel DIA. 3.5" I.D. AFTER 48 HOURS 776.1 PROJECT: Interstate 71
Bridge No. FRA-1-0153 (R&L)

BORING No. 10 STATION AND OFFSET 924+13, 39' L. of C.L. of SR-1 SURFACE ELEV. 783.1

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics						SHTL CLASS		
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL		PL	W.C.
783.1	0													
781.1	2													
	4	1	2-3-4	10"	Brown silty sand and gravel, moist - loose.	35	25	17	15	8	26	10	8	A-2-4
778.6	6	2	10-11-11	14"	Brown sandy gravel, little silt, moist - medium dense.	61	17	9	9	4	19	4	7	A-1-a
	8	3	19-15-15	10"	Brown gravelly sand, some silt, moist - medium dense.	44	20	15	16	5	21	6	8	A-1-b
776.1	10	4	16-18-29	8"	Brown sandy gravel, little silt, moist - dense.	62	17	8	- 13	-			5	A-1-a
772.1	12	5	25-22	8"	do	69	13	6	10	2	17	3	13	A-1-a
	14	6	15	6"	Brown silt and clay, some sand, little gravel, moist - stiff.	17	9	17	32	25	26	13	12	A-6a
768.6	16	7	30-26-21	8"	Brown silt and clay and gravel, little sand, moist - medium stiff.	43	6	9	23	19	27	13	14	A-6a
767.1	18	8	6		Reddish brown clay, little sand, some gravel, moist - medium stiff.	21	7	7	14	51	77	51	23	A-7-6
	20													
	22	9	NXM	100%	Dolomite, cream white, crystalline, fine-grained, dense, hard, thinly bedded (1" to 10", averaging 2" in top half and 5" in bottom half of 10' core). Traces of red clay on some bedding planes in the top run (Sample No. 9).									
	24	10	NXM	100%										
	26	11	NXM	100%										
757.1	28				Boring Completed.									
	30													
	32													
	34													

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B-010-U-62

Form No. 530-16

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7/7/62 SAMPLER TYPE Spoon DIA. 2"O.D. WATER ELEV. IMMEDIATE None CLIENT:Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 7/8/62 CASING LENGTH DIA. 3.5" I.D. AFTER 96 HOURS 863.7 PROJECT: I-71 - Bridge No. FRA-1-0310
BORING No. 10 STATION AND OFFSET 29+34, 97' R. of C.L. of SR-3 SURFACE ELEV. 873.2 Hollow Stem Augers R & L

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS			
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PL		WC		
873.2	0					No Tests Performed										
871.7	2	1	1-7-7	12"	Topsoil and brown sandy clay, with fine gravel, fill, dry - loose (visual)											
	4	2	7-9-12	14"	Brown clay, little sand, moist - very stiff.	0	4	6	37	53	54	36	15			A-7-6
868.2	4	3	5-6-6	17"	Mottled brown and gray clay, little sand, trace gravel, moist - very stiff	1	3	10	40	46	42	24	21			A-7-6
	6	4	5-7-7	17½"	Brown silt and clay, some sand, little gravel, moist - stiff.	11	10	14	41	24	26	11	14			A-6a
865.7	8															
	10	5	5-11-11	18"	Brown sandy silt, some gravel, moist - stiff.	22	10	13	36	19	24	10	11			A-4a
	12	6	11-14-7	15"	do do	21	10	12	36	21	23	9	10			A-4a
	14	7	4-4-6	17"	Brown sandy silt, little gravel, very moist - medium stiff.	17	11	14	40	18	22	9	14			A-4a
	16	8	11-13-18	18"	Brown sandy silt, some gravel, moist - stiff.	22	9	14	35	20	22	9	10			A-4a
	18	9	9-15-21	18"	Brown sandy silt, little gravel, moist - stiff.	10	8	12	43	27	25	10	10			A-4a
853.2	20															
	22	10	4-9-12	18"	Brown silt and clay, some sand, trace gravel, moist - stiff.	9	10	14	40	27	26	12	13			A-6a
	24															
848.2	26	11	7-15-22	17½"	Brown sandy silt, trace gravel, moist - stiff.	9	9	17	44	21	24	10	11			A-4a
	28															
	30															
	32	12	21-33-45	18"	Brownish gray sandy silt, trace gravel, moist - very stiff.	7	10	18	42	23	22	9	9			A-4a
	34															

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B-010-U-62

Form No. 530-16

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7/7/62 SAMPLER TYPE Spoon DIA. 2"O.D. WATER ELEV. IMMEDIATE None CLIENT:Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 7/8/62 CASING LENGTH DIA. 3.5" I.D. AFTER 96 HOURS 863.7 PROJECT: I-71 - Bridge No. FRA-1-0310
BORING No. 10 STATION AND OFFSET 29+34, 97' R. of C.L. of SR-3 SURFACE ELEV. 873.2 Hollow Stem Augers R & L

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS			
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PL		WC		
873.2	34															
	36	13	33-56	12"	Brownish gray sandy silt, little gravel, moist - very stiff.	11	10	17	40	22	22	9	8			A-4a
	38															
	40	14	26-49	12"	Brownish gray sandy silt, trace gravel, moist - very stiff.	9	9	15	42	25	22	9	8			A-4a
	42															
	44															
	46	15	22-37-50	18"	Brownish gray sandy silt, little gravel, moist - very stiff.	12	9	16	40	23	21	9	9			A-4a
	48															
	50															
	52	16	15-24-35	18"	Brownish gray sandy silt, trace gravel, moist - very stiff.	9	8	17	40	26	21	9	10			A-4a
	54															
816.7	56	17	13-21-30	18"	Brownish gray sandy silt, trace gravel, moist - very stiff.	8	9	19	39	25	21	9	10			A-4a
	58				Boring Completed.											
	60															

AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC, AND OURSELVES, ALL REPORTS ARE SUBMITTED AS THE CONFIDENTIAL PROPERTY OF CLIENTS, AND AUTHORIZATION FOR PUBLICATION OF STATEMENTS, CONCLUSIONS, OR EXTRACTS FROM OR REGARDING OUR REPORTS IS RESERVED PENDING OUR WRITTEN APPROVAL.

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

B-011-B-62

DATE STARTED 8/10/62 SAMPLER TYPE Split Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 776.6 CLIENT: Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 8/10/62 CASING: NXM Core Barrel DIA. 3.5" I.D. AFTER 48 HOURS 776.6 PROJECT: Interstate 71
BRIDGE No. FRA-1-0153 (R&L)

BORING No. 11 STATION AND OFFSET 922+88, 24' R. of C.L. of SR-1 SURFACE ELEV. 776.8

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS	
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	P.I.		W.C.
776.8	0	1	3-8-22	14"	Brown sandy gravel, little silt, wet - dense.	71	14	5	-	10			10	A-1-a
	2				do	62	16	7	12	3	20	4	12	A-1-a
770.8	6	3	NXM	33%	do do (Visual)	36	17	16	23	8	20	5	10	A-2-4
768.3	8	4	29-27-19	16"	Brown silty sand and gravel, moist - dense.	37	17	10	20	16	31	17	15	A-6b
766.8	10	5	26-38	8"	Brown silty clay and gravel, some sand moist - stiff.									
	12													
	14				Dolomite, cream white, crystalline, fine-grained, dense, hard, thinly bedded (1/2" to 7", averaging 2 1/2" in top half and 4" in bottom half of 10' core). Upper run (Sample No. 6) rather porous below top of core.									
	16													
	18													
	20													
756.8	22				Boring Completed.									
	24													
	26													
	28													
	30													
	32													
	34													

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THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

B-012-B-62

DATE STARTED 8/10/62 SAMPLER TYPE Split Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE None CLIENT: Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 8/11/62 CASING: NXM Core Barrel DIA. 3.5" I.D. AFTER 24 HOURS None PROJECT: Interstate 71
BRIDGE No. FRA-1-0153 (R&L)

BORING No. 12 STATION AND OFFSET 924+13, 66' R. of C.L. of SR-1 SURFACE ELEV. 783.8

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS	
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	P.I.		W.C.
783.8	0	1	3-3-4	10"	Brown silty sand and gravel, moist - loose.	42	21	15	15	7	26	8	7	A-2-4
781.8	2				do	43	29	14	-	14			5	A-1-b
779.3	4	2	6-6-6	16"	Brown gravelly sand, little silt, moist - medium dense.	56	20	11	-	13			4	A-1-a
	6	3	12-22-35	10"	Brown sandy gravel, little silt, moist - very dense.	56	21	8	-	15			4	A-1-a
774.3	8	4	26-12-12	16"	Brown sandy gravel, little silt, moist - medium dense.	60	14	8	-	18			10	A-1-b
	10				do	68	12	6	-	14			10	A-1-a
771.8	12	5	21-21-20	12"	Brown gravelly sand, little silt, wet - dense.	8	7	18	36	31	28	14	13	A-6a
769.3	14	6	16-17-18	15"	Brown sandy gravel, little silt, wet - dense.									
766.8	16	7	13-30-33	12"	Brown silt and clay, some sand, trace of gravel, moist - stiff.									
	18				do									
	20				Dolomite, cream white, crystalline, medium-fine grained, dense, hard, thinly bedded (1/2" to 6", averaging 2" in upper half and 4" in lower half of 10' core). Upper 1-ft. of first run (Sample No. 8) and upper 4-inches of second run (Sample No. 9) are broken.									
	22													
	24													
	26													
756.8	28				Boring Completed.									
	30													
	32													
	34													

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THE H. C. NUTTING COMPANY

4126 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS
LOG OF BORING

B-009-B-62

DATE STARTED 8/9/62 SAMPLER TYPE Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 776.6 CLIENT: Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 8/10/62 & NXM Core Barrel DIA. 3.5" I.D. AFTER 48 HOURS 776.6 PROJECT: Interstate 71 Bridge No. FRA-1-0153 (R&L)

BORING No. 9 STATION AND OFFSET 922+88, 91' L. of C.L. of SR-1 SURFACE ELEV. 774.5 (Creek Bed Elevation)

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics						SHTL CLASS		
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL		PL	W.C.
776.6	0				WATER									
774.5	2													
	4	1	8-10-15	12"	Brown sandy gravel, little silt, wet - medium dense.	67	15	7	- 1	1			9	A-1-a
	6	2	10-14-12	14"	do	67	17	6	- 1	0			11	A-1-a
768.1	8	3	35-68	10"	Brown sandy gravel, trace of silt, wet - very dense.	68	19	5	- 8	-			9	A-1-a
	10	4	NXM	78%	Dolomite, cream white, crystalline, fine-grained, dense, hard, thinly bedded (1" to 8", averaging 2" in top half and 5" in bottom half of 10' core). Several broken zones at top and center of run 2 (Sample No. 5), probably high angle joints.									
	12	5	NXM	84%										
	14	6	NXM	100%										
	16													
	18													
758.1	20				Boring Completed.									
	22													
	24													
	26													
	28													
	30													
	32													
	34													

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Form No. 530-16

THE H. C. NUTTING COMPANY

4126 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS
LOG OF BORING

B-010-B-62

DATE STARTED 8/12/62 SAMPLER TYPE Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 776.1 CLIENT: Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 8/12/62 & NXM Core Barrel DIA. 3.5" I.D. AFTER 48 HOURS 776.1 PROJECT: Interstate 71 Bridge No. FRA-1-0153 (R&L)

BORING No. 10 STATION AND OFFSET 924+13, 39' L. of C.L. of SR-1 SURFACE ELEV. 783.1

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics						SHTL CLASS		
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL		PL	W.C.
783.1	0													
781.1	2													
	4	1	2-3-4	10"	Brown silty sand and gravel, moist - loose.	35	25	17	15	8	26	10	8	A-2-4
778.6	6	2	10-11-11	14"	Brown sandy gravel, little silt, moist - medium dense.	61	17	9	9	4	19	4	7	A-1-a
	8	3	19-15-15	10"	Brown gravelly sand, some silt, moist - medium dense.	44	20	15	16	5	21	6	8	A-1-b
776.1	10	4	16-18-29	8"	Brown sandy gravel, little silt, moist - dense.	62	17	8	- 13	-			5	A-1-a
772.1	12	5	25-22	8"	do	69	13	6	10	2	17	3	13	A-1-a
	14	6	15	6"	Brown silt and clay, some sand, little gravel, moist - stiff.	17	9	17	32	25	26	13	12	A-6a
768.6	16	7	30-26-21	8"	Brown silt and clay and gravel, little sand, moist - medium stiff.	43	6	9	23	19	27	13	14	A-6a
767.1	18	8	6		Reddish brown clay, little sand, some gravel, moist - medium stiff.	21	7	7	14	51	77	51	23	A-7-6
	20	9	NXM	100%	Dolomite, cream white, crystalline, fine-grained, dense, hard, thinly bedded (1" to 10", averaging 2" in top half and 5" in bottom half of 10' core). Traces of red clay on some bedding planes in the top run (Sample No. 9).									
	22	10	NXM	100%										
	24	11	NXM	100%										
757.1	26				Boring Completed.									
	28													
	30													
	32													
	34													

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B-010-U-62

Form No. 530-16

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7/7/62 SAMPLER TYPE Spoon DIA. 2"O.D. WATER ELEV. IMMEDIATE None CLIENT Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 7/8/62 CASING LENGTH DIA. 3.5" I.D. AFTER 96 HOURS 863.7 PROJECT: I-71 - Bridge No. FRA-1-0310
BORING No. 10 STATION AND OFFSET 29+34, 97' R. of C.L. of SR-3 SURFACE ELEV. 873.2 Hollow Stem Augers R & L

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS			
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PL		WC		
873.2	0															
871.7	2	1	1-7-7	12"	Topsoil and brown sandy clay, with fine gravel, fill, dry - loose (visual)											
	4	2	7-9-12	14"	Brown clay, little sand, moist - very stiff.	0	4	6	37	53	54	36	15	A-7-6		
868.2	4	3	5-6-6	17"	Mottled brown and gray clay, little sand, trace gravel, moist - very stiff	1	3	10	40	46	42	24	21	A-7-6		
	6	4	5-7-7	17½"	Brown silt and clay, some sand, little gravel, moist - stiff.	11	10	14	41	24	26	11	14	A-6a		
865.7	8				Brown sandy silt, some gravel, moist - stiff.	22	10	13	36	19	24	10	11	A-4a		
	10				do do do	21	10	12	36	21	23	9	10	A-4a		
	12															
	14	7	4-4-6	17"	Brown sandy silt, little gravel, very moist - medium stiff.	17	11	14	40	18	22	9	14	A-4a		
	16	8	11-13-18	18"	Brown sandy silt, some gravel, moist - stiff.	22	9	14	35	20	22	9	10	A-4a		
	18															
853.2	20	9	9-15-21	18"	Brown sandy silt, little gravel, moist - stiff.	10	8	12	43	27	25	10	10	A-4a		
	22				Brown silt and clay, some sand, trace gravel, moist - stiff.	9	10	14	40	27	26	12	13	A-6a		
	24															
848.2	26	11	7-15-22	17½"	Brown sandy silt, trace gravel, moist - stiff.	9	9	17	44	21	24	10	11	A-4a		
	28															
	30															
	32	12	21-33-45	18"	Brownish gray sandy silt, trace gravel, moist - very stiff.	7	10	18	42	23	22	9	9	A-4a		
	34															

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B-010-U-62

Form No. 530-16

THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

LOG OF BORING

DATE STARTED 7/7/62 SAMPLER TYPE Spoon DIA. 2"O.D. WATER ELEV. IMMEDIATE None CLIENT Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 7/8/62 CASING LENGTH DIA. 3.5" I.D. AFTER 96 HOURS 863.7 PROJECT: I-71 - Bridge No. FRA-1-0310
BORING No. 10 STATION AND OFFSET 29+34, 97' R. of C.L. of SR-3 SURFACE ELEV. 873.2 Hollow Stem Augers R & L

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS			
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PL		WC		
873.2	34															
	36	13	33-56	12"	Brownish gray sandy silt, little gravel, moist - very stiff.	11	10	17	40	22	22	9	8	A-4a		
	38															
	40	14	26-49	12"	Brownish gray sandy silt, trace gravel, moist - very stiff.	9	9	15	42	25	22	9	8	A-4a		
	42															
	44															
	46	15	22-37-50	18"	Brownish gray sandy silt, little gravel, moist - very stiff.	12	9	16	40	23	21	9	9	A-4a		
	48															
	50															
	52	16	15-24-35	18"	Brownish gray sandy silt, trace gravel, moist - very stiff.	9	8	17	40	26	21	9	10	A-4a		
	54															
816.7	56	17	13-21-30	18"	Brownish gray sandy silt, trace gravel, moist - very stiff.	8	9	19	39	25	21	9	10	A-4a		
	58				Boring Completed.											
	60															

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THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

TESTING ENGINEERS AND SOILS CONSULTANTS

B-011-B-62 **LOG OF BORING**

DATE STARTED 8/10/62 SAMPLER TYPE Split Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE 776.6 CLIENT: Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 8/10/62 CASING: NXM Core Barrel DIA. 3.5" I.D. AFTER 48 HOURS 776.6 PROJECT: Interstate 71
BRIDGE No. FRA-I-0153 (R&L)

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS	
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	P.I.		W.C.
776.8	0	1	3-8-22	14"	Brown sandy gravel, little silt, wet - dense.	71	14	5	-	10			10	A-1-a
	2				do	62	16	7	12	3	20	4	12	A-1-a
770.8	6	3	NXM	33%	do do (Visual)	36	17	16	23	8	20	5	10	A-2-4
768.3	8	4	29-27-19	16"	Brown silty sand and gravel, moist - dense.	37	17	10	20	16	31	17	15	A-6b
766.8	10	5	26-38	8"	Brown silty clay and gravel, some sand moist - stiff.									
	12													
	14				Dolomite, cream white, crystalline, fine-grained, dense, hard, thinly bedded (1/2" to 7", averaging 2 1/2" in top half and 4" in bottom half of 10' core). Upper run (Sample No. 6) rather porous below top of core.									
	16													
	18													
	20			100%										
756.8	22				Boring Completed.									
	24													
	26													
	28													
	30													
	32													
	34													

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THE H. C. NUTTING COMPANY

4120 AIRPORT ROAD
CINCINNATI 26, OHIO

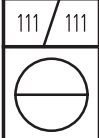
TESTING ENGINEERS AND SOILS CONSULTANTS

B-012-B-62 **LOG OF BORING**

DATE STARTED 8/10/62 SAMPLER TYPE Split Spoon DIA. 2" O.D. WATER ELEV. IMMEDIATE None CLIENT: Barrett-Cargo-Withers & Assoc.
DATE COMPLETED 8/11/62 CASING: NXM Core Barrel DIA. 3.5" I.D. AFTER 24 HOURS None PROJECT: Interstate 71
BRIDGE No. FRA-I-0153 (R&L)

ELEV.	DEPTH	SAMPLE No.	STD. PEN. (N)	% REC.	DESCRIPTION	Physical Characteristics							SHTL CLASS	
						AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	P.I.		W.C.
783.8	0	1	3-3-4	10"	Brown silty sand and gravel, moist - loose.	42	21	15	15	7	26	8	7	A-2-4
781.8	2				do	43	29	14	-	14			5	A-1-b
779.3	4	2	6-6-6	16"	Brown gravelly sand, little silt, moist - medium dense.	56	20	11	-	13			4	A-1-a
	6	3	12-22-35	10"	Brown sandy gravel, little silt, moist - very dense.	56	21	8	-	15			4	A-1-a
774.3	8	4	26-12-12	16"	Brown sandy gravel, little silt, moist - medium dense.	60	14	8	-	18			10	A-1-b
	10				do	68	12	6	-	14			10	A-1-a
771.8	12	5	21-21-20	12"	Brown gravelly sand, little silt, wet - dense.	8	7	18	36	31	28	14	13	A-6a
769.3	14	6	16-17-18	15"	Brown sandy gravel, little silt, wet - dense.									
766.8	16	7	13-30-33	12"	Brown silt and clay, some sand, trace of gravel, moist - stiff.									
	18				do									
	20			78%	Dolomite, cream white, crystalline, medium-fine grained, dense, hard, thinly bedded (1/2" to 6", averaging 2" in upper half and 4" in lower half of 10' core). Upper 1-ft. of first run (Sample No. 8) and upper 4-inches of second run (Sample No. 9) are broken.									
	22													
	24	9	NXM	100%										
	26													
756.8	28	10	NXM	73%	Boring Completed.									
	30													
	32													
	34													

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FRA-71-0.00

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DML
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SOIL PROFILE
BORING LOG B-011-B-62, B-012-B-62