

FRA - US 33 - 24.26 (PART 1 & 2)  
 180218 PID - 98111  
 Dist 6 3/22/2018

Contract Proposal Available @  
 www.contracts.dot.state.oh.us/home

STATE OF OHIO  
 DEPARTMENT OF TRANSPORTATION

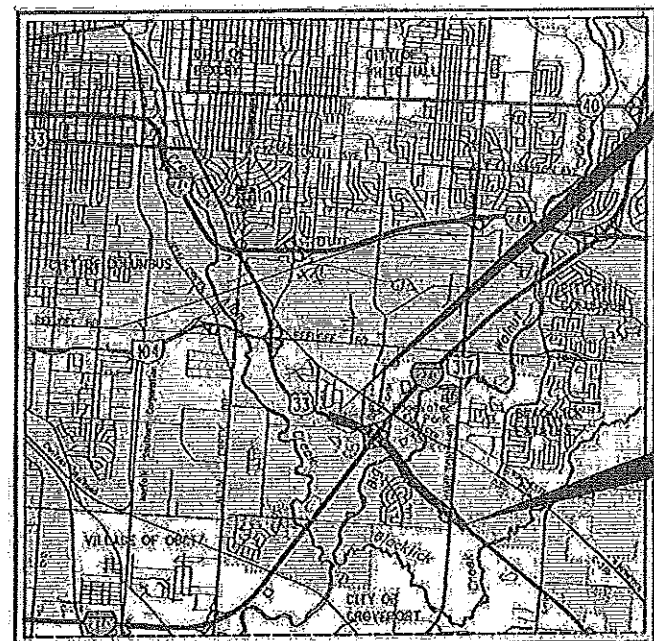
**FRA - 33 - 24.26**

PART 1

CITY OF COLUMBUS

FRANKLIN COUNTY

FOR PART 2, SEE FRA-33-29.64



LOCATION MAP

LATITUDE: 39°53'61" LONGITUDE: 82°53'35"

SCALE IN MILES



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

DESIGN DESIGNATION

CURRENT ADT (2018)	77,000
DESIGN YEAR ADT (2030)	93,000
DESIGN HOURLY VOLUME (2030)	9,300
DIRECTIONAL DISTRIBUTION	69%
TRUCKS (24 HOUR AVG)	7%
DESIGN SPEED	65 M.P.H.
LEGAL SPEED	60 M.P.H.

DESIGN FUNCTIONAL CLASSIFICATION

- 01 MINOR ARTERIAL (URBAN - 20.09 TO 21.91)
- 02 FREEWAY (URBAN - 21.91 TO 26.12)

NHS PROJECT: YES

DESIGN EXCEPTIONS

NONE

PLAN CERTIFIED AS TO COMPLETENESS AND QUALITY

*Andrew B. Souther* 12/15/17  
 SIGNATURE DATE

RESOURCE INTERNATIONAL INC. VICE PRESIDENT TRANSPORTATION ENGINEERING  
 FIRM TITLE

PLAN PREPARED BY:  
 RESOURCE INTERNATIONAL INC.  
 8360 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949



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SOIL PROFILE	

\* - POST-CONSTRUCTION BMPs SHOWN ON PROJECT SITE PLAN

ENGINEERS SEAL	STANDARD CONSTRUCTION DRAWINGS	SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
	A-1-69 7/19/02 HL-10.31 7/21/17 MGS-4.3 1/18/13 MT-101.60 1/20/17 TC-12.30 1/20/17 800 1/19/18		
	AS-1-15 7/17/15 HL-20.21 7/21/17 MGS-5.3 1/15/16 MT-101.70 1/17/14 TC-21.20 7/21/17 804 1/20/17		
	BR-2.4 7/19/13 HL-30.11 7/21/17 MGS-6.1 7/19/13 MT-101.75 7/15/16 TC-22.20 1/17/14 808 1/20/17		
	BR-2.5 7/19/13 HL-30.31 1/17/14 MT-101.80 1/16/16 TC-41.10 10/18/13 809 7/21/17		
	BR-3.1 7/19/13 HL-30.32 1/17/14 MH-1.2 1/15/16 MT-101.90 7/21/17 TC-42.10 10/18/13 821 4/20/18		
	BR-3.1 7/19/13 HL-30.33 1/17/14 MT-95.30 7/21/17 MT-102.10 1/20/17 TC-42.20 10/18/13 832 1/17/14		
	BR-5.1 7/19/13 HL-50.11 1/15/16 MT-95.40 1/20/17 MT-102.20 7/19/14 TC-52.10 10/18/13 875 1/17/14		
	BR-9.1 7/21/17 HL-60.11 7/21/17 MT-95.45 7/21/17 MT-102.30 10/16/15 TC-52.20 7/21/17 896 7/21/17		
	BR-F-67 2/1/68 HL-60.12 7/15/16 MT-95.50 7/21/17 MT-103.10 1/20/17 TC-65.10 1/17/14 904 7/15/16		
	CB-3.3 1/15/16 HL-60.21 1/16/15 MT-98.10 1/20/17 MT-104.10 10/18/15 TC-65.11 7/21/17 908 10/20/17		
	CPP-1-08 1/17/14 HW-2.1 7/21/17 MT-98.11 1/20/17 MT-105.10 7/19/13 TC-72.20 7/15/16 996 7/15/16		
	CS-1-08 7/18/08 I-2.3 1/15/16 MT-98.20 7/18/14 TC-82.10 7/17/15 948 1/18/13		
	DM-1.1 7/21/17 ITS-14.10 7/21/17 MT-98.22 1/20/17 NBS-1-09 7/21/17 SBR-1-13 1/17/14 878 4/21/17		
	DM-1.2 1/15/16 ITS-14.11 7/18/15 MT-98.28 1/20/17 PCB-91 1/18/13 MT-95.31 7/21/17		
	DM-4.1 1/15/16 MGS-1.1 7/21/17 MT-98.30 7/21/17 PSID-1-13 7/15/16 MT-95.41 7/21/17		
	DM-4.3 1/15/16 MGS-1.1 7/21/17 MT-99.20 7/21/17 RM-4.2 4/18/14 MT-98.21 7/18/14		
	DM-4.4 1/15/16 MGS-2.1 7/19/13 MT-99.30 7/21/17 RM-4.2 4/18/14 CITY OF COLUMBUS		
	MGS-3.1 7/21/17 MT-99.50 1/20/17 RM-4.5 7/21/17		
	GSD-1-96 7/19/02 MGS-3.2 1/18/13 MT-99.60 7/15/16 RM-4.6 7/19/13 SCD 4300 8/10/17		
	MGS-4.2 7/19/13		

PROJECT DESCRIPTION

MULTI-LANE RESURFACING US 33 FROM I-270 (SLM 24.26) TO SR 317 (SLM 26.12). BUILD AN AUXILIARY LANE BETWEEN THE RAMP FOR HAMILTON RD AND THE RAMP FOR NORTHBOND I-270 IN BOTH DIRECTIONS OF US 33. ALSO WIDEN EAST BOUND US 33 IN THE MEDIAN TO PROVIDE AN ADDITIONAL LANE THROUGH THE I-270 INTERCHANGE.

THE WIDENING OF BIG WALNUT CREEK AND BIG WALNUT CREEK OVERFLOW BRIDGES.

PROJECT EARTH-DISTURBED AREA: 20,412 ACRES  
 ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 2.56 ACRES  
 NOTICE OF INTENT EARTH-DISTURBED AREA: 22,972 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 SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

Ohio Utilities Protection Service  
 Call Before You Dig  
 1-800-382-2764  
 (Non-members must be called directly)

Oil & Gas Producers  
 UNDERGROUND PROTECTION SERVICE  
 1-800-925-0988

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.

APPROVED: *Mitchell P. Blumstein*  
 DATE: 12/19/17 DISTRICT DEPUTY DIRECTOR

APPROVED: *Samy Wahab*  
 DATE: 12/11/18 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E140 (609)

PID NO. 98111

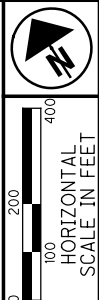
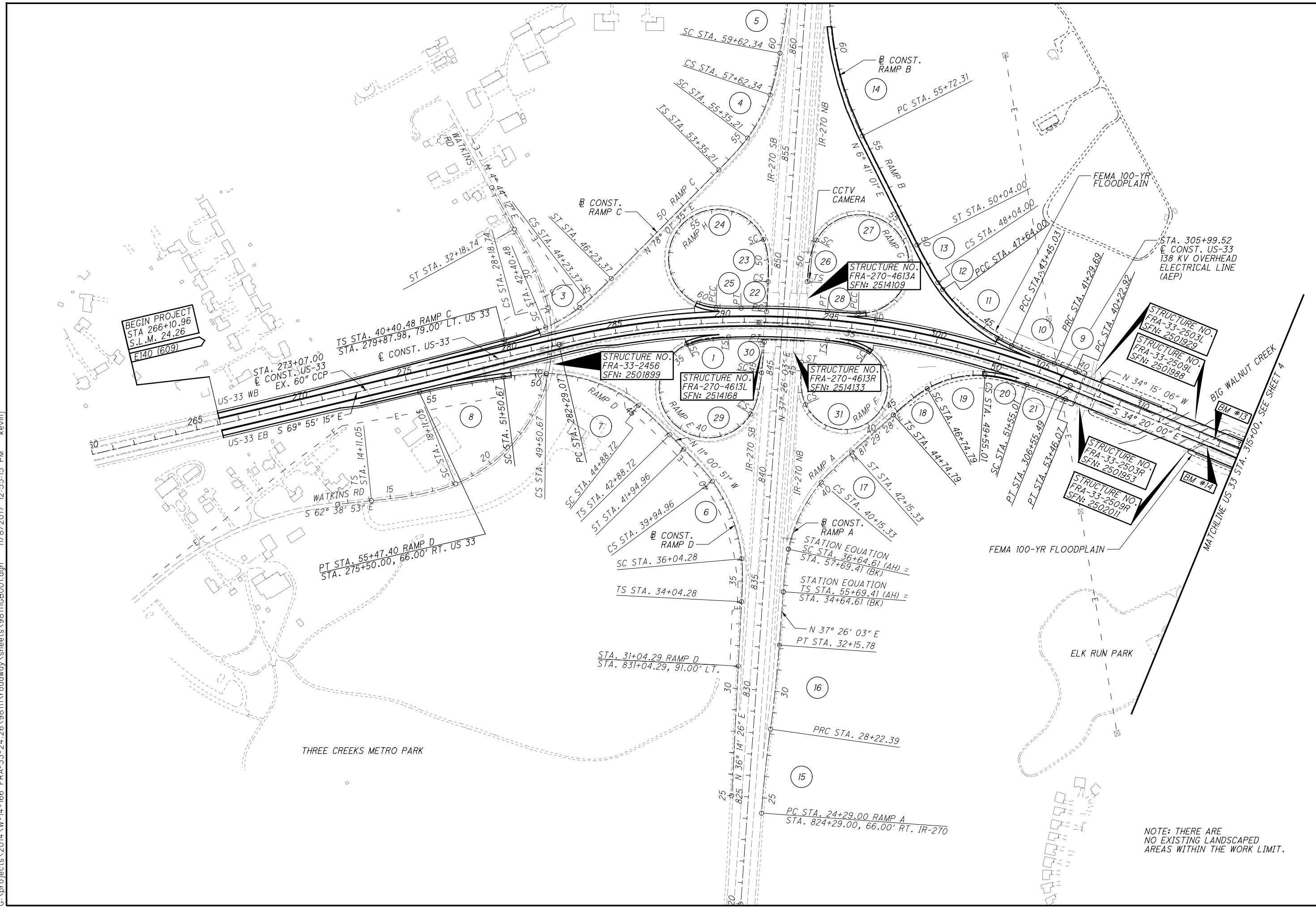
CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

FRA-33-24.26

3428-E 287

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SCHEMATIC PLAN & GEOMETRIC LAYOUT

FRA - 33 - 24.26

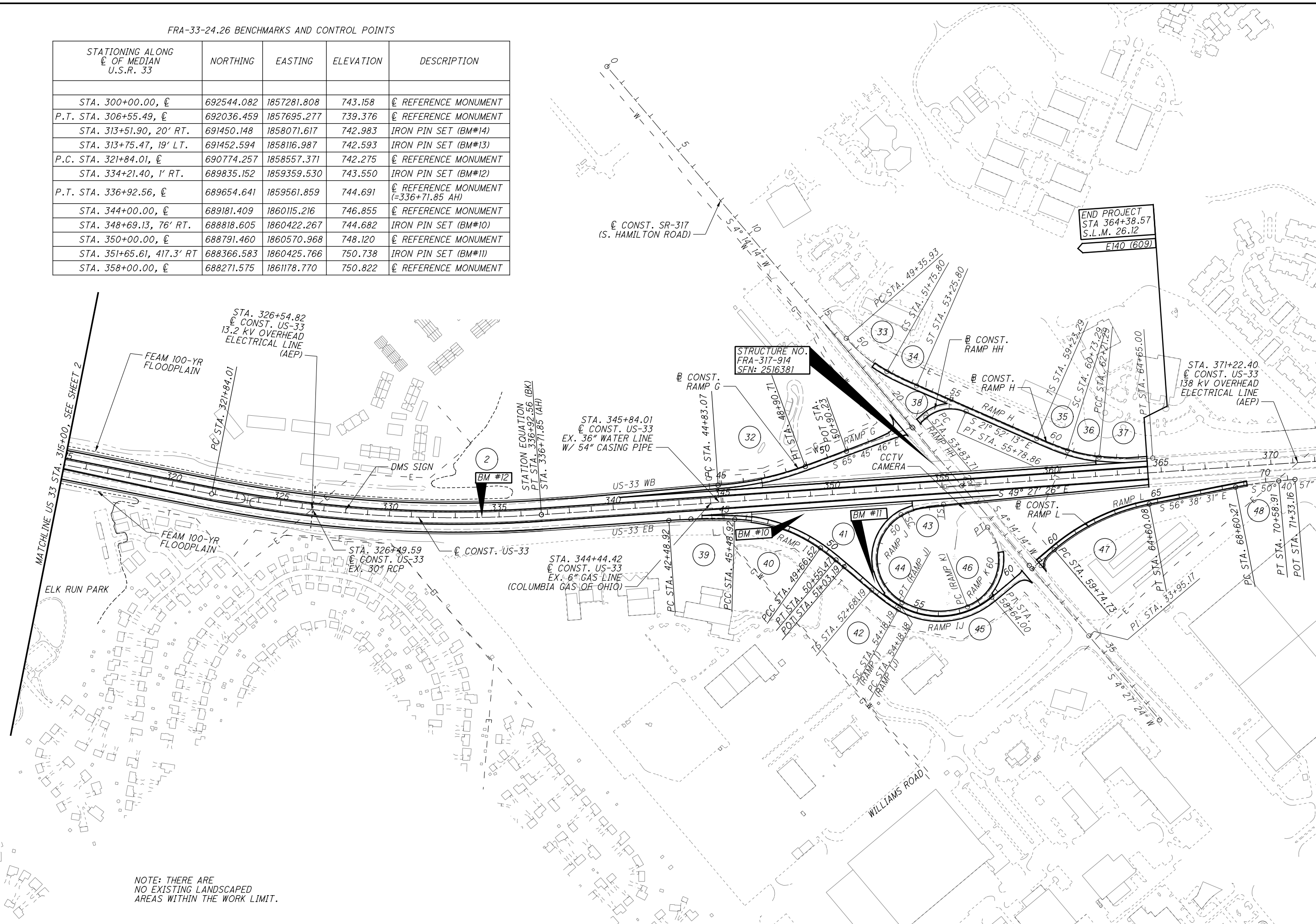
NOTE: THERE ARE NO EXISTING LANDSCAPED AREAS WITHIN THE WORK LIMIT.



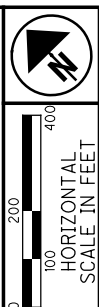
FRA-33-24.26 BENCHMARKS AND CONTROL POINTS

STATIONING ALONG C OF MEDIAN U.S.R. 33	NORTHING	EASTING	ELEVATION	DESCRIPTION
STA. 300+00.00, C	692544.082	1857281.808	743.158	C REFERENCE MONUMENT
P.T. STA. 306+55.49, C	692036.459	1857695.277	739.376	C REFERENCE MONUMENT
STA. 313+51.90, 20' RT.	691450.148	1858071.617	742.983	IRON PIN SET (BM#14)
STA. 313+75.47, 19' LT.	691452.594	1858116.987	742.593	IRON PIN SET (BM#13)
P.C. STA. 321+84.01, C	690774.257	1858557.371	742.275	C REFERENCE MONUMENT
STA. 334+21.40, 1' RT.	689835.152	1859359.530	743.550	IRON PIN SET (BM#12)
P.T. STA. 336+92.56, C	689654.641	1859561.859	744.691	C REFERENCE MONUMENT (=336+71.85 AH)
STA. 344+00.00, C	689181.409	1860115.216	746.855	C REFERENCE MONUMENT
STA. 348+69.13, 76' RT.	688818.605	1860422.267	744.682	IRON PIN SET (BM#10)
STA. 350+00.00, C	688791.460	1860570.968	748.120	C REFERENCE MONUMENT
STA. 351+65.61, 417.3' RT	688366.583	1860425.766	750.738	IRON PIN SET (BM#11)
STA. 358+00.00, C	688271.575	1861178.770	750.822	C REFERENCE MONUMENT

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NOTE: THERE ARE NO EXISTING LANDSCAPED AREAS WITHIN THE WORK LIMIT.



SCHEMATIC PLAN & GEOMETRIC LAYOUT

FRA-33-24.26

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SR 317 RAMP G  
PROP CURVE DATA NO. 32  
P.I. STA. 46+88.27  
 $\Delta = 16^\circ 18' 20''$  (LT)  
 $Dc = 4^\circ 00' 00''$   
 $R = 1,432.39'$   
 $T = 205.21'$   
 $L = 407.64'$   
 $E = 14.62'$   
 $e_{max} = 0.043$   
PC STA. 44+83.07  
PT STA. 48+90.71

EX. CURVE DATA NO. 33  
P.I. STA. 50+57.00  
 $\Delta = 19^\circ 11' 22''$  (LT)  
 $Dc = 8^\circ 00' 00''$   
 $R = 716.20'$   
 $T = 121.07'$   
 $L = 239.87'$   
 $E = 10.16'$   
 $e_{max} = 0.060$   
PC STA. 49+35.93  
CS STA. 51+75.80

SR 317 RAMP H  
EX. CURVE DATA NO. 34  
P.I. STA. 52+25.85  
 $Dc = 8^\circ 00' 00''$   
 $R = 716.20'$   
 $Ls = 150.00'$   
 $\theta_s = 6^\circ 00' 00''$  (LT)  
 $LT = 100.06'$   
 $ST = 50.05'$   
 $x = 149.84'$   
 $y = 5.23'$   
 $k = 74.97'$   
 $p = 1.31'$   
 $e_{max} = 0.060$   
CS STA. 51+75.80  
ST STA. 53+25.80

EX. CURVE DATA NO. 35  
P.I. STA. 60+23.34  
 $Dc = 8^\circ 00' 00''$   
 $R = 716.20'$   
 $Ls = 150.00'$   
 $\theta_s = 6^\circ 00' 00''$  (LT)  
 $LT = 100.06'$   
 $ST = 50.05'$   
 $x = 149.84'$   
 $y = 5.23'$   
 $k = 74.97'$   
 $p = 1.31'$   
 $e_{max} = 0.080$   
TS STA. 59+23.29  
SC STA. 60+73.29

EX. CURVE DATA NO. 36  
P.I. STA. 61+47.55  
 $\Delta = 11^\circ 50' 24''$  (LT)  
 $Dc = 8^\circ 00' 00''$   
 $R = 716.20'$   
 $T = 74.26'$   
 $L = 148.00'$   
 $E = 3.84'$   
 $e_{max} = 0.080$   
SC STA. 60+73.29  
PCC STA. 62+21.29

EX. CURVE DATA NO. 37  
P.I. STA. 63+43.44  
 $\Delta = 9^\circ 44' 54''$  (LT)  
 $Dc = 4^\circ 00' 00''$   
 $R = 1,432.39'$   
 $T = 122.15'$   
 $L = 243.71'$   
 $E = 5.20'$   
 $e_{max} = 0.046$   
PCC STA. 62+21.29  
PT STA. 64+65.00

SR 317 RAMP HH  
EX. CURVE DATA NO. 38  
P.I. STA. 54+92.84  
 $\Delta = 63^\circ 53' 35''$  (RT)  
 $Dc = 32^\circ 44' 26''$   
 $R = 175.00'$   
 $T = 109.13'$   
 $L = 195.15'$   
 $E = 31.24'$   
 $e_{max} = 0.045$   
PC STA. 53+83.71  
PT STA. 55+78.86

SR 317 RAMP I  
PROP CURVE DATA NO. 39  
P.I. STA. 43+99.05  
 $\Delta = 5^\circ 45' 00''$  (RT)  
 $Dc = 1^\circ 55' 00''$   
 $R = 2,989.35'$   
 $T = 150.13'$   
 $L = 300.00'$   
 $E = 3.77'$   
 $e_{max} = 0.066$   
PC STA. 42+48.92  
PCC STA. 45+48.92

PROP CURVE DATA NO. 40  
P.I. STA. 47+63.84  
 $\Delta = 33^\circ 24' 28''$  (RT)  
 $Dc = 8^\circ 00' 00''$   
 $R = 716.20'$   
 $T = 214.92'$   
 $L = 417.60'$   
 $E = 31.55'$   
 $e_{max} = 0.083$   
PCC STA. 45+48.92  
PCC STA. 49+66.52

EX. CURVE DATA NO. 41  
P.I. STA. 50+11.02  
 $\Delta = 4^\circ 57' 31''$  (RT)  
 $Dc = 5^\circ 34' 29''$   
 $R = 1,027.79'$   
 $T = 44.50'$   
 $L = 88.95'$   
 $E = 0.96'$   
 $e_{max} = 0.072$   
PCC STA. 49+66.52  
PT STA. 50+55.47

EX. CURVE DATA NO. 42  
P.I. STA. 53+68.39  
 $Dc = 14^\circ 48' 18''$   
 $R = 387.00'$   
 $Ls = 150.00'$   
 $\theta_s = 11^\circ 06' 14''$  (LT)  
 $LT = 100.20'$   
 $ST = 50.18'$   
 $x = 149.44'$   
 $y = 9.66'$   
 $k = 74.91'$   
 $p = 2.42'$   
 $e_{max} = 0.042$   
TS STA. 52+68.19  
SC STA. 54+18.19

SR 317 RAMP J  
EX. CURVE DATA NO. 43  
P.I. STA. 48+68.56  
 $Dc = 24^\circ 54' 40''$   
 $R = 230.00'$   
 $Ls = 200.00'$   
 $\theta_s = 24^\circ 54' 40''$  (LT)  
 $LT = 134.68'$   
 $ST = 67.89'$   
 $x = 196.25'$   
 $y = 28.60'$   
 $k = 99.37'$   
 $p = 7.20'$   
 $e_{max} = 0.083$   
TS STA. 47+33.88  
SC STA. 49+33.88

EX. CURVE DATA NO. 44  
P.I. STA. 53+37.48  
 $\Delta = 120^\circ 38' 42''$  (LT)  
 $Dc = 24^\circ 54' 40''$   
 $R = 230.00'$   
 $T = 403.60'$   
 $L = 484.30'$   
 $E = 234.54'$   
 $e_{max} = 0.083$   
SC STA. 49+33.88  
PT STA. 54+18.18

SR 317 RAMP IJ  
EX. CURVE DATA NO. 45  
P.I. STA. 56+72.95  
 $\Delta = 69^\circ 19' 04''$  (LT)  
 $Dc = 15^\circ 32' 54''$   
 $R = 368.50'$   
 $T = 254.77'$   
 $L = 445.82'$   
 $E = 79.50'$   
 $e_{max} = 0.096$   
PC STA. 54+18.18  
PT STA. 58+64.00

SR 317 RAMP K  
EX. CURVE DATA NO. 46  
P.I. STA. 60+64.35  
 $\Delta = 108^\circ 48' 22''$  (LT)  
 $Dc = 24^\circ 54' 40''$   
 $R = 230.00'$   
 $T = 321.30'$   
 $L = 436.78'$   
 $E = 165.14'$   
 $e_{max} = 0.096$   
PC STA. 57+43.05  
PT STA. 61+79.83

SR 317 RAMP L  
PROP CURVE DATA NO. 47  
P.I. STA. 62+22.77  
 $\Delta = 29^\circ 07' 15''$  (RT)  
 $Dc = 6^\circ 00' 00''$   
 $R = 954.93'$   
 $T = 248.03'$   
 $L = 485.34'$   
 $E = 31.69'$   
 $e_{max} = 0.055$   
PC STA. 59+74.73  
PT STA. 64+60.08

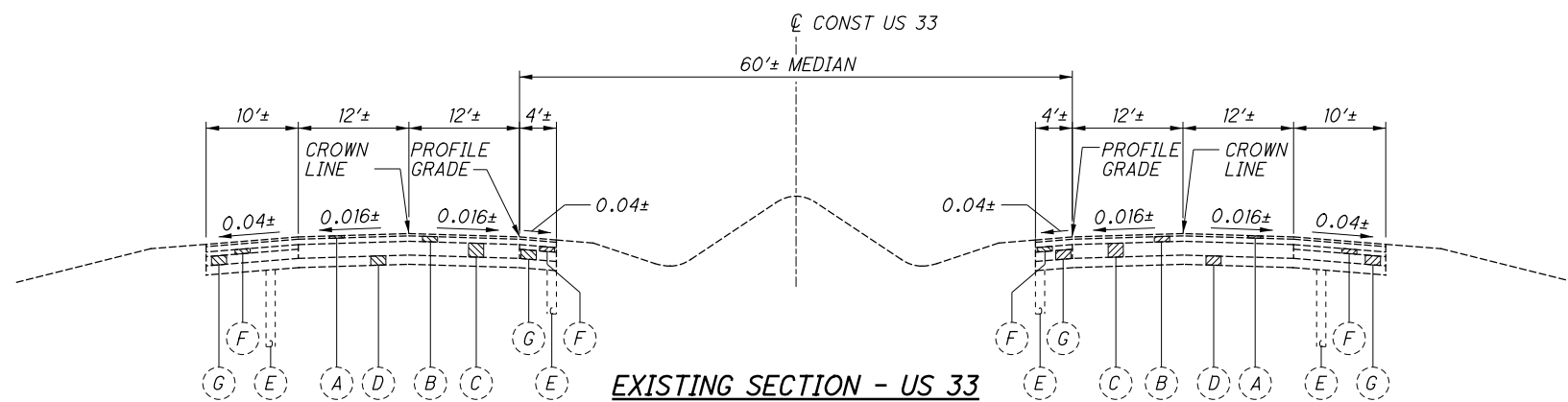
PROP CURVE DATA NO. 48  
P.I. STA. 69+59.68  
 $\Delta = 5^\circ 57' 34''$  (RT)  
 $Dc = 3^\circ 00' 00''$   
 $R = 1,909.86'$   
 $T = 99.41'$   
 $L = 198.65'$   
 $E = 2.58'$   
 $e_{max} = 0.059$   
PC STA. 68+60.27  
PT STA. 70+58.91



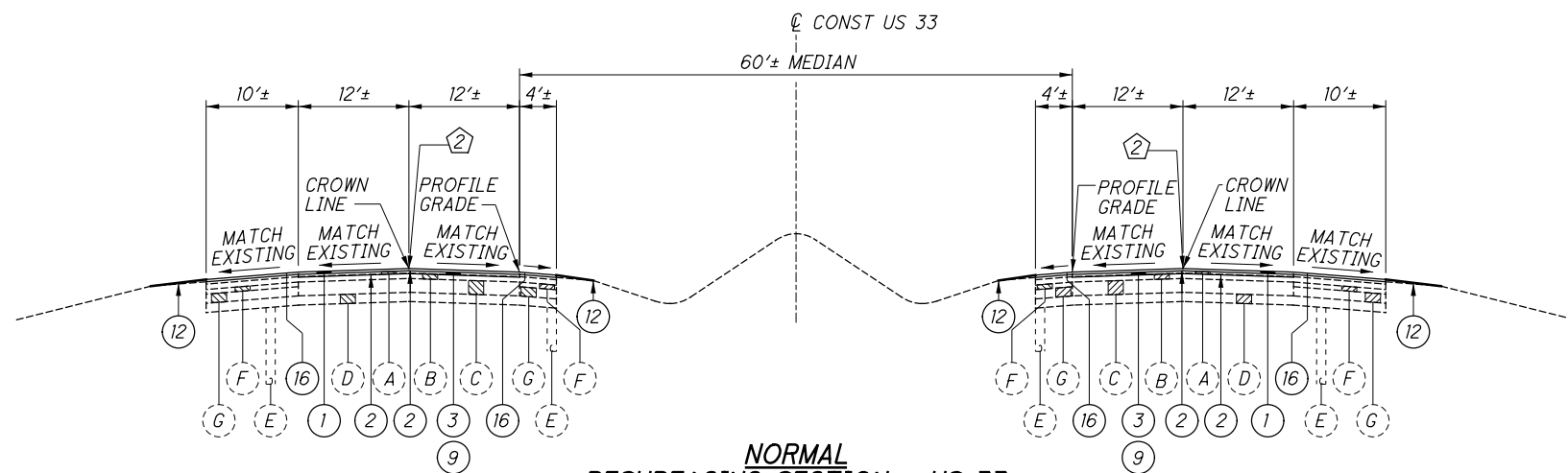
SCHEMATIC PLAN & GEOMETRIC LAYOUT

FRA - 33 - 24.26

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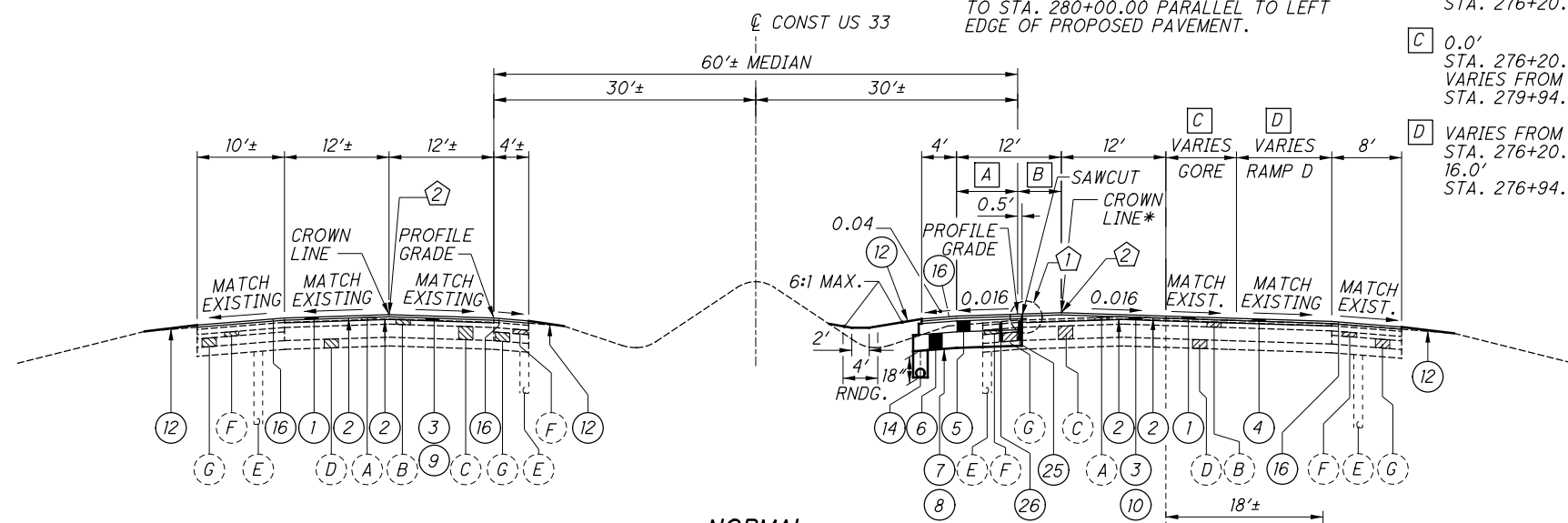
**EXISTING SECTION - US 33**



**NORMAL RESURFACING SECTION - US 33**

STA. 266+10.96 TO STA. 276+20.00  
 STA. 346+83.89 TO STA. 364+38.57 LT.  
 STA. 346+26.73 TO STA. 364+38.57 RT.

\* SHIFT CROWN LINE FROM STA. 276+20.00 TO STA. 280+00.00 PARALLEL TO LEFT EDGE OF PROPOSED PAVEMENT.



**NORMAL TAPER/WIDENING SECTION - US 33**

STA. 276+20.00 TO STA. 280+00.00

STA. 279+82.00 TO STA. 280+00.00

**LEGEND**

- ① ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)
- ② ITEM 407 - NON-TRACKING TACK COAT
- ③ ITEM 442 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)
- ④ ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446), AS PER PLAN (PG76-22M)
- ⑤ ITEM 302 - 7.5" ASPHALT CONCRETE BASE
- ⑥ ITEM 304 - 11" AGGREGATE BASE
- ⑦ ITEM 204 - PROOF ROLLING
- ⑧ ITEM 204 - SUBGRADE COMPACTION
- ⑨ ITEM 254 - 1.75" PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (MAINLINE TRAVELED WAY AND RAMPS ONLY)
- ⑩ ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (VARIABLE DEPTH)
- ⑪ ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN
- ⑫ ITEM 659 - SEEDING AND MULCHING
- ⑬ ITEM 606 - GUARDRAIL, TYPE MGS
- ⑭ ITEM 605 - 6" BASE PIPE UNDERDRAIN
- ⑮ ITEM 622 - CONCRETE BARRIER, TYPE D
- ⑯ ITEM 618 - RUMBLE STRIPS, ASPHALT CONCRETE
- ⑰ ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15")
- ⑱ ITEM 622 - SINGLE SLOPE BARRIER, TYPE D
- ⑲ NOISE WALL
- ⑳ ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (TO REMAIN IN PLACE)
- ㉑ ITEM 609 - CURB, TYPE 4-A
- ㉒ ITEM 609 - CURB, TYPE 4-C
- ㉓ ITEM 254 - 1.5" PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN
- ㉔ ITEM 606 - SPECIAL - CABLE BARRIER
- ㉕ ITEM 202 - PAVEMENT REMOVED, AS PER PLAN
- ㉖ ITEM 202 - PAVEMENT REMOVED, ASPHALT

**LEGEND**

- (A) EXISTING 1.5"± ASPHALT CONCRETE SURFACE COURSE
- (B) EXISTING 3.5"± ASPHALT CONCRETE INTERMEDIATE COURSE
- (C) EXISTING 9"± REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
- (D) EXISTING 6"± AGGREGATE BASE
- (E) EXISTING 6" PIPE UNDERDRAIN
- (F) EXISTING 3"± WATERPROOF AGGREGATE BASE
- (G) EXISTING 5"± POROUS BASE COURSE
- (H) EXISTING CONCRETE BARRIER
- (I) EXISTING 13" APPROACH SLAB

① FOR DETAIL A, SEE SHEET 7.

**NOTE "A"**

② ITEM 875, LONGITUDINAL JOINT ADHESIVE, IS A HOT ASPHALTIC JOINT ADHESIVE TO BE APPLIED ALONG ALL COLD LONGITUDINAL ASPHALT CONCRETE SURFACE JOINTS.

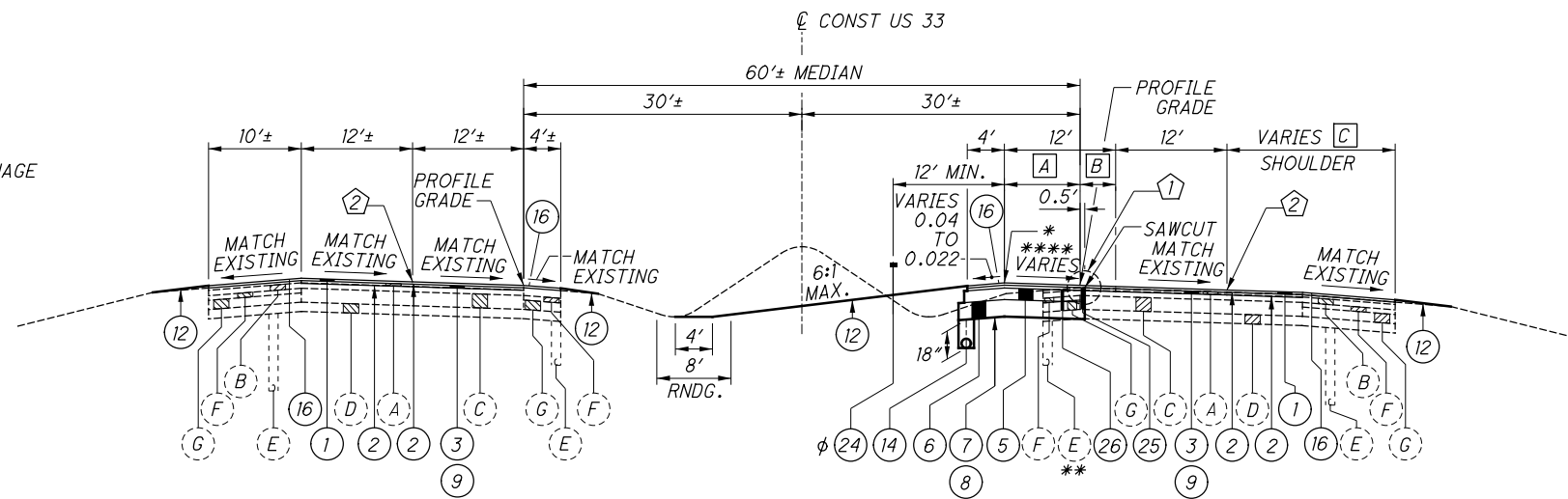
FOR RUMBLE STRIP DETAIL, SEE SHEET 9.

FOR PAVEMENT ELEVATION TABLES, SEE SHEETS 169-170.

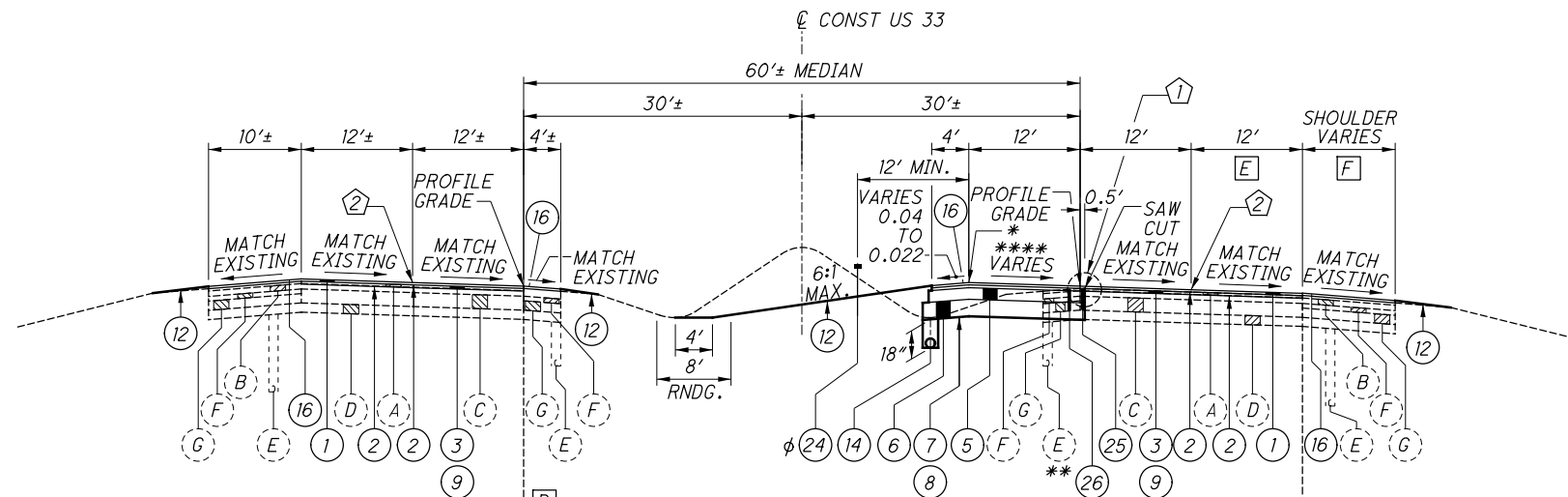
FOR RAMP TERMINAL DETAILS, SEE SHEETS 163-164.

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- ② FOR SURFACE COURSE NOTE "A", SEE SHEET 6.
- \* - 7.00% MAX BREAK
- \*\* - EXISTING UNDERDRAIN TO REMAIN, CONNECT TO PROPOSED FOR POSITIVE DRAINAGE
- \*\*\* - STA. 280+00.00 TO STA. 284+00.00  
STA. 291+10.00 TO STA. 294+63.00  
STA. 305+97.25 TO STA. 306+72.25  
STA. 308+14.75 TO STA. 308+27.00
- \*\*\*\* - FOR PAVEMENT ELEVATION TABLES, SEE SHEETS 169-170
- φ - DISTANCE FROM EDGE OF TRAVELED WAY TO CABLE RAIL SHOULD BE MINIMUM OF 12 FEET, OR 3 FEET FROM THE EDGE OF TREATED SHOULDER IF THE TREATED SHOULDER IS MORE THAN 10 FEET WIDE. AT THE DISCRETION OF THE CONTRACTOR AND THE PROJECT ENGINEER, THE DISTANCE CAN BE ALTERED IF CONSTRUCTABILITY AND/OR MAINTENANCE OF TRAFFIC ISSUES WARRANT A CHANGE. THE ACCEPTABLE RANGE FOR PLACEMENT OF THE CABLE RAIL IS A MINIMUM OF 12 FEET FROM THE EDGE OF TRAVELED WAY (EOP) AND A MINIMUM OF 8 FEET FROM THE DITCH BOTTOM.

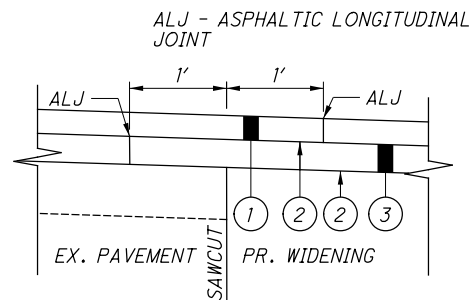


**SUPERELEVATED  
TAPER/WIDENING SECTION - US 33**  
STA. 280+00.00 TO STA. 284+00.00

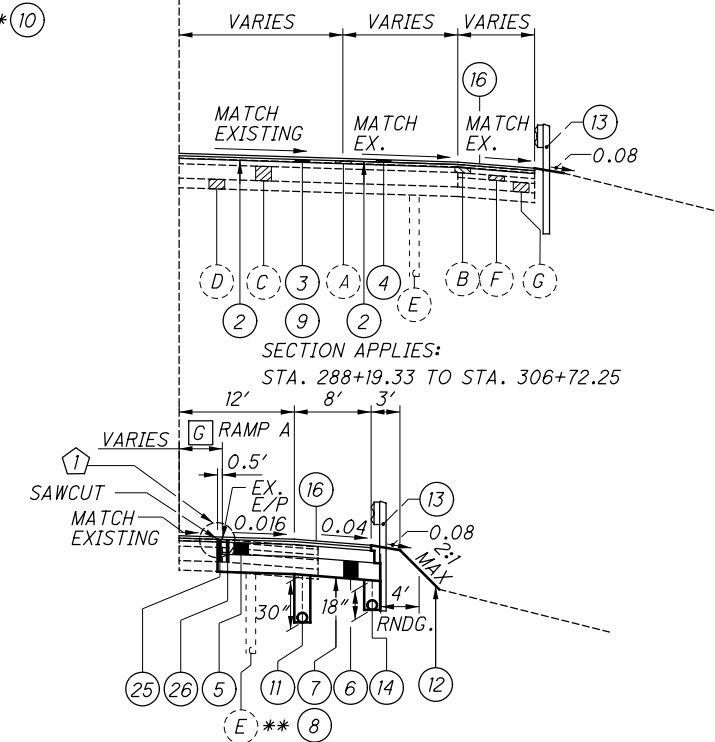


SECTION APPLIES:  
STA. 300+40.00 TO STA. 306+72.25  
STA. 308+14.75 TO STA. 308+27.00

**SUPERELEVATED  
WIDENING SECTION - US 33**  
STA. 284+00.00 TO STA. 306+72.25  
STA. 308+14.75 TO STA. 308+27.00



① **DETAIL A**  
JOINT STAGGERING DETAIL

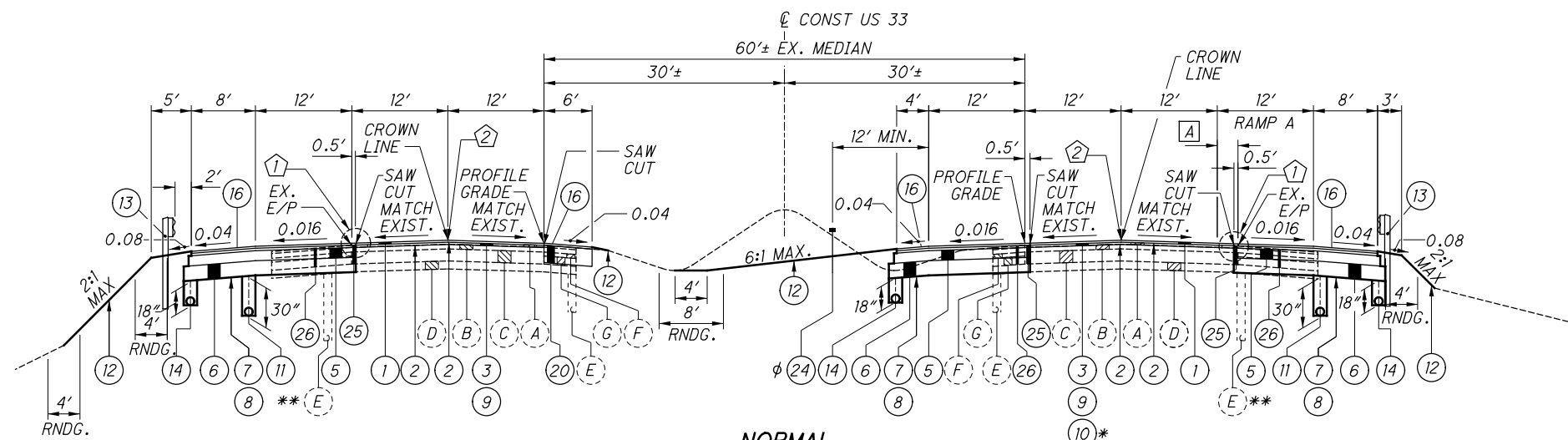


SECTION APPLIES:  
STA. 308+14.75 TO STA. 308+27.00

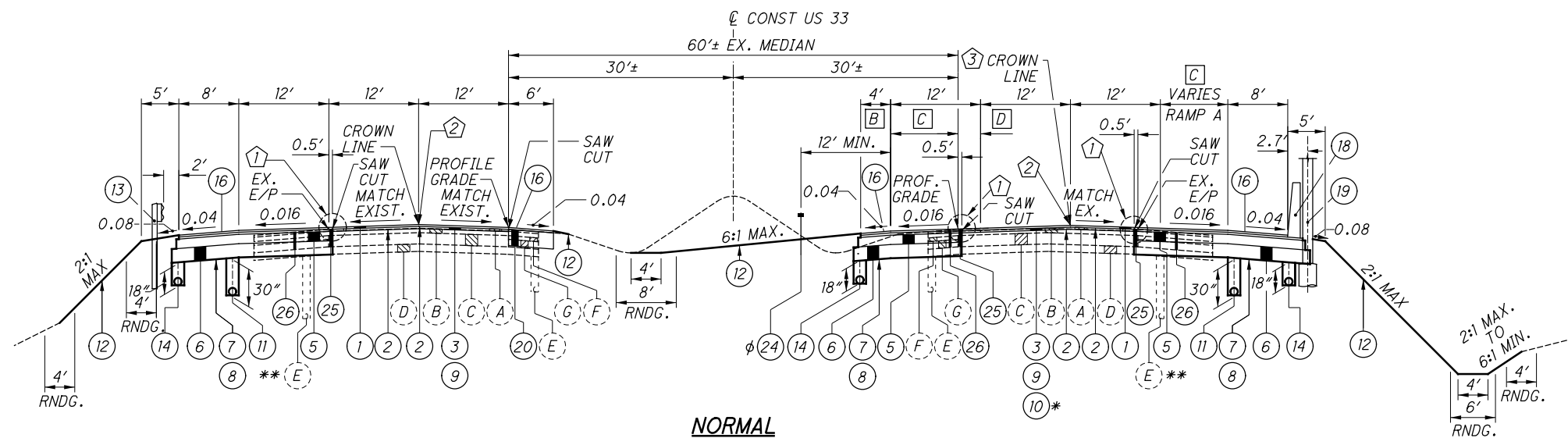
- A VARIES FROM 5.85' TO 12.0'  
STA. 280+00.00 TO STA. 284+00.00
- B VARIES FROM 6.15' TO 0.0'  
STA. 280+00.00 TO STA. 284+00.00
- C VARIES FROM 18.0'± TO 23.25'±  
STA. 280+00.00 TO STA. 284+00.00
- D 6.0'  
STA. 308+14.75 TO STA. 308+27.00
- E VARIES FROM 0.0' TO 12.0'  
STA. 284+00.00 TO STA. 285+00.00
- F VARIES FROM 23.67'± TO 11.52'±  
STA. 284+00.00 TO STA. 285+00.00  
VARIES FROM 11.52'± TO 10.0'  
STA. 285+00.00 TO STA. 288+19.33
- G VARIES FROM 4.51' TO 4.15'  
STA. 308+14.75 TO STA. 308+27.00

FOR LEGEND, SEE SHEET 6.  
FOR RUMBLE STRIP DETAIL,  
SEE SHEET 9.

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**NORMAL  
WIDENING SECTION - US 33**  
STA. 308+27.00 TO STA. 310+23.40 (SKEWED 39.75° LF)



**NORMAL  
TAPER/WIDENING SECTION - US 33**  
STA. 313+61.47 (SKEWED 39.75° LF) TO STA. 320+09.00

- A VARIES FROM 4.52' TO 0.0'  
STA. 308+14.75 TO STA. 309+78.09
- B VARIES FROM 4.0' TO 4.14'  
STA. 320+00.00 TO STA. 320+09.00
- \*\*\* C VARIES FROM 11.83' TO 1.86'  
STA. 313+61.47 TO STA. 320+09.00
- \*\*\* D VARIES FROM 0.17' TO 10.14'  
STA. 313+61.47 TO STA. 320+09.00

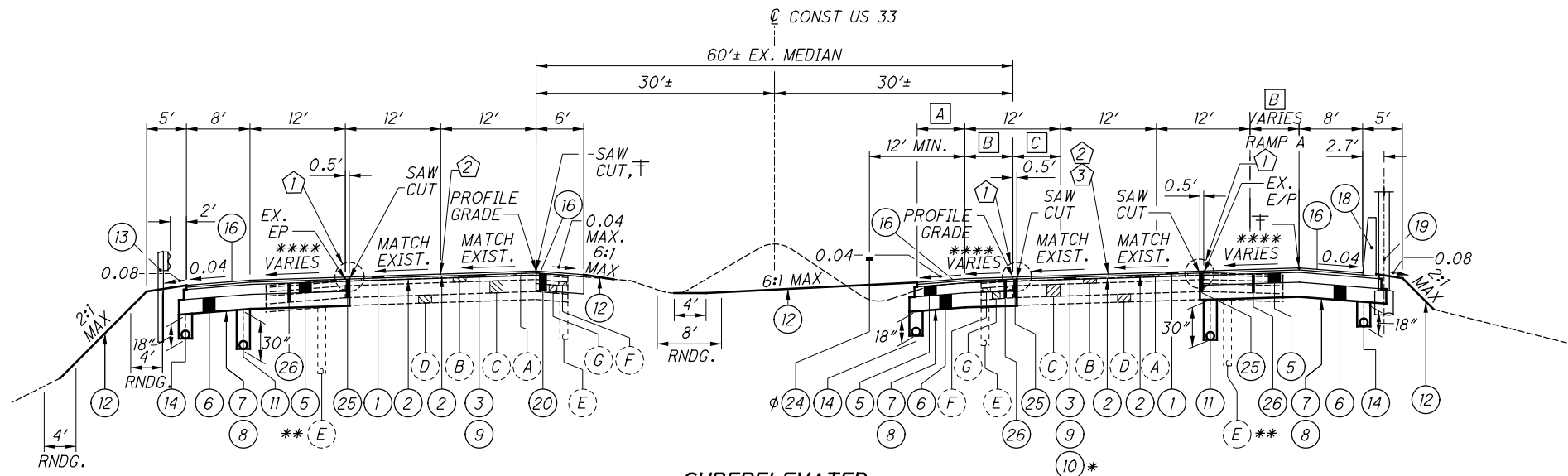
- ① FOR DETAIL A, SEE SHEET 7.
- ② FOR SURFACE COURSE NOTE "A", SEE SHEET 6.
- ③ SHIFT CROWN LINE FROM STA. 313+50.00 TO STA. 320+09.00 PARALLEL TO PROPOSED EDGE OF PAVEMENT.
- \* - VARIABLE DEPTH PAVEMENT PLANING STA. 313+50.00 TO STA. 320+09.00
- \*\* - EXISTING UNDERDRAIN TO REMAIN, CONNECT TO PROPOSED FOR POSITIVE DRAINAGE
- \*\*\* - PAVEMENT TAPER BEGINS AT STA. 313+50.00

φ - DISTANCE FROM EDGE OF TRAVELED WAY TO CABLE RAIL SHOULD BE MINIMUM OF 12 FEET, OR 3 FEET FROM THE EDGE OF TREATED SHOULDER IF THE TREATED SHOULDER IS MORE THAN 10 FEET WIDE. AT THE DISCRETION OF THE CONTRACTOR AND THE PROJECT ENGINEER, THE DISTANCE CAN BE ALTERED IF CONSTRUCTABILITY AND/OR MAINTENANCE OF TRAFFIC ISSUES WARRANT A CHANGE. THE ACCEPTABLE RANGE FOR PLACEMENT OF THE CABLE RAIL IS A MINIMUM OF 12 FEET FROM THE EDGE OF TRAVELED WAY (EOP) AND A MINIMUM OF 8 FEET FROM THE DITCH BOTTOM.

FOR LEGEND, SEE SHEET 6.  
FOR PAVEMENT ELEVATION TABLES, SEE SHEETS 169-170.  
FOR RUMPLE STRIP DETAIL, SEE SHEET 9.

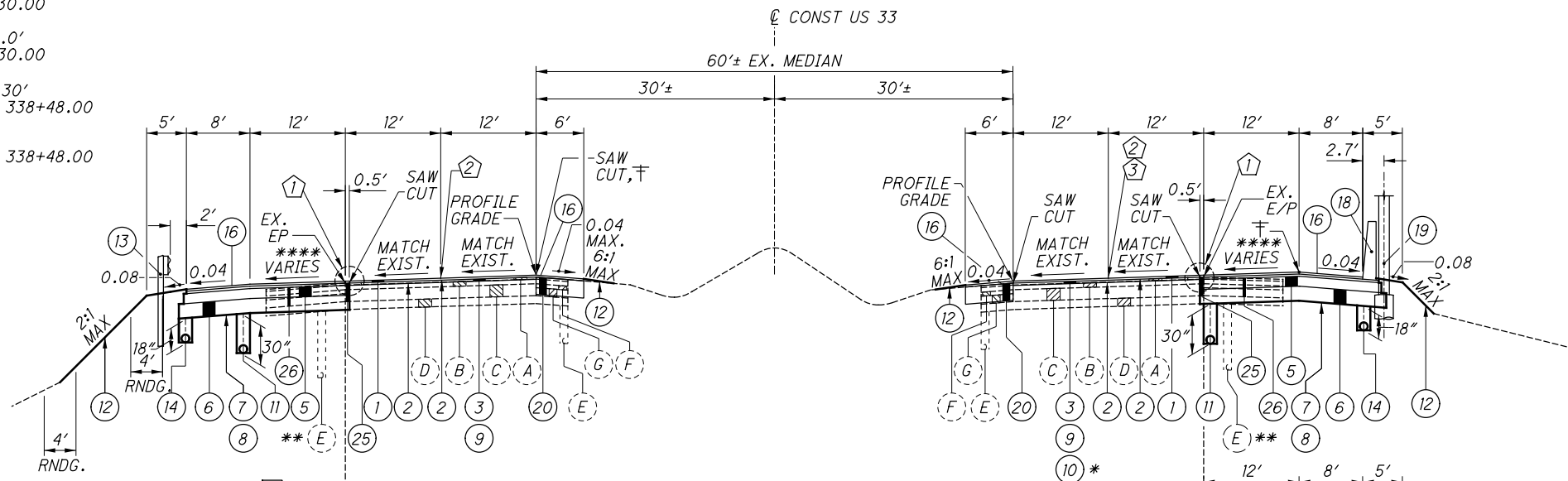


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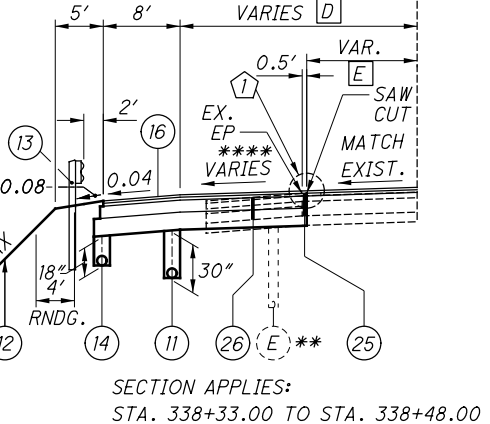


**SUPERELEVATED  
TAPER/WIDENING SECTION - US 33**  
STA. 320+09.00 TO STA. 321+30.00

- A VARIES FROM 4.14' TO 6.0'  
STA. 320+09.00 TO 321+30.00
- B VARIES FROM 1.86' TO 0.0'  
STA. 320+09.00 TO 321+30.00
- C VARIES FROM 10.14' TO 12.0'  
STA. 320+09.00 TO 321+30.00
- D VARIES FROM 12.0' TO 12.30'  
STA. 338+33.00 TO STA. 338+48.00
- E VARIES 7.5' TO 7.91'  
STA. 338+33.00 TO STA. 338+48.00



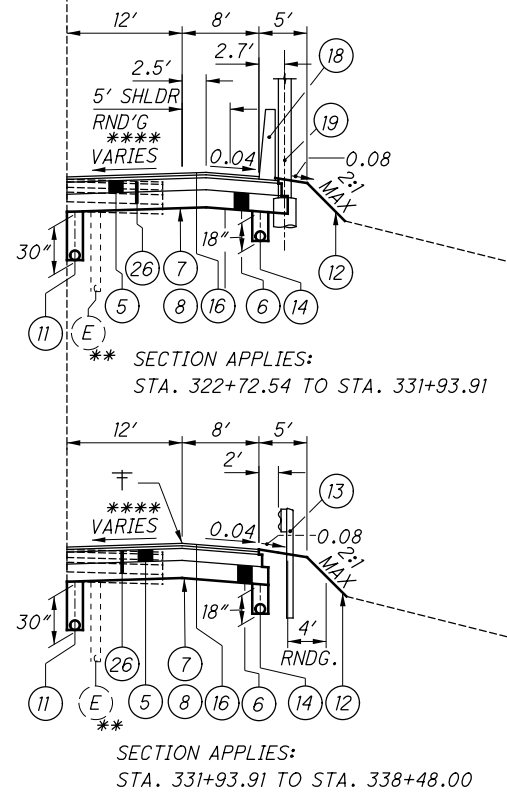
**SUPERELEVATED  
WIDENING SECTION - US 33**  
STA. 321+30.00 TO STA. 338+48.00



SECTION APPLIES:  
STA. 338+33.00 TO STA. 338+48.00

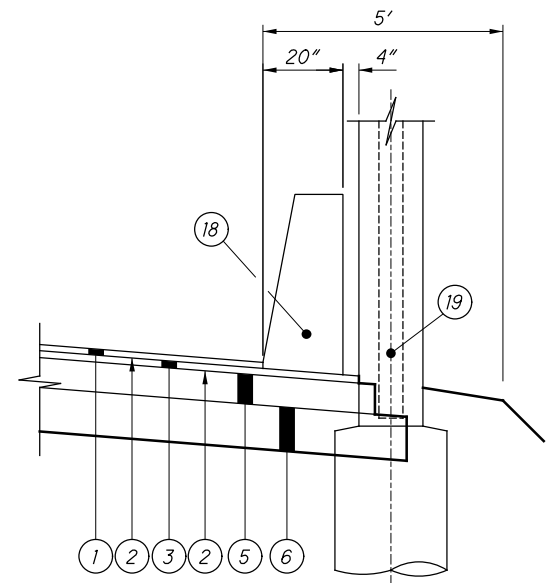
- 1 FOR DETAIL A, SEE SHEET 7.
- 2 FOR SURFACE COURSE NOTE "A", SEE SHEET 6.
- 3 SHIFT CROWN LINE FROM STA. 320+09.00 TO STA. 322+84.00 PARALLEL TO LEFT EDGE OF PROPOSED PAVEMENT.
- \* - VARIABLE DEPTH PAVEMENT PLANING STA. 313+50.00 TO STA. 320+09.00
- \*\* - EXISTING UNDERDRAIN TO REMAIN, CONNECT TO PROPOSED FOR POSITIVE DRAINAGE
- \*\*\* - STATION EQUATION STA. 336+92.56 (BK) = STA. 336+71.85 (AH)
- \*\*\*\* - FOR PAVEMENT ELEVATION TABLES, SEE SHEETS 169-170.
- † - 7.00% MAX BREAK

φ - DISTANCE FROM EDGE OF TRAVELED WAY TO CABLE RAIL SHOULD BE MINIMUM OF 12 FEET, OR 3 FEET FROM THE EDGE OF TREATED SHOULDER IF THE TREATED SHOULDER IS MORE THAN 10 FEET WIDE. AT THE DISCRETION OF THE CONTRACTOR AND THE PROJECT ENGINEER, THE DISTANCE CAN BE ALTERED IF CONSTRUCTABILITY AND/OR MAINTENANCE OF TRAFFIC ISSUES WARRANT A CHANGE. THE ACCEPTABLE RANGE FOR PLACEMENT OF THE CABLE RAIL IS A MINIMUM OF 12 FEET FROM THE EDGE OF TRAVELED WAY (EOP) AND A MINIMUM OF 8 FEET FROM THE DITCH BOTTOM.

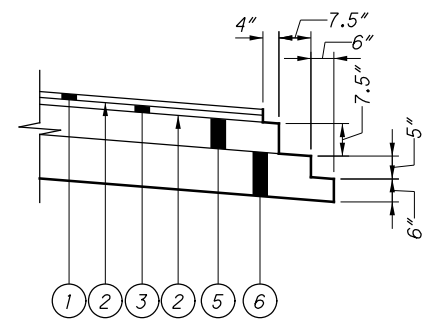


\*\* SECTION APPLIES:  
STA. 322+72.54 TO STA. 331+93.91

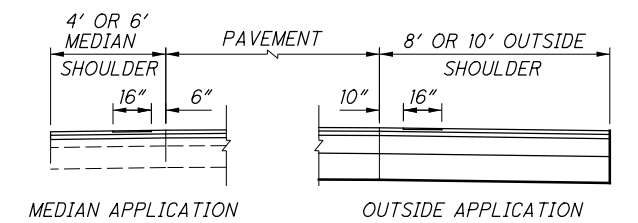
SECTION APPLIES:  
STA. 331+93.91 TO STA. 338+48.00



**TYPICAL CONCRETE BARRIER/NOISE WALL  
EDGE COURSE DETAIL**



**TYPICAL ASPHALT WIDENING  
EDGE COURSE DETAIL**

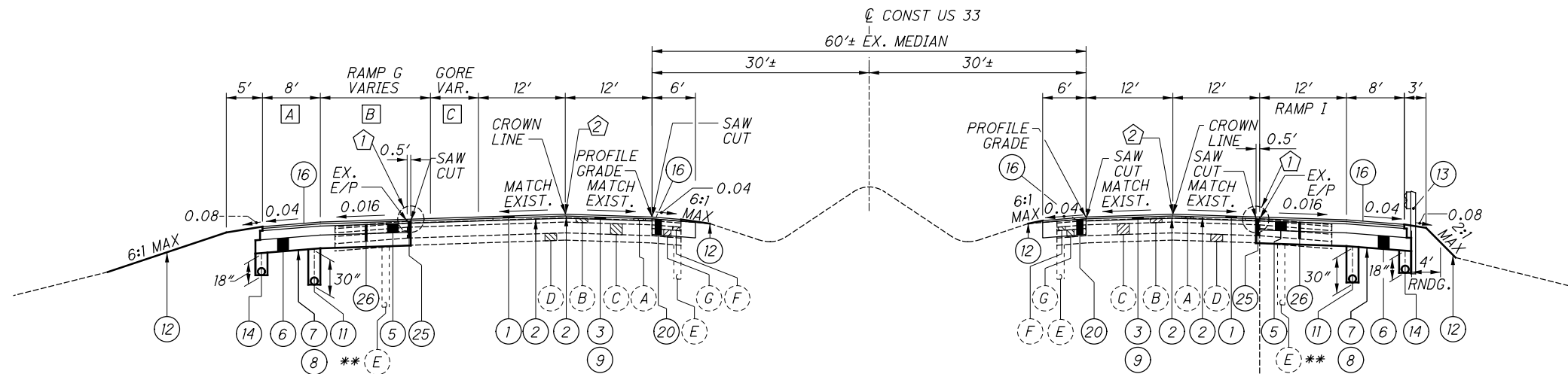


MEDIAN APPLICATION OUTSIDE APPLICATION

**SHOULDER RUMBLE STRIP DETAIL  
(REVERSE FOR WB)**  
(SEE STANDARD CONSTRUCTION DRAWING BP-9.1 FOR ADDITIONAL DETAILS)

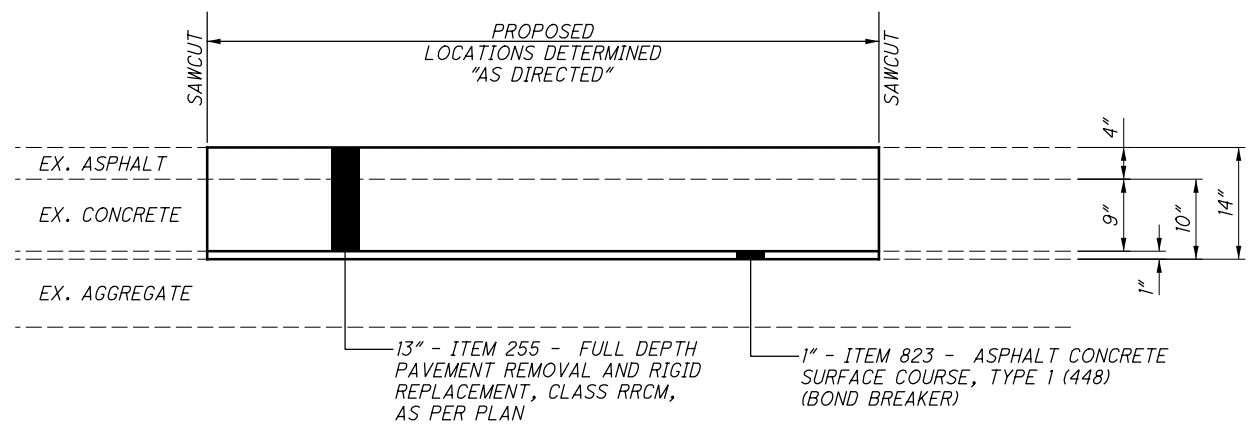
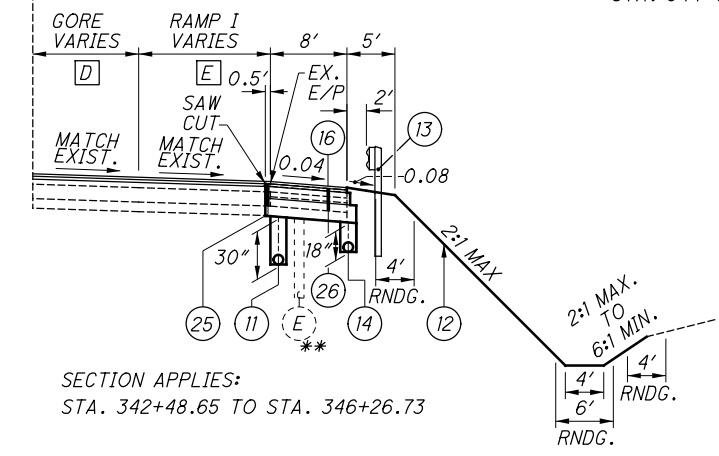
FOR LEGEND, SEE SHEET 6.

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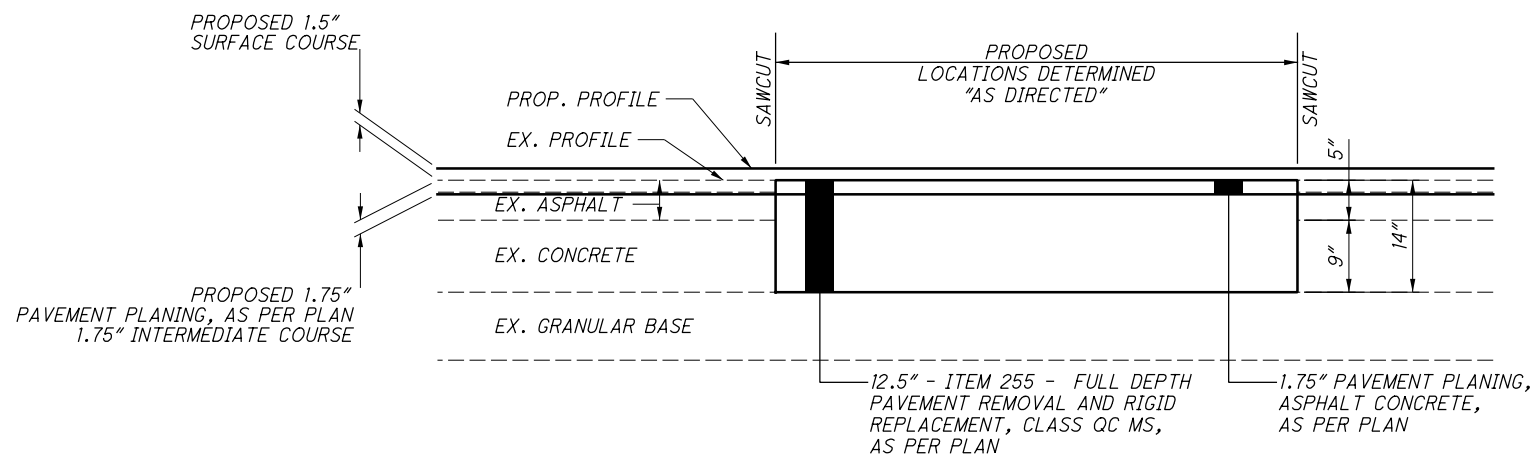


**NORMAL  
WIDENING SECTION - US 33**  
 STA. 338+48.00 TO STA. 346+83.89, LT.  
 STA. 338+48.00 TO STA. 346+26.73, RT.

- A VARIES FROM 8.0' TO 6.0'  
 STA. 344+83.00 TO STA. 345+33.00  
 6.0'  
 STA. 345+33.00 TO STA. 346+83.89
- B VARIES FROM 12.30' TO 16.0'  
 STA. 338+48.00 TO STA. 340+33.00  
 16.0'  
 STA. 340+33.00 TO STA. 346+43.89
- C 0.0'  
 STA. 338+48.00 TO STA. 340+33.00  
 VARIES FROM 0.0' TO 23.0'  
 STA. 340+33.00 TO STA. 340+43.89
- D 0.0'  
 STA. 342+48.65 TO STA. 344+03.65  
 VARIES FROM 0.0' TO 23.0'  
 STA. 344+03.65 TO STA. 346+26.73
- E VARIES FROM 12.0' TO 16.0'  
 STA. 342+48.65 TO STA. 344+03.65  
 16.0'  
 STA. 344+03.65 TO STA. 346+26.73



**IR-270 SB, RAMP E (46.18 MM)**  
 ITEM 255 - FULL DEPTH PAVEMENT REMOVAL  
 AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN  
 FOR FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT,  
 CLASS RRCM, AS PER PLAN SEE GENERAL NOTES 14.  
 FOR THIS DETAIL, SCREED THE PAVEMENT ACROSS THE LANE, NOT WITH TRAFFIC



**ITEM 255 - FULL DEPTH PAVEMENT REMOVAL  
 AND RIGID REPLACEMENT, CLASS QC MS, AS PER PLAN**  
 SEE GENERAL NOTES 14 FOR MORE INFORMATION  
 REGARDING ITEM 255 - FULL DEPTH PAVEMENT REMOVAL  
 AND RIGID REPLACEMENT, CLASS QC MS, AS PER PLAN

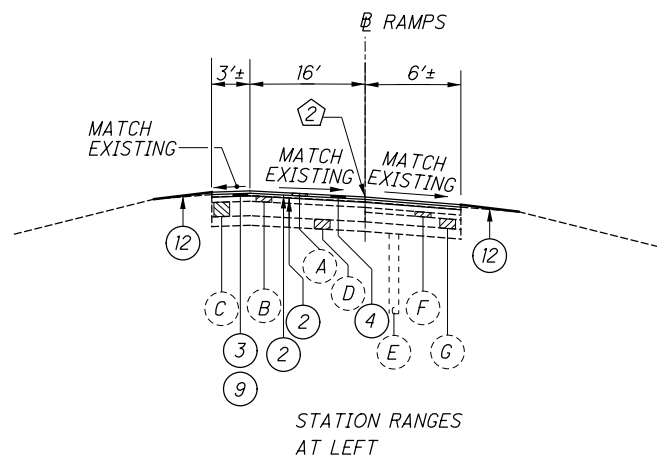
- ① FOR DETAIL A, SEE SHEET 7.
- ② FOR SURFACE COURSE NOTE "A",  
 SEE SHEET 6.
- \*\* - EXISTING UNDERDRAIN TO REMAIN,  
 CONNECT TO PROPOSED FOR POSITIVE  
 DRAINAGE

FOR LEGEND, SEE SHEET 6.  
 FOR RUMPLE STRIP DETAIL,  
 SEE SHEET 9.  
 FOR RAMP TERMINAL DETAILS, SEE SHEETS 163-164.

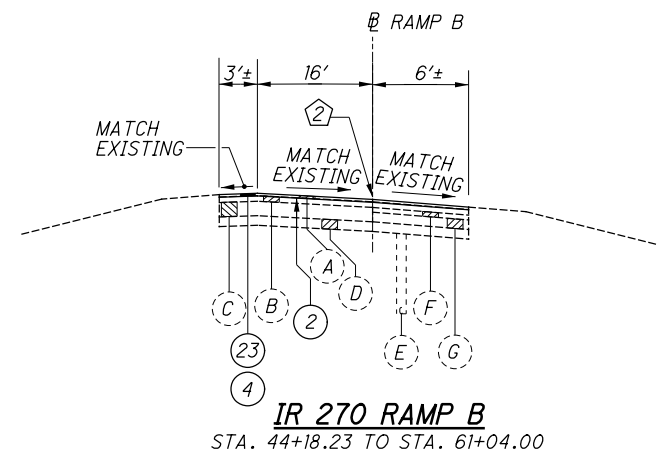
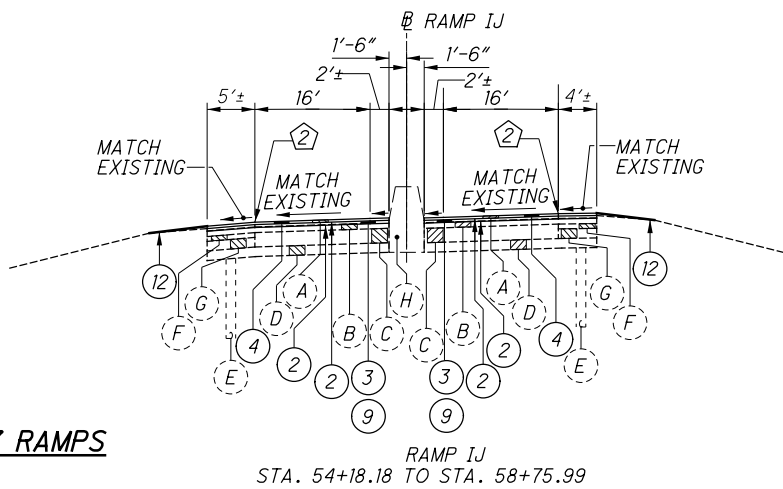
TYPICAL PAVEMENT REPAIR

FRA-33-24-26

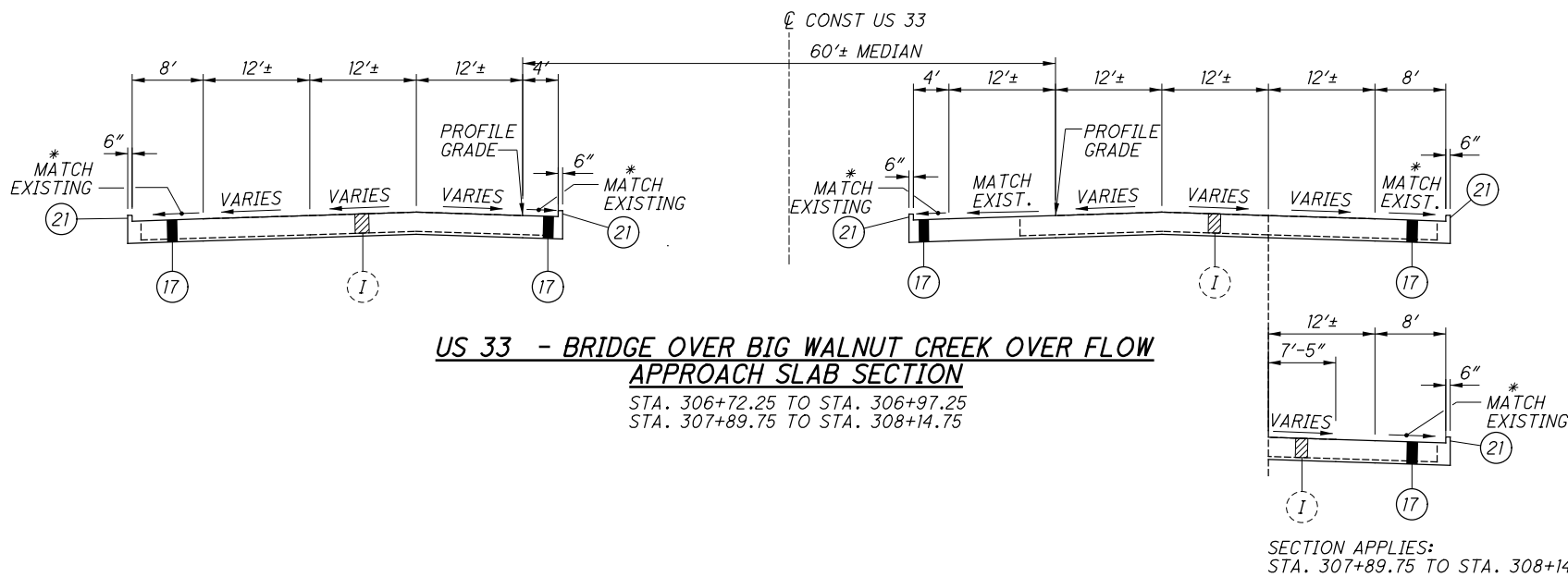
RAMP G  
STA. 46+81.95 TO STA. 53+66.17  
RAMP H  
STA. 51+09.21 TO STA. 62+07.60  
RAMP HH  
STA. 53+46.08 TO STA. 54+91.21  
RAMP I  
STA. 46+13.92 TO STA. 54+18.19  
RAMP IJ  
STA. 58+75.99 TO STA. 60+46.32  
(OPPOSITE HAND)  
RAMP J  
STA. 48+72.65 TO STA. 54+18.18  
(STATIONING INCREASES IN  
REVERSE DIRECTION)  
RAMP K  
STA. 58+66.12 TO STA. 60+52.48  
RAMP L  
58+85.88 TO STA. 69+13.90



**SR 317 RAMP**

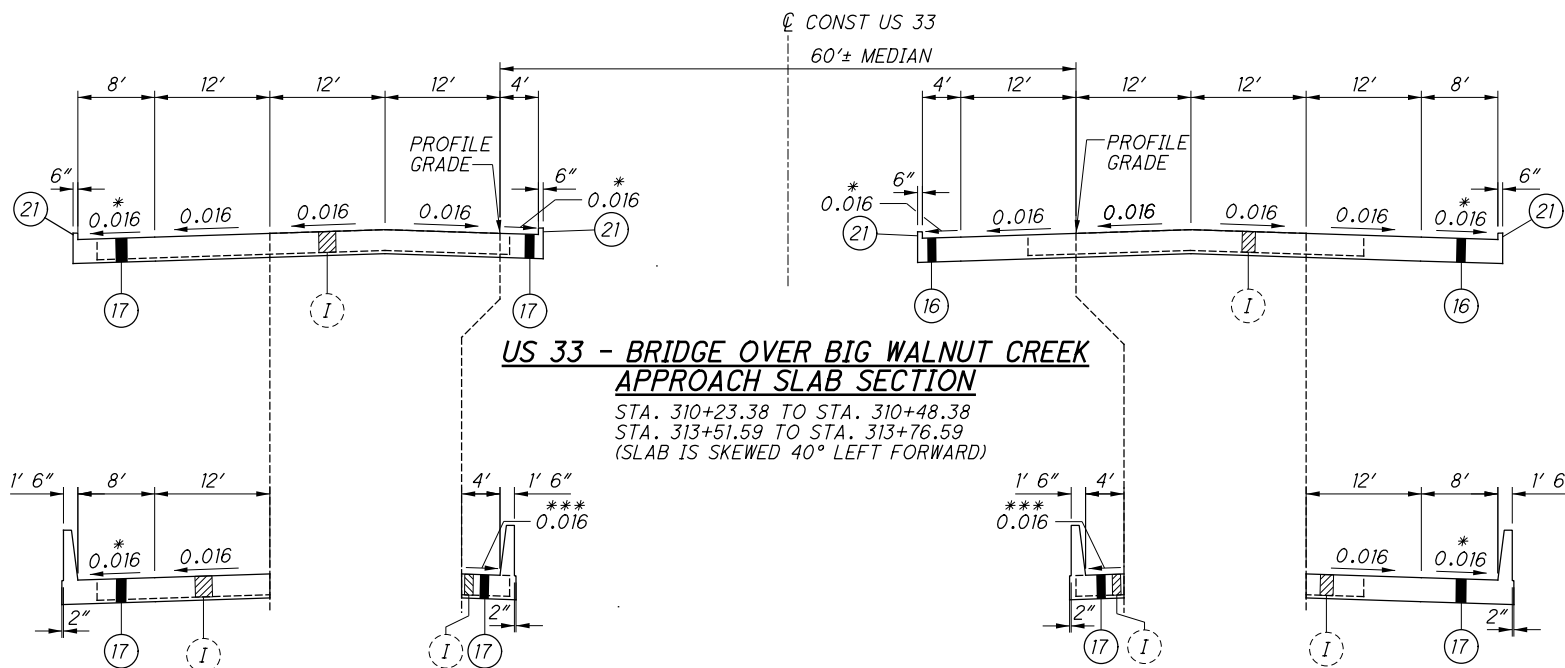


FOR SURFACE COURSE NOTE "A",  
SEE SHEET 6.



**US 33 - BRIDGE OVER BIG WALNUT CREEK OVER FLOW  
APPROACH SLAB SECTION**  
STA. 306+72.25 TO STA. 306+97.25  
STA. 307+89.75 TO STA. 308+14.75

SECTION APPLIES:  
STA. 307+89.75 TO STA. 308+14.75



**US 33 - BRIDGE OVER BIG WALNUT CREEK  
APPROACH SLAB SECTION**  
STA. 310+23.38 TO STA. 310+48.38  
STA. 313+51.59 TO STA. 313+76.59  
(SLAB IS SKEWED 40° LEFT FORWARD)

SECTION APPLIES:  
STA. 310+33.78 TO STA. 310+48.38  
STA. 313+51.59 TO STA. 313+66.36

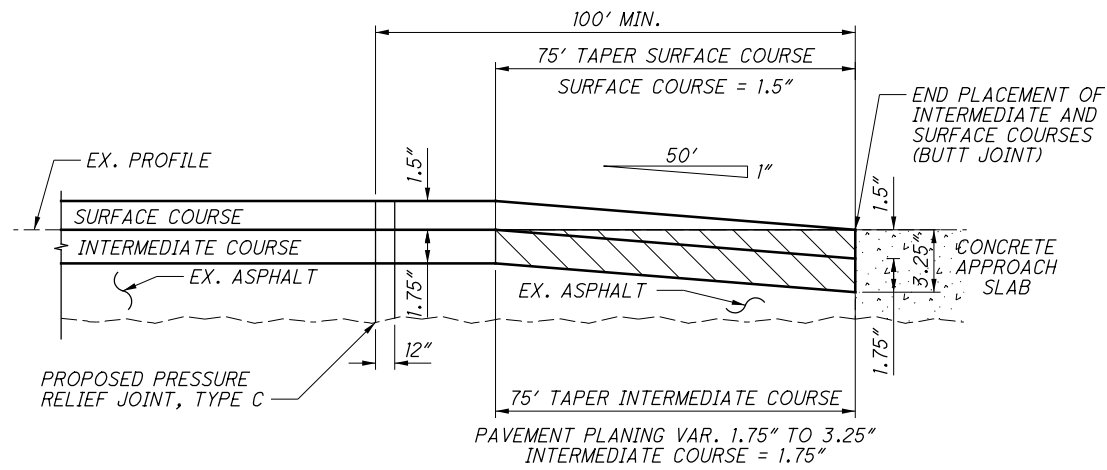
SECTION APPLIES:  
STA. 310+33.78  
TO STA. 310+48.38  
STA. 313+51.59  
TO STA. 313+66.36

SECTION APPLIES:  
STA. 310+33.78  
TO STA. 310+48.38  
STA. 313+51.59  
TO STA. 313+66.36

SECTION APPLIES:  
STA. 310+33.78 TO STA. 310+48.38  
STA. 313+51.59 TO STA. 313+66.36

\* - CROSS SLOPE TO TRANSITION  
FROM EXISTING TO 0.016 OVER  
LENGTH OF APPROACH SLAB

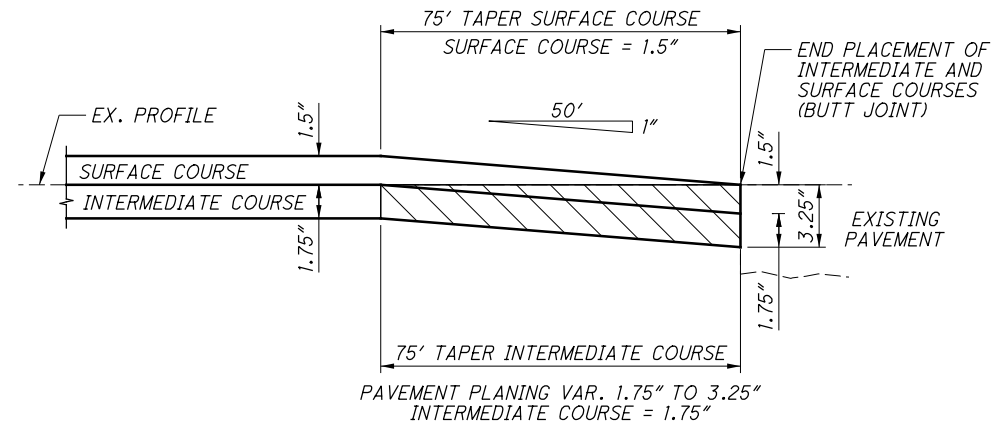
FOR LEGEND, SEE SHEET 6.



**TAPERING TO AT-GRADE STRUCTURES DETAIL**

U.S. 33 FROM STA. 305+97.25 TO STA. 306+72.25 (BRIDGES FRA-33-2503 L/R)  
 U.S. 33 FROM STA. 314+76.59 TO STA. 314+97.00 (BRIDGE FRA-33-2509L)  
 U.S. 33 FROM STA. 314+76.59 TO STA. 314+30.00 (BRIDGE FRA-33-2509R)

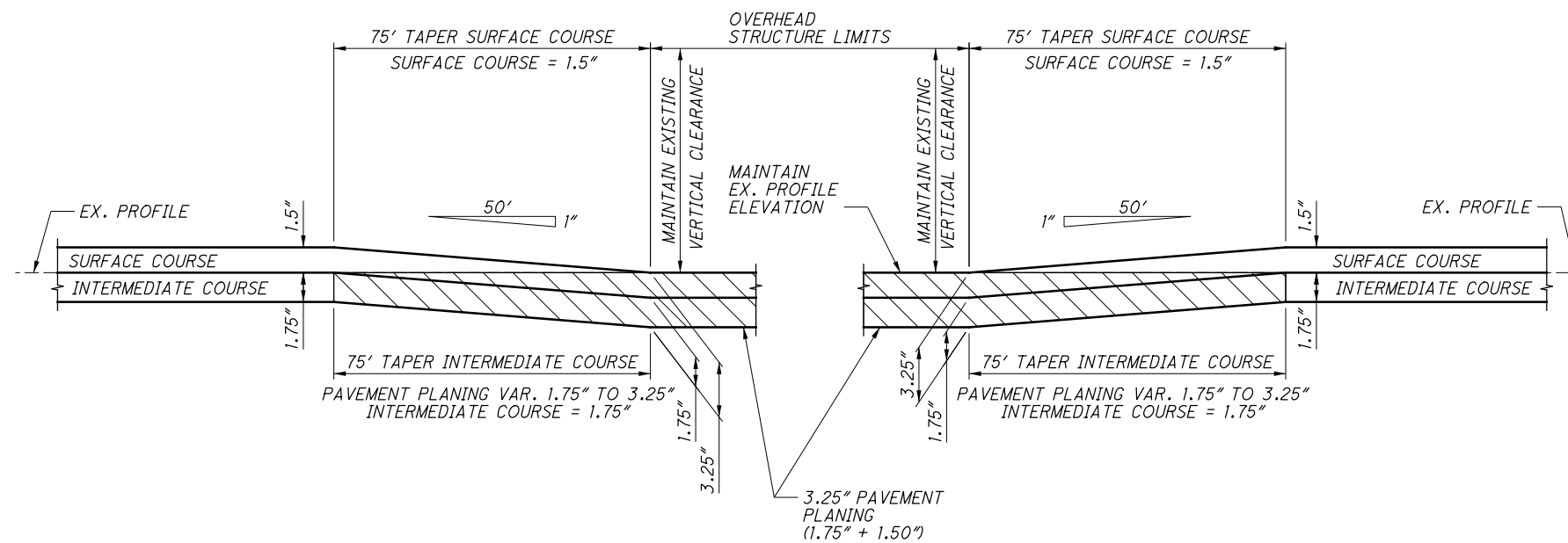
NOTE: VARIABLE DEPTH PAVEMENT PLANING AND INTERMEDIATE AND SURFACE COURSE PLACEMENT SHALL OCCUR BETWEEN BRIDGES FRA-33-2503 L/R AND FRA-33-2509 L/R.



**TAPERING TO MATCH EXISTING PAVEMENT DETAIL**

U.S. 33, FROM STA. 266+10.96 TO STA. 266+86.00  
 U.S. 33, FROM STA. 363+63.00 TO STA. 364+38.57  
 RAMP G/SR-317, FROM STA. 52+59.00 TO STA. 53+66.17  
 RAMP H/SR-317, FROM STA. 51+09.16 TO STA. 51+85.00  
 RAMP HH/SR-317, FROM STA. 53+46.08 TO STA. 54+22.00  
 RAMP IJ/SR-317, FROM STA. 59+71.00 TO STA. 60+46.32  
 RAMP K/SR-317, FROM STA. 59+77.00 TO STA. 60+52.48  
 RAMP L/SR-317, FROM STA. 58+84.14 TO STA. 59+60.00  
 RAMP L/SR-317, FROM STA. 68+38.00 TO STA. 69+13.90

RAMP A/IR-270, FROM STA. 49+44.29 TO STA. 50+20.00  
 RAMP B/IR-270, FROM STA. 43+43.00 TO STA. 44+18.23  
 RAMP C/IR-270, FROM STA. 41+31.46 TO STA. 42+05.06  
 RAMP D/IR-270, FROM STA. 51+14.08 TO STA. 51+90.00  
 RAMP E/IR-270, FROM STA. 33+50.00 TO STA. 34+25.96  
 RAMP F/IR-270, FROM STA. 35+40.00 TO STA. 36+15.05  
 RAMP G/IR-270, FROM STA. 60+50.14 TO STA. 61+26.00  
 RAMP H/IR-270, FROM STA. 59+86.64 TO STA. 60+62.00



VARIABLE DEPTH PAVEMENT PLANING TO ACHIEVE PROPER TRANSITION BETWEEN PROPOSED PAVEMENT TREATMENTS WHILE MAINTAINING VERTICAL CLEARANCE AT OVERHEAD STRUCTURE.

**LEGEND**

 VARIABLE DEPTH PAVEMENT PLANING

**TAPERING AT OVERHEAD STRUCTURES DETAIL**

U.S. 33 UNDER WATKINS ROAD, FROM STA. 280+80.00 TO STA. 283+02.00  
 U.S. 33 UNDER IR-270, FROM STA. 291+10.00 TO STA. 294+63.00  
 U.S. 33 UNDER S.R. 317, FROM STA. 354+20.00 TO STA. 357+00.00 (L.T.)  
 U.S. 33 UNDER S.R. 317, FROM STA. 354+88.00 TO STA. 357+79.00 (RT.)

**ROUNDING**

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

**UTILITIES**

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS.

**AMERICAN ELECTRIC POWER - AERIAL**  
850 TECH CENTER DR.  
GAHANNA, OH 43230  
ATTN: PAUL PAXTON  
OFFICE: (614) 883-6831  
CELL: (614) 949-8883  
EMAIL: PTPAXTON@AEP.COM

**WOW WIDE OPEN WEST**  
3675 CORPORATE DR.  
COLUMBUS, OH 43231  
ATTN: STEVE CALLAHAN  
PHONE: (614) 948-4636  
EMAIL: STEVEN.CALLAHAN@WOWINC.COM

**AMERICAN ELECTRIC POWER - TRANSMISSION**  
700 MORRISON RD.  
GAHANNA, OH 43230  
ATTN: JIM KING  
PHONE: (614) 460-0107  
EMAIL: JRKING@AEP.COM

**SPECTRUM**  
3760 INTERCHANGE DR.  
COLUMBUS, OH 43204  
ATTN: SAM LUTZ  
PHONE: (614) 481-5047  
EMAIL: SAMUEL.LUTZ@CHARTER.COM

**AMERICAN ELECTRIC POWER - UNDERGROUND**  
700 MORRISON RD.  
GAHANNA, OH 43230  
ATTN: PAT FEENEY  
PHONE: (614) 883-6873  
EMAIL: PFEENEY@AEP.COM

**AT&T**  
111 NORTH 4TH ST.,  
ROOM 802  
COLUMBUS, OH 43215  
ATTN: GARY VAN ALMSICK  
OFFICE: (614) 223-7276  
FAX: (614) 223-5579  
EMAIL: GV2785@ATT.COM

**AMERICAN POWER & LIGHT**  
PO BOX 182937  
COLUMBUS, OH 43218  
ATTN: NONE  
PHONE: (888) 850-0098  
AFTER HOURS: (877) 349-5441  
EMAIL: CUSTOMERSERVICE@ELECTRICAPL.COM

**LEVEL 3 COMMUNICATIONS**  
226 NORTH FIFTH ST.,  
SUITE 100  
COLUMBUS, OH 43215  
ATTN: NONE  
PHONE: 1-(877) 366-8344  
EMAIL: LEVEL3.NETWORKRELOCATIONS@LEVEL3.COM  
\*\* IF NO RESPONSE  
ATTN: BOBB KURTO  
PHONE: (614) 255-2128  
EMAIL: BOBB.KURTO@LEVEL3.COM

**COLUMBIA GAS OF OHIO**  
3550 JOHNNY APPLESEED CT.  
COLUMBUS, OH 43231  
ATTN: MAYA BARRETT  
PHONE: (614) 818-2104  
EMAIL: MBARRETT@NISOURCE.COM

**CITY OF COLUMBUS DIVISION OF POWER**  
3500 INDIANOLA AVE.  
COLUMBUS, OH 43214  
PHONE: (614) 645-7627

**CITY OF COLUMBUS DIVISION OF SEWERAGE AND DRAINAGE**  
1250 FAIRWOOD AVE.  
COLUMBUS, OH 43206  
PHONE: (614) 645-7102

**ODOT DISTRICT 6 TRAFFIC**  
400 E WILLIAM ST.  
DELAWARE, OH 43015  
ATTN: DAVID CARLIN  
PHONE: (740) 833-8267  
EMAIL: DAVID.CARLIN@DOT.OHIO.GOV

**CITY OF COLUMBUS DIVISION OF WATER**  
910 DUBLIN RD.  
COLUMBUS, OH 43215  
PHONE: (614) 645-7788

**PERMITS**

WHEN EXCAVATING WITHIN COLUMBUS PUBLIC RIGHT OF WAY LIMITS, THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM CITY OF COLUMBUS, DEPARTMENT OF PUBLIC SERVICE- PERMIT OFFICE BETWEEN THE HOURS OF 7:30 AM AND 4:00 PM MONDAY THROUGH FRIDAY. PHONE (614) 645-7497; FAX (614) 645-1876; EMAIL: colspemits@columbus.gov

**CITY OF COLUMBUS SUPPORT SERVICES DIVISION-COMMUNICATIONS**  
4211 GROVES RD.  
COLUMBUS, OH 43232  
PHONE: (614) 724-7047  
RADIO PHONE: (614) 724-4006

**CITY OF COLUMBUS DEPARTMENT OF TECHNOLOGY**  
1355 MCKINLEY AVE.  
BUILDING C  
COLUMBUS, OH 43222  
PHONE: (614) 645-7756

**CITY OF COLUMBUS DEPARTMENT OF PUBLIC SERVICE TRAFFIC MANAGEMENT**  
1820 EAST 17TH AVE.  
COLUMBUS, OH 43219  
PHONE: (614) 645-7393

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

**UTILITIES**

THE ODOT CONTRACTOR IS REQUIRED TO CONTACT OUPS A MINIMUM OF 48 HOURS EXCLUDING WEEKENDS AND HOLIDAYS TO PERMIT ALL UNDERGROUND UTILITIES AN OPPORTUNITY TO MARK THEIR LINES. IT IS ALSO THE ODOT CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL NON-MEMBERS OF OUPS DIRECTLY A MINIMUM OF 48 HOURS' NOTICE EXCLUDING WEEKENDS AND HOLIDAYS TO PROVIDE THEM WITH THE SAME OPPORTUNITY.

IT IS ODOT'S EXPECTATION THAT ALL GUARD RAIL POSTS WILL BE INSTALLED IN THE SAME LOCATIONS AND THERE WILL BE NO DISRUPTION TO UNDERGROUND UTILITIES. IF THERE IS A UTILITY MARKING WITHIN THE TOLERANCE ZONE OF A UTILITY LOCATE FROM THE PROPOSED GUARDRAIL PLACEMENT IT IS THE ODOT CONTRACTOR'S RESPONSIBILITY TO DIRECTLY CONTACT THE IMPACTED UTILITY AND WORK WITH THEM TO FIND A SOLUTION THAT DOES NOT CHANGE THE GUARDRAIL PLACEMENT OR DAMAGE THE EXISTING UTILITY. NO UTILITY RELOCATION WILL BE REIMBURSED NOR WILL DELAY CLAIMS BE PERMISSIBLE BASED ON LACK OF COORDINATION BETWEEN THE ODOT CONTRACTOR AND THE IMPACTED UTILITY.

**UTILITY COORDINATION**

BIDDERS ARE ADVISED THAT AEP DISTRIBUTION, AEP TRANSMISSION, AND COLUMBIA GAS FACILITIES WILL NOT BE CLEARED FROM THE CONSTRUCTION AREA AT THE TIME OF AWARD OF THE CONTRACT. CONSTRUCTION COORDINATION OR CAUTION WILL BE REQUIRED WITH THESE UTILITIES AS OUTLINED IN THE FOLLOWING PARAGRAPHS.

**AEP DISTRIBUTION**

AEP DISTRIBUTION WILL DE-ENERGIZE THEIR EXISTING AERIAL LINE THAT CROSSES THE PROPOSED NOISE WALL ONCE REQUESTED TO DO SO BY THE ODOT CONTRACTOR. THE ODOT CONTRACTOR IS REQUIRED TO CONTACT PAUL PAXTON A MINIMUM OF 3 WEEKS BEFORE THE OUTAGE IS NEEDED FOR THE CONFLICT LOCATION. THE OUTAGE MAY OCCUR FOR A PERIOD OF 3 WEEK DAYS, BUT CANNOT EXCEED A PERIOD OF 7 WEEKDAYS ONCE TRIGGERED. THE ODOT CONTRACTOR IS REQUIRED TO COMPLETE ALL

**AEP DISTRIBUTION (CONT.)**

PANELS IMPACTED AT THE SAME TIME SO THERE IS ONLY 1 OUTAGE FOR THE POWER LINE. THE CONFLICT LOCATION IS IDENTIFIED BELOW. THE ODOT CONTRACTOR WILL CONTACT PAUL PAXTON VIA PHONE AND EMAIL TO REQUEST THE OUTAGE WHICH IS ONLY PERMITTED DURING THE TIME FRAME OF OCTOBER 1ST, 2018 THROUGH NOVEMBER 19TH, 2018.

STARTING STATION	OFFSET	ENDING STATION	OFFSET
325+26	126.4' RT.	328+25	178.8' LT.

**AEP TRANSMISSION**

AEP TRANSMISSION WILL DE-ENERGIZE THEIR EXISTING AERIAL TRANSMISSION LINE THAT CROSSES THE PROPOSED NOISE WALL ONCE REQUESTED TO DO SO BY THE ODOT CONTRACTOR. THE ODOT CONTRACTOR IS REQUIRED TO REQUEST THE TRANSMISSION OUTAGE IN THE FOLLOWING WAY:

**OUTAGE REQUEST REQUIREMENTS:**

1. THE ODOT CONTRACTOR MUST MAKE THE OUTAGE REQUEST BETWEEN THE FIRST AND THE FIFTEENTH OF A MONTH AND THE OUTAGE WILL BE SCHEDULED TO OCCUR 60 DAYS THEREAFTER. (REQUEST IS MADE OCTOBER 10TH - OUTAGE WILL BE SCHEDULED JANUARY 4TH - 60 DAYS MONDAY THROUGH FRIDAY 60 DAYS WOULD NOT OCCUR ON THE 1ST BECAUSE OF THE HOLIDAY WOULD GO TO NEXT DAY WHICH WOULD BE THE 4TH BECAUSE IT WOULD BE MONDAY AND OUTAGES ALWAYS BEGIN ON MONDAY)
2. YOUR REQUESTED OUTAGE CAN ONLY OCCUR FOR A PERIOD OF 5 DAYS- MONDAY THROUGH FRIDAY- IF YOU NEED A LONGER OUTAGE THAN 5 DAYS YOU WILL NEED TO REQUEST MULTIPLE OUTAGES UP FRONT. AEP WILL NOT TAKE MORE THAN A 1 WEEK OUTAGE ON A TRANSMISSION LINE.
3. THERE ARE NO TRANSMISSION OUTAGES PERMITTED DURING THE MONTHS OF JUNE THROUGH AUGUST.

THE TRANSMISSION OUTAGE IS ONLY PERMITTED TO OCCUR DURING THE TIMEFRAME OF OCTOBER 1ST, 2018 THROUGH OCTOBER 14TH, 2018. THE ODOT CONTRACTOR IS REQUIRED TO COMPLETE ALL PANELS IMPACTED FOR THE PROPOSED NOISE WALL AT THE SAME TIME DURING THE POWER OUTAGE. THERE IS ONLY 1 OUTAGE ALLOWED FOR THE TRANSMISSION POWER LINE IN CONFLICT. THE ODOT CONTRACTOR WILL CONTACT JIM KING VIA PHONE AND EMAIL TO REQUEST THE OUTAGE.

STARTING STATION	OFFSET	ENDING STATION	OFFSET
368+63	187.4' RT.	373+84	189.1' LT.

**COLUMBIA GAS**

COLUMBIA GAS HAS AN EXISTING 6" GAS LINE CROSSING AT STATION 344+46.00, OFFSET 148.9' RT THROUGH STATION 344+43.00, OFFSET 147.8' LT. TEST HOLES WERE TAKEN ON THIS LINE TO CONFIRM THE EXACT HORIZONTAL AND VERTICAL LOCATION OF THE LINE AND IS SHOWN CORRECTLY IN THE PLANS. THERE IS 2.7' OF SEPARATION BETWEEN THE GAS LINE AND THE PROPOSED UNDER DRAIN WORK.

**ODOT UTILITY NOTIFICATION**

THE OHIO DEPARTMENT OF TRANSPORTATION HAS UTILITY FACILITIES (HIGHWAY LIGHTING, TRAFFIC SIGNALS, AND ITS) WITHIN THE LIMITS OF THIS PROJECT.

IN ADDITION TO THE INFORMATION OUTLINED IN THE UTILITY NOTE OF THIS CONTRACT, THE CONTRACTOR SHALL TAKE THE FOLLOWING ACTION TO PROTECT ODOT'S FACILITIES DURING CONSTRUCTION:

**HIGHWAY LIGHTING AND TRAFFIC SIGNALS**

EVEN THOUGH ODOT IS LISTED AS A MEMBER OF THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE ODOT CONTRACTOR IS REQUIRED TO CONTACT ODOT, DISTRICT 6 TRAFFIC MAINTENANCE DEPARTMENT DIRECTLY ONCE LINES ARE MARKED BY OUPS SO THAT THE ODOT UTILITIES LOCATED WITHIN THIS PROJECT CAN BE DISCUSSED OR CONFIRMED AS NECESSARY PRIOR TO EXCAVATION. THE CONTRACTOR SHALL NOTIFY DISTRICT 6 TRAFFIC MAINTENANCE AT (740)-833-8198 AND THE CONSTRUCTION PROJECT ENGINEER, FOURTEEN (14) CALENDAR DAYS IN ADVANCE OF ANY WORK, FOR THE NEED TO VERIFY/DISCUSS ODOT OWNED UTILITIES.

**ITS**

ITS FACILITIES ARE NOT AN OUPS MEMBER SO THE ODOT CONTRACTOR IS REQUIRED TO CONTACT ODOT CENTRAL OFFICE ITS LAB DIRECTLY SO THAT THE ODOT ITS UTILITIES LOCATED WITHIN THIS PROJECT ARE FIELD MARKED. THE ODOT CONTRACTOR SHALL NOTIFY ODOT CENTRAL OFFICE ITS LAB AT THE CONTACT INFORMATION LISTED BELOW AND THE CONSTRUCTION PROJECT ENGINEER FOR FIELD MARKINGS. THE FIELD MARKINGS WILL BE COMPLETED FOURTEEN (14) CALENDAR DAYS EXCLUDING WEEKENDS AND HOLIDAYS FROM THE TIME THE CALL WAS MADE.

**CENTRAL OFFICE ITS LAB**

1606 WEST BROAD STREET  
COLUMBUS, OH 43223  
PHONE: (614)-387-4113  
FAX: (614)-887-4134  
EMAIL: CEN.ITS.LAB@DOT.OHIO.GOV

THE ABOVE REQUIREMENTS ARE IN ADDITION TO SECTION 105.07 & 107.16 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE UTILITY NOTE.

THE ODOT CONTRACTOR SHALL NOTIFY OTHER UTILITIES THROUGH OUPS OR DIRECTLY A MINIMUM OF FORTY-EIGHT (48) HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, IN ADVANCE OF ANY EXCAVATION WORK.

THE COST FOR THE ABOVE DESCRIBED WORK IS INCIDENTAL TO THE OVERALL BID PRICE OF THE PROJECT.

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GENERAL NOTES

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**ITS DEVICE DOWNTIME**

THE FOLLOWING SPECIFIES THE DURATION ALLOWED FOR OUTAGES OF COMMUNICATION SYSTEMS AND/OR POWER SYSTEMS FOR ITS DEVICES LOCATED THROUGHOUT THE STATE OF OHIO. THE CONTRACTOR SHALL BE REQUIRED TO ABIDE BY THESE MAXIMUM DOWNTIMES AND SHALL HAVE ADEQUATE MEANS TO ENSURE THAT ANY NECESSARY TEMPORARY LINES/DEVICES ARE INSTALLED PRIOR TO THE REMOVAL/DE-ENERGIZING OF ANY CABLE TO THE SPECIFIED DEVICE. THE ODOT OFFICE OF TRAFFIC OPERATIONS REQUIRES NOTIFICATION OF ANY OUTAGE A MINIMUM OF 7 WORKING DAYS IN ADVANCE SO THAT ANY ADDITIONAL WORK ON ODOT'S PART MAY BE COORDINATED. EMAIL NOTIFICATION TO CEN.FMS@DOT.STATE.OH.US. THE ODOT ENGINEER IN CONSULTATION WITH THE OFFICE OF TRAFFIC OPERATIONS SHALL BE THE SOLE DETERMINING PARTY IN DEEMING IF A CIRCUMSTANCE IS UNUSUAL AND SHALL BE GRANTED ADDITIONAL DOWNTIME. PERFORM ALL WORK ON THE WEEKEND, UNLESS IT HAS BEEN DETERMINED OTHERWISE BY ODOT TRAFFIC OPERATIONS.

**A. DYNAMIC MESSAGE SIGNS (DMS):**

DMS SHALL BE LIMITED TO A MAXIMUM DOWNTIME OF 8 HOURS. AT A MINIMUM, POWER SHALL BE RESTORED WITHIN THE MAXIMUM ALLOTTED DOWNTIME. WHEN RELOCATING DMS, THE DOWNTIME SHALL BE LIMITED TO A MAXIMUM DOWNTIME OF 48 HOURS.

DISINCENTIVE: \$400/DAY OR \$17/HOUR - BEGINNING AFTER THE ALLOWABLE DOWNTIME

**B. CCTV CAMERAS:**

CCTV CAMERAS SHALL BE LIMITED TO A DOWNTIME OF 72 HOURS. MAKE ARRANGEMENTS WHEN HAVING TO RELOCATE THESE DEVICES SO THAT THE NEW INFRASTRUCTURE IS IN PLACE BEFORE TAKING THE EXISTING SITE EQUIPMENT OFFLINE.

DISINCENTIVE: \$400/DAY OR \$17/HOUR - BEGINNING AFTER THE ALLOWABLE DOWNTIME

**MANHOLES AND OTHER STRUCTURES**

THE CASTING TOPS OF MANHOLES, VALVE BOXES, AND OTHER STRUCTURES OWNED BY PUBLIC SERVICE CORPORATIONS MAY NEED TO BE ADJUSTED TO GRADE BY THEIR RESPECTIVE OWNERS. IF SO AND THE WORK NEEDS TO BE DONE PRIOR TO THE CONSTRUCTION OF THE SURFACE COURSE THE CONTRACTOR SHALL NOTIFY SUCH PUBLIC SERVICE CORPORATIONS A MINIMUM OF AT LEAST 14 DAYS IN ADVANCE OF WORK OPERATIONS SO THAT WORK MAY BE PROPERLY SCHEDULED.

THE CASTING TOPS OF MANHOLES, VALVE BOXES, AND OTHER STRUCTURES REQUIRING ADJUSTMENT ARE OWNED BY PRIVATE UTILITIES AND NEED TO BE ADJUSTED TO GRADE BY THEIR RESPECTIVE OWNERS THE ODOT CONTRACTOR SHALL NOTIFY THE PRIVATE OWNER A MINIMUM OF 14 DAYS IN ADVANCE OF WORK OPERATIONS SO THE WORK MAY BE PROPERLY SCHEDULED.

IF ADJUSTMENTS HAVE NOT BEEN COMPLETED 20 DAYS AFTER NOTIFICATION THE ODOT CONTRACTOR WILL NOTIFY THE ODOT PROJECT ENGINEER AND PROVIDE SPECIFIC STATION LOCATIONS AND OWNER INFORMATION. THE ODOT PROJECT ENGINEER WILL WORK WITH THE DISTRICT UTILITY COORDINATOR TO ISSUE AN OBSTRUCTION REMOVAL NOTICE WITHIN 5 DAYS OF RECEIPT WHICH WILL INFORM THE PRIVATE UTILITY TO ADJUST THE STRUCTURES AS NECESSARY OR ODOT WILL AUTHORIZE THE ODOT CONTRACTOR TO ADJUST AS NEEDED AND BILL THE OWNER OF THE FACILITY FOR THE ADJUSTMENT TO THE STRUCTURE.

**SURVEYING PARAMETERS**

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

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAD1983(CONUS)  
GEOID: GEOID99(CONUS)

HORIZONTAL POSITIONING

REFERENCE FRAME: GRS 80

ELLIPSOID: NAD83 (2011)  
MAP PROJECTION: LAMBERT CONFORMAL CONIC 2 PARALLEL  
COORDINATE SYSTEM: OHIO SOUTH 3402 (OHIO STATE PLANE COORDINATE SYSTEM, SOUTH ZONE)  
COMBINED SCALE FACTOR: 1.000000000

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

**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.

**ENVIRONMENTAL**

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.

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. THE UNDERSIDE OF THE BRIDGES SHALL BE EXAMINED FOR THE PRESENCE OF BATS PRIOR TO THE START OF CONSTRUCTION. IF BATS ARE FOUND DURING THE INSPECTIONS, ODOT-OES SHALL BE NOTIFIED (614-466-7100).

ALL CONSULTATION UNDER SECTION 7(A) OF THE ESA WILL BE CONCLUDED AND WATERWAY PERMITS (IF APPLICABLE) WILL BE SUBMITTED TO THE APPROPRIATE AGENCIES PRIOR TO ANY TREE CLEARING FOR THE PROJECT.

**ASBESTOS NOTIFICATION**

AN ASBESTOS SURVEY OF THE BRIDGE WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT AT THE BRIDGES.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

**ASBESTOS NOTIFICATION (CONT.)**

OHIO EPA, CDO  
50 WEST TOWN ST, SUITE 700  
COLUMBUS, OHIO 43215  
KELLY TOTH, APC Manager  
(614) 728-3778  
FAX: (614) 728-3898

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR REHABILITATION. THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE: 1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED.

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM.

**INSTREAM WORK LIMITATION**

NO INSTREAM WORK WILL BE PERMITTED FROM APRIL 15 TO JUNE 30.

**CLEARING AND GRUBBING**

THE DEPARTMENT HAS NOT MARKED INDIVIDUAL TREES AND STUMPS FOR REMOVAL. UNLESS SPECIFICALLY DESIGNATED AS "DO NOT DISTURB" IN THE PLANS, REMOVE ALL TREES AND STUMPS WITHIN THE CONSTRUCTION ACTIVITIES.

**BENCHING OF FOUNDATION SLOPES**

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

**SEEDING AND MULCHING**

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

659, SEEDING AND MULCHING	45,239 SQ. YD.
659, REPAIR SEEDING AND MULCHING	2,262 SQ. YD.
659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	5,022 CU. YD.
659, COMMERCIAL FERTILIZER	6.10 TON
659, LIME	9.40 ACRE
659, INTER-SEDDING	2,262 SQ. YD.
659, WATER	244 M. GAL.
659, MOWING	102 MSF

APPLY SEEDING AND MULCHING 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 TEMPORARY EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

**ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING**

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

- SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
- EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO 204.05.  
  
IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.
- COMPACT THE SUBGRADE ACCORDING TO 204.03.
- APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.

PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO 204.06.

- EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.
- PROOF ROLL THE STABILIZED AREAS ACCORDING TO 204.06 TO VERIFY STABILITY.
- FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

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

**ITEM 203 - PAVEMENT REMOVED, ASPHALT**

AS PART OF THE MAINTENANCE OF TRAFFIC CONSTRUCTION OF TEMPORARY PAVEMENT, IT IS NECESSRY TO REMOVE PARTS OF THE EXISTING SHOULDER. TO ACCOUNT FOR THIS WORK A QUANTITY OF ITEM 203 - PAVEMENT REMOVED, ASPHALT - 7,499 SQ. YD. IS PROVIDED IN THE GENERAL SUMMARY.

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**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 THE 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.

**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 AND A CITY OF COLUMBUS DIVISION OF SEWERS AND DRAINS 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.

**ITEM 611 - EXISTING SUBSURFACE DRAINAGE**

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS 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      7.2 SQ. YD.
- 611, 6" CONDUIT, TYPE F                      63 FT.
- 611, PRECAST REINFORCED CONCRETE OUTLET   4 EACH

**POST CONSTRUCTION STORM WATER TREATMENT**

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

**ITEM SPECIAL - REPLACE VX21 ROAD SENSOR**

THE EXISTING RWIS VX21 ROAD SENSOR LOCATED AT STA. 357+79.34, 36'± RT., IS TO BE REPLACED PER MISCELLANEOUS DETAIL - VX21 ROAD SENSOR, SHEET 199 .

OTHER RWIS SENSORS ENCOUNTERED ARE ANTICIPATED TO BE REMOVED INCIDENTALLY BY THE MILLING PROCESS.

**MILL AND FILL OPERATIONS**

THE PROPOSED MILL AND FILL OPERATIONS SHALL BE PERFORMED SUCH THAT PROPOSED ASPHALT CONCRETE INTERMEDIATE COURSE, OR ASPHALT CONCRETE SURFACE COURSE WHERE APPLICABLE, IS PLACED ON THE SAME WORKING DAY THAT ASSOCIATED MILLING IS PERFORMED.

**PROFILE AND ALIGNMENT**

THE PROPOSED PAVEMENT RESURFACING SHALL FOLLOW THE ALIGNMENT SHOWN ON THE PLAN VIEW SHEETS. THE PROPOSED PROFILE SHALL FOLLOW THE PROPOSED ELEVATIONS SHOWN ON THE CROSS SECTION SHEETS. THE PROPOSED ASPHALT CONCRETE OVERLAY SHALL VARY TO PRODUCE THE PROPOSED ELEVATIONS SHOWN ON THE CROSS SECTIONS.

**ITEM 202 PAVEMENT REMOVED, AS PER PLAN**

AFTER SAWCUTTING EXISTING COMPOSITE PAVEMENT PER LOCATION INDICATED BY TYPICAL SECTIONS AND AS DELINEATED ON PLAN SHEETS, IT IS TO BE REMOVED AS PER SPECIFICATIONS DEFINED BY CMS ITEM 202.

**ITEM 254 - 1.5" PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN**

THIS ITEM IS TO BE PERFORMED PER THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, AND AS SPECIFIED IN THESE PLANS. IT IS NOTED THAT IN PERFORMING THIS ITEM, THE CONTRACTOR WILL ENCOUNTER SMALL AREAS OF CONCRETE LOCATED WITHIN THE ASPHALT SURFACE AREA. PLANING OF CONCRETE ENCOUNTERED SHALL MATCH NEIGHBORING PLANED ASPHALT.

**ITEM 254 - 1.75" PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (MAINLINE TRAVELED WAY AND RAMPS ONLY)**

THIS ITEM IS TO BE PERFORMED PER THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, AND AS SPECIFIED IN THESE PLANS. IT IS NOTED THAT IN PERFORMING THIS ITEM, THE CONTRACTOR WILL ENCOUNTER SMALL AREAS OF CONCRETE LOCATED WITHIN THE ASPHALT SURFACE AREA. PLANING OF CONCRETE ENCOUNTERED SHALL MATCH NEIGHBORING PLANED ASPHALT.

**ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (VARIABLE DEPTH)**

THIS ITEM IS TO BE PERFORMED PER THE CONSTRUCTION AND MATERIALS SPECIFICATIONS AND AS SPECIFIED IN THESE PLANS. IT IS NOTED THAT IN PERFORMING THIS ITEM, THE CONTRACTOR WILL ENCOUNTER SMALL AREAS OF CONCRETE LOCATED WITHIN THE ASPHALT SURFACE AREA. PLANING OF CONCRETE ENCOUNTERED SHALL MATCH NEIGHBORING PLANED ASPHALT.

**ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS QC MS, AS PER PLAN**

ALL REPAIR AREAS SHALL BE DETERMINED BY THE PROJECT ENGINEER BEFORE THE BEGINNING OF WORK. THE REMOVAL SHALL INCLUDE THE EXISTING ASPHALT CONCRETE LAYER (APPROXIMATELY 5" DEPTH) ALONG WITH THE 9" OF REINFORCED CONCRETE PAVEMENT. THE REPLACEMENT SHALL INCLUDE 14" OF RIGID REPLACEMENT. GREAT CARE SHALL BE TAKEN TO MAINTAIN THE EXISTING PAVEMENT CROSS-SLOPE (CROWN), AS WELL AS ALL LONGITUDINAL SLOPES DURING THE PAVING OPERATIONS. THIS ITEM OF WORK SHALL ALSO BE PERFORMED AS SHOWN ON THE DETAIL ON SHEET 10/287 AND STANDARD DRAWING BP-2.5.

**ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN**

ALL REPAIR AREAS SHALL BE DETERMINED BY THE PROJECT ENGINEER BEFORE THE BEGINNING OF WORK. THE REMOVAL SHALL INCLUDE THE EXISTING 4" ASPHALT CONCRETE LAYER ALONG WITH THE 9" OF REINFORCED CONCRETE PAVEMENT. THE REPLACEMENT SHALL INCLUDE 13" OF RIGID REPLACEMENT. GREAT CARE SHALL BE TAKEN TO MAINTAIN THE EXISTING PAVEMENT CROSS-SLOPE (CROWN), AS WELL AS ALL LONGITUDINAL SLOPES DURING THE PAVING OPERATIONS. THIS ITEM OF WORK SHALL ALSO BE PERFORMED AS SHOWN ON THE DETAIL ON SHEET 10/287 AND STANDARD DRAWING BP-2.5.

**ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446), AS PER PLAN (PG76-22M)**

A PG76-22M BINDER SHALL BE USED FOR THIS ITEM IN AREAS OF HIGH STRESS. ITEM 442 COMPOSED OF PG76-22M BINDER IS TO BE USED FOR ALL PROJECT RAMPS AS INDICATED ON THE PLANS.

**ITEM 442 - ANTI-SEGREGATION EQUIPMENT**

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

**PAVEMENT LONGITUDINAL JOINTS**

ASPHALTIC CONCRETE LONGITUDINAL JOINTS BETWEEN COURSES OF MATERIAL SHALL BE CREATED AT 6" OFFSETS PER ODOT SCD BP-3.1.

**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.

**ITEM 209 - RESHAPING UNDER GUARDRAIL**

TREATED SHOULDER WIDTH BEYOND THE LIMITS OF THE COMPACTED AGGREGATE SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE INTO THE DITCH AND SHALL BE PERFORMED ONLY IN THE AREAS NECESSARY. RESHAPING SHALL BE ACCOMPLISHED BY THE REMOVAL OF, OR ADDITION OF MATERIAL TO PROVIDE A 0.08 SLOPE TO THE DITCH BREAK POINT. EXCESS MATERIAL SHALL BE WINDROWED ON THE SHOULDER. THE RESHAPED AREAS SHALL BE COMPACTED TO A SUFFICIENT DENSITY TO PREVENT EROSION UNTIL SEEDING AND MULCHING AS PER 659 IS PERFORMED. ALL EXCESS MATERIAL SHALL BE REMOVED FROM THE BERMS AND NOT ALLOWED TO ENTER THE DITCH LINE AND SHALL BE DISPOSED OF OFF THE PROJECT BY THE CONTRACTOR.

THE METHOD OF MEASUREMENT OF ITEM 209 RESHAPING UNDER GUARDRAIL SHALL BE STATIONS, WITH ONE STATION EQUAL TO 100 LINEAR FEET. THE DISTANCE SHALL BE MEASURED ALONG EACH EDGE OF PAVEMENT. ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 209 RESHAPING UNDER GUARDRAIL. IN AREAS WHERE GRADING IS NOT REQUIRED, RESHAPING UNDER GUARDRAIL WILL BE NON-PERFORMED AS DIRECTED BY THE ENGINEER. THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 209 - RESHAPING UNDER GUARDRAIL	46 STA.
ITEM 659 - SEEDING AND MULCHING	4,421 SQ. YD.

**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 BE USED.

**ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E**

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.

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

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.

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

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GENERAL NOTES

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**ITEM 606 - IMPACT ATTENUATOR, TYPE 1, BIDIRECTIONAL**

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 (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.

**ITEM 606 - IMPACT ATTENUATOR, TYPE 2, UNIDIRECTIONAL**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 2 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. THE FACE OF THE 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, IMPACT ATTENUATOR, TYPE 2 [(SPEED - 65 MPH, HAZARD WIDTH - 56'), (UNIDIRECTIONAL)], EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/ BACKSTOPS, TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

**ITEM 606 - CABLE GUARDRAIL**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY ONE OF THE HIGH TENSION FOUR CABLE GUARDRAIL SYSTEMS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, GUARDRAIL, MISC., TENSIONED CABLE WITH CONCRETE FOUNDATION LINE POSTS (SOCKETED), AND ITEM 606, GUARDRAIL, MISC. TENSIONED CABLE ANCHOR TERMINAL AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL HIGH TENSION CABLE GUARDRAIL SYSTEM NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

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

SYSTEMS SHALL HAVE A MAXIMUM DEFLECTION OF 8 FEET AND THE MAXIMUM LONGITUDINAL DISTANCE BETWEEN POSTS SHALL BE 15 FEET.

INSTALLATION WILL BE A FOUR CABLE HIGH TENSION SYSTEM INSTALLED IN SOCKETED POSTS FOUNDATION WITH A FOUR FOOT WIDE "NO MOW STRIP".

CONTRACTOR SHALL PROVIDE DELINEATORS ON THE POSTS AT A MINIMUM INTERVAL OF 100 FEET AND ON ALL ANCHOR TERMINALS.

TRANSITIONS TO W-BEAM GUARDRAIL ARE NOT ALLOWED.

**ITEM 606 - CABLE GUARDRAIL (CONT.)**

REFER TO MANUFACTURER FOR MAXIMUM OFFSET FROM BREAK POINT.

TORPEDO OR BULLET SPLICES ARE NOT ALLOWED. ALL CABLE SPLICES SHALL BE A SWAGED OR OPEN BODY DESIGN THAT ALLOWS FOR ANNUAL INSPECTION BETWEEN THE WEDGE AND STRANDS OF CABLE.

POSTS ARE SET IN SOCKETED CONCRETE FOUNDATIONS AND SHALL NOT BE PERMANENTLY INSTALLED UNTIL THEIR RESPECTIVE RUNS OF TENSIONED CABLE GUARDRAIL ARE READY FOR FINAL CONNECTION TO THE END TERMINAL ASSEMBLY. THE CONTRACTOR SHALL REPLACE ANY POSTS DAMAGED DURING INSTALLATION AS DETERMINED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.

**PUBLIC OUTREACH AND NOTIFICATION (RESURFACING PROJECTS)**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE DISTRICT 6 PUBLIC INFORMATION OFFICE VIA EMAIL AT [d06.pio@dot.ohio.gov](mailto:d06.pio@dot.ohio.gov) TO COORDINATE EFFORTS TO NOTIFY ADJACENT RESIDENTS AND BUSINESSES OF THE UPCOMING RESURFACING PROJECT. ADVANCE NOTIFICATION SHALL OCCUR NO LATER THAN FOURTEEN (14) DAYS PRIOR TO THE FIRST DAY OF WORK. ALL NOTIFICATIONS SHALL BE MADE UTILIZING THE TEMPLATE PROVIDED BY THE DISTRICT 6 PUBLIC INFORMATION OFFICE.

**CITY OF COLUMBUS, DIVISION OF POWER**

THE DIVISION OF POWER (DOP) MAY HAVE UNDERGROUND AND OVERHEAD PRIMARY, SECONDARY, AND STREET LIGHTING AT THIS WORK LOCATION. THE CONTRACTOR IS HEREBY REQUIRED TO CONTACT OUPS AT 811 OR 1-800-362-2764 FORTY-EIGHT HOURS PRIOR TO CONDUCTING ANY ACTIVITY WITHIN THE CONSTRUCTION AREA.

ANY REQUIRED RELOCATION, SUPPORT, PROTECTION, OR ANY OTHER ACTIVITY CONCERNED WITH THE CITY'S ELECTRICAL FACILITIES IN THE CONSTRUCTION AREA IS TO BE PERFORMED BY THE CONTRACTOR UNDER THE DIRECTION OF DOP PERSONNEL AND AT THE EXPENSE OF THE PROJECT. THE CONTRACTOR SHALL USE MATERIAL AND MAKE REPAIRS TO A CITY OF COLUMBUS STREET LIGHTING SYSTEM BY FOLLOWING DOP'S "MATERIAL AND INSTALLATION SPECIFICATIONS" (MIS) AND THE CITY OF COLUMBUS "CONSTRUCTION AND MATERIAL SPECIFICATIONS" (CMS). ANY NEW OR RE-INSTALLED UNDERGROUND STREETLIGHT SYSTEM SHALL REQUIRE TESTING AS REFERRED TO IN SECTION 1000.18 OF THE CMS MANUAL. THE CONTRACTOR SHALL CONFORM TO DOP'S EXISTING CONDUCTOR SAFETY POLICY AND HOLD CARD SYSTEM, MIS-95, COPIES OF WHICH ARE AVAILABLE FROM DOP.

IF ANY ELECTRIC FACILITY BELONGING TO DOP IS DAMAGED IN ANY MANNER BY THE CONTRACTOR, IT'S AGENTS, SERVANTS, OR EMPLOYEES, AND REQUIRES EMERGENCY REPAIRS, THE DOP DISPATCH OFFICE SHOULD BE CONTACTED IMMEDIATELY AT (614) 645-7627. DOP SHALL MAKE ALL NECESSARY REPAIRS, AND THE EXPENSE OF SUCH REPAIRS AND OTHER RELATED COSTS SHALL BE PAID BY THE CONTRACTOR TO THE DIVISION OF POWER, CITY OF COLUMBUS, OHIO.

**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, 18" CONDUIT, TYPE E, FOR DRAINAGE CONNECTION 400 FT.

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**GENERAL NOTES**

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**ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN**

A MINIMUM OF 2 LANES OF TRAFFIC IN EACH DIRECTION, GENERALLY SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, ITEM 615 ROADS FOR MAINTAINING TRAFFIC, AND TEMPORARY SURFACES USING ITEMS 410, AND 614.

LENGTH AND DURATION OF ANY LANE CLOSURES & 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.

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 DISTRICT 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 & ROAD CLOSURES	>= 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 CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE	
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE	
START OF CONSTRUCTION & 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.

INTERIM COMPLETION DATE OF 11/15/18 FOR PHASE 1 AND PHASE 1A CONSTRUCTION COMPLETE (ALL LANES OPEN TO TRAFFIC, UNRESTRICTED FOR WINTER MONTHS) AND PORTION OF NOISE WALL 1 APPROX. STA. 326+00, 76' RT. DUE TO AEP DISTRIBUTION OUTAGE REQUIREMENTS.

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

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AS DETAILED IN THE PLANS OR AS DIRECTED BY THE ENGINEER DURING PERIODS IN WHICH AFFECTED ROADWAYS ARE CLOSED TO TRAFFIC.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATIONS SHOWN IN THE PLANS OR AS OTHERWISE DIRECTED BY THE ENGINEER.

**ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN (CONT'D.)**

NOTICE OF CLOSURE SIGNS, W20-H13, SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGEABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

NOTICE OF CLOSURE SIGN TIME TABLE			
ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC	NOTIFICATION DUE TO DISTRICT 6 COMMUNICATIONS OFFICE
RAMP & ROAD CLOSURES	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE	4 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN SHALL DISPLAY THE PHONE NUMBER OF THE DISTRICT 6 PUBLIC INFORMATION CONSTRUCTION LINE, (740) 833-8268, WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION.

IT IS ANTICIPATED THAT THE CONTRACTOR MAY GAIN ACCESS BEHIND THE PORTABLE BARRIER (PB) DURING PHASE 1 BY ENTERING AND EXITING AT THE TWO ENDS OF THE PB RUNS ON BOTH THE EASTBOUND AND WESTBOUND SIDES. AN ALTERNATE PLAN FOR ACCESS MAY BE IMPLEMENTED BUT THE FOLLOWING QUANTITIES ARE PROVIDED AS A CONTINGENCY TO BE USED AS DIRECTED AND APPROVED BY THE ENGINEER TO FACILITATE ACCESS OR AS NEEDED FOR OTHER APPROVED USES TO MAINTAIN TRAFFIC ON THE PROJECT:

- 203, EXCAVATION [120] CU. YD.
- 203, EMBANKMENT [1000] CU. YD.
- 410, TRAFFIC COMPACTED SURFACE, TYPE A OR B [40] CU. YD.
- 411, STABILIZED CRUSHED AGGREGATE [304] CU. YD.
- 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC [100] CU. YD.
- 616, WATER [1000] M. GAL.

ADDITIONAL ITEMS SUCH AS CLEARING & GRUBBING, GUARDRAIL REMOVAL AND REPLACEMENT, ADDITIONAL PORTABLE BARRIER OR IMPACT ATTENUATORS, TEMPORARY SHORING, SHALL BE INCLUDED WITH ITEM 614, MAINTAINING TRAFFIC, LUMP SUM OR CONSIDERED INCIDENTAL.

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 RAMPS, INTERSTATE SHOULDERS OR INTERSTATE LANES
- EXITING THE WORKSITE ONTO OR ALONGSIDE RAMPS, INTERSTATE SHOULDERS OR INTERSTATE LANES

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, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

**ITEM 614, MAINTAINING TRAFFIC (WINTER TIME LIMITATIONS)**

ALL EXISTING LANES, INCLUDING RAMPS, SHALL BE OPEN AND AVAILABLE TO TRAFFIC IN THE ORIGINAL AND PROPOSED FINAL ALIGNMENT BETWEEN NOVEMBER 15, 2018 TO APRIL 1, 2019. SHOULD THE CONTRACTOR FAIL TO MEET THESE REQUIREMENTS, A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$1,500 PER CALENDAR DAY. (SEE SPRAY THERMOPLASTIC NOTE, THIS SHEET)

**ITEM 614, MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)**

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

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

DAY OF HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THRU 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THRU 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THRU 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THRU 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THRU 6:00 AM FRIDAY
THURSDAY (THANKSGIVING ONLY)	6:00 AM WEDNESDAY THRU 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THRU 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THRU 6:00 AM MONDAY

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 ON SHEET 20 FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

**EXTRA ADVANCE WARNING SIGNS**

AN EXTRA ADVANCE WARNING SIGN GROUP CONSISTS OF TWO W20-1 (ROAD WORK AHEAD) SIGNS, TWO W20-5 (RIGHT/LEFT LANE CLOSED AHEAD) SIGNS WITH W16-3A DISTANCE PLATES, AND TWO W3-H7 (WATCH FOR STOPPED TRAFFIC) SIGNS AND REQUIRED WARNING LIGHTS.

THE CONTRACTOR SHALL PROVIDE, ERECT, MAINTAIN AND REMOVE EXTRA ADVANCE WARNING SIGN GROUPS AS SHOWN ON TRAFFIC SCD MT-95.50 AT THE FOLLOWING DISTANCES IN ADVANCE OF THE LANE TAPERS WITH THE APPROPRIATE W16-3A DISTANCE PLATES:

- 1) E.B. LANE TAPER, STATION 278+00, PHASES 2A & 3; PROVIDE SIGN GROUPS AT 2 MILES, 4 MILES AND 6 MILES.
- 2) W.B. LANE TAPER, STATION 327+00, PHASES 1A; PROVIDE SIGN GROUPS AT 2 MILES, 4 MILES, 6 MILES, AND 8 MILES.

THE CONTRACTOR SHALL HAVE AN ADDITIONAL EXTRA ADVANCE WARNING SIGN GROUP (6 SIGNS AND 2 DISTANCE PLATES) AVAILABLE FOR USE WHEN DIRECTED BY THE ENGINEER. THE DISTANCE PLATES FOR THIS GROUP SHALL BE ABLE TO BE MODIFIED IN THE FIELD TO SHOW APPROPRIATE WHOLE MILES TO THE LANE TAPER. THESE SIGNS MAY BE DESIRED DURING LANE REDUCTIONS FOR PAV'T JOINT REPAIRS NOT OTHERWISE DETAILED IN THE M.O.T. PLANS.

PAYMENT FOR PROVIDING, ERECTING, MAINTAINING AND REMOVING EXTRA ADVANCE WARNING SIGN GROUPS SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

**WORK ZONE MARKINGS, SIGNS, AND DEVICES**

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 - WORKZONE LANE LINE	[3] MILE
ITEM 614 - WORKZONE EDGE LINE (WHITE)	[6] MILE
ITEM 614 - WORKZONE CHANNELIZING LINE (WHITE)	[1000] FOOT
ITEM 614 - WORKZONE MARKING SIGN	[24] EACH
ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN	[4] SNMTH

**ITEM 614 WORK ZONE PAVEMENT MARKINGS, SPRAY THERMOPLASTIC, AS PER PLAN (FOR OVER WINTER)**

THE CONTRACTOR SHALL PLACE THE WORK ZONE PAVEMENT MARKINGS, SPRAY THERMOPLASTIC, AS PER PLAN PER ODOT SPECIFICATION 614.11 AND ODOT SPECIFICATION 648 WITH THE EXCEPTION ODOT SPECIFICATION 648.05 SHALL BE MODIFIED TO ALLOW PLACEMENT OF THE MATERIAL AT A TEMPERATURE OF NOT LESS THAN 35 DEGREES FAHRENHEIT.

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

ITEM 614 WORK ZONE LANE LINE, CLASS I, 4", SPRAY THERMOPLASTIC, AS PER PLAN [2.5] MILE

ITEM 614 WORK ZONE EDGE LINE, CLASS I, 4", SPRAY THERMOPLASTIC, AS PER PLAN [6.25] MILE

ITEM 614 WORK ZONE CHANNELIZING LINE, CLASS I, 8", SPRAY THERMOPLASTIC, AS PER PLAN [6000] FEET

ITEM 614 WORK ZONE DOTTED LINE, CLASS I, SPRAY THERMOPLASTIC, AS PER PLAN [6500] FEET

**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.

THE PROJECT ENGINEER WILL NOTIFY THE PROPER EMERGENCY SERVICES, SCHOOLS AND ANY IMPACTED LOCAL PUBLIC AGENCY. THE PROJECT ENGINEER WILL ALSO FORWARD THIS INFORMATION TO THE DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY EMAIL AT D06.PIO@DOT.OHIO.GOV. THE PIO WILL DISSEMINATE THE INFORMATION TO THE PUBLIC VIA THE LOCAL MEDIA OUTLETS.

**TRUCK MOUNTED ATTENUATOR (TMA)**

WHEN WORKING IN A CLOSED LANE OR SHOULDER ON A MULTILANE 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 OMUTCD 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.

**SUSPENSION OF WORK**

IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE OMUTCD, THE ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

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**EXISTING GUIDE SIGNS/FIXED OBJECTS (OVERHEAD & GROUND MOUNTED)**

THE CONTRACTOR SHALL MAINTAIN EXISTING GUIDE SIGNS THROUGHOUT EACH PHASE OF CONSTRUCTION TO PROPERLY ADDRESS THE ACTIVE SCENARIO FOR THAT PHASE. WHEN EXIT RAMP CLOSURES OCCUR FOR MORE THAN 24 HOURS, GUIDE SIGNS SHALL BE COVERED WITH A MINIMUM 8 FT. X 2 FT. BLACK ON ORANGE "CLOSED" OVERLAY. EXISTING OVERHEAD GUIDE SIGNS MAY REQUIRE REMOVAL AND TEMPORARY RE-ERECTION ON TEMPORARY GROUND MOUNTS, POSTS, OR SIGN SUPPORTS PER MT-105.10 AND SHALL REMAIN FUNCTIONAL FOR MOTORISTS ACCORDING TO THE PLANS OR AS DIRECTED BY THE ENGINEER.

WHENEVER POSSIBLE THE CONTRACTOR SHALL USE EXISTING AND/OR PROPOSED OVERHEAD SIGN SUPPORTS TO KEEP LANE ASSIGNMENT ARROWS "OVER" THE LANES, RATHER THAN A MODIFIED SIGN DIRECTING LANE USE MOUNTED ALONG THE ROADSIDE.

IN THE EVENT THAT A TRAVEL LANE IS SHIFTED CLOSER TO AN EXISTING FIXED OBJECT OR SIGN SUPPORT/POST THAT IS NOT CRASH-WORTHY AND IS NOW WITHIN THE 30 FT. CLEAR ZONE FOR URBAN FREEWAYS (VERIFY CLEAR DISTANCE FOR OTHER ROADWAYS WITH THE ENGINEER), THE SIGN SHALL BE ADDRESSED PER SCD MT-105.10, BE MOVED OUTSIDE THE CLEARZONE OR PROTECTED WITH BARRIER OR TEMPORARY GUARDRAIL PER ALL APPLICABLE STANDARDS AND TO THE SATISFACTION AND APPROVAL OF THE ENGINEER.

TEMPORARY SIGN OVERLAYS NOT OTHERWISE DETAILED IN THE PLANS SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

WHERE AN EXISTING OR PROPOSED GUIDE SIGN OR SUPPORT CANNOT BE USED OR RE-USED, THEN AN APPROPRIATE TEMPORARY REPLACEMENT SHALL BE CONSTRUCTED PER CURRENT STANDARDS AND TO THE SATISFACTION AND APPROVAL OF THE ENGINEER.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROPERLY COVER AND CONSEQUENTLY EXPOSE THE PROPER GUIDE SIGNS NEEDED FOR EACH PHASE OF CONSTRUCTION, WHETHER PERMANENT OR TEMPORARY.

ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN.

**COVERING OF GROUND MOUNTED SIGNS-GENERAL**

WHEN REQUIRED BY OTHER ITEMS OR INCIDENTALLY TO ITEM 614 MAINTAINING TRAFFIC, COVER EXISTING GROUND MOUNTED SIGNS WITH PLYWOOD OR OSB BLANKS (1/2" MINIMUM THICKNESS) COVERING 80% OF THE SIGN AREA AND ALL OF THE SIGN LEGEND. THE USE OF LOW QUALITY MATERIALS SUCH AS DUCT TAPE AND BLACK PLASTIC IS NOT PERMITTED.

**LONGITUDINAL BUTT JOINTS**

LONGITUDINAL BUTT JOINTS ARE REQUIRED ALONG AREAS WHERE TRAFFIC WILL CROSS FROM OLD TO NEW PAVEMENT. GENERALLY, THE EXISTING SURFACE COURSE WILL BE LEVEL WITH THE TOP OF THE NEW INTERMEDIATE COURSE.

WHERE THE OLD PAVEMENT IS HIGHER, MILLING SHALL BE PERFORMED. THE TAPER RATE SHALL BE 1" IN 2' OR FLATTER. THE FOLLOWING ITEM SHALL BE USED FOR THIS PURPOSE AS DIRECTED BY THE ENGINEER.

ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE = [2589] S.Y.

**PLACEMENT OF ASPHALT CONCRETE**

TRAFFIC SHALL BE MAINTAINED AT ALL TIMES PER THE PLANS EXCEPT FOR PERMITTED SITUATIONS AS APPROVED BY THE ENGINEER FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

**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.

**ITEM 614, 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	DIRECTION
WZ-35650	FRANKLIN US 33	EASTBOUND
WZ-35650	FRANKLIN US 33	WESTBOUND

POTENTIAL WZSZ LOCATIONS SHALL HAVE AN ORIGINAL (PRE-CONSTRUCTION) 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.

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 THIS 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 OMTCD PART 6.

**ITEM 614, WORK ZONE SPEED ZONES (WZSZS), CONT'D.**

WHEN LOOKING UP THE WARRANTED WORK ZONE SPEED LIMITS, ALWAYS USE THE ORIGINAL, PRE-CONSTRUCTION, 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 614, DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY [40] SIGN MNTH ASSUMING [5] DSL SIGN ASSEMBLY(IES) FOR [8] MONTH(S)

**TRENCH FOR WIDENING**

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

**OVERNIGHT TRENCH CLOSING**

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 1.5 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UN-COMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

**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 [200] M. GAL

**ITEM 630 - SPECIFIC SERVICE AND TOURIST-ORIENTED DIRECTIONAL SIGNS REMOVAL AND REINSTALLATION**

IN THE EVENT THAT THIS PROJECT NECESSITATES THE REMOVAL OF ANY SPECIFIC SERVICE (LOGO) SIGNS AND/OR TOURIST ORIENTED DIRECTIONAL SIGNS (TODS) THAT ARE NOT SPECIFICALLY DESCRIBED IN OTHER ITEMS OF WORK, THE CONTRACTOR SHALL CAREFULLY REMOVE SUCH SIGNS. REMOVED LOGO SIGNS AND TODS SHALL BE IMMEDIATELY RE-ERECTED ON APPROVED TEMPORARY SUPPORTS IN THE SAME GENERAL VICINITY ALONG THE ROADWAY TO BE VIEWED BY THE MOTORING PUBLIC. UNLESS THE ORIGINAL SUPPORTS WILL BE REUSED, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE SUPPORTS & FOUNDATIONS IN ACCORDANCE WITH ITEM 630.12. THE CONTRACTOR SHALL NOTIFY OHIO LOGOS, INC. AT (800) 860-5646 AT LEAST 60 DAYS PRIOR TO PROJECT COMPLETION TO ALERT THEM THAT ONE OR MORE LOGO SIGNS AND/OR TODS ARE ON TEMPORARY SUPPORTS. OHIO LOGOS, INC. WILL MAKE ARRANGEMENTS TO HAVE THE SIGNS INSTALLED ON PERMANENT SUPPORTS AT THE COMPLETION OF THE PROJECT.

THIS ITEM OF WORK INCLUDES REMOVAL AND TEMPORARY RE-ERECTION OF LOGO SIGNS AND TODS, FURNISHING AND INSTALLATION OF TEMPORARY SUPPORTS, REMOVAL AND DISPOSAL OF THE ORIGINAL SUPPORTS AND FOUNDATIONS, AND PROVIDING NOTIFICATION TO OHIO LOGOS, INC. THIS WORK WILL BE INCLUDED IN THE LUMP SUM PAYMENT FOR ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN.

**ITEM 614 - WORK ZONE QUEUE DETECTION WARNING SYSTEM**

THIS ITEM SHOULD BE USED DURING THE PIAC APPROVED RAMP CLOSURE AND LANE REDUCTION WEEKENDS.

THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN AN APPROVED WORK ZONE QUEUE DETECTION WARNING SYSTEM (WZQDWS) AS PER SUPPLEMENTAL SPECIFICATION 896. THE PROBABLE INITIAL LOCATIONS OF THE WZQDWS DEVICES ARE TO BEGIN PLACING SENSORS AT THE BEGINNING OF THE TAPER ON THE W.B. APPROACH, FOLLOWED BY A SENSOR 0.5 MILES FROM THE TAPER, AND THEN 1 MILE FROM THE TAPER, AND EVERY MILE THEREAFTER FOR A TOTAL OF 8 MILES AND AT THE BEGINNING OF THE TAPER ON THE E.B. APPROACH, FOLLOWED BY A SENSOR 0.5 MILES FROM THE TAPER, AND THEN 1 MILE FROM THE TAPER, AND THEN APPROXIMATELY 0.25 MILES AFTER THE PETZINGER ROAD INTERSECTION OR AS OTHERWISE DIRECTED BY THE ENGINEER. IT IS EXPECTED THAT THESE LOCATIONS WILL VARY BASED ON PLANNED OR UNPLANNED PHASE AND TRAFFIC PATTERN CHANGES. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE DEVICES BY THE CONTRACTOR SHALL BE DIRECTED BY THE ENGINEER.

THE FOLLOWING TRAFFIC SENSOR THRESHOLDS AND PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) MESSAGES SHALL BE USED:  
 GREATER THAN OR EQUAL TO 50 MPH-USE FOUR CORNER FLASHING CAUTION MODE  
 BETWEEN 50 MPH AND 25 MPH- TRAFFIC AHEAD XX MPH/SLOW DOWN  
 BELOW OR EQUAL TO 25 MPH- TRAFFIC AHEAD XX MPH/PREPARE TO STOP

FOUR CORNER FLASHING CAUTION MODE SHALL CONSIST OF THE USE OF ONE ASTERISK IN EACH CORNER OF THE PCMS DISPLAY (4 TOTAL ASTERISKS).

XX SHALL BE ROUNDED UP TO THE NEAREST MULTIPLE OF 5 MPH MINUS 1. OCCUPANCY MAY BE DIRECTED TO BE USED BASED ON CERTAIN TRAFFIC CONDITIONS AND SCENARIOS. ODOT WILL DIRECT THE CONTRACTOR OF THE THRESHOLDS TO THE USED FOR THOSE AREAS WHERE OCCUPANCY IS DIRECTED TO BE USED.

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

ITEM 896, PORTABLE NON-INTRUSIVE TRAFFIC SENSOR, CLASS II [7] SIGN MONTH ASSUMING [14] PCMS SIGN FOR [0.5] MONTHS  
 ITEM 896, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN [3] EACH ASSUMING [6] PCMS SIGN(S) FOR [0.5] MONTH(S)

**CONTRACTOR'S EQUIPMENT-OPERATION AND STORAGE**

VEHICLES AND EQUIPMENT SHALL ALWAYS MOVE WITH, AND NOT ACROSS OR AGAINST THE FLOW OF TRAFFIC. VEHICLES AND OTHER EQUIPMENT SHALL NOT PARK OR STOP EXCEPT WITHIN THE DESIGNATED WORK AREAS; AND SHALL NOT ENTER AND LEAVE THE WORK AREAS IN A MANNER WHICH WILL BE HAZARDOUS TO, OR INTERFERE WITH THE NORMAL TRAFFIC FLOW. PERSONAL VEHICLES WILL NOT BE PERMITTED TO PARK WITHIN THE RIGHT-OF-WAY EXCEPT IN SPECIFIC AREAS DESIGNATED BY THE ENGINEER.

EQUIPMENT, VEHICLES AND MATERIALS SHALL NOT BE STORED OR PARKED WITHIN 30 FEET OF THE TRAVELED WAY UNLESS 6 FEET BEHIND PCB OR GUARDRAIL.

ALL WORK VEHICLES AND EQUIPMENT THAT ENTERS THE WORK ZONE MORE THAN ONCE A DAY MUST BE EQUIPPED WITH AT LEAST ONE FLASHING, ROTATING, OR OSCILLATING AMBER LIGHT THAT IS VISIBLE IN ALL DIRECTIONS OR TRAFFIC FOR AT LEAST ONE QUARTER OF A MILE, DAY OR NIGHT. ANY VEHICLES FAILING TO MEET THIS REQUIREMENT ARE PROHIBITED FROM WORKING OR PARKING ON THE PROJECT. THE ENGINEER WILL SUSPEND ITEMS OF WORK INVOLVING VEHICLES WHICH FAIL TO MEET THIS REQUIREMENT.

ALL OTHER REQUIREMENTS AS SPECIFIED IN THE CMS UNDER 614.03, 614.035, ETC. SHALL APPLY AND THE MOST RESTRICTIVE GUIDANCE SHALL GOVERN IN THE CASE OF A CONFLICT.

**CONFLICTING PAVEMENT MARKINGS**

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY WORK ZONE PAVEMENT MARKINGS, REMOVE ALL EXISTING CONFLICTING PAVEMENT MARKINGS VISIBLE TO THE TRAVELLING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS IN ACCORDANCE WITH 614.11 (WHICH INCLUDES RPM'S) AND ALL APPLICABLE STANDARD DRAWINGS. THIS ALSO APPLIES TO THE REMOVAL OF CONFLICTING TEMPORARY MARKINGS IN SUBSEQUENT PHASES COVERING THE SAME PAVEMENT AREAS. IN CASES WHERE VERY SHORT-TERM LANE SHIFTS, SUCH AS A WEEKEND ONLY PHASE ADJUSTMENT OR CLOSURE, ITEM 873 WET REFLECTIVE TAPE MAY BE USED IN LIEU OF WORKZONE MARKING PAINT IF AND AS APPROVED BY THE ENGINEER. THE COST FOR REMOVAL OF CONFLICTING MARKINGS AND/OR SUBSTITUTING WET REFLECTIVE TAPE FOR PAINT SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

**PROPOSED RUMBLE STRIPS**

PROPOSED RUMBLE STRIPS SHALL NOT BE INSTALLED IN ANY NEWLY PAVED SHOULDERS UNTIL SUCH TIME WHEN THE SHOULDERS WILL NO LONGER BE NEEDED TO MAINTAIN TRAFFIC.

**ITEM 614, REPLACEMENT SIGN**

FLATSHEET 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.

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.

**EARTHWORK FOR MAINTAINING TRAFFIC**

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY:

EXCAVATION FOR MAINTAINING TRAFFIC **1723** CU. YD.  
EMBANKMENT FOR MAINTAINING TRAFFIC **860** 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.

**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, AS PER PLAN.

**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.

**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 **25** EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

**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 SHUTDOWNS.

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 ON EACH ENTRANCE RAMP AND EVERY 2 MILES THROUGH THE CONSTRUCTION WORK LIMITS. SIGNS ON THE MAINLINE SHALL BE R11-H5A-48. SIGNS USED ON THE RAMPS SHALL BE R11-H5A-24. 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 TWO NO. 3 POSTS WHEN LOCATED WITHIN THE CLEAR ZONE.

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 CMS 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 **21** EACH

WORK ZONE INCREASED PENALTIES SIGNS WILL BE PLACED AT THE LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

**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 WEB PAGE FOR ROADWAY STANDARDS APPROVED PRODUCTS.

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

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.

CALCULATED  
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MAINTENANCE OF TRAFFIC GENERAL NOTES

FRA -33-24.26

ITEM 615 PAV'T FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 1:  
ITEM 615 PAV'T FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 2:  
ITEM 615 PAV'T FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 3:  
ITEM 615 PAV'T 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.

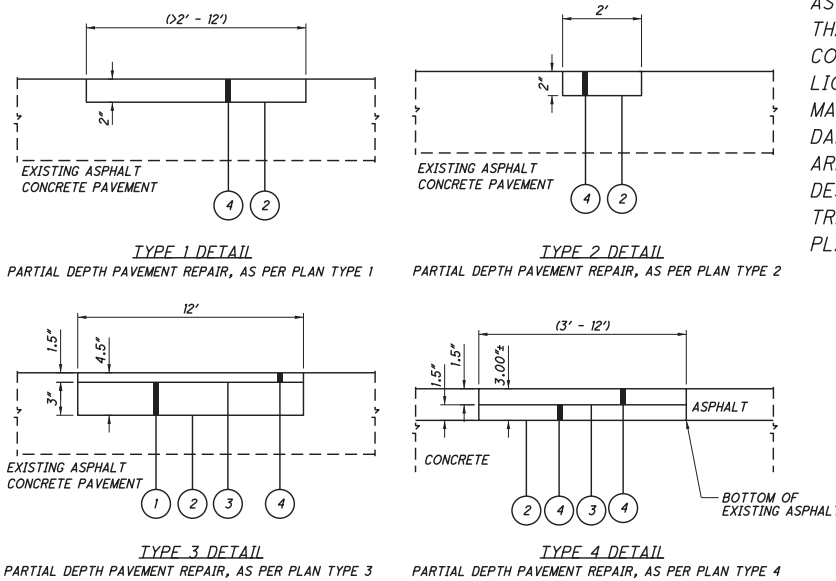
TYPE 1 IS TO BE USED WHEN YOU NEED TO MILL & FILL AN AREA OF VARYING LENGTH AND HAVE AN AVERAGE WIDTH OF NOT LESS THAN 2 FEET.

TYPE 2 IS TO BE USED FOR FIXING THE LONGITUDINAL JOINT ISSUES OF VARYING LENGTH AND HAVE A CONSISTENT WIDTH OF 2 FEET.

TYPE 3 IS TO BE USED FOR DEEPER REPAIRS (POTHLES) 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.



LEGEND:

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

ITEM 615 PAV'T FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 1 = 150 SY  
 ITEM 615 PAV'T FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 2 = 1800 SY  
 ITEM 615 PAV'T FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 3 = 0 SY  
 ITEM 615 PAV'T FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 4 = 0 SY

PRE-PHASE M.O.T. WORK AND DEVICES

THERE WILL BE MANY ACTIVITIES THAT WILL BE NEED TO BE PERFORMED PRIOR TO SHIFTING TRAFFIC INTO THE TEMPORARY LANE LOCATIONS FOR A GIVEN PHASE. THIS WORK IS GENERALLY REFERRED TO AS PRE-PHASE WORK AND MAY INCLUDE PLACEMENT OF TEMPORARY PAVEMENT, SHOULDER RECONDITIONING OR RECONSTRUCTION, RUMBLE-STRIP REMOVAL, TEMPORARY DRAINAGE STRUCTURE CONSTRUCTION, EMBANKMENT PLACEMENT, ETC.

THESE PRE-PHASE ACTIVITIES SHALL BE COMPLETED UNDER STANDARD MAINTAINING TRAFFIC SCENARIOS PER THE APPLICABLE ODOT STANDARD CONSTRUCTION DRAWINGS. FURTHERMORE, THEY SHALL BE PERFORMED IN ADHERANCE TO ALL OTHER ODOT REQUIREMENTS, CONSTRUCTION AND MATERIALS SPECIFICATIONS, AND PERMITTED LANE CLOSURE TIMES FOR THE PROJECT AREA. SOME SHORT-TERM LANE CLOSURES AND NIGHT WORK WILL BE REQUIRED.

ALL DEVICES, SET-UP, TEAR-DOWN, LABOR, EQUIPMENT, AND OTHER MATERIALS NECESSARY FOR MAINTAINING TRAFFIC FOR PRE-PHASE M.O.T. OPERATIONS SHALL BE INCLUDED WITH ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN, LUMP. (SEE THE SEQUENCE OF CONSTRUCTION NOTES FOR MORE INFO)

MAINTENANCE OF TRAFFIC CONTROL ZONES

THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN THE SIGNS, DRUMS AND TEMPORARY PAVEMENT MARKINGS AT THE LOCATIONS DETAILED IN THE PLANS, SPECIFIED IN THE STANDARD DRAWINGS AND/OR THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. WHEN THE CONTRACTOR IS NOTIFIED OF DEFICIENCIES HE SHALL CORRECT THE DEFICIENCIES AS SOON AS POSSIBLE, PREFERABLY WITHIN 12 HOURS AND NO LATER THAN 24 HOURS. IF ANY NOTED DEFICIENCIES ARE NOT CORRECTED WITHIN THE 24 HOURS THE ENGINEER SHALL ASSESS LIQUIDATED DAMAGES AS PER CMS 108.07 FOR ITEM 614 MAINTAINING TRAFFIC, NOT AS A PENALTY BUT AS LIQUIDATED DAMAGES FOR EACH AND EVERY DAY THAT THESE PROVISIONS ARE NOT MET. ALL COSTS FOR MAINTAINING WORK ZONES AS DESCRIBED ABOVE SHALL BE INCLUDED UNDER 614 MAINTAINING TRAFFIC, AS PER PLAN.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON THE DETOUR PLANS AND BETTER DESCRIBED IN THE "SHORT DURATION RAMP CLOSURE" NOTES IN THE MAINTENANCE OF TRAFFIC GENERAL NOTES. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 2 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE. THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN [10] SIGN MONTH  
 ASSUMING [6] PCMS SIGN(S) FOR [1.67] MONTH(S)

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN (CONTINGENCY)

AN ESTIMATED QUANTITY OF [1,000] SQ. YD. HAS BEEN CARRIED TO THE GENERAL SUMMARY AS A CONTINGENCY FOR ANY ADDITIONAL PARTIAL DEPTH PAVEMENT REPAIR WORK, 2" DEEP x UNPRESCRIBED WIDTH, AS DETERMINED NECESSARY BY THE ENGINEER.

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

ITEM 614 - MAINTAINING TRAFFIC MISC: BRIDGE DECK AND PAVEMENT PATCHING = \$25,000 EA.

**MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION**

THE CONTRACTOR SHALL BE RESPONSBLE FOR MAINTAINING TRAFFIC SIGNAL/FLASHER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK ACCEPTED.
2. NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MIS-ALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT, THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY OF COLUMBUS FOR POLICE

SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 8 HOURS AND SHALL NOT INCLUDE THE HOURS OF 5 A.M. TO 9 P.M. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF-DUTY COLUMBUS POLICE, HIRED BY THE CONTRACTOR.

1. HAMILTON ROAD/SR 317

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION;
2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;
5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

**MAINTAINING DRAINAGE**

THE CONTRACTOR SHALL MAINTAIN DRAINAGE DURING CONSTRUCTION AT ALL TIMES. THIS SHALL BE ACHIEVED BY USE OF THE EXISTING DRAINAGE PIPES, DITCHES, CULVERTS, ETC. WHEN AT ALL POSSIBLE, AS WELL AS TEMPORARY AND PROPOSED DRAINAGE ITEMS AND TEMPORARY COFFERDAMS AND EXCAVATION BRACING. SINCE THE PROJECT WILL BE CONSTRUCTED IN MULTIPLE PHASES IT WILL BE NECESSARY TO EMPLOY MULTIPLE METHODS TO CONSTRUCT THE PROPOSED DRAINAGE ITEMS WHILE MAINTAINING EXISTING DRAINAGE.

GENERALLY, THE EXISTING DRAINAGE DEVICES SHALL REMAIN IN PLACE AND IN OPERATION UNTIL THE PROPOSED FEATURES ARE CONSTRUCTED AND OPERATIONAL. WHEN EXISTING DEVICES ARE NO LONGER NEEDED THEY SHALL BE REMOVED IF POSSIBLE OR PROPERLY PLUGGED AND FILLED. COFFERDAMS AND EXCAVATION BRACING SHALL BE CONSIDERED INCIDENTAL TO THE DRAINAGE PAY ITEMS.

IF LOW POINTS OR PONDING IS OBSERVED DURING PHASED CONSTRUCTION, THE CONTRACTOR SHALL DEVISE A PLAN IN COORDINATION WITH THE ENGINEER AND PRESENT IT FOR APPROVAL. ADDITIONAL INLETS OR PIPES MAY BE CONSTRUCTED TO REDUCE SUCH CONDITIONS DURING CONSTRUCTION AND WILL BE AS DIRECTED BY THE ENGINEER. CONTINGENCY QUANTITIES FOR THESE PURPOSES HAVE BEEN INCLUDED BELOW AND CARRIED TO THE GENERAL SUMMARY.

UNLESS SEPARATELY ITEMIZED IN THE PLANS, ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO MAINTAIN DRAINAGE DURING CONSTRUCTION, INCLUDING SUBSEQUENT REMOVAL OF ANY TEMPORARY ITEMS, AND/OR PLUGGING OR FILLING OF EXISTING OR TEMPORARY PIPES, SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN, LUMP SUM.

**TEMPORARY PAVEMENT MARKINGS & REMOVAL**

PAVEMENT MARKINGS FOR EACH PHASE OF M.O.T. SHALL BE KEPT IN GOOD CONDITION AND MAY REQUIRE OCCASIONAL RE-STRIPING AS DIRECTED BY THE ENGINEER. PHASES LASTING MORE THAN 120 DAYS SHALL BE RE-STRIPED.

THE PLANS INCLUDE QUANTITIES FOR STRIPING THE PAVEMENT LIMITS IN EACH PHASE OF CONSTRUCTION AND FOR RE-STRIPING. ANY EXTRA OR UNUSED QUANTITY OF MARKINGS SHALL BE TRACKED AND AVAILABLE FOR USE AS DETERMINED BY THE ENGINEER ELSEWHERE ON THE PROJECT.

AT THE CLOSE OF THE PROJECT, TEMPORARY PAVEMENT MARKINGS ON CONCRETE SURFACES WILL NEED TO BE REMOVED PRIOR TO PLACING PERMANENT MARKINGS. THE CONTRACTOR SHALL EMPLOY NON-DESTRUCTIVE (ie...WATER BLASTING) METHODS FOR THE ERADICATION OF TEMPORARY MARKINGS ON NEW OR EXISTING CONCRETE PAVEMENT PER ALL APPLICABLE SPECIFICATIONS.

**APPROVED MAINTENANCE OF TRAFFIC (MOT) POLICY EXCEPTIONS)**

PORTIONS OF THE MOT PLANS AS DESCRIBED BELOW HAVE BEEN APPROVED BY THE MOT EXCEPTION COMMITTEE (MOTEC) OR THE PROJECT IMPACT ADVISORY COUNCIL (PIAC) PER TRAFFIC MANAGEMENT IN WORK ZONES POLICY (21-008(P)) AND THE STANDARD PROCEDURE (123-001KSP)).

APPROVED MOT EXCEPTION(S) INCLULDE:

WESTBOUND (PHASE 1A - STEPS 1 & 2)

1. US 33 WESTBOUND LANES REDUCED FROM 2 TO 1 FOR 2 WEEKENDS.
2. CONCURRENT CLOSURE OF HAMILTON ROAD ENTRANCE RAMP TO US 33 WESTBOUND FOR TWO WEEKENDS.

WESTBOUND (PHASE 2A - STEPS 1 & 2)

1. US 33 WESTBOUND LANES REDUCED FROM 2 TO 1 FOR 2 WEEKENDS.
2. CONCURRENT CLOSURE OF HAMILTON ROAD ENTRANCE RAMP TO US 33 WESTBOUND FOR TWO WEEKENDS.

EASTBOUND (PHASE 2A - STEPS 3 & 4)

1. US 33 EASTBOUND REDUCED FROM 2 TO 1 LANE WEST OF THE I-270 INTERCHANGE FOR TWO WEEKENDS WHILE RAMP E (I-270S TO US 33E) SHALL REMAIN OPEN AND ENTER THE WORK AREA AS AN ADD-LANE. A MINIMUM OF 2 LANES SHALL BE MAINTAINED (ONE FROM US33 EB AND ONE FROM RAMP E) DURING THE SPECIFIED WEEKENDS.
2. CONCURRENT CLOSURE OF RAMP A (I-270N TO US33E) PERMITTED FOR TWO WEEKENDS.

EASTBOUND (PHASE 3 - STEPS 1 & 2)

1. US 33 EASTBOUND MAINTAINED AS 2 LANES THROUGH THE I-270 INTERCHANGE FOR TWO WEEKENDS WHILE RAMP E (I-270S TO US 33E) SHALL REMAIN OPEN AND MERGE WITH THE RIGHT THROUGH LANE.
2. CONCURRENT CLOSURE OF RAMP A (I-270N TO US33E) PERMITTED FOR TWO WEEKENDS.

A MAINTENANCE OF TRAFFIC MEETING SHALL BE HELD A MINIMUM OF 30 CALENDAR DAYS PRIOR TO IMPLEMENTATION OF EACH APPROVED MOT EXCEPTION. THIS MEETING SHALL INCLUDE THE DISTRICT WORK ZONE TRAFFIC MANAGER AND THE CITY OF COLUMBUS AS WELL AS THE CONTRACTOR, WORKSITE TRAFFIC SUPERVISOR (WTS) AND ANY SUBCONTRACTORS INVOLVED WITH TEMPORARY TRAFFIC CONTROL.

IN ADDITION TO ANY NOTIFICATIONS REQUIRED IN OTHER NOTES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AT LEAST 3 BUSINESS DAYS IN ADVANCE OF IMPLEMENTATION OF THE APPROVED MOT EXCEPTION(S) REFERENCED ABOVE SO THAT THE PROJECT ENGINEER CAN SEND EMAIL NOTIFICATION TO THE OFFICE OF ROADWAY ENGINEERING, STATEWIDE TMC, DWZTM AND SPECIAL HAULING PERMITS AT LEAST 2 BUSINESS DAYS IN ADVANCE OF THE IMPLEMENTATION OF THE APPROVED MOT EXCEPTION(S) REFERENCED ABOVE. REFERENCE "EXCEPTION REQUEST APPROVAL DATED 02/10/17 (REV. 10/2/17) FOR PID 98111 IN THE NOTIFICATION AND OTHER CORRESPONDENCE.

ANY CHANGES TO THE MOT THAT IMPACT THE PREVIOUSLY APPROVED MOT EXCEPTION(S) LISTED ABOVE SHALL BE APPROVED IN WRITING BY THE APPLICABLE ODOT CENTRAL OFFICE COMMITTEE (MOTEC OR PIAC). IN THE EVENT THAT SUCH CHANGES ARE PROPOSED, THE REQUEST SHALL BE COORDINATED THROUGH THE DISTRICT WORK ZONE TRAFFIC MANAGER (DWZTM) A MINIMUM OF 30 CALENDAR DAYS PRIOR TO DESIRED IMPLEMENTATION DATE. IF THE DISTRICT AGREES WITH THE PROPOSED CHANGES THE DWZTM SHALL SEEK APPROVAL FROM THE APPLICABLE ODOT CENTRAL OFFICE COMMITTEE. IN THE EVENT THE PROPOSED CHANGES ARE APPROVED IN WRITING, THE CLOSURES ARE STILL SUBJECT TO NOTIFICATION REQUIREMENTS WITHIN THIS NOTE PRIOR TO IMPLEMENTATION.

CALCULATED  
EJC  
CHECKED  
ABS

MAINTENANCE OF TRAFFIC GENERAL NOTES

FRA -33-24.26

**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 NOVEMBER 15th THROUGH APRIL 1st.

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 (SEE ROADWAY QUANTITIES).

THE FOLLOWING BID ITEM HAS BEEN CARRIED TO THE GEN. SUM.:

ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN **1530** 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.

**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.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 2, ONE-WAY **111** EACH  
ITEM 614, OBJECT MARKER, ONE-WAY **111** EACH

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

**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 CONCRETE PERMANENT BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE.

THE INCREASED BARRIER DELINEATION SHALL CONSIST OF THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

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 TRIPLE-STACKED 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 **1467** EACH  
ITEM 614, OBJECT MARKER, ONE-WAY **489** 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.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

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 NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST 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.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING 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. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH

FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. 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.

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.

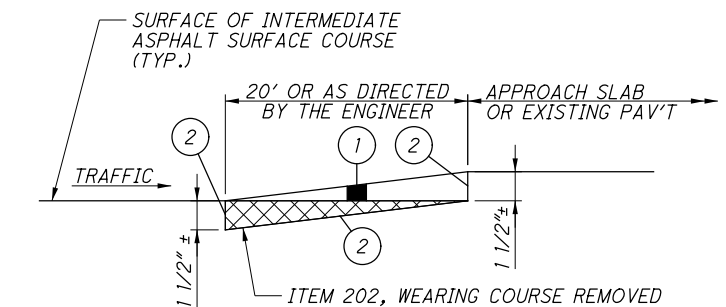
ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE **1750** HOURS

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 AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

**PROTECTION OF APPROACH SLABS UNTIL SURFACE COURSE HAS BEEN PLACED**

THE CONTRACTOR SHALL PLACE A BUTT JOINT AS DETAILED BELOW AT EACH MAINLINE BRIDGE, AS PER THE ENGINEER, FOR FURTHER INFORMATION SEE SCD-3.1.



- 1) ITEM 442 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
- 2) ITEM 407 - TACK COAT

**WORK ZONE PAVING AT APPROACH SLABS AND EXISTING PAVEMENT DETAIL NOT TO SCALE**

THE CONTRACTOR SHALL COMPLETE THE ABOVE WORK, AS PER THE ENGINEER, PRIOR TO OPENING THE AREA TO TRAFFIC. PRIOR TO PLACING THE SURFACE COURSE, MILL THE PAVEMENT TO MEET THE SURFACE PAVEMENT. PLACE SURFACE COURSE AS PER THE PLANS.

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

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**ITEM 614 - DETOUR SIGNING**

SIZE AND PLACEMENT OF DETOUR SIGNS (M4-9) SHOULD FOLLOW THE REQUIREMENTS OF THE OMTCD SECTION 6F.03, SECTION 2A.11 AND TABLE 6F.01. DETOUR SIGNING SHALL PROVIDE DRIVERS ADEQUATE TIME TO CLEARLY READ THE SIGNS AND MAKE THE PROPER DECISIONS AT EACH REQUIRED TURNING MOVEMENT. THE DESIGNATED DETOUR ROUTE SHALL BE SIGNED IN ACCORDANCE WITH THE PROVIDED DETOUR PLANS AND THE REQUIREMENTS BELOW:

- APPROXIMATELY 1500 FEET PRIOR TO TIP OF THE PAINTED GORE AT AN INTERCHANGE WHEN EXITING A HIGH SPEED (45 MPH OR HIGHER) FACILITY.
- AT OR NEAR THE EXISTING SIGN IN THE GORE OF AN INTERCHANGE RAMP.
- AT OR NEAR THE FIRST EXISTING LANE ASSIGNMENT SIGN ON AN INTERCHANGE EXIT RAMP.
- AT OR NEAR THE EXISTING LANE ASSIGNMENT SIGN OR EXISTING ROUTE MARKER AT THE END OF AN EXIT RAMP.
- APPROXIMATELY 500 FEET PRIOR TO A REQUIRED TURN AT AN INTERSECTION NOT CONTROLLED BY A STOP SIGN (FOR 45 MPH OR HIGHER ONLY).
- AT OR NEAR THE EXISTING LANE ASSIGNMENT SIGN OR EXISTING ROUTE MARKER AT AN INTERSECTION.
- EVERY TWO MILES ALONG A TANGENT SECTION BETWEEN TURNING MOVEMENTS OUTSIDE A CITY.
- EVERY TWO BLOCKS ALONG A TANGENT SECTION BETWEEN TURNING MOVEMENTS WITHIN A CITY.
- AT ANY OTHER INTERSECTION OR DECISION POINT WHERE THE DETOUR ROUTE IS CONTRARY TO THE NORMAL, EXPECTED TURNING MANEUVER OR OTHERWISE UNCLEAR.

DETOUR SIGNS SHALL BE PLACED, WHEN POSSIBLE, NEXT TO BUT NOT BLOCKING EXISTING ROUTE MARKERS OR LANE ASSIGNMENT SIGNS. DETOUR SIGNS SHALL NOT OBSCURE OR BE OBSCURED BY OTHER EXISTING OR TEMPORARY SIGNS. SEE DETOUR PLANS FOR MORE DETAILS.

DETOUR SIGNS SHALL BE ERECTED AND/OR UNCOVERED PRIOR TO THE ROAD OR RAMP BEING CLOSED TO TRAFFIC BUT NO EARLIER THAN FOUR HOURS PRIOR TO THE CLOSURE. DETOUR SIGNS SHALL BE COVERED AND/OR REMOVED NO LATER THAN FOUR HOURS FOLLOWING THE ROAD OR RAMP RE-OPENING TO TRAFFIC.

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, PROPER SIGN PLACEMENT AND SIZING, TIMELY ERECTING AND/OR UNCOVERING OF SIGNS, MAINTAINING SIGNS, AND TIMELY COVERING AND/OR REMOVING SIGNS AND SUPPORTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614 - DETOUR SIGNING

**LUMP** SUM

\*\* PCMS SUGGESTED RAMP CLOSURE MESSAGE FORMAT; OR AS DIRECTED BY THE ENGINEER

<b>NIGHTLY RAMP CLOSURES</b>	## / ## / ## <b>TO</b> ## / ## / ##
OR;	
<b>WEEKEND RAMP CLOSURES</b>	## / ## / ## <b>TO</b> ## / ## / ##

**SHORT DURATION RAMP CLOSURES**

FOR THE PURPOSE OF PERFORMING THE REQUIRED WORK OR WHEN REQUIRED BY THE INTERSTATE ENTRANCE RAMP CLOSURE NOTE, RAMPS MAY BE CLOSED FOR SHORT DURATIONS AND DETOURED IN ACCORDANCE WITH THE RAMP CLOSURE TABLE IF APPROVED BY THE ENGINEER. RAMP CLOSURES ARE SUBJECT TO DISINCENTIVES.

FOR ALL SERVICE RAMP CLOSURES LASTING MORE THAN 12 HOURS BUT LESS THAN 72 HOURS AND/OR, FOR ALL SYSTEM RAMP CLOSURES LASTING MORE THAN 12 HOURS BUT LESS THAN 24 HOURS

THE CONTRACTOR SHALL PROVIDE THE FOLLOWING:

- A MINIMUM OF TWO PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) PLACED, AS DIRECTED BY THE ENGINEER, TO WARN DRIVERS OF THE CLOSURE AND TO PROVIDE THE DESIGNATED DETOUR ROUTE. \*(SEE NOTE)
- POSITIVE GUIDANCE ALONG THE DETOUR ROUTE WITH DETOUR SIGNS (M4-9 SERIES) IN ACCORDANCE WITH THE DETOUR SIGNS NOTE.

FOR ALL RAMP CLOSURES LASTING LESS THAN 12 HOURS, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING:

- A MINIMUM OF TWO PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) PLACED, AS DIRECTED BY THE ENGINEER, TO WARN DRIVERS OF THE CLOSURE AND TO PROVIDE THE DESIGNATED DETOUR ROUTE. \*(SEE NOTE)

WHEN CLOSING ENTRANCE RAMPS, CORRESPONDING LEAD-IN LANES AND TURN LANES SHALL ALSO BE CLOSED.

IF A DESIGNATED DETOUR ROUTE IS NOT PROVIDED IN THE PLANS, TRAFFIC SHALL BE DIRECTED TO THE NEXT INTERCHANGE, IF AVAILABLE, TO TURN AROUND. IF THE USE OF THE NEXT INTERCHANGE IS NOT POSSIBLE, AN ALTERNATIVE DETOUR ROUTE SHALL BE PROVIDED BY THE ENGINEER.

SERVICE RAMP: INTERCHANGE RAMPS BETWEEN FREEWAYS (OR EXPRESSWAYS) AND NON-FREEWAYS (OR NONEXPRESSWAYS). THESE RAMPS PROVIDE ACCESS (CONNECTIONS) BETWEEN FREEWAYS/EXPRESSWAYS AND OTHER PRINCIPAL/MINOR ARTERIALS, COLLECTORS OR LOCAL ROADS.

SYSTEM RAMP: INTERCHANGE RAMPS (OR CONNECTORS) BETWEEN FREEWAYS (OR EXPRESSWAYS) AND FREEWAYS (OR EXPRESSWAYS).

**PERMITTED LANE CLOSURE NOTE AND TABLE**

LANES CLOSURES SHALL ONLY BE IMPLEMENTED AT THE TIMES PERMITTED BY ODOT DISTRICT 6. THE CONTRACTOR SHALL USE THE FOLLOWING TABLE UNLESS OTHERWISE DIRECTED BY THE ENGINEER:

UNAUTHORIZED LANE USE CHART						
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	
<b>FRA-33</b>						
I-270 (24.75) to Fairfield County Line (31.23) Eastbound	2	2 to 1	5AM-9PM	8AM-9PM	5PM-10PM	\$75
I-270 (24.75) to Fairfield County Line (31.23) Westbound	2	2 to 1	5AM-7PM	8AM-8PM	9AM-3PM	\$75
Short term shoulder closures are NOT permitted 5AM-9AM and 3PM-6PM Monday-Friday.						

**Ramp Closure Restrictions  
US Route 33 in Franklin County**

Secondary Route: Interstate Route 270 SLM along 33: (East Side)					
Ramp	Movement	No Closures Allowed		Detour Routes	
		Mon to Fri	Sat to Sun	Primary Route	Secondary Route
A	I-270 NB to US-33 EB	5AM-9PM	8AM-8PM	270 N to US-33 W (Ramp G) to 270 S (Ramp H) to US-33 E (Ramp E)	270 N to 70 W to 270 S to US-33 E (Ramp E)
B	US-33 WB to I-270 NB	5AM-9PM	8AM-8PM	US-33 W to 270 S (Ramp H) to US-33 E (Ramp E) to 270 N (Ramp F)	US-33 W to OH-104 to US-33 E to 270 N (Ramp F)
C	I-270 SB to US-33 WB	5AM-9AM & 3PM-7PM	No Restriction	270 S to US-33 E (Ramp E) to 270 N (Ramp F) to US-33 W (Ramp G)	270 S to Alum Creek Dr. to 270 N to US-33 W (Ramp G)
D	US-33 EB to I-270 SB	5AM-9AM & 3PM-7PM	No Restriction	US-33 E to 270 N (Ramp F) to US-33 W (Ramp G) to 270 S (Ramp H)	US-33 E to OH-317 to US-33 W to 270 S (Ramp H)
E	I-270 SB to US-33 EB	5AM-10PM	8AM-8PM	270 S to Alum Creek Dr. to 270 N to US-33 E (Ramp A)	270 S to US-33 W (Ramp C) to OH-104 to US-33 E
F	US-33 EB to I-270 NB	5AM-9AM & 3PM-7PM	No Restriction	US-33 E to OH-317 to US-33 W to 270 N (Ramp B)	US-33 E to 270 S (Ramp D) to Alum Creek Dr. to 270 N
G	I-270 NB to US-33 WB	5AM-9AM & 3PM-7PM	No Restriction	270 N to 70 W to 270 S to US-33 W (Ramp C)	270 N to US-33 E (Ramp A) to OH-317 to US-33 W
H	US-33 WB to I-270 SB	5AM-7PM	8AM-7PM	US-33 W to OH-104 to US-33 E to 270 S (Ramp D)	US-33 W to 270 N (Ramp B) to 70 W to 270 S

Secondary Route: State Route 317 SLM along 33:					
Ramp	Movement	No Closures Allowed		Detour Routes	
		Mon to Fri	Sat to Sun	Primary Route	Secondary Route
A	SR 317 to US-33 WB	5AM-7PM	8AM-8PM	SR-317 S to US-33 E (Ramp D) to SR-674 (Ramp A) to US-33 W (Ramp E)	SR-317 N to Winchester Pike to Refugee Rd to US-33*
B	US-33 WB to SR 317	6AM-6PM	No Restriction	US-33 W to 270 S (Ramp H) to 270 S to 33 E (Ramp B) to 33 E to 317 (Ramp C)	US-33 to Refugee Rd to Winchester Pike to SR-317*
C	US-33 EB to SR 317	5AM-9PM	8AM-8PM	US-33 to SR-674 (Ramp A) to US-33 W (Ramp E) to SR-317 (Ramp B)	US-33 to Bixby Rd W to SR-317*
D	SR 317 SB to US-33 EB	5AM-9AM & 3PM-7PM	No Restriction	SR-317 S to US-33 WB (Ramp A) to 270 interchange (Ramp H to Ramp E) to US-33 E	SR-317 S to Groveport Rd. to SR-674 to US-33
E	SR 317 NB to US-33 EB	5AM-9AM & 3PM-7PM	No Restriction	SR-317 N to US-33 WB (Ramp A) to 270 interchange (Ramp H to Ramp E) to US-33 E	SR-317 N to Winchester Pike to Gender Rd. to US-33*

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**WORK-SITE TRAFFIC SUPERVISOR, AS PER PLAN**

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A CERTIFIED WORK-SITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS SHALL BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

1. AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA), PHONE NUMBER 1-800-272-8772, CERTIFIED TRAFFIC CONTROL SUPERVISOR (TCS).
2. THE OHIO CONTRACTORS ASSOCIATION, TRAFFIC CONTROL SUPERVISOR (OCA/TCS) WORK ZONE CLASS, ONLY IF TAKEN AFTER MAY 5, 2004, PHONE NUMBER 1-800-229-1388.
3. OHIO LABORERS TRAINING, TRAFFIC CONTROL SUPERVISORS CLASS, PHONE NUMBER 1-740-599-7915.

A COPY OF EACH WTSS CERTIFICATION AND 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRE-CONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7), THE CONTRACTOR MAY DESIGNATE AN ALTERNATE WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY. EACH WTS SHALL HAVE A WTS CERTIFICATION CONTAINING THE DATE OF ISSUE AND SHALL BE FROM ANY OF THE APPROVED ORGANIZATIONS. AT THE TIME OF THE PRE-CONSTRUCTION, THE WTS CERTIFICATION DATE OF ISSUE SHALL BE WITHIN 5 YEARS PRIOR TO THE ORIGINAL COMPLETION DATE OF THE PROJECT.

THE WTS POSITION HAS THE RESPONSIBILITY OF MONITORING TRAFFIC CONTROL DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS, AND BE ABLE TO BE ON SITE FOR ALL EMERGENCY TRAFFIC CONTROL NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF AND BE PREPARED TO EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TRAFFIC CONTROL DEVICES.
2. ATTEND PRE-CONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TRAFFIC CONTROL MANAGEMENT IS DISCUSSED.
3. BE AVAILABLE FOR MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST OR WITHIN 36 HOURS.
4. COORDINATE A TRAFFIC INCIDENT MANAGEMENT MEETING EACH YEAR BEFORE CONSTRUCTION WORK BEGINS WITH ODOT AND THE SAFETY FORCES THAT WILL RESPOND TO INCIDENTS ON THE PROJECT. ITEMS TO BE DISCUSSED WILL BE THE:
  - A. TRAFFIC INCIDENT MANAGEMENT PLAN (TIMP);
  - B. EMERGENCY RESPONSE AND NOTIFICATION;
  - C. MITIGATION TECHNIQUES (PUBLIC OUTREACH, SPEED LIMIT ENFORCEMENT)
  - D. PROJECT WORK/PHASING CONCERNS (E.G., RAMP CLOSURES); AND
  - E. RESPONDERS CONCERNS.
5. BE AWARE OF, AND COORDINATE IF NECESSARY, ALL TRAFFIC CONTROL OPERATIONS, INCLUDING THOSE OF SUBCONTRACTORS AND SUPPLIERS. ENSURE THAT CONSTRUCTION ACCESS POINTS ARE INSTALLED AND BEING UTILIZED PROPERLY.
6. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). A WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE THEY ARE ON THE PROJECT.
7. COORDINATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS WORK ZONE TRAFFIC CONTROL. A WRITTEN DETAIL OF MOT OPERATIONS AND SCHEDULE OF EVENTS TO IMPLEMENT THE SWITCH BETWEEN PLAN PHASES SHALL BE PROVIDED TO ODOT BY THE WTS.

8. ENSURE COMPLIANCE WITH THE CONTRACT DOCUMENTS FOR SIGNS, BARRICADES, TEMPORARY CONCRETE BARRIER, PAVEMENT MARKINGS, PORTABLE MESSAGE SIGNS, AND OTHER TRAFFIC CONTROL DEVICES ON A DAILY BASIS; AND FACILITATE ANY CORRECTIVE ACTION NECESSARY.
9. NOTIFY THE CONTRACTOR OF THE NEED FOR CLEANING AND MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES, INCLUDING THE COVERING AND REMOVAL OF INAPPLICABLE SIGNS.
10. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TRAFFIC CONTROL DEVICES AND/OR TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, A 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 TRAFFIC CONTROL SETUP (DAY AND NIGHT REVIEW).
  - B. DAILY TRAFFIC CONTROL SETUP AND REMOVAL.
  - C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TRAFFIC CONTROL SETUP.
  - D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA.
  - E. REMOVAL OF TRAFFIC CONTROL DEVICES AT THE END OF A PHASE OR PROJECT.
  - F. ALL OTHER EMERGENCY TRAFFIC CONTROL NEEDS.

A DIGITAL VIDEO OF THE WORK ZONE DRIVE THROUGH WILL BE PROVIDED TO THE PROJECT ENGINEER AND DWZTM WITHIN 2 DAYS OF THE INITIAL TRAFFIC SETUP AND AFTER EACH PHASE SWITCH. ADDITIONAL VIDEO MAY BE REQUIRED IF REQUESTED BY THE PROJECT ENGINEER OR DWZTM.
11. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 10 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORK DAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TRAFFIC CONTROL MAINTENANCE ITEMS TO BE REVIEWED. A COPY OF THE FORM WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING. ANY DEFICIENCIES OBSERVED SHALL BE NOTED, ALONG WITH RECOMMENDED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THIS DOCUMENT CAN BE FOUND IN THE CURRENT REVISION OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION INSPECTION FORMS MANUAL.
12. VERIFY THAT ALL FLAGGING OPERATIONS ARE BEING CONDUCTED PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
13. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND APPLICABLE STANDARDS AND SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT. HAVE PRINTED COPIES OF ALL MT STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET AT ALL TIMES ON THE PROJECT.
14. IDENTIFY AND CONTACT ALL POSSIBLE RESPONSE PERSONNEL; PRE-PLAN AND KEEP AN UPDATED ROSTER WITH PHONE NUMBERS:
  - A. FEDERAL, STATE, AND LOCAL TRANSPORTATION AGENCIES (TRAFFIC MANAGEMENT CENTER);
  - B. REGIONAL, COUNTY OR LOCAL 911 DISPATCH; AND
  - C. TOWING AND RECOVERY PROVIDERS.
15. COMPLY WITH THE PROVISIONS OF OMUTCD CHAPTER 6I, CONTROL OF TRAFFIC THROUGH TRAFFIC INCIDENT MANAGEMENT AREAS.

16. PROPOSE A RESPONSE/ACTION PLAN TO:
  - A. ESTABLISH ALTERNATE ROUTE PLANS PER THE PROVIDED ODOT PLAYBOOK;
  - B. REMOVE TRAFFIC DEMAND FROM IMPACTED ROADWAY(S);
  - C. DIVERT TRAFFIC TO ROUTES THAT CAN ACCOMMODATE DEMANDS;
  - D. DETOUR TRAFFIC AWAY FROM SENSITIVE AREAS (SUCH AS SCHOOLS, HOSPITALS, ETC.);
  - E. DISCUSS METHODS OF DETERMINING A STAGING AREA FOR RESPONDERS WITHIN OR NEAR THE CONSTRUCTION ZONE; AND
  - F. DISCUSS METHODS OF DEVELOPING INGRESS AND EGRESS SITES WITHIN THE CONSTRUCTION ZONE.

THE RESPONSE/ACTION PLAN SHALL BE SUBMITTED TO ODOT FOR ACCEPTANCE BEFORE THE CONTRACTOR'S FIRST DAY OF WORK.
17. PERFORM, AT A MINIMUM, THE FOLLOWING FUNCTIONS IN INCIDENT DETECTION AND VERIFICATION:
  - A. CALL 911/ NOTIFY TRAFFIC MANAGEMENT CENTER AND PROVIDE THE FOLLOWING:
    - I. LOCATION - INCLUDING MILEPOST NUMBER AND DIRECTION OF TRAVEL.
    - II. NUMBER AND TYPE OF VEHICLES INVOLVED.
    - III. ESTIMATED EXTENT OF DAMAGE OR INJURY.
    - IV. ESTIMATED NUMBER OF PATIENTS INVOLVED.
    - V. ANY POTENTIAL HAZARDOUS CONDITIONS.
    - VI. THE PLACARD NUMBER ON ANY HAZARDOUS MATERIALS PLACARD FROM A SAFE DISTANCE.
  - B. INITIATE TRAFFIC MANAGEMENT / PROVIDE TRAFFIC CONTROL.
  - C. ASSIST MOTORIST WITH DISABLED VEHICLES.
  - D. RECOMMEND ROADWAY REPAIR NEEDS.
  - E. PROVIDE REPAIR RESOURCES.
18. ATTEND POST-INCIDENT DEBRIEFINGS IF REQUIRED.

THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT OF THE UNIT PRICE BID FOR THE WTS FOR ANY DAY ON WHICH THE CONTRACTOR FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. SHOULD THE CONTRACTOR'S FAILURE TO PERFORM ANY OF THE DUTIES DESCRIBED ABOVE RESULT IN A MAINTENANCE OF TRAFFIC SAFETY ISSUE, THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT FOR ITEM 614 MAINTENANCE OF TRAFFIC FROM THE CONTRACTOR'S NEXT SCHEDULED ESTIMATE.

IF THREE OR MORE FAILURES TO PERFORM THE DUTIES SET FORTH ABOVE OCCUR, THE WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR THE WORK-SITE TRAFFIC SUPERVISOR:

ITEM 614 WORK-SITE TRAFFIC SUPERVISOR 18 MONTHS

CALCULATED  
EJC  
CHECKED  
CAC

MAINTENANCE OF TRAFFIC GENERAL NOTES

FRA -33-24.26



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TEMPORARY PAVEMENT LOCATION TABLE

PHASE	STATION	TO	STATION	EB/WB	INSIDE/OUTSIDE	LENGTH(FT)	WIDTH(FT)	AREA (SY)	NOTE	ITEM 411, STABILIZED CRUSHED AGGREGATE (C.Y.) *
1	295+48		306+96	EB	INSIDE	1148	4	510.22		57
1	307+91		310+29	EB	INSIDE	238	6	158.67		
1	313+25		321+30	EB	INSIDE	805	6	536.67		
1	321+30		344+50	EB	INSIDE	2320	6	1546.67	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
1	344+50		346+25	EB	INSIDE	175	4	77.78	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
1	300+40		306+96	WB	INSIDE	656	4	291.56	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	33
1	307+91		310+74	WB	INSIDE	283	6	188.67	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
1	313+70		344+83	WB	INSIDE	3113	6	2075.33	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
1	344+83		346+84	WB	INSIDE	201	4	89.33	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	10
2	263+75		271+75	EB	OUTSIDE	800	10	888.89	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
2	271+75		272+75	EB	OUTSIDE	100	9	100.00	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
2	272+75		277+34	EB	OUTSIDE	459	8	408.00	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
2	279+78		288+17	EB	OUTSIDE	839	10	932.22	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
2	289+92		290+59	EB	OUTSIDE	67	8	59.56	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
2	290+59		292+52	EB	OUTSIDE	193	9	193.00	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
2	292+52		294+22	EB	OUTSIDE	170	10	188.89	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
2	294+22		295+59	EB	OUTSIDE	137	9	137.00	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
2	297+12		302+70	EB	OUTSIDE	558	6	372.00	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
2	304+00		305+00	EB	OUTSIDE	100	7	77.78	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
2	305+00		306+71	EB	OUTSIDE	171	9	171.00	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
2	306+71		306+95	EB	OUTSIDE	24	7	18.67	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
2	300+30		302+96	WB	OUTSIDE	266	4	118.22	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	
2	302+71		306+55	WB	OUTSIDE	384	8	341.33	TO REMAIN IN PLACE AS PERMANENT SHOULDER AFTER CONSTRUCTION	19
							<b>TOTAL=</b>	<b>9481.44</b>		<b>TOTAL=</b> 119

TOTAL CARRIED TO THE GENERAL SUMMARY FOR  
ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

\*THERE ARE A FEW AREAS AND PHASES WHERE TRAFFIC MAY NEED TO BE MAINTAINED WITHIN 2 FEET OF THE EDGE OF THE PAVED SHOULDER. IN THESE CASES, SHOULD THEY BE ENCOUNTERED, THE GRADED SHOULDER AREA ADJACENT TO THE PAVED SHOULDER SHOULD BE STRENGTHENED WITH ITEM 411, STABILIZED CRUSHED AGGREGATE (OR MILLINGS), 2 FEET WIDE, 8 INCHES THICK PER THE ODOT TRAFFIC ENGINEERING MANUAL AND APPLICABLE SPECIFICATIONS. QUANTITIES ARE PROVIDED IN THE TABLE ABOVE FOR AREAS WHERE THIS SCENARIO MAY OCCUR. THEY HAVE BEEN CARRIED TO THE GENERAL SUMMARY AND SHALL BE USED AS DIRECTED BY THE ENGINEER OR OTHERWISE NON-PERFORMED IF NOT NEEDED.

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MAINTENANCE OF TRAFFIC GENERAL NOTES

FRA -33-24.26

**PRE-PHASE**

IT IS ASSUMED THAT THE CONTRACTOR WILL RECONSTRUCT, IN THE PRE-PHASE, ALL SHOULDERS THAT WILL BE USED TO MAINTAIN TRAFFIC FOR ANY FUTURE PHASE. PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SHALL BE UTILIZED.

REMOVE, REPLACE AND WIDEN (WHERE NECESSARY) THE INSIDE SHOULDERS. THIS WORK WILL BE DURING THE PERMITTED LANE CLOSURE TIMES AT NIGHT, SO THAT US 33 CAN BE REDUCED TO 1 LANE TO ALLOW ROOM FOR THE WORK.

REMOVE, REPLACE AND WIDEN (WHERE NECESSARY) THE EXIST. OUTSIDE SHOULDERS. THIS WORK WILL BE DURING THE PERMITTED LANE CLOSURE TIMES AT NIGHT, SO THAT US 33 CAN BE REDUCED TO 1 LANE TO ALLOW ROOM FOR THE WORK.

INSTALL PORTABLE BARRIER AND MOT DEVICES FOR PHASE 1 CONFIGURATION.

NOTE: DETAILED MOT PLAN SHEETS HAVE NOT BEEN PROVIDED FOR PRE-PHASE WORK. ALL APPLICABLE ODOT AND TRAFFIC ENGINEERING MANUAL STANDARDS SHALL APPLY. REFER TO ODOT STANDARD CONSTRUCTION DRAWINGS FOR TYPICAL MOT DETAILS. FOR NIGHT AND WEEKEND SHOULDER REHAB WORK, PLACE DRUMS TO PROVIDE MORE THAN 12' OF BUFFER FROM DROP-OFFS GREATER THAN 12" PER SCD MT-101.90. ALL PRE-PHASE MOT AND RELATED COSTS SHALL BE INCLUDED WITH ITEM 614, MAINTAINING TRAFFIC, LUMP SUM FOR PAYMENT.

**PHASE 1**

REMOVE A PORTION OF THE OUTSIDE EDGE OF THE EXISTING FRA-33-2503R AND FRA-33-2509R BRIDGE DECKS. WIDEN THE DECKS AND INSTALL NEW CONCRETE PARAPETS. (SEE STRUCTURE PLANS FOR MORE CONSTRUCTION SEQUENCING DETAILS)

HYDRO-BLAST AND OVERLAY A 3.75' WIDE SECTION OF THE OUTSIDE PORTION OF THE FRA-33-2503R (EASTBOUND) BRIDGE ADJACENT TO THE NEW WIDENED PORTION OF THE DECK AND BEHIND THE PHASE 1 PORTABLE BARRIER PLACEMENT.

HYDRO-BLAST AND OVERLAY A 4' WIDE SECTION OF THE OUTSIDE PORTION OF THE FRA-33-2509R (EASTBOUND) BRIDGES ADJACENT TO THE NEW WIDENED PORTION OF THE DECK AND BEHIND THE PHASE 1 PORTABLE BARRIER PLACEMENT.

REMOVE A PORTION OF THE OUTSIDE DECK EDGE OF THE EXISTING FRA-33-2503L AND FRA-33-2509L BRIDGE DECKS. WIDEN THE DECKS AND INSTALL NEW CONCRETE PARAPETS. (SEE STRUCTURE PLANS FOR MORE CONSTRUCTION SEQUENCING DETAILS)

CONSTRUCT THE OUTSIDE PORTIONS OF THE PROPOSED APPROACH SLABS ON THE FRA-33-2503R (EASTBOUND) AND FRA-33-2509R (EASTBOUND) BRIDGES.

CONSTRUCT THE MEDIAN SUBSTRUCTURE WORK OF THE FRA-33-2503R AND FRA-33-2509R BRIDGES REQUIRED FOR THE BRIDGE WIDENING. (SEE STRUCTURE PLANS FOR MORE CONSTRUCTION SEQUENCING DETAILS)

CONSTRUCT THE AUXILIARY LANES ALONG THE OUTSIDE OF THE EXISTING WESTBOUND AND EASTBOUND US 33 LANES.

INSTALL PROPOSED GUARDRAIL AND OTHER ROADSIDE IMPROVEMENTS BEHIND THE PORTABLE BARRIER.

CONSTRUCT THE NOISE BARRIER ALONG THE EASTBOUND LANES.

ALL RAMPS TO REMAIN OPEN ALONG WITH 2 LANES IN EACH DIRECTION ON US 33.

CONSTRUCT ALL NEW GUIDE SIGN SUPPORTS/TRUSSES AND INSTALL NEW OR RELOCATE EXISTING GUIDE SIGNS PER THE PLANS. MAINTAIN ALL EXISTING SIGNS AND SUPPORTS UNTIL SIGNS ARE INSTALLED IN THE PROPOSED LOCATIONS.

CONSTRUCT THE NEW LIGHT TOWER AT THE END OF PHASE 1.

**PHASE 1A - STEPS 1 & 2 (ONE WKND. PER STEP)\***

ONLY THE WESTBOUND CONFIGURATION AND WORK CHANGES DURING THIS PHASE.

THIS WORK WILL NEED TO BE COMPLETED OVER A WEEKEND (7PM FRI. - 5AM MON.) WHEN 1 LANE ON US 33 WESTBOUND WILL BE PERMITTED. (SEE UNAUTHORIZED LANE USE CHARTS AND THE PIAC APPROVAL IN THE MOT GENERAL NOTES)

THE ENTRANCE RAMP FROM HAMILTON ROAD TO US 33 WESTBOUND WILL BE CLOSED. A DETOUR SHALL BE UTILIZED PER THE PLANS AND NOTES. (SEE THE PIAC APPROVAL IN THE MOT GENERAL NOTES)

RE-POSITION THE WESTBOUND PORTABLE BARRIER (PB) USED IN PHASE 1. MAINTAIN ONLY 1 INSIDE THROUGH LANE FOR US 33 ACROSS THE FRA-33-2503L AND FRA-33-2509L BRIDGE DECKS.

REDUCE THE DECELERATION LANE LENGTH FOR THE US 33 WB TO I-270 NB RAMP AT THE FRA-33-2503L BRIDGE PER PHASE 1A MOT PLANS.

STEP 1 - CONSTRUCT 32' WIDE SECTION OF THE PROPOSED APPROACH SLABS FOR THE FRA-33-2503L (WB) BRIDGE.

CONSTRUCT 33.4' WIDE SECTION OF THE PROPOSED APPROACH SLABS FOR THE FRA-33-2509L (WB) BRIDGE.

**SEQUENCE OF CONSTRUCTION**

**PHASE 1A (CONTINUED)**

STEP 2 - HYDRO-BLAST AND OVERLAY A 27.5' WIDE SECTION OF THE CENTER PORTION OF THE FRA-33-2503L (WB) BRIDGE.

HYDRO-BLAST AND OVERLAY A 15.5' WIDE SECTION OF THE CENTER PORTION OF THE FRA-33-2509L (WB) BRIDGE.

ALL LANE MARKINGS REMAIN THE SAME AS PHASE 1 WITH THE EXCEPTION OF THE REDUCED DECELERATION LANE FOR THE US 33 WB TO I-270 NB RAMP (270/33 RAMP B).

**PHASE 2**

INSTALL PORTABLE BARRIER, MOT DEVICES, AND PAV'T MARKINGS FOR PHASE 2 LANE CONFIGURATION.

REMOVE A PORTION OF THE INSIDE DECK EDGE OF THE EXISTING FRA-33-2503R AND FRA-33-2509R BRIDGE DECKS. WIDEN THE DECKS AND INSTALL NEW CONCRETE PARAPETS. (SEE STRUCTURE PLANS FOR MORE CONSTRUCTION SEQUENCING DETAILS)

REMOVE A PORTION OF THE INSIDE DECK EDGE OF THE EXISTING FRA-33-2503L AND FRA-33-2509L BRIDGE DECKS. WIDEN THE DECKS AND INSTALL NEW CONCRETE PARAPETS. (SEE STRUCTURE PLANS FOR MORE CONSTRUCTION SEQUENCING DETAILS)

CONSTRUCT THE MEDIAN PAVEMENT WIDENING ON THE INSIDE OF THE EXISTING EASTBOUND US 33 LANES. (SEE ROADWAY PLANS)

INSTALL PROPOSED GUARDRAIL, DRAINAGE, AND OTHER ROADSIDE IMPROVEMENTS BEHIND THE PORTABLE BARRIER.

ALL RAMPS TO REMAIN OPEN ALONG WITH 2 LANES IN EACH DIRECTION ON US 33.

**PHASE 2A - STEPS 1 THRU 4 (ONE WKND. PER STEP)\***

GENERAL: PHASE 2A WESTBOUND - (STEPS 1 & 2; 7PM FRI. - 5AM MON.) AND PHASE 2A EASTBOUND - (STEPS 3 & 4; 9PM FRI. - 5AM MON.) WORK SHALL BE PERFORMED ON SEPARATE SINGLE WEEKENDS TO AVOID RAMP CLOSURE AND DETOUR CONFLICTS. (SEE THE PIAC APPROVAL IN THE MOT GENERAL NOTES)

FOR APPLICABLE STEPS, APPLY THE FOLLOWING PER THE PLANS: US 33 WB TO I-270 NB RAMP CAN REMAIN OPEN. THE ENTRANCE RAMP FROM HAMILTON ROAD TO US 33 WESTBOUND WILL BE CLOSED. DETOURS SHALL BE UTILIZED PER THE PLANS AND NOTES. (SEE THE PIAC APPROVAL IN THE MOT GENERAL NOTES)

RE-POSITION THE PORTABLE BARRIER USED IN PHASE 2 TO MAINTAIN 1 THROUGH LANE FOR US 33 AND 1 EXIT LANE ACROSS THE OUTSIDE OF THE FRA-33-2503L AND FRA-33-2509L BRIDGE DECKS.

CLOSE I-270 NB TO US 33 EB RAMP (270/33 RAMP A) AND REDUCE US 33 EASTBOUND TO ONE LANE WEST OF I-270. DETOURS SHALL BE UTILIZED PER THE PLANS AND NOTES. (SEE THE PIAC APPROVAL IN THE MOT GENERAL NOTES)

THE I-270 SB TO US 33 EB RAMP (270/33 RAMP E) TO REMAIN OPEN AND BECOMES AN ADD-LANE TO US 33 EASTBOUND. (SEE THE PIAC APPROVAL IN THE MOT GENERAL NOTES)

THE RAMP FROM US 33 EB TO I-270 NB (270/33 RAMP F) WILL BE CLOSED AND A DETOUR SHALL BE PROVIDED PER THE PLANS AND NOTES.

RE-POSITION THE PORTABLE BARRIER USED IN PHASE 2 TO MAINTAIN 2 INSIDE THROUGH LANES FOR US 33 ACROSS THE FRA-33-2503R AND FRA-33-2509R BRIDGE DECKS.

STEP 1 - CONSTRUCT 17' WIDE SECTION OF THE PROPOSED APPROACH SLABS FOR THE FRA-33-2503L (WB) BRIDGE.

CONSTRUCT 17.92' WIDE SECTION OF THE PROPOSED APPROACH SLABS FOR THE FRA-33-2509L (WB) BRIDGE.

STEP 2 - HYDRO-BLAST AND OVERLAY A 14' WIDE SECTION OF THE DECK ON THE FRA-33-2503L (WB) BRIDGE.

HYDRO-BLAST AND OVERLAY A 16' WIDE SECTION OF THE DECK ON THE FRA-33-2509L (WB) BRIDGE.

STEP 3 - CONSTRUCT 31.5' WIDE SECTION OF THE PROPOSED APPROACH SLABS FOR THE FRA-33-2503R (EB) BRIDGE.

CONSTRUCT 32.67' WIDE SECTION OF THE PROPOSED APPROACH SLABS FOR THE FRA-33-2509R (EB) BRIDGE.

**PHASE 2A (CONTINUED)**

STEP 4 - HYDRO-BLAST AND OVERLAY A 16.5' WIDE SECTION OF THE DECK ON THE FRA-33-2503R (EB) BRIDGE.

HYDRO-BLAST AND OVERLAY A 18.75' WIDE SECTION OF THE DECK ON THE THE FRA-33-2509R (EB) BRIDGE.

THIS WORK WILL NEED TO BE COMPLETED OVER ALLOWABLE WEEKENDS WHEN NECESSARY RAMP AND LANE CLOSURES ARE PERMITTED FOR AN ENTIRE WEEKEND. (SEE THE PIAC APPROVAL IN THE MOT GENERAL NOTES)

ALL LANE MARKINGS REMAIN THE SAME AS PHASE 2 EXCEPT AT THE APPROACH AND END WORK LANE SHIFTS.

**PHASE 3 - STEPS 1 & 2 (ONE WKND. PER STEP)\***

THE EASTBOUND CONFIGURATION CHANGES DURING THIS PHASE. THERE IS ONLY WORK ON THE EASTBOUND SIDE FOR PHASE 3. PLACE TEMPORARY MARKINGS IN THE PERMANENT MARKINGS LOCATIONS PER THE TRAFFIC CONTROL PLANS ON EASTBOUND SIDE ONLY, TO PREPARE FOR PHASE 3 - STEPS 1 & 2 WORK. THE WESTBOUND SIDE SHALL BE DELINEATED WITH DRUMS AND THE PAVEMENT MARKINGS ARE THE SAME AS IN PHASE 2. WESTBOUND PHASE 4 WORK COULD START AT THIS TIME IF DESIRED.

INSTALL PB AND MOT DEVICES FOR PHASE 3 - STEPS 1 & 2.

CLOSE I-270 NB TO US 33 EB RAMP (270/33 RAMP A). A DETOUR SHALL BE UTILIZED PER THE PLANS AND NOTES. (SEE THE PIAC APPROVAL IN THE MOT GENERAL NOTES)

THE I-270 SB TO US 33 EB RAMP (270/33 RAMP E) TO REMAIN OPEN AND WILL MERGE WITH THE 2 LANES OF US 33 EASTBOUND PER THE MOT PLAN DETAILS. (SEE THE PIAC APPROVAL IN THE MOT GENERAL NOTES)

THE RAMP FROM US 33 EB TO I-270 NB (270/33 RAMP F) WILL BE CLOSED AND A DETOUR SHALL BE PROVIDED PER THE PLANS AND NOTES.

STEP 1 - CONSTRUCT 19.5' (REAR) & 15' (FWD) WIDE SECTIONS OF THE PROPOSED APPROACH SLABS FOR THE FRA-33-2503R (EB) BRIDGE.

CONSTRUCT 8.75' WIDE SECTION OF THE PROPOSED APPROACH SLABS FOR THE FRA-33-2509R (EB) BRIDGE.

STEP 2 - HYDRO-BLAST AND OVERLAY THE REMAINING 18.5' WIDE SECTION OF THE DECK ON THE FRA-33-2503R (EB) BRIDGE.

HYDRO-BLAST AND OVERLAY THE REMAINING 8.75' WIDE SECTION OF THE DECK ON THE FRA-33-2509R (EB) BRIDGE.

THIS WORK WILL NEED TO BE COMPLETED OVER A WEEKEND WHEN THE RAMP CLOSURE IS PERMITTED FOR AN ENTIRE WEEKEND (9PM FRI. - 5AM MON.). 2 LANES IN THE EASTBOUND DIRECTION SHALL BE MAINTAINED ACROSS THE BRIDGES. (SEE THE PIAC APPROVAL IN THE MOT GENERAL NOTES)

**PHASE 4**

REMOVE PHASE 3 MOT DEVICES AND SIGNING THAT IS UNNECESSARY FOR JOINT REPAIRS AND ASPHALT PLANING AND PAVING OPERATIONS.

INSTALL MOT SIGNING AND DEVICES PER APPLICABLE ODOT STANDARD CONSTRUCTION DRAWINGS TO PREPARE FOR FINAL PAVEMENT PLANING AND PAVING OPERATIONS WHICH WILL EXTEND FROM THE BEGIN PROJECT STATION TO THE END PROJECT STATION.

PERFORM FINAL PLANING AND PAVING OPERATIONS DURING NIGHT AND WEEKEND HOURS PER THE UNAUTHORIZED LANE USE AND RAMP CLOSURE CHARTS PROVIDED IN THE PLANS AND AS DIRECTED BY THE ENGINEER.

WORK FLOW SHALL BE MANAGED TO ELIMINATE THE POTENTIAL OF TRAFFIC BEING SHIFTED ONTO ANY EXISTING RUMBLE STRIPS.

NOTE: DETAILED MOT PLAN SHEETS HAVE NOT BEEN PROVIDED FOR THIS PHASE. ALL APPLICABLE ODOT AND TRAFFIC ENGINEERING MANUAL STANDARDS SHALL APPLY. REFER TO ODOT STANDARD CONSTRUCTION DRAWINGS FOR TYPICAL MOT DETAILS. JOINT REPAIR LOCATIONS VARY. REPAIRS SHOULD BE MADE SO THAT LANES CAN BE REOPENED PER THE ALLOWABLE DETOUR AND LANE USE CHARTS. DROP-OFFS SHALL BE ADDRESSED PER SCD MT-101.90 OR AS APPROVED BY THE ENGINEER. ALL RELATED MOT COSTS SHALL BE INCLUDED WITH ITEM 614, MAINTAINING TRAFFIC, LUMP SUM FOR PAYMENT.

\*FOR ALL WEEKEND "STEPS", PB AND OTHER DEVICES MUST BE RE-POSITIONED BEFORE AND AFTER EACH WEEKEND WITHIN THE ALLOWABLE HOURS.

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MAINTENANCE OF TRAFFIC GENERAL NOTES

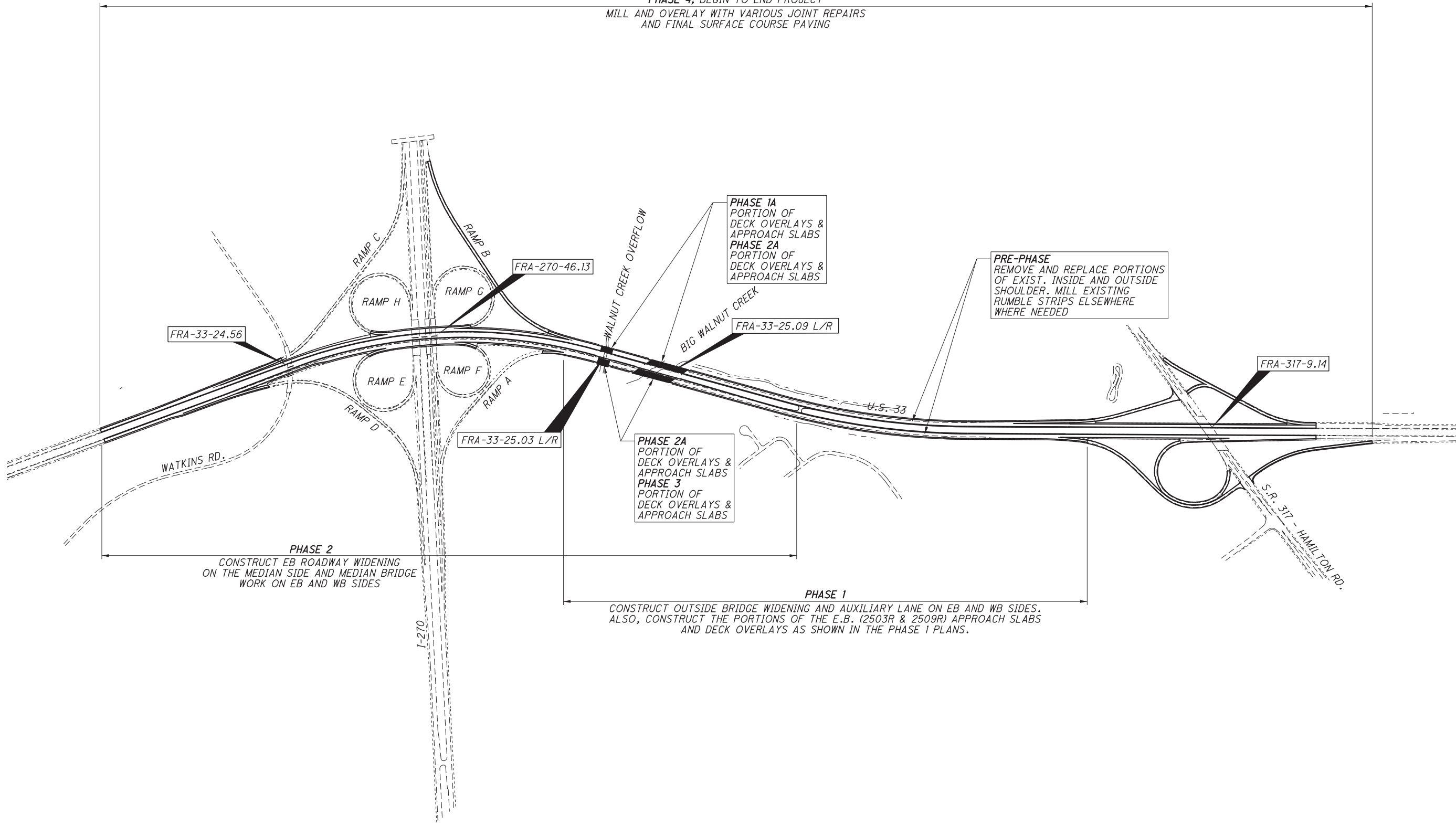
FRA - 33 - 24.26

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287

PHASE	FROM TO		RE-APPLICATIONS OF TEMPORARY MARKINGS (NUMBER HAS BEEN APPLIED TO QUANTITIES)	614	614	614	614	614	622	873																																
	FROM	TO		WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	WORK ZONE LANE LINE, CLASS I MILE	WORK ZONE EDGE LINE, CLASS I MILE	WORK ZONE CHANNELIZING LINE, CLASS I FT	WORK ZONE DOTTED LINE, CLASS I FT	PORTABLE BARRIER, 32" FT	WET REFLECTIVE REMOVABLE TAPE FT																																
PHASE 1	291+48	349+25	1	4	2.84	8.34	6948	5846	8300																																	
PHASE 1A	321+32	326+18																																								
STEP 1				1					1210	655																																
STEP 2				1					1210	655																																
PHASE 2	260+75	349+25	1	3	4.30	11.82	10934	12198	7100																																	
PHASE 2A	279+90	340+30																																								
STEP 1				1					1020	3491																																
STEP 2				1					1020	3491																																
STEP 3				1					1190	2671																																
STEP 4				1					1190	2671																																
PHASE 3	260+75	329+20			2.03	2.65	1943	2679																																		
STEP 1				1					1100	1848																																
STEP 2				1					1100	1848																																
TOTALS CARRIED TO THE GENERAL SUMMARY				15	9.17	22.81	19825	20723	24440	17330																																



**PHASE 4; BEGIN TO END PROJECT**  
MILL AND OVERLAY WITH VARIOUS JOINT REPAIRS  
AND FINAL SURFACE COURSE PAVING



**MOT SCHEMATIC PLAN**

**FRA - 33 - 24.26**

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# DETOUR - RAMP A (I-270 NB to US 33 EB)



CALCULATED EJC CHECKED ABS

DETOUR PLAN  
RAMP A - I-270 NB EXIT RAMP TO US33 E

FRA-33-24.26

**NOTES:**

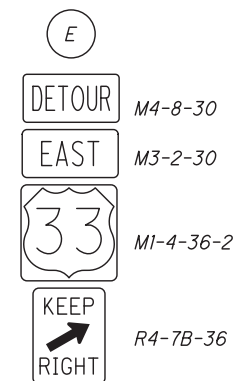
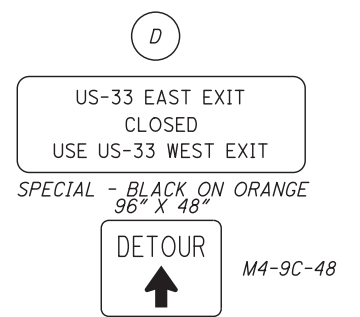
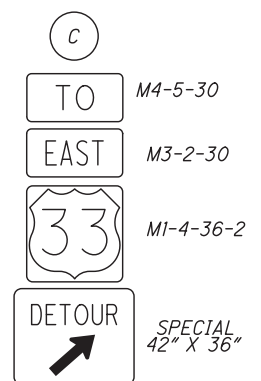
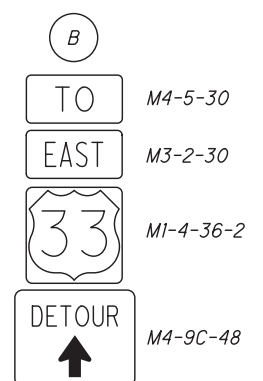
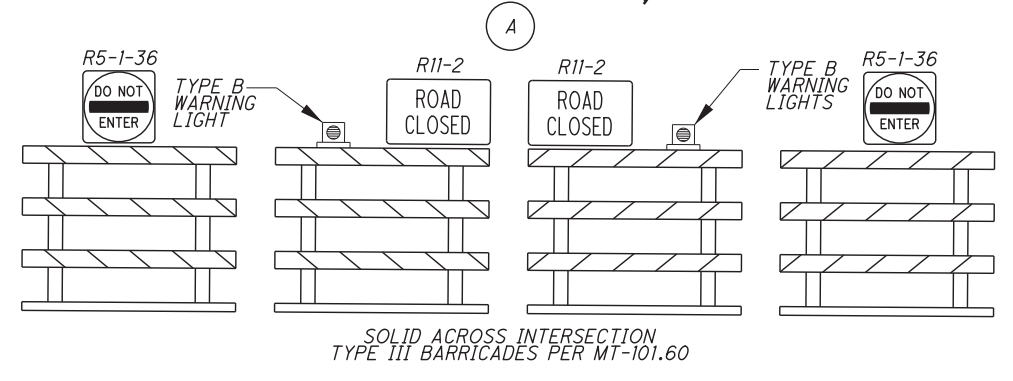
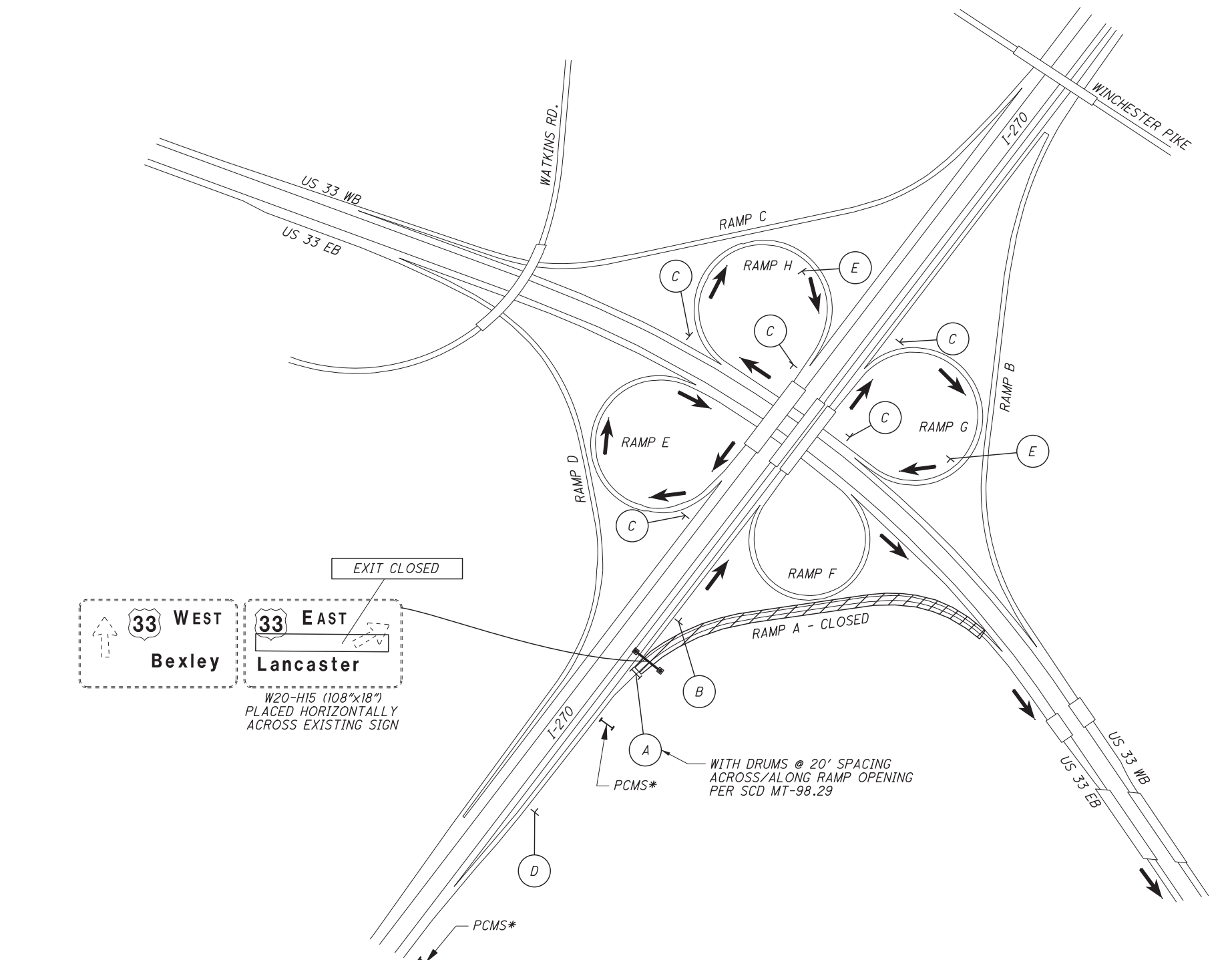
SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

CONTRACTOR SHALL COORDINATE THIS DETOUR WITH ANY CONFLICTING DETOUR/SIGNING OR CLOSURES IN THE AREA OR AS DIRECTED BY THE ENGINEER.

RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMP AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270 AND US 33.

RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

\* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.



- LEGEND:**
- - TRAFFIC FLOW ARROW
  - + - SIGN
  - ⊥ - TYPE III BARRICADE
  - ⊥ - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
  - ▨ - ROAD CLOSURE

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# DETOUR - RAMP B (US 33 WB to I-270 NB)

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HORIZONTAL SCALE IN FEET

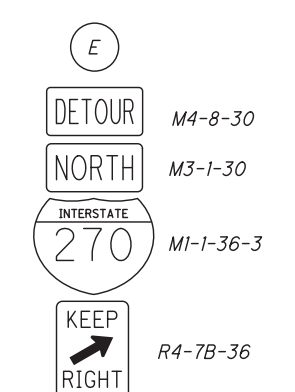
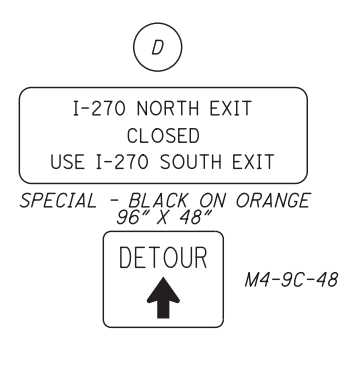
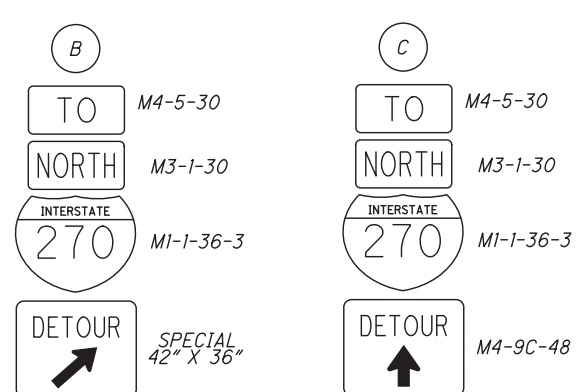
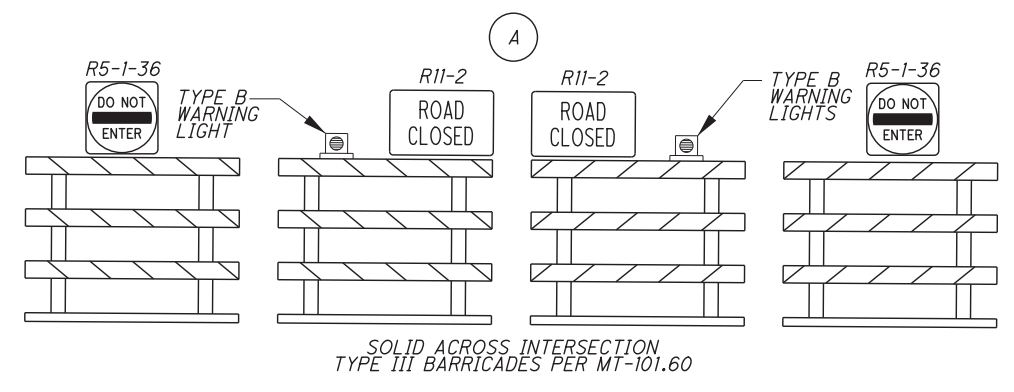
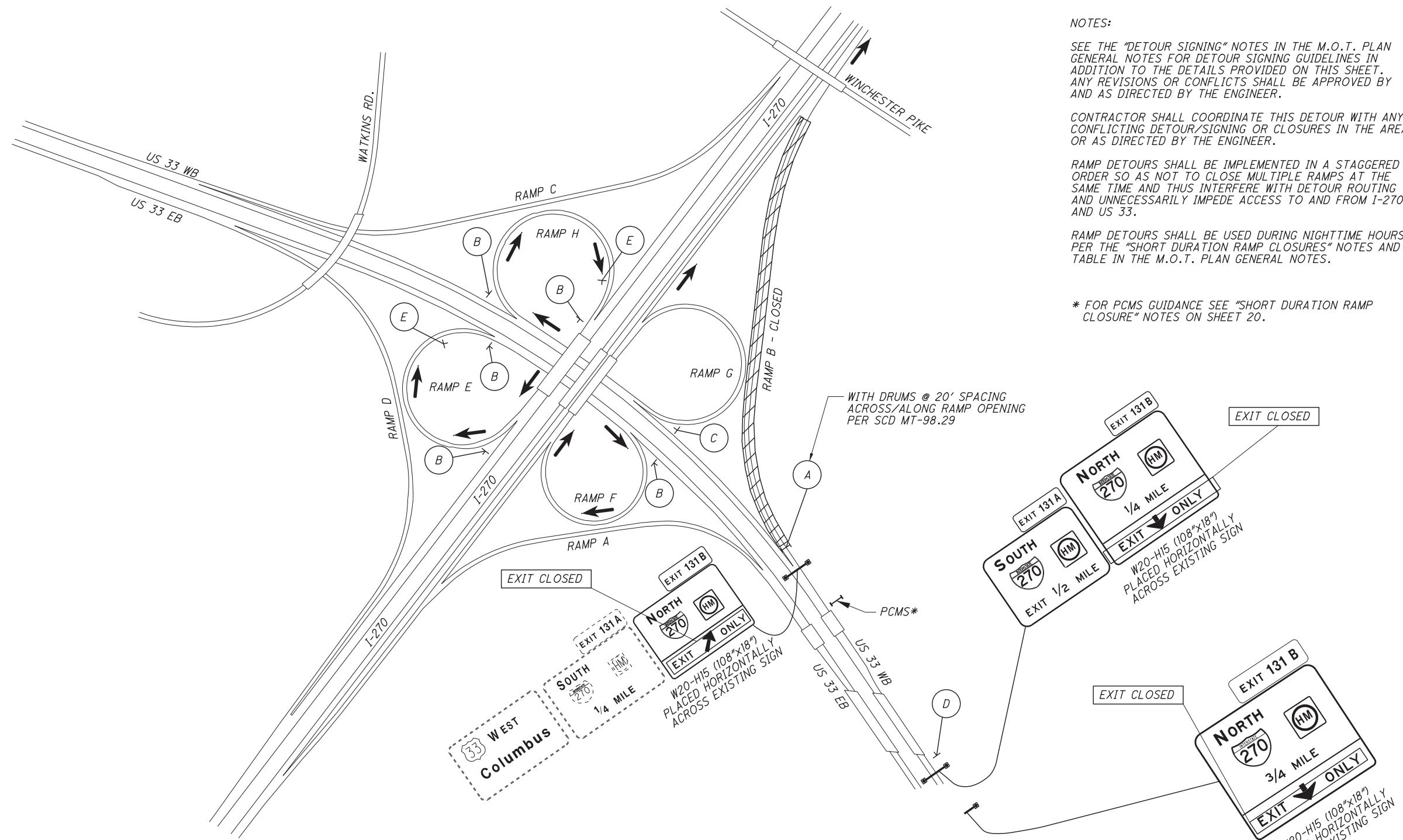
NOTES:  
SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

CONTRACTOR SHALL COORDINATE THIS DETOUR WITH ANY CONFLICTING DETOUR/SIGNING OR CLOSURES IN THE AREA OR AS DIRECTED BY THE ENGINEER.

RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMPS AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270 AND US 33.

RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

\* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.



- LEGEND:
- ➔ - TRAFFIC FLOW ARROW
  - ⊥ - SIGN
  - ⊥ - TYPE III BARRICADE
  - ⊥ - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
  - ▨ - ROAD CLOSURE

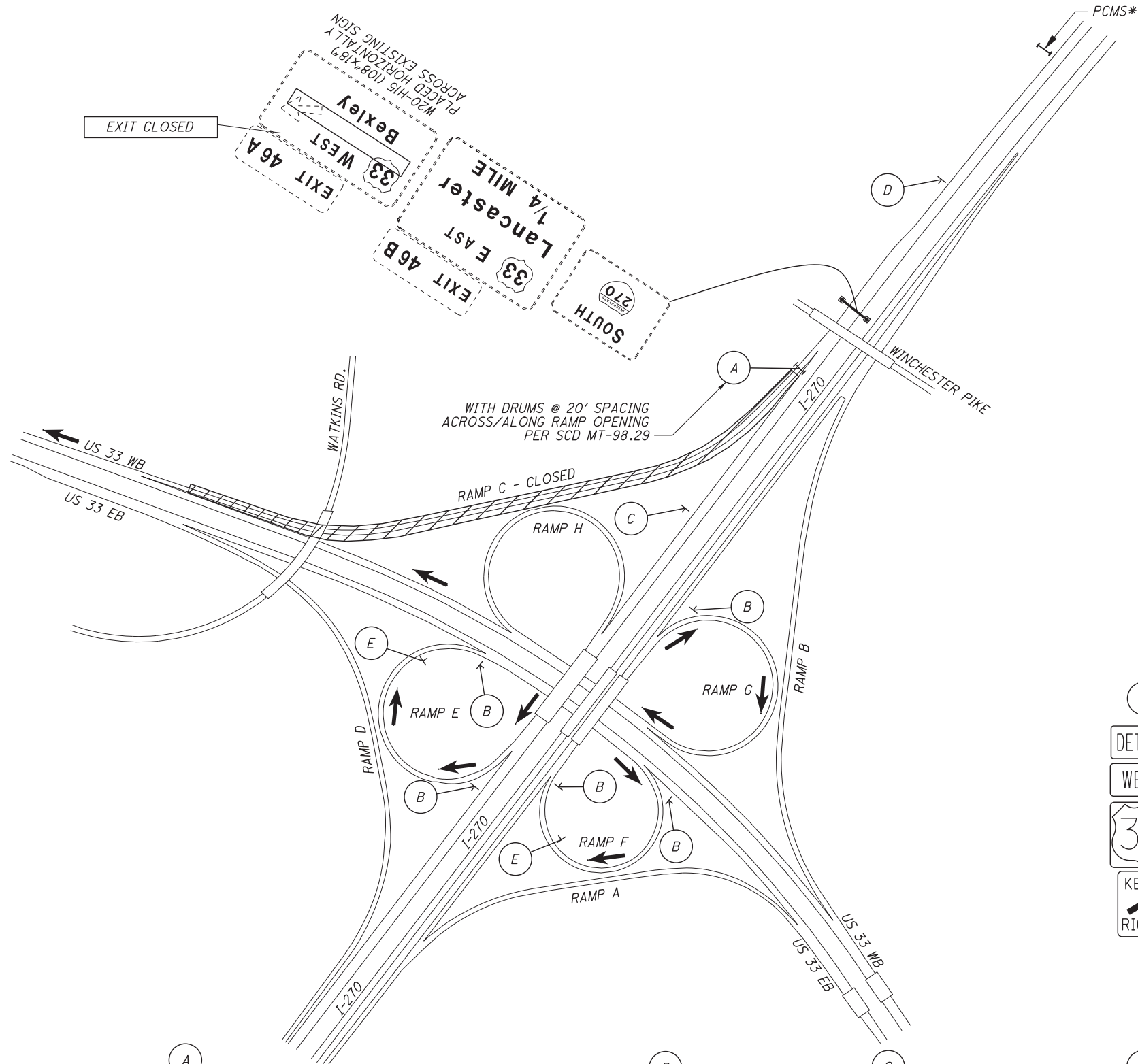
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DETOUR PLAN  
RAMP B - US 33 WB TO I-270 NB

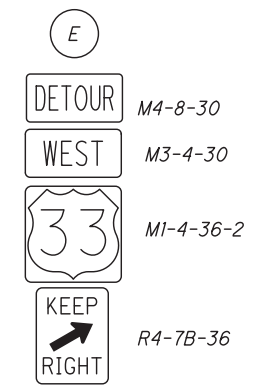
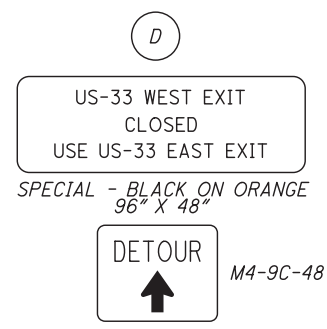
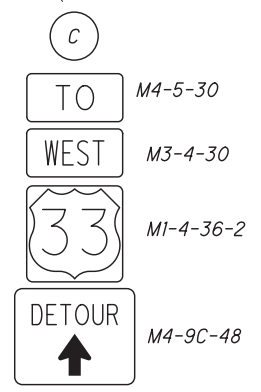
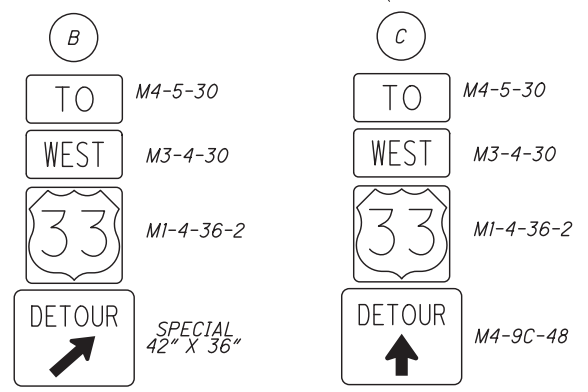
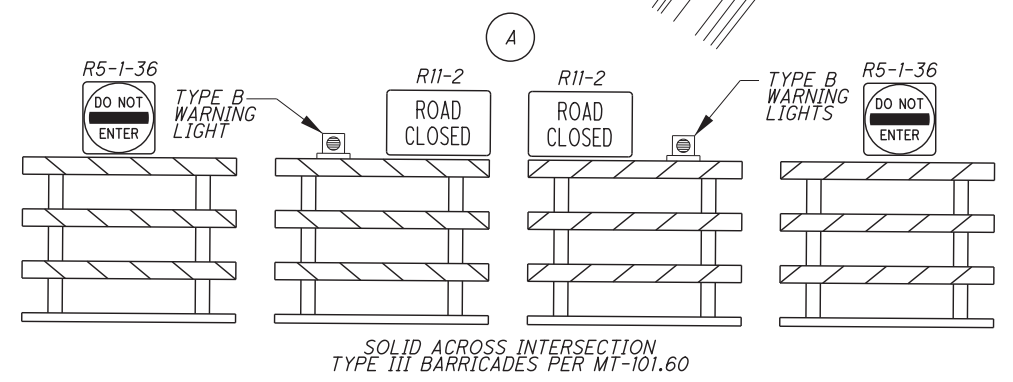
FRA-33-24.26  
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287






# DETOUR - RAMP C (I-270 SB to US 33 WB)

  
  
 HORIZONTAL SCALE IN FEET  
 CALCULATED EJC CHECKED ABS



**NOTES:**  
 SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.  
 CONTRACTOR SHALL COORDINATE THIS DETOUR WITH ANY CONFLICTING DETOUR/SIGNING OR CLOSURES IN THE AREA OR AS DIRECTED BY THE ENGINEER.  
 RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMPs AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270 AND US 33.  
 RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.  
 \* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.



- LEGEND:**
-  - TRAFFIC FLOW ARROW
  -  - SIGN
  -  - TYPE III BARRICADE
  -  - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
  -  - ROAD CLOSURE

DETOUR PLAN  
 RAMP C - I-270 SB TO US 33 WB  
 FRA-33-24.26

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# DETOUR - RAMP D (US 33 EB to I-270 SB)

0 250 500  
HORIZONTAL SCALE IN FEET

**NOTES:**

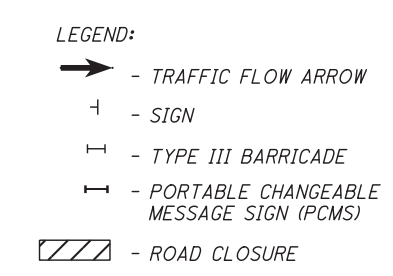
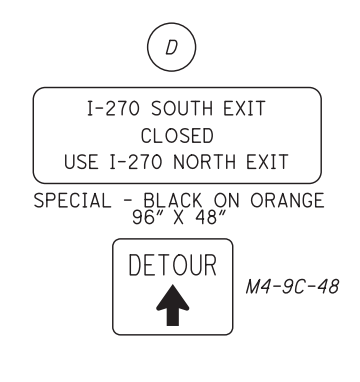
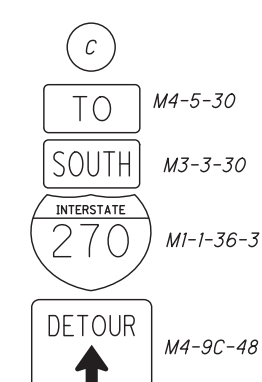
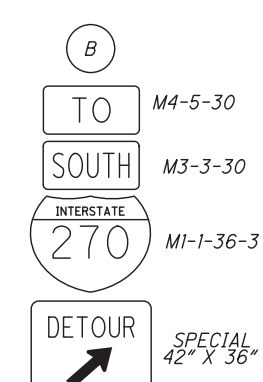
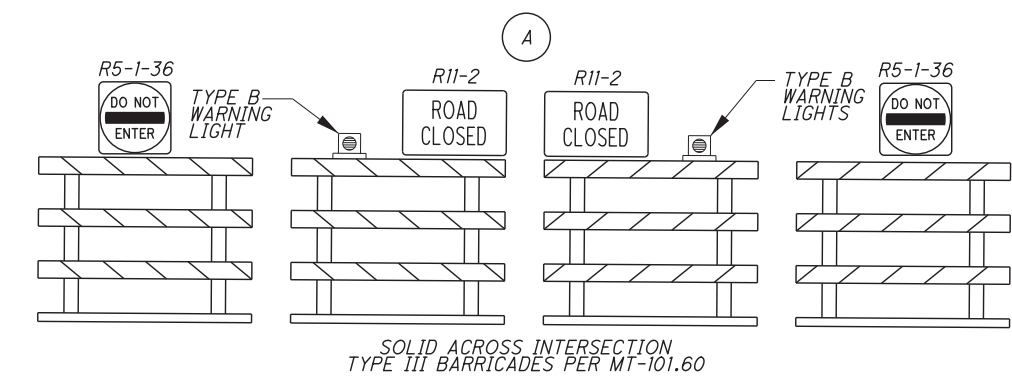
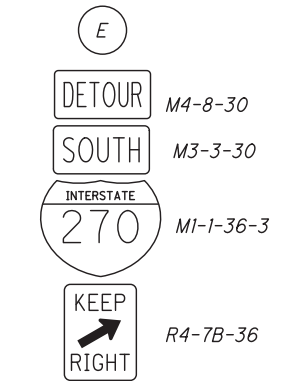
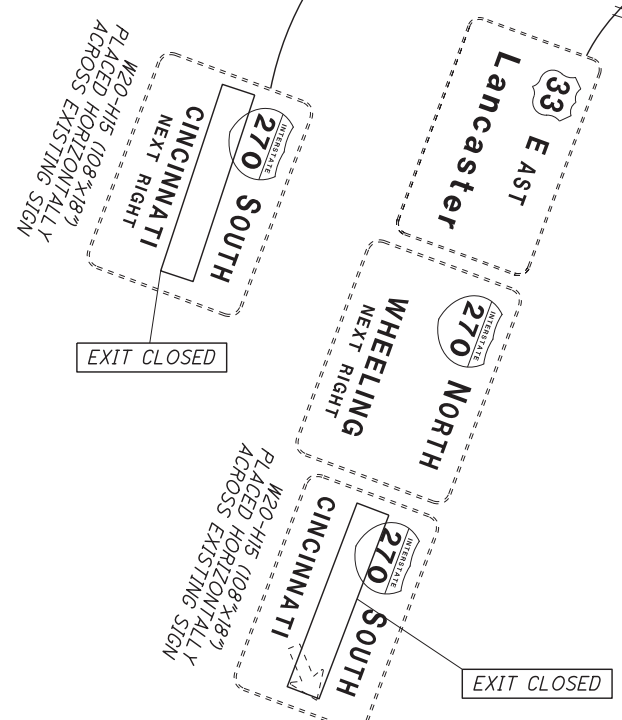
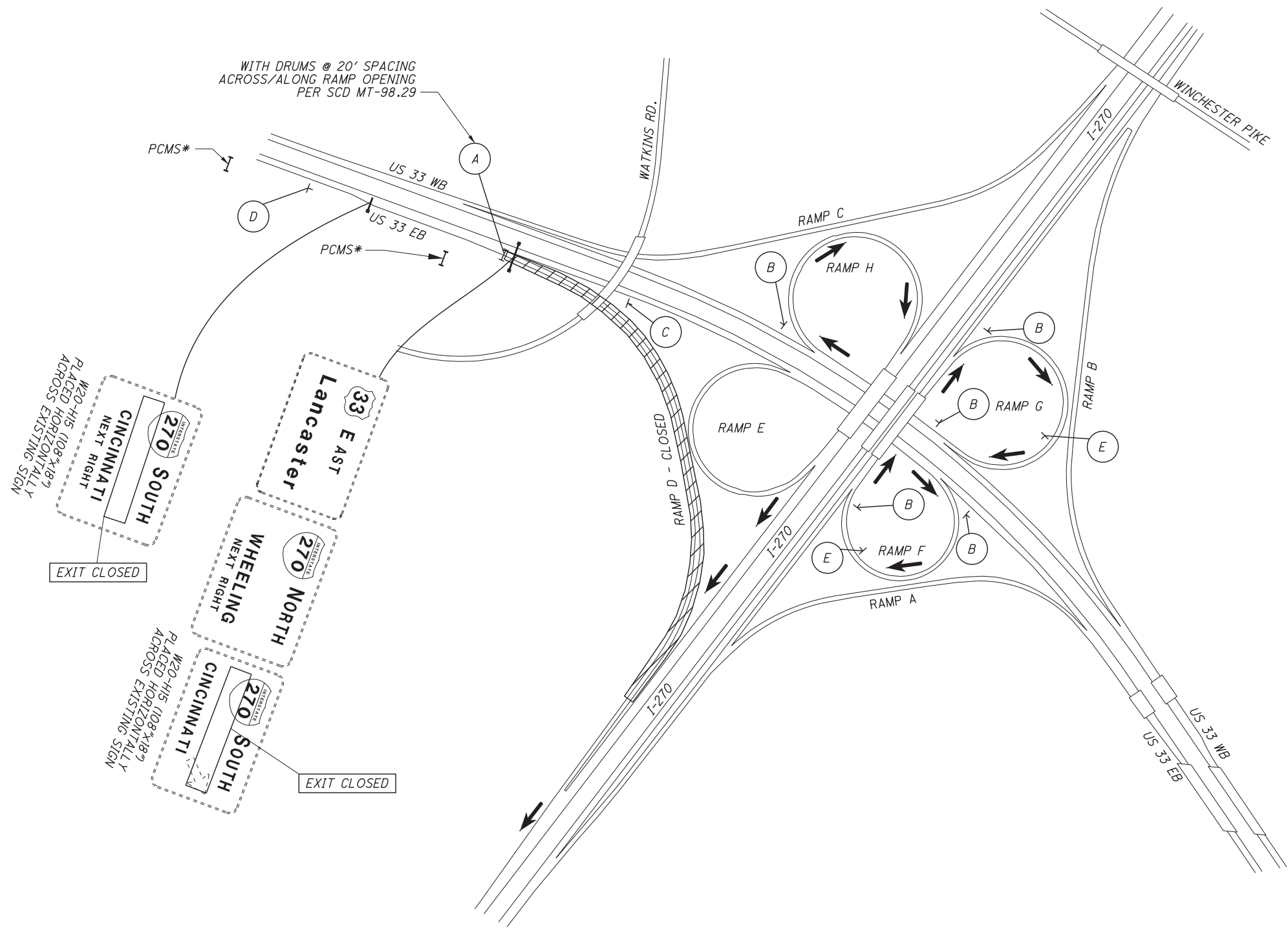
SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

CONTRACTOR SHALL COORDINATE THIS DETOUR WITH ANY CONFLICTING DETOUR/SIGNING OR CLOSURES IN THE AREA OR AS DIRECTED BY THE ENGINEER.

RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMP AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270 AND US 33.

RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

\* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.



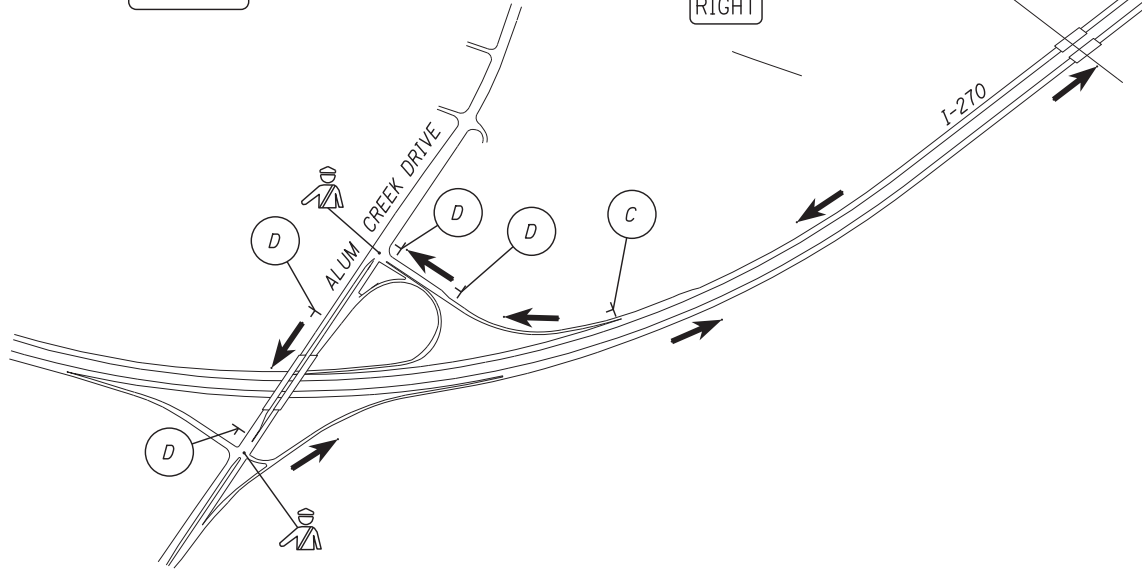
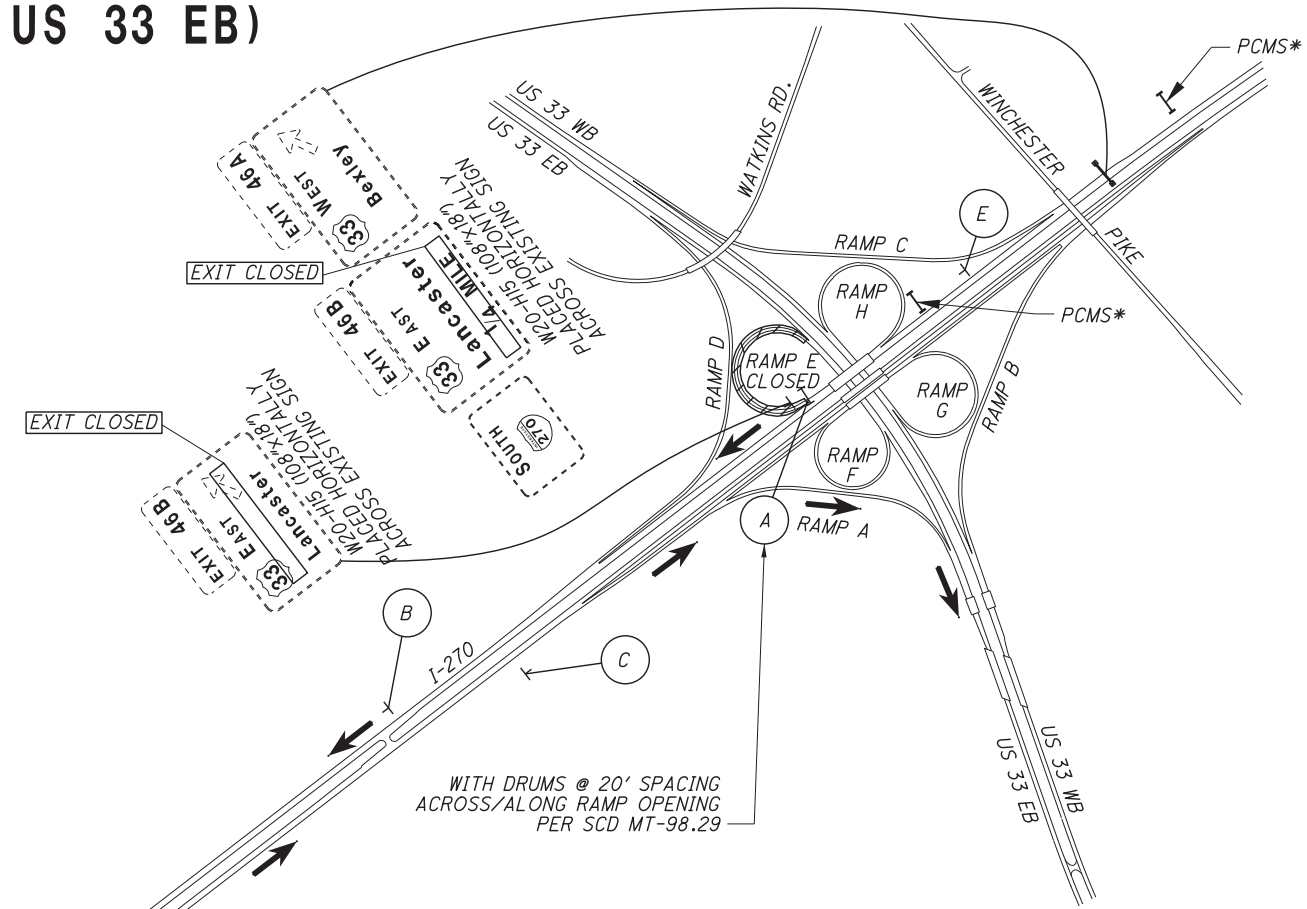
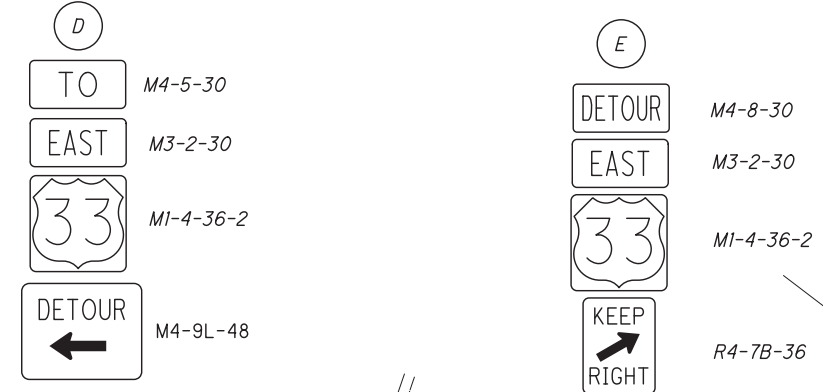
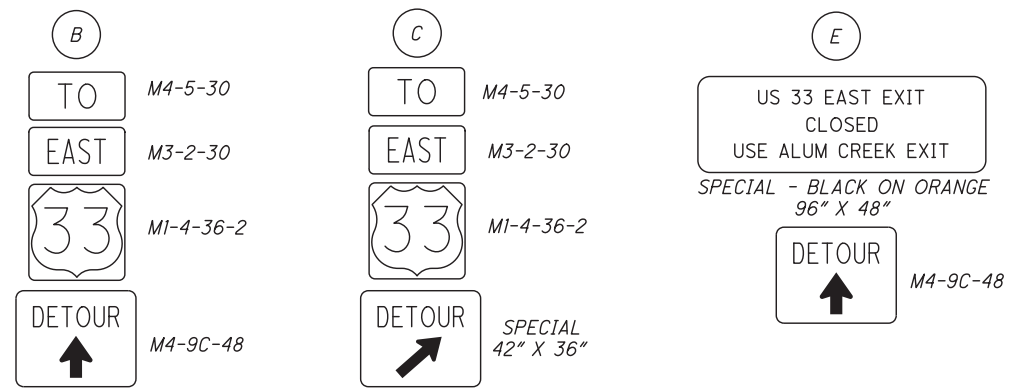
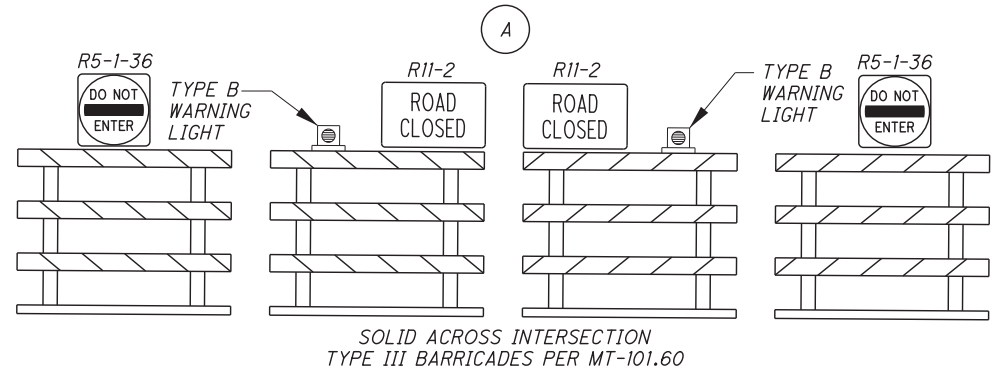
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# DETOUR - RAMP E (I-270 SB to US 33 EB)

  
  
 CALCULATED: EJC  
 CHECKED: ABS

## DETOUR PLAN RAMP E - I-270 SB TO US 33 EB



- LEGEND:**
- TRAFFIC FLOW ARROW
  - SIGN
  - TYPE III BARRICADE
  - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
  - ROAD CLOSURE
  - LAW ENFORCEMENT OFFICER FOR TRAFFIC CONTROL

**NOTES:**

SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

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RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMPS AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270 AND US 33.

RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

THE CONTRACTOR SHALL EMPLOY LEO'S (NO CRUISERS) TO ASSIST WITH TRAFFIC CONTROL AT EACH SIGNALIZED RAMP INTERSECTION TO HELP PREVENT BACK-UPS ON DETOUR ROUTE RAMPS.

\* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.

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# DETOUR - RAMP F (US 33 EB to I-270 NB)

**NOTES:**

SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

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RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMPS AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270 AND US 33.

RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

THE CONTRACTOR SHALL EMPLOY LEO'S (NO CRUISERS) TO ASSIST WITH TRAFFIC CONTROL AT EACH SIGNALIZED RAMP INTERSECTION TO HELP PREVENT BACK-UPS ON DETOUR ROUTE RAMPS.

\* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.

**LEGEND:**

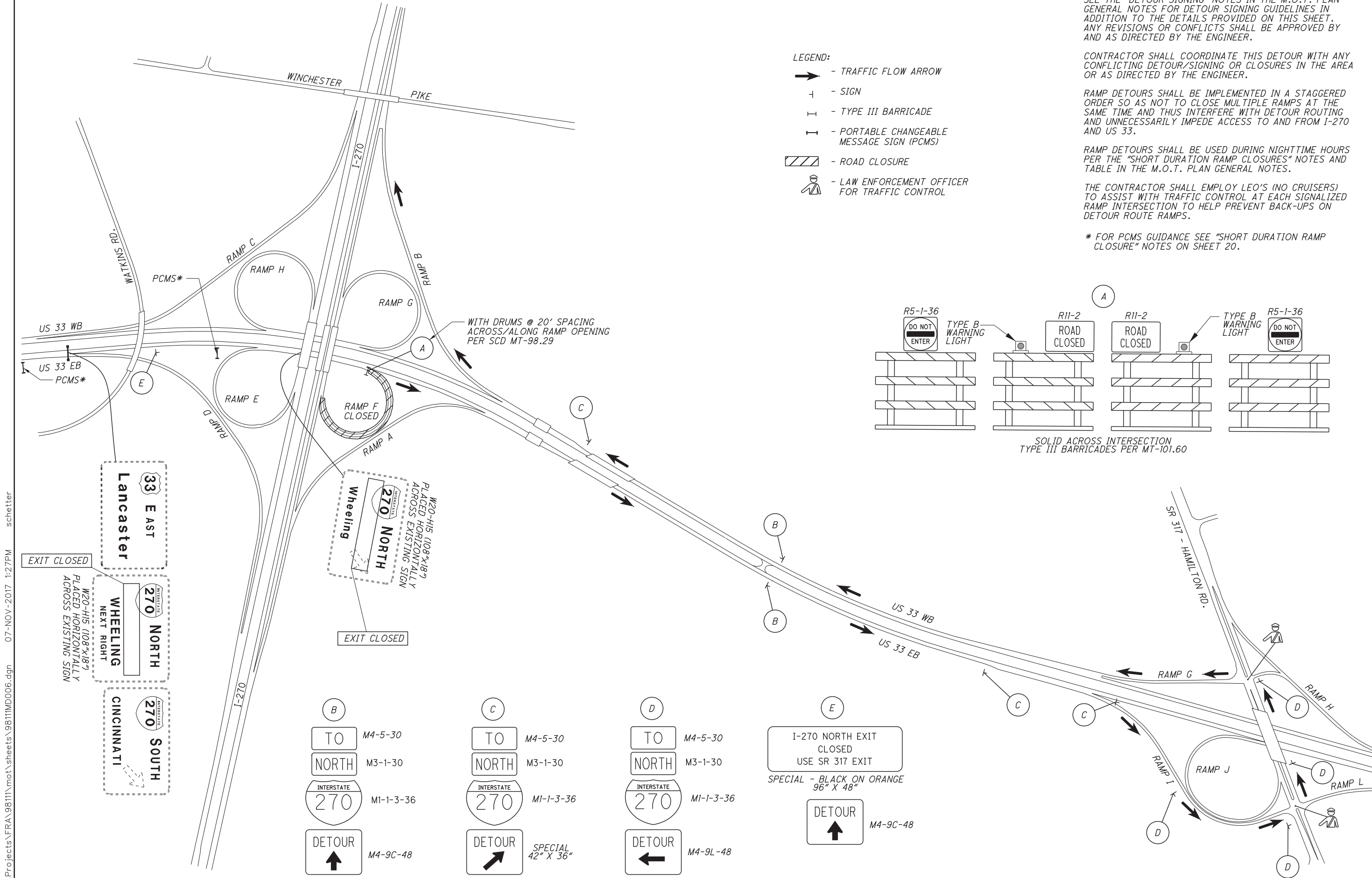
- ➔ - TRAFFIC FLOW ARROW
- ⊥ - SIGN
- ⊥ - TYPE III BARRICADE
- ⊥ - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- ▨ - ROAD CLOSURE
- 👮 - LAW ENFORCEMENT OFFICER FOR TRAFFIC CONTROL



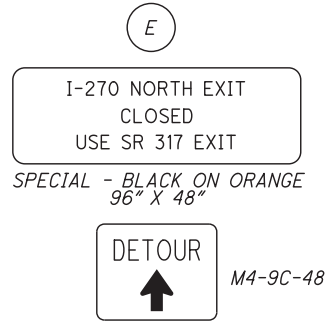
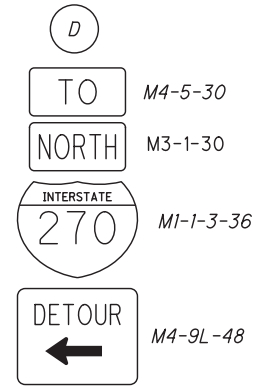
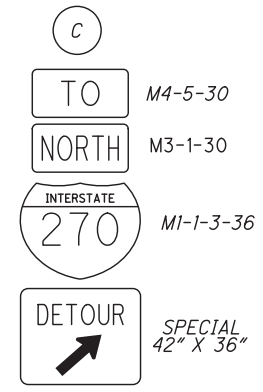
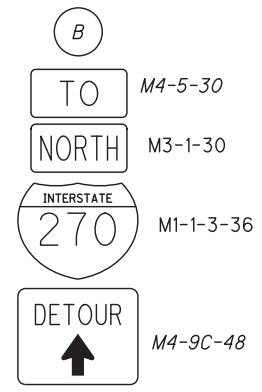
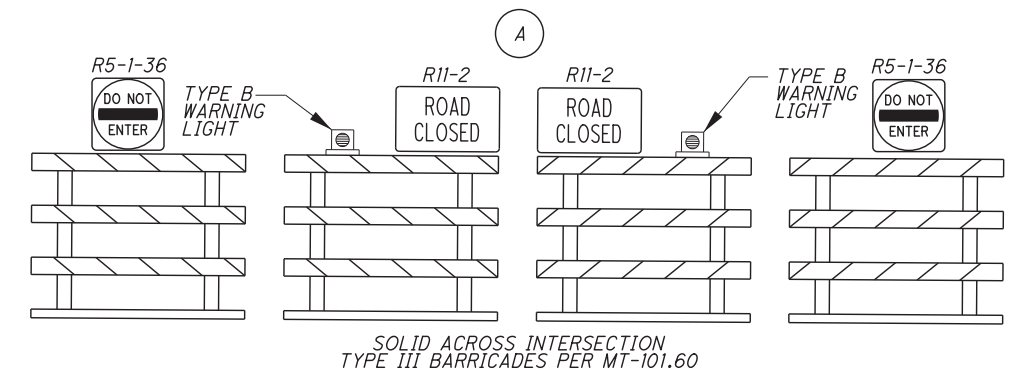
DETOUR PLAN  
 RAMP F - US 33 EB TO I-270 NB

FRA-33-24.26

34  
 287



WITH DRUMS @ 20' SPACING ACROSS/ALONG RAMP OPENING PER SCD MT-98.29



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# DETOUR - RAMP G (I-270 NB to US 33 WB)

**NOTES:**

SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

CONTRACTOR SHALL COORDINATE THIS DETOUR WITH ANY CONFLICTING DETOUR/SIGNING OR CLOSURES IN THE AREA OR AS DIRECTED BY THE ENGINEER.

RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMP AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270 AND US 33.

RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

\* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.

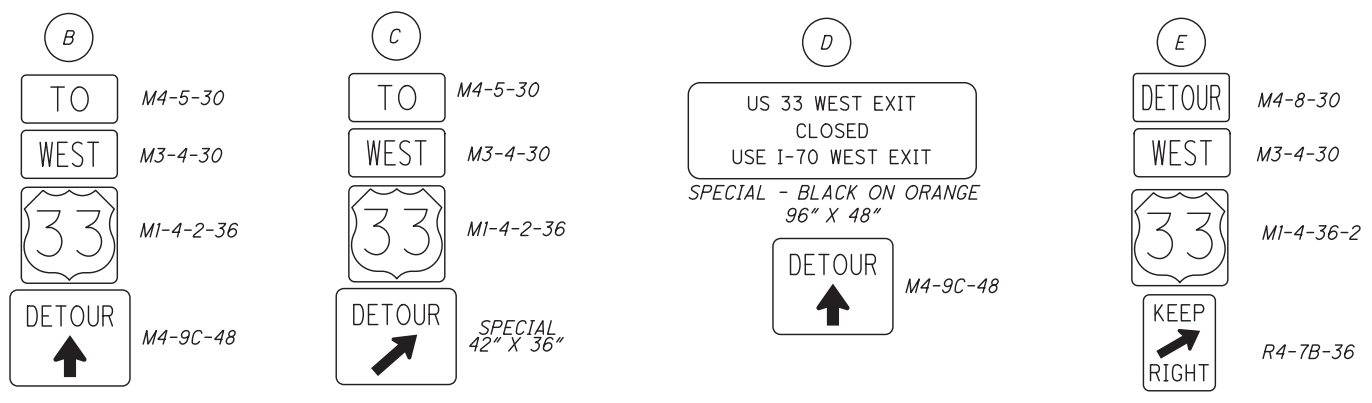
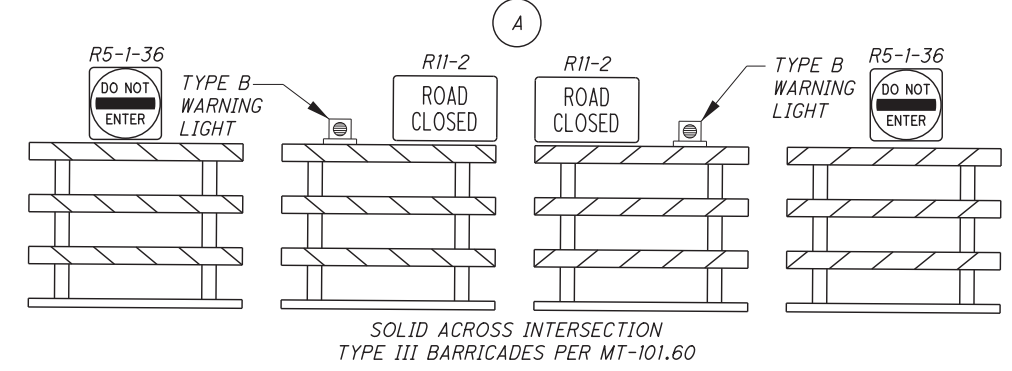
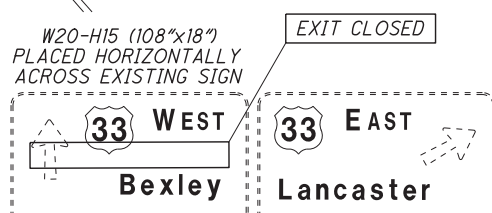
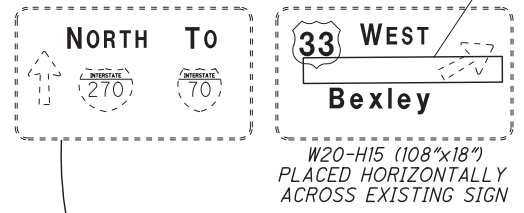
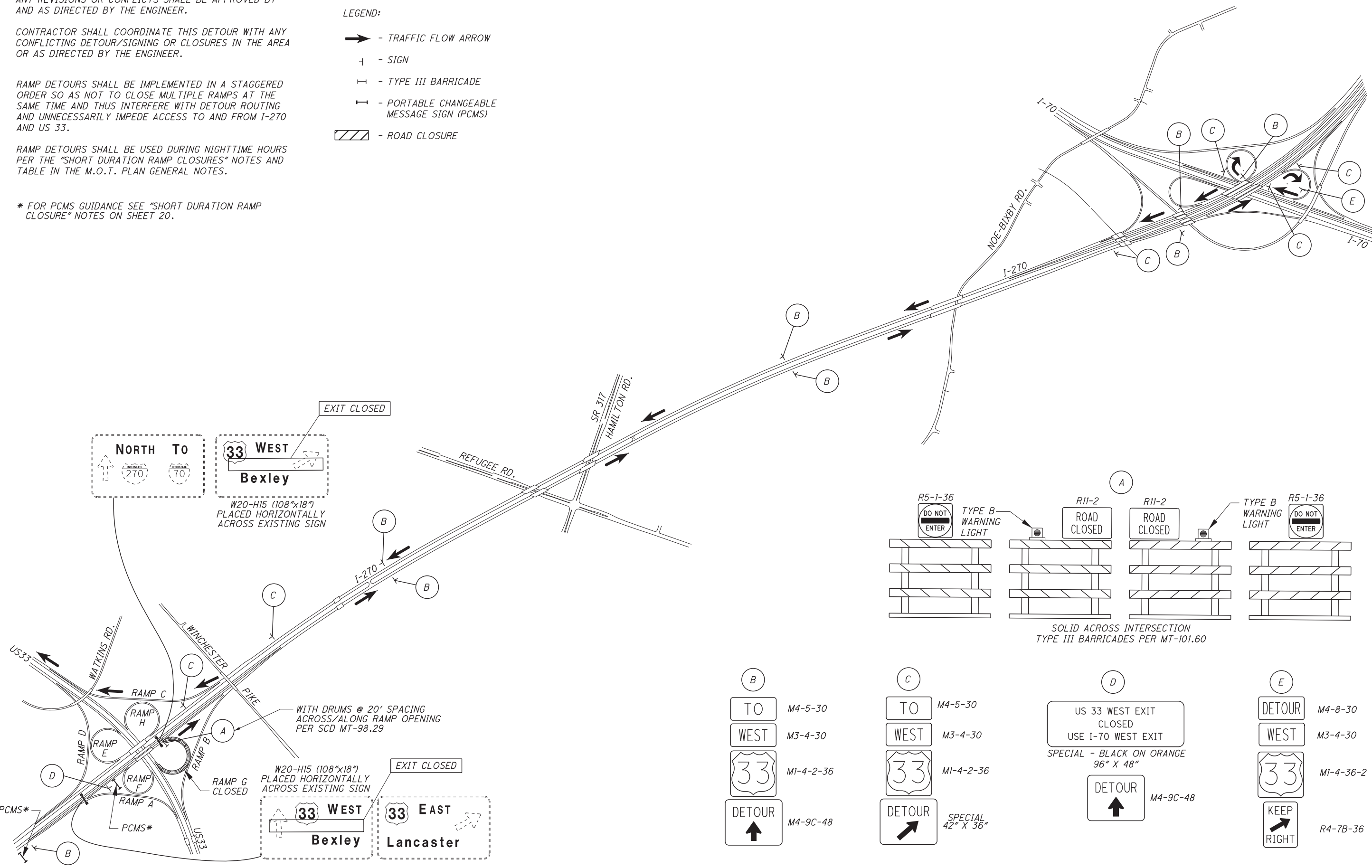
**LEGEND:**

- ➔ - TRAFFIC FLOW ARROW
- ⊥ - SIGN
- ⊥ - TYPE III BARRICADE
- ⊥ - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- ▨ - ROAD CLOSURE



DETOUR PLAN  
 RAMP G - I-270 NB TO US 33 WB

FRA - 33-24.26



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# DETOUR - RAMP H (US 33 WB to I-270 S RAMP D)

**NOTES:**

SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

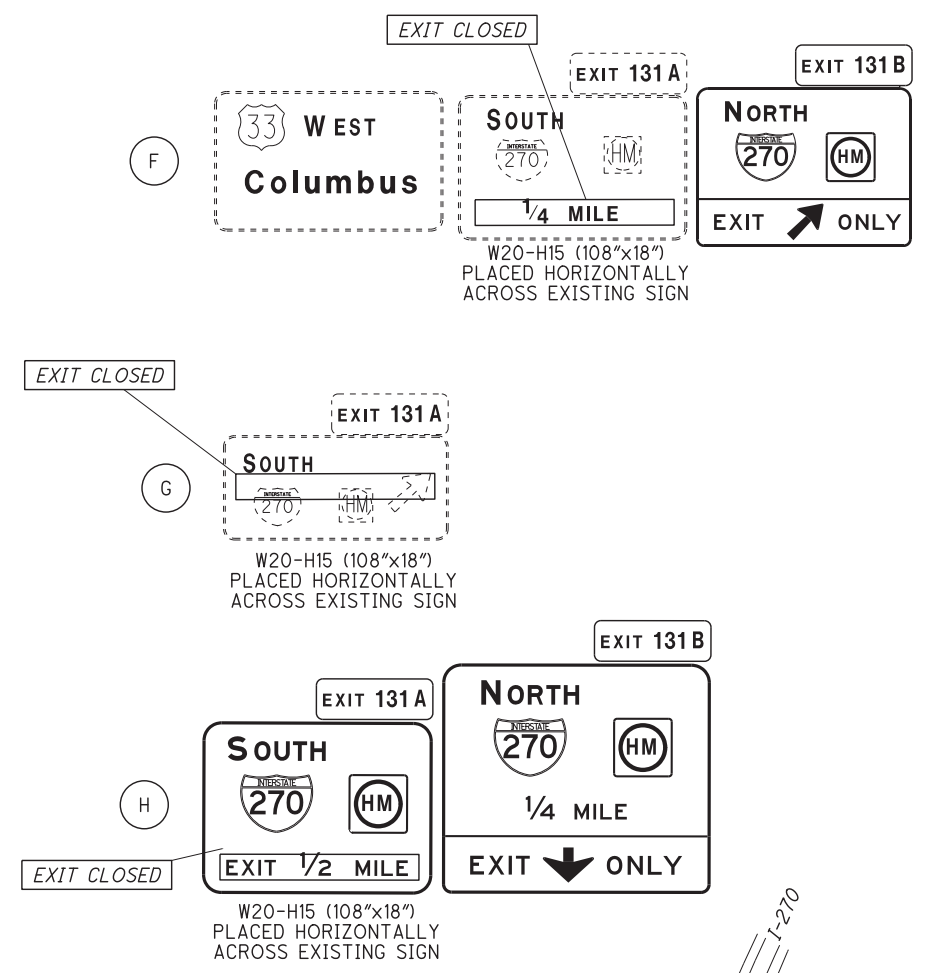
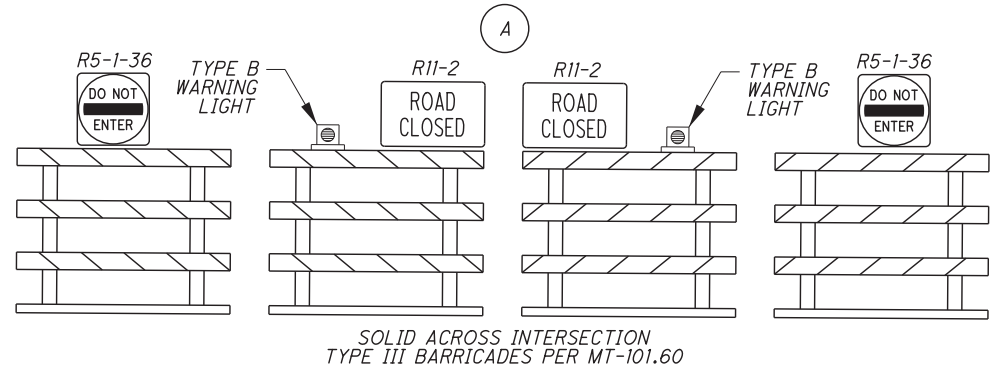
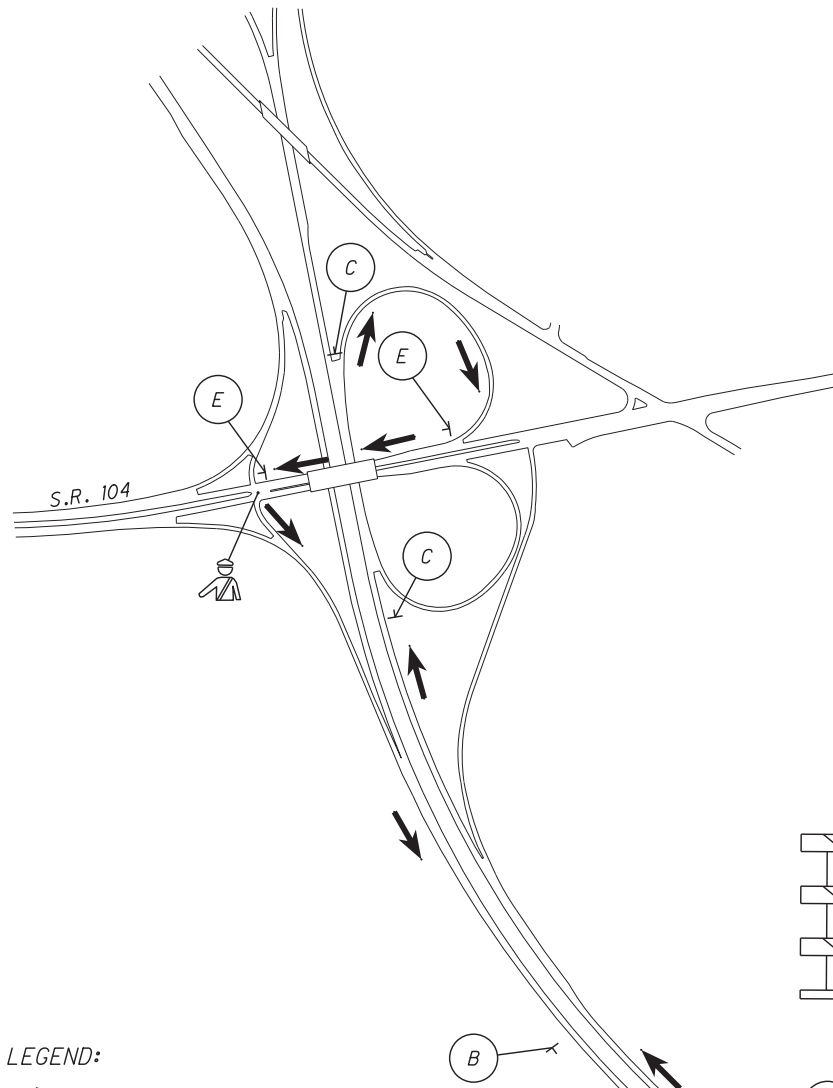
CONTRACTOR SHALL COORDINATE THIS DETOUR WITH ANY CONFLICTING DETOUR/SIGNING OR CLOSURES IN THE AREA OR AS DIRECTED BY THE ENGINEER.

RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMPS AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270 AND US 33.

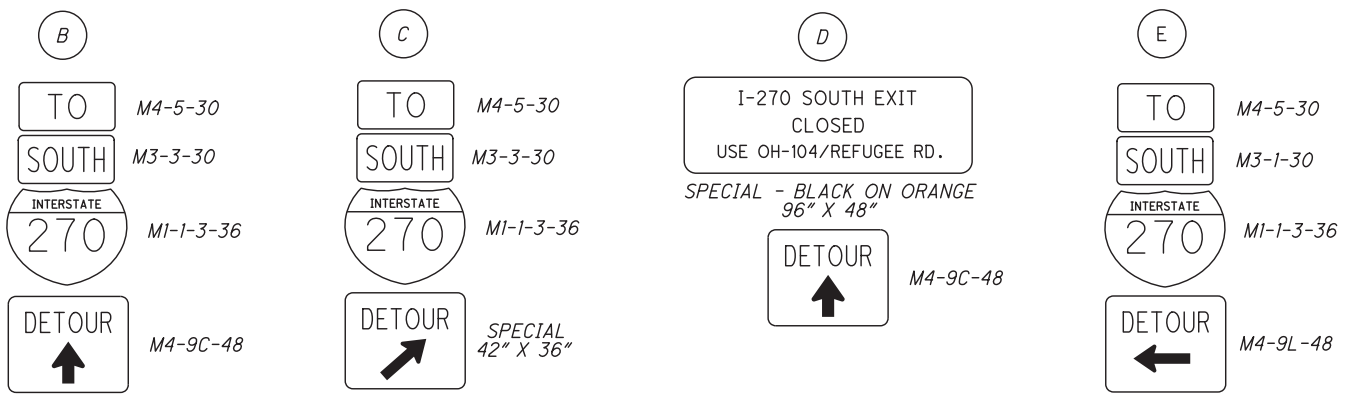
RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

THE CONTRACTOR SHALL EMPLOY LEO'S (NO CRUISERS) TO ASSIST WITH TRAFFIC CONTROL AT EACH SIGNALIZED RAMP INTERSECTION TO HELP PREVENT BACK-UPS ON DETOUR ROUTE RAMPS.

\* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.



- LEGEND:**
- ➔ - TRAFFIC FLOW ARROW
  - + - SIGN
  - ⊥ - TYPE III BARRICADE
  - ⊥ - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
  - ▨ - ROAD CLOSURE
  - 👮 - LAW ENFORCEMENT OFFICER FOR TRAFFIC CONTROL



WITH DRUMS @ 20' SPACING  
ACROSS/ALONG RAMP OPENING  
PER SCD MT-98.29



DETOUR PLAN  
RAMP H - US 33 WB TO I-270 SB

FRA-33-24.26

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# DETOUR - RAMP G (SR-317 to US 33 WB)

**NOTES:**

SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

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RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

THE CONTRACTOR SHALL EMPLOY LEO'S (NO CRUISERS) TO ASSIST WITH TRAFFIC CONTROL AT EACH SIGNALIZED RAMP INTERSECTION TO HELP PREVENT BACK-UPS ON DETOUR ROUTE RAMPS.

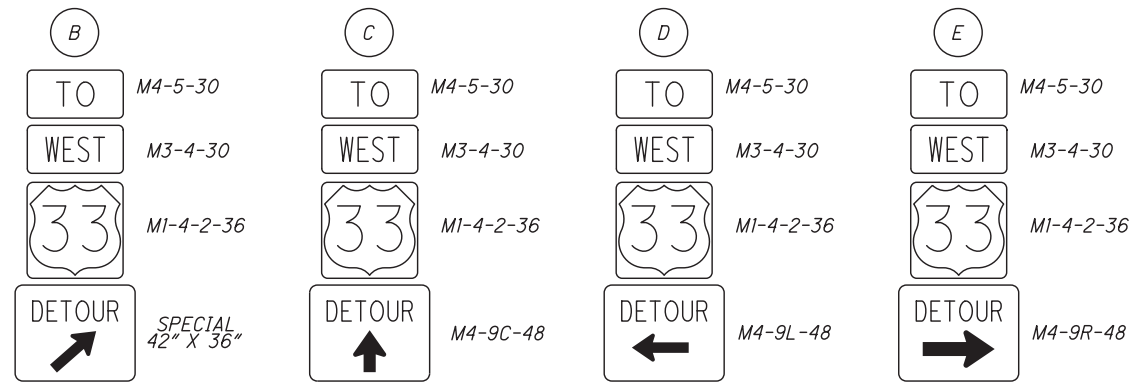
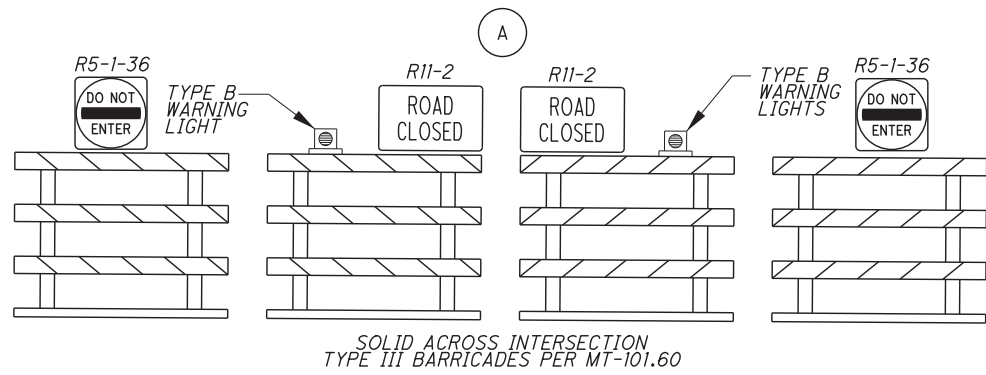
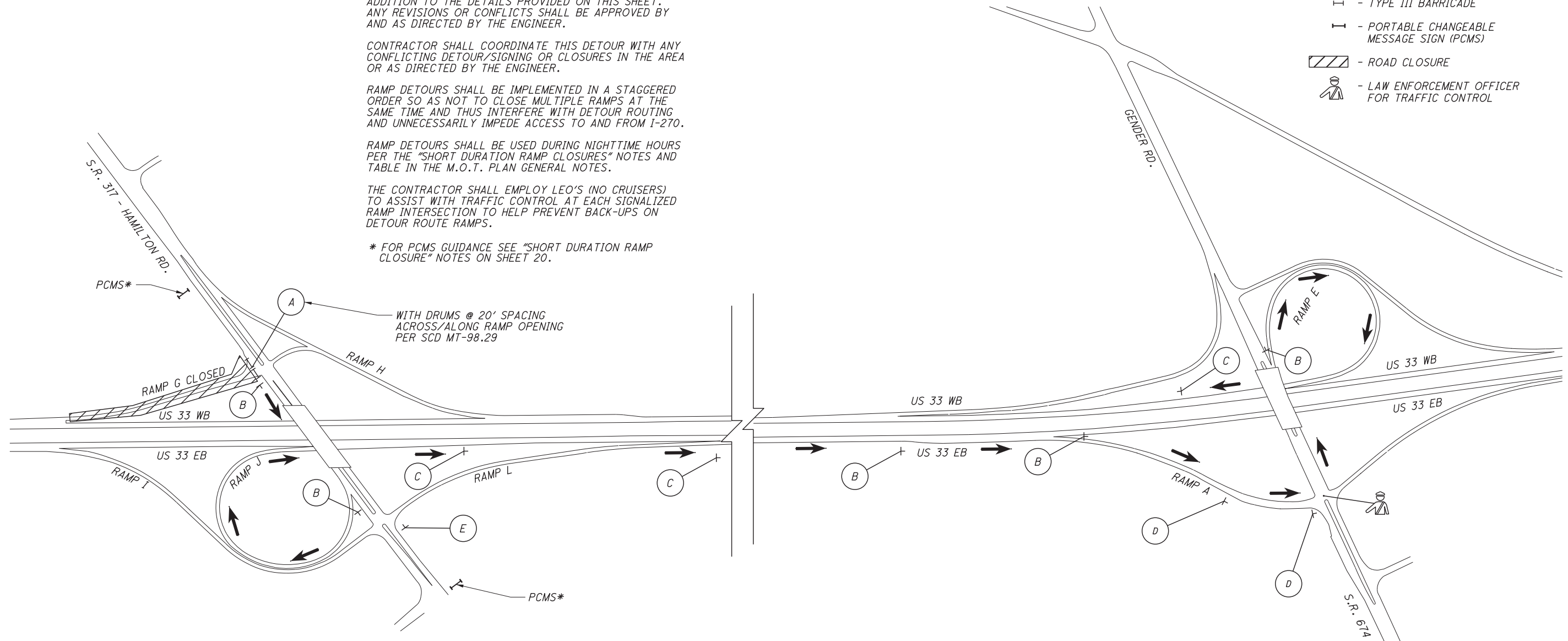
\* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.

**LEGEND:**

- ➔ - TRAFFIC FLOW ARROW
- ⊥ - SIGN
- |— | - TYPE III BARRICADE
- |— | - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- ▨ - ROAD CLOSURE
- 👮 - LAW ENFORCEMENT OFFICER FOR TRAFFIC CONTROL

CALCULATED  
EJC  
CHECKED  
ABS

0 250 500  
HORIZONTAL  
SCALE IN FEET



DETOUR PLAN  
RAMP G - SR-317 TO US 33 WB

FRA-33-24.26

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# DETOUR - RAMP H (US 33 WB to SR-317)

**NOTES:**

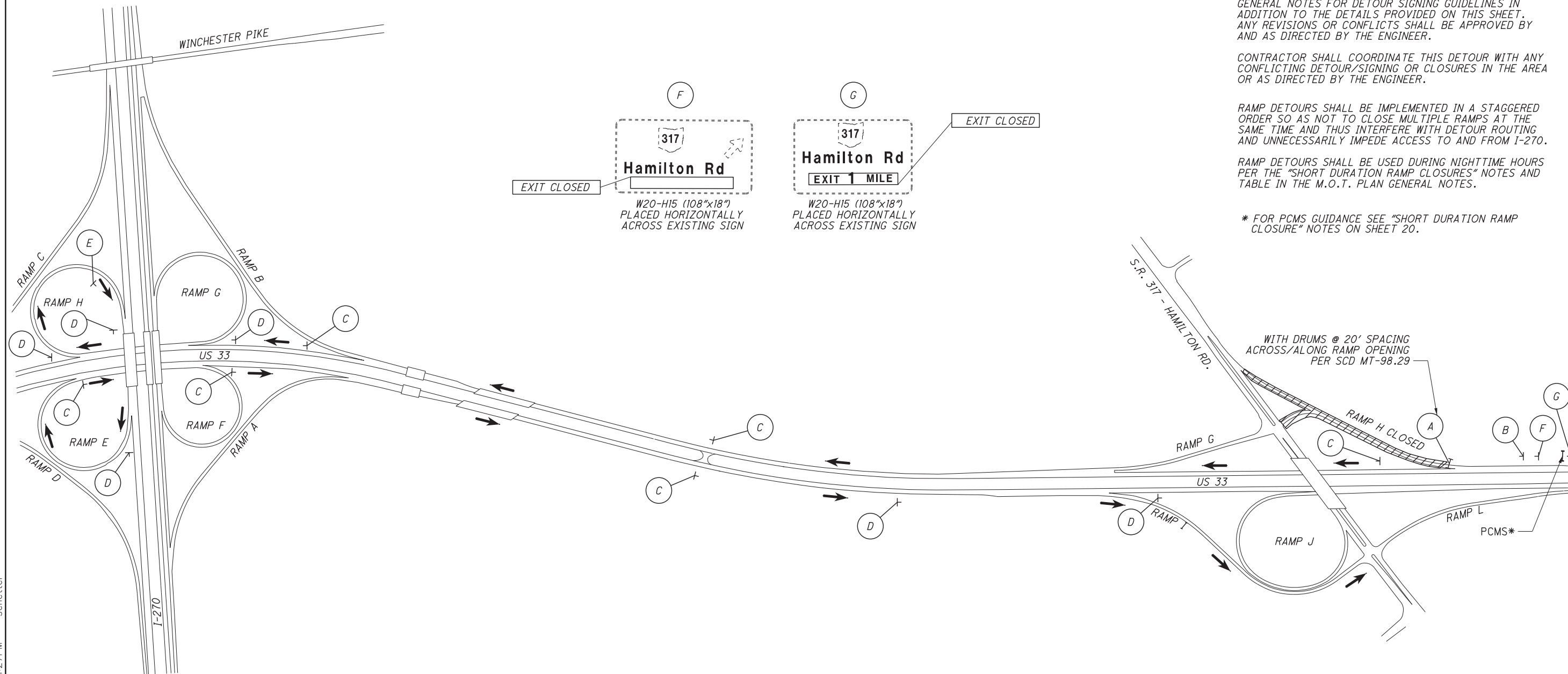
SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

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RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMP AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270.

RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

\* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.

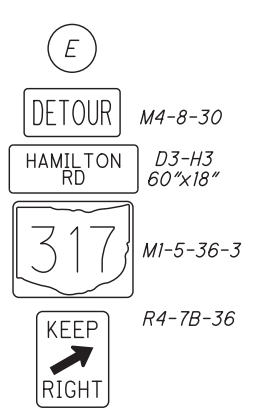
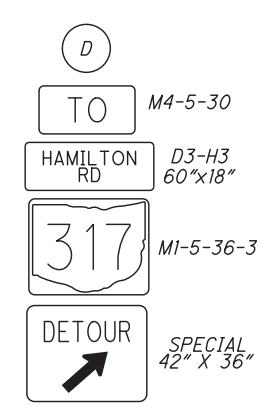
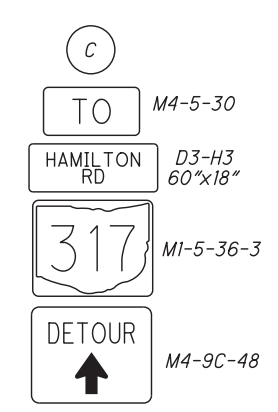
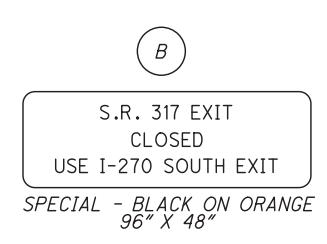
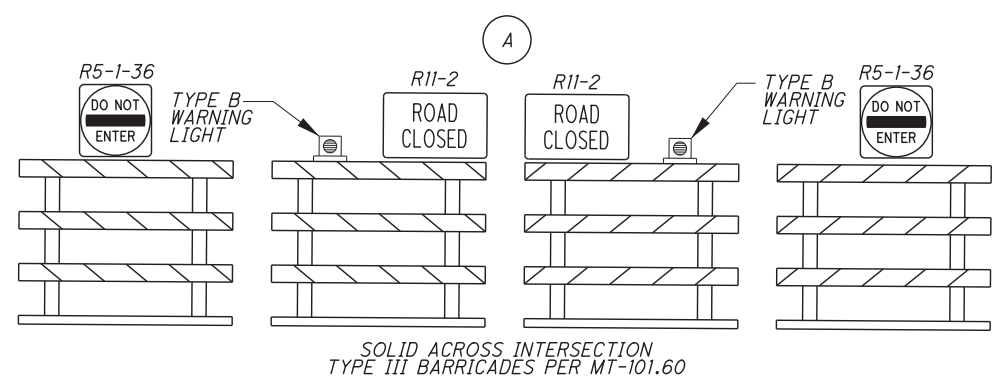


0 250 500  
 HORIZONTAL SCALE IN FEET  
 CALCULATED EJC  
 CHECKED ABS

DETOUR PLAN  
 RAMP H - US 33 WB TO SR-317

FRA-33-24.26

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- LEGEND:**
- TRAFFIC FLOW ARROW
  - SIGN
  - TYPE III BARRICADE
  - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
  - ROAD CLOSURE

NOTES:

SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

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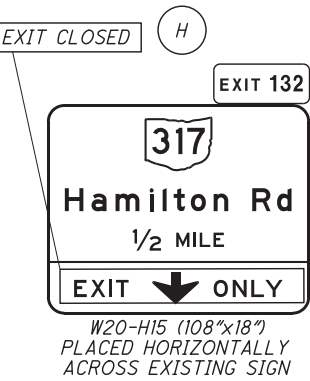
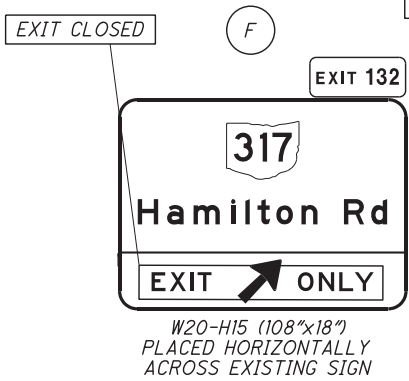
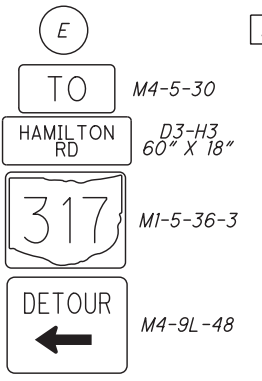
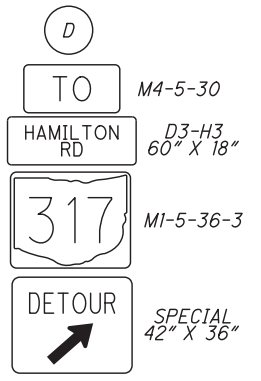
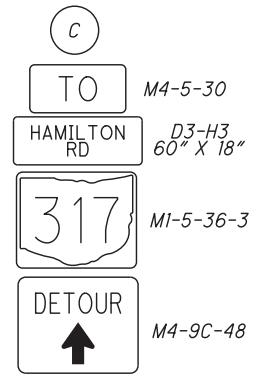
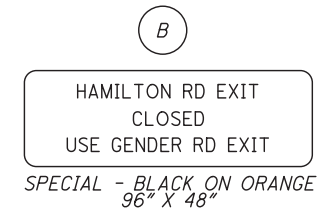
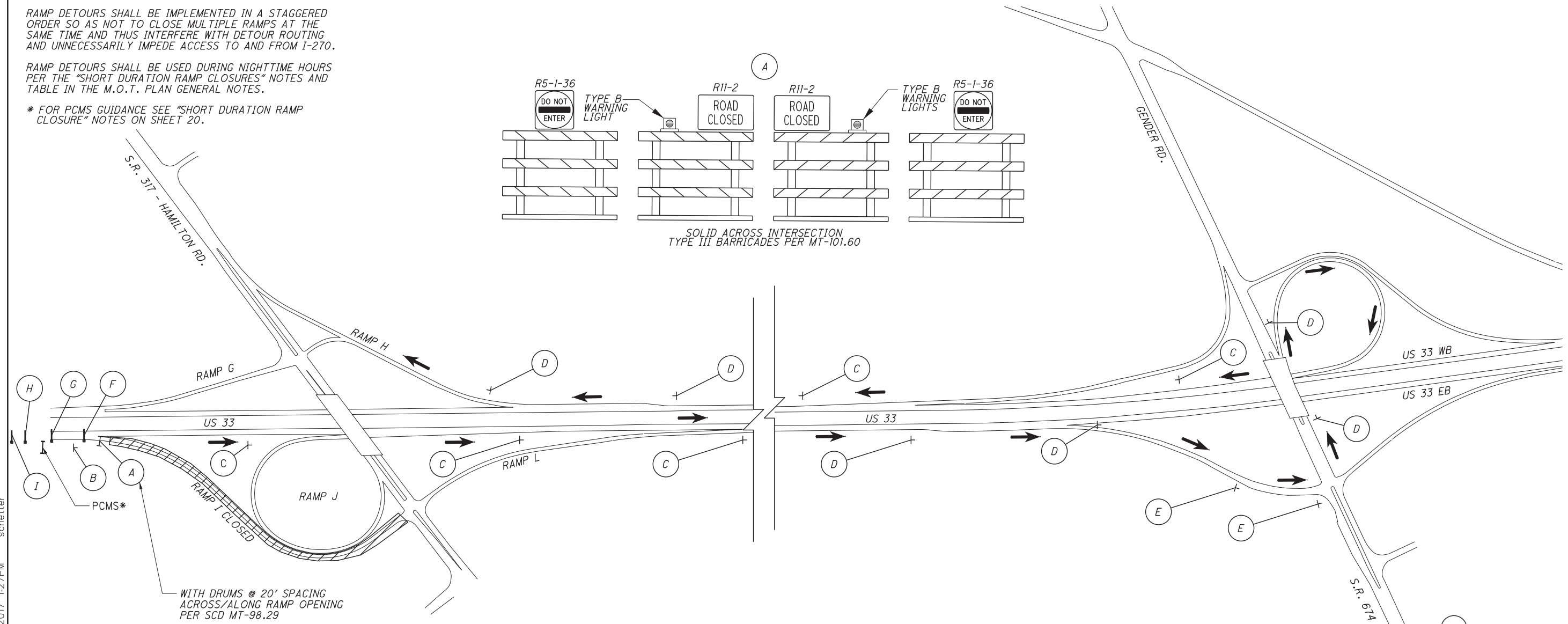
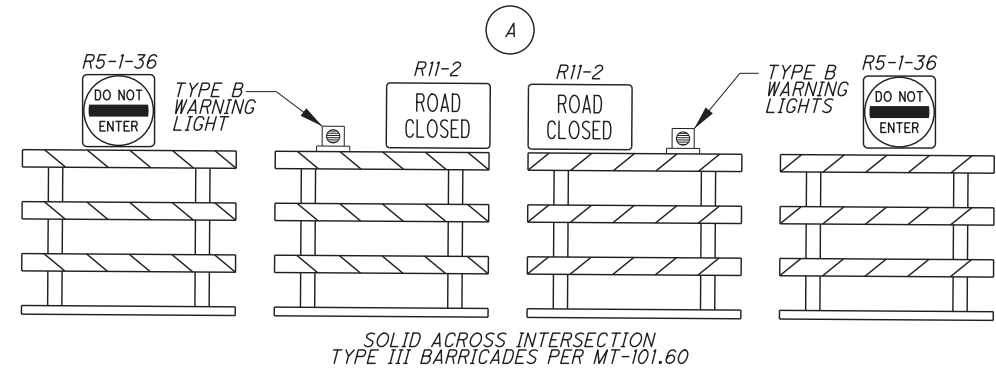
RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

\* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.

# DETOUR - RAMP I (US 33 EB TO SR-317)

0 250 500  
HORIZONTAL SCALE IN FEET

CALCULATED EJC CHECKED ABS



- LEGEND:
- - TRAFFIC FLOW ARROW
  - + - SIGN
  - ⊥ - TYPE III BARRICADE
  - ⊥ - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
  - ▨ - ROAD CLOSURE

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DETOUR PLAN  
RAMP I - US 33 EB TO SR-317

FRA-33-24.26

# DETOUR - RAMP J (SR-317 SB TO US 33 EB)

**NOTES:**

SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

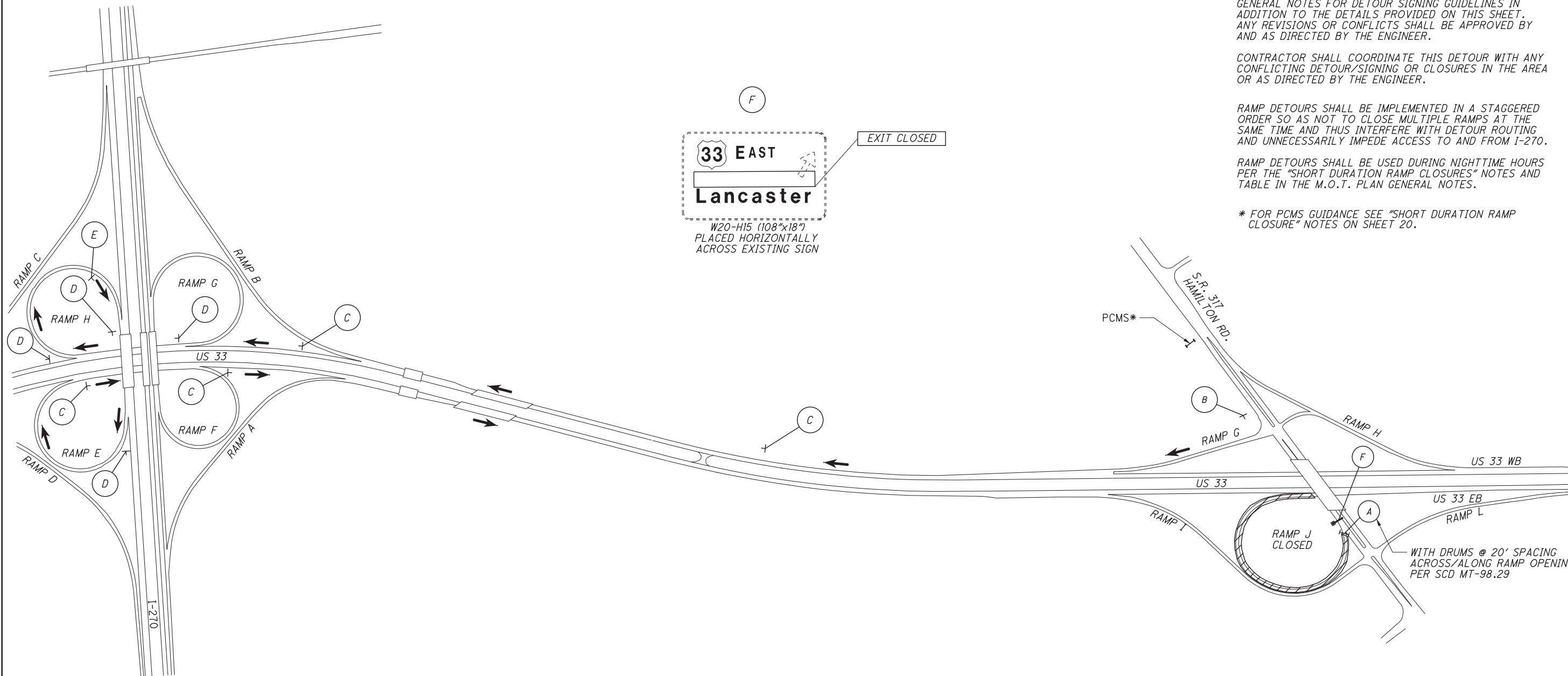
CONTRACTOR SHALL COORDINATE THIS DETOUR WITH ANY CONFLICTING DETOUR/SIGNING OR CLOSURES IN THE AREA OR AS DIRECTED BY THE ENGINEER.

RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMP AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270.

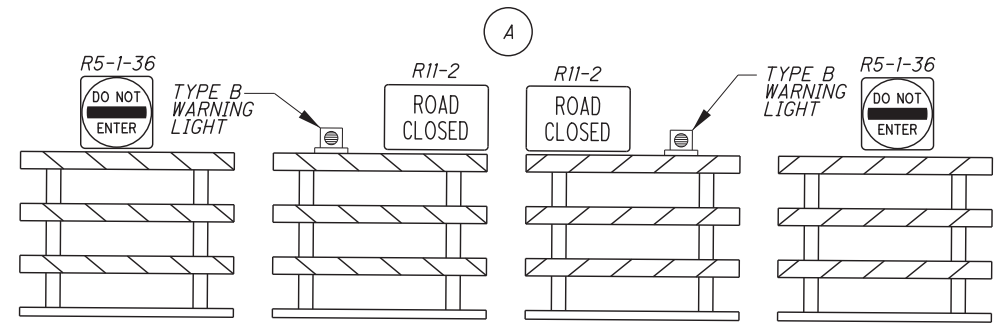
RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

\* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.

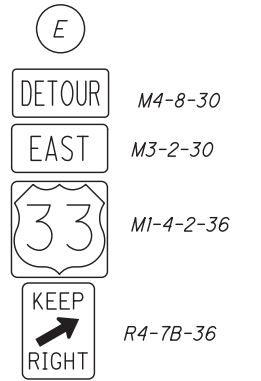
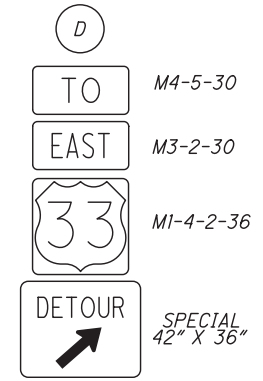
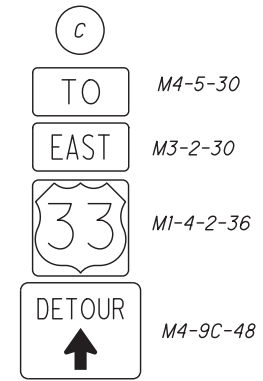
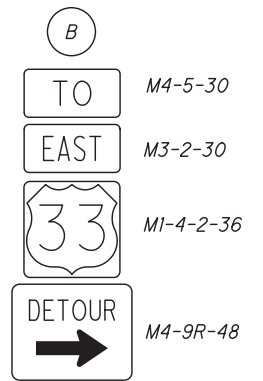
CALCULATED 0 250 500  
 EJC  
 CHECKED ABS  
 HORIZONTAL SCALE IN FEET



DETOUR PLAN  
RAMP J - SR-317 SB TO US 33 EB



SOLID ACROSS INTERSECTION  
TYPE III BARRICADES PER MT-101.60



- LEGEND:**
- ➔ - TRAFFIC FLOW ARROW
  - ⊥ - SIGN
  - ⊥ - TYPE III BARRICADE
  - ⊥ - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
  - ▨ - ROAD CLOSURE

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FRA-33-24.26



# DETOUR - RAMP L (SR 317 NB TO US 33 EB)

**NOTES:**

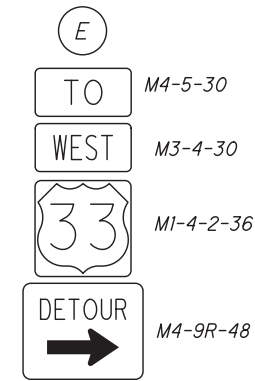
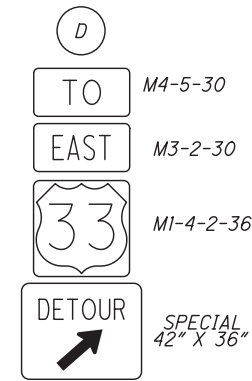
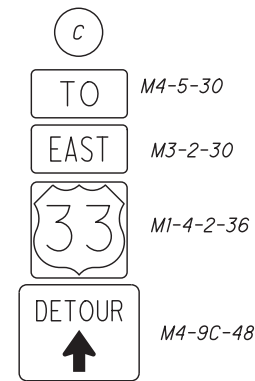
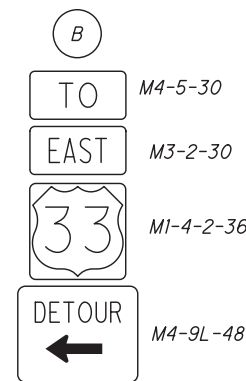
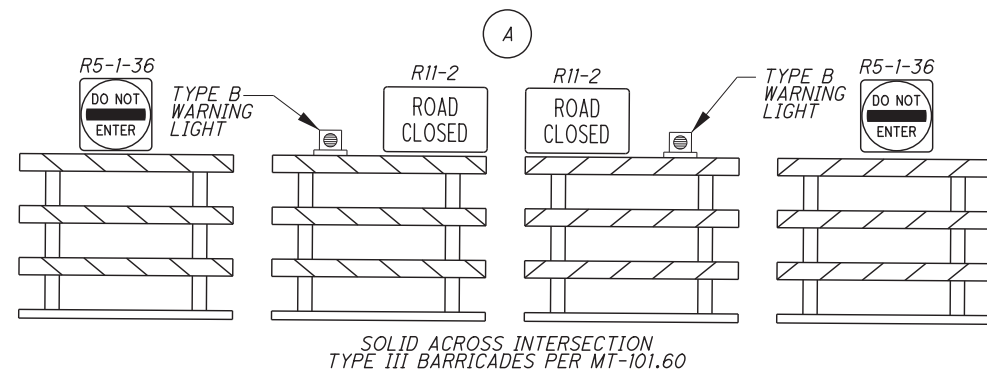
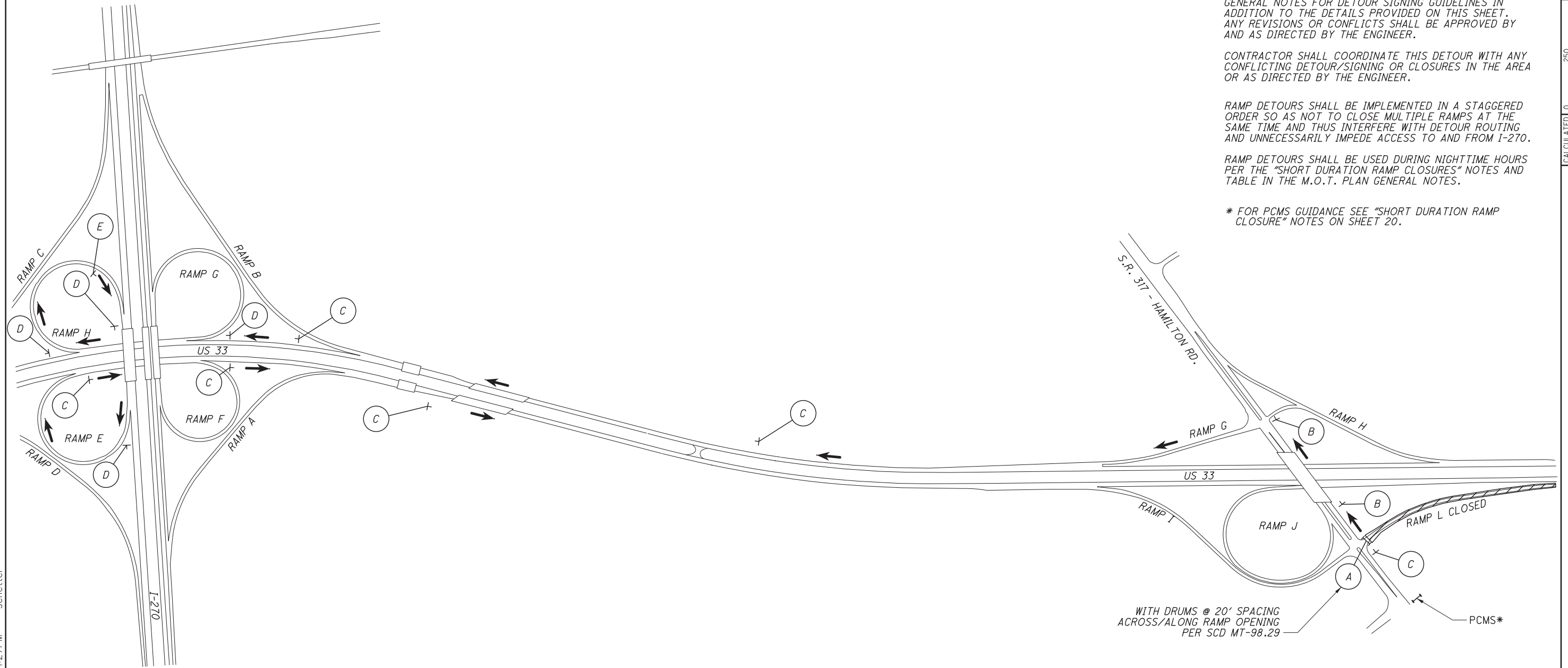
SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

CONTRACTOR SHALL COORDINATE THIS DETOUR WITH ANY CONFLICTING DETOUR/SIGNING OR CLOSURES IN THE AREA OR AS DIRECTED BY THE ENGINEER.

RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMPS AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270.

RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

\* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.



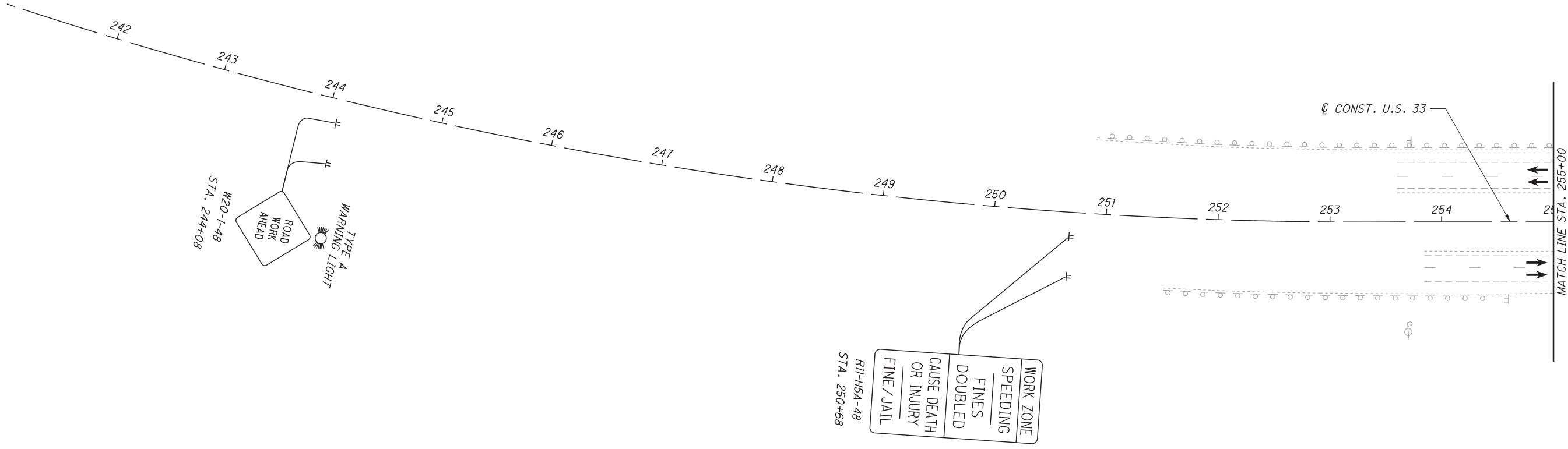
**LEGEND:**

- ➔ - TRAFFIC FLOW ARROW
- ⊕ - SIGN
- ⊥ - TYPE III BARRICADE
- ⊥ - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- ▨ - ROAD CLOSURE

DETOUR PLAN  
RAMP L - SR 317 NB TO US 33 EB

FRA-33-24.26

- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
  - [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
  - [Dashed Line] - PORTABLE BARRIER (PB)
  - [Grey Box] - WORK AREA
  - [Dotted Line] - IMPACT ATTENUATOR
  - [Dots] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
  - [Arrow] - LANE DIRECTION



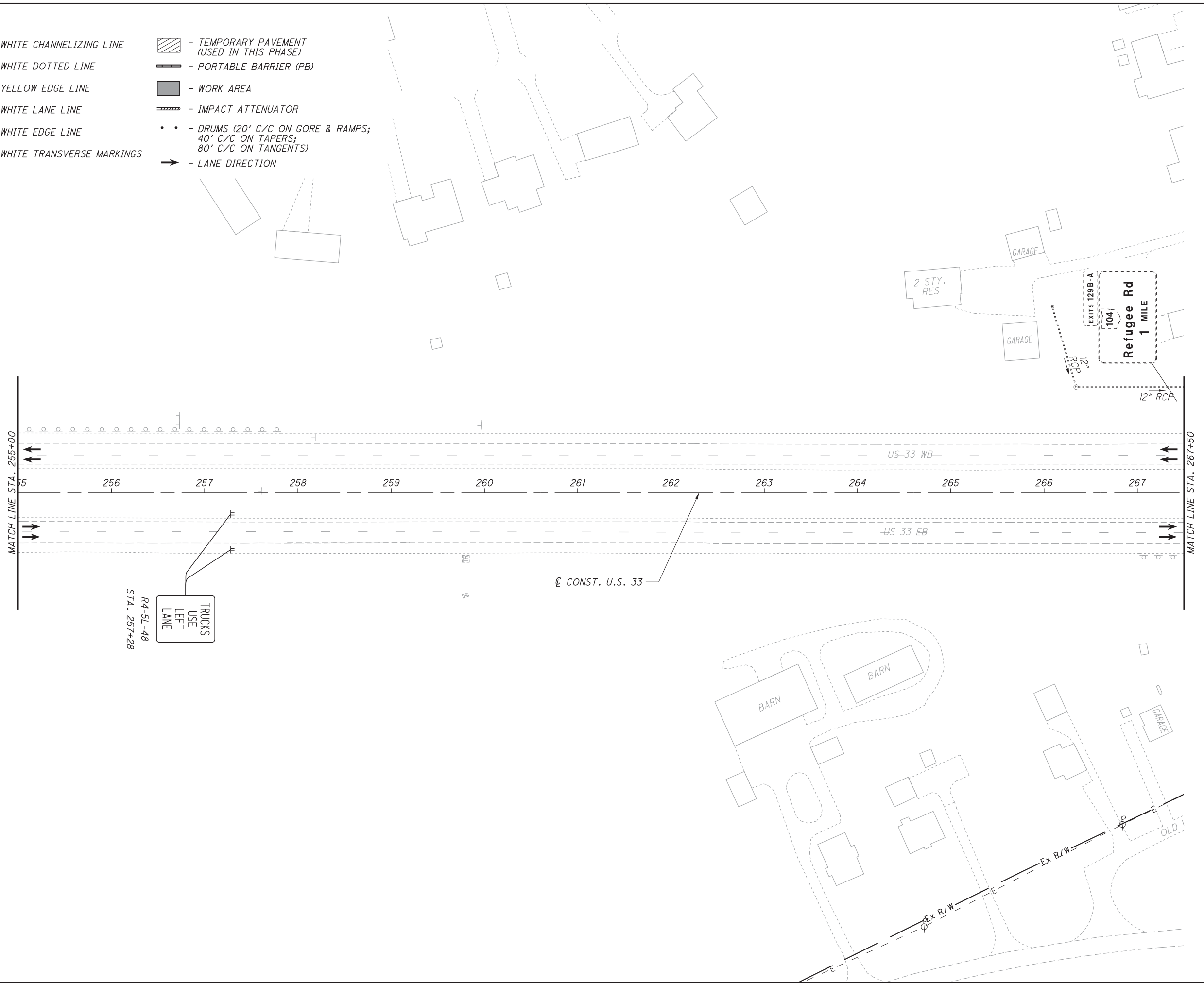
CALCULATED  
EJC  
CHECKED  
ABS

0 50 100  
HORIZONTAL  
SCALE IN FEET

**MOT PLAN - PHASE 1  
BEGIN WORK TO STA. 255+00**

**LEGEND:**

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Line with Dashes] - PORTABLE BARRIER (PB)
- [Solid Grey Box] - WORK AREA
- [Line with Triangles] - IMPACT ATTENUATOR
- [Dotted Circle] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION



CALCULATED  
EJC  
CHECKED  
ABS

0 50 100  
HORIZONTAL  
SCALE IN FEET

**MOT PLAN - PHASE 1**  
**STA. 255+00 TO STA. 267+50**

**FRA-33-24.26**

**LEGEND:**

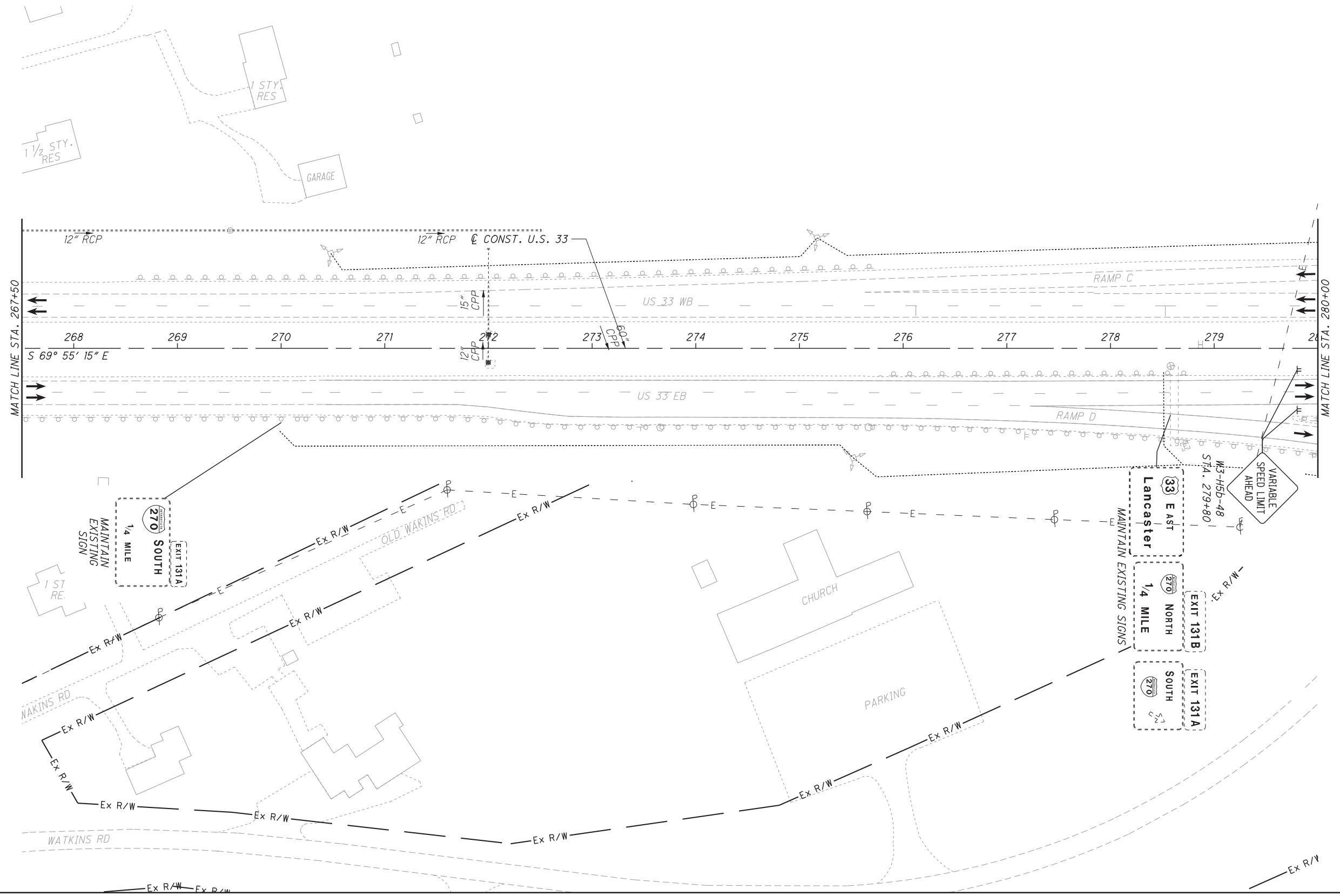
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Double Line] - PORTABLE BARRIER (PB)
- [Grey Box] - WORK AREA
- [Dashed Line with Arrow] - IMPACT ATTENUATOR
- [Dotted Line with Circle] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

CALCULATED EJC CHECKED ABS

0 50 100  
25  
HORIZONTAL SCALE IN FEET

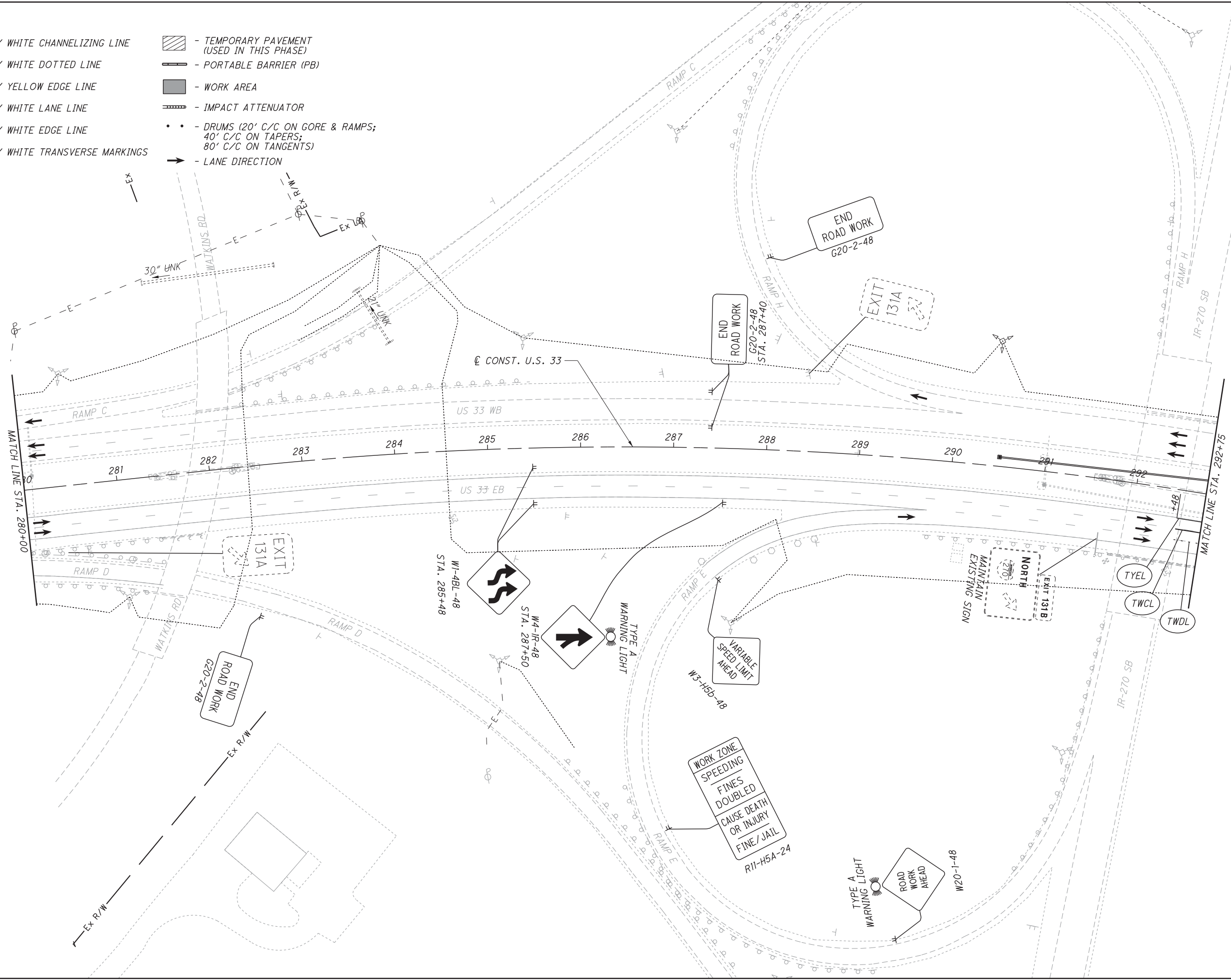
**MOT PLAN - PHASE 1**  
**STA. 267+50 TO STA. 280+00**

**FRA - 33 - 24.26**



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- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
  - [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
  - [Dashed Line] - PORTABLE BARRIER (PB)
  - [Solid Grey Box] - WORK AREA
  - [Dashed Line with Triangles] - IMPACT ATTENUATOR
  - [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
  - [Arrow] - LANE DIRECTION

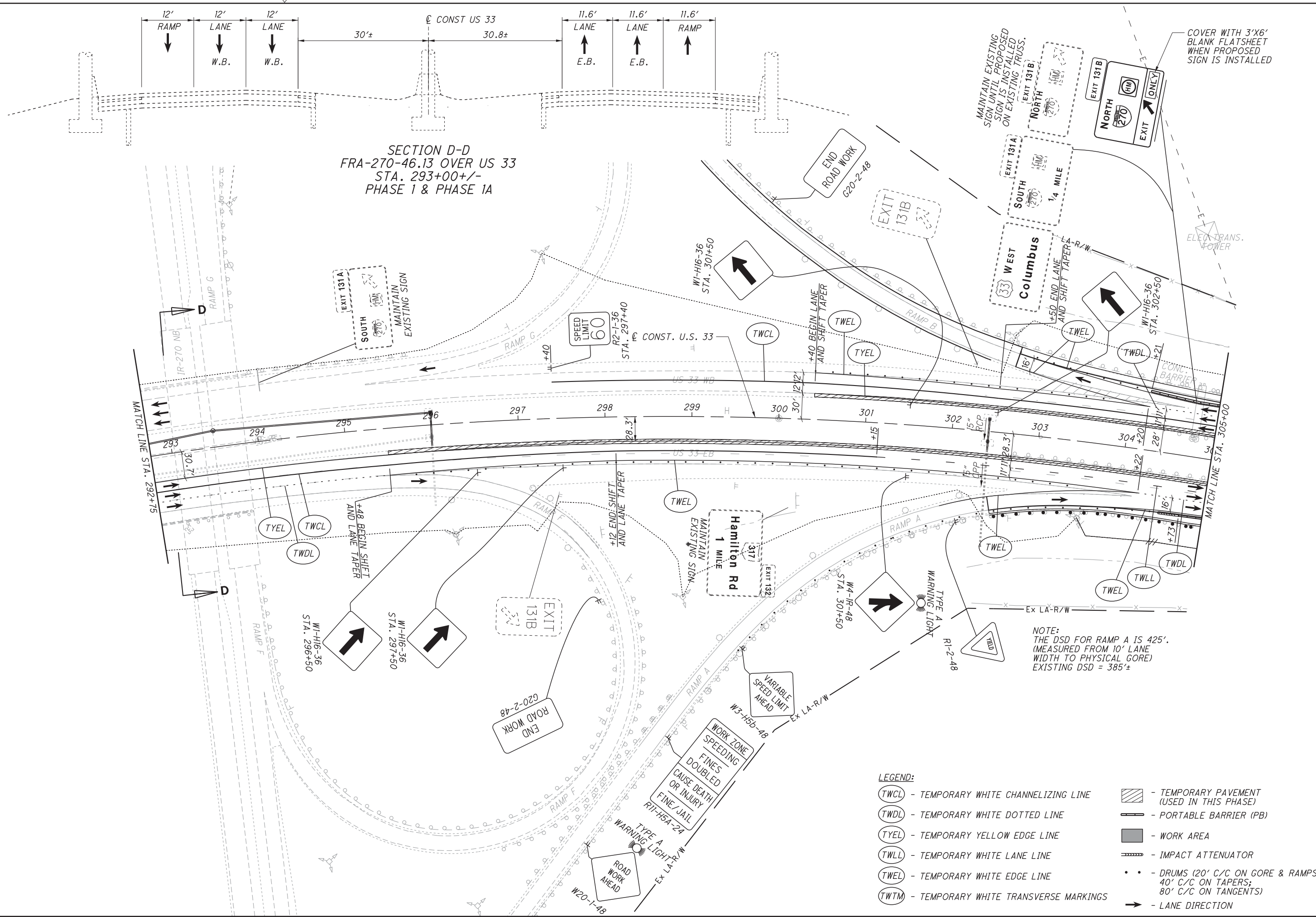


CALCULATED EJC CHECKED ABS

0 50 100  
25  
HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 1**  
**STA. 280+00 TO STA. 292+75**

**FRA-33-24.26**



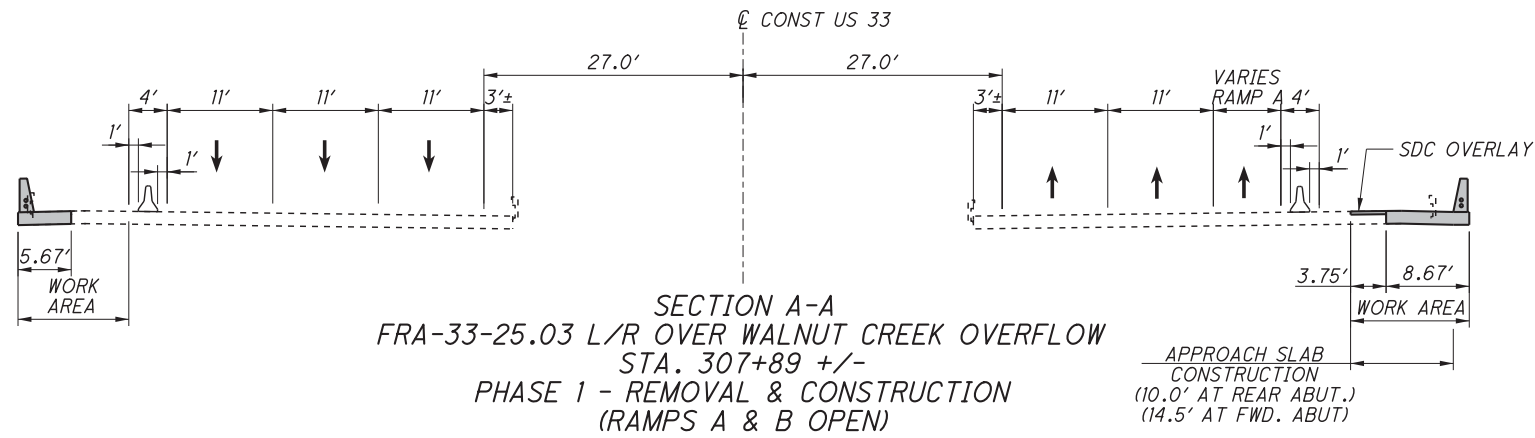
SECTION D-D  
 FRA-270-46.13 OVER US 33  
 STA. 293+00+/-  
 PHASE 1 & PHASE 1A

NOTE:  
 THE DSD FOR RAMP A IS 425'.  
 (MEASURED FROM 10' LANE  
 WIDTH TO PHYSICAL GORE)  
 EXISTING DSD = 385'±

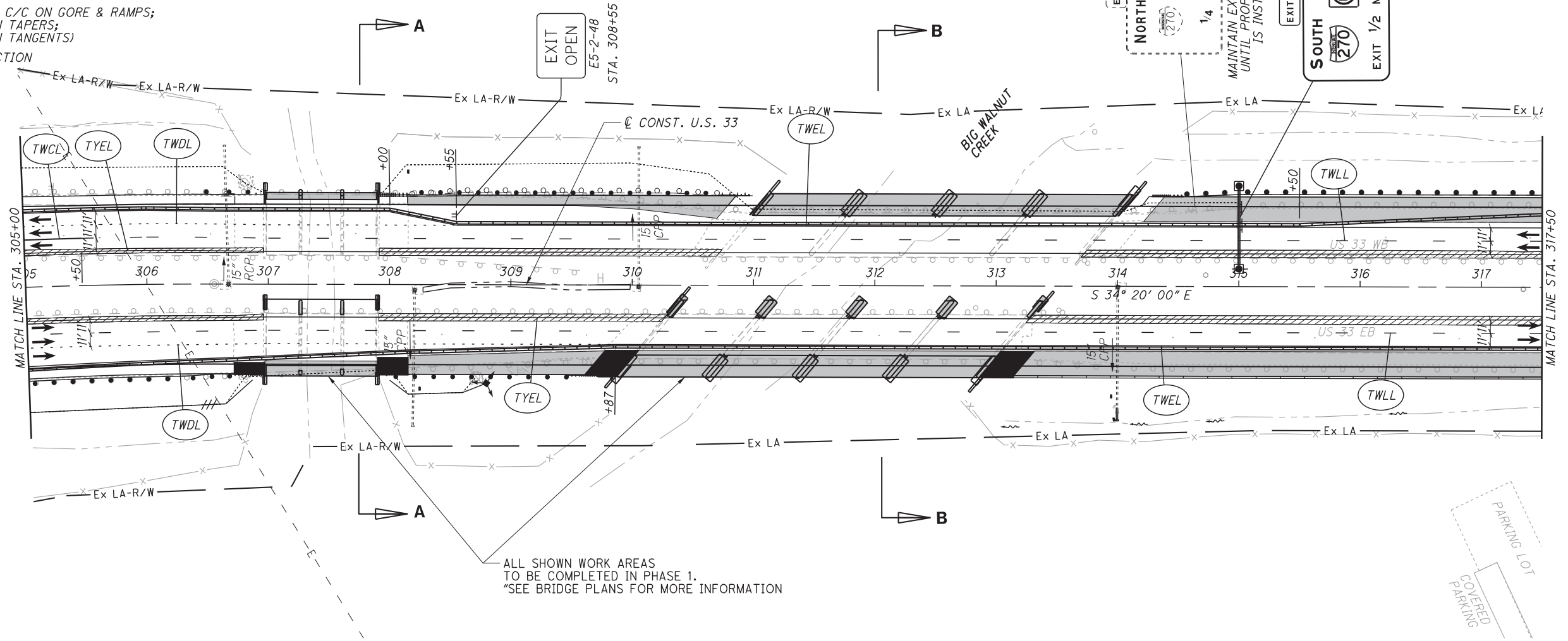
- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
  - [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
  - [Dashed Line] - PORTABLE BARRIER (PB)
  - [Solid Grey Box] - WORK AREA
  - [Dashed Line with Triangles] - IMPACT ATTENUATOR
  - [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
  - [Arrow] - LANE DIRECTION

**LEGEND:**

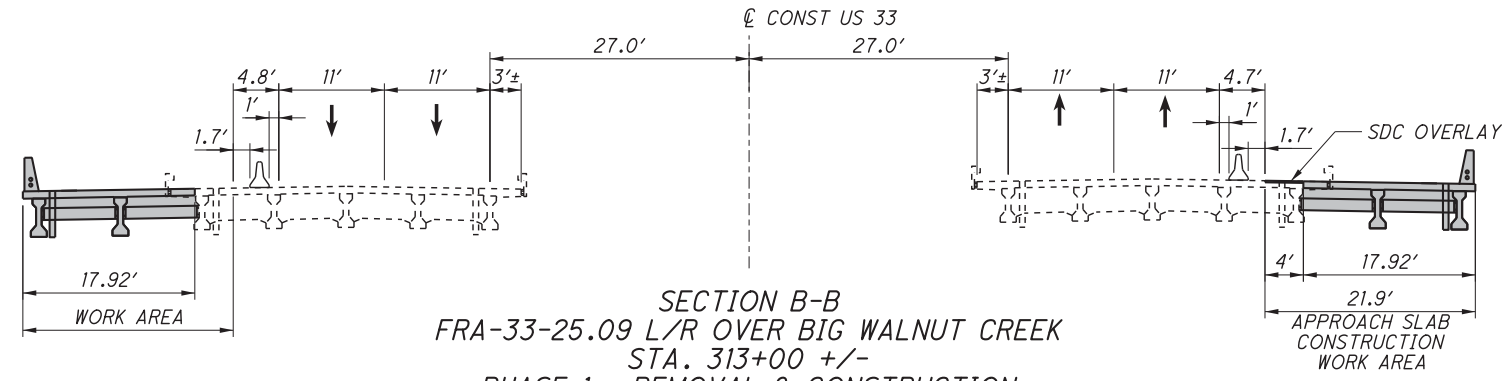
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- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Line with Dashes] - PORTABLE BARRIER (PB)
- [Solid Grey Box] - WORK AREA
- [Solid Black Box] - PROPOSED APPROACH SLAB WORK
- [Line with Triangles] - IMPACT ATTENUATOR
- [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION



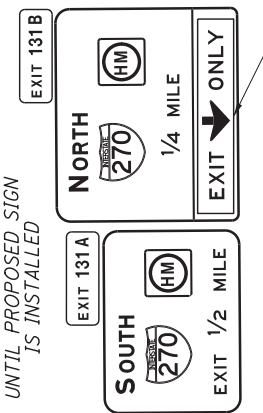
**SECTION A-A**  
 FRA-33-25.03 L/R OVER WALNUT CREEK OVERFLOW  
 STA. 307+89 +/-  
 PHASE 1 - REMOVAL & CONSTRUCTION  
 (RAMPS A & B OPEN)



ALL SHOWN WORK AREAS TO BE COMPLETED IN PHASE 1.  
 "SEE BRIDGE PLANS FOR MORE INFORMATION"



**SECTION B-B**  
 FRA-33-25.09 L/R OVER BIG WALNUT CREEK  
 STA. 313+00 +/-  
 PHASE 1 - REMOVAL & CONSTRUCTION



NEXT RIGHT  
 SPECIAL - BLACK ON ORANGE 14'X3' COVER WHEN THE PROPOSED SIGN IS INSTALLED

CALCULATED 0  
 EJC 25  
 CHECKED 100  
 ABS

HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 1**  
 STA. 305+00 TO STA. 317+50

**FRA-33-24.26**

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**LEGEND:**

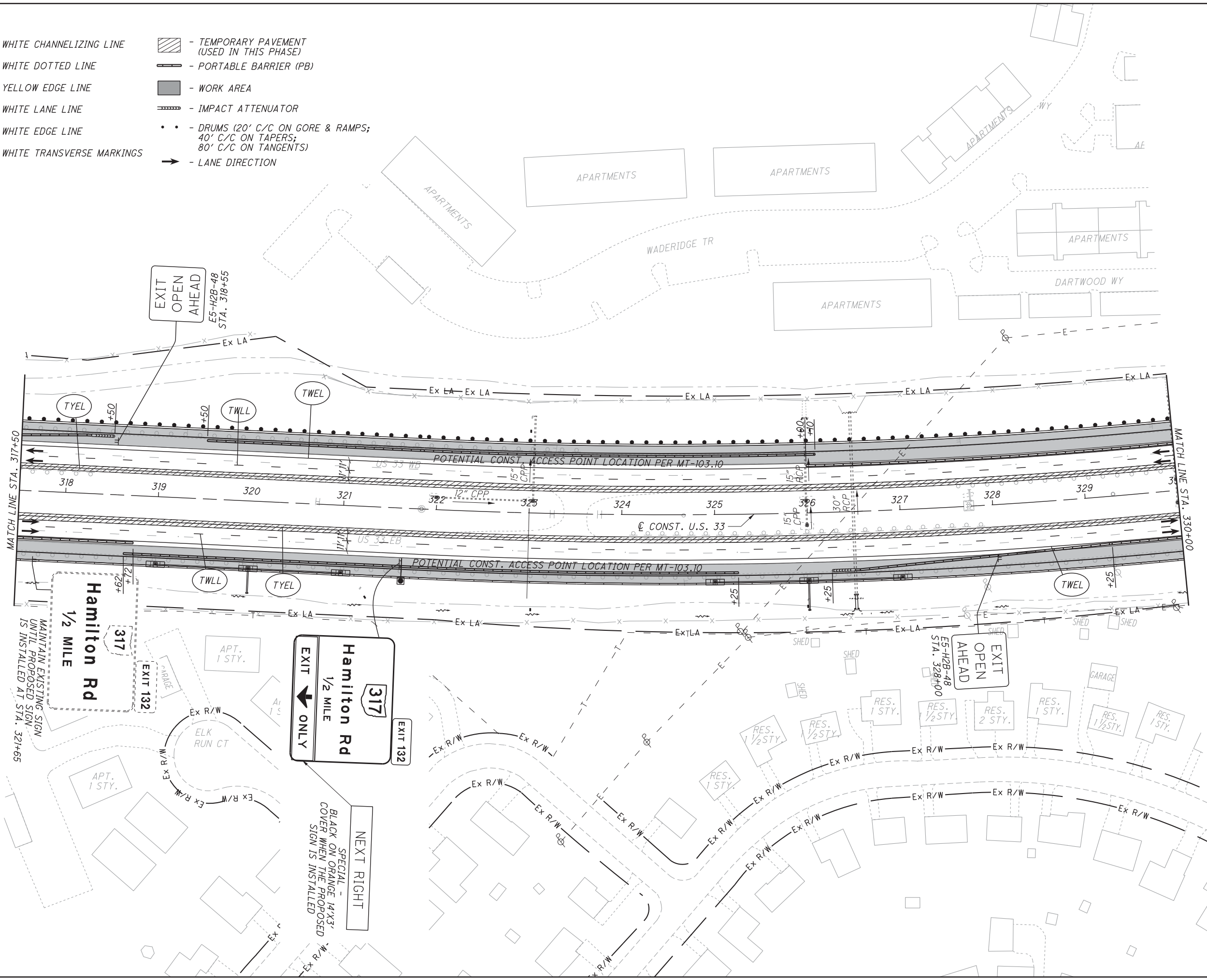
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Grey Box] - WORK AREA
- [Dotted Line] - IMPACT ATTENUATOR
- [Dotted Circle] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION



CALCULATED EJC CHECKED ABS

**MOT PLAN - PHASE 1  
STA. 317+50 TO STA. 330+00**

**FRA-33-24.26**



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**Hamilton Rd**  
1/2 MILE  
MAINTAIN EXISTING SIGN UNTIL PROPOSED SIGN IS INSTALLED AT STA. 321+65

**EXIT 132**  
**Hamilton Rd**  
1/2 MILE  
EXIT ONLY

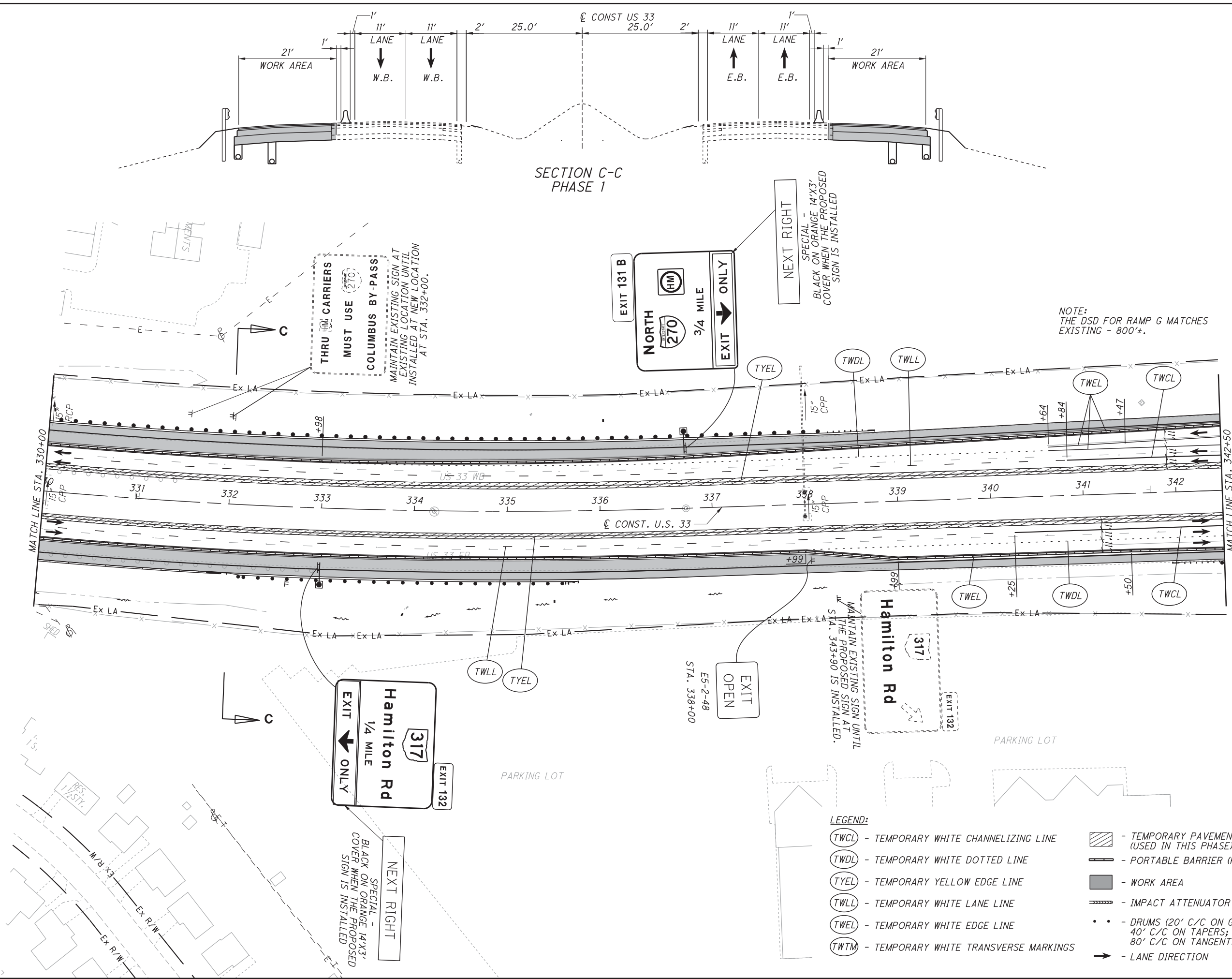
**NEXT RIGHT**  
SPECIAL - BLACK ON ORANGE 14X3' COVER WHEN THE PROPOSED SIGN IS INSTALLED

**EXIT 132**  
**Hamilton Rd**  
1/2 MILE  
EXIT ONLY

**EXIT OPEN AHEAD**  
E5-H2B-48  
STA. 328+00

**EXIT OPEN AHEAD**  
E5-H2B-48  
STA. 318+55





SECTION C-C  
PHASE 1

NOTE:  
THE DSD FOR RAMP G MATCHES  
EXISTING - 800±.

- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
  - [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
  - [Dashed Line] - PORTABLE BARRIER (PB)
  - [Solid Grey Box] - WORK AREA
  - [Dotted Line] - IMPACT ATTENUATOR
  - [Dotted Circle] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
  - [Arrow] - LANE DIRECTION

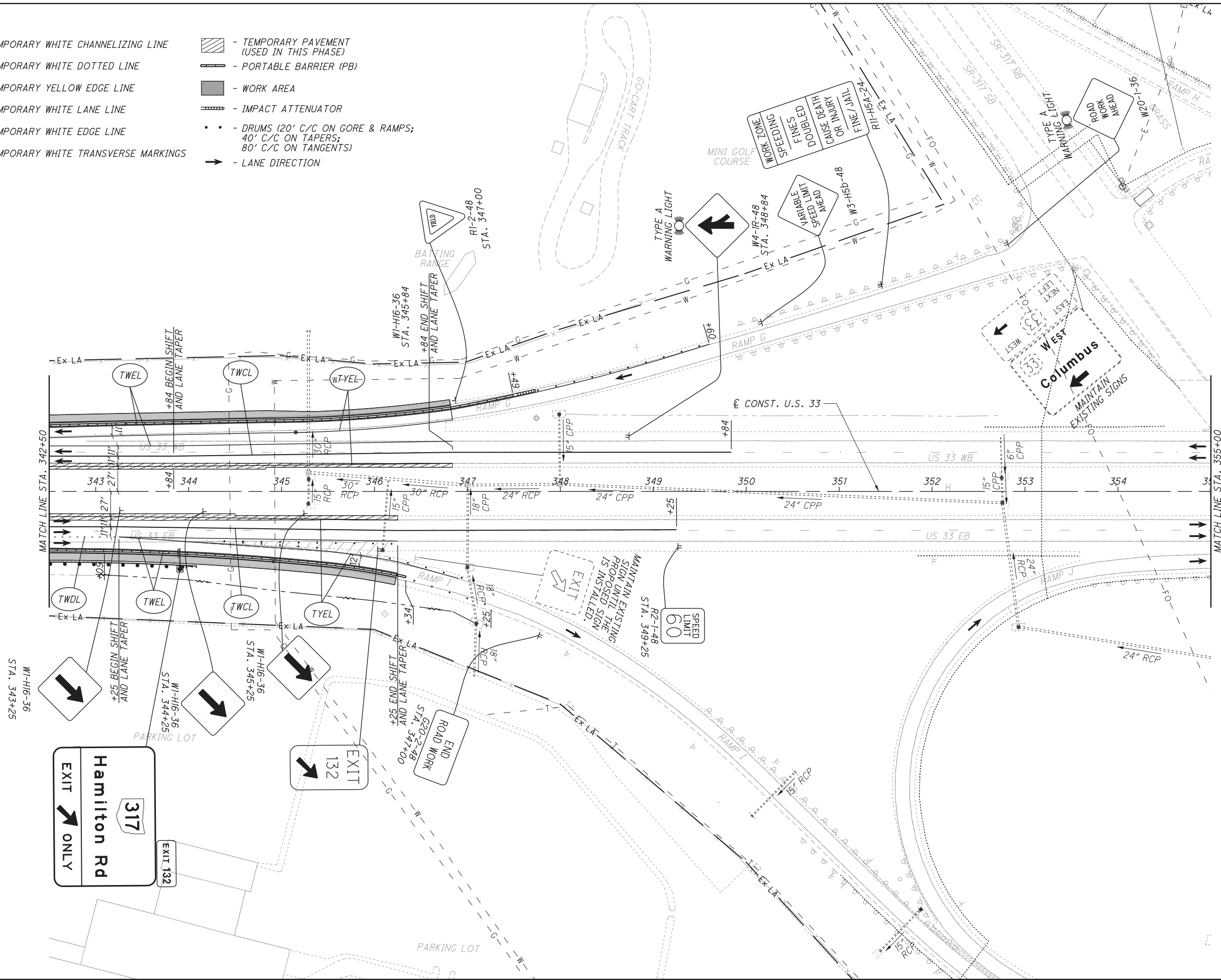
CALCULATED  
EJC  
CHECKED  
ABS

0 50 100  
25  
HORIZONTAL  
SCALE IN FEET

**MOT PLAN - PHASE 1**  
**STA. 330+00 TO STA. 342+50**

- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS

- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Solid Grey Box] - WORK AREA
- [Dashed Line with Tick] - IMPACT ATTENUATOR
- [Dotted Circle] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

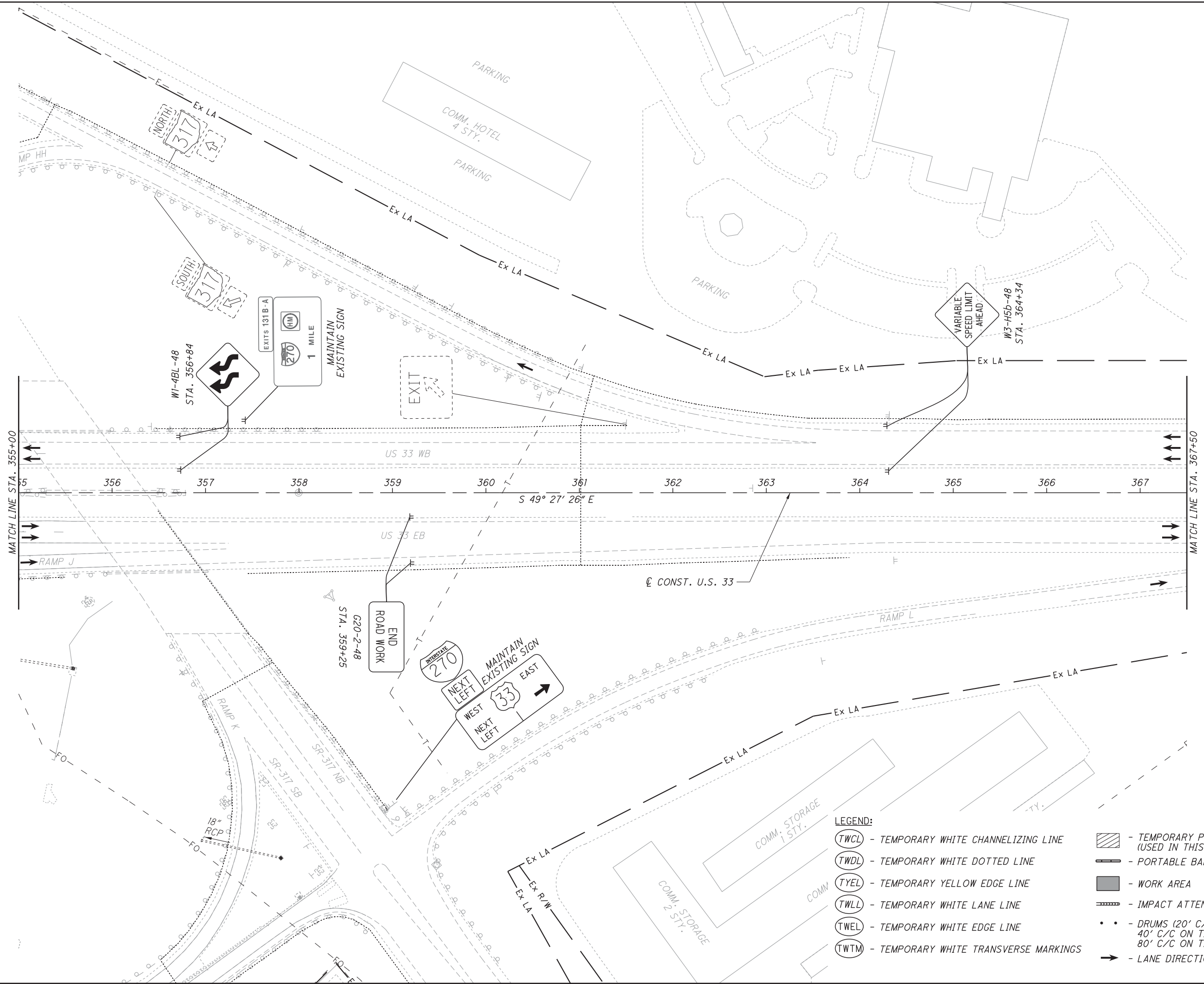


CALCULATED EJC CHECKED ABS

0 50 100 HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 1**  
**STA. 342+50 TO STA. 355+00**

**FRA -33-24.26**



**LEGEND:**

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Solid Grey Box] - WORK AREA
- [Dashed Line with Triangles] - IMPACT ATTENUATOR
- [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION













CALCULATED  
EJC  
CHECKED  
ABS

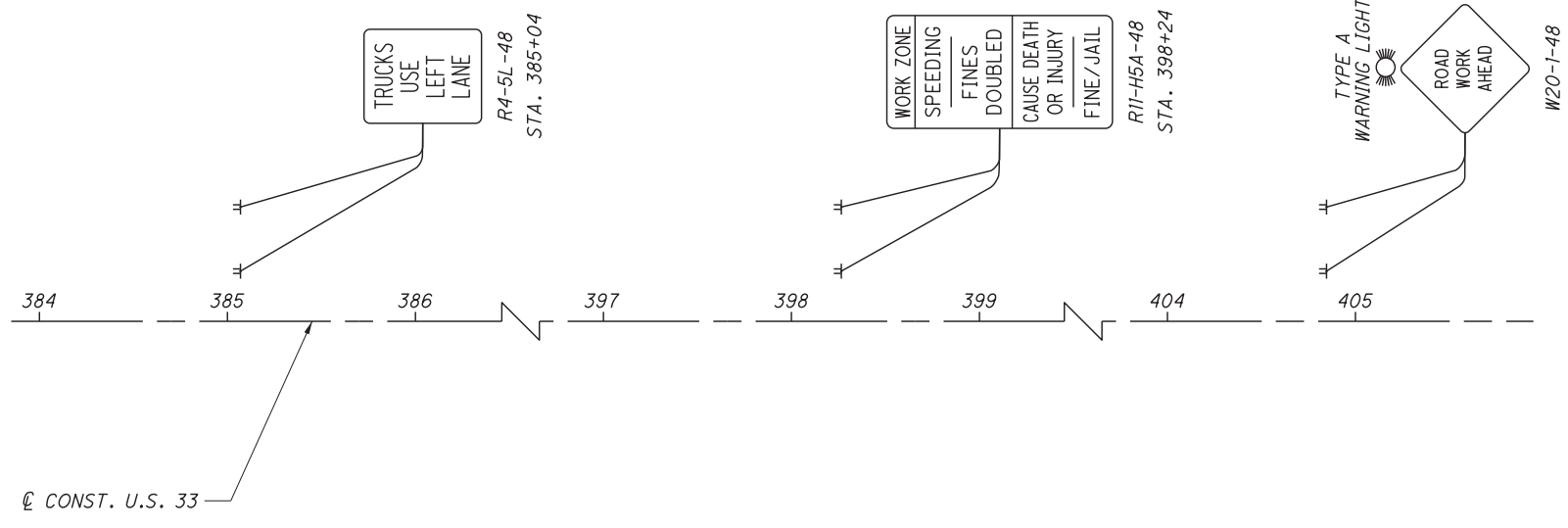
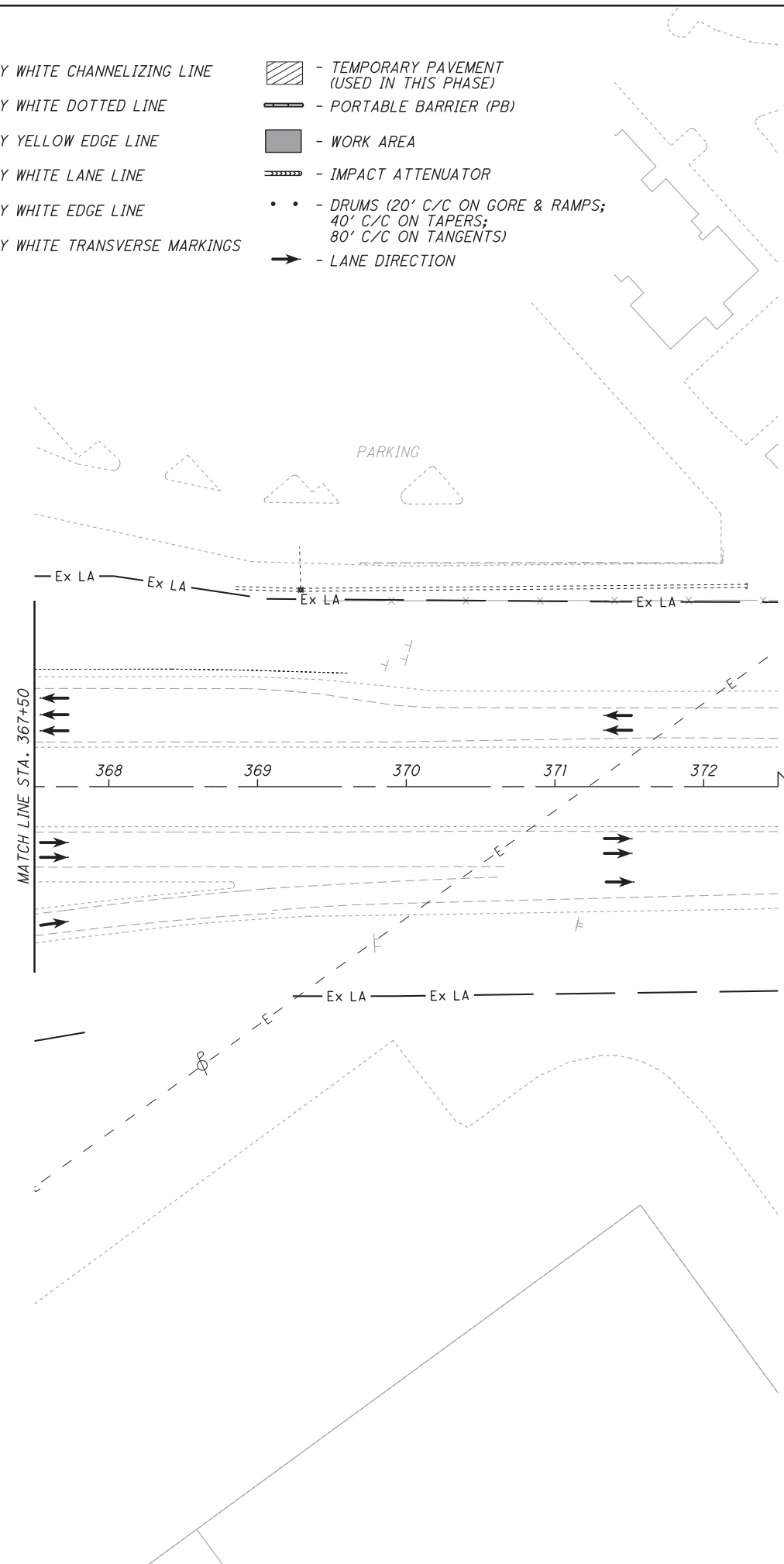
0 50 100  
25  
HORIZONTAL  
SCALE IN FEET

**MOT PLAN - PHASE 1  
STA. 355+00 TO STA. 367+50**

**FRA-33-24.26**

**LEGEND:**

-  - TEMPORARY WHITE CHANNELIZING LINE
-  - TEMPORARY WHITE DOTTED LINE
-  - TEMPORARY YELLOW EDGE LINE
-  - TEMPORARY WHITE LANE LINE
-  - TEMPORARY WHITE EDGE LINE
-  - TEMPORARY WHITE TRANSVERSE MARKINGS
-  - TEMPORARY PAVEMENT (USED IN THIS PHASE)
-  - PORTABLE BARRIER (PB)
-  - WORK AREA
-  - IMPACT ATTENUATOR
-  - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
-  - LANE DIRECTION



CALCULATED EJC CHECKED ABS




HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 1**  
**STA. 367+50 TO END WORK**

**FRA - 33 - 24.26**

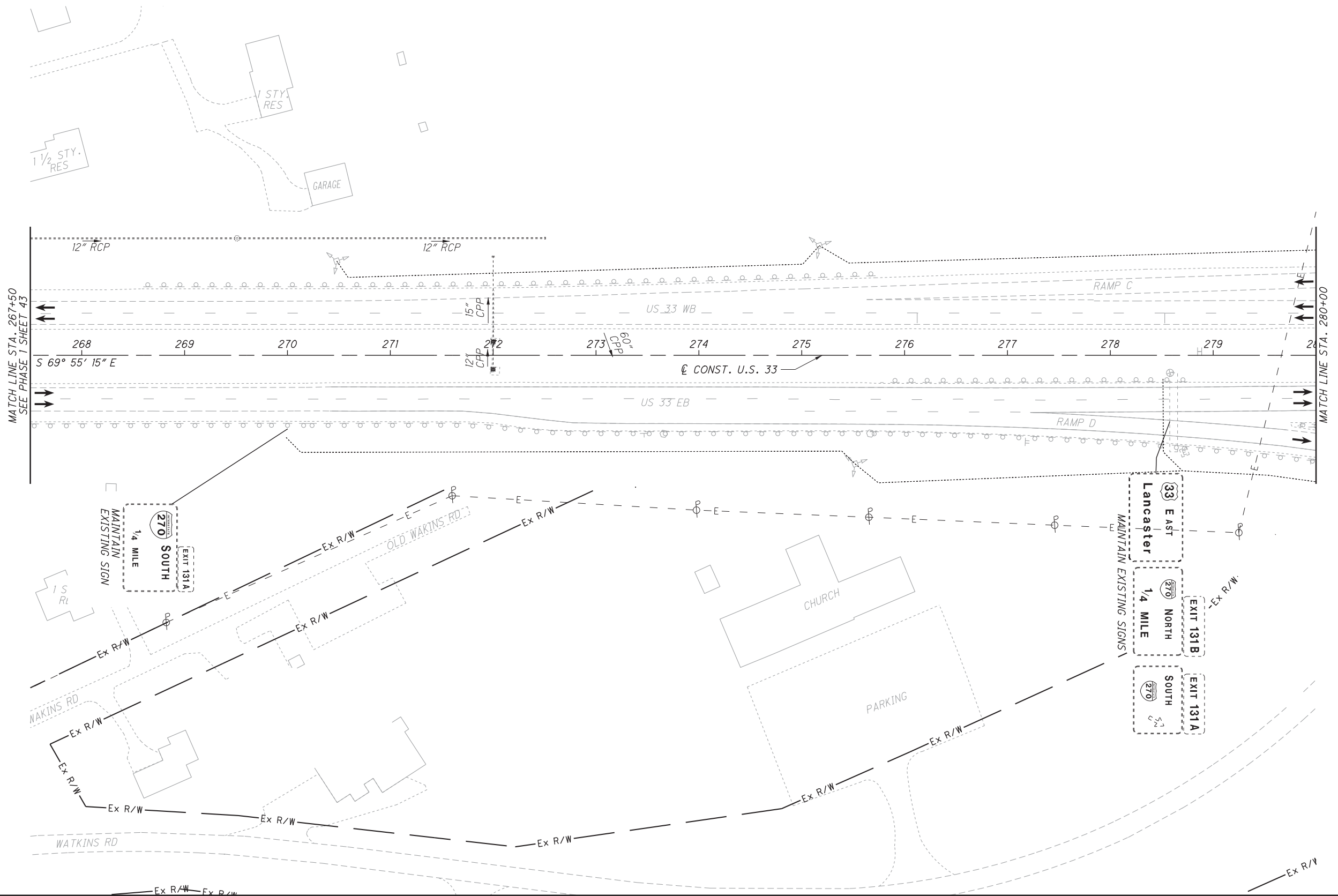
**LEGEND:**

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Grey Box] - WORK AREA
- [Dashed Line with Arrow] - IMPACT ATTENUATOR
- [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

ALL SIGNS AND STRIPING FROM PHASE 1 REMAIN WITH THE EXCEPTIONS SHOWN. EVERYTHING ON THE EASTBOUND SIDE OF U.S. 33 IS THE SAME AS PHASE 1.

CALCULATED EJC CHECKED ABS

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HORIZONTAL SCALE IN FEET



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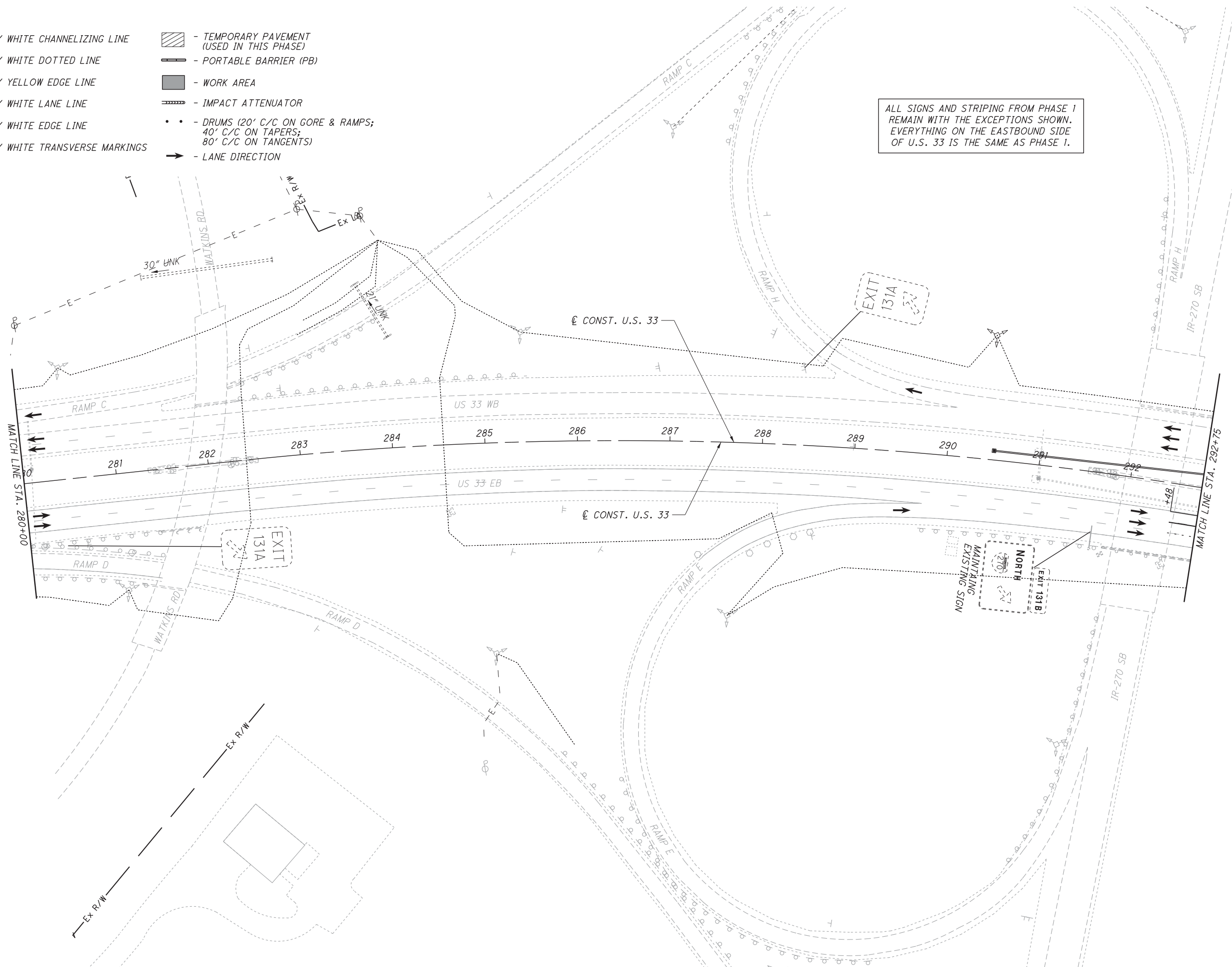
**MOT PLAN - PHASE 1A**  
**STA. 267+50 TO STA. 280+00**

**FRA-33-24.26**

**LEGEND:**

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Solid Grey Box] - WORK AREA
- [Dashed Line with Triangles] - IMPACT ATTENUATOR
- [Dotted Line with Circles] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

ALL SIGNS AND STRIPING FROM PHASE 1 REMAIN WITH THE EXCEPTIONS SHOWN. EVERYTHING ON THE EASTBOUND SIDE OF U.S. 33 IS THE SAME AS PHASE 1.



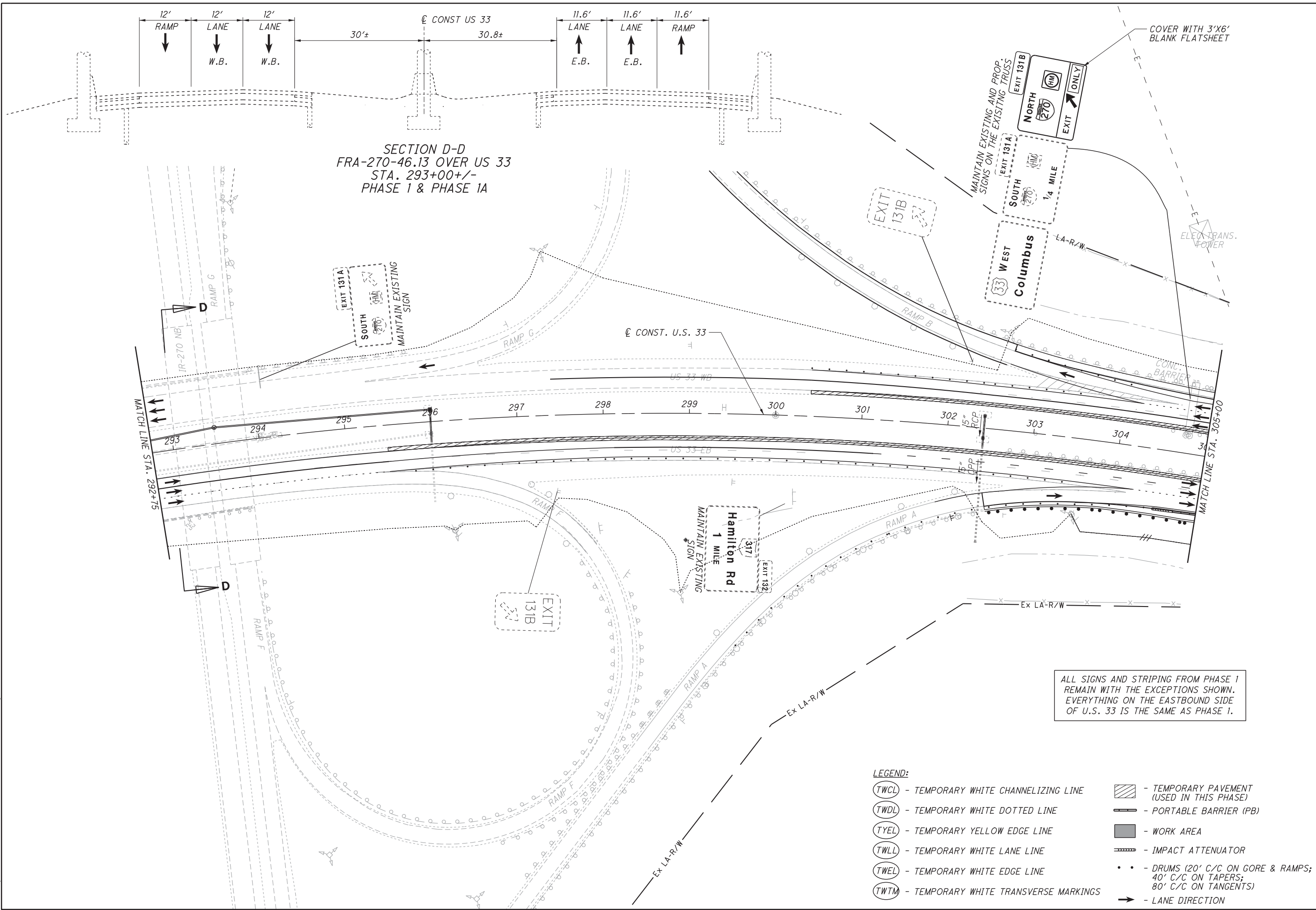
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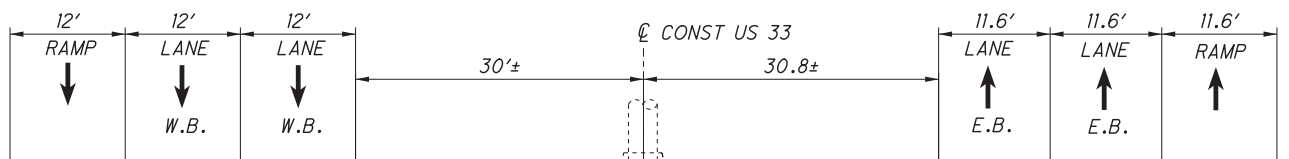
**MOT PLAN - PHASE 1A**  
**STA. 280+00 TO STA. 292+75**

**FRA -33-24.26**

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SECTION D-D  
FRA-270-46.13 OVER US 33  
STA. 293+00+/-  
PHASE 1 & PHASE 1A



ALL SIGNS AND STRIPING FROM PHASE 1 REMAIN WITH THE EXCEPTIONS SHOWN. EVERYTHING ON THE EASTBOUND SIDE OF U.S. 33 IS THE SAME AS PHASE 1.

- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
  - (Hatched) - TEMPORARY PAVEMENT (USED IN THIS PHASE)
  - (PB) - PORTABLE BARRIER (PB)
  - (Grey) - WORK AREA
  - (Dashed) - IMPACT ATTENUATOR
  - (Dots) - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
  - (Arrow) - LANE DIRECTION

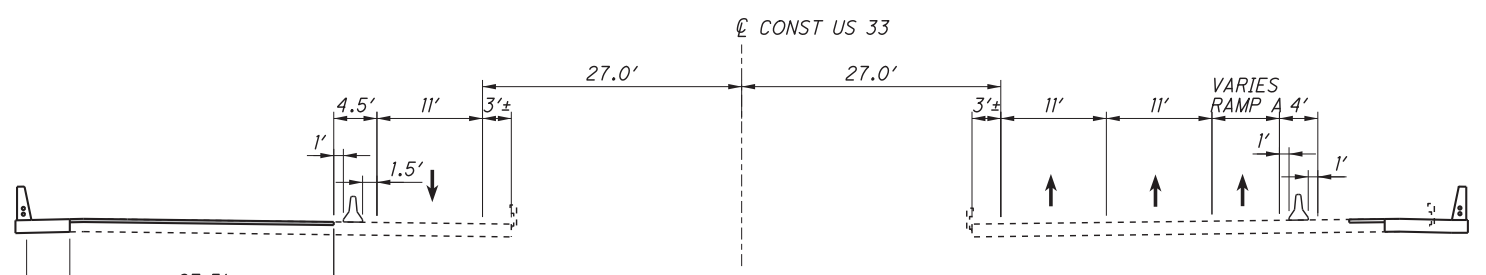
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HORIZONTAL SCALE IN FEET

MOT PLAN - PHASE 1A  
STA. 292+75 TO STA. 305+00

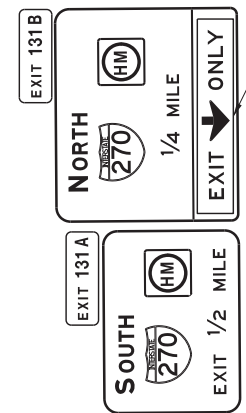
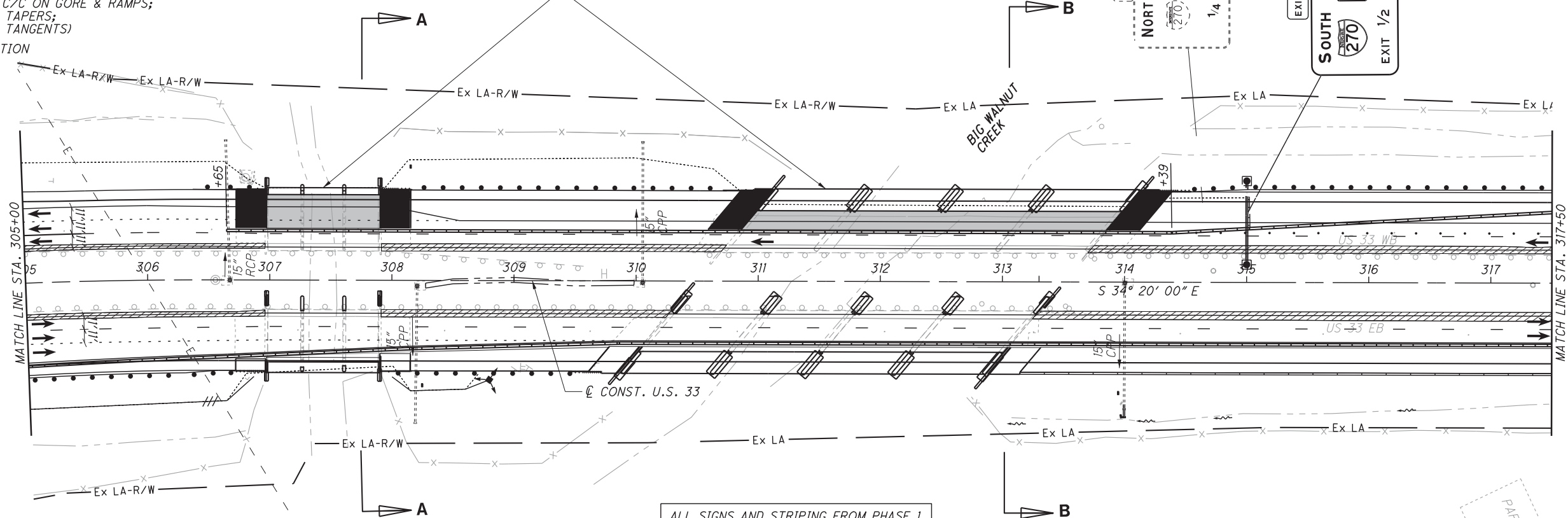
**LEGEND:**

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Solid Line] - PORTABLE BARRIER (PB)
- [Grey Box] - WORK AREA
- [Black Box] - PROPOSED APPROACH SLAB WORK
- [Dashed Line] - IMPACT ATTENUATOR
- [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

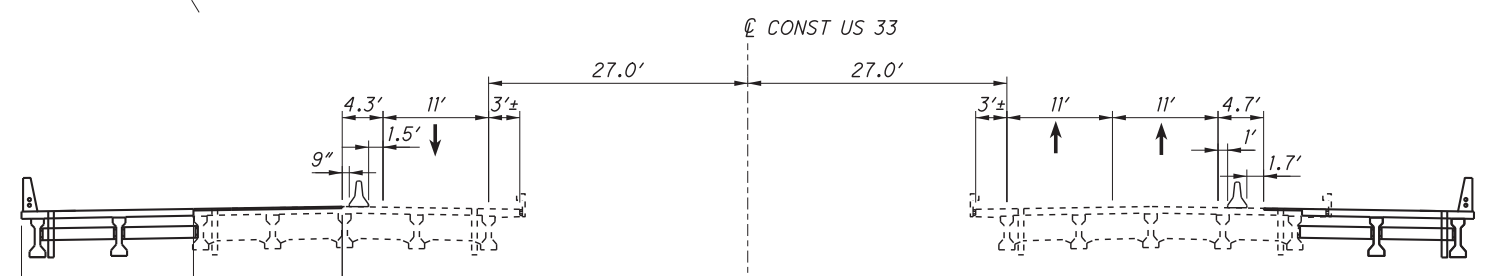


**SECTION A-A**  
 FRA-33-25.03 L/R OVER WALNUT CREEK OVERFLOW  
 STA. 307+89 +/- PHASE 1A - REMOVAL & CONSTRUCTION  
 (WEEKEND WORK ONLY - LIMITED PER PIAC APPROVAL; SEE MOT NOTES)

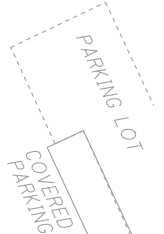
APPROACH SLABS - 1ST WEEKEND OF PHASE 1A (STEP 1)  
 SDC OVERLAY - 2ND WEEKEND OF PHASE 1A (STEP 2)  
 "SEE BRIDGE PLANS FOR MORE INFORMATION"



NEXT RIGHT  
 SPECIAL -  
 BLACK ON ORANGE 14'X3'



**SECTION B-B**  
 FRA-33-25.09 L/R OVER BIG WALNUT CREEK  
 STA. 313+00 +/-  
 PHASE 1A - REMOVAL & CONSTRUCTION  
 (WEEKEND WORK ONLY - LIMITED PER PIAC APPROVAL; SEE MOT NOTES)



CALCULATED	
EJC	
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ABS	

**MOT PLAN - PHASE 1A**  
**STA. 305+00 TO STA. 317+50**

**FRA-33-24.26**

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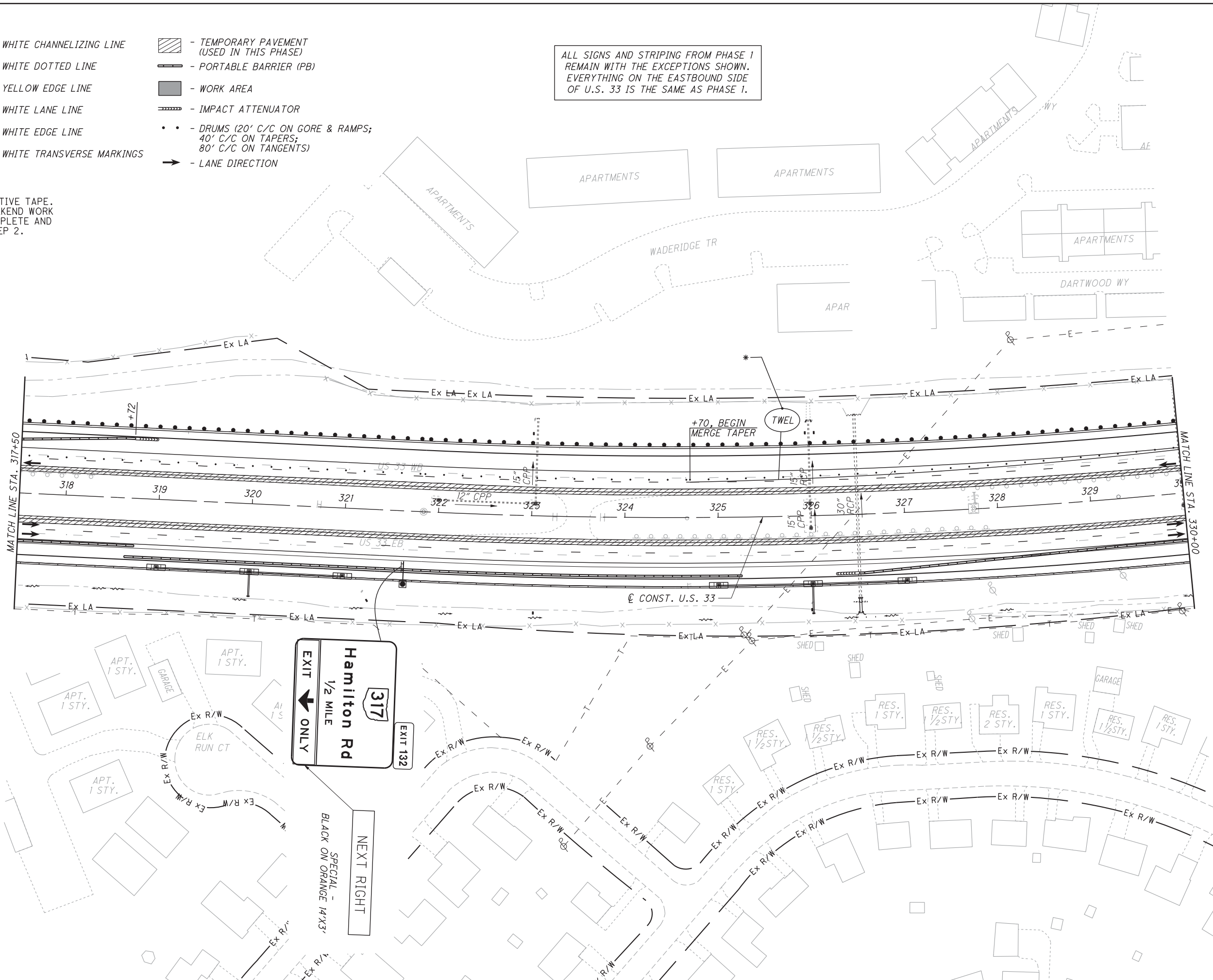


**LEGEND:**

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Solid Grey Box] - WORK AREA
- [Dashed Line with Triangles] - IMPACT ATTENUATOR
- [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

\* 873-WET REFLECTIVE TAPE. REMOVE AFTER WEEKEND WORK FOR STEP 1 IS COMPLETE AND REINSTALL FOR STEP 2.

ALL SIGNS AND STRIPING FROM PHASE 1 REMAIN WITH THE EXCEPTIONS SHOWN. EVERYTHING ON THE EASTBOUND SIDE OF U.S. 33 IS THE SAME AS PHASE 1.



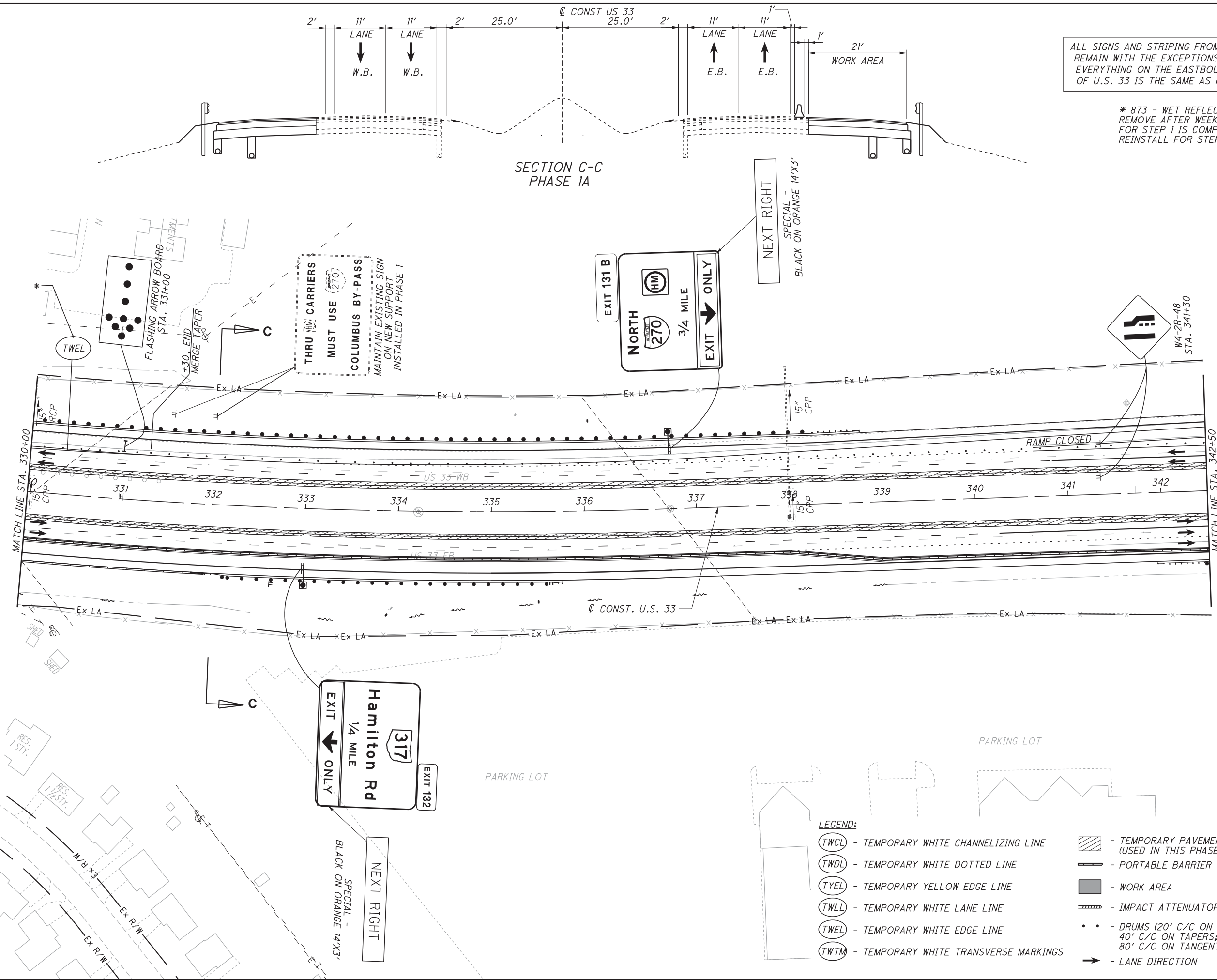
CALCULATED EJC CHECKED ABS

0 50 100  
25  
HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 1A**  
**STA. 317+50 TO STA. 330+00**

**FRA-33-24.26**

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ALL SIGNS AND STRIPING FROM PHASE 1 REMAIN WITH THE EXCEPTIONS SHOWN. EVERYTHING ON THE EASTBOUND SIDE OF U.S. 33 IS THE SAME AS PHASE 1.

\* 873 - WET REFLECTIVE TAPE. REMOVE AFTER WEEKEND WORK FOR STEP 1 IS COMPLETE AND REINSTALL FOR STEP 2.

CALCULATED EJC CHECKED ABS

0 50 100 HORIZONTAL SCALE IN FEET

MOT PLAN - PHASE 1A  
STA. 330+00 TO STA. 342+50

FRA - 33 - 24.26

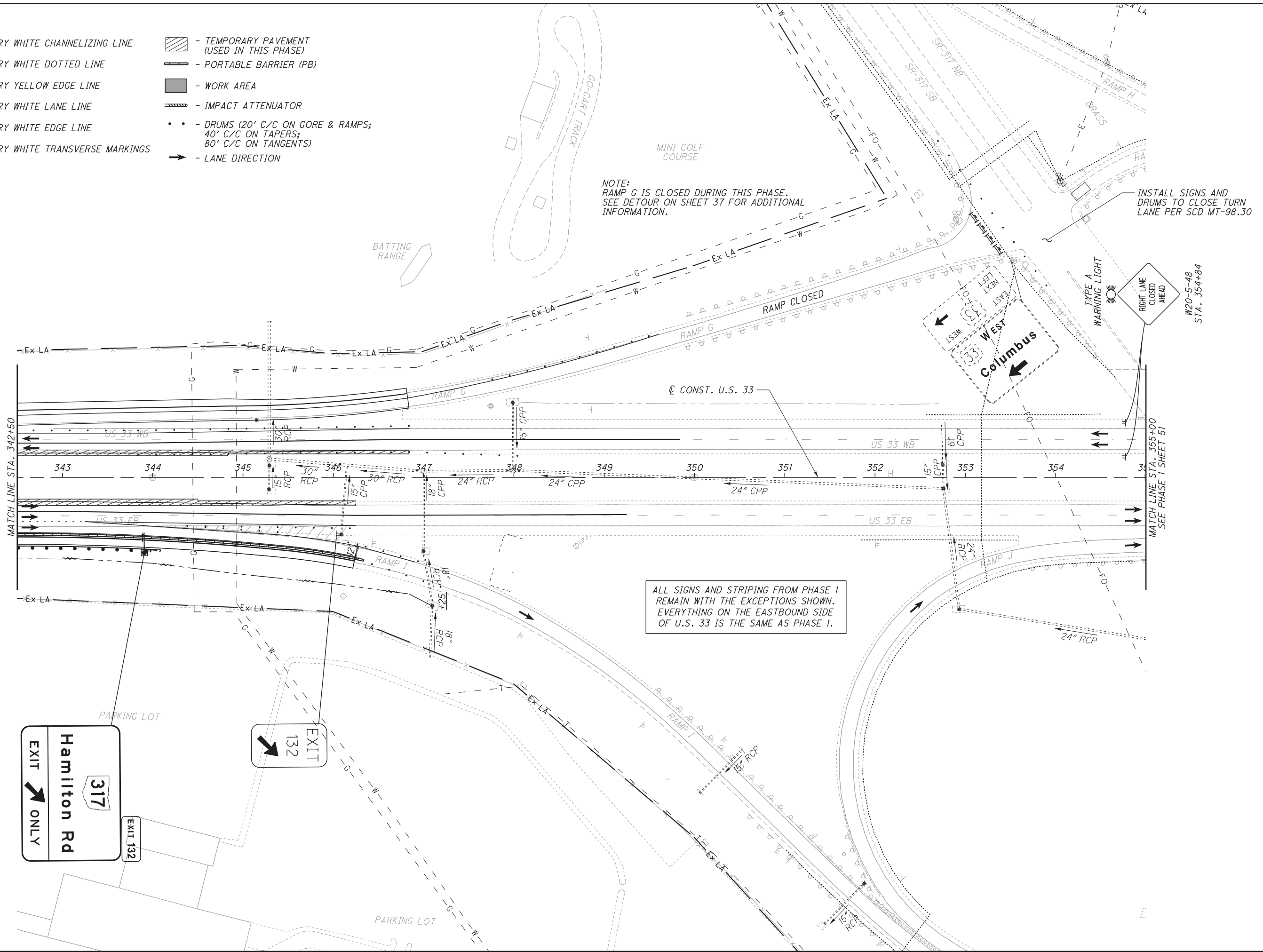
**LEGEND:**

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Solid Grey Box] - WORK AREA
- [Dashed Line with Triangles] - IMPACT ATTENUATOR
- [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

NOTE:  
RAMP G IS CLOSED DURING THIS PHASE.  
SEE DETOUR ON SHEET 37 FOR ADDITIONAL  
INFORMATION.

INSTALL SIGNS AND  
DRUMS TO CLOSE TURN  
LANE PER SCD MT-98.30

ALL SIGNS AND STRIPING FROM PHASE I  
REMAIN WITH THE EXCEPTIONS SHOWN.  
EVERYTHING ON THE EASTBOUND SIDE  
OF U.S. 33 IS THE SAME AS PHASE I.



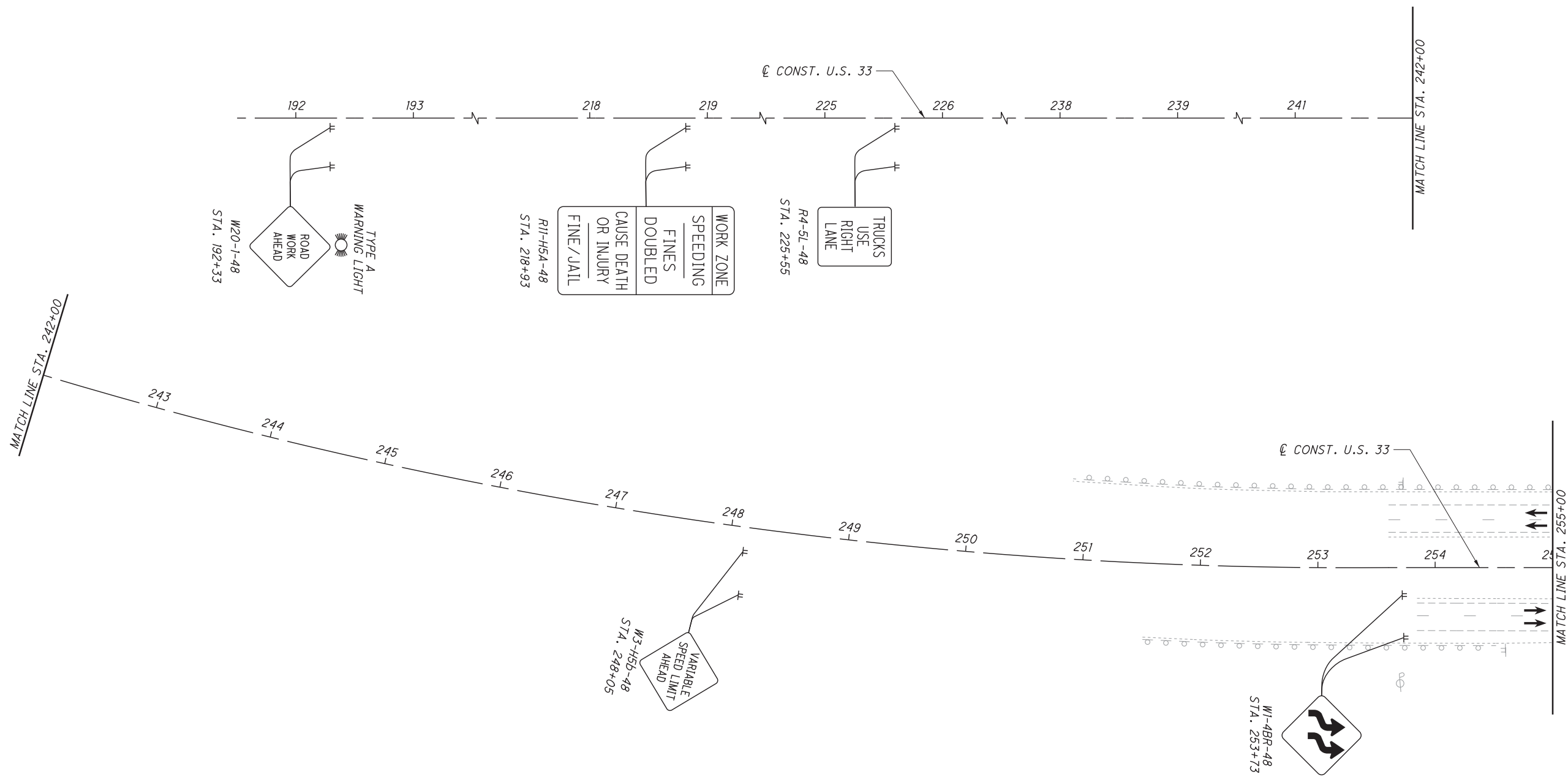
CALCULATED EJC CHECKED ABS

0 50 100  
25  
HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 1A**  
**STA. 342+50 TO STA. 355+00**

**LEGEND:**

- |  |  |
|--|--|
| (TWCL) - TEMPORARY WHITE CHANNELIZING LINE   | - TEMPORARY PAVEMENT (USED IN THIS PHASE)  |
| (TWDL) - TEMPORARY WHITE DOTTED LINE         | - PORTABLE BARRIER (PB)  |
| (TYEL) - TEMPORARY YELLOW EDGE LINE          | - WORK AREA  |
| (TWLL) - TEMPORARY WHITE LANE LINE           | - IMPACT ATTENUATOR  |
| (TWEL) - TEMPORARY WHITE EDGE LINE           | •• - DRUMS (20' C/C ON GORE & RAMPS;<br>40' C/C ON TAPERS;<br>80' C/C ON TANGENTS) |
| (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS | - LANE DIRECTION   |



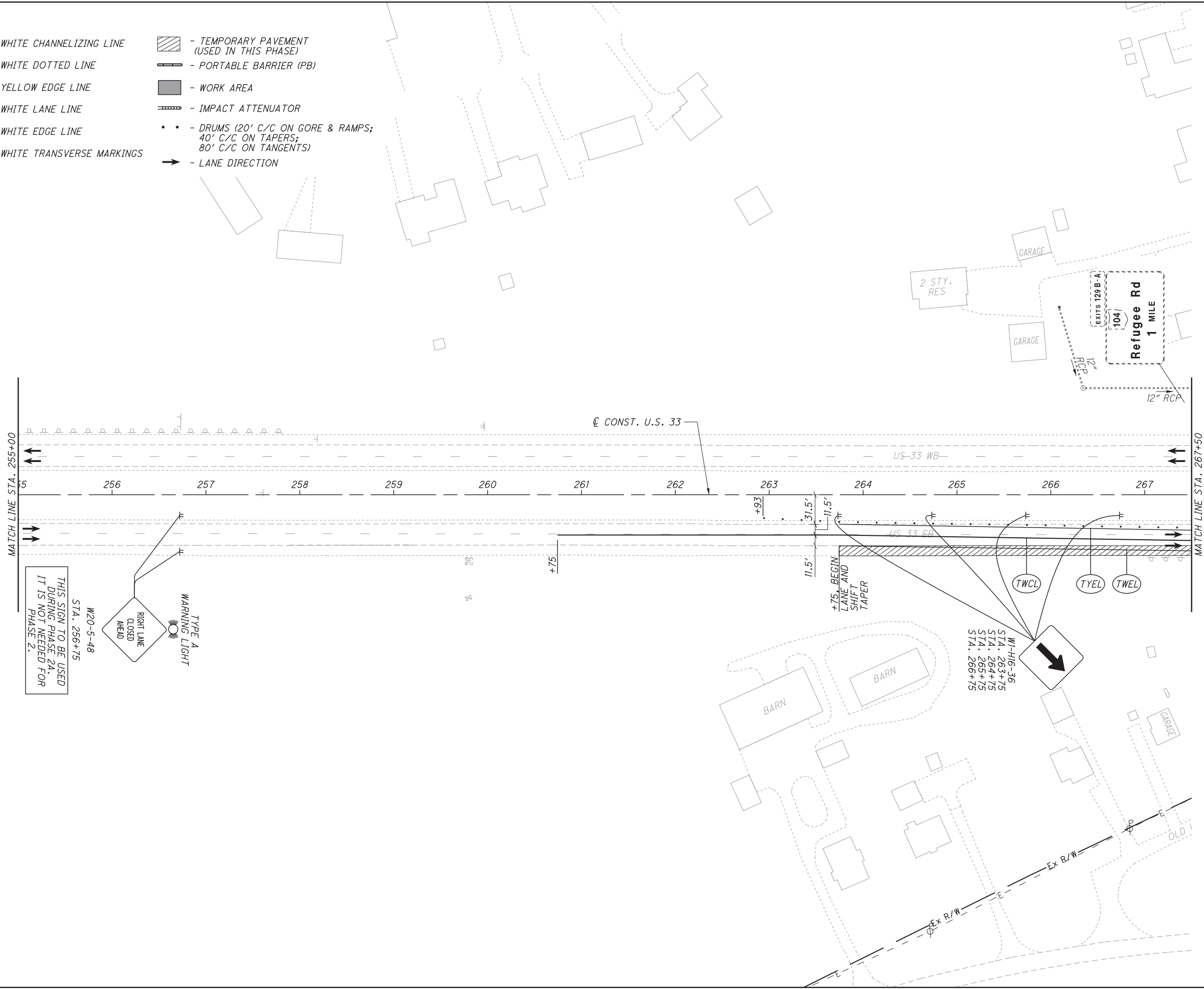
CALCULATED	
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CHECKED	
ABS	

0 50 100  
HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 2  
BEGIN WORK TO STA. 255+00**

- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS

- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Grey Box] - WORK AREA
- [Dashed Line with Arrow] - IMPACT ATTENUATOR
- [Dotted Circle] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION



CALCULATED 0  
EJC 25  
CHECKED 100  
ABS

HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 2**  
**STA. 255+00 TO STA. 267+50**

**LEGEND:**

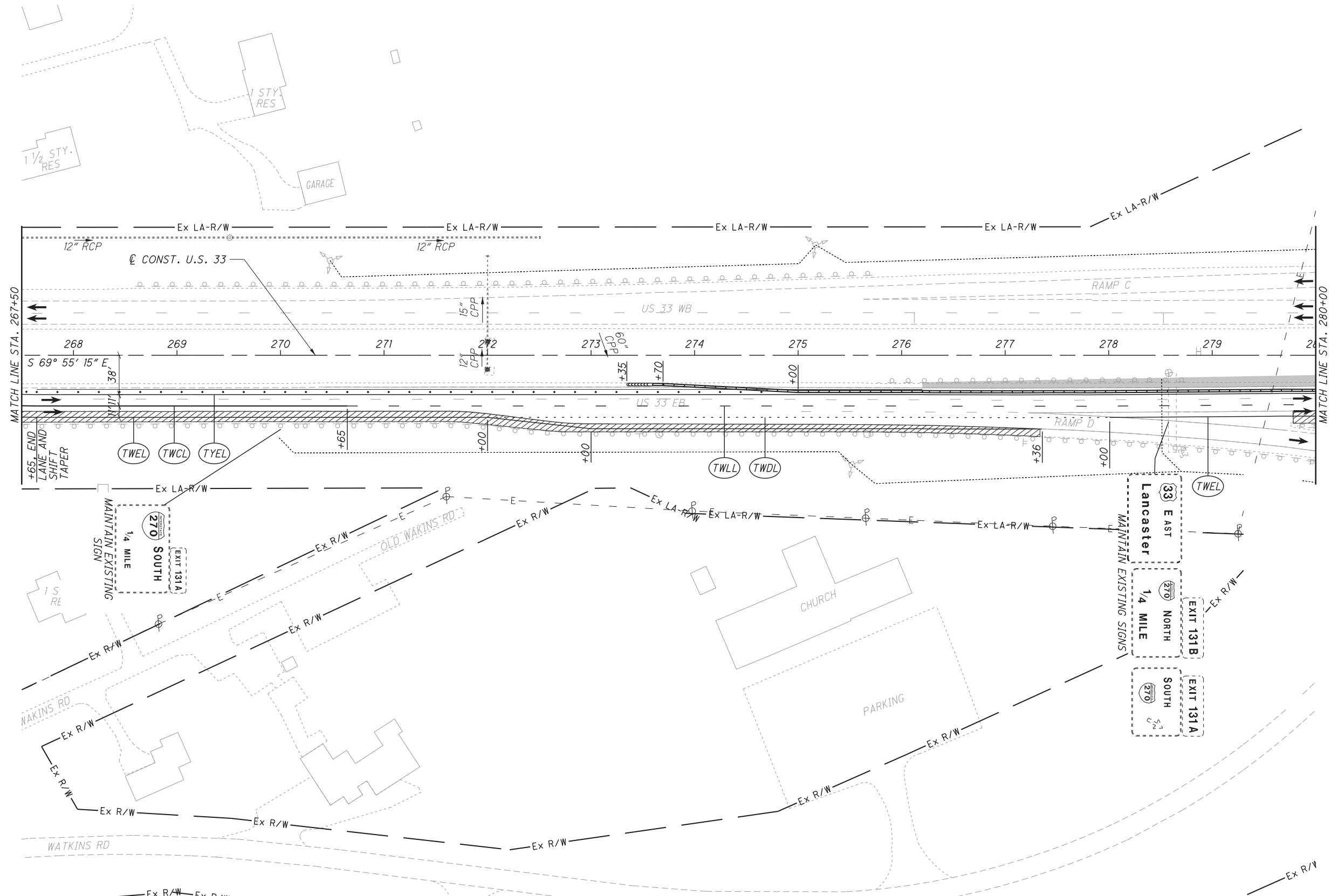
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- (Hatched Box) - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- (Dashed Line) - PORTABLE BARRIER (PB)
- (Grey Box) - WORK AREA
- (Dashed Line with Arrow) - IMPACT ATTENUATOR
- (Dotted Line) - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- (Arrow) - LANE DIRECTION

CALCULATED EJC CHECKED ABS

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25  
HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 2  
STA. 267+50 TO STA. 280+00**

**FRA -33-24.26**



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**LEGEND:**

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED DURING THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Grey Box] - WORK AREA
- [Dotted Line] - IMPACT ATTENUATOR
- [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

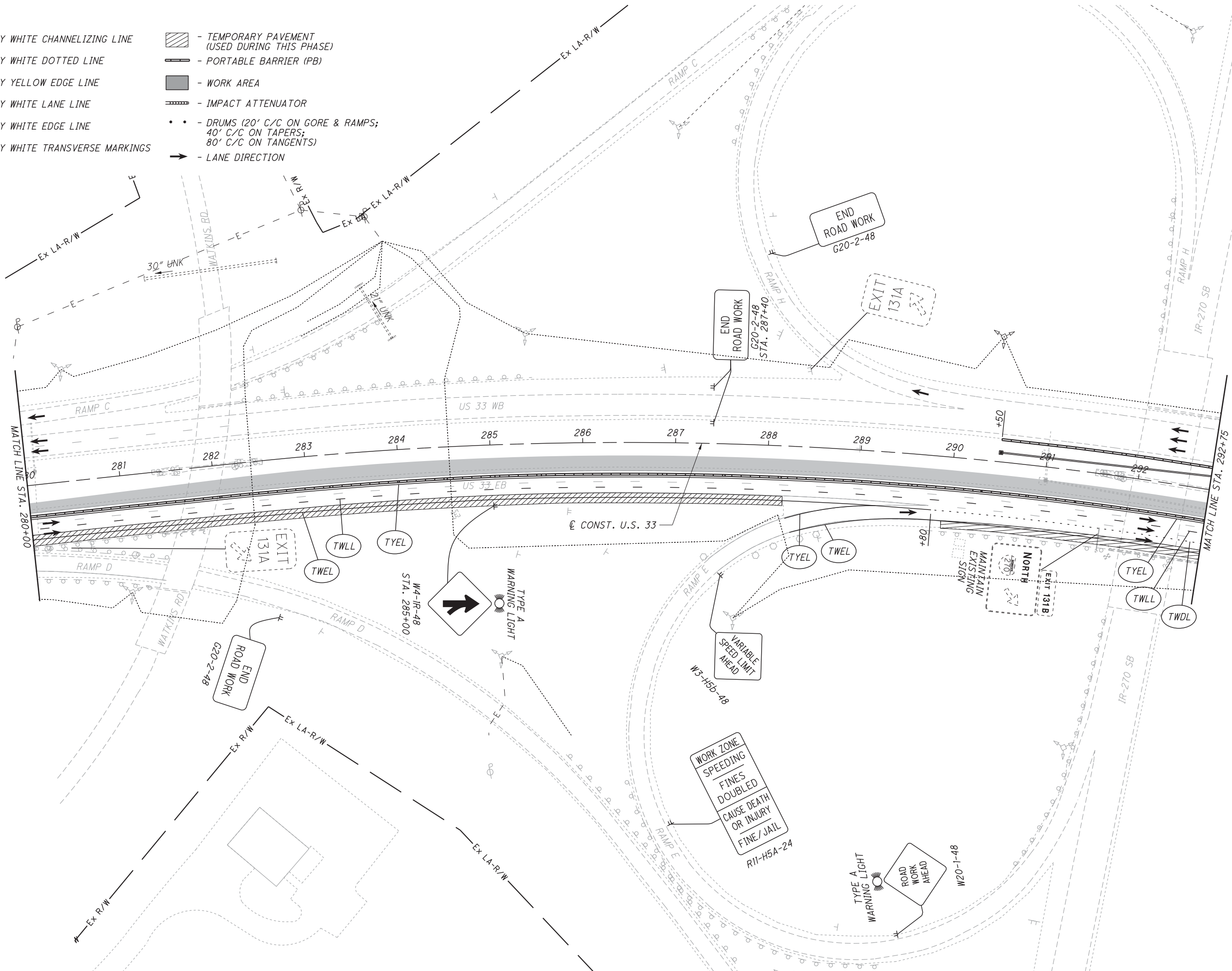
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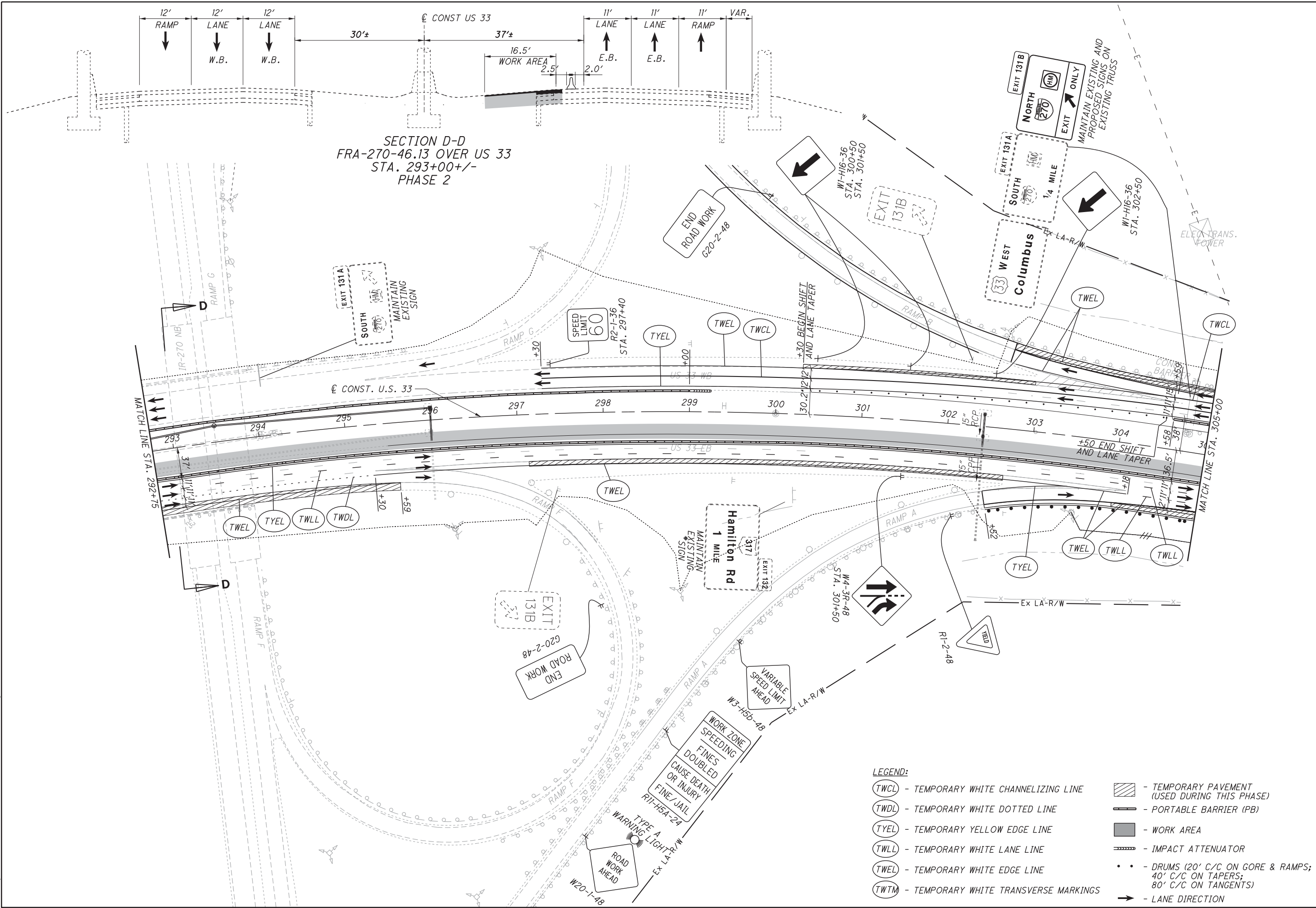
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HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 2**  
**STA. 280+00 TO STA. 292+75**

**FRA -33-24.26**

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SECTION D-D  
FRA-270-46.13 OVER US 33  
STA. 293+00+/-  
PHASE 2

CALCULATED EJC CHECKED ABS

0 25 50 100  
HORIZONTAL SCALE IN FEET













MOT PLAN - PHASE 2  
STA. 292+50 75 STA. 305+00

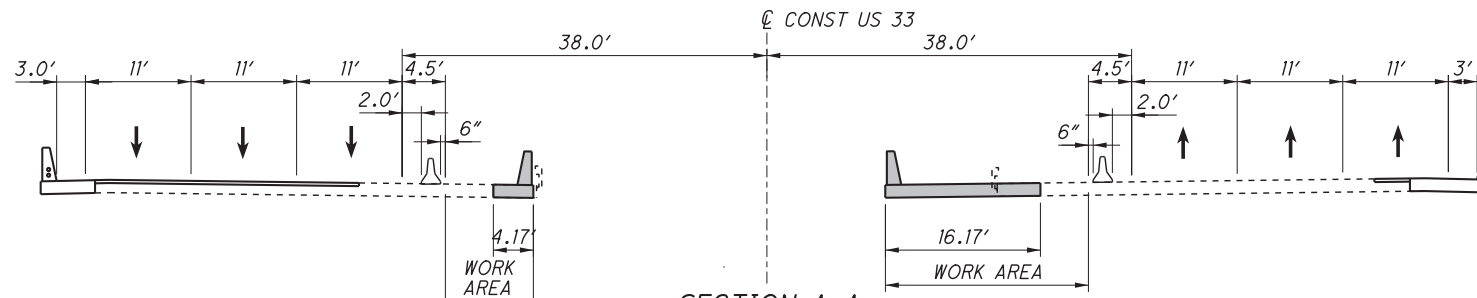
FRA-33-24.26  
64  
287

- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
  - [Hatched Box] - TEMPORARY PAVEMENT (USED DURING THIS PHASE)
  - [Dashed Line] - PORTABLE BARRIER (PB)
  - [Solid Grey Box] - WORK AREA
  - [Line with Triangles] - IMPACT ATTENUATOR
  - [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
  - [Arrow] - LANE DIRECTION

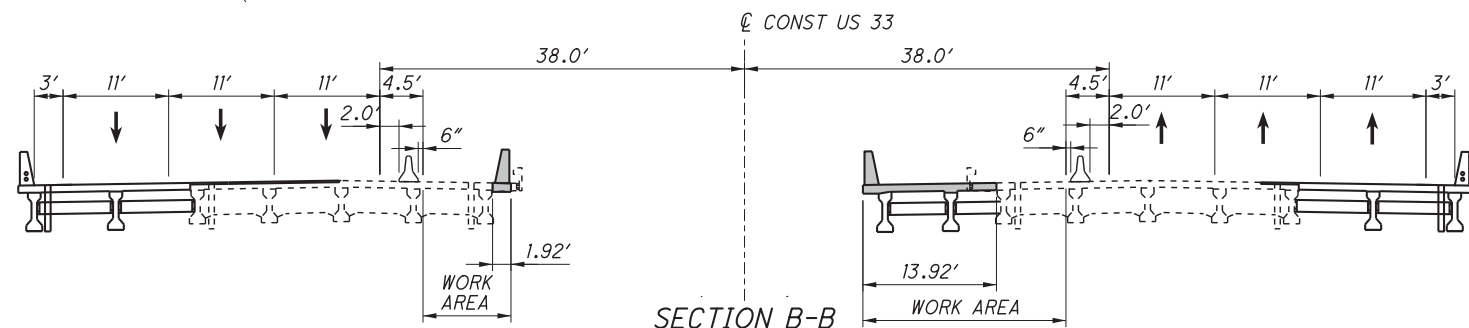
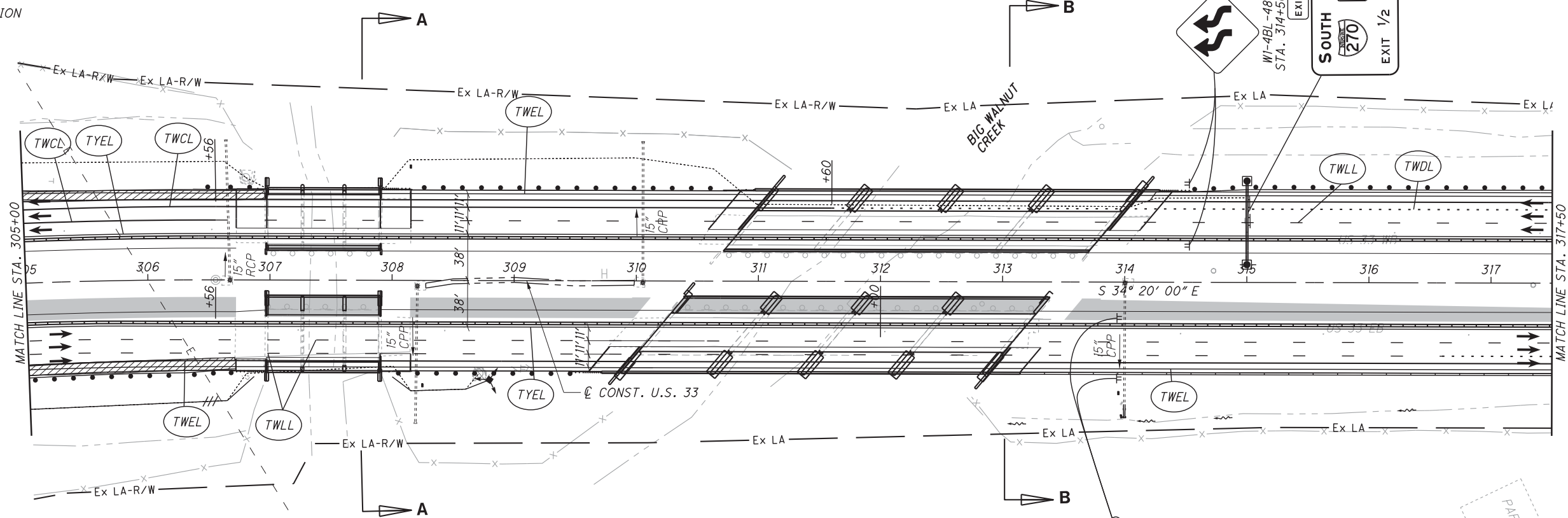


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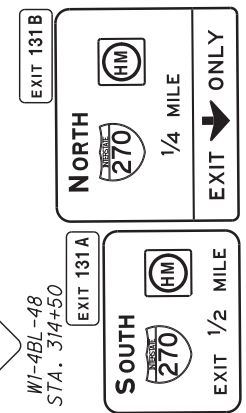
-  - TEMPORARY WHITE CHANNELIZING LINE
-  - TEMPORARY WHITE DOTTED LINE
-  - TEMPORARY YELLOW EDGE LINE
-  - TEMPORARY WHITE LANE LINE
-  - TEMPORARY WHITE EDGE LINE
-  - TEMPORARY WHITE TRANSVERSE MARKINGS
-  - TEMPORARY PAVEMENT (USED DURING THIS PHASE)
-  - PORTABLE BARRIER (PB)
-  - WORK AREA
-  - IMPACT ATTENUATOR
-  - DRUMS (20' C/C ON GORE & RAMPS;  
40' C/C ON TAPERS;  
80' C/C ON TANGENTS)
-  - LANE DIRECTION



**SECTION A-A**  
**FRA-33-25.03 L/R OVER WALNUT CREEK OVERFLOW**  
**STA. 307+89 +/-**  
**PHASE 2 - REMOVAL & CONSTRUCTION**



**SECTION B-B**  
**FRA-33-25.09 L/R OVER BIG WALNUT CREEK**  
**STA. 313+00 +/-**  
**PHASE 2 - REMOVAL & CONSTRUCTION**



**MOT PLAN - PHASE 2**  
**STA. 305+00 TO STA. 317+50**

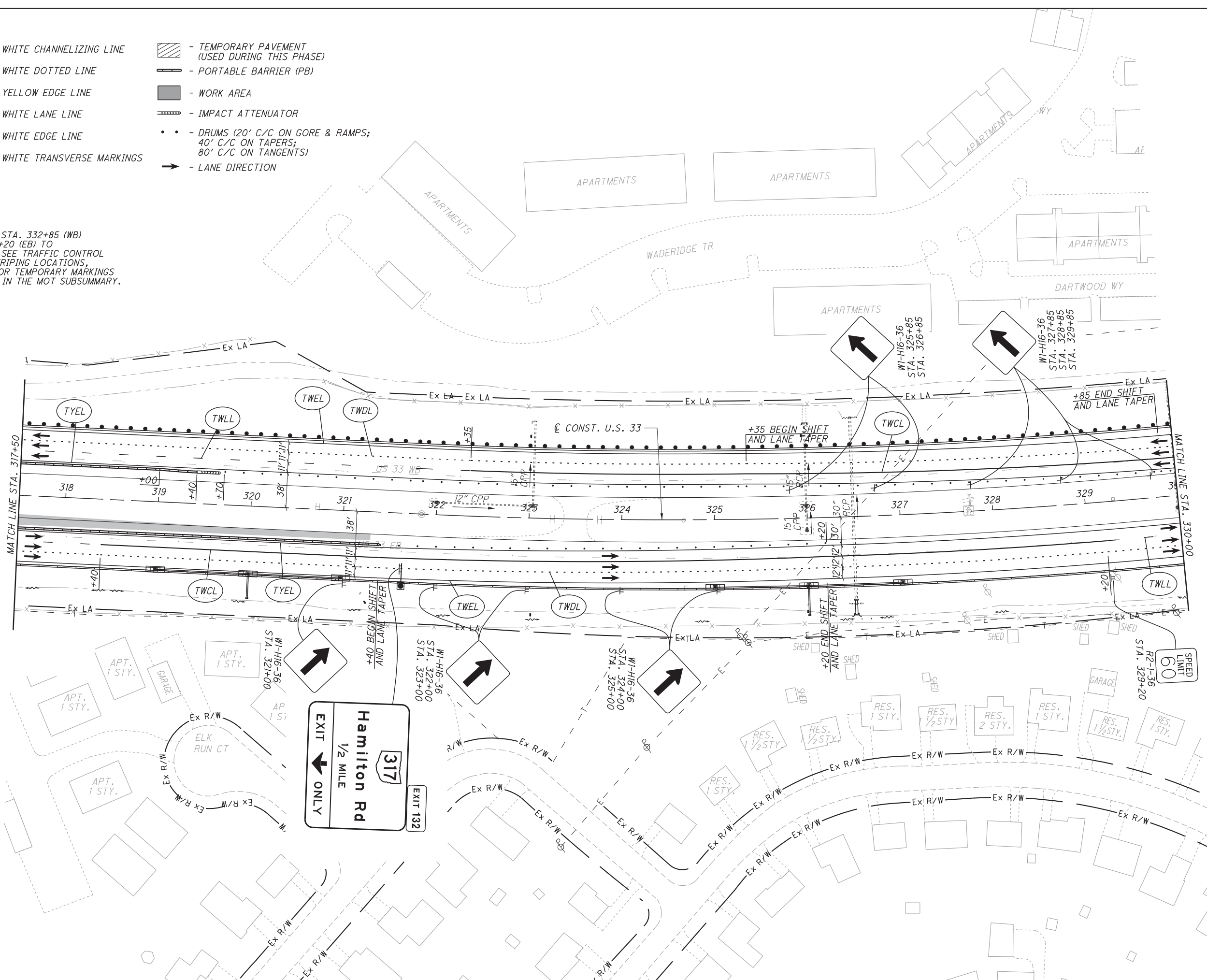
**FRA-33-24.26**

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**LEGEND:**

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED DURING THIS PHASE)
- [Line with Dashes] - PORTABLE BARRIER (PB)
- [Solid Grey Box] - WORK AREA
- [Line with Triangles] - IMPACT ATTENUATOR
- [Dotted Circle] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

NOTE 1: FROM STA. 332+85 (WB) AND STA. 329+20 (EB) TO STA. 349+84, SEE TRAFFIC CONTROL PLANS FOR STRIPING LOCATIONS, QUANTITIES FOR TEMPORARY MARKINGS ARE INCLUDED IN THE MOT SUBSUMMARY.



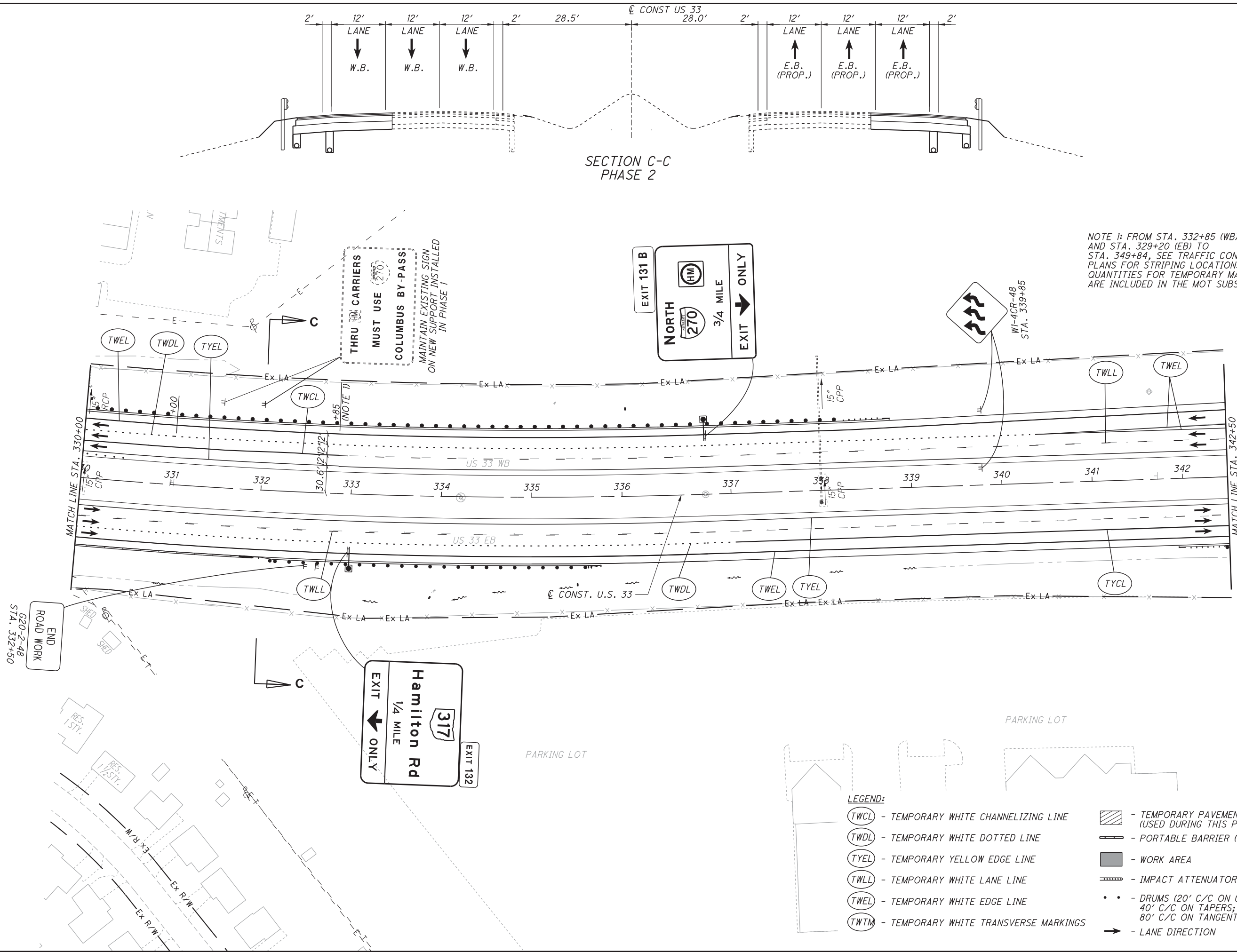
CALCULATED EJC CHECKED ABS

0 50 100 HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 2**  
**STA. 317+50 TO STA. 330+00**

**FRA-33-24.26**

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NOTE 1: FROM STA. 332+85 (WB) AND STA. 329+20 (EB) TO STA. 349+84, SEE TRAFFIC CONTROL PLANS FOR STRIPING LOCATIONS, QUANTITIES FOR TEMPORARY MARKINGS ARE INCLUDED IN THE MOT SUBSUMMARY.

CALCULATED EJC CHECKED ABS













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25  
HORIZONTAL SCALE IN FEET

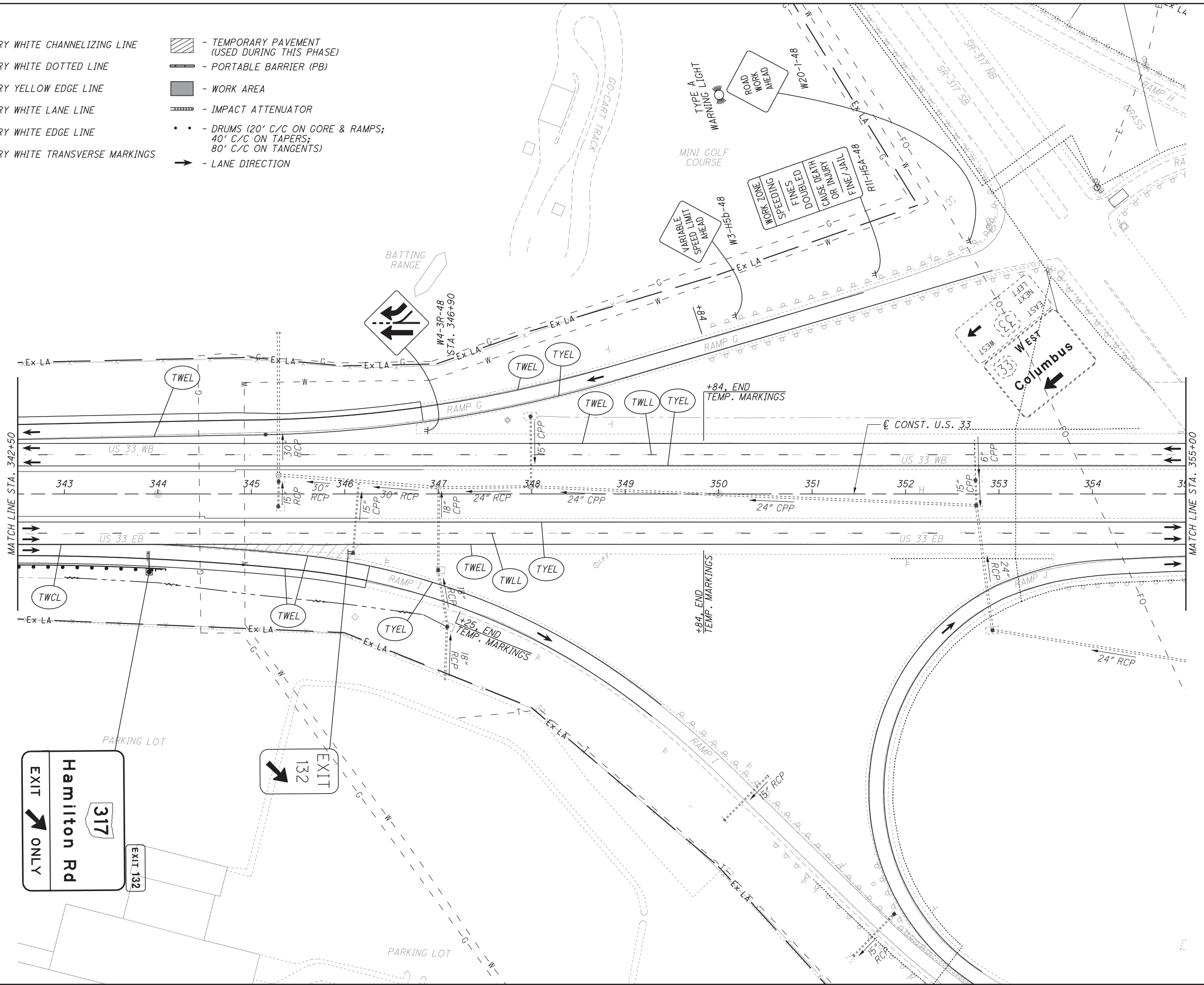
MOT PLAN - PHASE 2  
STA. 330+00 TO STA. 342+50

FRA - 33 - 24.26

- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
  - [Hatched Box] - TEMPORARY PAVEMENT (USED DURING THIS PHASE)
  - [Line with Dashes] - PORTABLE BARRIER (PB)
  - [Solid Box] - WORK AREA
  - [Line with Triangles] - IMPACT ATTENUATOR
  - [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
  - [Arrow] - LANE DIRECTION

**LEGEND:**

-  - TEMPORARY WHITE CHANNELIZING LINE
-  - TEMPORARY WHITE DOTTED LINE
-  - TEMPORARY YELLOW EDGE LINE
-  - TEMPORARY WHITE LANE LINE
-  - TEMPORARY WHITE EDGE LINE
-  - TEMPORARY WHITE TRANSVERSE MARKINGS
-  - TEMPORARY PAVEMENT (USED DURING THIS PHASE)
-  - PORTABLE BARRIER (PB)
-  - WORK AREA
-  - IMPACT ATTENUATOR
-  - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
-  - LANE DIRECTION

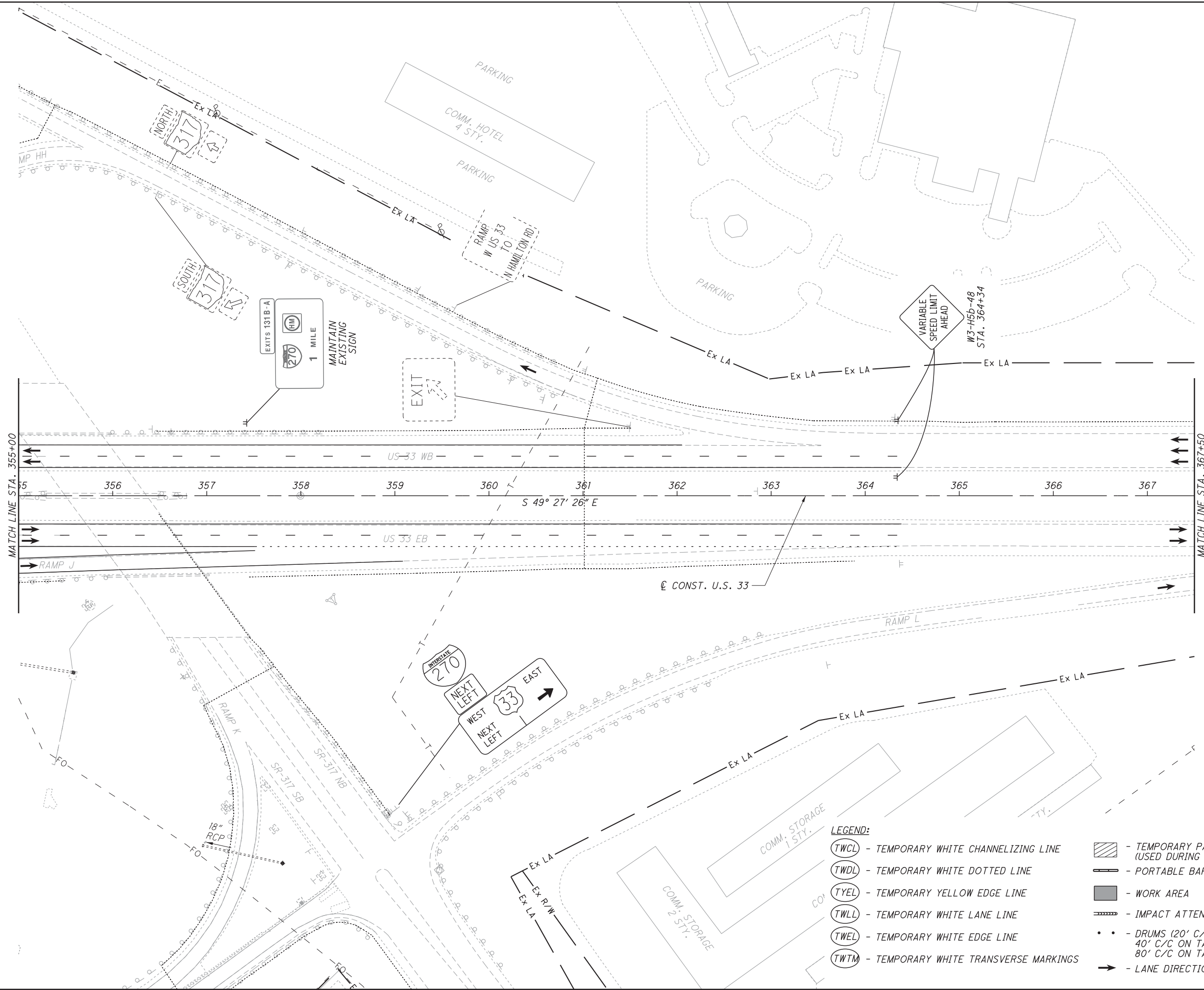


CALCULATED EJC CHECKED ABS

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25  
HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 2**  
**STA. 342+50 TO STA. 355+00**

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- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
  - [Hatched Box] - TEMPORARY PAVEMENT (USED DURING THIS PHASE)
  - [Dashed Line] - PORTABLE BARRIER (PB)
  - [Solid Grey Box] - WORK AREA
  - [Dashed Line with Triangles] - IMPACT ATTENUATOR
  - [Dotted Circle] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
  - [Arrow] - LANE DIRECTION

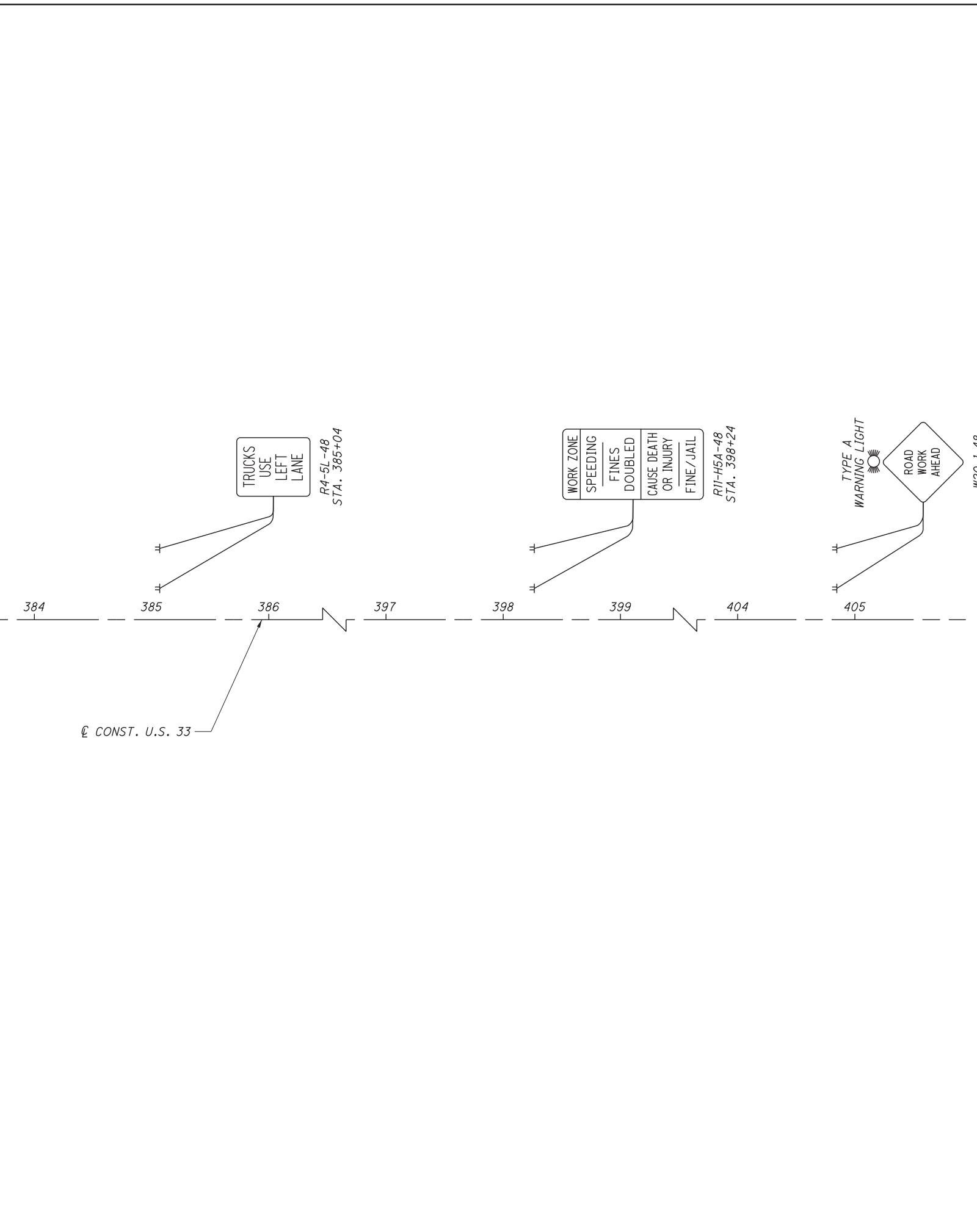
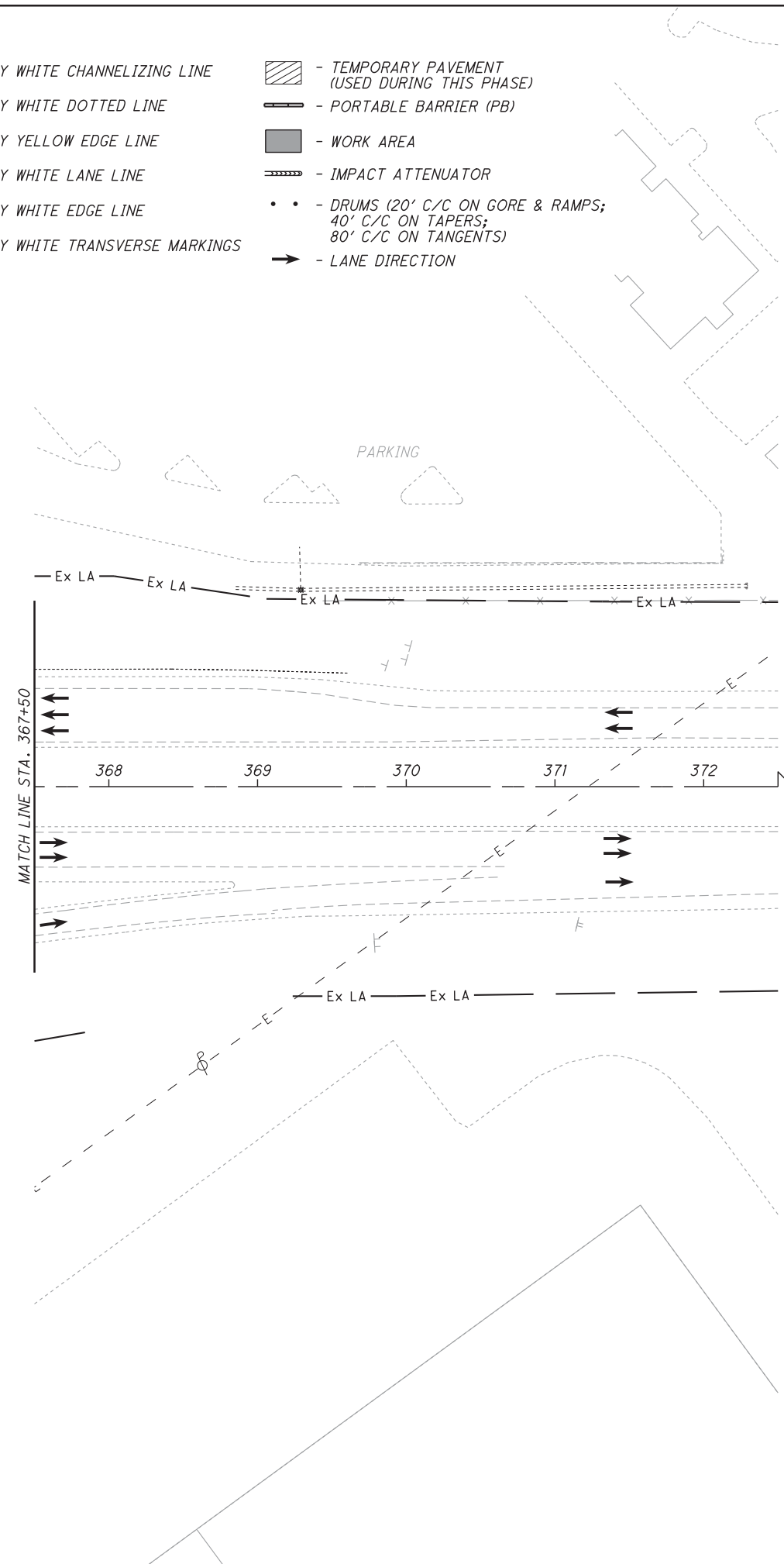
CALCULATED  
EJC  
CHECKED  
ABS

0 50 100  
25  
HORIZONTAL  
SCALE IN FEET

**MOT PLAN - PHASE 2**  
**STA. 355+00 TO STA. 367+50**

**LEGEND:**

-  - TEMPORARY WHITE CHANNELIZING LINE
-  - TEMPORARY WHITE DOTTED LINE
-  - TEMPORARY YELLOW EDGE LINE
-  - TEMPORARY WHITE LANE LINE
-  - TEMPORARY WHITE EDGE LINE
-  - TEMPORARY WHITE TRANSVERSE MARKINGS
-  - TEMPORARY PAVEMENT (USED DURING THIS PHASE)
-  - PORTABLE BARRIER (PB)
-  - WORK AREA
-  - IMPACT ATTENUATOR
-  - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
-  - LANE DIRECTION



CALCULATED EJC  
CHECKED ABS




HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 2**  
**STA. 367+50 TO STA. 380+00**

**LEGEND:**

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Grey Box] - WORK AREA
- [Dotted Line] - IMPACT ATTENUATOR
- [Dotted Circle] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

ALL SIGNS AND STRIPING FROM PHASE 2 REMAIN WITH THE EXCEPTIONS SHOWN.

\*\* 873 - WET REFLECTIVE TAPE. INSTALL FOR STEPS 3 AND 4. REMOVE AFTER WEEKEND WORK FOR STEP 3 IS COMPLETE AND REINSTALL FOR STEP 4.

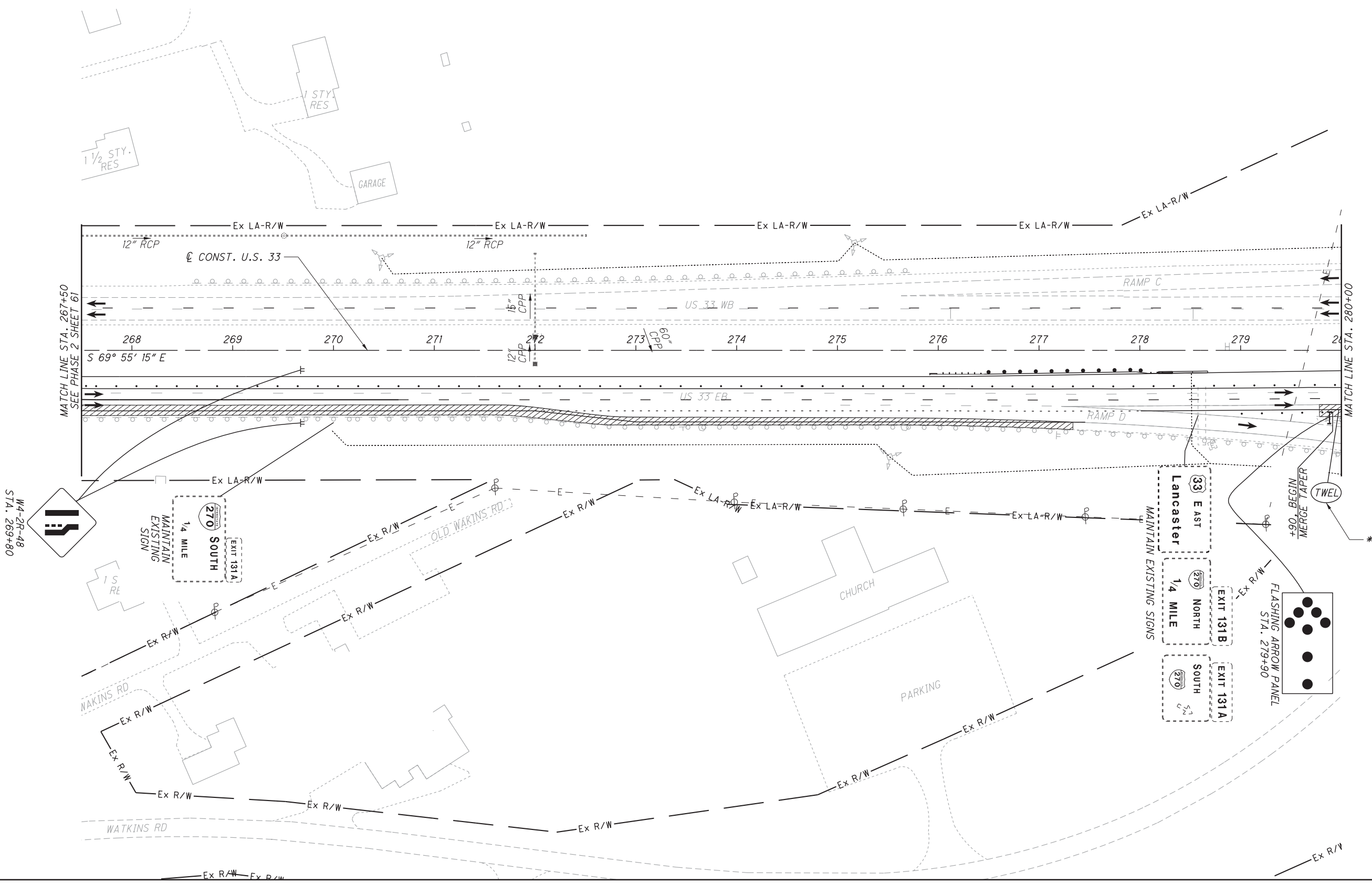
CALCULATED EJC CHECKED ABS

0 50 100 HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 2A  
STA. 267+50 TO STA. 280+00**

**FRA-33-24.26**

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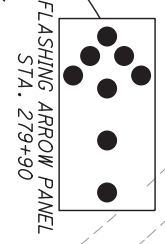


W4-2R-48  
STA. 269+80



1/4 MILE SOUTH  
EXIT 131A  
270  
LANCASTER EAST

LANCASTER EAST  
1/4 MILE NORTH  
EXIT 131B  
270  
1/4 MILE SOUTH  
EXIT 131A  
270



FLASHING ARROW PANEL  
STA. 279+90

**LEGEND:**

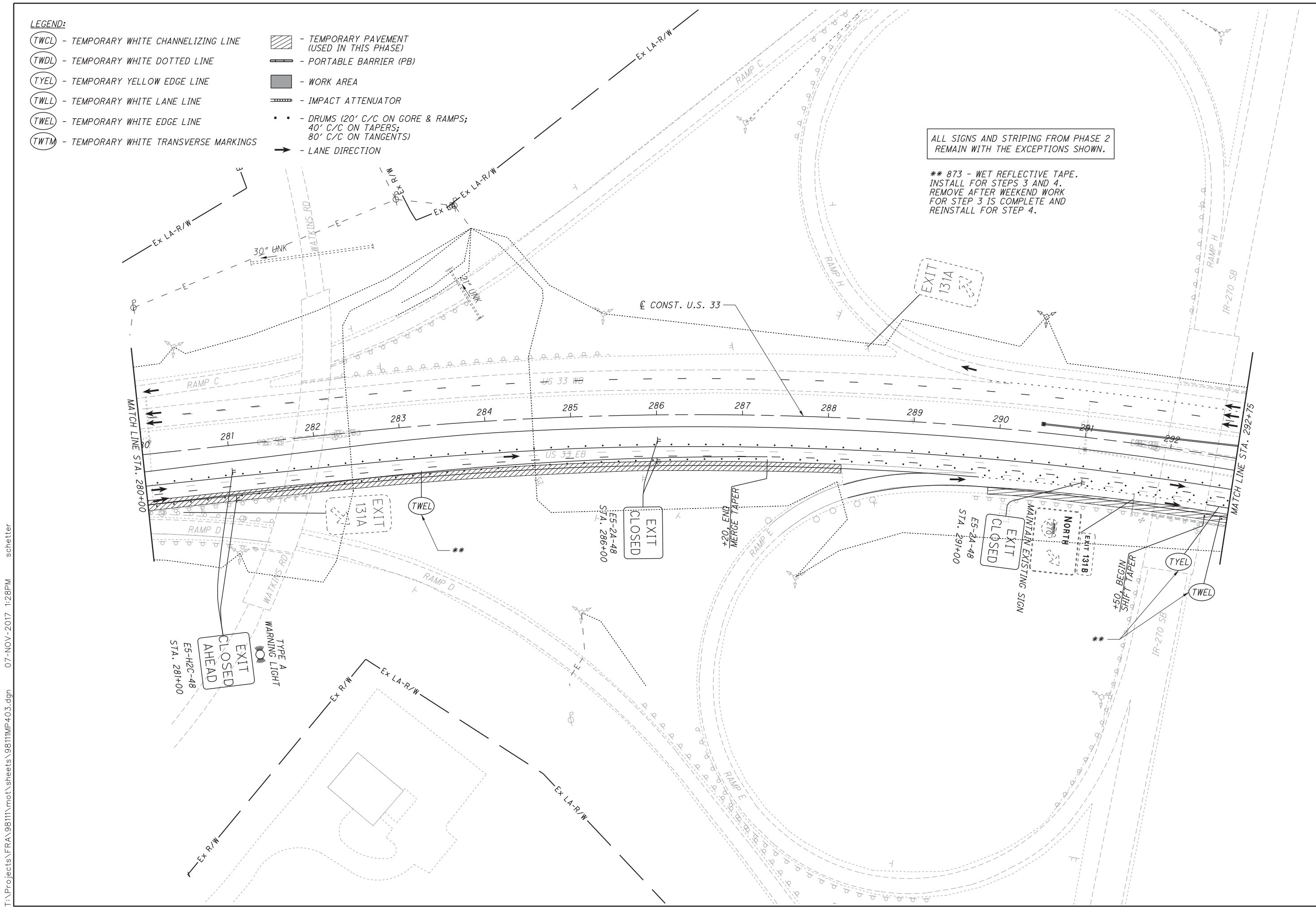
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Solid Grey Box] - WORK AREA
- [Dotted Line] - IMPACT ATTENUATOR
- [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

CALCULATED EJC CHECKED ABS

0 50 100  
25  
HORIZONTAL SCALE IN FEET

ALL SIGNS AND STRIPING FROM PHASE 2 REMAIN WITH THE EXCEPTIONS SHOWN.

\*\* 873 - WET REFLECTIVE TAPE. INSTALL FOR STEPS 3 AND 4. REMOVE AFTER WEEKEND WORK FOR STEP 3 IS COMPLETE AND REINSTALL FOR STEP 4.



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**MOT PLAN - PHASE 2A  
STA. 280+00 TO STA. 292+75**

**FRA-33-24.26**





0 50 100  
 25  
 HORIZONTAL  
 SCALE IN FEET

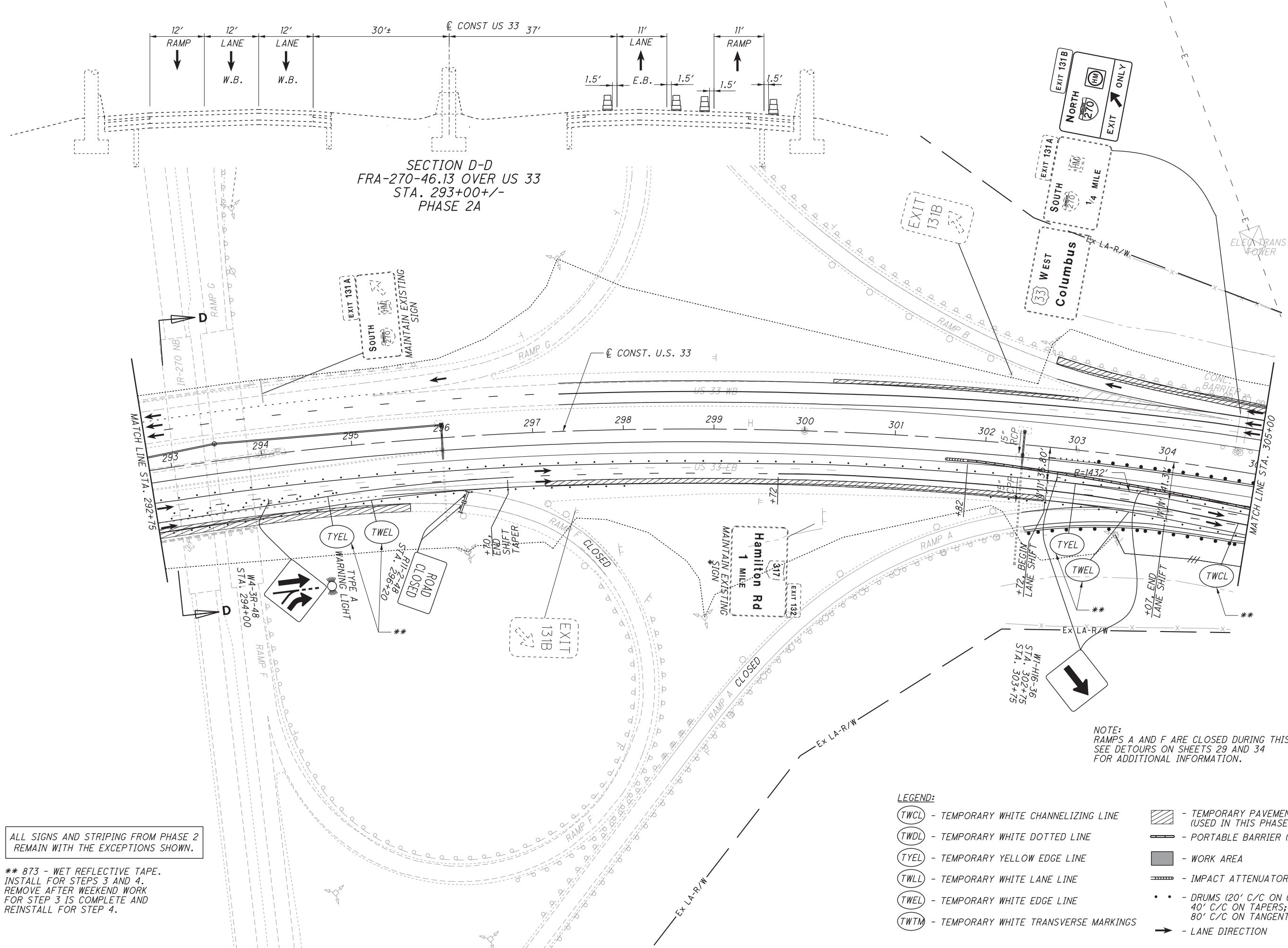
CALCULATED  
 EJC  
 CHECKED  
 ABS

**MOT PLAN - PHASE 2A**  
**STA. 292+75 TO STA. 305+00**

**FRA-33-24.26**

73  
 287

**SECTION D-D**  
**FRA-270-46.13 OVER US 33**  
**STA. 293+00+/-**  
**PHASE 2A**



ALL SIGNS AND STRIPING FROM PHASE 2 REMAIN WITH THE EXCEPTIONS SHOWN.

\*\* 873 - WET REFLECTIVE TAPE. INSTALL FOR STEPS 3 AND 4. REMOVE AFTER WEEKEND WORK FOR STEP 3 IS COMPLETE AND REINSTALL FOR STEP 4.

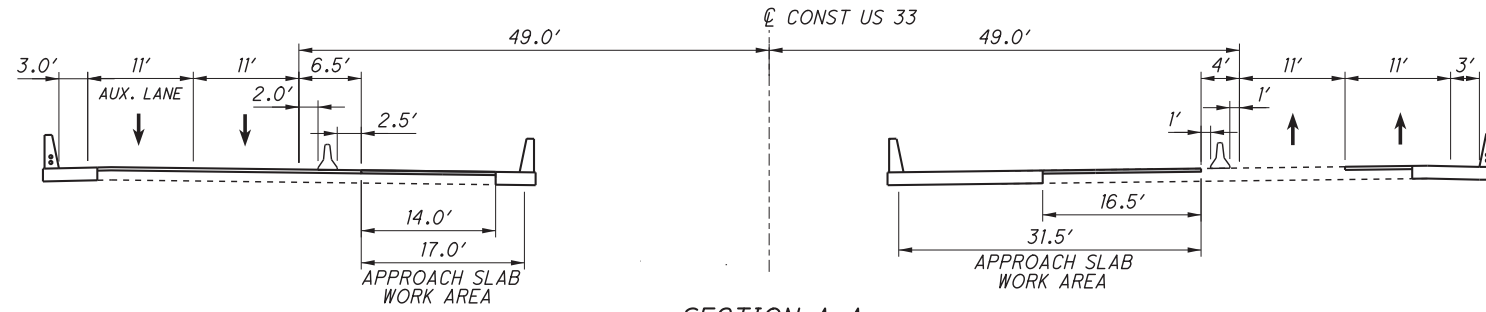
NOTE:  
 RAMPS A AND F ARE CLOSED DURING THIS PHASE. SEE DETOURS ON SHEETS 29 AND 34 FOR ADDITIONAL INFORMATION.

- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
  - [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
  - [Barrier Symbol] - PORTABLE BARRIER (PB)
  - [Grey Box] - WORK AREA
  - [Impact Attenuator Symbol] - IMPACT ATTENUATOR
  - [Drum Symbol] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
  - [Arrow Symbol] - LANE DIRECTION

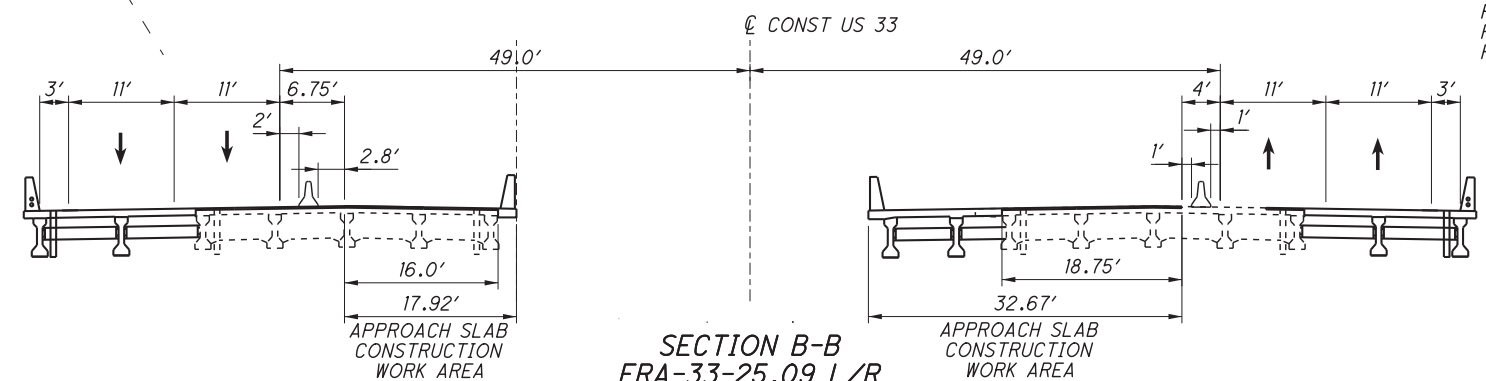
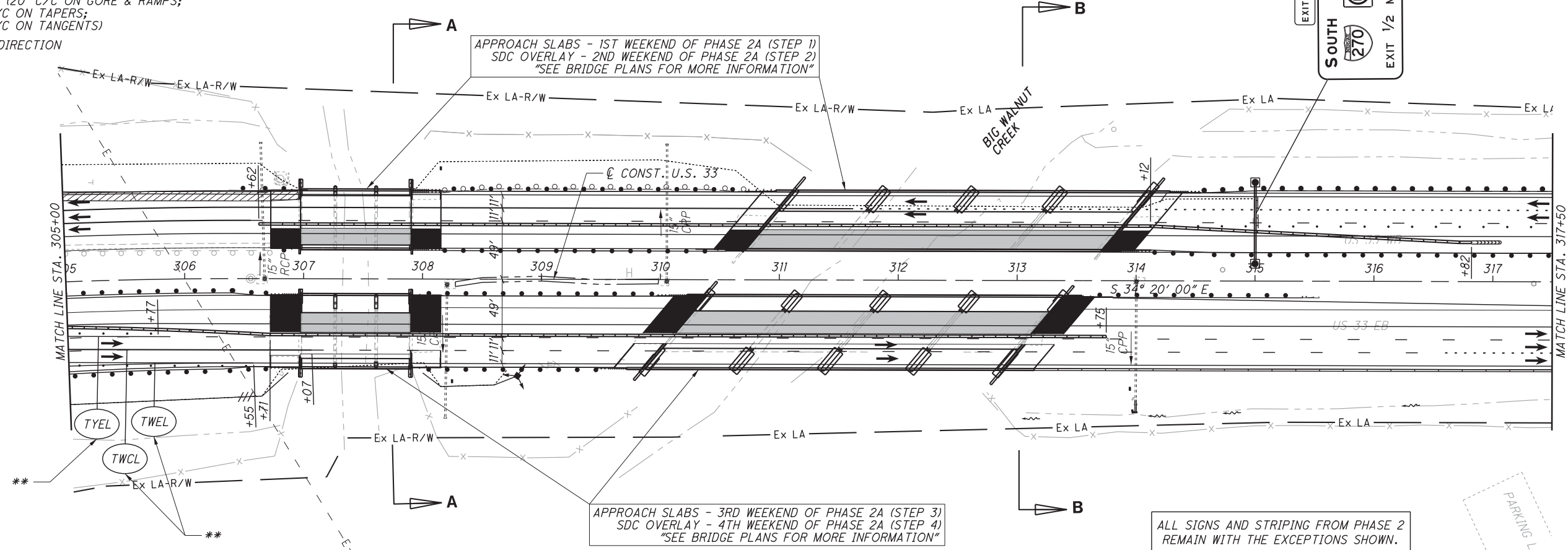
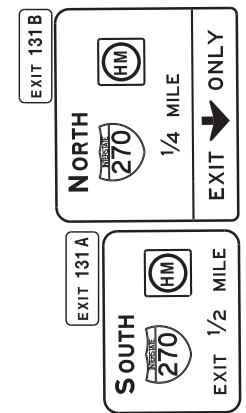
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LEGEND:

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (WTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Grey Box] - WORK AREA
- [Black Box] - PROPOSED APPROACH SLAB WORK
- [Wavy Line] - IMPACT ATTENUATOR
- [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS;  
40' C/C ON TAPERS;  
80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

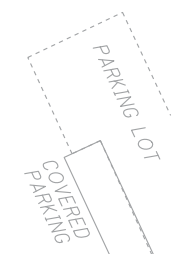


SECTION A-A  
 FRA-33-25.03 L/R OVER WALNUT CREEK OVERFLOW  
 STA. 307+89 +/-  
 PHASE 2A - REMOVAL & CONSTRUCTION  
 (WEEKEND WORK ONLY - LIMITED PER PIAC APPROVAL; SEE MOT NOTES)



SECTION B-B  
 FRA-33-25.09 L/R  
 OVER BIG WALNUT CREEK  
 STA. 313+00 +/-  
 PHASE 2A  
 (WEEKEND WORK ONLY - LIMITED PER PIAC APPROVAL; SEE MOT NOTES)

\*\* 873 - WET REFLECTIVE TAPE.  
 INSTALL FOR STEPS 3 AND 4.  
 REMOVE AFTER WEEKEND WORK  
 FOR STEP 3 IS COMPLETE AND  
 REINSTALL FOR STEP 4.



MOT PLAN - PHASE 2A  
 STA. 305+00 TO STA. 317+50

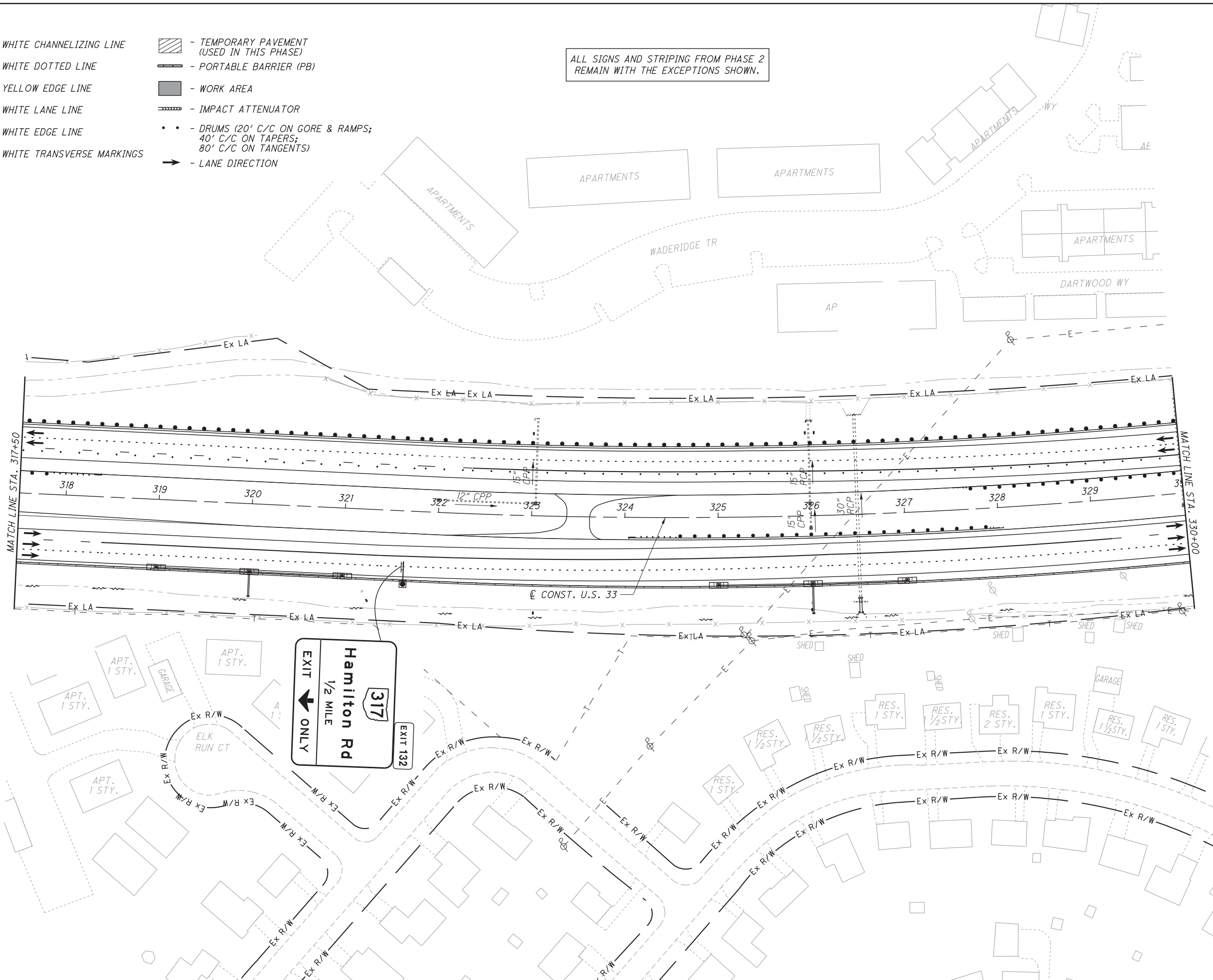
FRA-33-24.26

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**LEGEND:**

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Barrier Symbol] - PORTABLE BARRIER (PB)
- [Grey Box] - WORK AREA
- [Dashed Line with Arrow] - IMPACT ATTENUATOR
- [Dotted Line with Circles] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

ALL SIGNS AND STRIPING FROM PHASE 2 REMAIN WITH THE EXCEPTIONS SHOWN.



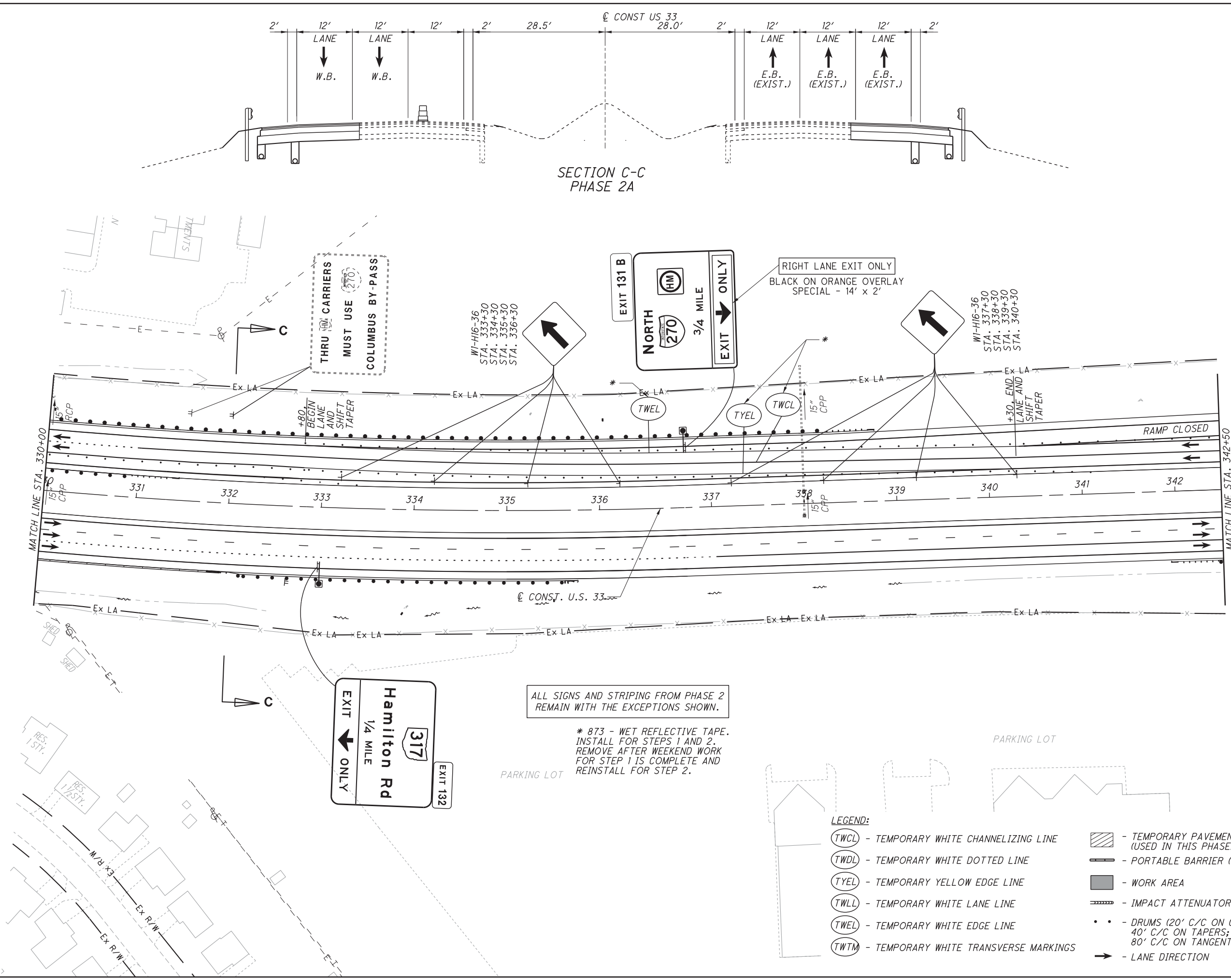
CALCULATED EJC CHECKED ABS

0 50 100 HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 2A**  
**STA. 317+50 TO STA. 330+00**

**FRA-33-24.26**

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**MOT PLAN - PHASE 2A**  
**STA. 330+00 TO STA. 342+50**

**FRA-33-24.26**

76  
287

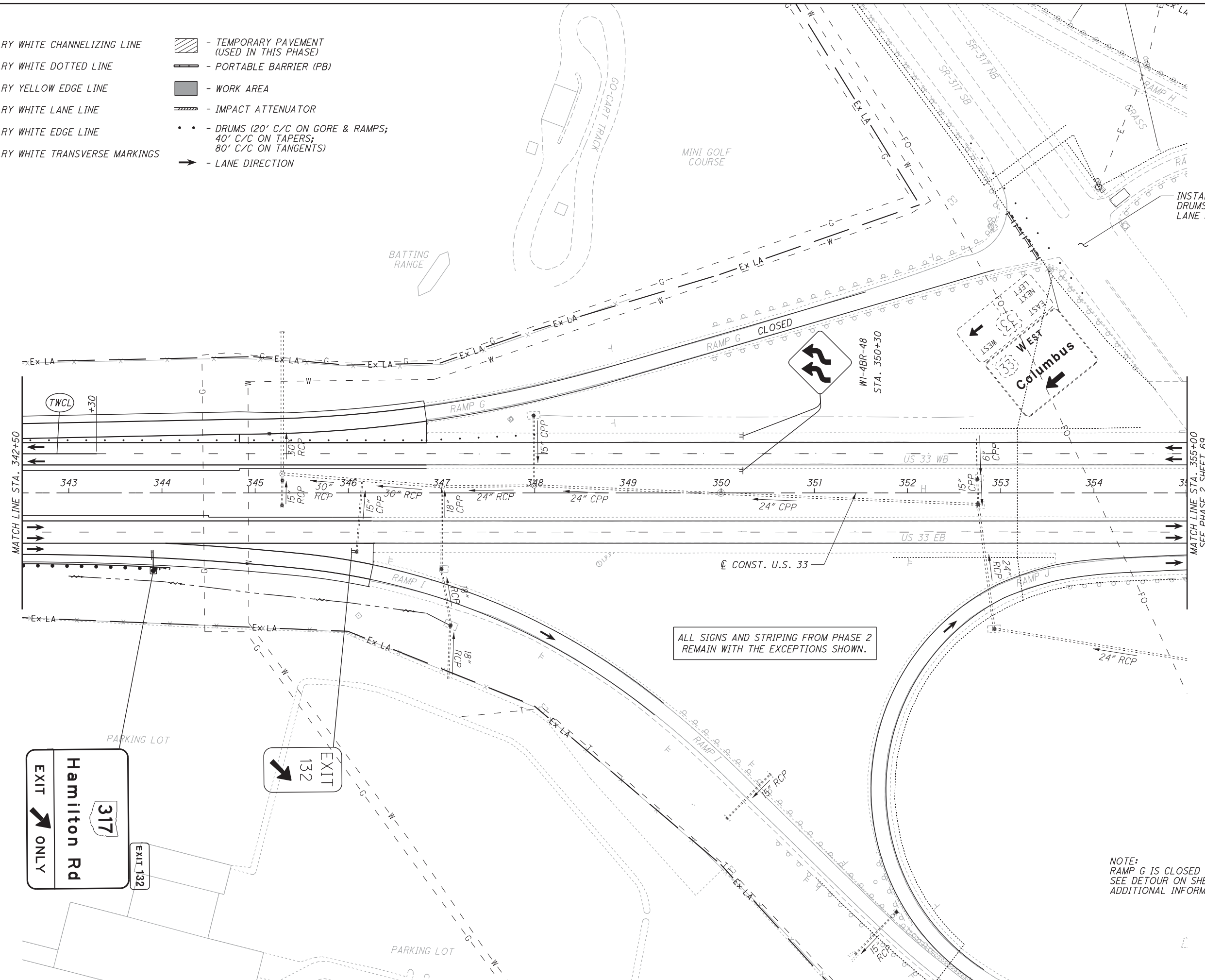
**LEGEND:**

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Solid Grey Box] - WORK AREA
- [Dashed Line with Arrow] - IMPACT ATTENUATOR
- [Dotted Circle] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

CALCULATED EJC CHECKED ABS

0 50 100  
25  
HORIZONTAL SCALE IN FEET

INSTALL SIGNS AND DRUMS TO CLOSE TURN LANE PER SCD MT-98.30



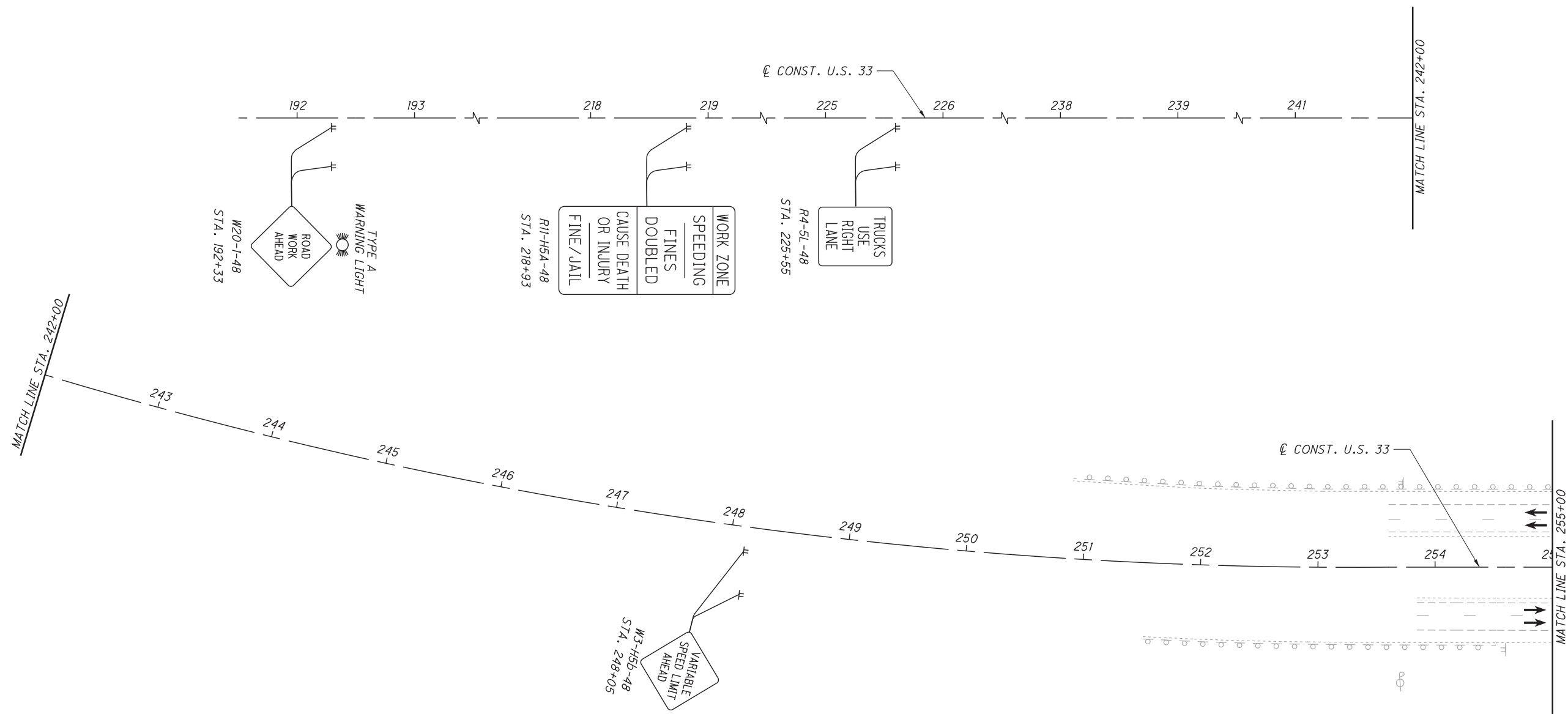
ALL SIGNS AND STRIPING FROM PHASE 2 REMAIN WITH THE EXCEPTIONS SHOWN.

NOTE:  
RAMP G IS CLOSED DURING THIS PHASE.  
SEE DETOUR ON SHEET 37 FOR ADDITIONAL INFORMATION.

**MOT PLAN - PHASE 2A  
STA. 342+50 TO STA. 355+00**

**FRA-33-24.26**

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**LEGEND:**

- |  |   |
|--|---|
| (TWCL) - TEMPORARY WHITE CHANNELIZING LINE   | [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)                                       |
| (TWDL) - TEMPORARY WHITE DOTTED LINE         | [Line with Ticks] - PORTABLE BARRIER (PB)   |
| (TYEL) - TEMPORARY YELLOW EDGE LINE          | [Solid Grey Box] - WORK AREA  |
| (TWLL) - TEMPORARY WHITE LANE LINE           | [Line with Ticks] - IMPACT ATTENUATOR   |
| (TWEL) - TEMPORARY WHITE EDGE LINE           | [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS;<br>40' C/C ON TAPERS;<br>80' C/C ON TANGENTS) |
| (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS | [Arrow] - LANE DIRECTION  |

CALCULATED  
EJC  
CHECKED  
ABS

HORIZONTAL SCALE IN FEET

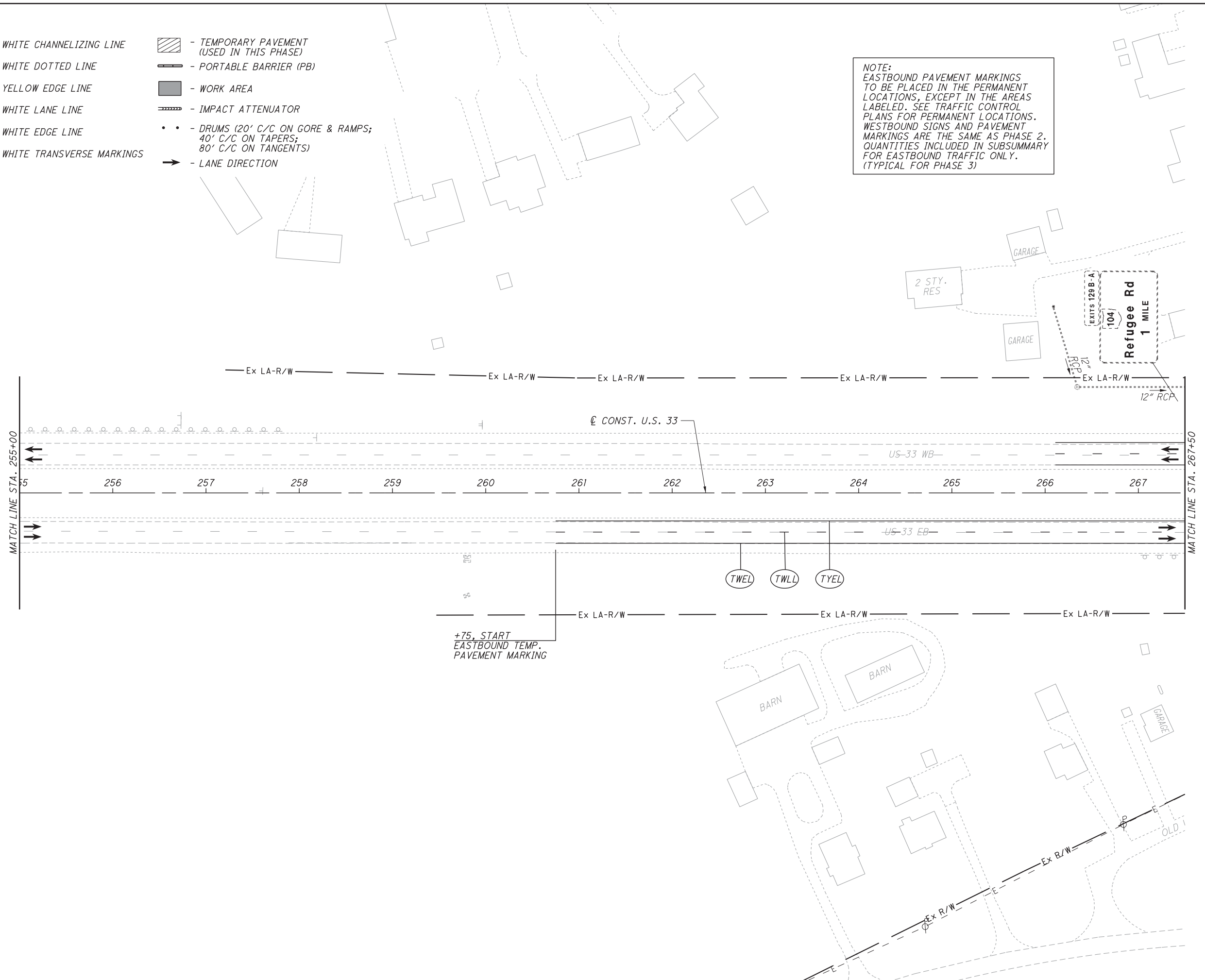
**MOT PLAN - PHASE 3  
BEGIN WORK TO STA. 255+00**

**FRA - 33 - 24.26**

**LEGEND:**

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Line with Dashes] - PORTABLE BARRIER (PB)
- [Solid Grey Box] - WORK AREA
- [Line with Triangles] - IMPACT ATTENUATOR
- [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

**NOTE:**  
 EASTBOUND PAVEMENT MARKINGS TO BE PLACED IN THE PERMANENT LOCATIONS, EXCEPT IN THE AREAS LABELED. SEE TRAFFIC CONTROL PLANS FOR PERMANENT LOCATIONS. WESTBOUND SIGNS AND PAVEMENT MARKINGS ARE THE SAME AS PHASE 2. QUANTITIES INCLUDED IN SUBSUMMARY FOR EASTBOUND TRAFFIC ONLY. (TYPICAL FOR PHASE 3)



CALCULATED EJC CHECKED ABS

0 50 100  
 25  
 HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 3**  
**STA. 255+00 TO STA. 267+50**

**FRA - 33 - 24.26**

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**LEGEND:**

- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Double Line] - PORTABLE BARRIER (PB)
- [Grey Box] - WORK AREA
- [Dashed Line with Dots] - IMPACT ATTENUATOR
- [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

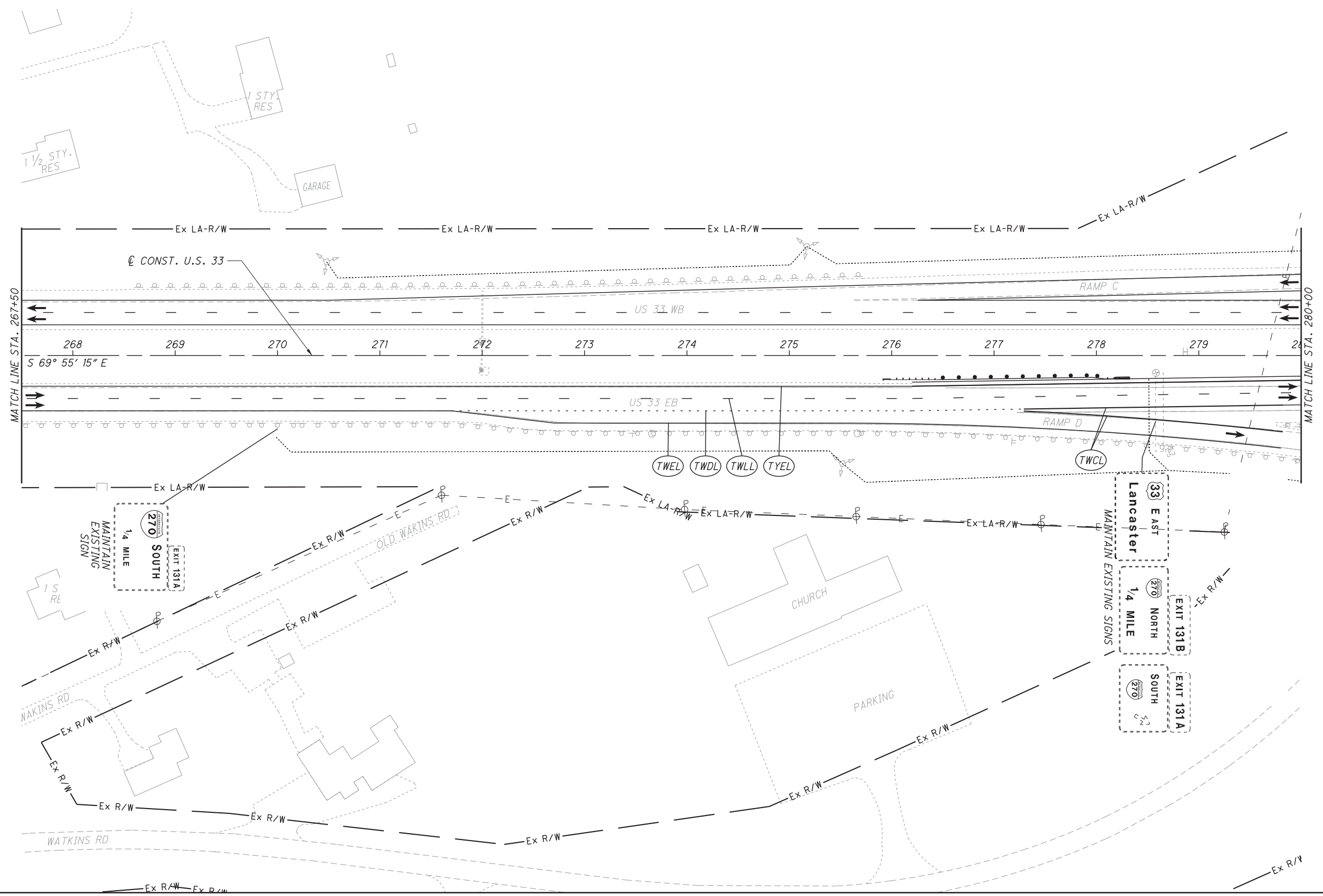
CALCULATED EJC  
CHECKED ABS

0 50 100  
25  
HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 3  
STA. 267+50 TO STA. 280+00**

**FRA -33-24.26**

80  
287



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**LEGEND:**

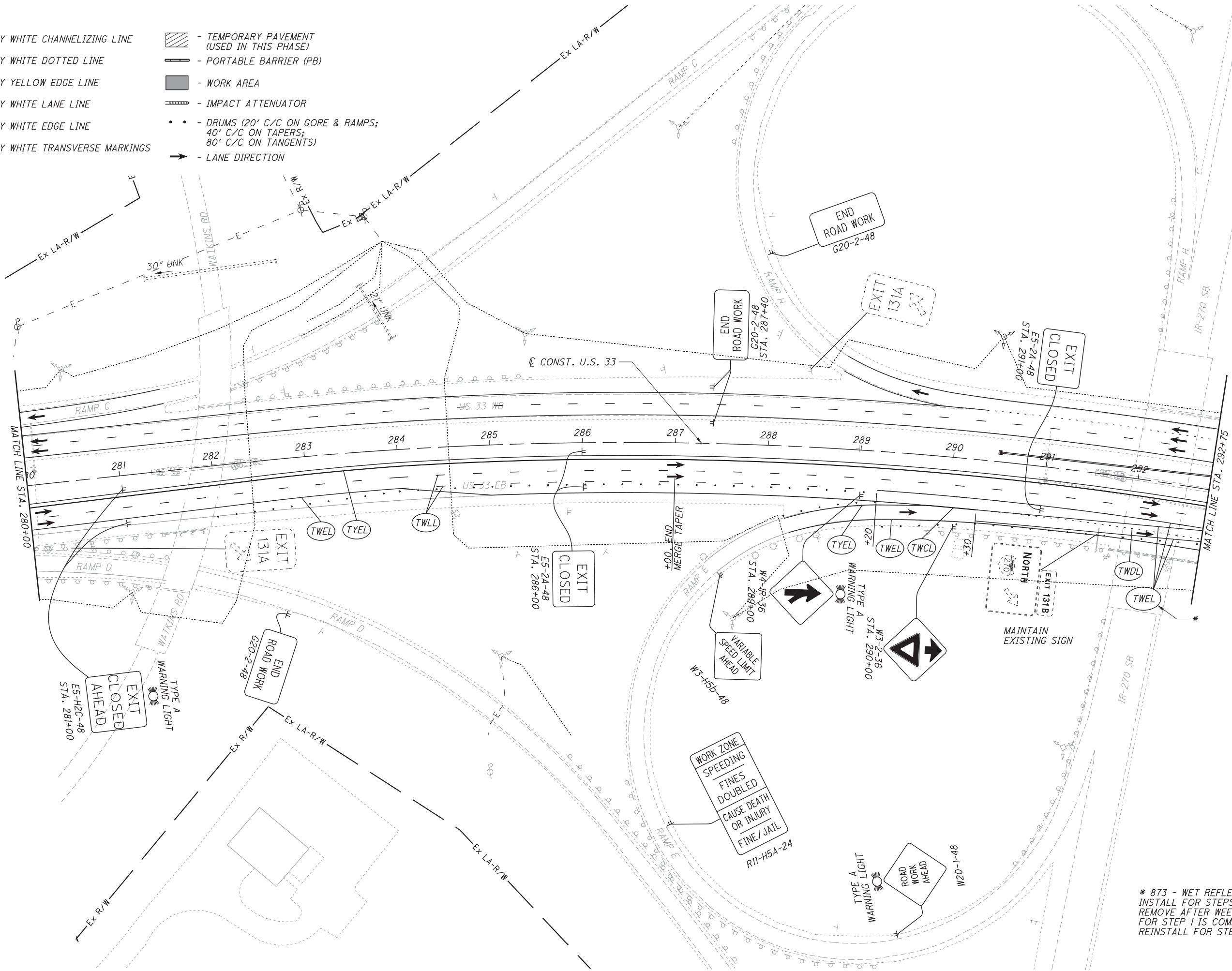
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Line with Dashes] - PORTABLE BARRIER (PB)
- [Solid Grey Box] - WORK AREA
- [Line with Triangles] - IMPACT ATTENUATOR
- [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION

CALCULATED EJC CHECKED ABS

0 50 100  
25  
HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 3  
STA. 280+00 TO STA. 292+75**

**FRA -33-24.26**



\* 873 - WET REFLECTIVE TAPE. INSTALL FOR STEPS 1 AND 2. REMOVE AFTER WEEKEND WORK FOR STEP 1 IS COMPLETE AND REINSTALL FOR STEP 2.

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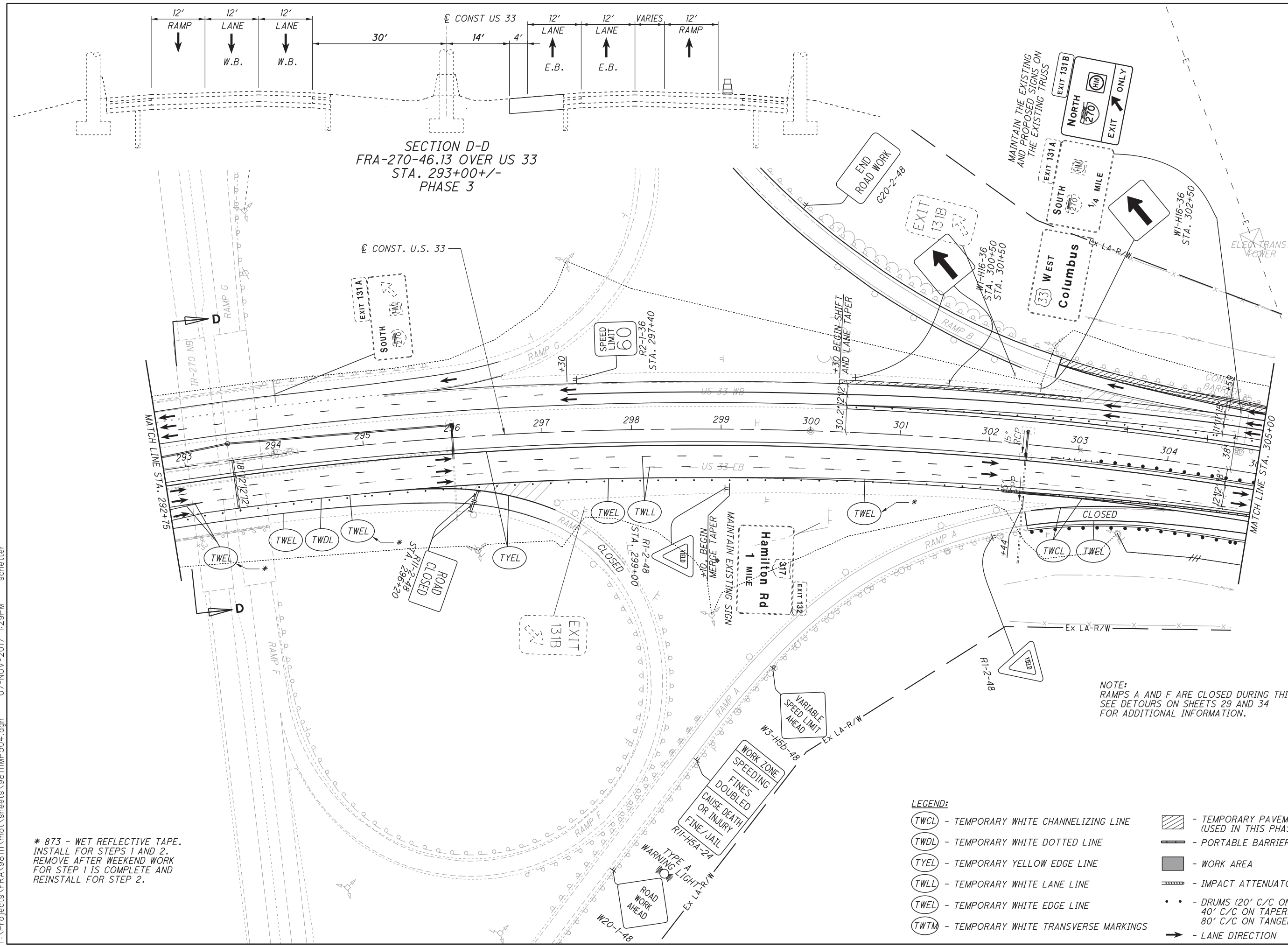


CALCULATED  
EJC  
CHECKED  
ABS

**MOT PLAN - PHASE 3**  
**STA. 292+50 TO STA. 305+00**

**FRA-33-24.26**

**SECTION D-D**  
**FRA-270-46.13 OVER US 33**  
**STA. 293+00 +/-**  
**PHASE 3**



\* 873 - WET REFLECTIVE TAPE.  
INSTALL FOR STEPS 1 AND 2.  
REMOVE AFTER WEEKEND WORK  
FOR STEP 1 IS COMPLETE AND  
REINSTALL FOR STEP 2.

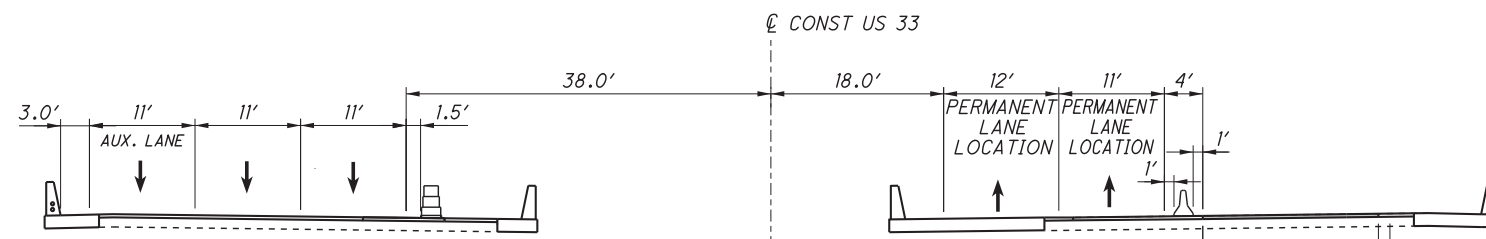
NOTE:  
RAMPS A AND F ARE CLOSED DURING THIS PHASE.  
SEE DETOURS ON SHEETS 29 AND 34  
FOR ADDITIONAL INFORMATION.

- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWWM) - TEMPORARY WHITE TRANSVERSE MARKINGS
  - [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
  - [Dashed Line] - PORTABLE BARRIER (PB)
  - [Solid Grey Box] - WORK AREA
  - [Dashed Line with Triangles] - IMPACT ATTENUATOR
  - [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
  - [Arrow] - LANE DIRECTION

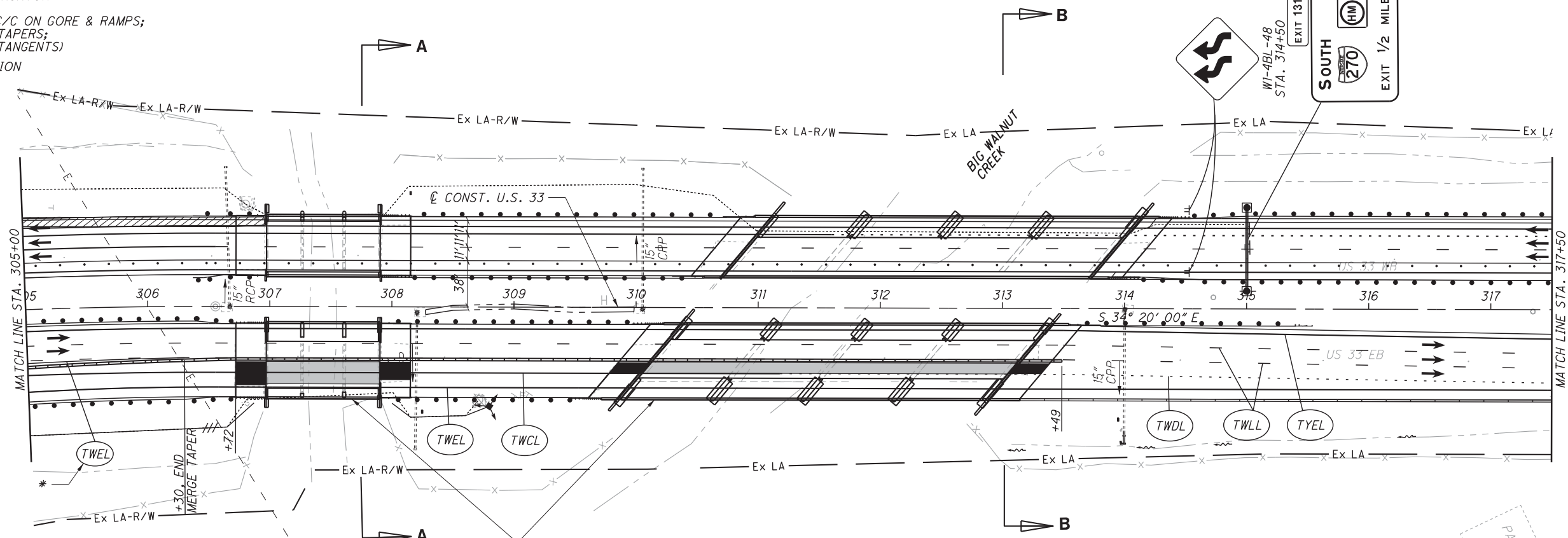
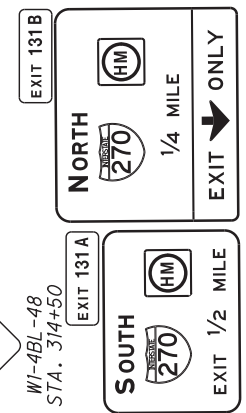
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LEGEND:

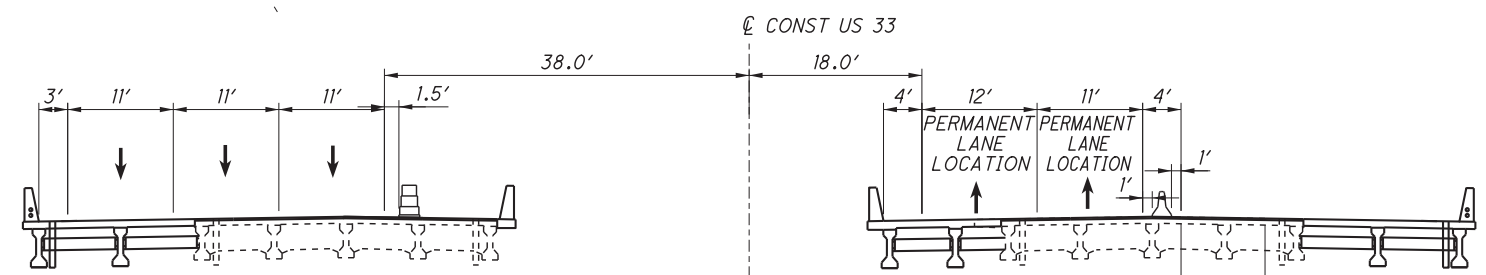
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TVDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Grey Box] - WORK AREA
- [Black Box] - PROPOSED APPROACH SLAB WORK
- [Wavy Line] - IMPACT ATTENUATOR
- [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS;  
40' C/C ON TAPERS;  
80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION



SECTION A-A  
 FRA-33-25.03 L/R OVER WALNUT CREEK OVERFLOW  
 STA. 307+89 +/-  
 PHASE 3 - REMOVAL & CONSTRUCTION  
 (WEEKEND WORK ONLY - LIMITED PER PIAC APPROVAL; SEE MOT NOTES)



APPROACH SLABS - 1ST WEEKEND OF PHASE 3 (STEP 1)  
 SDC OVERLAY - 2ND WEEKEND OF PHASE 3 (STEP 1)  
 "SEE BRIDGE PLANS FOR MORE INFORMATION"



SECTION B-B  
 FRA-33-25.09 L/R OVER BIG WALNUT CREEK  
 STA. 313+00 +/-  
 PHASE 3  
 (WEEKEND WORK ONLY - LIMITED PER PIAC APPROVAL; SEE MOT NOTES)

\* 873 - WET REFLECTIVE TAPE.  
 INSTALL FOR STEPS 1 AND 2.  
 REMOVE AFTER WEEKEND WORK  
 FOR STEP 1 IS COMPLETE AND  
 REINSTALL FOR STEP 2.



MOT PLAN - PHASE 3  
 STA. 305+00 TO STA. 317+50

FRA-33-24.26

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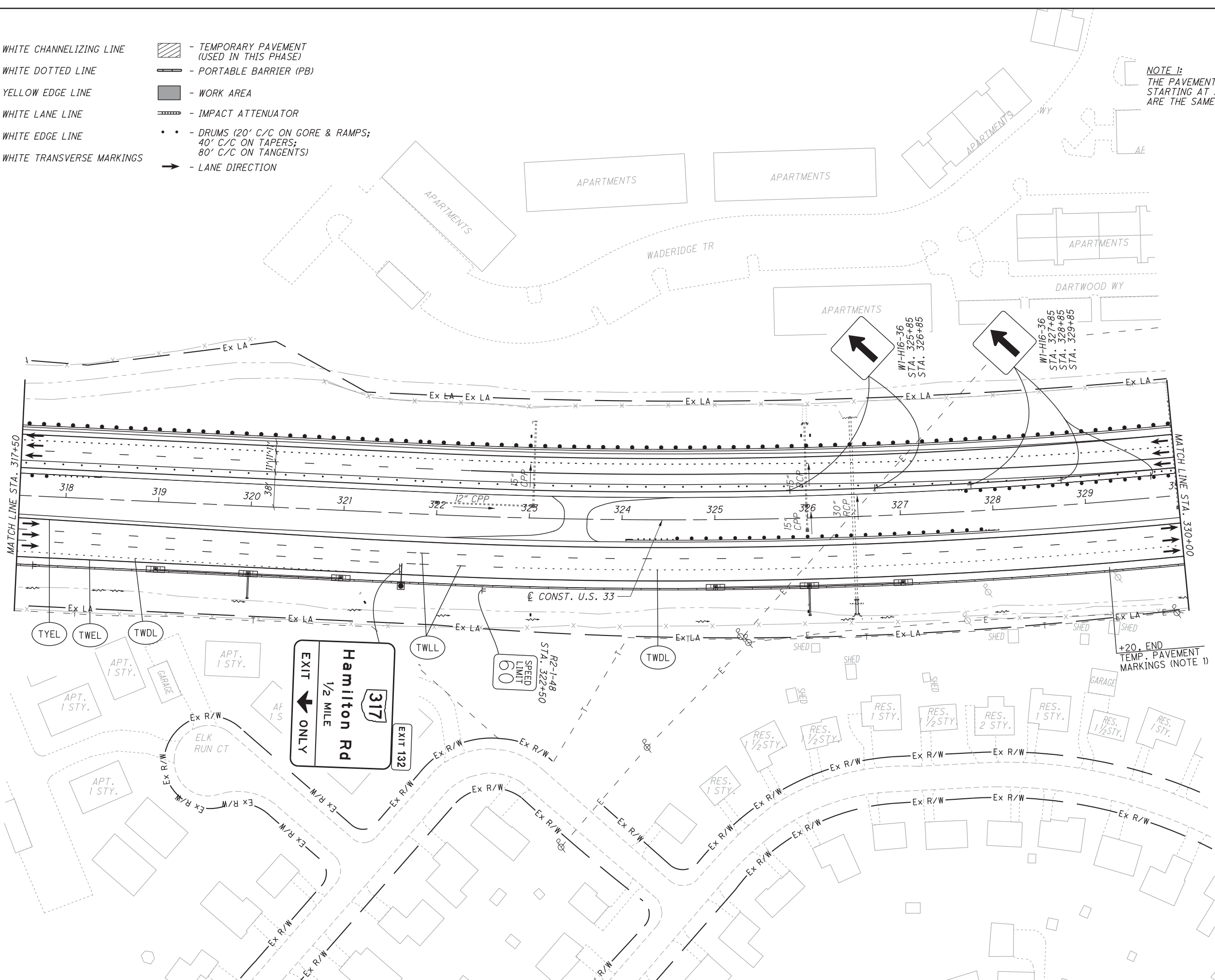
**LEGEND:**

- TEMPORARY WHITE CHANNELIZING LINE
- TEMPORARY WHITE DOTTED LINE
- TEMPORARY YELLOW EDGE LINE
- TEMPORARY WHITE LANE LINE
- TEMPORARY WHITE EDGE LINE
- TEMPORARY WHITE TRANSVERSE MARKINGS
- TEMPORARY PAVEMENT (USED IN THIS PHASE)
- PORTABLE BARRIER (PB)
- WORK AREA
- IMPACT ATTENUATOR
- DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- LANE DIRECTION

**NOTE 1:**  
THE PAVEMENT MARKINGS STARTING AT STA. 329+20 ARE THE SAME AS PHASE 2.

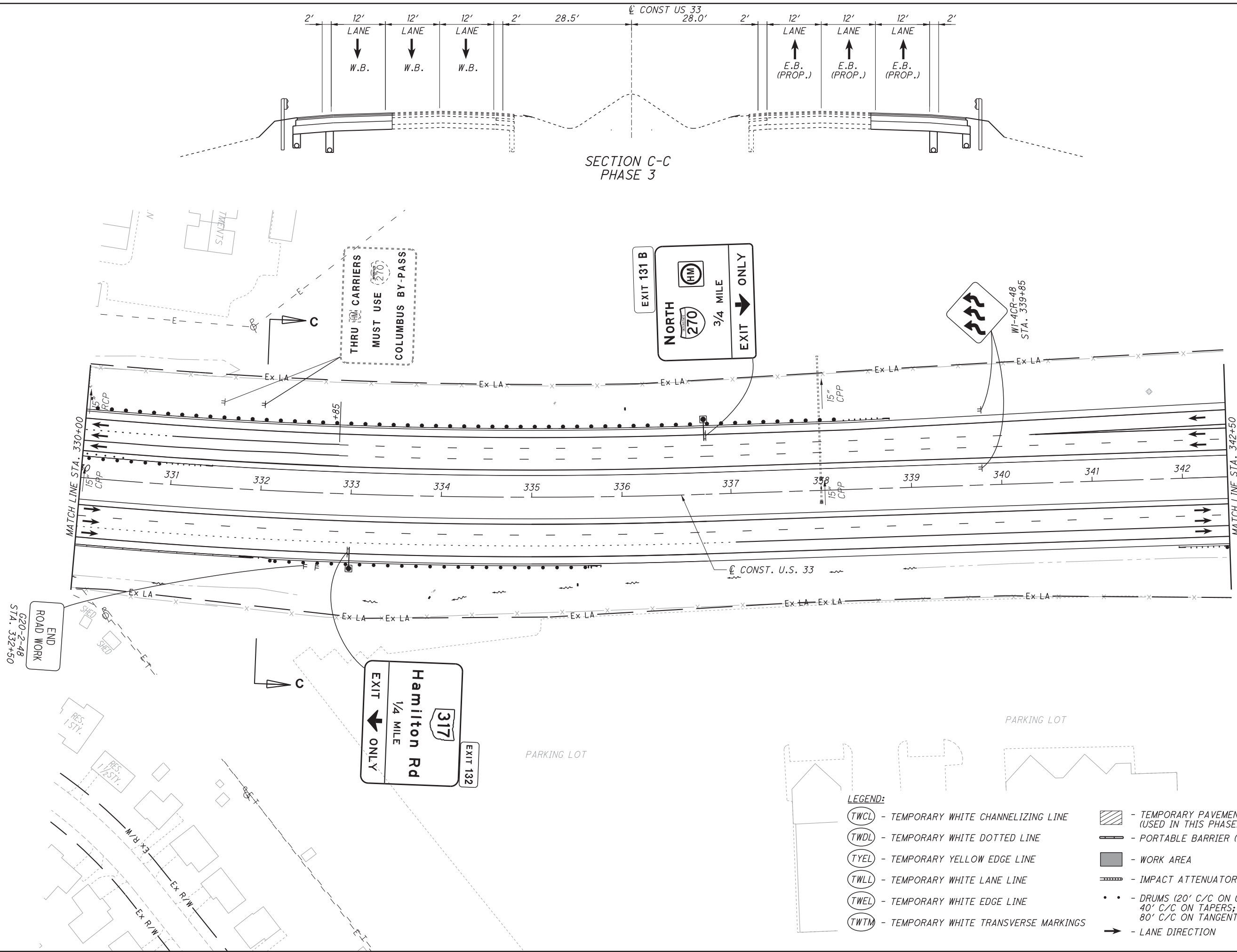
CALCULATED EJC CHECKED ABS

0 50 100  
25  
HORIZONTAL SCALE IN FEET



**MOT PLAN - PHASE 3**  
**STA. 317+50 TO STA. 330+00**

**FRA-33-24.26**



SECTION C-C  
PHASE 3

0 50 100  
25  
HORIZONTAL  
SCALE IN FEET

CALCULATED  
EJC  
CHECKED  
ABS

MOT PLAN - PHASE 3  
STA. 330+00 TO STA. 342+50

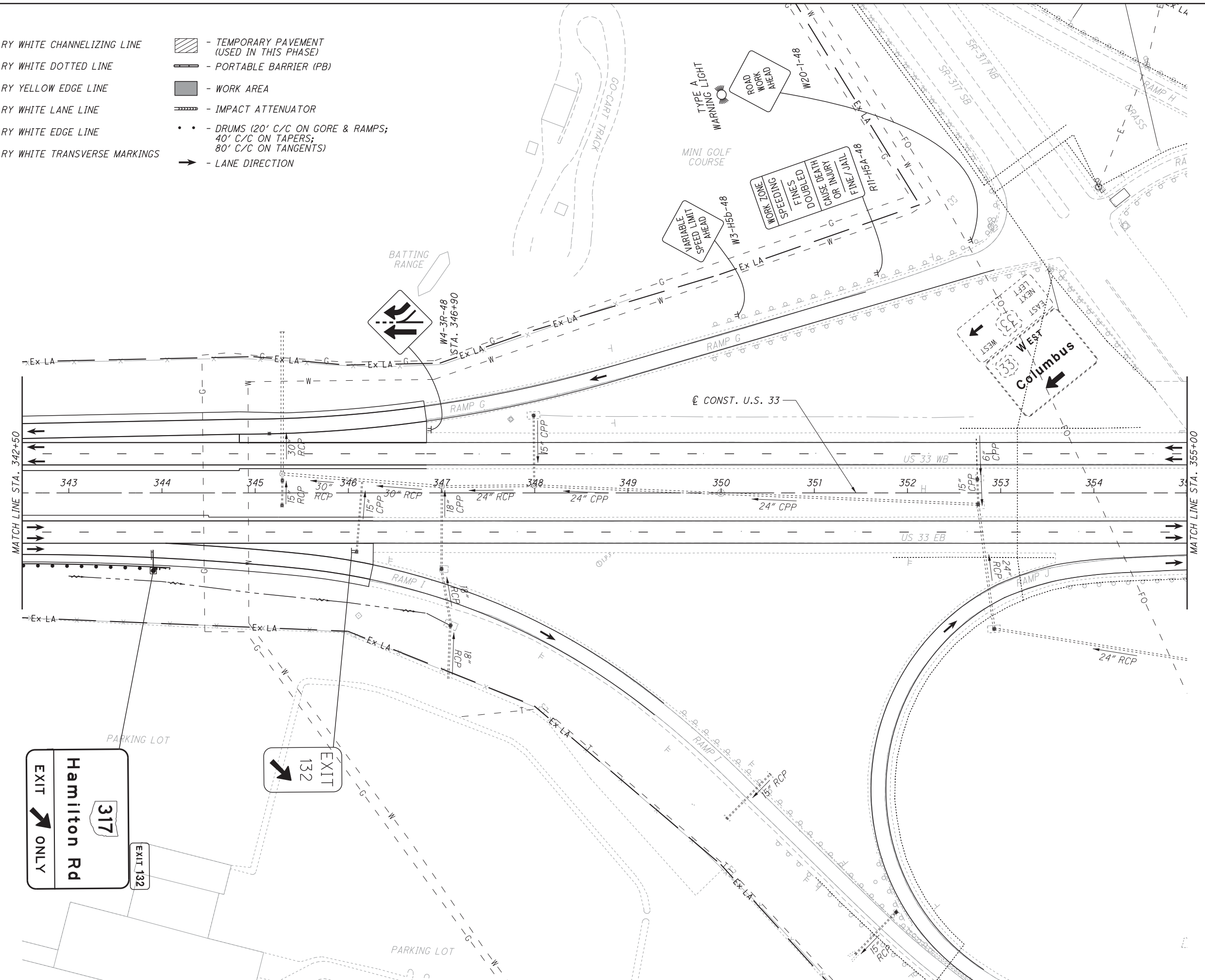
FRA-33-24.26

85  
287

- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
  - [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
  - [Line with Dashes] - PORTABLE BARRIER (PB)
  - [Solid Grey Box] - WORK AREA
  - [Line with Triangles] - IMPACT ATTENUATOR
  - [Dotted Line] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
  - [Arrow] - LANE DIRECTION

- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS

- [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- [Dashed Line] - PORTABLE BARRIER (PB)
- [Solid Grey Box] - WORK AREA
- [Dashed Line with Triangles] - IMPACT ATTENUATOR
- [Dotted Circle] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- [Arrow] - LANE DIRECTION



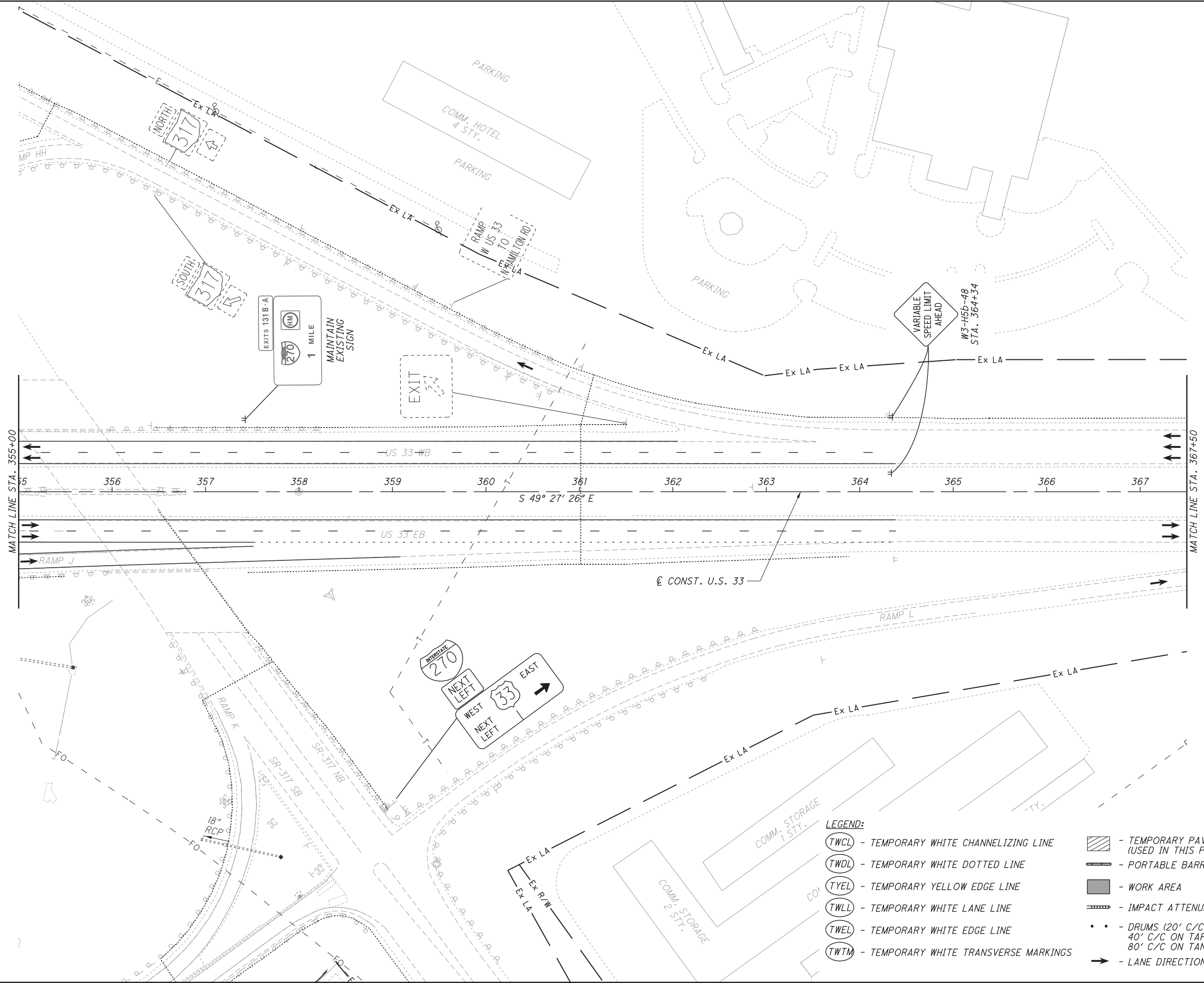
CALCULATED EJC CHECKED ABS

0 50 100  
25  
HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 3**  
**STA. 342+50 TO STA. 355+00**

**FRA-33-24.26**

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- LEGEND:**
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
  - (TWDL) - TEMPORARY WHITE DOTTED LINE
  - (TYEL) - TEMPORARY YELLOW EDGE LINE
  - (TWLL) - TEMPORARY WHITE LANE LINE
  - (TWEL) - TEMPORARY WHITE EDGE LINE
  - (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
  - [Hatched Box] - TEMPORARY PAVEMENT (USED IN THIS PHASE)
  - [Dashed Line] - PORTABLE BARRIER (PB)
  - [Solid Grey Box] - WORK AREA
  - [Dashed Line with Triangles] - IMPACT ATTENUATOR
  - [Dotted Circle] - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
  - [Arrow] - LANE DIRECTION

CALCULATED EJC CHECKED ABS

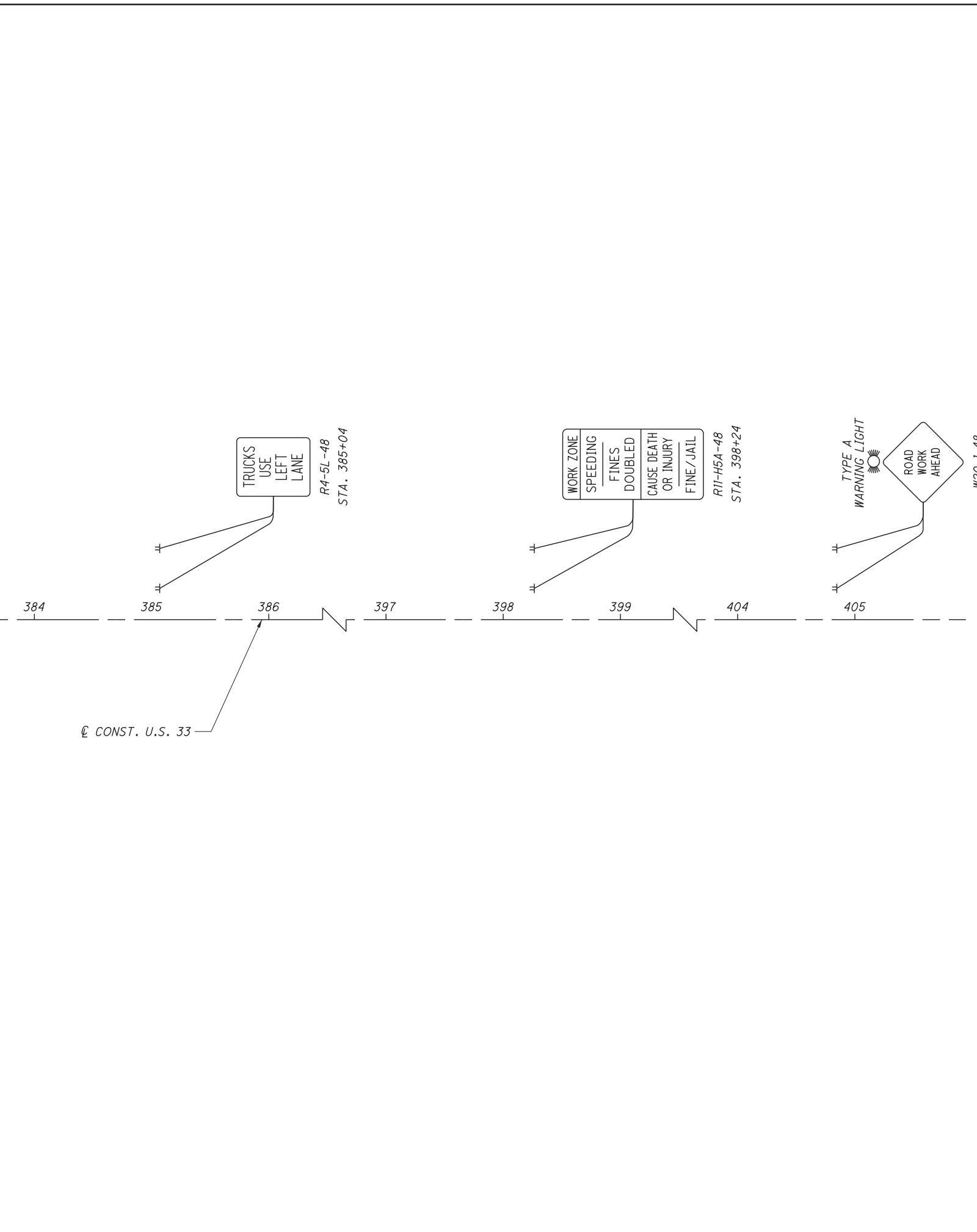
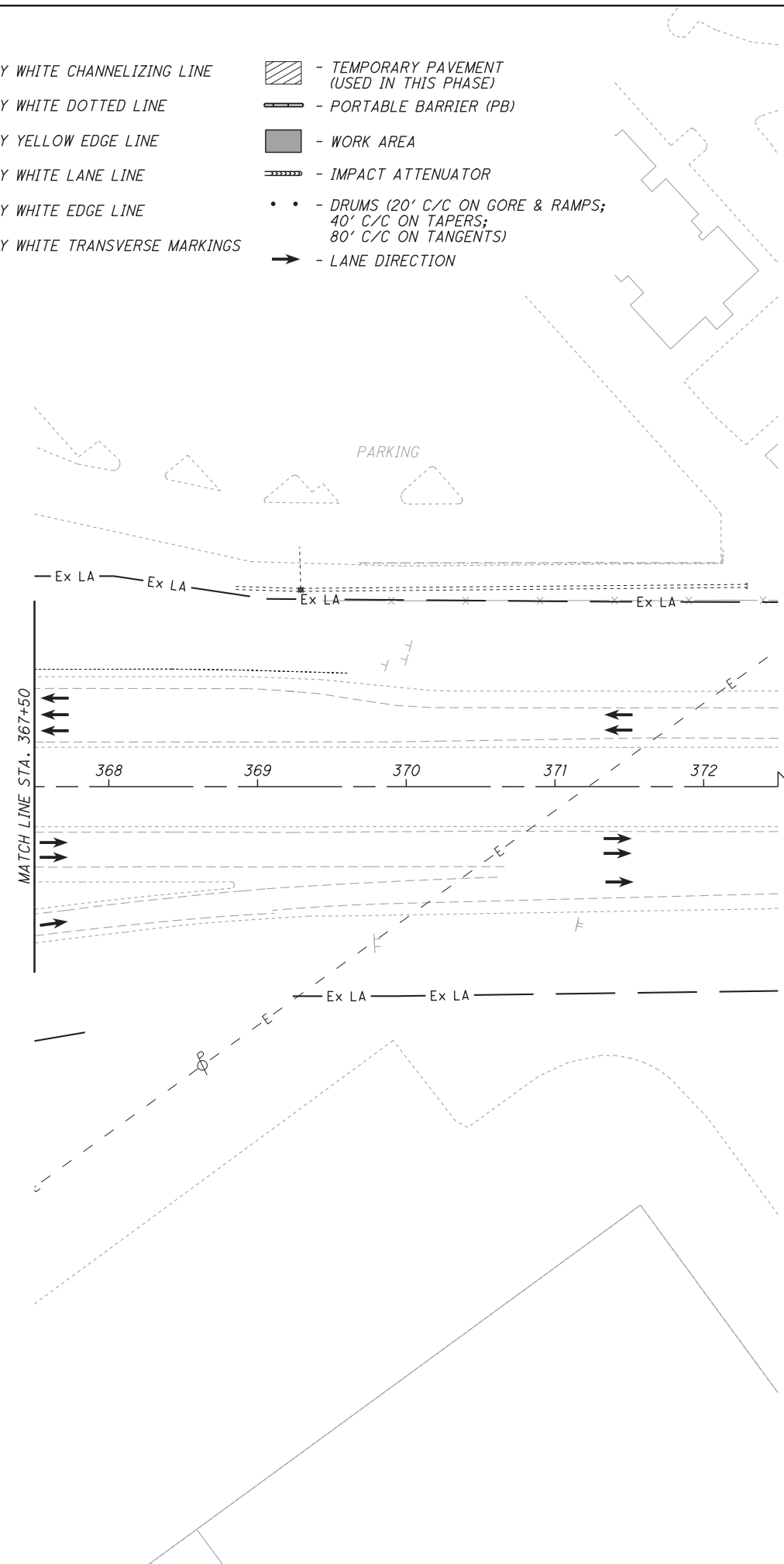
0 50 100  
25  
HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 3**  
**STA. 355+00 TO STA. 367+50**

**FRA-33-24.26**

**LEGEND:**

- TEMPORARY WHITE CHANNELIZING LINE
- TEMPORARY WHITE DOTTED LINE
- TEMPORARY YELLOW EDGE LINE
- TEMPORARY WHITE LANE LINE
- TEMPORARY WHITE EDGE LINE
- TEMPORARY WHITE TRANSVERSE MARKINGS
- TEMPORARY PAVEMENT (USED IN THIS PHASE)
- PORTABLE BARRIER (PB)
- WORK AREA
- IMPACT ATTENUATOR
- DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- LANE DIRECTION



CALCULATED EJC CHECKED ABS

HORIZONTAL SCALE IN FEET

**MOT PLAN - PHASE 3**  
**STA. 367+50 TO STA. 380+00**

**FRA - 33 - 24.26**



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SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
14	15	97	108	115	116	122	127	174	175	226	01/NHS/PV	02/NHS/BR	03/NHS/OT						
																	ROADWAY		
												LUMP							
								2						201	11000	LS	CLEARING AND GRUBBING		
													2	202	20010	2	EACH	HEADWALL REMOVED	
			89	344		208							641	202	23001	641	SY	PAVEMENT REMOVED, AS PER PLAN	15
7,499			715	5,153		3,390							16,757	202	23010	16,757	SY	PAVEMENT REMOVED, ASPHALT	
				44									44	202	30700	44	FT	CONCRETE BARRIER REMOVED	
								601					601	202	35100	601	FT	PIPE REMOVED, 24" AND UNDER	
								8					8	202	35200	8	FT	PIPE REMOVED, OVER 24"	
			800	5,866		1,496	2,716				3,948		6,930	202	38000	10,878	FT	GUARDRAIL REMOVED	
			4	1							1		4	202	47800	5	EACH	IMPACT ATTENUATOR REMOVED	
													5	202	58100	5	EACH	CATCH BASIN REMOVED	
										1			1	202	75800	1	EACH	DISCONNECT EXISTING CIRCUIT	
			21,837										21,837	203	10000	21,837	CY	EXCAVATION	
			23,875										23,875	203	20000	23,875	CY	EMBANKMENT	
			191										191	203	35110	191	CY	GRANULAR MATERIAL, TYPE B	
			776										776	203	35130	776	CY	GRANULAR MATERIAL, TYPE D	
								1,285					1,285	209	10000	1,285	FT	DITCH CLEANOUT	
46											46			209	15000	46	STA	RESHAPING UNDER GUARDRAIL	
			512.5	3,835		2,187.5	1,813				3,100		5,248	606	15050	8,348	FT	GUARDRAIL, TYPE MGS	
				640		100	900				900		740	606	15100	1,640	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
			2	4		6					5		7	606	26150	12	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
			1	3		5	1				5		5	606	26550	10	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
			3	9		1					4		9	606	35002	13	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
				7		1							8	606	35102	8	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
			1,030	1,894									2,924	SPECIAL	60655000	2,924	FT	CABLE BARRIER	16
			1	3									4	SPECIAL	60655150	4	EACH	CABLE BARRIER, ANCHOR ASSEMBLY	16
			3			1							4	606	60012	4	EACH	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)	15
			1								1			606	60022	1	EACH	IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL)	16
						279							279	609	24000	279	FT	CURB, TYPE 4-A	
					131								131	609	24510	131	FT	CURB, TYPE 4-C	
			20	1,696		170							1,886	622	10160	1,886	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
			1			1							2	622	25010	2	EACH	CONCRETE BARRIER END SECTION, TYPE D, REINFORCED	
			1	13									14	622	25050	14	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	
													LS	878	25000	LS		INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS	
																		EROSION CONTROL	
			7.2										32.2	601	21050	32.2	SY	TIED CONCRETE BLOCK MAT, TYPE 1	
						1,321							1,321	601	21060	1,321	SY	TIED CONCRETE BLOCK MAT, TYPE 2	
													8	601	32200	8	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
			2										2	659	00100	2	EACH	SOIL ANALYSIS TEST	
5,022										934			5,956	659	00300	5,956	CY	TOPSOIL	
45,239	4,421												49,660	659	10000	49,660	SY	SEEDING AND MULCHING	
2,262													2,262	659	14000	2,262	SY	REPAIR SEEDING AND MULCHING	
2,262													2,262	659	15000	2,262	SY	INTER-SEEDING	
													6.1	659	20000	6.1	TON	COMMERCIAL FERTILIZER	
6.1													9.4	659	31000	9.4	ACRE	LIME	
9.4													244	659	35000	244	MGAL	WATER	
244													102	659	40000	102	MSF	MOWING	
102																			
													484	670	00200	484	SY	VEGETATED SWALE EROSION PROTECTION	
													7,966	670	00500	7,966	SY	SLOPE EROSION PROTECTION	
													252	670	00700	252	SY	DITCH EROSION PROTECTION	
													LS	832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
													250,000	832	30000	250,000	EACH	EROSION CONTROL	

**GENERAL SUMMARY**

**FRA -33-24.26**

CALCULATED  
K.S.J.  
CHECKED  
N.C.K.



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SHEET NUM.										PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
15	108	115		122	127		201	203	216	01/NHS/PV	02/NHS/BR	03/NHS/OT						
																	TRAFFIC CONTROL	
								533			533		621	00100	533	EACH	RPM, 2-WAY WHITE/RED	
								344			344		621	00100	344	EACH	RPM, 2-WAY YELLOW/RED	
								668			668		621	54000	668	EACH	RAISED PAVEMENT MARKER REMOVED	
							6				6		625	32000	6	EACH	GROUND ROD	
	10	74		33	29						51	95	626	00102	146	EACH	BARRIER REFLECTOR, TYPE 1, ONE WAY	
							54.4				54.4		630	02100	54.4	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
							169.6				169.6		630	03100	169.6	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
							31.7				31.7		630	04100	31.7	FT	GROUND MOUNTED SUPPORT, NO. 4 POST	
							60.9				60.9		630	06400	60.9	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7	
							114.9				114.9		630	07500	114.9	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22	
							42.4				42.4		630	07600	42.4	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	
							59.6				59.6		630	08000	59.6	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W12X30	
							12				12		630	09000	12	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION	
							1				1		630	20800	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 8	
							3				3		630	21000	3	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10	
							1				1		630	45500	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8	
							10				10		630	75000	10	EACH	SIGN ATTACHMENT ASSEMBLY	
							130				130		630	80100	130	SF	SIGN, FLAT SHEET	
							1,258				1,258		630	80224	1,258	SF	SIGN, OVERHEAD EXTRUSHEET	
							8				8		630	84500	8	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	
							6				6		630	84510	6	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
							19				19		630	84900	19	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
							1				1		630	85100	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
							3				3		630	85400	3	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	
							6				6		630	85600	6	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION	
							30				30		630	86002	30	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
							12				12		630	86102	12	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	
							5				5		630	87400	5	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
							1				1		630	89702	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL	
							10.36				10.36		644	00104	10.36	MILE	EDGE LINE, 6"	
							4.54				4.54		644	00204	4.54	MILE	LANE LINE, 6"	
							8,271				8,271		644	00404	8,271	FT	CHANNELIZING LINE, 12"	
							67				67		644	00500	67	FT	STOP LINE	
							333				333		644	00700	333	FT	TRANSVERSE/DIAGONAL LINE	
							8,343				8,343		644	01510	8,343	FT	DOTTED LINE, 6"	
																	TRAFFIC SIGNALS	
									102		102		625	25300	102	FT	CONDUIT, 1-1/2", 725.04	
									40		40		625	25400	40	FT	CONDUIT, 2", 725.04	
									272		272		625	25750	272	FT	CONDUIT, 4", MULTICELL, 725.20 , EPC-40 (TRAFFIC SURVEILLANCE RACEWAY)	219
									88		88		625	25902	88	FT	CONDUIT, JACKED OR DRILLED, 725.04, 1-1/2"	
									85		85		625	25920	85	FT	CONDUIT, MISC.: JACKED OR DRILLED, 725.20, 4", EPC-80	
									172		172		625	29010	172	FT	TRENCH, 30" DEEP	
									3		3		625	30700	3	EACH	PULL BOX, 725.08, 18"	
									6		6		625	30710	6	EACH	PULL BOX, 725.08, 32"	
									2		2		625	31510	2	EACH	PULL BOX REMOVED	
									172		172		625	36000	172	FT	PLASTIC CAUTION TAPE	
									3		3		632	26501	3	EACH	DETECTOR LOOP, AS PER PLAN	
									80		80		632	65200	80	FT	LOOP DETECTOR LEAD-IN CABLE	
									275		275		632	69200	275	FT	POWER CABLE, 2 CONDUCTOR, NO. 4 AWG	
1											1		809	65990	1	EACH	ITS DEVICE, MISC.:REPLACE VX21 ROAD SENSOR	15, 199

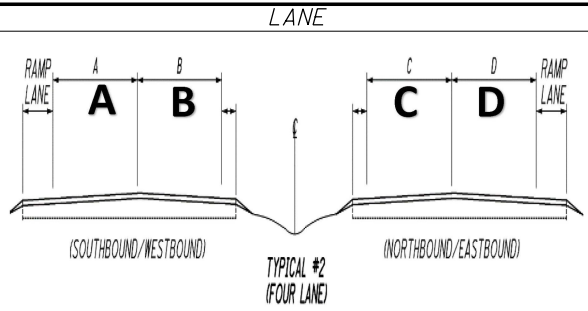
GENERAL SUMMARY

FRA -33-24.26



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PRIORITY	LOCATION				DESIGN		LANE					255	255	COMMENTS								
	ROUTE	SIDE	STATE LOG	BEGIN SLM	LENGTH OF REPAIR FT	WIDTH OF REPAIR FT	RAMP LANE	A	B	C	D	RAMP LANE	SY		FT							
1 = HIGHEST 2 = MEDIUM 3 = LOWEST																						
1	US-33	EB	130.58	24.31	24	6				X	X		16.00	60								
1	US-33	EB	130.60	24.33	24	6				X	X		16.00	60								
1	US-33	EB	130.73	24.46	12	6						X	8.00	36								
1	US-33	EB	130.75	24.47	12	6						X	8.00	36								
1	US-33	EB	131.01	24.73	12	6						X	8.00	36								
1	US-33	EB	131.01	24.74	12	6						X	8.00	36								
1	US-33	EB	131.24	24.97	12	6						X	8.00	36								
1	US-33	EB	131.27	25.00	12	6					X		8.00	36								
1	US-33	EB	131.44	25.17	12	6					X		8.00	36								
1	US-33	EB	131.45	25.18	24	6			X	X			16.00	60								
1	US-33	EB											88.00	396	FOR USE - AS DIRECTED BY THE ENGINEER							
1	US-33	WB	130.67	24.40	12	6	X						8.00	36								
1	US-33	WB	130.71	24.44	12	6	X						8.00	36								
1	US-33	WB	130.74	24.47	36	6	X	X	X				24.00	84								
1	US-33	WB	130.76	24.49	12	6	X						8.00	36								
1	US-33	WB		24.50	12	6	X						8.00	36								
1	US-33	WB	131.00	24.73	12	6	X						8.00	36								
1	US-33	WB	131.11	24.84	24	6		X	X				16.00	60								
1	US-33	WB	131.20	24.93	24	6		X	X				16.00	60								
1	US-33	WB	131.36	25.09	36	6	X	X	X				24.00	84								
1	US-33	WB	132.23	25.96	12	6			X				8.00	36								
1	US-33	WB	132.41	26.14	12	6	X						8.00	36								
1	US-33	WB	132.41	26.14	12	6	X						8.00	36								
1	US-33	WB	132.42	26.15	12	6	X						8.00	36								
1	US-33	WB	132.42	26.15	24	6		X	X				16.00	60								
1	US-33	WB	132.42	26.15	12	6	X						8.00	36								
1	US-33	WB											112.00	504	FOR USE - AS DIRECTED BY THE ENGINEER							
TOTALS THIS SHEET													480	2,040								SEE GENERAL NOTE SHEET 15 FOR LOCATION DETERMINATION



FULL DEPTH PAVEMENT REPAIR SUBSUMMARY

CALCULATED  
KSJ  
CHECKED  
NCK

FRA -33-24.26









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SHEET NO.	STATION TO STATION			203	203	203	203	659
				EXCAVATION	EMBANKMENT	GRANULAR MATERIAL, TYPE B	GRANULAR MATERIAL, TYPE D	SEEDING AND MULCHING
				CY	CY	CY	CY	SY
128	274+50.00	TO	276+50.00	28	21			659
129	277+00.00	TO	279+00.00	163	30			798
130	279+50.00	TO	281+50.00	199	43			927
131	282+00.00	TO	284+00.00	308	27			1,092
132	284+50.00	TO	286+50.00	346	29			1,116
133	287+00.00	TO	289+00.00	369	37			1,202
134	289+50.00	TO	291+50.00	308	47			1,060
135	292+00.00	TO	293+50.00	122	25			437
136	294+00.00	TO	295+50.00	232	41			958
137	296+00.00	TO	297+50.00	242	52			960
138	298+00.00	TO	299+50.00	250	69			1,091
139	300+00.00	TO	301+50.00	310	40			951
140	302+00.00	TO	303+50.00	288	70			945
141	304+00.00	TO	305+50.00	157	67			811
142	306+00.00	TO	306+97.25	102	123			500
143	307+89.75	TO	309+00.00	815	782			921
144	309+50.00	TO	310+48.38	444	730			697
145	313+51.59	TO	314+00.00	554	1,168			951
146	314+50.00	TO	316+00.00	1,926	3,096			2,546
147	316+50.00	TO	318+00.00	1,950	2,430			2,774
148	318+50.00	TO	320+00.00	1,865	1,843			2,691
149	320+50.00	TO	322+00.00	1,693	1,631			2,568
150	322+50.00	TO	324+00.00	1,119	1,736			1,774
151	324+50.00	TO	326+00.00	1,059	1,678			2,026
152	326+50.00	TO	328+00.00	942	1,717			1,972
153	328+50.00	TO	330+00.00	878	1,803			1,834
154	330+50.00	TO	331+50.00	1,380	1,616	87	307	1,380
155	332+00.00	TO	333+00.00	1,670	1,484	104	469	1,392
156	333+50.00	TO	335+00.00	658	899			1,958
157	335+50.00	TO	337+00.00	481	325			1,699
158	337+50.00	TO	339+00.00	334	134			1,453
159	339+50.00	TO	341+00.00	152	15			500
160	341+50.00	TO	343+00.00	150	10			455
161	343+50.00	TO	345+00.00	189	31			1,113
162	345+50.00	TO	347+00.00	154	26			1,028
TOTALS CARRIED TO GENERAL SUMMARY				21,837	23,875	191	776	45,239

NOTES:

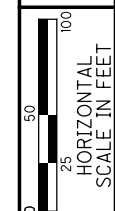
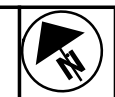
ESTIMATED SPECIAL BENCHING EARTHWORK TOTAL IS 10,109 CY (IT IS INCORPORATED INTO QUANTITIES SHOWN)  
 EXCAVATION AND EMBANKMENT CARRIED TO GENERAL SUMMARY, SEE SHEET 89  
 SEEDING & MULCHING CARRIED TO GENERAL NOTES, SEE SHEET 14

CALCULATED  
 KSJ  
 CHECKED  
 NCK

EARTHWORK AND SEEDING SUBSUMMARY

FRA -33-24.26

97  
 287

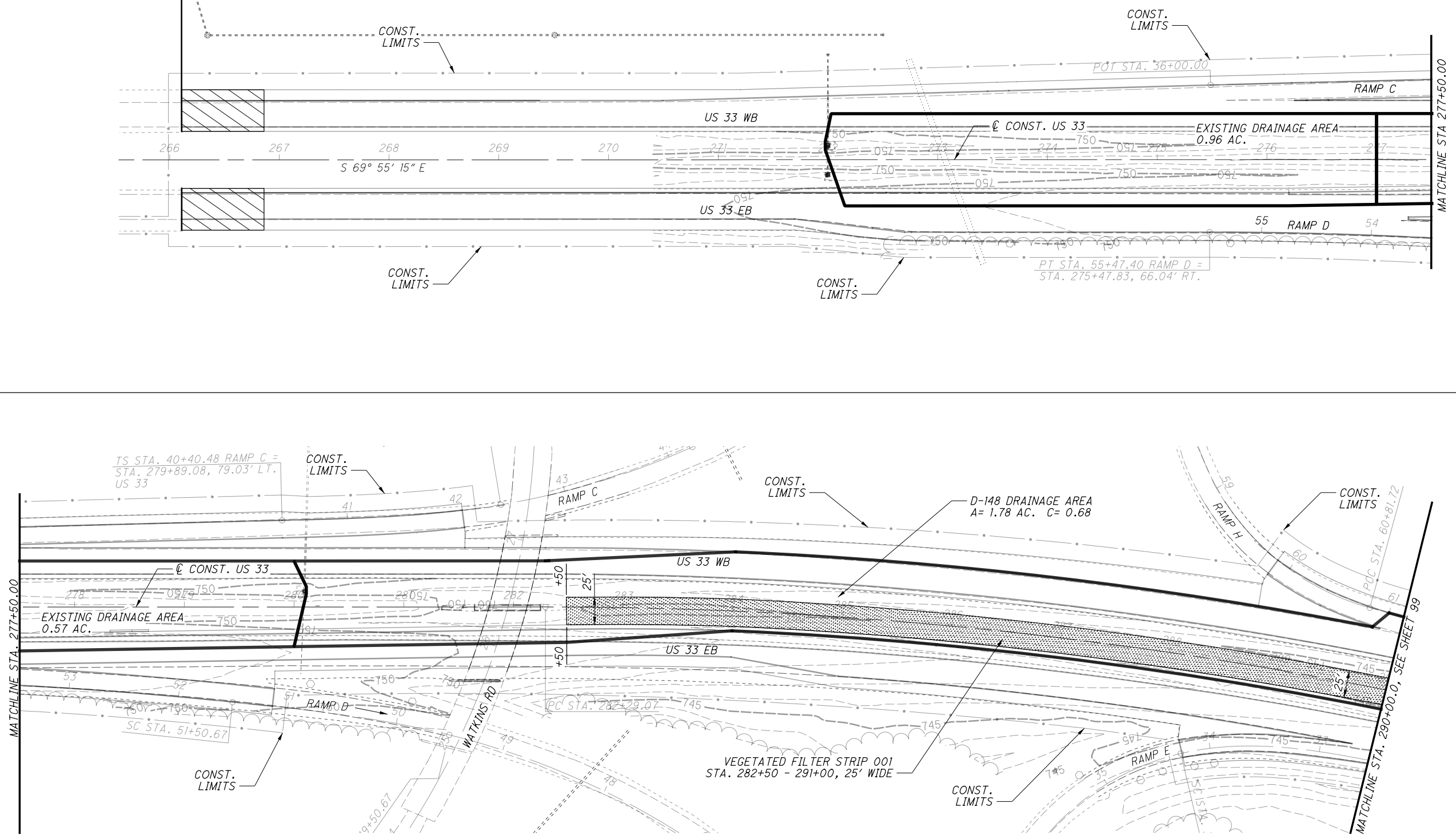


CALCULATED ECH CHECKED SSK

PROJECT SITE PLAN  
STA. 266+00.00 TO STA. 290+00.00

FRA - 33 - 24.26

BEGIN PROJECT  
BEGIN RESURFACING  
US 33 ML  
STA 266+10.96  
SLM 24.26  
E140 (609)



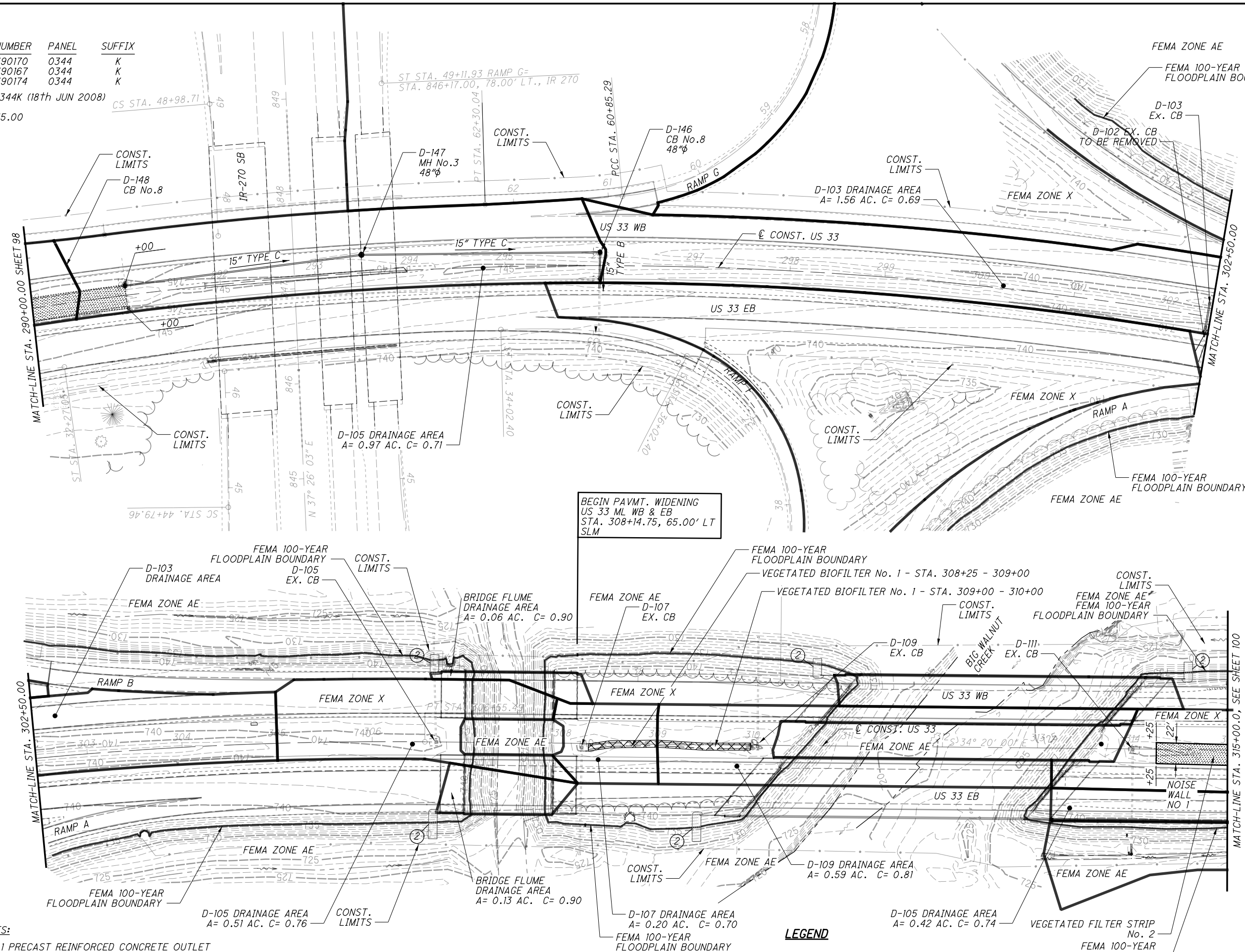
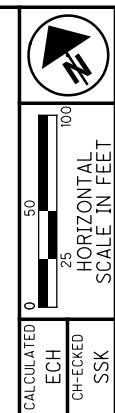
LEGEND

 ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)

FOR POST-CONSTRUCTION STORM WATER BMP INFORMATION  
SEE SHEETS 102

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FEMA MAP INFORMATION  
 COMMUNITY NUMBER PANEL SUFFIX  
 COLUMBUS, CITY OF 390170 0344 K  
 FRANKLIN COUNTY 390167 0344 K  
 GROVEPORT, VILLAGE OF 390174 0344 K  
 FEMA MAP NUMBER 39049C0344K (18th JUN 2008)  
 BASE FLOOD ELEVATION: 735.00



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- NOTES:
- ① DM-1.1 PRECAST REINFORCED CONCRETE OUTLET
  - ② DM-4.1 EROSION CONTROL FLUME

ITEM 670 - VEGETATED SWALE EROSION PROTECTION (VEGETATED BIOFILTER)

LEGEND  
 ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)

PROJECT SITE PLAN  
 STA. 290+00.00 TO STA. 315+00.00

FRA -33-24.26

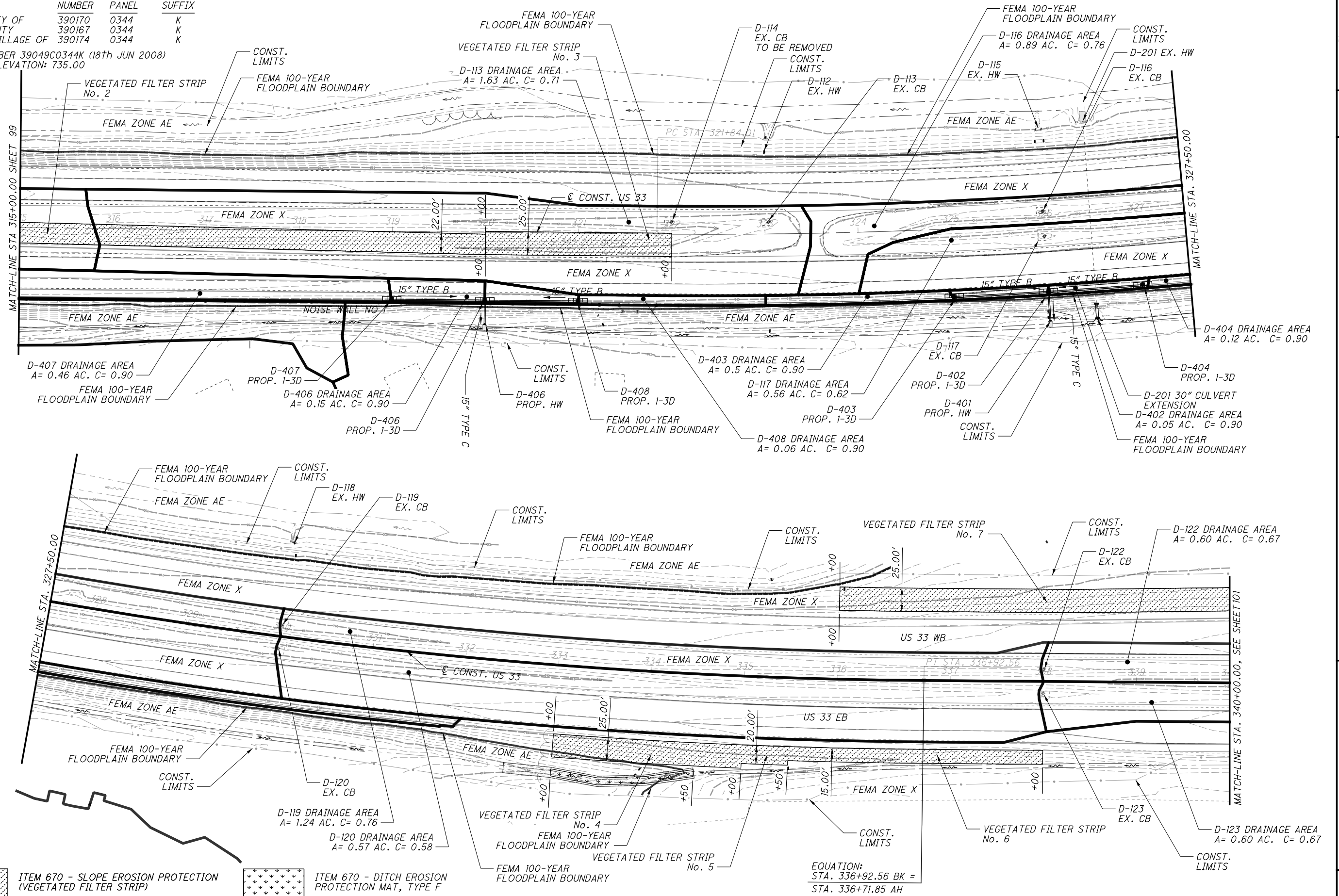
**NOTES:**

① DM-1.1 PRECAST REINFORCED CONCRETE OUTLET

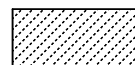
**FEMA MAP INFORMATION**

COMMUNITY	NUMBER	PANEL	SUFFIX
COLUMBUS, CITY OF	390170	0344	K
FRANKLIN COUNTY	390167	0344	K
GROVEPORT, VILLAGE OF	390174	0344	K

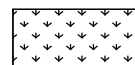
FEMA MAP NUMBER 39049C0344K (18th JUN 2008)  
BASE FLOOD ELEVATION: 735.00



**LEGEND**



ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)



ITEM 670 - DITCH EROSION PROTECTION MAT, TYPE F

EQUATION:  
STA. 336+92.56 BK =  
STA. 336+71.85 AH



PROJECT SITE PLAN  
STA. 315+00.00 TO STA. 340+00.00

FRA -33-24.26

100  
287

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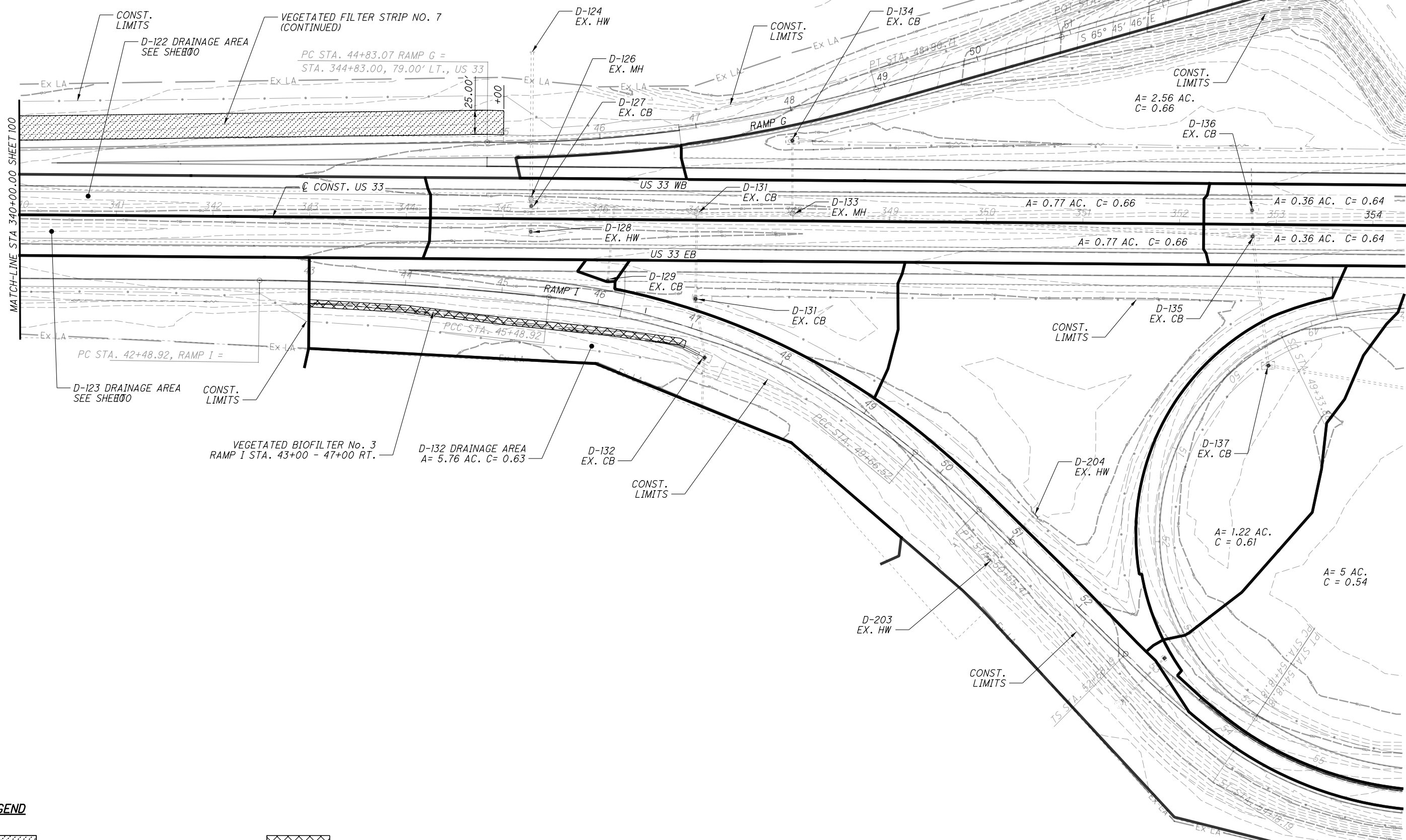
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PROJECT SITE PLAN  
STA. 340+00.00 TO STA. 354+00.00

FRA -33-24.26

101  
287



**LEGEND**

- ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
- ITEM 670 - VEGETATED SWALE EROSION PROTECTION (VEGETATED BIOFILTER)

NOTES:

1. UPON COMPLETION OF THE FILL IN CONJUNCTION WITH THIS MASS GRADING PLAN, AN APPLICATION FOR A LETTER OF MAP REVISION (LOMR) WILL NOT BE SUBMITTED TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), THUS ANY FUTURE SUBMITTAL TO FEMA WILL FIRST REQUIRE A NEW GRADE AND FILL PLAN WITH PROOF AS TO THE FILL USED AND PROPER PLACEMENT, INCLUDING COMPACTION. PRIOR TO THE EFFECTIVE DATE OF THE LOMR, ANY BUILDING CONSTRUCTED WITHIN THE DESIGNATED FILL AREA WILL BE ELEVATED AND/OR DRY FLOOD PROOFED IN ACCORDANCE WITH THE REQUIREMENTS OF COLUMBUS CITY CHAPTER 1150, FLOODPLAIN MANAGEMENT, OF THE COLUMBUS WATER, SEWER, AND ELECTRICITY CODE.

FILLING MAY BE ALLOWED IN THE FLOODWAY FRINGE ONLY IF ASSOCIATED WITH A GRADE AND FILL PLAN. THE GRADE AND FILL PLAN SHALL BE FULLY DETAILED AND SUBMITTED AS PART OF AN APPLICATION FOR A CERTIFICATE OF ZONING CLEARANCE. FILL SHALL NOT BE PLACED UNTIL AFTER THE CERTIFICATE OF ZONING CLEARANCE HAS BEEN ISSUED FOR GRADING AND FILLING.

REGARDLESS OF ANY DETERMINATION ISSUED BY FEMA TO REMOVE AN AREA FILLED AS PERMITTED AND APPROVED FROM THE DESIGNATED SPECIAL FLOOD HAZARD AREA (SHFA), DEVELOPMENT WITHIN THAT AREA OF FILL SHALL BE CONSTRUCTED WITH THE LOWEST FLOOR LEVEL, EXCLUDING A BASEMENT OR CRAWL SPACE, AT OR ABOVE THE FLOOD PROTECTION ELEVATION.

THE LOWEST GRADE ADJACENT TO A BUILDING OR STRUCTURE TO BE CONSTRUCTED WITHIN THE DESIGNATED FILL AREA SHALL BE AT OR ABOVE THE FLOOD PROTECTION ELEVATION, WITH THAT GRADE ELEVATION TO EXTEND AT LEAST TWENTY (20) FEET FROM THE PROPOSED BUILDING TOWARDS THE FLOODWAY OR FLOODING SOURCE.

IN ADDITION, A RESIDENTIAL DWELLING WITHIN THE DESIGNATED FILL AREA MUST HAVE A MEANS OF INGRESS AND EGRESS AT OR ABOVE THE BASE FLOOD ELEVATION THAT EXTENDS CONTINUOUSLY FROM THE DWELLING TO A LOCATION OUTSIDE THE SPECIAL FLOOD HAZARD AREA WITHIN THE SUBJECT SITE.

REASONABLY SAFE FROM FLOODING  
ALL STRUCTURES ASSOCIATED WITH FUTURE DEVELOPMENT WITHIN THE AREA OF THE FLOODPLAIN FILL SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD OF BEING "REASONABLY SAFE FROM FLOODING" AS OUTLINED IN TECHNICAL BULLETIN 10-01, DATED MAY 2001, PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT ASSOCIATION.

INSPECTION OF POST-CONSTRUCTION BMPs:

ALL POST-CONSTRUCTION BMPs SHALL BE INSPECTED AT LEAST ONCE PER YEAR. INSPECTIONS SHALL DOCUMENT THE CONDITION OF THE VEGETATED AREAS AND NOTE AREAS WHERE THE VEGETATIVE COVER NO LONGER EXISTS THROUGH EXPIRATION OF THE VEGETATIVE COVER OR PHYSICAL DAMAGE. AREAS LACKING VEGETATIVE COVER SHALL BE SCHEDULED FOR MAINTENANCE.

MAINTENANCE OF POST-CONSTRUCTION BMPs:

THE CITY OF COLUMBUS SHALL BE THE MAINTAINING AGENCY FOR ALL POST-CONSTRUCTION BMPs INSTALLED BY THIS PROJECT.

CONTACT INFORMATION FOR THE CITY OF COLUMBUS:  
MR. SCOTT SHIELDS  
STORMWATER AND REGULATORY MANAGEMENT SECTION  
1250 FAIRWOOD AVE.  
COLUMBUS, OHIO 43206-3372

PHONE: (614) 645-8891  
FAX: (614) 645-1506  
EMAIL: WSSHIELDS@COLUMBUS.GOV

WHERE INSPECTIONS REVEAL LOSS OF VEGETATIVE COVER, THESE AREAS SHALL BE CLEARED TO A DEPTH OF 4 INCHES. PLACE A 4-INCH LAYER OF TOPSOIL FOLLOWED BY SEEDING AND MULCHING, ALL EQUIVALENT TO THE REQUIREMENTS OF ODOT CMS ITEM 659. AFTER SEEDING AND MULCHING VEGETATED BIOFILTERS, PLACE A LAYER OF TEMPORARY VEGETATIVE BIOFILTER EROSION PROTECTION EQUIVALENT TO ODOT CMS ITEM 670 OVER THE REPAIRED AREA. AFTER SEEDING AND MULCHING VEGETATED FILTER STRIPS, PLACE A LAYER OF CONSTRUCTION SLOPE PROTECTION EQUIVALENT TO ODOT CMS ITEM 670.

IN CASES WHERE VEGETATED BIOFILTERS REQUIRE REGRADING TO REESTABLISH DITCH LINES, THE TOP 4 INCHES OF RESTORED SOIL SHALL BE TOPSOIL EQUIVALENT TO ITEM 659 OF THE ODOT CMS. PLACE SEEDING AND MULCHING EQUIVALENT TO ODOT CMS ITEM 659. PLACE A LAYER OF VEGETATIVE SWALE EROSION PROTECTION EQUIVALENT TO ITEM 670 OF THE ODOT CMS OVER ALL SEEDED AND MULCHED AREAS.

EXISTING LAND USES AND SITE DESCRIPTION

PROJECT AREA: URBAN NON-INTERSTATE FREEWAY

SURROUNDING AREA: URBAN RESIDENTIAL/AGRICULTURAL  
COMMERCIAL NEAR HAMILTON ROAD INTERCHANGE

PROPOSED CONSTRUCTION: MULTI-LANE RESURFACING, CONSTRUCTION OF  
AUXILIARY LANES BETWEEN I-270 AND HAMILTON  
ROAD, WIDENING IN MEDIAN TO PROVIDE ADDITIONAL  
LANE FOR U.S. 33 THROUGH I-270 INTERCHANGE.

WIDENING OF BRIDGES ACROSS BIG WALNUT CREEK  
AND BIG WALNUT CREEK OVERFLOW CHANNEL.

POST-CONSTRUCTION STORM WATER MANAGEMENT BEST MANAGEMENT PRACTICES:

VEGETATED BIOFILTERS AND VEGETATED FILTER STRIPS ARE PROPOSED AS POST-CONSTRUCTION BMPs FOR THIS PROJECT. BASED ON THE PROJECT LIMITS AND THE EARTH DISTURBED AREA, THIS PROJECT IS RECONSTRUCTION PROJECT REQUIRING WATER QUALITY TREATMENT FOR 20 PERCENT OF THE TOTAL EARTH DISTURBED AREA.

PROJECT EDA = 20.412 AC.

20 PERCENT OF EDA = 4.082 AC.

PROPOSED VEGETATED BIOFILTER LOCATIONS:

VEGETATED BIOFILTER LOCATION	SIDE	STRUCTURE	TOTAL AREA	AREA IN ODOT R/W	WIDTH	LATITUDE	START LONGITUDE	END LONGITUDE	LATITUDE	LONGITUDE
STATION 309+00 TO STATION 308+25	MEDIAN	107	0.15 AC.	0.15 AC.	4 FEET	39.898870 N	82.894597 W	39.898814 N	82.894436 W	
STATION 309+00 TO STATION 310+00	MEDIAN	109	0.17 AC.	0.17 AC.	4 FEET	39.898814 N	82.894436 W	39.828099 N	82.894243 W	
STATION 43+00 TO STATION 47+00	RIGHT	132	0.90 AC.	0.86 AC.	4 FEET	39.891547 N	82.886741 W	39.890767 N	82.885782 W	
TOTAL TREATMENT CREDIT			1.18 AC.							

PROPOSED VEGETATED FILTER STRIP LOCATIONS:

VEGETATED FILTER STRIP LOCATION	SIDE	DRAINS TO	TOTAL AREA	PAV. WIDTH	STRIP WIDTH	LATITUDE	START LONGITUDE	END LONGITUDE	LATITUDE	LONGITUDE
STATION 282+50 TO STATION 290+00	MEDIAN	148	0.55 AC.	8'-16'	25 FEET	39.903339 N	82.901613 W	39.902309 N	82.898897 W	
STATION 314+25 TO STATION 320+00	MEDIAN	113	0.66 AC.	29'	22 FEET	39.897620 N	82.893388 W	39.896307 N	82.892251 W	
STATION 320+00 TO STATION 322+00	MEDIAN	113	0.29 AC.	29'-42'	25 FEET	39.896309 N	82.892246 W	39.895857 N	82.891842 W	
STATION 333+00 TO STATION 335+00	RIGHT	DITCH	0.16 AC.	8'	25 FEET	39.893404 N	82.889493 W	39.893202 N	82.888966 W	
STATION 335+00 TO STATION 335+50	RIGHT	DITCH	0.03 AC.	8'	20 FEET	39.893207 N	82.888960 W	39.892935 N	82.888828 W	
STATION 335+50 TO STATION 338+00	RIGHT	DITCH	0.14 AC.	8'	15 FEET	39.892941 N	82.888822 W	39.892451 N	82.888083 W	
STATION 336+00 TO STATION 345+00	LEFT	DITCH	1.36 AC.	32'-45'	25 FEET	39.893194 N	82.888290 W	39.891581 N	82.885764 W	
TOTAL TREATMENT CREDIT			3.19 AC.							

TOTAL CREDIT: 1.18 AC. + 3.19 AC. = 4.37 AC.

PROJECT DATA

TOTAL AREA (RIGHT-OF-WAY) *	93.93 AC.	SOIL MAP REFERENCE	FRANKLIN COUNTY SOIL MAP (WEB SOIL SURVEY)
PROJECT EARTH DISTURBED AREA (FIGURE 1112-1(A))	20.412 AC.	IMMEDIATE RECEIVING WATERS	TRIBUTARIES TO BIG WALNUT CREEK
ESTIMATED CONTRACTOR EARTH DISTURBED AREA (FIGURE 1112-1(K))	2.56 AC.	SUBSEQUENT RECEIVING WATERS	BIG WALNUT CREEK
NOTICE OF INTENT EARTH DISTURBED AREA (FIGURE 1112-1(M))	22.972 AC.	LATITUDE	N 39° 53' 51"
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.70	LONGITUDE	W 82° 53' 35"
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.71	USGS MAP REFERENCE	SOUTHEAST COLUMBUS, REYNOLDSBURG, CANAL WINCHESTER QUADRANGLES
TOTAL IMPERVIOUS AREA (PRE-CONSTRUCTION)	23.436 AC.		
TOTAL IMPERVIOUS AREA (POST-CONSTRUCTION)	25.660 AC.		

\* TOTAL RIGHT-OF-WAY AREA DOES NOT INCLUDE TEMPORARY EASEMENTS

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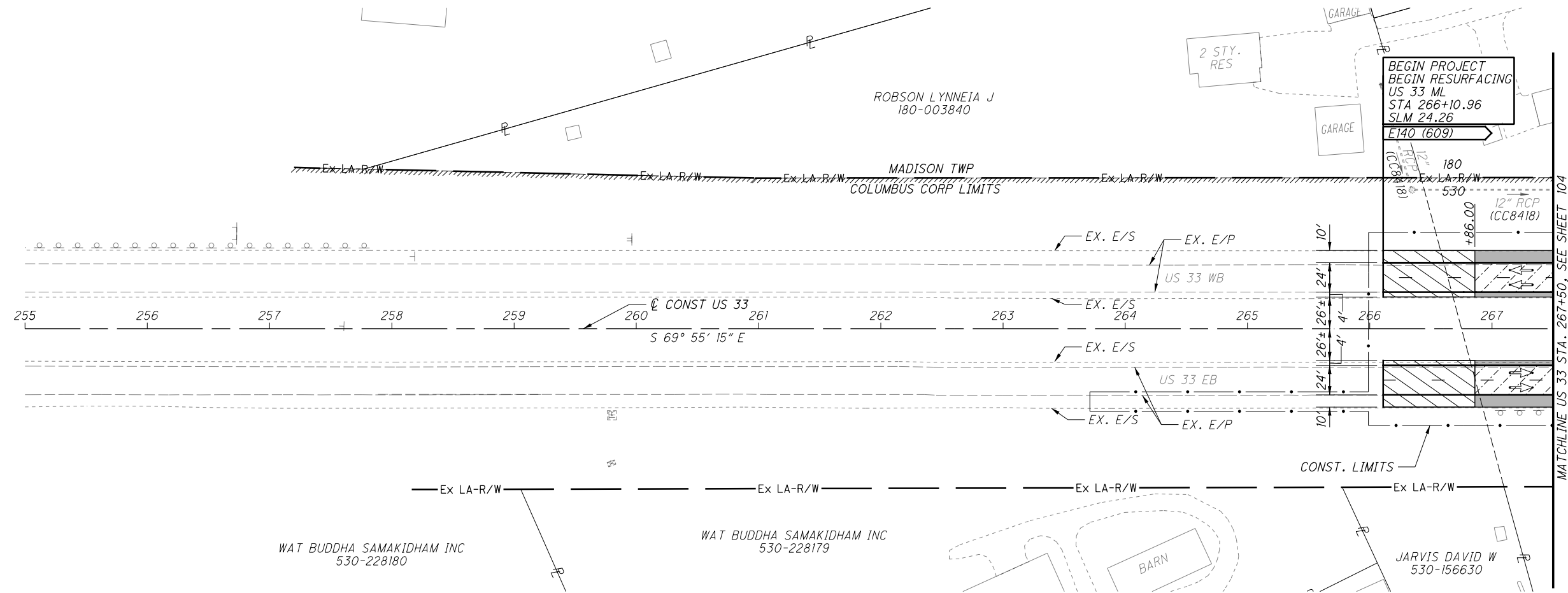
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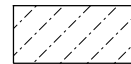


PROJECT SITE PLAN  
GENERAL NOTES AND DETAILS

FRA -33-24.26

102  
287

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- LEGEND**
-  1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE A, 12.5MM, (446)
  -  VARIABLE DEPTH PAVEMENT PLANING (SEE SHEET 12 FOR DETAILS)
  -  1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE A, 12.5MM, (446)

NOTE: UNLESS LABELED OTHERWISE, ALL STORM SEWERS SHOWN WERE INSTALLED BY EITHER FRA-33-22.46 OR FRA-33-(26.21-30.13) PLANS. (BOTH SIGNED 1962)

FOR  $\phi$  REFERENCES AND BENCHMARKS, SEE SHEETS 2-5  
 FOR SUBSUMMARY, SEE SHEET 108  
 FOR CROSS SECTIONS, SEE SHEETS 128-162

CALCULATED  
CFR  
CHECKED  
SSK

0 50 100  
HORIZONTAL  
SCALE IN FEET

PLAN - U.S. 33  
 STA. 255+00 TO STA. 267+50

FRA-33-24.26



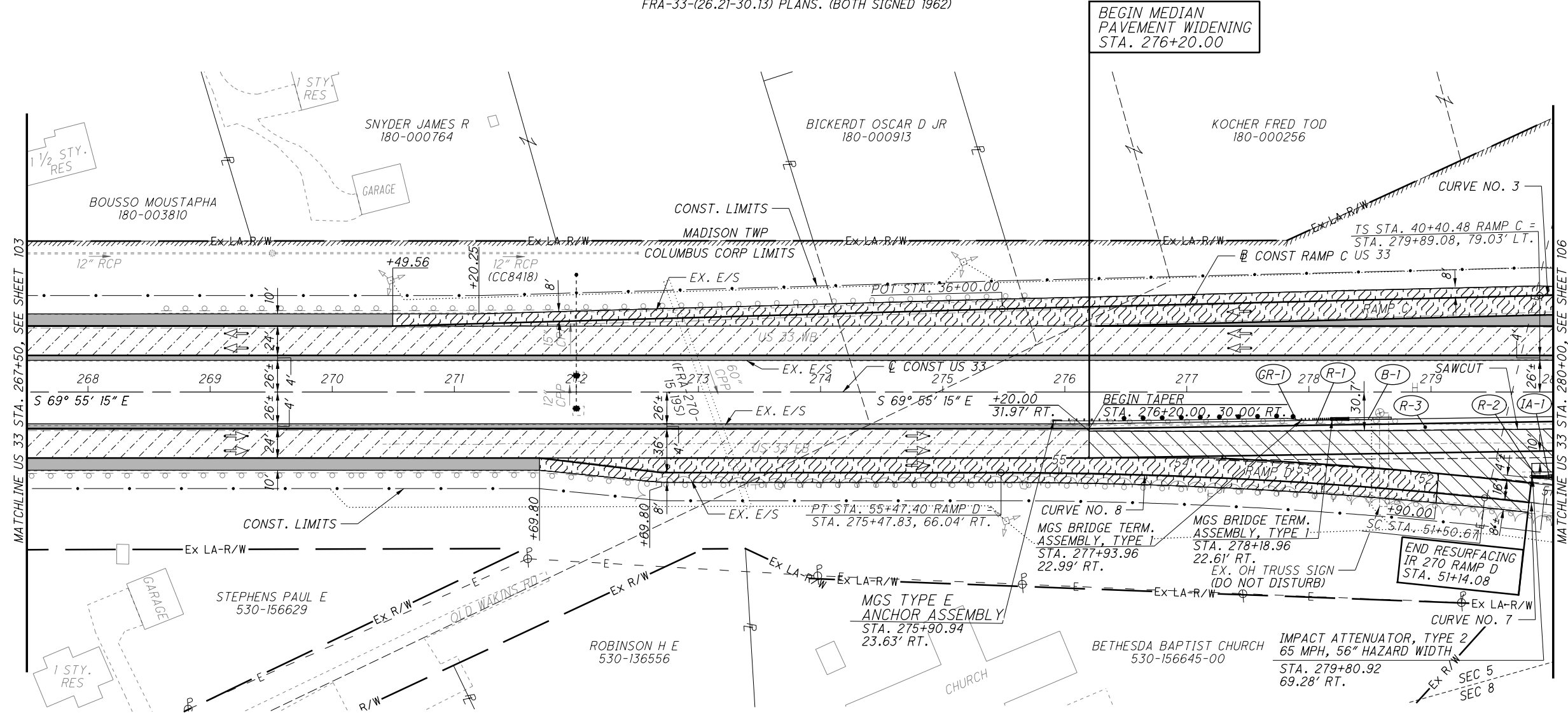
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CHECKED  
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PLAN - U.S. 33  
STA. 267+50 TO STA. 280+00

FRA - 33 - 24.26

IR 270 RAMP C  
 EX. CURVE DATA NO. 3  
 P.I. STA. 43+37.19  
 $\Delta = 30^\circ 37' 52''$  (LT)  
 $D_c = 8^\circ 00' 00''$   
 $R = 716.20'$   
 $L_s = 200.00'$   
 $\theta_s = 8^\circ 00' 00''$   
 $LT = 133.47'$   
 $ST = 66.79'$   
 $x = 199.61'$   
 $y = 9.30'$   
 $k = 99.94'$   
 $p = 2.33'$   
 $\Delta c = 14^\circ 37' 52''$  (LT)  
 $L_c = 182.89'$   
 $T_s = 296.71'$   
 $E_s = 28.78'$   
 $\theta_{max} = 0.083$   
 TS STA. 40+40.48  
 ST STA. 46+23.37

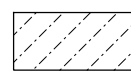
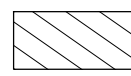

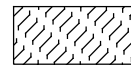
NOTE: UNLESS LABELED OTHERWISE, ALL STORM SEWERS SHOWN WERE INSTALLED BY EITHER FRA-33-22.46 OR FRA-33-(26.21-30.13) PLANS. (BOTH SIGNED 1962)



MATCHLINE US 33 STA. 267+50, SEE SHEET 103

MATCHLINE US 33 STA. 280+00, SEE SHEET 106

**LEGEND**

-  1.75" PAVEMENT PLANING,  
W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE,  
TYPE A, 19MM, (446)  
& 1.5" ASPHALT CONCRETE SURFACE COURSE,  
TYPE A, 12.5MM, (446)
-  VARIABLE DEPTH PAVEMENT PLANING  
(SEE SHEET 12 FOR DETAILS)
-  1.5" ASPHALT CONCRETE SURFACE COURSE,  
TYPE A, 12.5MM, (446)
-  1.75" PAVEMENT PLANING,  
W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE,  
TYPE A, 19MM, (446)  
& 1.5" ASPHALT CONCRETE SURFACE COURSE,  
TYPE A, 12.5MM, (446), AS PER PLAN (PG76-22M)

IR 270 RAMP D	
EX. CURVE DATA NO. 7	PROP. CURVE DATA NO. 8
P.I. STA. 47+46.55	P.I. STA. 53+49.21
$\Delta = 52^\circ 57' 21''$ (LT)	$\Delta = 5^\circ 57' 03''$ (LT)
$D_c = 8^\circ 00' 00''$	$D_c = 1^\circ 30' 00''$
$R = 716.20'$	$R = 3,819.72'$
$L_s = 200.00'$	$T = 198.54'$
$\theta_s = 8^\circ 00' 00''$	$L = 396.73'$
$LT = 133.47'$	$E = 5.16'$
$ST = 66.79'$	$\theta_{max} = 0.041$
$x = 199.61'$	SC STA. 51+50.67
$y = 9.30'$	PT STA. 55+47.40
$k = 99.94'$	
$p = 2.33'$	
$\Delta c = 36^\circ 57' 21''$ (LT)	
$L_c = 461.95'$	
$T_s = 457.83'$	
$E_s = 86.53'$	
$\theta_{max} = 0.083$	
TS STA. 42+88.72	
SC STA. 51+50.67	

FOR  $\phi$  REFERENCES AND BENCHMARKS, SEE SHEETS 2-5  
 FOR SUBSUMMARY, SEE SHEET 108  
 FOR CROSS SECTIONS, SEE SHEETS 128-162

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IR 270 RAMP C  
 EX. CURVE DATA NO. 3  
 P.I. STA. 43+27.19  
 $\Delta = 30^\circ 37' 52''$  (LT)  
 $D_c = 8^\circ 00' 00''$   
 $R = 716.20'$   
 $L_s = 200.00'$   
 $\theta_s = 8^\circ 00' 00''$   
 $LT = 133.47'$   
 $ST = 66.79'$   
 $x = 199.61'$   
 $y = 9.30'$   
 $k = 99.94'$   
 $p = 2.33'$   
 $\Delta_c = 14^\circ 37' 52''$  (LT)  
 $L_c = 182.89'$   
 $T_s = 296.71'$   
 $E_s = 28.78'$   
 $\theta_{max} = 0.083$   
 $TS STA. 40+40.48$   
 $ST STA. 46+23.37$

US-33  
 EX. CURVE DATA NO. 1  
 P.I. STA. 294+82.85  
 $\Delta = 35^\circ 35' 15''$  (RT)  
 $D_c = 1^\circ 28' 00''$   
 $R = 3,906.53'$   
 $T = 1,253.78'$   
 $L = 2,426.42'$   
 $E = 196.27'$   
 $\theta_{max} = 0.048$   
 $PC STA. 282+29.07$   
 $PT STA. 306+55.49$

IR 270 RAMP H  
 EX. CURVE DATA NO. 22 EX. CURVE DATA NO. 24 EX. CURVE DATA NO. 25  
 P.I. STA. 48+29.11 P.I. STA. 54+60.59 P.I. STA. 61+39.96  
 $\Delta = 2^\circ 05' 18''$  (LT)  $\Delta = 244^\circ 52' 40''$  (LT)  $\Delta = 2^\circ 54' 41''$  (LT)  
 $D_c = 1^\circ 30' 00''$   $D_c = 24^\circ 54' 40''$   $D_c = 2^\circ 30' 00''$   
 $R = 3,819.72'$   $R = 230.00'$   $R = 2,291.83'$   
 $T = 69.61'$   $T = 361.88'$   $T = 58.24'$   
 $L = 139.21'$   $L = 983.00'$   $L = 116.46'$   
 $E = 0.63'$   $E = 658.79'$   $E = 0.74'$   
 $\theta_{max} = NC$   $\theta_{max} = 0.083$   $\theta_{max} = NC$   
 $PC STA. 47+59.50$   $SC STA. 50+98.71$   $PCC STA. 60+81.72$   
 $CS STA. 48+98.71$   $PCC STA. 60+81.72$   $PT STA. 61+98.18$

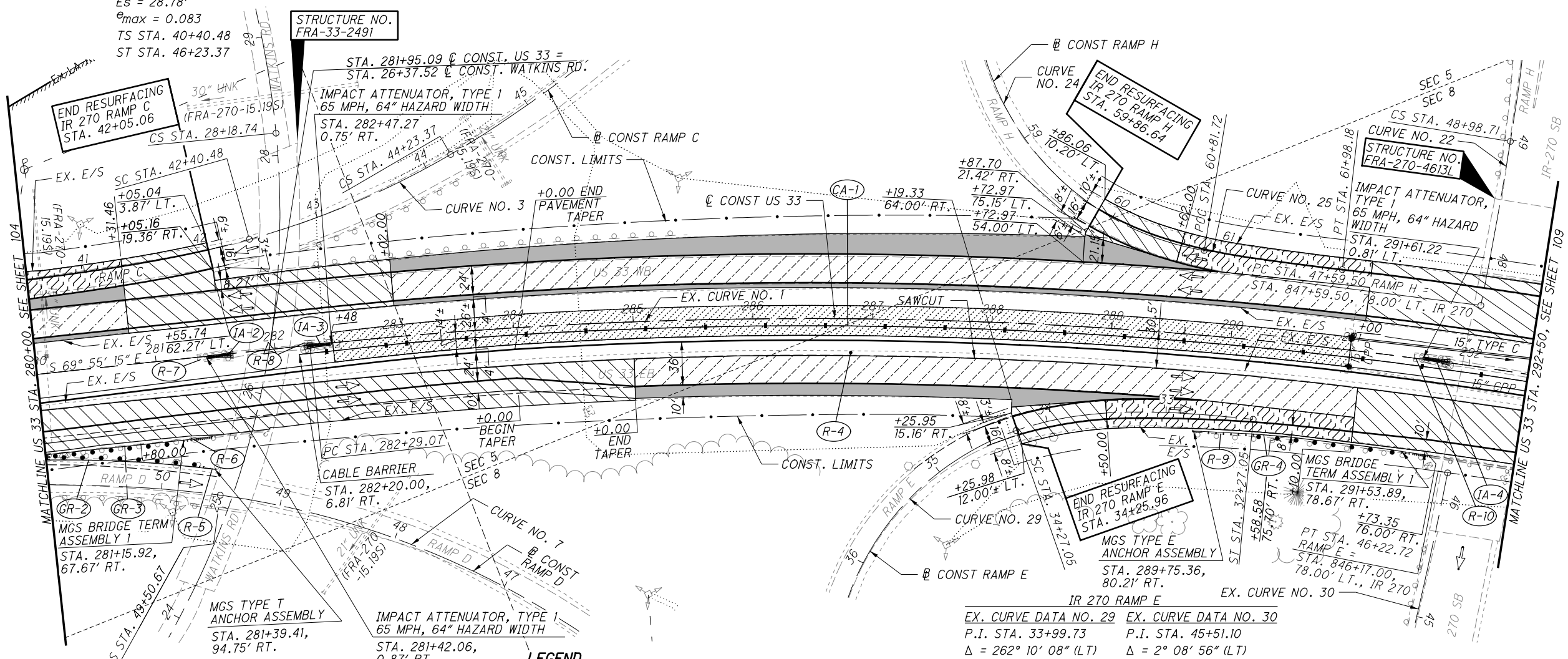


CALCULATED  
 CFR  
 CHECKED  
 SSK

PLAN - U.S. 33  
 STA. 280+00 TO STA. 292+50

FRA-33-24.26

106  
 287



IR 270 RAMP D  
 EX. CURVE DATA NO. 7  
 P.I. STA. 47+46.55  $k = 99.94'$   
 $\Delta = 52^\circ 57' 21''$  (LT)  $p = 2.33'$   
 $D_c = 8^\circ 00' 00''$   $\Delta_c = 36^\circ 57' 21''$  (LT)  
 $R = 716.20'$   $L_c = 461.95'$   
 $L_s = 200.00'$   $T_s = 457.83'$   
 $\theta_s = 8^\circ 00' 00''$   $E_s = 86.53'$   
 $LT = 133.47'$   $\theta_{max} = 0.083$   
 $ST = 66.79'$   $TS STA. 42+88.72$   
 $x = 199.61'$   $SC STA. 51+50.67$   
 $y = 9.30'$

**LEGEND**

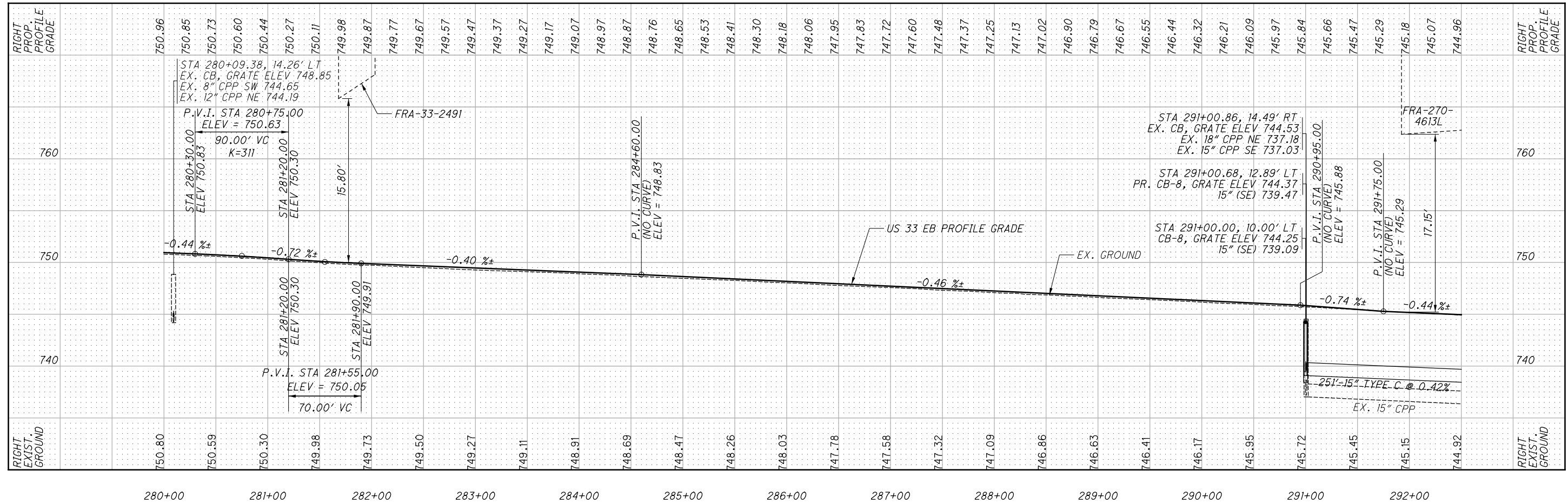
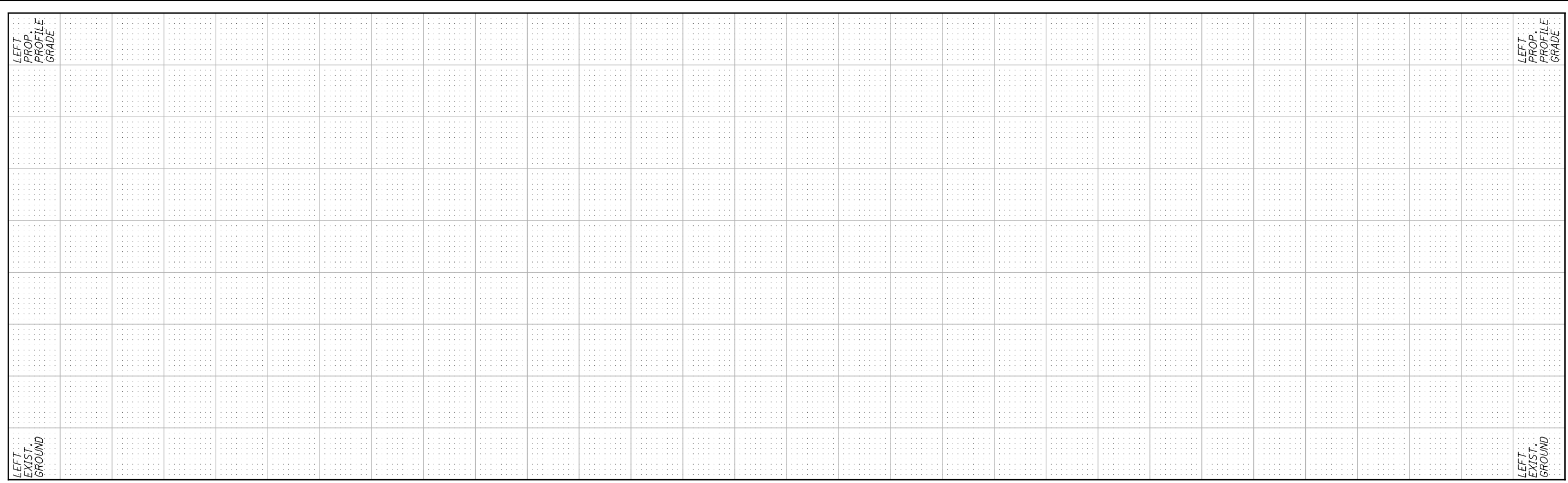
- 1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446)
- VARIABLE DEPTH PAVEMENT PLANING (SEE SHEET 12 FOR DETAILS)
- 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE A, 12.5MM, (446)
- ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
- 1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446), AS PER PLAN (PG76-22M)

IR 270 RAMP E  
 EX. CURVE DATA NO. 29 EX. CURVE DATA NO. 30  
 P.I. STA. 33+99.73 P.I. STA. 45+51.10  
 $\Delta = 262^\circ 10' 08''$  (LT)  $\Delta = 2^\circ 08' 56''$  (LT)  
 $D_c = 24^\circ 54' 40''$   $D_c = 1^\circ 30' 00''$   
 $R = 230.00'$   $R = 3,819.72'$   
 $L_s = 200.00'$   $T = 71.64'$   
 $\theta_s = 24^\circ 54' 40''$   $L = 143.26'$   
 $LT = 134.68'$   $E = 0.67'$   
 $ST = 67.89'$   $\theta_{max} = 0.083$   
 $x = 196.25'$   $SC STA. 44+79.46$   
 $y = 28.60'$   $PT STA. 46+22.72$   
 $k = 99.37'$   $p = 7.20'$   
 $\Delta_c = 212^\circ 20' 47''$  (LT)  
 $L_c = 852.41'$   
 $T_s = 172.68'$   
 $E_s = 18.27'$   
 $\theta_{max} = 0.083$   
 $TS STA. 32+27.05$   
 $SC STA. 44+79.46$

NOTE: UNLESS LABELED OTHERWISE, ALL STORM SEWERS SHOWN WERE INSTALLED BY EITHER FRA-33-22.46 OR FRA-33-(26.21-30.13) PLANS. (BOTH SIGNED 1962)

FOR  $\phi$  REFERENCES AND BENCHMARKS, SEE SHEETS 2-5  
 FOR SUBSUMMARY, SEE SHEET 108  
 FOR CROSS SECTIONS, SEE SHEETS 128-162

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NOTE: "RT" AND "LT" NOTATIONS ARE WITH RESPECT TO CONSTRUCTION US-33.

CALCULATED  
KSJ  
CHECKED  
BBB

PROFILE - US 33  
STA. 280+00 TO STA. 292+50

FRA - 33 - 24.26  
107  
287

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REF NO.	SHEET NO.	STATION TO STATION			SIDE	202	202	202			202	606	606	606	606	SPECIAL	SPECIAL	606	606	622	622	622	626
						PAVEMENT REMOVED, AS PER PLAN	PAVEMENT REMOVED, ASPHALT	GUARDRAIL REMOVED			IMPACT ATTENUATOR REMOVED	GUARDRAIL, TYPE MGS	ANCHOR ASSEMBLY, MGS TYPE E	ANCHOR ASSEMBLY, MGS TYPE T	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	CABLE BARRIER	CABLE BARRIER, ANCHOR ASSEMBLY	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)	IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL)	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	CONCRETE BARRIER END SECTION, TYPE D, REINFORCED	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	BARRIER REFLECTOR, TYPE 1, ONE WAY
					SY	SY	FT			EACH	FT	EACH	EACH	EACH	FT	EACH	EACH	EACH	FT	EACH	EACH	EACH	
R-1	104	275+76.27	TO	278+75.07	RT.			299															
R-2	104	279+84.50	TO	280+03.30	RT.					1													
R-3	104	276+20.00	TO	280+00.00	RT.	20	185																
R-4	106	280+00.00	TO	292+50.00	RT.	69	530																
R-5	106	279+96.94	TO	281+43.07	RT.			149															
R-6	106	279+96.94	TO	281+45.30	RT.			148															
R-7	106	281+36.70	TO	281+64.52	CL					1													
R-8	106	282+24.54	TO	282+52.16	CL					1													
R-9	106	289+74.50	TO	291+82.78	RT.			204															
R-10	106	291+56.00	TO	291+85.93	CL					1													
B-1	104	278+33.33	TO	278+67.34	RT.														20	1	1		
CA-1	106	282+20.00	TO	292+50.00	RT.										1030	1							
GR-1	104	275+90.94	TO	278+18.96	RT.						150	1		1								3	
GR-2	106	280+03.30	TO	281+39.41	RT.						125		1									2	
GR-3	106	280+03.43	TO	281+40.92	RT.						112.5			1								2	
GR-4	106	289+75.36	TO	291+79.41	RT.						125	1		1								3	
IA-1	104	279+80.92	TO	280+03.35	RT.																		
IA-2	106	281+42.06	TO	281+64.53	RT.																		
IA-3	106	282+47.27	TO	282+24.80	RT.																		
IA-4	106	291+61.22	TO	291+83.67	LT.																		
TOTALS CARRIED TO GENERAL SUMMARY						89	715	800		4	512.5	2	1	3	1,030	1	3	1	20	1	1	10	

**ROADWAY SUBSUMMARY**

**FRA -33-24.26**

CALCULATED  
KSJ  
CHECKED  
NCK

**IR 270 RAMP G**

EX. CURVE DATA NO. 26	EX. CURVE DATA NO. 27	EX. CURVE DATA NO. 28
P.I. STA. 50+46.61	P.I. STA. 54+91.14	P.I. STA. 61+57.69
Dc = 24° 54' 40"	Δ = 242° 28' 34" (RT)	Δ = 3° 37' 08" (RT)
R = 230.00'	Dc = 24° 54' 40"	Dc = 2° 30' 00"
Ls = 200.00'	R = 230.00'	R = 2,291.83'
θs = 24° 54' 40" (RT)	T = 379.21'	T = 72.40'
LT = 134.68'	L = 973.36'	L = 144.75'
ST = 67.89'	E = 673.51'	E = 196.27'
x = 196.25'	ε <sub>max</sub> = 0.083	ε <sub>max</sub> = NC
y = 28.60'	SC STA. 51+11.93	PCC STA. 60+85.29
k = 99.37'	PCC STA. 60+85.29	PT STA. 62+30.04
p = 7.20'		
ε <sub>max</sub> = 0.045		
TS STA. 49+11.93		
SC STA. 51+11.93		

**US-33**

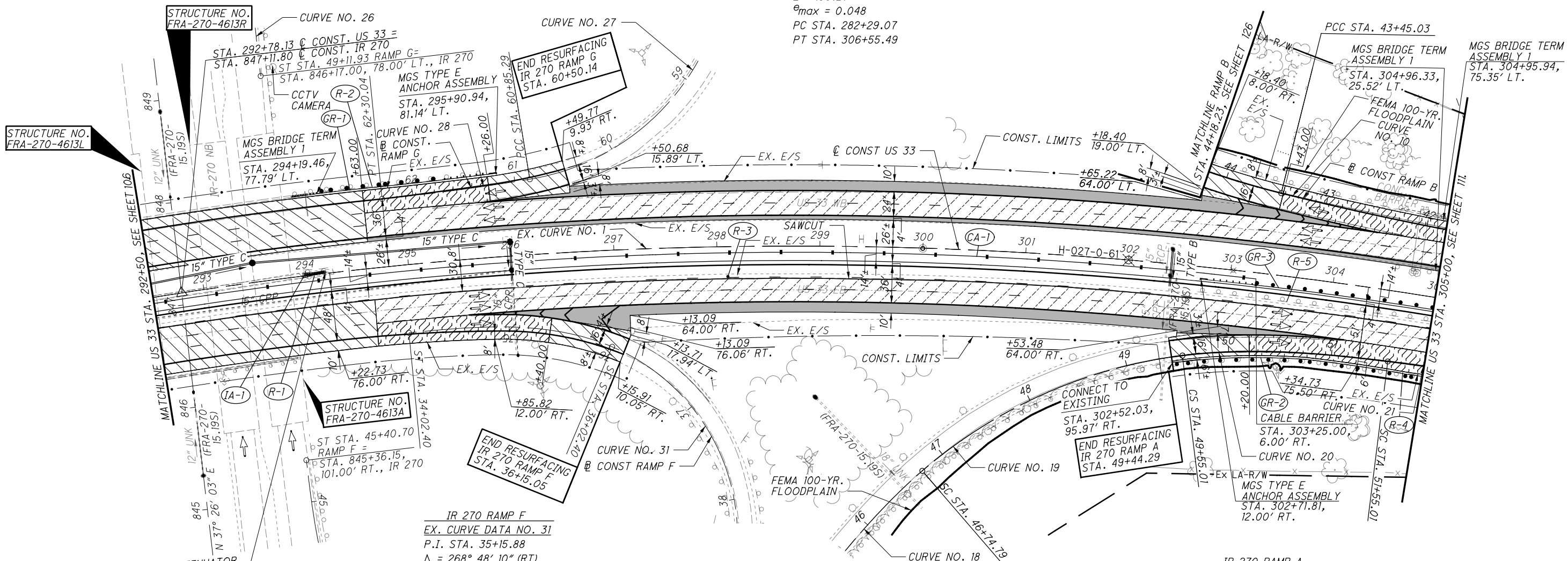
**EX. CURVE DATA NO. 1**

P.I. STA. 294+82.85  
 Δ = 35° 35' 15" (RT)  
 Dc = 1° 28' 00"  
 R = 3,906.53'  
 T = 1,253.78'  
 L = 2,426.42'  
 E = 196.27'  
 ε<sub>max</sub> = 0.048  
 PC STA. 282+29.07  
 PT STA. 306+55.49

**IR 270 RAMP B**

**PROP. CURVE DATA NO. 10**

P.I. STA. 42+37.41  
 Δ = 4° 07' 38" (RT)  
 Dc = 1° 55' 00"  
 R = 2,989.35'  
 T = 107.71'  
 L = 215.34'  
 E = 1.94'  
 ε<sub>max</sub> = 0.049  
 PRC STA. 41+29.69  
 PCC STA. 43+45.03



**IR 270 RAMP F**

**EX. CURVE DATA NO. 31**

P.I. STA. 35+15.88  
 Δ = 268° 48' 10" (RT)  
 Dc = 28° 38' 52"  
 R = 200.00'  
 Ls = 200.00'  
 θs = 28° 38' 52"  
 LT = 135.12'  
 ST = 68.30'  
 x = 195.06'  
 y = 32.74'  
 k = 99.17'  
 p = 8.26'  
 Δc = 211° 30' 25" (RT)  
 Lc = 738.30'  
 Es = 8.75'  
 ε<sub>max</sub> = 0.083  
 TS STA. 34+02.40  
 ST STA. 45+40.70

PROP. CURVE DATA NO. 18	PROP. CURVE DATA NO. 19	PROP. CURVE DATA NO. 20	PROP. CURVE DATA NO. 21
P.I. STA. 46+08.43	P.I. STA. 48+19.06	P.I. STA. 50+32.65	P.I. STA. 52+50.59
Dc = 12° 00' 00"	Δ = 33° 37' 36" (RT)	Δ = 14° 15' 00" (RT)	Δ = 4° 17' 56" (RT)
R = 477.46'	Dc = 12° 00' 00"	D1 = 2° 15' 00"	Dc = 2° 15' 00"
Ls = 200.00'	R = 477.46'	R1 = 2,546.48'	R = 2,546.48'
θs = 12° 00' 00" (RT)	T = 144.28'	D2 = 12° 00' 00"	T = 95.58'
LT = 133.64'	L = 280.22'	R2 = 477.46'	L = 191.06'
ST = 66.95'	E = 21.32'	Ls = 200.00'	E = 1.79'
x = 199.12'	ε <sub>max</sub> = 0.057	p = 2.83'	ε <sub>max</sub> = 0.048
y = 13.92'	SC STA. 46+74.79	Δ1 = 2° 14' 50"	SC STA. 51+55.01
k = 99.85'	CS STA. 59+55.01	Δ2 = 12° 00' 00"	CS STA. 53+46.07
p = 3.49'		T1 = 77.64'	
ε <sub>max</sub> = 0.057		T2 = 123.30'	
TS STA. 44+74.79		ε1 = 0.057	
SC STA. 46+74.79		ε2 = 0.48	
		CS STA. 49+55.01	
		SC STA. 51+55.01	

**LEGEND**

- 1.75" PAVEMENT PLANING, W/ 1.75" CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446)
- VARIABLE DEPTH PAVEMENT PLANING (SEE SHEET 12 FOR DETAILS)
- 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446)
- 1.75" PAVEMENT PLANING, W/ 1.75" CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446), AS PER PLAN (P676-22M)
- HISTORICAL SOIL BORING

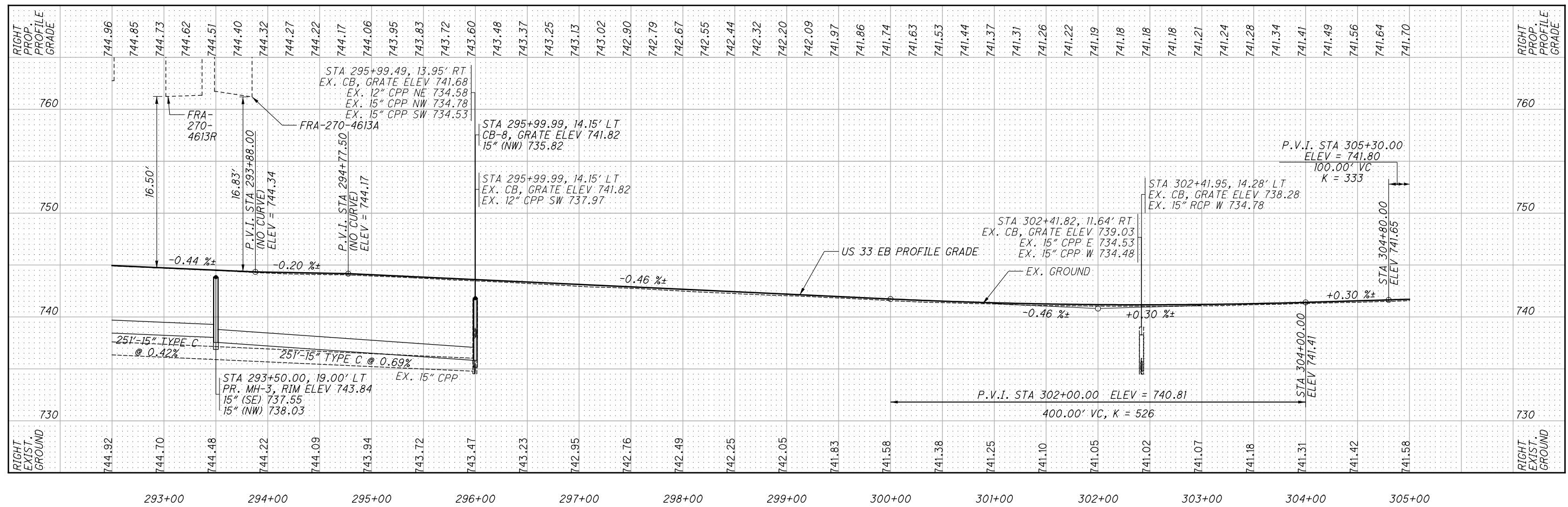
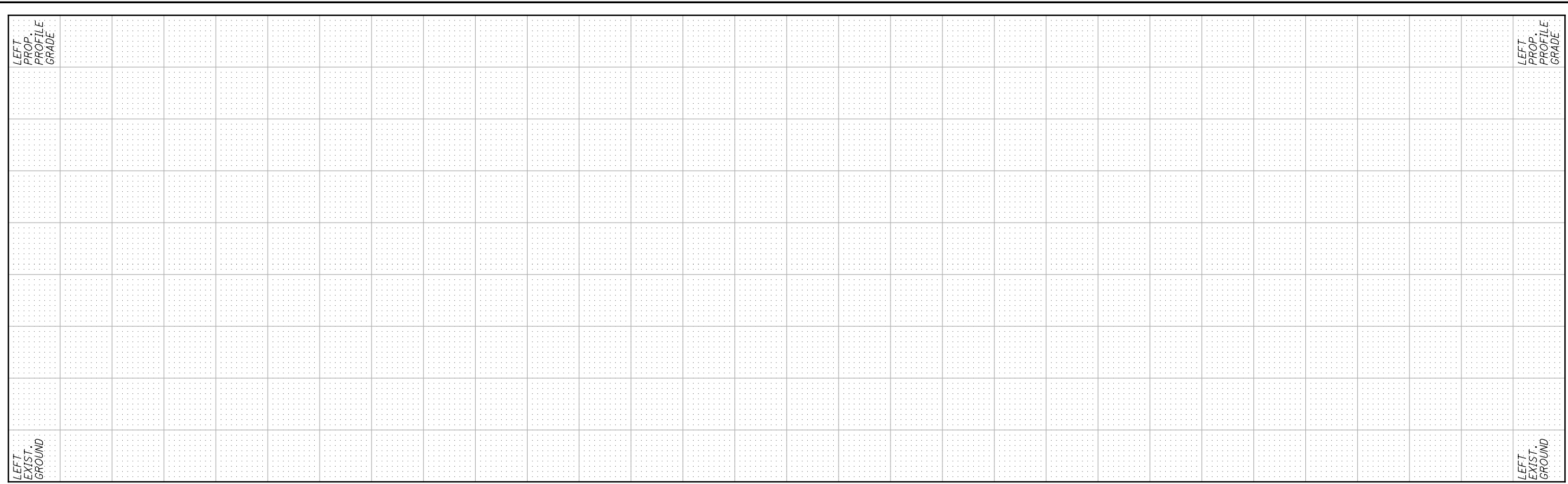
NOTE: UNLESS LABELED OTHERWISE, ALL STORM SEWERS SHOWN WERE INSTALLED BY EITHER FRA-33-22.46 OR FRA-33-(26.21-30.13) PLANS. (BOTH SIGNED 1962)

FOR @ REFERENCES AND BENCHMARKS, SEE SHEETS 2-5

FOR SUBSUMMARY, SEE SHEETS 115 - 116

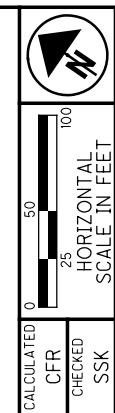
FOR CROSS SECTIONS, SEE SHEETS 128 - 162

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NOTE: "RT" AND "LT" NOTATIONS ARE WITH RESPECT TO  
 @ CONSTRUCTION US-33.

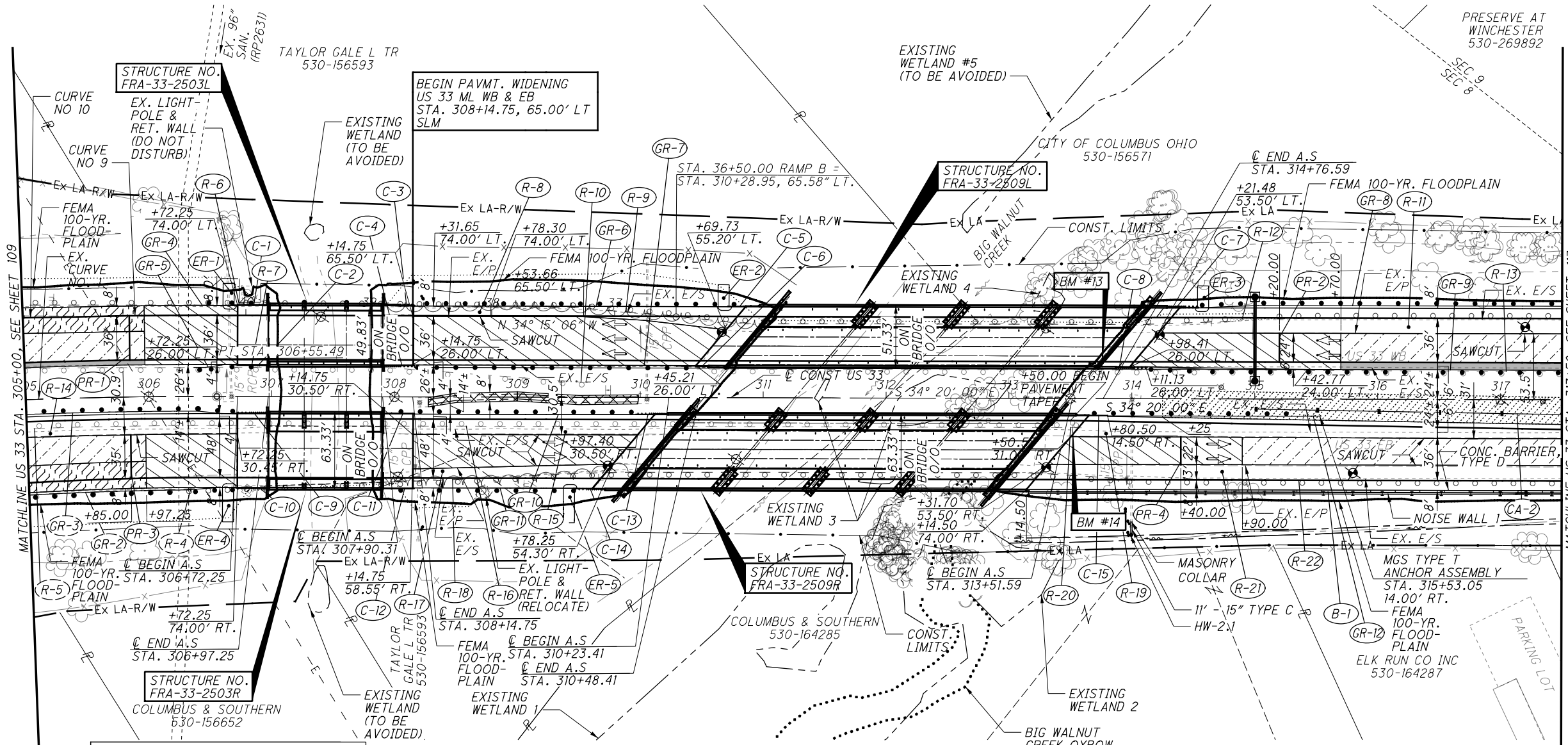
US-33	IR 270 RAMP B	
EX. CURVE DATA NO. 1	PROP. CURVE DATA NO. 9	PROP. CURVE DATA NO. 10
P.I. STA. 294+82.85	P.I. STA. 40+76.31	P.I. STA. 42+37.41
$\Delta = 35^\circ 35' 15''$ (RT)	$\Delta = 1^\circ 32' 24''$ (LT)	$\Delta = 4^\circ 07' 38''$ (RT)
$Dc = 1^\circ 28' 00''$	$Dc = 1^\circ 26' 32''$	$Dc = 1^\circ 55' 00''$
$R = 3,906.53'$	$R = 3,972.50'$	$R = 2,989.35'$
$T = 1,253.78'$	$T = 53.39'$	$T = 107.71'$
$L = 2,426.42'$	$L = 106.77'$	$L = 215.34'$
$E = 196.27'$	$E = 0.36'$	$E = 1.94'$
$\theta_{max} = 0.048$	$\theta_{max} = 0.041$	$\theta_{max} = 0.049$
PC STA. 282+29.07	PC STA. 40+22.92	PRC STA. 41+29.69
PT STA. 306+55.49	PRC STA. 41+29.69	PCC STA. 43+45.03



CALCULATED  
CFR  
CHECKED  
SSK

PLAN - U.S. 33  
STA. 305+00 TO STA. 317+50

FRA-33-24.26



	STATION	OFFSET
H-028-0-61	306+00.00	0.00'
B-010-0-61	307+40.00	65.00' LT.
H-029-0-61	308+00.00	0.00'
B-016-0-61	308+03.00	65.00' RT.
B-013-0-15	309+73.70	55.60' RT.
B-014-0-15	310+66.20	53.42' LT.
B-006-0-61	310+78.00	50.00' RT.
B-020-0-61	313+30.00	57.00' LT.
B-016-0-15	313+30.44	56.00' RT.
H-030-0-61	313+50.00	0.00'
B-017-0-15	314+22.63	52.00' LT.
B-018-015	315+80.00	60.00' RT.
H-031-0-61	317+00.00	0.00'
B-019-0-15	317+20.00	59.00' LT.

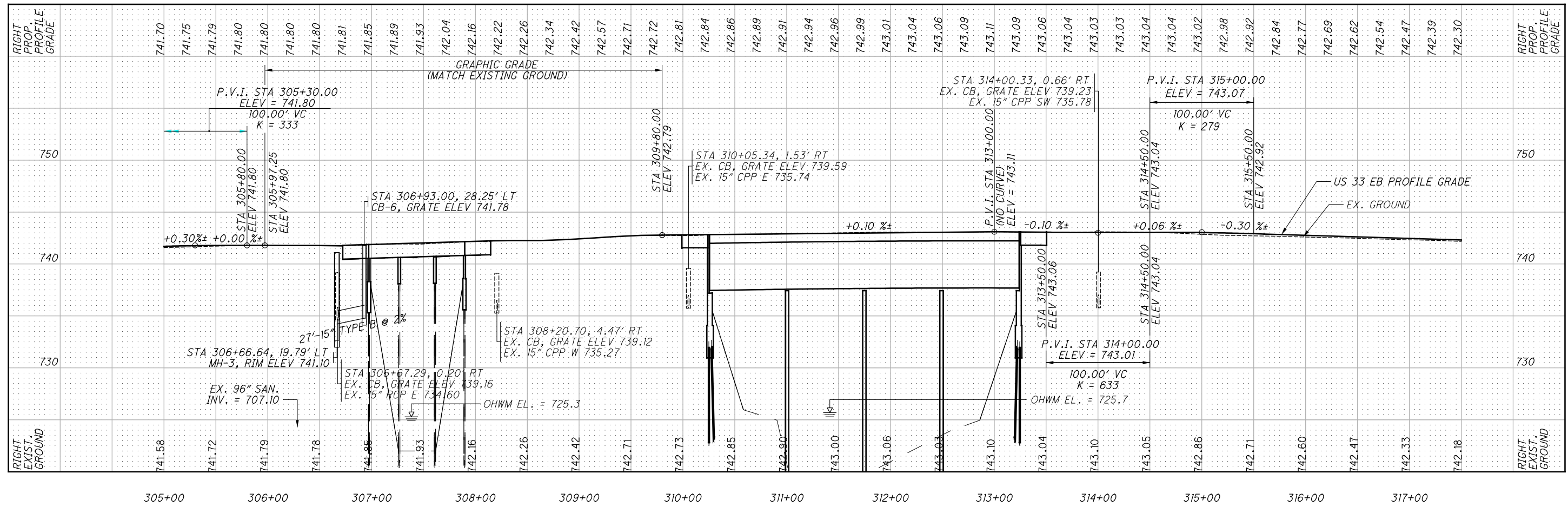
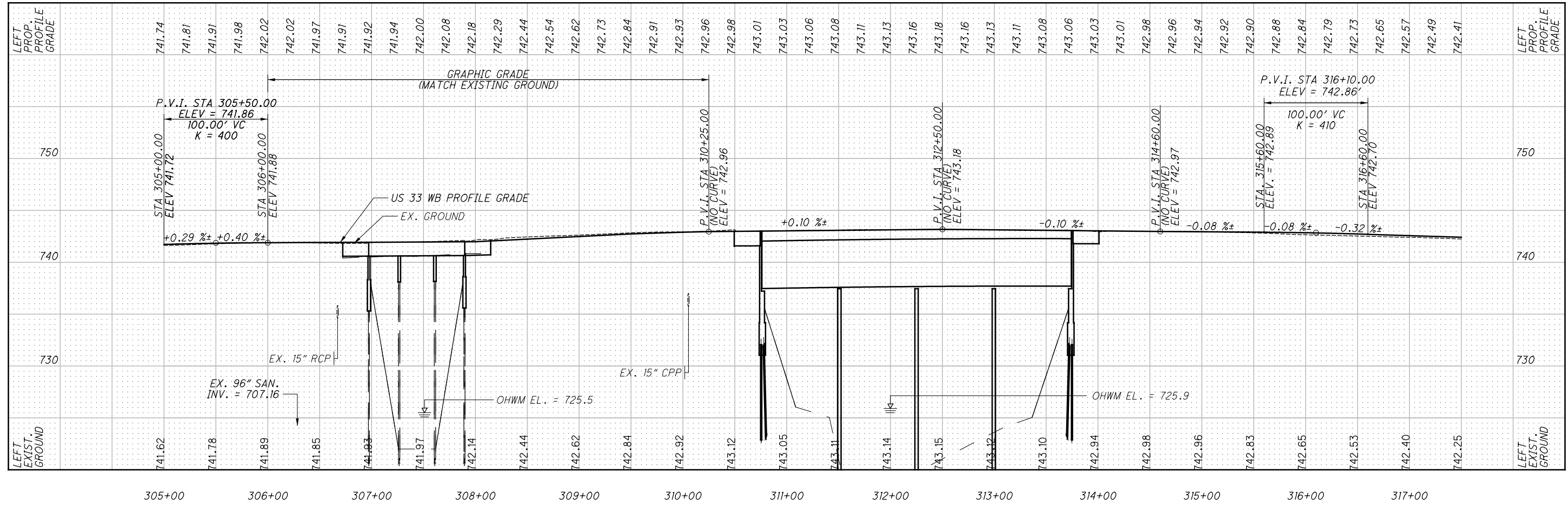
**LEGEND**

- 1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE A, 12.5MM, (446)
- VARIABLE DEPTH PAVEMENT PLANING (SEE SHEET 12 FOR DETAILS)
- ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED BIOFILTER)
- 1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE A, 12.5MM, (446), AS PER PLAN (PG76-22M)
- ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
- 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446)
- A.S. APPROACH SLAB
- PROJECT SOIL BORING
- HISTORICAL SOIL BORING

NOTE: UNLESS LABELED OTHERWISE, ALL STORM SEWERS SHOWN WERE INSTALLED BY EITHER FRA-33-22.46 OR FRA-33-(26.21-30.13) PLANS. (BOTH SIGNED 1962)

FOR  $\phi$  REFERENCES AND BENCHMARKS, SEE SHEETS 2-5  
FOR SUBSUMMARY, SEE SHEETS 115-116  
FOR CROSS SECTIONS, SEE SHEETS 128-162  
FOR CURBING AND GUARDRAIL DETAILS, SEE SHEETS 172-173  
FOR NOISE WALL 1 DETAILS, SEE SHEETS 181-189

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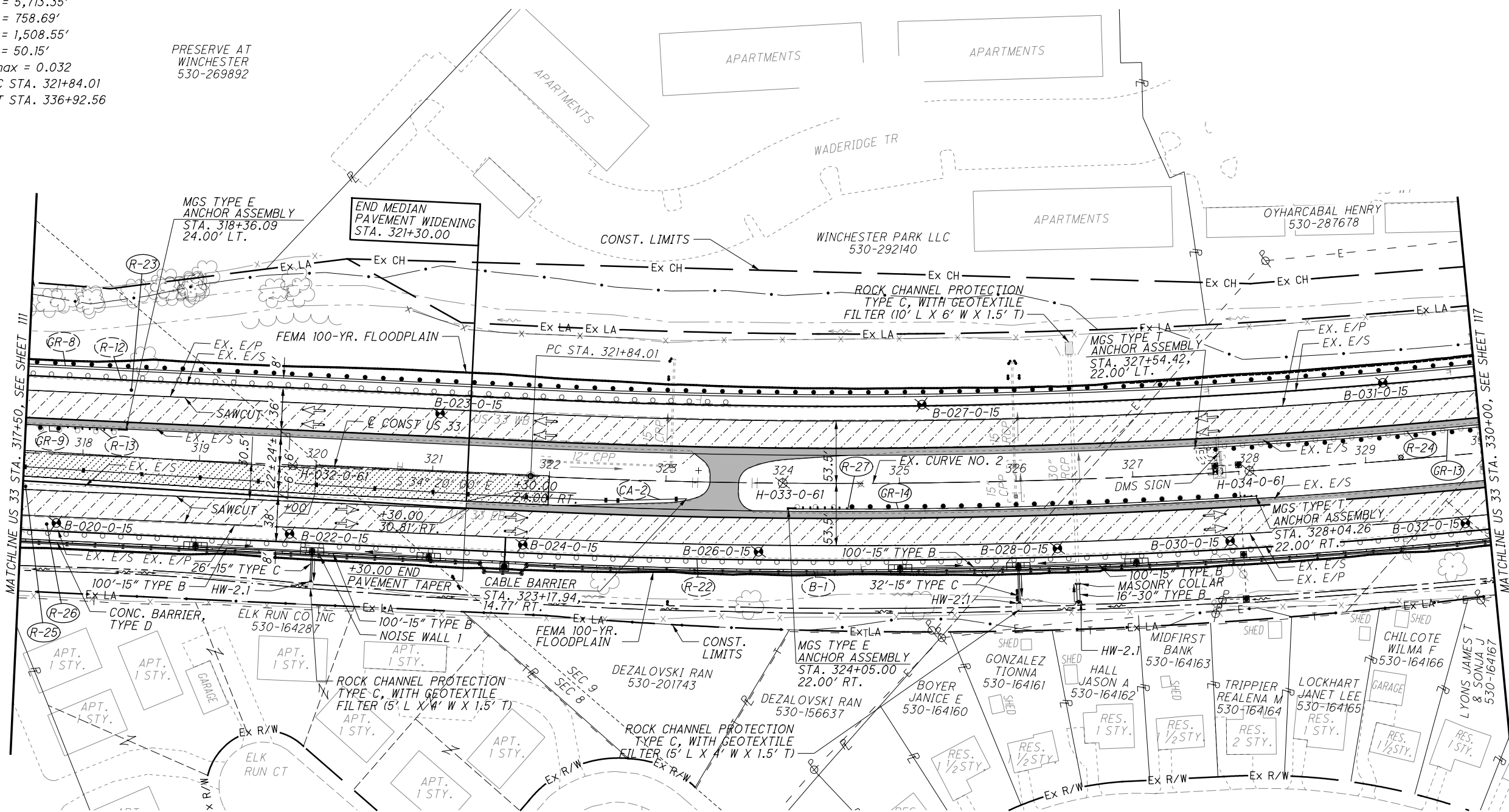


NOTE: "RT" AND "LT" NOTATIONS ARE WITH RESPECT TO CONSTRUCTION US-33.

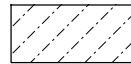






US-33  
 EX. CURVE DATA NO. 2  
 P.I. STA. 329+42.69  
 $\Delta = 15^\circ 07' 42''$  (LT)  
 $D_c = 1^\circ 00' 10''$   
 $R = 5,713.35'$   
 $T = 758.69'$   
 $L = 1,508.55'$   
 $E = 50.15'$   
 $e_{max} = 0.032$   
 PC STA. 321+84.01  
 PT STA. 336+92.56

PRESERVE AT  
 WINCHESTER  
 530-269892



**LEGEND**

-  1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE A, 12.5MM, (446)
-  1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE A, 12.5MM, (446)
-  ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
-  PROJECT SOIL BORING
-  HISTORICAL SOIL BORING

NOTE: UNLESS LABELED OTHERWISE, ALL STORM SEWERS SHOWN WERE INSTALLED BY EITHER FRA-33-22.46 OR FRA-33-(26.21-30.13) PLANS. (BOTH SIGNED 1962)

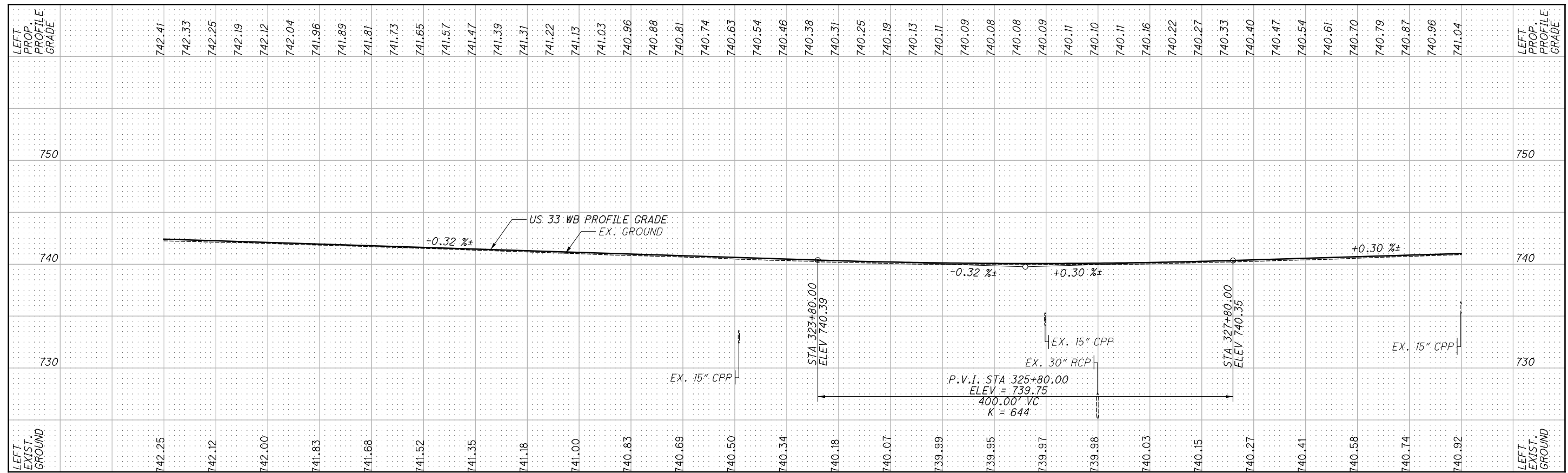
FOR @ REFERENCES AND BENCHMARKS, SEE SHEETS 2-5  
 FOR SUBSUMMARY, SEE SHEETS 115-116  
 FOR CROSS SECTIONS, SEE SHEETS 128-162  
 FOR NOISE WALL 1 DETAILS, SEE SHEETS 181-189



PLAN - U.S. 33  
 STA. 317+50 TO STA. 330+00

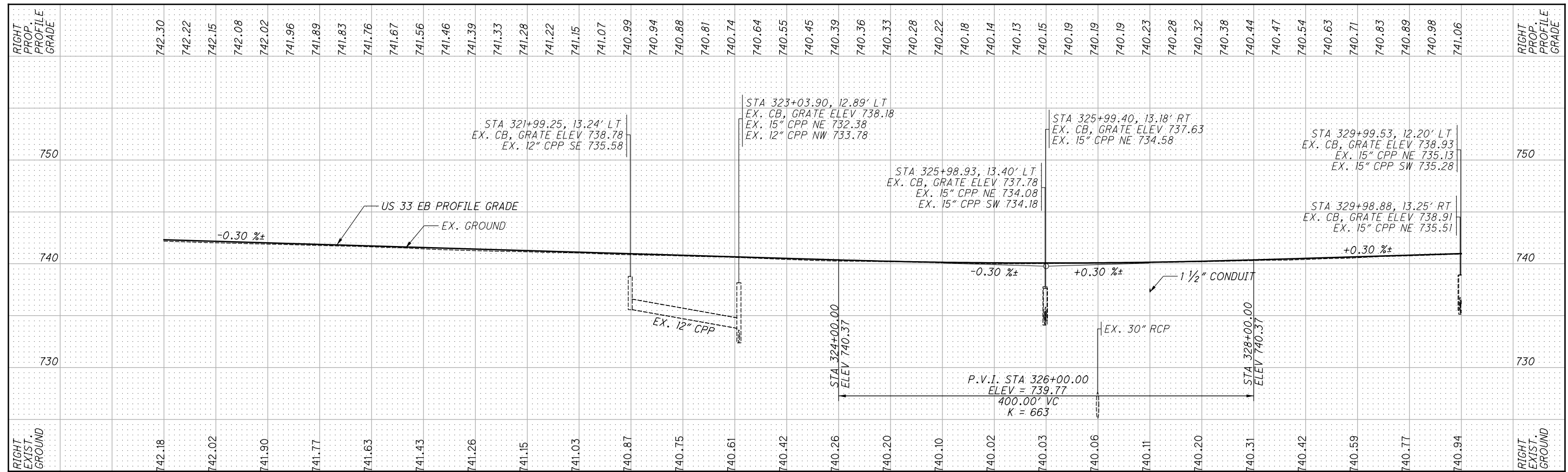
FRA-33-24.26

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318+00 319+00 320+00 321+00 322+00 323+00 324+00 325+00 326+00 327+00 328+00 329+00 330+00

NOTE: "RT" AND "LT" NOTATIONS ARE WITH RESPECT TO CONSTRUCTION US-33.



318+00 319+00 320+00 321+00 322+00 323+00 324+00 325+00 326+00 327+00 328+00 329+00 330+00

CALCULATED  
CFR  
CHECKED  
SSK

PROFILE - U.S. 33  
STA. 317+50 TO STA. 330+00

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REF NO.	SHEET NO.	STATION TO STATION		SIDE	202	202	202	202	202	606	606	606	606	606	606	SPECIAL	SPECIAL	622	622	626			
					PAVEMENT REMOVED, AS PER PLAN SY	PAVEMENT REMOVED, ASPHALT SY	CONCRETE BARRIER REMOVED FT	GUARDRAIL REMOVED FT	IMPACT ATTENUATOR REMOVED EACH	GUARDRAIL, TYPE MGS FT	GUARDRAIL, TYPE MGS WITH LONG POSTS FT	ANCHOR ASSEMBLY, MGS TYPE E EACH	ANCHOR ASSEMBLY, MGS TYPE T EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH	CABLE BARRIER FT	CABLE BARRIER, ANCHOR ASSEMBLY EACH	CONCRETE BARRIER, SINGLE SLOPE, TYPE D FT	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D EACH	BARRIER REFLECTOR, TYPE 1, ONE WAY EACH			
R-1	109	293+96.98	TO	294+24.62	LT.																		
R-2	109	293+91.90	TO	295+79.13	LT.				192														
R-3	109	292+50.00	TO	305+00.00	RT.	70	556																
R-4	109-111	302+51.86	TO	306+97.89	RT.				444														
R-5	109-111	302+65.69	TO	306+97.89	RT.				431														
R-6	111	306+37.10	TO	306+99.25	LT.				63														
R-7	111	306+37.04	TO	306+99.25	LT.				63														
R-8	111	308+14.75	TO	310+23.41	LT.	15	163																
R-9	111	307+89.75	TO	310+98.88	LT.				310														
R-10	111	307+89.75	TO	309+56.98	LT.				168														
R-11	111	314+21.48	TO	317+50.00	LT.	19	359																
R-12	111-113	314+00.06	TO	323+54.56	LT.			44	916														
R-13	111-113	313+71.16	TO	318+30.28	LT.				460														
R-14	111	305+00.00	TO	306+72.25	RT.	10	76																
R-15	111	308+14.75	TO	310+01.79	RT.	11	82																
R-16	111	307+90.32	TO	310+28.69	RT.				239														
R-17	111	308+14.75	TO	309+77.83	RT.	10	124																
R-18	111	307+90.31	TO	309+97.30	RT.				208														
R-19	111	313+50.57	TO	317+50.00	RT.	23	180																
R-20	111	313+29.54	TO	313+59.16	RT.				30														
R-21	111	313+25.99	TO	317+50.00	RT.	24	466																
R-22	111-113	312+98.68	TO	330+00.00	RT.				1,712														
R-23	113	317+50.00	TO	330+00.00	LT.	70	1,520																
R-24	113	327+59.59	TO	330+00.00	LT.				240														
R-25	113	317+50.00	TO	321+30.00	RT.	22	187																
R-26	113	317+50.00	TO	330+00.00	RT.	70	1,440																
R-27	113	324+05.00	TO	327+90.65	RT.				390														
B-1	111-113	313+14.50	TO	330+00.00	RT.												1,696	13	17				
CA-1	109	292+50.00	TO	303+25.00	RT.										1,075	1							
CA-2	111-113	315+00.00	TO	323+17.94	RT.										819	2							
GR-1	109	293+94.95	TO	295+90.94	LT.					125		1								3			
GR-2	109-111	302+52.03	TO	306+97.89	RT.						414.23		1							5			
GR-3	109-111	302+70.72	TO	306+97.89	RT.					350		1		1						5			
GR-4	111	306+37.10	TO	306+99.25	LT.					50				1						1			
GR-5	111	306+37.04	TO	306+99.25	LT.					50				1						1			
GR-6	111	307+89.11	TO	310+99.13	LT.					260.02			1	1						4			
GR-7	111	307+89.11	TO	310+57.60	LT.					230.97			1	1						3			
GR-8	111-113	314+27.67	TO	330+00.00	LT.					1,537.5			1							16			
GR-9	111-113	313+86.13	TO	318+36.09	LT.					375		1		1						5			
GR-10	111	307+88.31	TO	310+23.24	RT					197.42			1	1						3			
GR-11	111	307+88.31	TO	309+72.33	RT					146.51			1	1						2			
GR-12	111	313+52.48	TO	315+53.05	RT					175			1	1						2			
GR-13	113	327+54.42	TO	330+00.00	LT.						225		1							3			
GR-14	113	324+05.00	TO	328+04.26	RT					337.5		1	1							4			
TOTALS CARRIED TO GENERAL SUMMARY						344	5,153	44	5,866		1		3,835	640	4	3	9	7	1,894	3	1,696	13	74

ROADWAY SUBSUMMARY

FRA -33- 24.26

CALCULATED  
KSJ  
CHECKED  
NCK





CALCULATED  
CFR  
CHECKED  
SSK

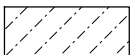


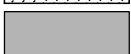
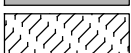


PLAN - U.S. 33  
STA. 330+00 TO STA. 342+50

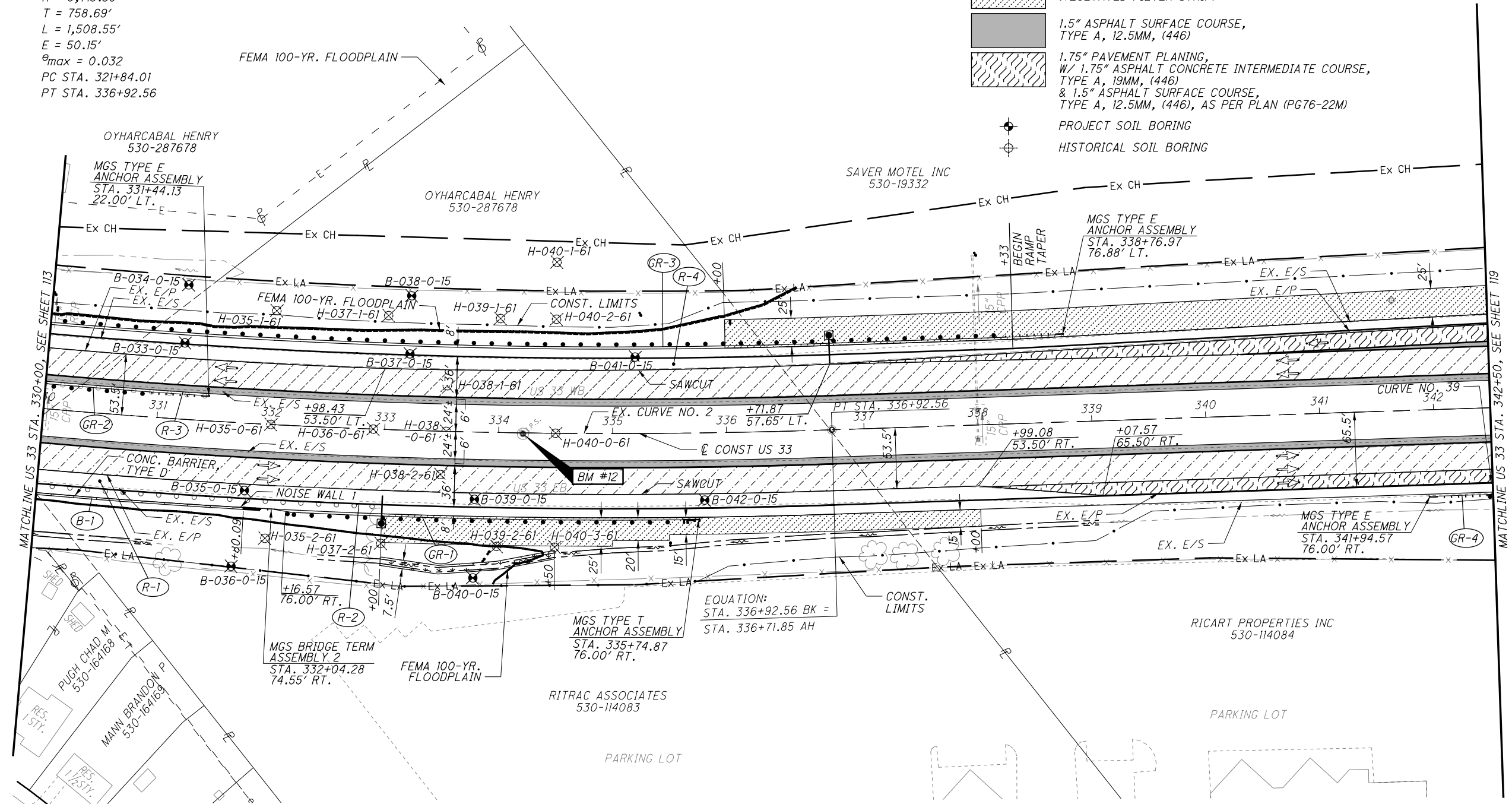
FRA-33-24.26

117  
287

US-33  
EX. CURVE DATA NO. 2  
P.I. STA. 329+42.69  
 $\Delta = 15^\circ 07' 42''$  (LT)  
 $Dc = 1^\circ 00' 10''$   
 $R = 5,713.35'$   
 $T = 758.69'$   
 $L = 1,508.55'$   
 $E = 50.15'$   
 $e_{max} = 0.032$   
PC STA. 321+84.01  
PT STA. 336+92.56

**LEGEND**

-  1.75" PAVEMENT PLANING,  
W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE,  
TYPE A, 19MM, (446)  
& 1.5" ASPHALT CONCRETE SURFACE COURSE,  
TYPE A, 12.5MM, (446)
-  ITEM 670 - DITCH EROSION  
PROTECTION MAT, TYPE F
-  ITEM 670 - SLOPE EROSION PROTECTION  
(VEGETATED FILTER STRIP)
-  1.5" ASPHALT SURFACE COURSE,  
TYPE A, 12.5MM, (446)
-  1.75" PAVEMENT PLANING,  
W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE,  
TYPE A, 19MM, (446)  
& 1.5" ASPHALT SURFACE COURSE,  
TYPE A, 12.5MM, (446), AS PER PLAN (PG76-22M)
-  PROJECT SOIL BORING
-  HISTORICAL SOIL BORING

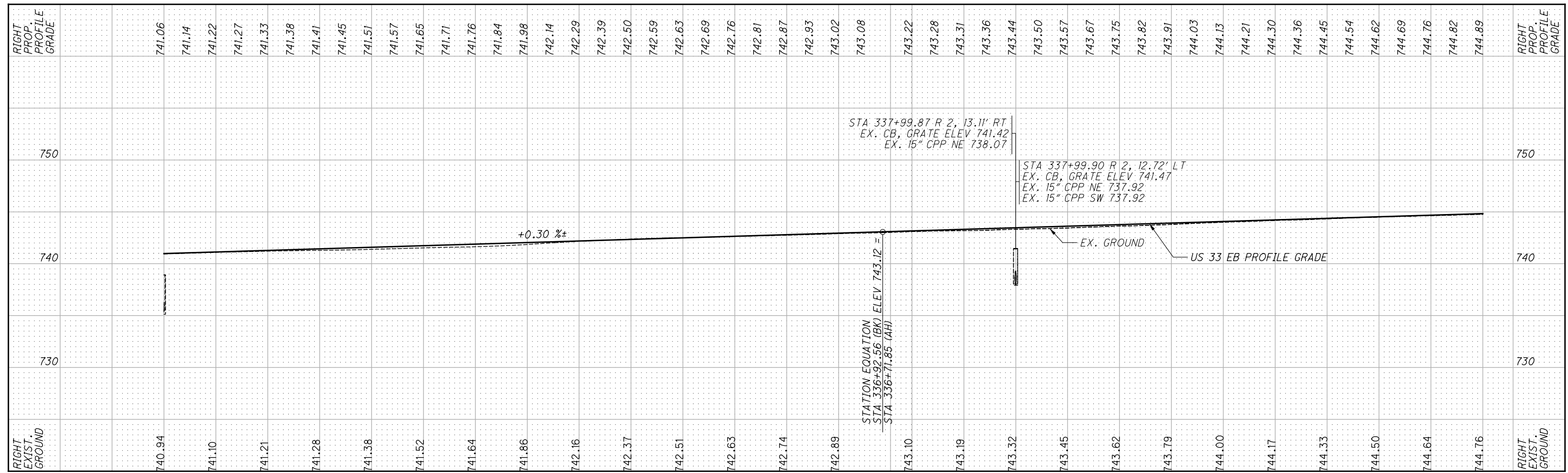
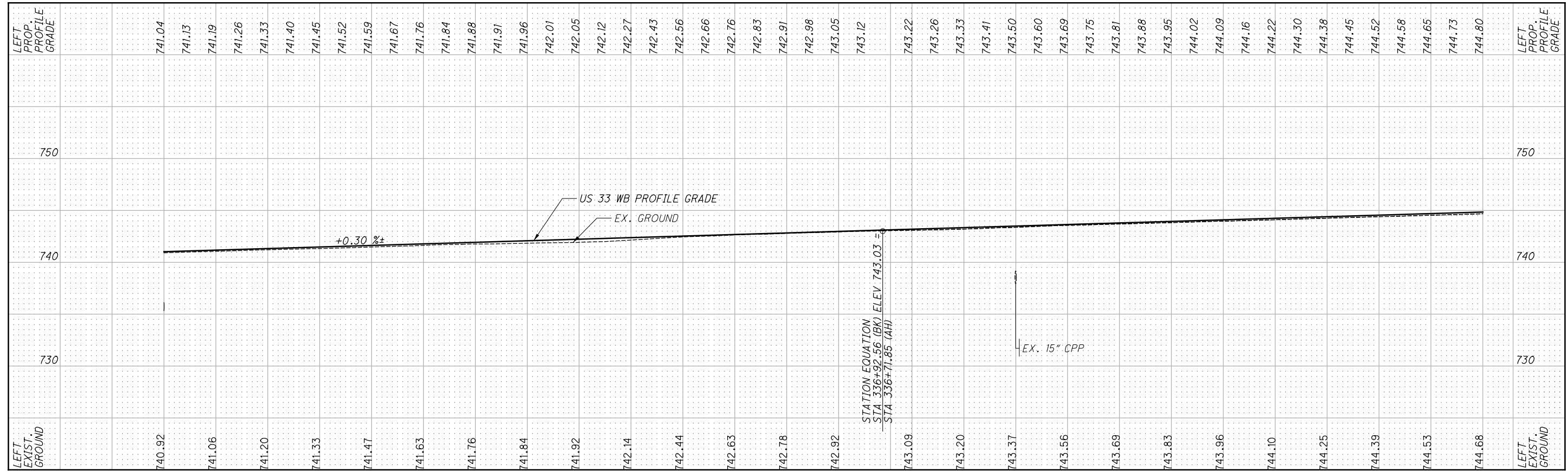


SR 317 RAMP 1  
PROP. CURVE DATA NO. 39  
P.I. STA. 43+99.05  
 $\Delta = 5^\circ 45' 00''$  (RT)  
 $Dc = 1^\circ 55' 00''$   
 $R = 2,989.35'$   
 $T = 150.13'$   
 $L = 300.00'$   
 $E = 3.77'$   
 $e_{max} = 0.066$   
PC STA. 42+48.92  
PCC STA. 45+48.92

NOTE: UNLESS LABELED OTHERWISE, ALL STORM SEWERS  
SHOWN WERE INSTALLED BY EITHER FRA-33-22.46 OR  
FRA-33-(26.21-30.13) PLANS. (BOTH SIGNED 1962)

FOR  $\phi$  REFERENCES AND BENCHMARKS, SEE SHEETS 2-5  
FOR SUBSUMMARY, SEE SHEET 122  
FOR CROSS SECTIONS, SEE SHEETS 128-162  
FOR NOISE WALL 1 DETAILS, SEE SHEETS 181-189

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NOTE: "RT" AND "LT" NOTATIONS ARE WITH RESPECT TO CONSTRUCTION US-33.

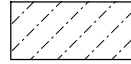

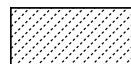



CALCULATED  
CFR  
CHECKED  
SSK

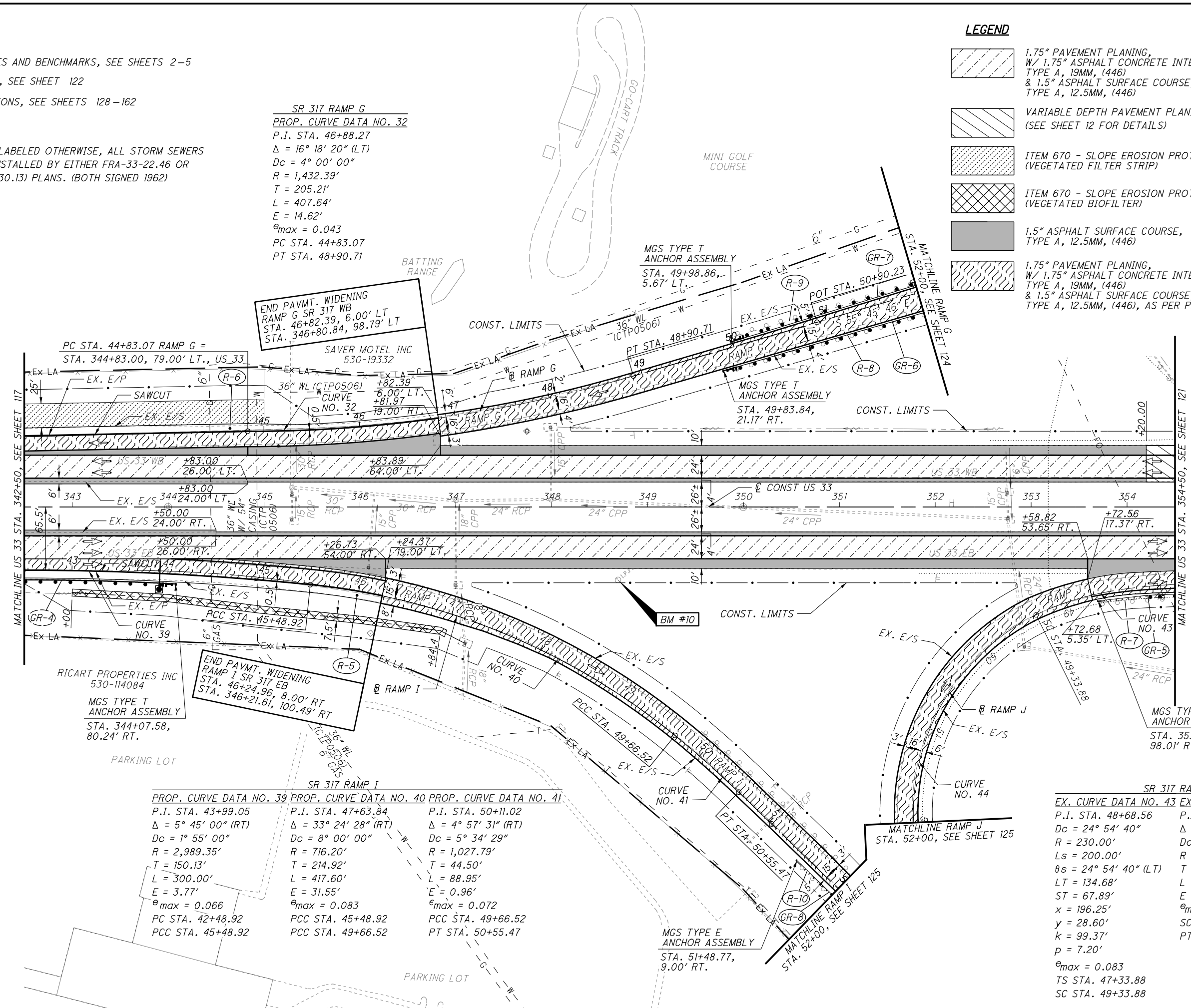
PROFILE - U.S. 33  
STA. 330+00 TO STA. 342+50

FOR  $\odot$  REFERENCES AND BENCHMARKS, SEE SHEETS 2-5  
 FOR SUBSUMMARY, SEE SHEET 122  
 FOR CROSS SECTIONS, SEE SHEETS 128-162

NOTE: UNLESS LABELED OTHERWISE, ALL STORM SEWERS SHOWN WERE INSTALLED BY EITHER FRA-33-22.46 OR FRA-33-(26.21-30.13) PLANS. (BOTH SIGNED 1962)

**SR 317 RAMP G**  
 PROP. CURVE DATA NO. 32  
 P.I. STA. 46+88.27  
 $\Delta = 16^\circ 18' 20''$  (LT)  
 $D_c = 4^\circ 00' 00''$   
 $R = 1,432.39'$   
 $T = 205.21'$   
 $L = 407.64'$   
 $E = 14.62'$   
 $e_{max} = 0.043$   
 PC STA. 44+83.07  
 PT STA. 48+90.71

- LEGEND**
-  1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446)
  -  VARIABLE DEPTH PAVEMENT PLANING (SEE SHEET 12 FOR DETAILS)
  -  ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
  -  ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED BIOFILTER)
  -  1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446)
  -  1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446), AS PER PLAN (PG76-22M)



**SR 317 RAMP I**  
 PROP. CURVE DATA NO. 39  
 P.I. STA. 43+99.05  
 $\Delta = 5^\circ 45' 00''$  (RT)  
 $D_c = 1^\circ 55' 00''$   
 $R = 2,989.35'$   
 $T = 150.13'$   
 $L = 300.00'$   
 $E = 3.77'$   
 $e_{max} = 0.066$   
 PC STA. 42+48.92  
 PCC STA. 45+48.92

**SR 317 RAMP I**  
 PROP. CURVE DATA NO. 40  
 P.I. STA. 47+63.84  
 $\Delta = 33^\circ 24' 28''$  (RT)  
 $D_c = 8^\circ 00' 00''$   
 $R = 716.20'$   
 $T = 214.92'$   
 $L = 417.60'$   
 $E = 31.55'$   
 $e_{max} = 0.083$   
 PCC STA. 45+48.92  
 PCC STA. 49+66.52

**SR 317 RAMP I**  
 PROP. CURVE DATA NO. 41  
 P.I. STA. 50+11.02  
 $\Delta = 4^\circ 57' 31''$  (RT)  
 $D_c = 5^\circ 34' 29''$   
 $R = 1,027.79'$   
 $T = 44.50'$   
 $L = 88.95'$   
 $E = 0.96'$   
 $e_{max} = 0.072$   
 PCC STA. 49+66.52  
 PT STA. 50+55.47

**SR 317 RAMP J**  
 EX. CURVE DATA NO. 43  
 P.I. STA. 48+68.56  
 $D_c = 24^\circ 54' 40''$   
 $R = 230.00'$   
 $L_s = 200.00'$   
 $\theta_s = 24^\circ 54' 40''$  (LT)  
 $LT = 134.68'$   
 $ST = 67.89'$   
 $x = 196.25'$   
 $y = 28.60'$   
 $k = 99.37'$   
 $p = 7.20'$   
 $e_{max} = 0.083$   
 TS STA. 47+33.88  
 SC STA. 49+33.88

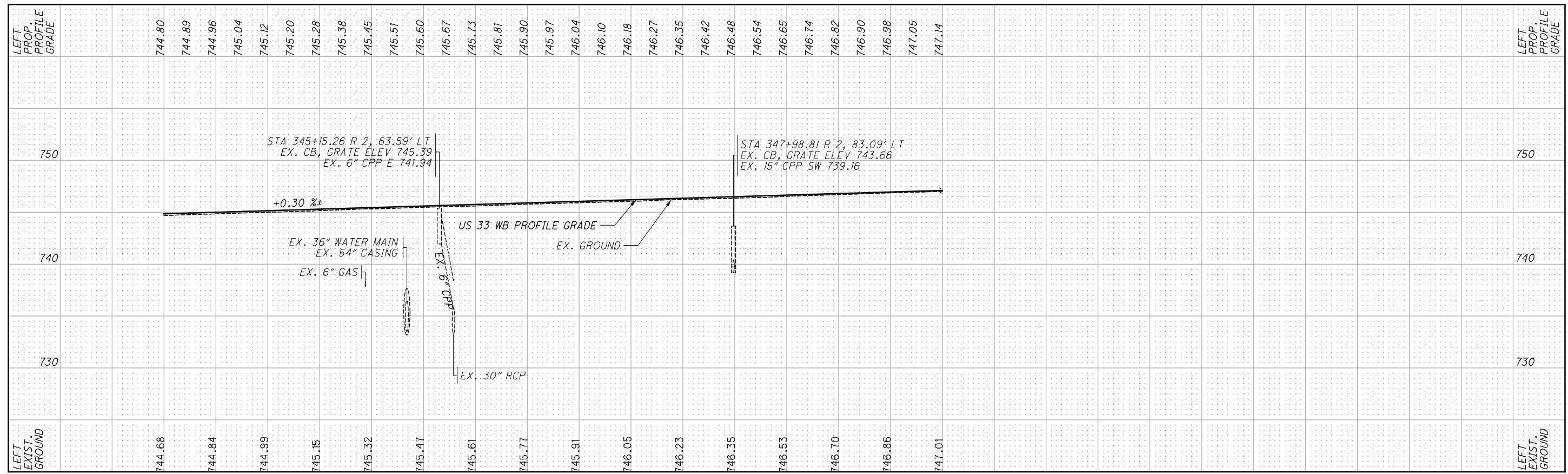
**SR 317 RAMP J**  
 EX. CURVE DATA NO. 44  
 P.I. STA. 53+37.48  
 $\Delta = 120^\circ 38' 42''$  (LT)  
 $D_c = 24^\circ 54' 40''$   
 $R = 230.00'$   
 $T = 403.60'$   
 $L = 484.30'$   
 $E = 234.54'$   
 $e_{max} = 0.083$   
 SC STA. 49+33.88  
 PT STA. 54+18.18

PLAN - U.S. 33  
 STA. 342+50 TO STA. 354+50

FRA-33-24.26  
 119  
 287

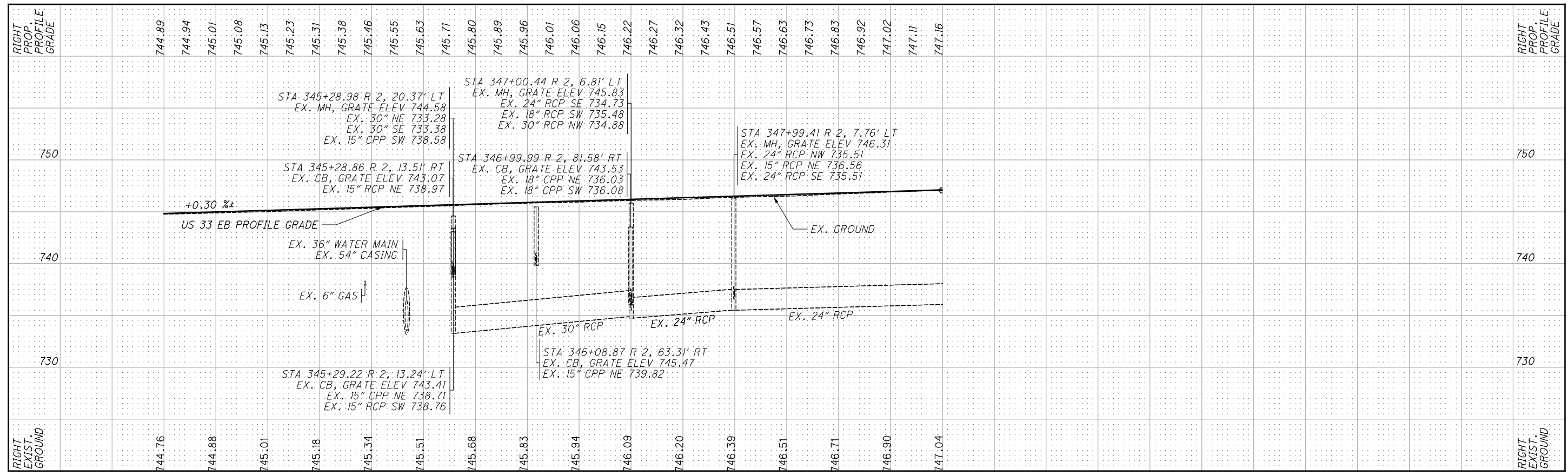
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343+00 344+00 345+00 346+00 347+00 348+00 349+00 350+00

NOTE: "RT" AND "LT" NOTATIONS ARE WITH RESPECT TO CONSTRUCTION US-33.



343+00 344+00 345+00 346+00 347+00 348+00 349+00 350+00

CALCULATED  
CFR  
CHECKED  
SSK

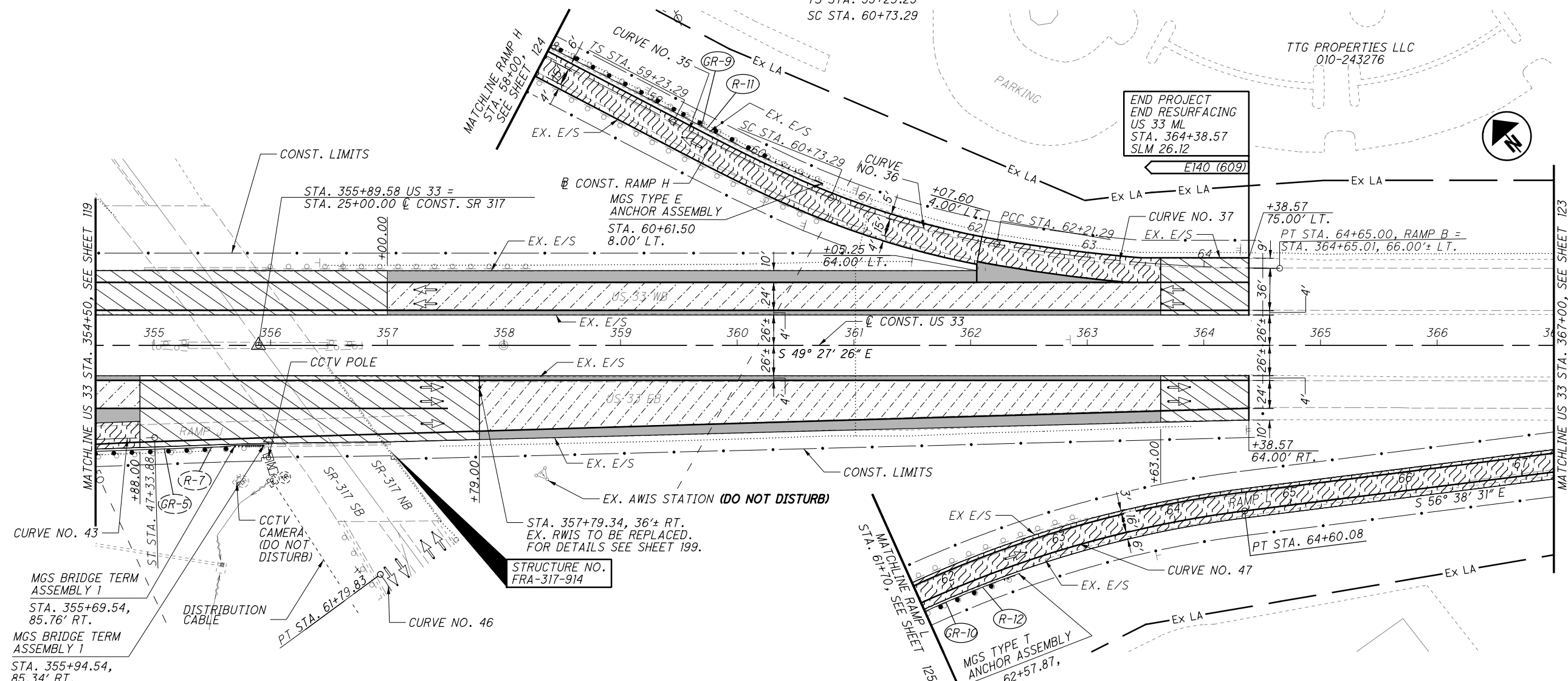
PROFILE - U.S. 33  
STA. 342+50 TO STA. 350+00

FRA - 33 - 24.26



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SR 317 RAMP H		
EX. CURVE DATA NO. 35	EX. CURVE DATA NO. 36	EX. CURVE DATA NO. 37
P.I. STA. 60+23.34	P.I. STA. 61+47.55	P.I. STA. 63+43.44
Dc = 8° 00' 00"	Δ = 11° 50' 24" (LT)	Δ = 9° 44' 54" (LT)
R = 716.20'	Dc = 8° 00' 00"	Dc = 4° 00' 00"
Ls = 150.00'	R = 716.20'	R = 1,432.39'
θs = 6° 00' 00" (LT)	T = 74.26'	T = 122.15'
LT = 100.06'	L = 148.00'	L = 243.71'
ST = 50.05'	E = 3.84'	E = 5.20'
x = 149.84'	ε <sub>max</sub> = 0.080	ε <sub>max</sub> = 0.046
y = 5.23'	SC STA. 60+73.29	PCC STA. 62+21.29
k = 74.97'	PCC STA. 62+21.29	PT STA. 64+65.00
p = 1.31'		
ε <sub>max</sub> = 0.080		
TS STA. 59+23.29		
SC STA. 60+73.29		



SR 317 RAMP J		SR 317 RAMP K	
EX. CURVE DATA NO. 43	EX. CURVE DATA NO. 46	EX. CURVE DATA NO. 43	EX. CURVE DATA NO. 46
P.I. STA. 48+68.56	P.I. STA. 60+64.35	P.I. STA. 48+68.56	P.I. STA. 60+64.35
Dc = 24° 54' 40"	Δ = 108° 48' 22" (LT)	Dc = 24° 54' 40"	Δ = 108° 48' 22" (LT)
R = 230.00'	Dc = 24° 54' 40"	R = 230.00'	Dc = 24° 54' 40"
Ls = 200.00'	R = 230.00'	Ls = 200.00'	R = 230.00'
θs = 24° 54' 40" (LT)	T = 321.30'	θs = 24° 54' 40" (LT)	T = 321.30'
LT = 134.68'	L = 436.78'	LT = 134.68'	L = 436.78'
ST = 67.89'	E = 165.14'	ST = 67.89'	E = 165.14'
x = 196.25'	ε <sub>max</sub> = 0.083	x = 196.25'	ε <sub>max</sub> = 0.083
y = 28.60'	PC STA. 57+43.05	y = 28.60'	PC STA. 57+43.05
k = 99.37'	PT STA. 61+79.83	k = 99.37'	PT STA. 61+79.83
p = 7.20'		p = 7.20'	
ε <sub>max</sub> = 0.083		ε <sub>max</sub> = 0.083	
TS STA. 47+33.88		TS STA. 47+33.88	
SC STA. 49+33.88		SC STA. 49+33.88	

**LEGEND**

	1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446)
	VARIABLE DEPTH PAVEMENT PLANING (SEE SHEET 12 FOR DETAILS)
	1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446)
	1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446), AS PER PLAN (PG76-22M)

SR 317 RAMP L	
PROP. CURVE DATA NO. 47	
P.I. STA. 62+22.77	
Δ = 29° 07' 15" (RT)	
Dc = 6° 00' 00"	
R = 954.93'	
T = 248.03'	
L = 485.34'	
E = 31.69'	
ε <sub>max</sub> = 0.055	
PC STA. 59+74.73	
PT STA. 64+60.08	

NOTE: UNLESS LABELED OTHERWISE, ALL STORM SEWERS SHOWN WERE INSTALLED BY EITHER FRA-33-22.46 OR FRA-33-(26.21-30.13) PLANS. (BOTH SIGNED 1962)

FOR @ REFERENCES AND BENCHMARKS, SEE SHEETS 2-5  
 FOR SUBSUMMARY, SEE SHEET 122  
 FOR CROSS SECTIONS, SEE SHEETS 128-162

HORIZONTAL SCALE IN FEET

CALCULATED: CFR

CHECKED: SSK

PLAN - U.S. 33

STA. 354+50 TO STA. 367+00

FRA-33-24.26

121

287

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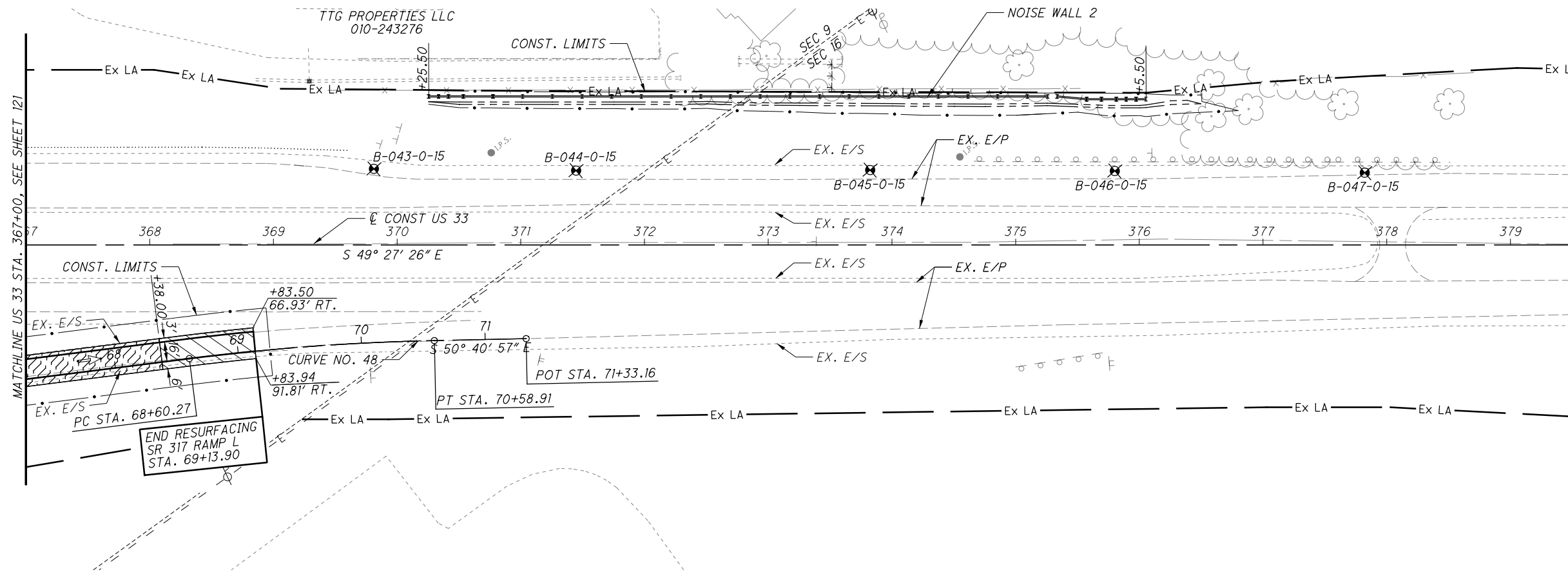
REF NO.	SHEET NO.	STATION TO STATION		SIDE	202	202	202				606	606	606	606	606	606				622	622	626
					PAVEMENT REMOVED, AS PER PLAN SY	PAVEMENT REMOVED, ASPHALT SY	GUARDRAIL REMOVED FT				GUARDRAIL, TYPE MGS FT	GUARDRAIL, TYPE MGS WITH LONG POSTS FT	ANCHOR ASSEMBLY, MGS TYPE E EACH	ANCHOR ASSEMBLY, MGS TYPE T EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH				CONCRETE BARRIER, SINGLE SLOPE, TYPE D FT	CONCRETE BARRIER END SECTION, TYPE D, REINFORCED EACH	BARRIER REFLECTOR, TYPE 1, ONE WAY EACH
R-1	117	330+00.00	TO	342+50.00	RT.	92	1,368															
R-2	117	330+00.00	TO	333+01.50	RT.																	
R-3	117	330+00.00	TO	331+51.00	LT.			305														
R-4	117	330+00.00	TO	342+50.00	LT.	71	1,418															
R-5	119	342+50.00	TO	346+23.40	RT.	21	307															
R-6	119	342+50.00	TO	346+81.74	LT.	24	297															
R-7	119,121	353+69.94	TO	355+97.10	RT.																	
R-8	119	49+91.72, RAMP G	TO	52+00.00, RAMP G	RT.			209														
R-9	119	49+97.67, RAMP G	TO	52+00.00, RAMP G	LT.			203														
R-10	119	51+53.38, RAMP I	TO	52+00.00, RAMP I	RT.			47														
R-11	121	58+00.00, RAMP H	TO	60+61.02, RAMP H	LT.			261														
R-12	121	61+70.00, RAMP L	TO	62+60.02, RAMP L	RT.			92														
B-1	117	330+00.00	TO	331+80.09	RT.														170	1	2	
GR-1	117	331+91.94	TO	335+74.87	RT.					375			1		1							4
GR-2	117	330+00.00	TO	331+44.13	LT.						100	1										2
GR-3	117	330+00.00	TO	338+76.97	LT.					837.5		1										9
GR-4	117-119	341+94.57	TO	344+07.58	RT.					150		1	1									3
GR-5	119,121	48+72.68, RAMP J	TO	355+94.54	RT.					150		1		1								3
GR-6	119	49+83.84, RAMP G	TO	52+00.00, RAMP G	RT.					200			1									3
GR-7	119	49+98.86, RAMP G	TO	52+00.00, RAMP G	LT.					187.5			1									2
GR-8	119	51+48.77, RAMP I	TO	52+00.00, RAMP I	RT.							1										1
GR-9	121	58+00.00, RAMP H	TO	60+61.50, RAMP H	LT.					212.5		1										3
GR-10	121	61+70.00, RAMP L	TO	62+57.87, RAMP L	RT.					75			1									1
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>						208	3,390	1,496			2,187.5	100	6	5	1	1				170	1	33

**ROADWAY SUBSUMMARY**

**FRA -33-24.26**

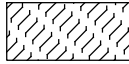
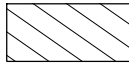

CALCULATED  
KSJ  
CHECKED  
NCK

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SR 317 RAMP L  
 PROP. CURVE DATA NO. 48  
 P.I. STA. 69+59.68  
 $\Delta = 5^\circ 57' 34''$  (RT)  
 $D_c = 3^\circ 05' 06''$   
 $R = 1,857.32'$   
 $T = 96.68'$   
 $L = 193.18'$   
 $E = 2.51'$   
 $e_{max} = 0.059$   
 PC STA. 68+63.00  
 PT STA. 70+56.18

**LEGEND**

-  1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE A, 12.5MM, (446), AS PER PLAN (PG76-22M)
-  VARIABLE DEPTH PAVEMENT PLANING (SEE SHEET 12 FOR DETAILS)
-  PROJECT SOIL BORING

NOTE: UNLESS LABELED OTHERWISE, ALL STORM SEWERS SHOWN WERE INSTALLED BY EITHER FRA-33-22.46 OR FRA-33-(26.21-30.13) PLANS. (BOTH SIGNED 1962)

FOR  $\phi$  REFERENCES AND BENCHMARKS, SEE SHEETS 2-5  
 FOR SUBSUMMARY, SEE SHEET 127  
 FOR CROSS SECTIONS, SEE SHEETS 128-162  
 FOR NOISE WALL 2 DETAILS, SEE SHEETS 181-198

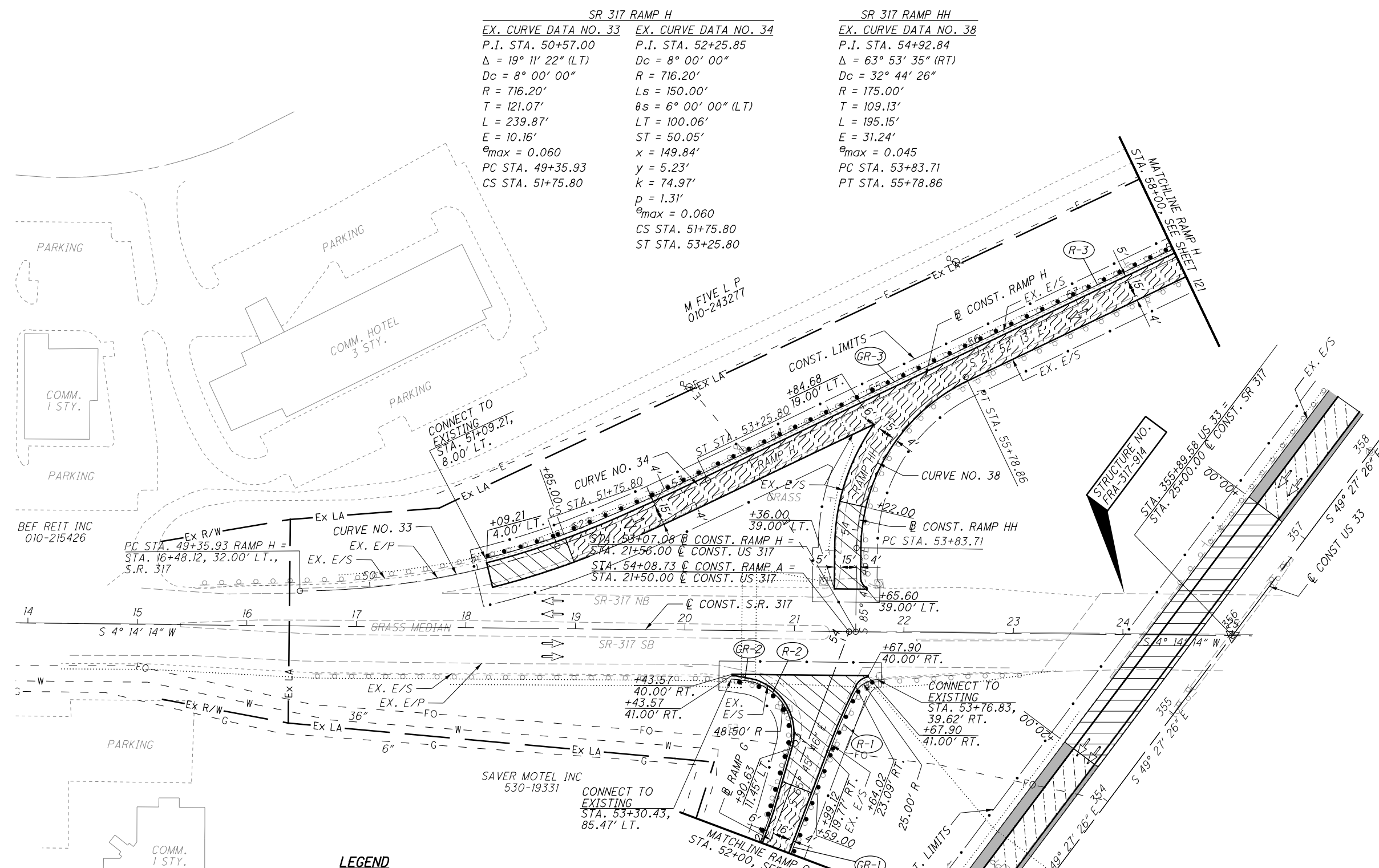


CALCULATED  
 CFR  
 CHECKED  
 SSK

PLAN - U.S. 33  
 STA. 367+00 TO STA. 379+50

FRA-33-24.26

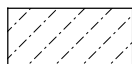
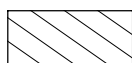


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SR 317 RAMP H	
EX. CURVE DATA NO. 33	EX. CURVE DATA NO. 34
P.I. STA. 50+57.00	P.I. STA. 52+25.85
$\Delta = 19^\circ 11' 22''$ (LT)	$Dc = 8^\circ 00' 00''$
$Dc = 8^\circ 00' 00''$	$R = 716.20'$
$R = 716.20'$	$Ls = 150.00'$
$T = 121.07'$	$\theta s = 6^\circ 00' 00''$ (LT)
$L = 239.87'$	$LT = 100.06'$
$E = 10.16'$	$ST = 50.05'$
$\theta_{max} = 0.060$	$x = 149.84'$
PC STA. 49+35.93	$y = 5.23'$
CS STA. 51+75.80	$k = 74.97'$
	$p = 1.31'$
	$\theta_{max} = 0.060$
	CS STA. 51+75.80
	ST STA. 53+25.80

SR 317 RAMP HH
EX. CURVE DATA NO. 38
P.I. STA. 54+92.84
$\Delta = 63^\circ 53' 35''$ (RT)
$Dc = 32^\circ 44' 26''$
$R = 175.00'$
$T = 109.13'$
$L = 195.15'$
$E = 31.24'$
$\theta_{max} = 0.045$
PC STA. 53+83.71
PT STA. 55+78.86

**LEGEND**

-  1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446)
-  VARIABLE DEPTH PAVEMENT PLANING (SEE SHEET 12 FOR DETAILS)
-  1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446)
-  1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446), AS PER PLAN (PG76-22M)

NOTE: UNLESS LABELED OTHERWISE, ALL STORM SEWERS SHOWN WERE INSTALLED BY EITHER FRA-33-22.46 OR FRA-33-(26.21-30.13) PLANS. (BOTH SIGNED 1962)

FOR @ REFERENCES AND BENCHMARKS, SEE SHEETS 2-5  
 FOR SUBSUMMARY, SEE SHEET 127  
 FOR CROSS SECTIONS, SEE SHEETS 128-162

CALCULATED  
CFR  
CHECKED  
SSK

0 50 100  
HORIZONTAL  
SCALE IN FEET

PLAN - S.R. 317 (RAMPS G, H, & HH)  
 STA. 14+00 TO STA. 25+00 (S.R. 317)

FRA-33-24.26

SR 317 RAMP J

EX. CURVE DATA NO. 43 EX. CURVE DATA NO. 44  
 P.I. STA. 48+68.56 P.I. STA. 53+37.48  
 Dc = 24° 54' 40" Δ = 120° 38' 42" (LT)  
 R = 230.00' R = 230.00'  
 Ls = 200.00' R = 230.00'  
 θs = 24° 54' 40" (LT) T = 403.60'  
 LT = 134.68' L = 484.30'  
 ST = 67.89' E = 234.54'  
 x = 196.25' e<sub>max</sub> = 0.083  
 y = 28.60' SC STA. 49+33.88  
 k = 99.37' PT STA. 54+18.18  
 p = 7.20'  
 e<sub>max</sub> = 0.083  
 TS STA. 47+33.88  
 SC STA. 49+33.88

SR 317 RAMP K

EX. CURVE DATA NO. 46  
 P.I. STA. 60+64.35  
 Δ = 108° 48' 22" (LT)  
 Dc = 24° 54' 40"  
 R = 230.00'  
 T = 321.30'  
 L = 436.78'  
 E = 165.14'  
 e<sub>max</sub> = 0.083  
 PC STA. 57+43.05  
 PT STA. 61+79.83

SR 317 RAMP I

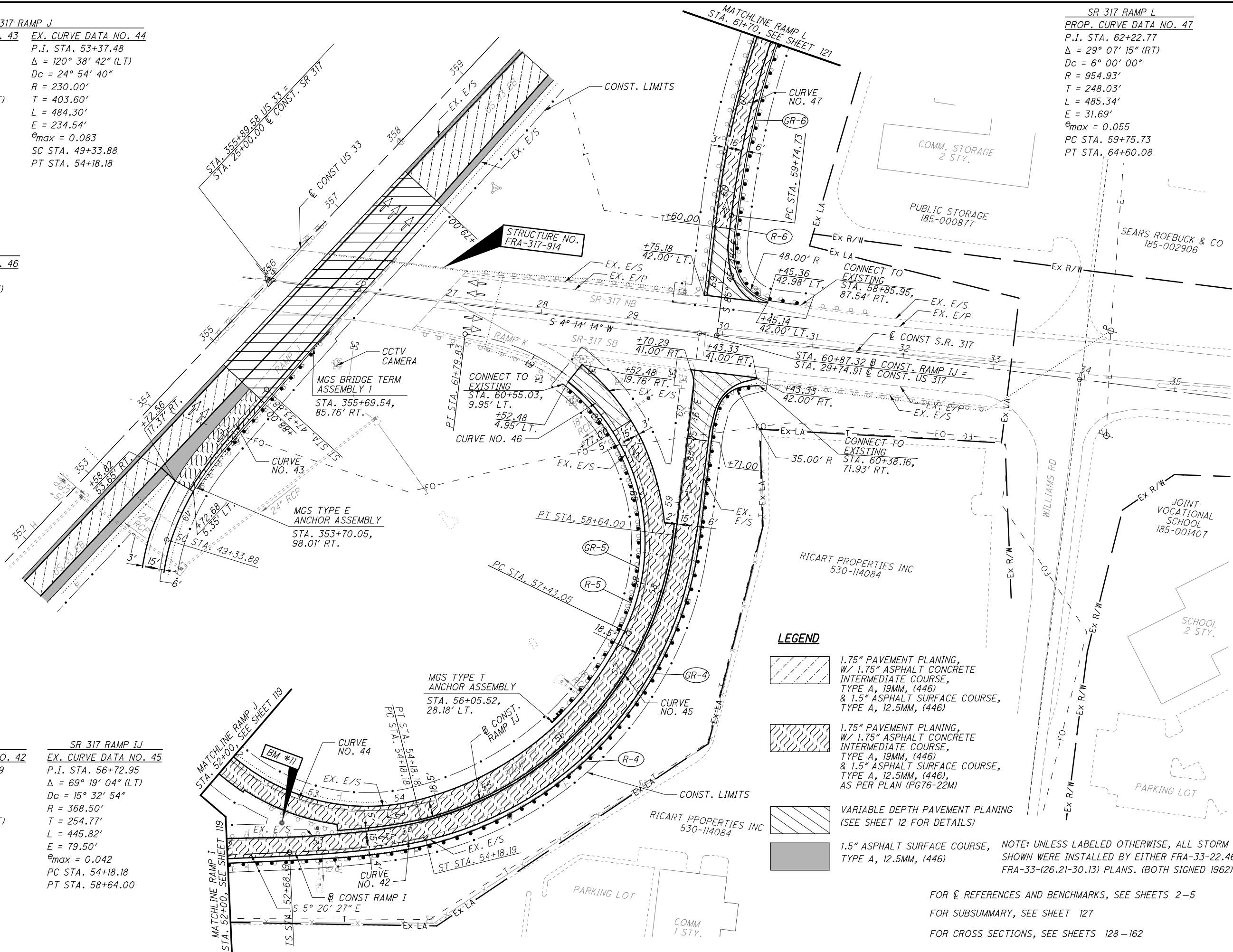
EX. CURVE DATA NO. 42  
 P.I. STA. 53+68.39  
 Dc = 14° 48' 18"  
 R = 387.00'  
 Ls = 150.00'  
 θs = 11° 06' 14" (LT)  
 LT = 100.20'  
 ST = 50.18'  
 x = 149.44'  
 y = 9.66'  
 k = 74.91'  
 p = 2.42'  
 e<sub>max</sub> = 0.042  
 TS STA. 52+68.19  
 ST STA. 54+18.19

SR 317 RAMP IJ

EX. CURVE DATA NO. 45  
 P.I. STA. 56+72.95  
 Δ = 69° 19' 04" (LT)  
 Dc = 15° 32' 54"  
 R = 368.50'  
 T = 254.77'  
 L = 445.82'  
 E = 79.50'  
 e<sub>max</sub> = 0.042  
 PC STA. 54+18.18  
 PT STA. 58+64.00

SR 317 RAMP L

PROP. CURVE DATA NO. 47  
 P.I. STA. 62+22.77  
 Δ = 29° 07' 15" (RT)  
 Dc = 6° 00' 00"  
 R = 954.93'  
 T = 248.03'  
 L = 485.34'  
 E = 31.69'  
 e<sub>max</sub> = 0.055  
 PC STA. 59+74.73  
 PT STA. 64+60.08



LEGEND

- 1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446)
- 1.75" PAVEMENT PLANING, W/ 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, 19MM, (446) & 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446), AS PER PLAN (PG76-22M)
- VARIABLE DEPTH PAVEMENT PLANING (SEE SHEET 12 FOR DETAILS)
- 1.5" ASPHALT SURFACE COURSE, TYPE A, 12.5MM, (446)

NOTE: UNLESS LABELED OTHERWISE, ALL STORM SEWERS SHOWN WERE INSTALLED BY EITHER FRA-33-22.46 OR FRA-33-(26.21-30.13) PLANS. (BOTH SIGNED 1962)

FOR & REFERENCES AND BENCHMARKS, SEE SHEETS 2-5  
 FOR SUBSUMMARY, SEE SHEET 127  
 FOR CROSS SECTIONS, SEE SHEETS 128-162



CALCULATED  
 CFR  
 CHECKED  
 SSK

PLAN - S.R. 317 ( RAMP S I, J, & L )  
 STA. 25+00 TO STA. 35+50 (S.R. 317)

FRA-33-24.26

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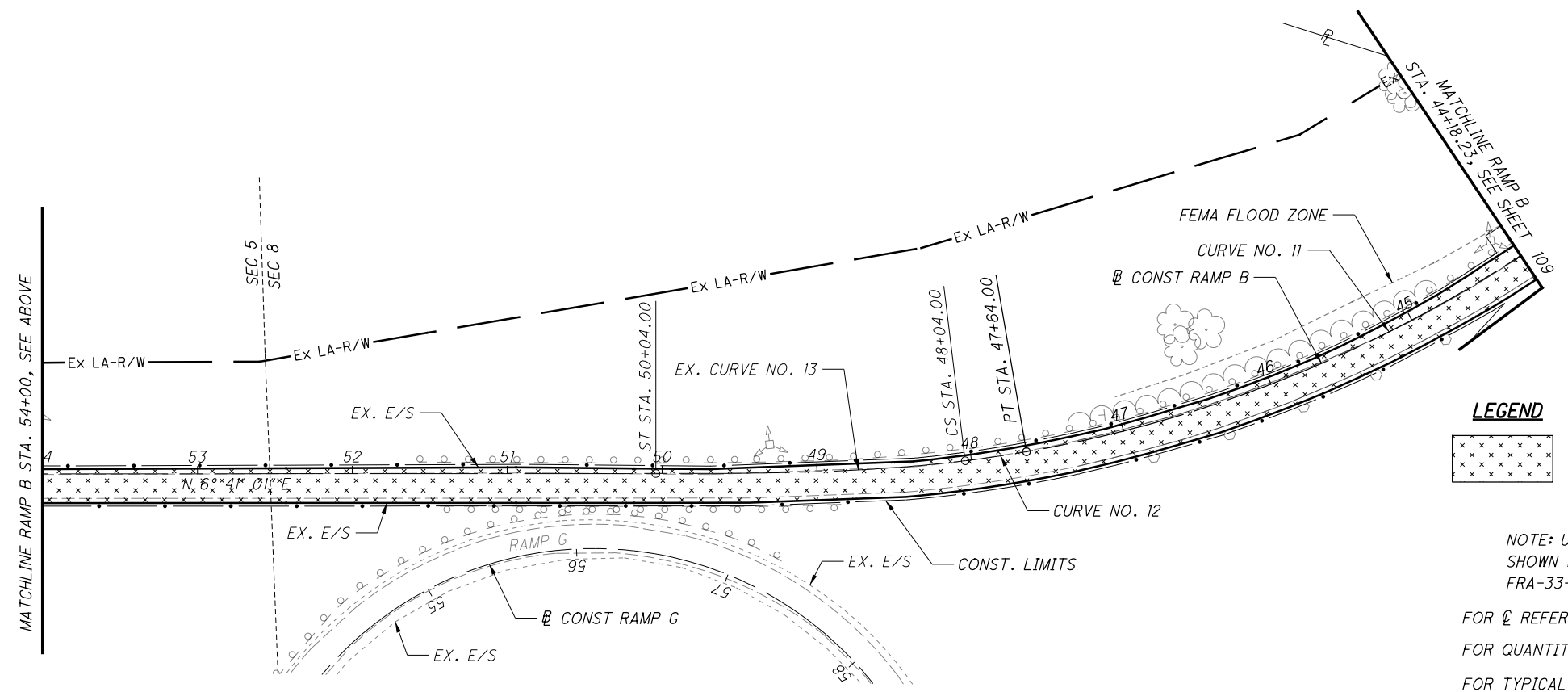
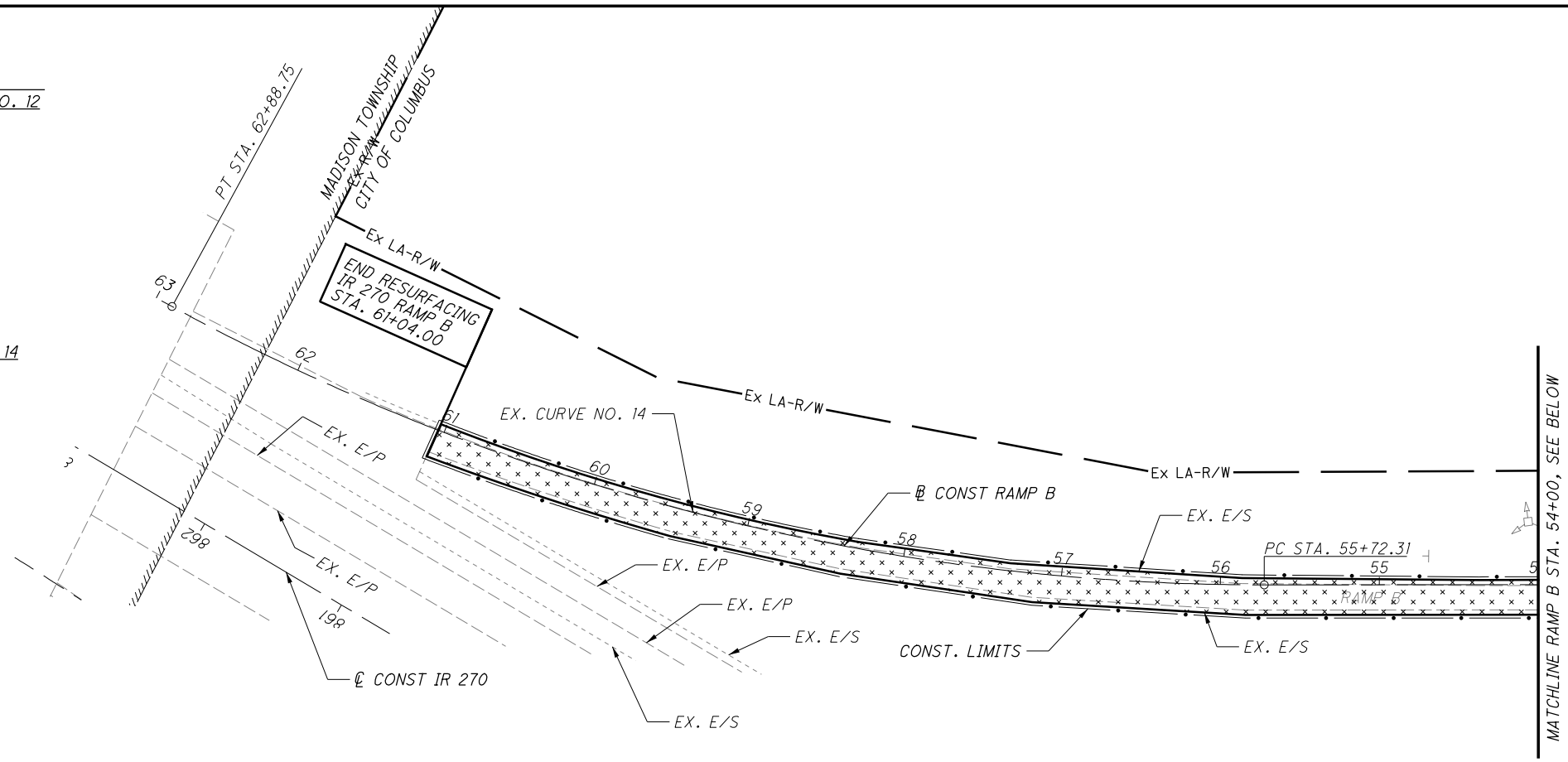


CALCULATED KSJ  
CHECKED SSK

**PLAN - RAMP B**  
**STA. 44+18.23 TO STA. 63+00.00**

**FRA-33-24.26**

IR 270 RAMP B	
PROP. CURVE DATA NO. 11	PROP. CURVE DATA NO. 12
P.I. STA. 45+58.98	P.I. STA. 47+84.00
$\Delta = 28^\circ 37' 47''$ (RT)	$\Delta = 2^\circ 47' 59''$ (RT)
$Dc = 6^\circ 50' 00''$	$Dc = 7^\circ 00' 00''$
$R = 838.47'$	$R = 818.51'$
$T = 213.96'$	$T = 20.00'$
$L = 418.97'$	$L = 40.00'$
$E = 26.87'$	$E = 0.24'$
$e_{max} = 0.066$	$e_{max} = 0.066$
PCC STA. 43+45.03	PCC STA. 47+64.00
PCC STA. 47+64.00	CS STA. 48+04.00
EX. CURVE DATA NO. 13	EX. CURVE DATA NO. 14
P.I. STA. 48+70.76	P.I. STA. 59+38.19
$Dc = 7^\circ 00' 00''$	$\Delta = 28^\circ 39' 27''$ (RT)
$R = 818.51'$	$Dc = 4^\circ 00' 00''$
$Ls = 200.00'$	$R = 1,432.39'$
$\theta s = 7^\circ 00' 00''$ (RT)	$T = 365.88'$
$LT = 133.44'$	$L = 716.44'$
$ST = 66.76'$	$E = 45.99'$
$x = 199.70'$	$e_{max} = 0.066$
$y = 8.14'$	PC STA. 55+72.31
$k = 99.95'$	PT STA. 62+88.75
$p = 2.04'$	
$e_{max} = 0.066$	
CS STA. 48+04.00	
ST STA. 50+04.00	



**LEGEND**


 1.5" PAVEMENT PLANING,  
 & 1.5" ASPHALT CONCRETE SURFACE COURSE,  
 TYPE A, 12.5MM, (446), AS PER PLAN (PG 76-22M)

NOTE: UNLESS LABELED OTHERWISE, ALL STORM SEWERS SHOWN WERE INSTALLED BY EITHER FRA-33-22.46 OR FRA-33-(26.21-30.13) PLANS. (BOTH SIGNED 1962)

FOR  $\odot$  REFERENCES AND BENCHMARKS, SEE SHEETS 2-5

FOR QUANTITIES, SEE "OFFICE CALCS" ON SHEET 90

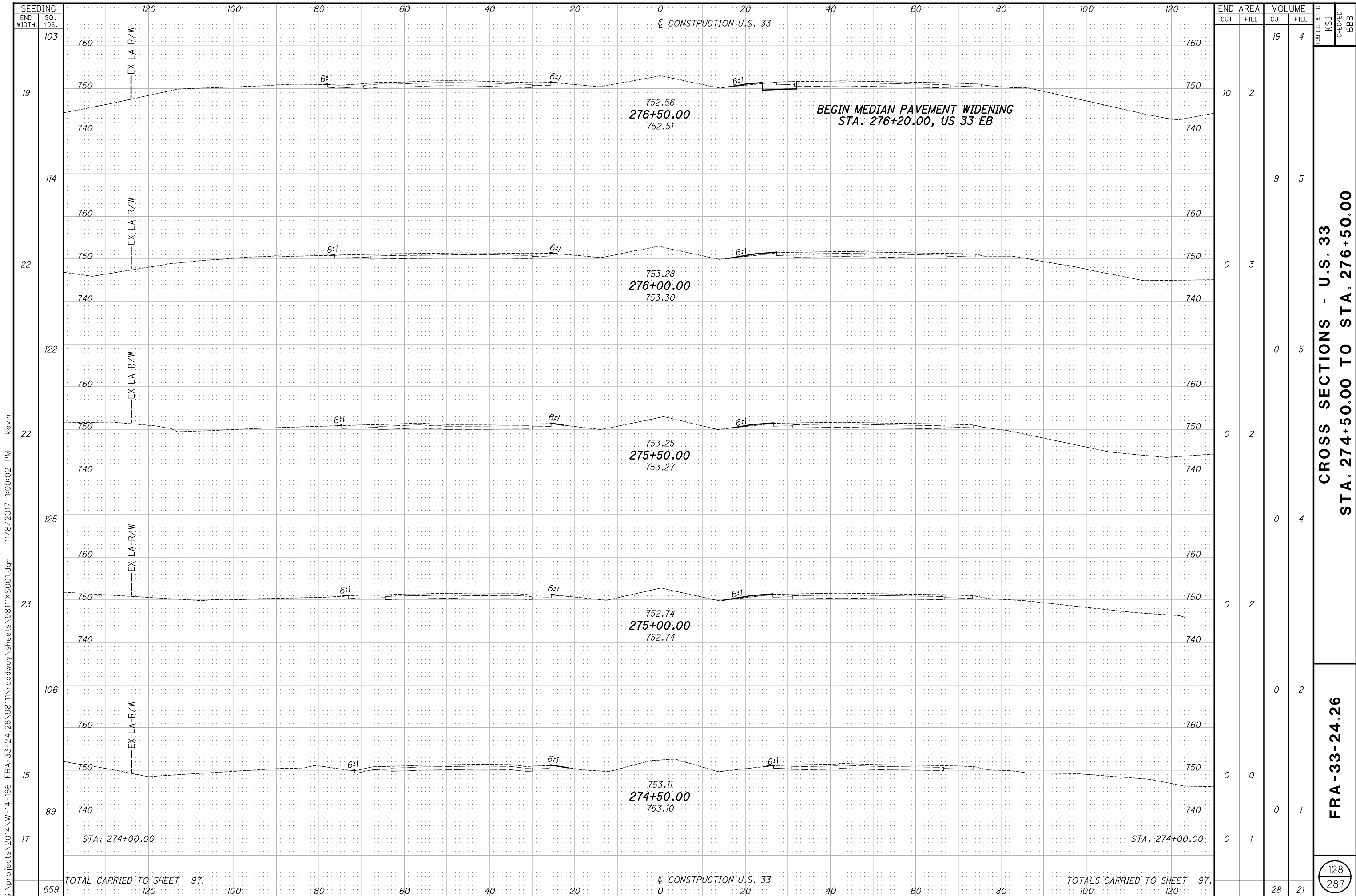
FOR TYPICAL, SEE SHEET 11

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REF NO.	SHEET NO.	STATION TO STATION				SIDE	202			606		606		606		626	
							GUARDRAIL REMOVED			GUARDRAIL, TYPE MGS	GUARDRAIL, TYPE MGS WITH LONG POSTS	ANCHOR ASSEMBLY, MGS TYPE T			BARRIER REFLECTOR, TYPE 1, ONE WAY		
						FT			FT	FT	EACH			EACH			
R-1	124	52+00.00, RAMP G	TO	53+76.83, RAMP G	RT.	183											
R-2	124	52+00.00, RAMP G	TO	53+30.43, RAMP G	LT.	187											
R-3	124	51+09.21, RAMP H	TO	58+00.00, RAMP H	LT.	689											
R-4	125	52+00.00, RAMP I	TO	60+38.16, RAMP IJ	RT.	898											
R-5	125	56+05.52, RAMP IJ	TO	60+55.03, RAMP K	LT.	422											
R-6	125	58+85.85, RAMP L	TO	61+70.00, RAMP L	RT.	337											
GR-1	124	52+00.00, RAMP G	TO	53+76.83, RAMP G	RT.				187.5							2	
GR-2	124	52+00.00, RAMP G	TO	53+30.43, RAMP G	LT.				187.5							2	
GR-3	124	51+09.21, RAMP H	TO	58+00.00, RAMP H	LT.				687.5							7	
GR-4	125	52+00.00, RAMP I	TO	60+38.16, RAMP IJ	RT.					900						9	
GR-5	125	56+05.52, RAMP IJ	TO	60+55.03, RAMP K	LT.				412.5		1					5	
GR-6	125	58+85.85, RAMP L	TO	61+70.00, RAMP L	RT.				337.5							4	
TOTALS CARRIED TO GENERAL SUMMARY						2,716			1,813	900	1					29	

CALCULATED KSJ CHECKED NCK	ROADWAY SUBSUMMARY	FRA -33-24.26	127 287
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**CROSS SECTIONS - U.S. 33**  
**STA. 274+50.00 TO STA. 276+50.00**

**FRA-33-24.26**

CALCULATED K SJ  
 CHECKED BBB

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TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

CONSTRUCTION U.S. 33

CONSTRUCTION U.S. 33

BEGIN MEDIAN PAVEMENT WIDENING  
 STA. 276+20.00, US 33 EB

752.56  
 276+50.00  
 752.51

753.28  
 276+00.00  
 753.30

753.25  
 275+50.00  
 753.27

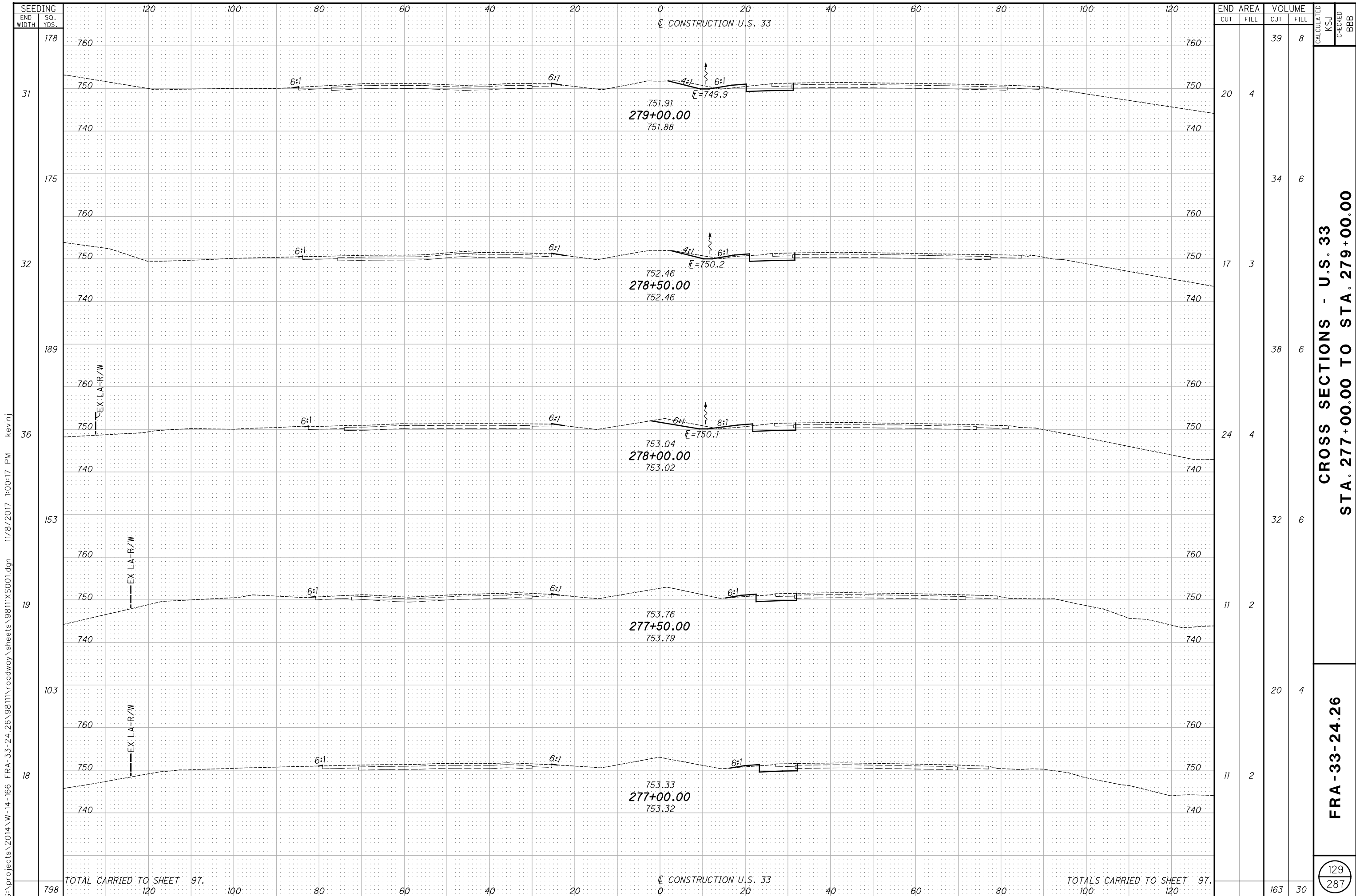
752.74  
 275+00.00  
 752.74

753.11  
 274+50.00  
 753.10

STA. 274+00.00

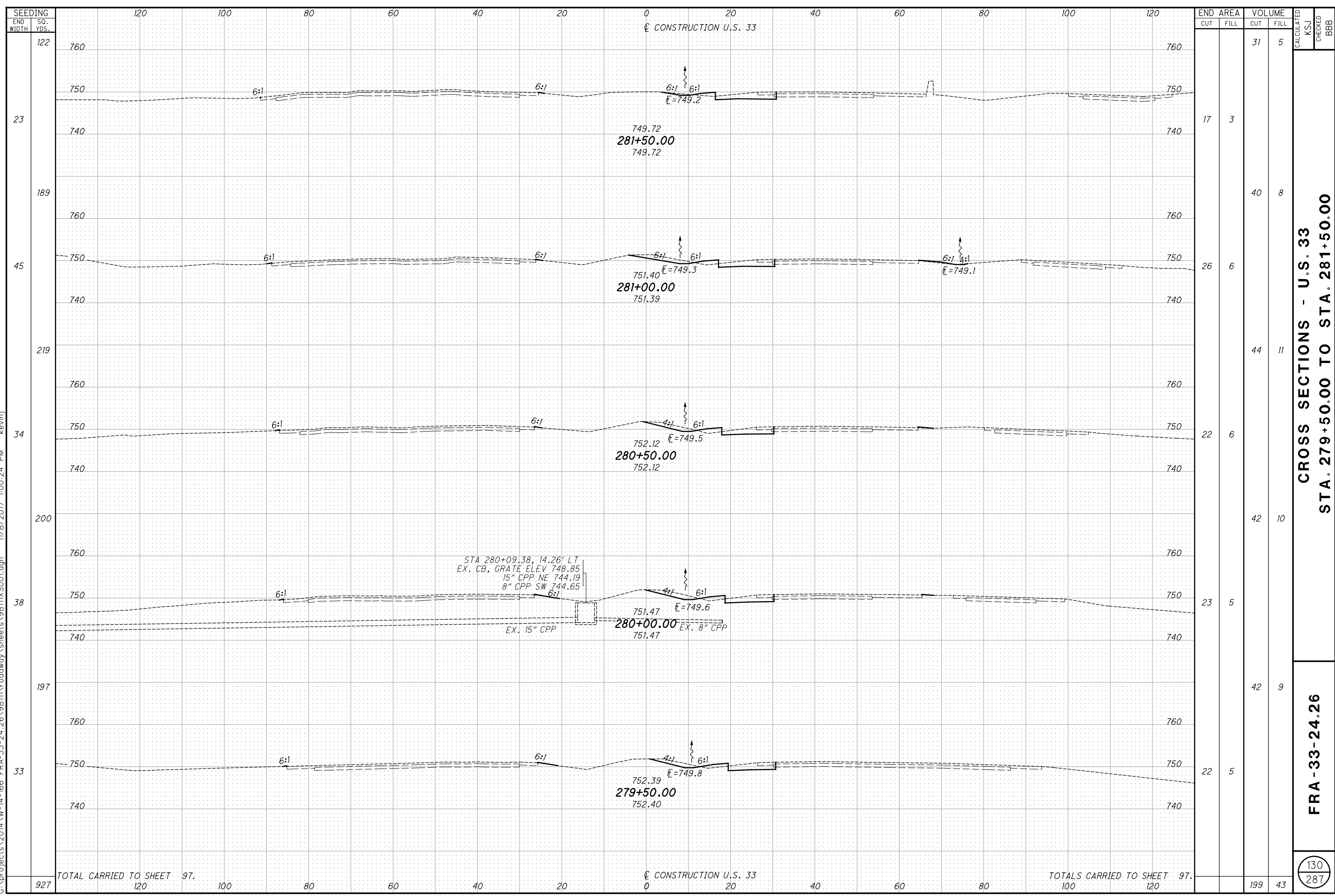
STA. 274+00.00





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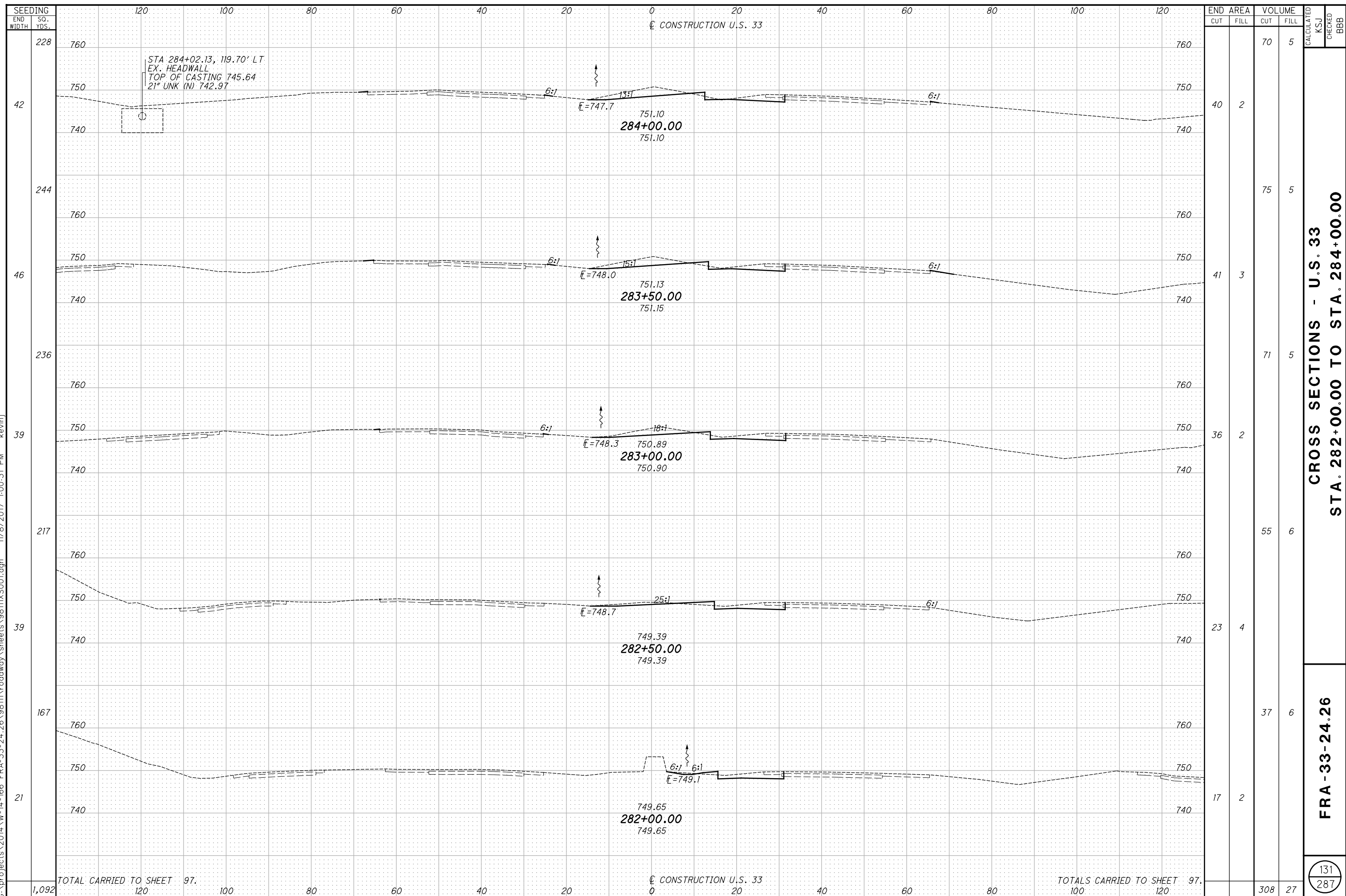


**CROSS SECTIONS - U.S. 33**  
**STA. 279+50.00 TO STA. 281+50.00**

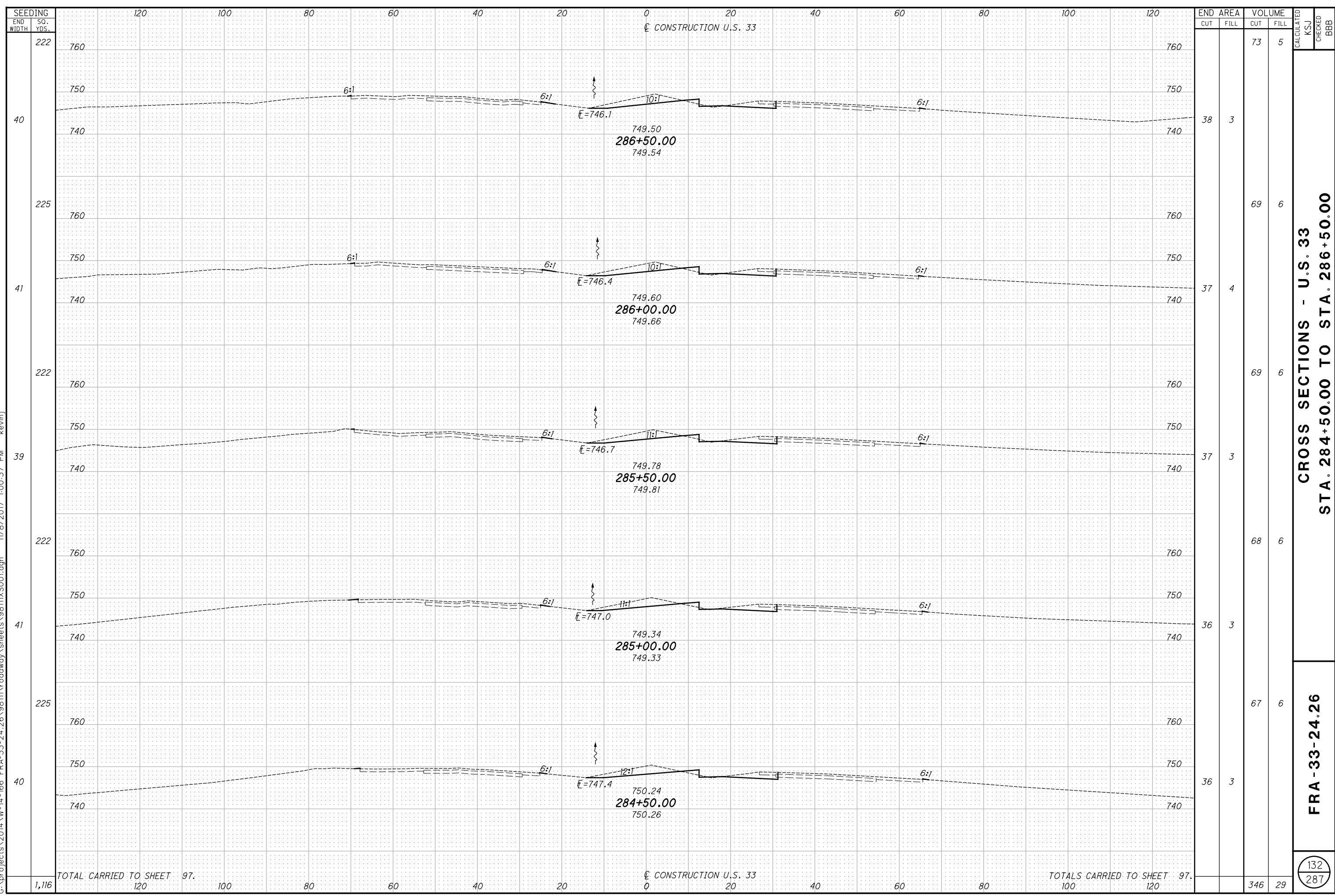
**FRA-33-24.26**

130  
 287

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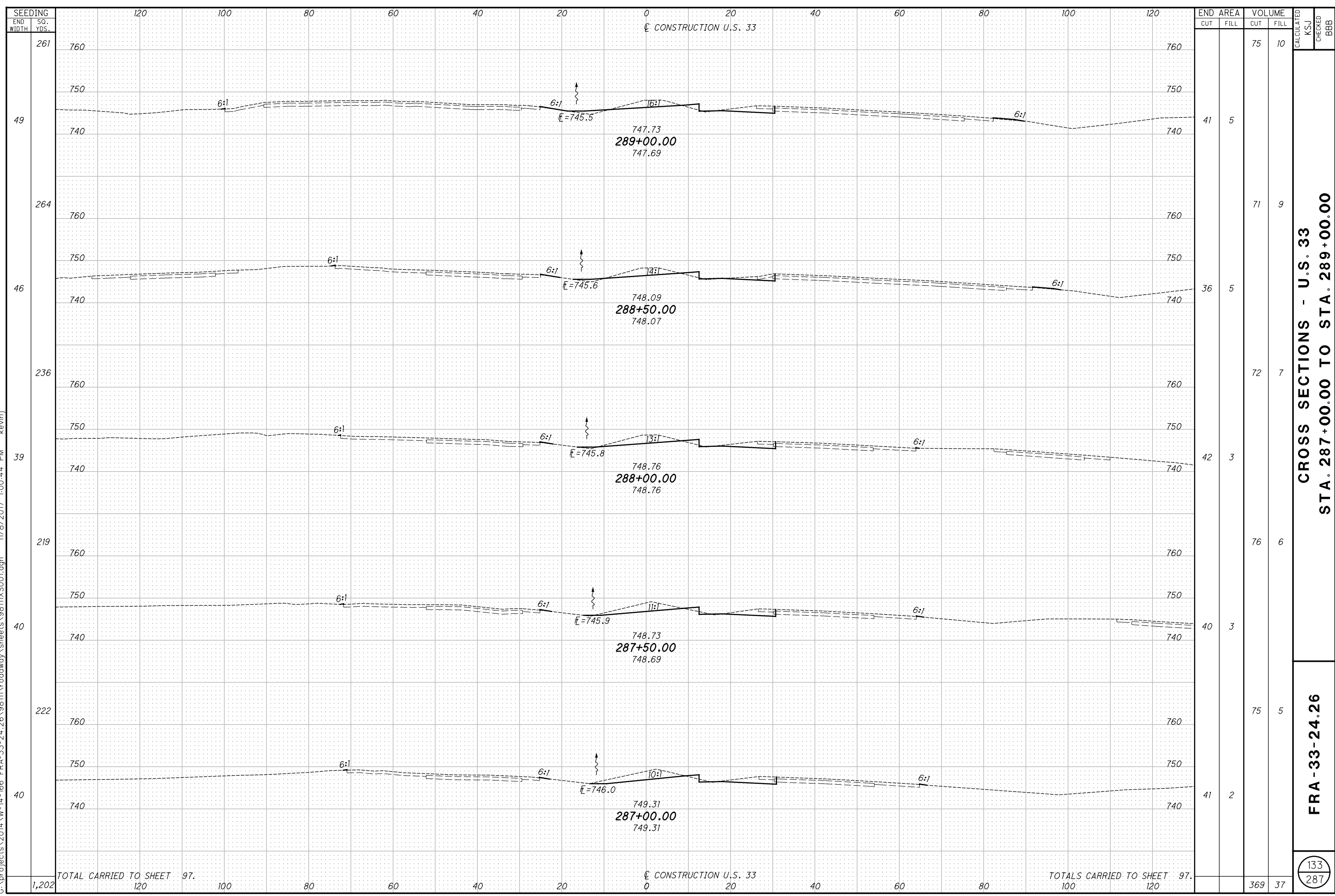


**CROSS SECTIONS - U.S. 33**  
**STA. 284+50.00 TO STA. 286+50.00**

**FRA -33-24.26**

132  
287

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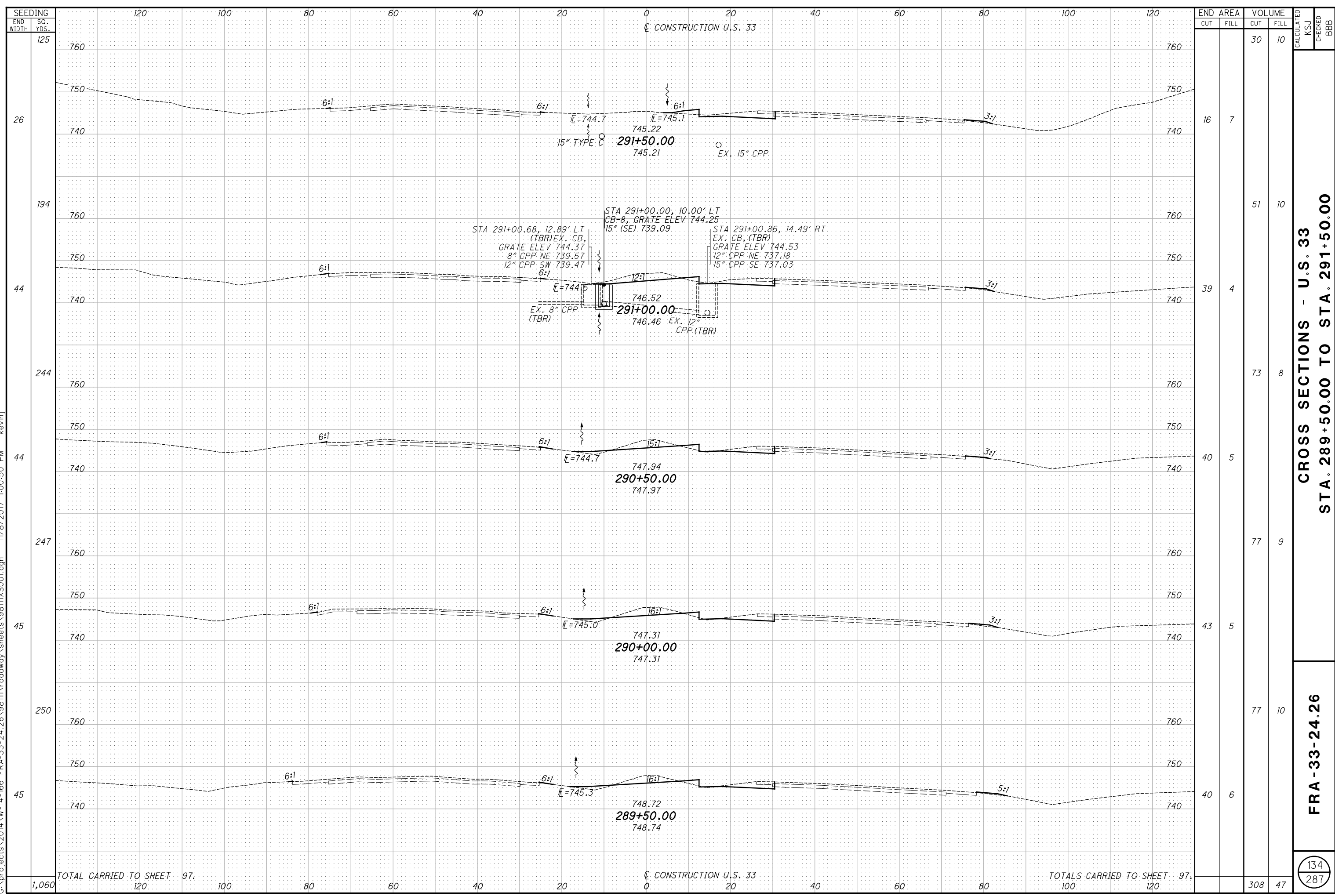


**CROSS SECTIONS - U.S. 33**  
**STA. 287+00.00 TO STA. 289+00.00**

**FRA -33-24.26**

133  
287

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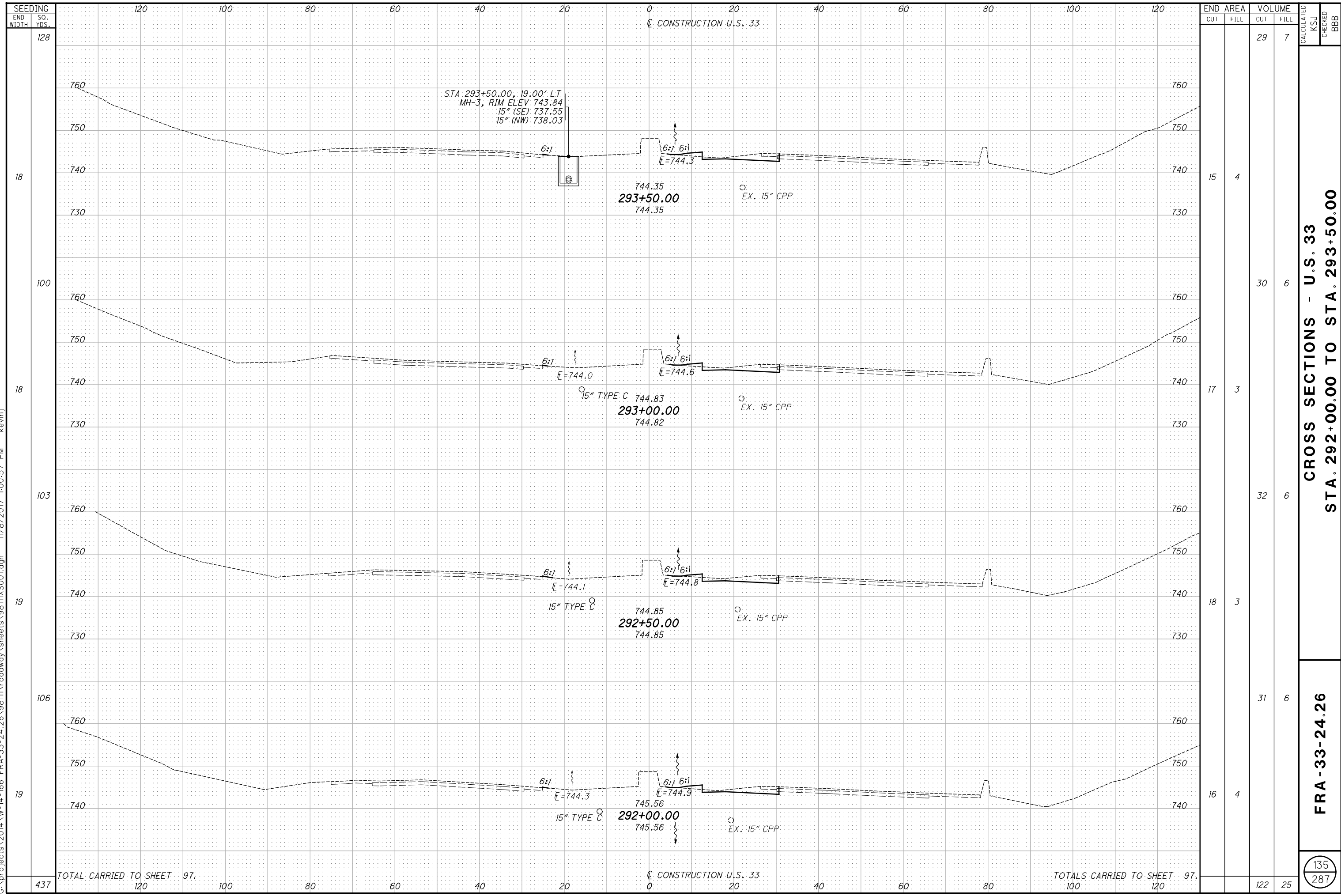
END AREA	VOLUME	CALCULATED	CHECKED		
				CUT	FILL
30	10				
16	7				
51	10				
39	4				
73	8				
40	5				
77	9				
43	5				
77	10				
40	6				
TOTALS CARRIED TO SHEET 97.	TOTALS CARRIED TO SHEET 97.	308	47		

**CROSS SECTIONS - U.S. 33**  
**STA. 289+50.00 TO STA. 291+50.00**

**FRA -33-24.26**

134  
 287

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END	AREA		VOLUME		CALCULATED	CHECKED
	CUT	FILL	CUT	FILL		
128			29	7		
18			15	4		
100			30	6		
18			17	3		
103			32	6		
19			18	3		
106			31	6		
19			16	4		
437			122	25		

**CROSS SECTIONS - U.S. 33**  
**STA. 292+00.00 TO STA. 293+50.00**

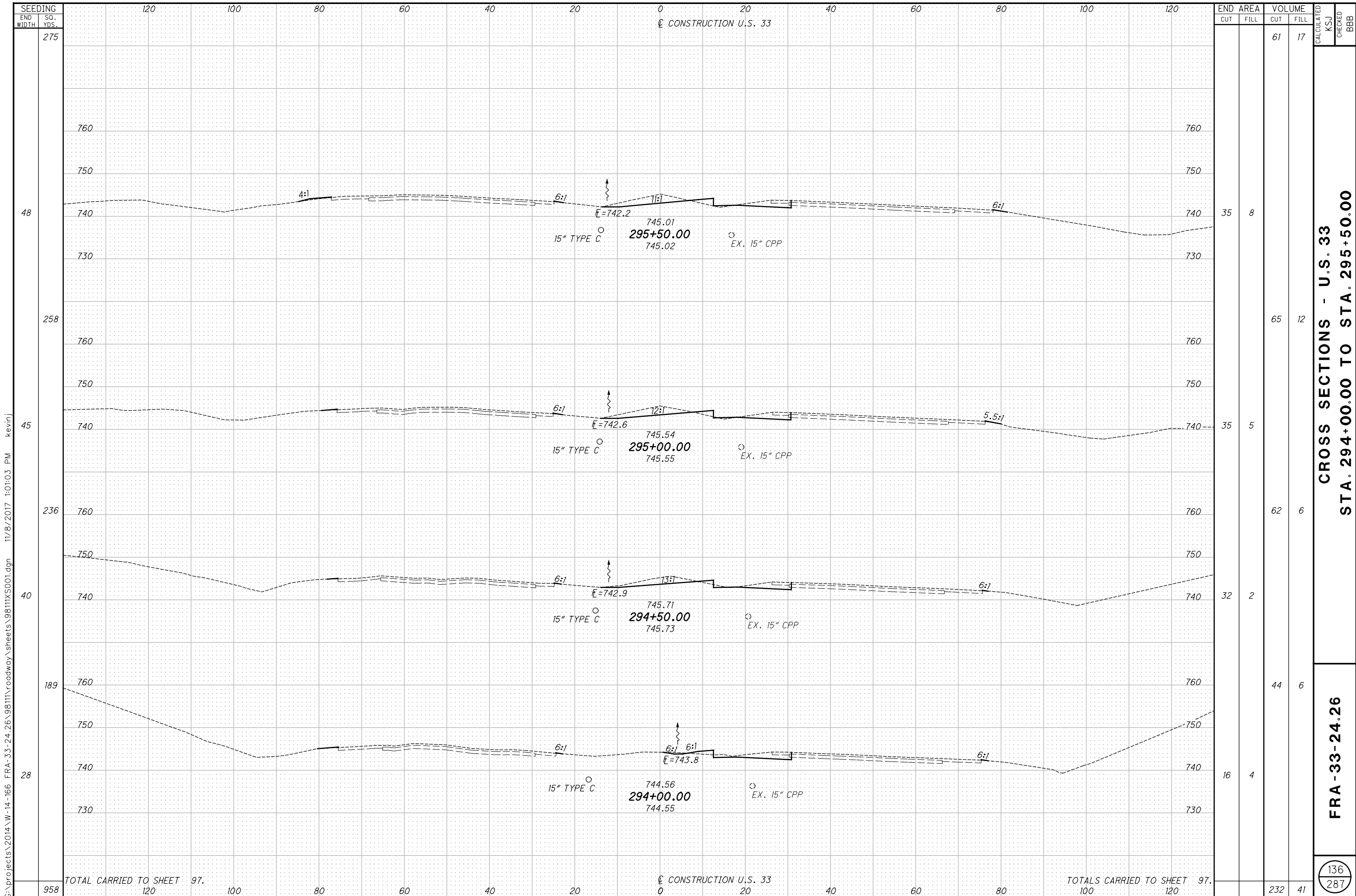
**FRA -33-24.26**

135  
 287

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

CONSTRUCTION U.S. 33



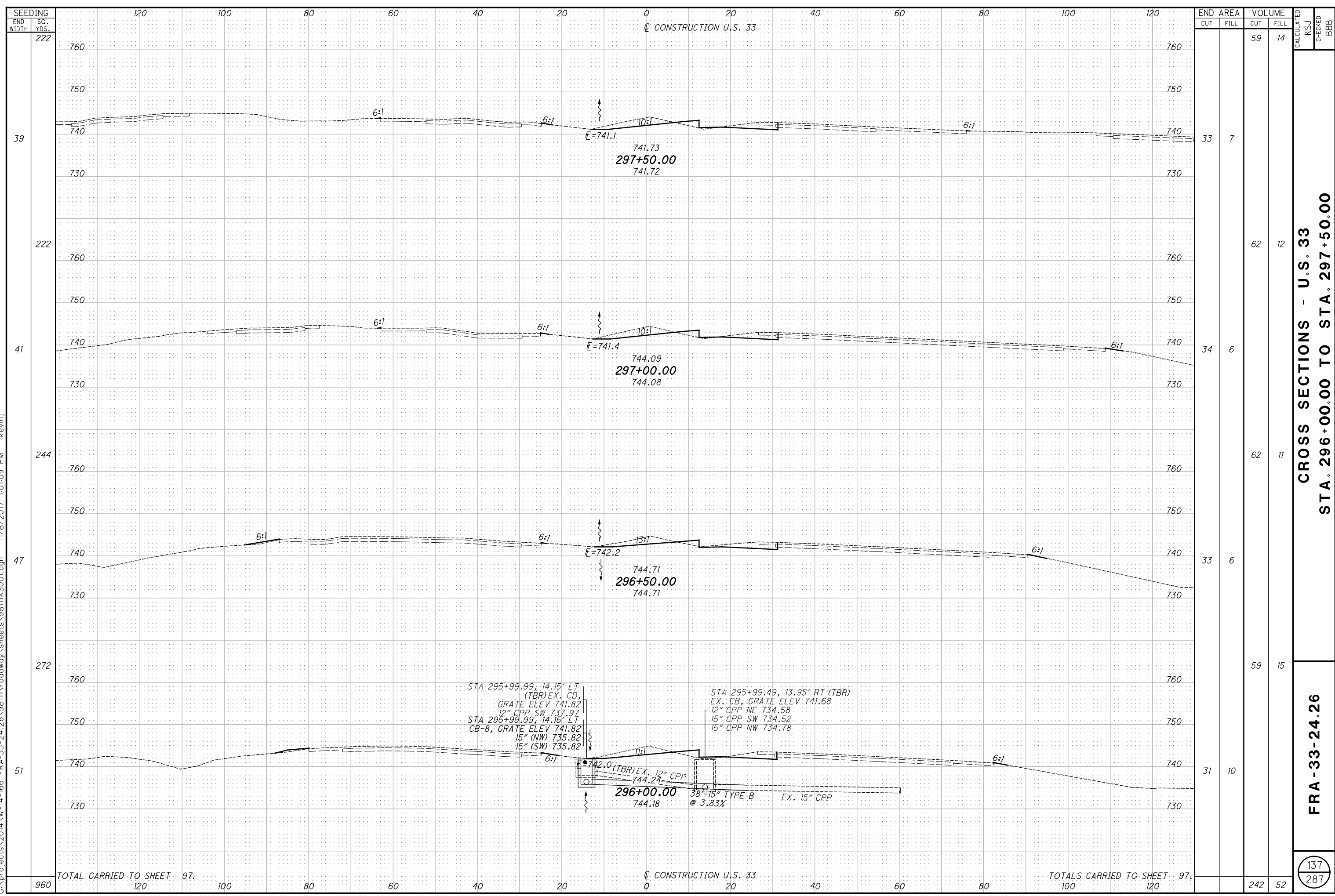
CROSS SECTIONS - U.S. 33  
STA. 294+00.00 TO STA. 295+50.00

FRA-33-24.26

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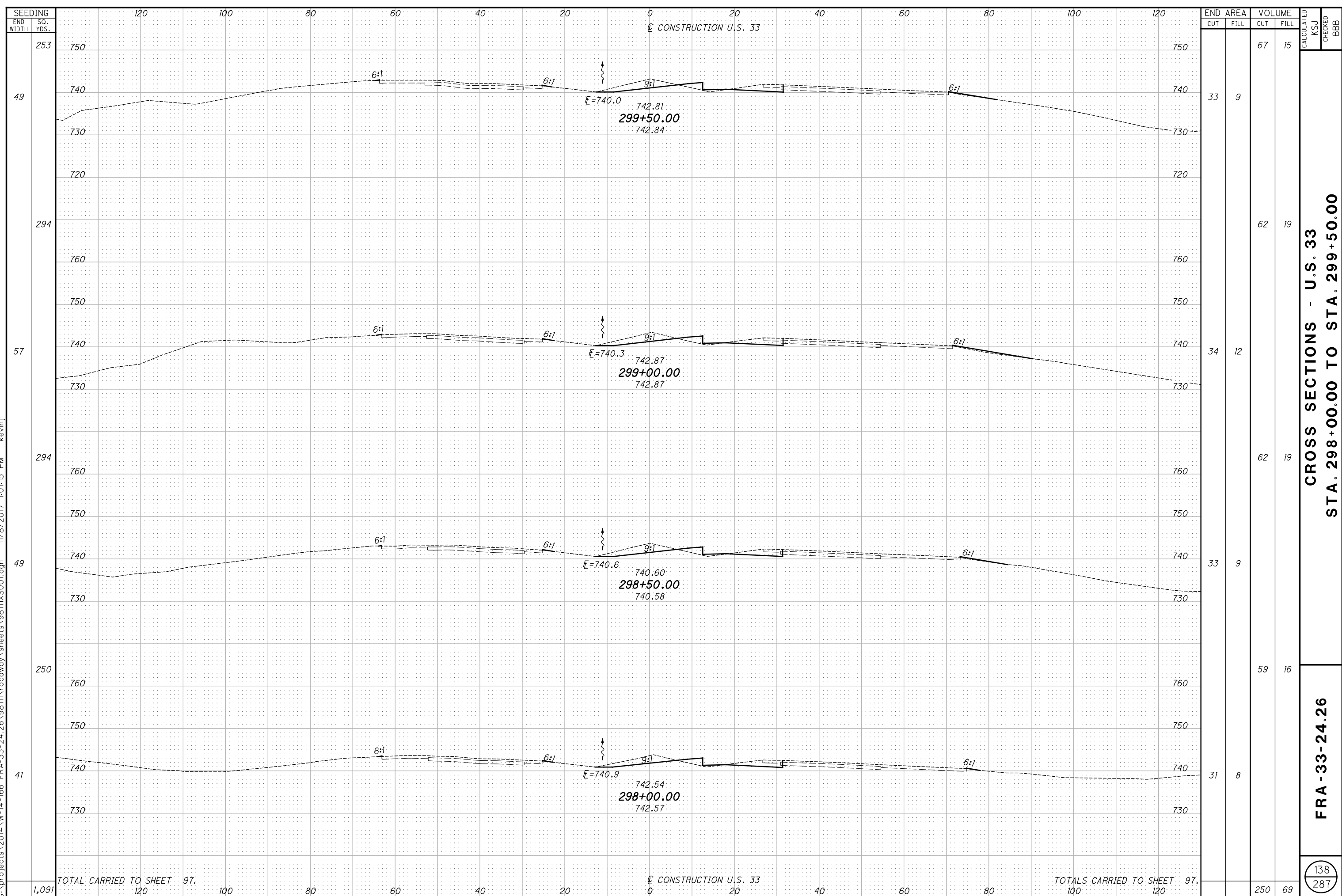
**CROSS SECTIONS - U.S. 33**  
**STA. 296+00.00 TO STA. 297+50.00**

**FRA-33-24.26**

CALCULATED K SJ  
 CHECKED BBB

137  
 287

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**CROSS SECTIONS - U.S. 33**  
**STA. 298+00.00 TO STA. 299+50.00**

**FRA-33-24.26**

138  
 287

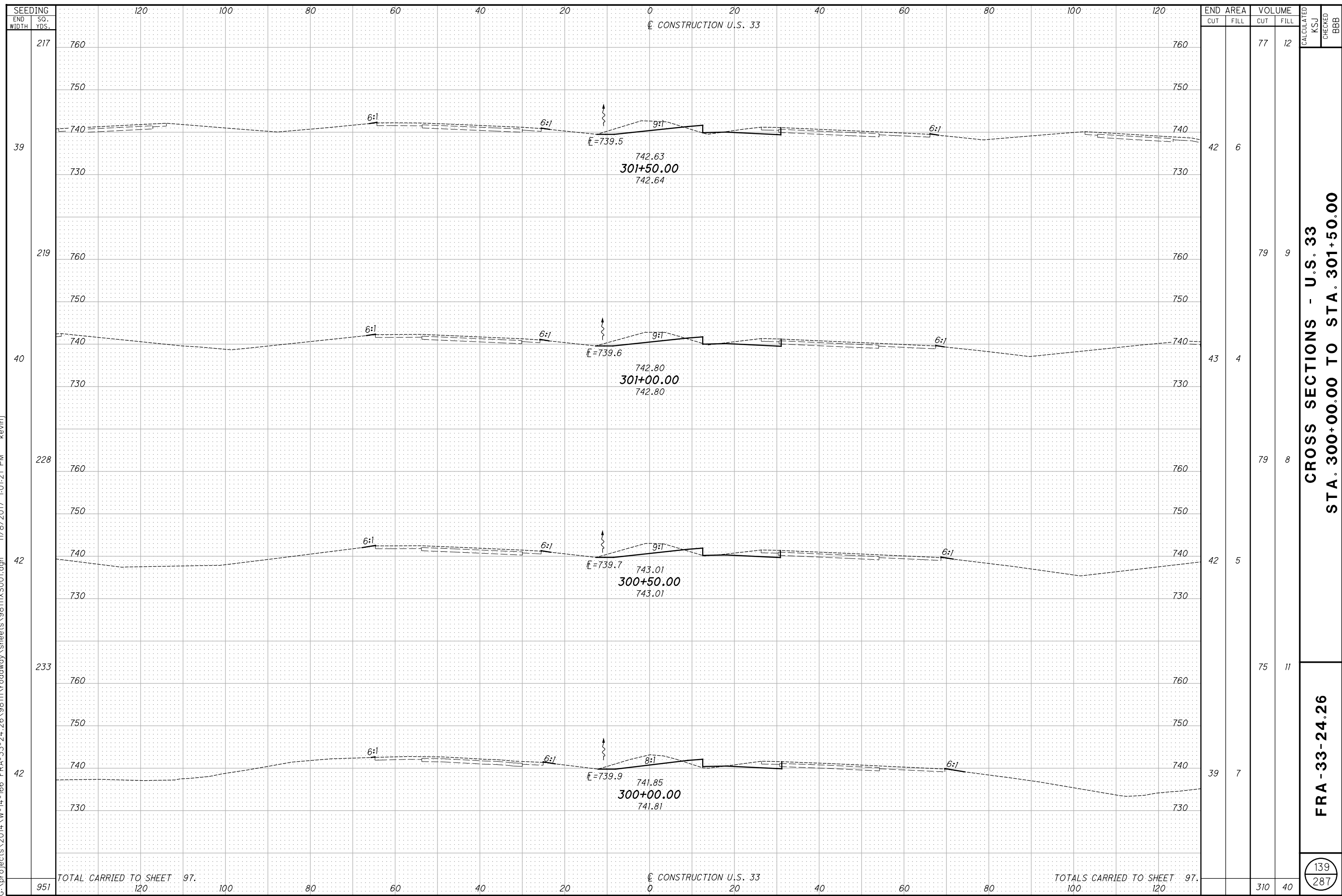
TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

CONSTRUCTION U.S. 33

CONSTRUCTION U.S. 33

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END AREA	VOLUME	CALCULATED	CHECKED	BBB
77	12			
42	6			
79	9			
43	4			
79	8			
42	5			
75	11			
39	7			
310	40			

**CROSS SECTIONS - U.S. 33  
STA. 300+00.00 TO STA. 301+50.00**

**FRA -33-24.26**

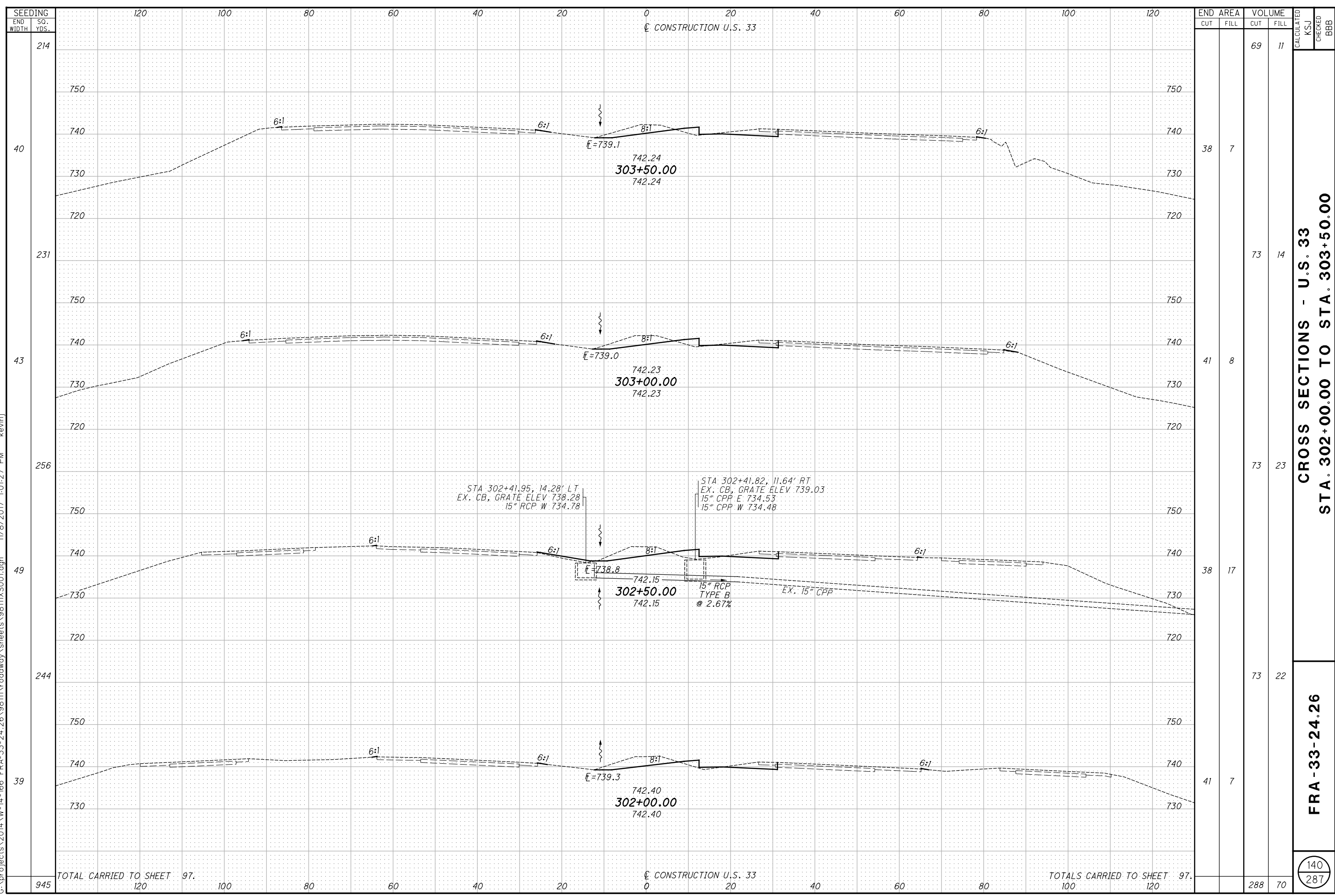
139  
287

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

CONSTRUCTION U.S. 33

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END STA	END AREA		VOLUME		CALCULATED	CHECKED	BBB
	CUT	FILL	CUT	FILL			
214			69	11			
40	38	7					
231			73	14			
43	41	8					
256			73	23			
49	38	17					
244			73	22			
39	41	7					
945			288	70			

**CROSS SECTIONS - U.S. 33**  
**STA. 302+00.00 TO STA. 303+50.00**

**FRA-33-24.26**

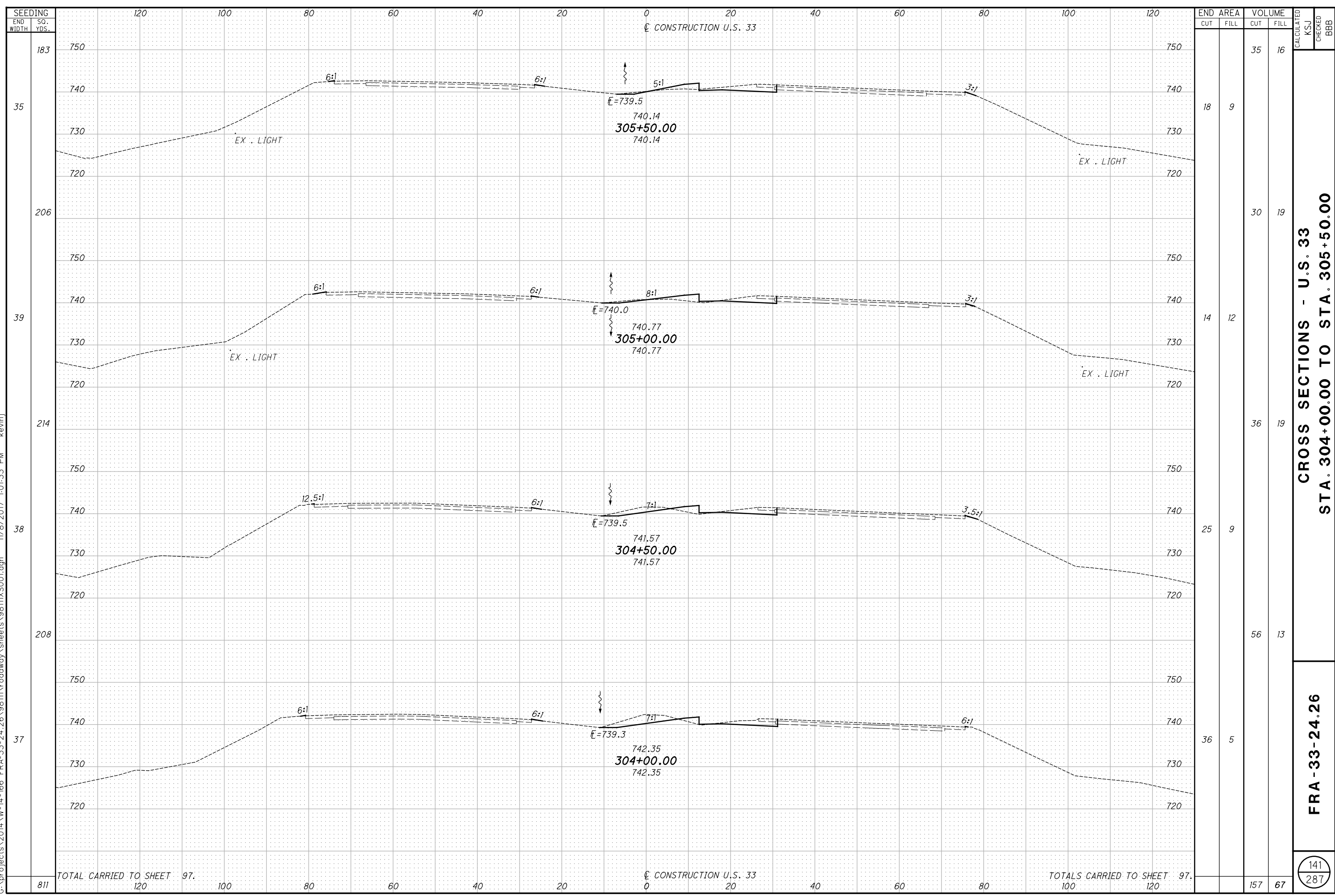
140  
 287

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

CONSTRUCTION U.S. 33

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END	AREA		VOLUME		CALCULATED	CHECKED	BBB
	CUT	FILL	CUT	FILL			
183			35	16			
35	18	9					
206			30	19			
39	14	12					
214			36	19			
38	25	9					
208			56	13			
37	36	5					
811			157	67			

**CROSS SECTIONS - U.S. 33**  
**STA. 304+00.00 TO STA. 305+50.00**

**FRA-33-24.26**

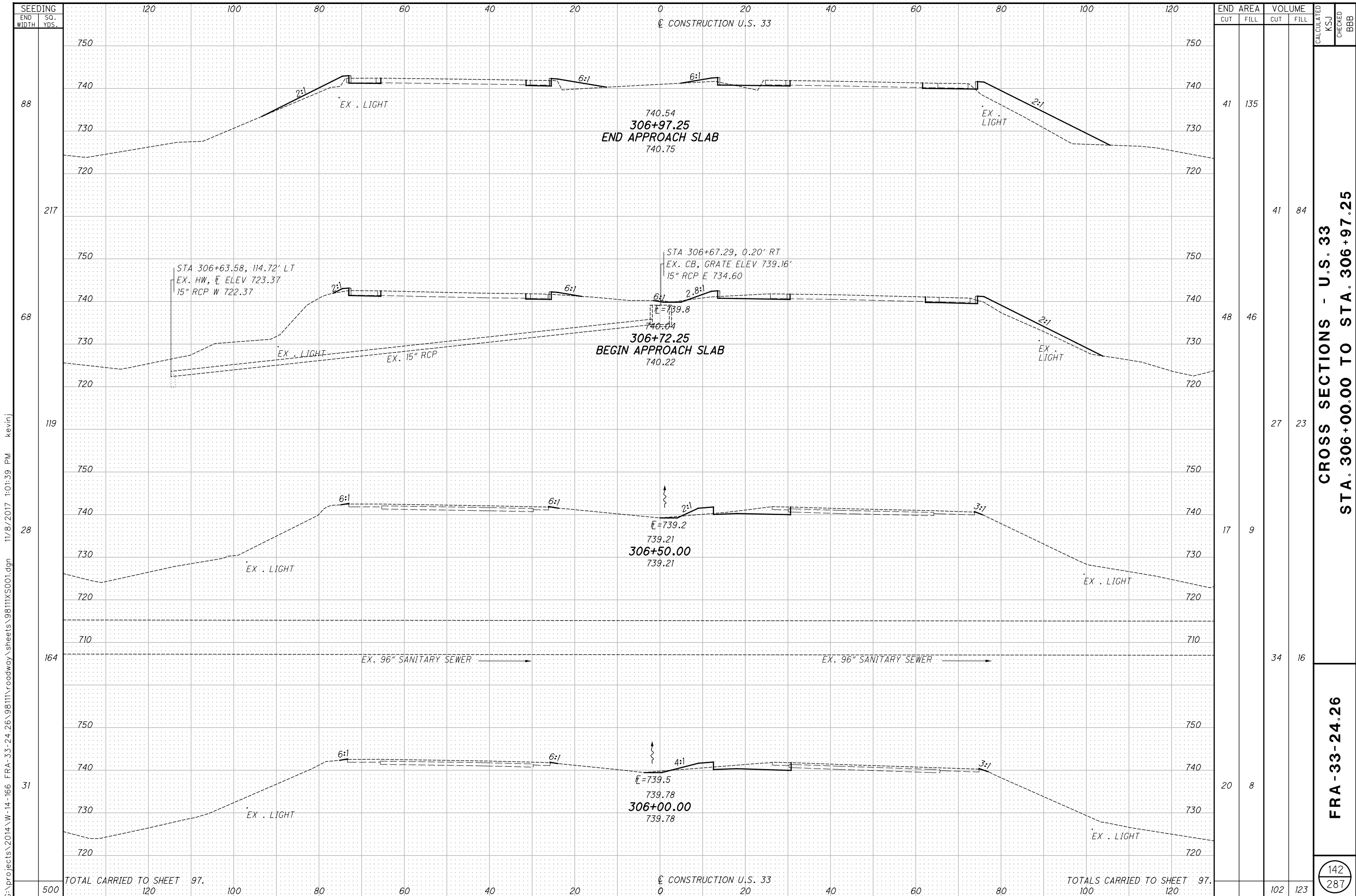
141  
 287

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

CONSTRUCTION U.S. 33

CONSTRUCTION U.S. 33



SEEDING		END AREA		VOLUME		CALCULATED		
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	KSJ	CHECKED	BBB
88		41	135					
217		41	84					
68		48	46					
119		27	23					
28		17	9					
164		34	16					
31		20	8					
500				102	123			

**CROSS SECTIONS - U.S. 33**  
**STA. 306+00.00 TO STA. 306+97.25**

**FRA-33-24.26**

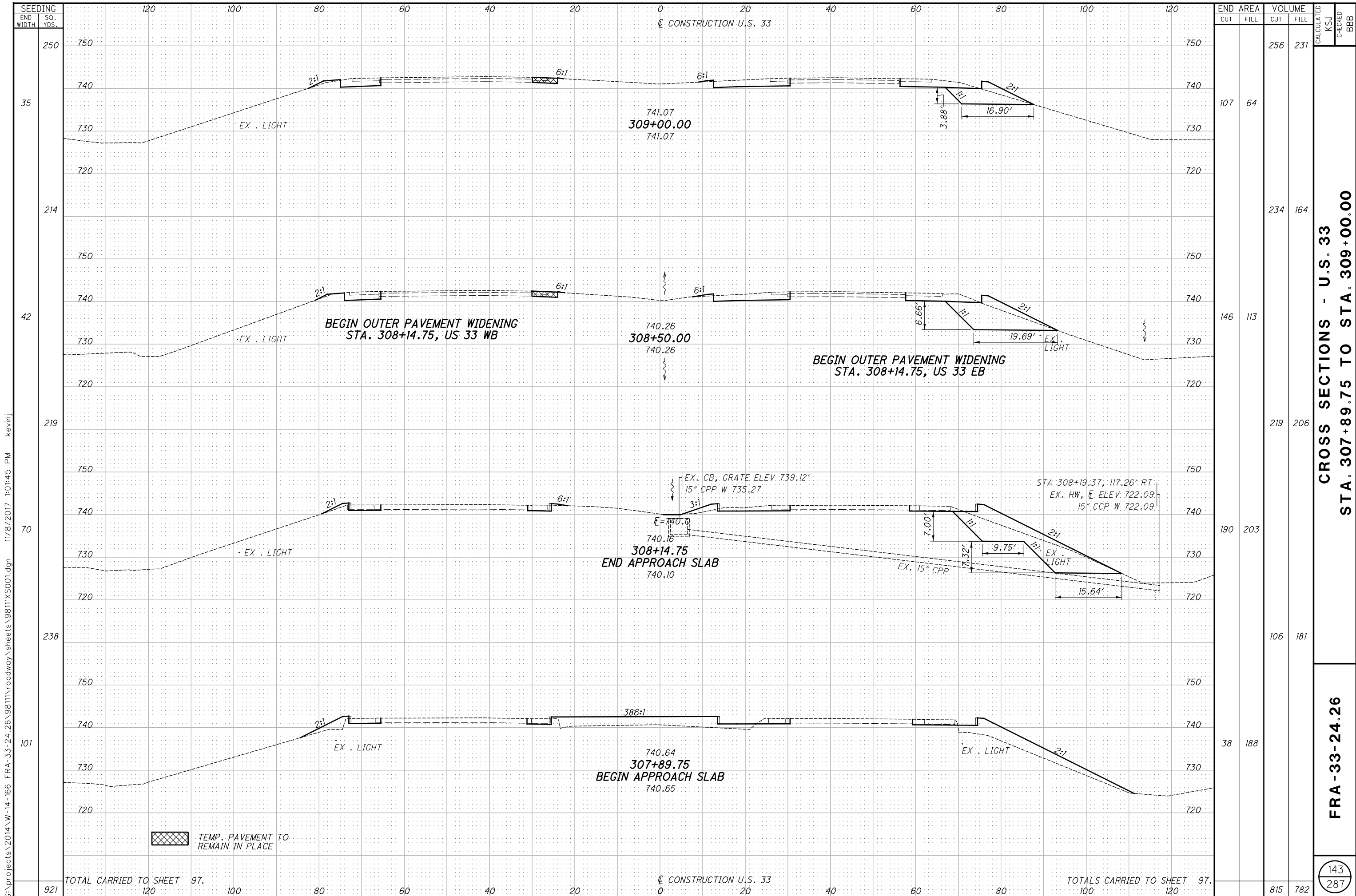
142  
 287

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TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

CONSTRUCTION U.S. 33



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CONSTRUCTION U.S. 33

CONSTRUCTION U.S. 33

END STA.	END AREA		VOLUME		CALCULATED	CHECKED
	CUT	FILL	CUT	FILL		
309+00.00	107	64	256	231		
308+14.75	146	113	234	164		
308+14.75	190	203	219	206		
307+89.75	106	181	106	181		
307+89.75	38	188	815	782		
TOTALS CARRIED TO SHEET	97	100	97	100		

CROSS SECTIONS - U.S. 33  
STA. 307+89.75 TO STA. 309+00.00

FRA-33-24.26

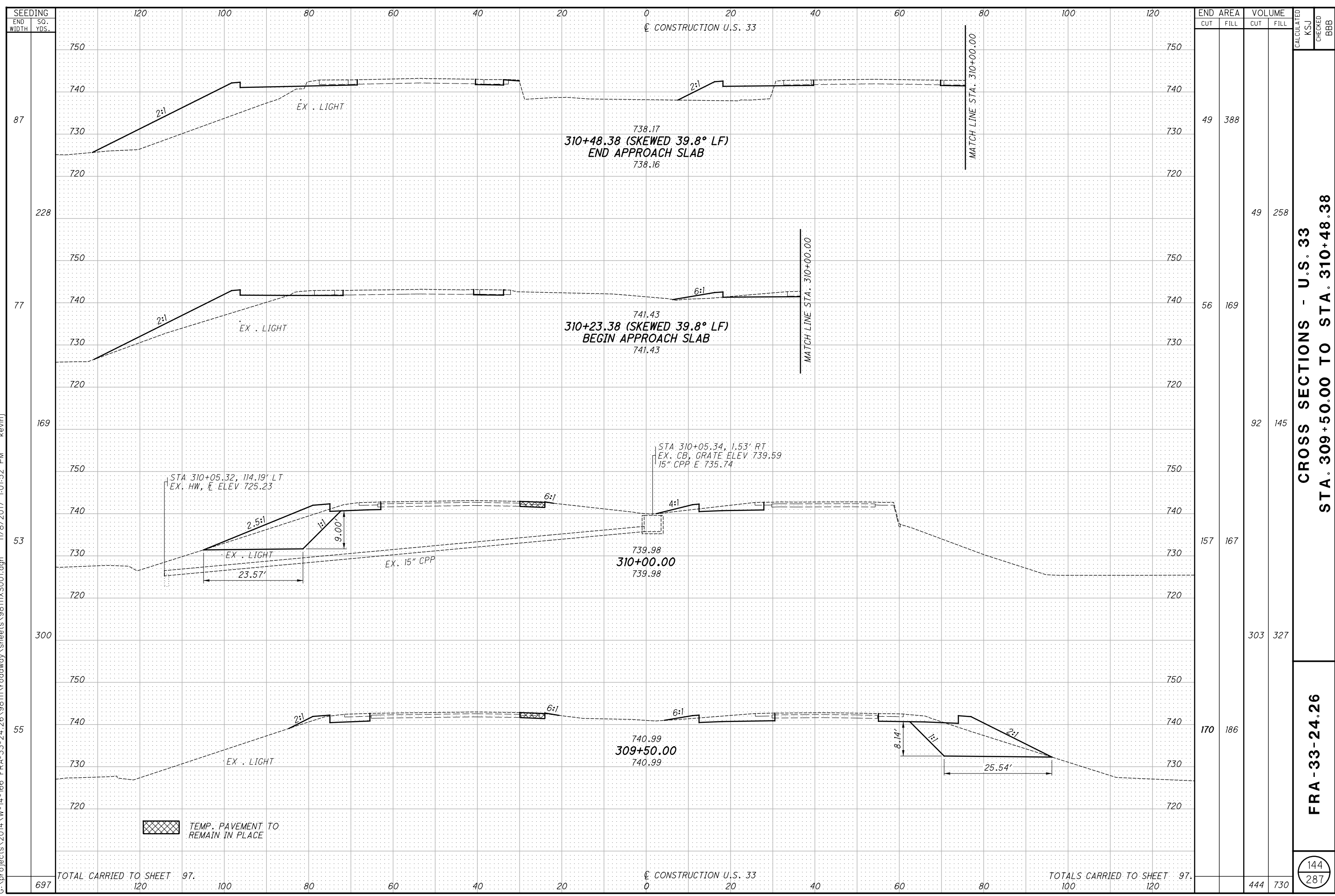
143  
287

TEMP. PAVEMENT TO REMAIN IN PLACE

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

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SEEDING	END SO.	
	WIDTH	YDS.
87		
228		
77		
169		
53		
300		
55		
697		

END AREA		VOLUME		CALCULATED	CHECKED
CUT	FILL	CUT	FILL		
49	388	49	258		
56	169	92	145		
157	167	303	327		
170	186	444	730		

**CROSS SECTIONS - U.S. 33**  
**STA. 309+50.00 TO STA. 310+48.38**

**FRA-33-24.26**

144  
287

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

CONSTRUCTION U.S. 33

CONSTRUCTION U.S. 33

TEMP. PAVEMENT TO REMAIN IN PLACE

STA 310+05.32, 114.19' LT  
EX. HW, E ELEV 725.23

STA 310+05.34, 1.53' RT  
EX. CB, GRATE ELEV 739.59  
15" CPP E 735.74

738.17  
310+48.38 (SKEWED 39.8° LF)  
END APPROACH SLAB  
738.16

741.43  
310+23.38 (SKEWED 39.8° LF)  
BEGIN APPROACH SLAB  
741.43

739.98  
310+00.00  
739.98

740.99  
309+50.00  
740.99

MATCH LINE STA. 310+00.00

MATCH LINE STA. 310+00.00

8.14'  
1:1  
25.54'

23.57'

9.00'

EX. 15" CPP

2:1

EX. LIGHT

2:1

EX. LIGHT

2.5:1

EX. LIGHT

2:1

EX. LIGHT

2:1

6:1

6:1

4:1

6:1

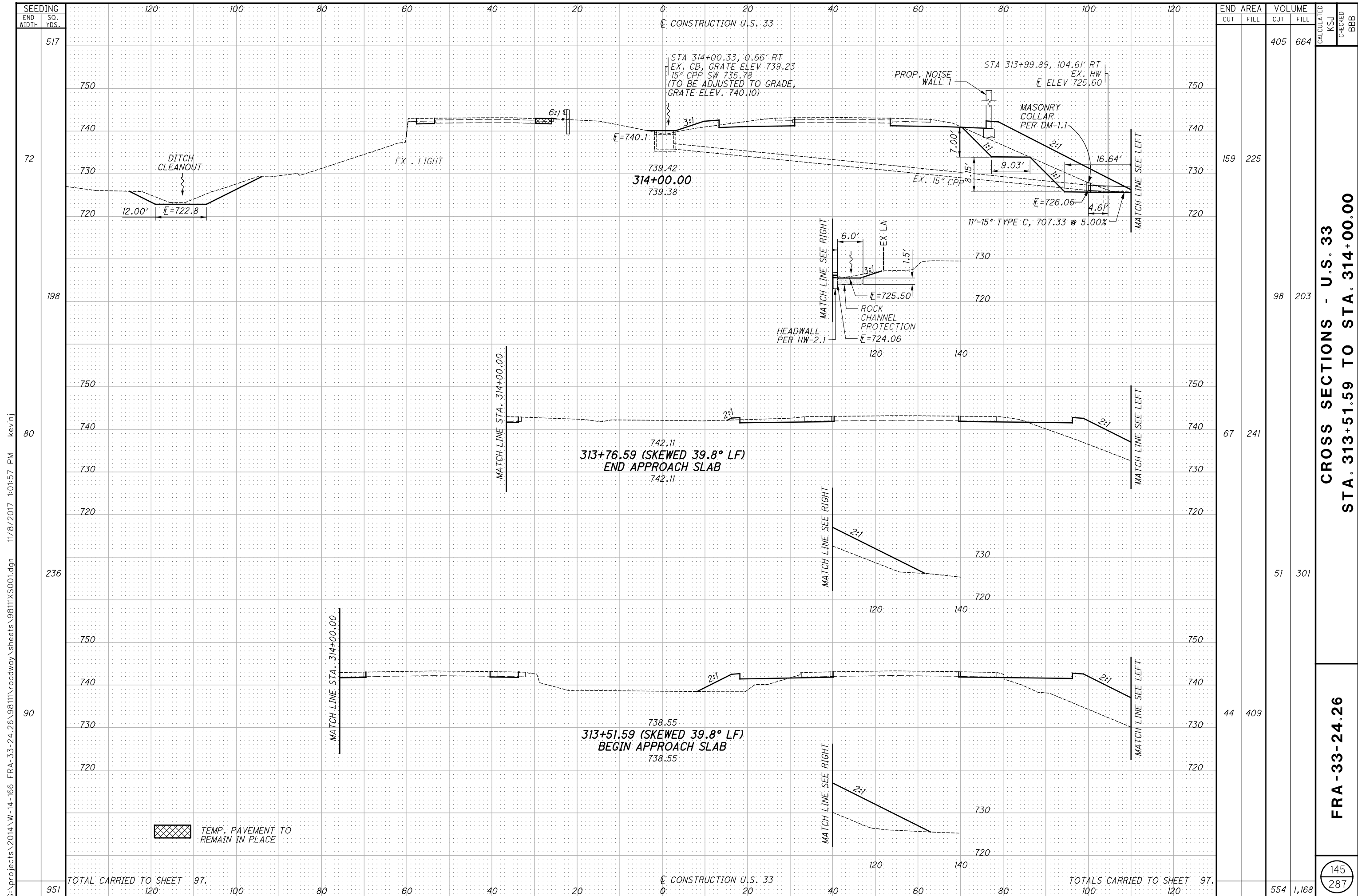
6:1

8.14'

1:1

2:1





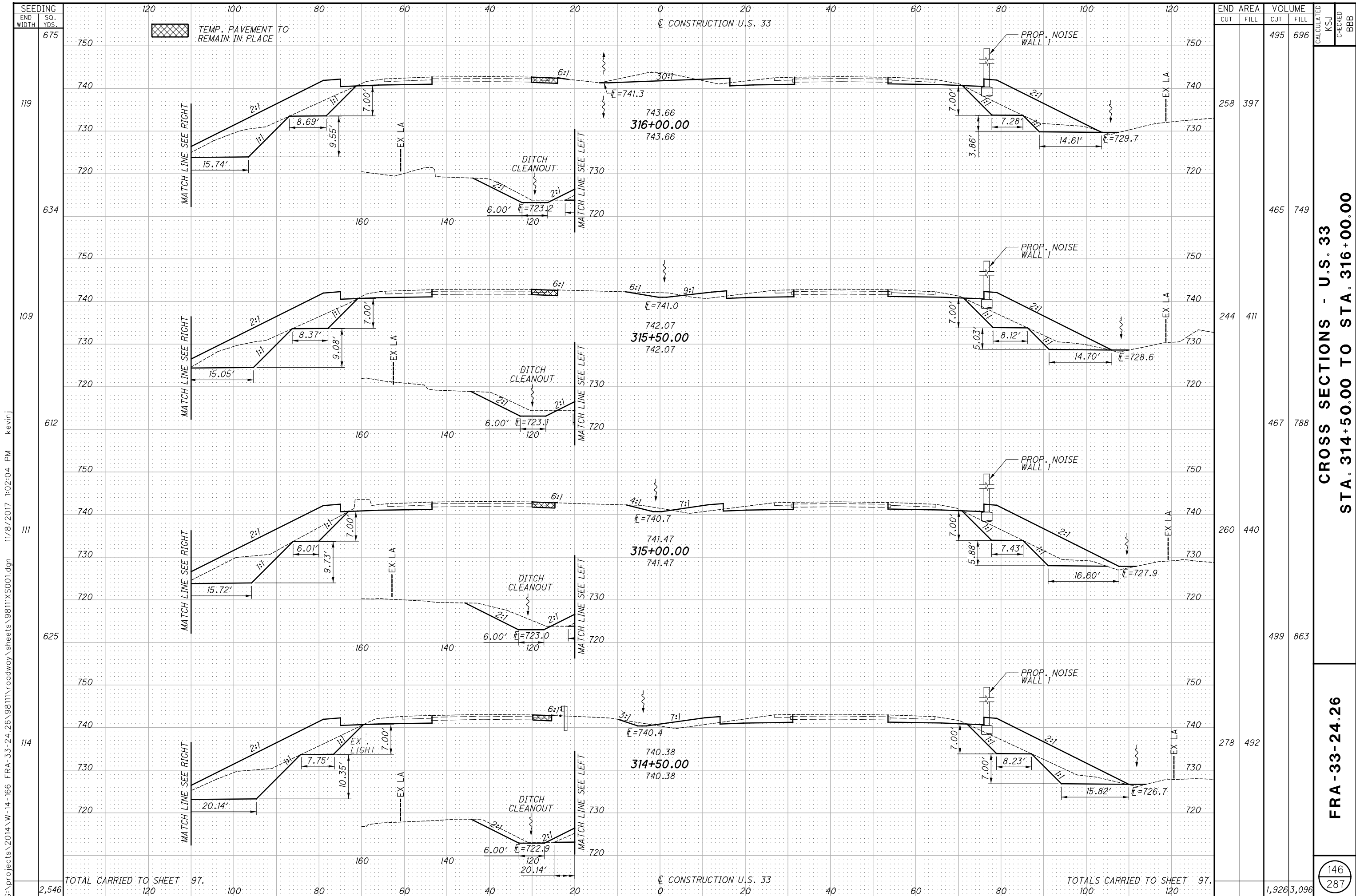
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SEEDING	END AREA		VOLUME		CALCULATED	CHECKED	BBB
	END WIDTH	SO. YDS.	CUT	FILL			
517			405	664			
72			159	225			
198			98	203			
80			67	241			
236			51	301			
90			44	409			
951	TOTAL CARRIED TO SHEET	97.	554	1,168			

**CROSS SECTIONS - U.S. 33**  
**STA. 313+51.59 TO STA. 314+00.00**

**FRA-33-24.26**

145  
 287



SEEDING  
END WIDTH SO. YDS.  
675

119

634

109

612

111

625

114

2,546

120 100 80 60 40 20 0 20 40 60 80 100 120

750 740 730 720 750 740 730 720 750 740 730 720 750 740 730 720 750 740 730 720

TEMP. PAVEMENT TO REMAIN IN PLACE

CONSTRUCTION U.S. 33

316+00.00  
743.66  
743.66

315+00.00  
742.07  
742.07

315+00.00  
741.47  
741.47

314+00.00  
740.38  
740.38

CONSTRUCTION U.S. 33

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

END AREA	VOLUME	CALCULATED	CHECKED	BBB
258	397	495	696	
465	749			
244	411			
467	788			
260	440			
499	863			
278	492			
		1,926	3,096	

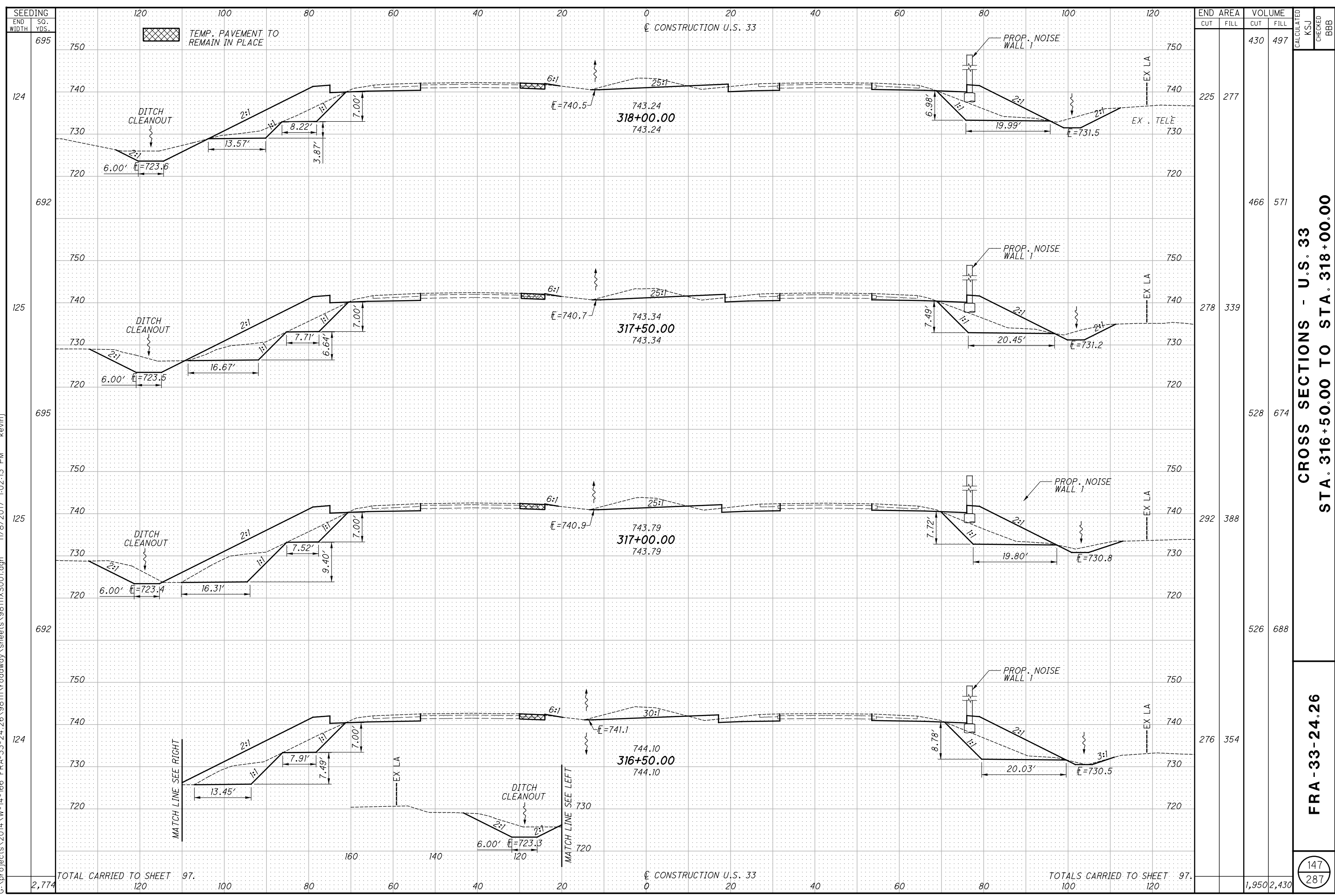
CROSS SECTIONS - U.S. 33  
STA. 314+50.00 TO STA. 316+00.00

FRA - 33 - 24.26

146  
287

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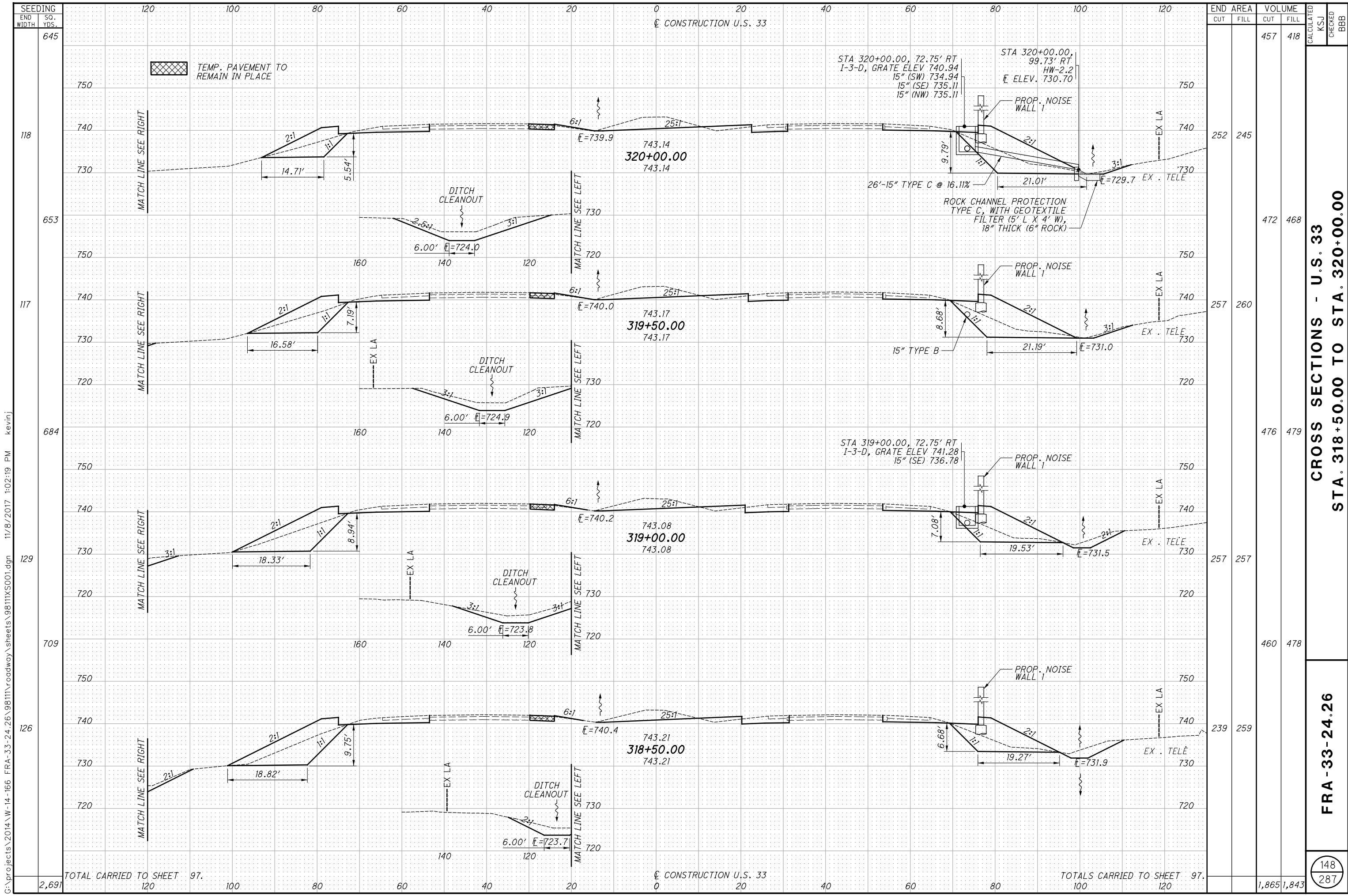
END STA.	AREA		VOLUME		CALCULATED	CHECKED	BBB
	CUT	FILL	CUT	FILL			
316+50.00	225	277	430	497			
317+00.00	278	339	466	571			
317+50.00	292	388	528	674			
318+00.00	276	354	526	688			
TOTALS	1,950	2,430	1,950	2,430			

**CROSS SECTIONS - U.S. 33**  
**STA. 316+50.00 TO STA. 318+00.00**

**FRA-33-24.26**

147  
 287

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SEEDING	END WIDTH	SO. YDS.
	120	100
	80	60
	40	20
	0	0
	20	40
	60	80
	100	120

END AREA		VOLUME		CALCULATED	CHECKED
CUT	FILL	CUT	FILL	KSJ	BBB
252	245	457	418		
257	260	472	468		
257	257	476	479		
257	257	460	478		
239	259	1,865	1,843		

**CROSS SECTIONS - U.S. 33**  
**STA. 318+50.00 TO STA. 320+00.00**  
**FRA - 33 - 24.26**

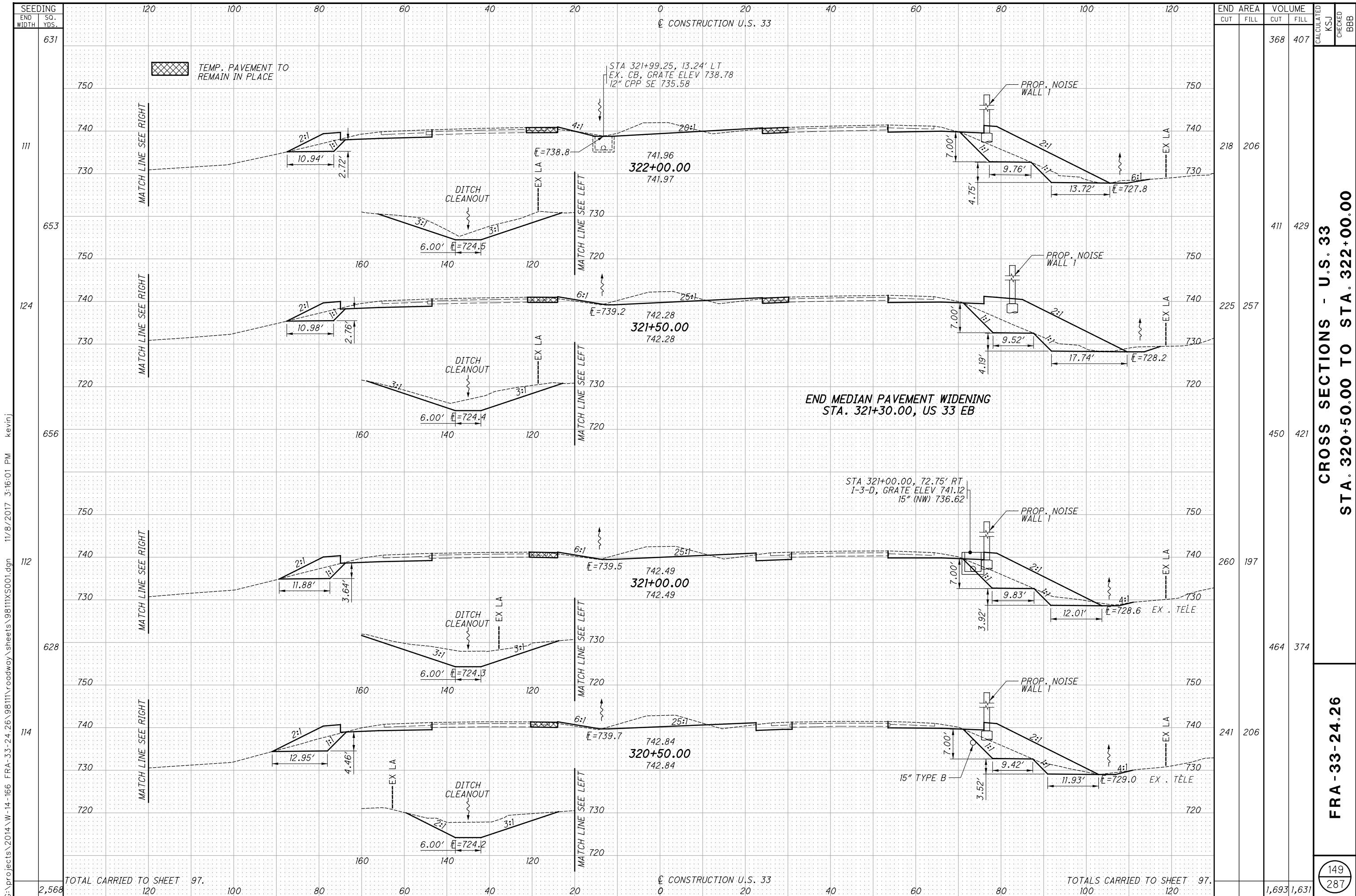
148  
287

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

CONSTRUCTION U.S. 33

CONSTRUCTION U.S. 33



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CONSTRUCTION U.S. 33

CONSTRUCTION U.S. 33

END MEDIAN PAVEMENT WIDENING  
STA. 321+30.00, US 33 EB

END AREA	VOLUME	CALCULATED	CHECKED				
				CUT	FILL	CUT	FILL
218	206	368	407				
225	257	411	429				
260	197	450	421				
241	206	464	374				
TOTALS CARRIED TO SHEET	TOTALS CARRIED TO SHEET	1,693	1,631				

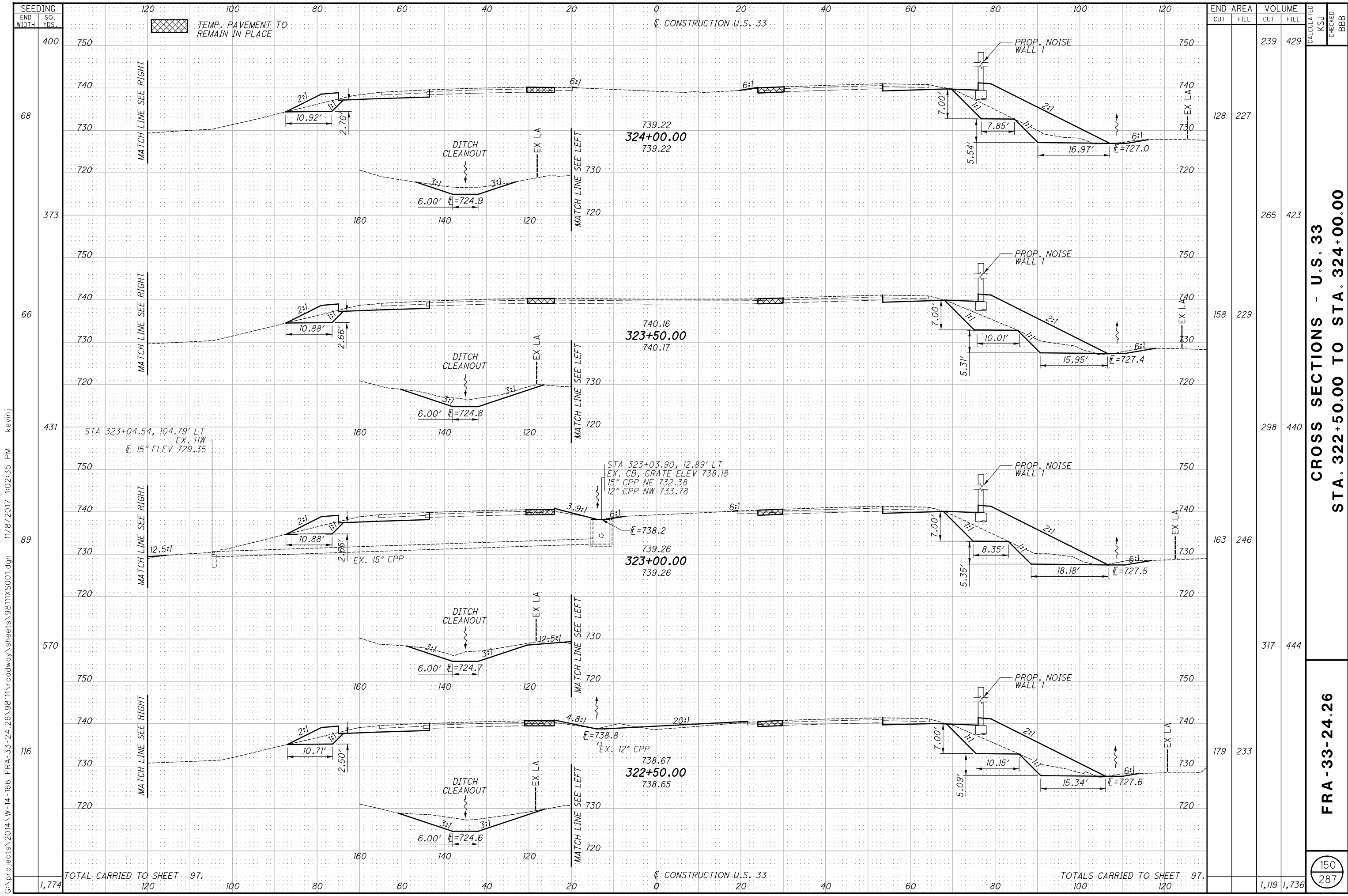
**CROSS SECTIONS - U.S. 33**  
**STA. 320+50.00 TO STA. 322+00.00**

**FRA-33-24.26**

149  
287

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.



SEEDING  
END WIDTH SO. YDS.

1,774

120 100 80 60 40 20 0 20 40 60 80 100 120

TEMP. PAVEMENT TO REMAIN IN PLACE

CONSTRUCTION U.S. 33

128 227

373 265 423

66 158 229

431 298 440

89 163 246

570 317 444

116 179 233

TOTAL CARRIED TO SHEET 97.

CONSTRUCTION U.S. 33

TOTALS CARRIED TO SHEET 97.

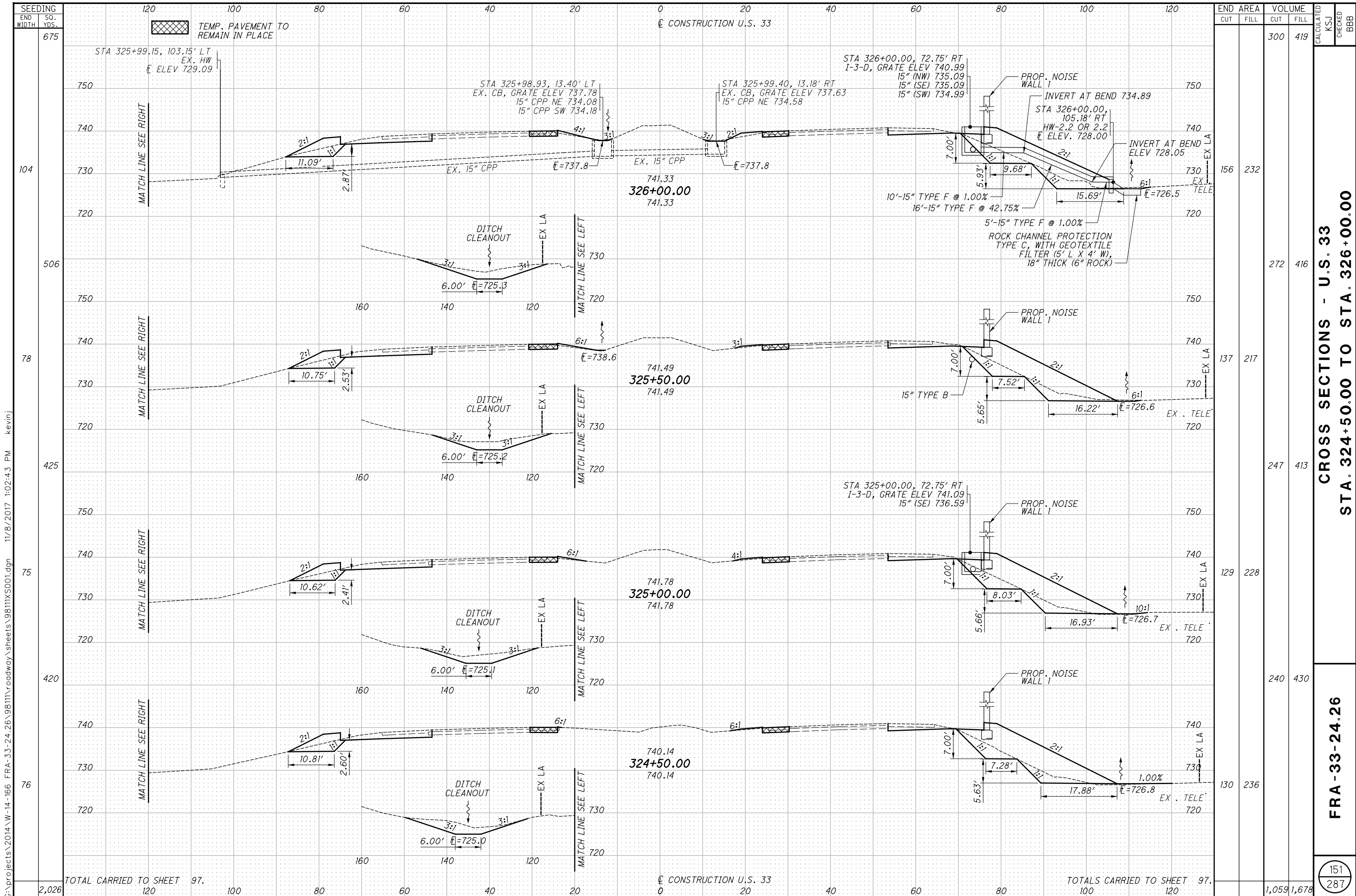
END AREA	VOLUME		CALCULATED	CHECKED	BBB
	CUT	FILL			
128	239	429			
265	423				
158	229				
298	440				
163	246				
317	444				
179	233				
TOTALS CARRIED TO SHEET 97.	1,119	1,736			

CROSS SECTIONS - U.S. 33  
 STA. 322+50.00 TO STA. 324+00.00

FRA-33-24.26

150  
 287

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END STA	AREA		VOLUME		CALCULATED	CHECKED	BBB
	CUT	FILL	CUT	FILL			
324+50.00	130	236	1,059	1,678			
325+00.00	129	228					
325+50.00	137	217					
326+00.00	156	232					
TOTALS CARRIED TO SHEET	97	120	1,059	1,678			

**CROSS SECTIONS - U.S. 33**  
**STA. 324+50.00 TO STA. 326+00.00**

**FRA-33-24.26**

151  
 287

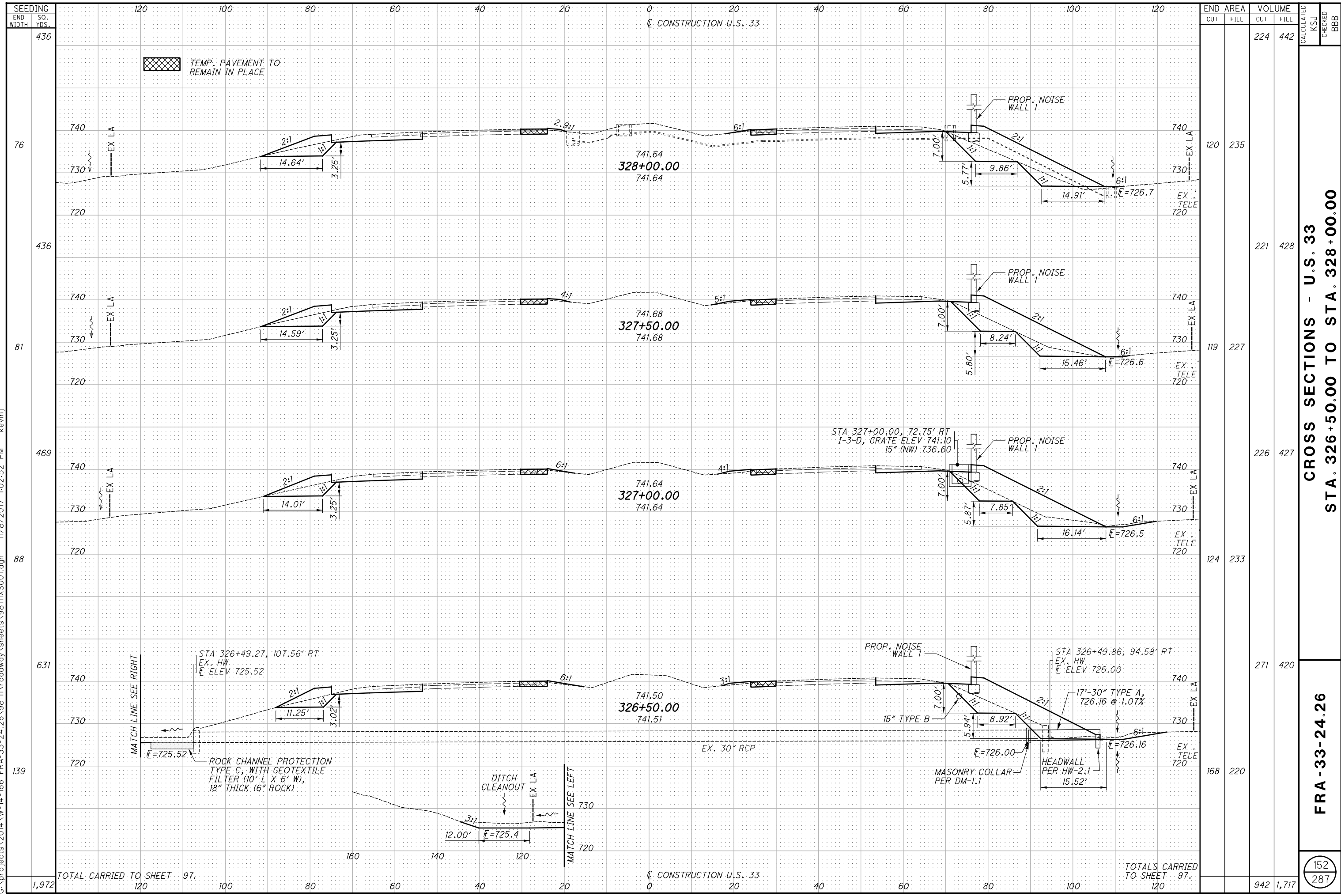
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TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

CONSTRUCTION U.S. 33

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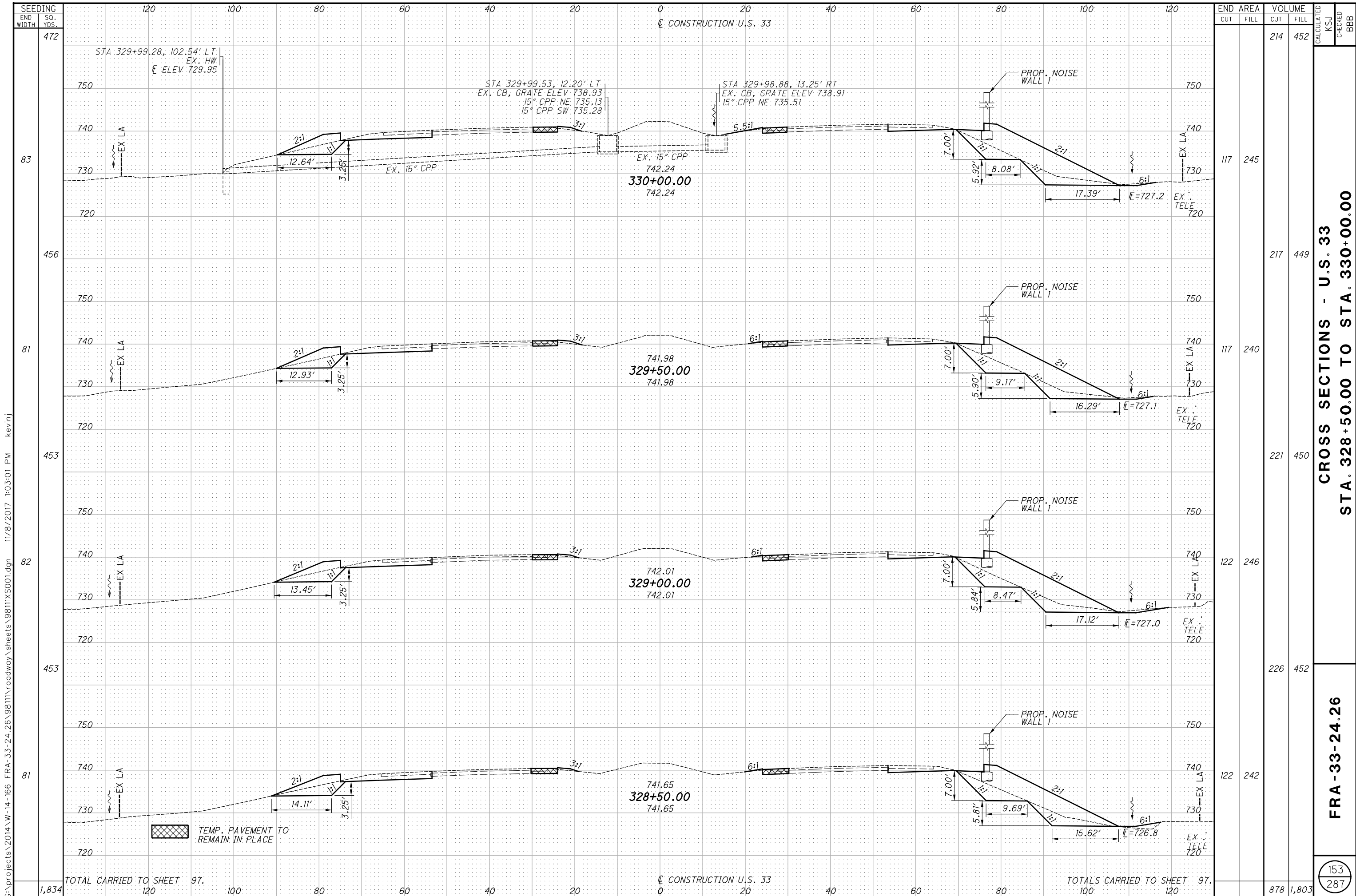


**CROSS SECTIONS - U.S. 33**  
**STA. 326+50.00 TO STA. 328+00.00**

**FRA -33-24.26**

152  
 287



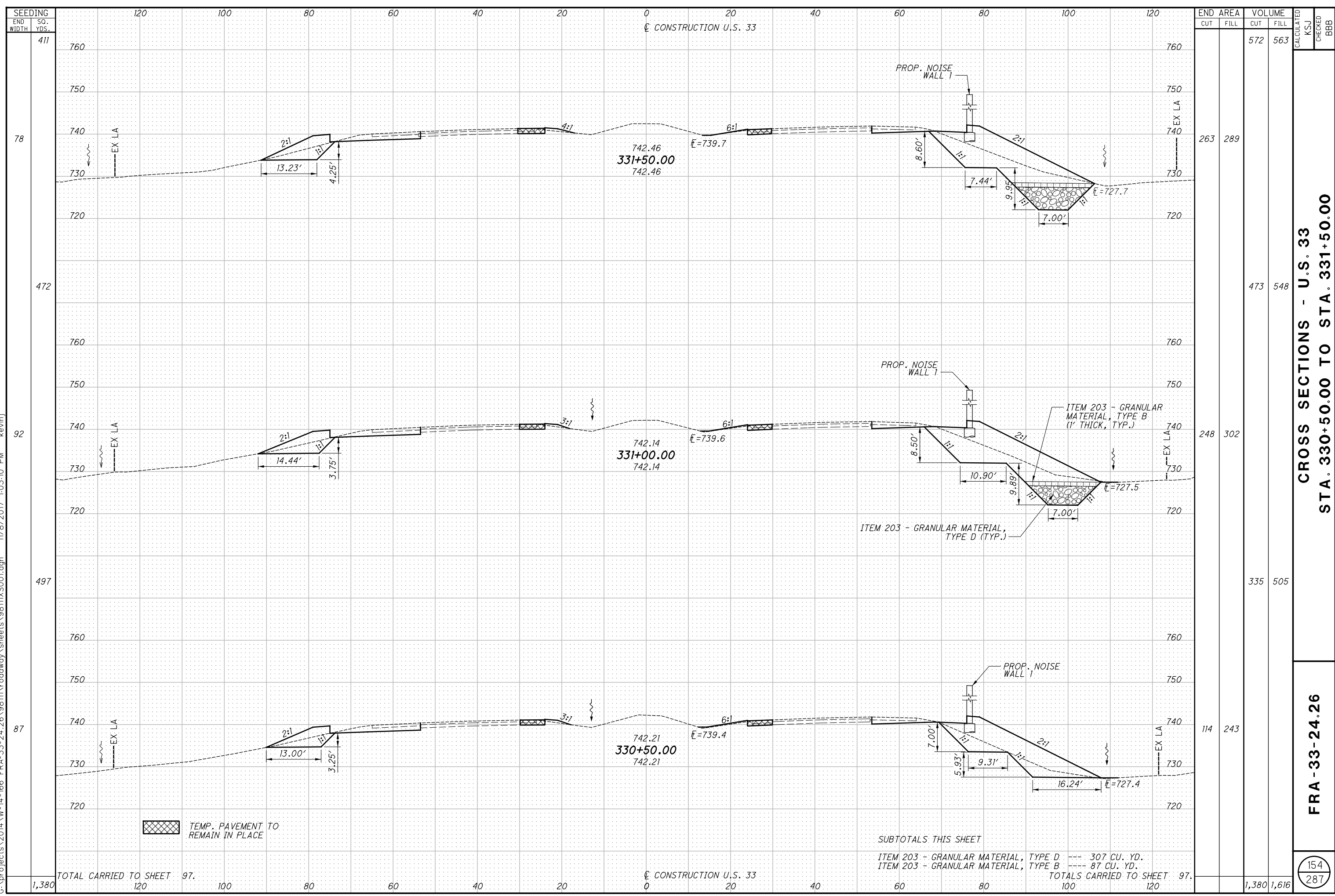


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SEEDING	END AREA		VOLUME		CALCULATED	CHECKED	BBB
	CUT	FILL	CUT	FILL			
472			214	452			
83			217	449			
456			221	450			
81			226	452			
453			226	452			
82			226	452			
453			226	452			
81			226	452			
1,834			878	1,803			

**CROSS SECTIONS - U.S. 33**  
**STA. 328+50.00 TO STA. 330+00.00**  
**FRA-33-24.26**  
 153  
 287

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SEEDING	END AREA		VOLUME		CALCULATED	CHECKED	BBB
	CUT	FILL	CUT	FILL			
411			572	563			
78	263	289					
472			473	548			
92	248	302					
497			335	505			
87	114	243					
1,380	1,380	1,616					

CROSS SECTIONS - U.S. 33  
STA. 330+50.00 TO STA. 331+50.00

FRA-33-24.26

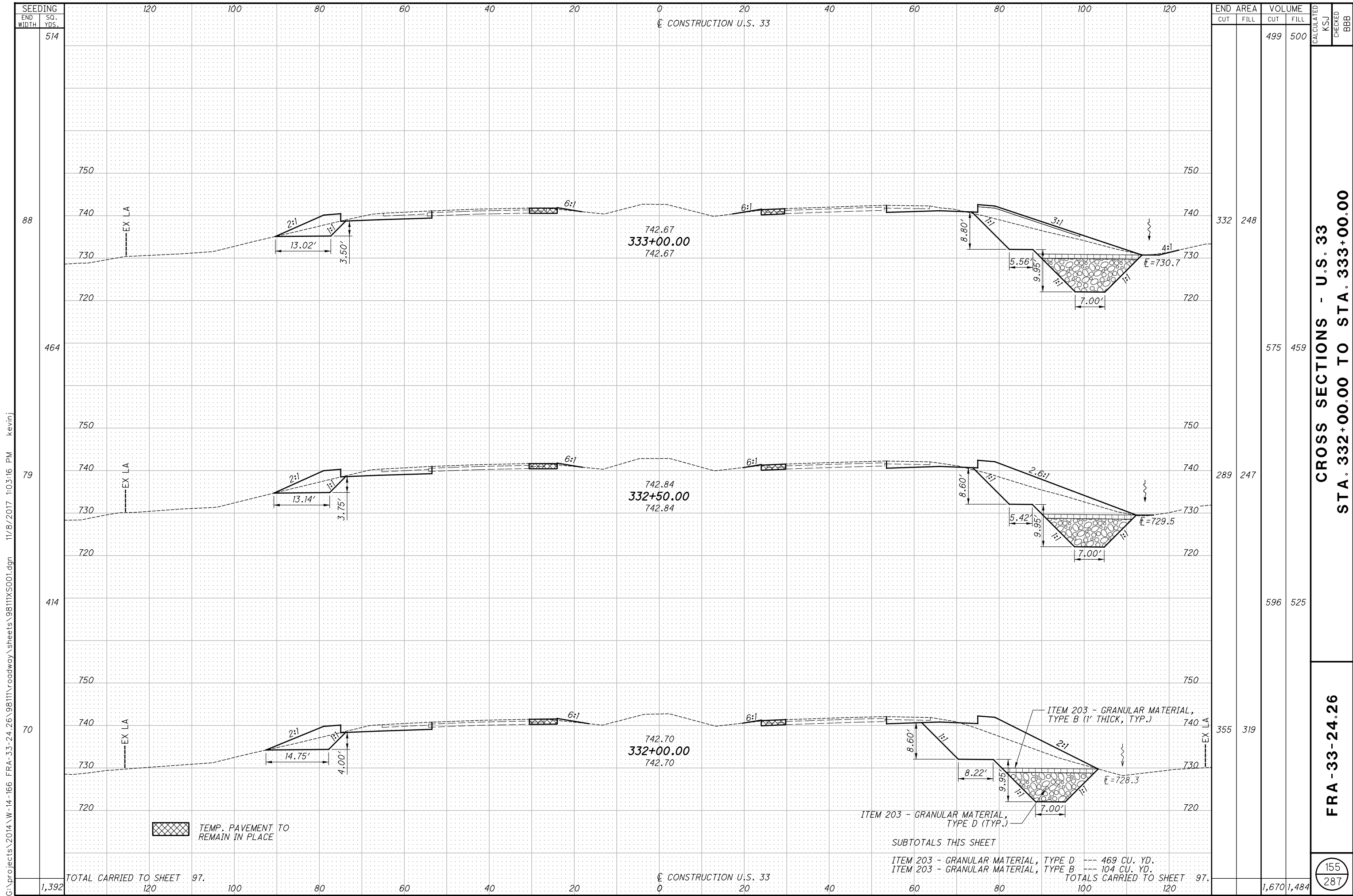
154  
287

SUBTOTALS THIS SHEET  
 ITEM 203 - GRANULAR MATERIAL, TYPE D --- 307 CU. YD.  
 ITEM 203 - GRANULAR MATERIAL, TYPE B --- 87 CU. YD.  
 TOTALS CARRIED TO SHEET 97.

TEMP. PAVEMENT TO REMAIN IN PLACE

TOTAL CARRIED TO SHEET 97.

CONSTRUCTION U.S. 33



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SEEDING	END WIDTH	SO. YDS.	120	100	80	60	40	20	0	20	40	60	80	100	120	END AREA		VOLUME		CALCULATED KSIJ	CHECKED BBB
			CUT		FILL		CUT		FILL		CUT		FILL								
	514								742.67	742.67						332	248	499	500		
									742.84	742.84						289	247	575	459		
									742.70	742.70						355	319	596	525		
	1,392		120	100	80	60	40	20	0	20	40	60	80	100	120			1,670	1,484		

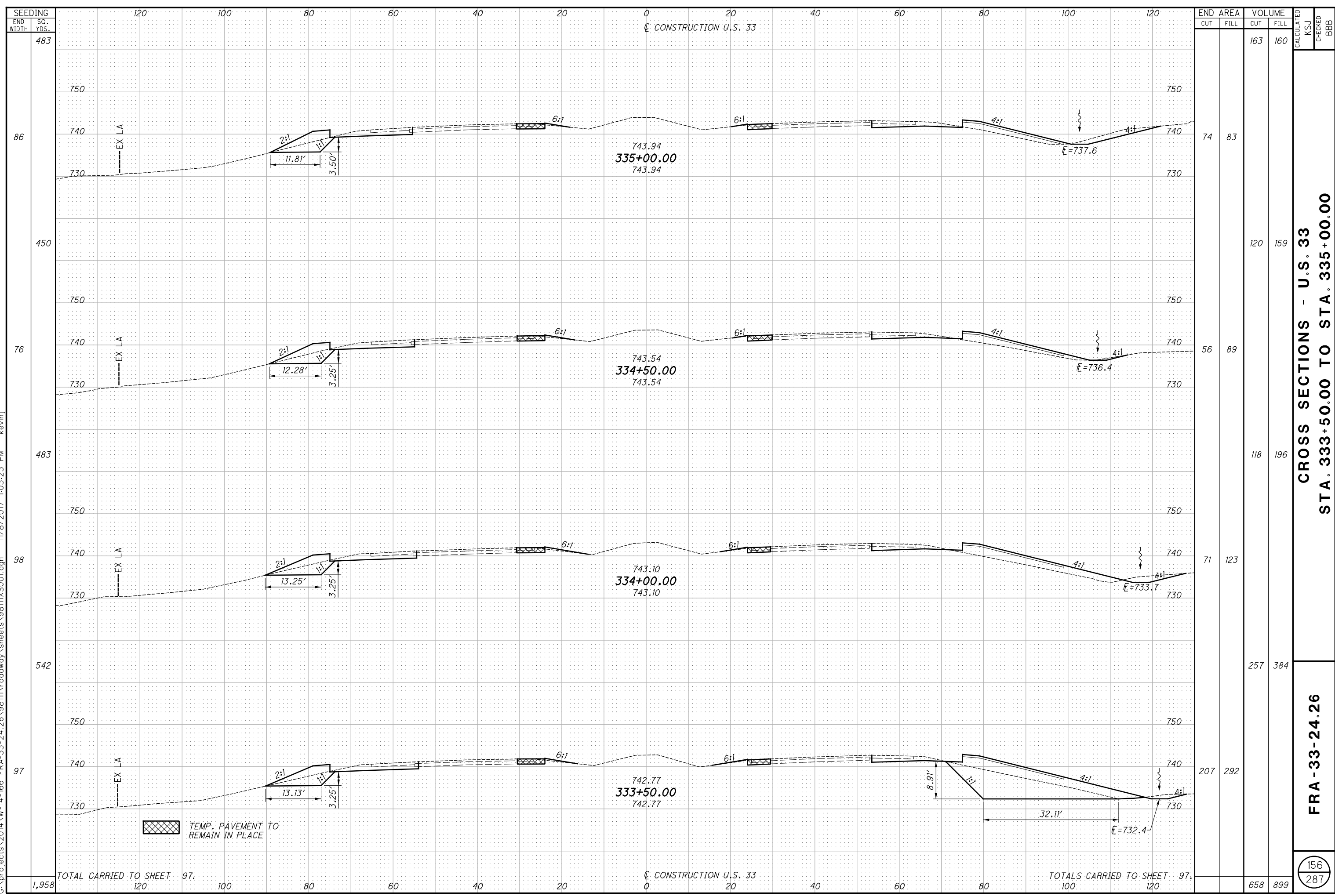
CROSS SECTIONS - U.S. 33  
STA. 332+00.00 TO STA. 333+00.00

FRA-33-24-26

SUBTOTALS THIS SHEET  
 ITEM 203 - GRANULAR MATERIAL, TYPE D --- 469 CU. YD.  
 ITEM 203 - GRANULAR MATERIAL, TYPE B --- 104 CU. YD.  
 TOTALS CARRIED TO SHEET 97.

155  
287

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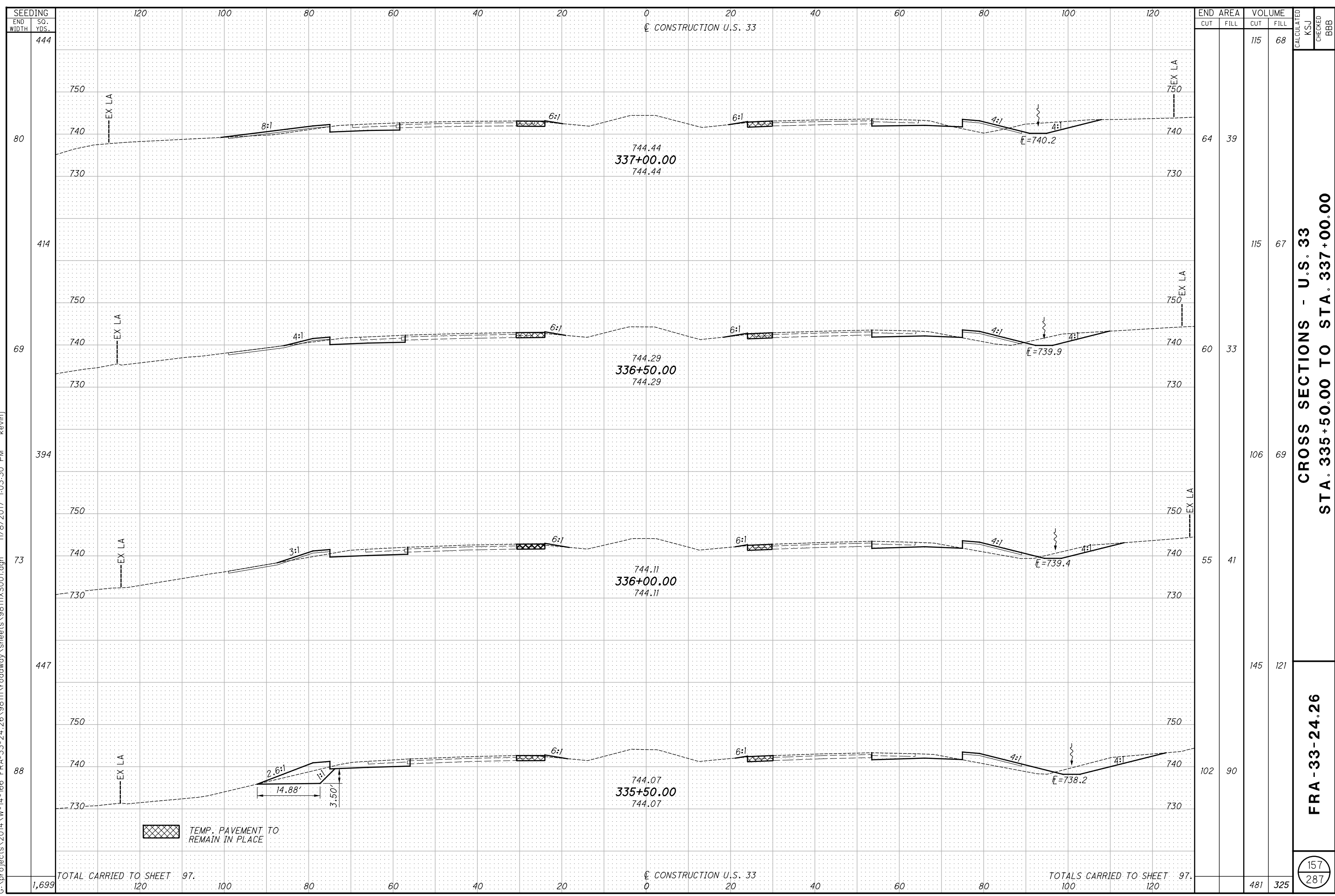
SEEDING	END AREA				VOLUME				CALCULATED	CHECKED	BBB							
	END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	KSJ	BBB										
483	120	100	80	60	40	20	0	20	40	60	80	100	120	163	160			
86	120	100	80	60	40	20	0	20	40	60	80	100	120	83	83			
450	120	100	80	60	40	20	0	20	40	60	80	100	120	159	159			
76	120	100	80	60	40	20	0	20	40	60	80	100	120	89	89			
483	120	100	80	60	40	20	0	20	40	60	80	100	120	196	196			
98	120	100	80	60	40	20	0	20	40	60	80	100	120	123	123			
542	120	100	80	60	40	20	0	20	40	60	80	100	120	384	384			
97	120	100	80	60	40	20	0	20	40	60	80	100	120	292	292			
1,958	120	100	80	60	40	20	0	20	40	60	80	100	120	899	899			

**CROSS SECTIONS - U.S. 33**  
**STA. 333+50.00 TO STA. 335+00.00**

**FRA - 33 - 24.26**

156  
 287

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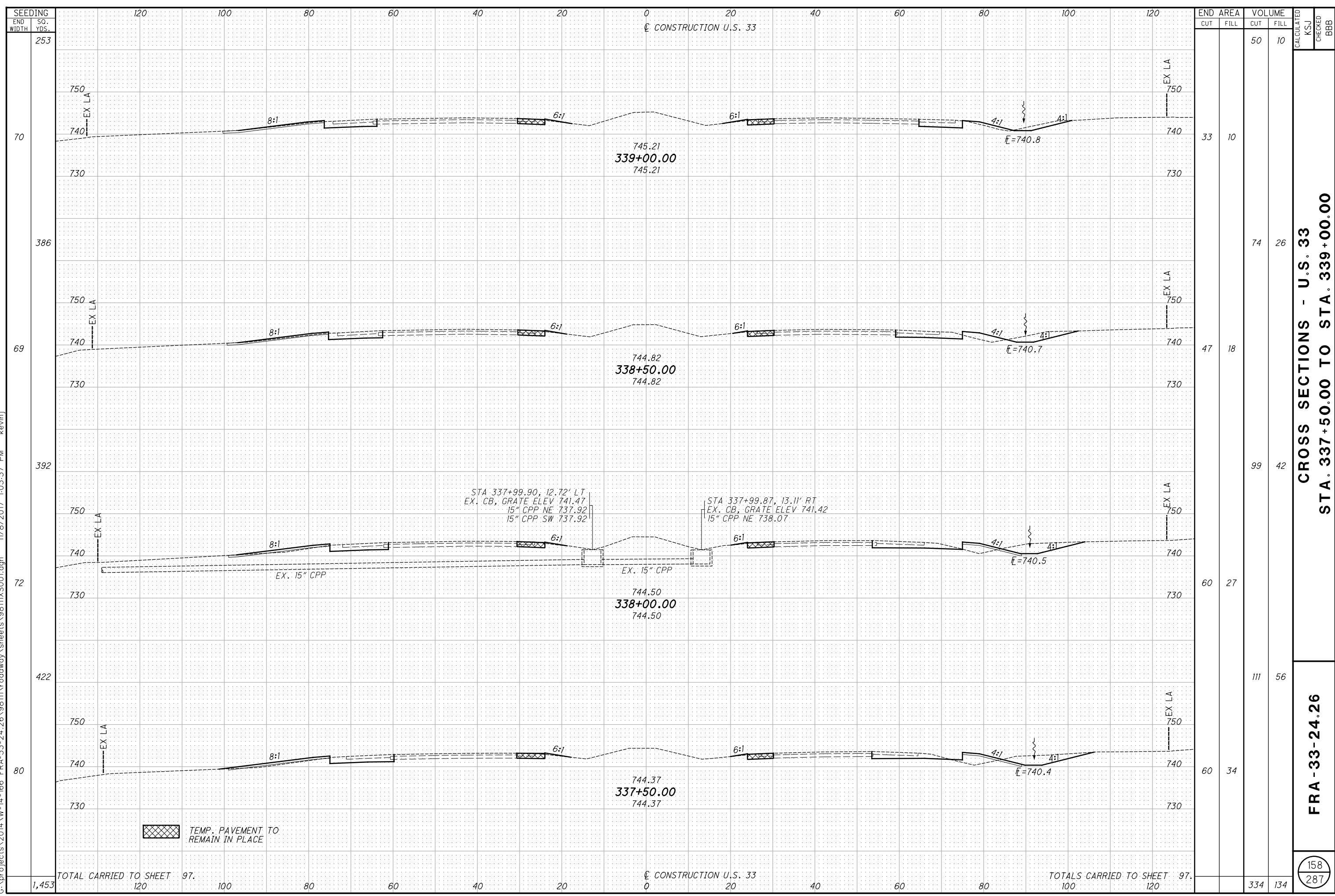
END AREA	VOLUME		CALCULATED	CHECKED	BBB
	CUT	FILL			
64	39		115	68	
60	33		115	67	
55	41		106	69	
102	90		145	121	
			481	325	

**CROSS SECTIONS - U.S. 33  
STA. 335+50.00 TO STA. 337+00.00**

**FRA-33-24.26**

157  
287

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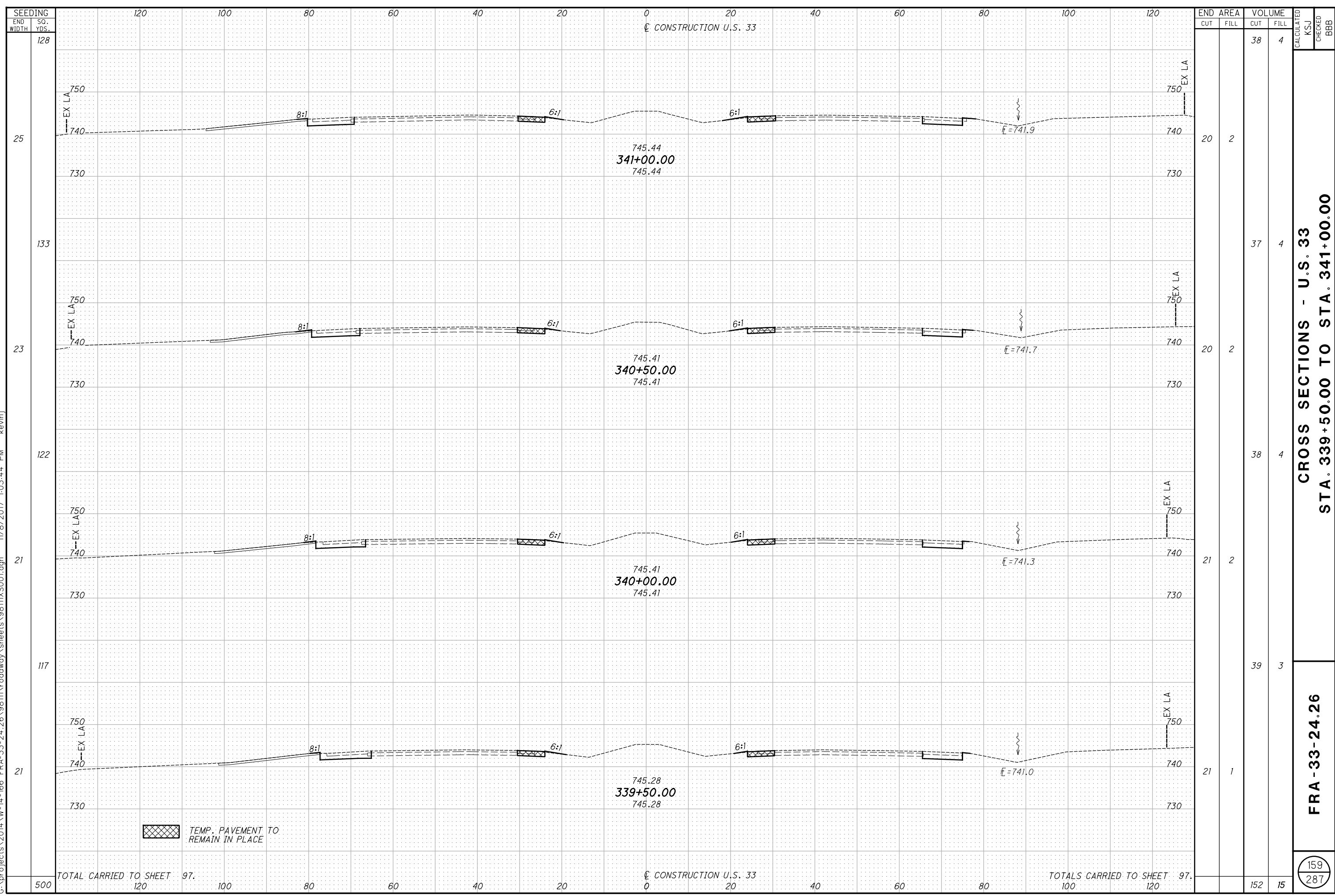


**CROSS SECTIONS - U.S. 33  
STA. 337+50.00 TO STA. 339+00.00**

**FRA - 33 - 24.26**

158  
287

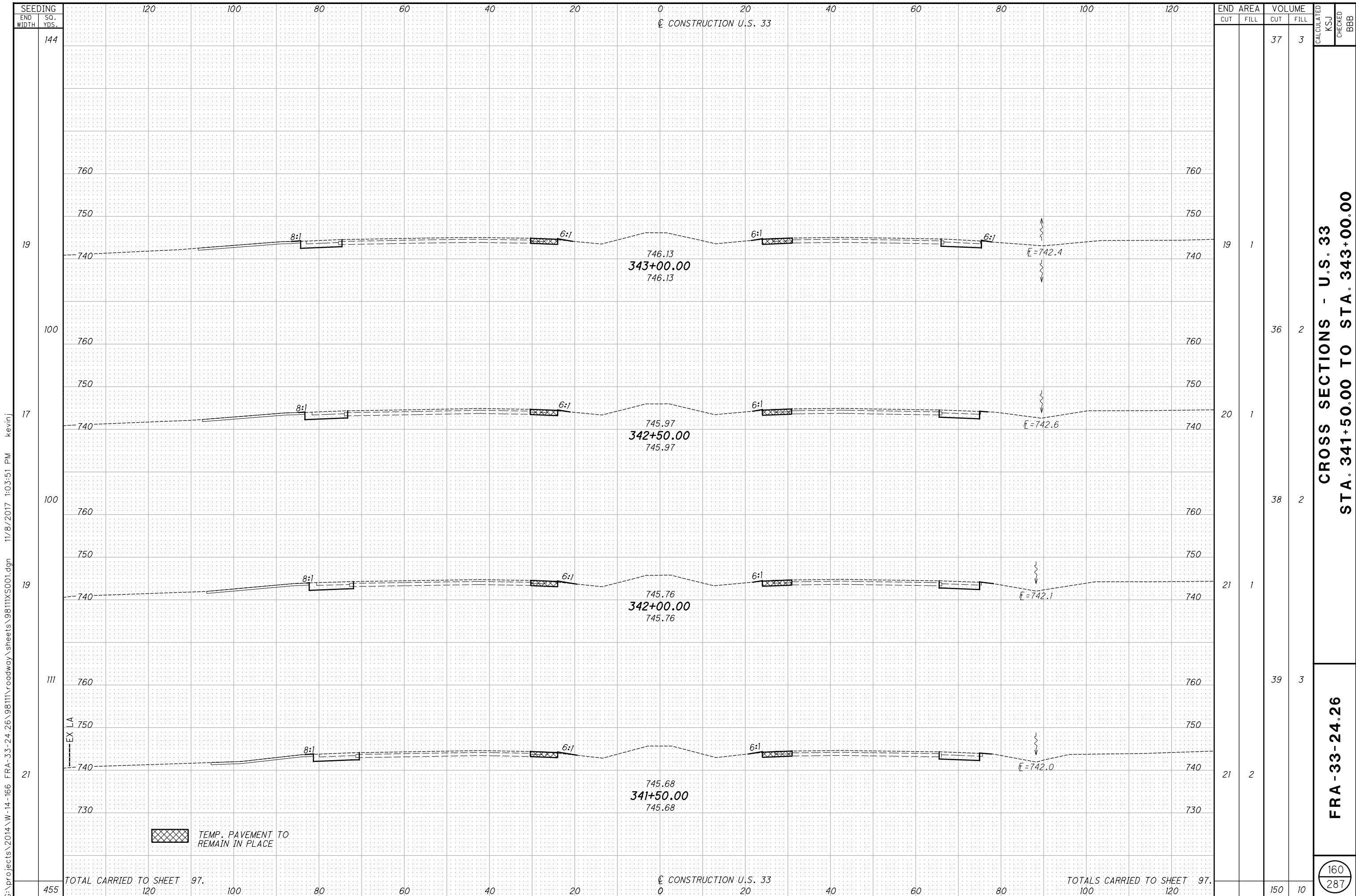
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CROSS SECTIONS - U.S. 33  
STA. 339+50.00 TO STA. 341+00.00

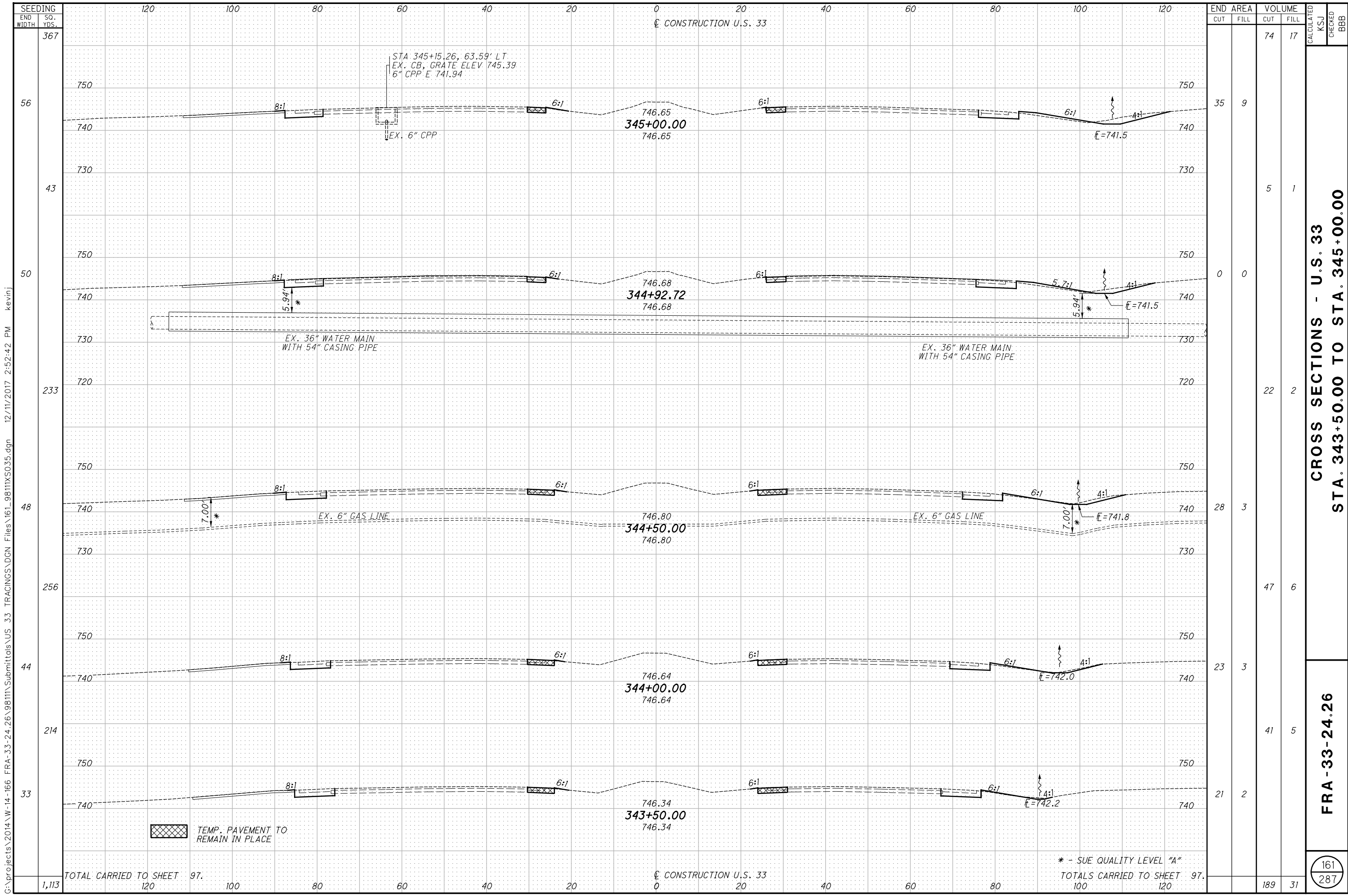
FRA-33-24.26

159  
287



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SEEDING	END WIDTH		SO. YDS.	
	120	100	80	60
367				
56				
43				
50				
233				
48				
256				
44				
214				
33				
1,113				

END AREA	VOLUME		CALCULATED	CHECKED	BBB
	CUT	FILL			
35	9				
5		1			
0		0			
22		2			
28		3			
47		6			
23		3			
41		5			
21		2			
189		31			

**CROSS SECTIONS - U.S. 33**  
**STA. 343+50.00 TO STA. 345+00.00**

**FRA - 33 - 24.26**

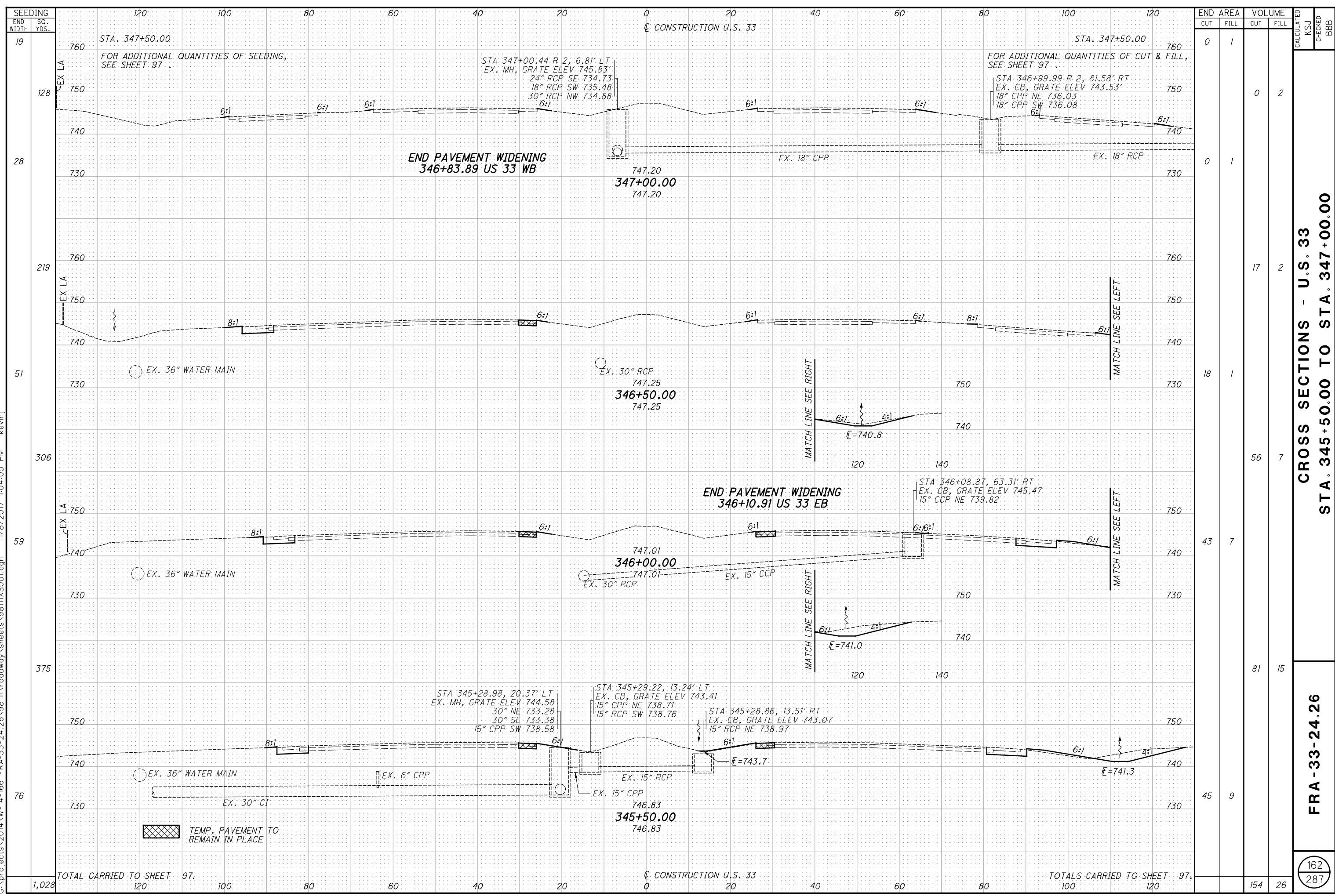
161  
287

TOTAL CARRIED TO SHEET 97.

\* - SUE QUALITY LEVEL "A"  
TOTALS CARRIED TO SHEET 97.

CONSTRUCTION U.S. 33

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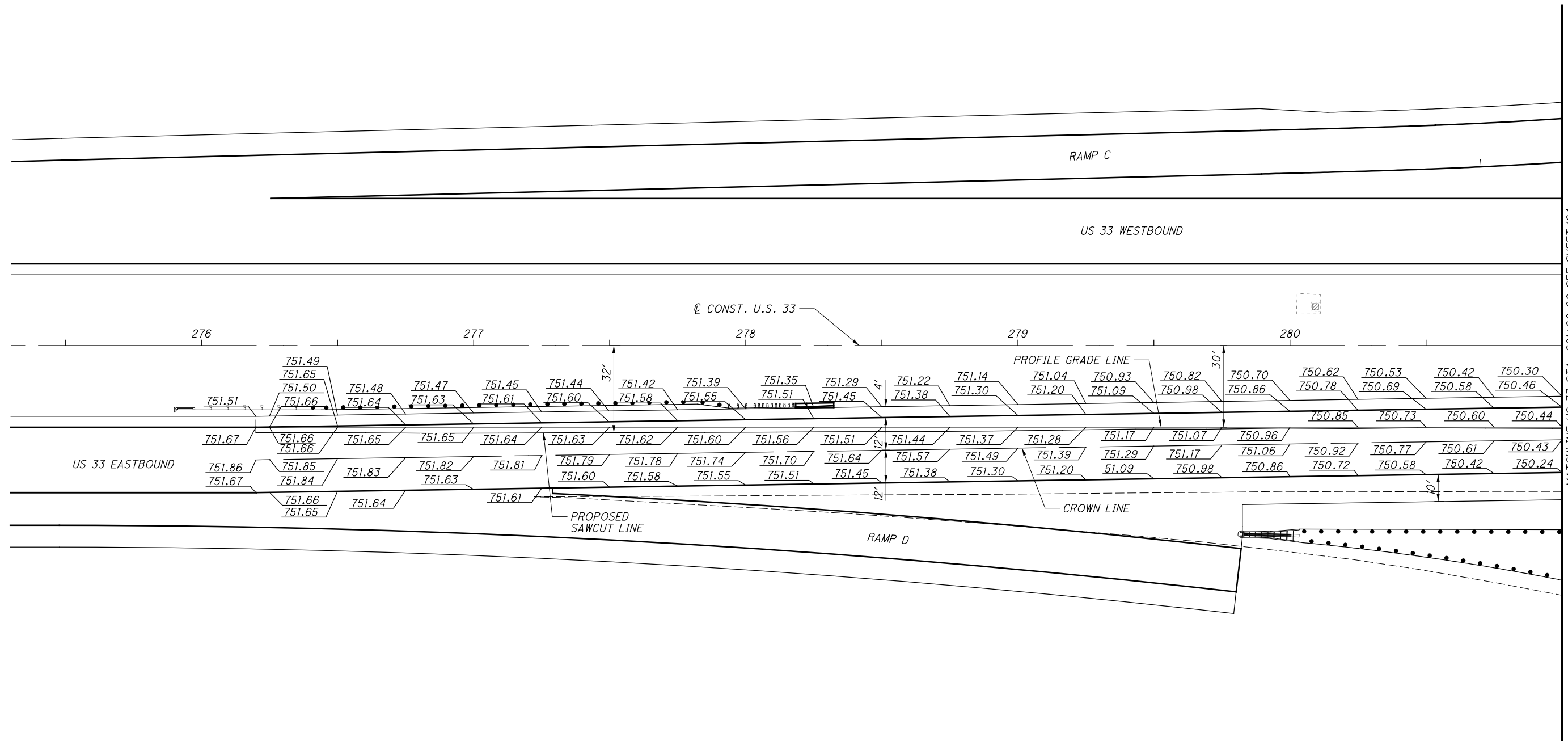
END STA.	AREA		VOLUME		CALCULATED	CHECKED	BBB
	CUT	FILL	CUT	FILL			
347+50.00	0	1	0	2			
346+83.89	0	1	0	2			
346+50.00	18	1	17	2			
346+10.91	56	7	56	7			
345+50.00	81	15	81	15			
TOTALS CARRIED TO SHEET 97.	154	26	154	26			

CROSS SECTIONS - U.S. 33  
STA. 345+50.00 TO STA. 347+00.00

FRA-33-24.26

162  
287

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CALCULATED  
KJ

CHECKED  
BBB

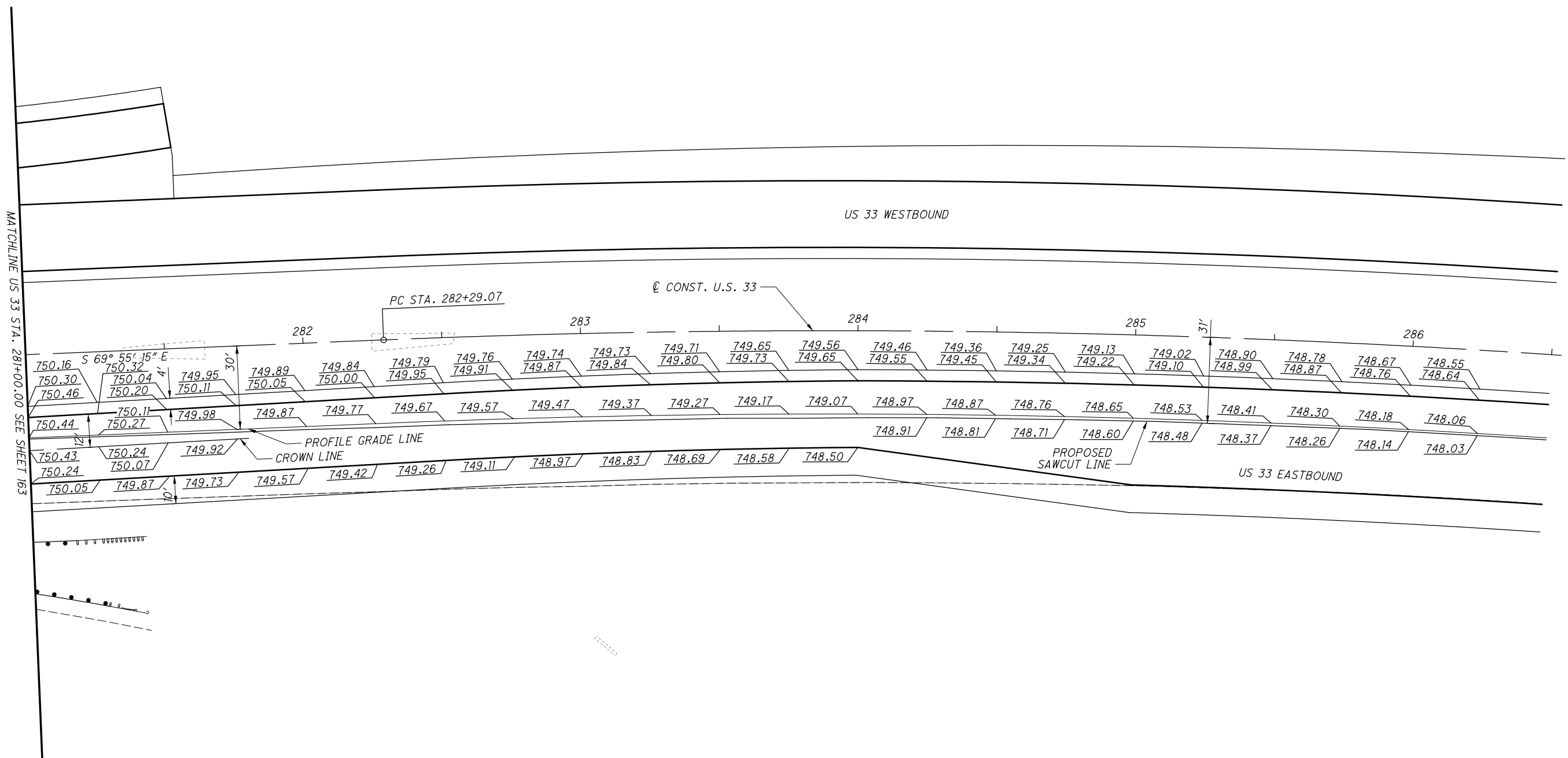
0 20 40  
HORIZONTAL  
SCALE IN FEET

**MEDIAN TAPER DETAILS**  
**STA. 275 + 50.00 TO STA. 281 + 00.00**

**FRA - 33 - 24.26**

FOR PAVEMENT MARKINGS,  
SEE SHEETS 204-209.

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MATCHLINE US 33 STA. 281+00.00 SEE SHEET 163

FOR ADDITIONAL PAVEMENT ELEVATION INFORMATION, SEE SHEET 169.

FOR PAVEMENT MARKINGS, SEE SHEETS 204-209.

CALCULATED  
KSJ

CHECKED  
BBB

0 20 40  
HORIZONTAL SCALE IN FEET

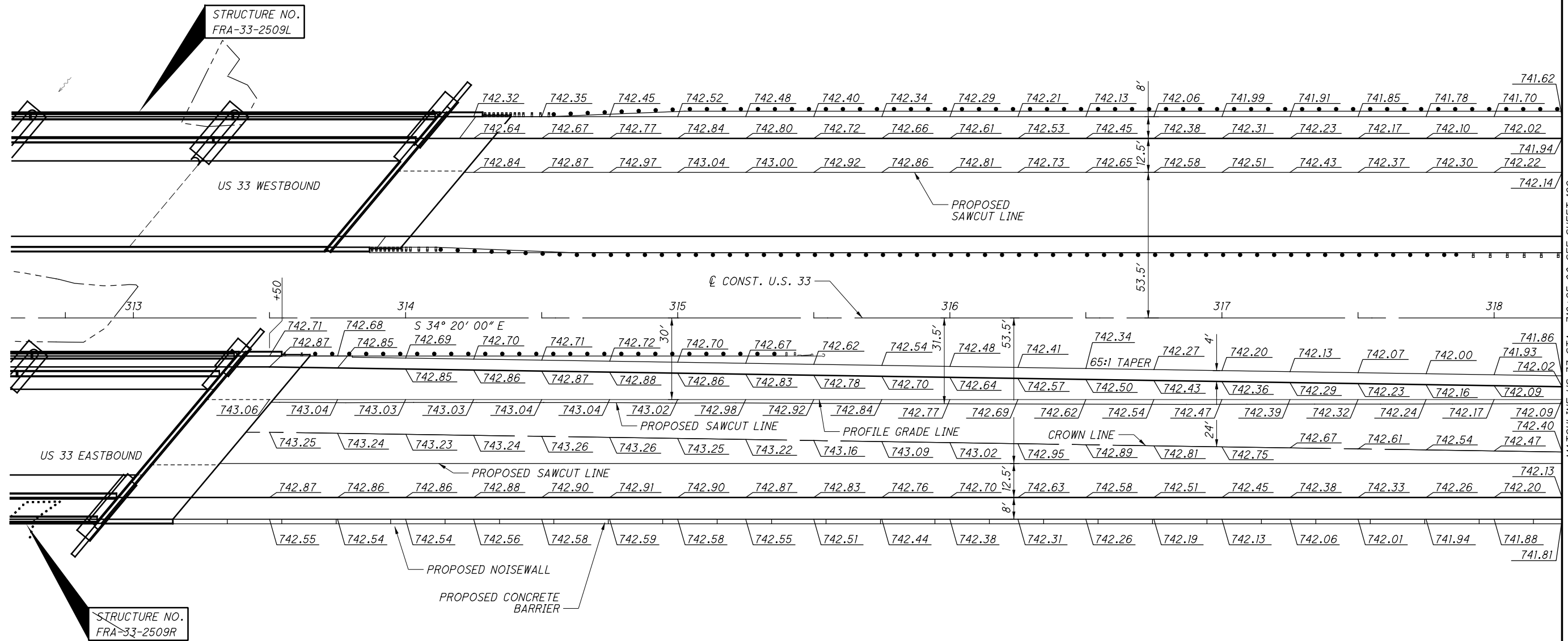
MEDIAN TAPER DETAILS  
STA. 281+00.00 TO STA. 286+50.00

FRA-33-24.26

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CALCULATED  
KJS  
CHECKED  
BBB

0 20 40  
10  
HORIZONTAL  
SCALE IN FEET



FOR ADDITIONAL PAVEMENT  
ELEVATION INFORMATION,  
SEE SHEET 170 .

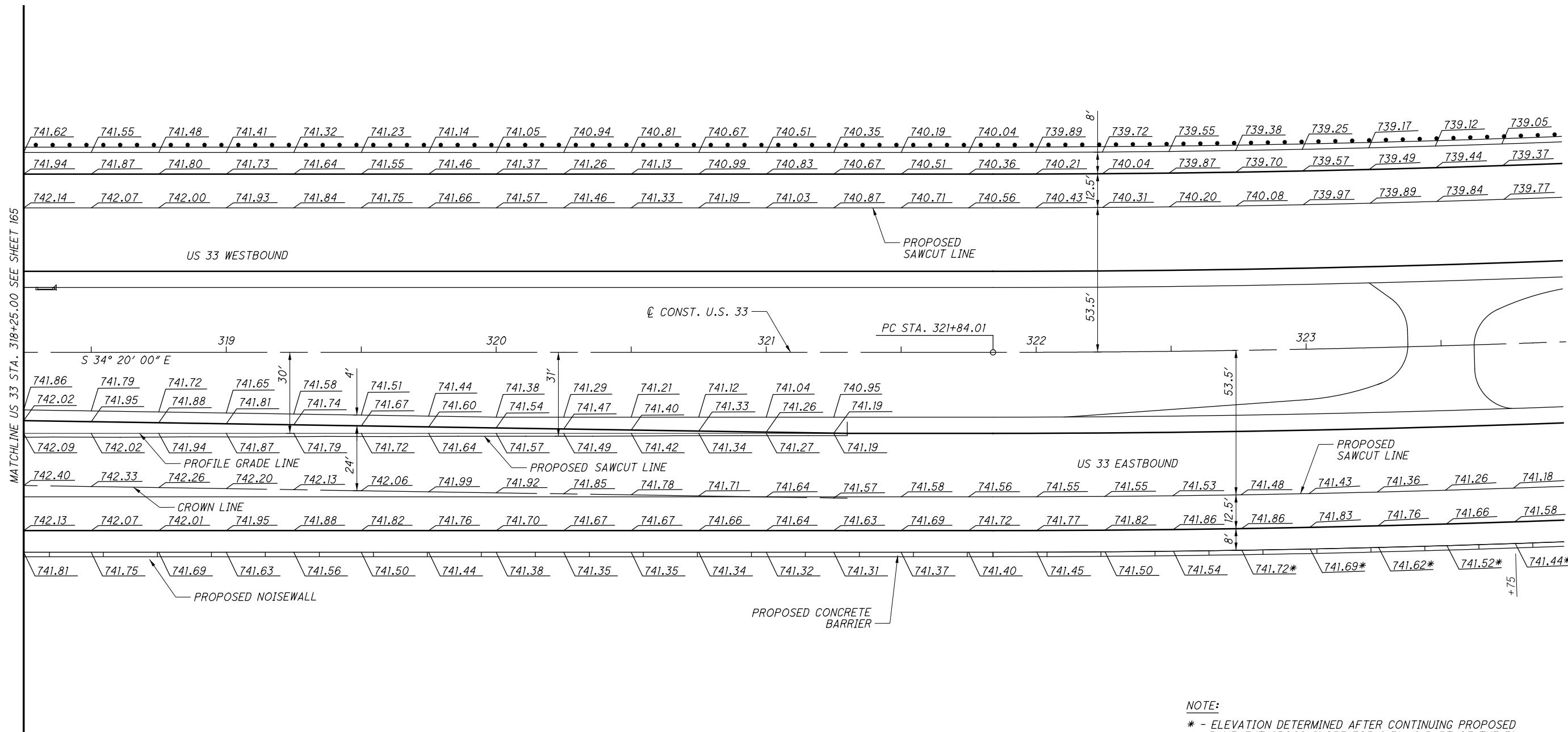
FOR PAVEMENT MARKINGS,  
SEE SHEETS 204-209 .

MEDIAN TAPER / OUTSIDE WIDENING DETAILS  
STA. 312+25.00 TO STA. 318+25.00

FRA-33-24.26

165  
287

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**NOTE:**  
 \* - ELEVATION DETERMINED AFTER CONTINUING PROPOSED PAVEMENT CROSS-SLOPE FOR 2.5' AS PART OF THE 5' SHOULDER ROUNDING AND PROVIDING 4.00% CROSS-SLOPE OVER THE REMAINDER OF THE SHOULDER

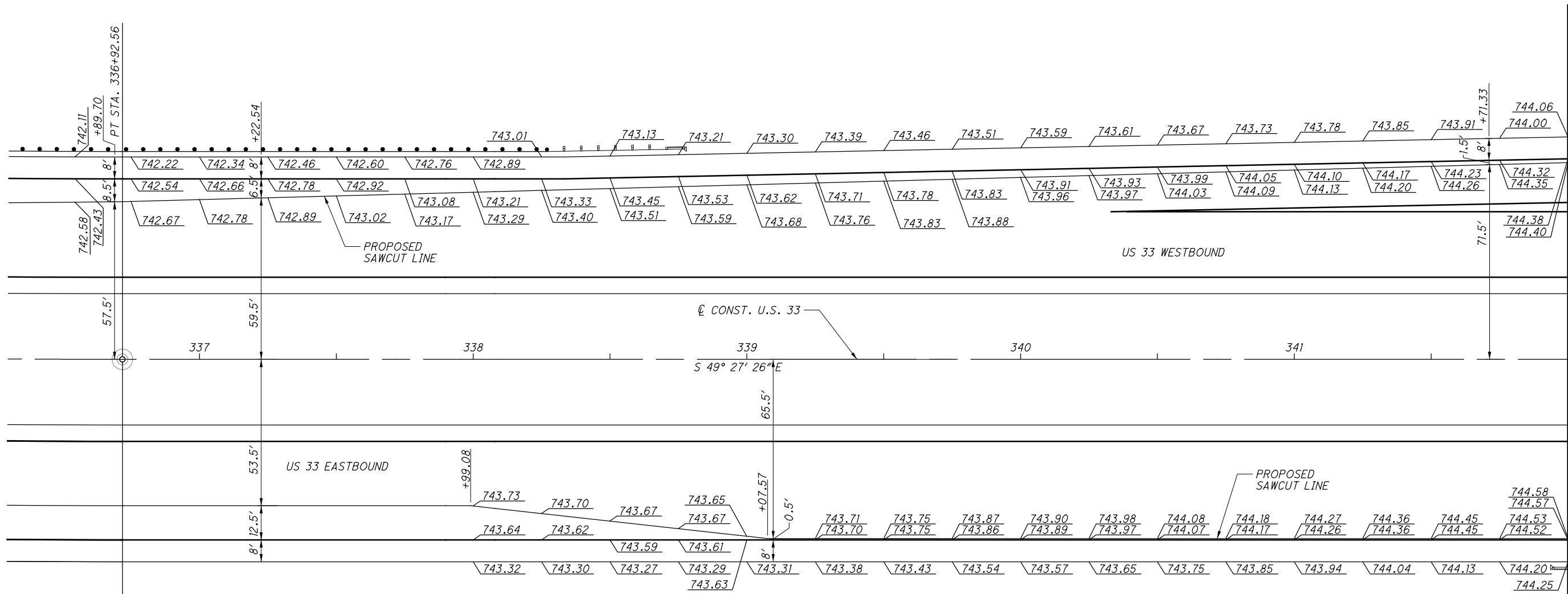
FOR ADDITIONAL PAVEMENT ELEVATION INFORMATION, SEE SHEET 171 .  
 FOR PAVEMENT MARKINGS, SEE SHEETS 204-209 .

CALCULATED: KSJ  
 CHECKED: BBB

0 10 20 40  
 HORIZONTAL SCALE IN FEET

**MEDIAN TAPER/ OUTSIDE WIDENING DETAILS**  
**STA. 318+25.00 TO STA. 323+75.00**

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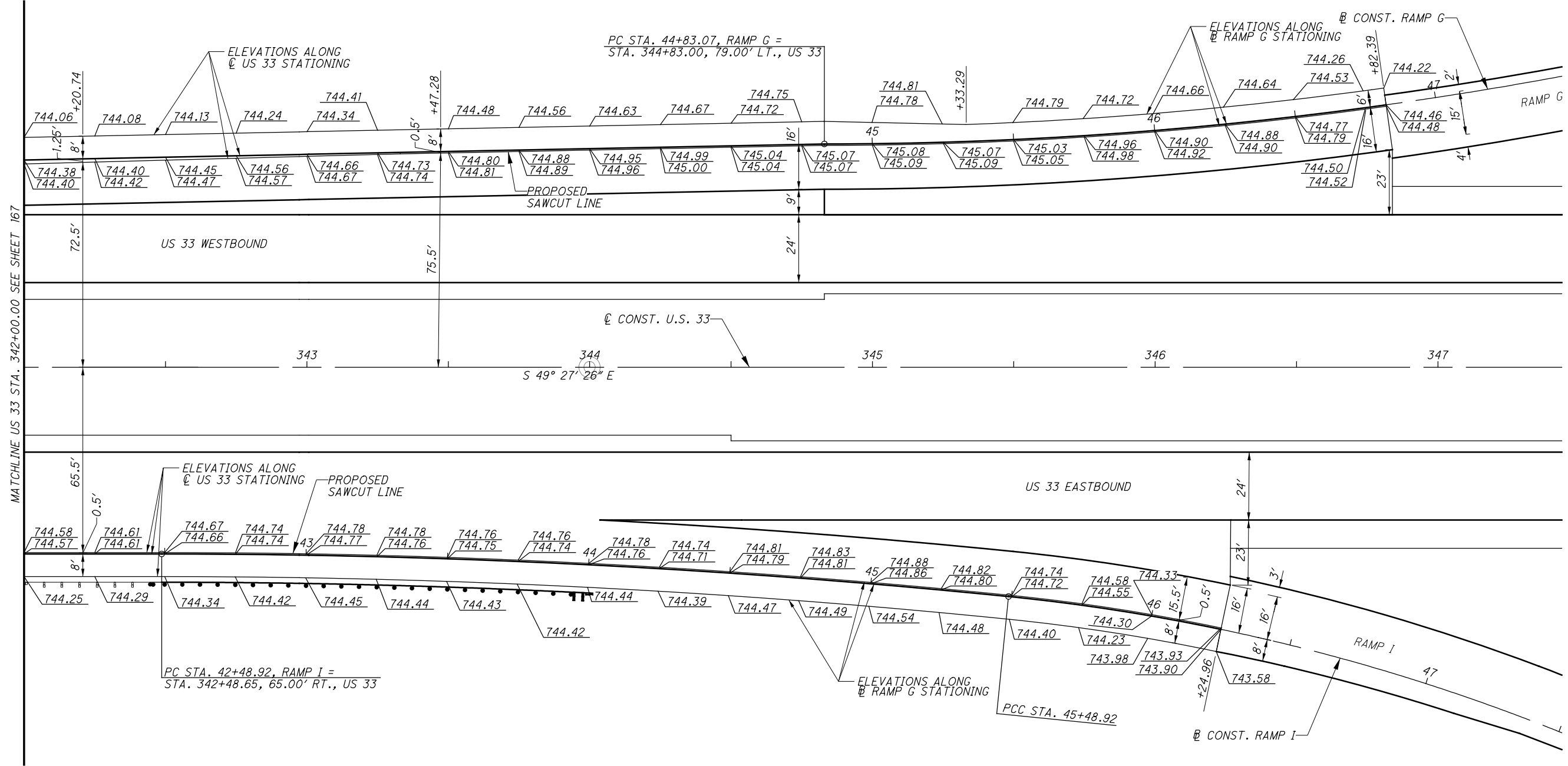
EQUATION:  
 STA. 336+92.56 (BK) =  
 STA. 336+71.85 (AH)

FOR ADDITIONAL PAVEMENT  
 ELEVATION INFORMATION,  
 SEE SHEET 171 .  
 FOR PAVEMENT MARKINGS,  
 SEE SHEETS 204-209 .

CALCULATED KSJ  
 CHECKED BBB

0 20 40  
 HORIZONTAL  
 SCALE IN FEET

**RAMP TERMINAL DETAILS**  
**STA. 336+00.00 TO STA. 342+00.00**



**RAMP TERMINAL DETAILS**  
**STA. 342+00.00 TO STA. 347+00.00**

**FRA -33-24.26**

FOR PAVEMENT MARKINGS,  
 SEE SHEETS 204-209.





## PAVEMENT ELEVATION TABLE - U.S. 33

CURVE #1      P.I. STA. 294+82.85      Dc = 1° 28' 00"

CALCULATED  
K.S.J.  
CHECKED  
BBB

PAVEMENT ELEVATION TABLE - US 33 EASTBOUND / WESTBOUND

FRA - 33 - 24.26

170  
287

CENTERLINE		MEDIAN EASTBOUND										EASTBOUND OUTSIDE										
STATION	E/S ELEVATION	ELEVATION CORRECTION	SHOULDER CROSS-SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS-SLOPE	WIDTH	ELEVATION AT SAWCUT	REMARKS	ELEVATION AT SAWCUT	WIDTH	CROSS-SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	SHOULDER CROSS SLOPE	ELEVATION CORRECTION	E/S ELEVATION	REMARKS
SEE BRIDGE FRA-033-2503 R FOR ELEVATIONS																						
308+14.75	741.83	-0.16	-4.00%	4.00	741.99	306:1	-0.17	-1.34%	12.50	742.16		742.08	7.45	-1.60%	-0.12		741.96	8.00	-4.00%	-0.32	741.64	
308+25.00	741.85	-0.16	-4.00%	4.00	742.01		-0.19	-1.50%	12.50	742.20		742.05	7.72	-1.60%	-0.12		741.93	8.00	-4.00%	-0.32	741.61	
308+27.00	741.85	-0.16	-4.00%	4.00	742.01		-0.20	-1.60%	12.50	742.21	N.C.	742.05	7.77	-1.60%	-0.12		741.93	8.00	-4.00%	-0.32	741.61	N.C.
308+50.00	741.90	-0.16	-4.00%	4.00	742.06		-0.20	-1.60%	12.50	742.26		742.05	8.37	-1.60%	-0.13		741.92	8.00	-4.00%	-0.32	741.60	
308+75.00	741.95	-0.16	-4.00%	4.00	742.11		-0.20	-1.60%	12.50	742.31		742.13	9.02	-1.60%	-0.14		741.99	8.00	-4.00%	-0.32	741.67	
309+00.00	742.06	-0.16	-4.00%	4.00	742.22		-0.20	-1.60%	12.50	742.42		742.28	9.67	-1.60%	-0.15		742.13	8.00	-4.00%	-0.32	741.81	
309+25.00	742.22	-0.16	-4.00%	4.00	742.38		-0.20	-1.60%	12.50	742.58		742.45	10.32	-1.60%	-0.17		742.28	8.00	-4.00%	-0.32	741.96	
309+50.00	742.35	-0.16	-4.00%	4.00	742.51		-0.20	-1.60%	12.50	742.71		742.60	10.97	-1.60%	-0.18		742.42	8.00	-4.00%	-0.32	742.10	
309+75.00	742.40	-0.16	-4.00%	4.00	742.56		-0.20	-1.60%	12.50	742.76		742.66	11.62	-1.60%	-0.19		742.47	8.00	-4.00%	-0.32	742.15	
310+00.00	742.48	-0.06	-1.60%	4.00	742.54		-0.16	-1.60%	9.89	742.70												
310+25.00																						
310+50.00																						
310+75.00																						
SEE BRIDGE FRA-033-2509 R FOR ELEVATIONS											SEE BRIDGE FRA-033-2509 R FOR ELEVATIONS											

WESTBOUND OUTSIDE										CENTERLINE	REMARKS
E/S ELEVATION	ELEVATION CORRECTION	SHOULDER CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS-SLOPE	WIDTH	ELEVATION AT SAWCUT	STATION	
SEE BRIDGE FRA-033-2509 L FOR ELEVATIONS											
741.92	-0.32	-4.00%	8.00	742.24		-0.01	-1.34%	0.50	742.25	308+14.75	
741.95	-0.32	-4.00%	8.00	742.27		-0.01	-1.56%	0.50	742.28	308+25.00	
741.95	-0.32	-4.00%	8.00	742.27		-0.01	-1.60%	0.50	742.28	308+27.00	N.C.
742.06	-0.32	-4.00%	8.00	742.38		-0.01	-1.60%	0.50	742.39	308+50.00	
742.08	-0.32	-4.00%	8.00	742.40		-0.01	-1.60%	0.50	742.41	308+75.00	
742.16	-0.32	-4.00%	8.00	742.48		-0.01	-1.60%	0.50	742.49	309+00.00	
742.27	-0.32	-4.00%	8.00	742.59		-0.01	-1.60%	0.50	742.60	309+25.00	
742.31	-0.32	-4.00%	8.00	742.63		-0.01	-1.60%	0.50	742.64	309+50.00	
742.36	-0.32	-4.00%	8.00	742.68		-0.03	-1.60%	1.69	742.71	309+75.00	
742.40	-0.32	-4.00%	8.00	742.72		-0.05	-1.60%	3.09	742.77	310+00.00	
742.45	-0.32	-4.00%	8.00	742.77		-0.09	-1.60%	5.75	742.86	310+25.00	
742.53	-0.32	-4.00%	8.00	742.85		-0.14	-1.60%	8.58	742.99	310+50.00	
SEE BRIDGE FRA-033-2509 L FOR ELEVATIONS											

PAVEMENT ELEVATION TABLE - U.S. 33

CURVE #2 P.I. STA. 329+42.69 Dc = 1° 00' 10"

Table with columns for WESTBOUND OUTSIDE, CENTERLINE, EASTBOUND OUTSIDE, and REMARKS. Columns include E/S ELEVATION, ELEVATION CORRECTION, SHOULDER CROSS SLOPE, WIDTH, EDGE ELEVATION, TRANSITION RATE, ELEVATION CORRECTION, CROSS-SLOPE, WIDTH, ELEVATION AT SAWCUT, STATION, ELEVATION AT SAWCUT, WIDTH, CROSS-SLOPE, ELEVATION CORRECTION, TRANSITION RATE, EDGE ELEVATION, WIDTH, SHOULDER CROSS SLOPE, ELEVATION CORRECTION, E/S ELEVATION.

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CALCULATED KSI CHECKED BBB  
PAVEMENT ELEVATION TABLE - US 33 EASTBOUND / WESTBOUND  
FRA - 33-24.26  
171  
287

\* 4.00% CROSS-SLOPE APPLIES AFTER CONTINUING PAVEMENT CROSS-SLOPE FOR 2.5' AS PART OF 5' SHOULDER ROUNDING

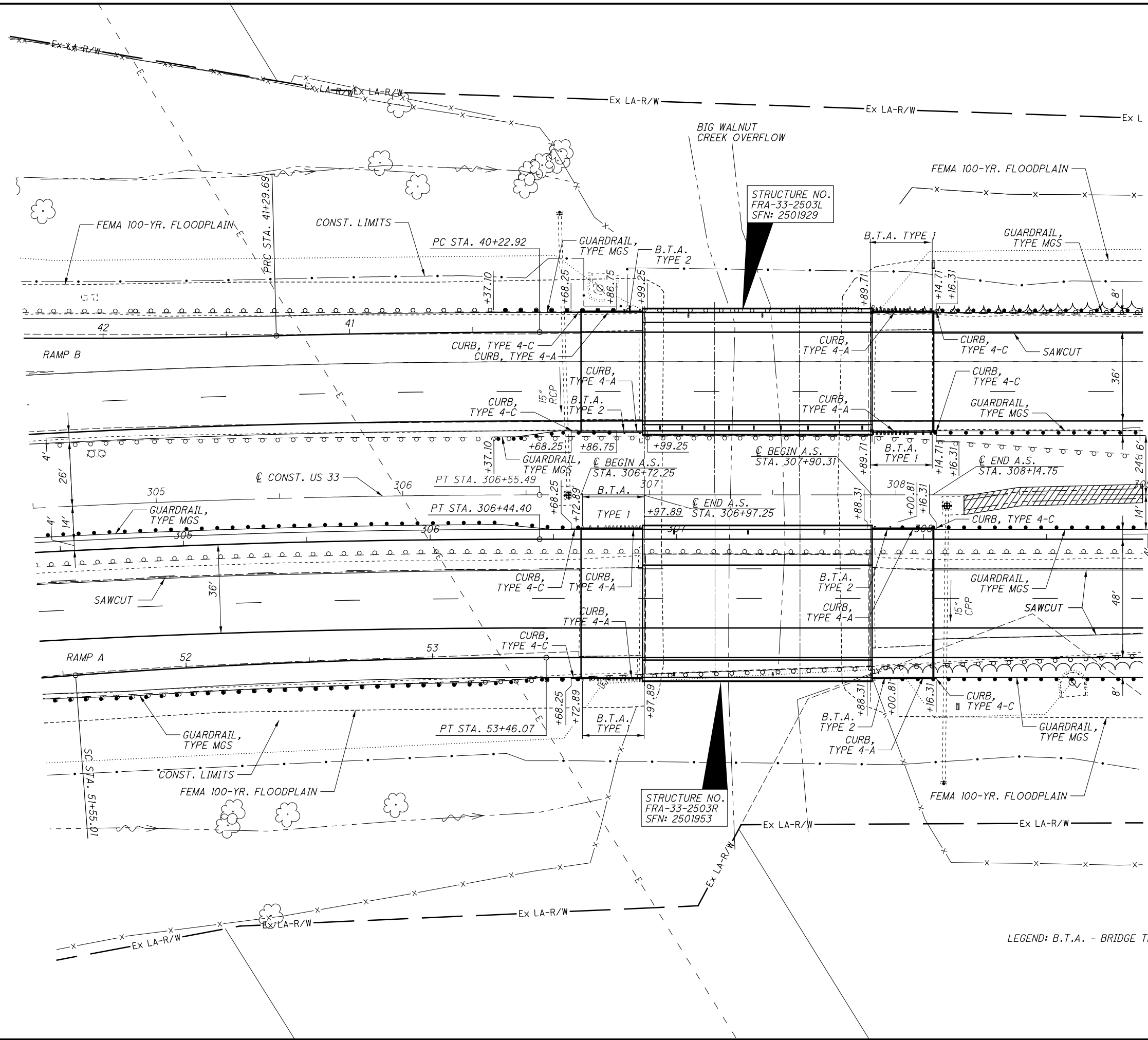
STA. 336+92.56 (BK) = STA. 336+71.85 (AH)

F.S.

296:1

57:1

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STRUCTURE NO.  
FRA-33-2503R  
SFN: 2501953

STRUCTURE NO.  
FRA-33-2503L  
SFN: 2501929

LEGEND: B.T.A. - BRIDGE TERMINAL ASSEMBLY

CALCULATED  
KJS  
CHECKED  
BBB

0 20 40  
10  
HORIZONTAL  
SCALE IN FEET

CURBING AND GUARDRAIL DETAILS

FRA-33-24.26



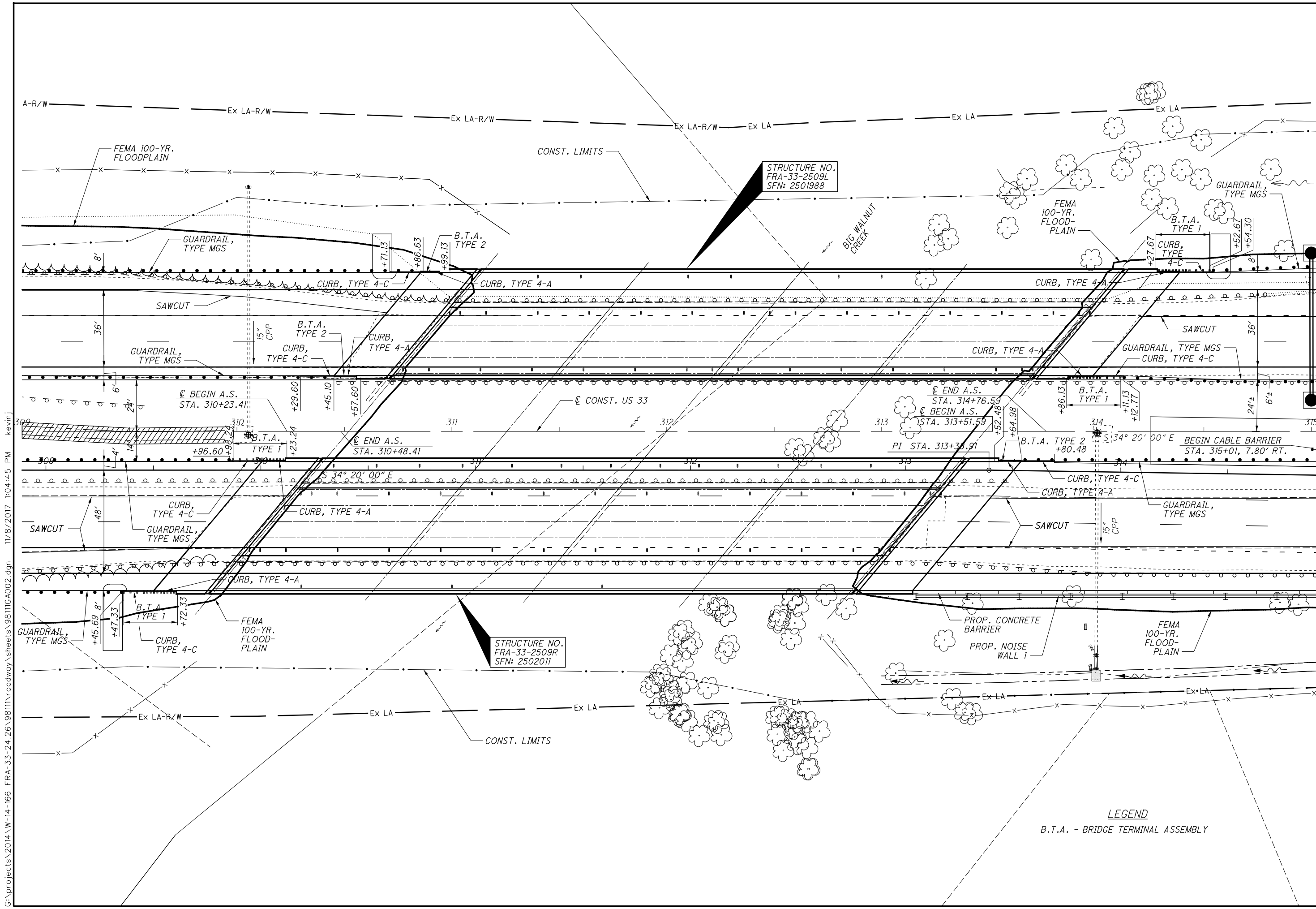
0 20 40  
10  
HORIZONTAL  
SCALE IN FEET

CALCULATED  
KJ  
CHECKED  
BBB

CURBING AND GUARDRAIL DETAILS

FRA-33-24.26

173  
287



LEGEND  
B.T.A. - BRIDGE TERMINAL ASSEMBLY

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REF NO.	SHEET NO.	STATION TO STATION	SIDE	202	202	202	202	209	601	601	602	605	605	605	611	611	611	611	611	611	611	611	611	611	CALCULATED CFR CHECKED ECH	
				HEADWALL REMOVED EACH	PIPE REMOVED, 24" AND UNDER FT	PIPE REMOVED, OVER 24" FT	CATCH BASIN REMOVED EACH	DITCH CLEANOUT FT	TIED CONCRETE BLOCK MAT, TYPE 1 SY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER CY	CONCRETE MASONRY CY	6" SHALLOW PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC FT	6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC FT	6" CONDUIT, TYPE F FT	15" CONDUIT, TYPE B FT	15" CONDUIT, TYPE C FT	15" CONDUIT, TYPE F FT	30" CONDUIT, TYPE A, 706.02 FT	CATCH BASIN, NO. 8 EACH	CATCH BASIN ADJUSTED TO GRADE EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D EACH	MANHOLE, NO. 3 EACH	PRECAST REINFORCED CONCRETE OUTLET EACH		
D-1	177	291+00.00 TO 296+00.00	LT/RT																							
D-2	177	302+42.00 TO 302+42.00	LT/RT														39	550						2		
D-3	177	314+00.00 TO 314+00.00	RT																					1		
D-4	178	319+00.00 TO 321+00.00	RT									1.11	0.22													
D-5	178	320+00.00 TO 320+00.00	RT									1.11	0.22													
D-6	178	325+00.00 TO 327+00.00	RT													200										
D-7	178	326+00.00 TO 326+00.00	RT									1.11	0.22				26									
D-8	178	326+50.00 TO 326+50.00	RT									1.11	0.22				32									
D-9	177-178	314+50.00 TO 326+50.00	LT					1285											17							
R-1	177	291+00.00 TO 296+00.00	RT		560		4																			
R-2	177	302+42.00 TO 302+42.00	LT/RT		36		1																			
R-3	178	326+50.00 TO 326+50.00	RT	1		8																				
R-4	177	314+00.00 TO 314+00.00	RT	1	5																					
UD-1	176	276+20.00 TO 280+09.00	RT									204	180		47											
UD-2	176-177	280+15.00 TO 291+00.00	RT									1080			43											
UD-3	177	290+02.00 TO 296+00.00	RT									485	100		47											
UD-4	177	296+05.00 TO 302+42.00	RT									630			33											
UD-5	177	302+42.00 TO 306+72.00	RT										424		5											
UD-6	177	308+21.00 TO 310+12.00	RT									186			5											
UD-7	177	308+21.00 TO 309+99.00	RT											173	29											
UD-8	177	308+25.00 TO 309+67.00	RT					1.78				138			23										1	
UD-9	177	308+25.00 TO 309+61.00	RT									131			5											
UD-10	177	308+15.00 TO 310+79.00	LT					1.78						259	31										1	
UD-11	177	308+15.00 TO 310+86.00	LT									265			5											
UD-12	177	313+20.00 TO 313+95.00	RT					1.78						70	28										1	
UD-13	177	313+15.00 TO 313+95.00	RT									76			5											
UD-14	177-178	313+65.00 TO 323+04.00	RT										100	835	41											
UD-15	177-178	314+05.00 TO 320+00.00	RT									590			10											
UD-16	177-178	314+05.00 TO 320+00.00	RT									489			5											
UD-16	177	314+05.00 TO 314+05.00	RT					1.78							14										1	
UD-17	177-178	314+37.00 TO 323+00.00	LT					1.78					163	699	26										1	
UD-18	177-178	314+43.00 TO 323+00.00	LT									774	82		5											
UD-19	178	320+09.00 TO 323+04.00	RT					1.78						290	54										1	
UD-20	178	320+02.00 TO 320+95.00	RT									93			5											
UD-21	178	321+18.52 TO 321+25.00	RT					1.78							14										1	
UD-22	178	321+01.00 TO 323+04.00	RT									196			5											
UD-23	178	323+09.00 TO 326+00.00	RT										45	236	23											
UD-24	178	323+09.00 TO 325+98.00	RT									284			5											
UD-25	178	323+10.00 TO 325+95.00	LT					1.78						280	26										1	
UD-26	178	323+10.00 TO 325+95.00	LT									280			5											
UD-26	178	325+98.32 TO 325+98.32	LT					1.78							11										1	
UD-27	178	326+00.00 TO 329+94.00	RT										145	244	5											
UD-28	178	326+00.00 TO 326+95.00	RT									90			5											
UD-29	178	327+00.00 TO 335+45.00	RT									840			5											
UD-30	178	326+05.00 TO 329+95.00	LT					1.78						390	26										1	
UD-31	178	326+05.00 TO 329+95.00	LT									390			5											
UD-32	178	330+00.00 TO 335+45.00	RT											540	46											
UD-34	178	333+89.00 TO 334+02.00	RT					1.78							23										1	
UD-35	178	330+05.00 TO 336+00.00	LT									595			5											
UD-36	178	330+05.00 TO 336+00.00	LT					1.78						590	26										1	
UD-37	178	335+50.00 TO 338+50.00	RT					1.78					295		26										1	
UD-38	178-179	335+50.00 TO 345+33.00	RT									978			5											
UD-39	178-179	336+05.00 TO 345+33.21	LT					1.78						923	34										1	
UD-40	178-179	336+05.00 TO 345+33.21	LT									923			5											
TOTALS CARRIED TO GENERAL SUMMARY					2	601	8	5	1285	25	8	2	9579	1534	5667	771	486	608		17	2	1	6	1	14	

DRAINAGE SUBSUMMARY

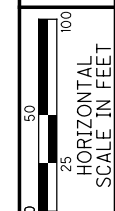
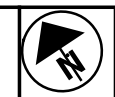
FRA -33 -24.26

REF NO.	SHEET NO.	STATION TO STATION	SIDE	659	670	670	670																	
				TOPSOIL CY	VEGETATED SWALE EROSION PROTECTION SY	SLOPE EROSION PROTECTION SY	DITCH EROSION PROTECTION SY																	
SP-1	176-177	282+50.00 TO 291+00.00	LT/RT	261		2365																		
SP-2	177	308+25.00 TO 310+00.00	LT/RT	16	143																			
SP-3	177-178	314+50.00 TO 322+00.00	LT/RT	217		1962																		
SP-4	178	332+50.00 TO 334+50.00	RT				252																	
SP-5	178	333+00.00 TO 338+00.00	RT	121		1085																		
SP-6	178-179	336+00.00 TO 345+00.00	LT	281		2554																		
SP-7	179	343+00.00 TO 347+00.00	RT	38	341																			
TOTALS CARRIED TO GENERAL SUMMARY				934	484	7966	252																	

CALCULATED  
CFR  
CHECKED  
ECH

**DRAINAGE SUBSUMMARY**

**FRA -33-24.26**



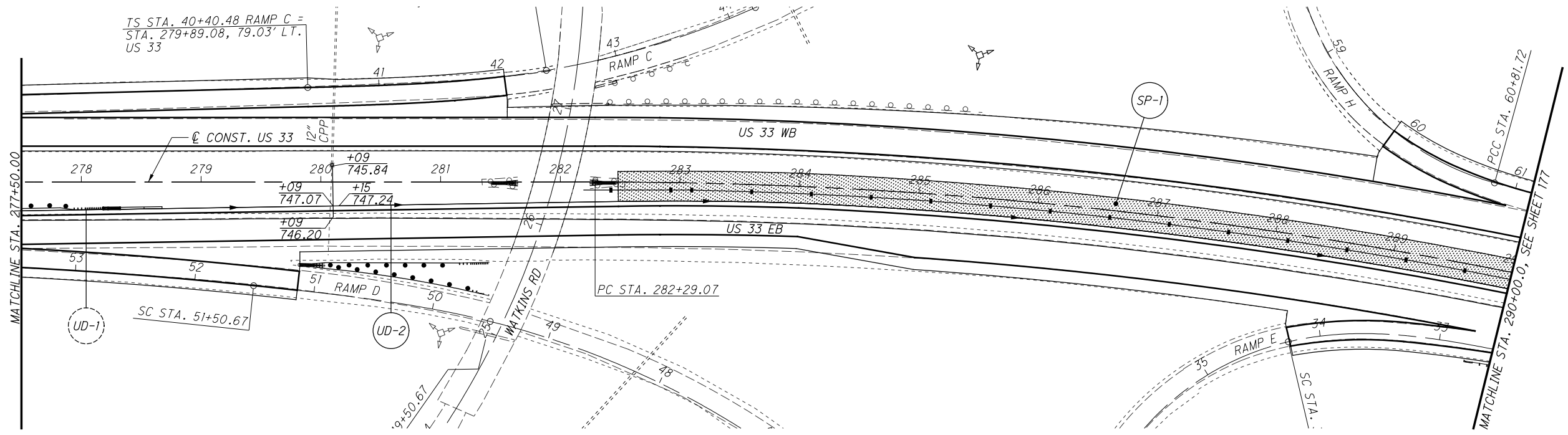
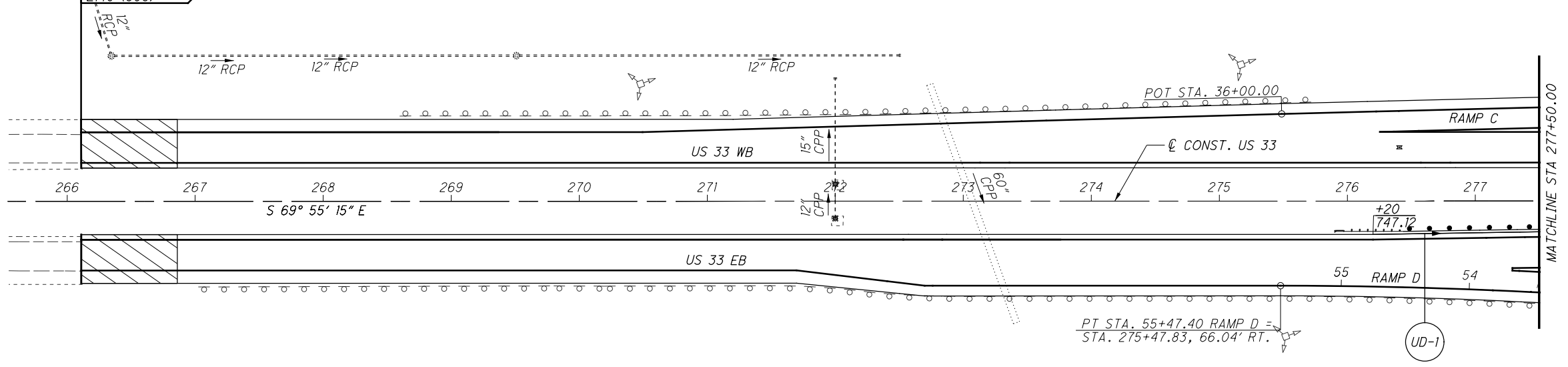
CALCULATED  
JAS  
CHECKED  
SSK

**DRAINAGE PLAN**  
**STA. 266+00.00 TO STA. 290+00.00**

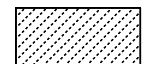
**FRA - 33 - 24.26**

176  
287

BEGIN PROJECT  
BEGIN RESURFACING  
US 33 ML  
STA 266+10.96  
SLM 24.26  
E140 (609)



**LEGEND**



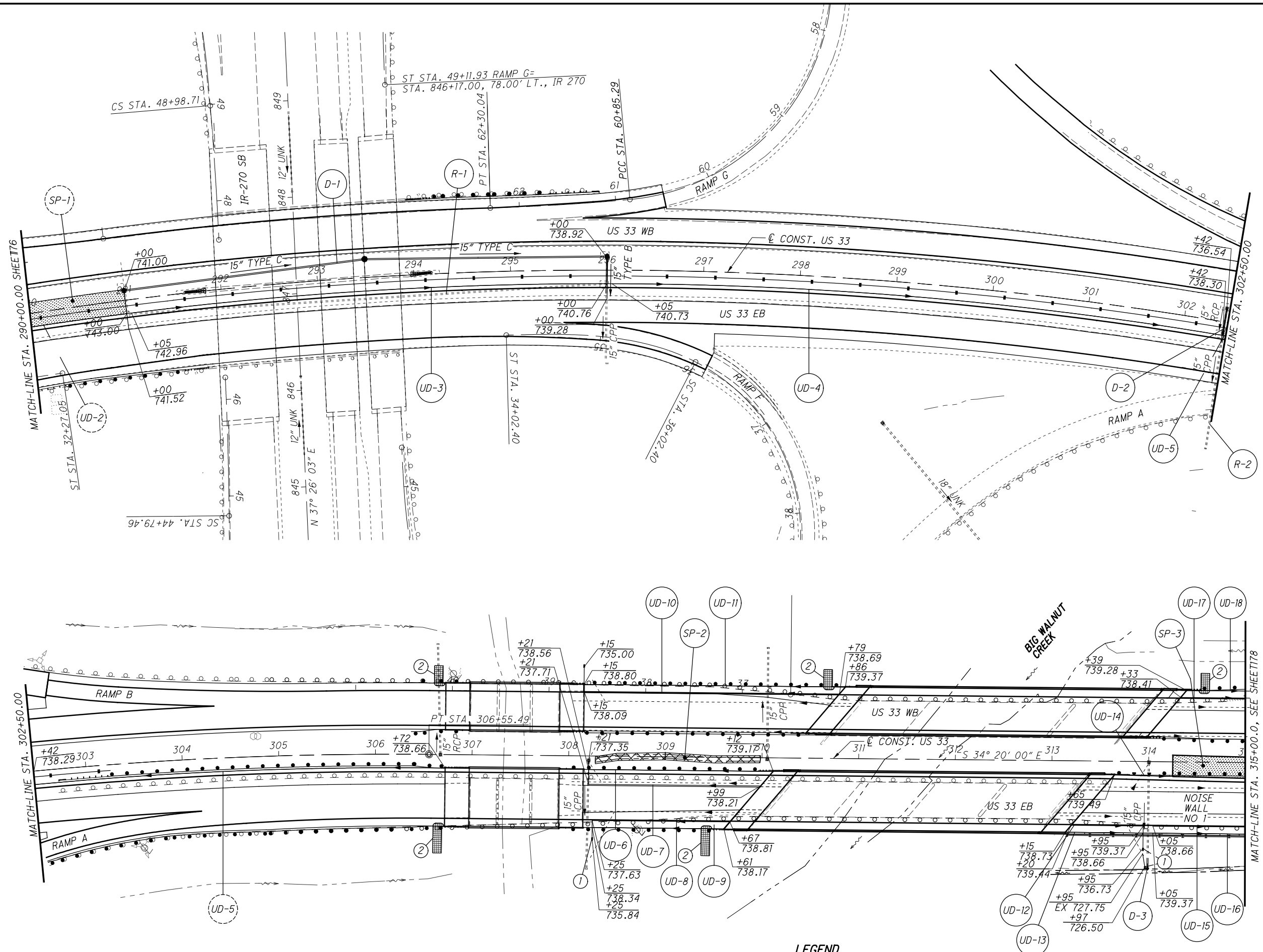
ITEM 670 - SLOPE EROSION PROTECTION  
(VEGETATED FILTER STRIP)

FOR ADDITIONAL INFORMATION SEE PROJECT SITE PLANS,  
SEE SHEETS 98 - 101

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**DRAINAGE PLAN**  
**STA. 290+00.00 TO STA. 315+00.00**

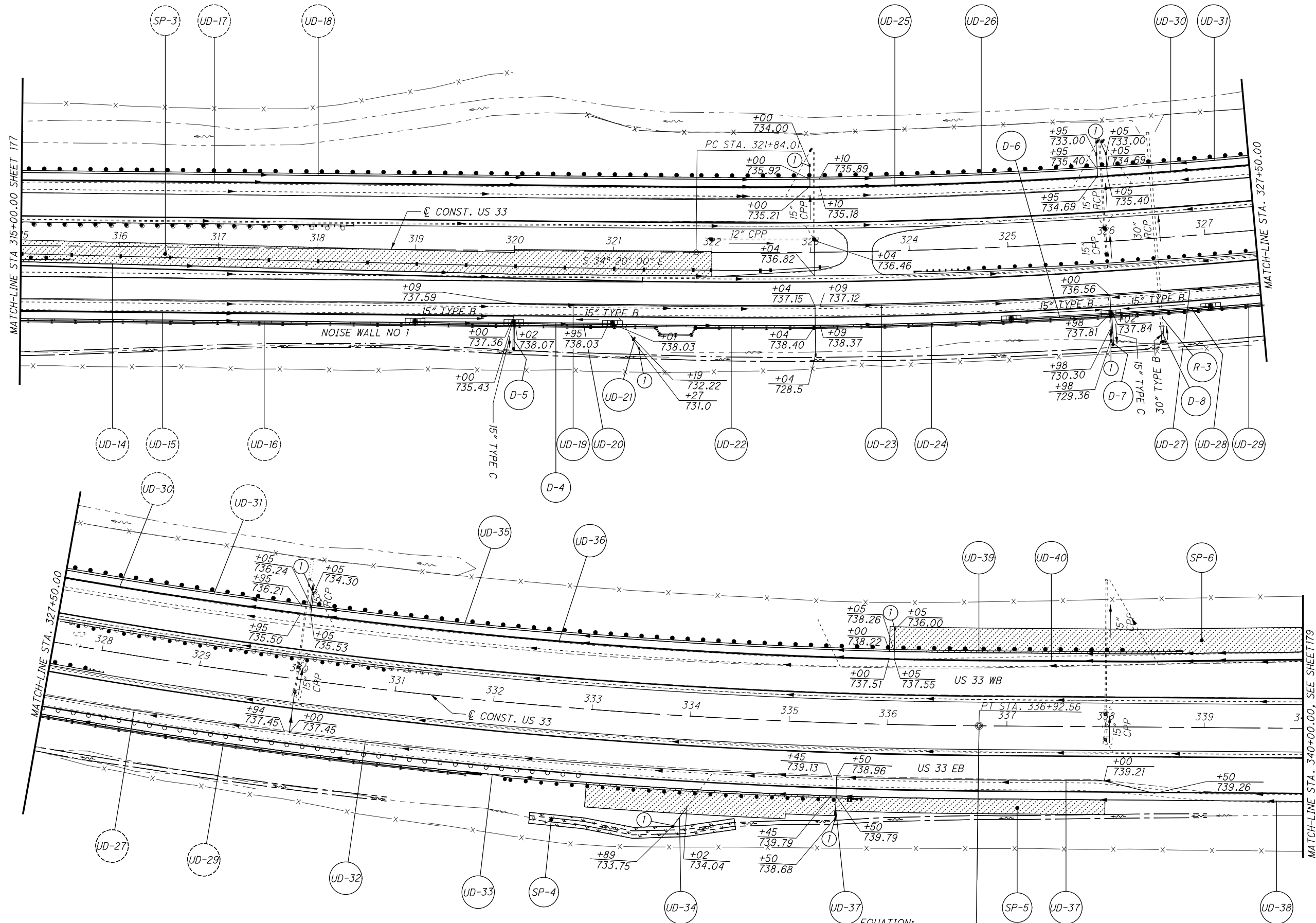
**FRA-33-24.26**

- NOTES:**
- ① DM-1.1 PRECAST REINFORCED CONCRETE OUTLET
  - ② DM-4.1 EROSION CONTROL FLUME

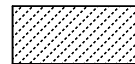
- LEGEND**
- ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED BIOFILTER)
  - ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)

NOTES:

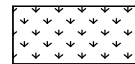
- ① DM-1.1 PRECAST REINFORCED CONCRETE OUTLET



LEGEND



ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)



ITEM 670 - DITCH EROSION PROTECTION MAT, TYPE F

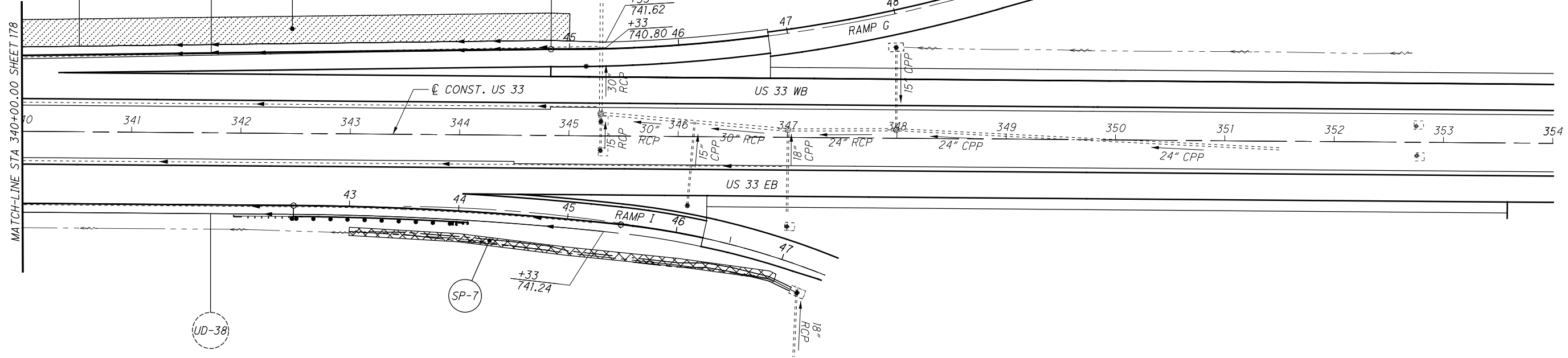
EQUATION:  
 STA. 336+92.56 BK =  
 STA. 336+71.85 AH



CALCULATED: 0  
 CFR  
 CHECKED: ECH  
 DRAINAGE PLAN  
 STA. 315+00.00 TO STA. 340+00.00

FRA -33-24.26  
 178  
 287

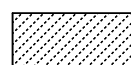

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PC STA. 44+83.07 RAMP G =  
 STA. 344+83.00, 79.00' LT., US 33

MATCH-LINE STA 340+00.00 SHEET 178

**LEGEND**

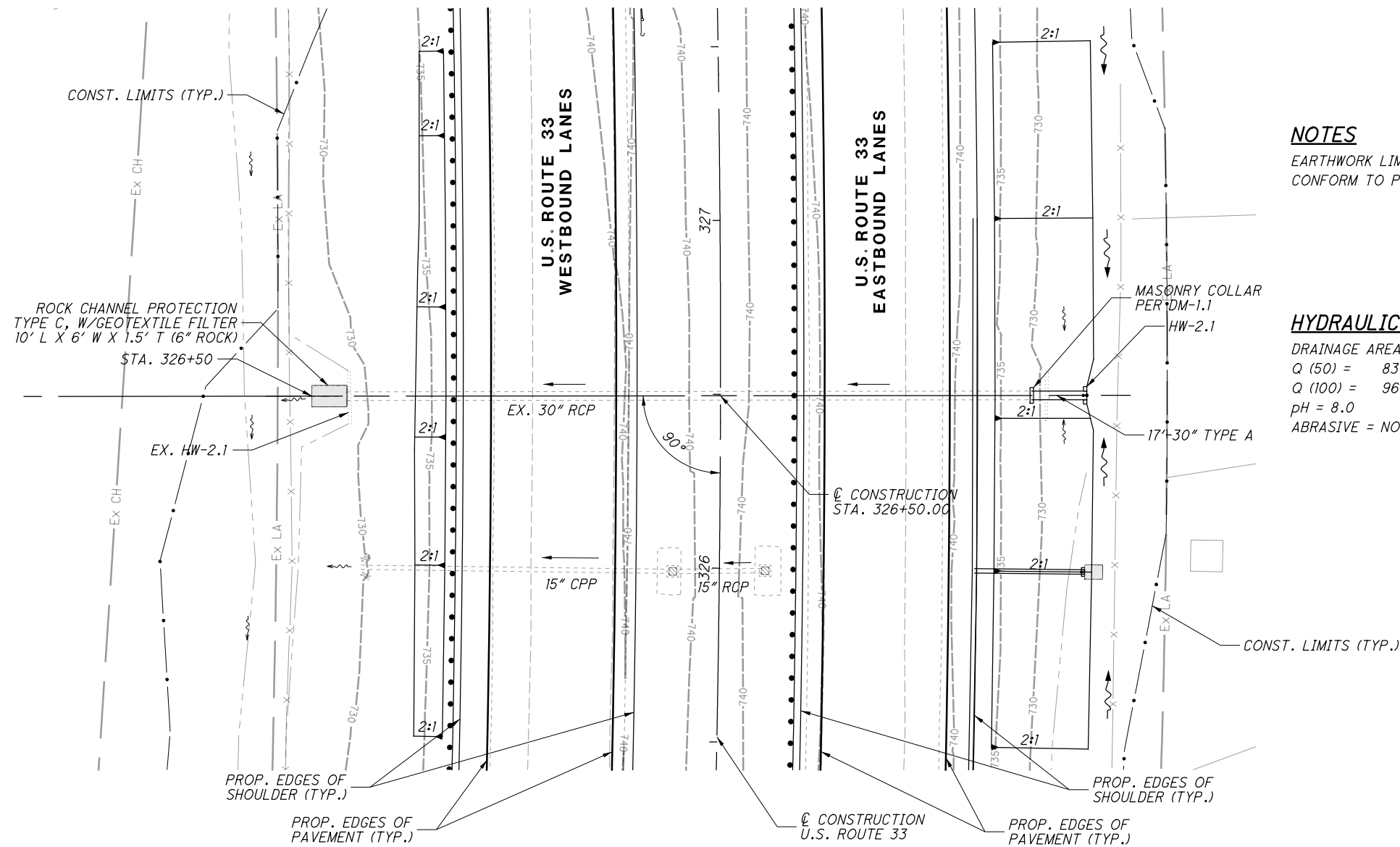
-  ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
-  ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED BIOFILTER)

  
 0 50 100  
 HORIZONTAL SCALE IN FEET  
 CALCULATED  
 CFR  
 CHECKED  
 ECH

**DRAINAGE PLAN**  
**STA. 340+00.00 TO STA. 354+00.00**

**FRA -33-24.26**

179  
287

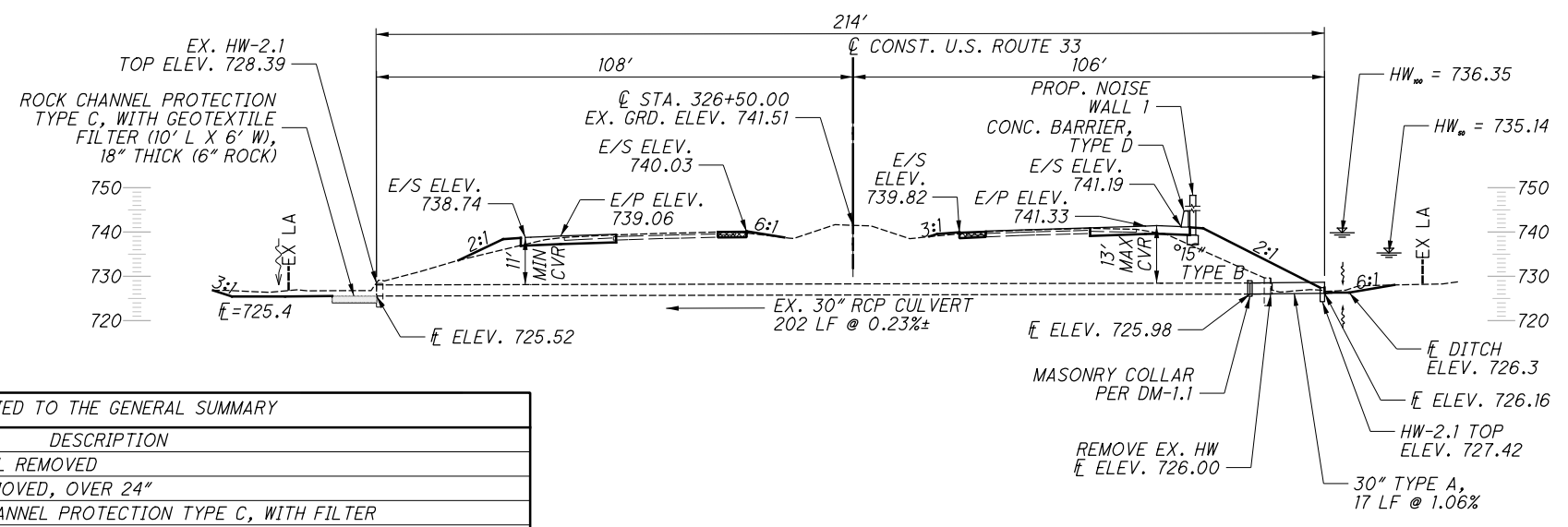


**NOTES**

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

**HYDRAULIC DATA**

DRAINAGE AREA = 45.33 ACRES  
 Q (50) = 83.5 CFS V (50) = X.XX FT/S  
 Q (100) = 96.5 CFS V (100) = XX.XX FT/S  
 pH = 8.0 DESIGN SERVICE LIFE = 75 YEARS  
 ABRASIVE = NO



EXISTING CULVERT	
TYPE:	30" RCP
LENGTH:	202'-0"
ROADWAY:	129'-1" EOS/EOS
SKWE:	0° 9' 58" RIGHT FORWARD
ALIGNMENT:	TANGENT
CULVERT FILE NUMBER:	25033
CONDITION:	POOR (PARTIALLY FILLED WITH SEDIMENT)
DISPOSITION:	TO BE EXTENDED

ESTIMATED QUANTITIES CARRIED TO THE GENERAL SUMMARY

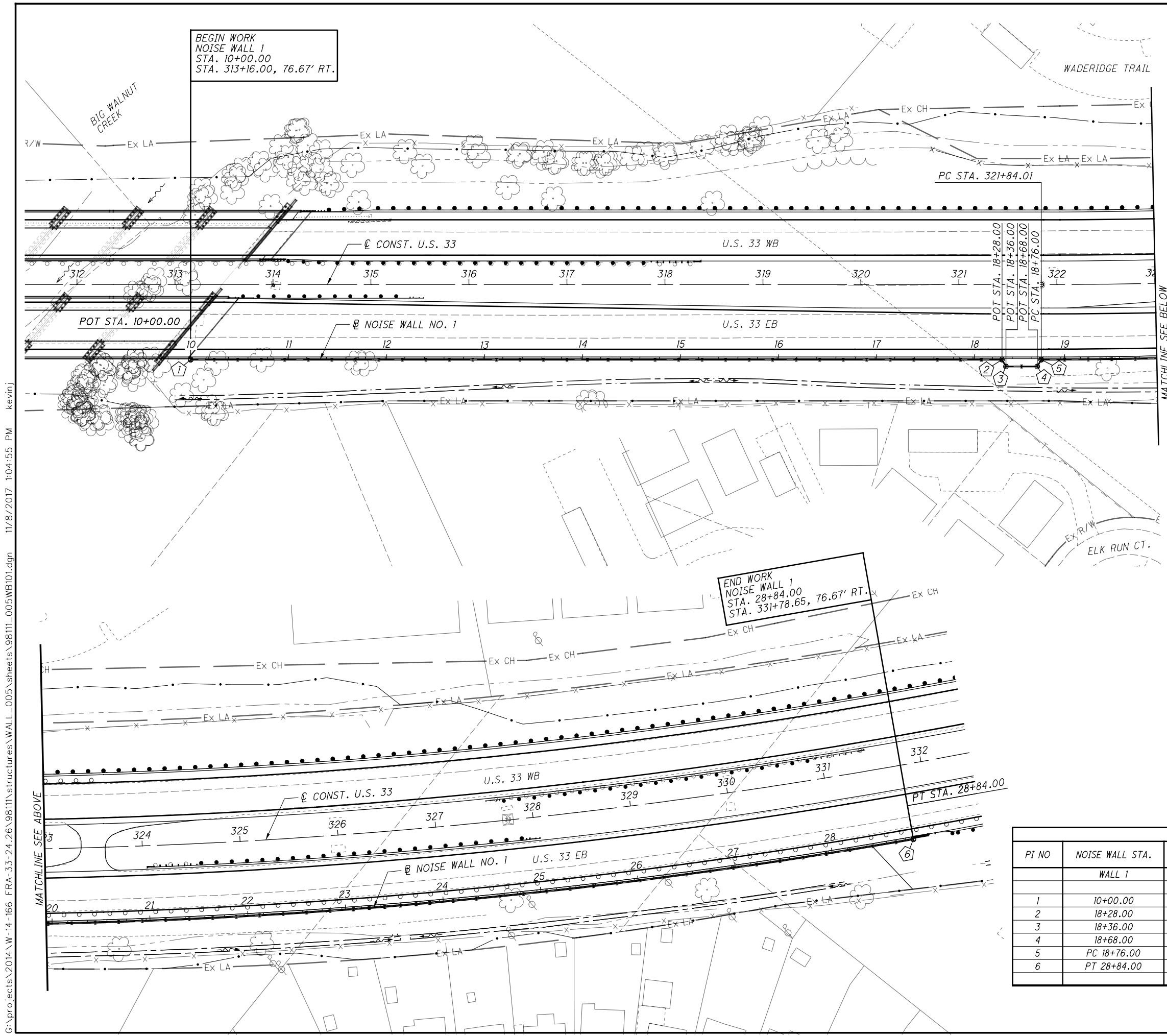
ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION
202	20010	1	EACH	HEADWALL REMOVED
202	35200	8	L.F.	PIPE REMOVED, OVER 24"
601	32204	4	C.Y.	ROCK CHANNEL PROTECTION TYPE C, WITH FILTER
602	20000	0.56	C.Y.	CONCRETE MASONRY
603	13200	17	L.F.	30" CONDUIT, TYPE A (706.02)

CULVERT DETAIL  
 STA. 326+50.00



**NOISE WALL 1 SCHEMATIC PLAN**

**FRA-33-24.26**

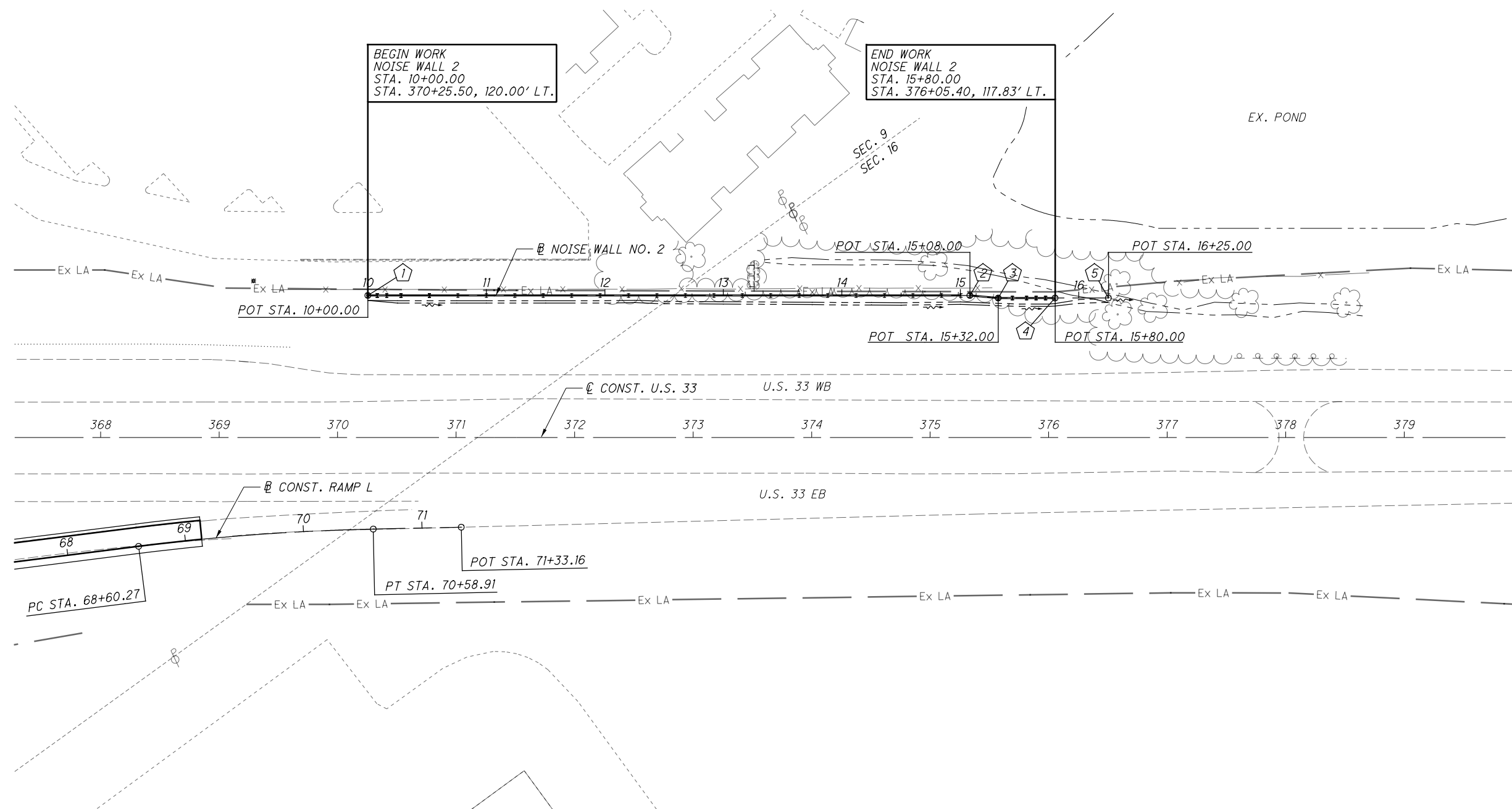


SEE HORIZONTAL AND VERTICAL CONTROL SHEET 3 FOR REFERENCE POINTS FOR U.S. 33 CENTERLINE.

NOISE WALL BASELINE GEOMETRY						
PI NO	NOISE WALL STA.	U.S. 33 STA.	U.S. 33 OFFSET	NORTHING	EASTING	BEARING
	WALL 1					
1	10+00.00	313+16.00	76.67' RT.	691447.79	1858004.50	S 34° 20' 00" E
2	18+28.00	321+44.00	76.67' RT.	690764.05	1858471.50	S 25° 40' 00" W
3	18+36.00	321+48.00	83.59' RT.	690756.84	1858468.03	S 34° 20' 00" E
4	18+68.00	321+80.00	83.59' RT.	690730.42	1858486.08	N 85° 40' 00" E
5	PC 18+76.00	321+84.00	76.67' RT.	690731.02	1858494.06	
6	PT 28+84.00	331+78.65	76.67' RT.	689952.21	1859131.98	S 44° 18' 29" E

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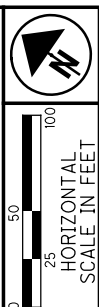
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SEE HORIZONTAL AND VERTICAL CONTROL SHEET 3 FOR REFERENCE POINTS FOR U.S. 33 CENTERLINE.

NOISE WALL BASELINE GEOMETRY

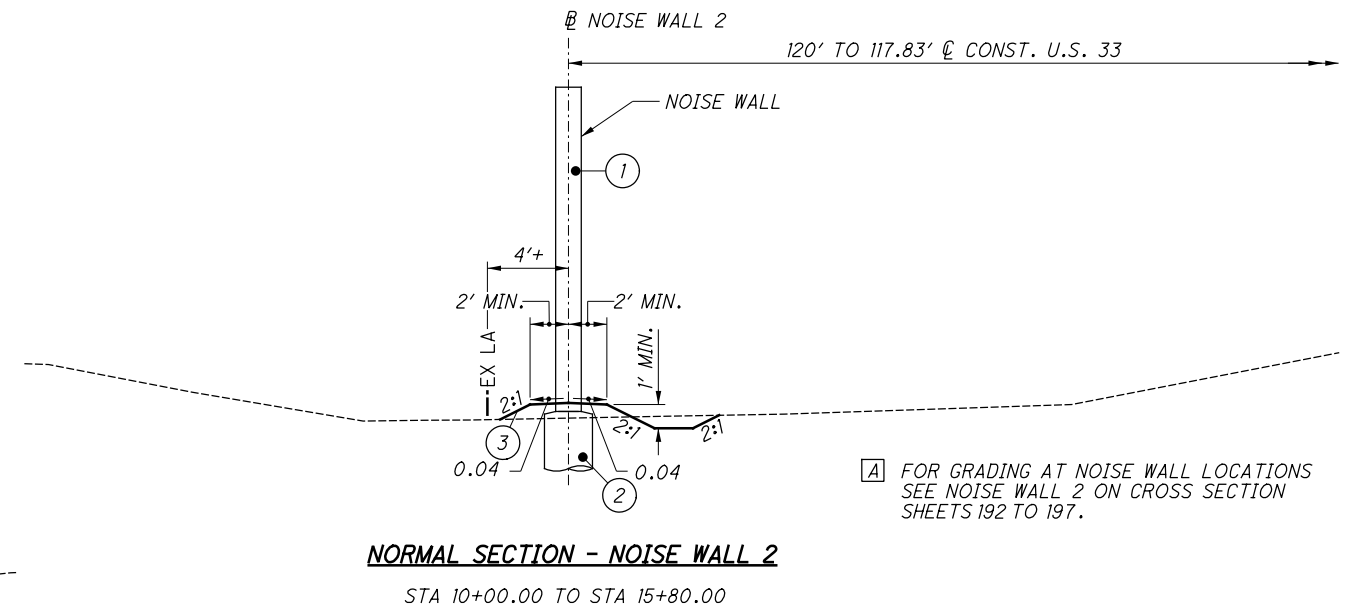
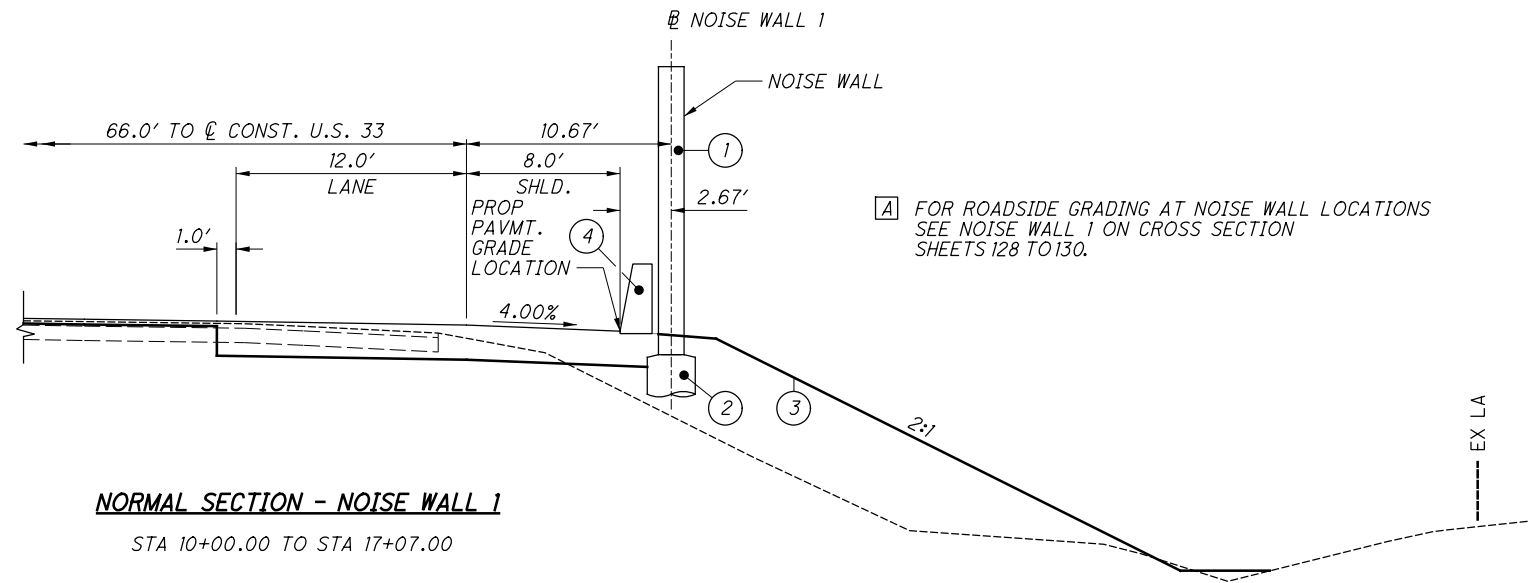
PI NO	NOISE WALL STA.	U.S. 33 STA.	U.S. 33 OFFSET	NORTHING	EASTING	BEARING
	WALL 2					
1	10+00.00	370+25.50	120.00' LT.	687565.90	1862188.36	S 49° 27' 26" E
2	15+08.00	375+33.50	120.00' LT.	687188.89	1862629.12	S 44° 16' 38" E
3	15+32.00	375+57.40	117.83' LT.	687218.51	1862591.16	S 49° 27' 26" E
4	15+80.00	376+05.40	117.83' LT.	687187.31	1862627.64	S 49° 27' 26" E
5	16+25.00	376+50.40	117.83' LT.	687158.06	1862661.83	S 49° 27' 26" E



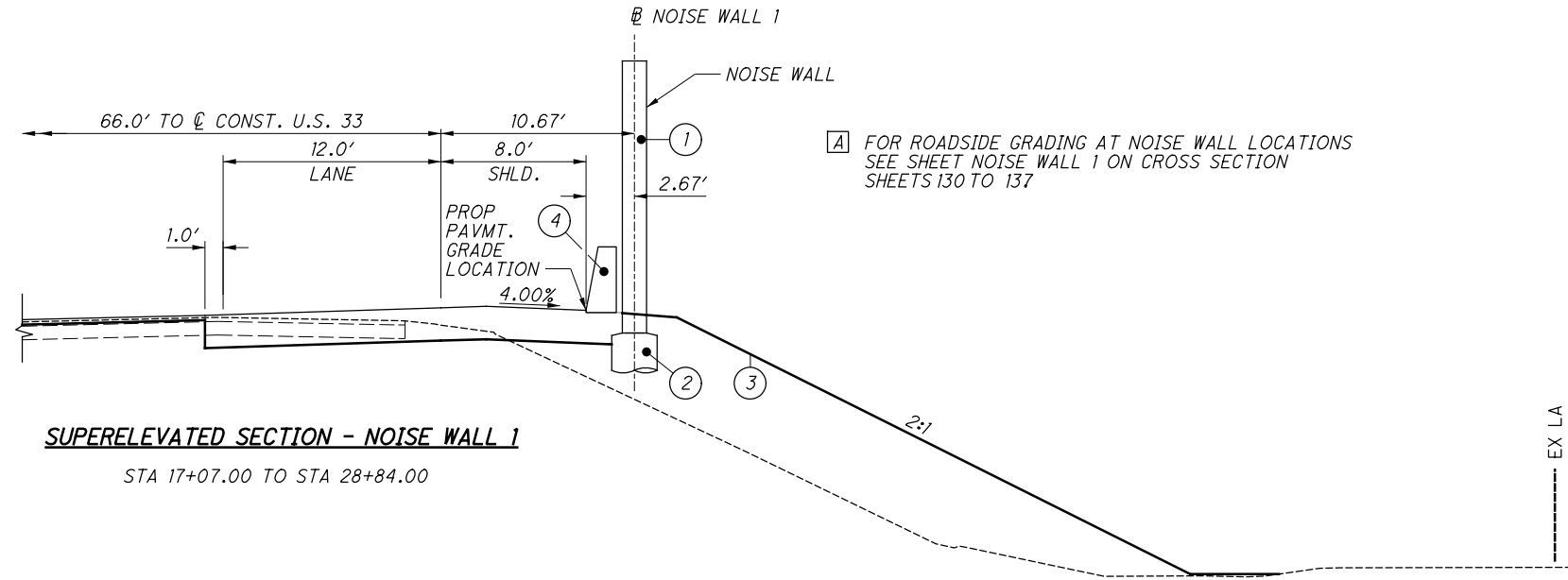
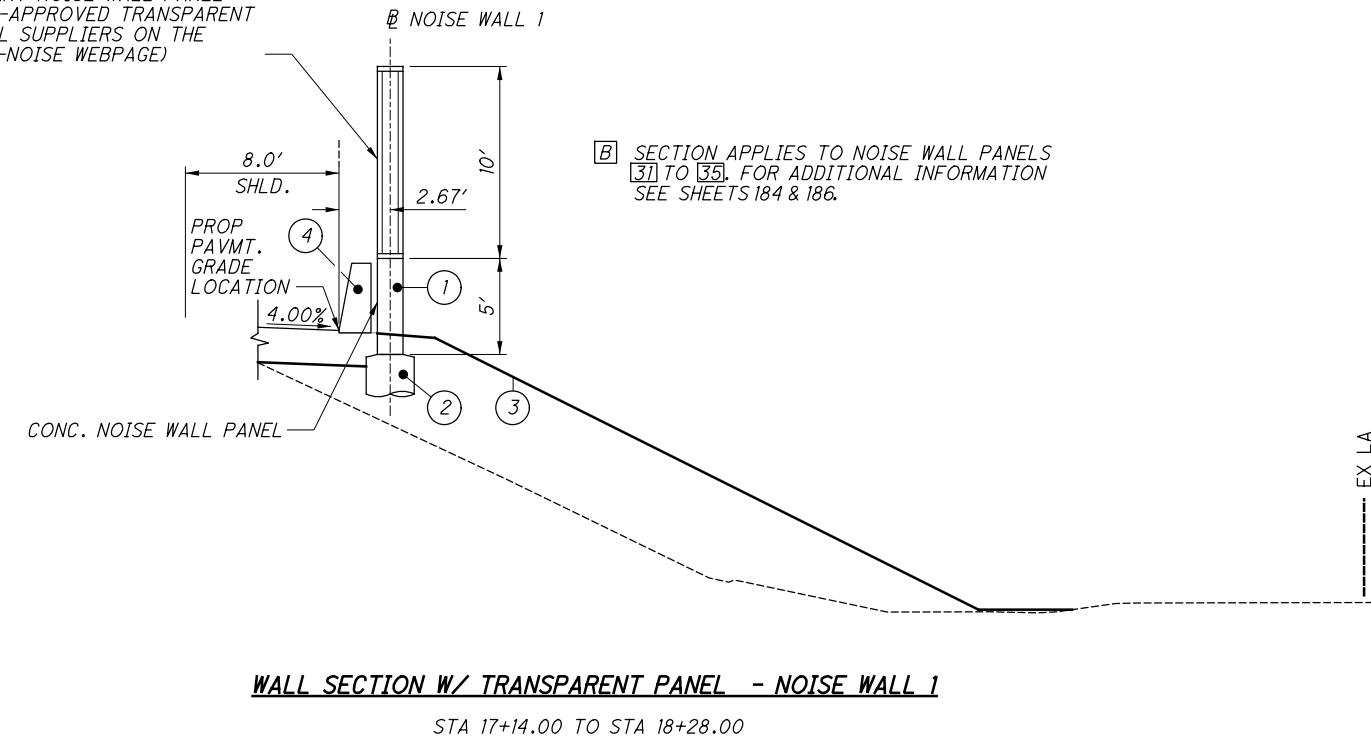
NOISE WALL 2 SCHEMATIC PLAN

FRA -33-24.26

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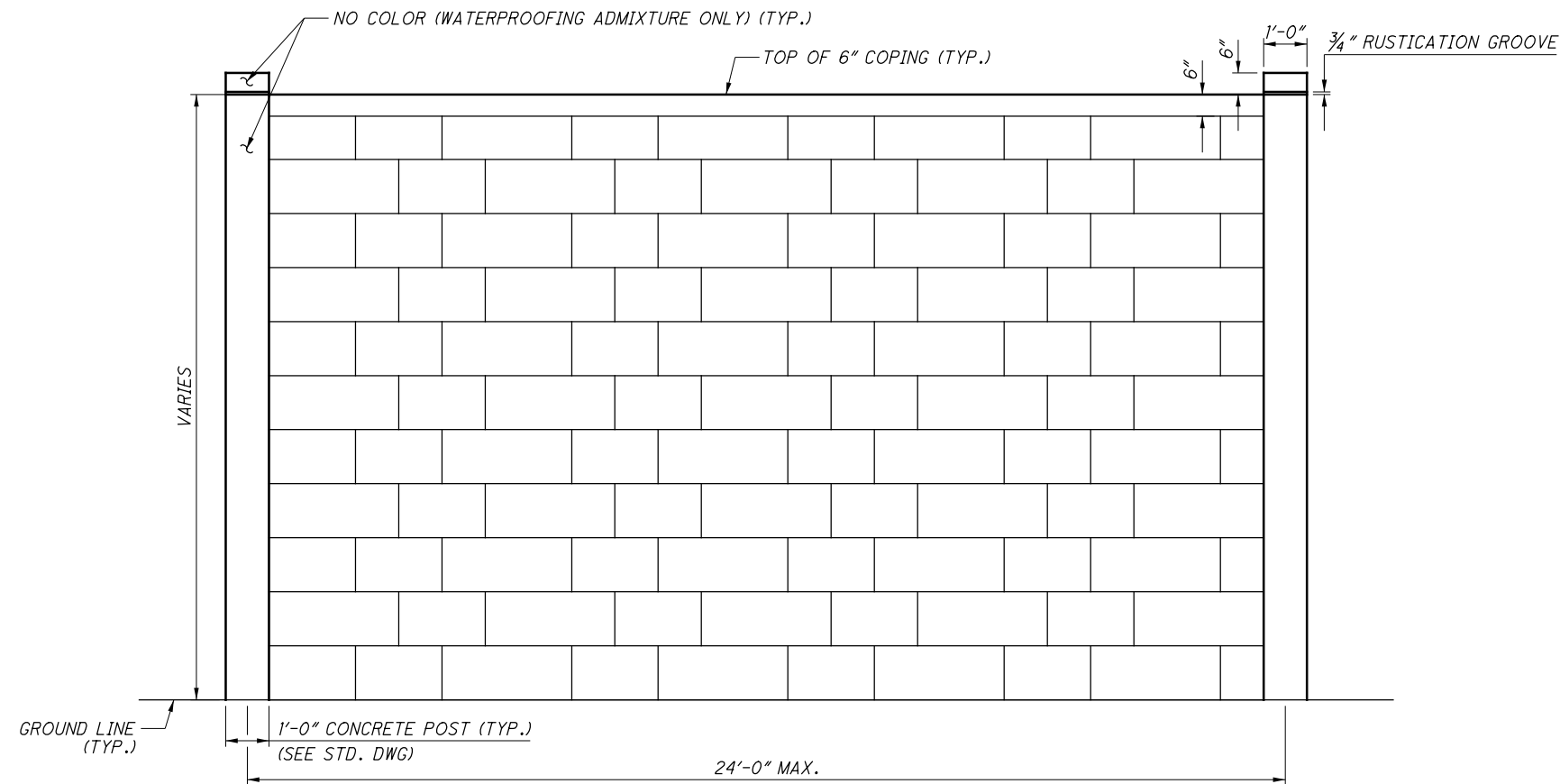


TRANSPARENT NOISE WALL PANEL  
(SEE ODOT-APPROVED TRANSPARENT NOISE WALL SUPPLIERS ON THE ODOT-OES-NOISE WEBPAGE)



- LEGEND**
- ① ITEM SPECIAL - NOISE BARRIER
  - ② ITEM 524 - DRILLED SHAFTS, 30" DIA.
  - ③ ITEM 659 - SEEDING AND MULCHING
  - ④ ITEM 622 - CONCRETE BARRIER, TYPE D

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NOISE BARRIER ELEVATION

**NOTES:**

1. SEE STANDARDS DRAWING NBS-1-09 FOR ADDITIONAL DETAILS.
2. THE NOISE WALL SHALL BE REFLECTIVE CONCRETE.
3. THE UPPER 10 FEET PORTION OF PANELS 31 TO 35 SHALL BE TRANSPARENT. SEE SHEETS 183&186, FOR DETAILS.
4. THE POST RUSTICATION GROOVE SHALL MEET THE TOP OF THE HIGHEST ADJACENT PANEL (TOP OF THE PANEL COPING).
5. THE PANEL CAP AND POST CAP SHALL HAVE NO OVERHANG.
6. ALL CONCRETE POSTS WILL NOT USE AN EXTERIOR SEALER. USE A CONCRETE WATERPROOFING ADMIXTURE FOR ALL CONCRETE POSTS. PENETRON AND BASF MASTERLIFE 300D ARE APPROVED SUPPLIERS.
7. THE FOLLOWING ENVIRONMENTAL COMMITMENT SHALL BE USED IN THE PROJECT PLANS:
 

NSA 5 (WALL001) - ASHLAR TAN  
(FEDERAL COLOR 10324, ROADWAY AND RESIDENTIAL SIDE)  
ARCHITECTURAL POLYMER ID 905 SMALL AGED ASHLAR OR ENGINEER APPROVED EQUAL.

NSA 3 (WALL002) - ASHLAR TAN.  
(FEDERAL COLOR 10324, ROADWAY AND RESIDENTIAL SIDE)  
ARCHITECTURAL POLYMER ID 905 SMALL AGED ASHLAR OR ENGINEER APPROVED EQUAL.
8. VERTICAL FORM LINERS MUST BE USED FOR CONCRETE NOISE WALL PANELS. NOISE WALL CONSTRUCTION WILL ADHERE TO NBS-1-09 DATED 1/19/18.

PANEL NO.	SHEET NO.	STATION TO STATION		606	606	606
				SPECIAL-NOISE BARRIER (REFLECTIVE), 10' HEIGHT AND UNDER	SPECIAL-NOISE BARRIER (REFLECTIVE), OVER 10' TO 14' HEIGHT	SPECIAL-NOISE BARRIER (REFLECTIVE), 14' TO 20' HEIGHT
				SF	SF	SF
NOISE WALL NO 1						
1-7	154	10+00.00	11+68.00		2352	
8-18	154	11+68.00	14+26.00			3870
19-24	154-155	14+26.00	15+70.00		2016	
25-84	155-157	15+70.00	28+68.00			19470
85-86	157	28+68.00	28+90.00	144		
NOISE WALL NO 2						
1-2	159	10+00.00	10+16.00	128		
3	159	10+16.00	10+28.00		156	
4-21	159-160	10+28.00	14+36.00			7320
22-26	156-157	14+36.00	15+56.00			2292
27	160	15+56.00	15+64.00	120		
28-29	160	15+64.00	15+80.00	160		
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>				552	4524	32952

CALCULATED  
CFR  
CHECKED  
NCK

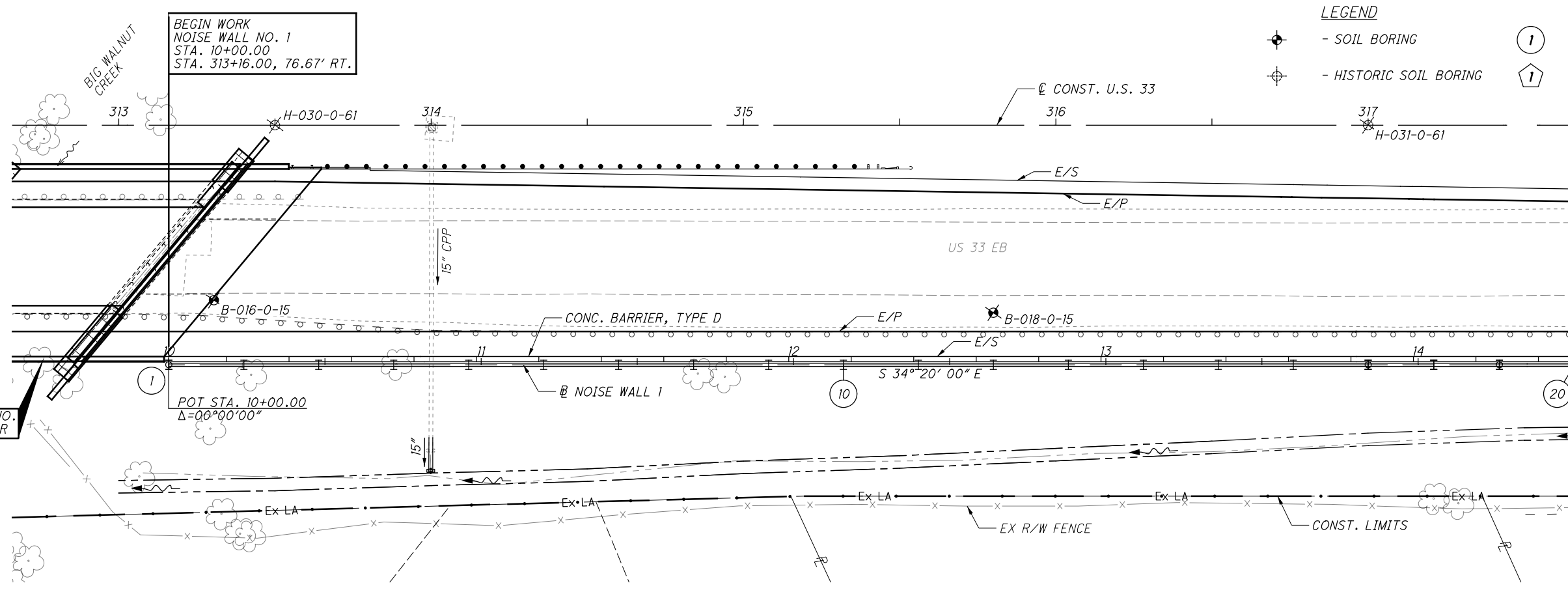
**NOISE WALL GENERAL NOTES AND SUB-SUMMARY**

**FRA - 33 - 24.26**

184  
287



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**LEGEND**

- SOIL BORING
- HISTORIC SOIL BORING
- DRILLED SHAFT NUMBERS
- NOISE WALL BREAK POINT. FOR ADDITIONAL INFORMATION SEE SHEET 181.

CALCULATED  
CFR  
CHECKED  
NCK

TOP OF WALL ELEV.	ACOUSTIC PROFILE ELEV.	BOTTOM OF WALL ELEV.	PANEL NO.	PROP. GRADE ELEV.	EX. GROUND ELEV.
756.00	749.78	742.00	1	742.61	736.78
756.00	754.02	742.00	2	741.02	737.92
756.00	755.56	742.00	3	742.56	738.07
756.00	755.58	742.00	4	742.58	738.04
756.00	755.58	742.00	5	742.58	738.39
756.00	755.57	742.00	6	742.57	738.79
756.00	755.52	742.00	7	742.52	738.54
756.00	755.46	741.00	8	742.46	738.25
756.00	755.41	741.00	9	742.41	738.19
756.00	755.37	741.00	10	742.37	738.23
756.00	755.32	741.00	11	742.32	738.29
756.00	755.25	741.00	12	742.25	737.91
756.00	755.17	741.00	13	742.17	737.66
756.00	755.10	741.00	14	742.10	738.23
756.00	755.03	741.00	15	742.03	738.06
756.00	754.96	741.00	16	741.96	737.82
756.00	754.90	741.00	17	741.90	737.61
756.00	754.85	741.00	18	741.85	737.57
755.00	754.80	741.00	19	741.80	737.31

**PLAN AND PROFILE - NOISE WALL 1  
STA. 10+00 TO STA. 14+50**

**FRA-33-24.26**

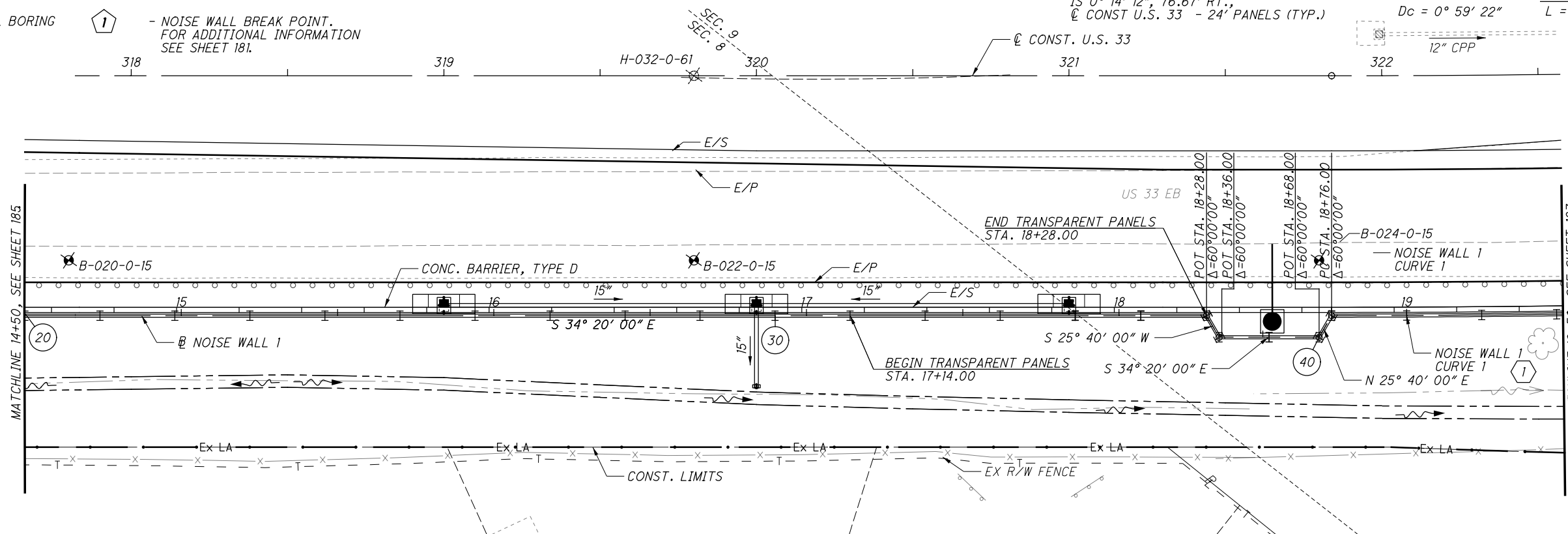
**LEGEND**

- SOIL BORING
- HISTORIC SOIL BORING

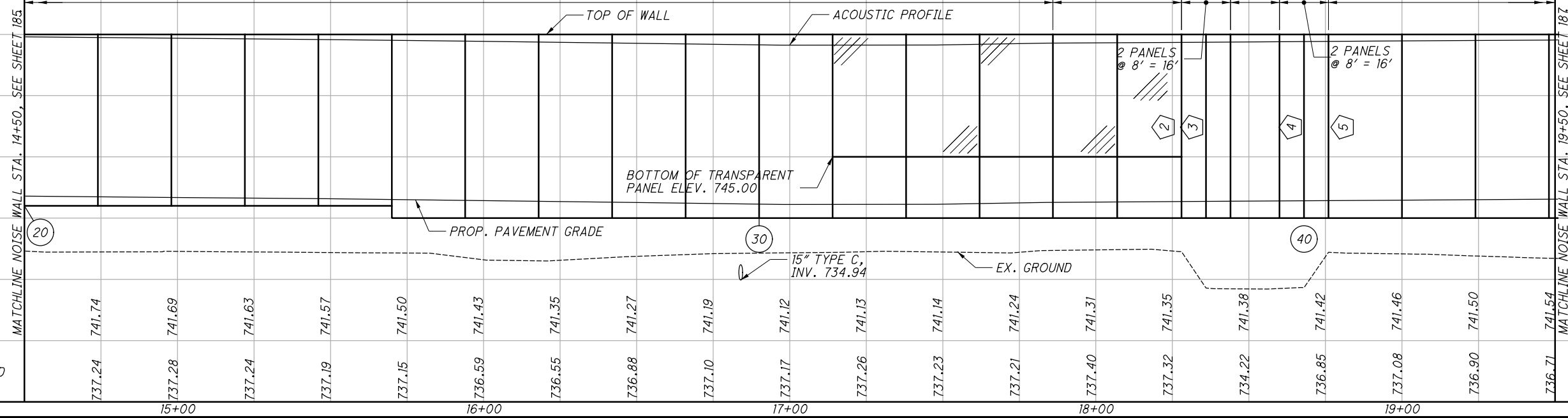
- DRILLED SHAFT NUMBERS
- NOISE WALL BREAK POINT, FOR ADDITIONAL INFORMATION SEE SHEET 181.

THE DEFLECTION ANGLE BETWEEN WORKING POINT OF TYPE A POST AND NOISE WALL 1 ALIGNMENT IS 0° 14' 12", 76.67' RT., @ CONST U.S. 33 - 24' PANELS (TYP.)

**NOISE WALL 1 CURVE 1**  
 P.I. STA. 23+87.28 R = 5,790.09' E = 22.00'  
 $\Delta = 9^\circ 58' 29"$  (LT) T = 505.28'  
 Dc = 0° 59' 22" L = 1,008.00'



TOP OF WALL ELEV.	ACOUSTIC PROFILE ELEV.	BOTTOM OF WALL ELEV.	PANEL NO.	PROP. GRADE ELEV.	EX. GROUND ELEV.
755.00	754.74	741.00	20	741.74	737.24
755.00	754.69	741.00	21	741.69	737.28
755.00	754.63	741.00	22	741.63	737.24
755.00	754.57	740.00	23	741.57	737.19
755.00	754.50	740.00	24	741.50	737.15
755.00	754.43	740.00	25	741.43	736.59
755.00	754.35	740.00	26	741.35	736.55
755.00	754.27	740.00	27	741.27	736.88
755.00	754.19	740.00	28	741.19	737.10
755.00	754.12	740.00	29	741.12	737.17
755.00	754.13	740.00	30	741.13	737.26
755.00	754.14	740.00	31	741.14	737.23
755.00	754.24	740.00	32	741.24	737.21
755.00	754.31	740.00	33	741.31	737.40
755.00	754.35	740.00	34	741.35	737.32
755.00	754.35	740.00	35	741.35	737.32
755.00	754.38	740.00	36	741.38	734.22
755.00	754.42	740.00	37	741.42	736.85
755.00	754.46	740.00	38	741.46	737.08
755.00	754.50	740.00	39	741.50	736.90
755.00	754.54	740.00	40	741.54	736.71
755.00	754.54	740.00	41	741.54	736.71
755.00	754.54	740.00	42	741.54	736.71
755.00	754.54	740.00	43	741.54	736.71



**PLAN AND PROFILE - NOISE WALL 1  
 STA. 14+50 TO STA. 19+50**

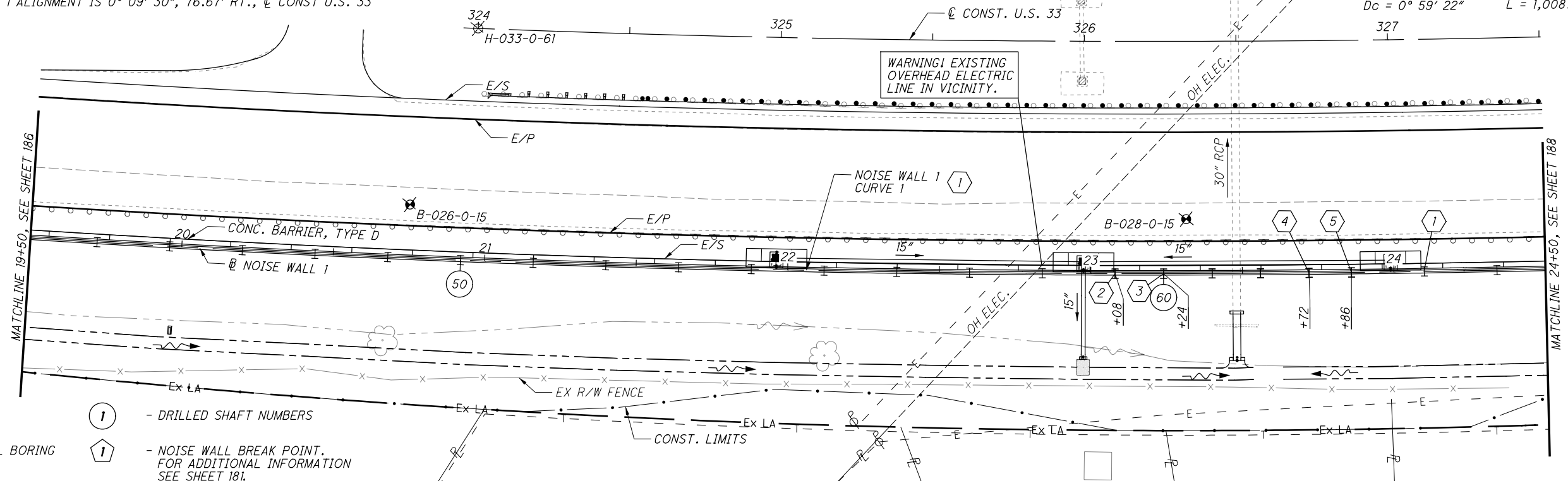
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- 1 THE DEFLECTION ANGLE BETWEEN WORKING POINT OF TYPE A POST AND NOISE WALL 1 ALIGNMENT IS 0° 14' 12", 76.67' RT., @ CONST U.S. 33 - 24' PANELS (TYP.)
- 2 THE DEFLECTION ANGLE BETWEEN WORKING POINT OF TYPE A POST AND NOISE WALL 1 ALIGNMENT IS 0° 08' 43", 76.67' RT., @ CONST U.S. 33
- 3 THE DEFLECTION ANGLE BETWEEN WORKING POINT OF TYPE A POST AND NOISE WALL 1 ALIGNMENT IS 0° 09' 30", 76.67' RT., @ CONST U.S. 33

- 4 THE DEFLECTION ANGLE BETWEEN WORKING POINT OF TYPE A POST AND NOISE WALL 1 ALIGNMENT IS 0° 08' 54", 76.67' RT., @ CONST U.S. 33
- 5 THE DEFLECTION ANGLE BETWEEN WORKING POINT OF TYPE A POST AND NOISE WALL 1 ALIGNMENT IS 0° 11' 17", 76.67' RT., @ CONST U.S. 33

- 7 THE DEFLECTION ANGLE BETWEEN WORKING POINT OF TYPE A POST AND NOISE WALL 1 ALIGNMENT IS 0° 12' 46", 76.67' RT., @ CONST U.S. 33

**NOISE WALL 1 CURVE 1**  
 P.I. STA. 23+87.28 R = 5,790.09' E = 22.00'  
 $\Delta = 9^\circ 58' 29''$  (LT) T = 505.28'  
 $D_c = 0^\circ 59' 22''$  L = 1,008.00'



**LEGEND**

- SOIL BORING
- HISTORIC SOIL BORING
- 1 - DRILLED SHAFT NUMBERS
- 1 - NOISE WALL BREAK POINT. FOR ADDITIONAL INFORMATION SEE SHEET 181.

TOP OF WALL ELEV.	ACOUSTIC PROFILE ELEV.	BOTTOM OF WALL ELEV.	PANEL NO.	PROP. GRADE ELEV.	EX. GROUND ELEV.
755.00	754.63	740.00	44	741.63	736.34
755.00	754.71	740.00	45	741.71	736.00
755.00	754.62	740.00	46	741.62	736.37
755.00	754.53	740.00	47	741.53	736.50
755.00	754.46	740.00	48	741.46	736.28
755.00	754.38	740.00	49	741.38	736.55
755.00	754.36	740.00	50	741.36	736.38
755.00	754.34	740.00	51	741.34	736.19
755.00	754.30	740.00	52	741.30	736.06
755.00	754.25	740.00	53	741.25	736.37
755.00	754.21	740.00	54	741.21	736.61
755.00	754.16	740.00	55	741.16	736.78
755.00	754.15	740.00	56	741.15	736.90
755.00	754.15	740.00	57	741.15	736.83
755.00	754.17	740.00	58	741.17	736.73
755.00	754.19	740.00	59	741.19	736.79
755.00	754.22	740.00	60	741.22	736.58
755.00	754.25	740.00	61	741.25	736.88
755.00	754.28	740.00	62	741.28	737.03
755.00	754.31	740.00	63	741.31	737.14
755.00	754.31	740.00	64	741.31	737.14
755.00	754.31	740.00	65	741.31	737.14
755.00	754.31	740.00	66	741.31	737.14

0 20 40  
HORIZONTAL SCALE IN FEET

CALCULATED  
CFR  
CHECKED  
NCK

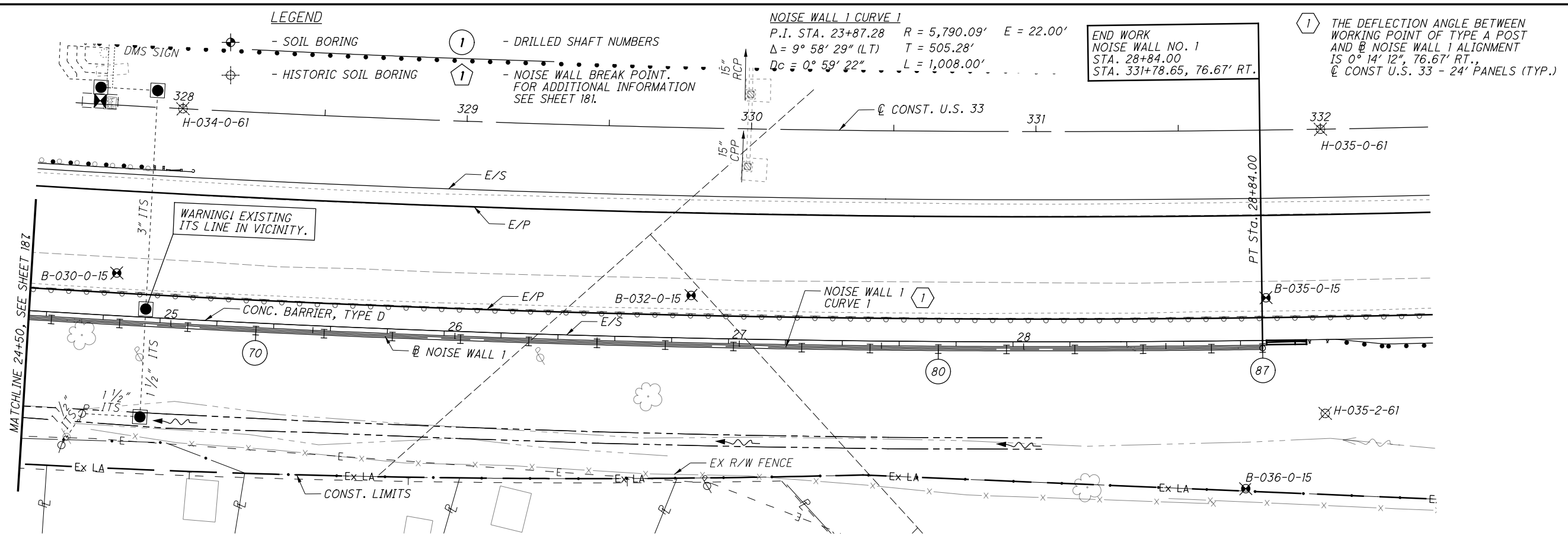
**PLAN AND PROFILE - NOISE WALL 1**  
**STA. 19+50 TO STA. 24+50**

**FRA - 33 - 24.26**

187  
287

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TOP OF WALL ELEV.	ACOUSTIC PROFILE ELEV.	BOTTOM OF WALL ELEV.	PANEL NO.	PROP. GRADE ELEV.	EX. GROUND ELEV.
755.00	754.34	740.00	67	741.34	736.86
755.00	754.36	740.00	68	741.36	736.92
755.00	754.43	740.00	69	741.43	736.89
755.00	754.50	740.00	70	741.50	736.83
755.00	754.57	740.00	71	741.57	736.79
755.00	754.65	740.00	72	741.65	736.52
755.00	754.74	740.00	73	741.74	736.70
755.00	754.83	740.00	74	741.83	737.07
755.00	754.91	740.00	75	741.91	737.15
756.00	754.98	741.00	76	741.98	736.97
756.00	755.06	741.00	77	742.06	737.04
756.00	755.15	741.00	78	742.15	737.37
756.00	755.20	741.00	79	742.20	737.47
756.00	755.24	741.00	80	742.24	737.54
756.00	755.27	741.00	81	742.27	737.24
756.00	755.30	741.00	82	742.30	737.52
756.00	755.31	741.00	83	742.31	737.96
752.00	755.31	741.00	84	742.31	
748.00	755.31	741.00	85	742.31	
748.00	755.31	741.00	86	742.31	

19 PANEL @ 24' = 456'

3 PANELS @ 8' = 24'

1 PANEL @ 18' = 18'

END NOISE WALL STA. 28+84

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POST NO.	POST TYPE	WORK POINT STATION	DRILLED SHAFT TOP ELEVATION	SHAFT LENGTH		POST NO.	POST TYPE	WORK POINT STATION	DRILLED SHAFT TOP ELEVATION	SHAFT LENGTH
1	B	10+00.00	741.69	16		47	A	20+20.00	739.69	16
2	A	10+24.00	741.69	16		48	A	20+44.00	739.69	16
3	A	10+48.00	741.69	16		49	A	20+68.00	739.69	16
4	A	10+72.00	741.69	16		50	A	20+92.00	739.69	16
5	A	10+96.00	741.69	16		51	A	21+16.00	739.69	16
6	A	11+20.00	741.69	16		52	A	21+40.00	739.69	16
7	A	11+44.00	741.69	16		53	A	21+64.00	739.69	16
8	A	11+68.00	740.69	16		54	A	21+88.00	739.69	16
9	A	11+92.00	740.69	16		55	A	22+12.00	739.69	16
10	A	12+16.00	740.69	16		56	A	22+36.00	739.69	16
11	A	12+40.00	740.69	16		57	A	22+60.00	739.69	16
12	A	12+64.00	740.69	16		58	A	22+84.00	739.69	16
13	A	12+88.00	740.69	16		59	A	23+08.00	739.69	16
14	A	13+12.00	740.69	16		60	A	23+24.00	739.69	16
15	A	13+36.00	740.69	16		61	A	23+40.00	739.69	16
16	A	13+60.00	740.69	16		62	A	23+56.00	739.69	16
17	A	13+84.00	740.72	16		63	E	23+72.00	739.69	16
18	A	14+05.00	740.72	16		64	E	23+86.00	739.69	16
19	A	14+26.00	740.69	16		65	E	24+10.00	739.69	19
20	A	14+50.00	740.72	16		66	A	24+34.00	739.69	19
21	A	14+74.00	740.72	16		67	E	24+58.00	739.69	19
22	A	14+98.00	740.69	16		68	E	24+82.00	739.69	19
23	A	15+22.00	740.69	16		69	A	25+06.00	739.69	19
24	A	15+46.00	740.69	16		70	A	25+30.00	739.69	19
25	A	15+70.00	740.69	16		71	A	25+54.00	739.69	19
26	A	15+94.00	740.69	16		72	A	25+78.00	739.69	19
27	A	16+18.00	740.69	16		73	A	26+02.00	739.69	19
28	A	16+42.00	739.69	16		74	A	26+26.00	739.69	19
29	A	16+66.00	739.69	16		75	A	26+50.00	739.69	19
30	A	16+90.00	739.69	16		76	A	26+74.00	739.69	19
31	A	17+14.00	739.69	16		77	A	26+98.00	740.69	19
32	A	17+38.00	739.69	16		78	A	27+22.00	740.69	19
33	A	17+62.00	739.69	16		79	A	27+46.00	740.69	19
34	A	17+86.00	739.69	16		80	A	27+70.00	740.69	19
35	A	18+07.00	739.69	16		81	A	27+94.00	740.69	19
36	E	18+28.00	739.69	16		82	A	28+18.00	740.69	19
37	E	18+36.00	739.69	16		83	A	28+42.00	740.69	19
38	A	18+44.00	739.69	16		84	A	28+60.00	740.69	19
39	A	18+60.00	739.69	16		85	A	28+68.00	740.69	19
40	E	18+68.00	739.69	16		86	A	28+76.00	740.69	19
41	E	18+76.00	739.69	16		87	B	28+84.00	740.69	19
42	A	19+00.00	739.69	16						
43	A	19+24.00	739.69	16						
44	A	19+48.00	739.69	16						
45	A	19+72.00	739.69	16						
46	A	19+96.00	739.69	16						

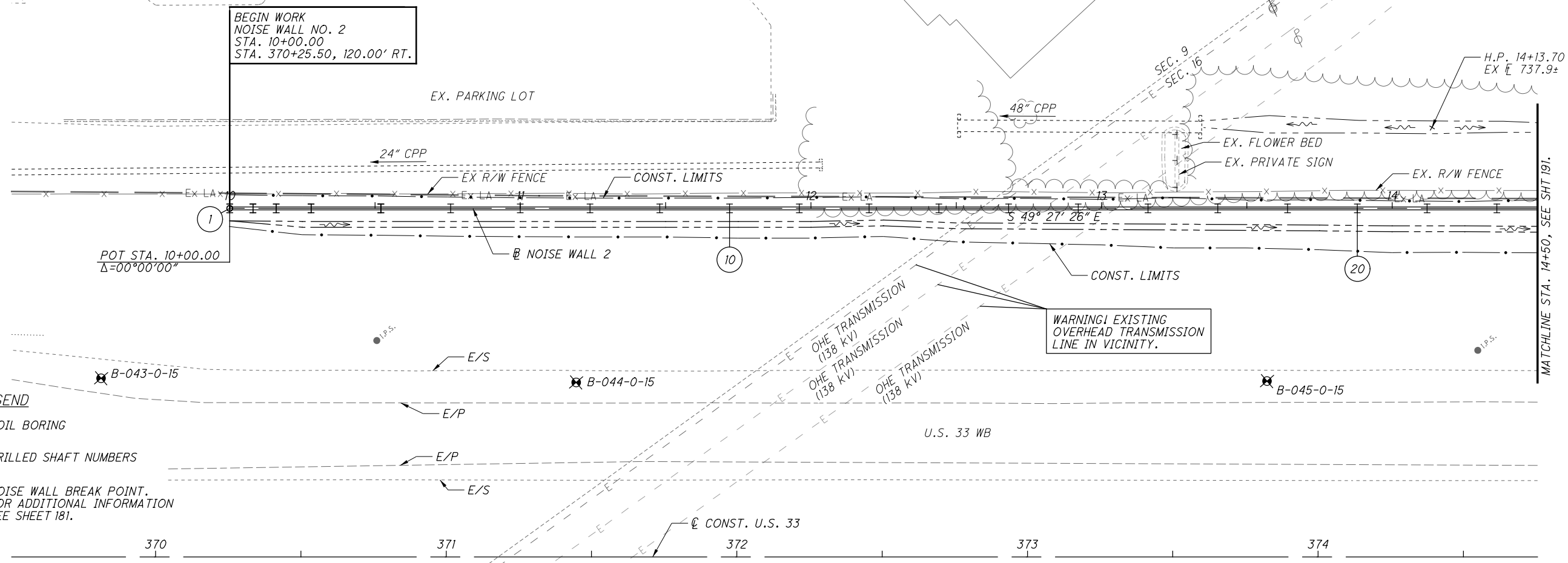
NOTE:  
THE GEOTECHNICAL EXPLORATION ENCOUNTERED COBBLES AND HEAVING SANDS IN MULTIPLE BORINGS. THESE CONDITIONS SHOULD BE ANTICIPATED THROUGHOUT THE PROJECT. REFER TO THE SOIL PROFILE FOR FURTHER INFORMATION.

CALCULATED  
CFR  
CHECKED  
NCK

NOISE WALL 1 FOUNDATION DATA

FRA - 33 - 24.26

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**LEGEND**

- SOIL BORING
- DRILLED SHAFT NUMBERS
- NOISE WALL BREAK POINT. FOR ADDITIONAL INFORMATION SEE SHEET 181.

TOP OF WALL ELEV.	ACOUSTIC PROFILE ELEV.	BOTTOM OF WALL ELEV.	PANEL NO.	EX. GROUND ELEV.	PROP. GRADE ELEV.
747.50	759.19	741.50	1	742.19	742.19
747.50	759.19	742.50	2	742.25	743.42
751.50	759.25	742.50	3	742.24	743.35
755.50	759.24	742.50	4	742.33	743.27
759.50	759.33	742.50	5	742.36	743.20
759.50	759.36	742.50	6	742.34	743.12
759.50	759.34	742.50	7	742.26	743.05
759.50	759.26	742.50	8	742.25	742.97
759.50	759.25	742.50	9	742.15	742.90
759.50	759.15	741.50	10	742.01	742.60
759.50	759.01	741.50	11	742.35	743.00
759.50	759.35	741.50	12	742.35	743.00
759.50	759.35	741.50	13	742.51	743.00
759.50	759.35	741.50	14	742.79	743.00
760.50	759.51	741.50	15	742.62	743.00
760.50	759.79	741.50	16	742.61	743.00
760.50	759.62	741.50	17	742.92	743.00
760.50	759.61	741.50	18	742.92	743.00
760.50	759.92	741.50	19	742.92	743.00
760.50	759.92	741.50	20	742.75	743.00
760.50	759.75	741.50	21		

PLAN AND PROFILE - NOISE WALL 2

STA. 10+00 TO STA. 14+50

FRA-33-24.26

190  
287

SCALE IN FEET

0 20 40

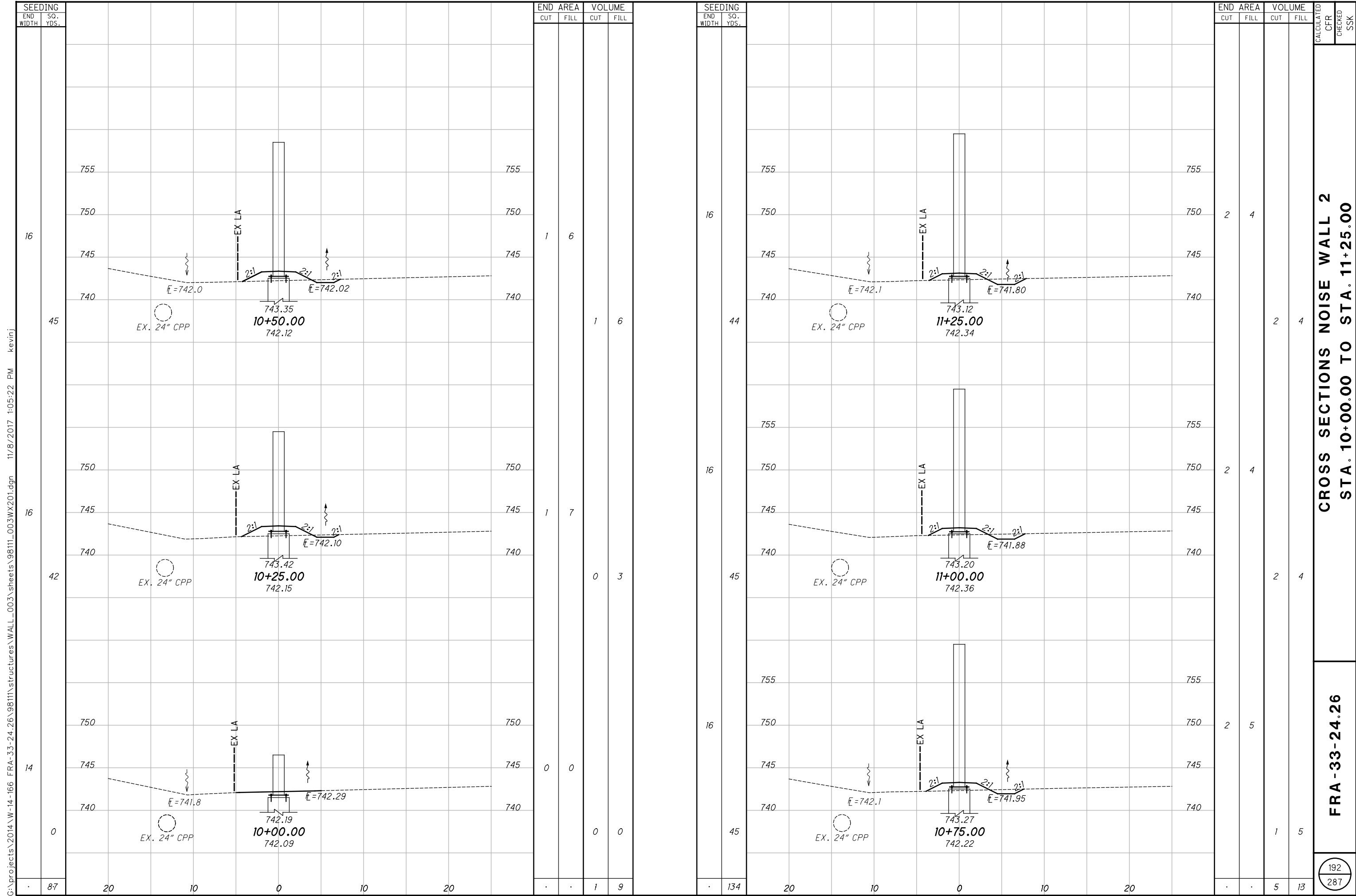
HORIZONTAL

CALCULATED: NCK

CFR: NCK

CHECKED: NCK





SEEDING	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
16	1	6	1	6
45	1	6	1	6
16	1	7	0	3
42	0	0	0	0
14	0	0	0	0
0	0	0	0	0
87	20	10	0	20

SEEDING	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
16	2	4	2	4
44	2	4	2	4
16	2	4	2	4
45	2	4	2	4
16	2	5	1	5
45	1	5	5	13
134	20	10	0	20

CALCULATED  
 CFR  
 CHECKED  
 SSK

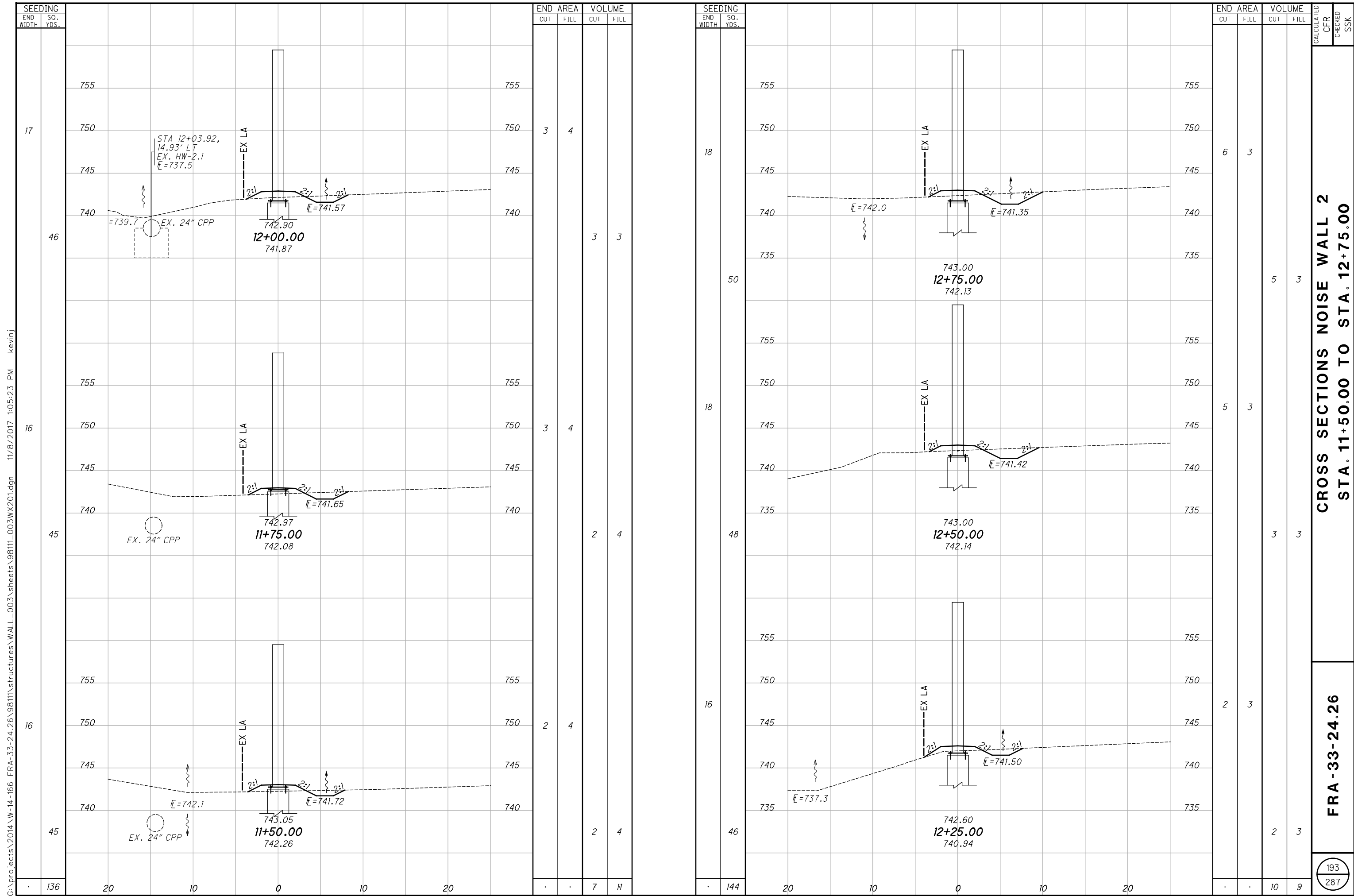
**CROSS SECTIONS NOISE WALL 2**  
**STA. 10+00.00 TO STA. 11+25.00**

**FRA -33-24.26**

192  
 287

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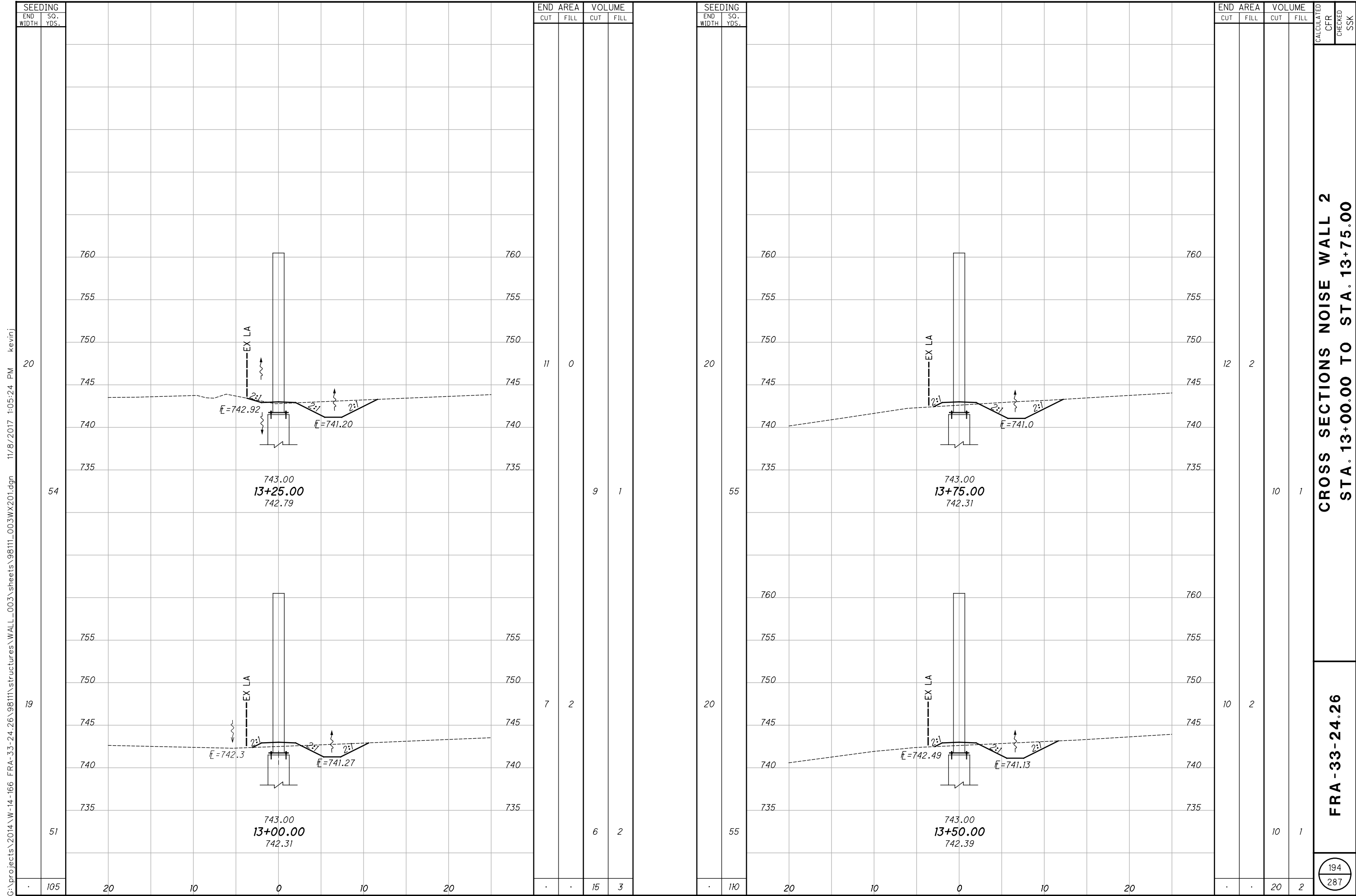
**CROSS SECTIONS NOISE WALL 2  
 STA. 11+50.00 TO STA. 12+75.00**

**FRA -33-24.26**

193  
 287

SEEDING	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
17	3	4		
46			3	3
16	3	4		
45			2	4
16	2	4		
45			2	4
136			7	11

SEEDING	END AREA		VOLUME		CALCULATED	CFR	CHECKED	SSK
	CUT	FILL	CUT	FILL				
18	6	3						
50			5	3				
18	5	3						
48			3	3				
16	2	3						
46			2	3				
144			10	9				



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CROSS SECTIONS NOISE WALL 2  
STA. 13+00.00 TO STA. 13+75.00

FRA -33-24.26

194  
287

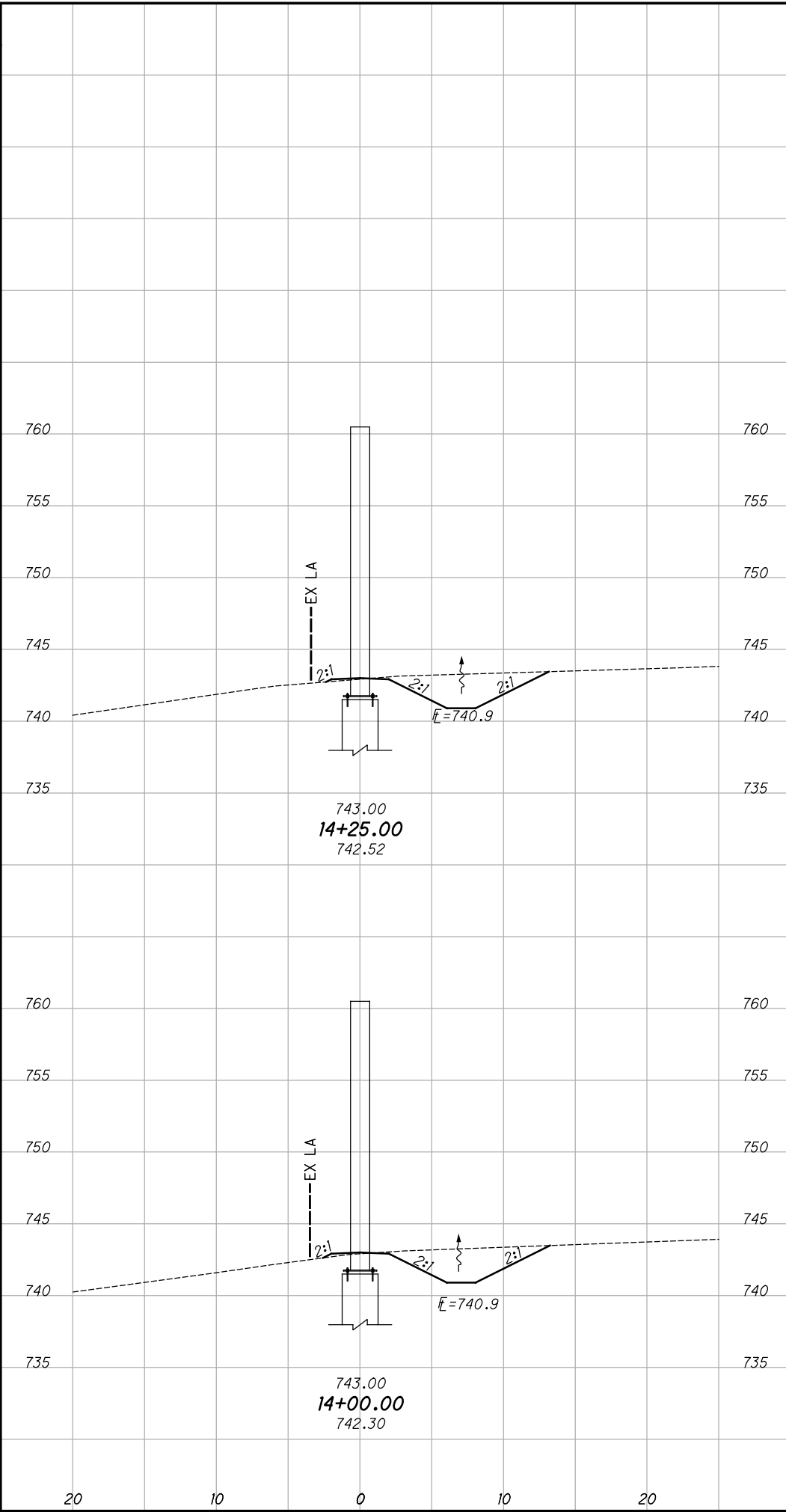
CALCULATED	CHECKED	SSK
CFR		

SEEDING	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
20	11	0		
54	9	1		
19	7	2		
51	6	2		
105	15	3		

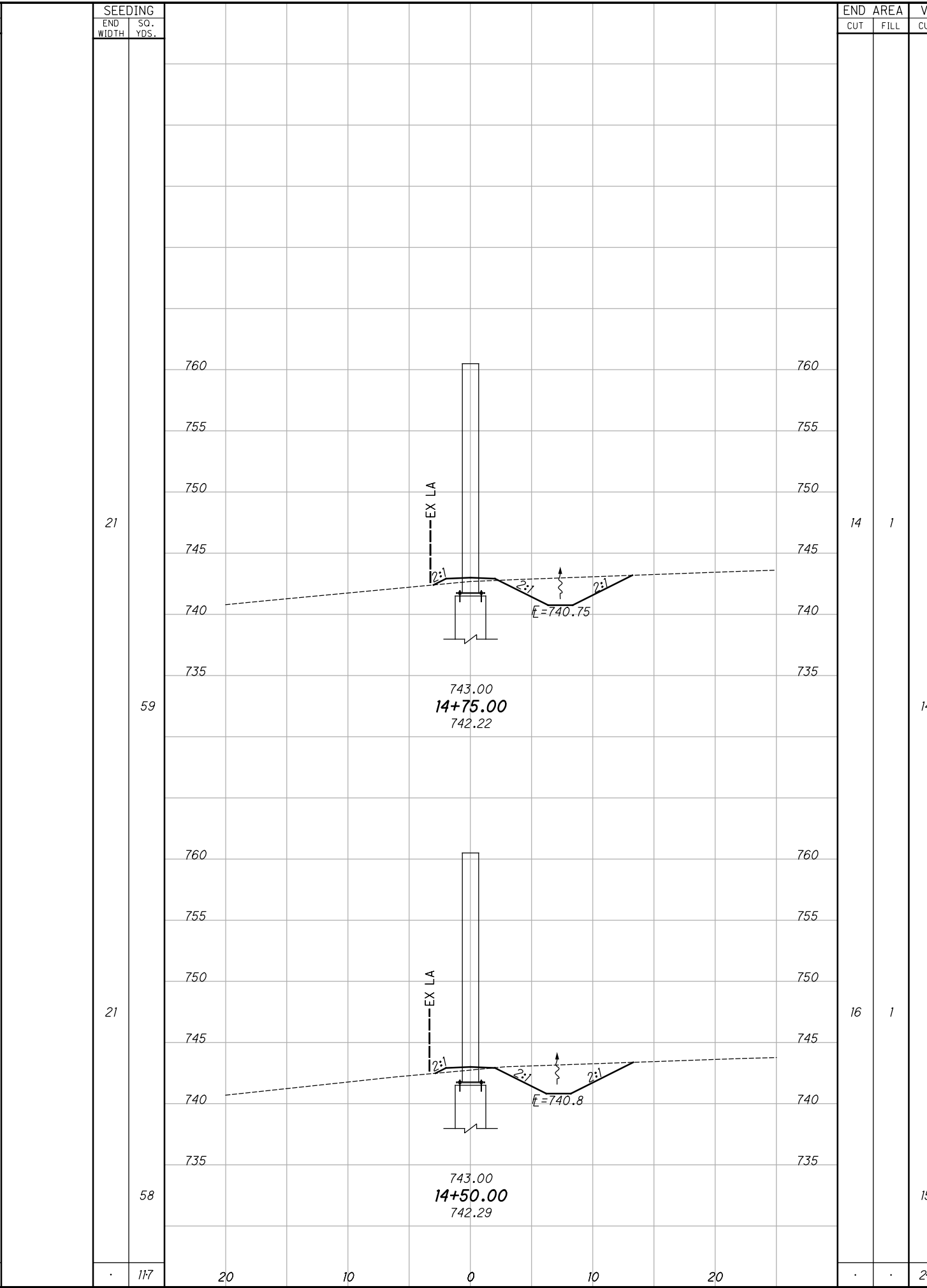
SEEDING	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
20	12	2		
55	10	1		
20	10	2		
55	10	1		
110	20	2		

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SEEDING	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
21	16	0	16	0
58	15	0	15	0
21	16	0	16	0
58	13	1	13	1
116	20	10	28	1



SEEDING	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
21	14	1	14	1
59	14	1	14	1
21	16	1	16	1
58	15	1	15	1
117	20	10	29	2

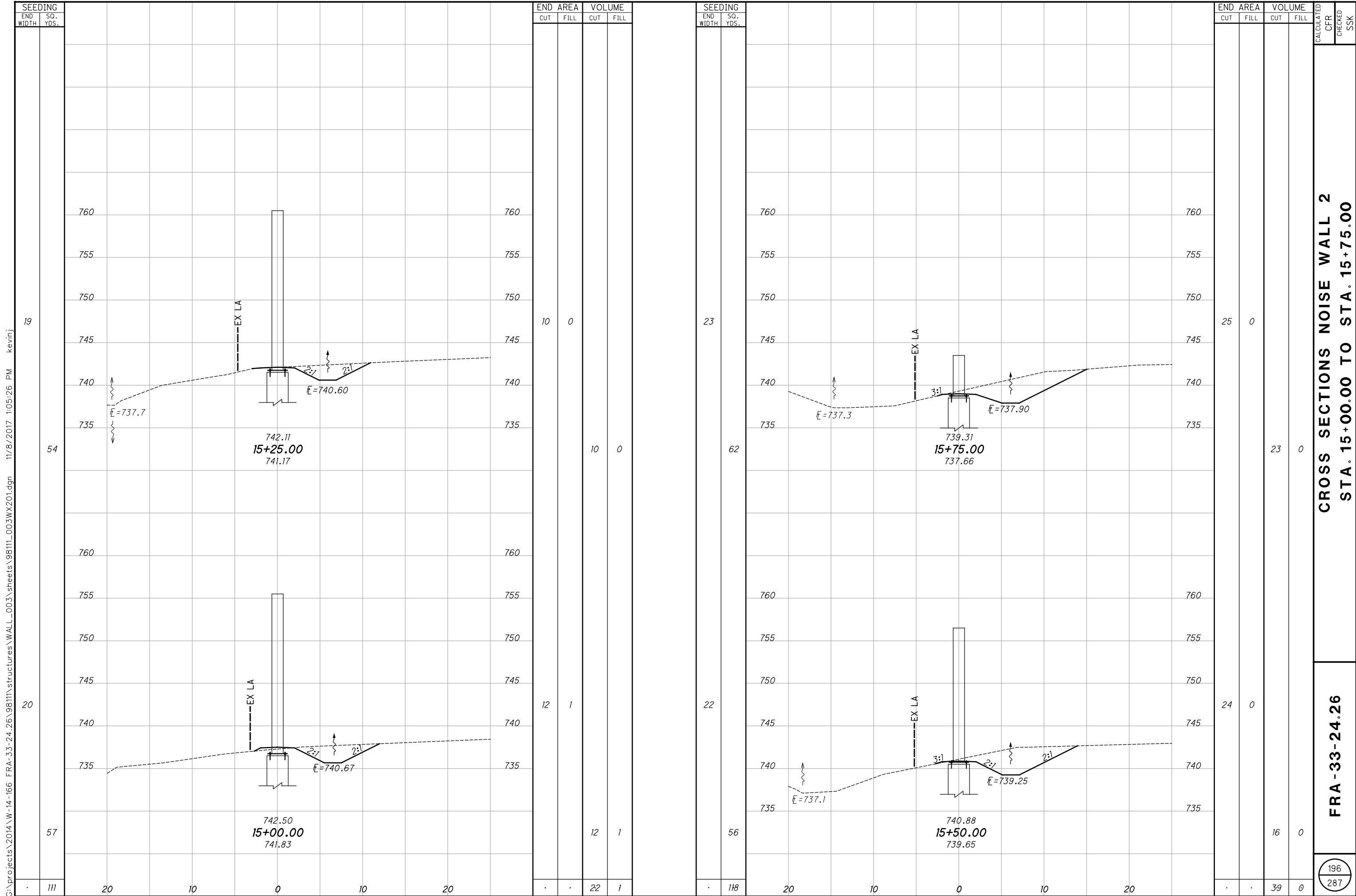


SEEDING	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
21	14	1	14	1
59	14	1	14	1
21	16	1	16	1
58	15	1	15	1
117	20	10	29	2

**CROSS SECTIONS NOISE WALL 2**  
**STA. 14+00.00 TO STA. 14+75.00**

**FRA -33-24.26**

195  
287



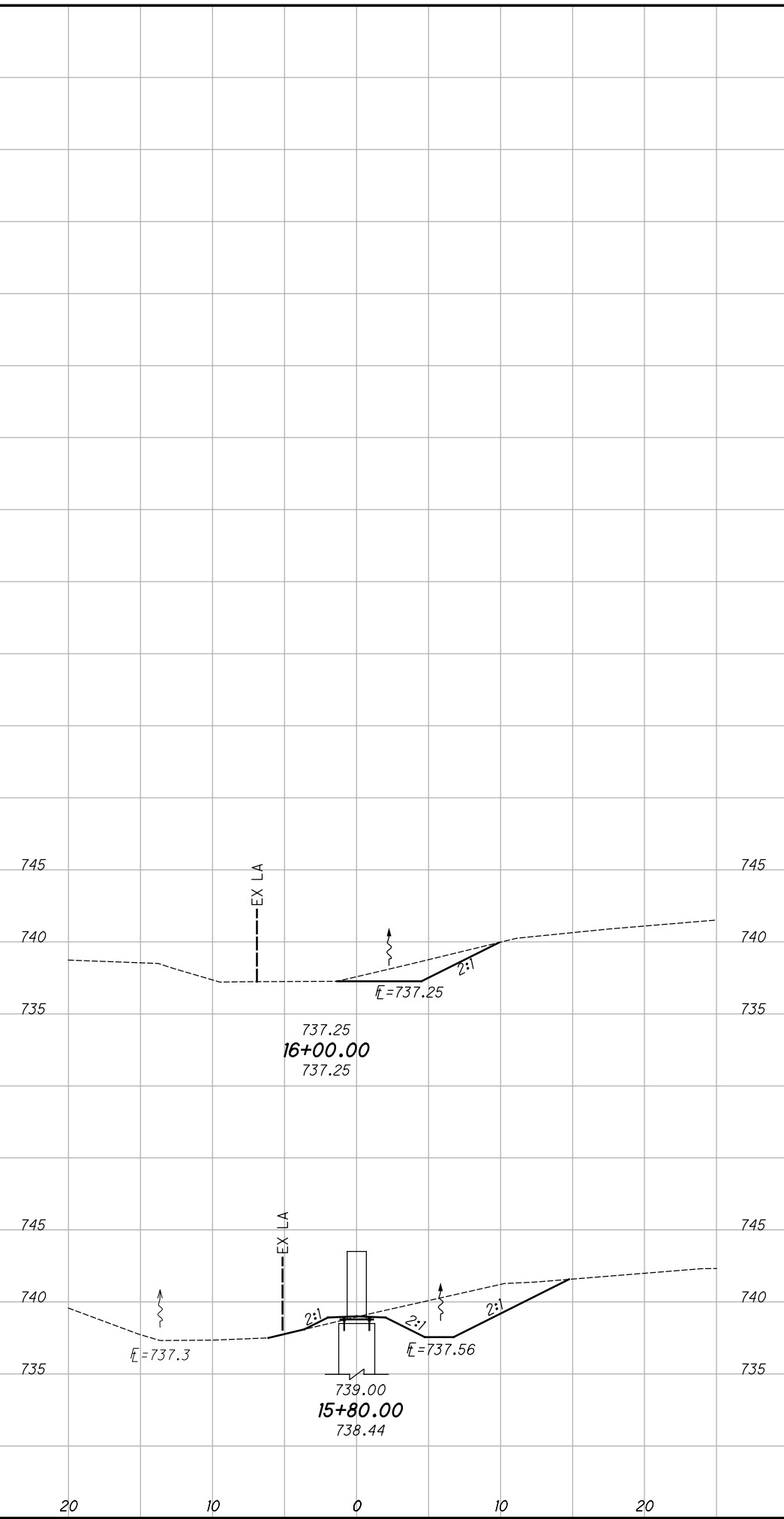
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**CROSS SECTIONS NOISE WALL 2  
STA. 15+00.00 TO STA. 15+75.00**

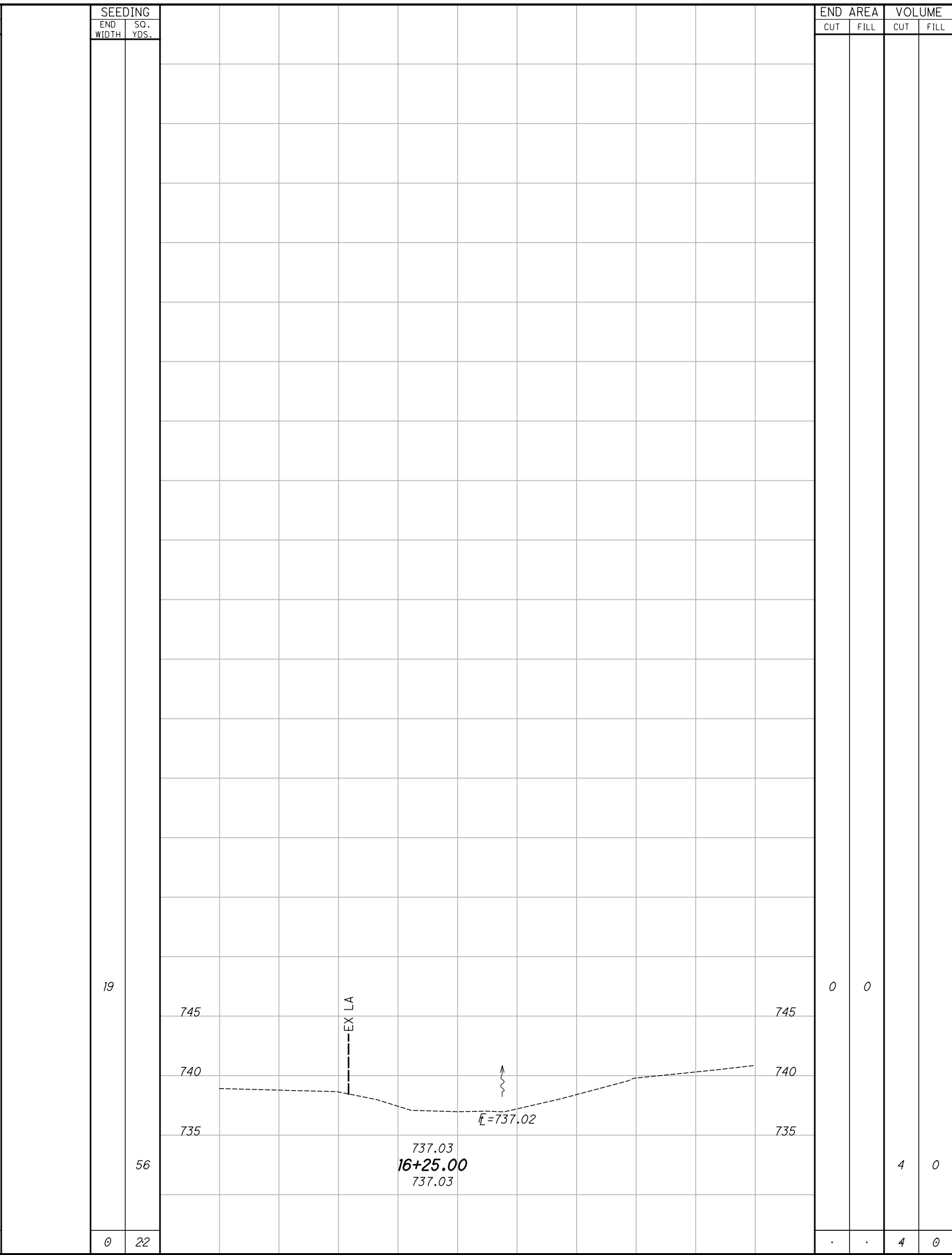
**FRA-33-24.26**

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SEEDING	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
61	20	10	0	15



SEEDING	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
19	23	1	4	0



SEEDING	END AREA		VOLUME		CALCULATED	CFR	CHECKED	SSK
	CUT	FILL	CUT	FILL				
61	20	10	0	15	197			
19	23	1	4	0	287			

CROSS SECTIONS NOISE WALL 2  
 STA. 15+80.00 TO STA. 16+25.00

FRA -33-24.26

197  
287

NOISE WALL 2 FOUNDATION DATA										
POST NO.	POST TYPE	WORK POINT STATION	DRILLED SHAFT TOP ELEVATION	SHAFT LENGTH		POST NO.	POST TYPE	WORK POINT STATION	DRILLED SHAFT TOP ELEVATION	SHAFT LENGTH
1	A	10+00.00	741.19	14						
2	A	10+08.00	741.19	14						
3	A	10+16.00	741.19	14						
4	A	10+28.00	742.19	14						
5	A	10+52.00	742.19	14						
6	A	10+76.00	742.19	14						
7	A	11+00.00	742.19	14						
8	A	11+24.00	742.19	14						
9	A	11+48.00	742.19	14						
10	A	11+72.00	742.19	14						
11	A	11+96.00	741.19	14						
12	A	12+20.00	741.19	14						
13	A	12+44.00	741.19	14						
14	A	12+68.00	741.19	14						
15	A	12+92.00	741.19	14						
16	E	13+16.00	741.19	14						
17	E	13+40.00	741.19	14						
18	A	13+64.00	741.19	14						
19	E	13+88.00	741.19	14						
20	E	14+12.00	741.19	14						
21	A	14+36.00	741.19	14						
22	A	14+60.00	741.19	14						
23	A	14+84.00	741.19	14						
24	A	15+08.00	741.19	14						
25	A	15+32.00	740.19	14						
26	A	15+44.00	739.19	14						
27	A	15+56.00	739.19	14						
28	A	15+64.00	738.19	14						
29	A	15+72.00	738.19	14						
30	A	15+80.00	738.19	14						

CALCULATED  
CFR  
CHECKED  
NCK

NOISE WALL 2 FOUNDATION DATA

FRA - 33 - 24 . 26

NOTE:  
THE GEOTECHNICAL EXPLORATION ENCOUNTERED COBBLES AND HEAVING SANDS IN MULTIPLE BORINGS. THESE CONDITIONS SHOULD BE ANTICIPATED THROUGHOUT THE PROJECT. REFER TO THE SOIL PROFILE FOR FURTHER INFORMATION.

**INSTALLATION NOTES FOR VX21 ROAD SENSOR**

PLACE A CIRCULAR PIECE OF DUCT TAPE OVER THE TOP OF THE VX-21 ROAD SENSOR COVERING THE TOP OF THE SENSOR COMPLETELY.

FIG A) CORE DRILL HOLE IN CENTER OF LANE. (USE CORE DRILL BIT WITH A 4.75" OUTSIDE DIAMETER, AND A 4.5" INSIDE DIAMETER) DRILL A CORE HOLE 3.75" DEEP. USE BLOW TORCH TO DRY HOLE. USE A VACUUM TO CLEAN OUT HOLE.

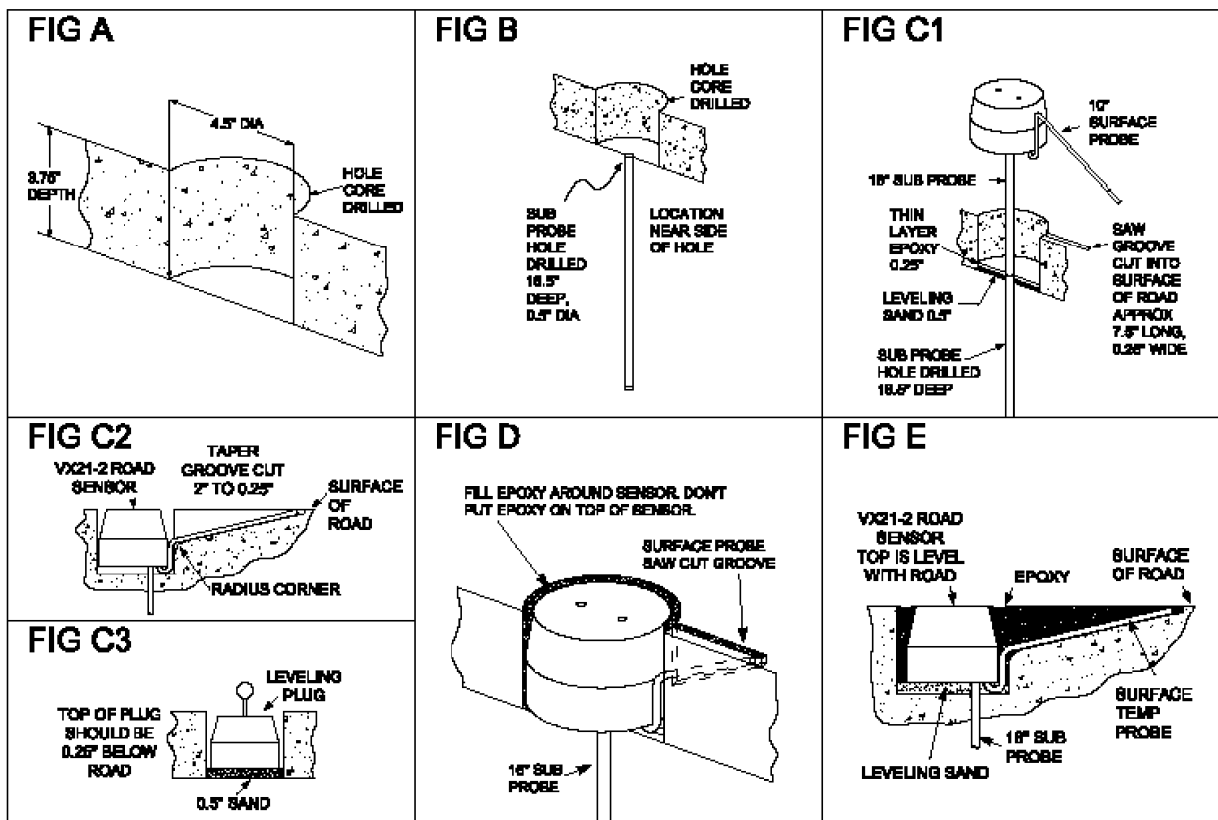
FIG B) DRILL SUB TEMP PROBE HOLE 16.5" DEEP INTO THE BEDROCK OF THE ROAD NEAR THE EDGE OF THE BOTTOM HOLE. (USE A 5" DIAMETER DRILL BIT). USE VACUUM TO CLEAN OUT SUB TEMP PROBE HOLE.

FIG C) SAW CUT A GROOVE IN THE PAVEMENT FROM THE HOLE 7.5" LONG AND 0.25" WIDE. TAPER THE DEPTH OF THE SAW CUT FROM THE HOLE TO THE END FROM 2" DEEP TO 0.25" DEPTH. (SEE FIG C-2). PLACE 0.5" OF LEVELLING SAND IN THE BOTTOM OF HOLE, MAKE SURE YOU DO NOT PUT ANY IN THE SUB PROBE HOLE (PLACE DUCT SEAL OVER HOLE). USING THE LEVELLING PLUG ENSURE THAT THE TOP OF THE VX21 IS 0.25" UNDER THE SURFACE OF ROAD. (SEE FIG C-3). REMOVE DUCT SEAL FROM TOP OF HOLE AND PLACE VX21 SENSOR SUB TEMPERATURE PROBE TIP IN THE SUB TEMPERATURE HOLE AND ADD 0.25" \*EPOXY TO THE BOTTOM OF CORE HOLE. AS \*EPOXY IS SETTING IN THE SUB PROBE TEMPERATURE HOLE ADD MORE EPOXY TO THE BOTTOM OF THE CORE HOLE.

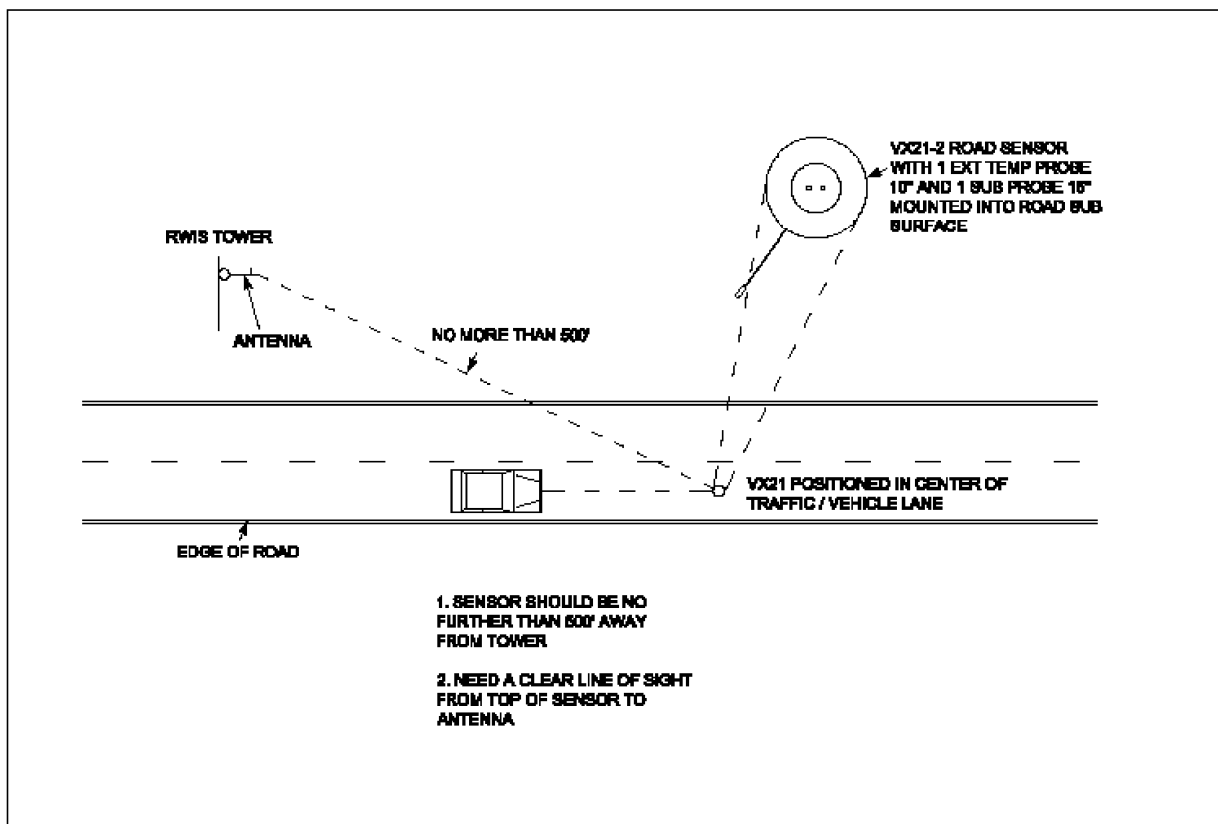
FIG D) PLACE VX-21 INTO THE CORE HOLE MAKING SURE THE TOP OF THE VX-21 IS LEVEL WITH THE TOP OF THE ROAD SURFACE. (MAKE SURE YOU HOLD THE SURFACE TEMPERATURE PROBE OUT FROM THE BOTTOM AS YOU PLACE VX21 INTO HOLE.) LAY THE SURFACE TEMPERATURE PROBE IN THE SAW CUT GROOVE USING DUCT SEAL TO HOLD THE SURFACE PROBE IN THE GROOVE. MAKE SURE THAT THE VX21 IS LEVEL WITH THE TOP OF THE ROAD SURFACE. PLACE EPOXY AROUND THE SIDES OF THE CORE HOLE NEXT TO THE VX21 SENSOR. FILL TO THE TOP OF THE ROAD SURFACE. FILL THE SURFACE PROBE SAW CUT GROOVE WITH EPOXY. WAIT 3-5 MINUTES FOR THE EPOXY TO START TO SET UP, REMOVE THE DUCT TAPE FROM THE TOP OF THE SENSOR EXPOSING THE SURFACE STATUS PROBE LOCATED ON THE TOP OF THE VX-21.

FIG E) CUTAWAY VIEW OF PROPERLY INSTALLED VX21 ROAD SENSOR.

\* (USE RESIGN DESIGNS - PART NUMBER "URETHANE 104-46" EPOXY) THIS CAN BE ORDERED FROM MH CORBIN INC. 8355 RAUSCH DR. PLAIN CITY OHIO 43064 (614) 592-7430. OR BY CALLING ELLSWORTH ADHESIVES AT (937) 938-0987. THIS EPOXY IS DESIGNED TO SET UP IN 3 TO 5 MINUTES AT 25C OR 10 MINUTES AT ROOM TEMPERATURE.



DATE: 4-10-2014	M.H. CORBIN INC. 8355 RAUSCH DR. PLAIN CITY, OH 43064	VX 21 ROAD SENSOR	TYPICAL VX21-2 INSTALLATION
REV:			



DATE: 4-10-2014	M.H. CORBIN INC. 8355 RAUSCH DR. PLAIN CITY, OH 43064	VX 21 ROAD SENSOR	PLACEMENT OF VX21 WITH RESPECT TO RWIS SITE
REV:			

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CALCULATED  
KSJ  
CHECKED  
BBB

MICELLANEOUS DETAIL - VX21 ROAD SENSOR

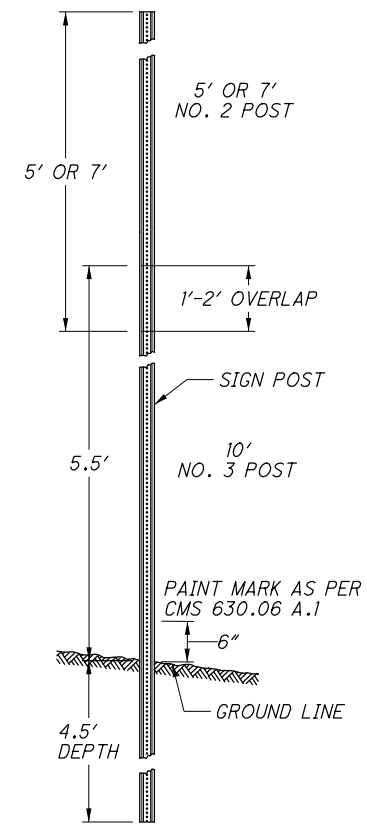
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**ITEM 630 – SPECIFIC SERVICE AND TOURIST-ORIENTED DIRECTIONAL SIGNS REMOVAL AND REINSTALLATION**

IN THE EVENT THAT THIS PROJECT NECESSITATES THE REMOVAL OF ANY SPECIFIC SERVICE (LOGO) SIGNS AND/OR TOURIST ORIENTED DIRECTIONAL SIGNS (TODS) THAT ARE NOT SPECIFICALLY DESCRIBED IN OTHER ITEMS OF WORK, THE CONTRACTOR SHALL CAREFULLY REMOVE SUCH SIGNS. REMOVED LOGO SIGNS AND TODS SHALL BE IMMEDIATELY RE ERECTED ON APPROVED TEMPORARY SUPPORTS IN THE SAME GENERAL VICINITY ALONG THE ROADWAY TO BE VIEWED BY THE MOTORING PUBLIC. UNLESS THE ORIGINAL SUPPORTS WILL BE REUSED, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE SUPPORTS AND FOUNDATIONS IN ACCORDANCE WITH ITEM 630.12. THE CONTRACTOR SHALL NOTIFY OHIO LOGOS, INC. AT (800) 860-5646

AT LEAST 60 DAYS PRIOR TO PROJECT COMPLETION TO ALERT THEM THAT ONE OR MORE LOGO SIGNS AND/OR TODS ARE ON TEMPORARY SUPPORTS. OHIO LOGOS, INC. WILL MAKE ARRANGEMENTS TO HAVE THE SIGNS INSTALLED ON PERMANENT SUPPORTS AT THE COMPLETION OF THE PROJECT.

THIS ITEM OF WORK INCLUDES REMOVAL AND TEMPORARY RE-ERECTION OF LOGO SIGNS AND TODS, FURNISHING AND INSTALLATION OF TEMPORARY SUPPORTS, REMOVAL AND DISPOSAL OF THE ORIGINAL SUPPORTS AND FOUNDATIONS, AND PROVIDING NOTIFICATION TO OHIO LOGOS, INC. THIS WORK WILL BE INCLUDED IN THE LUMP SUM PAYMENT FOR ITEM 614, MAINTAINING TRAFFIC.



TYPICAL NO. 2 & NO. 3  
U-CHANNEL SPLICE  
WITH 10' DRIVEN  
SECTION INSTALLATION

USE ALUMINUM BOLTS TO ATTACH  
SIGN TO NO. 2 POST.  
USE 2 STAINLESS STEEL BOLTS TO  
SPLICE NO. 2 TO NO. 3 POST.

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CALCULATED  
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CHECKED  
BBB

TRAFFIC CONTROL NOTES

FRA -33-24.26

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REF NO.	SHEET NO.	STATION	SIDE	CODE	SIZE	625	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630		
						GROUND ROD	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, 54X7.7	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W12X30	BREAKAWAY STRUCTURAL BEAM CONNECTION	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 8	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8	SIGN ATTACHMENT ASSEMBLY	SIGN, FLAT SHEET	SIGN, OVERHEAD EXTRUSHEET	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL
						EACH	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
S1	204	282+52.00	LT	RI-2	EXIST.																									
S2	204	286+90.00	LT	W11-3	EXIST.																									
S3	204	288+58.00	RT	RI-2	EXIST.																									
S4	205	296+93.00	LT	RI-2	EXIST.																									
S5	205	299+46.00	RT	W4-3R-36	48"x48"																									
S6	205	302+74.00	RT	RI-2	EXIST.			34.4								16														
S7	205	304+77.00	LT	OVERHEAD E1-H5P-117	13'x10' 117"x30"										6		130											1		
S8	205	306+96.00	RT	I-H25A-12	12"x12"			12.9							2		24.4											2		
S9	205	309+05.00	RT	E9-H1																										
S10	205	309+48.00	RT	I-3-36	36"x24"			14.3																						
S11	205	309+90.00	RT	I-H25A-12	12"x12"			12.9																						
S12	205	313+00.00	RT	M1-4-36-2 M3-2-36	36"x36" 36"x18"					15.7																				
S13	205	314+65.00	LT	I-3-36	36"x24"			14.3																						
S14	205	315+00.00	LT	OVERHEAD																								2		
S15	205	315+00.00	LT	OVERHEAD (2) E1-H5P-117(2)	12'x9' & 14'x12' 117"x30"(2)	2									1		276 48.8			2								1		
S16	206	317+50.00	RT	M1-5	EXIST																									
S17	206	317+50.00	RT	E1-204 (L.VI)	EXIST.																									
S18	206	319+50.00	LT	SPECIAL	EXIST						28																			
S19	206	319+94.00	RT	R2-1-48	EXIST																									
S20	206	321+65.00	RT	OVERHEAD E1-H5P-96	15'x12' 97"x30"	1																								
S21	206	323+27.00	LT	M1-4-36-2 M3-4-36	36"x36" 36"x18"					16.0																				
S22	206	324+67.00	RT	E9-H1 Exist	EXIST																									
S23	206	334+00.00	RT	E9-H1 Exist	EXIST			12.8																						
S24	206	327+68.00	LT	W11-3	EXIST																									
S25	206	329+26.00	RT	D3-2	EXIST																									
S26	206	329+90.00	LT	R2-1-36	36"x48"					32.7																				
S27	206	332+00.00	LT	Exist	EXIST																									
S28	206	332+73.00	RT	E1-H5P-96	EXIST			12.5																						
S29	206	333+00.00	RT	OVERHEAD E1-H5P-96	15'x12' 97"x30"	1																								
S30	206	335+00.00	RT	R2-1-36	36"x48"					31.6																				
S31	206	336+92.00	LT	OVERHEAD E1-H5P-117	14'x12' 117"x30"	1																								
S32	206	337+00.00	RT	D3-2-72 E1-H5P-60	72"x36" 60"x18"					32.9																				
S33	206	338+31.00	RT	E1-H5P-96	EXIST																									
S34	207	343+90.00	RT	OVERHEAD E1-H5P-96	15'x11' 97"x30"	1																								
S35	207	348+77.00	LT	W4-3R-36	48"x48"					31.3																				
S36	207	356+42.00	LT	R5-10a	30"x36"					14.3																				
S37	207	356+58.00	LT	D11-1	EXIST																									
S37	207	357+04.00	RT	D11-1	EXIST																									
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>						6	54.4	169.6	31.7	60.9	114.9	42.4	59.6	12	1	3	1	10	130.0	1257.2	8	6	19	1	3	6	30	12	5	1

CALCULATED  
JAS  
CHECKED  
NCK

**SIGNING SUBSUMMARY**

**FRA - 33 - 24.26**

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287

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REF NO.	SHEET NO.	STATION TO STATION		SIDE	621	621	621	644	644	644	644	644	644	644						
					RPM, 2-WAY WHITE/RED	RPM, 2-WAY YELLOW/RED	RAISED PAVEMENT MARKER REMOVED				EDGE LINE, 6" (WHITE)	EDGE LINE, 6" (YELLOW)	LANE LINE, 6"	CHANNELIZING LINE, 12"	STOP LINE	TRANSVERSE/DIAGONAL LINE	DOTTED LINE, 6"			
US 33					EACH	EACH	EACH	MILE	MILE	MILE	FT	FT	FT	FT						
EW-1	204	266+11.00	TO	281+55.00	LT				0.29											
EW-2	204	260+75.00	TO	279+82.00	RT				0.36											
EW-3	204	281+56.00	TO	288+73.00	LT				0.14											
EW-4	204	279+82.00	TO	288+19.00	RT				0.16											
EW-5	204 - 205	288+73.00	TO	60+50.00, RAMP G	LT				0.15											
EW-6	204 - 205	288+19.00	TO	35+85.00, RAMP F	RT				0.17											
EW-7	205	296+59.00	TO	302+70.00	LT				0.12											
EW-8	205	297+13.00	TO	302+54.00	RT				0.10											
EW-9	205 - 207	44+18.00, RAMP B	TO	346+84.00	LT				0.84											
EW-10	205 - 207	49+44.00, RAMP A	TO	346+22.00	RT				0.83											
EW-11	207	346+84.00	TO	362+06.00	LT				0.29											
EW-12	207	346+26.00	TO	353+58.00	RT				0.14											
EW-13	207	353+59.00	TO	364+39.00	RT				0.20											
EW-14	207	362+06.00	TO	364+39.00	LT				0.04											
EY-1	204 - 207	266+11.00	TO	364+39.00	LT		123	123		1.86										
EY-2	204 - 207	260+75.00	TO	364+39.00	RT		130	130		1.96										
LL-1	204 - 207	266+11.00	TO	364+39.00	LT	123		123			1.86									
LL-2	204 - 207	260+75.00	TO	364+39.00	RT	130		130			1.96									
LL-3	204 - 206	285+00.00	TO	322+87.00	RT	47					0.72									
CH-1	204	277+06.00	TO	281+56.00	LT	11		6			450									
CH-2	204	277+06.00	TO	281+56.00	LT						450									
CH-3	204	272+70.00	TO	279+83.00	RT	18		9			713									
CH-4	204	276+94.00	TO	279+83.00	RT	7		4			289									
CH-5	204	288+73.00	TO	289+84.00	LT	4		1			111									
CH-6	204 - 205	288+73.00	TO	290+33.00	LT	5		2			160									
CH-7	204	288+19.00	TO	289+80.00	RT	4		2			161									
CH-8	204 - 205	288+19.00	TO	290+30.00	RT						211									
CH-9	205	295+26.00	TO	60+50.00, RAMP G	LT	3		2			134									
CH-10	205	295+26.00	TO	296+59.00	LT						133									
CH-11	205	295+06.00	TO	35+85.00, RAMP F	RT	5		3			207									
CH-12	205	295+06.00	TO	297+13.00	RT	5		3			207									
CH-13	205	302+70.00	TO	304+38.00	LT	4		2			168									
CH-14	205	302+69.00	TO	304+38.00	LT	4		2			169									
CH-15	205	302+54.00	TO	311+17.00	RT	3					863									
CH-16	205	49+44.00, RAMP A	TO	304+15.00	RT	4		2			165									
CH-17	206 - 207	337+04.00	TO	346+26.00	RT	23		12			922									
CH-18	207	344+03.00	TO	346+27.00	RT	6		3			224									
CH-19	207	340+39.00	TO	346+84.00	LT	16		8			645									
CH-20	207	340+39.00	TO	346+84.00	LT						645									
CH-21	207	353+58.00	TO	357+51.00	RT						393									
CH-22	207	353+58.00	TO	357+51.00	RT	10		5			393									
CH-23	207	362+05.00	TO	363+34.00	LT	3		2			129									
CH-24	207	362+05.00	TO	364+39.00	LT	6		3			234									
DL-1	205	290+33.00	TO	295+26.00	LT	6						493								
DL-2	205	290+30.00	TO	295+06.00	RT	6						476								
DL-3	205 - 207	304+38.00	TO	340+39.00	LT	45						3601								
DL-4	205 - 206	311+17.00	TO	321+29.00	RT							1012								
DL-5	206	322+87.00	TO	337+04.00	RT	18						1417								
DL-6	207	357+51.00	TO	364+39.00	RT	9						688								
DL-7	204	270+50.00	TO	277+06.00	LT	8						656								
<b>SUBTOTOTALS</b>						533	253	577	3.83	3.82	4.54	8176						8343		
<b>SUBTOTOTALS THIS SHEET</b>						533	253	577	7.65		4.54	8176							8343	

<b>PAVEMENT MARKING SUBSUMMARY</b>	CALCULATED KSJ CHECKED NCK
<b>FRA - 33 - 24.26</b>	
<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <span style="font-size: 10px;">202</span>  <span style="font-size: 10px;">287</span> </div>	

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REF NO.	SHEET NO.	STATION TO STATION			621	621	621	644	644	644	644	644	644	644									
					RPM, 2-WAY WHITE/RED	RPM, 2-WAY YELLOW/RED	RAISED PAVEMENT MARKER REMOVED		EDGE LINE, 6" (WHITE)	EDGE LINE, 6" (YELLOW)	LANE LINE, 6"	CHANNELIZING LINE, 12"	STOP LINE	TRANSVERSE/DIAGONAL LINE	DOTTED LINE, 6"								
					EACH	EACH	EACH	MILE	MILE	MILE	FT	FT	FT	FT									
<b>US 33 (Cont.)</b>																							
TW-1	205	302+70.00	TO	304+38.00	LT																		
TW-2	207	344+03.00	TO	346+27.00	RT																		
TW-3	207	362+05.00	TO	363+34.00	LT																		
<b>RAMP G</b>																							
EW-15	207	46+82.00	TO	53+66.00	CL&LT			0.13															
EY-3	207	46+82.00	TO	53+66.00	RT		9	9		0.13													
CH-25	207	53+31.00	TO	53+66.00	RT						95												
<b>RAMP I</b>																							
EW-16	208	46+50.00	TO	60+46.00	CL&LT			0.26															
EY-4	208	46+50.00	TO	60+46.00	RT&CL		17	17		0.26													
SL-1	208			60+42.00								50											
<b>RAMP J</b>																							
EW-17	208	48+72.00	TO	60+38.00	CL			0.22															
EY-5	208	48+72.00	TO	60+38.00	RT		15	15		0.22													
<b>RAMP H</b>																							
EW-18	209	51+09.00	TO	62+07.00	CL			0.21															
EY-6	209	51+09.00	TO	55+00.00	RT		5	5		0.07													
EY-7	209	55+79.00	TO	62+07.00	RT		8	8		0.12													
<b>RAMP HH</b>																							
EW-19	209	53+47.00	TO	55+10.00	LT			0.03															
EY-8	209	53+47.00	TO	55+79.00	CL		3	3		0.04													
SL-2	209			53+39.00								17											
<b>RAMP L</b>																							
EW-20	209	58+85.00	TO	69+14.00	CL			0.19															
EY-9	209	58+85.00	TO	69+14.00	LT		13	13		0.19													
<b>RAMP B</b>																							
EW-21	210	44+18.00	TO	61+04.00	CL			0.32															
EY-10	210	44+18.00	TO	61+04.00	LT		21	21		0.32													
<b>SUBTOTALS FROM SHEET</b>					202	533	253	577	3.83	3.82	4.54	8176										8343	
<b>SUBTOTALS THIS SHEET</b>							91	91	1.36	1.35		95	67	333									
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>						533	344	668	10.36		4.54	8271	67	333									8343

**PAVEMENT MARKING SUBSUMMARY**

CALCULATED  
KSJ  
CHECKED  
NCK

**FRA -33-24.26**

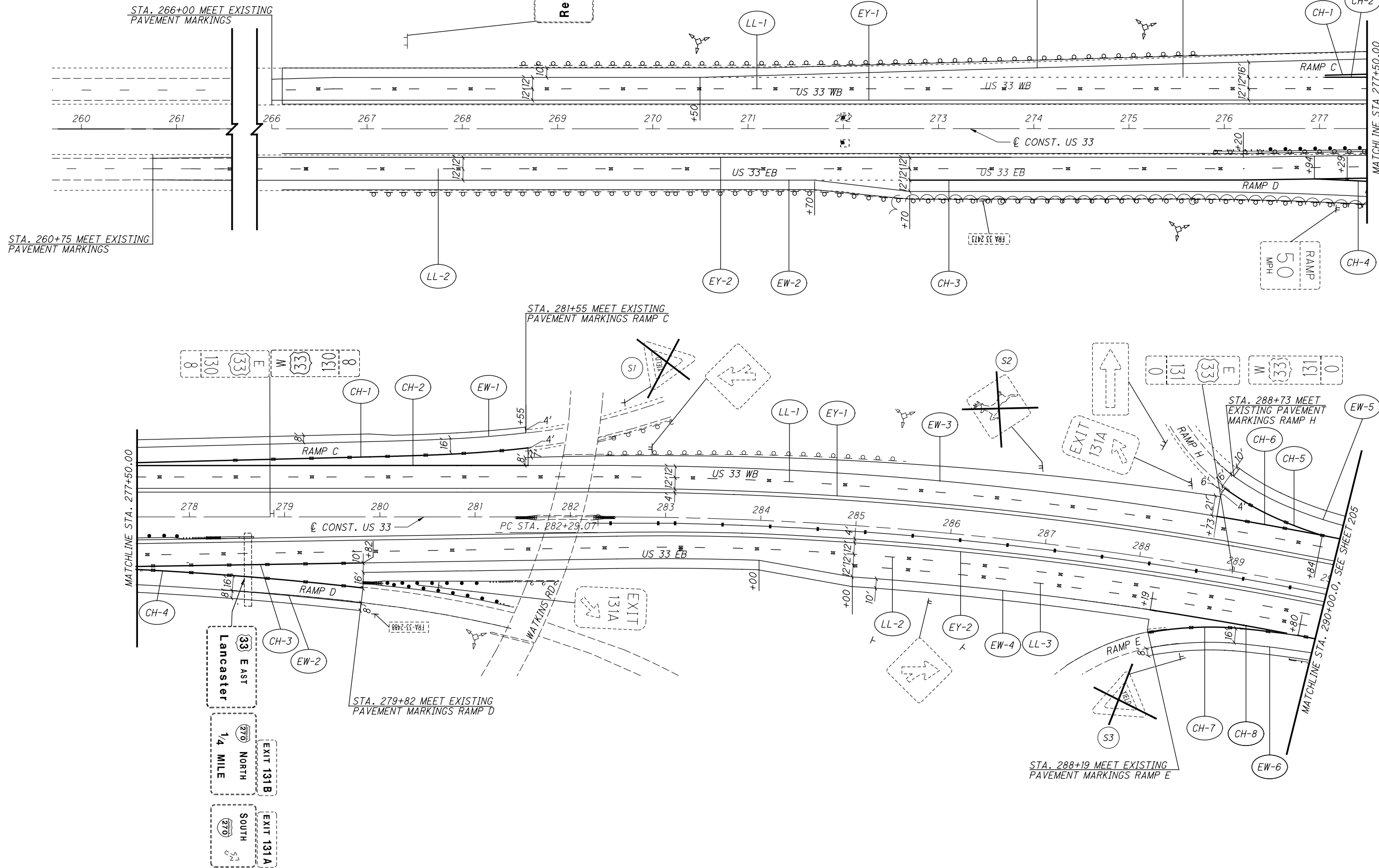
203  
287

PAVEMENT MARKING LEGEND

- EW-# ITEM 644 - EDGE LINE, 6", WHITE
- EY-# ITEM 644 - EDGE LINE, 6", YELLOW
- LL-# ITEM 644 - LANE LINE, 6"
- CH-# ITEM 644 - CHANNELIZING LINE, 12"
- TW-# ITEM 644 - TRANSVERSE LINE, WHITE
- DL-# ITEM 644 - DOTTED LINE

SIGNING LEGEND

- PROPOSED SIGN
- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED



SIGNING AND PAVEMENT MARKING PLAN  
 STA. 265+50.00 TO STA. 290+00.00

FRA -33-24.26

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PAVEMENT MARKING LEGEND

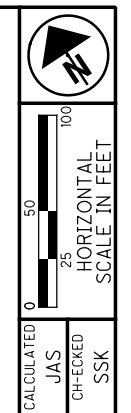
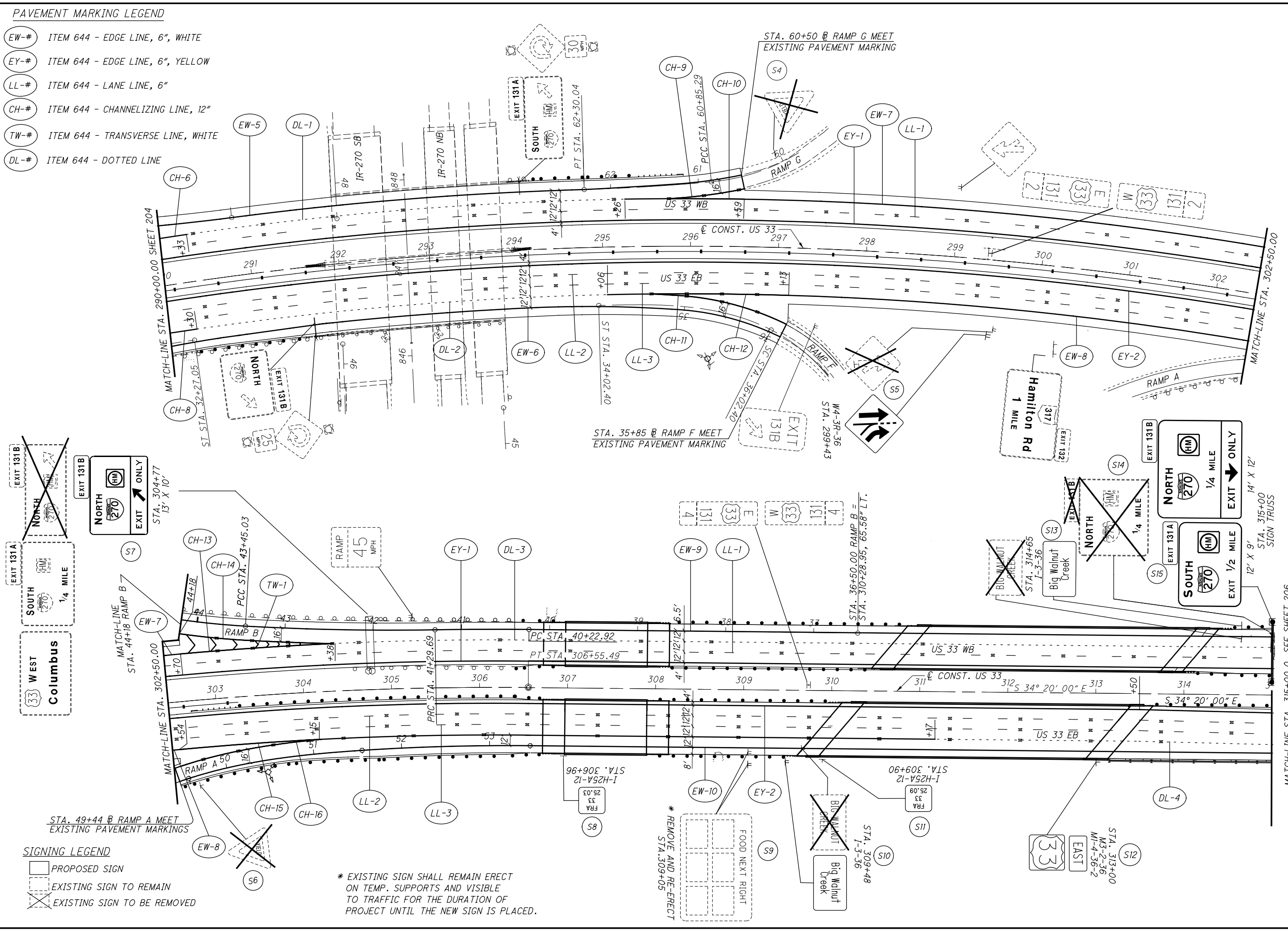
- EW-# ITEM 644 - EDGE LINE, 6", WHITE
- EY-# ITEM 644 - EDGE LINE, 6", YELLOW
- LL-# ITEM 644 - LANE LINE, 6"
- CH-# ITEM 644 - CHANNELIZING LINE, 12"
- TW-# ITEM 644 - TRANSVERSE LINE, WHITE
- DL-# ITEM 644 - DOTTED LINE

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- SIGNING LEGEND**
- PROPOSED SIGN
  - EXISTING SIGN TO REMAIN
  - EXISTING SIGN TO BE REMOVED

\* EXISTING SIGN SHALL REMAIN ERECT ON TEMP. SUPPORTS AND VISIBLE TO TRAFFIC FOR THE DURATION OF PROJECT UNTIL THE NEW SIGN IS PLACED.

\* REMOVE AND RE-ERECT STA. 309+05



**SIGNING AND PAVEMENT MARKING PLAN**  
STA. 290+00.00 TO STA. 315+00.00

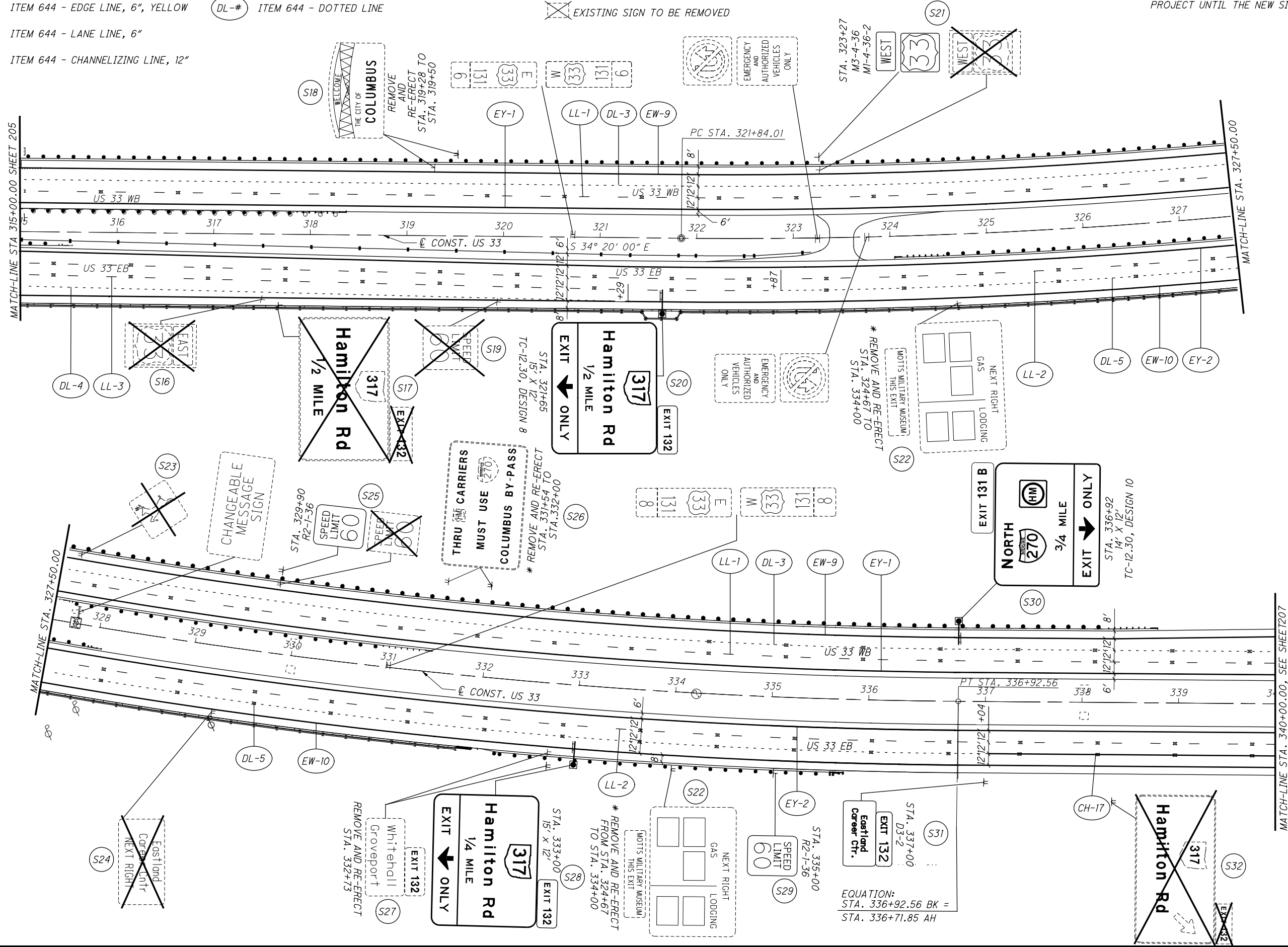
PAVEMENT MARKING LEGEND

- EW-# ITEM 644 - EDGE LINE, 6", WHITE
- EW-# ITEM 644 - EDGE LINE, 6", YELLOW
- LL-# ITEM 644 - LANE LINE, 6"
- CH-# ITEM 644 - CHANNELIZING LINE, 12"
- TW-# ITEM 644 - TRANSVERSE LINE, WHITE
- DL-# ITEM 644 - DOTTED LINE

SIGNING LEGEND

- PROPOSED SIGN
- ▭ EXISTING SIGN TO REMAIN
- ✕ EXISTING SIGN TO BE REMOVED

\* EXISTING SIGN SHALL REMAIN ERECT ON TEMP. SUPPORTS AND VISIBLE TO TRAFFIC FOR THE DURATION OF PROJECT UNTIL THE NEW SIGN IS PLACED.



SIGNING AND PAVEMENT MARKING PLAN  
STA. 315+00.00 TO STA. 340+00.00

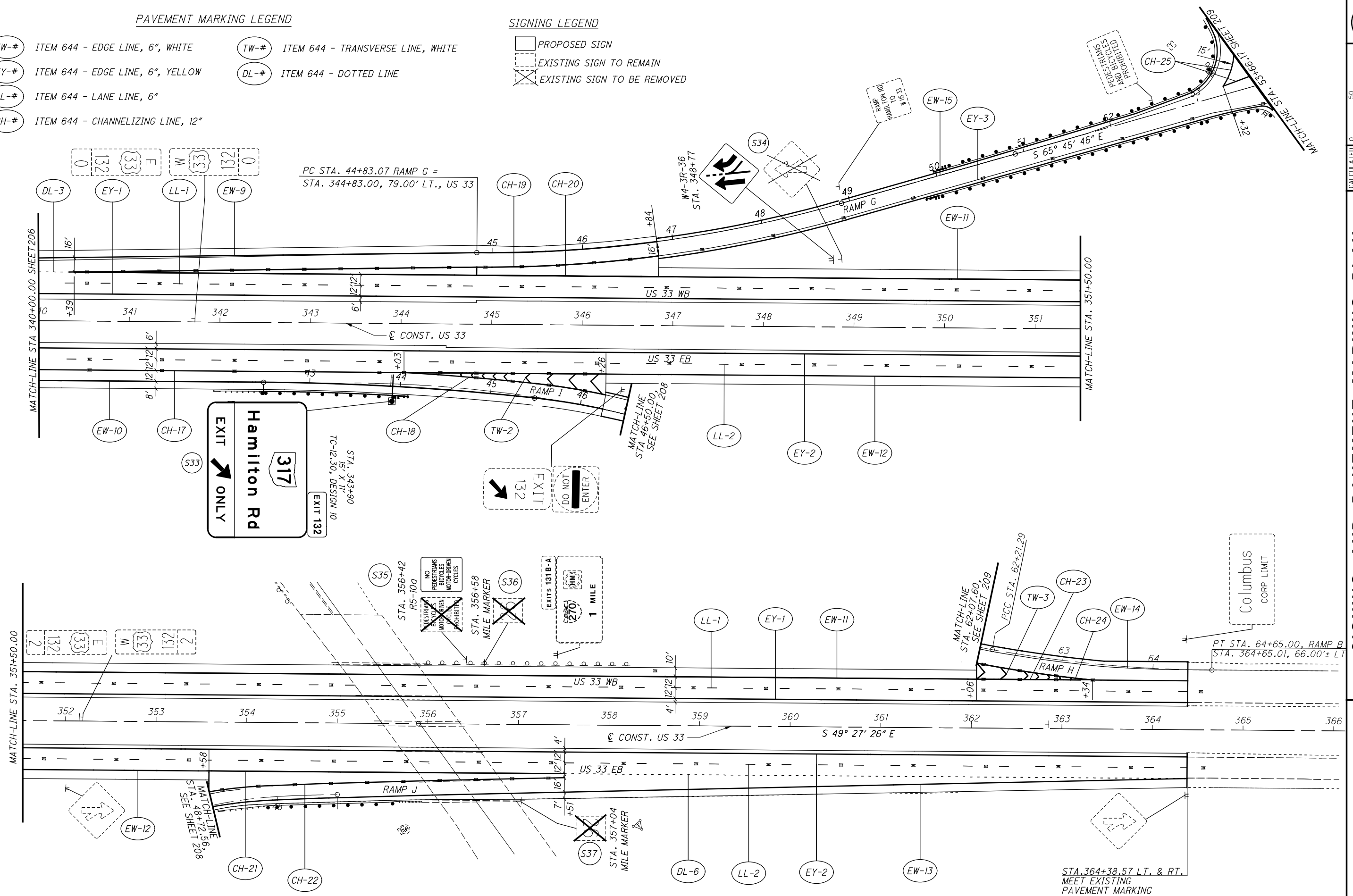
FRA -33-24.26

PAVEMENT MARKING LEGEND

- EW-# ITEM 644 - EDGE LINE, 6", WHITE
- EW-# ITEM 644 - EDGE LINE, 6", YELLOW
- LL-# ITEM 644 - LANE LINE, 6"
- CH-# ITEM 644 - CHANNELIZING LINE, 12"
- TW-# ITEM 644 - TRANSVERSE LINE, WHITE
- DL-# ITEM 644 - DOTTED LINE

SIGNING LEGEND

- PROPOSED SIGN
- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED



CALCULATED JAS  
 CHECKED SSK

0 50 100  
 25  
 HORIZONTAL SCALE IN FEET

SIGNING AND PAVEMENT MARKING PLAN  
 STA. 340+00.00 TO STA. 366+00.00




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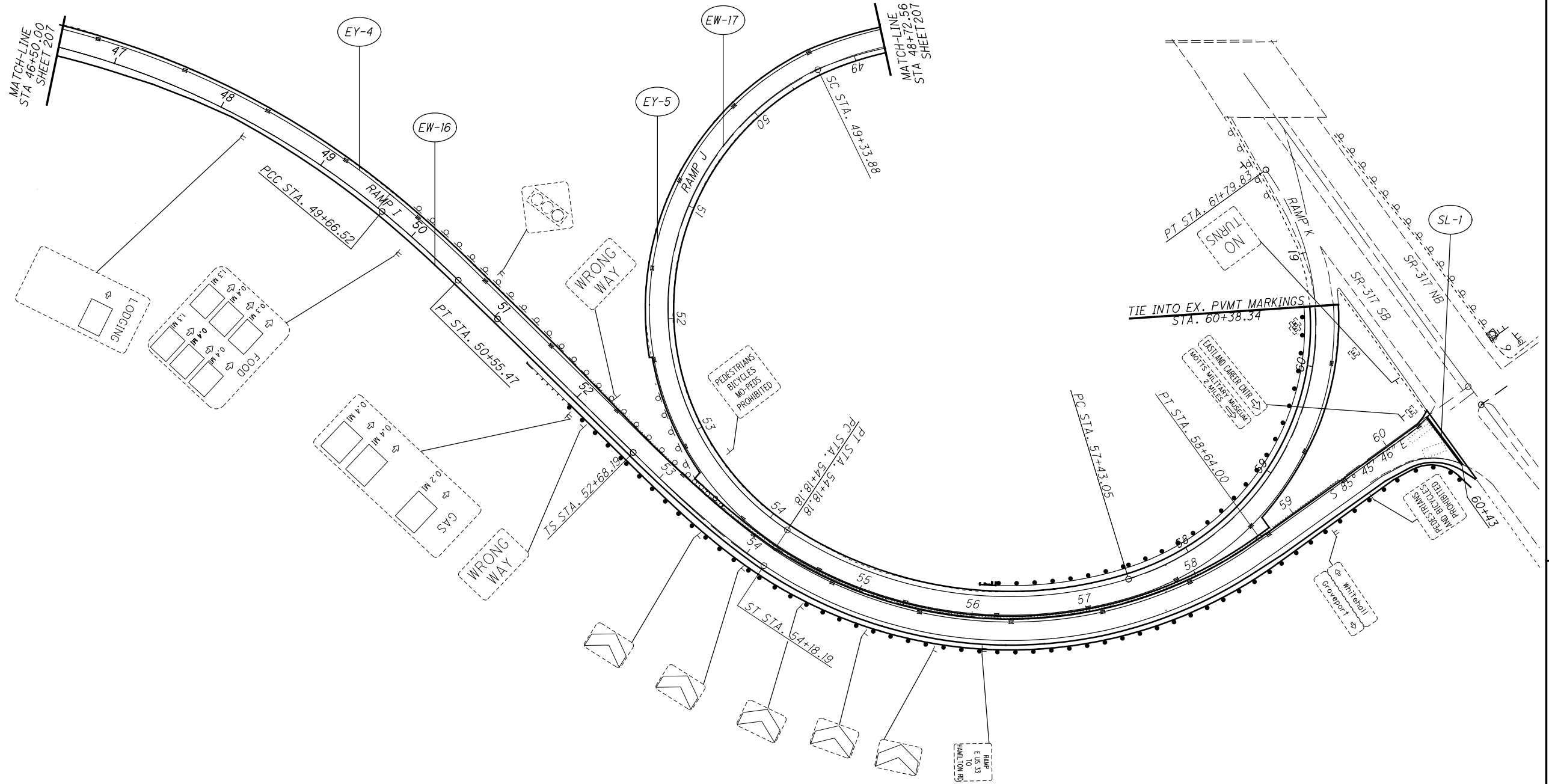
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PAVEMENT MARKING LEGEND

- SL-# ITEM 644 - STOP LINE
- EW-# ITEM 644 - EDGE LINE, 6", WHITE
- EY-# ITEM 644 - EDGE LINE, 6", YELLOW
- LL-# ITEM 644 - LANE LINE, 6"
- CH-# ITEM 644 - CHANNELIZING LINE, 12"
- TW-# ITEM 644 - TRANSVERSE LINE, WHITE
- DL-# ITEM 644 - DOTTED LINE

SIGNING LEGEND

-  PROPOSED SIGN
-  EXISTING SIGN TO REMAIN
-  EXISTING SIGN TO BE REMOVED



CALCULATED  
JAS  
CHECKED  
SSK

0 50 100  
HORIZONTAL  
SCALE IN FEET

**SIGNING AND PAVEMENT MARKING PLAN**  
**RAMP I AND RAMP J**

**FRA -33-24.26**

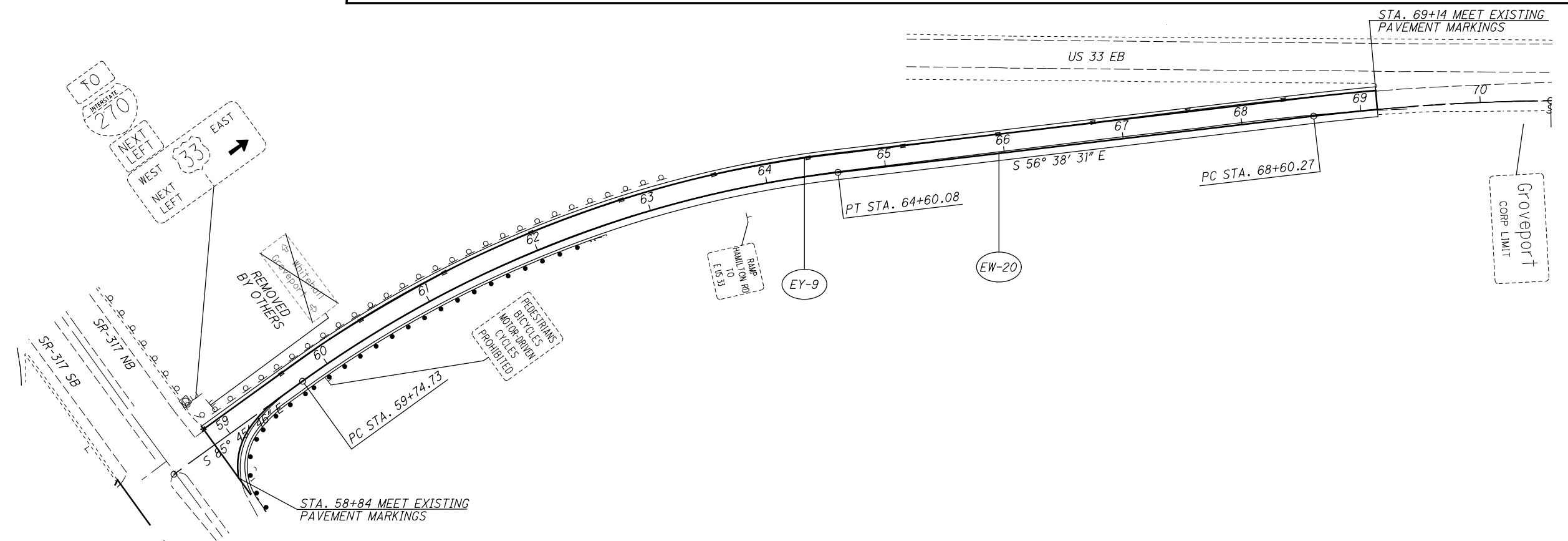
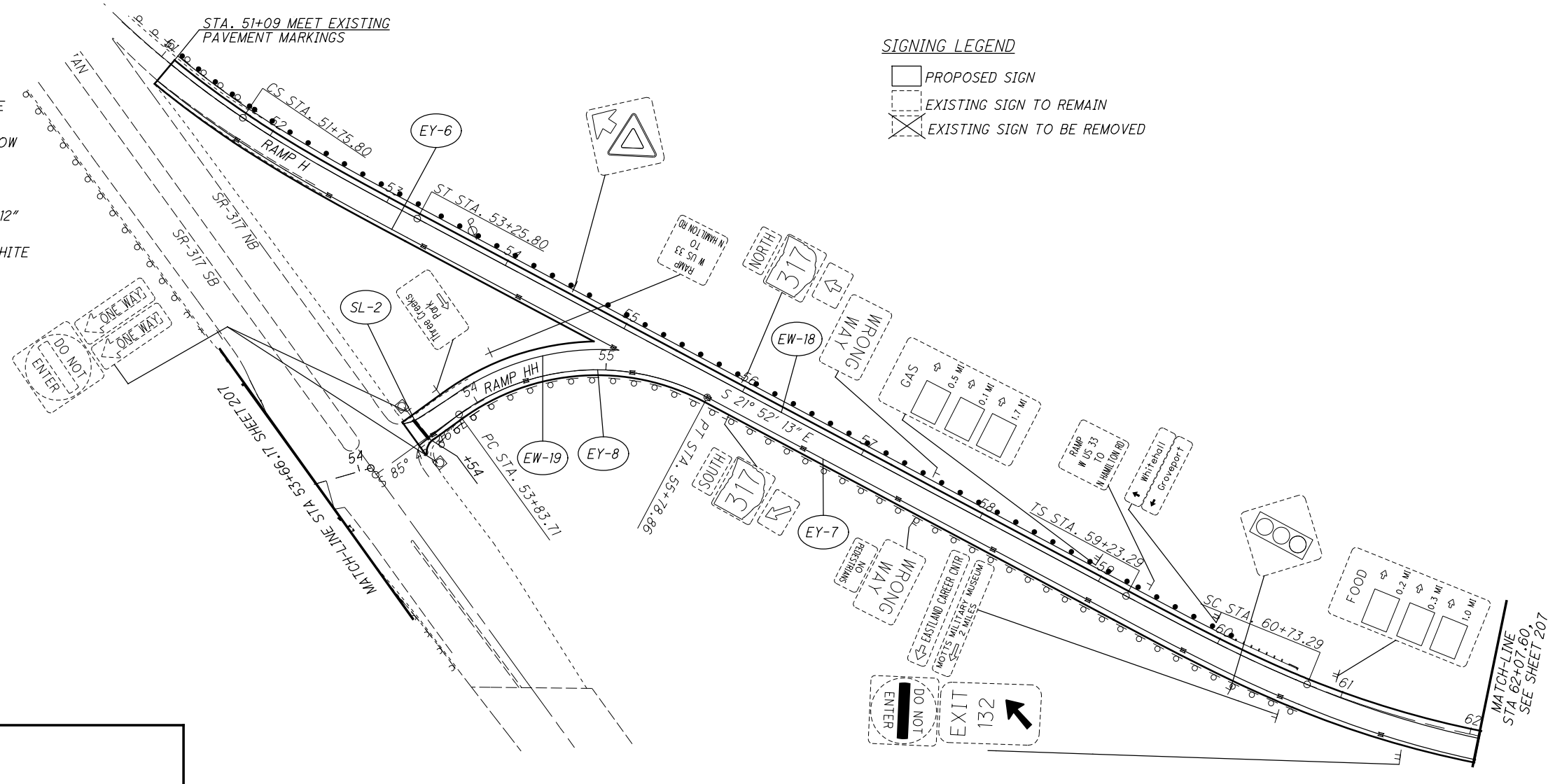


**PAVEMENT MARKING LEGEND**

- SL-# ITEM 644 - STOP LINE
- EW-# ITEM 644 - EDGE LINE, 6", WHITE
- EW-# ITEM 644 - EDGE LINE, 6", YELLOW
- LL-# ITEM 644 - LANE LINE, 6"
- CH-# ITEM 644 - CHANNELIZING LINE, 12"
- TW-# ITEM 644 - TRANSVERSE LINE, WHITE
- DL-# ITEM 644 - DOTTED LINE

**SIGNING LEGEND**

- PROPOSED SIGN
- ▨ EXISTING SIGN TO REMAIN
- ⊗ EXISTING SIGN TO BE REMOVED



CALCULATED  
JAS  
CHECKED  
SSK

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25  
HORIZONTAL  
SCALE IN FEET

**SIGNING AND PAVEMENT MARKING PLAN**  
**RAMP H, RAMP HH AND RAMP L**


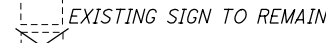

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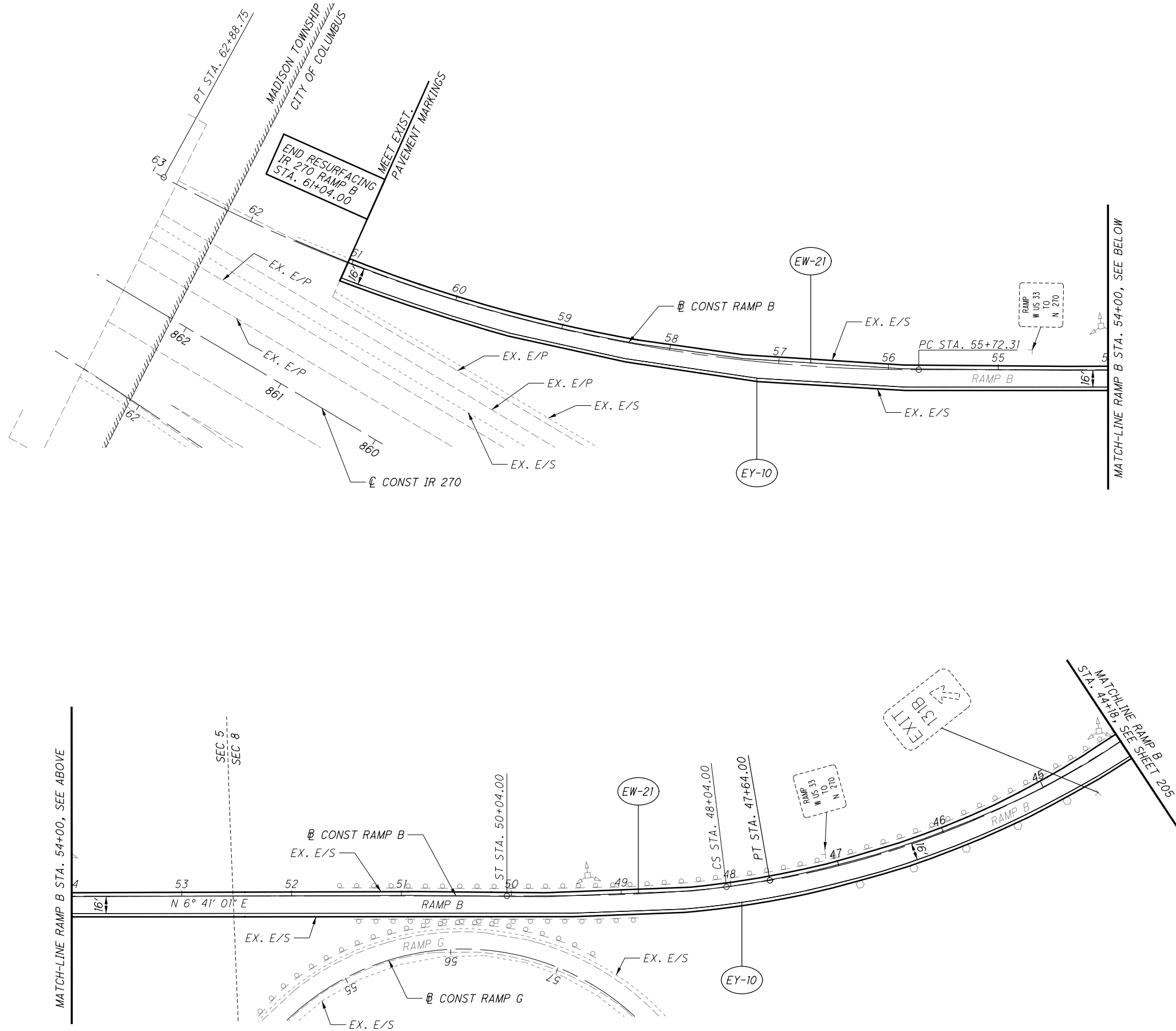
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**PAVEMENT MARKING LEGEND**

- EW-# ITEM 644 - EDGE LINE, 6", WHITE
- EY-# ITEM 644 - EDGE LINE, 6", YELLOW
- LL-# ITEM 644 - LANE LINE, 6"
- CH-# ITEM 644 - CHANNELIZING LINE, 12"
- TW-# ITEM 644 - TRANSVERSE LINE, WHITE
- DL-# ITEM 644 - DOTTED LINE

**SIGNING LEGEND**

-  PROPOSED SIGN
-  EXISTING SIGN TO REMAIN
-  EXISTING SIGN TO BE REMOVED



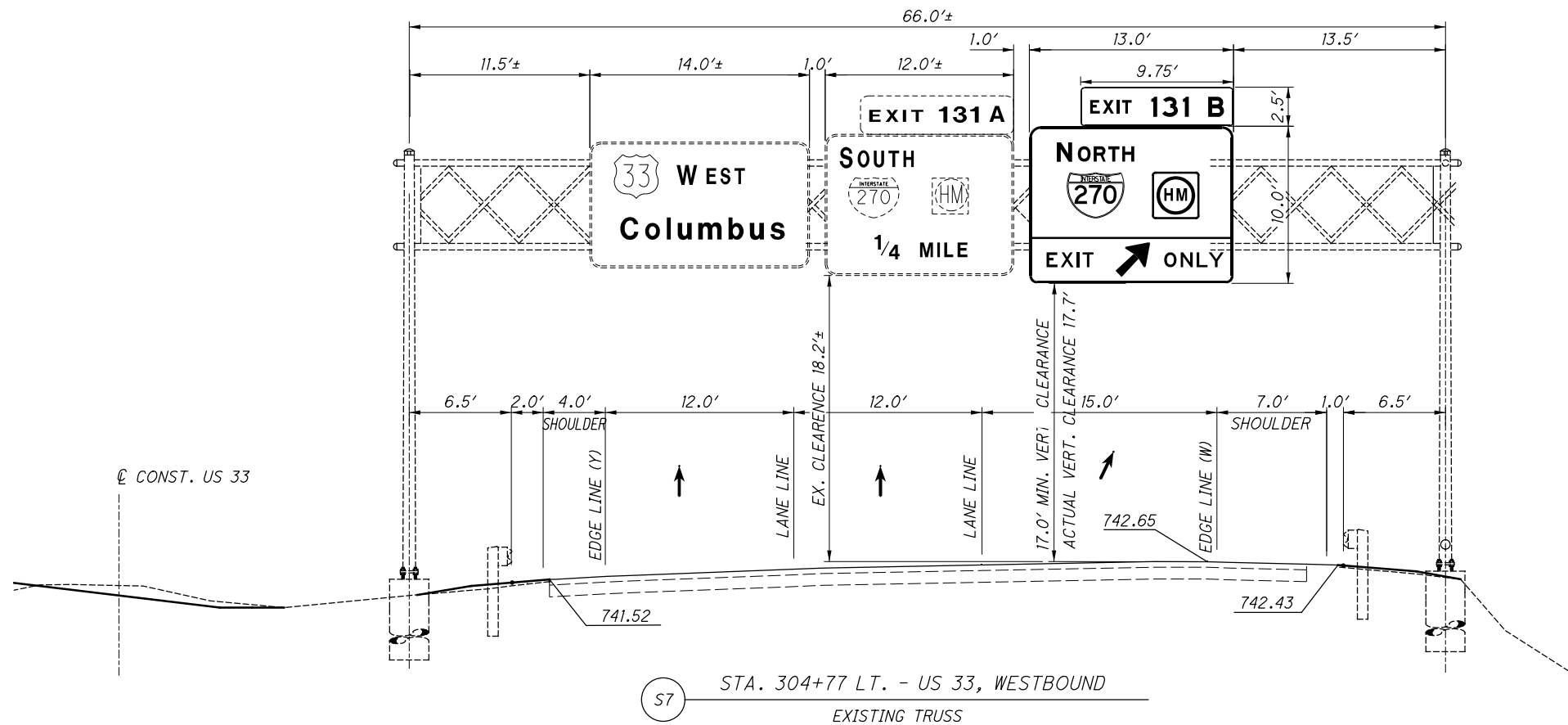
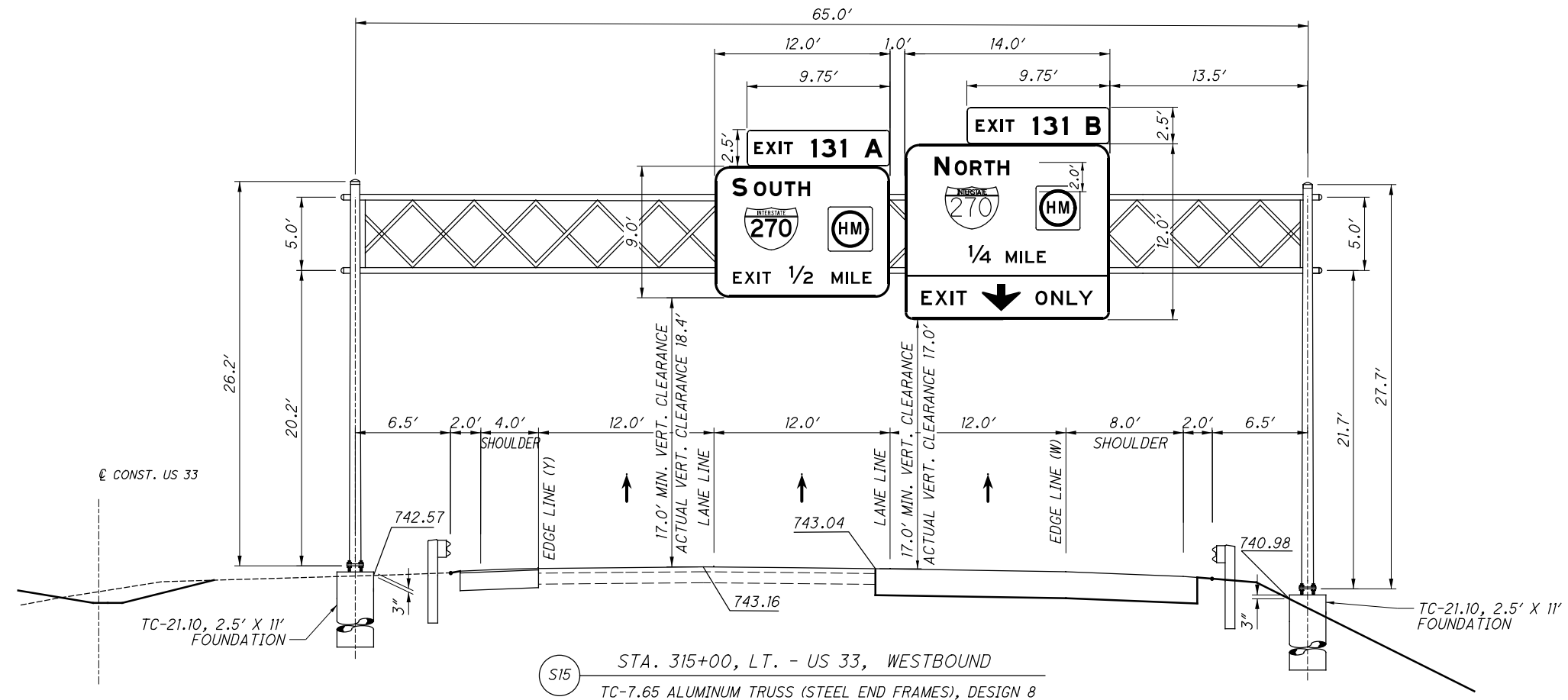
CALCULATED JAS  
CHECKED SSK

0 50 100  
HORIZONTAL SCALE IN FEET



**SIGNING & PAVEMENT MARKING PLAN, RAMP B  
STA. 46+00 TO STA. 63+00**

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CALCULATED	JAS
CHECKED	SSK

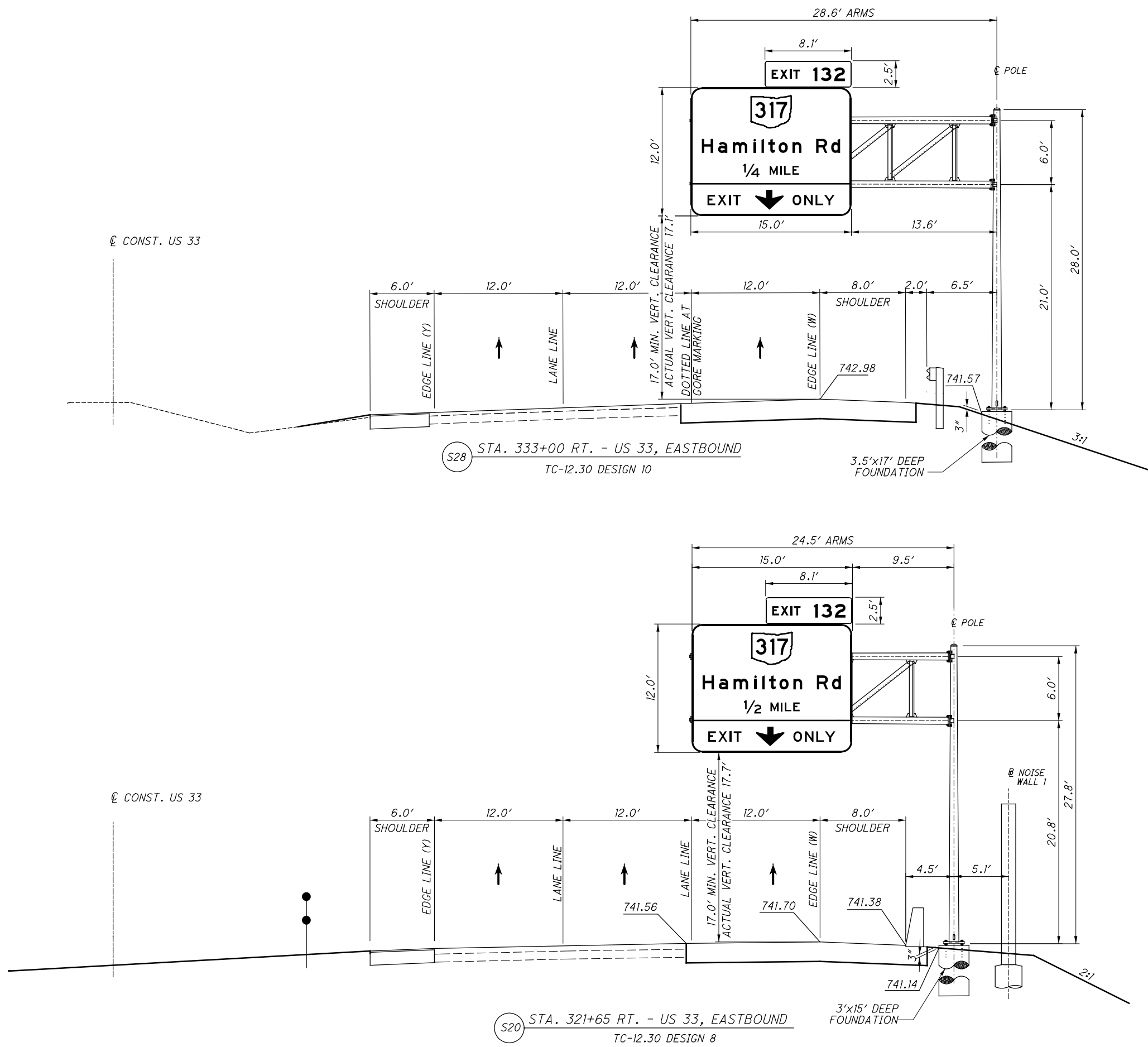
0 5 10  
 2.5'  
 HORIZONTAL  
 SCALE IN FEET

SIGN ELEVATION, STA. 304+77 AND STA. 315+00

FRA - 33 - 24.26

211  
 287

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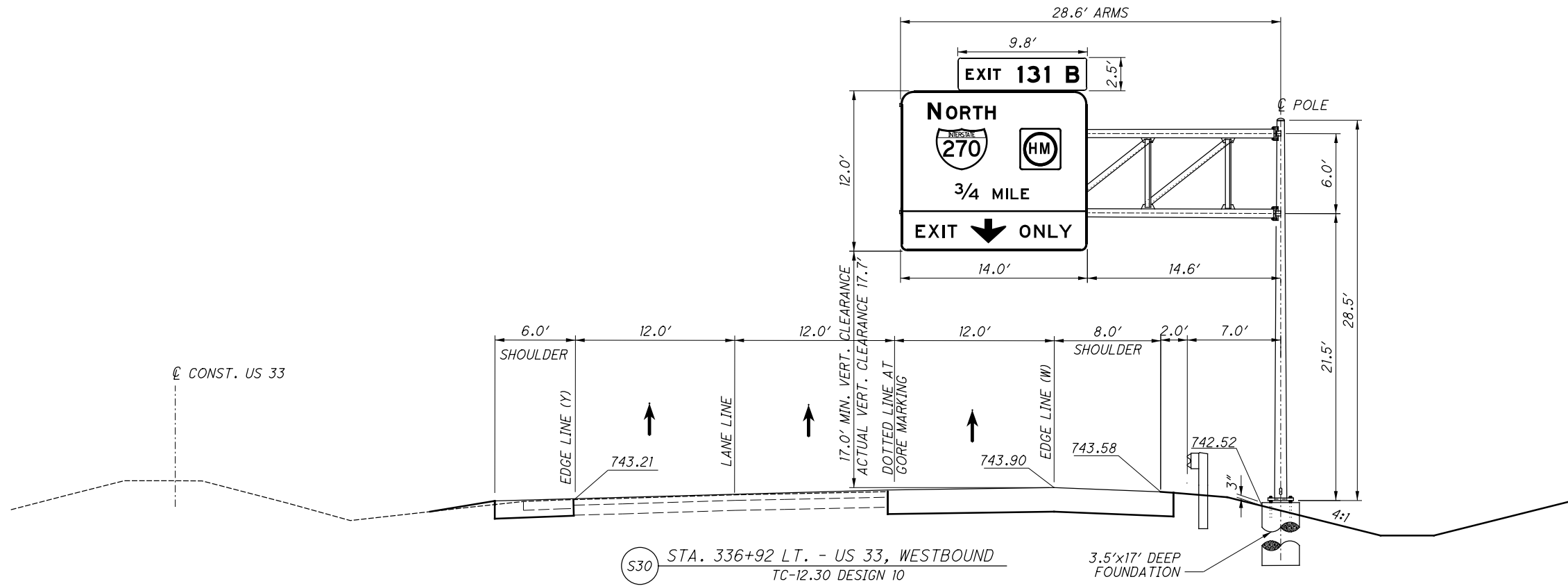
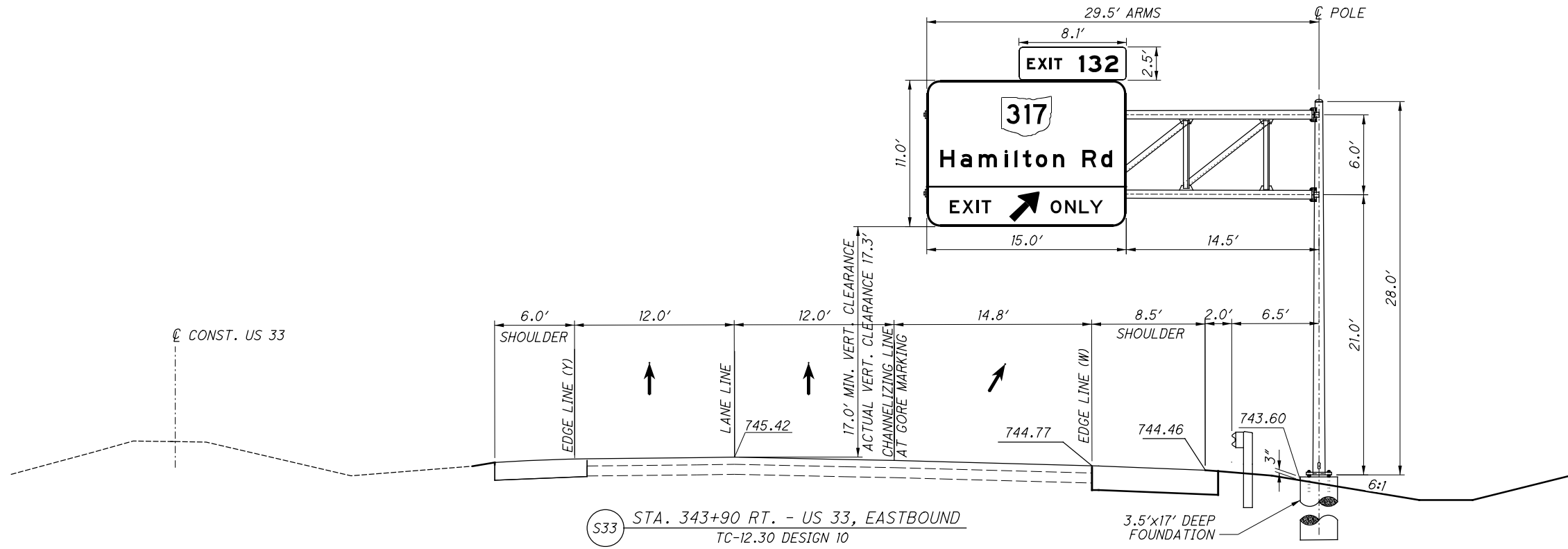
CALCULATED JAS  
 CHECKED SSK  
 SCALE IN FEET  
 0 5 10  
 2.5  
 HORIZONTAL

SIGN ELEVATION, STA. 321+65 AND STA. 333+00

FRA -33-24.26

212  
287

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CALCULATED  
JAS  
CHECKED  
SSK

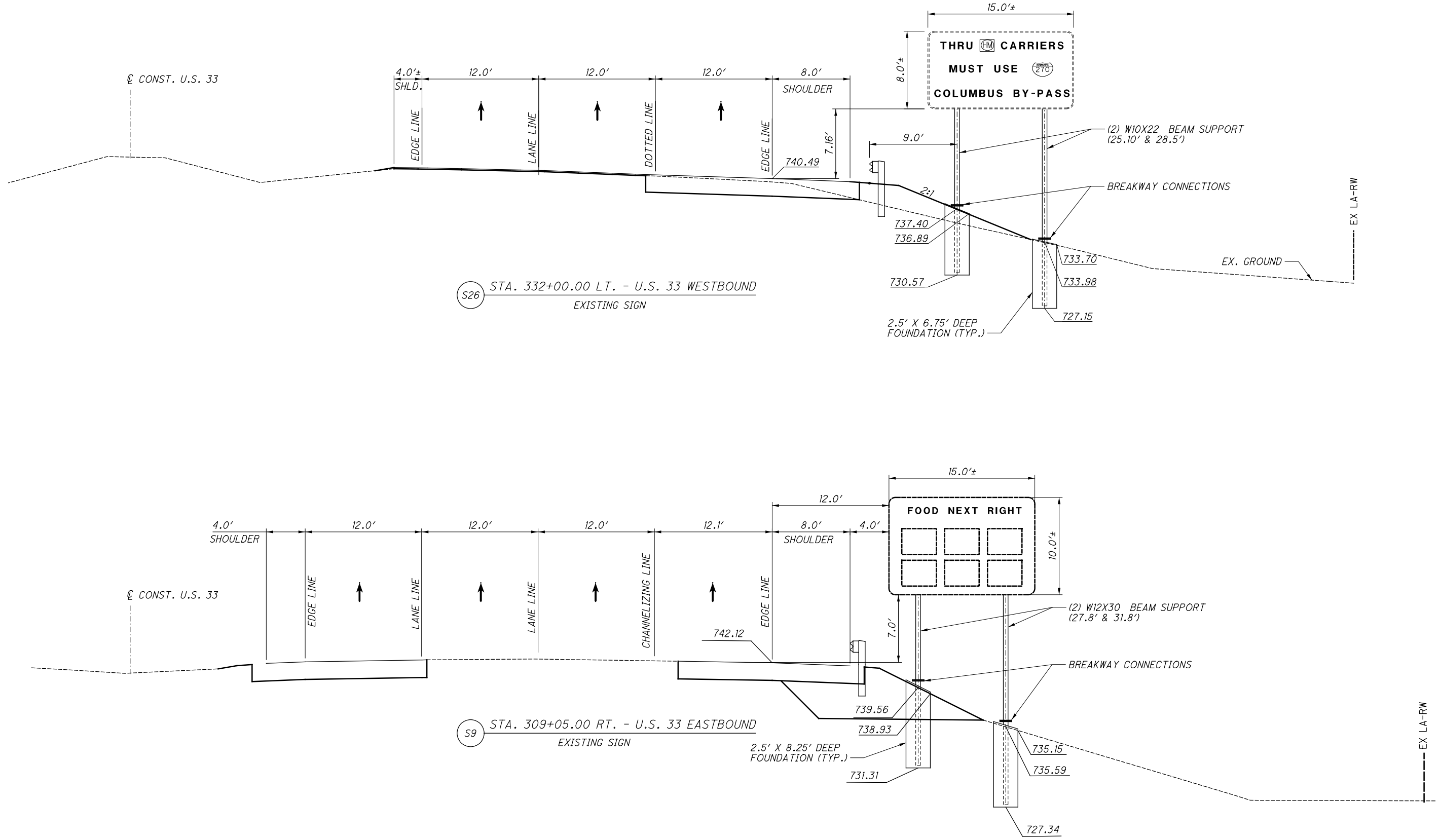
0 5 10  
2.5'  
HORIZONTAL  
SCALE IN FEET

SIGN ELEVATION, STA. 336+92 AND STA. 343+90

FRA-33-24.26

213  
287

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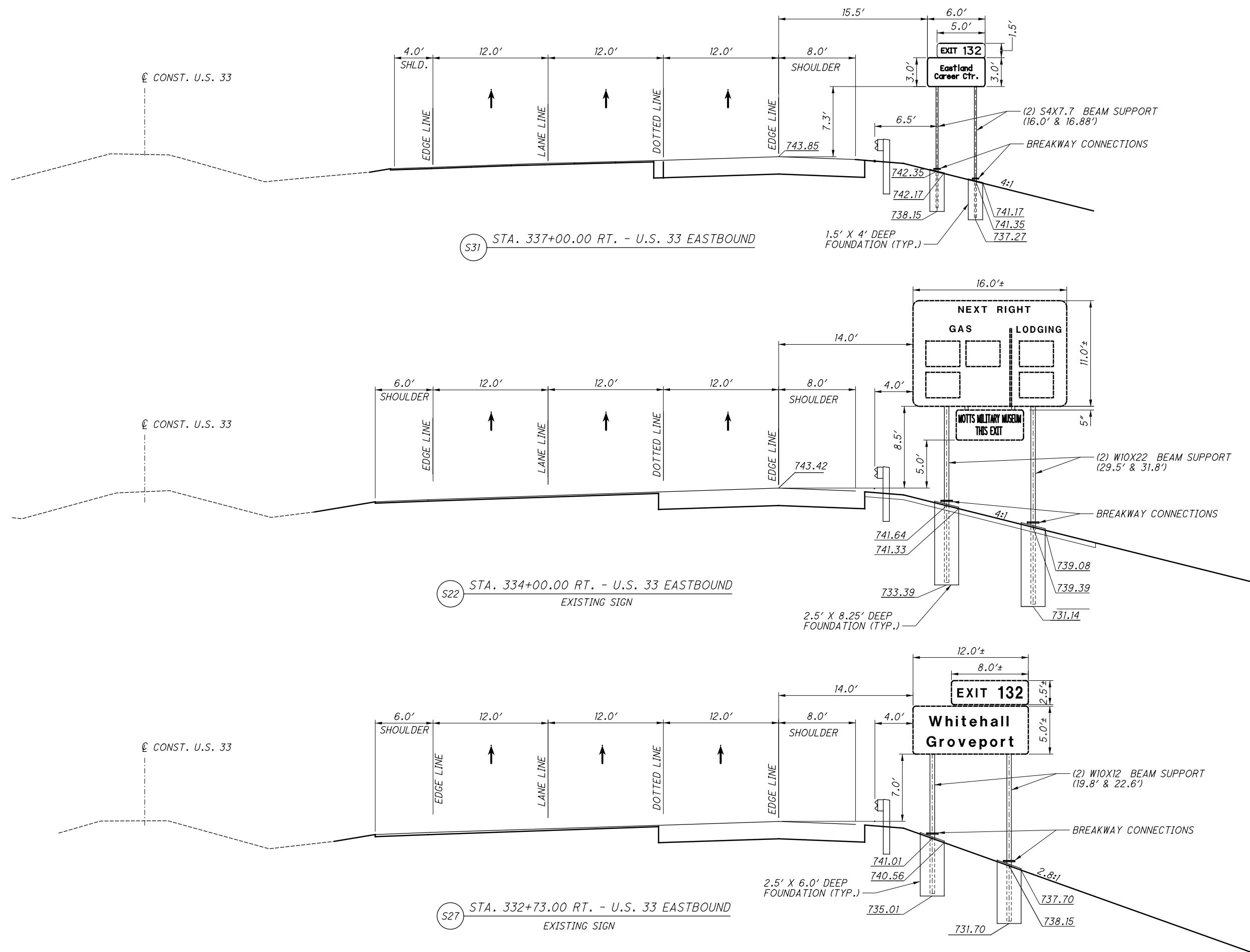
CALCULATED	JAS	CHECKED	SSK
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0 5 10  
2.5  
HORIZONTAL SCALE IN FEET

**SIGN ELEVATION, STA. 309+05 AND STA. 332+00**

**FRA -33-24.26**

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CALCULATED JAS  
 CHECKED SSK

**SIGN ELEVATIONS, STA. 332+73, 334+00 AND 337+00**

**FRA -33-24.26**

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SHEET NO.	LOCATION	625	625	625	625	625	625	625	625	625	625			632	632	632							
		CONDUIT, 1-1/2", 725.04 FT	CONDUIT, 2", 725.04 FT	CONDUIT, 4" MULTICELL, 725.20, EPC-40 (TRAFFIC SURVEILLANCE RACEWAY) FT	CONDUIT, JACKED OR DRILLED, 725.04, 1-1/2" FT	CONDUIT, MISC.: JACKED OR DRILLED, 725.20, 4", EPC-80 FT	TRENCH, 30" DEEP FT	PULL BOX, 725.08, 18" EACH	PULL BOX, 725.08, 32" EACH	PULL BOX REMOVED EACH	PLASTIC CAUTION TAPE FT				DETECTOR LOOP, AS PER PLAN EACH	LOOP DETECTOR LEAD-IN CABLE FT	POWER CABLE, 2 CONDUCTOR, NO. 4 AWG FT						
217	S.R. 317 & U.S. 33 WESTBOUND (RAMP HH)		16				16							1	30								
218	S.R. 317 & U.S. 33 EASTBOUND (RAMP C)		24				12							2	50								
221	ITS PLAN - U.S. 33, DMS - SITE 91	102		42	88	85	144	3	2	2	144					275							
222	ITS PLAN - U.S. 33			230					4														
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>		102	40	272	88	85	172	3	6	2	172			3	80	275							

<b>SIGNAL SUBSUMMARY</b>	CALCULATED			
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NRW	JRL			
CHECKED	JRL			





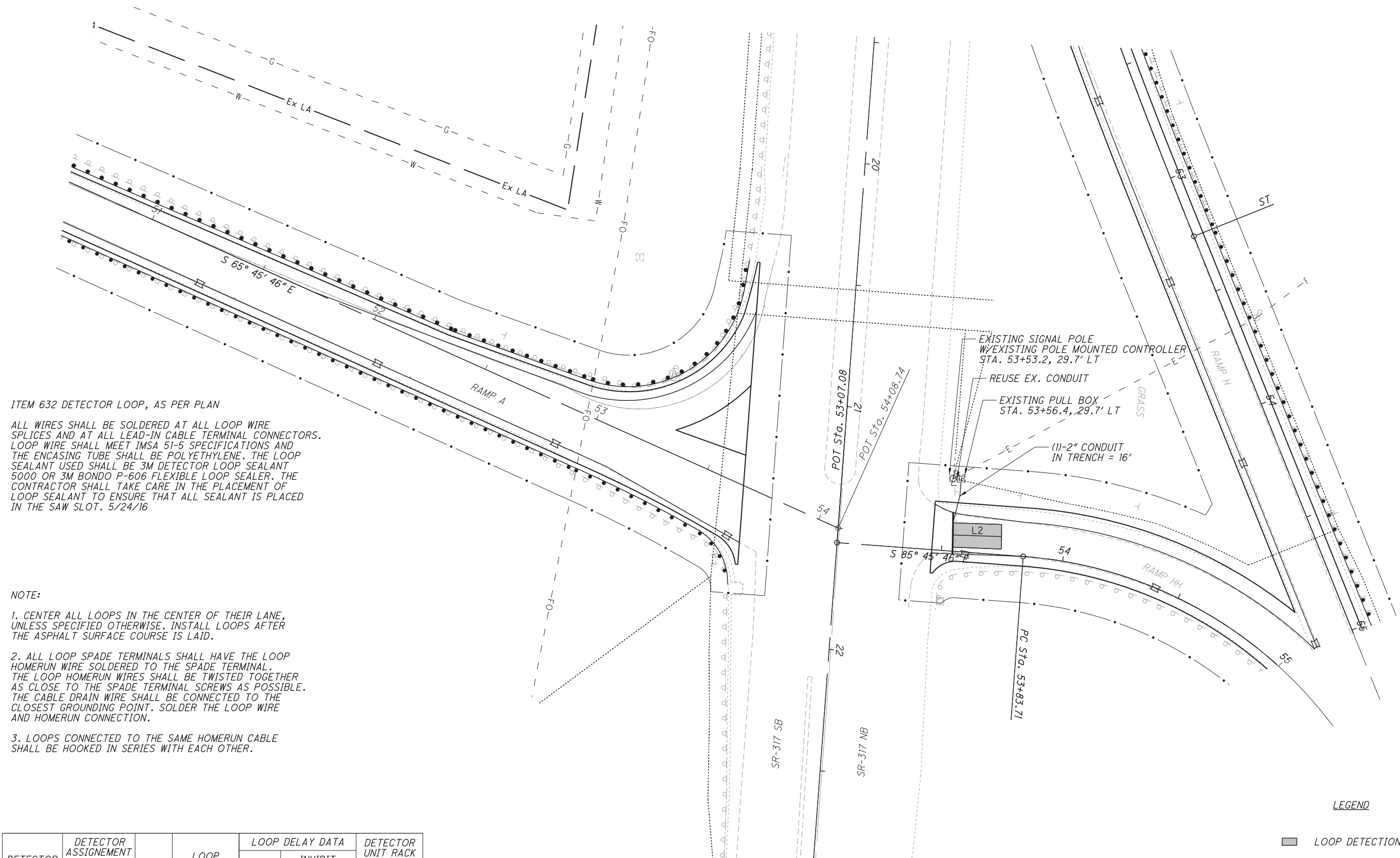
0 10 20 40  
HORIZONTAL SCALE IN FEET

CALCULATED  
NRW  
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**TRAFFIC SIGNAL PLAN**  
**S.R. 317 & U.S. 33 WB (RAMP HH)**

**FRA -33-24.26**

217  
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**ITEM 632 DETECTOR LOOP, AS PER PLAN**

ALL WIRES SHALL BE SOLDERED AT ALL LOOP WIRE SPLICES AND AT ALL LEAD-IN CABLE TERMINAL CONNECTORS. LOOP WIRE SHALL MEET IMSA 51-5 SPECIFICATIONS AND THE ENCASING TUBE SHALL BE POLYETHYLENE. THE LOOP SEALANT USED SHALL BE 3M DETECTOR LOOP SEALANT 5000 OR 3M BONDO P-606 FLEXIBLE LOOP SEALER. THE CONTRACTOR SHALL TAKE CARE IN THE PLACEMENT OF LOOP SEALANT TO ENSURE THAT ALL SEALANT IS PLACED IN THE SAW SLOT. 5/24/16

**NOTE:**

1. CENTER ALL LOOPS IN THE CENTER OF THEIR LANE, UNLESS SPECIFIED OTHERWISE. INSTALL LOOPS AFTER THE ASPHALT SURFACE COURSE IS LAID.
2. ALL LOOP SPADE TERMINALS SHALL HAVE THE LOOP HOMERUN WIRE SOLDERED TO THE SPADE TERMINAL. THE LOOP HOMERUN WIRES SHALL BE TWISTED TOGETHER AS CLOSE TO THE SPADE TERMINAL SCREWS AS POSSIBLE. THE CABLE DRAIN WIRE SHALL BE CONNECTED TO THE CLOSEST GROUNDING POINT. SOLDER THE LOOP WIRE AND HOMERUN CONNECTION.
3. LOOPS CONNECTED TO THE SAME HOMERUN CABLE SHALL BE HOOKED IN SERIES WITH EACH OTHER.

DETECTOR (#)	DETECTOR ASSIGNMENT		PHASE	LOOP SIZE (W' x L')	LOOP DELAY DATA		DETECTOR UNIT RACK & CABLE LABEL
	UNIT (#)	CHANNEL (#)			DELAY (SEC.)	INHIBIT DELAY DURING GREEN PHASE	
L2	1	1	φ2	5' X 20' (Q)	0	φ2	WB

LOOPS ARE TO BE HOOKED TO THE UNIT AND CHANNEL AS INDICATED TO ENHANCE LOOP PERFORMANCE AND DECREASE LOOP CROSSTALK.

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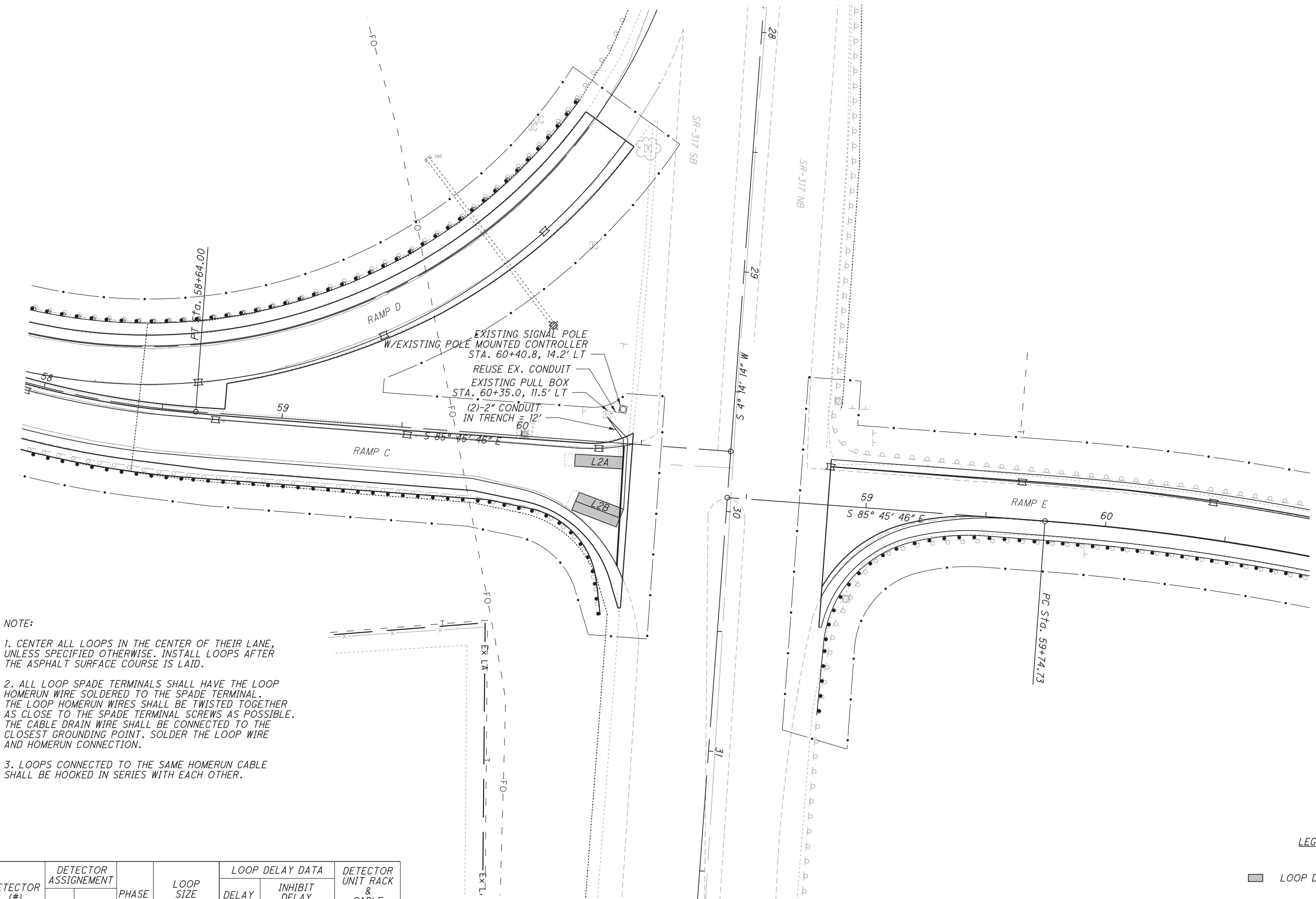
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**TRAFFIC SIGNAL PLAN**  
**S.R. 317 & U.S. 33 EB (RAMP C)**

**FRA -33-24.26**



- NOTE:**
1. CENTER ALL LOOPS IN THE CENTER OF THEIR LANE, UNLESS SPECIFIED OTHERWISE. INSTALL LOOPS AFTER THE ASPHALT SURFACE COURSE IS LAID.
  2. ALL LOOP SPADE TERMINALS SHALL HAVE THE LOOP HOMERUN WIRE SOLDERED TO THE SPADE TERMINAL. THE LOOP HOMERUN WIRES SHALL BE TWISTED TOGETHER AS CLOSE TO THE SPADE TERMINAL SCREWS AS POSSIBLE. THE CABLE DRAIN WIRE SHALL BE CONNECTED TO THE CLOSEST GROUNDING POINT. SOLDER THE LOOP WIRE AND HOMERUN CONNECTION.
  3. LOOPS CONNECTED TO THE SAME HOMERUN CABLE SHALL BE HOOKED IN SERIES WITH EACH OTHER.

DETECTOR (#)	DETECTOR ASSIGNMENT		PHASE	LOOP SIZE (W' x L')	LOOP DELAY DATA		DETECTOR UNIT RACK & CABLE LABEL
	UNIT (#)	CHANNEL (#)			DELAY (SEC.)	INHIBIT DELAY DURING GREEN PHASE	
L2A	1	1	φ2	5' X 20'	0	φ2	EB
L2B	1	2	φ2	4' X 20' (Q)	12	φ2	EB

**LEGEND**

- LOOP DETECTION ZONE
- SIGNAL PULL BOX
- UNDERGROUND CONDUIT

LOOPS ARE TO BE HOOKED TO THE UNIT AND CHANNEL AS INDICATED TO ENHANCE LOOP PERFORMANCE AND DECREASE LOOP CROSSTALK.

**ITEM 625E25920 CONDUIT 4" MULTI-CELL, 725.20, EPC-40  
(TRAFFIC SURVEILLANCE RACEWAY)**

**DESCRIPTION**

THIS CONDUIT IS INTENDED FOR THE USE IN UNDERGROUND SITUATIONS REQUIRING MORE THAN ONE SINGLE CONDUIT. THIS INCLUDES THE MAIN CONDUIT RACEWAY ALONG THE FREEWAY, CONNECTION FROM PULL BOXES TO THE ROAD SIDE CABINETS AND FOR RUNS OF CONDUIT FOR MULTIPLE PURPOSES, E.G., AT RAMP METER INSTALLATIONS, FOR LOOP LEAD-IN CABLE, SIGNALS CABLE FOR RAMP METER DISPLAYS, SIGNAL CABLE 1300 ITS TRAFFIC ENGINEERING MANUAL 13-26 OCTOBER 23, 2002 REVISED JULY 17, 2015 FOR RAMP METER SIGNING FLASHERS & ILLUMINATION AND POWER. THE CONTRACTOR SHALL PLUG ALL UNUSED CELLS WITH CONDUIT CAPS TO ASSURE AIR AND WATER INTEGRITY OF EACH INDIVIDUAL INNERDUCT.

**MATERIALS**

THE TRAFFIC SURVEILLANCE RACEWAY SHALL CONSIST OF A FACTORY-ASSEMBLED SYSTEM OF FOUR (4) INNERDUCTS ASSEMBLED WITHIN A PROTECTIVE OUTER DUCT. THE INNERDUCTS SHALL BE NOMINAL 1.25 INCH INSIDE DIAMETER, TYPE DB PVC PER NEMA TC-8 WITH A BELL INSERTION DEPTH OF 1.75 INCHES MINIMUM. THE OUTER DUCT SHALL BE NOMINAL 4 INCH (INSIDE DIAMETER), SCHEDULE 40 PVC. CARLON TYPE SCHEDULE 40 AND 80 OR APPROVED EQUIVALENT.

THE COUPLING SHALL BE DESIGNED IN A MANNER TO PERMIT EASY FIELD ASSEMBLY. THE COUPLING SHALL BE MARKED OR KEYED IN A MANNER TO ENSURE THE INNERDUCTS ARE PROPERLY ALIGNED. ANY COLOR CODES ARE CONTINUED AND THE ADJOINING SECTION IS INSERTED TO THE PROPER DEPTH IN THE BELL. ALL KEYS AND/OR MARKINGS SHALL BE VISIBLE AFTER ASSEMBLY TO ALLOW THE INSPECTION OF EACH JOINT FOR PROPER ASSEMBLY BEFORE BURIAL. THE SEALING SYSTEM SHALL BE DESIGNED TO ASSURE AIR INTEGRITY OF EACH INDIVIDUAL INNERDUCT AND WATER INTEGRITY OF THE ENTIRE SYSTEM.

WHERE INNERDUCT(S) WITHIN A MULTI-CELL DUCT ARE TO REMAIN EMPTY, ONE 1/4-INCH NYLON ROPE SHALL BE INSTALLED IN EACH OF THE OPEN INNERDUCTS, THE ROPE WILL REMAIN TO BE USED FOR A FUTURE CABLE INSTALLATION. ALSO, EACH INNERDUCT SHALL BE PLUGGED TO MAINTAIN THE AIR AND WATER INTEGRITY. IN ADDITION, THE OUTER DUCT SHALL BE CAPPED TO MAINTAIN THE AIR AND WATER INTEGRITY OF THE ENTIRE SYSTEM.

**INSTALLED IN TRENCH**

INSTALLATION WILL BE IN 30-INCH DEEP TRENCH, EXCEPT AS NOTED ON THE PLANS.

ALL JOINTS WILL BE JOINED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, IN ORDER TO PROVIDE AN AIR-TIGHT ENCLOSURE OF THE INTERIOR DUCTS AND A WATER-TIGHT ENCLOSURE OF THE OUTER DUCT. ALL MULTI-CELL CONDUIT INSTALLED OUTSIDE OF THE ROADWAY IN TRENCH SHALL BE SCHEDULE 40 UNLESS DIRECTED BY THE ODOT ENGINEER TO USE SCHEDULE 80 FOR USE IN WELL-TRAVELED VEHICULAR AREAS.

**INSTALLED UNDER ROADWAY**

INSTALLATION WILL BE AT LEAST 30 INCHES DEEP JACKED OR DRILLED UNDER PAVEMENT, EXCEPT AS NOTED ON THE PLANS.

ALL JOINTS WILL BE JOINED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, IN ORDER TO PROVIDE AN AIR-TIGHT ENCLOSURE OF THE INTERIOR DUCTS AND A WATER-TIGHT ENCLOSURE OF THE OUTER DUCT. ALL MULTI-CELL CONDUIT INSTALLED UNDER THE ROADWAY SHALL BE SCHEDULE 80.

**METHOD OF MEASUREMENT**

THE CONDUIT WILL BE MEASURED BY THE AMOUNT OF CONDUIT IN FEET FURNISHED AND INSTALLED OF EACH TYPE SCHEDULE 40 OR 80 MEASURED FROM CENTER-TO-CENTER OF PULL BOXES, FOUNDATION, ETC., AND WILL INCLUDE ALL FITTINGS AND APPURTENANCES, JOINTS, BENDS, GROUNDS AND CONCRETE ENCASEMENT WHERE SPECIFIED.

THE TRENCH WILL BE MEASURED BY THE NUMBER OF FEET OF TRENCH COMPLETED AS PER C&MS 625.21.

**BASIS OF PAYMENT**

THE PAYMENT FOR THESE ITEMS WILL BE MADE FOR THE ACCEPTED LINER FOOT QUANTITIES AT THE CONTRACT BID PRICE.

**TRACER WIRE**

TRACER WIRE SHALL BE INSTALLED IN ONE OF THE MULTI-CELL INNERDUCTS IN ALL CONDUIT RUNS. TRACER WIRE SHALL BE NO SMALLER THAN #12 AWG WIRE. THE WIRE SHALL BE HDPE INSULATED, ORANGE IN COLOR, AND CONSTRUCTED OF COPPER CLAD STEEL. APPROXIMATELY 10 FEET OF SLACK OF THE TRACER WIRE SHALL BE LEFT INSIDE THE ADJACENT PULL BOXES CONNECTING THE CONDUIT RUNS. IN SITUATIONS WHERE A TYPE 2 FIBER OPTIC CABLE MARKER IS TO BE INSTALLED IN CONJUNCTION WITH THE TRACER WIRE, THE TRACER WIRE SHALL BE RUN THROUGH THE MARKER AND CONNECTED TO TERMINALS AT THE TOP OF THE MARKER.

PAYMENT FOR ALL TRACER WIRE SHALL BE INCLUDED IN THE BID ITEM FOR THE CONDUIT PAY ITEM.

**ITEM 625E29931 MEDIAN JUNCTION BOX, AS PER PLAN**

THE CONTRACTOR SHALL SUPPLY THE MEDIAN PULL BOX THAT MEETS THE FOLLOWING SPECIFICATIONS:

SHALL BE OF TYPE POLYMER-CONCRETE  
SIZE: 17 INCHES (HEIGHT) X 30 INCHES (LENGTH)  
MINIMUM WALL THICKNESS: 0.5 INCH  
MINIMUM LID THICKNESS: 2 INCHES  
ANSI TIER 22 RATING WITH A MINIMUM DESIGN LOAD OF 22,000 POUNDS.  
LID SHALL BE MARKED 'TRAFFIC'.

THE MEDIAN JUNCTION BOX SHALL BE SECURED IN THE MEDIAN BARRIER WALL USING DOWELS. (NONSHRINK GROUT MAY BE USED WHEN NECESSARY).

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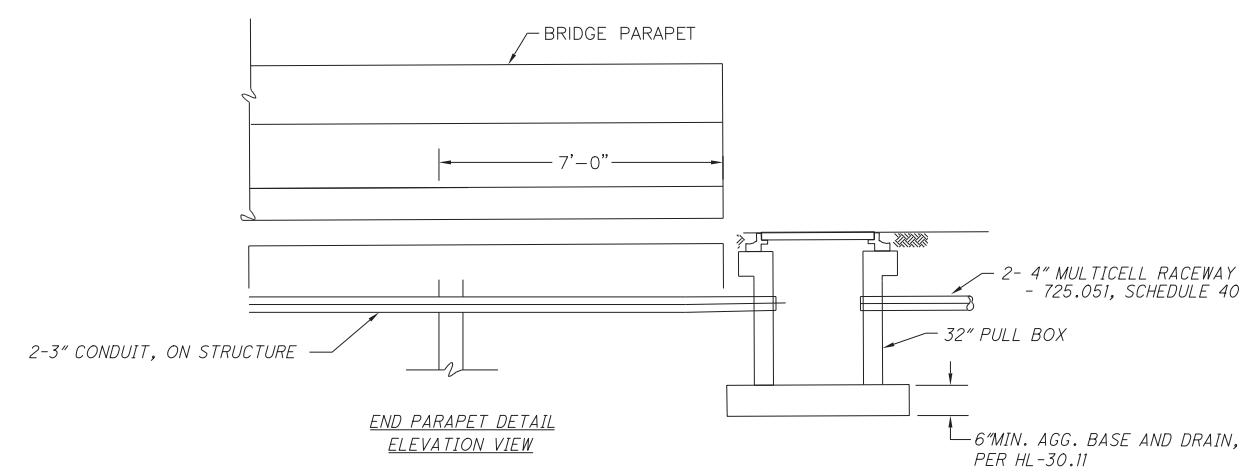
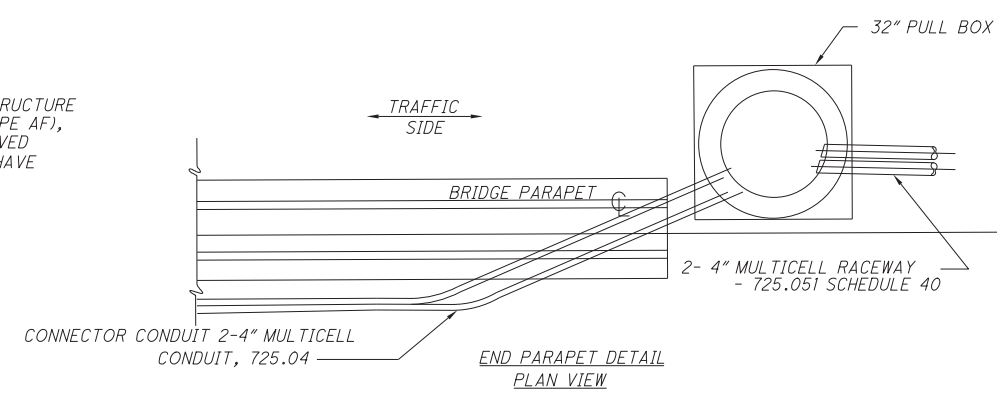
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ITS PLAN NOTES

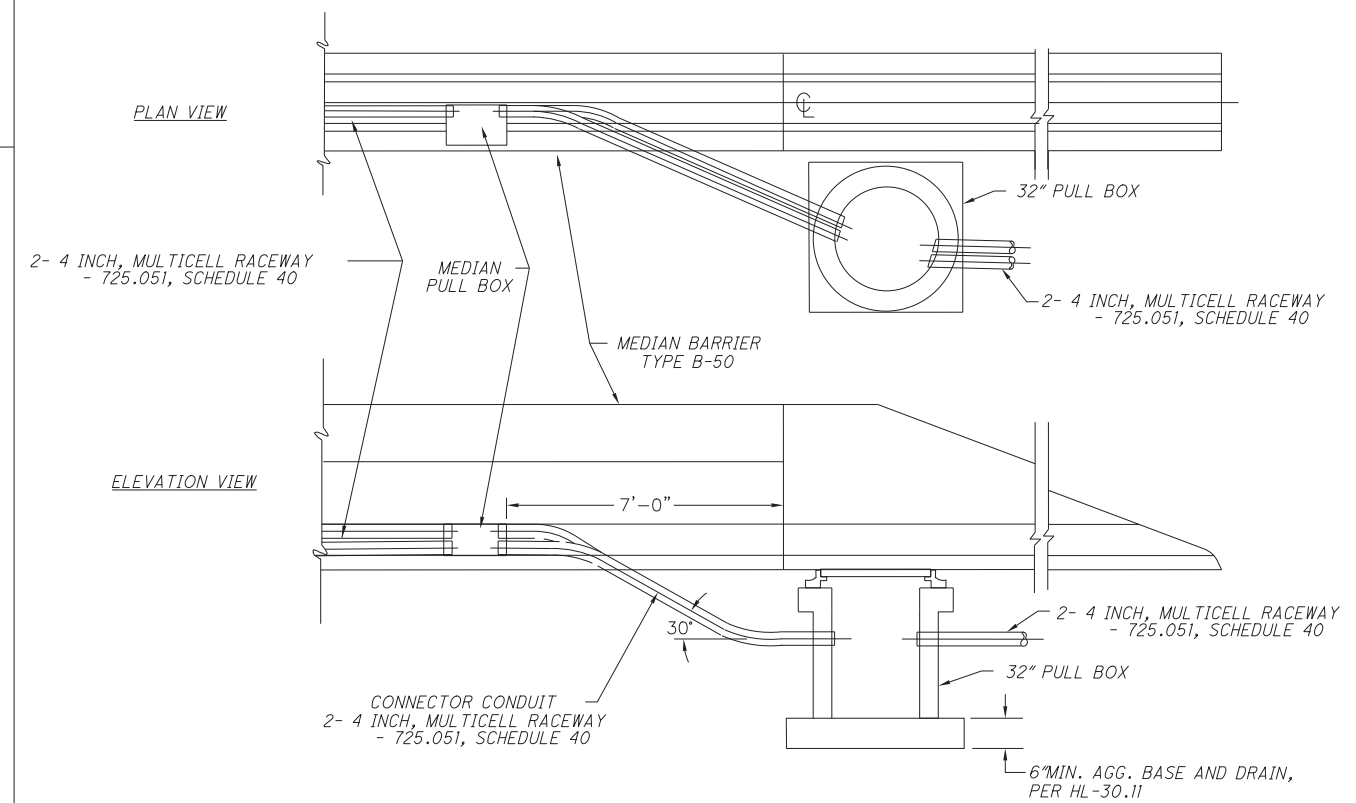
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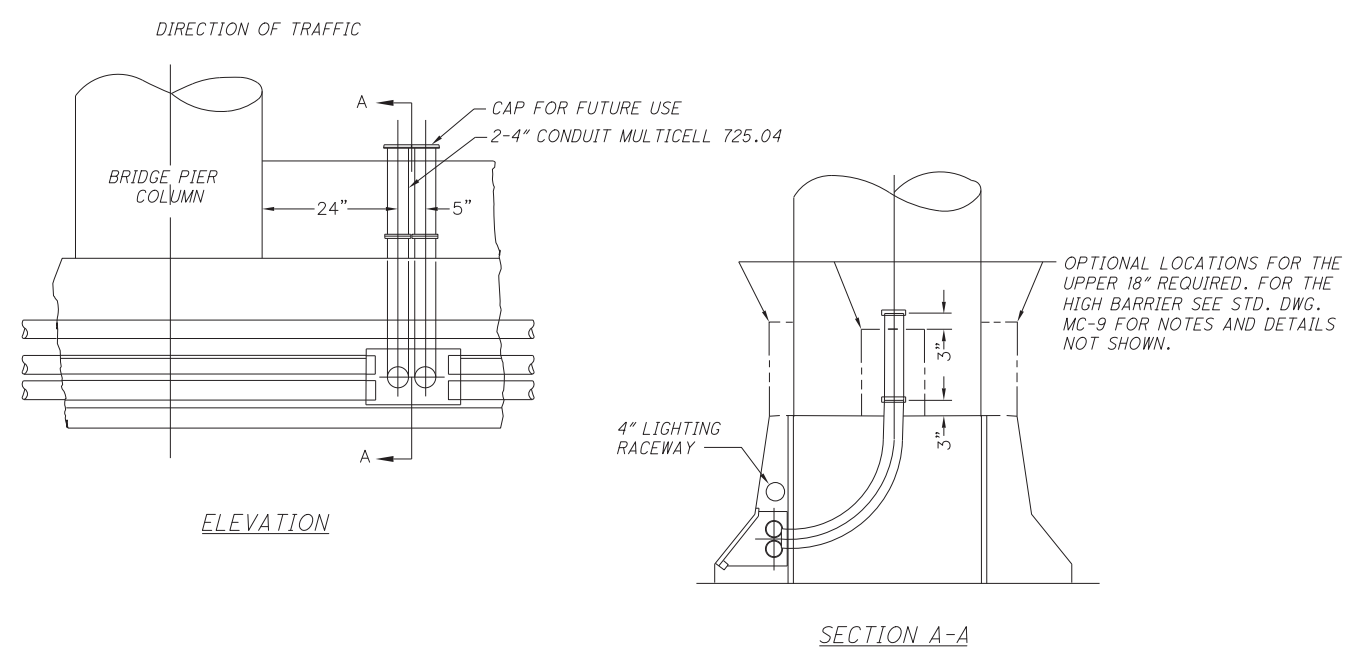
**CONDUIT ON STRUCTURE**  
EXPANSION FITTINGS FOR CONDUIT ON STRUCTURE SHALL BE OZ (TYPE AX), SPRING CITY (TYPE AF), OR CROUSE-HINDS (TYPE XJ-4) OR APPROVED EQUAL. EACH EXPANSION FITTING SHALL HAVE A COPPER EXTERNAL BONDING JUMPER.



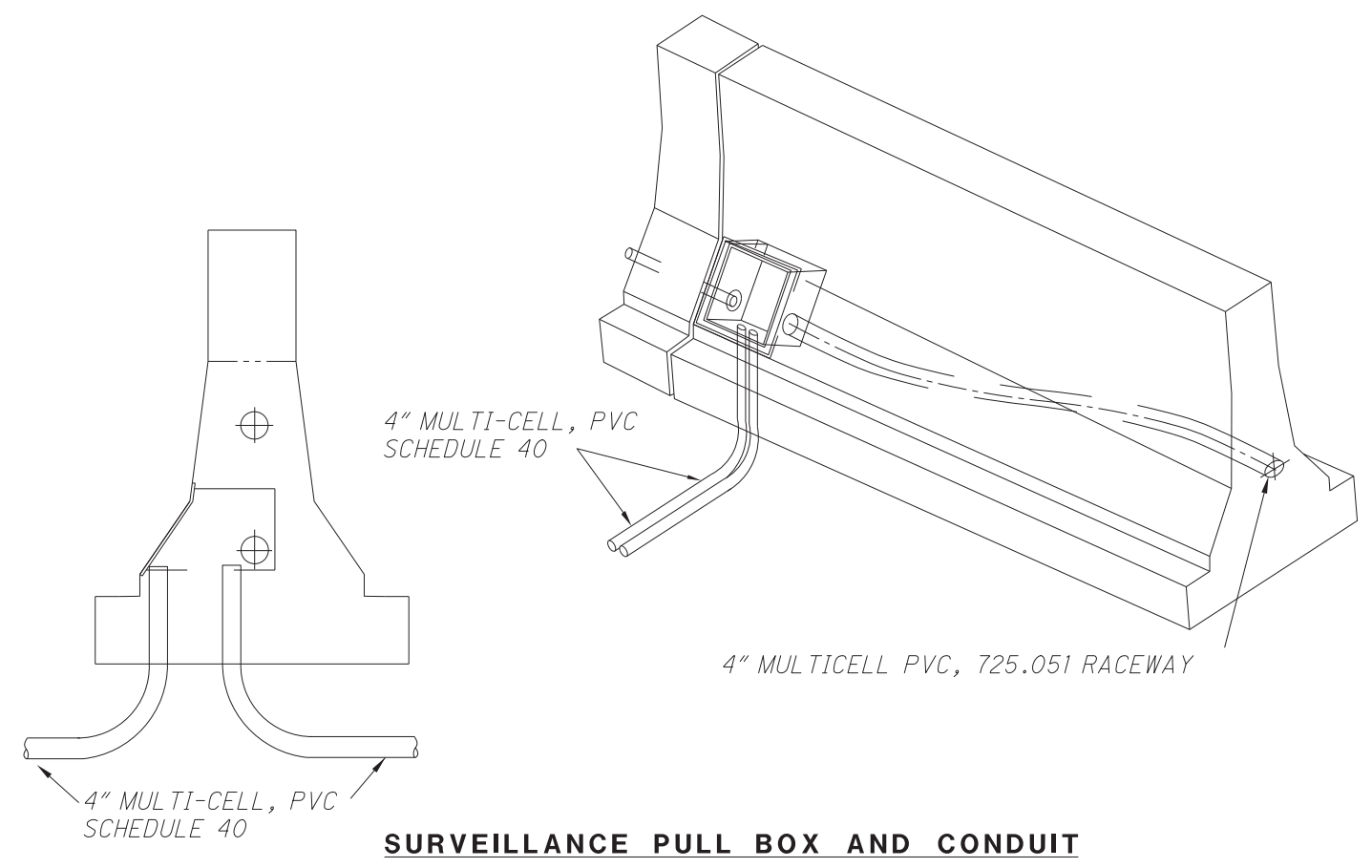
**TYPICAL SURVEILLANCE CONDUIT TREATMENT AT END OF BRIDGE PARAPET**



**TYPICAL SURVEILLANCE CONDUIT TREATMENT AT END BARRIER WALL**



**BRIDGE PIER RISER**



**SURVEILLANCE PULL BOX AND CONDUIT**

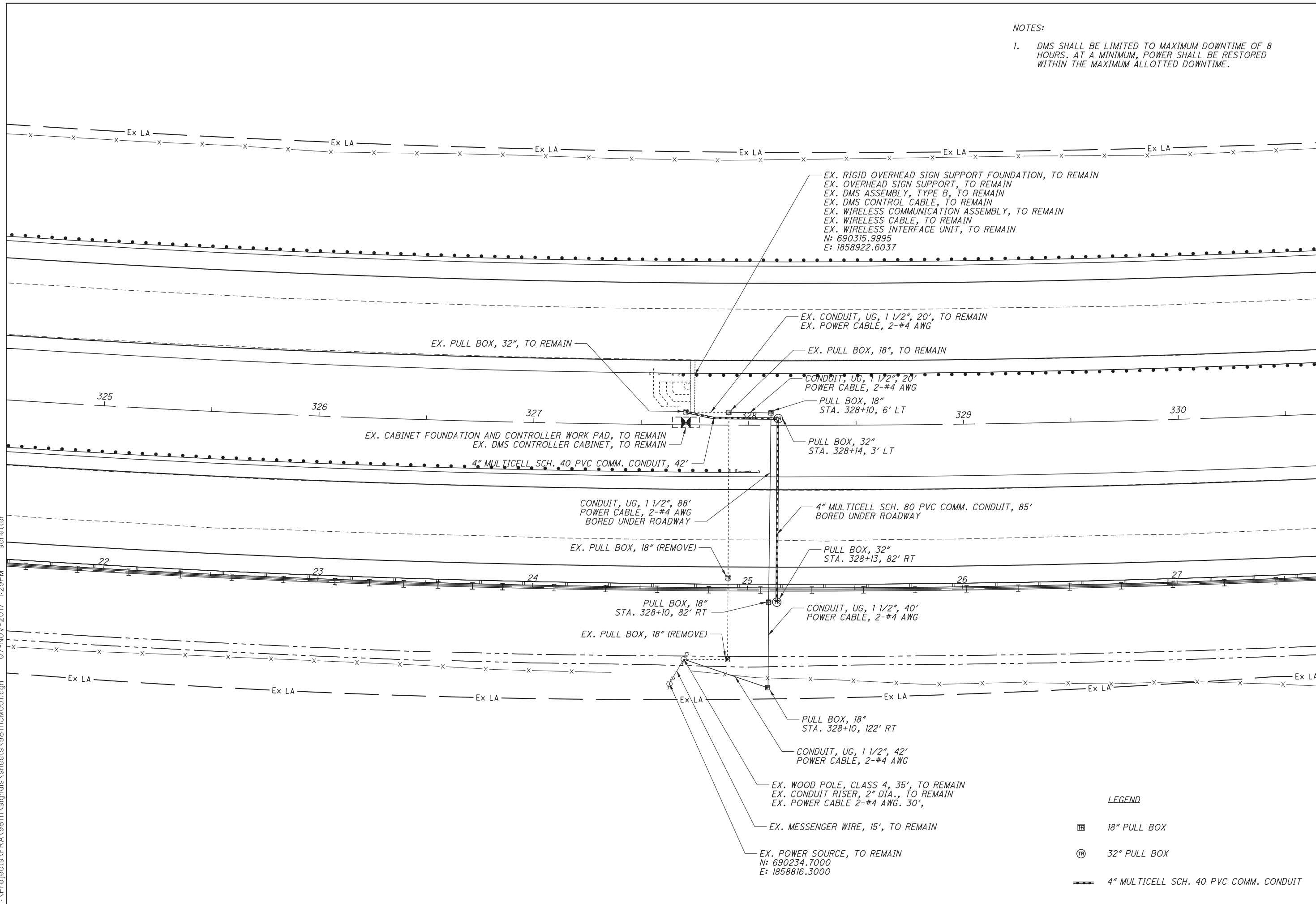
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NOTES:

- DMS SHALL BE LIMITED TO MAXIMUM DOWNTIME OF 8 HOURS. AT A MINIMUM, POWER SHALL BE RESTORED WITHIN THE MAXIMUM ALLOTTED DOWNTIME.



ITS PLAN - U.S. 33  
DMS - SITE 91

LEGEND

- 18" PULL BOX
- 32" PULL BOX
- 4" MULTICELL SCH. 40 PVC COMM. CONDUIT

FRA - 33 - 24.26

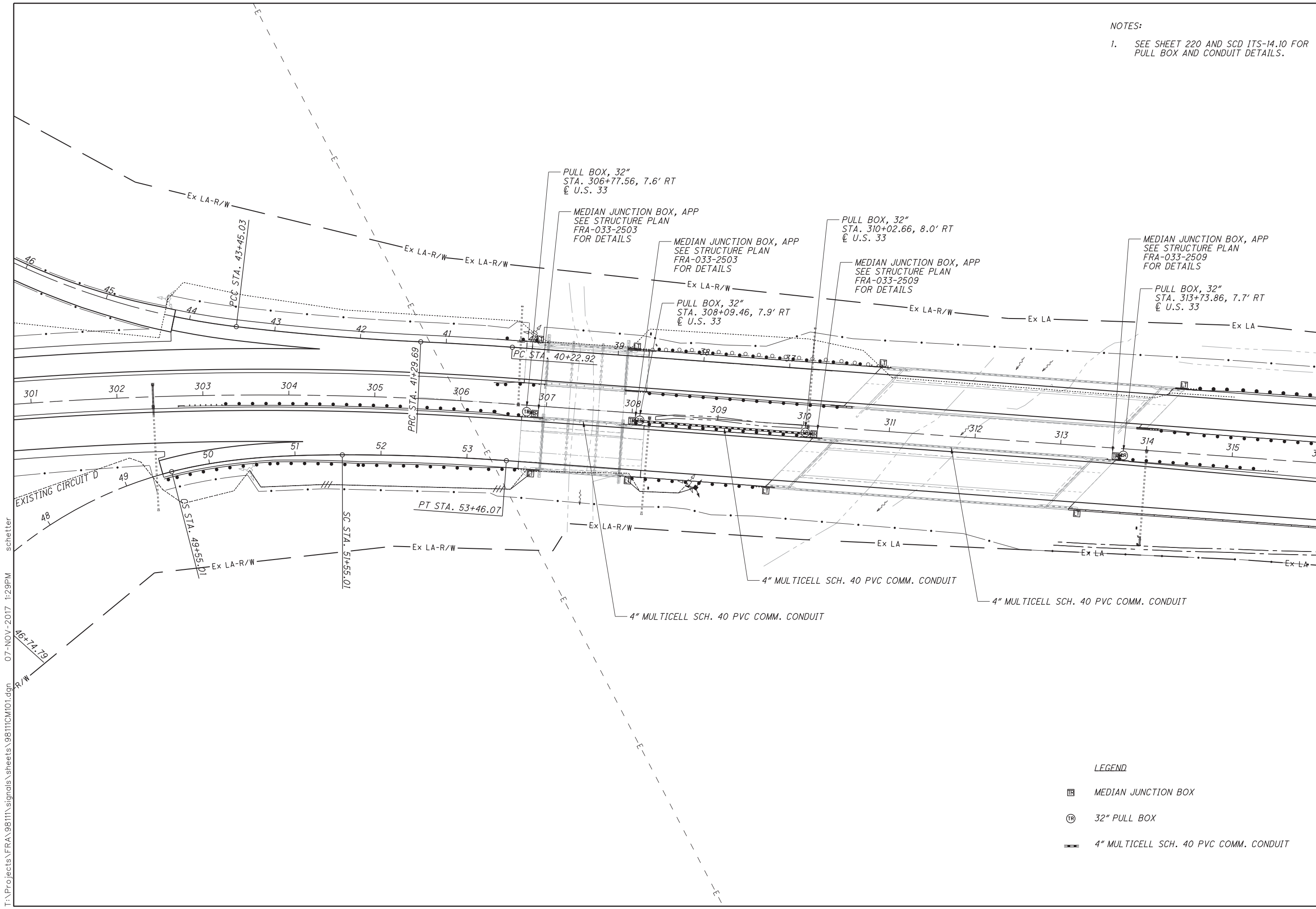
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NOTES:  
 1. SEE SHEET 220 AND SCD ITS-14.10 FOR PULL BOX AND CONDUIT DETAILS.

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ITS PLAN - U.S. 33

FRA - 33 - 24.26

LEGEND

- ▣ MEDIAN JUNCTION BOX
- ⊗ 32" PULL BOX
- 4" MULTICELL SCH. 40 PVC COMM. CONDUIT

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**ODOT LIGHTING NOTES**

THE HIGHWAY LIGHTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2016 OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. THIS DOCUMENT SHALL GOVERN ALL MATERIALS AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS, EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING SPECIFICATION OR BY THE CONSTRUCTION DETAILS SET FORTH HEREIN.

**CONDUIT EXPANSION AND DEFLECTION**

EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XJG, APPLETON TYPE AX, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE EITHER 4 OR 8 INCHES (100 OR 200 MILLIMETERS) TOTAL MOVEMENT AS SPECIFIED BY THE PLAN DETAILS AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS. DEFLECTION COUPLINGS SHALL BE OZ TYPE DX, CROUSE HINDS TYPE XD, APPLETON TYPE DF, OR EQUAL APPROVED BY THE ENGINEER. EACH DEFLECTION COUPLING SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

**ITEM 625 SPECIAL, MAINTAIN EXISTING LIGHTING**

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND WHICH ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF THE EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF EXISTING LIGHTING SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE NOT STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE THE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT SHALL BE MADE AND SIGNED AS OUTLINED HEREIN.

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS.

REPLACEMENT OF KNOCKED DOWN UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A UNIT BASIS.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENT. WHEN THE SEQUENCE OF THE CONSTRUCTION ACTIVITIES REQUIRES, OR SHOULD THE CONTRACTOR DESIRE, THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY LIGHTING OF THIS PORTION OF THE ROADWAY.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR SETS OF THE TEMPORARY LIGHTING PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.

**ITEM 625 SPECIAL, MAINTAIN EXISTING LIGHTING, CONT.**

THIS PLAN SHALL SHOW LOCATIONS OF POLES, LENGTHS OF BRACKET ARMS, STYLES OF LUMINAIRES, MOUNTING HEIGHTS, WIRING METHODS AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 3:1. MOUNTING HEIGHT OF TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 30 FEET, AND THE MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE A FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHEAD WRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THESE CRITERIA, THEN UNDERGROUND WIRING SHALL BE USED. RECONDITIONED OR USED MATERIAL MAY BE FURNISHED FOR TEMPORARY LIGHTING.

ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR. THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE OF THE LIGHTING WORK. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

WHEN THE PROJECT BEGINS AND THE CONTRACTOR HAS TAKEN OVER THE MAINTENANCE OF THE EXISTING SYSTEM, HE SHALL PROVIDE ALL REQUIRED LAYOUTS AND LOCATIONS OF THE EXISTING AND PROPOSED LIGHTING CIRCUITS WITHIN THE PROJECT LIMITS.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "MAINTAIN EXISTING LIGHTING" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

THE UNIT PRICE BID FOR ITEM SPECIAL "REPLACEMENT OF EXISTING LIGHTING UNIT" SHALL BE FULL PAYMENT OF THE REPLACEMENT OF AN EXISTING LIGHTING UNIT WHICH HAS BEEN KNOCKED DOWN AFTER THE AFOREMENTIONED INSPECTION AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REPLACEMENT FOR SUCH UNIT.

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**LIGHTING GENERAL NOTES**

**FRA - 33 - 24.26**

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**GROUND AND BONDING**

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS) AND THE HL AND TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
  - a. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
  - b. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
  - c. METAL PULL BOX LIDS SHALL BE BONDED BY ATTACHMENT OF THE EQUIPMENT GROUNDING CONDUCTOR TO THE FRAME DIAGONAL AS PROVIDED ON HL-30.11.
  - d. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.

**2. CONDUITS.**

- a. ANY 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
- b. ANY 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
- c. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
- d. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

**3. WIRE FOR GROUNDING AND BONDING.**

- a. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:
  - i. USE SAME SIZE EQUIPMENT GROUNDING CONDUCTOR AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF #4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE #4 AWG.
  - ii. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR #4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.

**4. GROUND ROD.**

- a. A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
- b. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE #4 AWG, INSULATED COPPER.

**5. POWER SERVICE AND DISCONNECT SWITCH**

- a. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.
- b. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.
  - i. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

**6. STRUCTURE GROUNDING**

HL-50.21 SHOWS A 1/0 AWG STRANDED COPPER CABLE USED FOR STRUCTURE GROUNDING. ADDITIONALLY, THIS SAME CABLE SHALL BE INSULATED AND ANY CONNECTIONS AND BARE COPPER STRANDS EXPOSED TO CONCRETE SHALL BE COVERED WITH MASTIC TO PREVENT CONTACT WITH THE CONCRETE.

**7. PAYMENT**

ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY THE CONTRACT.

**ITEM 625, RE-ERECT EXISTING LIGHT TOWER, AS PER PLAN**

THIS ITEM OF WORK SHALL CONSIST OF INSTALLING AN EXISTING LIGHT TOWER REMOVED FROM A PREVIOUS LOCATION ON THE PROJECT OR SUPPLIED TO THE PROJECT SITE BY OTHERS.

WHEN REQUIRED, ADDITIONAL LUMINAIRE BRACKET ARMS SHALL BE ADDED TO THE EXISTING LUMINAIRE BRACKETS RELOCATED ALONG WITH THE NECESSARY ADJUSTMENTS AND ADDITIONS TO THE LUMINAIRE WIRING TO ENABLE THE LUMINAIRES TO MOUNTED SYMMETRICALLY AROUND THE LUMINAIRE MOUNTING RING.

THE TOWER AND LOWERING MECHANISM SHALL BE CLEANED AND LUBRICATED.

ANY REPAIRS AND ADJUSTMENTS NECESSARY TO RETURN THE TOWER AND MECHANISM TO GOOD OPERATING CONDITION SHALL BE MADE.

THE EXISTING LIGHT TOWER IDENTIFICATION DECAL SHALL BE REMOVED, AND A NEW DECAL FOR THE NEW IDENTIFICATION NUMBER FURNISHED AND INSTALLED.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID UNDER C&MS ITEM 625, "RE-ERECT EXISTING LIGHT TOWER, AS PER PLAN" FOR EACH TOWER RE-ERECTED WHICH SHALL INCLUDE ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

**ITEM 625, LIGHT TOWER FOUNDATION, 36" X 30", AS PER PLAN**

THIS ITEM OF WORK SHALL CONSIST OF INSTALLING A NEW FOUNDATION AT THE LOCATION SPECIFIED.

CONTRACTOR IS REQUIRED TO FIELD MEASURE EXISTING LIGHT TOWER BOLT CIRCLE AND MATCH WITH NEW FOUNDATION, NEW ANCHOR BOLTS SHALL BE FURNISHED/INSTALLED AND SHALL BE CONSIDERED INCIDENTAL TO THE FOUNDATION.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER ITEM 625, "LIGHT TOWER FOUNDATION, 36" X 30", AS PER PLAN" FOR EACH LIGHT TOWER FOUNDATION WHICH SHALL INCLUDE ALL LABOR MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

**ITEM 625, POWER SERVICE REFURBISHED, AS PER PLAN**

THE WORK SHALL CONSIST OF CONVERTING THE EXISTING FLAT RATE POWER SERVICE AT THE SPECIFIED LOCATIONS OVER TO METERED POWER SERVICE. REMOVAL OF EXISTING POWER SERVICE MAY INCLUDE BUT NOT LIMITED TO THE MATERIALS AND HARDWARE NORMALLY COMPRISING OF A POWER SERVICE. ALSO, THE AREA SHALL BE CLEARED OF GROWTH AND DEBRIS AT THESE LOCATIONS. ANY RESULTANT OPENING SHALL BE BACKFILLED TO GRADE WITH SUITABLE COMPACTED SOIL AND RESTORED TO MATCH THE SURROUNDING AREA. ALL MATERIAL CALLED FOR REMOVAL SHALL BE DISPOSED OF PROPERLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION WITH THE POWER COMPANY FOR THE REMOVAL AND CONVERSION OF THE POWER SERVICE. THE POWER SERVICE SHALL BE 480 VOLT, 2-WIRE, SINGLE PHASE, GROUNDED NEUTRAL. A UNIQUE POWER SERVICE ADDRESS WILL NEED TO BE ASSIGNED TO EACH LOCATION.

THE NEW METERS WILL BE PROVIDED BY THE POWER COMPANY AND SHALL BE INSTALLED BY THE CONTRACTOR AT THE LOCATIONS WHERE EXISTING SERVICE IS BEING REMOVED. CHANGEOVER SHALL BE PERFORMED IN A TIMELY FASHION SO THAT LIGHTING WILL BE PRESENT NIGHTLY. THE CONTRACTOR SHALL ASSURE THAT ALL CIRCUITS ARE IN OPERATION.

THE ODOT CONTRACTOR IS REQUIRED TO CONTACT MARK DELAY FROM AEP TO SCHEDULE A FIELD SITE VISIT PRIOR TO COMPLETING ANY FIELD WORK FOR POWER SERVICE FOR HIGHWAY LIGHTING/TRAFFIC SIGNALS/ITS.

AEP  
MARK DELAY  
614.314.4163

THE CONTRACTOR SHALL INSTALL PROPER ARC FLASH HAZARD LABELING (PER NEC 2014) TO ALL APPLICABLE ENCLOSURES.

PAYMENT SHALL BE MADE AT THE UNIT PRICE FOR THE ITEM INCLUDING ALL LABOR, MATERIAL, EQUIPMENT, INSPECTIONS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

CALCULATED  
ABS  
CHECKED  
JRW

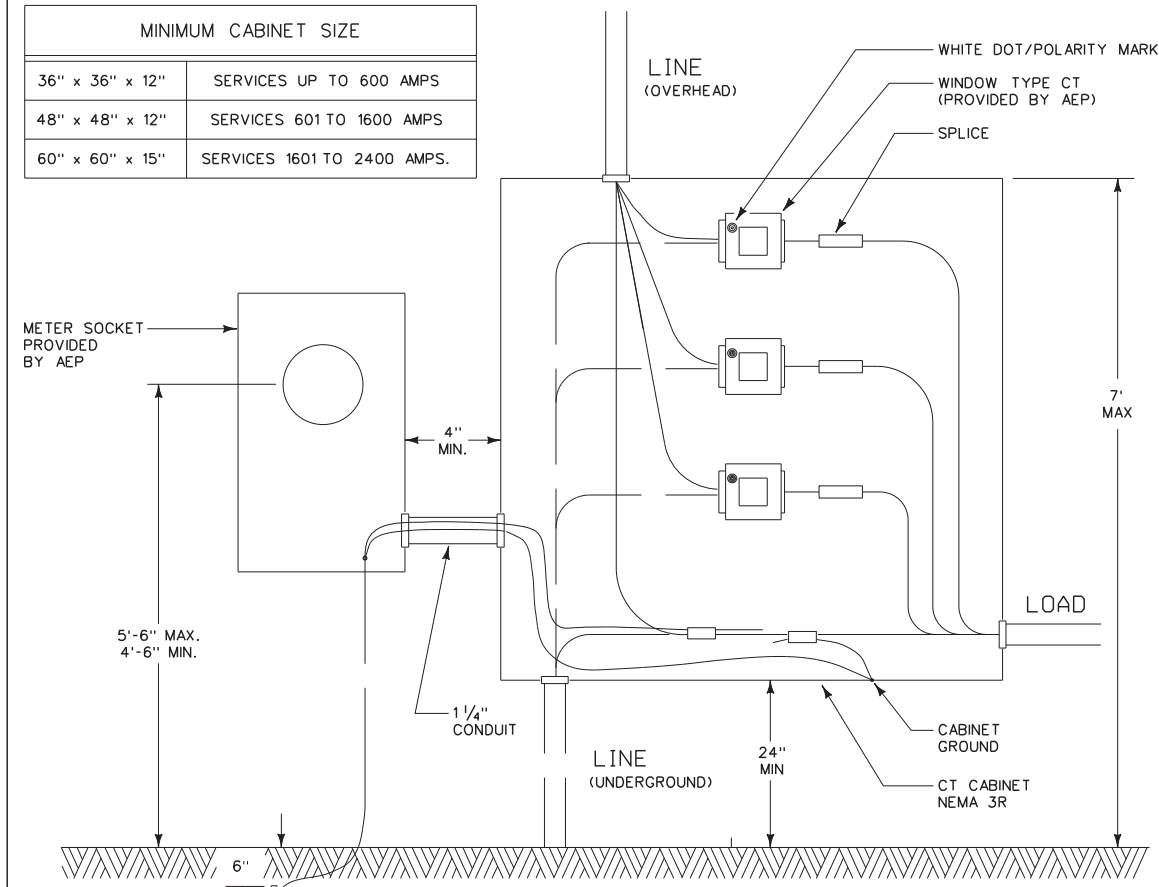
**LIGHTING GENERAL NOTES**

**FRA - 33 - 24.26**

224  
287



MINIMUM CABINET SIZE	
36" x 36" x 12"	SERVICES UP TO 600 AMPS
48" x 48" x 12"	SERVICES 601 TO 1600 AMPS
60" x 60" x 15"	SERVICES 1601 TO 2400 AMPS.



- NOTES:
1. CT CABINET, FURNISHED AND INSTALLED BY CUSTOMER, SHALL BE OF SUBSTANTIAL STRENGTH WITH CORROSION PROTECTION, SUCH AS PAINTED GALVANIZED STEEL NEMA 3R. ALUMINUM OR FIBER REINFORCED POLYESTER ENCLOSURES MUST BE USED IN CORROSIVE AREAS. IT SHALL BE FITTED WITH HINGED DOORS(S) AND SHALL HAVE PROVISIONS FOR INSTALLING AN COMPANY PADLOCK AND SEAL THE INSIDE BACK OF THE CABINET SHALL BE ENTIRELY COVERED BY 3/4" TREATED PLYWOOD FOR MOUNTING THE CURRENT TRANSFORMERS OR (AEP TEXAS) SUITABLE MOUNTING BRACKETS MAY BE PROVIDED. A GROUNDING LUG SHALL BE PROVIDED TO GROUND THE CABINET.
  2. THE WHITE DOT POLARITY MARK ON THE CT SHALL BE TOWARD THE ENERGY SOURCE OR LINE SIDE.
  3. CUSTOMER SHOULD MOUNT THE METER SOCKET OR CABINET NEXT TO THE CT CABINET AND INSTALL 1/4" CONDUIT BETWEEN THE TWO. IF THE METER SOCKET CANNOT BE INSTALLED NEXT TO THE CT CABINET, IT MAY BE LOCATED UP TO 20 FEET AWAY WITH COMPANY METER SERVICES APPROVAL. 1/4" CONDUIT SHALL CONNECT THE SOCKET AND CT CABINET.
  4. THE CT CABINET AND METER SOCKET SHALL BE GROUNDED. THE METER SOCKET AND CT CABINET SHALL BE BONDED THROUGH A SEPARATE EQUIPMENT-GROUNDING CONDUCTOR CONNECTED TO THE GROUNDED SERVICE CONDUCTOR (USUALLY THE NEUTRAL). IF A GROUNDED SERVICE CONDUCTOR DOES NOT EXIST THEN GROUNDING AND BONDING OF METERING EQUIPMENT MUST BE ESTABLISHED THROUGH A GROUNDING ELECTRODE SYSTEM ESTABLISHED AT THE POINT OF SERVICE. IN SOME JURISDICTIONS THE GROUNDING OF THE METER SOCKET AND INSTRUMENT TRANSFORMER ENCLOSURE WILL BE SUPPLEMENTED WITH THE USE OF A DRIVEN GROUND ROD IN ADDITION TO BONDING TO THE GROUNDED SERVICE CONDUCTOR. REFER TO SECTION 9 FOR CT CABINET SPECIFICATIONS.
  5. COMPANY WILL INSTALL THE SECONDARY WIRING BETWEEN THE CT AND THE METER SOCKET.
  6. THE CONDUCTOR SPLICE SHALL BE MADE WITH BOLTED CONNECTIONS FURNISHED AND INSTALLED BY CUSTOMER WHERE REQUIRED. IN AEP TEXAS NORTH AND CENTRAL WHERE THE CUSTOMER OWNS AND INSTALLS BOTH THE LINE AND LOAD CONDUCTORS, THE CONDUCTOR SHALL PASS THROUGH THE CT'S WITHOUT SPLICE.

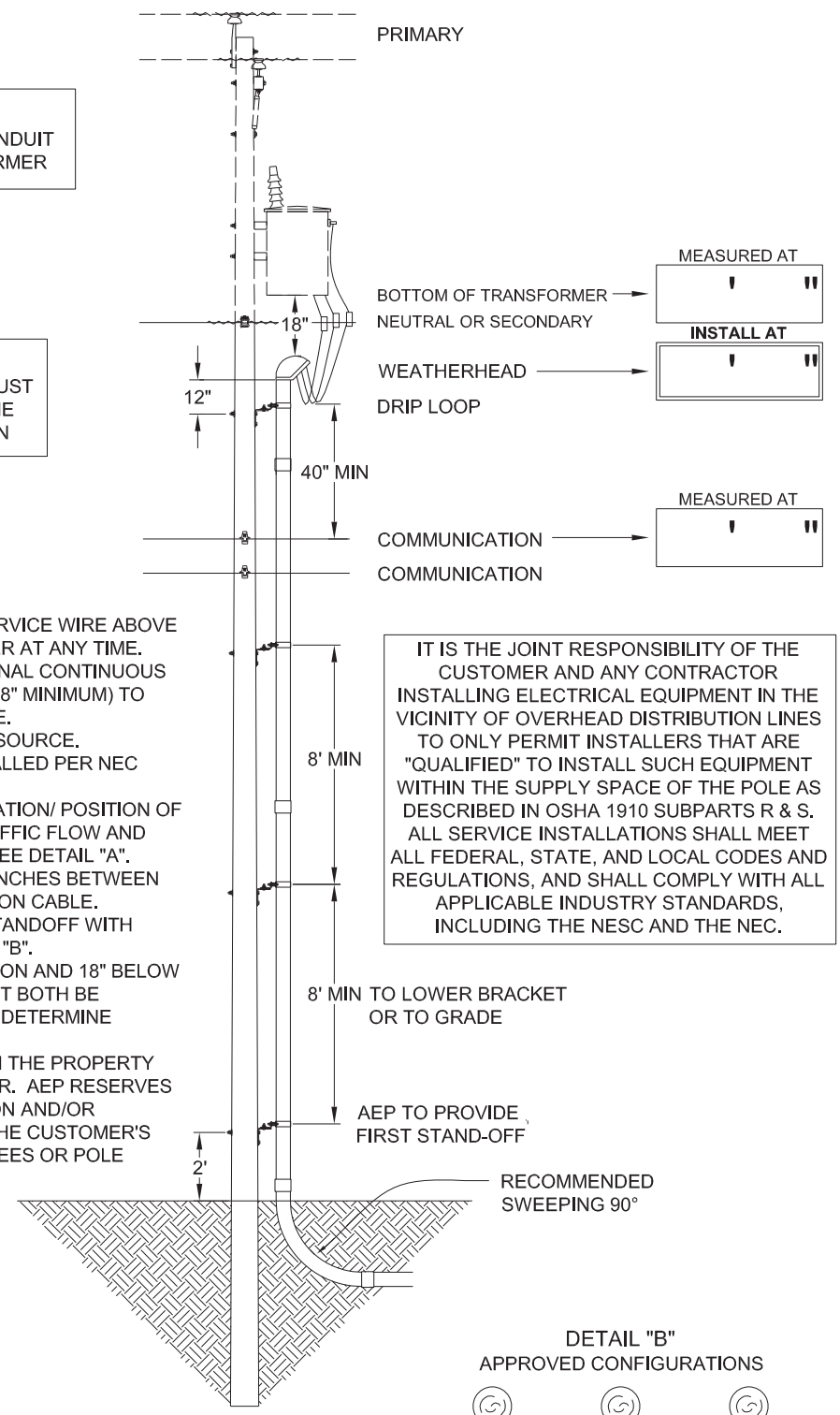
CURRENT TRANSFORMER CABINETS  
OVERHEAD OR UNDERGROUND SERVICE  
WINDOW TYPE CT'S  
FIGURE 10

**DANGER - HIGH VOLTAGE**  
DO NOT CLIMB OR EXTEND CONDUIT  
ABOVE BOTTOM OF TRANSFORMER

**CAUTION**  
UNQUALIFIED PERSONNEL MUST  
REMAIN 10 FEET BELOW THE  
WEATHERHEAD ELEVATION

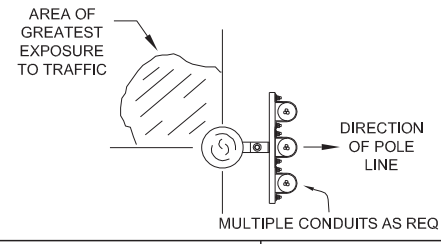
NOTES:

1. DO NOT EXTEND CONDUIT OR SERVICE WIRE ABOVE THE BOTTOM OF THE TRANSFORMER AT ANY TIME.
2. CUSTOMER TO PROVIDE ADDITIONAL CONTINUOUS CABLE WITH SUFFICIENT LENGTH (18" MINIMUM) TO CONNECT WITH OVERHEAD SOURCE.
3. AEP TO MAKE CONNECTIONS TO SOURCE.
4. CONDUIT ASSEMBLY TO BE INSTALLED PER NEC AND STATE/LOCAL REQUIREMENTS.
5. AEP SHALL DETERMINE THE LOCATION/ POSITION OF RISER ON THE POLE BASED ON TRAFFIC FLOW AND COMMUNICATION ATTACHMENTS. SEE DETAIL "A".
6. MAINTAIN A MINIMUM OF THREE INCHES BETWEEN RISER CONDUIT AND COMMUNICATION CABLE.
7. MULTIPLE CONDUITS REQUIRE STANDOFF WITH T-SLOT FOR SUPPORT. SEE DETAIL "B".
8. WHERE 40" ABOVE COMMUNICATION AND 18" BELOW BOTTOM OF TRANSFORMER CANNOT BOTH BE OBTAINED, AEP ENGINEERING WILL DETERMINE NECESSARY REMEDY
9. THE SERVICE RISER WILL REMAIN THE PROPERTY AND RESPONSIBILITY OF CUSTOMER. AEP RESERVES THE RIGHT TO REQUIRE RELOCATION AND/OR TRANSFER OF SERVICE RISER AT THE CUSTOMER'S EXPENSE, DUE TO FUTURE ATTACHEES OR POLE REPLACEMENT

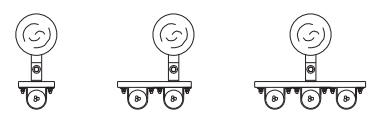


IT IS THE JOINT RESPONSIBILITY OF THE CUSTOMER AND ANY CONTRACTOR INSTALLING ELECTRICAL EQUIPMENT IN THE VICINITY OF OVERHEAD DISTRIBUTION LINES TO ONLY PERMIT INSTALLERS THAT ARE "QUALIFIED" TO INSTALL SUCH EQUIPMENT WITHIN THE SUPPLY SPACE OF THE POLE AS DESCRIBED IN OSHA 1910 SUBPARTS R & S. ALL SERVICE INSTALLATIONS SHALL MEET ALL FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS, AND SHALL COMPLY WITH ALL APPLICABLE INDUSTRY STANDARDS, INCLUDING THE NESC AND THE NEC.

DETAIL "A"  
PREFERRED ORIENTATION



DETAIL "B"  
APPROVED CONFIGURATIONS



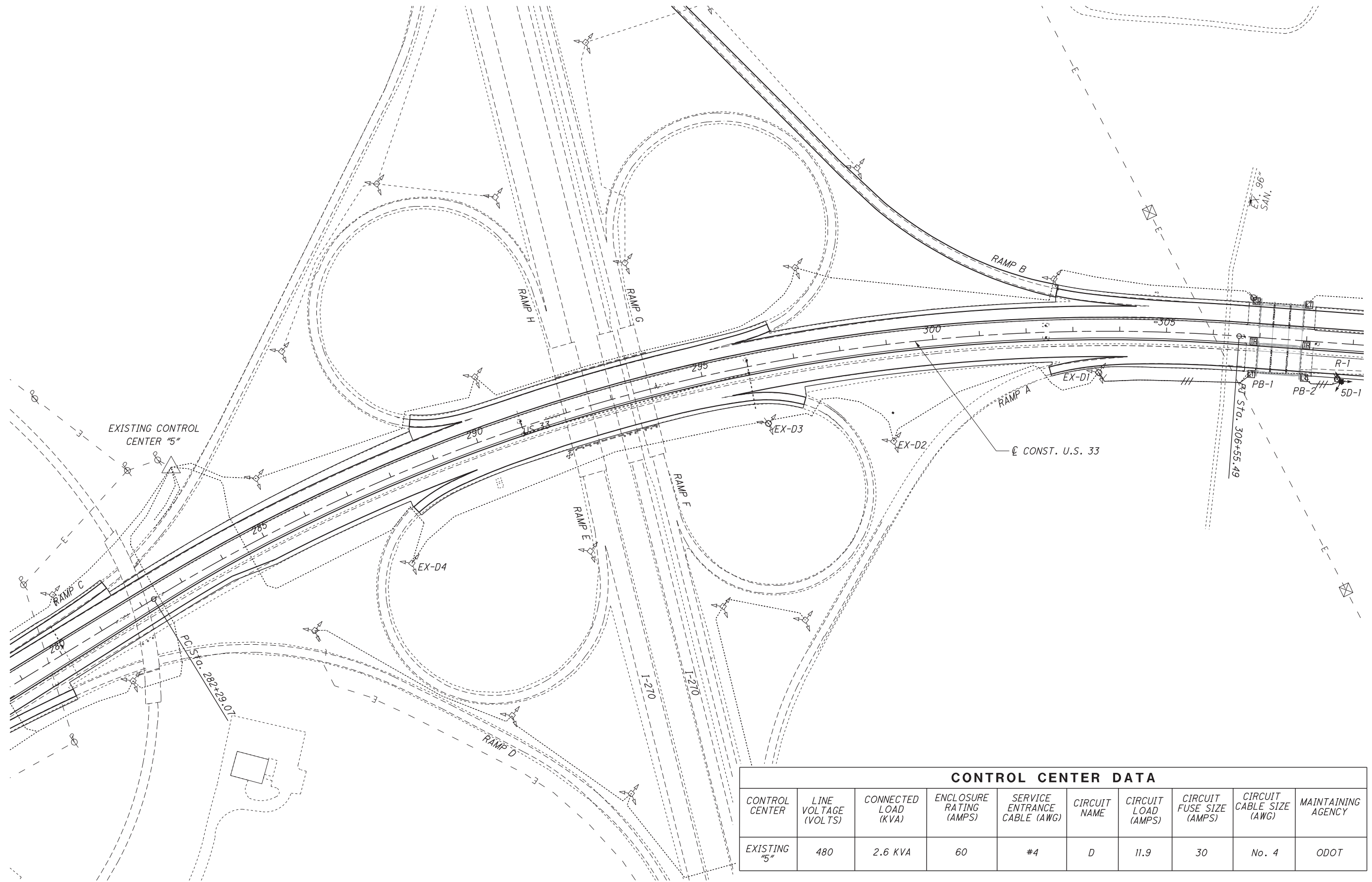
**SPECIFICATION FOR PRIVATE  
RISER INSTALLED ON AEP POLE**

CREATED: 6/11/12  
REF: DS2007-B, DS2007-C

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SHEET NO.	LOCATION		202	625	625	625	625	625	625	625	625	625						
			DISCONNECT EXISTING CIRCUIT	CONNECTION, UNFUSED PERMANENT	LIGHT TOWER FOUNDATION, 36" X 30" DEEP, AS PER PLAN	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	TRENCH, 24" DEEP	PULL BOX, 725.08, 18"	GROUND ROD	PLASTIC CAUTION TAPE	RE-ERECT EX. LIGHT TOWER, AS PER PLAN	LIGHT TOWER FOUNDATION REMOVED	POWER SERVICE REFURBISHED, AS PER PLAN					
CIRCUIT D			EACH	EACH	EACH	FT	FT	EACH	EACH	FT	EACH	EACH						
227	EX. CONTROL CENTER "5"																	
228	EX-D1	PB-1		6		345	345			345								
228	PB-1	PB-2				125		1										
228	PB-2	5D-1			1	86	86	1	2	86								
228		R-1	1										1	1				
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>			1	6	1	556	431	2	2	431	1	1	1					

<b>LIGHTING SUBSUMMARY</b>	CALCULATED
	NRW CHECKED JTB
<b>FRA - 33 - 24.26</b>	226 287



**CONTROL CENTER DATA**

CONTROL CENTER	LINE VOLTAGE (VOLTS)	CONNECTED LOAD (KVA)	ENCLOSURE RATING (AMPS)	SERVICE ENTRANCE CABLE (AWG)	CIRCUIT NAME	CIRCUIT LOAD (AMPS)	CIRCUIT FUSE SIZE (AMPS)	CIRCUIT CABLE SIZE (AWG)	MAINTAINING AGENCY
EXISTING "5"	480	2.6 KVA	60	#4	D	11.9	30	No. 4	ODOT

CALCULATED  
CRG  
CHECKED  
JRL

**LIGHTING PLAN - U.S. 33  
CIRCUIT DIAGRAM**

**FRA - 33 - 24.26**



CALCULATED  
CRG  
CHECKED  
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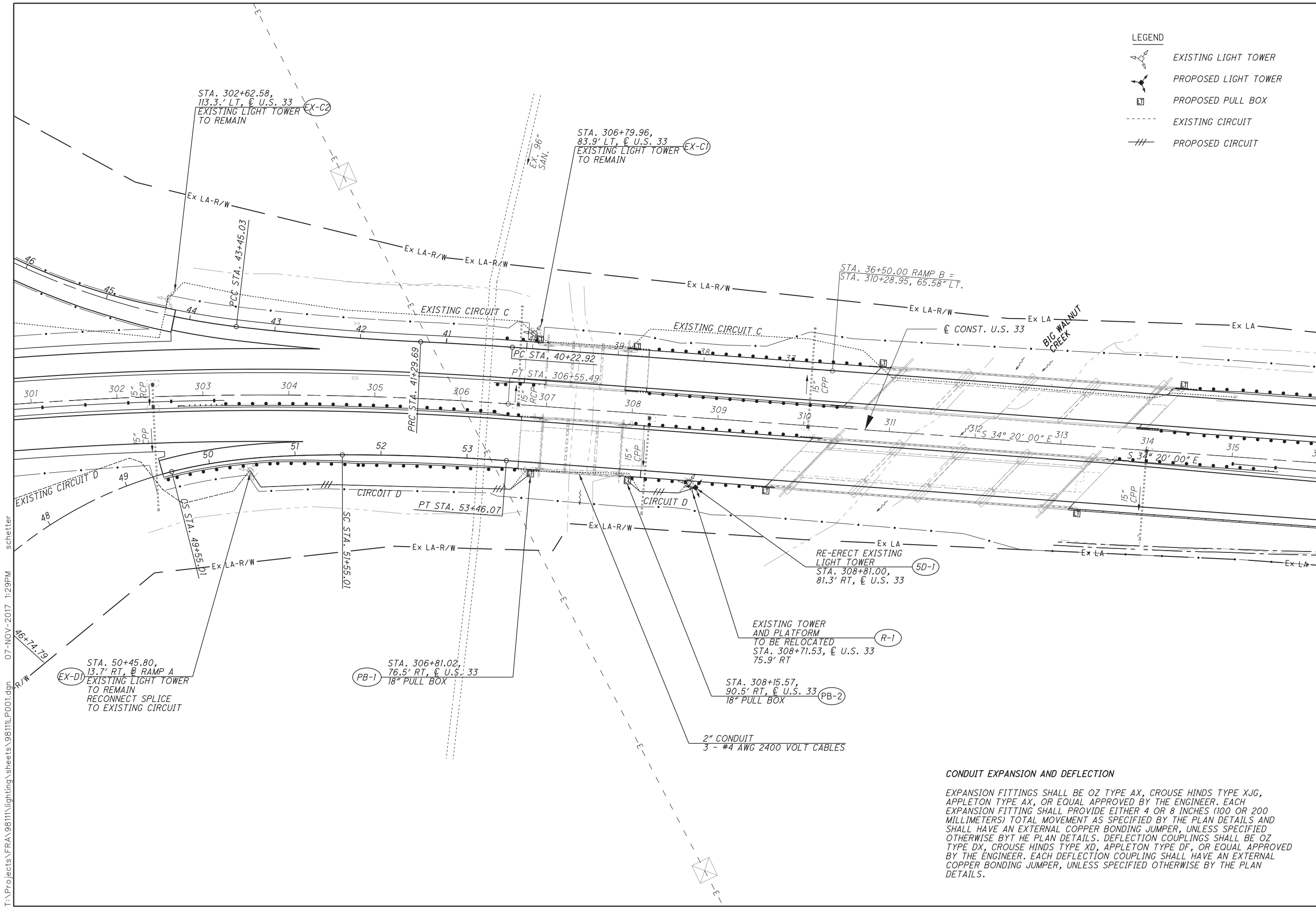
LIGHTING PLAN - U.S. 33

FRA - 33 - 24.26

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287

LEGEND

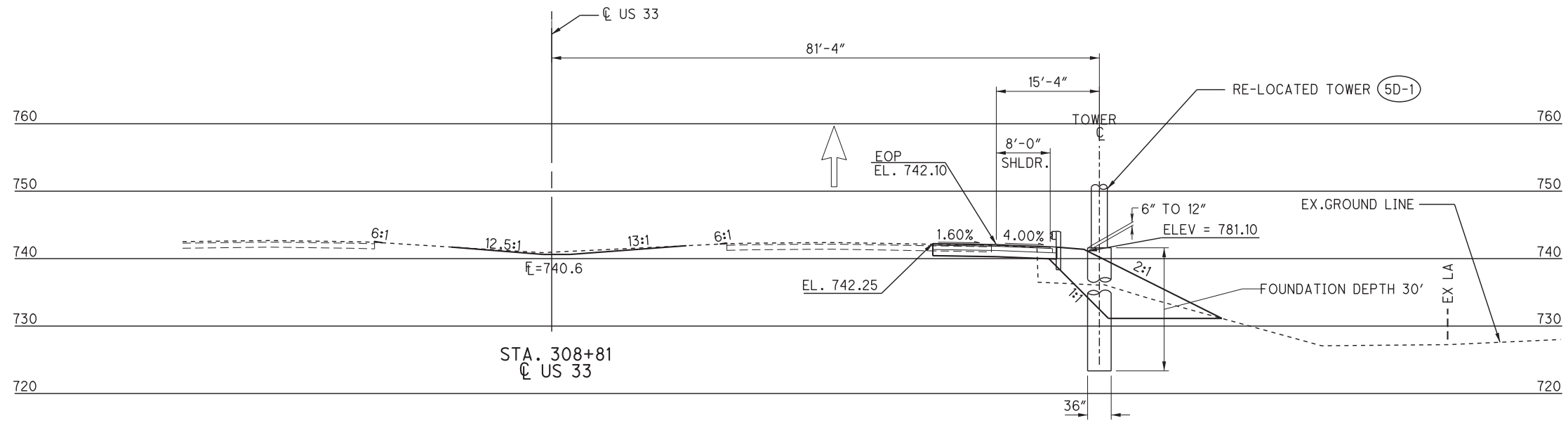
- EXISTING LIGHT TOWER
- PROPOSED LIGHT TOWER
- PROPOSED PULL BOX
- EXISTING CIRCUIT
- PROPOSED CIRCUIT



CONDUIT EXPANSION AND DEFLECTION

EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XJG, APPLETON TYPE AX, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE EITHER 4 OR 8 INCHES (100 OR 200 MILLIMETERS) TOTAL MOVEMENT AS SPECIFIED BY THE PLAN DETAILS AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS. DEFLECTION COUPLINGS SHALL BE OZ TYPE DX, CROUSE HINDS TYPE XD, APPLETON TYPE DF, OR EQUAL APPROVED BY THE ENGINEER. EACH DEFLECTION COUPLING SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

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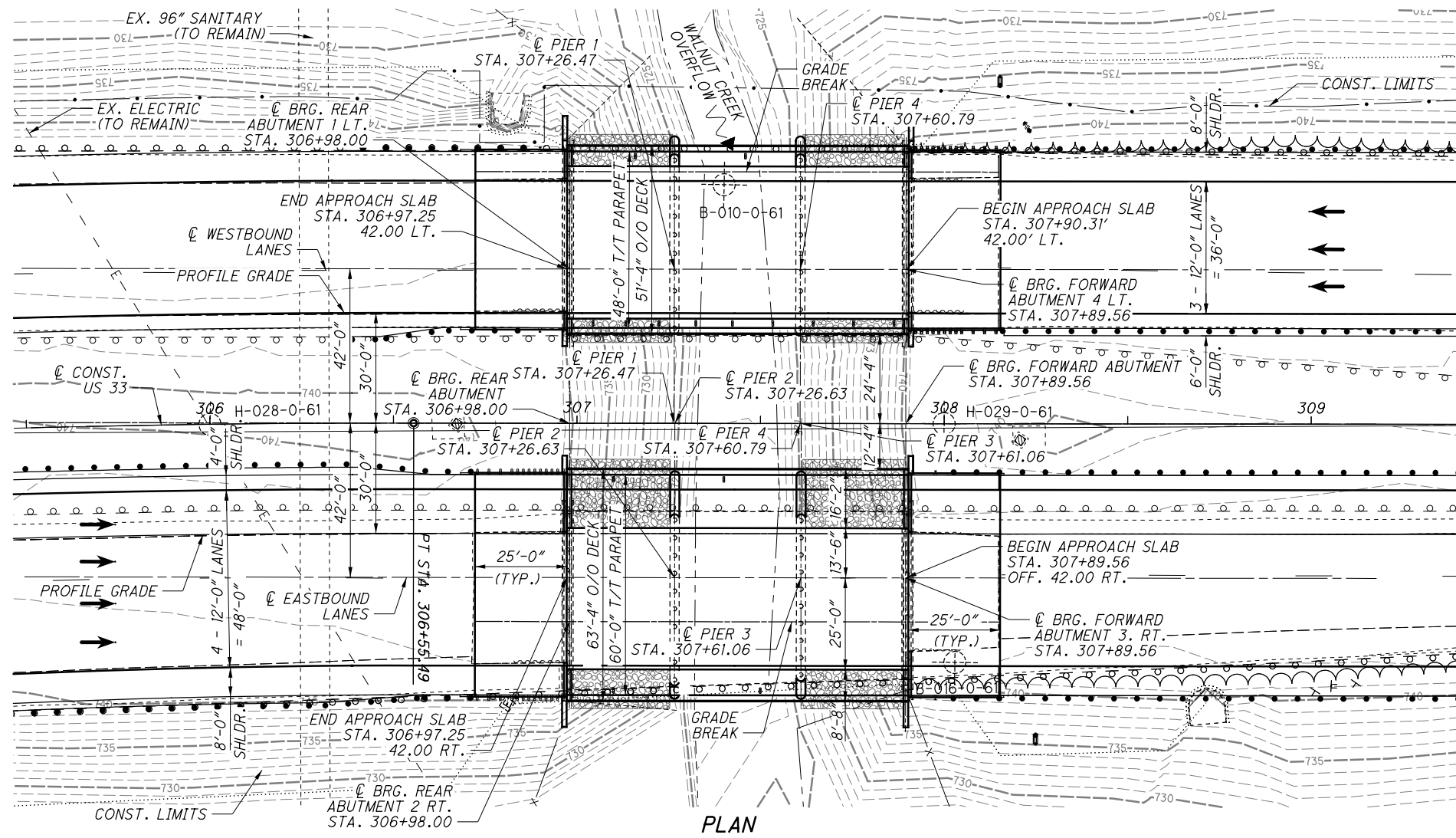


**LIGHTING PLANS - U.S.33  
HIGH MAST TOWER ELEVATION**

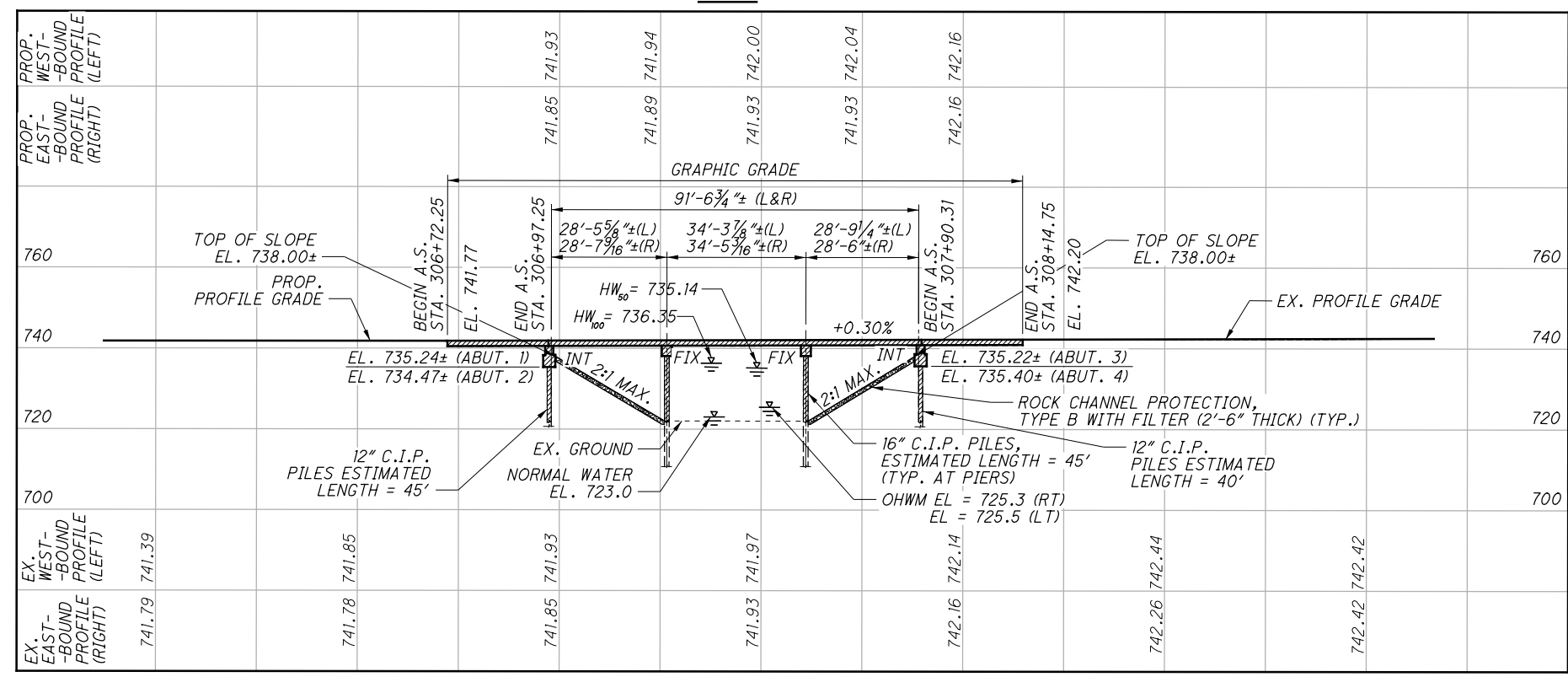
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NOTES:  
1. SEE SHEET 228 FOR PLAN VIEW.

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PLAN



EASTBOUND PROFILE-RIGHT BRIDGE SHOWN

**BENCHMARK DATA**

BM #14 STA.313+51.90, ELEV. 742.983, OFFSET 20' RT  
 BM #13 STA.313+75.47, ELEV. 742.593, OFFSET 19' LT

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET (III) 287

**NOTES**

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

**DESIGN TRAFFIC:**

2018 ADT = 77,000 2018 ADTT = 5,390  
 2030 ADT = 93,000 2030 ADTT = 6,510  
 DIRECTIONAL DISTRIBUTION = 69%

**LEGEND**

HISTORIC BORING LOCATION

**HYDRAULIC DATA**

DRAINAGE AREA = 254 SQ. MILES  
 Q (50) = 21,200 CFS V (50) = 9.26 FT/S  
 Q (100) = 25,300 CFS V (100) = 9.96 FT/S  
 STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 5.3 FEET.

**EXISTING STRUCTURE**

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB WITH CAPPED PILE SUBSTRUCTURE  
 SPANS: 28'±, 35'±, 28'± C/C BEARINGS  
 ROADWAY: 50' F/F RAILING  
 LOADING: CF 2000 (57)  
 SKEW: NONE  
 APPROACH SLABS: AS-1-54 (25' LONG)  
 WEARING SURFACE: 1" MONOLITHIC CONCRETE  
 ALIGNMENT: TANGENT  
 SUPERELEVATION: VARIES  
 STRUCTURAL FILE NUMBER: 2501929 (L), 2501953 (R)  
 DATE BUILT: 1963  
 DISPOSITION: TO BE REHABILITATED

**PROPOSED STRUCTURE**

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB WITH CAPPED PILE SUBSTRUCTURE  
 SPANS: 28'-5<sup>5</sup>/<sub>16</sub>"±, 34'-3<sup>3</sup>/<sub>8</sub>"±, 28'-9<sup>1</sup>/<sub>4</sub>"± C/C BEARINGS (LEFT)  
 28'-7<sup>7</sup>/<sub>16</sub>"±, 34'-5<sup>5</sup>/<sub>16</sub>"±, 28'-6"± C/C BEARINGS (RIGHT)  
 ROADWAY: 48'-0" (L), 60'-0" (R) TOE/TOE PARAPET  
 LOADING: HS20-44 AND ALTERNATE MILITARY (SUPERSTRUCTURE ONLY)  
 FUTURE WEARING SURFACE: 60 PSF  
 SKEW: NONE  
 WEARING SURFACE: 4 1/4" SDC OVERLAY  
 APPROACH SLABS: 25'-0" LONG (AS-1-81)  
 ALIGNMENT: TANGENT  
 SUPER: VARIES  
 COORDINATES: LATITUDE 39° 53' 57" (L), 39° 53' 57" (R)  
 LONGITUDE 82° 53' 41" (L), 82° 53' 40" (R)



RESOURCE INTERNATIONAL INC.  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

**Rii**

DATE: 11/07/17  
 REVIEWED: SSK  
 DRAWN: JGM  
 DESIGNED: JGM  
 CHECKED: NCK

STRUCTURE FILE NUMBER: 2501929/2501953

FRANKLIN COUNTY  
 STA. 306+97.25  
 STA. 307+90.31

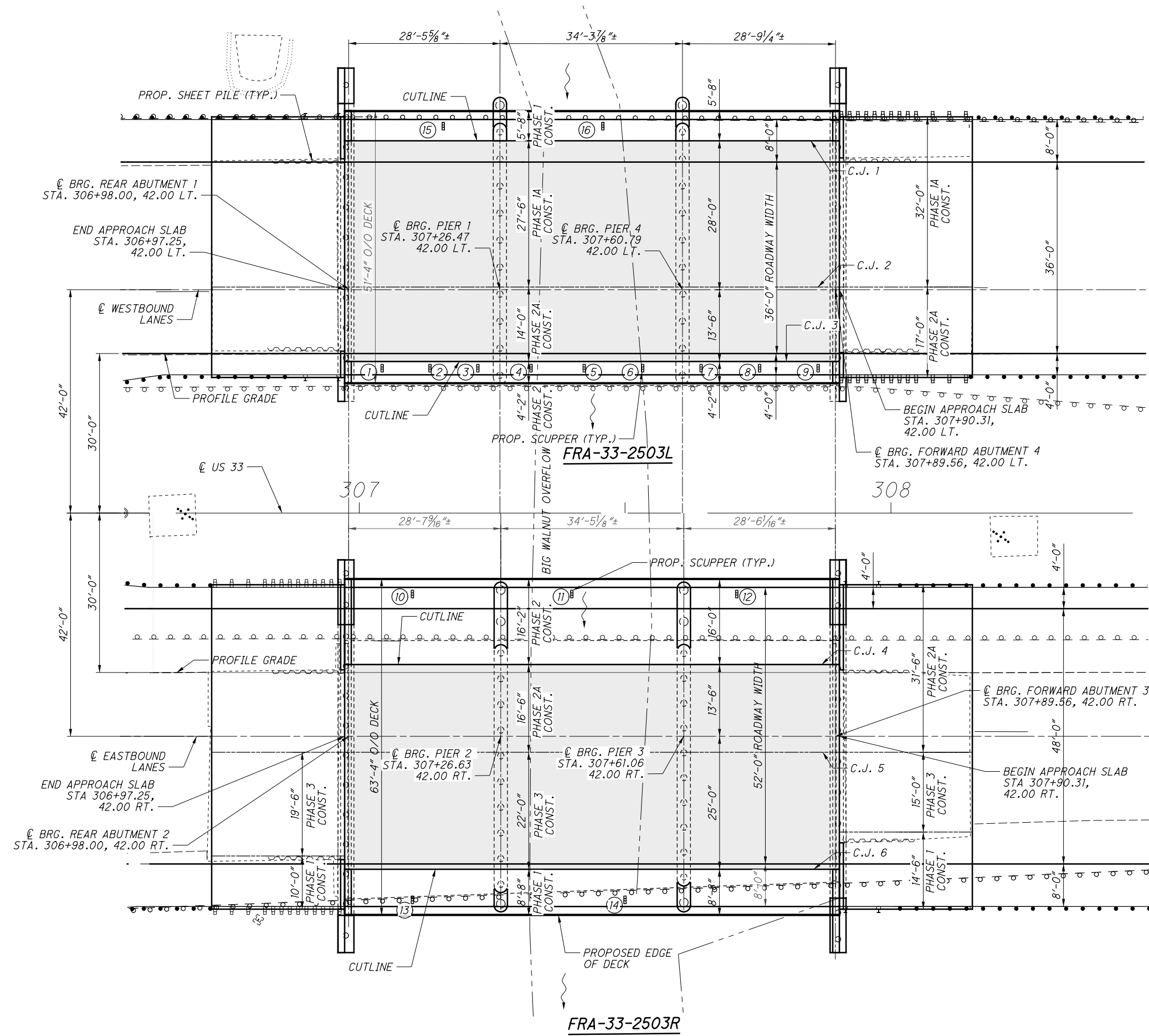
**SITE PLAN**  
 BRIDGE NO. FRA-33-2503 L/R  
 OVER WALNUT CREEK OVERFLOW

**FRA-33-24.26**  
 PID No. 98111

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230  
 287

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PROPOSED SCUPPERS		
NO.	STATION	OFFSET
①	307+04.00	27.25' LT.
②	307+13.00	27.25' LT.
③	307+22.00	27.25' LT.
④	307+32.00	27.25' LT.
⑤	307+42.00	27.25' LT.
⑥	307+53.00	27.25' LT.
⑦	307+64.00	27.25' LT.
⑧	307+75.00	27.25' LT.
⑨	307+86.00	27.25' LT.
⑩	307+10.00	27.25' RT.
⑪	307+40.00	72.75' RT.
⑫	307+71.00	72.75' RT.
⑬	307+10.00	72.75' RT.
⑭	307+50.00	72.75' RT.
⑮	307+15.00	72.75' LT.
⑯	307+45.00	72.75' LT.

- PROPOSED WORK**
- REMOVE A PORTION OF CONCRETE SLAB, ALL EXISTING RAILING, PORTION OF ABUTMENTS AND EXISTING APPROACH SLABS.
  - WIDEN BRIDGE FRA-33-2503R AND APPROACH SLABS TO ACCOMMODATE 12' INSIDE AND 8' OUTSIDE SHOULDERS.
  - WIDEN BRIDGE FRA-33-2503L AND APPROACH SLABS TO ACCOMMODATE AN 8' WIDE OUTSIDE SHOULDER.
  - CONSTRUCT ABUTMENTS, WINGWALLS, PIER CAPS AND PILES TO ACCOMMODATE PROPOSED WIDENING.
  - CONSTRUCT APPROACH SLABS.
  - INSTALL PROPOSED SCUPPERS.
  - CONSTRUCT SBR-1-13 RAILING.
  - REMOVE EXISTING CONCRETE OVERLAY AND REPLACE WITH SDC CONCRETE OVERLAY USING HYDRODEMOLITION PER SS848.
  - SEAL ALL EXISTING AND PROPOSED SURFACES WITH EPOXY-URETHANE SEALER AS SHOWN IN THE PLANS.
  - PATCH ABUTMENTS.
  - ADD ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER, 2'-6" THICK TO WIDENED AREAS.

**LEGEND:**  
 - LIMITS OF SDC OVERLAY

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**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

- AS-1-15 REVISED 07-17-15
- CPP-1-08 REVISED 07-21-17
- CS-1-08 REVISED 07-18-08
- PCB-91 REVISED 01-18-13
- GSD-1-96 REVISED 07-19-02
- SBR-1-13 REVISED 01-17-14

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

848 DATED 01-20-17

**DESIGN SPECIFICATIONS:**

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

**DESIGN LOADING:**

HS-20-44 AND THE ALTERNATE MILITARY LOADING (SUPERSTRUCTURE ONLY)  
FUTURE WEARING SURFACE (FWS) OF 60 PSF

**DESIGN DATA:**

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

**DECK PROTECTION METHOD:**

EPOXY COATED REINFORCING STEEL  
2 1/2" CONCRETE COVER  
4 1/4" SDC OVERLAY

**DECK PLACEMENT DESIGN 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 LOAD OF 2.4 KIPS FOR A TOTAL MACHINE LOAD OF 19.2 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".

**EXISTING STRUCTURE VERIFICATION:**

DETAILS AND DIMENSIONS SHOWN ON 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 REFERRED TO CMS SECTIONS 102.05,105.02 AND 513.04

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.

**PORTIONS OF STRUCTURE REMOVED, AS PER PLAN,**

**SUPERSTRUCTURE:**

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE SLAB INCLUDING, PARAPETS, DECK JOINTS AND OTHER APPURTENANCES FROM SUPPORTING SYSTEMS. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) AS PER CMS 2010 501.05.B.2.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS POINTED OR BLUNTED CHISEL TOOLS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (EG., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF CONCRETE REMOVALS ON A CUBIC YARD BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT BID PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, SUPERSTRUCTURE.

**SUBSTRUCTURE:**

ALL CONCRETE REMOVED AS DETAILED IN THE PLANS SHALL BE REMOVED BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN REBUILT STRUCTURE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF CONCRETE REMOVAL PER CONTRACT BID PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, SUBSTRUCTURE.

**ITEM 507, CAST IN PLACE REINFORCED CONCRETE PILES, FURNISHED, AS PER PLAN:**

FURNISH PILE CASINGS THAT CONFORM TO ASTM A252, GRADE 3 (MINIMUM YIELD STRENGTH OF 45 KSI)

**PILE DESIGN LOADS (ULTIMATE BEARING VALUE)**

THE ULTIMATE BEARING VALUE IS 200 KIPS PER PILE FOR THE 9 ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 250 KIPS PER PILE FOR THE 8 PIER PILES.

**ABUTMENT #1 PILES:**

1 PILE, 12" C.I.P., 50 FEET LONG, ORDER LENGTH

**ABUTMENT #2 PILES:**

3 PILES, 12" C.I.P., 50 FEET LONG, ORDER LENGTH

**ABUTMENT #3 PILES:**

4 PILES, 12" C.I.P., 45 FEET LONG, ORDER LENGTH

**ABUTMENT #4 PILES:**

1 PILE, 12" C.I.P., 45 FEET LONG, ORDER LENGTH

ABUTMENTS: 1 DYNAMIC LOAD TESTING ITEM

**PIER #1 PILES:**

1 PILE, 16" C.I.P., 50 FEET LONG, ORDER LENGTH

**PIER #2 PILES:**

3 PILES, 16" C.I.P., 50 FEET LONG, ORDER LENGTH

**PIER #3 PILES:**

3 PILES, 16" C.I.P., 50 FEET LONG, ORDER LENGTH

**PIER #4 PILES:**

1 PILE, 16" C.I.P., 50 FEET LONG, ORDER LENGTH

PIERS: 1 DYNAMIC LOAD TESTING ITEM

**CUT LINE CONSTRUCTION JOINT PREPARATION:**

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. (25 mm) REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

**REINFORCING STEEL REPLACEMENT:**

**ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:**

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

A QUANTITY OF 700 POUNDS HAS BEEN INCLUDED IN THE PLANS FOR PAYMENT.

**ITEM 519 PATCHING CONCRETE STRUCTURE, AS PER PLAN:**

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

THE BELOW ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS FOR PAYMENT. LOCATIONS OF PATCHING WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

ABUTMENTS: 100 SQ FT

PIERS: 50 SQ FT

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(614) 823-4849



DATE	11/07/17
REVIEWED	SSK
DESIGNED	JGM
DRAWN	JCM
CHECKED	NCK
STRUCTURE FILE NUMBER	2501929/2501953

**GENERAL NOTES**

BRIDGE NO. FRA-33-2503 L/R  
OVER WALNUT CREEK OVERFLOW

FRA -33-24.26  
PID No. 98111

3 / 24

232  
287



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		PART.		ESTIMATED QUANTITIES											CALCULATED BY: JGM		DATE: 1/29/2018	
		02/NHS/BR													CHECKED BY: NCK		DATE: 1/29/2018	
ITEM	EXTENSION	QUANTITY LEFT SFN: 2501929	QUANTITY RIGHT SFN: 2501953	UNIT	DESCRIPTION	LEFT BRIDGE				RIGHT BRIDGE				SHEET NO.				
						ABUT.	PIERS	SUPER.	GEN.	ABUT.	PIERS	SUPER.	GEN.					
202	11203	LUMP	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN													3
202	22900	200	185	SY	APPROACH SLAB REMOVED													185
503	11100	LUMP	LUMP	LUMP	COFFERDAMS AND EXCAVATION BRACING			LUMP				LUMP						
503	21300	LUMP	LUMP	LUMP	UNCLASSIFIED EXCAVATION				LUMP									
505	11100	LUMP	LUMP	LUMP	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP									
507	00500	85	295	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	85						295						
507	00550	95	330	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	95						330						
507	00700	64	192	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		64						192					
507	00750	100	300	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED		100						300					
509	10000	20770	40281	POUND	EPOXY COATED REINFORCING STEEL	2142	444	18184				3561	1311	35,409				
509	20001	208	403	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN						208						403	3
510	10000	308	308	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	146	18	100				172	36	100				
511	32212	54	137	CU YD	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE			54						137				
511	34450	27	27	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			27						27				
511	42512	3	8	CU YD	CLASS QC1 CONCRETE WITH QC/QA, PIER CAP		3						8					
511	43512	13	22	CU YD	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	13						22						
512	10100	333	392	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	49	76	208				88	96	208				
512	33000	37	46	SQ YD	TYPE 2 WATERPROOFING						37						46	
518	12300	11	5	EACH	SCUPPERS, INCLUDING SUPPORTS			11						5				
518	21200	9	14	CU YD	POROUS BACKFILL GEOTEXTILE FABRIC	9						14						
518	40000	52	80	FT	6" PERFORATED CORRUGATED PLASTIC PIPE												80	
518	40010	36	36	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS												36	
519	11101	75	75	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	50	25					50	25					3
523	20000	2	2	EACH	DYNAMIC LOAD TESTING	1	1					1	1					
526	25000	272	339	SQ YD	REINFORCED CONCRETE APPROACH SLAB (T=15")							272						339
601	32100	87	148	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER							87						148
848	10200	657	609	SQ YD	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION (4 1/4" THICK)			657						609				
848	20000	657	609	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION			657						609				
848	30200	6	6	CU YD	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY			6						6				
848	50000	11	11	SQ YD	HAND CHIPPING			11						11				
848	50100	LUMP	LUMP		TEST SLAB			LUMP						LUMP				
848	50200	8	7	CU YD	FULL-DEPTH REPAIR			8						7				
848	50320	657	609	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (3 3/4" THICK)			657						609				
848	50340	103	102	SQ YD	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY			103						102				

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DATE: 11/07/17  
REVIEWED: SSK  
DRAWN: JGM  
DESIGNED: JGM  
CHECKED: NCK  
STRUCTURE FILE NUMBER: 2501929/2501953

ESTIMATED QUANTITIES  
BRIDGE NO. FRA-033-2503 L/R  
OVER BIG WALNUT OVERFLOW

FRA-33-24.26  
PID No. 98111

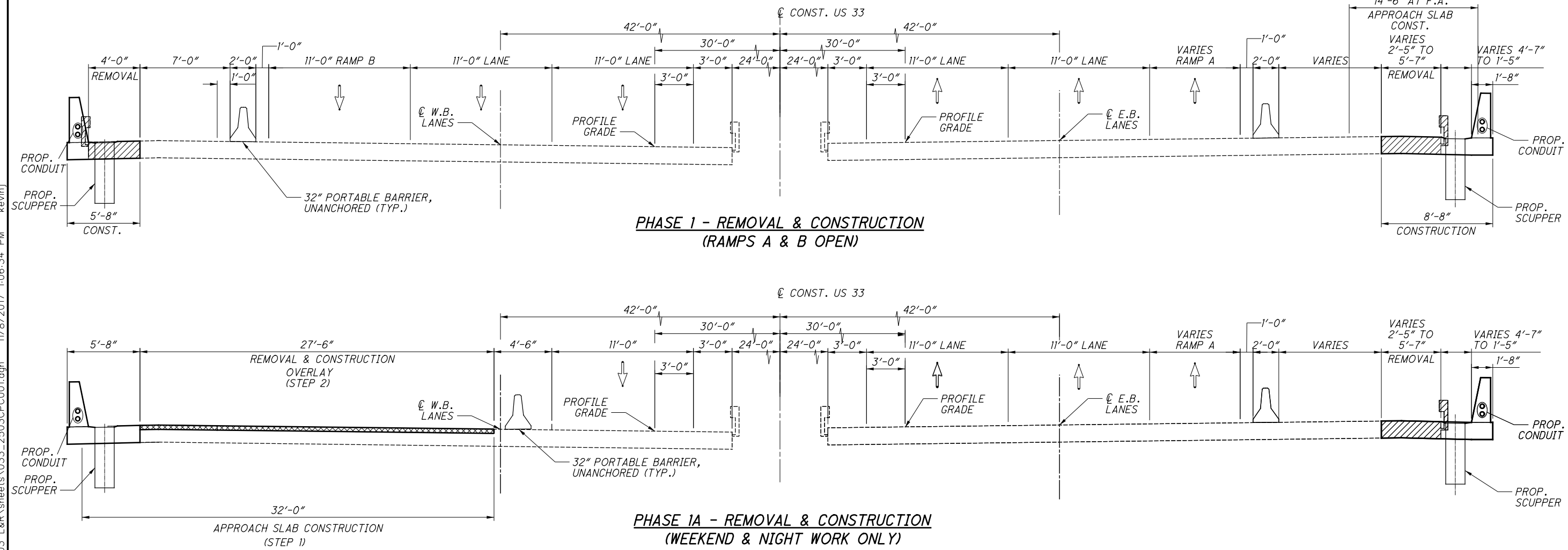
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DATE	11/07/17
REVIEWED	SSK
DESIGNED	JGM
CHECKED	NCK
DRAWN	JGM
REVISED	
STRUCTURE FILE NUMBER	2501929/2501953

**PHASE CONSTRUCTION DETAILS**  
BRIDGE NO. FRA-033-2503 L/R  
OVER BIG WALNUT OVERFLOW

**FRA - 33-24-26**  
PID No. 98111



**PHASE 1 - REMOVAL & CONSTRUCTION  
(RAMPS A & B OPEN)**

**PHASE 1A - REMOVAL & CONSTRUCTION  
(WEEKEND & NIGHT WORK ONLY)**

**LEGEND:**

- ITEM 202 - STRUCTURE REMOVED, AS PER PLAN
- ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION

**SUGGESTED SEQUENCE OF CONSTRUCTION:**

**PHASE 1 - REMOVAL:**

1. INSTALL PB AND SHIFT TRAFFIC AS SHOWN.
2. ON THE LEFT BRIDGE, REMOVE 4'-0" OF THE FULL DEPTH SLAB, EXISTING RAILING AND PORTION OF ABUTMENTS AND PIERS.
3. ON THE RIGHT BRIDGE, REMOVE 2'-5" MIN., 5'-7" MAX. OF THE FULL DEPTH SLAB, EXISTING RAILING AND PORTION OF ABUTMENTS AND PIERS.
4. REMOVE PORTIONS OF EXISTING APPROACH SLAB ON THE RIGHT BRIDGE.

**PHASE 1 - CONSTRUCTION:**

1. INSTALL ALL ABUTMENT AND PIER PILES, INCLUDING PILES FOR PHASE 2 CONSTRUCTION.
2. ON THE RIGHT BRIDGE, CONSTRUCT 10'-0" OF APPROACH SLAB AT THE REAR ABUTMENT AND 14'-6" AT THE FORWARD ABUTMENT.
3. ON THE LEFT BRIDGE, CONSTRUCT PORTION OF ABUTMENTS AND PIERS. CONSTRUCT 5'-8" OF THE FULL DEPTH SLAB AND PARAPET.
4. ON THE RIGHT BRIDGE, CONSTRUCT PORTION OF ABUTMENTS AND PIERS. CONSTRUCT 8'-8" OF THE FULL DEPTH SLAB AND PARAPET.

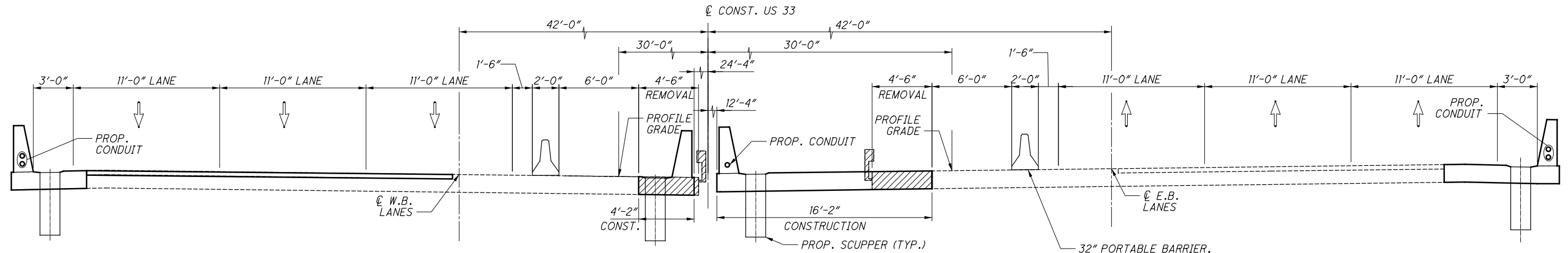
**PHASE 1A - REMOVAL: (WEEKEND & NIGHT WORK ONLY)**

1. INSTALL PB AND SHIFT TRAFFIC AS SHOWN.
- STEP 1:**  
REMOVE PORTIONS OF EXISTING APPROACH SLAB, ON THE LEFT BRIDGE.
- STEP 2:**  
REMOVE 27'-6" OF THE 3 3/4" THICK EXISTING OVERLAY AND 1/2" THICK OF EXISTING SLAB USING HYDRODEMOLITION, ON THE LEFT BRIDGE.

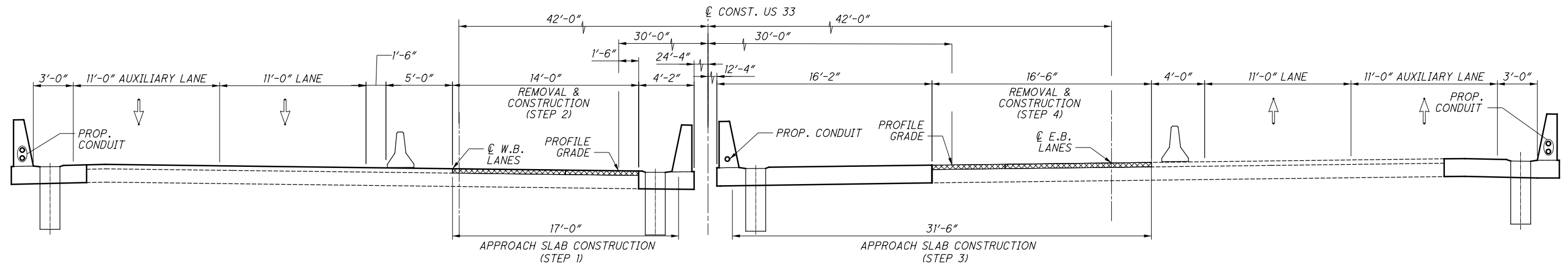
**PHASE 1A - CONSTRUCTION:**

- STEP 1:**  
CONSTRUCT 32'-0" OF THE APPROACH SLAB ON THE LEFT BRIDGE.
- STEP 2:**  
CONSTRUCT 27'-6" OF THE PROPOSED 4 1/4" THICK OVERLAY ON THE LEFT BRIDGE.

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**PHASE 2 - REMOVAL & CONSTRUCTION**



**PHASE 2A - REMOVAL & CONSTRUCTION  
(WEEKEND & NIGHT WORK ONLY)**

**SUGGESTED SEQUENCE OF CONSTRUCTION:**

**PHASE 2 - REMOVAL:**

1. INSTALL PB AND SHIFT TRAFFIC AS SHOWN.
2. ON THE LEFT BRIDGE, REMOVE 4'-6" OF THE FULL DEPTH SLAB, EXISTING RAILING AND PORTION OF ABUTMENT AND PIERS.
3. ON THE RIGHT BRIDGE, REMOVE 4'-6" OF THE FULL DEPTH SLAB, EXISTING RAILING AND PORTION OF ABUTMENT AND PIERS.

**PHASE 2 - CONSTRUCTION:**

1. ON THE LEFT BRIDGE, CONSTRUCT PORTION OF ABUTMENTS AND PIERS. CONSTRUCT 4'-2" OF THE FULL DEPTH SLAB, AND PARAPET.
2. ON THE RIGHT BRIDGE, CONSTRUCT PORTION OF ABUTMENTS AND PIERS. CONSTRUCT 16'-2" OF THE FULL DEPTH SLAB, AND PARAPET.

**PHASE 2A - REMOVAL: (WEEKEND & NIGHT WORK ONLY)**

1. INSTALL PB AND SHIFT TRAFFIC AS SHOWN.

**PHASE 2A - REMOVAL:**

- STEP 1:**  
REMOVE REMAINDER OF APPROACH SLAB ON THE LEFT BRIDGE.
- STEP 2:**  
ON THE LEFT BRIDGE, REMOVE 14'-0" OF THE 3 3/4" THICK EXISTING OVERLAY AND 1/2" THICK OF EXISTING SLAB USING HYDRODEMOLITION.
- STEP 3:**  
REMOVE REMAINDER OF APPROACH SLAB ON THE RIGHT BRIDGE.
- STEP 4:**  
ON THE RIGHT BRIDGE, REMOVE 16'-6" OF THE 3 3/4" THICK EXISTING OVERLAY AND 1/2" THICK OF EXISTING SLAB USING HYDRODEMOLITION.

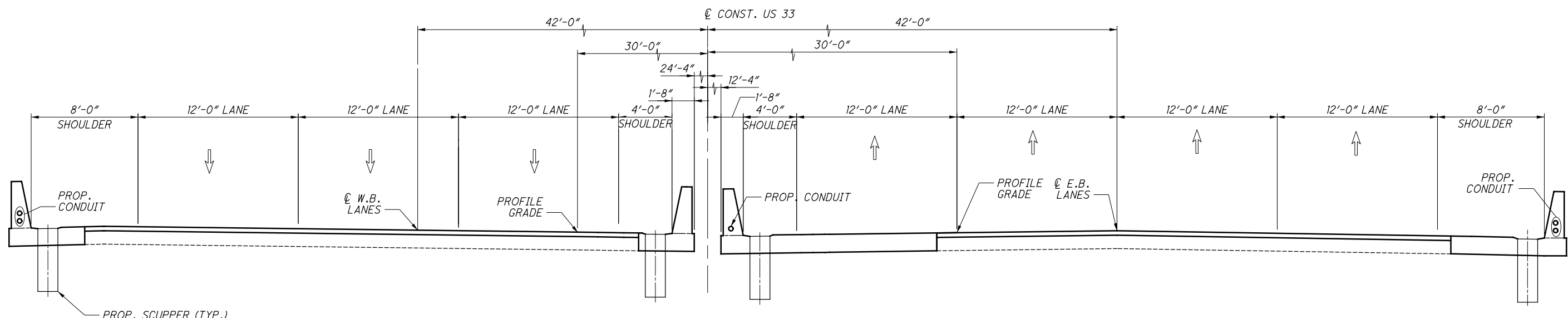
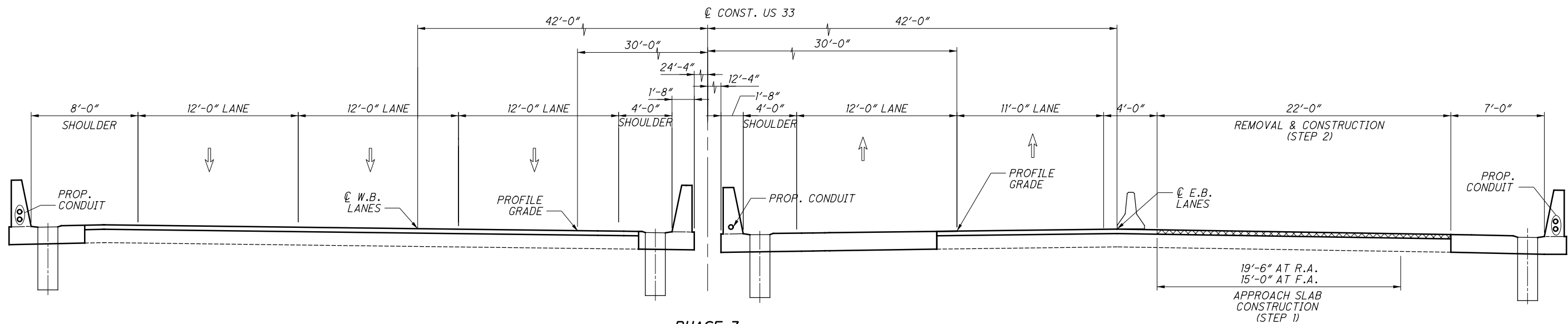
**PHASE 2A - CONSTRUCTION:**

- STEP 1:**  
CONSTRUCT 17'-0" OF APPROACH SLAB ON THE LEFT BRIDGE.
- STEP 2:**  
ON THE LEFT BRIDGE, CONSTRUCT 14'-0" OF THE PROPOSED 4 1/4" THICK OVERLAY.
- STEP 3:**  
CONSTRUCT 31'-6" OF APPROACH SLAB ON THE RIGHT BRIDGE
- STEP 4:**  
ON THE RIGHT BRIDGE, CONSTRUCT 16'-6" OF THE PROPOSED 4 1/4" THICK OVERLAY.

**LEGEND:**

- ITEM 202 - STRUCTURE REMOVED, AS PER PLAN
- ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION

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**LEGEND:**

- ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION

**SUGGESTED SEQUENCE OF CONSTRUCTION:**

**PHASE 3 - REMOVAL:**

1. INSTALL PB AND SHIFT TRAFFIC AS SHOWN.

**STEP 1:**

REMOVE REMAINDER OF APPROACH SLAB ON RIGHT BRIDGE.

**STEP 2:**

ON THE RIGHT BRIDGE, REMOVE 22'-0" OF THE 3 3/4" THICK EXISTING OVERLAY AND 1/2" THICK OF EXISTING DECK USING HYDRODEMOLITION.

**PHASE 3 - CONSTRUCTION:**

**STEP 1:**

ON THE RIGHT BRIDGE, CONSTRUCT 19'-6" OF APPROACH SLAB AT THE REAR ABUTMENT AND 15'-0" AT THE FORWARD ABUTMENT.

**STEP 2:**

ON THE RIGHT BRIDGE, CONSTRUCT 22'-0" OF THE PROPOSED 4 1/4" THICK OVERLAY.

**FINAL CONFIGURATION:**

REMOVE PCB. SHIFT TRAFFIC TO FINAL CONFIGURATION AS SHOWN.

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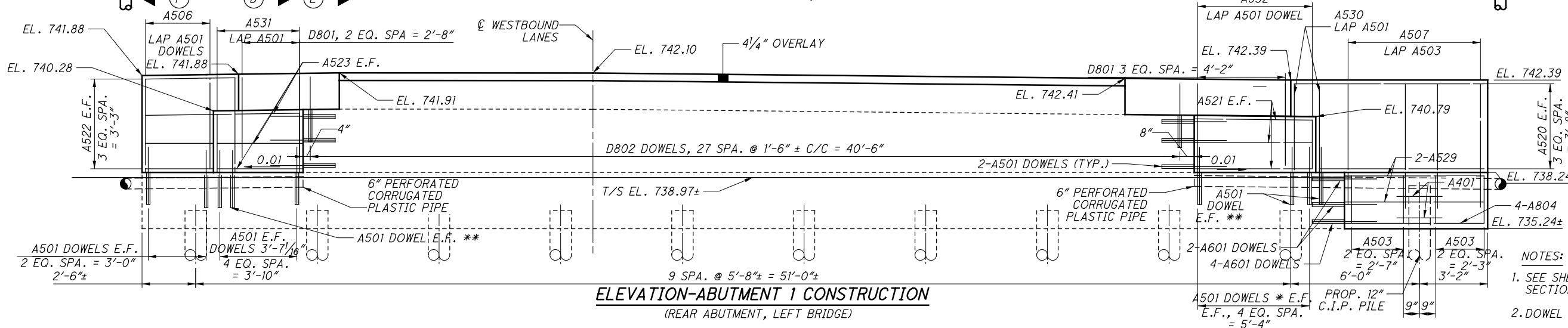
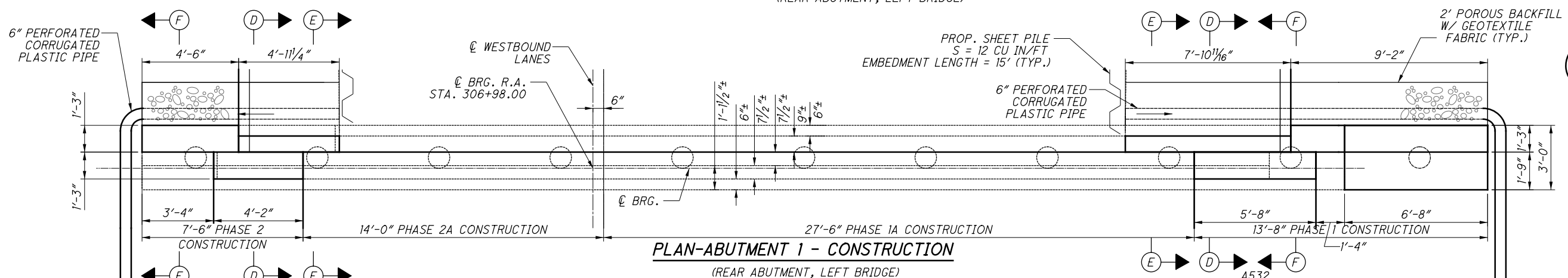
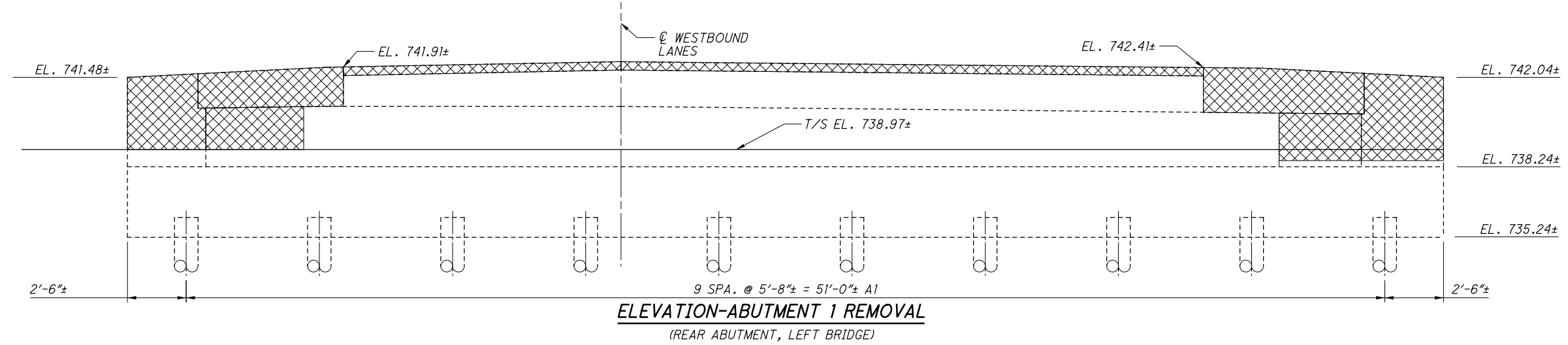
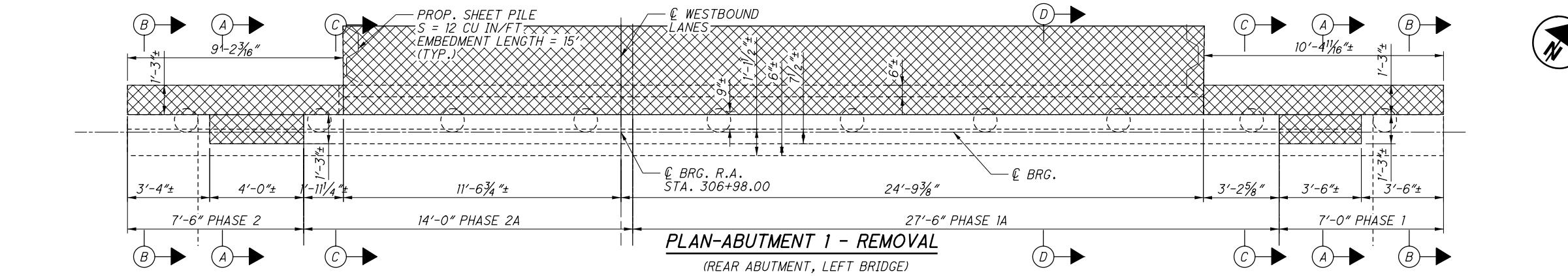


DESIGNED	JGM	CHECKED	NCK
DRAWN	JGM	REVISED	
REVIEWED	SSK	DATE	11/07/17
		STRUCTURE FILE NUMBER	2501929/2501953

**PHASE CONSTRUCTION DETAILS**  
BRIDGE NO. FRA-033-2503 L/R  
OVER BIG WALNUT OVERFLOW

**FRA-33-24-26**  
PID No. 98111

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**LEGEND:**

- [Hatched Area] PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- \* A501 DOWEL BAR LOCATED IN ABUTMENT BREASTWALL
- \*\* A501 DOWEL BAR LOCATED IN ABUTMENT WINGWALL

**NOTES:**

- SEE SHEET 10/24 & 11/24 FOR SECTIONS.
- DOWEL EMBEDMENT = 1'-6" (TYP.)

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 DESIGNED: JGM  
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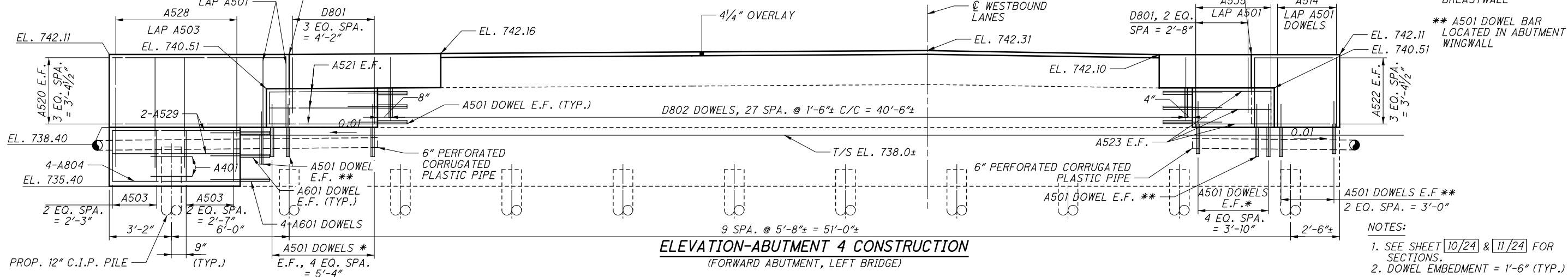
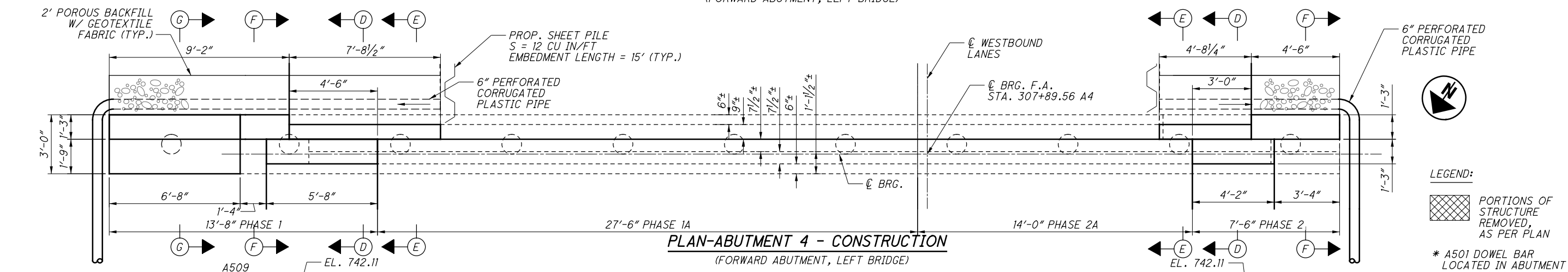
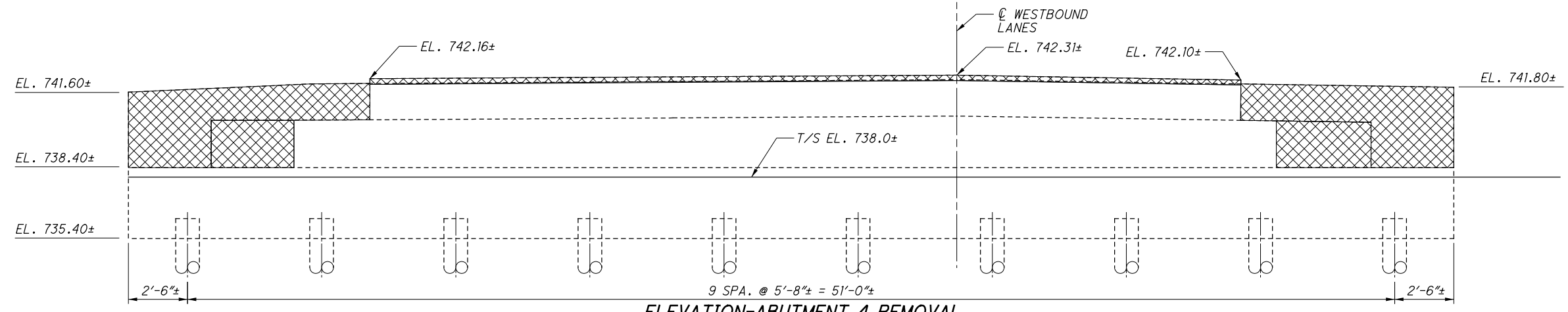
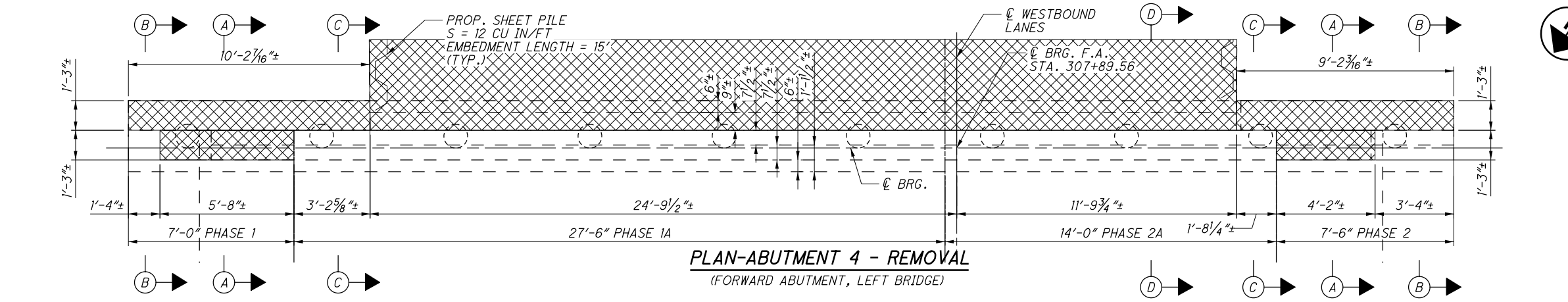
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 REVISED: 2501929/2501953

**ABUTMENT 1 DETAILS**  
 BRIDGE NO. FRA-033-2503 L/R  
 OVER BIG WALNUT OVERFLOW

**FRA-33-24-26**  
 PID No. 98111

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**LEGEND:**  
 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN  
 \* A501 DOWEL BAR LOCATED IN ABUTMENT BREASTWALL  
 \*\* A501 DOWEL BAR LOCATED IN ABUTMENT WINGWALL

**NOTES:**  
 1. SEE SHEET 10/24 & 11/24 FOR SECTIONS.  
 2. DOWEL EMBEDMENT = 1'-6" (TYP.)

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 STRUCTURE FILE NUMBER: 2501929/2501953

DRAWN: JGM  
 CHECKED: NCK  
 REVISIONS:

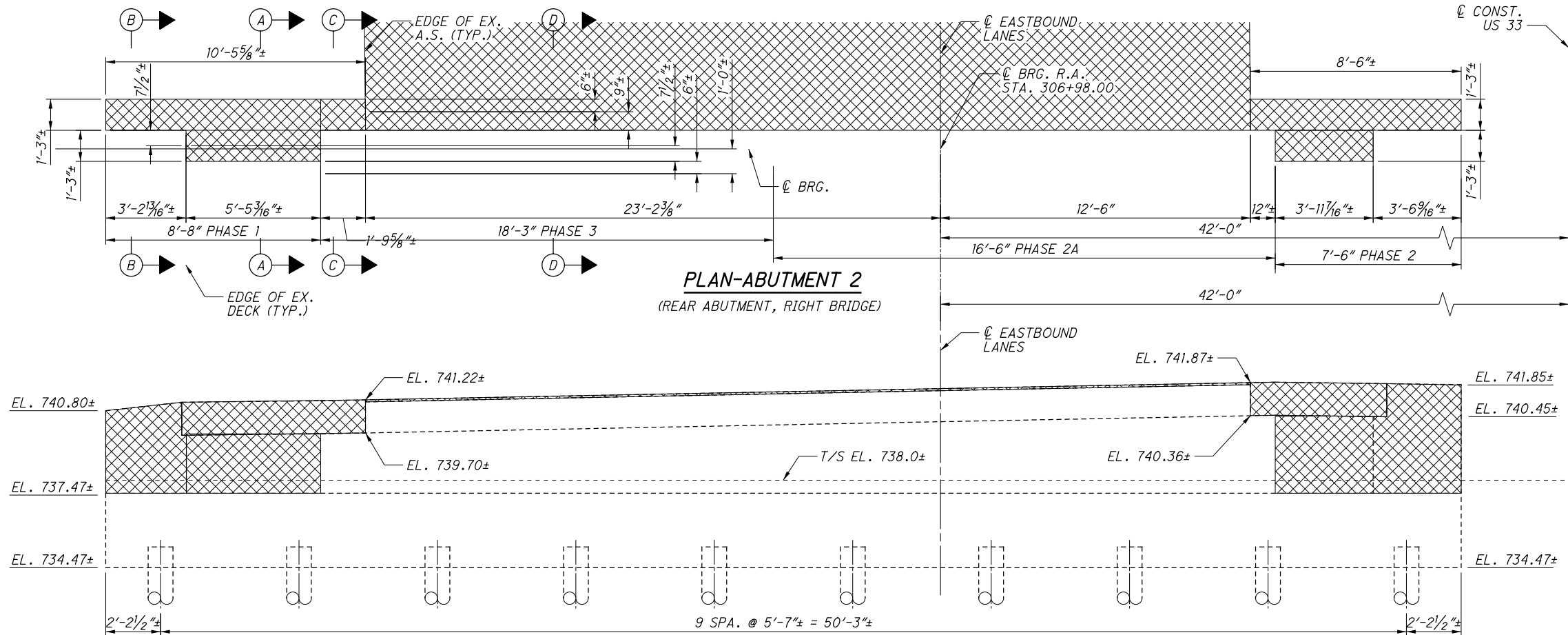
**ABUTMENT 4 DETAILS**  
 BRIDGE NO. FRA-033-2503 L/R  
 OVER BIG WALNUT OVERFLOW

**FRA-33-24-26**  
 PID No. 98111

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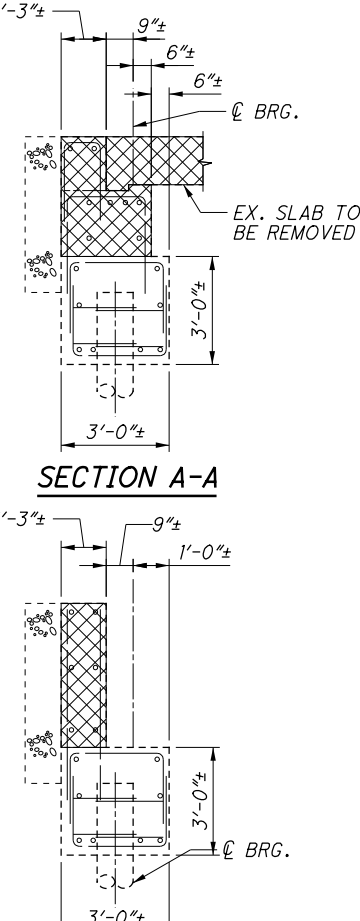
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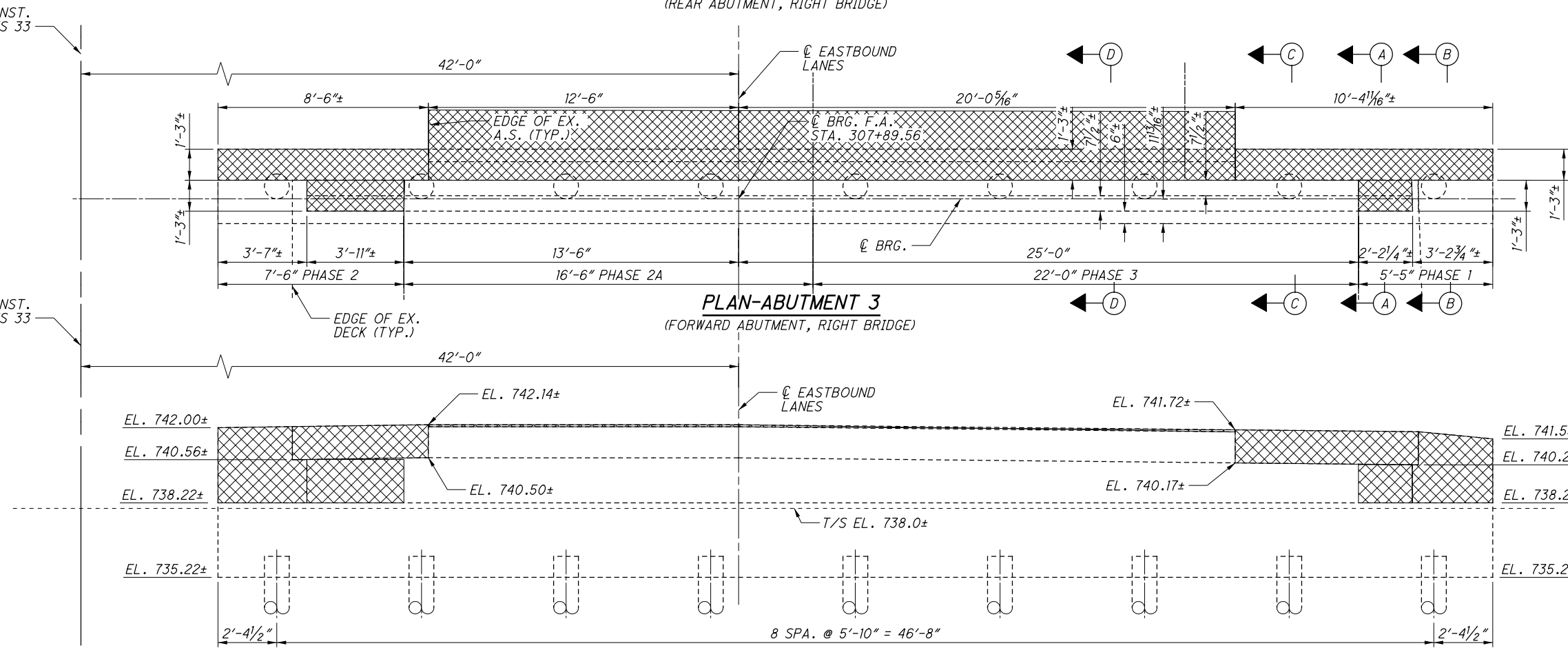
**PLAN-ABUTMENT 2**  
(REAR ABUTMENT, RIGHT BRIDGE)

**ELEVATION-ABUTMENT 2**  
(REAR ABUTMENT, RIGHT BRIDGE)



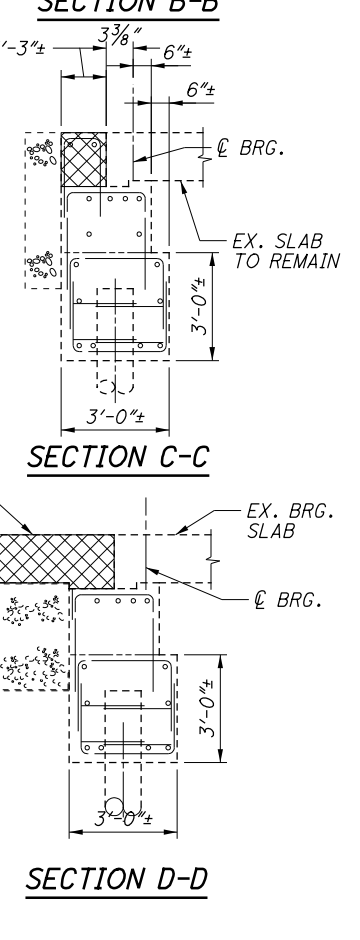
**SECTION A-A**

**SECTION B-B**



**PLAN-ABUTMENT 3**  
(FORWARD ABUTMENT, RIGHT BRIDGE)

**ELEVATION-ABUTMENT 3**  
(FORWARD ABUTMENT, RIGHT BRIDGE)



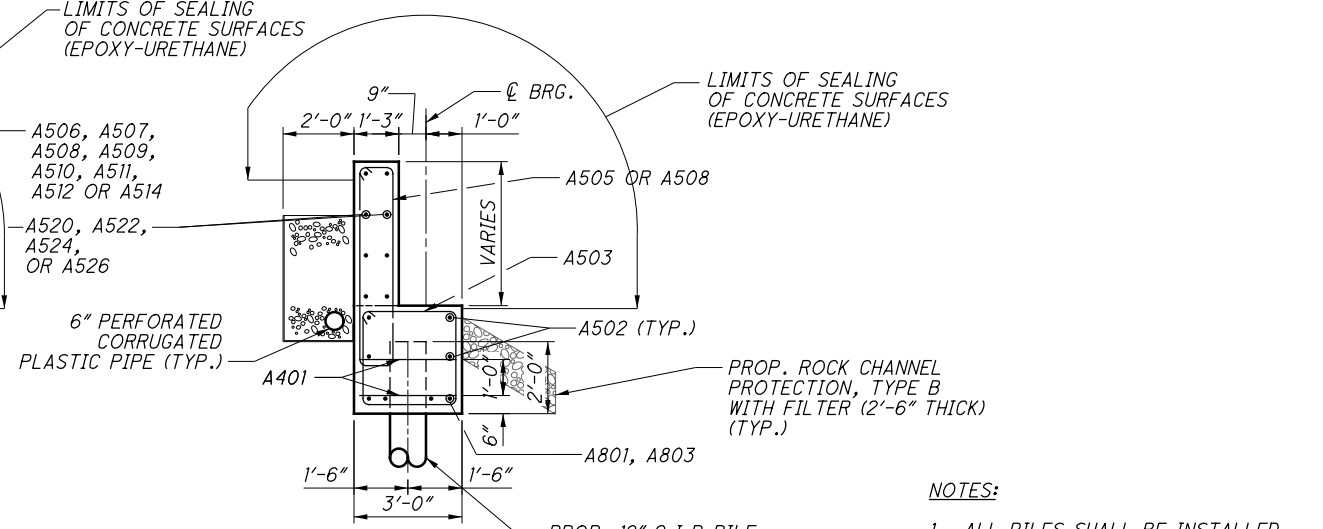
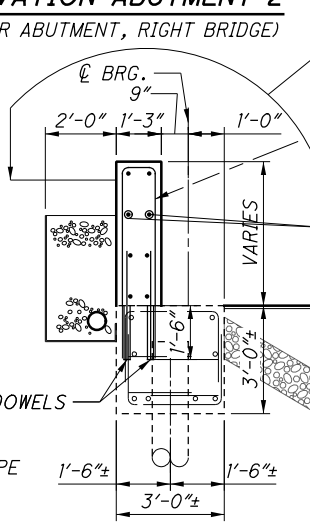
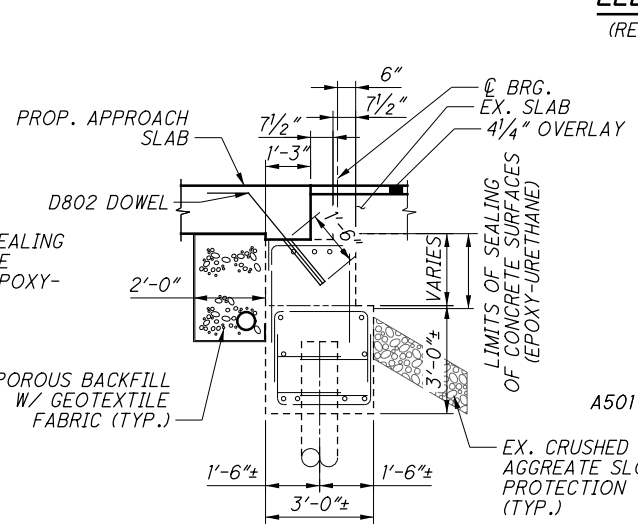
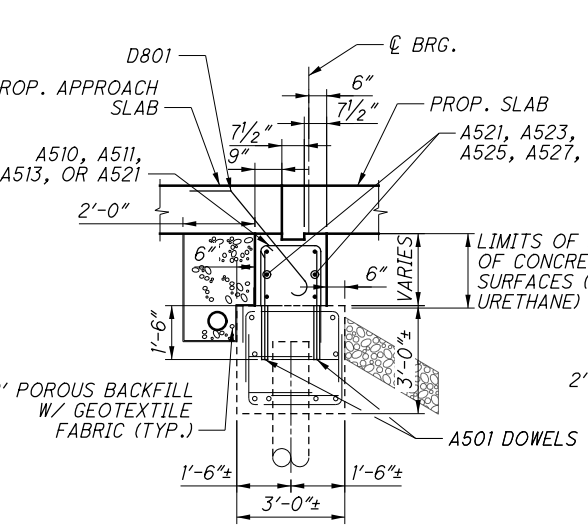
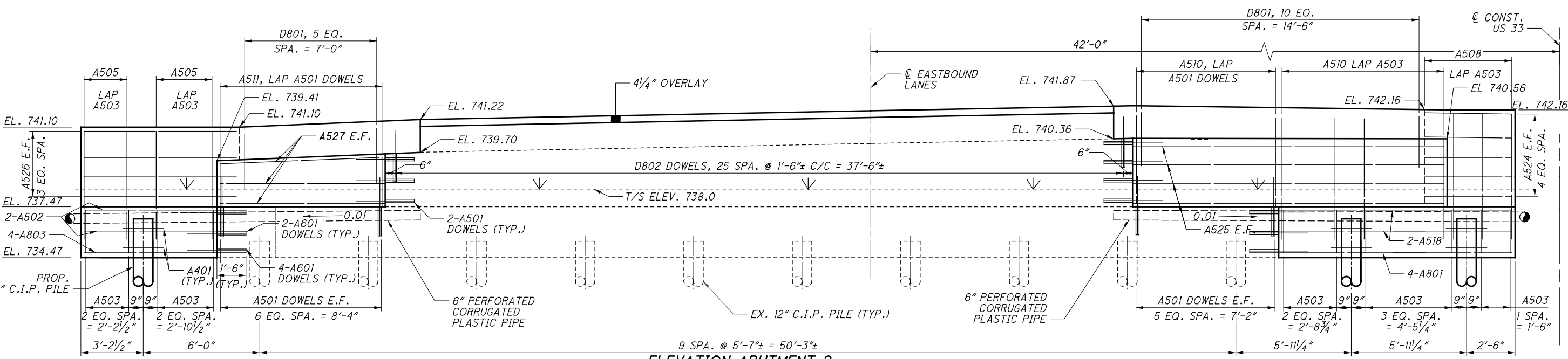
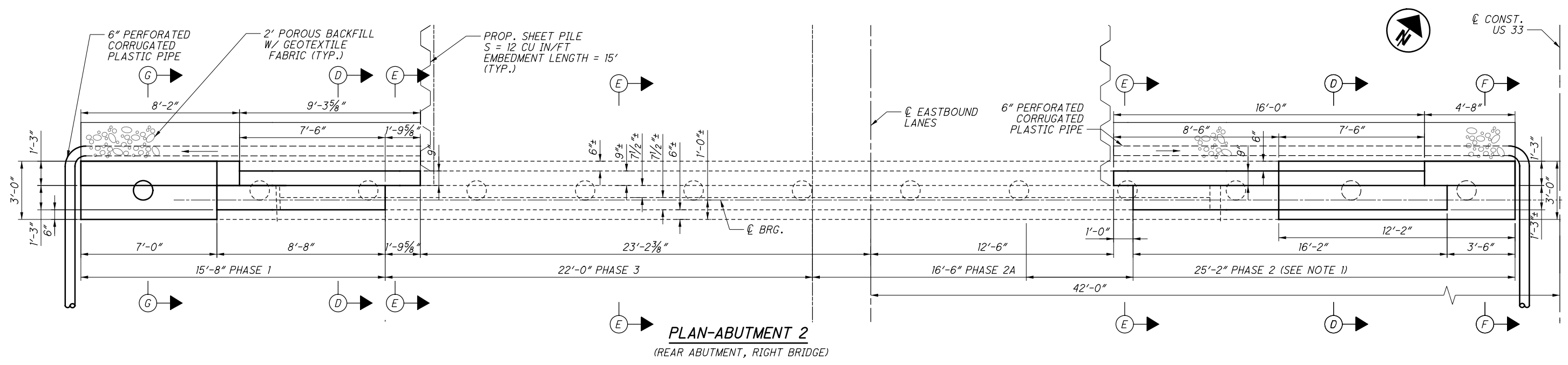
**SECTION C-C**

**SECTION D-D**

**LEGEND:**  
 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

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<b>Rii</b>	
DATE	11/07/17
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DRAWN	JGM
DESIGNED	JGM
CHECKED	NCK
STRUCTURE FILE NUMBER	2501929/2501953
<b>ABUTMENT #2 &amp; #3 REMOVAL DETAILS</b>	
BRIDGE NO. FRA-033-2503 L/R OVER BIG WALNUT OVERFLOW	
<b>FRA-33-24-26</b>	
PID No. 98111	
10/24	
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**NOTES:**  
 1. ALL PILES SHALL BE INSTALLED DURING PHASE 1.  
 2. DOWEL EMBEDMENT = 1'-6\"/>

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**Rii**

DATE: 11/07/17  
 REVIEWED: SSK  
 DRAWN: JGM  
 DESIGNED: JGM  
 CHECKED: NCK

STRUCTURE FILE NUMBER: 2501929/2501953

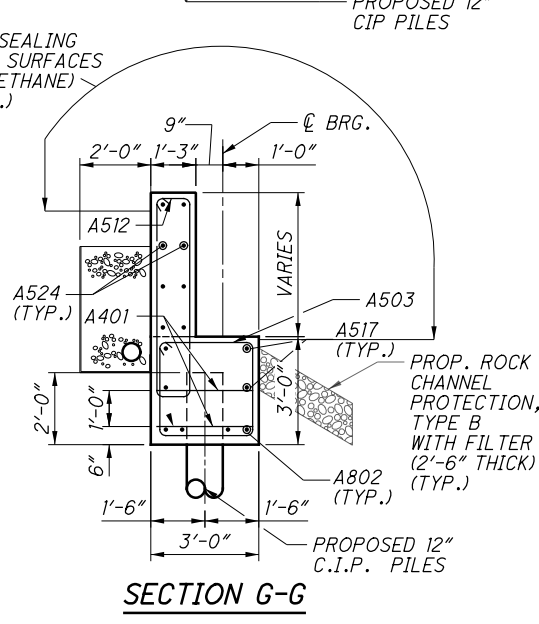
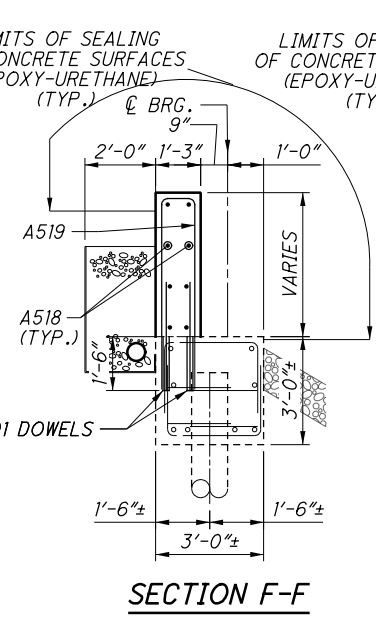
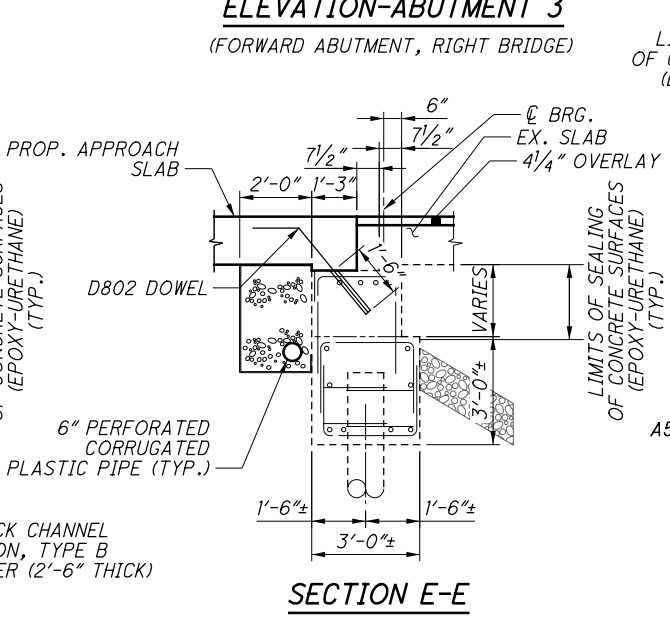
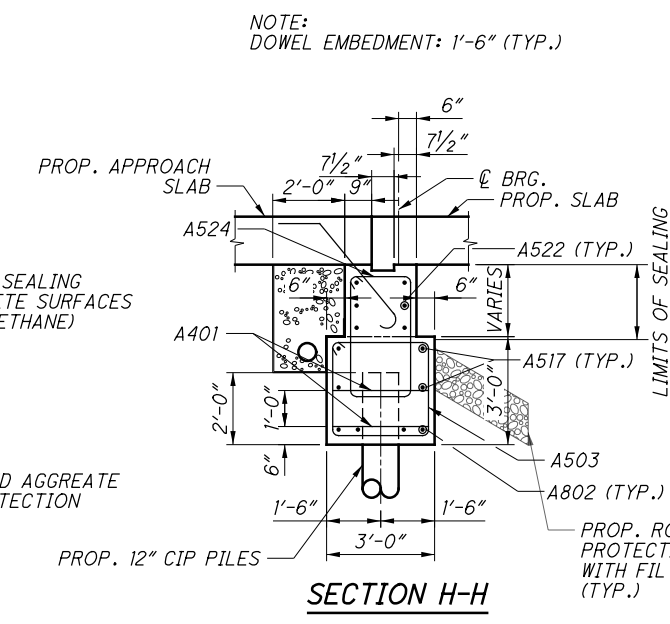
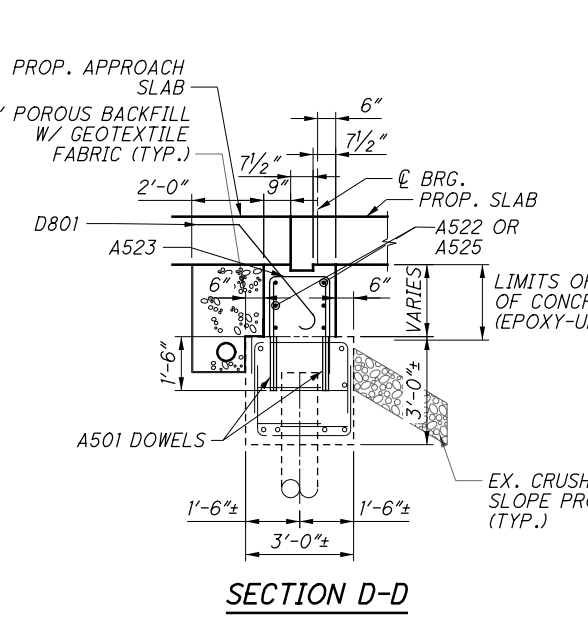
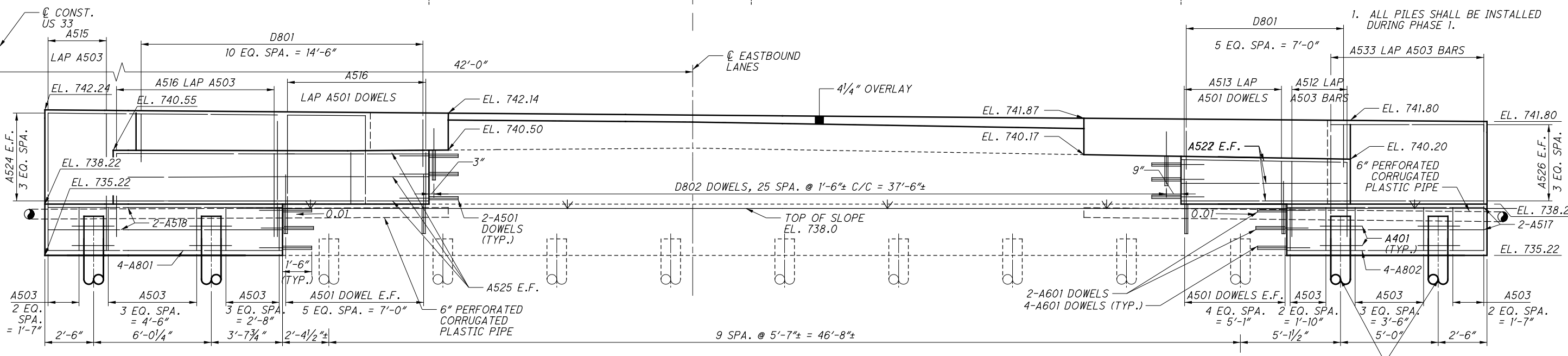
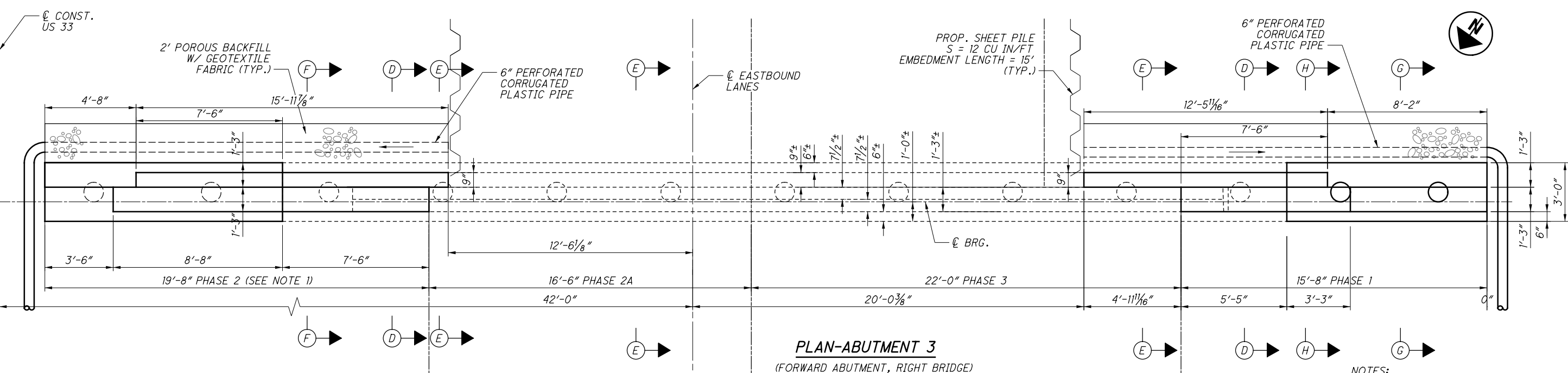
BRIDGE NO. FRA-033-2503 L/R  
 OVER BIG WALNUT OVERFLOW

**FRA-33-24-26**  
 PID No. 98111

11 / 24  
 240  
 287

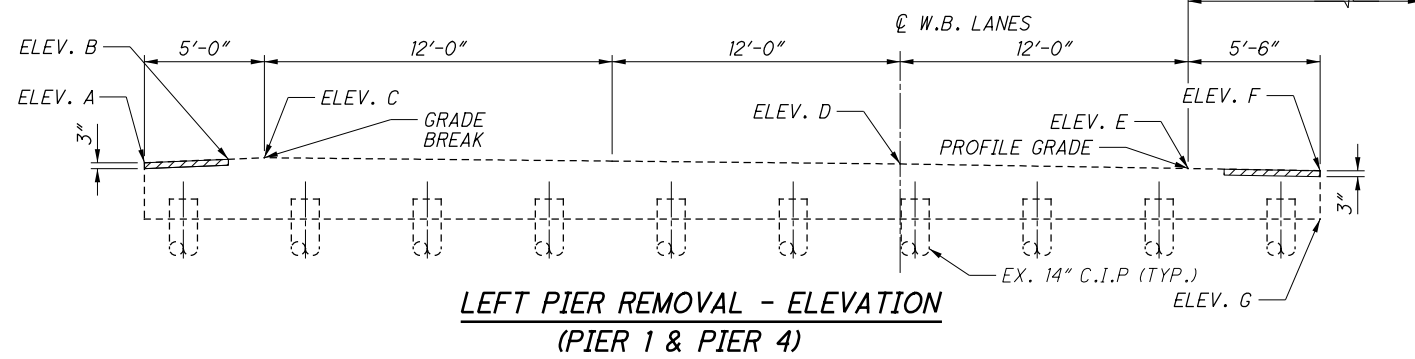
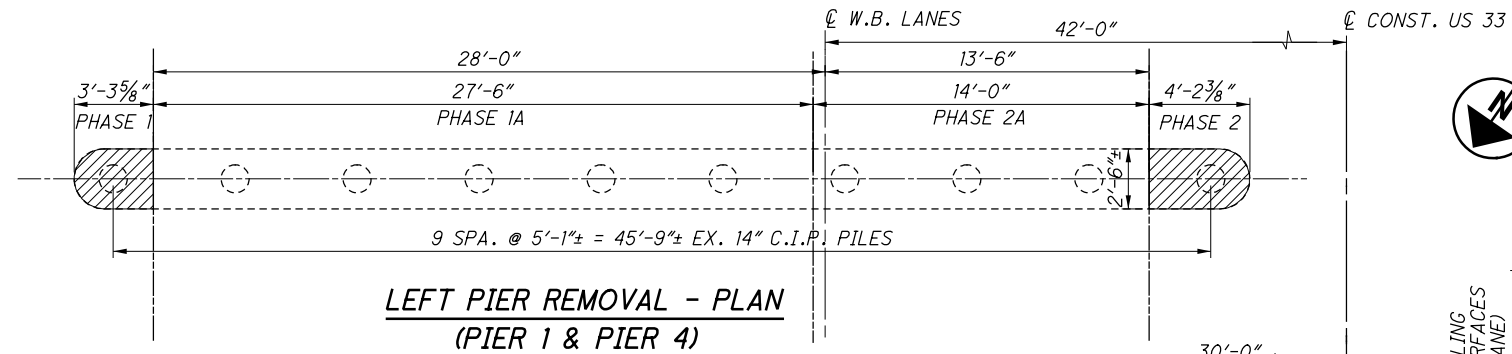


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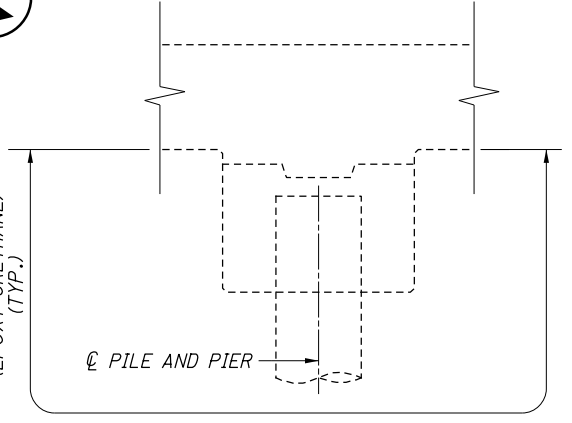


RESOURCE INTERNATIONAL, INC. 6350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4949	<b>Rii</b>	DATE: 11/07/17 SSK: [ ] STRUCTURE FILE NUMBER: 2501929/2501953 DESIGNED: JGM CHECKED: NCK	<b>ABUTMENT 3 DETAILS</b> BRIDGE NO. FRA-033-2503 L/R OVER BIG WALNUT OVERFLOW	FRA-33-24-26 PID No. 98111	12/24 241 287
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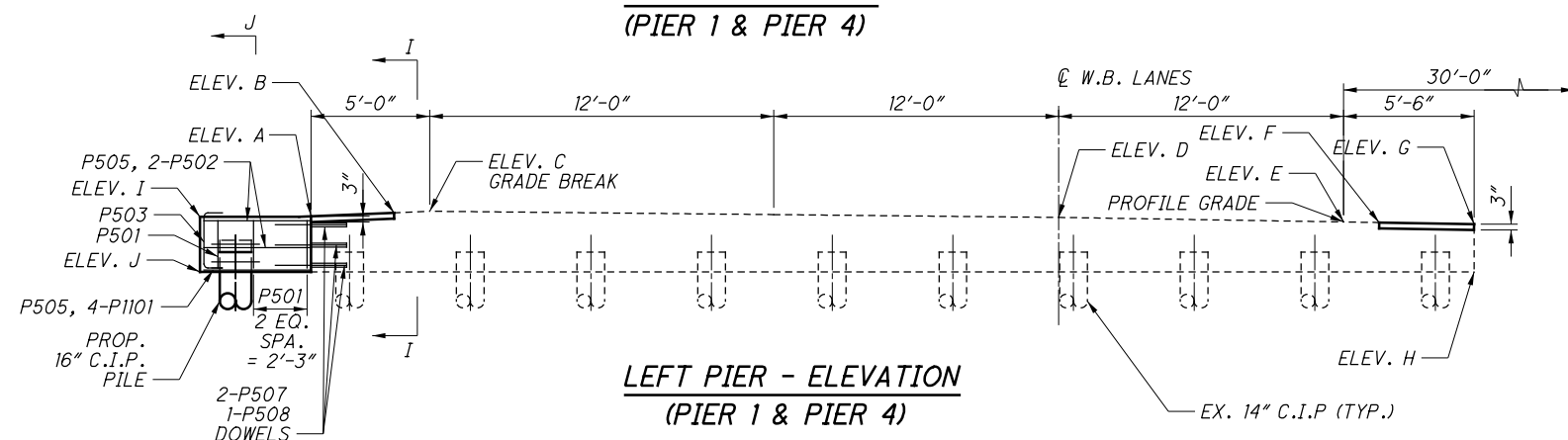
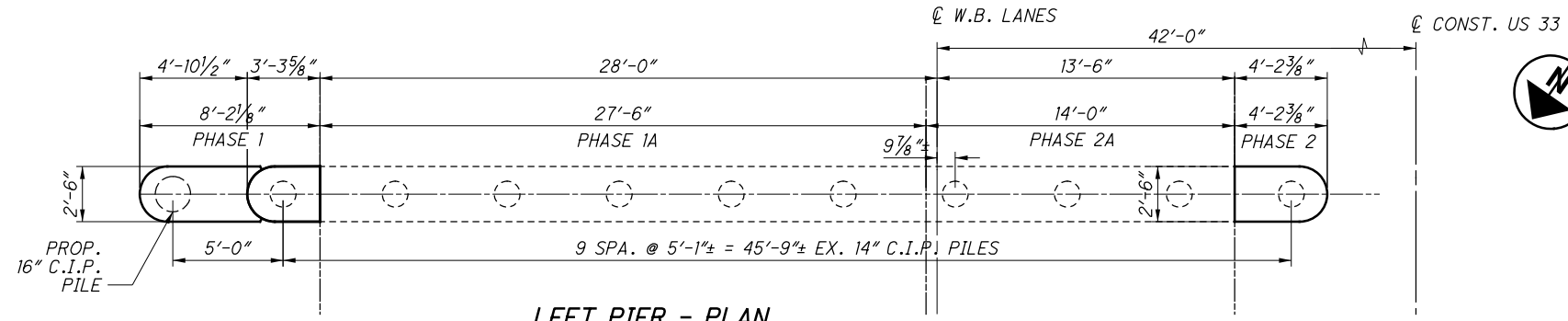
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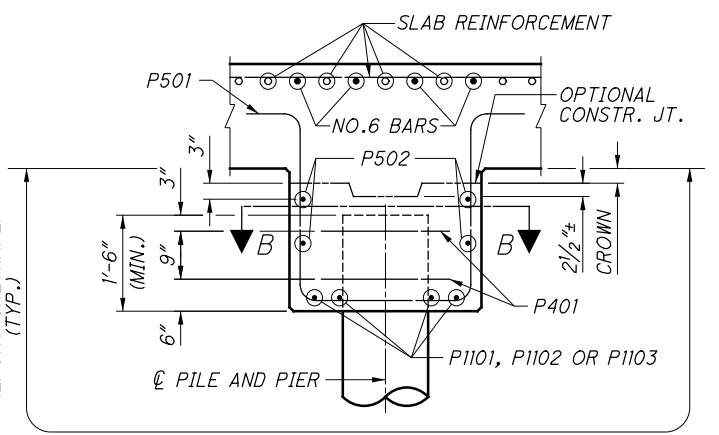
LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) (TYP.)



SECTION I-I



LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) (TYP.)



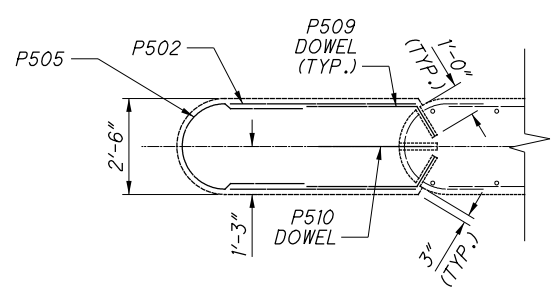
SECTION J-J

**LEGEND:**

- ITEM 202 - STRUCTURE REMOVED, AS PER PLAN

**NOTE:**  
DOWEL EMBEDMENT = 1'-6" (TYP.)

LOCATION	A	B	C	D	E	F	G	H	I	J
PIER 1	740.56	740.58	740.59	740.46	740.24	740.21	740.16	738.29	740.64	738.29
PIER 4	740.42	740.45	740.47	740.51	740.32	740.30	740.27	738.39	740.49	738.39



DETAIL A

RESOURCE INTERNATIONAL, INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4949

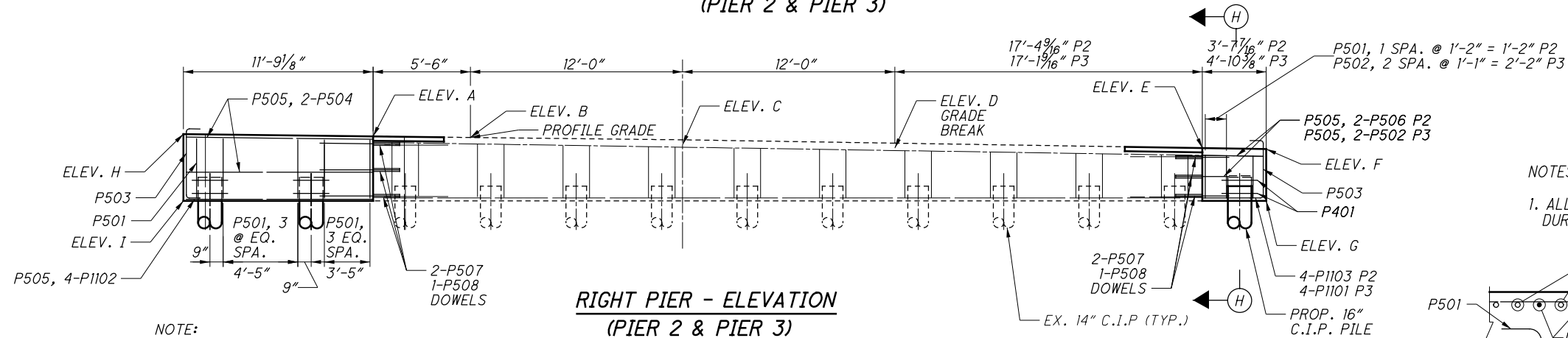
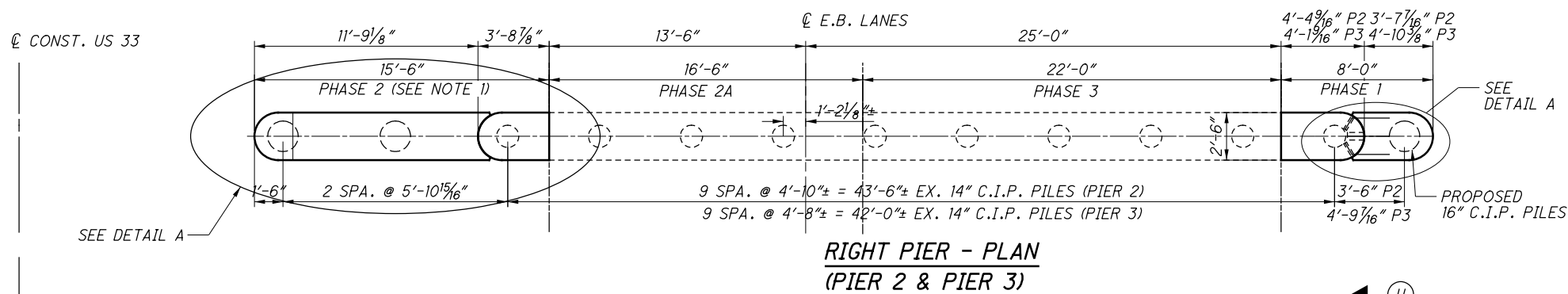
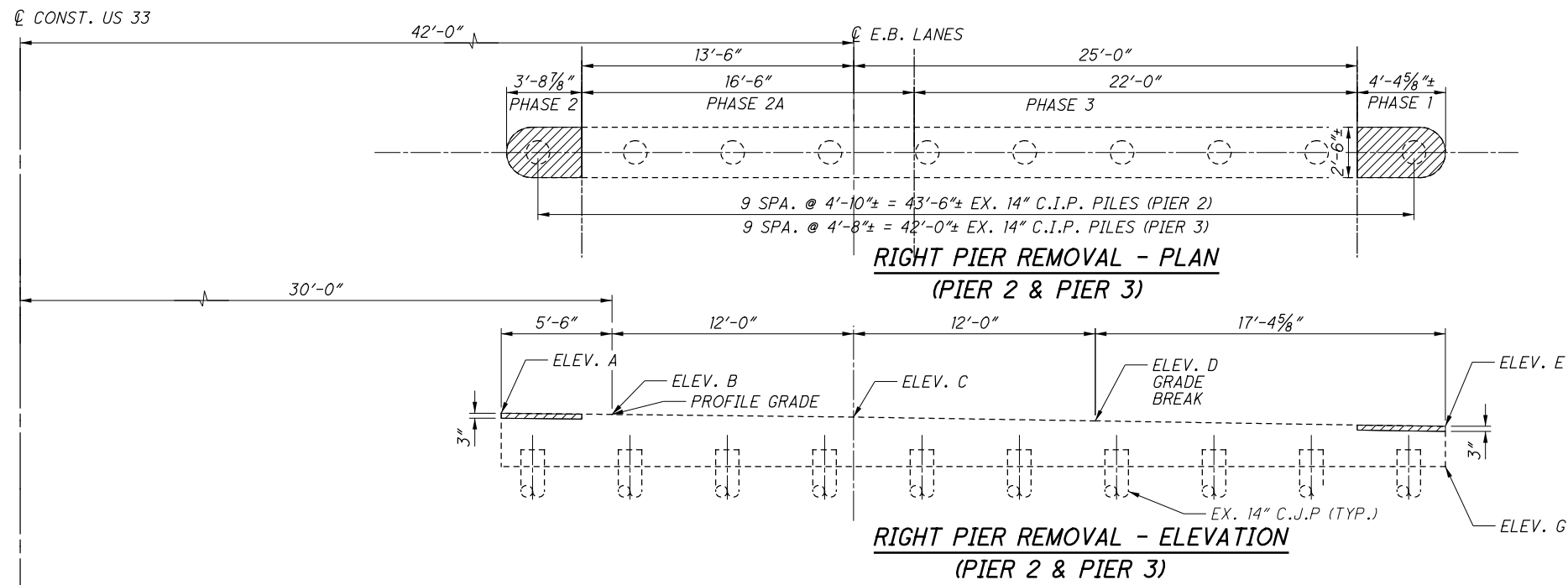


DESIGNED: JGM  
CHECKED: NCK  
DRAWN: JGM  
REVISED:  
REVIEWED: SSK  
DATE: 11/07/17  
STRUCTURE FILE NUMBER: 2501929/2501953

PIER #1 & #4 DETAILS  
BRIDGE NO. FRA-033-2503 L/R  
OVER BIG WALNUT OVERFLOW

FRA-33-24.26  
PID No. 98111

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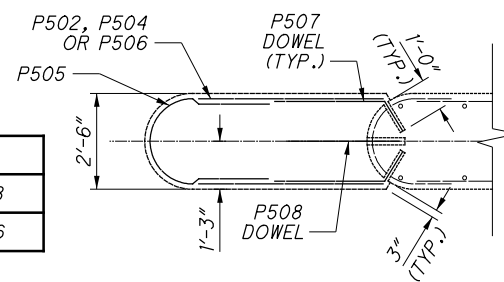


**LEGEND:**

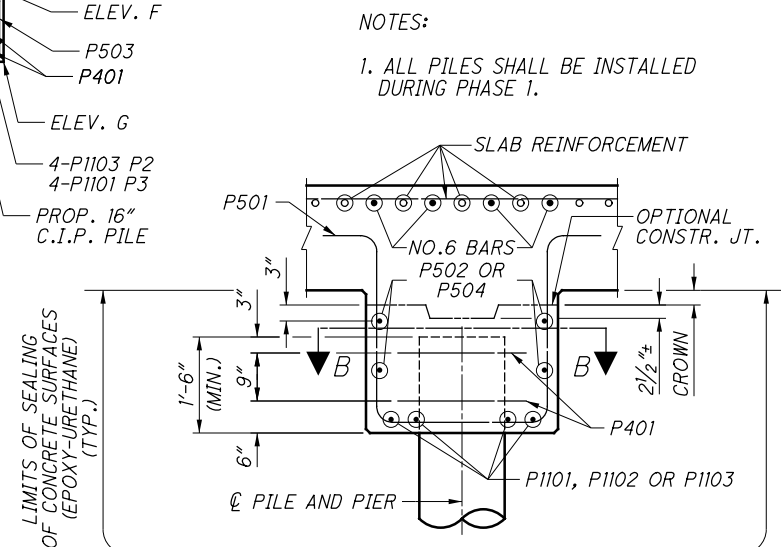
- ITEM 202 - STRUCTURE REMOVED, AS PER PLAN

NOTE:  
DOWEL EMBEDMENT = 1'-6" (TYP.)

LOCATION	A	B	C	D	E	F	G	H	I
PIER 2	740.26	740.25	740.10	739.93	739.77	739.68	737.78	740.36	737.78
PIER 3	740.29	740.30	740.29	740.15	740.01	739.93	738.06	740.26	738.06



**DETAIL A**

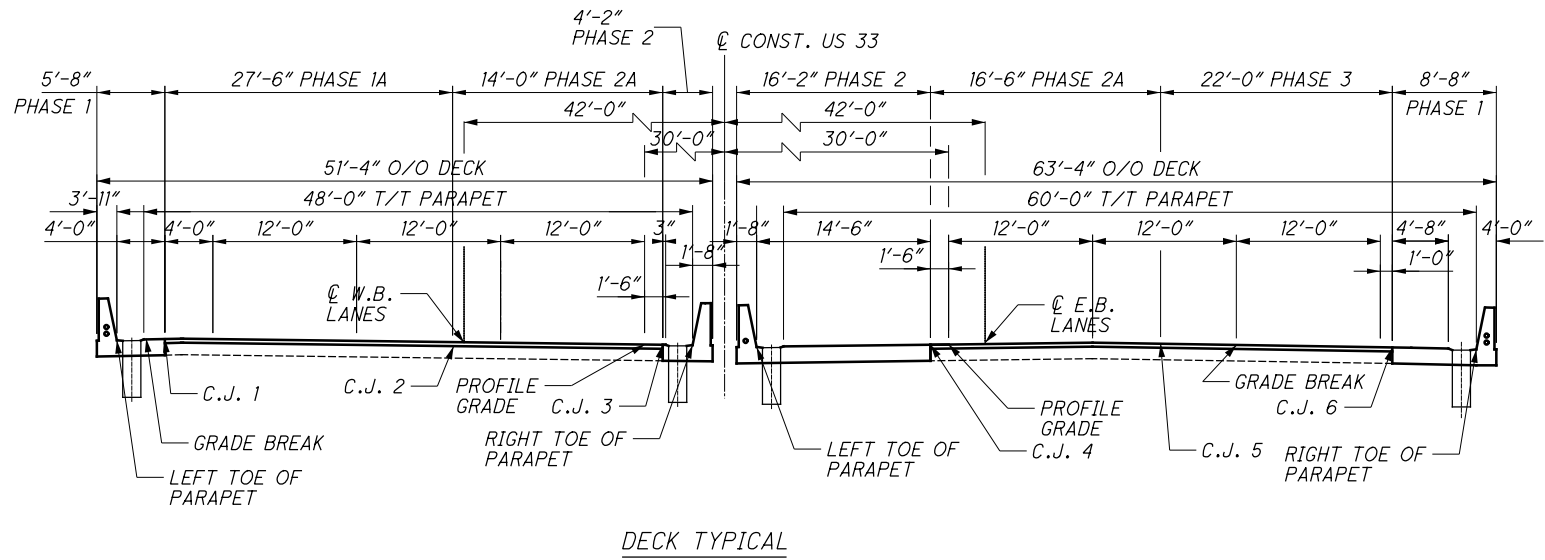
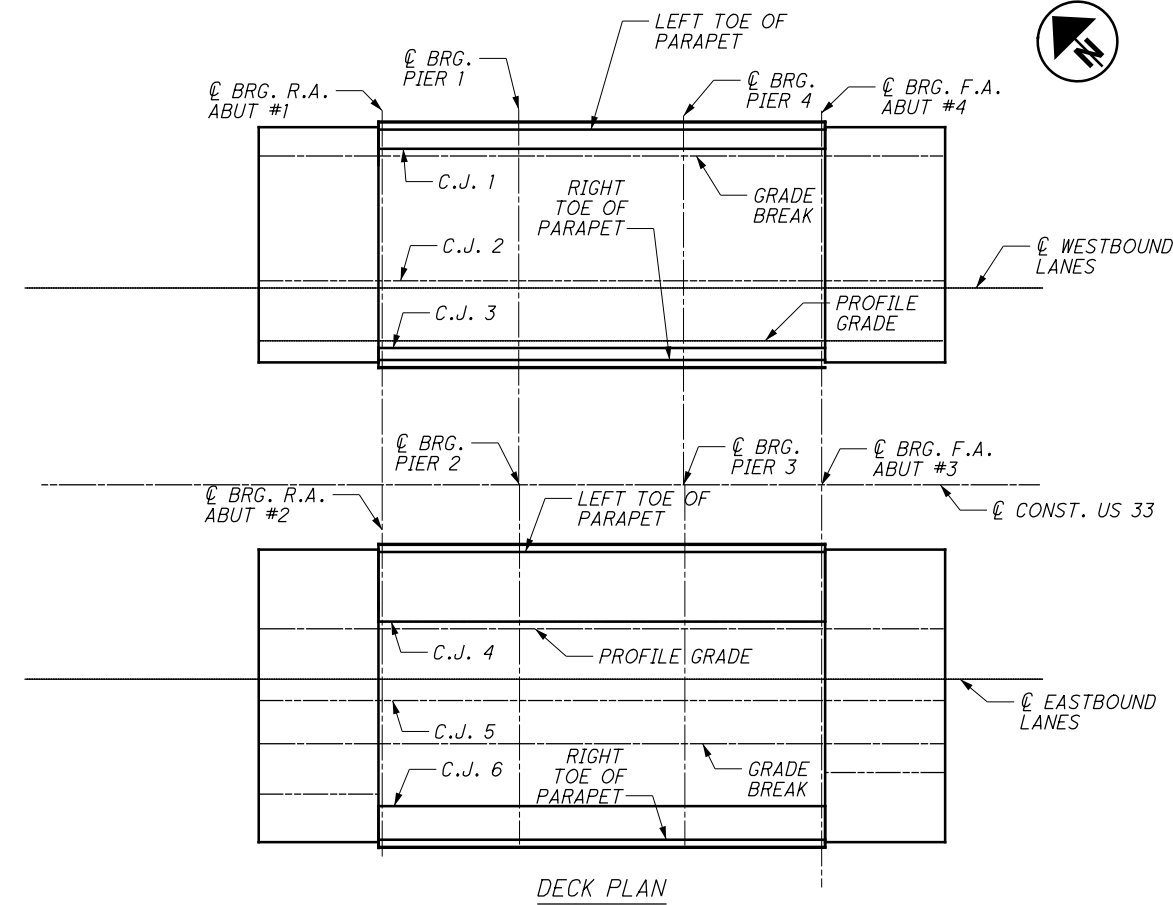


**SECTION H-H**

NOTES:  
1. ALL PILES SHALL BE INSTALLED DURING PHASE 1.



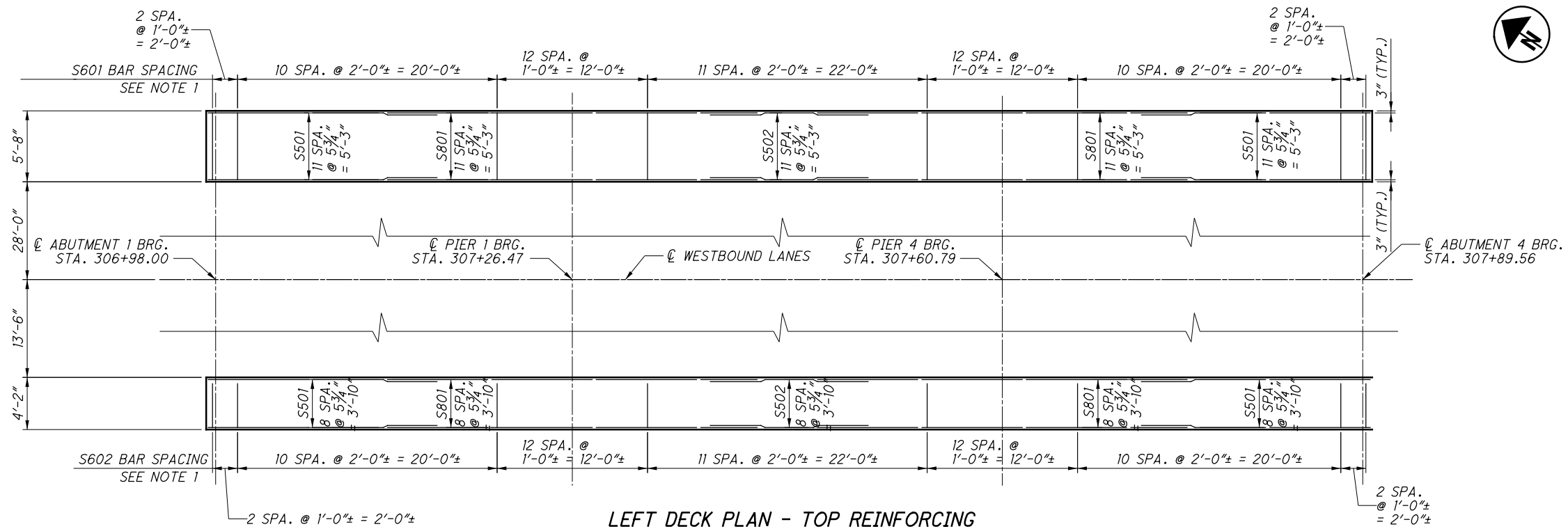
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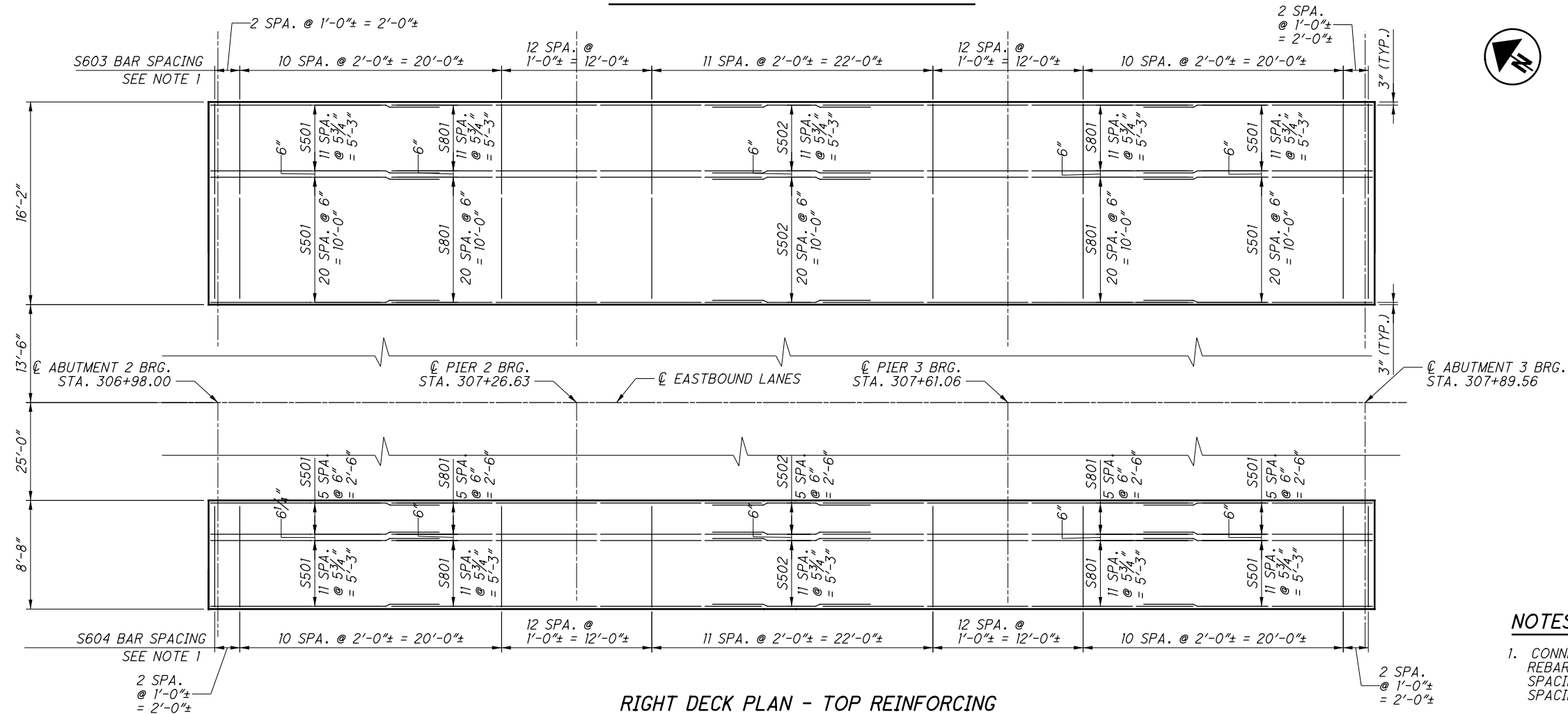
**FINAL DECK SURFACE ELEVATIONS**  
 FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

FINAL DECK SURFACE ELEVATIONS - LEFT BRIDGE																										
LOCATION	SPAN 1								SPAN 2								SPAN 3									
	BRG. R.A.		1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. PIER 1		1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. PIER 4		1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. F.A.	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
LEFT TOE OF PARAPET	306+98.00	742.38	307+05.12	742.34	307+12.24	742.30	307+19.35	742.27	307+26.47	742.24	307+35.05	742.19	307+43.63	742.13	307+52.21	742.11	307+60.79	742.09	307+67.98	742.07	307+75.18	742.05	307+82.37	742.10	307+89.56	742.08
C.J. 1	306+98.00	742.41	307+05.12	742.37	307+12.24	742.33	307+19.35	742.30	307+26.47	742.27	307+35.05	742.23	307+43.63	742.18	307+52.21	742.16	307+60.79	742.14	307+67.98	742.12	307+75.18	742.13	307+82.37	742.15	307+89.56	742.16
GRADE BREAK	306+98.00	742.42	307+05.12	742.38	307+12.24	742.34	307+19.35	742.31	307+26.47	742.28	307+35.05	742.24	307+43.63	742.20	307+52.21	742.18	307+60.79	742.16	307+67.98	742.14	307+75.18	742.16	307+82.37	742.17	307+89.56	742.19
C.J. 2	306+98.00	742.11	307+05.12	742.12	307+12.24	742.13	307+19.35	742.15	307+26.47	742.15	307+35.05	742.16	307+43.63	742.17	307+52.21	742.19	307+60.79	742.20	307+67.98	742.22	307+75.18	742.26	307+82.37	742.29	307+89.56	742.31
CL W.B. LANES	306+98.00	742.10	307+05.12	742.12	307+12.24	742.13	307+19.35	742.15	307+26.47	742.15	307+35.05	742.16	307+43.63	742.17	307+52.21	742.19	307+60.79	742.20	307+67.98	742.22	307+75.18	742.26	307+82.37	742.29	307+89.56	742.31
PROFILE GRADE	306+98.00	741.93	307+05.12	741.93	307+12.24	741.93	307+19.35	741.93	307+26.47	741.93	307+35.05	741.93	307+43.63	741.94	307+52.21	741.98	307+60.79	742.01	307+67.98	742.03	307+75.18	742.06	307+82.37	742.08	307+89.56	742.09
C.J. 3	306+98.00	741.91	307+05.12	741.91	307+12.24	741.91	307+19.35	741.90	307+26.47	741.90	307+35.05	741.90	307+43.63	741.93	307+52.21	741.96	307+60.79	741.99	307+67.98	742.02	307+75.18	742.05	307+82.37	742.08	307+89.56	742.10
RIGHT TOE OF PARAPET	306+98.00	741.88	307+05.12	741.88	307+12.24	741.88	307+19.35	741.85	307+26.47	741.85	307+35.05	741.85	307+43.63	741.91	307+52.21	741.93	307+60.79	741.96	307+67.98	742.00	307+75.18	742.03	307+82.37	742.07	307+89.56	742.11

FINAL DECK SURFACE ELEVATIONS - RIGHT BRIDGE																										
LOCATION	SPAN 1								SPAN 2								SPAN 3									
	BRG. R.A.		.25 SPAN		.5 SPAN		.75 SPAN		BRG. PIER 2		.25 SPAN		.5 SPAN		.75 SPAN		BRG. PIER 3		.25 SPAN		.5 SPAN		.75 SPAN		BRG. F.A.	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
LEFT TOE OF PARAPET	306+98.00	742.16	307+05.16	742.19	307+12.32	742.11	307+19.47	742.14	307+26.63	742.05	307+35.24	742.04	307+43.85	742.03	307+52.45	741.91	307+61.06	741.95	307+68.19	742.00	307+75.31	742.14	307+82.44	742.18	307+89.56	742.24
C.J. 4	306+98.00	741.87	307+05.16	741.90	307+12.32	741.92	307+19.47	741.95	307+26.63	741.95	307+35.24	741.94	307+43.85	741.93	307+52.45	741.94	307+61.06	741.98	307+68.19	742.02	307+75.31	742.07	307+82.44	742.10	307+89.56	742.14
PROFILE GRADE	306+98.00	741.84	307+05.16	741.87	307+12.32	741.90	307+19.47	741.93	307+26.63	741.94	307+35.24	741.93	307+43.85	741.92	307+52.45	741.94	307+61.06	741.99	307+68.19	742.02	307+75.31	742.06	307+82.44	742.09	307+89.56	742.13
CL E.B. LANES	306+98.00	741.68	307+05.16	741.71	307+12.32	741.74	307+19.47	741.77	307+26.63	741.79	307+35.24	741.83	307+43.85	741.86	307+52.45	741.91	307+61.06	741.98	307+68.19	742.04	307+75.31	742.07	307+82.44	742.10	307+89.56	742.07
C.J. 5	306+98.00	741.62	307+05.16	741.65	307+12.32	741.69	307+19.47	741.73	307+26.63	741.75	307+35.24	741.79	307+43.85	741.83	307+52.45	741.88	307+61.06	741.95	307+68.19	742.01	307+75.31	742.04	307+82.44	742.07	307+89.56	742.04
GRADE BREAK	306+98.00	741.45	307+05.16	741.48	307+12.32	741.53	307+19.47	741.59	307+26.63	741.62	307+35.24	741.67	307+43.85	741.73	307+52.45	741.79	307+61.06	741.84	307+68.19	741.90	307+75.31	741.94	307+82.44	741.98	307+89.56	742.00
C.J. 6	306+98.00	741.22	307+05.16	741.28	307+12.32	741.34	307+19.47	741.41	307+26.63	741.46	307+35.24	741.53	307+43.85	741.59	307+52.45	741.65	307+61.06	741.70	307+68.19	741.75	307+75.31	741.79	307+82.44	741.83	307+89.56	741.87
RIGHT TOE OF PARAPET	306+98.00	741.10	307+05.16	741.17	307+12.32	741.24	307+19.47	741.31	307+26.63	741.37	307+35.24	741.45	307+43.85	741.51	307+52.45	741.57	307+61.06	741.62	307+68.19	741.67	307+75.31	741.71	307+82.44	741.75	307+89.56	741.80



**LEFT DECK PLAN - TOP REINFORCING**



**RIGHT DECK PLAN - TOP REINFORCING**

**NOTES:**

1. CONNECT PROPOSED REBAR TO EXISTING REBAR WITH A MECHANICAL CONNECTOR. SPACING SHOWN IS APPROXIMATE. USE SPACING OF EXISTING REINFORCEMENT.
2. LAP NO. 5 BAR: 3'-6" MIN.



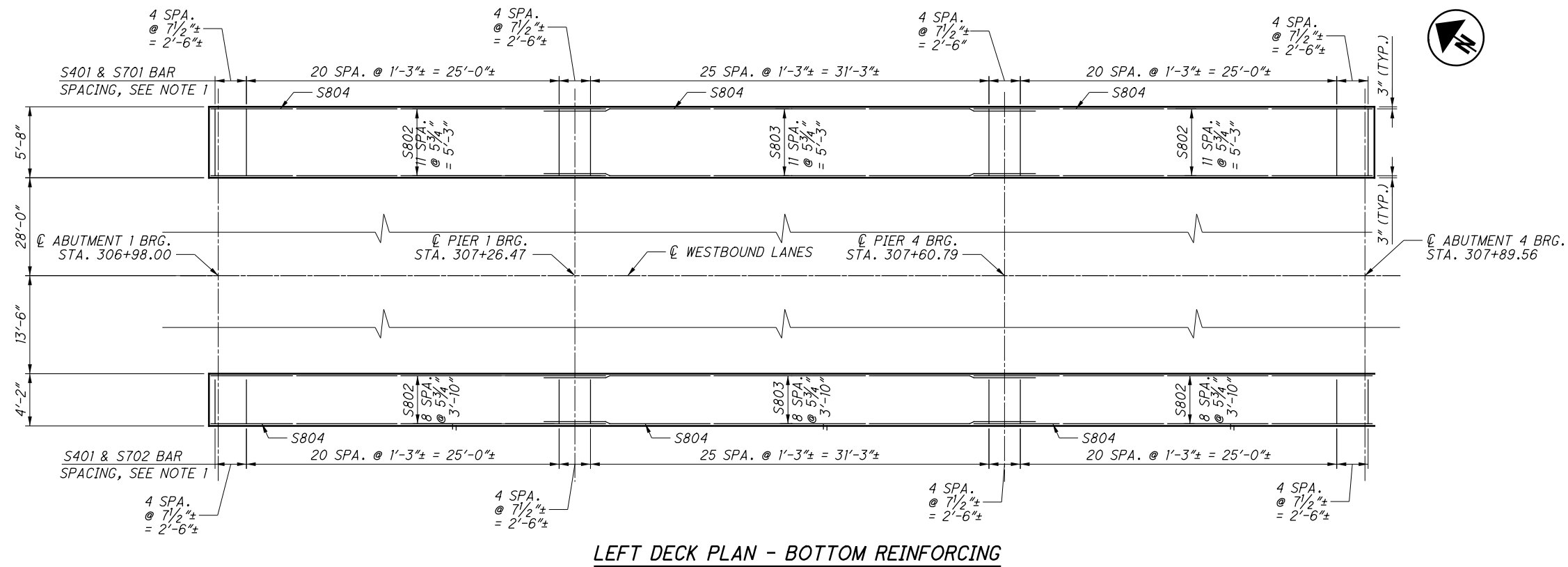
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DRAWN	JGM	REVISED	
REVIEWED	SSK	STRUCTURE FILE NUMBER	2501929/2501953
DATE	11/07/17		

**DECK PLAN - TOP REINFORCING**

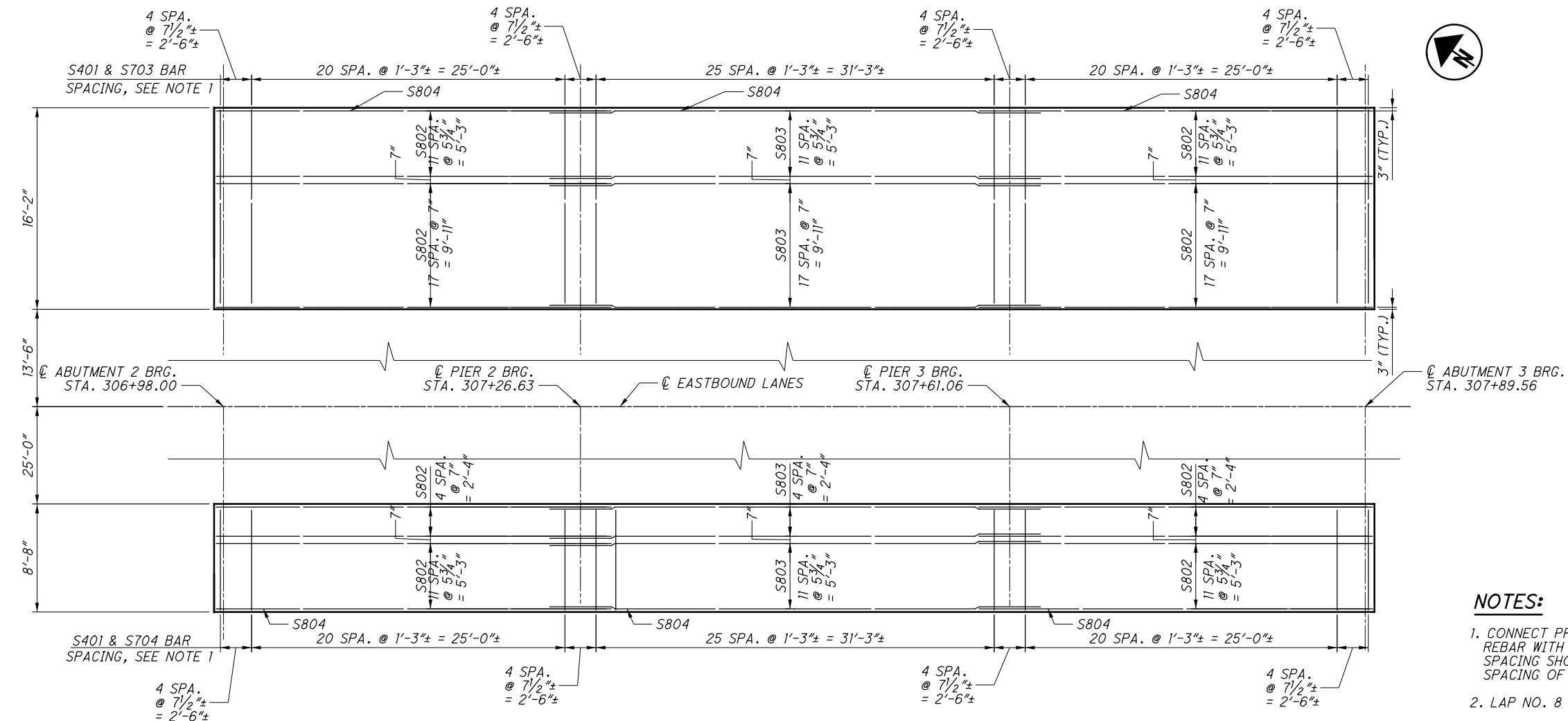
BRIDGE NO. FRA-033-2503 L/R  
OVER WALNUT CREEK OVERFLOW

**FRA - 33 - 24 - 26**  
**PID No. 98111**

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**LEFT DECK PLAN - BOTTOM REINFORCING**



**RIGHT DECK PLAN - BOTTOM REINFORCING**

**NOTES:**

1. CONNECT PROPOSED REBAR TO EXISTING REBAR WITH A MECHANICAL CONNECTOR. SPACING SHOWN IS APPROXIMATE. USE SPACING OF EXISTING REINFORCEMENT.
2. LAP NO. 8 BAR: 4'-11" MIN.

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COLUMBUS, OHIO 43231  
(614) 823-4848



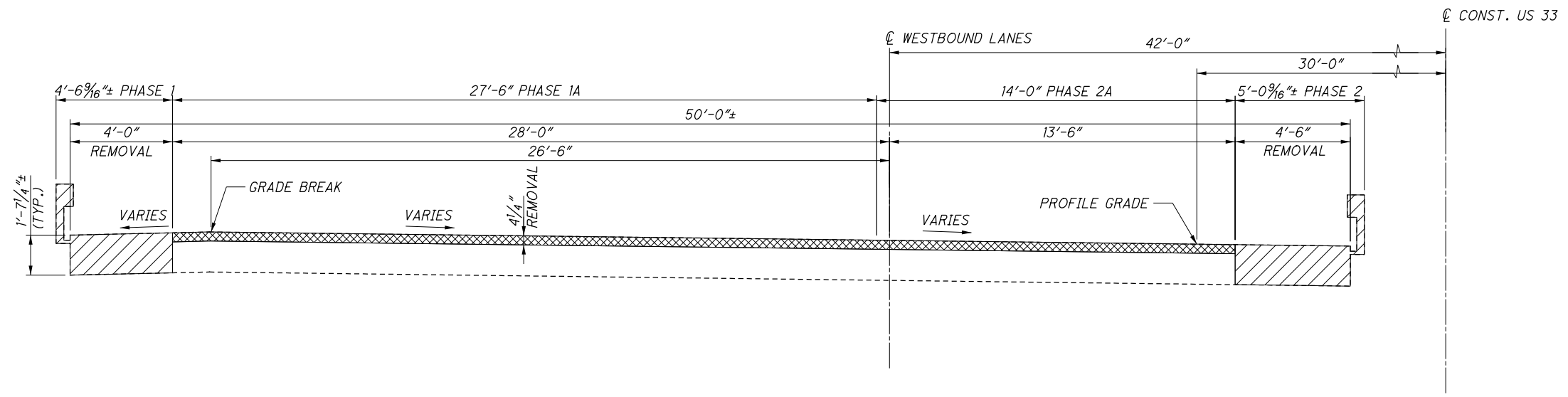
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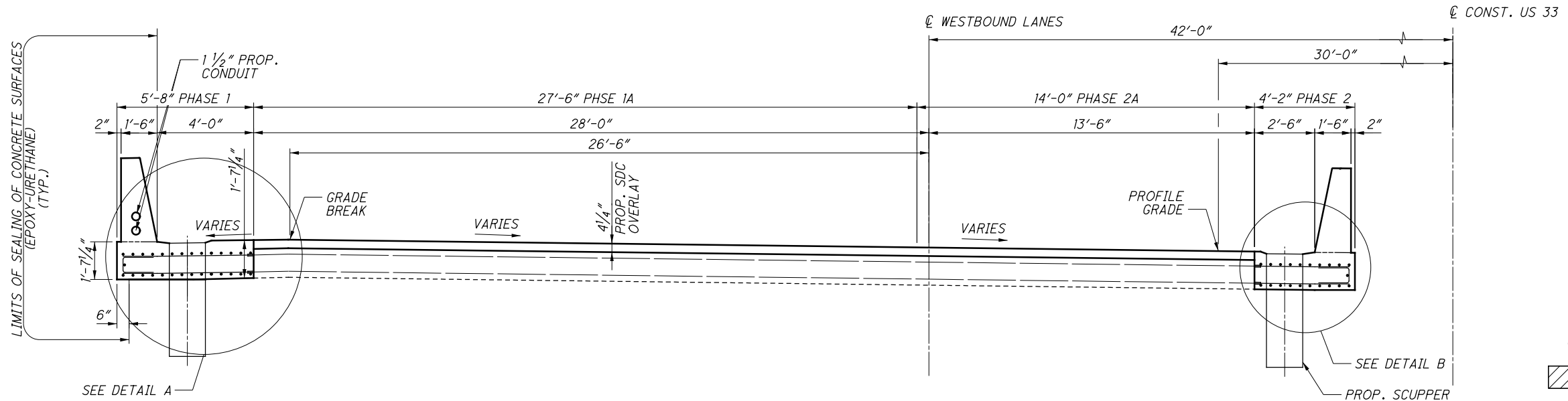
**DECK PLAN - BOTTOM REINFORCING**  
BRIDGE NO. FRA-033-2503 L/R  
OVER WALNUT CREEK OVERFLOW

**FRA-33-24.26**  
PID No. 98111

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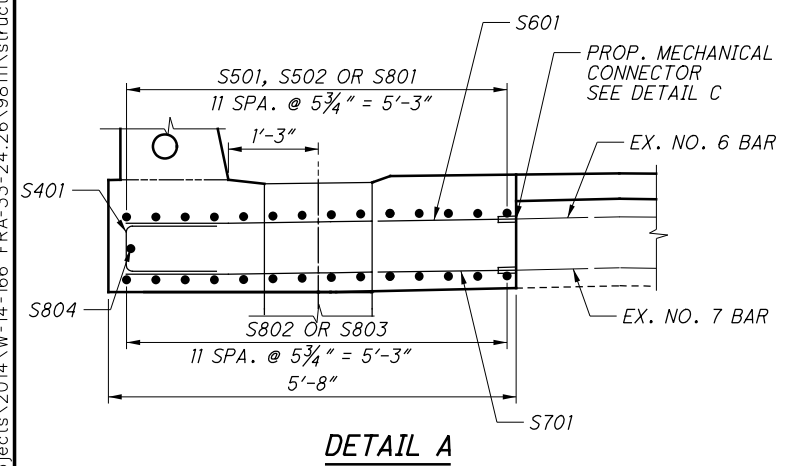
**LEFT BRIDGE - REMOVAL**



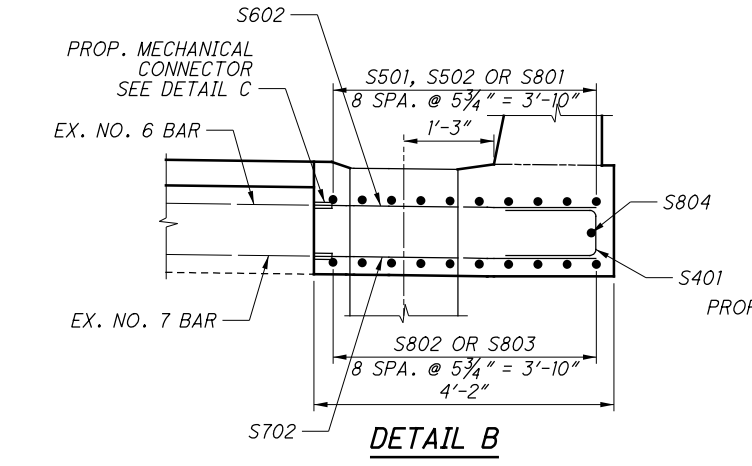
**LEFT BRIDGE - PROPOSED TRANSVERSE SECTION**

**LEGEND:**

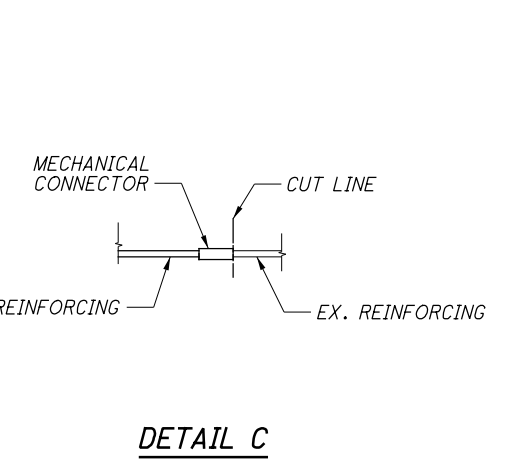
- ITEM 202 - STRUCTURE REMOVED, AS PER PLAN
- ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION



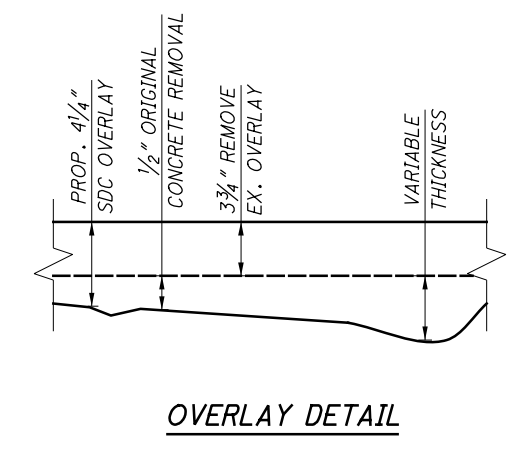
**DETAIL A**



**DETAIL B**

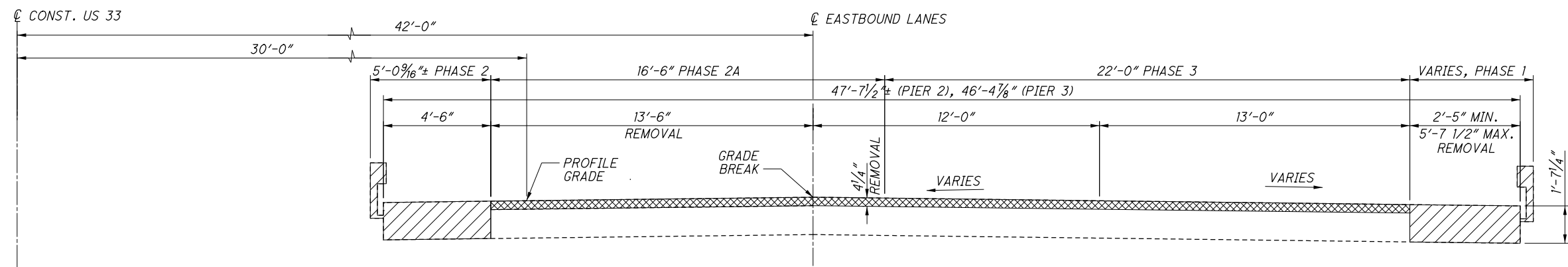


**DETAIL C**

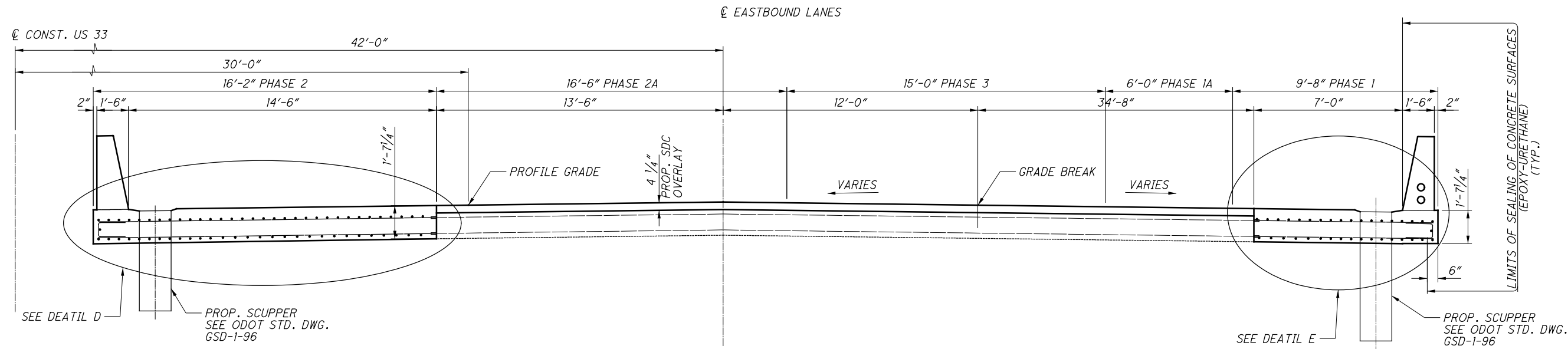


**OVERLAY DETAIL**

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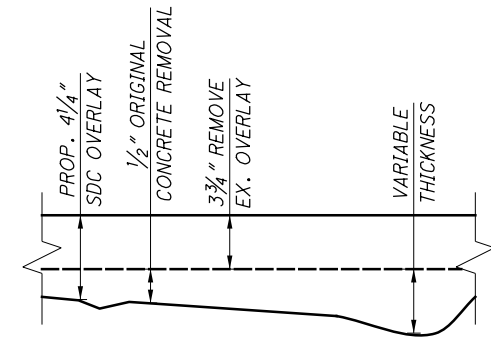
**RIGHT BRIDGE - REMOVAL**



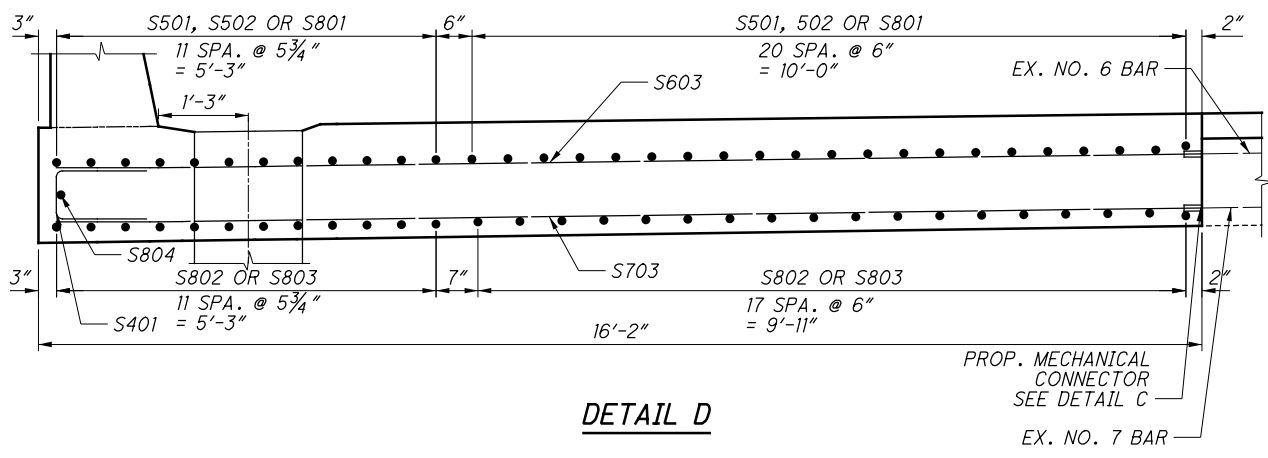
**RIGHT BRIDGE - PROPOSED TRANSVERSE SECTION**

**LEGEND:**

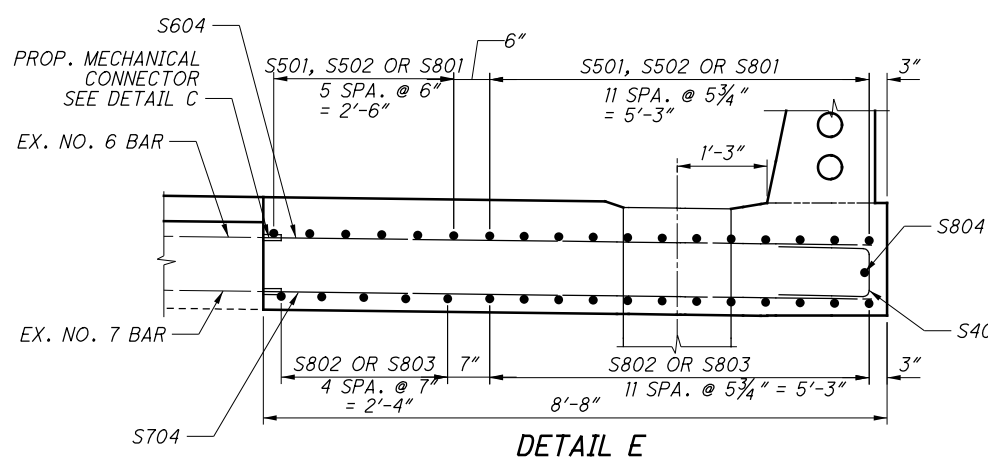
- ITEM 202 - STRUCTURE REMOVED, AS PER PLAN
- ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION



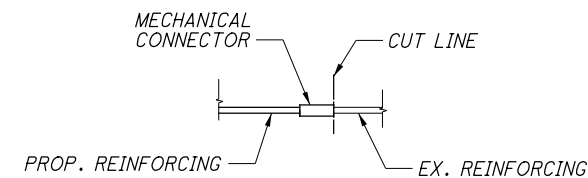
**OVERLAY DETAIL**



**DETAIL D**



**DETAIL E**

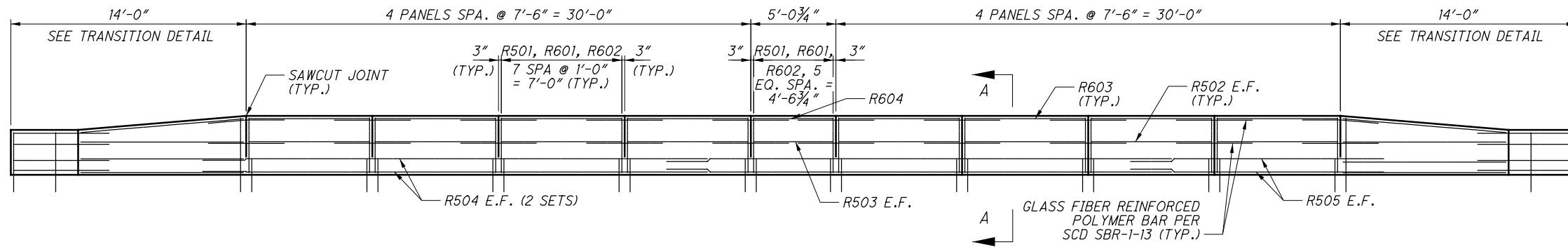


**DETAIL F**

RESOURCE INTERNATIONAL, INC.  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 Ri  
 DATE: 11/07/17  
 REVIEWED: SSK  
 STRUCTURE FILE NUMBER: 2501929/2501953  
 DRAWN: JGM  
 CHECKED: NCK  
 DESIGNED: JGM  
 BRIDGE NO.: FRA-033-2503 L/R  
 OVER BIG WALNUT OVERFLOW  
**FRA-33-24-26**  
 PID No. 98111  
 19/24  
 248  
 287

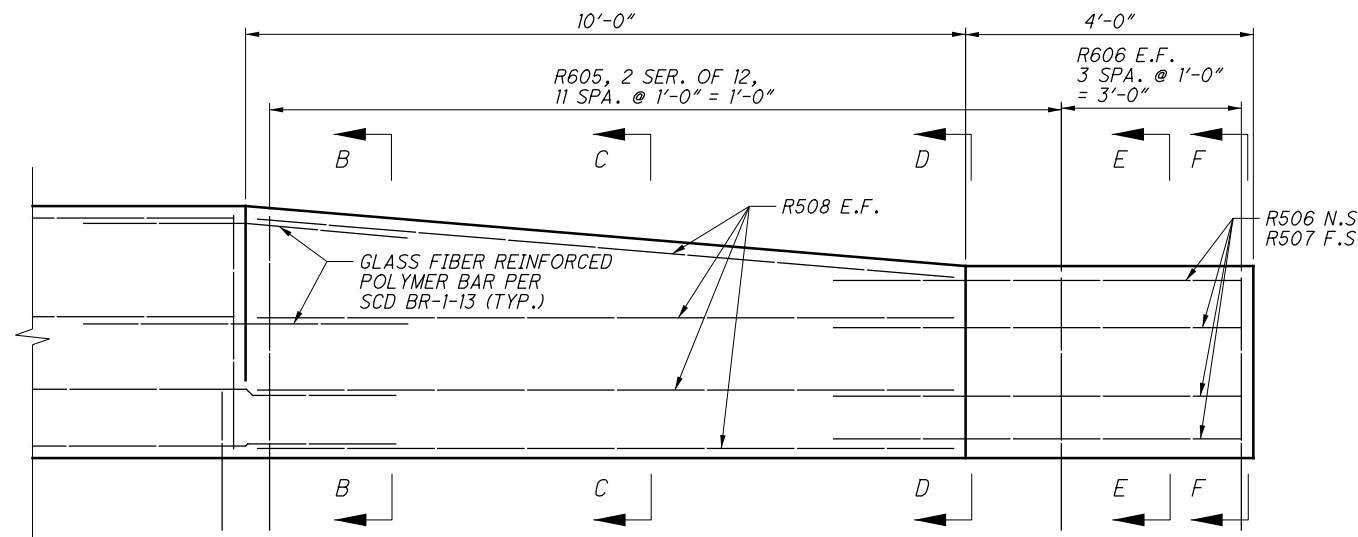


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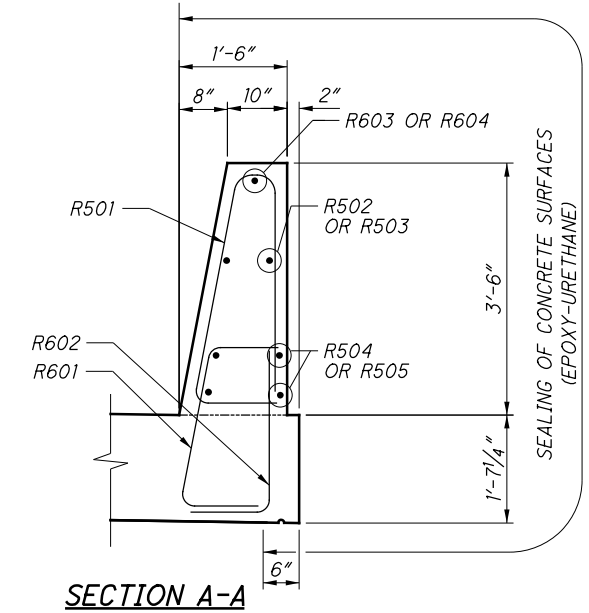


**PARAPET ELEVATION**

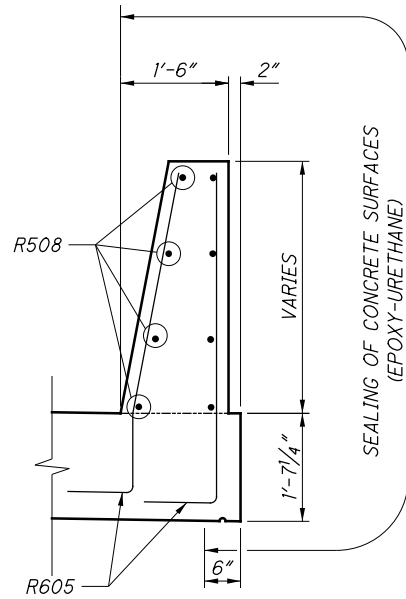
(WESTBOUND LEFT SHOWN  
WESTBOUND RIGHT, EASTBOUND LEFT AND EASTBOUND RIGHT SIMILAR)



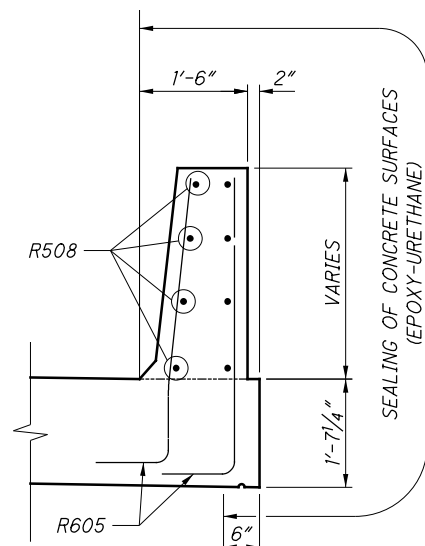
**PARAPET TRANSITION DETAIL**



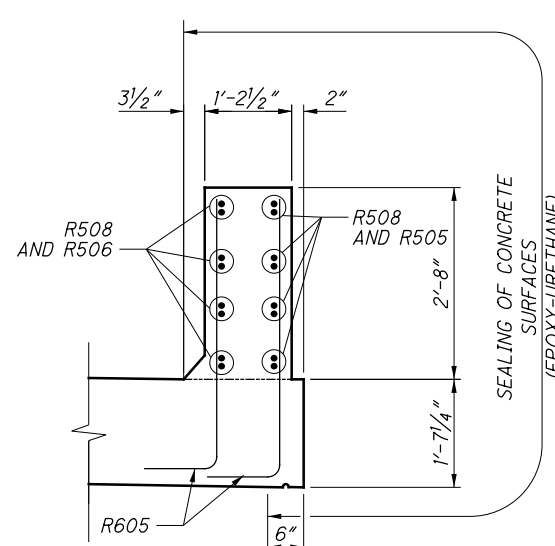
**SECTION A-A**



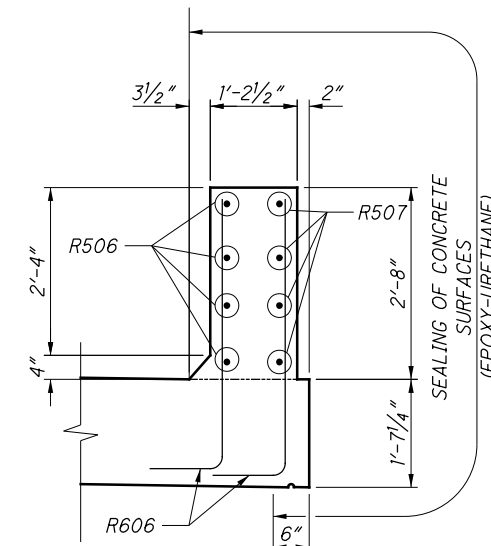
**SECTION B-B**



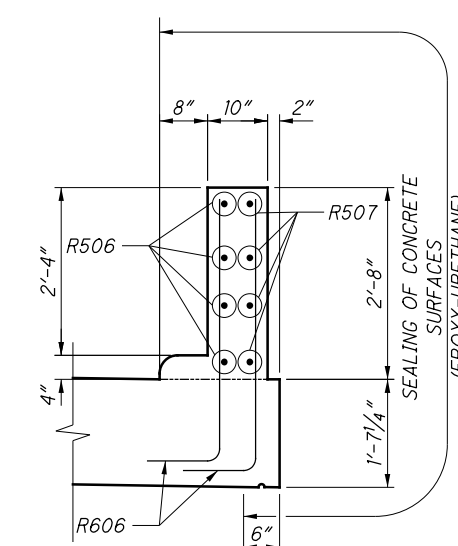
**SECTION C-C**



**SECTION D-D**



**SECTION E-E**



**SECTION F-F**

**NOTES:**

1. DISTANCES GIVEN ARE ALONG THE INSIDE FACES OF THE PARAPETS.

2. MINIMUM LAP LENGTHS:  
#5 BARS - 2'-5"  
#6 BARS - 2'-11"

RESOURCE INTERNATIONAL, INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(601) 823-4848



DESIGNED	JGM	CHECKED	NCK
DRAWN	JGM	REVISED	
REVIEWED	SSK	STRUCTURE FILE NUMBER	2501929/2501953
DATE	11/07/17		

**PARAPET & TRANSITION DETAILS**

BRIDGE NO. FRA-33-2503 L/R  
OVER WALNUT CREEK OVERFLOW

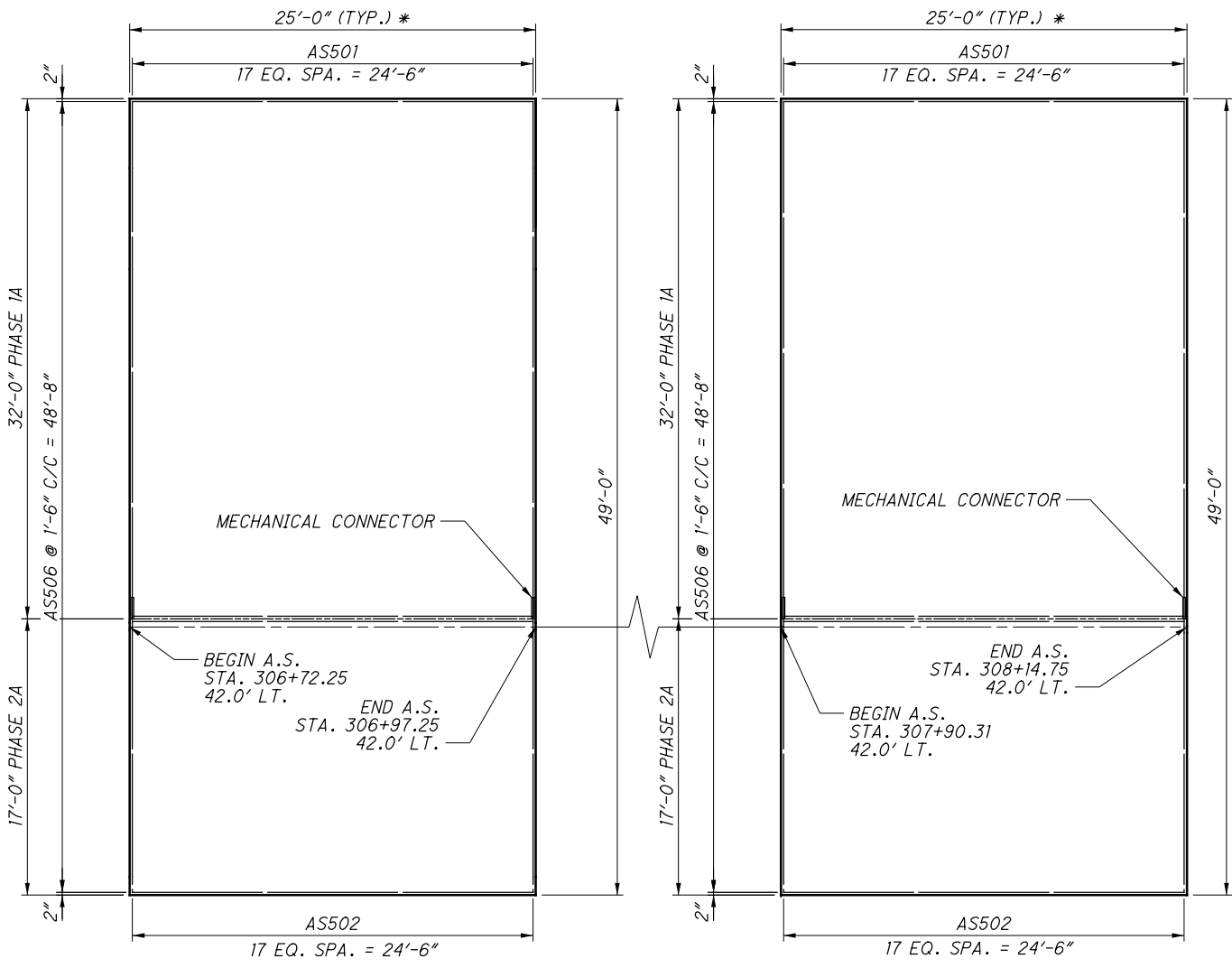
FRA-33-24-26

PID No. 98111

20/24

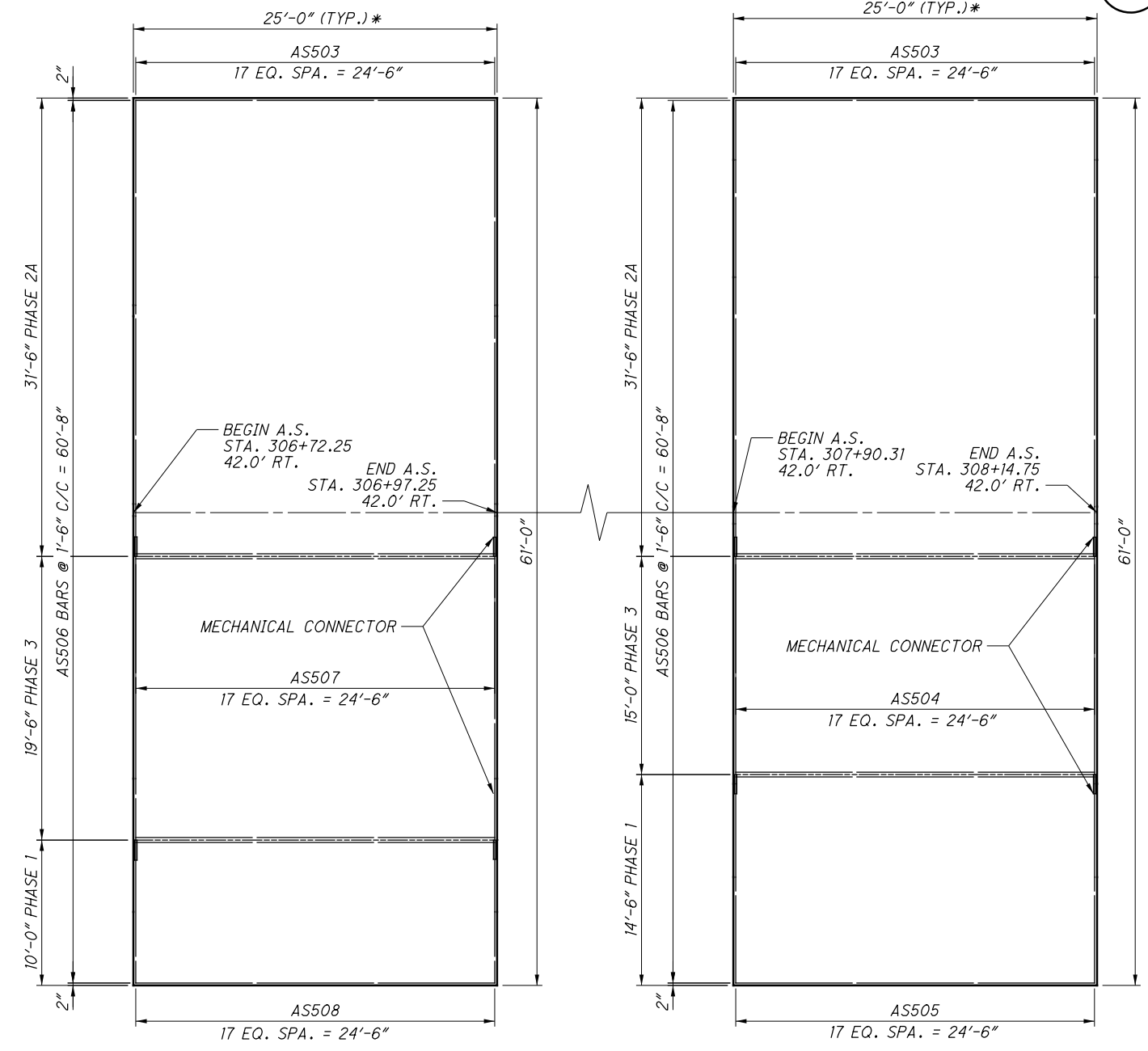
249  
287

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**LEFT REAR APPROACH SLAB**  
(TOP REINFORCING)

**LEFT FORWARD APPROACH SLAB**  
(TOP REINFORCING)



**RIGHT REAR APPROACH SLAB**  
(TOP REINFORCING)

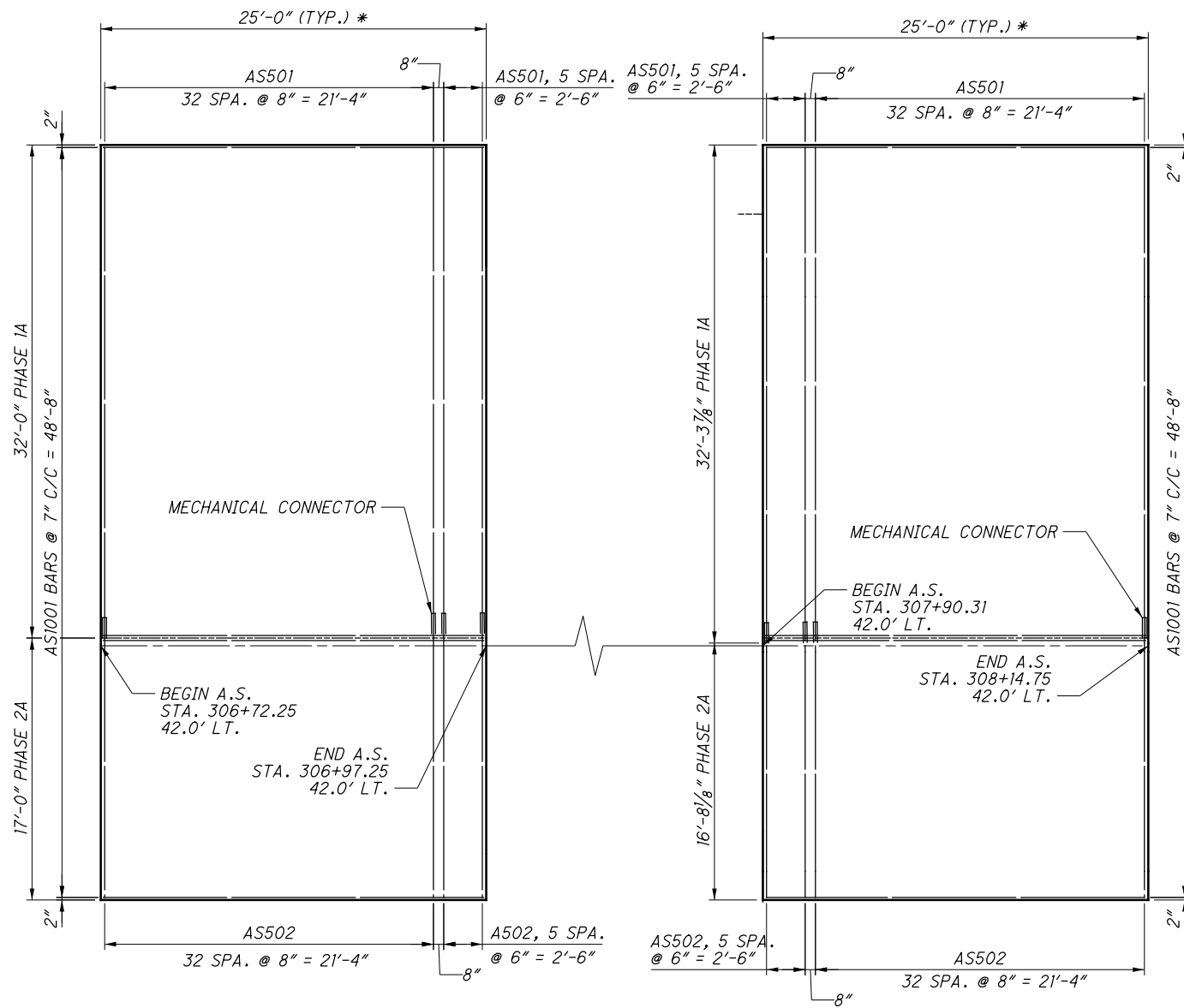
**RIGHT FORWARD APPROACH SLAB**  
(TOP REINFORCING)



**LEGEND:**  
\* SEE ROADWAY PLANS FOR QUANTITIES FOR ITEM 609 - CURB, TYPE 4-A.

		RESOURCE INTERNATIONAL INC. 6350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4848	
DESIGNED	JGM	CHECKED	NCK
DRAWN	JGM	REVISED	
REVIEWED	SSK	STRUCTURE FILE NUMBER	2501929/2501953
DATE	11/07/17		
<b>APPROACH SLAB DETAILS - TOP REINFORCING</b> BRIDGE NO. FRA-033-2503 L/R OVER WALNUT CREEK OVERFLOW			
<b>FRA-33-24-26</b> PID No. 98111		21/24 250 287	

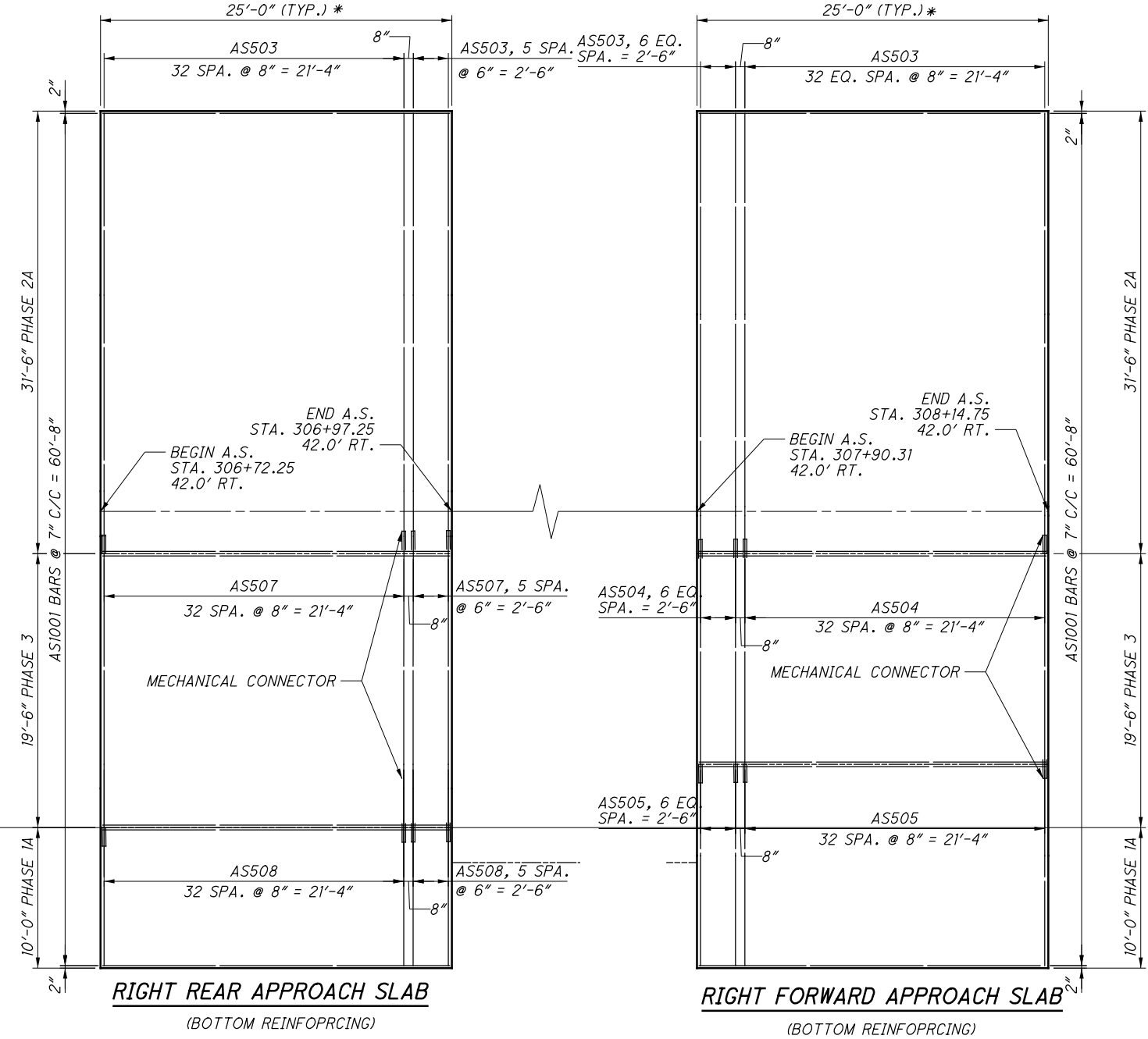
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**LEFT REAR APPROACH SLAB**  
(BOTTOM REINFORCING)

**LEFT FORWARD APPROACH SLAB**  
(BOTTOM REINFORCING)

LEGEND:  
\* SEE ROADWAY PLANS FOR QUANTITIES FOR ITEM 609 - CURB, TYPE 4-A.



**RIGHT REAR APPROACH SLAB**  
(BOTTOM REINFORCING)

**RIGHT FORWARD APPROACH SLAB**  
(BOTTOM REINFORCING)



RESOURCE INTERNATIONAL INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4848



REVIEWED DATE 11/07/17  
SSK STRUCTURE FILE NUMBER 2501929/2501953

DRAWN JGM  
CHECKED NCK  
DESIGNED JGM

APPROACH SLAB DETAILS - BOTTOM REINFORCING  
BRIDGE NO. FRA-033-2503 L/R  
OVER WALNUT CREEK OVERFLOW

FRA-33-24-26  
PID No. 98111

22/24

251  
287

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MARK	NUMBER				TOTAL	LENGTH	WEIGHT 2501929	WEIGHT 2501953	TYPE	DIMENSIONS			
	ABUT 1 LEFT 2501929	ABUT 2 RIGHT 2501953	ABUT 4 LEFT 2501929	ABUT 3 RIGHT 2501953						A	B	C	INC
<b>ABUTMENT</b>													
A401	2	6	2	8	18	8'-11"	24	83	3	1'-9"	2'-6"		
A501*	40	44	34	44	162	3'-0"	232	275	ST				
A502		4			4	6'-10"		28	ST				
A503	6	15	6	21	48	11'-2"	140	419	3	2'-8"	2'-7"		
A505	0	6			6	12'-10"		80	3	5'-3"	11"		
A506	3				3	7'-6"	23		2	3'-5"	11"	3'-5"	
A507	6				6	13'-10"	87		3	5'-8"	11"		
A508		4			4	14'-10"		62	3	6'-2"	9		
A509			2		2	9'-6"	20		2	3'-6"	11"	3'-6"	
A510		12			12	10'-5"		130	2	4'-6"	1'-8"	4'-6"	
A511		7			7	4'-11"		36	2	1'-9"	8"	1'-9"	
A512				3	3	10'-10"		34	3	3'-5"	1'-8"		
A513				5	5	4'-11"		26	2	1'-9"	1'-8"	1'-9"	
A514			3		3	12'-10"	40		3	5'-2"	11"		
A515				4	4	13'-6"		56	3	5'-6"	11"		
A516				13	13	5'-0"		68	2	2'-1"	1'-11"	2'-1"	
A517				4	4	10'-1"		42	ST				
A518		4		4	8	12'-0"		100	ST				
A519	NOT	USED											
A520	8		8		16	8'-10"	147		ST				
A521	6		6		12	5'-6"	69		ST				
A522	8		8		16	4'-2"	70		ST				
A523	6		6		12	4'-0"	50		ST				
A524		10		8	18	4'-4"		81	ST				
A525		8		6	14	16'-0"		234	ST				
A526		8		8	16	7'-10"		131	ST				
A527		6		6	12	8'-6"		106	ST				
A528			6		6	12'-10"	80		3	5'-2'	11"		
A529	4		4		8	6'-5"	54		ST	0	0		
A530	2				2	8'-8"	18		2	4'-0"	11"		
A531	5				5	5'-1"	27		2	1'-10"	1'-8"		
A532	5				5	6'-1"	32		2	2'-4"	1'-8"		
A533				8	8	12'-8"		106	3	11"	5'-1"		
A534	NOT	USED											
A535			5		5	5'-3"	27		2	1'-11"	1'-8"		
A601*	8	16	8	16	48	3'-0"	72	144	ST				
A801		4		4	8	12'-0"		256	ST				
A802					4	10'-0"		107	ST				
A803		4			4	6'-10"		73	ST				
A804	4		4		8	6'-5"	137		ST				
D801	7	12	7	12	38	4'-11"	184	315	18	2'-8 1/2"	1'-0"	1'-0"	
D802*	28	26	28	26	108	4'-1"	610	567	19	2'-8 1/2"	1'-0"	1'-0"	
						TOTAL	2142	3561					

MARK	TOTAL LEFT 2501929	TOTAL RIGHT 2501953	LENGTH	WEIGHT LEFT 2501929	WEIGHT RIGHT 2501953	TYPE	DIMENSIONS			
							A	B	C	INC
<b>SUPERSTRUCTURE</b>										
S401	164	164	3'-4"	365	365	2	1'-3"	1'-1"	1'-3"	
S501	42	102	18'-3"	799	1942	ST.				
S502	21	51	12'-7"	276	669	ST.				
S601**	60		5'-5"	488		ST.				
S602**	60		3'-11"	353		ST.				
S603**		60	15'-11"		1434	ST.				
S604**		60	8'-5"		759	ST.				
S701**	82		5'-5"	908		ST.				
S702**	82		3'-11"	657		ST.				
S703**		82	15'-11"		2668	ST.				
S704**		82	8'-5"		1411	ST.				
S801	42	102	29'-6"	3308	8034	ST.				
S802	42	94	31'-6"	3532	7906	ST.				
S803	21	47	39'-3"	2201	4925	ST.				
S804	6	6	36'-6"	585	585	ST.				
			SUBTOTAL	13473	30698					

MARK	TOTAL LEFT 2501929	TOTAL RIGHT 2501953	LENGTH	WEIGHT LEFT 2501929	WEIGHT RIGHT 2501953	TYPE	DIMENSIONS				
							A	B	C	D	E
<b>PARAPET</b>											
R501	140	140	7'-4"	1071	1071	23	11"	3'-3"	3'-0"		
R502	32	32	7'-2"	239	239	ST					
R503	4	4	4'-9"	20	20	ST					
R504	16	16	30'-0"	501	501	ST					
R505	8	8	15'1"	126	126	ST.					
R506	16	16	5'-8"	94	94	25	1'-10"	2'-5"	1'-4 1/4"	1 1/2"	5"
R507	16	16	5'-8"	94	94	ST					
R508	32	32	10'-10"	334	334	ST.					
R601	140	140	4'-2"	683	875	28	2'-4"	1'-1"			
R602	140	140	3'-3"	875	683	1	1'-1"	2'-4"			
R603	16	16	7'-2"	172	172	ST					
R604	2	2	4'-9"	14	14	ST					
R605	4	4	4'-9"						3'-11"		
R606	SER OF.	SER OF.	TO	372	372	1	1'-0"	TO			
	12	12	5'-7"						4'-8 11/16"		
R606	16	16	4'-9"	114	114	1	1'-0"	3'-11"			
			SUBTOTAL	4711	4711						
			TOTAL SUPERSTRUCTURE	18184	35409						

**NOTES:**

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE 3 DIGITS ARE USED, AND THE FIRST 2 DIGITS WHERE FOUR DIGITS ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

2. ALL REINFORCING STEEL TO BE EPOXY COATED, UNLESS NOTED OTHERWISE.

3. AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. IF A DOWEL BAR SPLICE TYPE OF CONNECTOR IS FURNISHED, THE MINIMUM DOWEL BAR LENGTH TO BE INCLUDED WITH THE CONNECTOR SHALL BE ONE LAP LENGTH. CONNECTORS AND BAR DOWELS SHALL BE EPOXY COATED. COATINGS FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS 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. CONNECTORS AND DOWEL BAR EXTENSION SHALL CONFORM WITH ITEM 509 AND BE INCLUDED IN THE BID PRICE PER POUND FOR ITEM 509.

**LEGEND:**

\* - INDICATES DOWEL BAR.

\*\* - INDICATES BARS REQUIRING MECHANICAL CONNECTORS OR THREADED END. THE LENGTH SHOWN IN THE TABLE ARE THE NOMINAL LENGTHS MEASURED TO THE CONSTRUCTION JOINT. ADJUSTMENT IN THE LENGTHS OF THE BARS DUE TO MECHANICAL SPLICING SHALL BE MADE PRIOR TO THE FABRICATION.

SEE NEXT SHEET FOR BAR BENDING DIAGRAMS.

RESOURCE INTERNATIONAL INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4849



DESIGNED	JCM	CHECKED	NCK
DRAWN	JCM	REVISED	-
REVIEWED	SSK	STRUCTURE FILE NUMBER	2501929/2501953
DATE	11/07/17		

**REINFORCING STEEL LIST**  
BRIDGE NO. FRA-33-2503 L/R  
OVER WALNUT CREEK OVERFLOW

FRA - 33 - 24 - 26  
PID No. 98111

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MARK	TOTAL LEFT 2501929	TOTAL RIGHT 2501953	LENGTH	WEIGHT LEFT 2501929	WEIGHT RIGHT 2501953	TYPE	DIMENSIONS						
							A	B	C	D	E	R	INC
<i>APPROACH SLABS - INFO ONLY</i>													
AS501**	114		31'-10"	3785		ST							
AS502**	114		16'-10"	2001		ST							
AS503**		115	31'-4"		3758	ST							
AS504**		58	15'-0"		907	ST							
AS505**		58	14'-2"		857	ST							
AS506	66	82	24'-6"	1687	2095	ST							
AS507**		57	19'-6"		1159	ST							
AS508**		57	9'-10"		584	ST							
ASI001	168	210	25'-11"	18730	23413	16	24'-6"						
			TOTAL	26203	32775								

MARK	TOTAL LEFT 2501929	TOTAL RIGHT 2501953	LENGTH	WEIGHT LEFT 2501929	WEIGHT RIGHT 2501953	TYPE	DIMENSIONS						
							A	B	C	D	E	R	INC
<i>PIER</i>													
P401	4	12	8'-5"	22	67	3	2'-0"	2'-0"					
P501	8	25	8'-7"	92	287	6	2'-2"	3'-0"	6"				
P502	8	4	3'-0"	25	13	ST.							
P503	2	4	3'-9"	8	16	2	6"	3'-0"	6"				
P504	0	8	10'-3"	0	86	ST.							
P505	6	12	10'-5"	65	130	24	2'-2"	3'-6"			1'-1 1/2"		
P506	0	4	1'-11"	0	8	ST.							
P507*	12	24	2'-11"	37	73	19	2'-0"	6"	10"				
P508*	6	12	3'-0"	19	38	ST.							
P1101	8	4	4'-8"	198	99	ST.							
P1102	0	8	11'-6"	0	489	ST.							
P1103	0	4	3'-5"	0	73	ST.							
			TOTAL	444	1,311								

**LEGEND:**

\* - INDICATES DOWEL BAR.

\*\* - INDICATES BARS REQUIRING MECHANICAL CONNECTORS OR THREADED END. THE LENGTH SHOWN IN THE TABLE ARE THE NOMINAL LENGTHS MEASURED TO THE CONSTRUCTION JOINT. ADJUSTMENT IN THE LENGTHS OF THE BARS DUE TO MECHANICAL SPLICING SHALL BE MADE PRIOR TO THE FABRICATION.

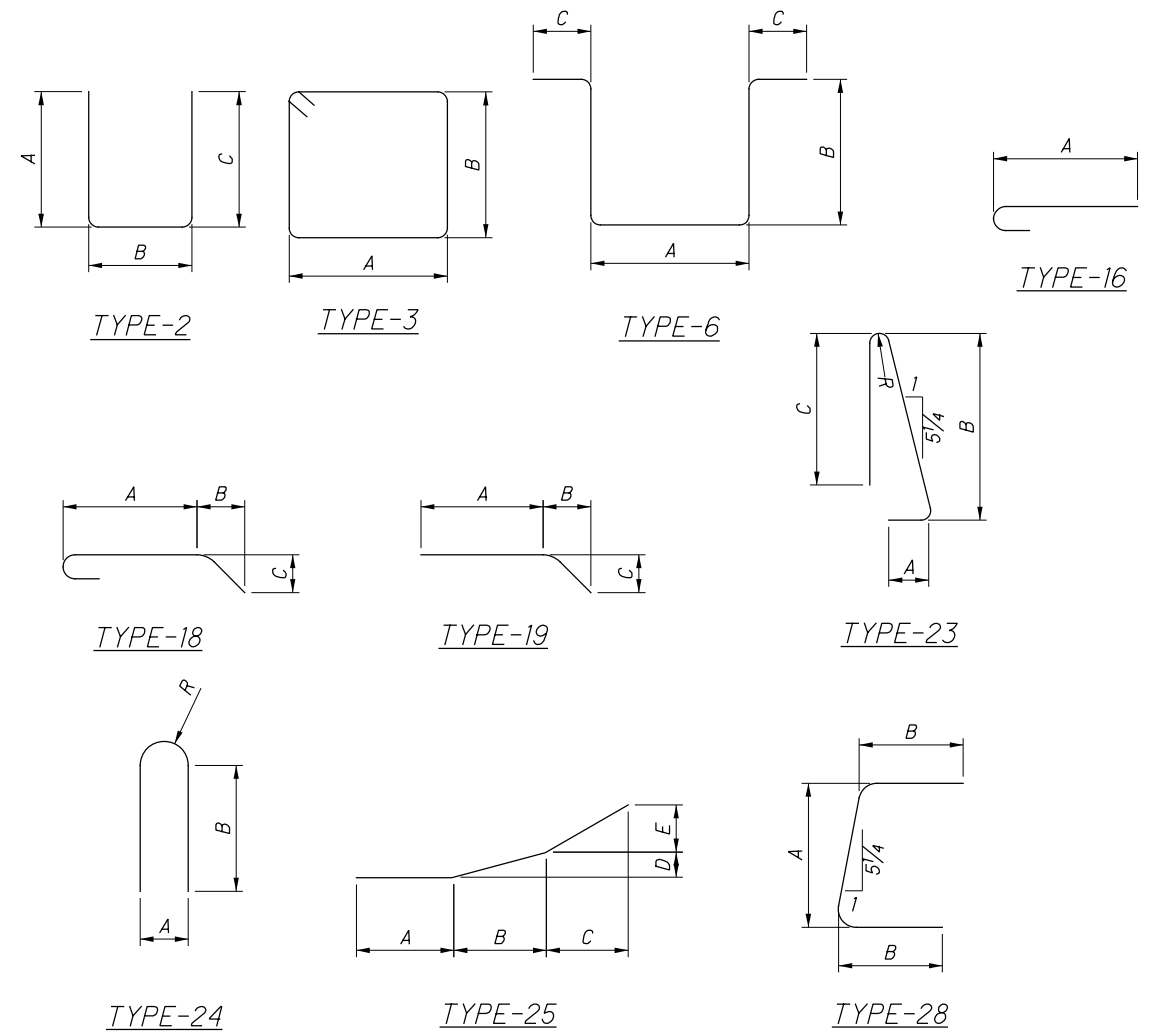
**NOTES:**

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE 3 DIGITS ARE USED, AND THE FIRST 2 DIGITS WHERE FOUR DIGITS ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

2. ALL REINFORCING STEEL TO BE EPOXY COATED, UNLESS NOTED OTHERWISE.

3. AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. IF A DOWEL BAR SPLICE TYPE OF CONNECTOR IS FURNISHED, THE MINIMUM DOWEL BAR LENGTH TO BE INCLUDED WITH THE CONNECTOR SHALL BE ONE LAP LENGTH. CONNECTORS AND BAR DOWELS SHALL BE EPOXY COATED. COATINGS FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS 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. CONNECTORS AND DOWEL BAR EXTENSION SHALL CONFORM WITH ITEM 509 AND BE INCLUDED IN THE BID PRICE PER POUND FOR ITEM 509.

**BENDING DIAGRAMS**



3 - REVISED 1/29/2018

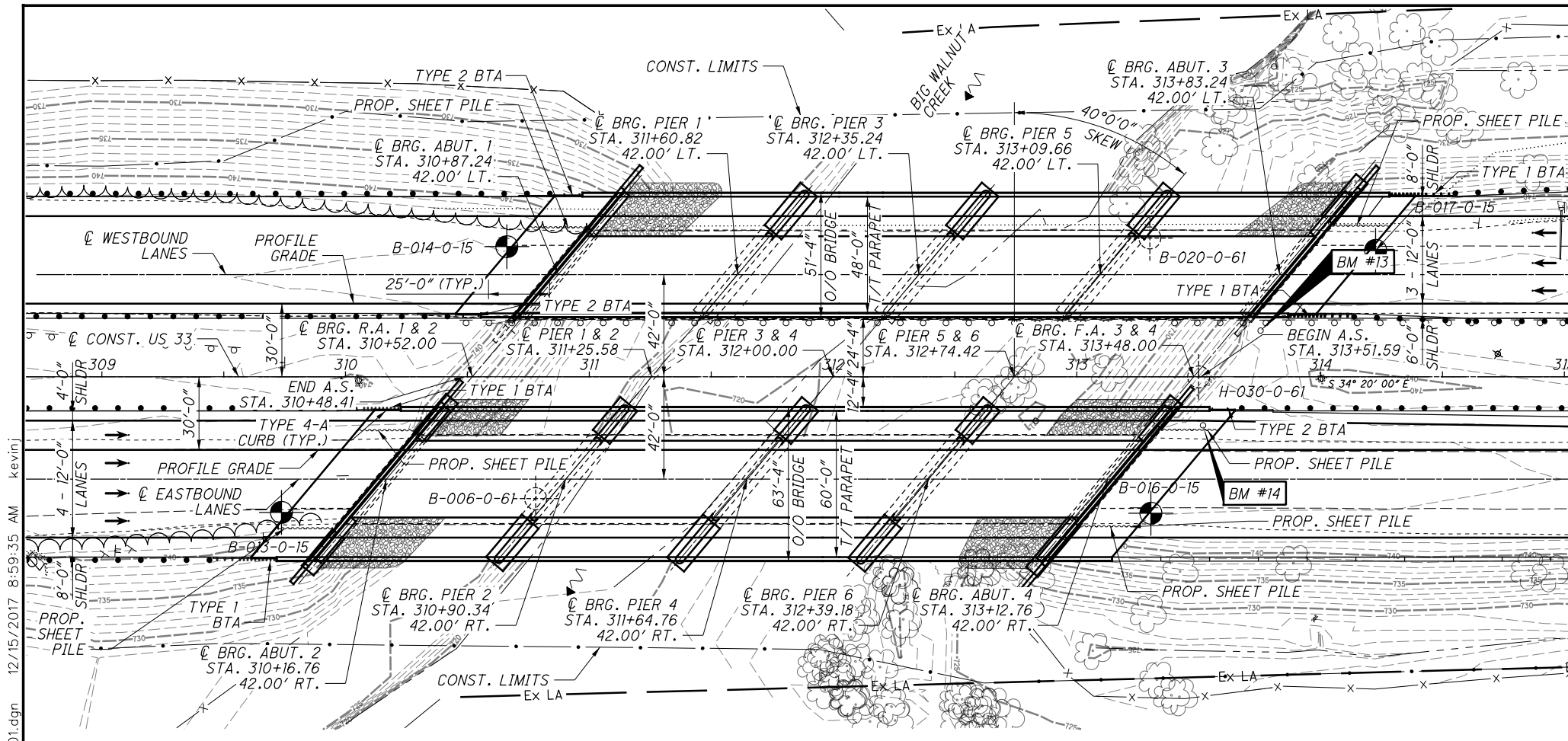
RESOURCE INTERNATIONAL INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4849



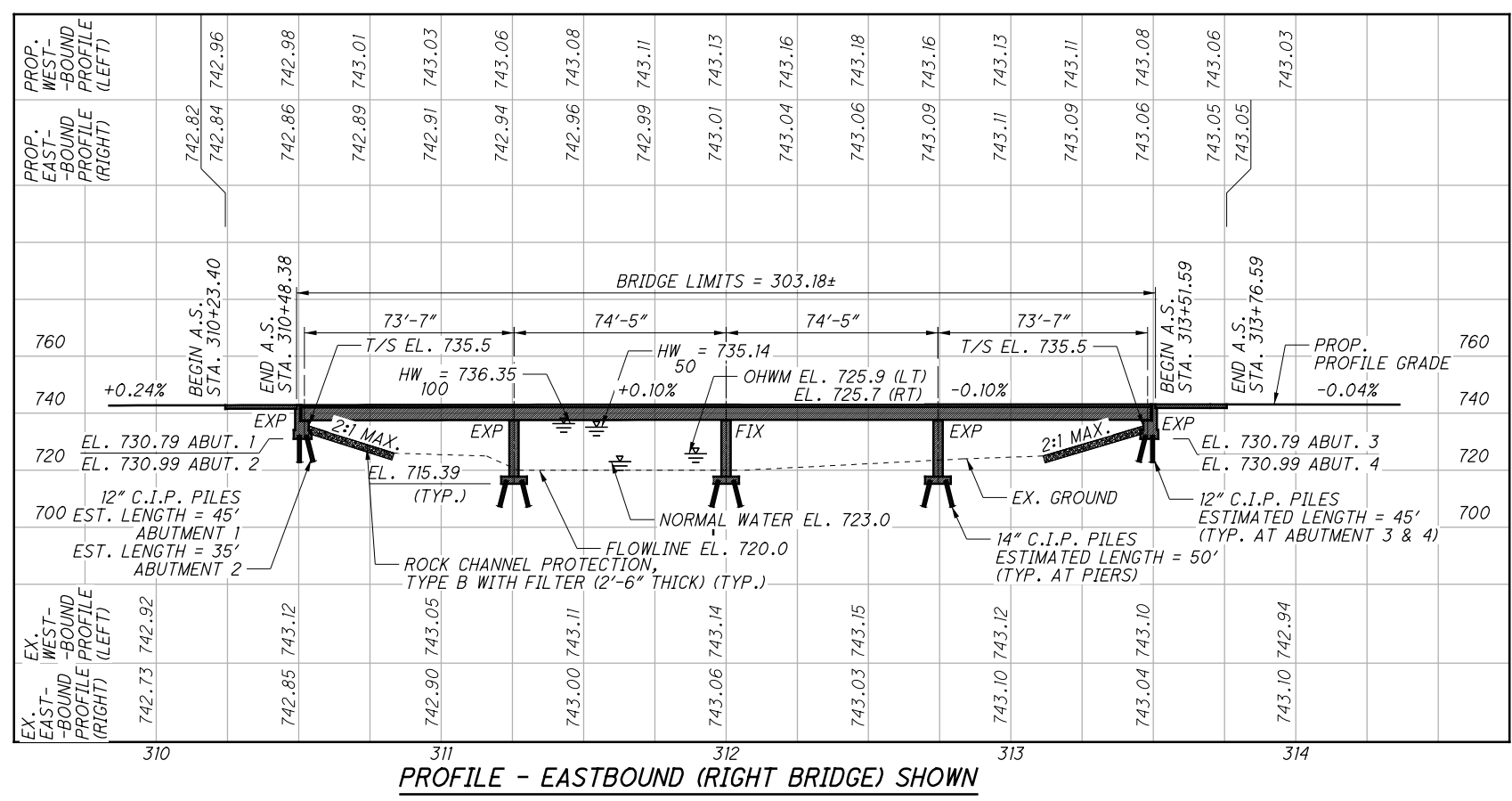
DESIGNED BY: JGM  
CHECKED BY: NCK  
DRAWN BY: JGM  
REVIEWED BY: JGM  
DATE: 11/07/17  
SSK  
STRUCTURE FILE NUMBER: 2501929/2501953

REINFORCING STEEL LIST  
BRIDGE NO. FRA-33-2503 L/R  
OVER WALNUT CREEK OVERFLOW

FRA - 33 - 24.26  
PID No. 98111



PLAN



PROFILE - EASTBOUND (RIGHT BRIDGE) SHOWN

BENCHMARK DATA	
BM #14 STA. 313+51.90, ELEV. 742.983, OFFSET 20' RT	
BM #13 STA. 313+75.47, ELEV. 742.593, OFFSET 19' LT	

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 287

**NOTES**  
EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

**DESIGN TRAFFIC:**  
2018 ADT = 77,000    2018 ADTT = 5,390  
2030 ADT = 93,000    2030 ADTT = 6,510  
DIRECTIONAL DISTRIBUTION = 69%

**LEGEND**  
● PROJECT BORING LOCATION  
○ HISTORIC BORING LOCATION

**HYDRAULIC DATA**  
DRAINAGE AREA = 254 SQ. MILES  
Q (50) = 21,200    V (50) = 9.26 FT/S  
Q (100) = 25,300 CFS    V (100) = 9.96 FT/S  
STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 1.37 FEET.

**EXISTING STRUCTURE**  
TYPE: PRESTRESSED CONCRETE I-BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE  
SPANS: 73'-7"±, 74'-5"±, 74'-5"±, 73'-7"± C/C BRG.  
ROADWAY: 30'-0" F/F SAFETY CURB  
LOADING: S20-60  
SKEW: 40° L.F.  
APPROACH SLABS: 25' LONG (AS-1-54)  
WEARING SURFACE: 1" MONOLITHIC CONCRETE  
ALIGNMENT: TANGENT  
CROWN: 3/16"/FT.  
STRUCTURAL FILE NUMBER: 2501988/2502011  
DATE BUILT: 1963  
DISPOSITION: TO BE REHABILITATED

**PROPOSED STRUCTURE**  
TYPE: PRESTRESSED CONCRETE I-BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE  
SPANS: 73'-7", 74'-5", 74'-5", 73'-7" C/C BRG.  
ROADWAY: 48'-0" (L), 60'-0" (R) TOE/TOE PARAPET  
LOADING: HS20 AND ALTERNATE MILITARY (SUPERSTRUCTURE ONLY)  
FUTURE WEARING SURFACE: 60 PSF  
WEARING SURFACE: 3 1/2" SDC  
SKEW: 40° L.F.  
APPROACH SLABS: 25'-0" LONG (AS-1-81)  
ALIGNMENT: TANGENT  
CROWN: 0.016  
COORDINATES: LATITUDE 39° 53' 54"  
LONGITUDE 82° 53' 38"

RESOURCE INTERNATIONAL INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4849

**Rii**

DATE: 11/07/17  
REVIEWED: SSK  
DRAWN: JGM  
DESIGNED: JGM  
FRANKLIN COUNTY  
FRANKLIN COUNTY  
FRANKLIN COUNTY  
FRANKLIN COUNTY

STRUCTURE FILE NUMBER: 2501988/2502011  
STA. 310+13.17  
STA. 313+16.35  
STA. 310+83.65  
STA. 313+86.83

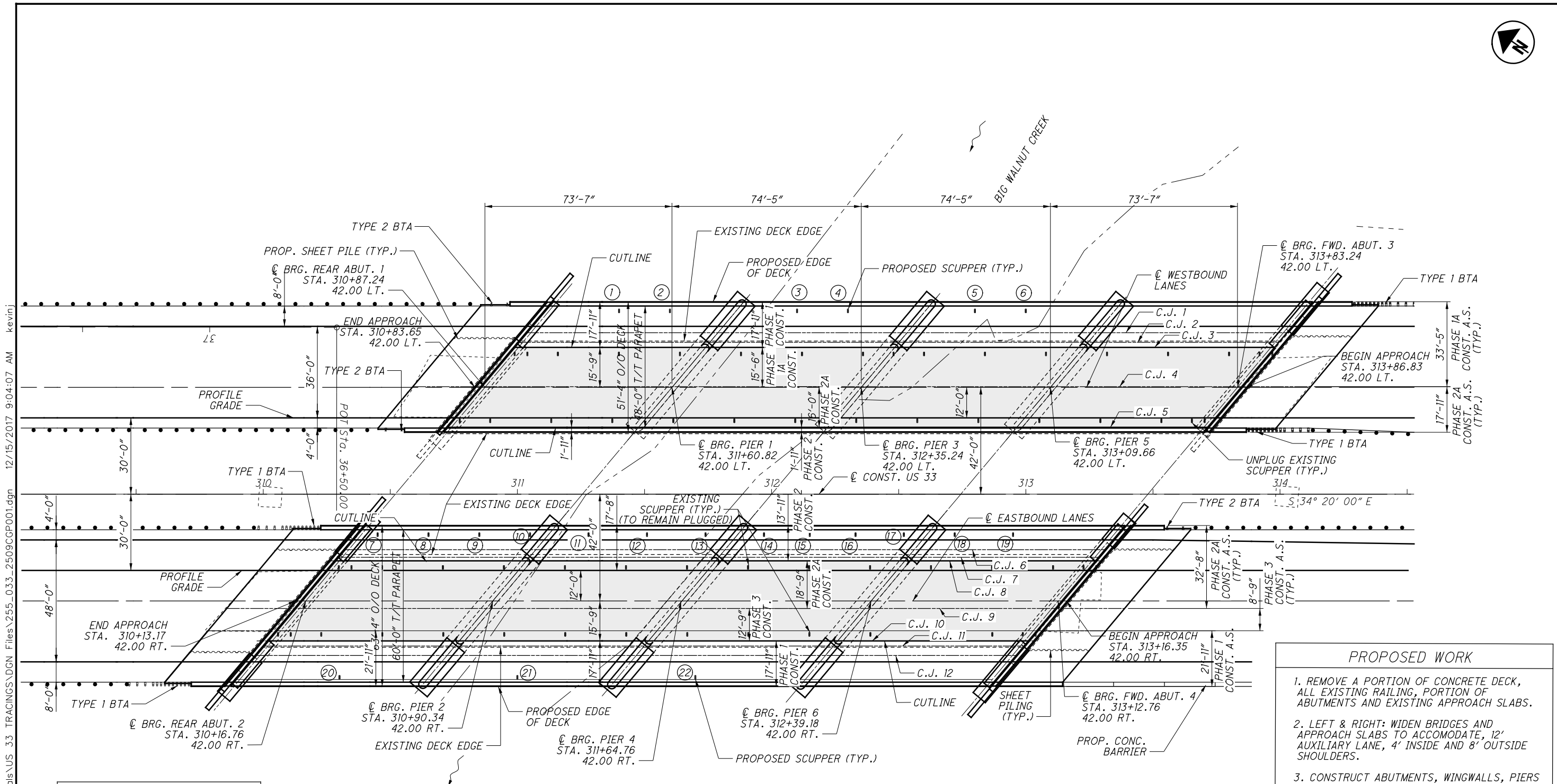
**SITE PLAN**  
BRIDGE NO. FRA-33-24-26 OVER BIG WALNUT CREEK

**FRA-33-24-26**  
PID No. 98111

1/34

254  
287

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**FRA-33-2509L/R**

PROPOSED SCUPPERS		
NO.	STATION	OFFSET
①	311+40.00	72.08' LT.
②	311+60.00	72.08' LT.
③	312+10.00	72.08' LT.
④	312+30.00	72.08' LT.
⑤	312+80.00	72.08' LT.
⑥	313+00.00	72.08' LT.
⑦	310+45.00	15.92' RT.
⑧	310+65.00	15.92' RT.
⑨	310+85.00	15.92' RT.

PROPOSED SCUPPERS		
NO.	STATION	OFFSET
⑩	311+05.00	15.92' RT.
⑪	311+28.00	15.92' RT.
⑫	311+51.00	15.92' RT.
⑬	311+74.00	15.92' RT.
⑭	311+97.00	15.92' RT.
⑮	312+15.00	15.92' RT.

PROPOSED SCUPPERS		
NO.	STATION	OFFSET
⑯	312+33.00	15.92' RT.
⑰	312+52.00	15.92' RT.
⑱	312+72.00	15.92' RT.
⑲	312+95.00	15.92' RT.
⑳	310+30.00	72.09' RT.
㉑	311+00.00	72.09' RT.
㉒	311+70.00	72.09' RT.

**LEGEND:**

- LIMITS OF SDC OVERLAY

- PROPOSED WORK**
- REMOVE A PORTION OF CONCRETE DECK, ALL EXISTING RAILING, PORTION OF ABUTMENTS AND EXISTING APPROACH SLABS.
  - LEFT & RIGHT: WIDEN BRIDGES AND APPROACH SLABS TO ACCOMODATE, 12' AUXILIARY LANE, 4' INSIDE AND 8' OUTSIDE SHOULDERS.
  - CONSTRUCT ABUTMENTS, WINGWALLS, PIERS AND PILES TO ACCOMODATE PROPOSED WIDENING.
  - CONSTRUCT APPROACH SLABS.
  - LEFT: INSTALL PROPOSED SCUPPERS, UNPLUG EXISTING SCUPPERS AS SHOWN IN THE PLANS.  
RIGHT: INSTALL PROPOSED SCUPPERS, KEEP EXISTING SCUPPERS PLUGGED.
  - CONSTRUCT SBR-I-13 RAILING.
  - REMOVE EXISTING CONCRETE OVERLAY AND REPLACE WITH SDC CONCRETE OVERLAY USING HYDRODEMOLITION PER SS848.
  - SEAL ALL EXISTING AND PROPOSED SURFACES WITH EPOXY-URETHANE SEALER AS SHOWN IN THE PLANS.
  - PATCH ABUTMENTS.
  - ADD ROCK CHANNEL PROTECTION, TYPE B WITH FILTER (2'-6" THICK) TO WIDENED AREAS.

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**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

- A-1-69 REVISED 07-19-02
- AS-1-15 REVISED 07-17-15
- GSD-1-96 REVISED 07-19-02
- PCB-91 REVISED 01-18-13
- PSID-1-13 REVISED 07-15-16
- SBR-1-13 REVISED 01-17-14

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

848 DATED 01-20-17

**DESIGN SPECIFICATIONS:**

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

**DESIGN LOADING:**

HS-20-44 CASE II AND THE ALTERNATE MILITARY LOADING (SUPERSTRUCTURE ONLY)  
FUTURE WEARING SURFACE (FWS) OF 60 PSF

**DESIGN DATA:**

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

CONCRETE FOR PRESTRESSED BEAMS:  
COMPRESSIVE STRENGTH (FINAL) - 7000 PSI  
COMPRESSIVE STRENGTH (RELEASE) - 5000 PSI

PRESTRESSING STRAND:  
AREA = 0.153 SQ. IN.  
ULTIMATE STRENGTH = 270 KSI  
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

**DECK PROTECTION METHOD:**

EPOXY COATED REINFORCING STEEL  
2 1/2" CONCRETE COVER  
3 1/2" SDC OVERLAY

**DECK PLACEMENT DESIGN 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 LOAD OF 2.4 KIPS FOR A TOTAL MACHINE LOAD OF 19.2 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".

**EXISTING STRUCTURE VERIFICATION:**

DETAILS AND DIMENSIONS SHOWN ON 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 REFERRED TO CMS SECTIONS 102.05,105.02 AND 513.04

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.

**PORTIONS OF STRUCTURE REMOVED, AS PER PLAN,**

**SUPERSTRUCTURE:**

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING, PARAPETS, DECK JOINTS AND OTHER APPURTENANCES FROM SUPPORTING SYSTEMS (PRESTRESSED CONCRETE I BEAMS, DIAPHRAGMS, SCUPPERS, ETC.). THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) AS PER CMS 2010 501.05.B.2.

PROTECTION OF SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN BOTTOM LAYER DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS POINTED OR BLUNTED CHISEL TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED CONCRETE I BEAM), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (EG., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF CONCRETE REMOVALS ON A CUBIC YARD BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT BID PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, SUPERSTRUCTURE.

**SUBSTRUCTURE:**

ALL CONCRETE REMOVED AS DETAILED IN THE PLANS SHALL BE REMOVED BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS [16 KILOGRAMS] FOR REMOVAL WITHIN 18 INCHES [450 MM] OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH [450 MM] LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS [41 KILOGRAMS] UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN REBUILT STRUCTURE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF CONCRETE REMOVAL PER CONTRACT BID PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, SUBSTRUCTURE.

**CUT LINE CONSTRUCTION JOINT PREPARATION:**

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH [25 MM] DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

**ITEM 507, CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED, AS PER PLAN:**

FURNISH PILE CASINGS THAT CONFORM TO ASTM A252, GRADE 3 (MINIMUM YIELD STRENGTH OF 45 KSI)

**PILE DESIGN LOADS (ULTIMATE BEARING VALUE)**

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):  
THE ULTIMATE BEARING VALUE IS 200 KIPS PER PILE FOR THE 32 ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 260 KIPS PER PILE FOR THE 78 PIER PILES.

ABUTMENT 1 PILES:  
6 PILES, 12" C.I.P., 50 FEET LONG, ORDER LENGTH

ABUTMENT 2 PILES:  
10 PILES, 12" C.I.P., 40 FEET LONG, ORDER LENGTH

ABUTMENT 3 PILES:  
6 PILES, 12" C.I.P., 50 FEET LONG, ORDER LENGTH

ABUTMENT 4 PILES:  
10 PILES, 12" C.I.P., 50 FEET LONG, ORDER LENGTH

ABUTMENTS: 1 DYNAMIC LOAD TESTING ITEM

PIER 1, 3 & 5 PILES:  
10 PILES EACH, 14" C.I.P., 55 FEET LONG, ORDER LENGTH

PIER 2, 4 & 6 PILES:  
16 PILES EACH, 14" C.I.P., 55 FEET LONG, ORDER LENGTH

PIERS: 1 DYNAMIC LOAD TESTING ITEMS

**REINFORCING STEEL REPLACEMENT:**

**ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:**

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

A QUANTITY OF 2500 POUNDS HAS BEEN INCLUDED IN THE PLANS FOR PAYMENT.

**ITEM 515 INTERMEDIATE DIAPHRAGMS, AS PER PLAN:**

STEEL INTERMEDIATE DIAPHRAGMS SHALL BE MC18X42.7

**ITEM 519 PATCHING CONCRETE STRUCTURE, AS PER PLAN:**

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

THE BELOW ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS FOR PAYMENT. LOCATIONS OF PATCHING WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

ABUTMENTS: 100 SQ FT

PIERS: 150 SQ FT

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RESOURCE INTERNATIONAL INC.  
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(614) 823-4848



DATE	11/07/17
REVIEWED	SSK
DRAWN	JCM
DESIGNED	JCM
STRUCTURE FILE NUMBER	2501988/2502011
CHECKED	NCK

**GENERAL NOTES**  
BRIDGE NO. FRA-33-2509 L/R  
OVER BIG WALNUT CREEK

**FRA -33-24.26**  
PID No. 98111



ESTIMATED QUANTITIES

CALCULATED BY: JGM DATE: 1/29/2018  
 CHECKED BY: NCK DATE: 1/29/2018

PART.

02/NHS/BR

ITEM	EXTENSION	PART.		UNIT	DESCRIPTION	LEFT BRIDGE				RIGHT BRIDGE				SHEET NO.
		QUANTITY LEFT SFN. 2501988	QUANTITY RIGHT SFN. 2502011			ABUT.	PIERS	SUPER.	GEN.	ABUT.	PIERS	SUPER.	GEN.	
202	11203	LUMP	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN				LUMP				LUMP	3
202	22900	134	134	SY	APPROACH SLAB REMOVED				134				134	
503	11100	LUMP	LUMP	LUMP	COFFERDAMS AND EXCAVATION BRACING			LUMP				LUMP		
503	21300	LUMP	LUMP	LUMP	UNCLASSIFIED EXCAVATION				LUMP				LUMP	
505	11100	LUMP	LUMP	LUMP	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP				LUMP	
507	00500	540	800	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	540				800				
507	00550	600	900	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	600				900				
507	00600	1500	2400	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		1500				2400			
507	00650	1650	2640	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED		1650				2640			
509	10000	106557	166887	POUND	EPOXY COATED REINFORCING STEEL	8547	26643	71367						
509	20001	1066	1669	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				1066					3
510	10000	556	798	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	288	168	100						
511	34446	334	463	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			334				463		
511	34450	99	101	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			99				101		
511	40512	161	285	CU YD	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		161				285			
511	43512	86	144	CU YD	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	86				144				
511	46512	57	101	CU YD	CLASS QC1 CONCRETE WITH QC/QA, FOOTING		57				101			
512	10100	2645	3016	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	242	1307	1096		308	1612	1096		
512	33000	25	25	SQ YD	TYPE 2 WATERPROOFING				25				25	
515	14011	2	4	EACH	STRAIGHT STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 2, TYPE 3, AS PER PLAN (L = 74'-1")			2				4	18	
515	14011	2	4	EACH	STRAIGHT STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 2, TYPE 3, AS PER PLAN (L = 73'-11")			2				4	18	
515	14011	2	4	EACH	STRAIGHT STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 2, TYPE 3, AS PER PLAN (L = 74'-1")			2				4	19	
515	14011	2	4	EACH	STRAIGHT STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 2, TYPE 3, AS PER PLAN (L = 73'-11")			2				4	19	
515	20001	21	63	EACH	INTERMEDIATE DIAPHRAGMS, AS PER PLAN			21				63	3	
516	12201	134	164	FT	STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN			134				164		
516	44100	16	32	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 9" X 15 3/4" X 2.82" WITH 10" X 16 3/4" X 1 1/2" LOAD PLATE	4	12			8	24			
516	47001	LUMP	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LUMP				LUMP		
518	12300	6	16	EACH	SCUPPERS, INCLUDING SUPPORTS			6				16		
518	12500	13	0	EACH	SCUPPER MISC: UNPLUG SCUPPER			13						
518	21200	35	57	CU YD	POROUS BACKFILL WITH GEOTEXTILE FABRIC	35				57				
518	40000	63	112	FT	6" PERFORATED CORRUGATED PLASTIC PIPE				63				112	
518	40010	40	80	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS				40				80	
519	11101	125	125	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	50	75			50	75			3
523	20000	2	2	EACH	DYNAMIC LOAD TESTING	1	1			1	1			
526	25000	280	348	SQ YD	REINFORCED CONCRETE APPROACH SLAB (T=15")				280				348	
601	32100	139	148	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER				139				148	
848	10200	1236	1236	SQ YD	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION (3 1/2" THICK)			1236				1236		
848	20000	1236	1236	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION			1236				1236		
848	30200	13	13	CU YD	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY			13				13		
848	50000	22	22	SQ YD	HAND CHIPPING			22				22		
848	50100	LUMP	LUMP		TEST SLAB			LUMP				LUMP		
848	50200	1	1	CU YD	FULL-DEPTH REPAIR			1				1		
848	50320	1236	1236	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (3" THICK)			1236				1236		
848	50340	219	219	SQ YD	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY			219				219		

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REVIEWED DATE 11/07/17  
 SSK  
 STRUCTURE FILE NUMBER 2501988/2502011

DRAWN JGM  
 REVISION

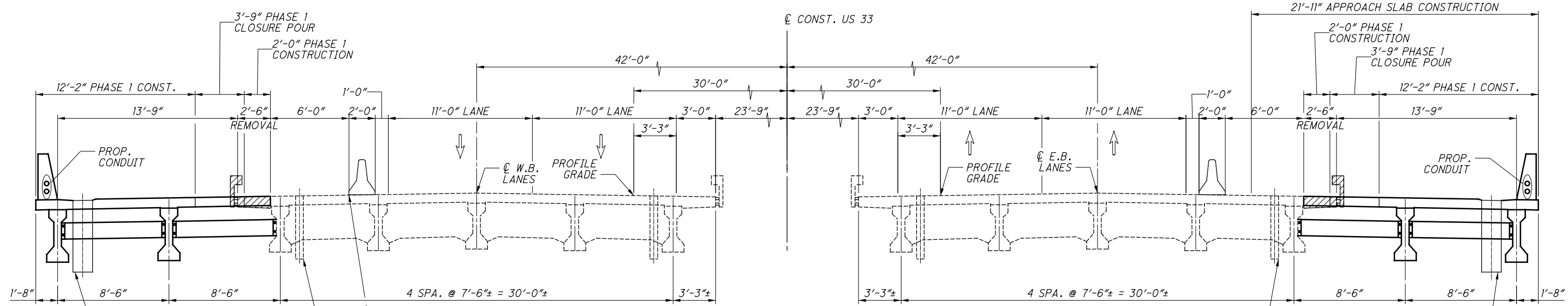
DESIGNED JGM  
 CHECKED NCK

ESTIMATED QUANTITIES  
 BRIDGE NO. FRA-033-2509 L/R  
 OVER BIG WALNUT CREEK

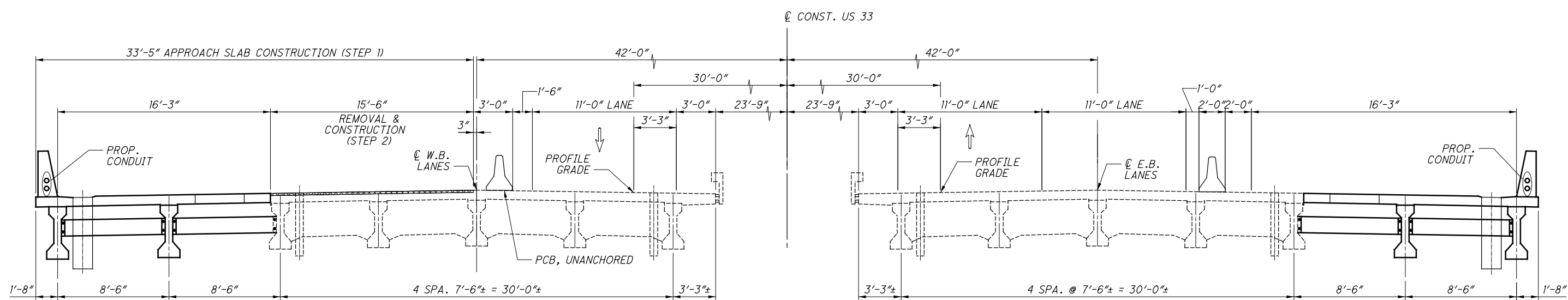
FRA-33-24-26  
 PID No. 98111

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**PHASE 1 - REMOVAL & CONSTRUCTION**  
(KEEP LANE CONFIG. FOR PH. 1A)



**PHASE 1A - REMOVAL & CONSTRUCTION**  
(WEEKEND & NIGHT WORK ONLY)

**LEGEND:**

- ITEM 202 - STRUCTURE REMOVED, AS PER PLAN
- ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION

**SUGGESTED SEQUENCE OF CONSTRUCTION:**

**PHASE 1 - REMOVAL:**

1. INSTALL PB AND SHIFT TRAFFIC AS SHOWN.
2. ON THE LEFT AND RIGHT BRIDGE, REMOVE 2'-6" OF THE EXISTING BRIDGE DECK, EXISTING RAILING AND PORTION OF ABUTMENTS.
3. REMOVE PORTIONS OF EXISTING APPROACH SLAB ON THE RIGHT BRIDGE.

**PHASE 1 - CONSTRUCTION:**

1. INSTALL ALL ABUTMENT AND PIER PILES, INCLUDING PILES FOR PHASE 2 CONSTRUCTION.
2. ON THE LEFT BRIDGE, CONSTRUCT PORTION OF ABUTMENT AND PIERS.
3. ON THE RIGHT BRIDGE, CONSTRUCT PORTION OF ABUTMENT AND PIERS, INCLUDING PIERS FOR PHASE 2 CONSTRUCTION.
4. CONSTRUCT 21'-11" OF APPROACH SLAB ON THE RIGHT BRIDGE.
5. ON THE LEFT AND RIGHT BRIDGE CONSTRUCT 2'-0" OF THE BRIDGE DECK, CONSTRUCT 12'-2" OF THE BRIDGE DECK, BEAMS, OUTSIDE CROSSFRAMES & PARAPET.
6. ON THE LEFT AND RIGHT BRIDGE CONSTRUCT 3'-9" OF CLOSURE POUR AND REMAINING CROSSFRAMES.

**PHASE 1A - REMOVAL:**

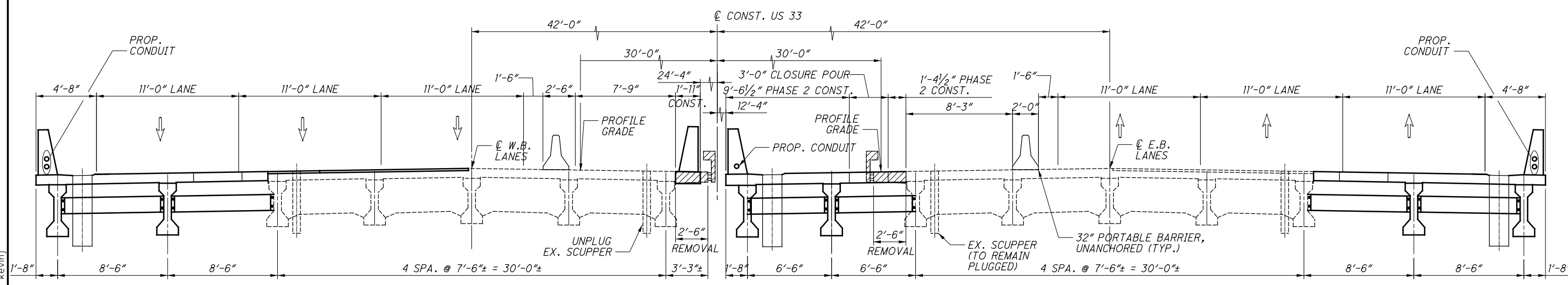
1. INSTALL PB AND SHIFT TRAFFIC AS SHOWN.
- STEP 1:**  
REMOVE PORTIONS OF EXISTING APPROACH SLAB ON THE LEFT BRIDGE.
- STEP 2:**  
ON THE LEFT BRIDGE, REMOVE 15'-6" OF THE 3" THICK EXISTING OVERLAY AND 1/2" THICK OF EXISTING DECK USING HYDRODEMOLITION.

**PHASE 1A - CONSTRUCTION:**

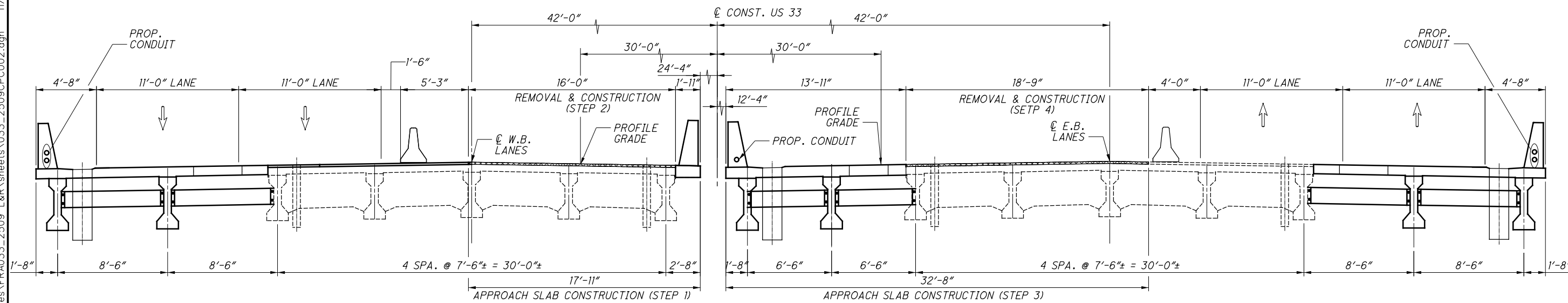
- STEP 1:**  
CONSTRUCT 33'-5" OF THE APPROACH SLAB ON THE LEFT BRIDGE.
- STEP 2:**  
ON THE LEFT BRIDGE, CONSTRUCT 15'-6" OF THE PROPOSED 3 1/2" THICK OVERLAY.

DESIGNED	JGM	CHECKED	NCK
DRAWN	JGM	REVISED	
REVIEWED	NCK	STRUCTURE FILE NUMBER	2501988/2502011
DATE	11/07/17		

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**PHASE 2 - REMOVAL & CONSTRUCTION**



**PHASE 2A - REMOVAL & CONSTRUCTION  
 (WEEKEND & NIGHT WORK ONLY)**

- LEGEND:**
- ITEM 202 - STRUCTURE REMOVED, AS PER PLAN
  - ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION

**SUGGESTED SEQUENCE OF CONSTRUCTION:**

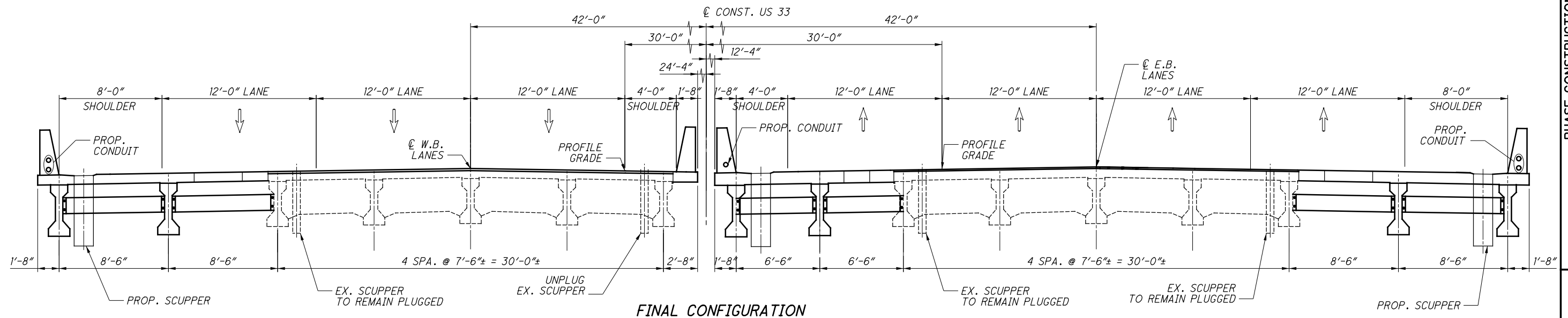
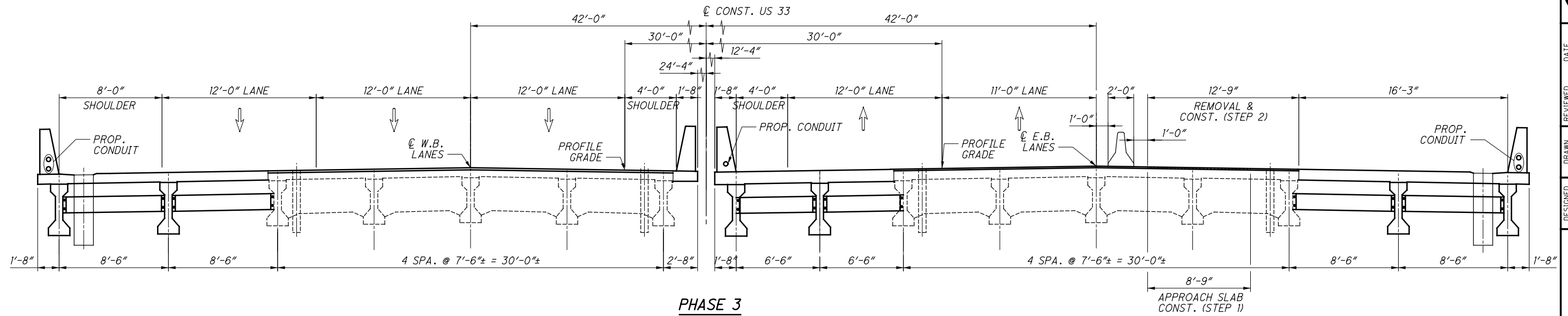
- PHASE 2 - REMOVAL:**
1. INSTALL PB AND SHIFT TRAFFIC AS SHOWN.
  2. ON THE LEFT AND RIGHT BRIDGE, REMOVE 2'-6" OF THE EXISTING BRIDGE DECK, EXISTING RAILING AND PORTION OF ABUTMENTS.

- PHASE 2 - CONSTRUCTION:**
1. CONSTRUCT REMAINING ABUTMENTS & PIERS ON THE RIGHT BRIDGE.
  2. ON THE RIGHT BRIDGE, CONSTRUCT 1'-7 1/2" OF THE BRIDGE DECK, CONSTRUCT 9'-6 1/2" OF THE BRIDGE DECK, BEAMS, OUTSIDE CROSSFRAMES AND PARAPET.
  3. ON THE RIGHT BRIDGE, CONSTRUCT 3'-0" CLOSURE POUR AND REMAINING CROSSFRAMES.

- PHASE 2A - REMOVAL:**
1. INSTALL PB AND SHIFT TRAFFIC AS SHOWN.
- STEP 1:**  
 REMOVE REMAINDER OF APPROACH SLAB ON LEFT BRIDGE.
- STEP 2:**  
 ON THE LEFT BRIDGE, REMOVE 16'-0" OF THE 3" THICK EXISTING OVERLAY AND 1/2" THICK OF EXISTING DECK USING HYDRODEMOLITION.
- STEP 3:**  
 REMOVE PORTION OF APPROACH SLAB ON RIGHT BRIDGE.
- STEP 4:**  
 ON THE RIGHT BRIDGE, REMOVE 18'-9" OF THE 3" THICK EXISTING OVERLAY AND 1/2" THICK OF EXISTING DECK USING HYDRODEMOLITION.

- PHASE 2A - CONSTRUCTION:**
- STEP 1:**  
 CONSTRUCT 17'-11" OF APPROACH SLAB ON THE LEFT BRIDGE.
- STEP 2:**  
 ON THE LEFT BRIDGE, CONSTRUCT 16'-0" OF THE PROPOSED 3 1/2" THICK OVERLAY.
- STEP 3:**  
 CONSTRUCT 32'-8" OF APPROACH SLAB ON THE RIGHT BRIDGE.
- STEP 4:**  
 ON THE RIGHT BRIDGE, CONSTRUCT 18'-9" OF THE PROPOSED 3 1/2" THICK OVERLAY.

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**SUGGESTED SEQUENCE OF CONSTRUCTION:**

**PHASE 3 - REMOVAL:**

1. INSTALL PB AND SHIFT TRAFFIC AS SHOWN.

**STEP 1:**

REMOVE REMAINDER OF APPROACH SLAB ON THE RIGHT BRIDGE.

**STEP 2:**

ON THE RIGHT BRIDGE, REMOVE 12'-9" OF THE 3" THICK EXISTING OVERLAY AND 1/2" THICK OF EXISTING DECK USING HYDRODEMOLITION.

**PHASE 3 - CONSTRUCTION:**

**STEP 1:**

CONSTRUCT 8'-9" OF APPROACH SLAB ON THE RIGHT BRIDGE.

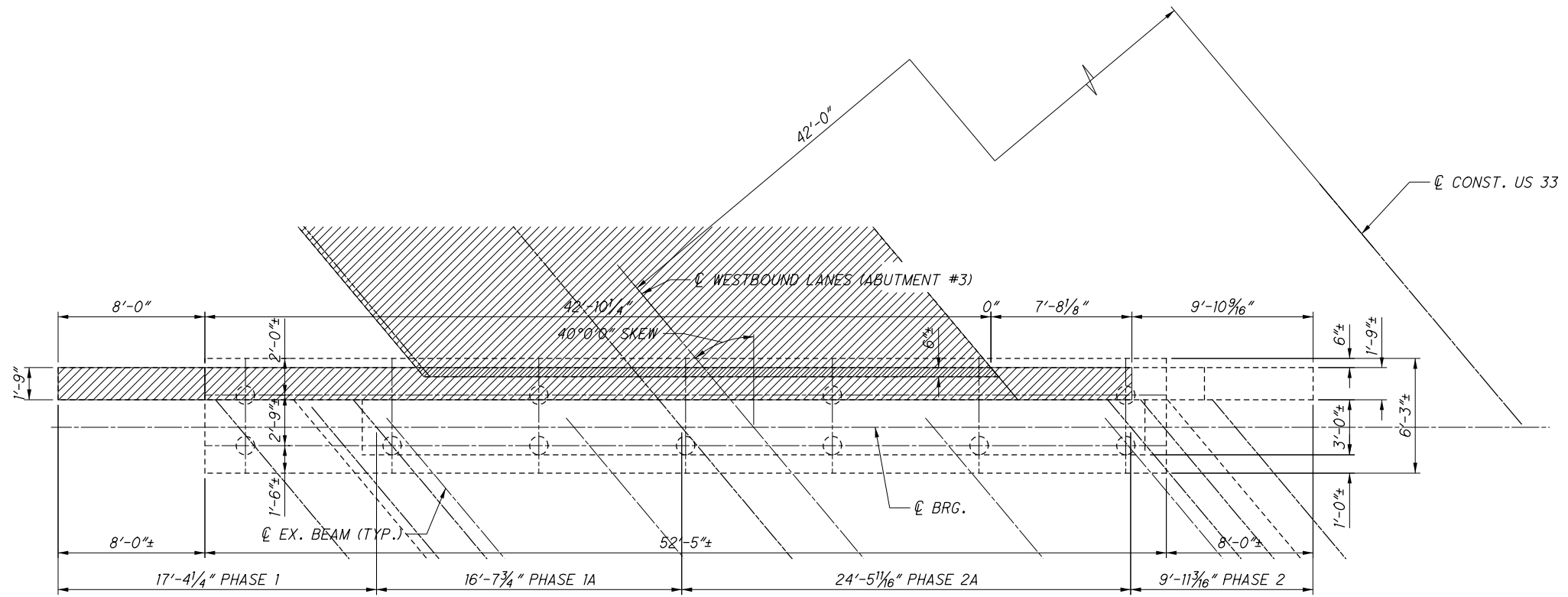
**STEP 2:**

ON THE RIGHT BRIDGE, CONSTRUCT 8'-9" OF THE PROPOSED 4 1/4" THICK OVERLAY.

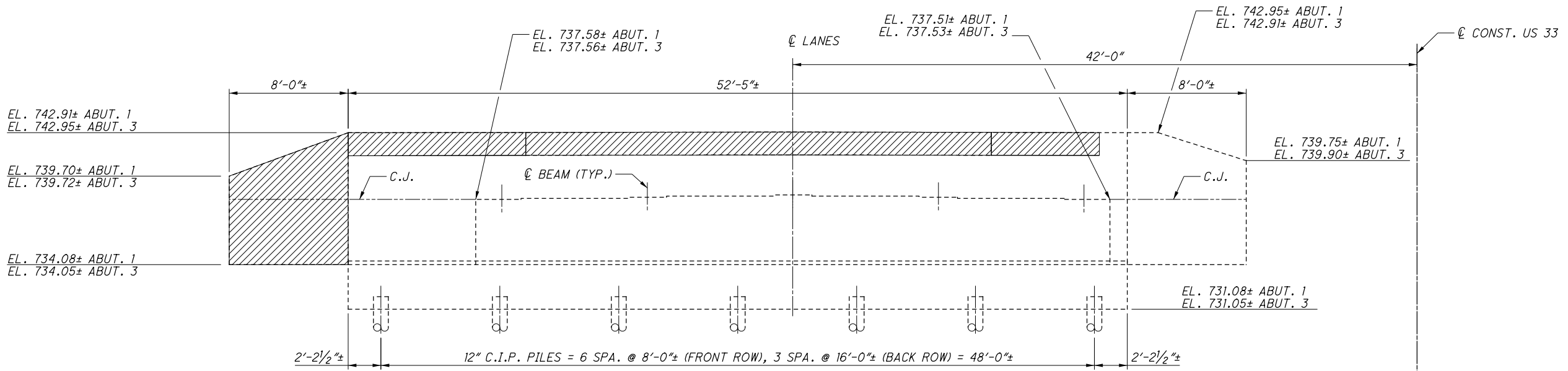
**FINAL CONFIGURATION:**

1. REMOVE PB. SHIFT TRAFFIC TO FINAL CONFIGURATION AS SHOWN.

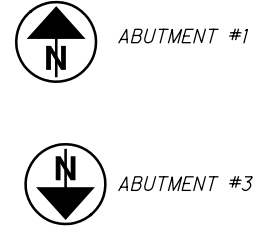
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**PLAN-ABUTMENT #3**  
ABUTMENT #1 OPPOSITE HAND



**ELEVATION-ABUTMENT #3**  
ABUTMENT #1 OPPOSITE HAND



**LEGEND:**  
 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

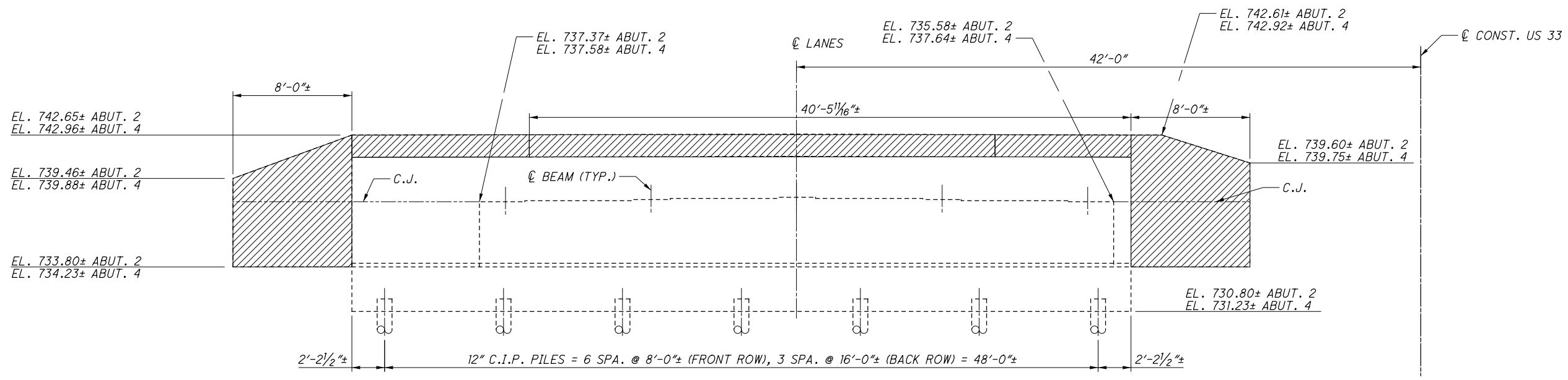
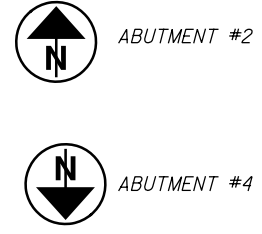
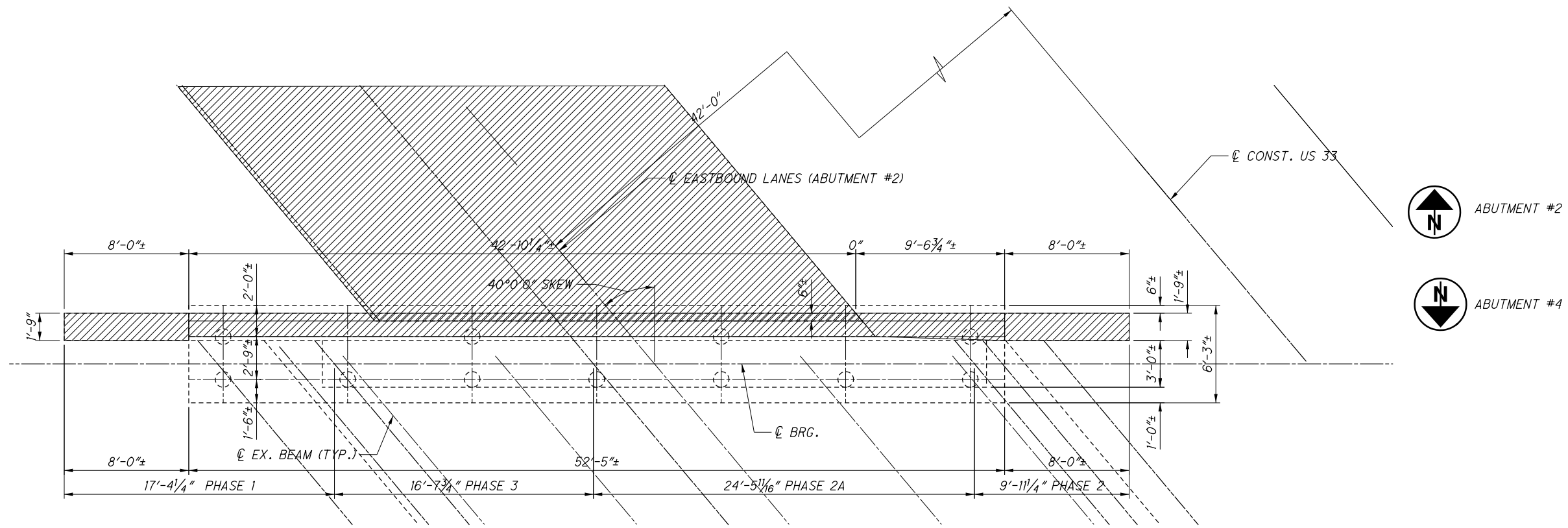
RESOURCE INTERNATIONAL, INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4949

DESIGNED	JGM	CHECKED	NCK
DRAWN	JGM	REVISED	
REVIEWED	NCK	STRUCTURE FILE NUMBER	2501988/2502011
DATE	11/07/17		

**ABUTMENT #1 & #3 REMOVAL DETAILS**  
BRIDGE NO. FRA-033-2509 L/R  
OVER BIG WALNUT CREEK

**FRA-33-24-26**  
PID No. 98111

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**LEGEND:**  
 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

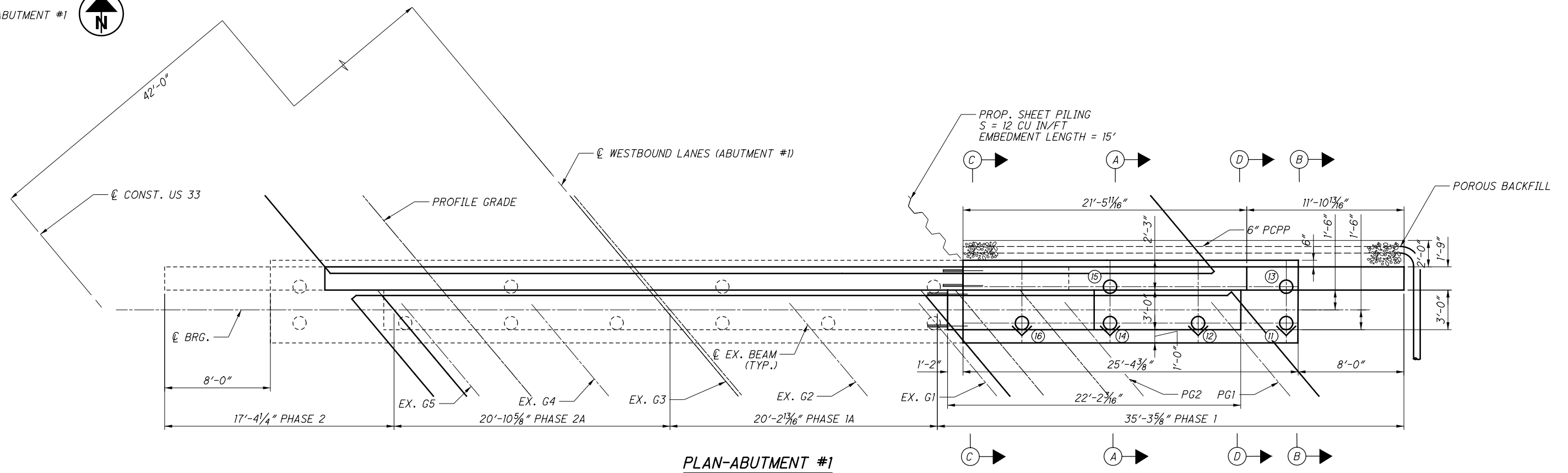
RESOURCE INTERNATIONAL, INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4949

DESIGNED	JGM	CHECKED	NCK
DRAWN	JGM	REVISED	
REVIEWED	NCK	STRUCTURE FILE NUMBER	2501988/2502011
DATE	11/07/17		

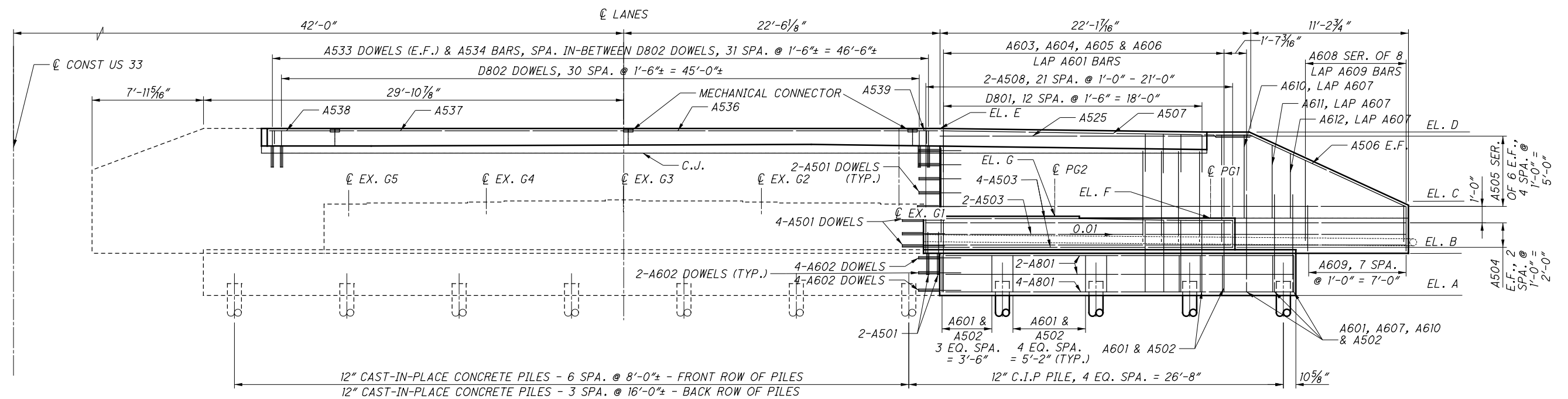
**ABUTMENT #2 & #4 REMOVAL DETAILS**  
 BRIDGE NO. FRA-033-2509 L/R  
 OVER BIG WALNUT CREEK

**FRA-33-24-26**  
 PID No. 98111

ABUTMENT #1



PLAN-ABUTMENT #1



ELEVATION-ABUTMENT #1

LOCATION	A	B	C	D	E	F	G
ABUTMENT #1	731.08	734.08	737.50	742.70	742.93	736.58	736.71

PILE LOCATION	STATION	OFFSET
ABUTMENT 1	311+05.33	62.01' LT.

NOTE:  
 1. SEE SHEET 12/34 FOR SECTIONS.  
 2. DOWEL EMBEDMENT = 1'-6" (TYP.)

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 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949



DATE: 11/07/17  
 REVIEWED: SSK  
 DRAWN: JGM  
 DESIGNED: JGM  
 CHECKED: NCK

STRUCTURE FILE NUMBER: 2501988/2502011  
 ABUTMENT #1 DETAILS  
 BRIDGE NO. FRA-033-2509 L/R  
 OVER BIG WALNUT CREEK

FRA-33-24.26  
 PID No. 98111

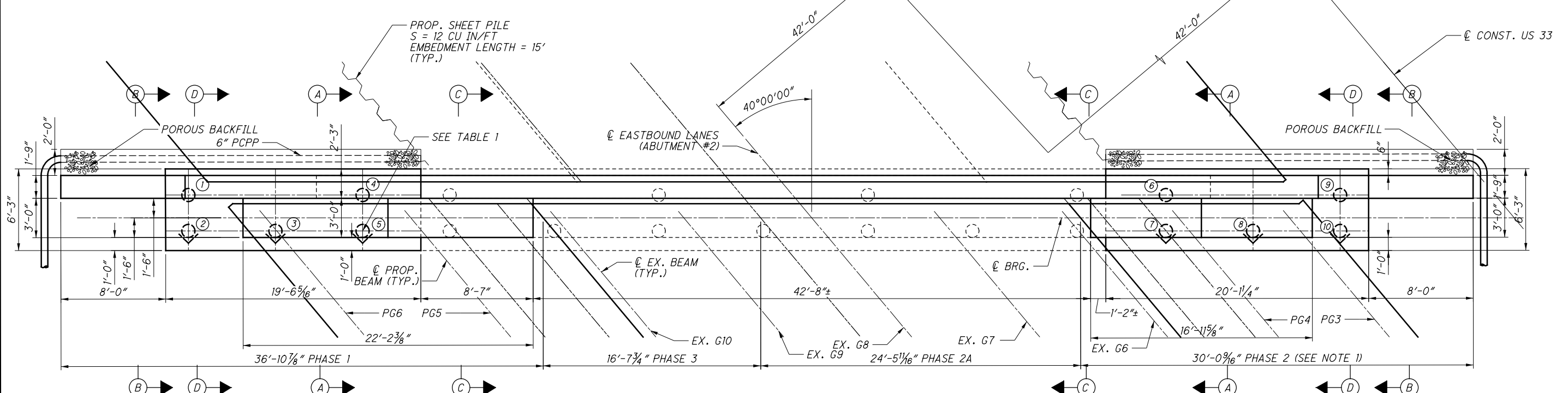
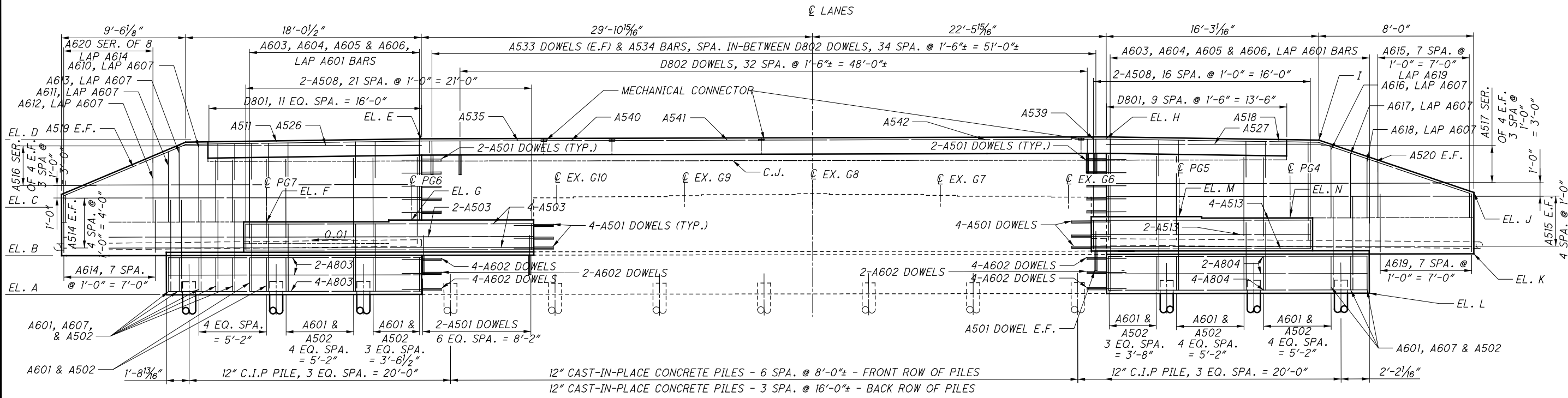


TABLE 1

PILE LOCATION	STATION	OFFSET
ABUTMENT 2	309+95.43	68.98' RT.



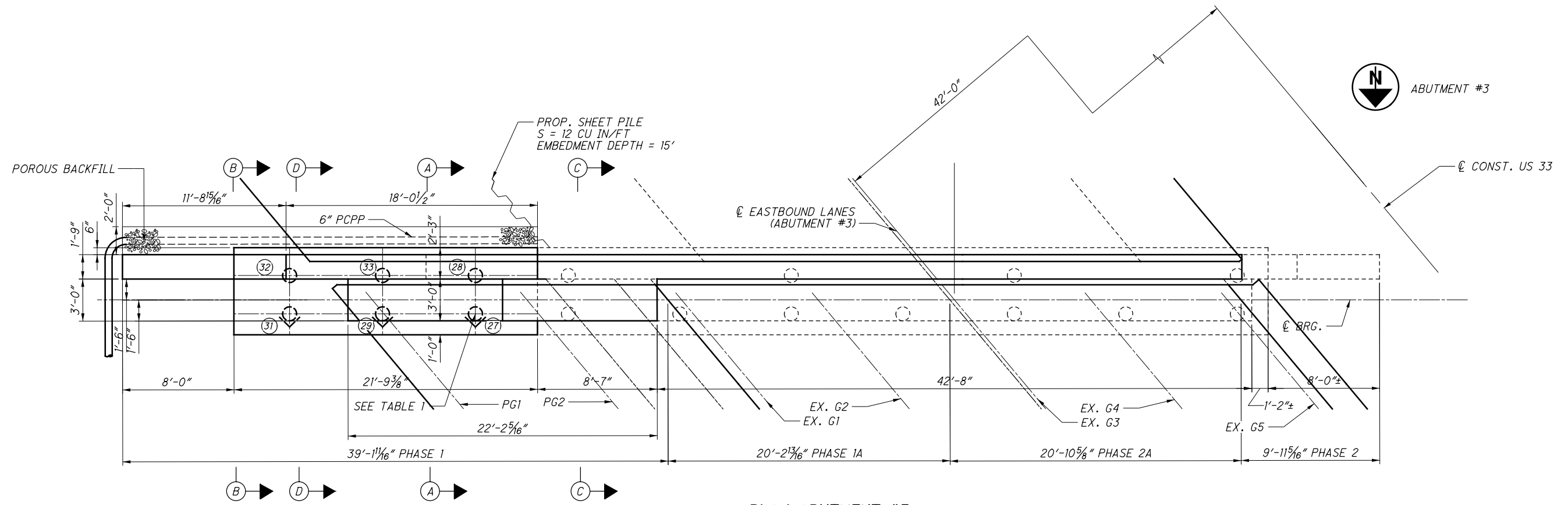
- NOTES:
- ALL PILES SHALL BE INSTALLED DURING PHASE 1.
  - SEE SHEET 12/34 FOR SECTIONS.
  - DOWEL EMBEDMENT = 1'-6" (TYP.)

LOCATION	A	B	C	D	E	F	G	H	I	J	K	L	M	N
ABUTMENT #2	730.80	733.80	738.50	742.49	742.72	736.37	736.50	742.79	742.55	738.50	733.80	730.80	736.68	736.57

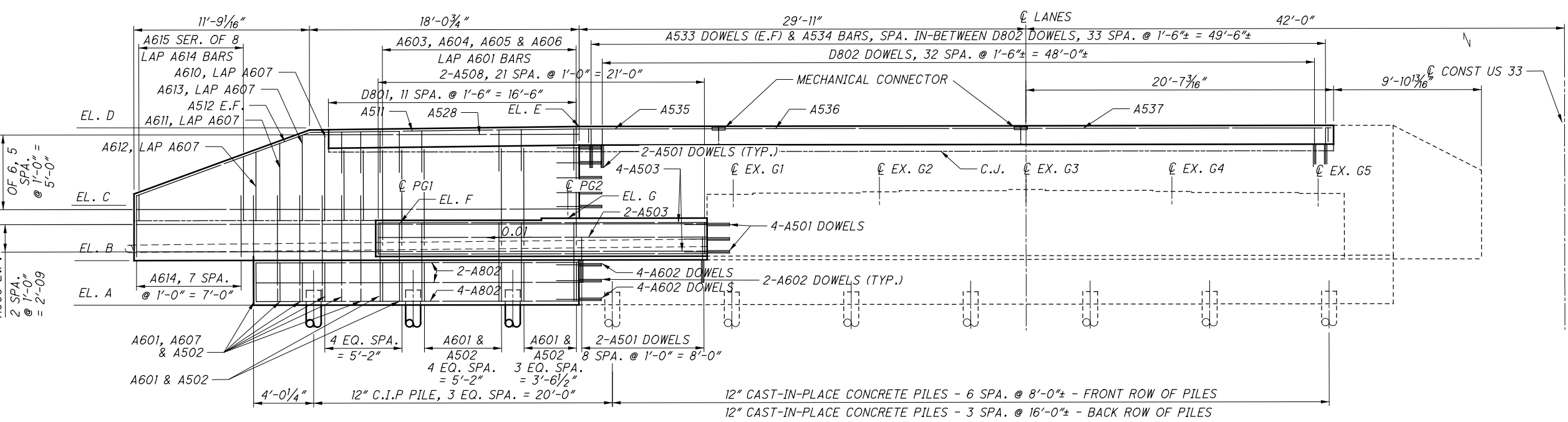
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PLAN-ABUTMENT #3



ELEVATION-ABUTMENT #3

LOCATION	A	B	C	D	E	F	G
ABUTMENT #3	731.05	734.05	738.50	742.79	743.00	736.72	736.85

PILE LOCATION	STATION	OFFSET
ABUTMENT 3	312+94.66	62.01' RT.

NOTES:  
 1. SEE SHEET 12/34 FOR SECTIONS.  
 2. DOWEL EMBEDMENT = 1'-6" (TYP.)

RESOURCE INTERNATIONAL, INC.  
 8350 PRESIDENTIAL GATEWAY  
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 (614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	2501988/2502011
NCK			

**ABUTMENT #3 DETAILS**  
 BRIDGE NO. FRA-033-2509 L/R  
 OVER BIG WALNUT CREEK

**FRA-33-24.26**  
 PID No. 98111

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 265  
 287



ABUTMENT #4

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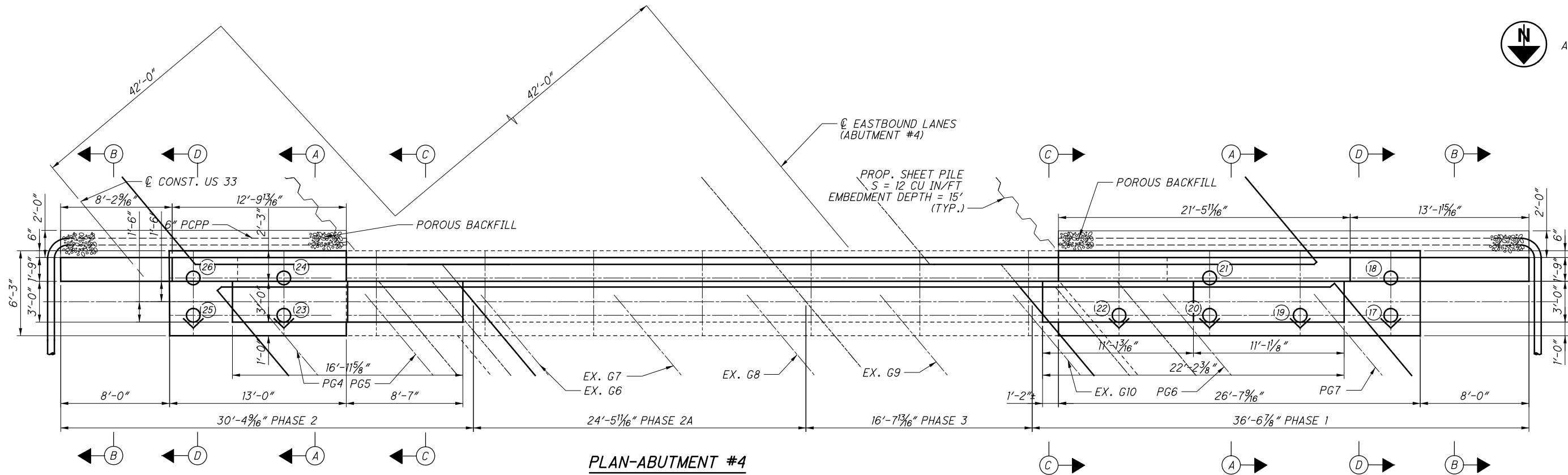
DATE 11/07/17  
REVIEWED SSK  
DRAWN JGM  
DESIGNED JGM  
CHECKED NCK

ABUTMENT #4 DETAILS  
BRIDGE NO. FRA-033-2503 L/R  
OVER BIG WALNUT CREEK

FRA-33-24.26  
PID No. 98111

13/34

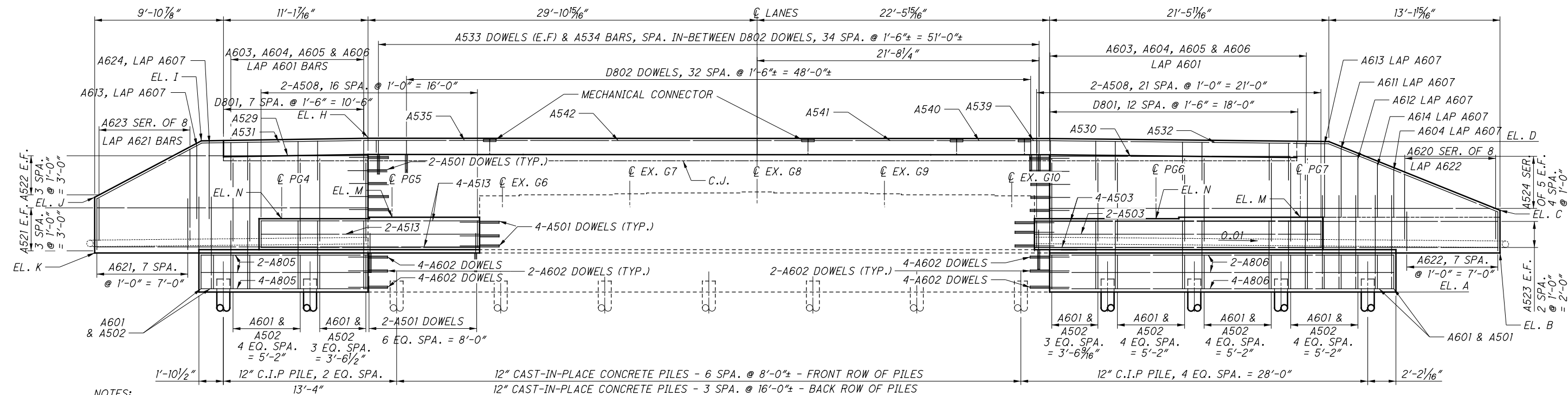
266  
287



**PLAN-ABUTMENT #4**

TABLE 1

PILE LOCATION	STATION	OFFSET
ABUTMENT 4	314+04.57	68.97' LT.



**ELEVATION-ABUTMENT #4**

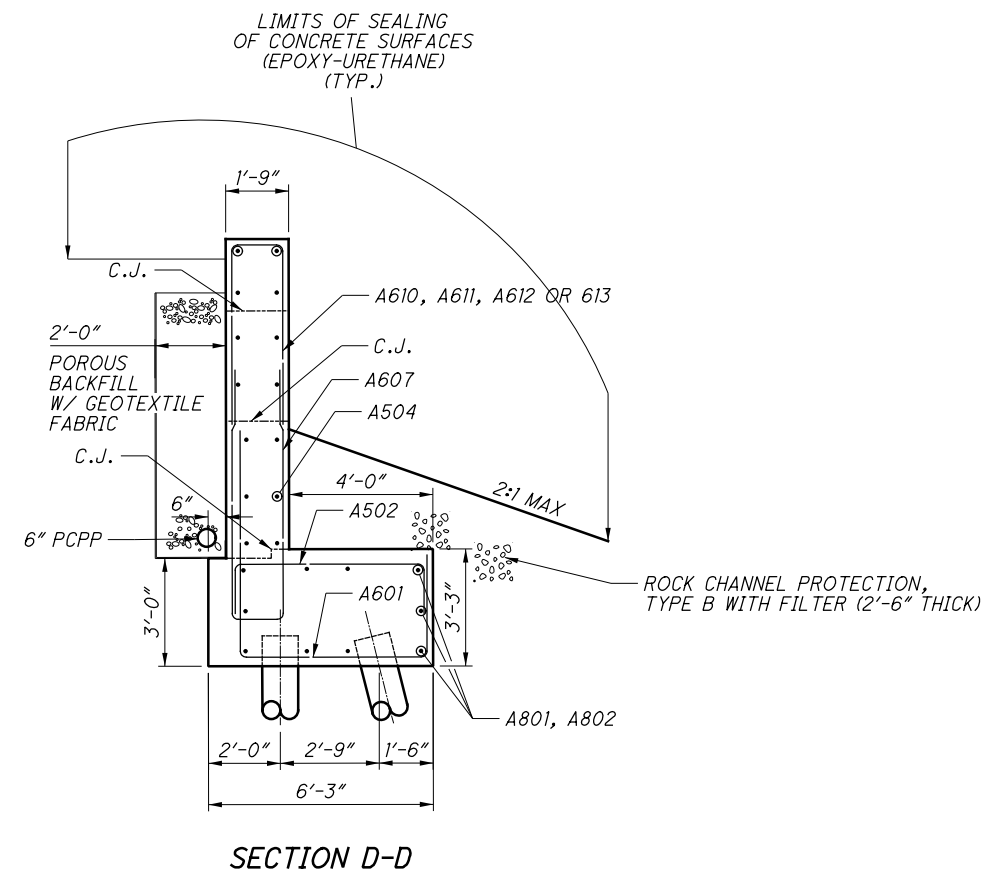
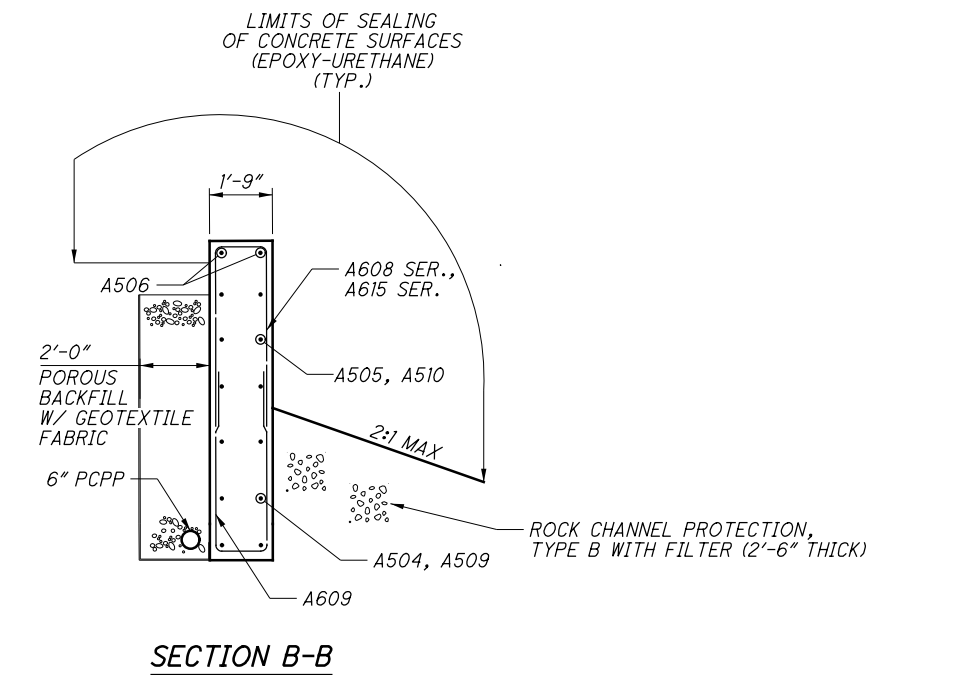
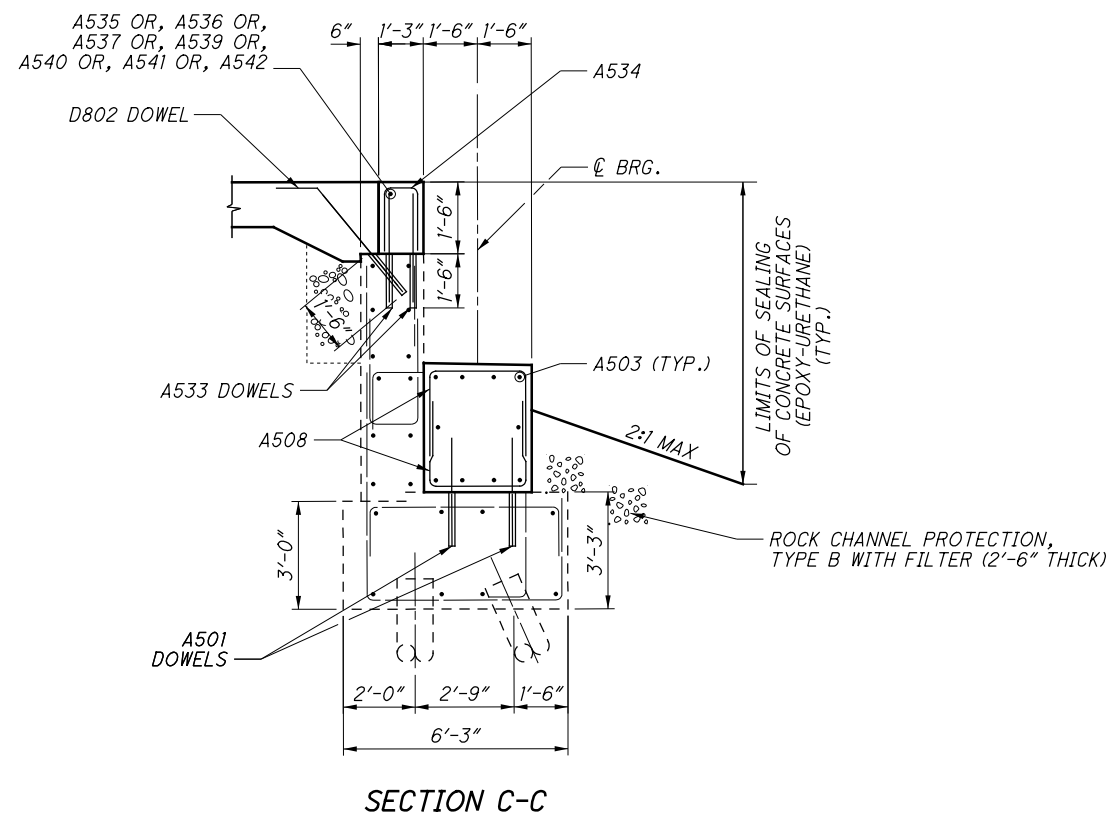
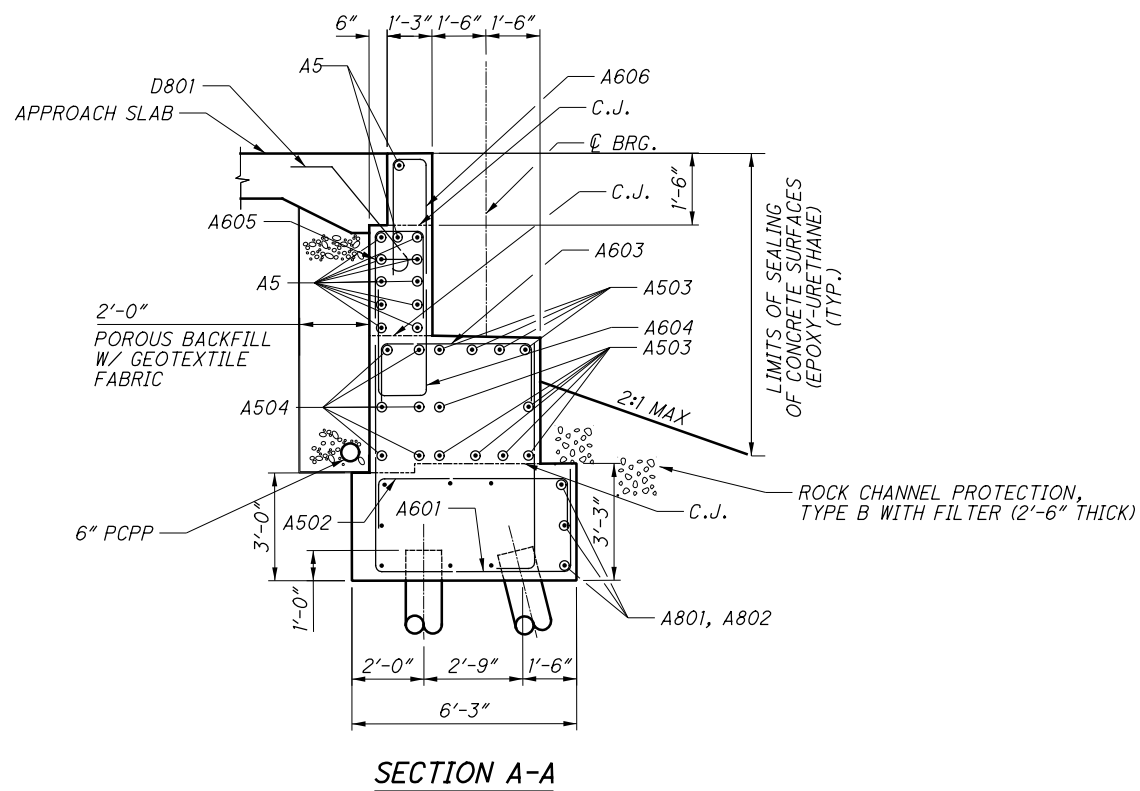
NOTES:

- ALL PILES SHALL BE INSTALLED DURING PHASE 1.
- SEE SHEET 12/34 FOR SECTIONS.
- DOWEL EMBEDMENT = 1'-6" (TYP.)

LOCATION	A	B	C	D	E	F	G	H	I	J	K	L	M	N
ABUTMENT #4	731.23	734.23	737.50	742.78	743.02	736.71	736.84	743.04	742.84	738.50	734.23	731.23	736.97	736.86

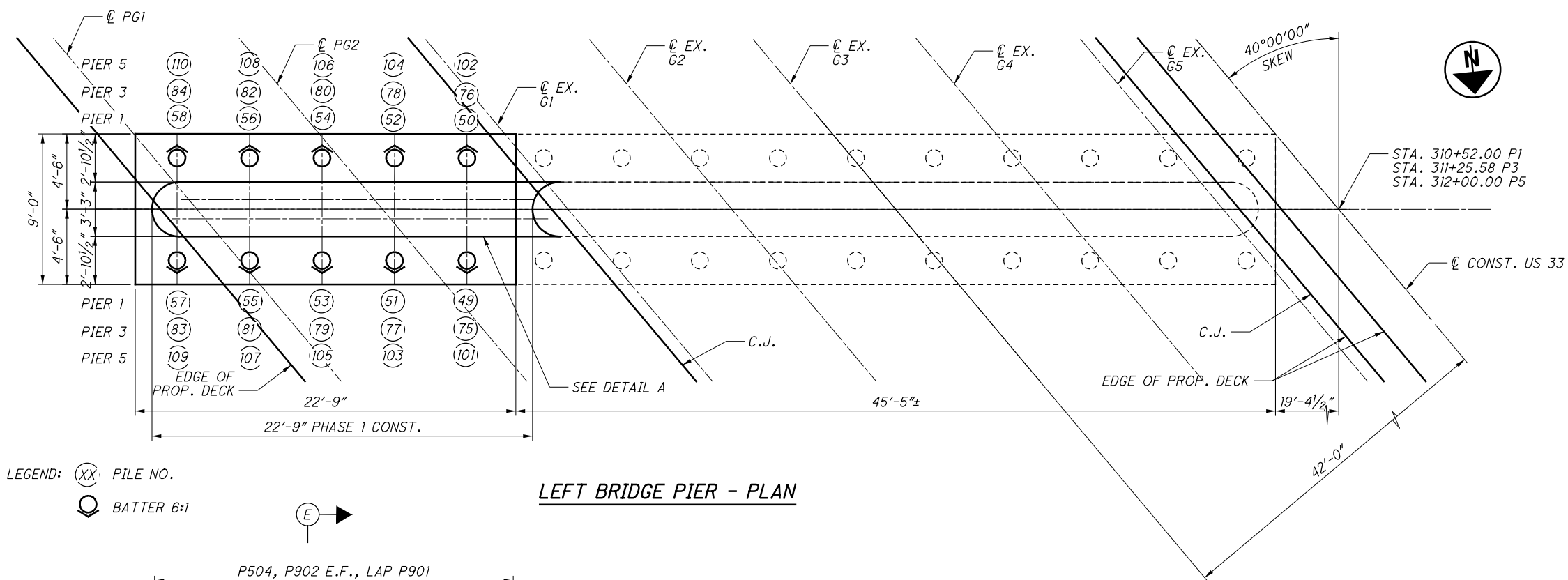
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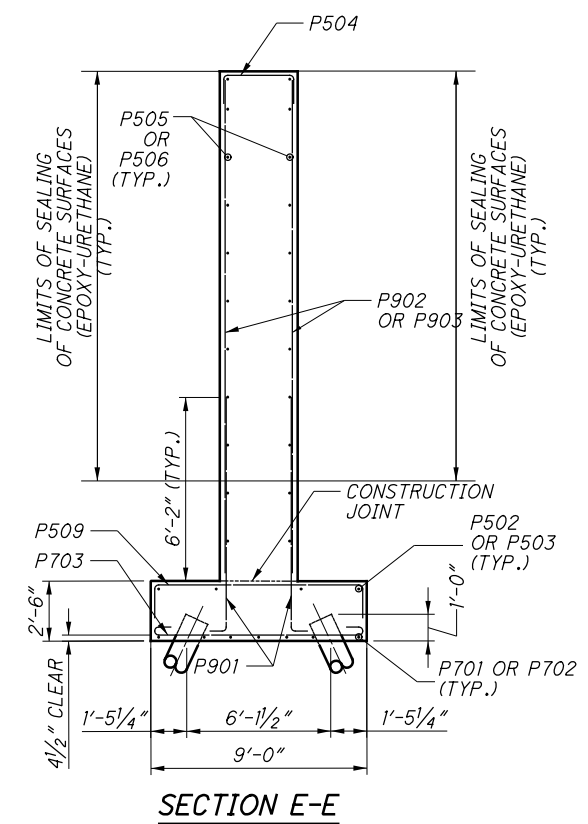
RESOURCE INTERNATIONAL, INC. 6350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4949	
Ri Ri	Ri Ri
DATE 11/07/17	STRUCTURE FILE NUMBER 2501988/2502011
REVIEWED SSK	CHECKED NCK
DRAWN JGM	REVISIONS REVISED
DESIGNED JGM	CHECKED NCK
<b>ABUTMENT DETAILS</b> BRIDGE NO. FRA-033-2509 L/R OVER BIG WALNUT CREEK	
FRA-33-24-26 PID No. 98111	
14 / 34	
267 287	

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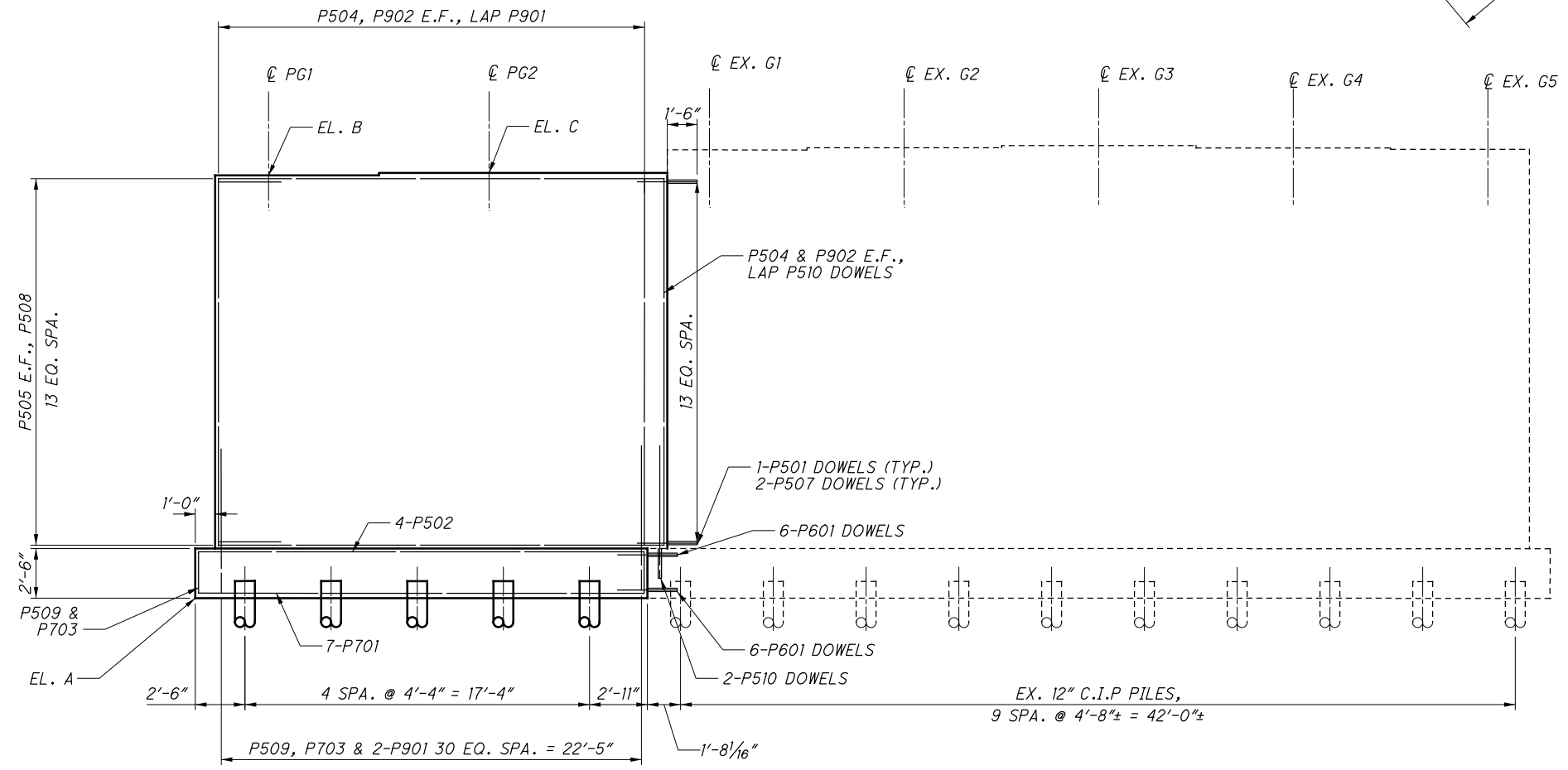


**LEFT BRIDGE PIER - PLAN**

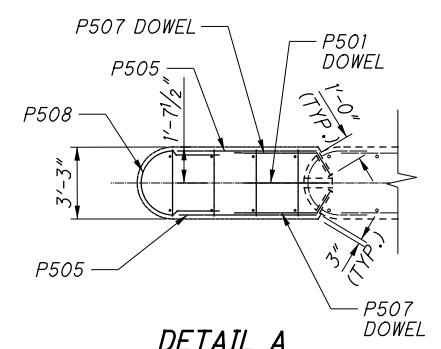
LEGEND: (XX) PILE NO.  
 (O) BATTER 6:1



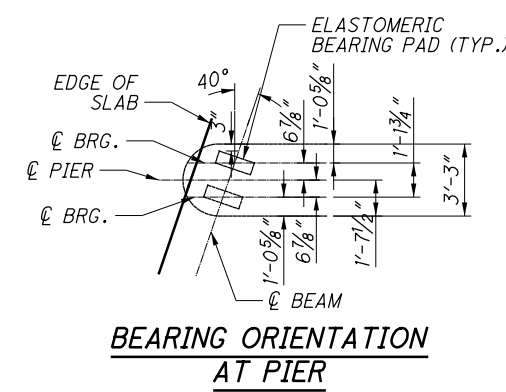
**SECTION E-E**



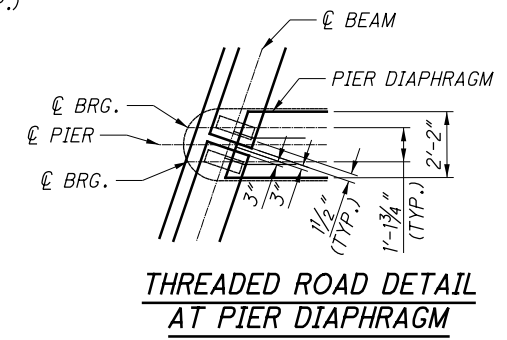
**LEFT BRIDGE PIER ELEVATION**



**DETAIL A**



**BEARING ORIENTATION AT PIER**

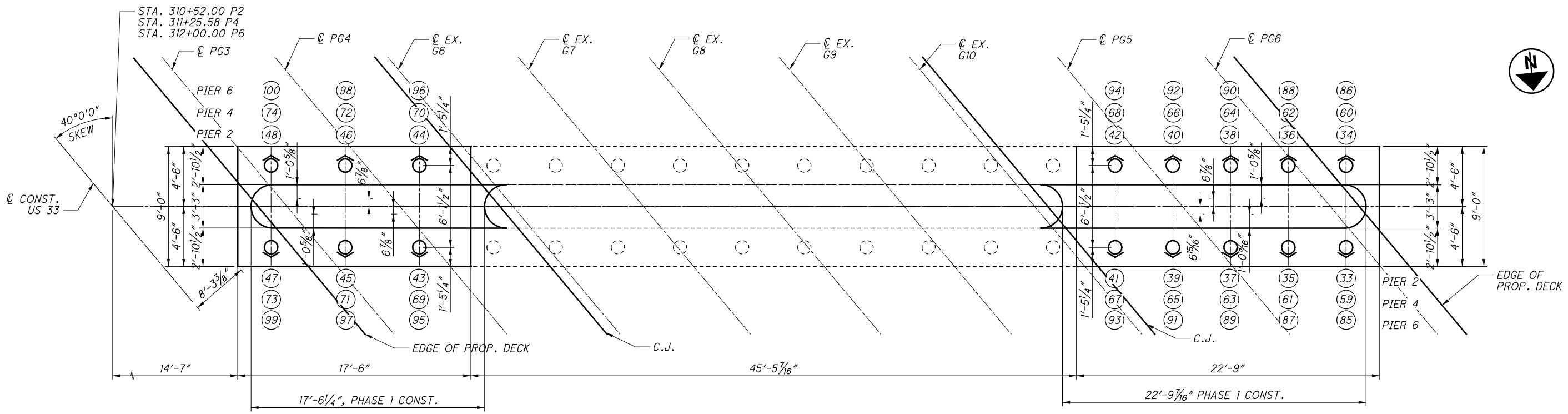


**THREADED ROAD DETAIL AT PIER DIAPHRAGM**

NOTES:  
 EMBEDMENT LENGTHS:  
 P501 DOWEL : 1'-0"  
 P507 DOWEL : 1'-6"  
 P510 DOWEL : 6'-2"  
 P601 DOWEL : 1'-6"

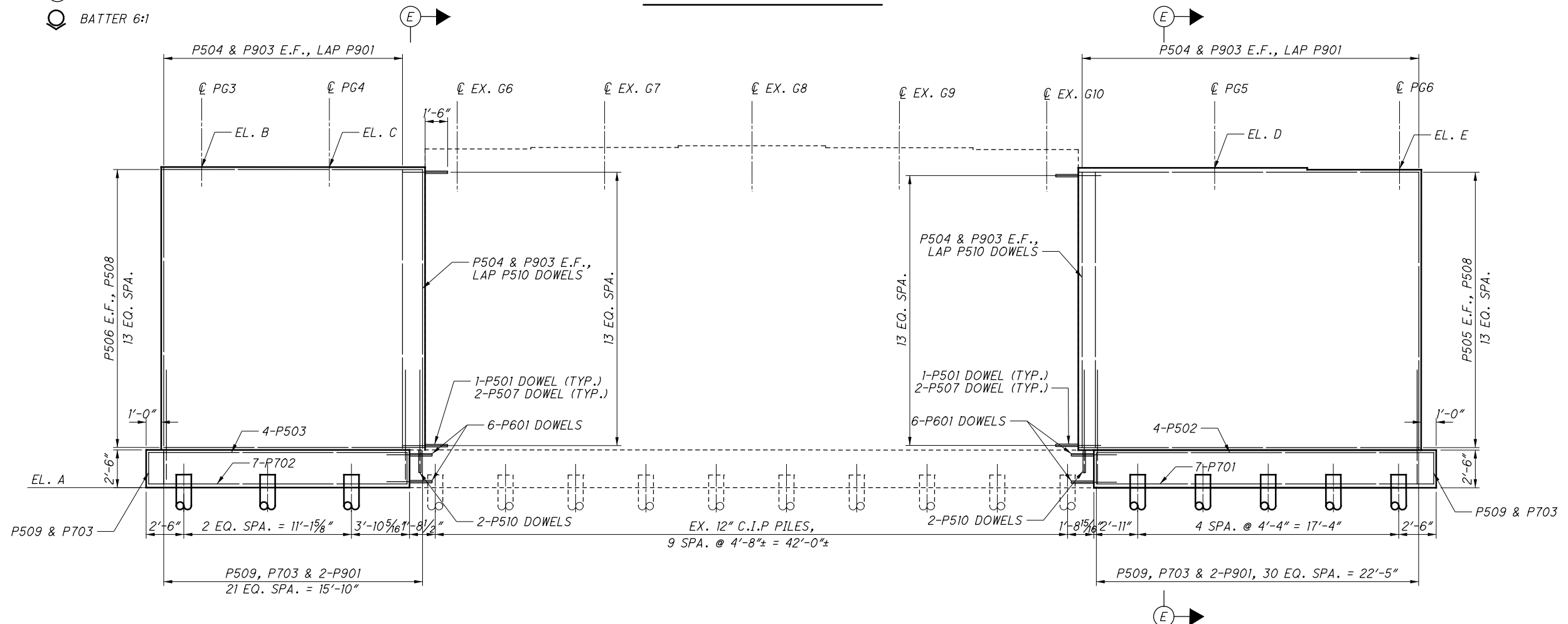
LOCATION	A	B	C
PIER 1	715.39	736.65	736.78
PIER 3	715.39	736.72	736.85
PIER 5	715.39	736.69	736.82

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**RIGHT BRIDGE PIER - PLAN**

LEGEND: (XX) PILE NO.  
 ○ BATTER 6:1



**RIGHT BRIDGE PIER ELEVATION**

LOCATION	A	B	C	D	E
PIER 2	715.39	736.65	736.76	736.63	736.50
PIER 4	715.39	736.79	736.90	736.79	736.66
PIER 6	715.39	736.82	736.93	736.81	736.68

NOTES:  
 1. ALL PILES SHALL BE INSTALLED DURING PHASE 1. PIER SHALL BE CONSTRUCTED DURING PHASE 1.  
 2. SEE SHEET 15/34 FOR SECTION E-E.

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 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
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**Rii**

DATE: 11/07/17  
 REVIEWED: SSK  
 DRAWN: JGM  
 DESIGNED: JGM  
 CHECKED: NCK

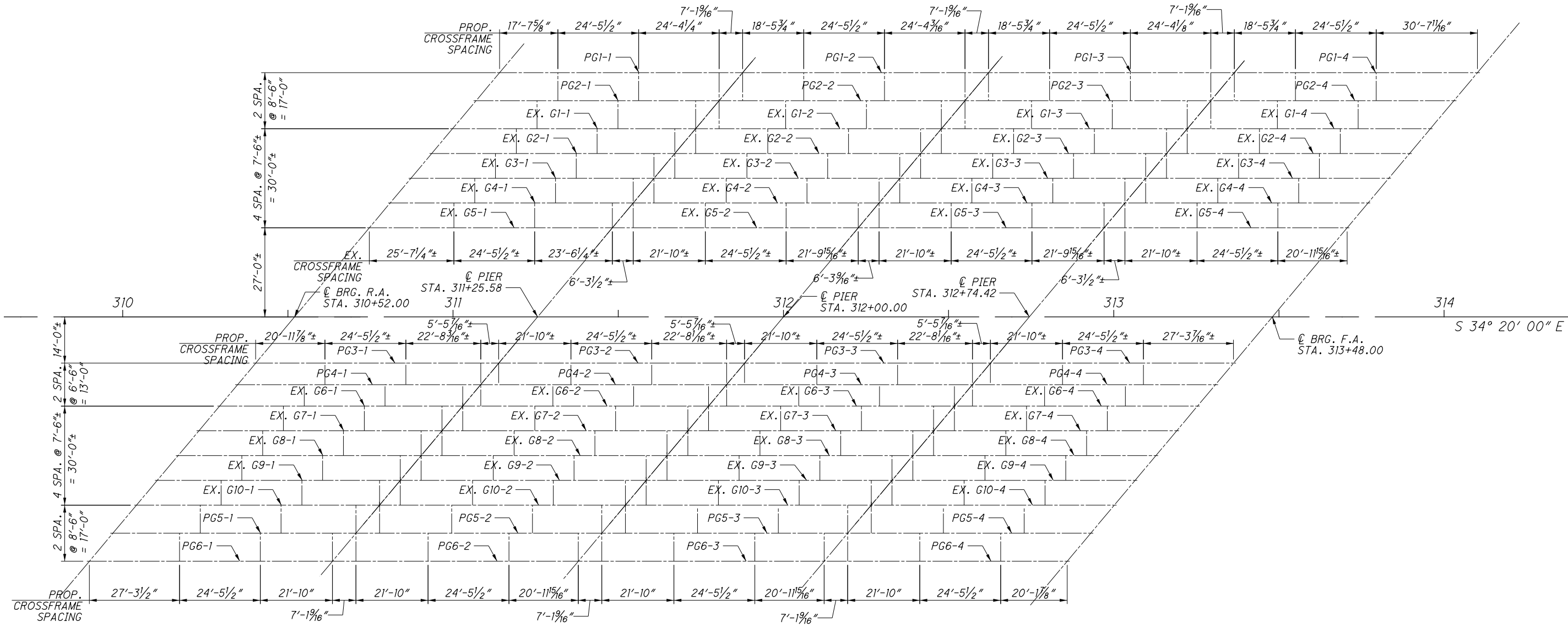
STRUCTURE FILE NUMBER: 2501988/2502011  
 REVISIONS: REVISED

**RIGHT PIER DETAILS**  
 BRIDGE NO. FRA-033-2509 L/R  
 OVER BIG WALNUT CREEK

**FRA-33-24-26**  
 PID No. 98111

16 / 34  
 269  
 287

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**FRAMING PLAN**

RESOURCE INTERNATIONAL INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4848



DESIGNED	JGM	CHECKED	NCK
DRAWN	JGM	REVISED	
REVIEWED	SSK	STRUCTURE FILE NUMBER	2501988/2502011
DATE	11/07/17		

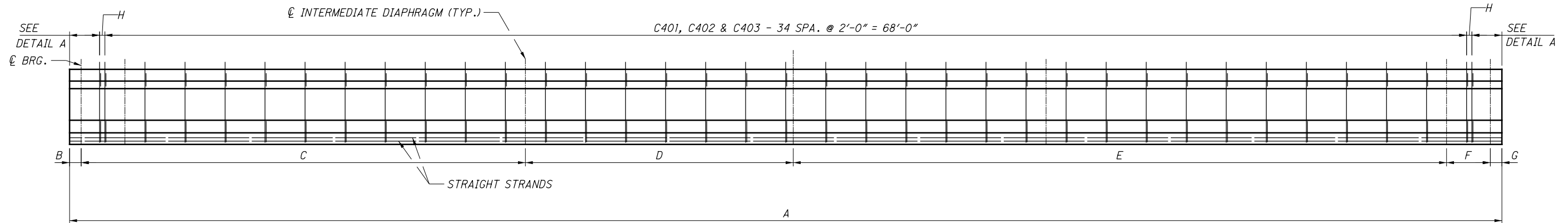
**FRAMING PLAN**  
BRIDGE NO. FRA-033-2509 L/R  
OVER BIG WALNUT CREEK

**FRA-33-24.26**  
PID No. 98111

17 / 34

270  
287

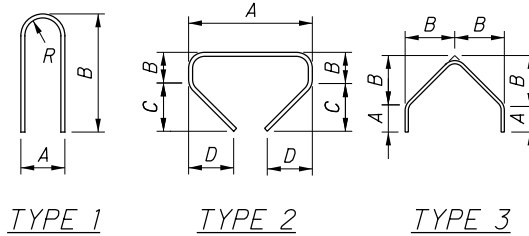
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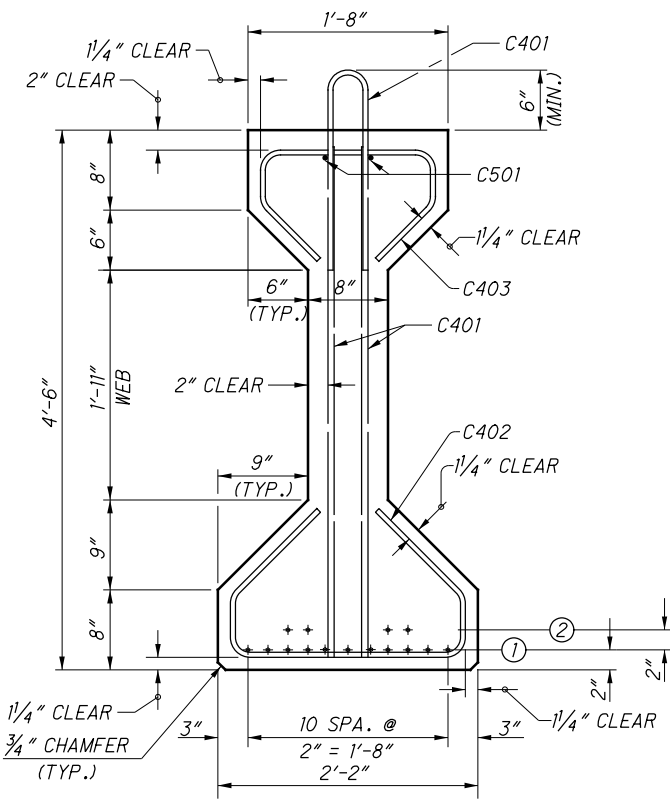
**TYPICAL BEAM ELEVATION**  
AASHTO TYPE 4 I-GIRDERS, PG1, PG3 & PG6

SPAN	BEAM MARK	ROW NUMBER		TOTAL STRANDS	CONCRETE STRENGTHS (KSI)		C401 BARS REQ'D	C402 BARS REQ'D	C403 BARS REQ'D
		①	②		f'ci	f'ci			
1-4	PG1-1, PG1-2, PG1-3, PG1-4	11	4	15	5	7	41	41	41
1-4	PG3-1, PG3-2, PG3-3, PG3-4	11	4	15	5	7	41	41	41
1-4	PG6-1, PG6-2, PG6-3, PG6-4	11	4	15	5	7	41	41	41

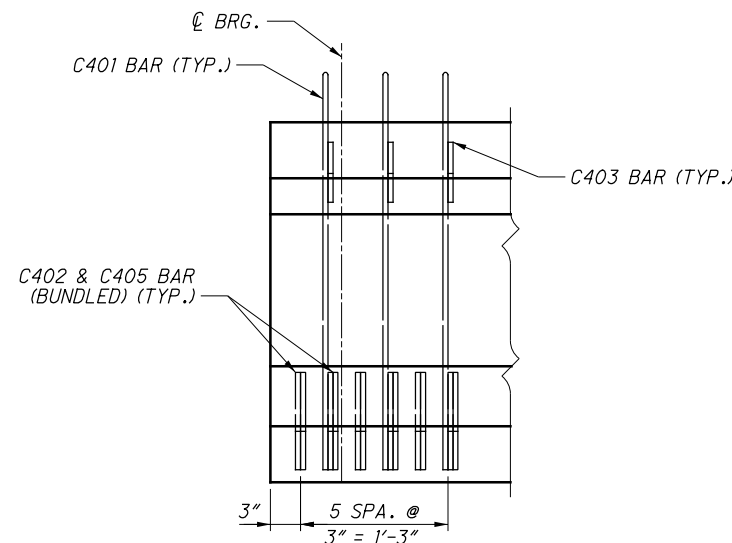
MARK	TYPE	DIMENSIONS				
		A	B	C	D	R
C401	1	4"	4'-10"			2 1/4"
C402	2	1'-11 1/2"	6 1/4"	8"	8"	
C403	2	1'-5 1/2"	5 1/2"	5 1/2"	5 1/2"	
C405	3	6 1/4"	11 3/4"			
C501	ST.	73'-11" TOTAL LENGTH, MIN. SPLICE 2'-6"				



BEAM	DIMENSIONS							
	A	B	C	D	E	F	G	H
PG1-1	74'-1"	9"	17'-7 5/8"	24'-5 1/2"	24'-4 1/4"	6'-0 9/16"	10"	1'-6 1/2"
PG1-2	73'-11"	10"	17'-4 3/4"	24'-5 1/2"	24'-4 3/8"	6'-0 9/16"	10"	1'-5 1/2"
PG1-3	73'-11"	10"	17'-4 3/4"	24'-5 1/2"	24'-4 1/8"	6'-0 9/16"	10"	1'-5 1/2"
PG1-4	74'-1"	10"	17'-4 3/4"	24'-5 1/2"	30'-7 1/16"	0	9"	1'-6 1/2"
PG3-1	74'-1"	9"	20'-11 1/8"	24'-5 1/2"	22'-8 3/16"	4'-4 1/16"	10"	1'-6 1/2"
PG3-2	73'-11"	10"	20'-9"	24'-5 1/2"	22'-8 1/16"	4'-4 1/16"	10"	1'-5 1/2"
PG3-3	73'-11"	10"	20'-9"	24'-5 1/2"	22'-8 1/16"	4'-4 1/16"	10"	1'-5 1/2"
PG3-4	74'-1"	10"	20'-9"	24'-5 1/2"	27'-3 1/16"	0	9"	1'-6 1/2"
PG6-1	74'-1"	9"	27'-3 1/2"	24'-5 1/2"	20'-9"	0	10"	1'-6 1/2"
PG6-2	73'-11"	10"	6'-0 9/16"	21'-10"	24'-5 1/2"	19'-10 15/16"	10"	1'-5 1/2"
PG6-3	73'-11"	10"	6'-0 9/16"	21'-10"	24'-5 1/2"	19'-10 15/16"	10"	1'-5 1/2"
PG6-4	74'-1"	10"	6'-0 9/16"	21'-10"	24'-5 1/2"	20'-1 1/8"	9"	1'-6 1/2"

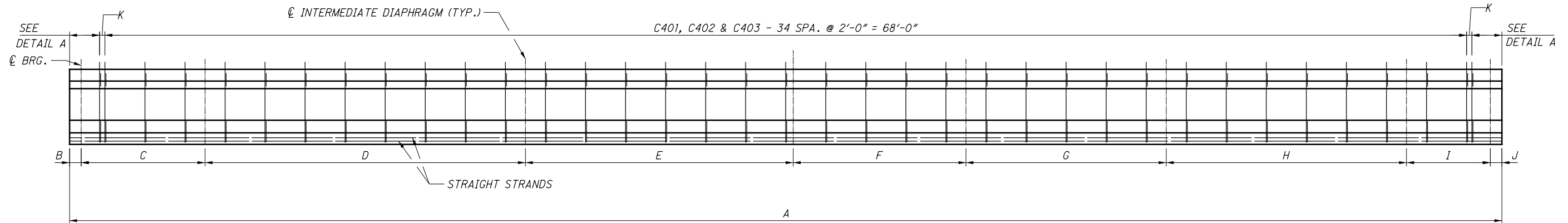


**AASHTO TYPE 4**



**DETAIL A**  
ANCHORAGE REINFORCEMENT

G:\projects\2014\W-14-166 FRA-33-24-26\98111\structures\FRA033-2509 L&R\sheets\033\_2509CSD003.dgn 11/8/2017 1:09:29 PM kevinj

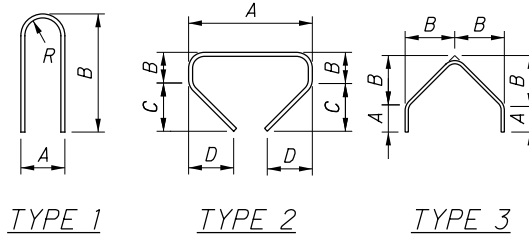


**TYPICAL BEAM ELEVATION**

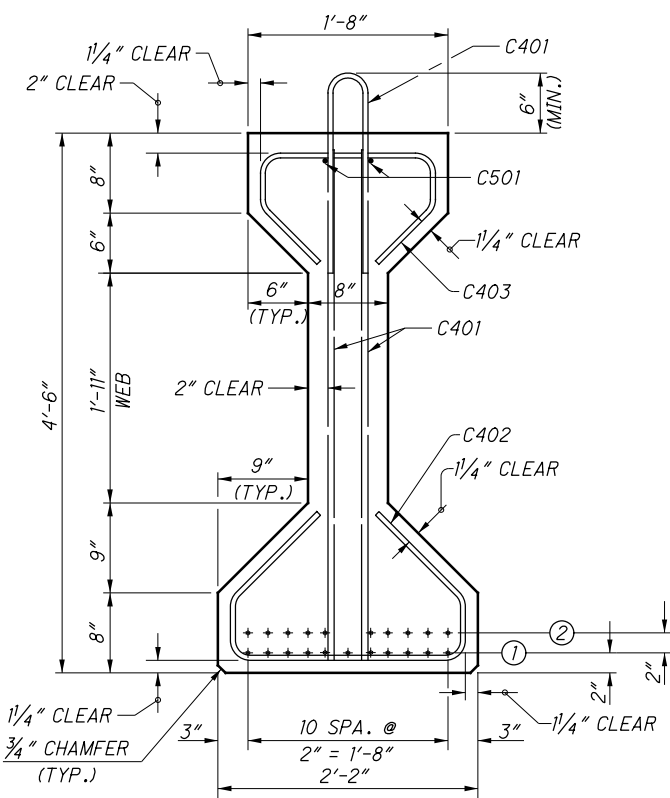
AASHTO TYPE 4 I-GIRDERS, PG2, PG4 & PG5

SPAN	BEAM MARK	ROW NUMBER		TOTAL STRANDS	CONCRETE STRENGTHS (KSI)		C401 BARS REQ'D	C402 BARS REQ'D	C403 BARS REQ'D
		①	②		f'ci	f'ci			
1-4	PG2-1, PG2-2, PG2-3, PG2-4	11	10	21	5	7	41	41	41
1-4	PG4-1, PG4-2, PG4-3, PG4-4	11	10	21	5	7	41	41	41
1-4	PG5-1, PG5-2, PG5-3, PG5-4	11	10	21	5	7	41	41	41

MARK	TYPE	DIMENSIONS				
		A	B	C	D	R
C401	1	4"	4'-10"			2 1/4"
C402	2	1'-11 1/2"	6 1/4"	8"	8"	
C403	2	1'-5 1/2"	5 1/2"	5 1/2"	5 1/2"	
C405	3	6 1/4"	11 3/4"			
C501	ST.	73'-11" TOTAL LENGTH, MIN. SPLICE 2'-6"				

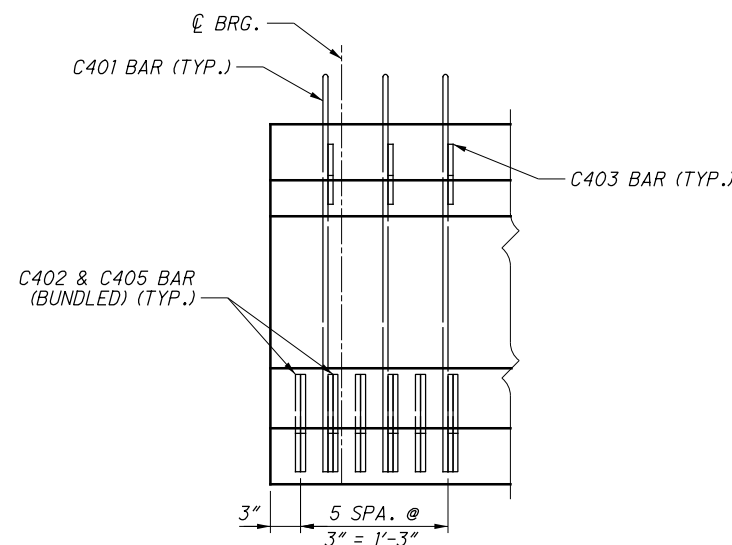


BEAM	DIMENSIONS										
	A	B	C	D	E	F	G	H	I	J	K
PG2-1	74'-1"	9"	18'-5 1/16"	6'-3 1/2"	18'-2"	6'-3 1/2"	17'-2 3/4"	6'-0 9/16"	0	10"	1'-6 1/2"
PG2-2	73'-11"	10"	6'-0 9/16"	13'-0 5/16"	5'-5 1/16"	19'-0 1/16"	5'-5 1/16"	17'-2 5/8"	6'-0 9/16"	10"	1'-5 1/2"
PG2-3	73'-11"	10"	6'-0 9/16"	13'-0 5/16"	5'-5 1/16"	19'-0 1/16"	5'-5 1/16"	17'-2 5/8"	6'-0 9/16"	10"	1'-5 1/2"
PG2-4	74'-1"	10"	6'-0 9/16"	13'-0 5/16"	5'-5 1/16"	19'-0 1/16"	5'-5 1/16"	23'-6 1/8"	0	9"	1'-6 1/2"
PG4-1	74'-1"	9"	20'-1 3/16"	6'-3 1/2"	18'-2"	6'-3 1/2"	17'-2 3/4"	4'-4 1/16"	0	10"	1'-6 1/2"
PG4-2	73'-11"	10"	4'-4 1/16"	16'-4 1/2"	5'-5 1/16"	19'-0 1/16"	5'-5 1/16"	17'-2 5/8"	4'-4 1/16"	10"	1'-5 1/2"
PG4-3	73'-11"	10"	4'-4 1/16"	16'-4 3/16"	5'-5 1/16"	19'-0 1/16"	5'-5 1/16"	17'-2 5/8"	4'-4 1/16"	10"	1'-5 1/2"
PG4-4	74'-1"	10"	4'-4 1/16"	16'-4 3/16"	5'-5 1/16"	19'-0 1/16"	5'-5 1/16"	21'-10"	0	9"	1'-6 1/2"
PG5-1	74'-1"	9"	20'-1 15/16"	6'-3 1/2"	18'-2"	6'-3 1/2"	15'-6 1/2"	6'-0 9/16"	0	10"	1'-6 1/2"
PG5-2	73'-11"	10"	6'-0 9/16"	14'-8 1/16"	7'-1 9/16"	17'-3 15/16"	7'-1 9/16"	13'-10 3/8"	6'-0 9/16"	10"	1'-5 1/2"
PG5-3	73'-11"	10"	6'-0 9/16"	14'-8 1/16"	7'-1 9/16"	17'-3 15/16"	7'-1 9/16"	13'-10 5/16"	6'-0 9/16"	10"	1'-5 1/2"
PG5-4	74'-1"	10"	6'-0 9/16"	14'-8 1/16"	7'-1 9/16"	17'-3 15/16"	7'-1 9/16"	20'-1 1/8"	0	9"	1'-6 1/2"



**AASHTO TYPE 4**

DEBOND: 2 STRANDS @ 2", 4'-0" LONG  
1 STRAND @ 2", 2'-0" LONG

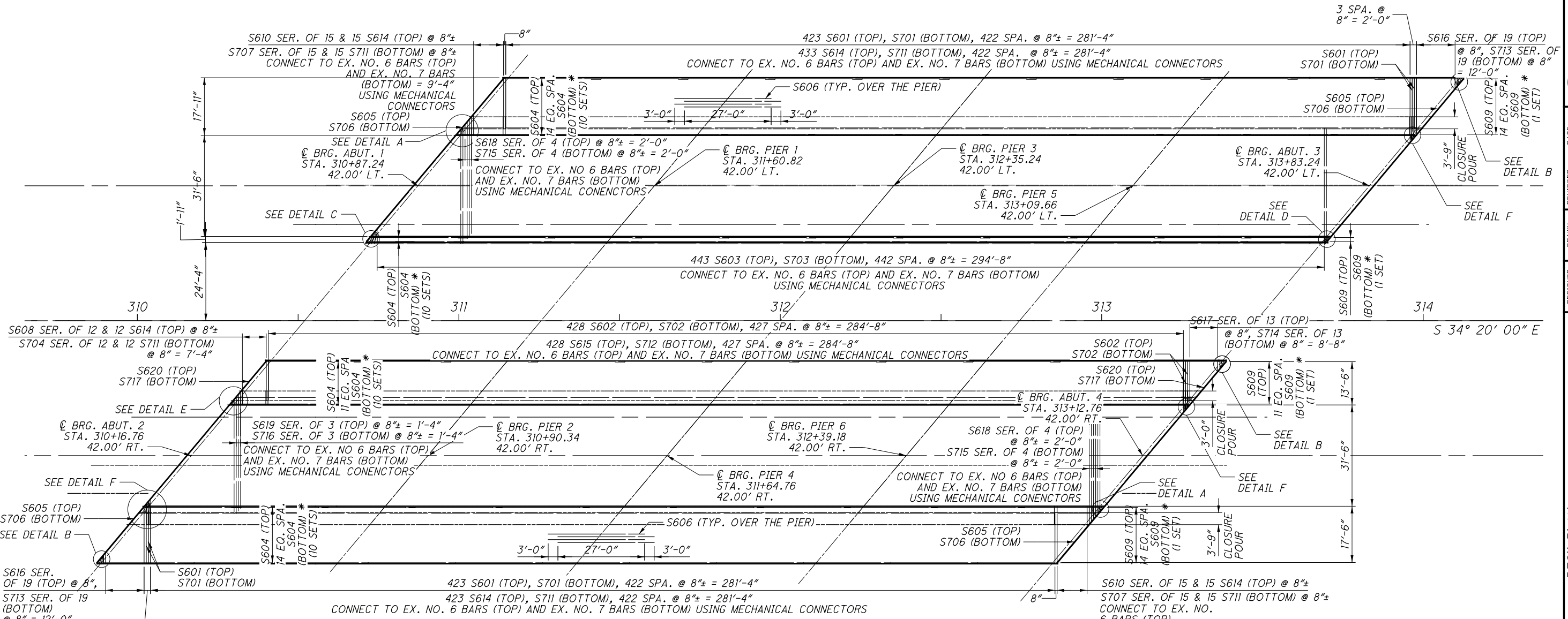


**DETAIL A**

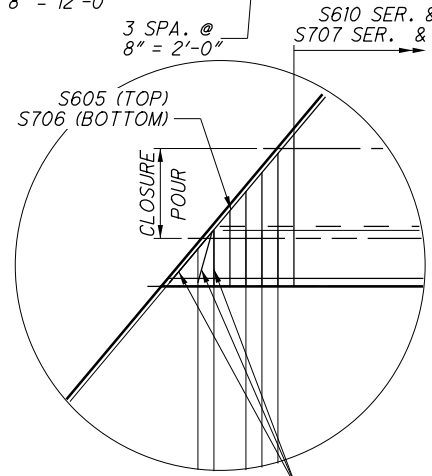
ANCHORAGE REINFORCEMENT



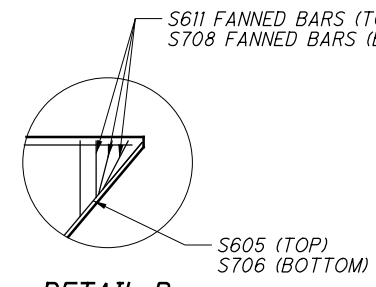
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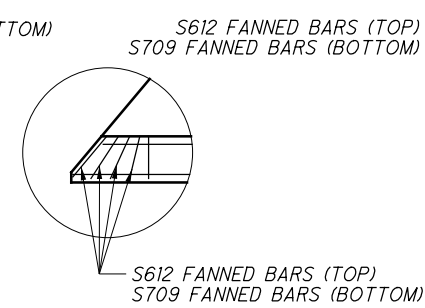
**DECK PLAN**



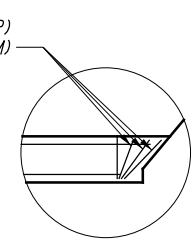
**DETAIL A**  
(2 LOCATIONS)



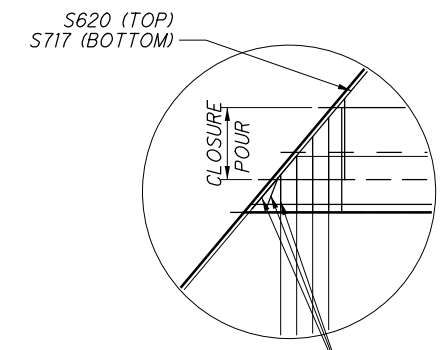
**DETAIL B**  
(2 LOCATIONS)



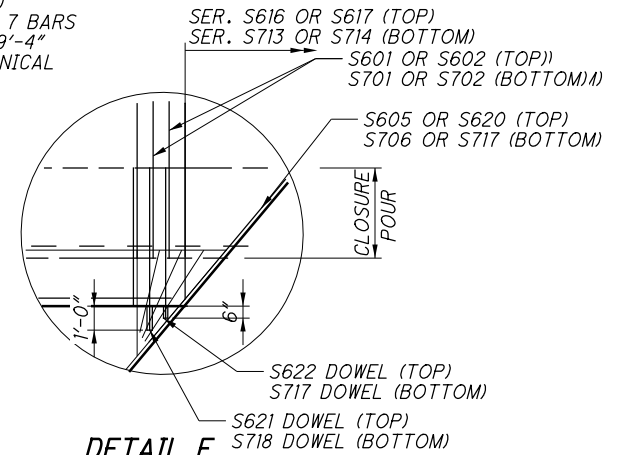
**DETAIL C**  
(1 LOCATION)



**DETAIL D**  
(1 LOCATION)



**DETAIL E**  
(1 LOCATION)



**DETAIL F**  
(3 LOCATIONS)

**NOTES:**

LAP NO. 6 BAR: 2'-11" MIN.

**LEGEND:**

\* SEE TRANSVERSE SECTION SHEETS 21/34 & 22/34 FOR SPACING.

RESOURCE INTERNATIONAL INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4848



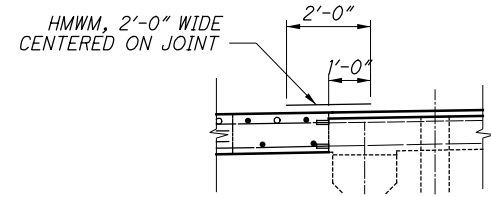
DATE	11/07/17
REVIEWED	SSK
DRAWN	JGM
DESIGNED	JGM
CHECKED	NCK
STRUCTURE FILE NUMBER	2501988/2502011

**DECK PLAN**

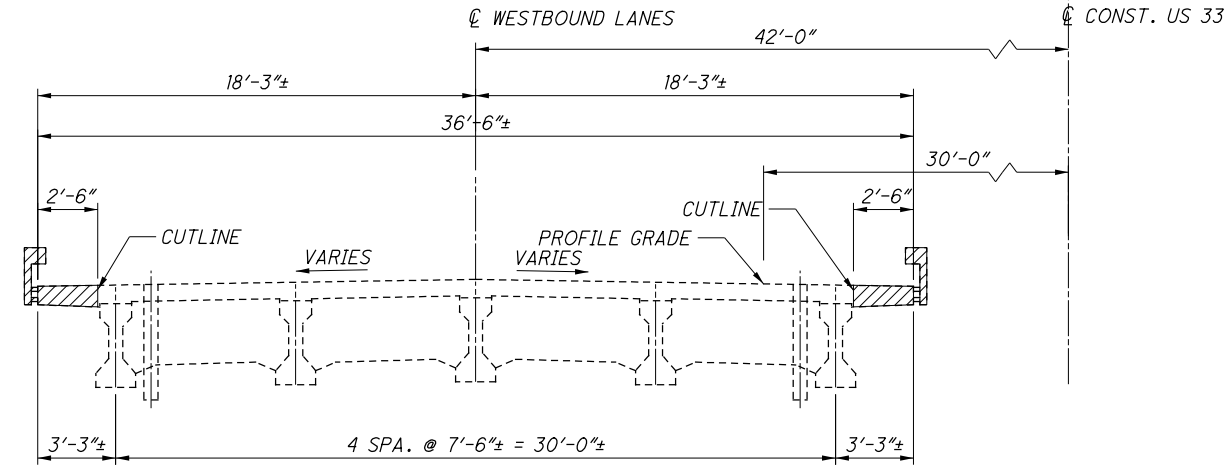
BRIDGE NO. FRA-033-2509 L/R  
OVER BIG WALNUT CREEK

**FRA-33-24-26**  
PID No. 98111

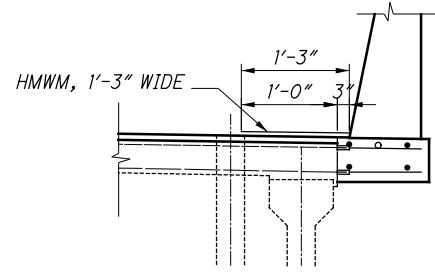
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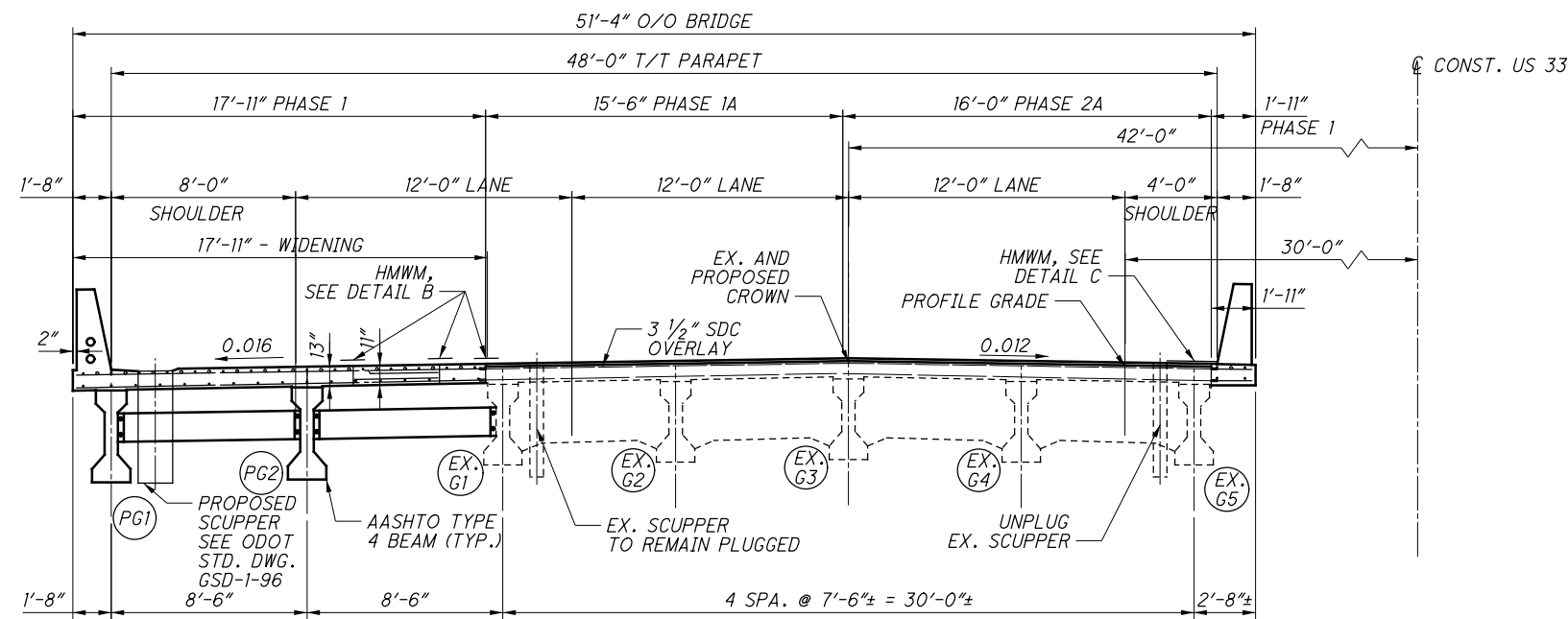
**DETAIL B**



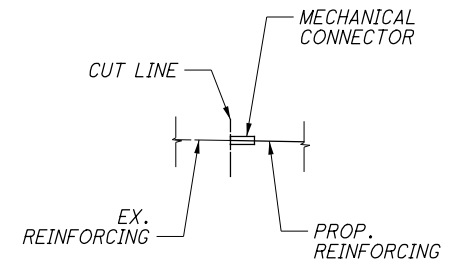
**LEFT BRIDGE-REMOVAL**



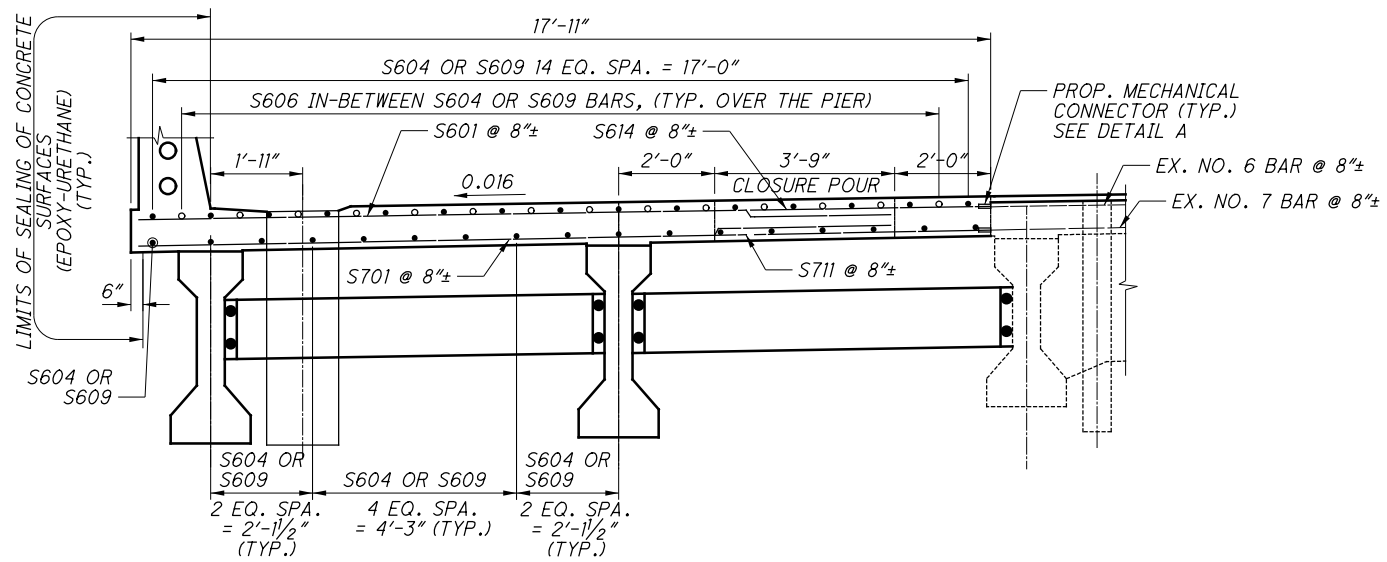
**DETAIL C**



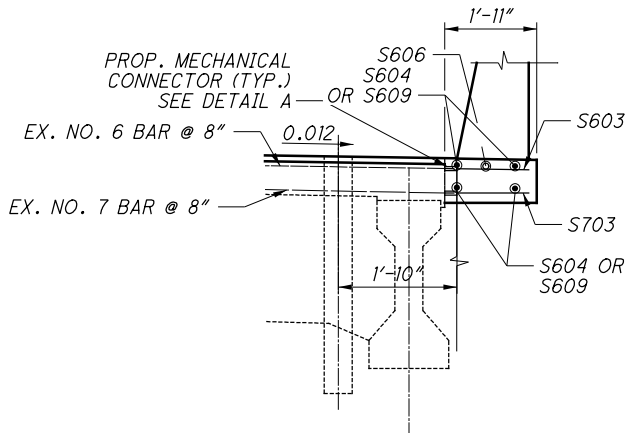
**LEFT BRIDGE-PROPOSED**



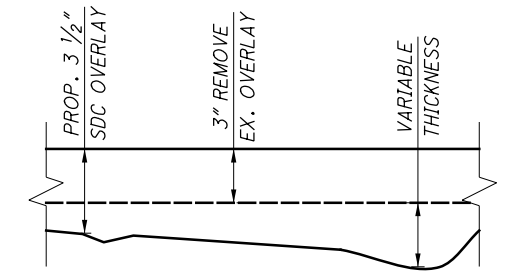
**DETAIL A**



**PROP. DECK REINFORCING**



**PROP. DECK REINFORCING**

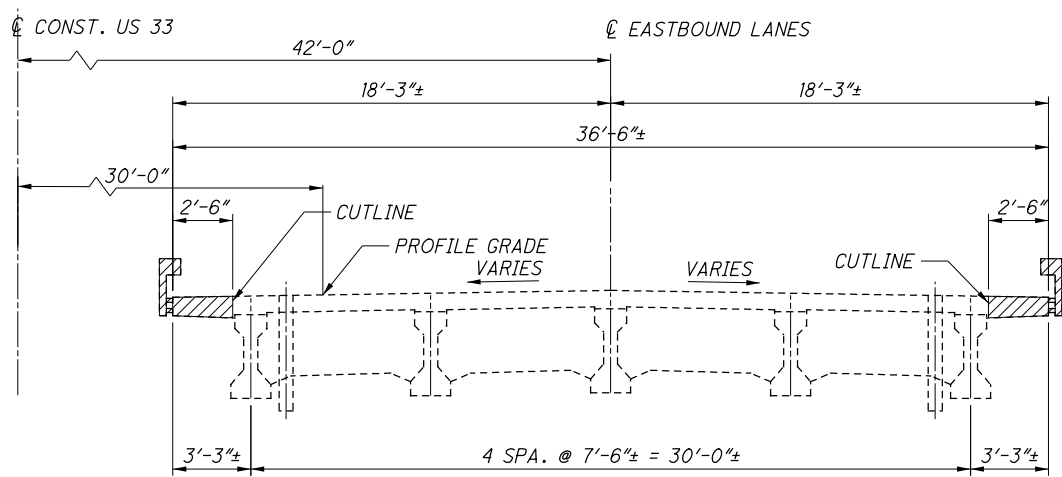


**OVERLAY DETAIL**

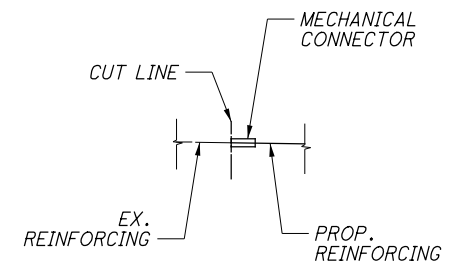
**NOTE:**  
1. LAP NO. 6 BAR: 2'-11" MIN.  
LAP NO. 7 BAR: 3'-8" MIN.

**DESIGN AGENCY:** RESOURCE INTERNATIONAL, INC.  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
**Rii**  
**DATE:** 11/07/17  
**REVIEWED:** SSK  
**STRUCTURE FILE NUMBER:** 2501988/2502011  
**DRAWN:** JGM  
**CHECKED:** NCK  
**DESIGNED:** JGM  
**BRIDGE NO.:** FRA-033-2509 L/R  
**OVER:** BIG WALNUT CREEK  
**TRANSVERSE SECTION - LEFT BRIDGE**  
**FRA-33-24-26**  
**PID No. 98111**  
 21/34  
 274  
 287

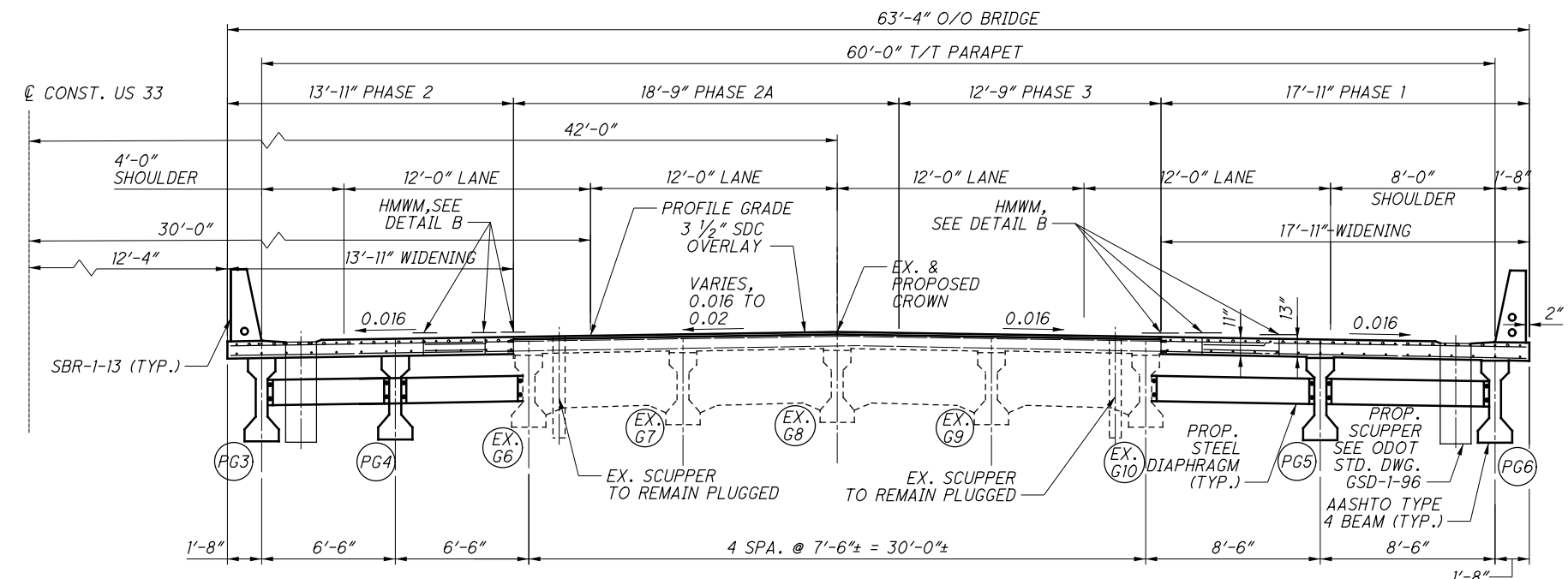
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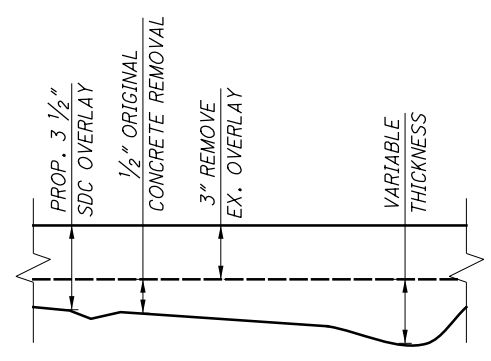
**RIGHT BRIDGE-REMOVAL**



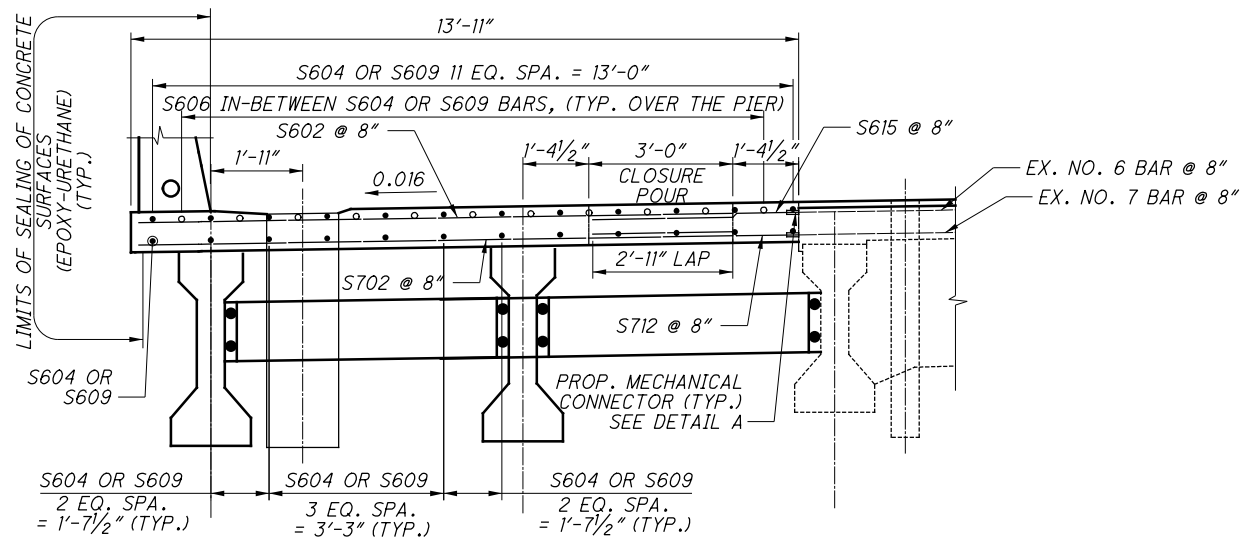
**DETAIL A**



**RIGHT BRIDGE-PROPOSED**

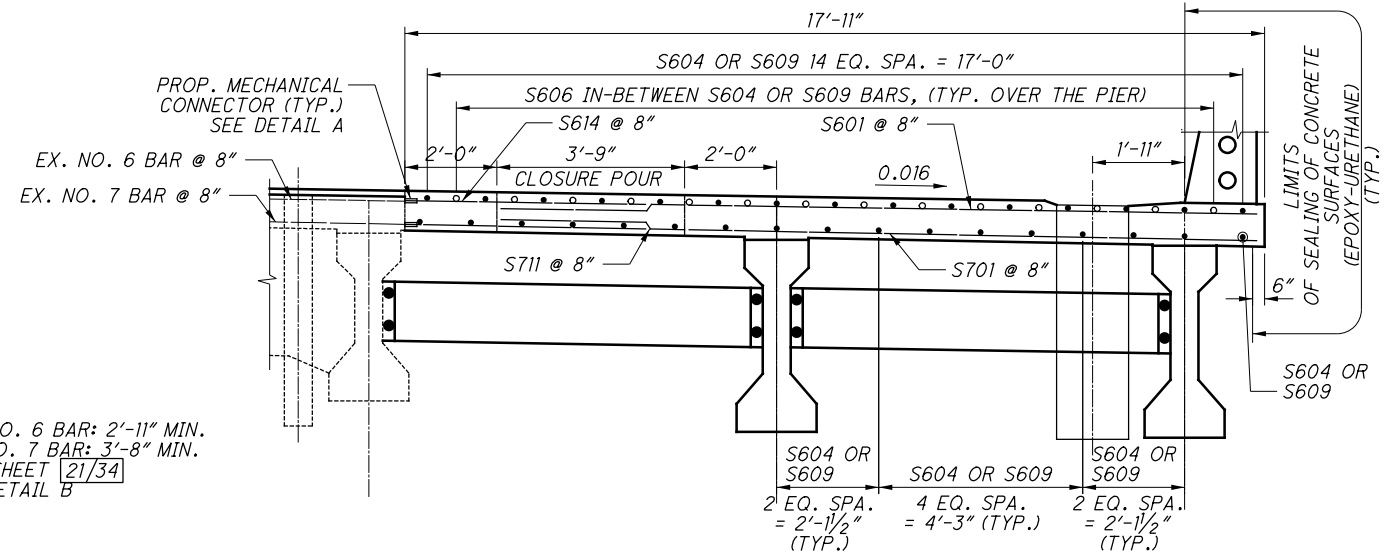


**OVERLAY DETAIL**



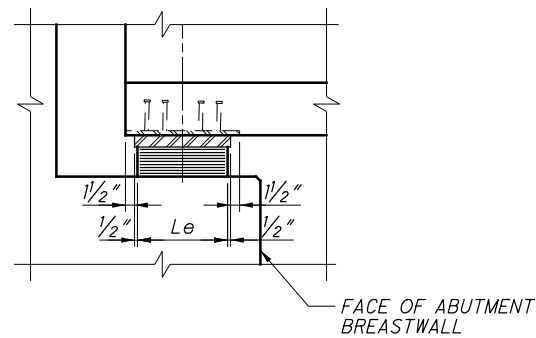
**PROP. DECK REINFORCING**

NOTES:  
 1. LAP NO. 6 BAR: 2'-11" MIN.  
 LAP NO. 7 BAR: 3'-8" MIN.  
 2. SEE SHEET 21/34 FOR DETAIL B

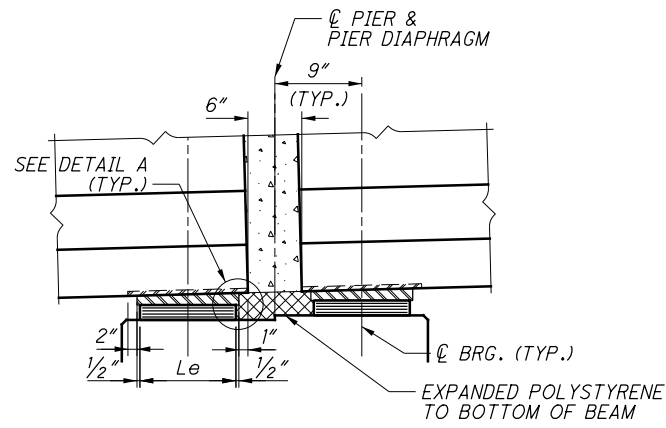


**PROP. DECK REINFORCING**

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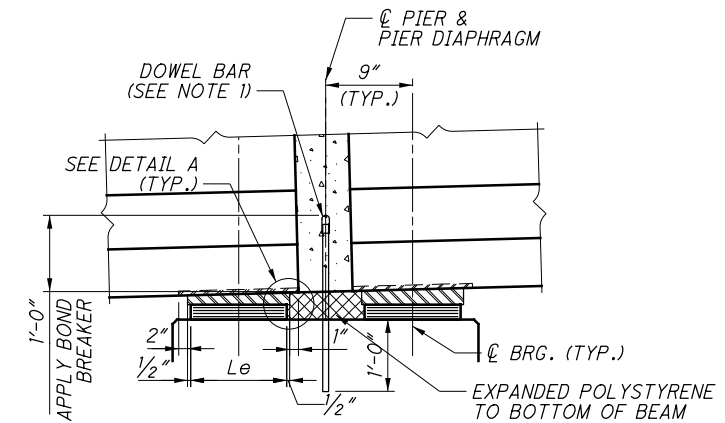


**ABUTMENT DETAIL**



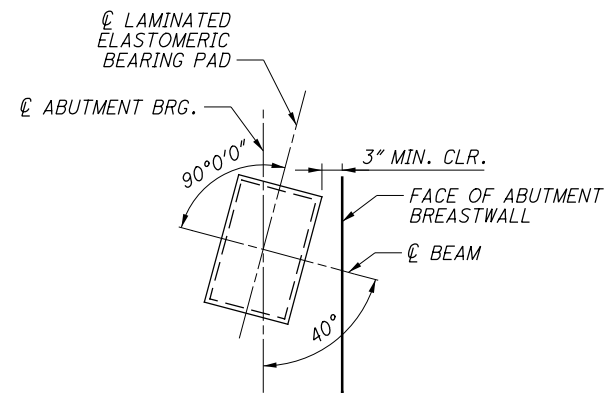
**EXPANSION PIER DETAIL**

(DIAPHRAGM REINFORCING NOT SHOWN FOR CLARITY)



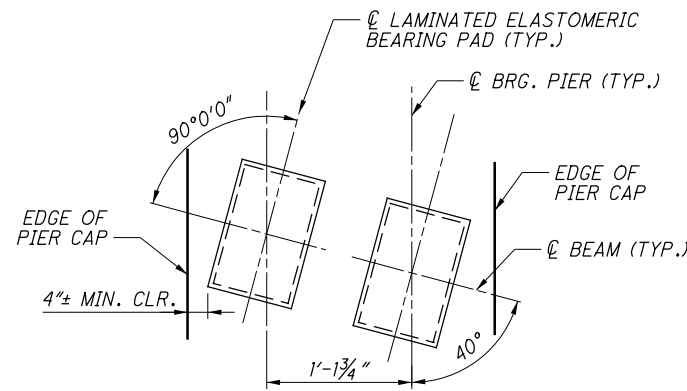
**FIXED PIER DETAIL**

(DIAPHRAGM REINFORCING NOT SHOWN FOR CLARITY)



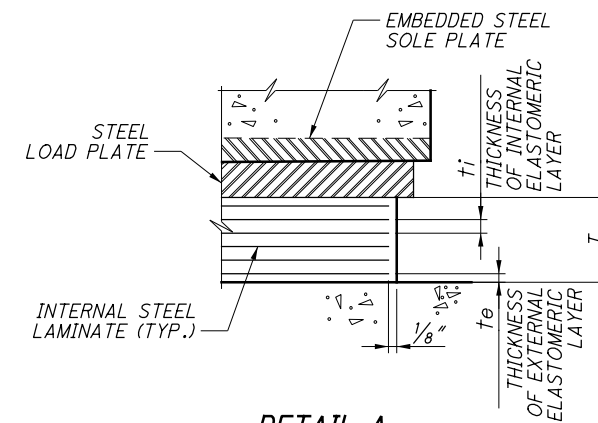
**ABUTMENT BEARING ORIENTATION PLAN**

(BEAM NOT SHOWN)



**PIER BEARING ORIENTATION PLAN**

(BEAMS NOT SHOWN)



**DETAIL A**

LAMINATED ELASTOMERIC BEARINGS											
LOCATION		BEARING DIMENSION						STEEL LOAD PLATE LENGTHxWIDTHxTHICKNESS	REACTIONS		TOTAL LOAD (kip)
		L	W	ti	te	T	N		DL (kip)	LL (kip)	
R.A. & F.A.	EXP.	9"	15 3/4"	0.37"	0.26"	2.82"	6	10" X 16 3/4" X 1/2"	93.6	35.9	129.5
P1, P2, P5 & P6	EXP.	9"	15 3/4"	0.37"	0.26"	2.82"	6	10" X 16 3/4" X 1/2"	93.6	35.9	129.5
P3 & P4	FIX.	9"	15 3/4"	0.37"	0.26"	2.82"	6	10" X 16 3/4" X 1/2"	93.6	35.9	129.5

ti = THICKNESS OF INTERNAL LAYERS  
te = THICKNESS OF EXTERNAL LAYERS  
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

N = NUMBER OF STEEL LAMINATES  
INTERNAL STEEL LAMINATE THICKNESS  
= 0.0747" (16 GAGE)  
DUROMETER OF ELASTOMER = 50

**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. SEE BDM SECTION 702.15.
- SHOP FABRICATE THE LOAD PLATES AND HP SHAPES USING ASTM A709 GRADE 36 OR GRADE 50 STEEL AND GALVANIZE IN ACCORDANCE WITH 711.02.
- BOND THE GALVANIZED STEEL LOAD PLATES TO THE ELASTOMERIC BEARING BY VULCANIZING DURING THE MOLDING PROCESS.
- FOR ADDITIONAL DETAILS, SEE STD. DWG. PSID-1-13.
- END AND PIER DIAPHRAGMS ARE PER STD. DWG. PSID-1-13.

RESOURCE INTERNATIONAL INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4848



DESIGNED	JGM	CHECKED	NCK
DRAWN	JGM	REVISED	
REVIEWED	SSK	STRUCTURE FILE NUMBER	2501988/2502011
DATE	11/07/17		

**ELASTOMERIC BEARING DETAILS**  
BRIDGE NO. FRA-033-2509 L/R  
OVER BIG WALNUT CREEK

**FRA - 33 - 24 - 26**  
PID No. 98111



DATE	11/07/17
REVIEWED	SSK
DESIGNED	JLM
DRAWN	JLM
CHECKED	JGM
REVISED	
STRUCTURE FILE NUMBER	2501988/2502011

**TOP HAUNCH ELEVATION AND CAMBER**  
BRIDGE NO. FRA-33-2509 L/R  
OVER BIG WALNUT CREEK

FRA - 33 - 24 - 26  
PID No. 98111

**TOP OF HAUNCH ELEVATIONS**  
TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM/GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

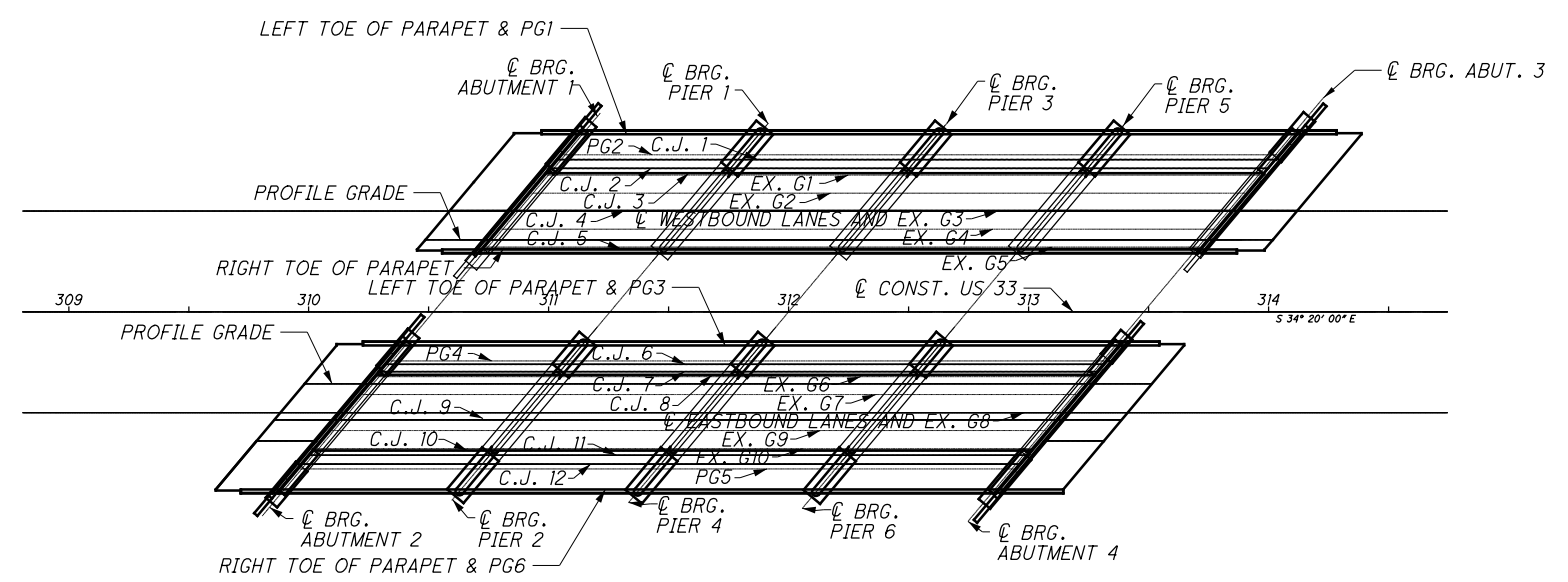


TOP OF HAUNCH ELEVATIONS - LEFT BRIDGE																		
LOCATION	BRG. R.A.		1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. PIER 1		1/4 SPAN		3/4 SPAN		BRG. PIER 3			
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.		
PG1	311+14.09	741.76	311+32.49	741.81	311+50.88	741.84	311+69.28	741.85	311+87.67	741.83	312+06.28	741.88	312+24.88	741.92	312+43.49	741.92	312+62.09	741.88
PG2	311+06.96	741.89	311+25.35	741.94	311+43.75	741.97	311+62.14	741.98	311+80.54	741.96	311+99.14	742.01	312+17.75	742.05	312+36.35	742.05	312+54.96	742.03

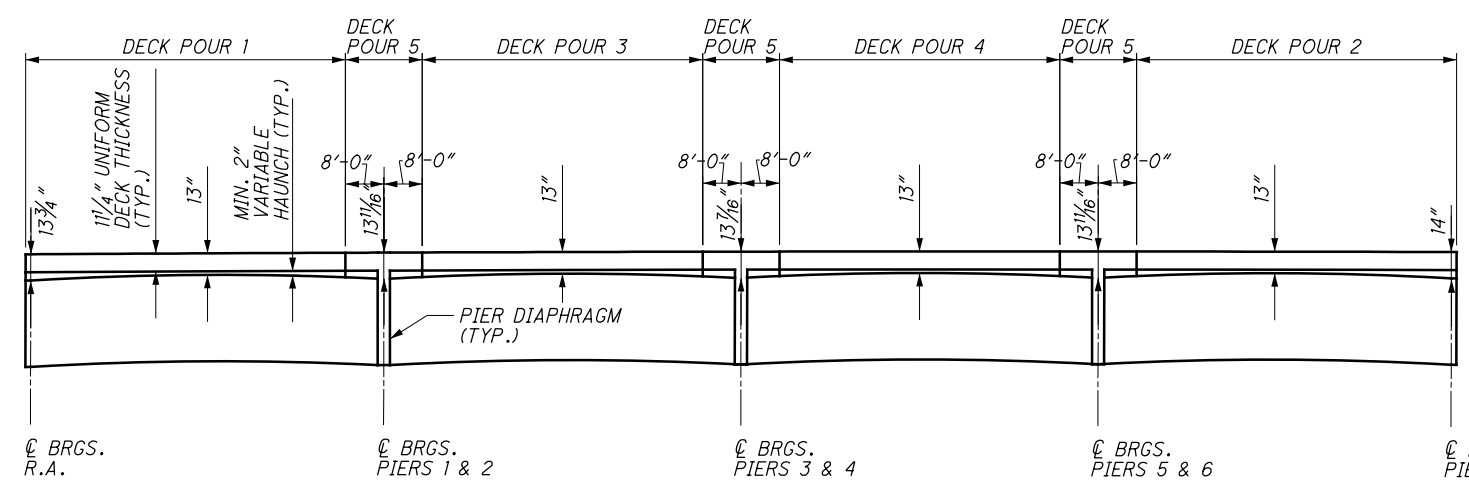
  

TOP OF HAUNCH ELEVATIONS - RIGHT BRIDGE																		
LOCATION	BRG. R.A.		1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. PIER 2		1/4 SPAN		3/4 SPAN		BRG. PIER 4			
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.		
PG3	310+40.25	741.68	310+58.65	741.73	310+77.04	741.76	310+95.44	741.77	311+13.83	741.75	311+32.44	741.80	311+51.04	741.84	311+69.65	741.84	311+88.25	741.83
PG4	310+34.80	741.78	310+53.20	741.83	310+71.59	741.86	310+89.99	741.86	311+08.38	741.85	311+26.99	741.90	311+45.59	741.93	311+64.20	741.94	311+82.80	741.92
PG5	309+97.04	741.71	310+15.44	741.76	310+33.83	741.79	310+52.23	741.79	310+70.62	741.78	310+89.23	741.83	311+07.83	741.86	311+26.44	741.87	311+45.04	741.85
PG6	309+89.91	741.56	310+08.30	741.61	310+26.70	741.65	310+45.09	741.65	310+63.49	741.64	310+82.09	741.69	311+00.70	741.72	311+19.30	741.73	311+37.91	741.71

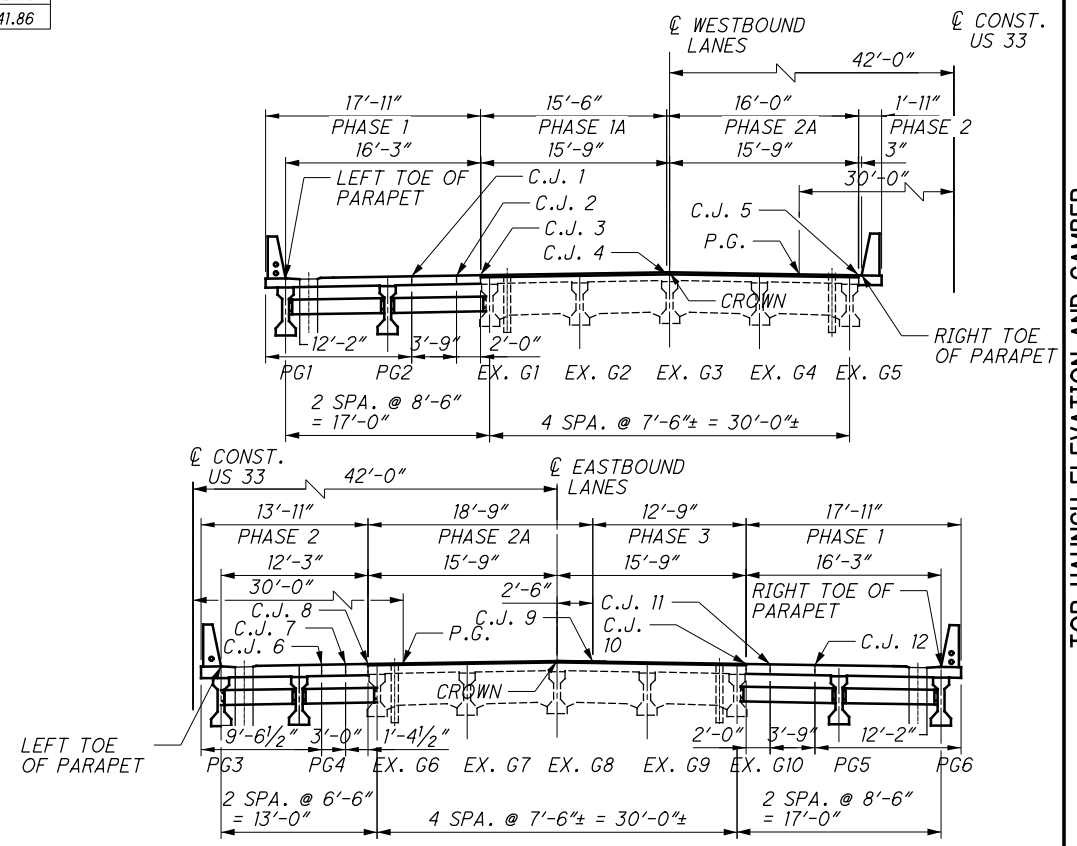
TOP OF HAUNCH ELEVATIONS - RIGHT BRIDGE																
LOCATION	BRG. R.A.		1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. PIER 6		1/4 SPAN		3/4 SPAN		BRG. F.A.	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
PG3	312+06.86	741.88	312+25.46	741.91	312+44.07	741.91	312+62.67	741.90	312+81.07	741.95	312+99.46	741.98	313+17.86	741.95	313+36.25	741.90
PG4	312+01.41	741.98	312+20.01	742.01	312+38.62	742.01	312+57.22	742.00	312+75.62	742.05	312+94.01	742.08	313+12.41	742.06	313+30.80	742.01
PG5	311+63.65	741.91	311+82.25	741.94	312+00.86	741.94	312+19.46	741.93	312+37.86	741.98	312+56.25	742.01	312+74.65	742.02	312+93.04	742.00
PG6	311+56.51	741.76	311+75.12	741.80	311+93.72	741.80	312+12.33	741.79	312+30.72	741.84	312+49.12	741.87	312+67.51	741.87	312+85.91	741.86



**DECK PLAN**



**CAMBER DIAGRAM AND DECK POUR SEQUENCE**



**DECK TYPICALS**

- NOTES:**
- DO NOT PLACE THE DECK CONCRETE UNTIL ALL INTERMEDIATE DIAPHRAGMS HAVE BEEN PROPERLY INSTALLED. IF CONCRETE DIAPHRAGMS ARE USED, COMPLETE THE INSTALLATION OF THE INTERMEDIATE DIAPHRAGMS AT LEAST 48 HOURS BEFORE DECK PLACEMENT BEGINS. CONCRETE SHALL CONFORM TO C&M 511 WITH A DESIGN STRENGTH OF 4.5 KSI.
  - DECK CONCRETE FOR POURS 1 THROUGH 4 MAY OCCUR CONCURRENTLY OR SEQUENTIALLY. DECK CONCRETE FOR POUR 5 MAY NOT OCCUR UNTIL DECK CONCRETE FOR POURS 1-4 IS COMPLETE.
  - CAMBER:  
ESTIMATED CAMBER AT DAY 0 (D<sub>0</sub>) IS 0.627 INCHES  
ESTIMATED CAMBER AT DAY 30 (D<sub>30</sub>) IS 1.103 INCHES  
DEFLECTION DUE TO REMAINING DEAD LOAD IS 0.608 INCHES  
THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D<sub>30</sub> WITH A SACRIFICIAL HAUNCH THICKNESS OF 2 INCHES.

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**SCREED ELEVATION**

SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

SCREED ELEVATIONS - LEFT BRIDGE																		
LOCATION	BRG. R.A.		SPAN 1				SPAN 2				SPAN 3				BRG. PIER 3			
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.		
LEFT TOE OF PARAPET & PG1	311+14.09	742.68	311+32.49	742.73	311+50.88	742.76	311+69.28	742.76	311+87.67	742.75	312+06.28	742.80	312+24.88	742.83	312+43.49	742.84	312+62.09	742.80
C.J. 1	311+06.96	742.80	311+25.35	742.86	311+43.75	742.89	311+62.14	742.89	311+80.54	742.88	311+99.14	742.93	312+17.75	742.96	312+36.35	742.97	312+54.96	742.94
C.J. 2	311+05.28	742.84	311+23.68	742.86	311+42.07	742.89	311+60.47	742.90	311+78.86	742.91	311+97.47	742.94	312+16.07	742.96	312+34.68	742.98	312+53.28	742.98
C.J. 3	311+00.46	742.92	311+18.85	742.94	311+37.25	742.96	311+55.64	742.98	311+74.04	743.00	311+92.64	743.01	312+11.25	743.03	312+29.85	743.05	312+48.46	743.07
C.J. 4	310+87.45	743.16	311+05.84	743.18	311+24.24	743.19	311+42.63	743.21	311+61.03	743.23	311+79.63	743.25	311+98.24	743.27	312+16.84	743.29	312+35.45	743.31
CL WESTBOUND LANES & EX. G3	310+87.24	743.16	311+05.64	743.18	311+24.03	743.20	311+42.43	743.22	311+60.82	743.23	311+79.43	743.25	311+98.03	743.27	312+16.64	743.29	312+35.24	743.31
PROFILE GRADE	310+77.17	743.01	310+95.57	743.03	311+13.96	743.04	311+32.36	743.06	311+50.75	743.08	311+69.36	743.10	311+87.96	743.12	312+06.57	743.14	312+25.17	743.16
C.J. 5	310+74.02	742.96	310+92.42	742.98	311+10.81	743.00	311+29.21	743.01	311+47.60	743.03	311+66.21	743.05	311+84.81	743.07	312+03.42	743.09	312+22.02	743.11
RIGHT TOE OF PARAPET	310+73.81	742.96	310+92.21	742.97	311+10.60	742.99	311+29.00	743.01	311+47.39	743.03	311+66.00	743.05	311+84.60	743.07	312+03.21	743.09	312+21.81	743.10

SCREED ELEVATIONS - RIGHT BRIDGE																		
LOCATION	BRG. R.A.		SPAN 1				SPAN 2				SPAN 3				BRG. PIER 4			
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.		
LEFT TOE OF PARAPET & PG3	310+40.25	742.59	310+58.65	742.65	310+77.04	742.68	310+95.44	742.68	311+13.83	742.67	311+32.44	742.72	311+51.04	742.75	311+69.65	742.76	311+88.25	742.74
C.J. 6	310+34.80	742.69	310+53.20	742.74	310+71.59	742.78	310+89.99	742.78	311+08.38	742.77	311+26.99	742.82	311+45.59	742.85	311+64.20	742.85	311+82.80	742.84
C.J. 7	310+33.64	742.71	310+52.04	742.74	310+70.43	742.77	310+88.83	742.78	311+07.23	742.79	311+25.83	742.82	311+44.44	742.84	311+63.04	742.85	311+81.65	742.86
C.J. 8	310+29.98	742.78	310+48.37	742.80	310+66.77	742.82	310+85.16	742.84	311+03.56	742.85	311+22.16	742.87	311+40.77	742.89	311+59.37	742.91	311+77.98	742.93
PROFILE GRADE	310+26.83	742.84	310+45.22	742.86	310+63.62	742.87	310+82.01	742.89	311+00.41	742.91	311+19.01	742.93	311+37.62	742.95	311+56.22	742.97	311+74.83	742.98
CL EASTBOUND LANES & EX. G8	310+16.76	743.02	310+35.16	743.04	310+53.55	743.06	310+71.95	743.07	310+90.34	743.09	311+08.95	743.11	311+27.55	743.13	311+46.16	743.15	311+64.76	743.17
C.J. 9	310+14.24	742.97	310+32.64	742.99	310+51.03	743.01	310+69.43	743.02	310+87.82	743.04	311+06.43	743.06	311+25.03	743.08	311+43.64	743.10	311+62.24	743.12
C.J. 10	310+03.54	742.75	310+21.94	742.77	310+40.33	742.79	310+58.73	742.81	310+77.12	742.83	310+95.73	742.85	311+14.33	742.86	311+32.94	742.88	311+51.54	742.90
C.J. 11	310+01.86	742.72	310+20.26	742.75	310+38.65	742.77	310+57.05	742.79	310+75.45	742.79	310+94.05	742.82	311+12.66	742.85	311+31.26	742.86	311+49.87	742.87
C.J. 12	309+98.71	742.66	310+17.11	742.71	310+35.50	742.74	310+53.90	742.74	310+72.30	742.73	310+90.90	742.78	311+09.51	742.81	311+28.11	742.82	311+46.72	742.80
RIGHT TOE OF PARAPET & PG4	309+89.91	742.48	310+08.30	742.53	310+26.70	742.56	310+45.09	742.57	310+63.49	742.55	310+82.09	742.60	311+00.70	742.64	311+19.30	742.64	311+37.91	742.63

RESOURCE INTERNATIONAL INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4848



DATE 11/07/17  
DESIGNED JLM  
CHECKED JGM  
DRAWN JLM  
REVISED  
REVIEWED SSK  
STRUCTURE FILE NUMBER 2501988/2502011

SCREED ELEVATIONS  
BRIDGE NO. FRA-33-2509 L/R  
OVER BIG WALNUT CREEK

FRA - 33 - 24 - 26  
PID No. 98111

25 / 34

278  
287

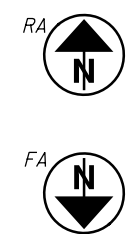
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FINAL DECK SURFACE ELEVATIONS - LEFT BRIDGE																		
LOCATION	SPAN 1				SPAN 2				SPAN 3				SPAN 4					
	BRG. R.A.		1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. PIER 1		1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. PIER 3	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
LEFT TOE OF PARAPET & PG1	311+14.09	742.68	311+32.49	742.69	311+50.88	742.71	311+69.28	742.73	311+87.67	742.75	312+06.28	742.77	312+24.88	742.79	312+43.49	742.81	312+62.09	742.80
PG2	311+06.96	742.80	311+25.35	742.82	311+43.75	742.84	311+62.14	742.86	311+80.54	742.88	311+99.14	742.90	312+17.75	742.92	312+36.35	742.93	312+54.96	742.94
C.J. 1	311+05.28	742.84	311+23.68	742.85	311+42.07	742.87	311+60.47	742.89	311+78.86	742.91	311+97.47	742.93	312+16.07	742.95	312+34.68	742.96	312+53.28	742.98
C.J. 2	311+02.13	742.89	311+20.53	742.91	311+38.92	742.93	311+57.32	742.95	311+75.71	742.97	311+94.32	742.98	312+12.92	743.00	312+31.53	743.02	312+50.13	743.04
C.J. 3	311+00.46	742.92	311+18.85	742.94	311+37.25	742.96	311+55.64	742.98	311+74.04	743.00	311+92.64	743.01	312+11.25	743.03	312+29.85	743.05	312+48.46	743.07
EX. G1	310+99.83	742.93	311+18.22	742.95	311+36.62	742.97	311+55.01	742.99	311+73.41	743.01	311+92.01	743.03	312+10.62	743.04	312+29.22	743.06	312+47.83	743.08
EX. G2	310+93.53	743.05	311+11.93	743.07	311+30.32	743.08	311+48.72	743.10	311+67.11	743.12	311+85.72	743.14	312+04.32	743.16	312+22.93	743.18	312+41.53	743.20
C.J. 4	310+87.45	743.16	311+05.84	743.18	311+24.24	743.19	311+42.63	743.21	311+61.03	743.23	311+79.63	743.25	311+98.24	743.27	312+16.84	743.29	312+35.45	743.31
CL WESTBOUND LANES & EX. G3	310+87.24	743.16	311+05.64	743.18	311+24.03	743.19	311+42.43	743.21	311+60.82	743.23	311+79.43	743.25	311+98.03	743.27	312+16.64	743.29	312+35.24	743.31
EX. G4	310+80.95	743.06	310+99.34	743.08	311+17.74	743.10	311+36.13	743.12	311+54.53	743.14	311+73.13	743.16	311+91.74	743.18	312+10.34	743.19	312+28.95	743.21
PROFILE GRADE	310+77.17	743.01	310+95.57	743.03	311+13.96	743.04	311+32.36	743.06	311+50.75	743.08	311+69.36	743.10	311+87.96	743.12	312+06.57	743.14	312+25.17	743.16
EX. G5	310+74.65	742.97	310+93.05	742.99	311+11.44	743.01	311+29.84	743.02	311+48.23	743.04	311+66.84	743.06	311+85.44	743.08	312+04.05	743.10	312+22.65	743.12
C.J. 2	310+74.02	742.96	310+92.42	742.98	311+10.81	743.00	311+29.21	743.01	311+47.60	743.03	311+66.21	743.05	311+84.81	743.07	312+03.42	743.09	312+22.02	743.11
RIGHT TOE OF PARAPET	310+73.81	742.96	310+92.21	742.97	311+10.60	742.99	311+29.00	743.01	311+47.39	743.03	311+66.00	743.05	311+84.60	743.07	312+03.21	743.09	312+21.81	743.10

LOCATION	SPAN 3				SPAN 4				SPAN 5				SPAN 6			
	1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. PIER 5		1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. F.A.	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
LEFT TOE OF PARAPET & PG1	312+80.70	742.78	312+99.30	742.76	313+17.91	742.74	313+36.51	742.73	313+54.91	742.71	313+73.30	742.69	313+91.70	742.67	314+10.09	742.65
PG2	312+73.56	742.92	312+92.17	742.91	313+10.77	742.89	313+29.38	742.87	313+47.77	742.85	313+66.17	742.83	313+84.56	742.81	314+02.96	742.80
C.J. 1	312+71.89	742.96	312+90.49	742.94	313+09.10	742.92	313+27.70	742.90	313+46.10	742.88	313+64.49	742.87	313+82.89	742.85	314+01.28	742.83
C.J. 2	312+68.74	743.02	312+87.34	743.00	313+05.95	742.98	313+24.55	742.97	313+42.95	742.95	313+61.34	742.93	313+79.74	742.91	313+98.13	742.89
C.J. 3	312+67.06	743.05	312+85.67	743.04	313+04.27	743.02	313+22.88	743.00	313+41.27	742.98	313+59.67	742.96	313+78.06	742.94	313+96.46	742.93
EX. G1	312+66.43	743.07	312+85.04	743.05	313+03.64	743.03	313+22.25	743.01	313+40.64	742.99	313+59.04	742.97	313+77.43	742.96	313+95.83	742.94
EX. G2	312+60.14	743.19	312+78.74	743.18	312+97.35	743.16	313+15.95	743.14	313+34.35	743.12	313+52.74	743.10	313+71.14	743.08	313+89.53	743.06
C.J. 4	312+54.05	743.32	312+72.66	743.30	312+91.26	743.28	313+09.87	743.26	313+28.26	743.24	313+46.66	743.22	313+65.05	743.20	313+83.45	743.19
CL WESTBOUND LANES & EX. G3	312+53.85	743.32	312+72.45	743.30	312+91.06	743.28	313+09.66	743.26	313+28.06	743.25	313+46.45	743.23	313+64.85	743.21	313+83.24	743.19
EX. G4	312+47.55	743.23	312+66.16	743.22	312+84.76	743.20	313+03.37	743.18	313+21.76	743.16	313+40.16	743.14	313+58.55	743.13	313+76.95	743.11
PROFILE GRADE	312+43.78	743.17	312+62.38	743.17	312+80.99	743.15	312+99.59	743.13	313+17.99	743.11	313+36.38	743.09	313+54.78	743.08	313+73.17	743.06
EX. G5	312+41.26	743.14	312+59.86	743.13	312+78.47	743.12	312+97.07	743.10	313+15.47	743.08	313+33.86	743.06	313+52.26	743.04	313+70.65	743.02
C.J. 2	312+40.63	743.13	312+59.23	743.13	312+77.84	743.11	312+96.44	743.09	313+14.84	743.07	313+33.23	743.05	313+51.63	743.03	313+70.02	743.01
RIGHT TOE OF PARAPET	312+40.42	743.12	312+59.02	743.12	312+77.63	743.10	312+96.23	743.09	313+14.63	743.07	313+33.02	743.05	313+51.42	743.03	313+69.81	743.01

FINAL DECK SURFACE ELEVATIONS - RIGHT BRIDGE																	
LOCATION	SPAN 1				SPAN 2				SPAN 3				SPAN 4				
	BRG. R.A.		1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. PIER 2		1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. PIER 4
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	
LEFT TOE OF PARAPET & PG3	310+40.25	742.59	310+58.65	742.61	310+77.04	742.63	310+95.44	742.65	311+13.83	742.67	311+32.44	742.69	311+51.04	742.71	311+69.65	742.72	
PG4	310+34.80	742.69	310+53.20	742.71	310+71.59	742.73	310+89.99	742.75	311+08.38	742.77	311+26.99	742.78	311+45.59	742.80	311+64.20	742.82	
C.J. 6	310+33.64	742.71	310+52.04	742.73	310+70.43	742.75	310+88.83	742.77	311+07.23	742.79	311+25.83	742.81	311+44.44	742.82	311+63.04	742.84	
C.J. 7	310+31.13	742.76	310+49.52	742.78	310+67.92	742.80	310+86.31	742.81	311+04.71	742.83	311+23.31	742.85	311+41.92	742.87	311+60.52	742.89	
C.J. 8	310+29.98	742.78	310+48.37	742.80	310+66.77	742.82	310+85.16	742.84	311+03.56	742.85	311+22.16	742.87	311+40.77	742.89	311+59.37	742.91	
EX. G6	310+29.35	742.79	310+47.74	742.81	310+66.14	742.83	310+84.53	742.85	311+02.93	742.86	311+21.53	742.88	311+40.14	742.90	311+58.74	742.92	
PROFILE GRADE	310+26.83	742.84	310+45.22	742.86	310+63.62	742.87	310+82.01	742.89	311+00.41	742.91	311+19.01	742.93	311+37.62	742.95	311+56.22	742.97	
EX. G7	310+23.05	742.91	310+41.45	742.92	310+59.84	742.94	310+78.24	742.96	310+96.63	742.98	311+15.24	743.00	311+33.84	743.02	311+52.45	743.03	
CL EASTBOUND LANES & EX. G8	310+16.76	743.02	310+35.16	743.04	310+53.55	743.06	310+71.95	743.07	310+90.34	743.09	311+08.95	743.11	311+27.55	743.13	311+46.16	743.15	
C.J. 9	310+14.24	742.97	310+32.64	742.99	310+51.03	743.01	310+69.43	743.02	310+87.82	743.04	311+06.43	743.06	311+25.03	743.08	311+43.64	743.10	
EX. G9	310+10.47	742.89	310+28.86	742.91	310+47.26	742.93	310+65.65	742.95	310+84.05	742.97	311+02.65	742.98	311+21.26	743.00	311+39.86	743.02	
EX. G10	310+04.17	742.77	310+22.57	742.78	310+40.96	742.80	310+59.36	742.82	310+77.75	742.84	310+96.36	742.86	311+14.96	742.88	311+33.57	742.90	
C.J. 10	310+03.54	742.75	310+21.94	742.77	310+40.33	742.79	310+58.73	742.81	310+77.12	742.83	310+95.73	742.85	311+14.33	742.86	311+32.94	742.88	
C.J. 11	310+01.86	742.72	310+20.26	742.74	310+38.65	742.76	310+57.05	742.78	310+75.45	742.79	310+94.05	742.81	311+12.66	742.83	311+31.26	742.85	
C.J. 12	309+98.71	742.66	310+17.11	742.68	310+35.50	742.69	310+53.90	742.71	310+72.30	742.73	310+90.90	742.75	311+09.51	742.77	311+28.11	742.79	
PG5	309+97.04	742.62	310+15.44	742.64	310+33.83	742.66	310+52.23	742.68	310+70.62	742.70	310+89.23	742.72	311+07.83	742.73	311+26.44	742.75	
RIGHT TOE OF PARAPET & PG6	309+89.91	742.48	310+08.30	742.50	310+26.70	742.52	310+45.09	742.54	310+63.49	742.55	310+82.09	742.57	311+00.70	742.59	311+19.30	742.61	

LOCATION	SPAN 3				SPAN 4				SPAN 5				SPAN 6			
	1/4 SPAN		1/2 SPAN		3/											



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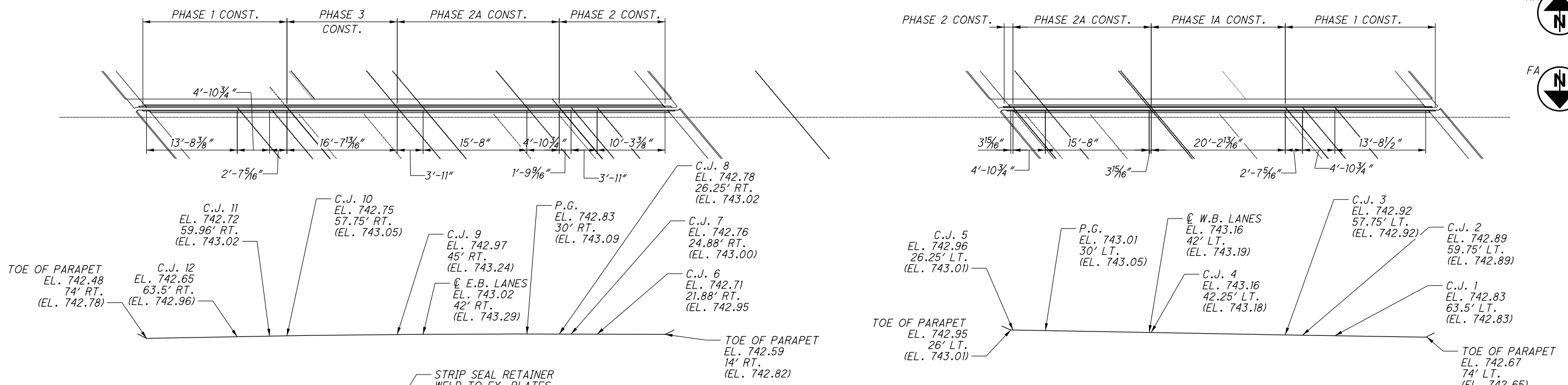


DATE: 11/07/17  
REVIEWED: NCK  
DRAWN: MMS  
DESIGNED: MMS  
CHECKED: JGM  
STRUCTURE FILE NUMBER: 2501888/2502011

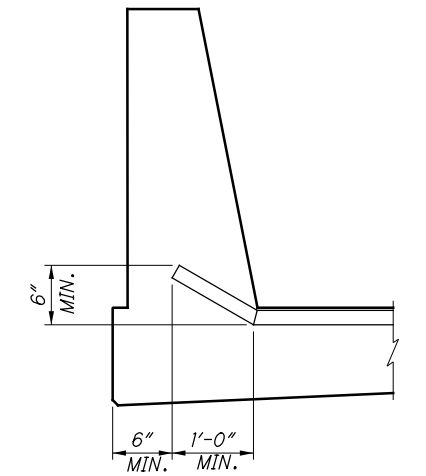
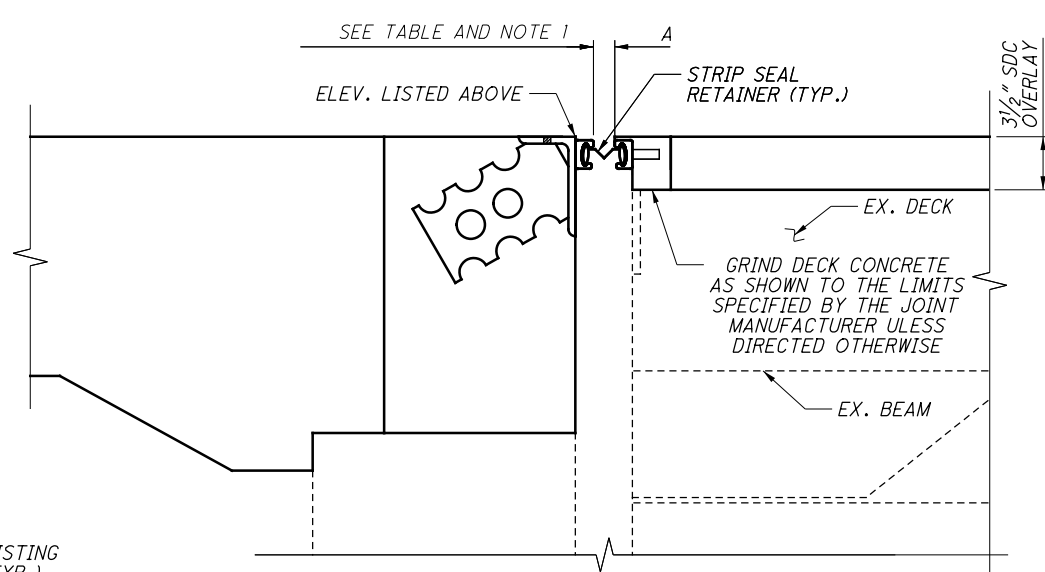
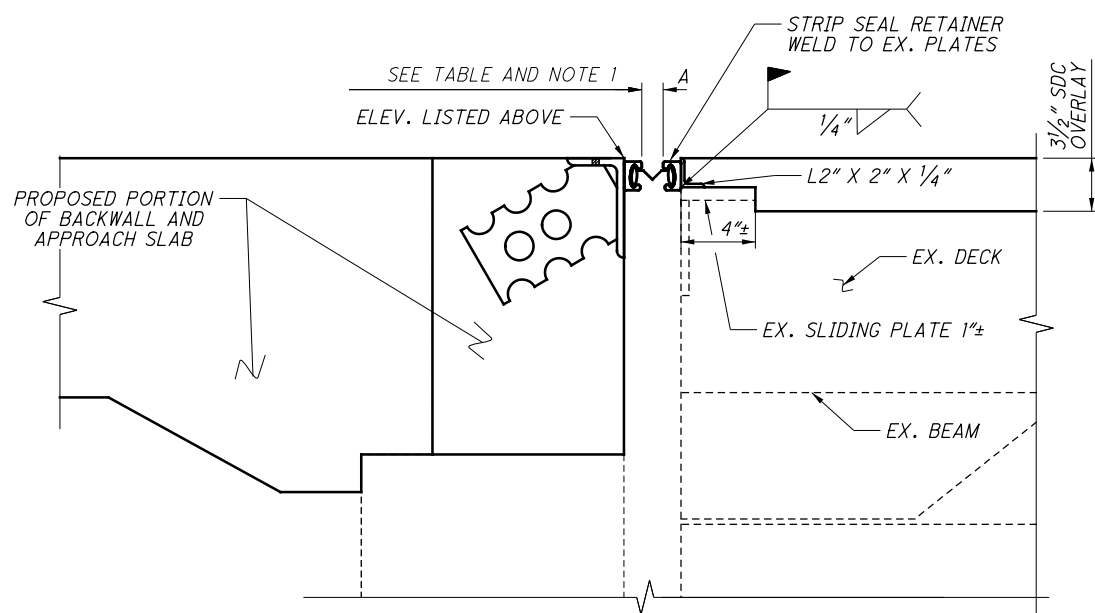
EXPANSION JOINT DETAILS  
BRIDGE NO. FRA-33-2509 L/R  
OVER BIG WALNUT CREEK

FRA-33-24.26  
PID No. 98111

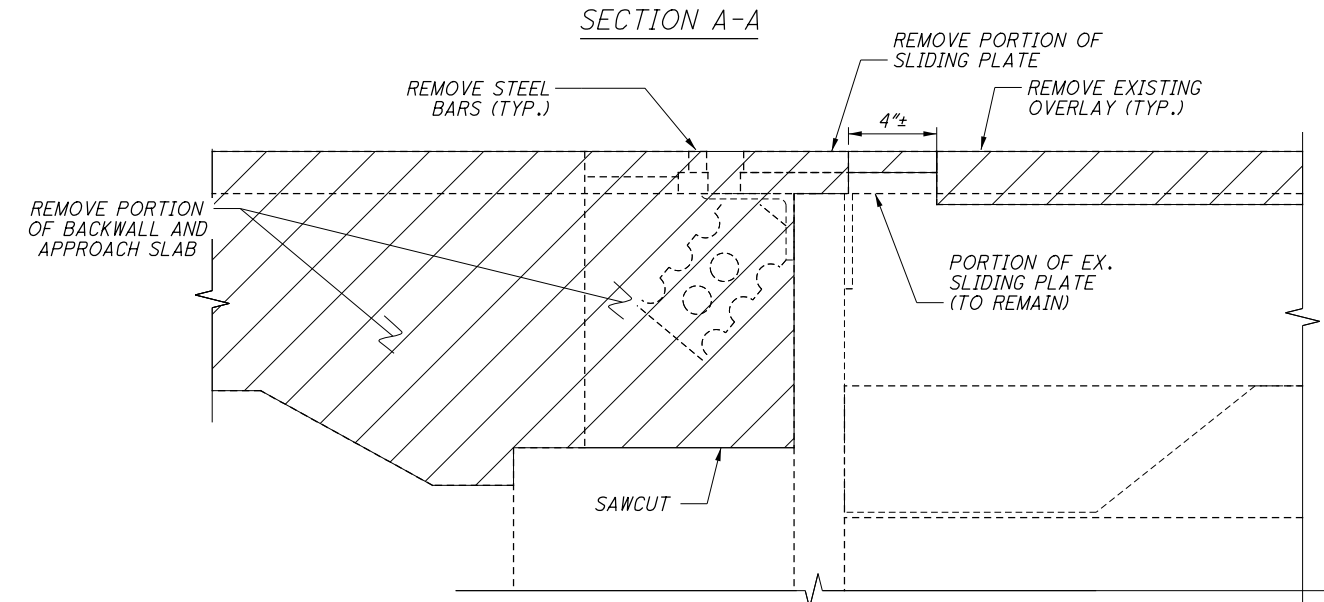
27/34  
280  
287



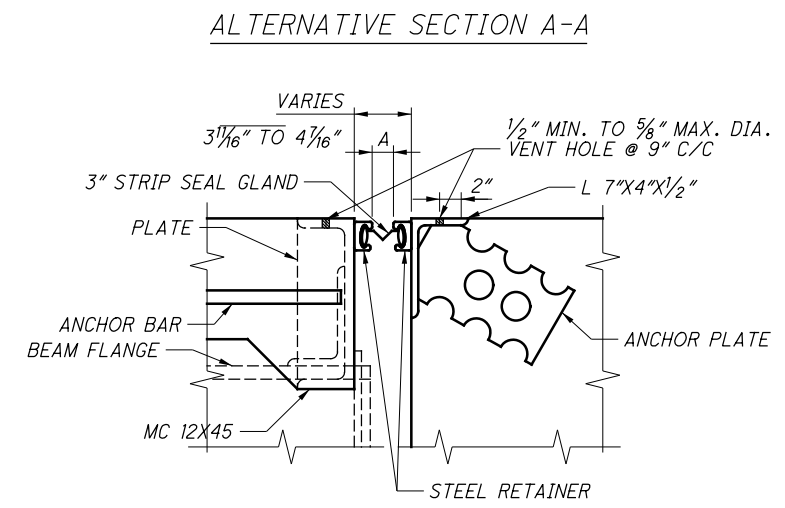
**REAR EXPANSION JOINT ARMOR PLAN AND PROFILE  
(FORWARD EXPANSION JOINT ARMOR OPPOSITE HAND)**



DETAIL AT PARAPET



EXISTING EXPANSION JOINT REMOVAL DETAIL  
SEE NOTE 1



SECTION D-D

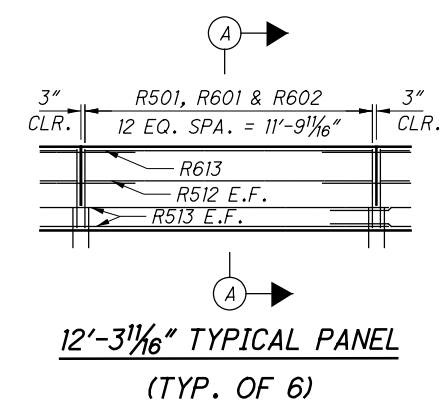
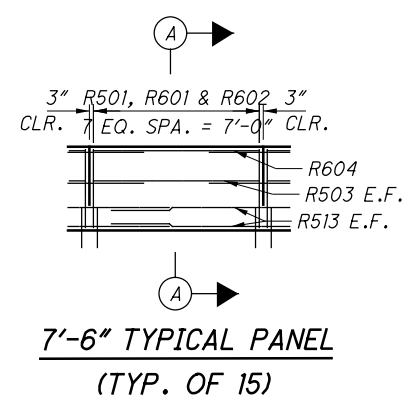
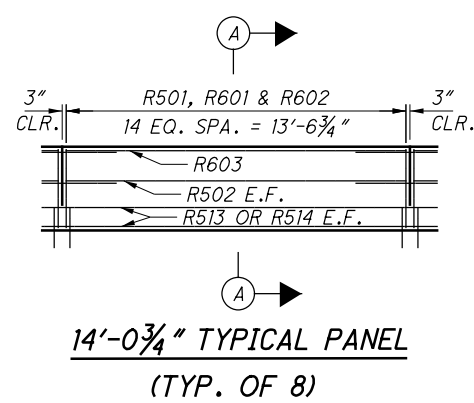
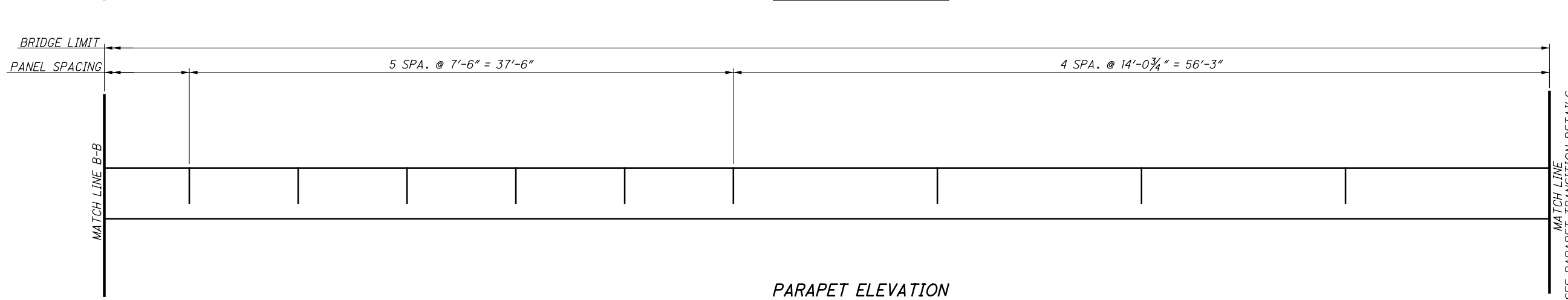
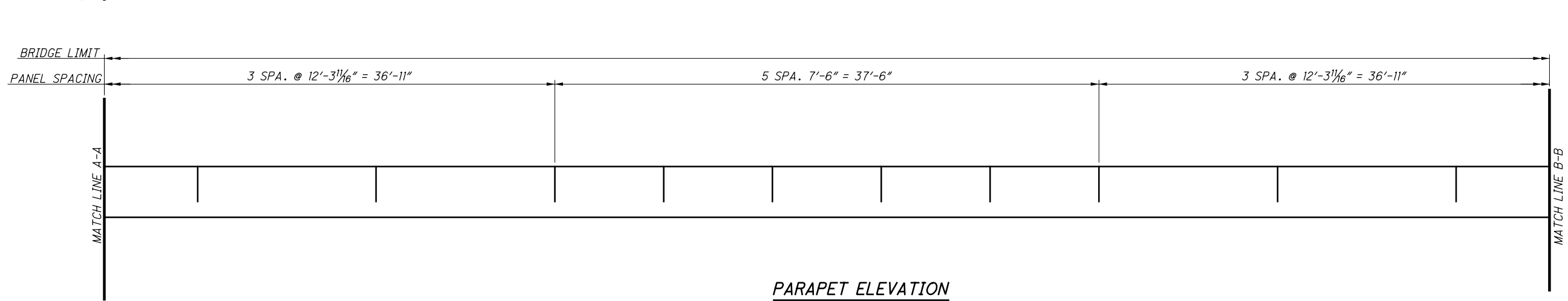
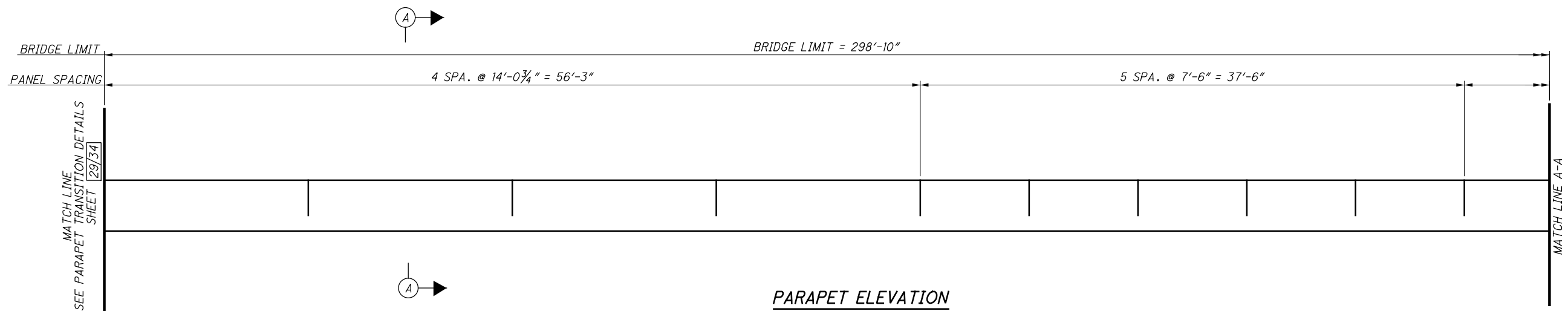
TABLE OF EXPANSION JOINT OPENINGS AT ABUTMENTS (INCHES)	
TEMPERATURE (°F)	JOINT OPENING "A"
30	2 1/2"
40	2 5/16"
50	2 3/16"
60	2"
70	1 3/16"
80	1 1/2"
90	1 1/16"

- NOTES:
1. REMOVAL OF EXISTING EXPANSION JOINT ARMOR IS INCLUDED UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
  2. ALL EXISTING REINFORCING STEEL IS TO REMAIN UNLESS IT INTERFERES WITH PLACEMENT OF NEW EXPANSION JOINTS. IF EXISTING STEEL IS CORRODED, REPLACE PER ITEM 509 - REPLACEMENT OF EXISTING REINFORCING STEEL

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NOTE:  
1. SEE SHEET 29/34 FOR SECTION A-A

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DESIGNED	JGM	CHECKED	NCK
DRAWN	JGM	REVISED	
REVIEWED	SSK	STRUCTURE FILE NUMBER	2501988/2502011
DATE	11/07/17		

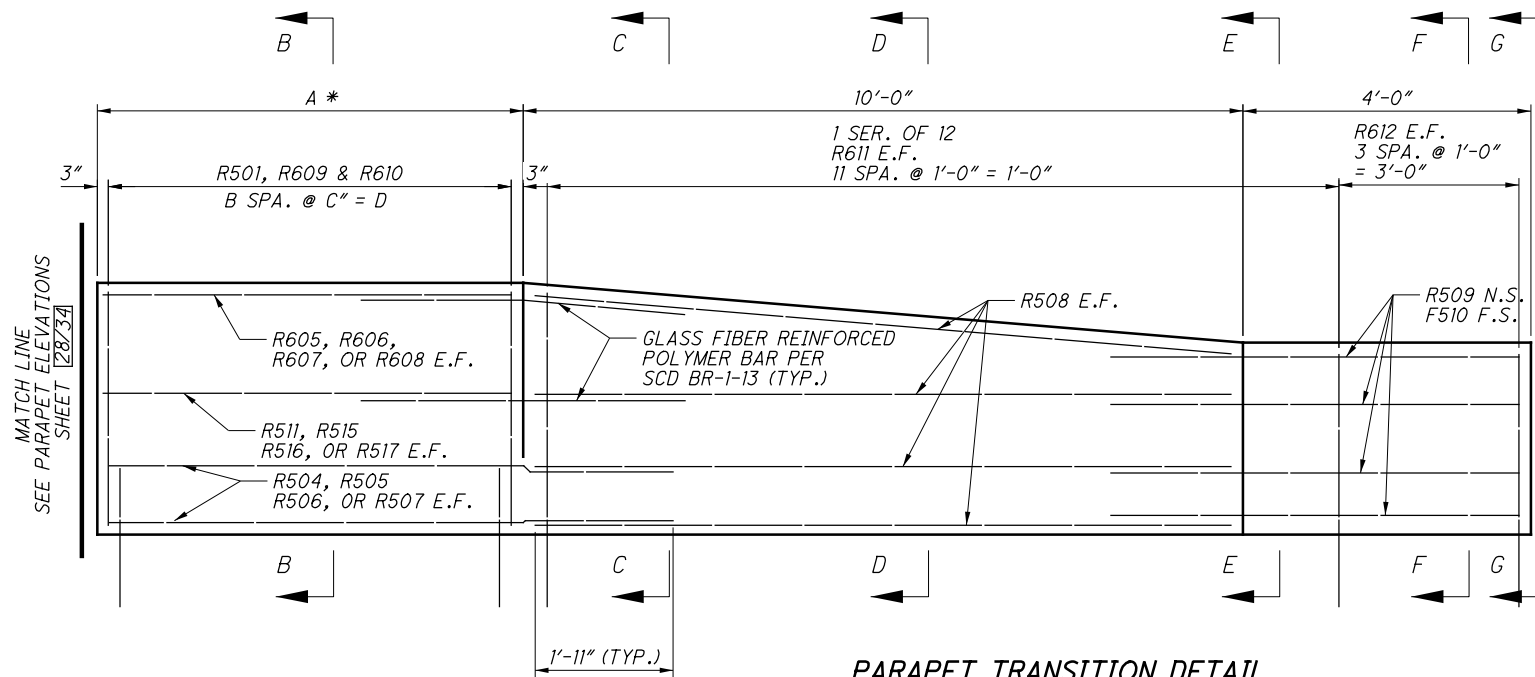
PARAPET & TRANSITION DETAILS  
BRIDGE NO. FRA-33-2509 L/R  
OVER BIG WALNUT CREEK

FRA-33-24.26  
PID No. 98111

28/34

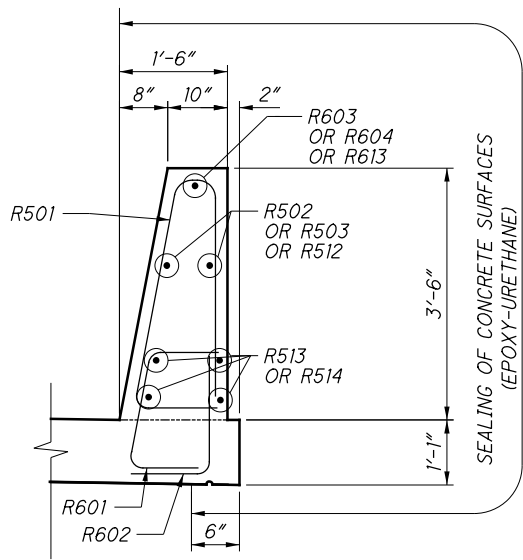
281  
287

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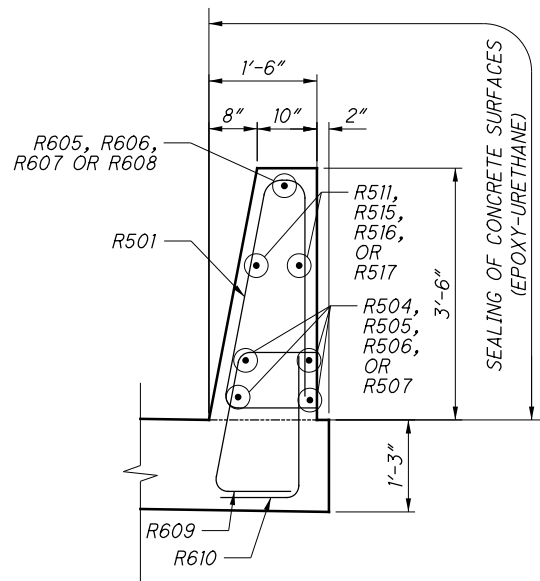


**PARAPET TRANSITION DETAIL**  
(NO 14'-0" LONG PARAPET TRANSITION ON RIGHT SIDE)

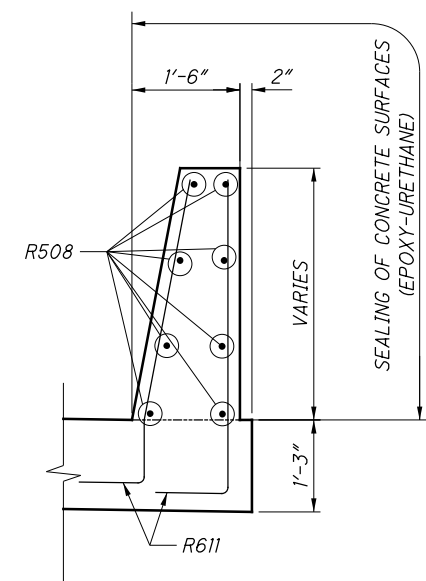
BARS	LOCATION	A*	B	C	D	NO. OF PANELS
R504, R511, R605	LEFT BRIDGE, RA, LEFT SIDE	1'-0"	1	6"	6"	1
R505, R515, R606	LEFT BRIDGE, FA, LEFT SIDE	2'-3"	2	10 1/2"	1'-9"	1
R505, R515, R606	LEFT BRIDGE, RA, RIGHT SIDE	2'-3"	2	10 1/2"	1'-9"	1
R504, R511, R605	LEFT BRIDGE, FA, RIGHT SIDE	1'-0"	1	6"	6"	1
R507, R517, R609	RIGHT BRIDGE, RA, LEFT SIDE	1'-7 1/2"	2	6 1/4"	1'-0 1/2"	1
R505, R515, R606	RIGHT BRIDGE, FA, LEFT SIDE	2'-3"	2	10 1/2"	1'-9"	1
R505, R515, R606	RIGHT BRIDGE, RA, RIGHT SIDE	2'-3"	2	10 1/2"	1'-9"	1
R506, R516, R607	RIGHT BRIDGE, FA, RIGHT SIDE	26'-7 1/16"	14	11 3/16"	12'-9 9/16"	2



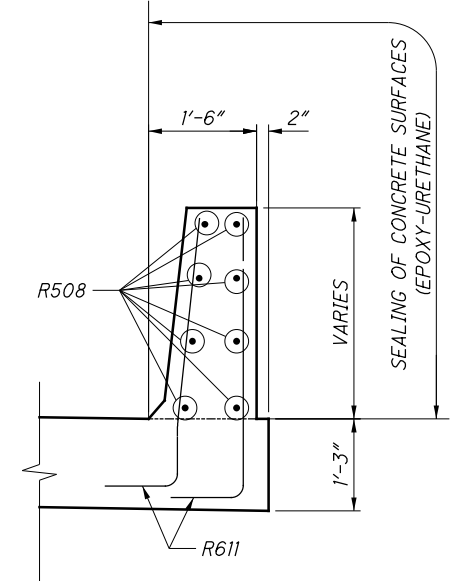
**SECTION A-A**



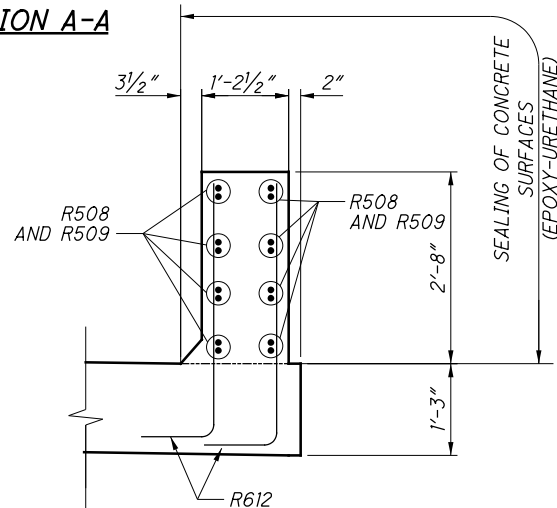
**SECTION B-B**



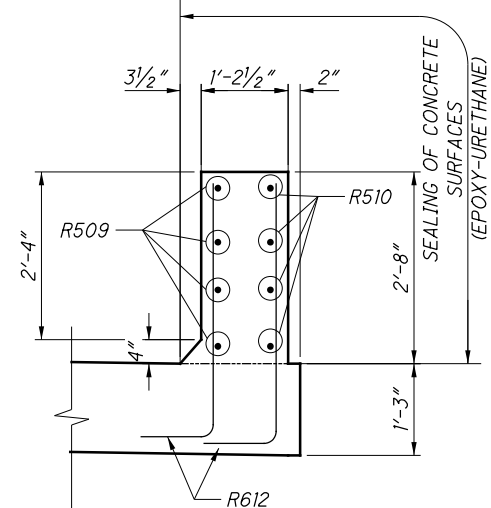
**SECTION C-C**



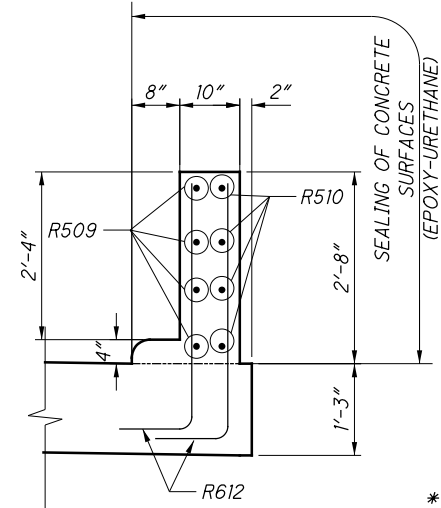
**SECTION D-D**



**SECTION E-E**



**SECTION F-F**



**SECTION G-G**

**LEGEND**  
\* - MEASURED ALONG TOE OF PARAPET

**NOTES:**  
1.) SEE SHEET 28/34 FOR PARAPET ELEVATIONS.

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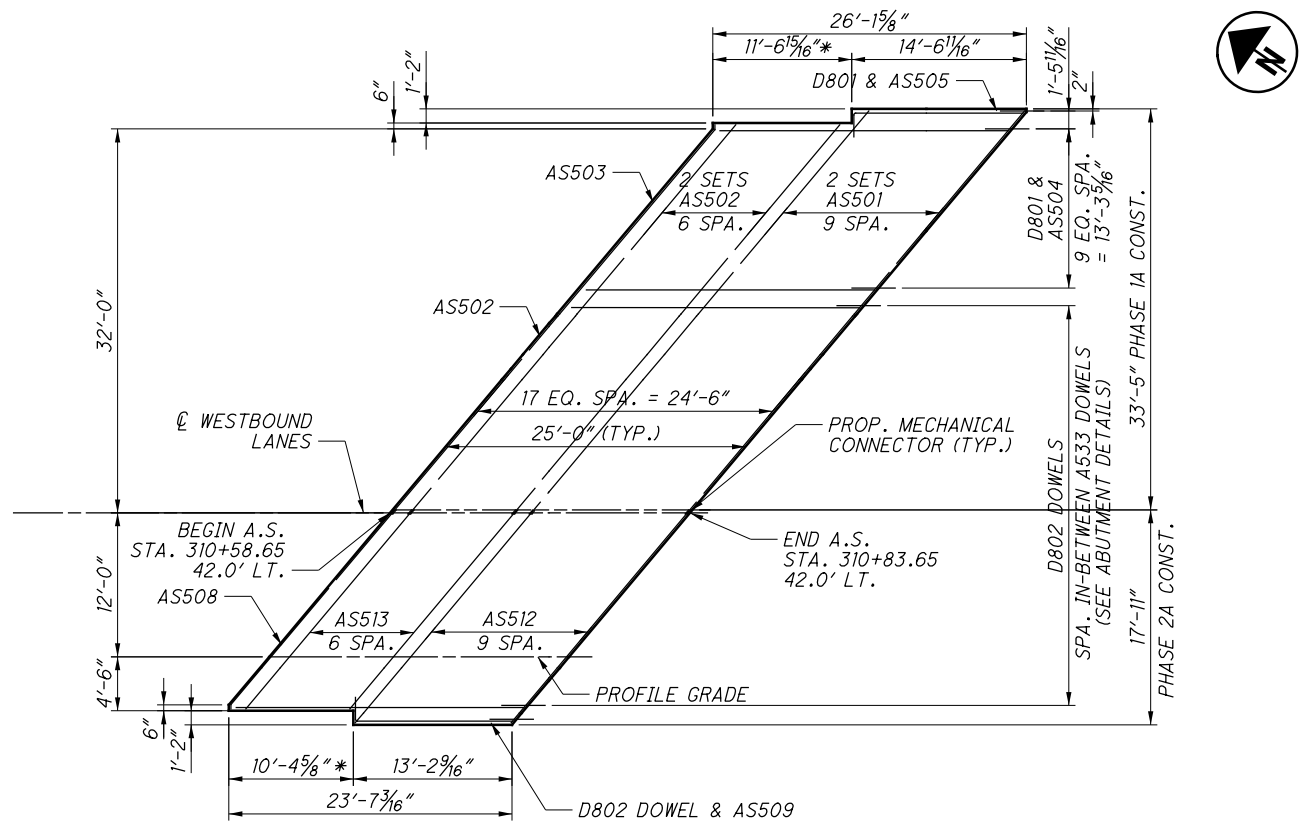


DESIGNED: JGM  
CHECKED: NCK  
DRAWN: JGM  
REVISED:  
REVIEWED: SSK  
DATE: 11/07/17  
STRUCTURE FILE NUMBER: 2501988/2502011

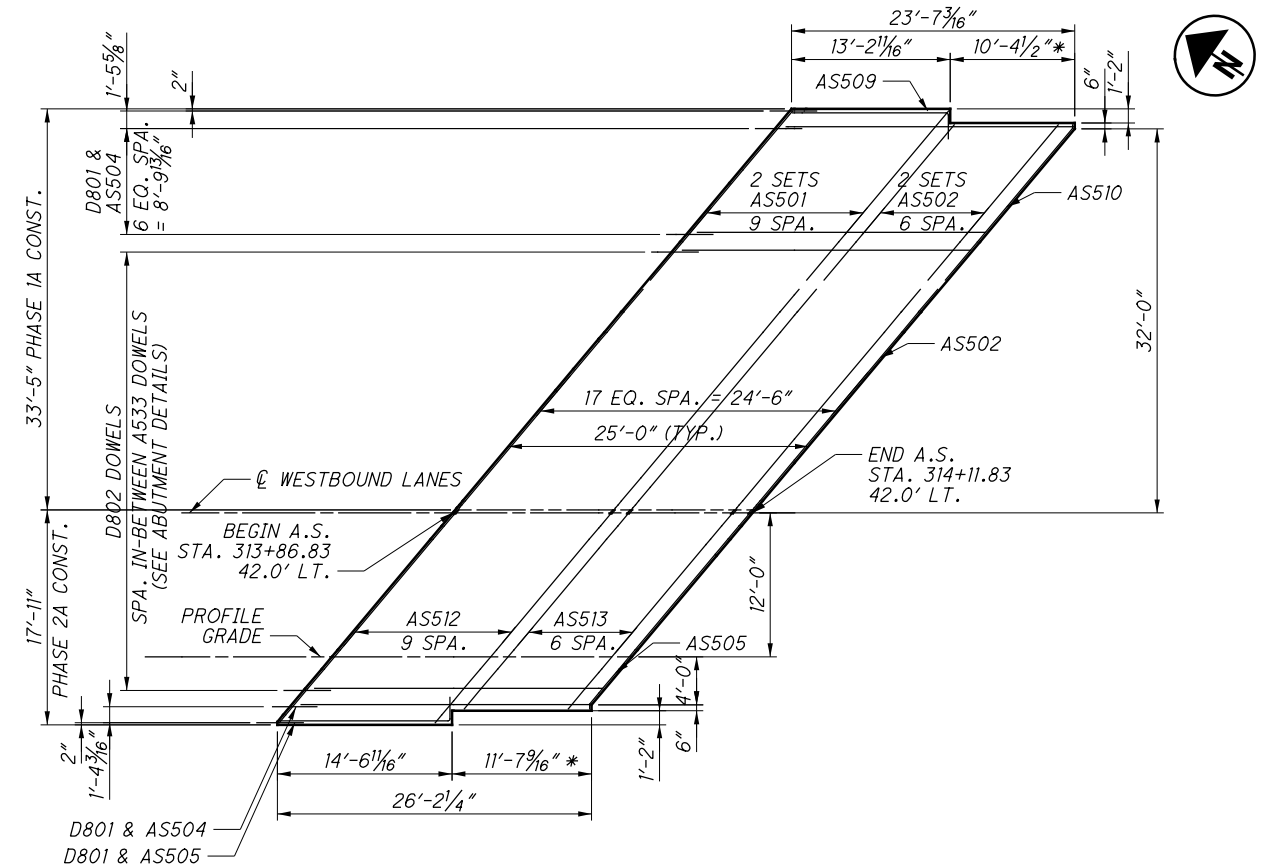
**PARAPET & TRANSITION DETAILS**  
BRIDGE NO. FRA-33-2509 L/R  
OVER BIG WALNUT CREEK

FRA-33-24.26  
PID No. 98111

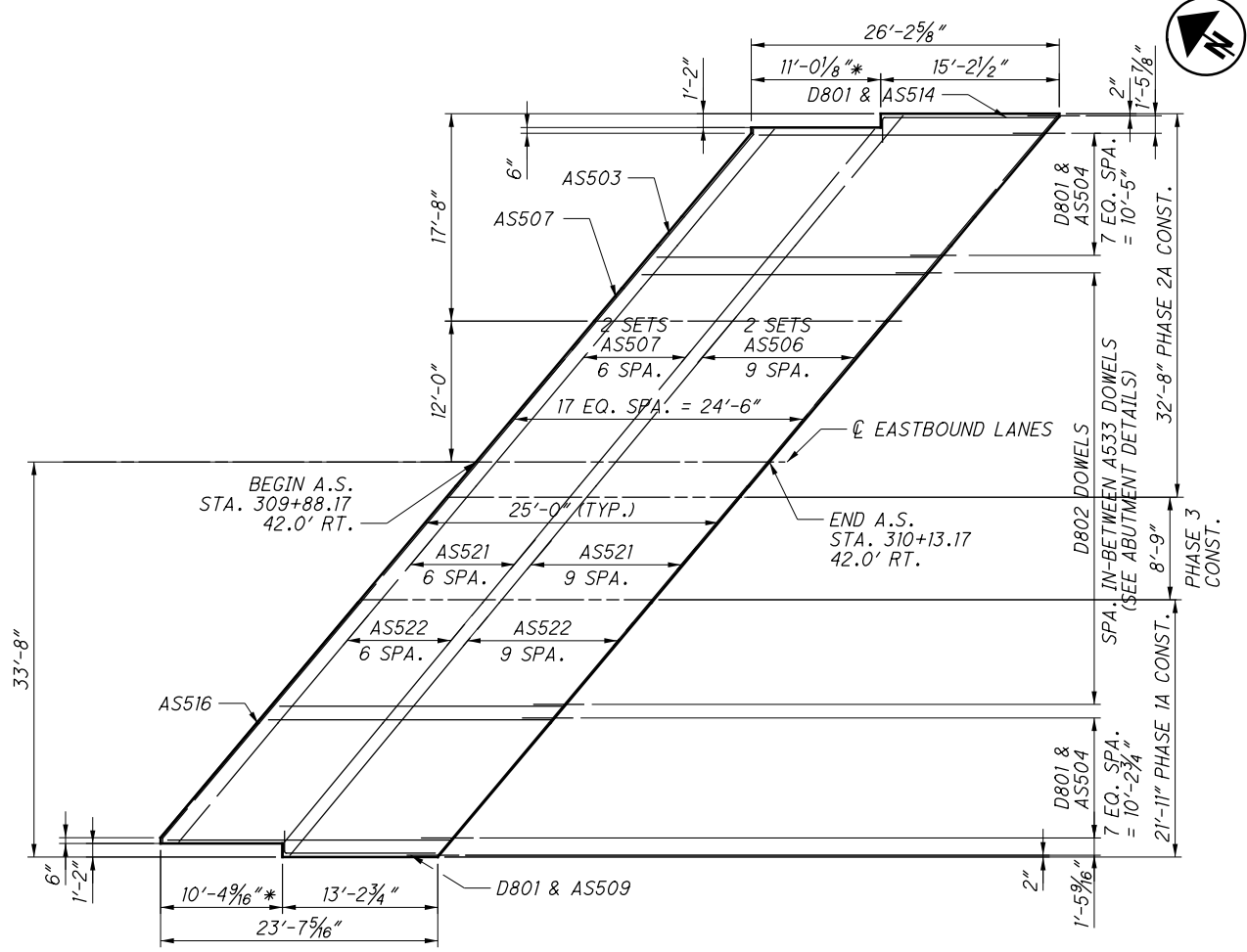
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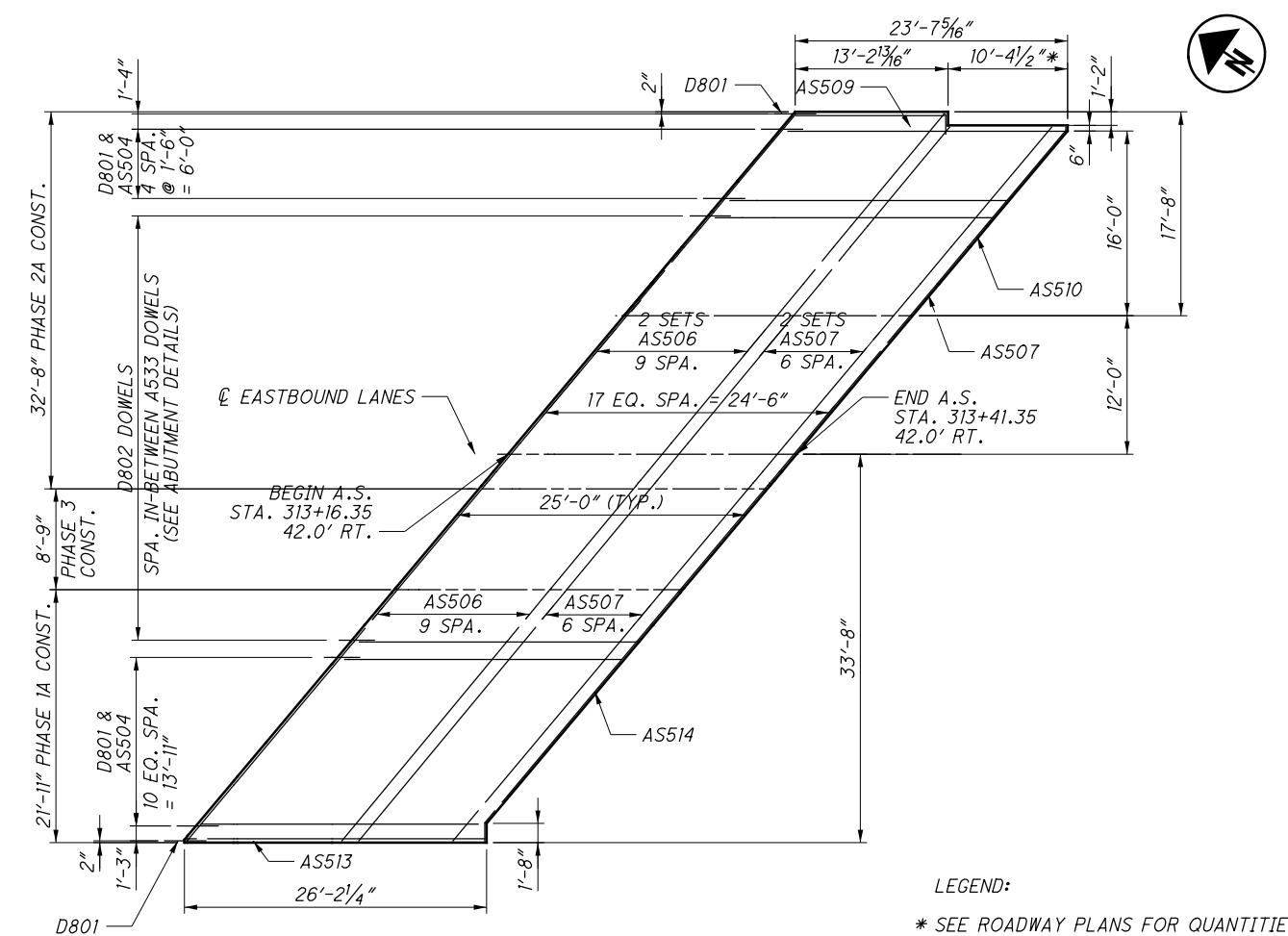
LEFT REAR APPROACH SLAB - TOP REINFORCING



LEFT FORWARD APPROACH SLAB - TOP REINFORCING



RIGHT REAR APPROACH SLAB - TOP REINFORCING

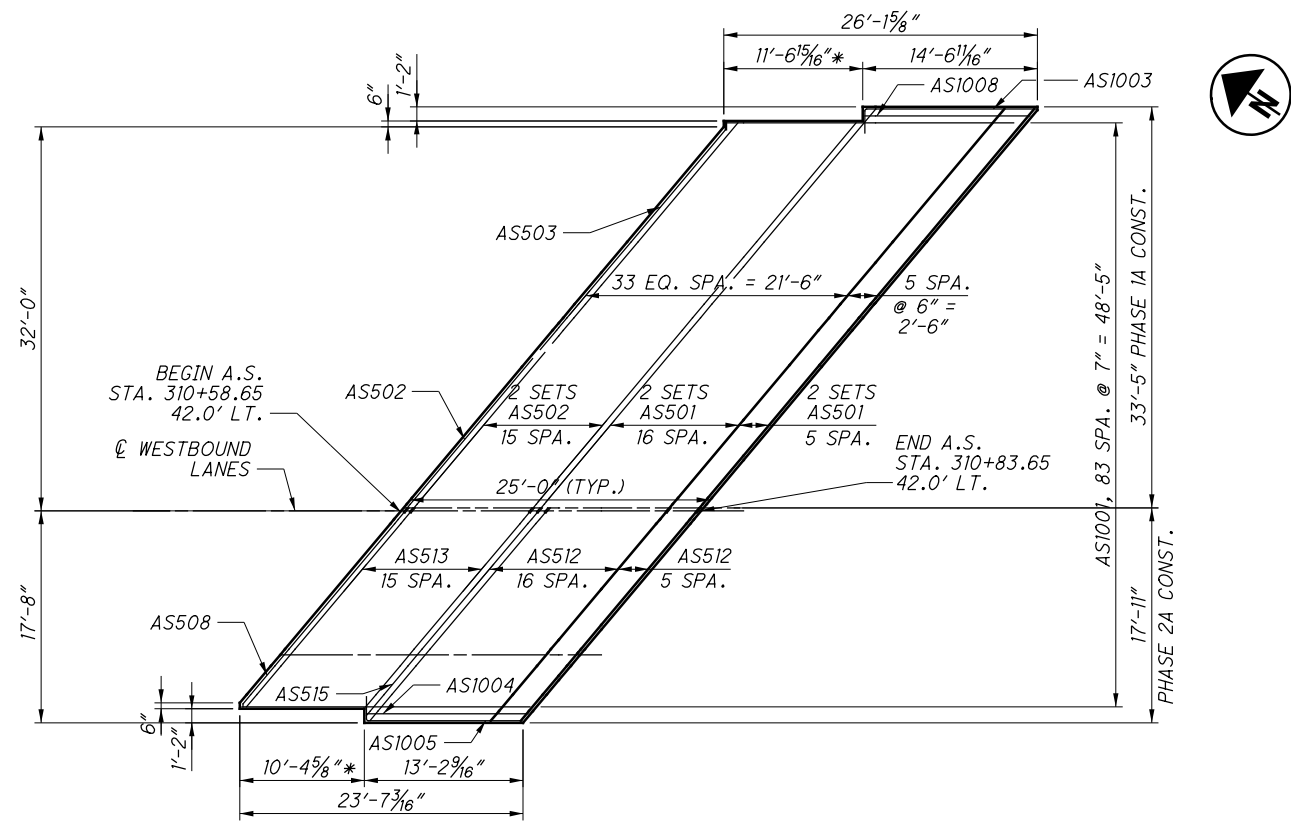


RIGHT FORWARD APPROACH SLAB - TOP REINFORCING

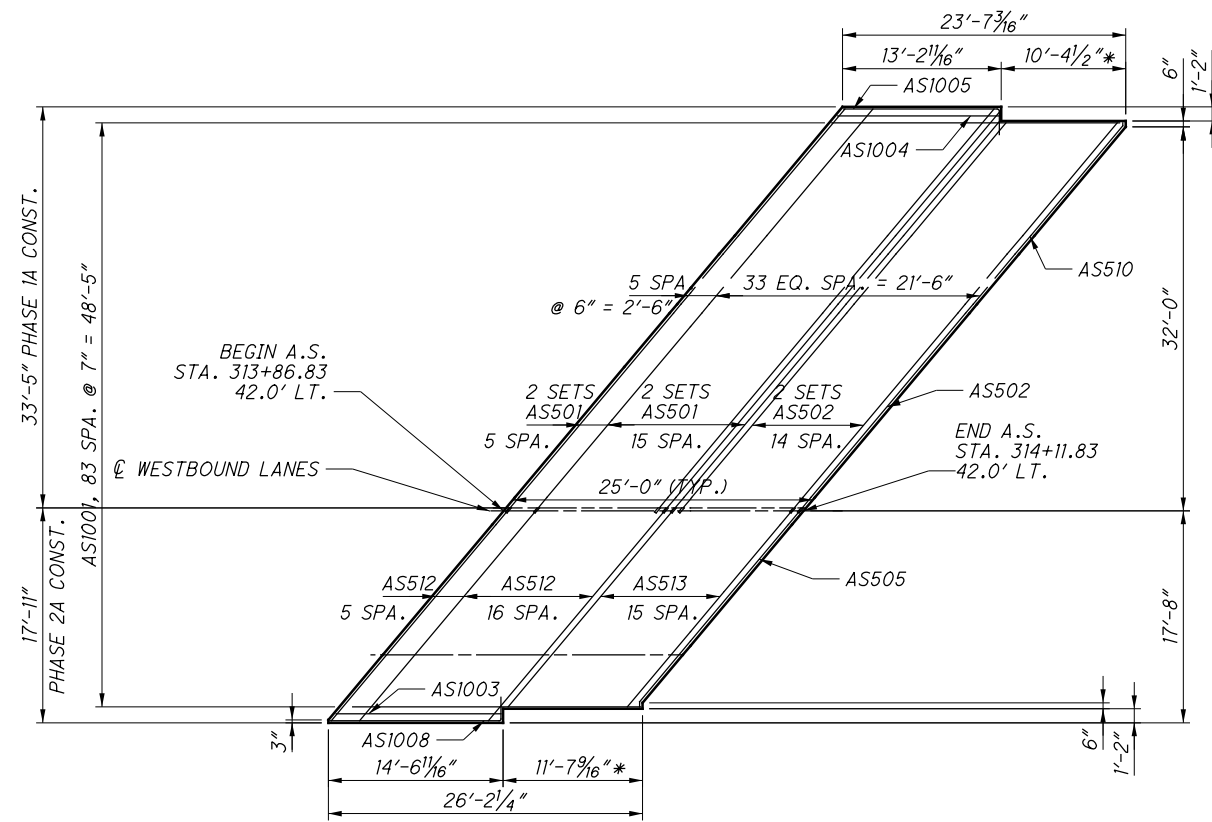
LEGEND:  
 \* SEE ROADWAY PLANS FOR QUANTITIES FOR ITEM 609 - CURB, TYPE 4-A.

		RESOURCE INTERNATIONAL INC. 6350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4849
DESIGNED	JGM	NCK
DRAWN	JGM	REVISED
REVIEWED	SSK	STRUCTURE FILE NUMBER
DATE	11/07/17	2501988/2502011
APPROACH SLAB DETAILS - TOP REINFORCING BRIDGE NO. FRA-033-2509 L/R OVER BIG WALNUT CREEK		
FRA - 33-24-26 PID No. 98111		
30 / 34		

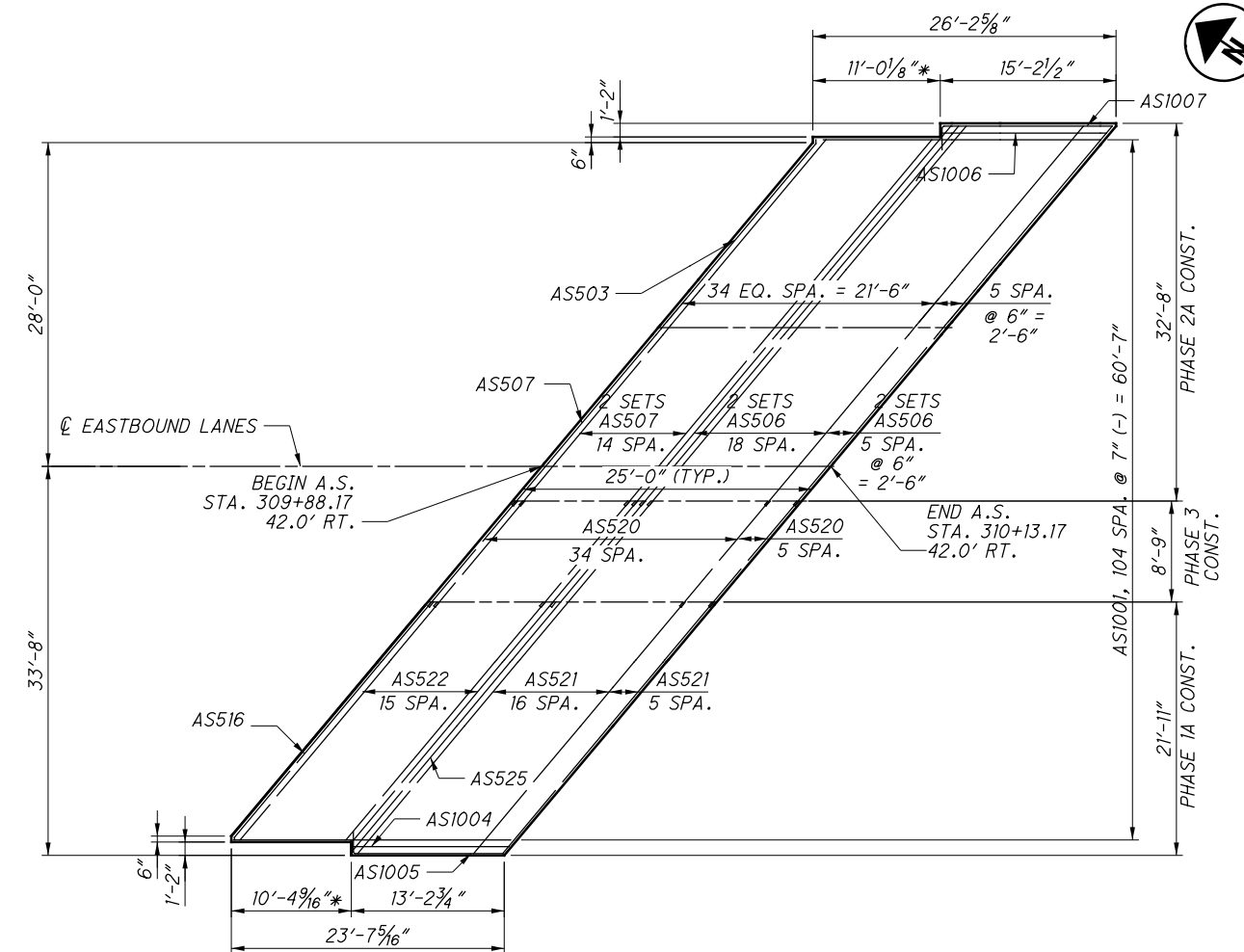
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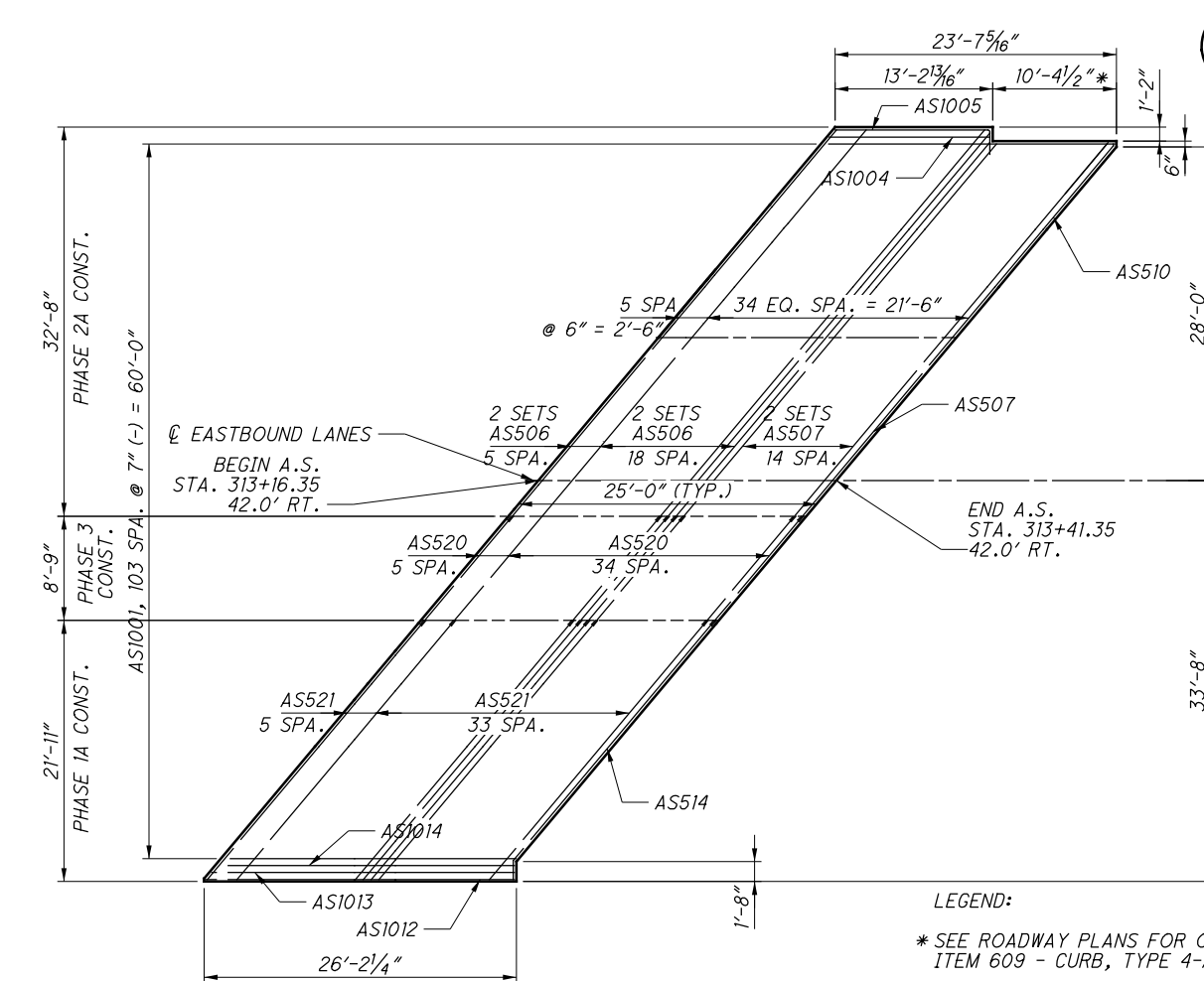
**LEFT REAR APPROACH SLAB - BOTTOM REINFORCING**



**LEFT FORWARD APPROACH SLAB - BOTTOM REINFORCING**



**RIGHT REAR APPROACH SLAB - BOTTOM REINFORCING**



**RIGHT FORWARD APPROACH SLAB - BOTTOM REINFORCING**

LEGEND:  
 \* SEE ROADWAY PLANS FOR QUANTITIES FOR ITEM 609 - CURB, TYPE 4-A.



RESOURCE INTERNATIONAL INC. 6350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4848	
Ri RESOURCE INTERNATIONAL INC.	DATE: 11/07/17 SSK: 11/07/17 STRUCTURE FILE NUMBER: 2501988/2502011
DRAWN: JGM CHECKED: NCK	REVIEWED: JGM REVISIONS:
APPROACH SLAB DETAILS - BOTTOM REINFORCING BRIDGE NO. FRA-033-2509 L/R OVER BIG WALNUT CREEK	
FRA-33-24.26 PID No. 98111	
31 / 34	
284 287	

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MARK	NUMBER			LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS					
	R.A	F.A	TOTAL				A	B	C	D	E	R
ABUTMENTS												
A501*	86	100	186	3'-0"	582	ST						
A502	51	49	100	8'-4"	869	2	1'-6"	5'-7"	1'-6"			
A503	20	20	40	22'-0"	918	ST						
A504	6		6	33'-2"	208	ST						
A505	2 SER OF 6		2 SER OF 6	22'-3" TO 33'-1"	346	ST						2'-2"
A506	2		2	14'-7"	30	19	2'-5"	11'-2"	5'-1"			
A507	1		1	19'-4"	20	ST						
A508	122	122	244	6'-5"	1634	2	2'-0"	2'-8"	2'-0"			
A509		6	6	38'-2"	239	ST						
A510		2 SER OF 6	2 SER OF 6	18'-5" TO 29'-8"	301	ST						2'-3"
A511	1	1	2	18'-0"	38	ST						
A512		2	2	14'-8"	31	19	2'-5"	11'-7"	4'-1"			
A513	10	10	20	16'-9"	349	ST						
A514	6		6	35'-11"	225	ST						
A515	10		10	29'-1"	303	ST						
A516	2 SER OF 4		2 SER OF 4	18'-3" TO 25'-3"	181	ST						2'-4"
A517	2 SER OF 4		2 SER OF 4	16'-8" TO 25'-5"	176	ST						2'-11"
A518	1		1	16'-2"	17	ST						
A519	2		2	12'-7"	26	19	2'-5"	9'-5"	3'-10"			
A520	2		2	14'-9"	31	19	2'-5"	11'-9"	3'-9"			
A521	8		8	29'-5"	245	ST						
A522	2 SER OF 4		2 SER OF 4	14'-8" TO 20'-4"	146	ST						1'-10 5/8"
A523	6		6	35'-8"	223	ST						
A524	2 SER OF 6		2 SER OF 6	23'-10" TO 33'-10"	361	ST						2'-0"
A525		1	1	22'-3"	23	ST						
A526		1	1	18'-3"	19	ST						
A527		1	1	16'-8"	17	ST						
A528	1		1	18'-5"	19	ST						
A529	1		1	14'-8"	15	ST						
A530	1		1	23'-10"	25	ST						
A531		1	1	12'-10"	13	ST						
A532		1	1	21'-5"	22	ST						
A601	51	49	100	13'-0"	1953	2	5'-1"	5'-5"	2'-10"			
A602*	30	30	60	3'-0"	270	ST						
A603	39	43	82	7'-2"	882	2	1'-6"	4'-5"	1'-6"			
A604	39	44	83	8'-5"	1050	2	3'-8"	1'-5"	3'-8"			
A605	39	49	88	10'-1"	1332	2	4'-6"	1'-5"	4'-6"			
A606	39	49	88	6'-1"	804	2	2'-9"	11"	2'-9"			
A607	11	13	24	15'-1"	544	2	7'-0"	1'-5"	7'-0"			
A608	1 SER. OF 8		1 SER. OF 8	6'-1" TO 12'-6"	112	2	2'-6" TO 5'-8 1/2"	1'-5"	2'-6" TO 5'-8 1/2"			5 1/2"
A609	8		8	7'-5"	89	2	3'-2"	1'-5"	3'-2"			
A610	2	3	5	12'-11"	97	2	5'-11"	1'-5"	5'-11"			
A611	2	2	4	11'-5"	69	2	5'-2"	1'-5"	5'-2"			
A612	2	2	4	10'-3"	62	2	4'-7"	1'-5"	4'-7"			
A613	1	3	4	12'-5"	75	2	5'-8"	1'-5"	5'-8"			
A614	8	9	17	9'-3"	236	2	4'-1"	1'-5"	4'-1"			
A615	1 SER. OF 8	1 SER. OF 8	2 SER. OF 8	4'-5" TO 9'-7"	168	2	1'-8" TO 4'-3"	1'-5"	1'-8" TO 4'-3"			4 1/2"
A616	1		1	11'-11"	18	2	5'-5"	1'-5"	5'-5"			
A617	1		1	11'-1"	17	2	5'-0"	1'-5"	5'-0"			

MARK	NUMBER			LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS					
	R.A	F.A	TOTAL				A	B	C	D	E	R
ABUTMENTS												
A618	1		1	10'-1"	15	2	4'-6"	1'-5"	4'-6"			
A619	8		8	9'-11"	119	2	4'-5"	1'-5"	4'-5"			
A620	1 SER. OF 8	1 SER. OF 8	2 SER. OF 8	5'-3" TO 10'-6"	189	2	2'-1" TO 4'-8 1/2"	1'-5"	2'-1" TO 4'-8 1/2"			4 1/2"
A621		8	8	8'-11"	107	2	3'-11"	1'-5"	3'-11"			
A622		8	8	7'-1"	85	2	3'-0"	1'-5"	3'-0"			
A623		1 SER. OF 8	1 SER. OF 8	7'-5" TO 15'-3"	136	2	3'-2" TO 7'-1"	1'-5"	3'-2" TO 7'-1"			6 3/4"
A624		1	1	12'-7"	19	2	5'-9"	1'-5"	5'-9"			
A801	8		8	25'-2"	537	ST						
A802		8	8	21'-7"	461	ST						
A803	8		8	19'-4"	413	ST						
A804	8		8	19'-11"	425	ST						
A805		8	8	12'-10"	274	ST						
A806		8	8	26'-5"	564	ST						
D801	35	33	68	5'-0"	908	18	2'-10"	1'-0"	1'-0"			
D802*	64	66	130	5'-1"	1764	19						
				SUBTOTAL	22915							

RESOURCE INTERNATIONAL INC.  
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DESIGNED: JGM  
CHECKED: NCK  
DRAWN: JGM  
REVISED:  
REVIEWED: SSK  
DATE: 11/07/17  
STRUCTURE FILE NUMBER: 2501988/2502011

REINFORCING LIST  
BRIDGE NO. FRA-33-2509 L/R  
OVER BIG WALNUT CREEK

FRA-33-24-26  
PID No. 98111

NOTE:  
FOR NOTES, LEGEND AND BENDING DIAGRAMS, SEE NEXT SHEET.

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MARK	NUMBER					LENGTH	WEIGHT LEFT 2501988 (LBS.)	WEIGHT RIGHT 2502011 (LBS.)	TYPE	DIMENSIONS				
	ABUT. 1 LEFT 2501988	ABUT. 2 RIGHT 2502011	ABUT. 3 LEFT 2501988	ABUT. 4 RIGHT 2502011	TOTAL					A	B	C	R	INC
<b>ABUTMENTS</b>														
A607	3	8	6	9	26	15'-1"	204	385	2	7'-0"	1'-5"	7'-0"		
A608	1 SER. OF 8				1 SER. OF 8	6'-1" 7'-0" 12'-6"	112		2	2'-6" 7'-0" 5'-8 1/2"	1'-5"	2'-6" 7'-0" 5'-8 1/2"		5 1/2"
A609	8				8	7'-5"	89		2	3'-2"	1'-5"	3'-2"		
A610	1	1	1		3	12'-11"	39	19	2	5'-11"	1'-5"	5'-11"		
A611	1	1	1	1	4	11'-5"	34	34	2	5'-2"	1'-5"	5'-2"		
A612	1	1	1	1	4	10'-3"	31	31	2	4'-7"	1'-5"	4'-7"		
A613		1	1	2	4	12'-5"	19	56	2	5'-8"	1'-5"	5'-8"		
A614		8	8	1	17	9'-3"	111	125	2	4'-1"	1'-5"	4'-1"		
A615		1 SER. OF 8	1 SER. OF 8		2 SER. OF 8	4'-5" 7'-0" 9'-7"	84	84	2	1'-8" 7'-0" 4'-3"	1'-5"	1'-8" 7'-0" 4'-3"		
A616		1			1	11'-11"		18	2	5'-5"	1'-5"	5'-5"		
A617		1			1	11'-1"		17	2	5'-0"	1'-5"	5'-0"		
A618		1			1	10'-1"		15	2	4'-6"	1'-5"	4'-6"		
A619		8			8	9'-11"		119	2	4'-5"	1'-5"	4'-5"		
A620		1 SER. OF 8		1 SER. OF 8	2 SER. OF 8	5'-3" 7'-0" 10'-6"		189	2	2'-1" 7'-0" 4'-8 1/2"	1'-5"	2'-1" 7'-0" 4'-8 1/2"		4 1/2"
A621				8	8	8'-11"		107	2	3'-11"	1'-5"	3'-11"		
A622				8	8	7'-1"		85	2	3'-0"	1'-5"	3'-0"		
A623				1 SER. OF 8	1 SER. OF 8	7'-5" 7'-5" 15'-3"		136	2	3'-2" 7'-5" 7'-1"	1'-5"	3'-2" 7'-5" 7'-1"		6 3/4"
A624				1	1	12'-7"		19	2	5'-9"	1'-5"	5'-9"		
A801	8				8	25'-2"	537		ST					
A802			8		8	21'-7"	461		ST					
A803		8			8	19'-4"		413	ST					
A804		8			8	19'-11"		425	ST					
A805				8	8	12'-10"		274	ST					
A806				8	8	26'-5"		564	ST					
D801	13	22	12	21	68	5'-0"	334	574	18	2'-10"	1'-0"	1'-0"		
D802*	31	33	33	33	130	5'-1"	869	896	19					
						TOTAL	8547	14260						

RESOURCE INTERNATIONAL INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4848



DESIGNED	JGM	CHECKED	NCK
DRAWN	JGM	REVISED	
REVIEWED	SSK	STRUCTURE FILE NUMBER	2501988/2502011
DATE	11/07/17		

**REINFORCING LIST**  
BRIDGE NO. FRA-33-2509 L/R  
OVER BIG WALNUT CREEK

FRA-33-24.26  
PID No. 98111  
32A/34  
285A  
287

NOTE:  
FOR NOTES, LEGEND AND BENDING DIAGRAMS, SEE NEXT SHEET.

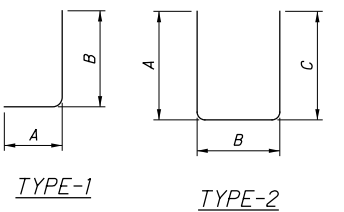
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MARK	NUMBER							LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						
	P1	P2	P3	P4	P5	P6	TOTAL				A	B	C	D	E	R	INC
<b>PIERS</b>																	
P501*	16	32	16	32	16	32	144	3'-0"	451	ST							
P502	4	4	4	4	4	4	24	22'-6"	563	ST							
P503		4		4		4	12	17'-3"	216	ST							
P504	32	55	32	55	32	55	261	6'-8"	1813	2	2'-0"	2'-11"	2'-0"				
P505	28	28	28	28	28	28	168	21'-3"	3724	ST							
P506	0	28		28		28	84	15'-11"	1395	ST							
P507*	28	56	28	56	28	56	252	2'-11"	767	19	2'-0"	6"	10"				
P508	14	28	14	28	14	28	126	11'-7"	1522	24	2'-11"	3'-6"		1'-5 1/2"			
P509	32		32		32		261	12'-5"	3381	2	2'-0"	8'-8"	2'-0"				
P601*	12	24	12	24	12	24	108	3'-0"	487	ST							
P701	7	7	7	7	7	7	42	22'-6"	1932	ST							
P702		7		7		7	21	17'-3"	740	ST							
P703	32	55	32	55	32	55	261	10'-2"	5420	17	8'-8"						
P901	62	108	62	108	62	108	510	10'-2"	17617	1	2'-0"	8'-5"					
P902	64		64		64		192	18'-7"	12129	ST							
P903		110		110		110	330	18'-5"	20667	ST							
								SUBTOTAL	72824								

NOTES:  
 1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE 3 DIGITS ARE USED, AND THE FIRST 2 DIGITS WHERE FOUR DIGITS ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.  
 2. ALL REINFORCING STEEL TO BE EPOXY COATED, UNLESS NOTED OTHERWISE.  
 3. AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. IF A DOWEL BAR SPLICE TYPE OF CONNECTOR IS FURNISHED, THE MINIMUM DOWEL BAR LENGTH TO BE INCLUDED WITH THE CONNECTOR SHALL BE ONE LAP LENGTH. CONNECTORS AND BAR DOWELS SHALL BE EPOXY COATED. COATINGS FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS 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. CONNECTORS AND DOWEL BAR EXTENSION SHALL CONFORM WITH ITEM 509 AND BE INCLUDED IN THE BID PRICE PER POUND FOR ITEM 509.

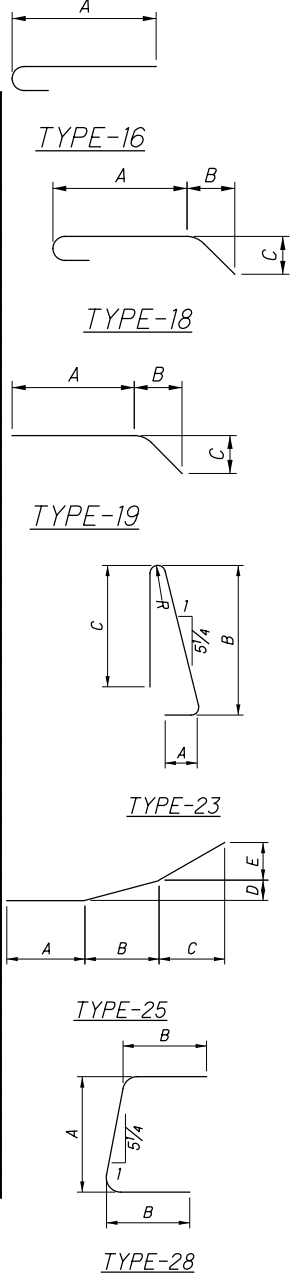
LEGEND:  
 \* - INDICATES DOWEL BAR.  
 \*\* - INDICATES BARS REQUIRING MECHANICAL CONNECTORS OR THREADED END. THE LENGTH SHOWN IN THE TABLE ARE THE NOMINAL LENGTHS MEASURED TO THE CONSTRUCTION JOINT. ADJUSTMENT IN THE LENGTHS OF THE BARS DUE TO MECHANICAL SPLICING SHALL BE MADE PRIOR TO THE FABRICATION.

**BENDING DIAGRAMS**



MARK	TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
<b>SUPERSTRUCTURE</b>											
S601	850	15'-8"	20006	ST.							
S602**	429	12'-4"	7945	ST.							
S603**	442	1'-9"	1162	ST.							
S604	860	30'-0"	38752	ST.							
S605**	4	23'-2"	139	ST.							
S606	117	30'-0"	5272	ST.							
S607**	2	17'-7"	53	ST.							
	1	3'-4"									
S608**	SER OF	TO	138	ST.							
	12	12'-0"									
S609	86	27'-6"	3552	ST.							
	2	3'-2"									
S610**	SER OF	TO	424	ST.							
	15	15'-8"									
S611	18	2'-3"	61	ST.							
S612	7	2'-0"	21	ST.							
S613	3	1'-6"	7	ST.							
S614**	892	5'-0"	6699	ST.							
S615**	429	4'-3"	2739	ST.							
	2	3'-2"									
S616**	SER OF	TO	589	ST.							
	19	17'-5"									
	1	3'-2"									
S617*	SER OF	TO	175	ST.							
	14	13'-5"									
	2	3'-2"									
S618*	SER OF	TO	52	ST.							
	4	5'-6"									
	1	2'-4"									
S619*	SER OF	TO	14	ST.							
	3	3'-11"									
S620**	2	17'-10"	54	ST.							
D601*	6	5'-4"	48	ST.							
D602*	6	4'-10"	44	ST.							

MARK	TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
<b>SUPERSTRUCTURE</b>											
S701	850	15'-8"	27225	ST.							
S702**	429	12'-4"	10812	ST.							
S703**	442	1'-9"	1581	ST.							
	1	3'-4"									
S704**	SER OF	TO	188	ST.							
	12	12'-0"									
S705**	2	17'-7"	72	ST.							
S706**	4	23'-2"	189	ST.							
	2	3'-2"		0							
S707**	SER OF	TO	577	ST.							
	15	15'-8"									
S708	18	2'-3"	83	ST.							
S709	7	2'-0"	29	ST.							
S710	3	1'-6"	9	ST.							
S711**	892	5'-9"	10484	ST.							
S712**	429	4'-3"	3727	ST.							
	2	3'-2"									
S713**	SER OF	TO	801	ST.							
	19	17'-5"									
	1	3'-2"									
S714**	SER OF	TO	238	ST.							
	14	13'-5"									
	2	3'-2"									
S715**	SER OF	TO	71	ST.							
	4	5'-6"									
	1	2'-4"									
S716**	SER OF	TO	19	ST.							
	3	3'-11"									
S705**	2	17'-10"	73	ST.							
D701*	6	5'-4"	48	ST.							
D702*	6	4'-10"	44	ST.							
			SUBTOTAL	144213							



RESOURCE INTERNATIONAL INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4849DATE: 11/07/17  
REVISED: SSK  
DRAWN: JGM  
DESIGNED: JGM

STRUCTURE FILE NUMBER: 2501988/2502011
CHECKED: NCK

**REINFORCING LIST**
BRIDGE NO. FRA-33-2509 L/R  
OVER BIG WALNUT CREEK

**FRA-33-24-26**
PID No. 98111

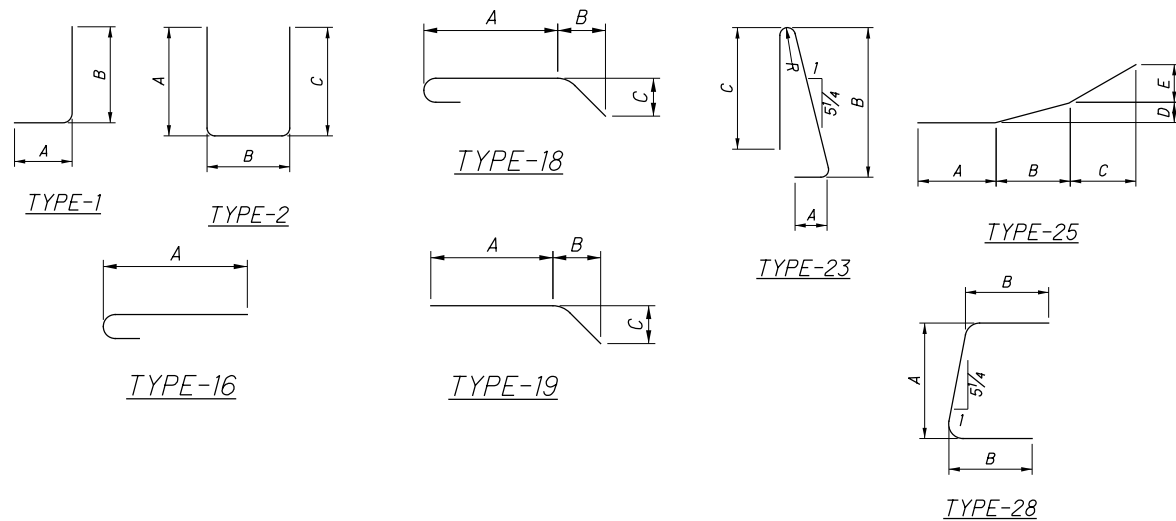
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MARK	TOTAL LEFT 2501988	TOTAL RIGHT 2502011	LENGTH	WEIGHT LEFT 2501988	WEIGHT RIGHT 2502011	TYPE	DIMENSIONS						
							A	B	C	D	E	R	INC
<b>PARAPET</b>													
R501	612	613	7'-4"	4679	4687	23	11"	3'-3"	3'-0"			2 3/4"	
R502	32	32	13'-7"	453	453	ST							
R503	60	60	7'-0"	438	438	ST							
R504	8		2'-11"	24		ST							
R505	8	8	4'-2"	35	35	ST							
R506		4	26'-0"		108	ST							
R507		4	3'-0"		13	ST							
R508	28	28	10'-0"	292	292	ST							
R509	14	14	5'-8"	83	83	25	1'-10"	2'-5"	1'-4 1/4"	1 1/2"	5"		
R510	14	14	5'-8"	83	83	ST							
R511	4	0	6"	2		ST							
R512	24	24	11'-10"	296	296	ST							
R513	80	80	30'-0"	2503	2503	ST							
R514	16	16	6'-5"	107	107	ST							
R515	4	4	1'-9"	7	7	ST							
R516		8	12'-0"		100	ST							
R517		2	1'-1"		2	ST							
R601	588	588	3'-4"	2941	2941	28	1'-10"	11"					
R602	588	588	2'-8"	2349	2349	1	11"	10"					
R603	16	16	13'-7"	326	326	ST							
R604	30	30	7'-0"	315	315	ST							
R605	2		6"	2		ST							
R606	2	2	1'-9"	5	5	ST							
R607		2	12'-0"		36	ST							
R608	1	1	1'-1"	2	2	ST							
R609	22	26	3'-7"	118	140	28	2'-0"	11"					
R610	25	25	2'-9"	103	103	1	11"	2'-0"					
R611	7 SER OF 12	7 SER OF 12	4'-4" TO 5'-2"	599	599	1	1'-0" TO 4'-4"	3'-5" TO 4'-4"				1"	
R612	28	28	4'-3"	179	179	28	1'-0"	3'-5"					
R613	12	12	11'-10"	213	213	ST							
			SUBTOTAL	16155	16416								
			TOTAL SUPERSTRUCTURE	71367	106446								

**BENDING DIAGRAMS**



LEGEND:  
\* - INDICATES DOWEL BAR.

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**NOTES:**

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MARK	NUMBER LEFT 2501988	NUMBER RIGHT 2502011	LENGTH	WEIGHT LEFT 2501988	WEIGHT RIGHT 2502011	TYPE	DIMENSIONS	
							A	B
<b>APPROACH SLABS - INFO ONLY</b>								
AS501**	63	63	22'-11"	1506	1506	ST		
AS502**	47	47	22'-2"	1087	1087	ST		
AS503	2	2	22'-8"	47	47	19		
AS504	89.5	89.5	24'-6"	2293	2293	ST		
AS505**		NOT	USED					
AS506**	70	70	22'-4"	1630	1630	ST		
AS507**	46	46	21'-7"	1035	1035	ST		
AS508**	1	1	21'-7"	23	23	19		
AS509**	2	2	15'-0"	1	1	1		
AS510	2	2	22'-5"	47	47	19		
AS511		NOT	USED					
AS512**	31	32	23'-2"	761	761	ST		
AS513**	21	23	21'-8"	508	508	ST		
AS514**	1	1	USED	29	29			
AS515**	1	0	22'-7"	24	0	ST		
AS516	1	1	26'-10"	28	28	19		
AS517		NOT	USED					
AS518**								
AS519		NOT	USED					
AS520**	40	40	11'-5"	476	476	ST		
AS521**	48	47	28'-4"	1404	1404	ST		
AS522**	25	25	26'-10"	700	700	ST		
AS523		NOT	USED					
AS524		NOT	USED					
AS525**		1	27'-11"		29	ST		
AS1001	187	189	31'-0"	25145	25145	16	29'-7"	
AS1002								
AS1003	1	1	15'-11"	68	68	1	2'-0"	14'-3"
AS1004	2	2	13'-6"	116	116	ST		
AS1005	2	2	14'-10"	128	128	1	2'-2"	13'-0"
AS1006		1	14'-4"	0	62	ST		
AS1007		1	16'-5"	0	71	1	2'-1"	14'-8"
AS1008	1	1	13'-9"	59	59	ST		
AS1009			USED					
AS1010			USED					
AS1011			USED					
AS1012		1	25'-10"		111	ST		
AS1013		1	25'-4"		109	ST		
AS1014		1	24'-11"		107	ST		
			TOTAL	37114	37579			

RESOURCE INTERNATIONAL INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4848

**Rii**

DATE: 11/07/17  
REVIEWED: SSK  
DRAWN: JGM  
DESIGNED: JGM  
CHECKED: NCK

STRUCTURE FILE NUMBER: 2501988/2502011

**REINFORCING LIST**  
BRIDGE NO. FRA-33-2509 L/R  
OVER BIG WALNUT CREEK

FRA-33-24-26  
PID No. 98111

34/34

287  
287



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**LEGEND**

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR STONE FRAGMENTS	A-1-a	15	17
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	41	76
GRAVEL AND/OR STONE FRAGS. WITH SAND & SILT	A-2-4	16	21
GRAVEL AND/OR STONE FRAGS. WITH SAND, SILT & CLAY	A-2-6	18	24
FINE SAND	A-3	2	4
COARSE AND FINE SAND	A-3a	6	21
SANDY SILT	A-4a	8	27
SILT	A-4b	6	8
SILT AND CLAY	A-6a	15	37
SILTY CLAY	A-6b	20	41
ELASTIC CLAY	A-7-5	2	-
CLAY	A-7-6	19	17
<b>TOTAL</b>		<b>168</b>	<b>293</b>

- PAVEMENT OR BASE = X = APPROXIMATE THICKNESS
- TOPSOIL = X = APPROXIMATE THICKNESS
- 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.
- N<sub>60</sub>** INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.
- N** INDICATES STANDARD PENETRATION RESISTANCE.
- X/Y/D"** NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT):  
X= NUMBER OF BLOWS FOR 6 INCHES (UNCORRECTED).  
Y/D"= NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.
- Y/Z** NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT):  
Y= NUMBER OF BLOWS FOR SECOND 6 INCHES (UNCORRECTED).  
Z= NUMBER OF BLOWS FOR THIRD 6 INCHES (UNCORRECTED).
- LOI** INDICATES ORGANIC CONTENT BY LOSS ON IGNITION (AASHTO T267).
- INDICATES STATIC WATER ELEVATION.
- INDICATES FREE 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.
- 2S/3S** FOR INSTANCES OF NO RECOVERY FROM STANDARD SS INTERVAL, A 2.5 OR 3.0 INCH O.D. SPLIT SPOON IS DRIVEN THE FULL LENGTH OF THE STANDARD SS INTERVAL PLUS AN ADDITIONAL 6.0 INCHES TO OBTAIN A REPRESENTATIVE SAMPLE. ONLY THE FINAL 6.0 INCHES OF SAMPLE IS RETAINED. BLOW COUNTS FROM 2S SAMPLING ARE NOT CORRELATED WITH N60 VALUES.
- SS** INDICATES A SPLIT SPOON SAMPLE.
- ST** INDICATES A SHELBY TUBE SAMPLE.
- NP** INDICATES A NON-PLASTIC SAMPLE.

**LEGEND**

HISTORIC BORING DESCRIPTIONS	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR STONE FRAGMENTS	A-1-a	35	-
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	13	4
GRAVEL AND/OR STONE FRAGS. WITH SAND & SILT	A-2-4	3	2
GRAVEL AND/OR STONE FRAGS. WITH SAND, SILT & CLAY	A-2-6	2	-
COARSE AND FINE SAND	A-3a	5	-
SANDY SILT	A-4a	24	-
SILT	A-4b	15	-
SILT AND CLAY	A-6a	8	-
ELASTIC CLAY	A-7-5	3	-
CLAY	A-7-6	8	-
PEAT	PEAT	-	1
<b>TOTAL</b>		<b>116</b>	<b>7</b>

**INDEX OF SHEETS**

SUMMARY OF SOIL TEST DATA, SHEETS 3 - 5.

LABORATORY TEST DATA, SHEETS 6 & 7.

LOCATION FROM STA. TO STA.	PLAN VIEW SHEET	PROFILE SHEET	CUT MAX.	FILL EMB. MAX.	STRUCTURES INCLUDED	
					BRIDGE NO.	SFN
SR 33						
306+00 309+50	8	9	-	-	FRA-33-2503L/R	2501929 2501953
309+50 314+50	10	11	-	-	FRA-33-2509L/R	2501988 2502011
314+50 328+00	12	12				
328+00 336+92.56	13	13				

CROSS SECTIONS, SHEETS 14 - 16.

NOISE WALL 2, SHEETS 17 - 18.

BORING LOGS, SHEETS 19 - 44.

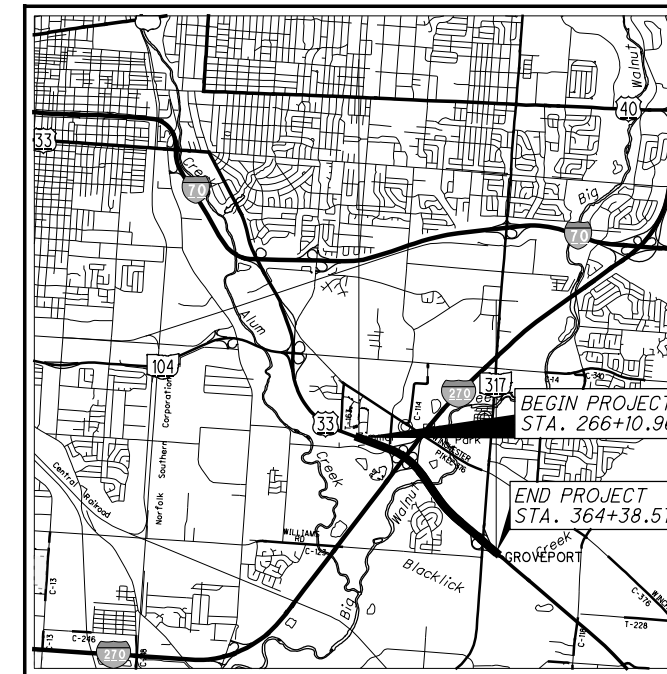
**PROJECT DESCRIPTION**

THE ROADWAY EXPLORATION PERFORMED FOR THE DESIGN AND CONSTRUCTION OF THE FRA-33-24.26 IMPROVEMENTS IN COLUMBUS, OHIO. THE PROJECT WILL CONSIST OF VARIOUS ROADWAY IMPROVEMENTS ALONG US ROUTE 33 (US 33) INCLUDING WIDENING, RESURFACING AND COMPLETE ASSESSMENT OF COMPRESSIBLE SOILS WITHIN PROJECT ALIGNMENT AS WELL AS THE WIDENING OF THE FRA-33-2503R AND FRA-2509L/R BRIDGE STRUCTURES CARRYING US 33 OVER BIG WALNUT CREEK AND ITS OVERFLOW AND TWO NOISE BARRIERS (NSA-3 AND NSA-5). THE ROADWAY ALONG US 33 WILL BE WIDENED TO THE NORTH AND SOUTH TO ACCOMMODATE NEW AUXILIARY LANES THAT WILL EXTEND BETWEEN THE EXISTING INTERCHANGE RAMPS WITH I-270 AND HAMILTON ROAD. THE WIDENED SECTION WILL RESULT IN APPROXIMATELY 10 FEET OF ADDITIONAL PAVEMENT ALONG BOTH THE EASTBOUND AND WESTBOUND LANES. THE EXISTING PAVEMENT ALONG THE US 33 MAINLINE WILL BE REHABILITATED BETWEEN SLM 24.26 AND SLM 26.12 BY PERFORMING JOINT REPAIR AND MILL AND OVERLAY.

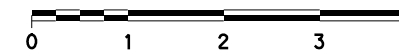
IT IS UNDERSTOOD THAT DESIGN OF THE PROPOSED NOISE BARRIERS WILL BE PERFORMED DURING THE STAGE 2 DESIGN PHASE. THEREFORE, STRUCTURE SHEETS FOR THESE NOISE BARRIERS WILL BE INCLUDED IN THIS PLAN SET AT THE STAGE 2 DESIGN PHASE.

**HISTORIC RECORDS**

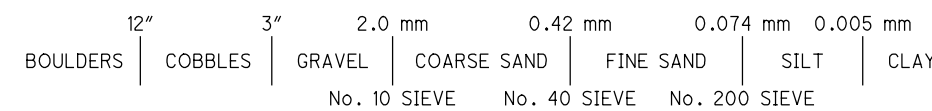
HISTORIC BORINGS ALONG THE EXISTING US 33 ALIGNMENT FROM THE ORIGINAL CONSTRUCTION PLANS, FRA-33-22.95 (DATED 1961), ARE PRESENT ON THIS SOIL PROFILE. ADDITIONALLY, TWO (2) BORINGS FROM THE FRA-33-2539L/R STRUCTURES OVER THE BIG WALNUT CREEK OVERFLOW CHANNEL, DESIGNATED AS B010-0-61 AND B-016-0-16, AND TWO (2) BORINGS FROM THE FRA-33-2545L/R STRUCTURES OVER BIG WALNUT CREEK, DESIGNATED AS B006-0-61 AND B-020-0-16, WERE OBTAINED FROM THE ORIGINAL CONSTRUCTION PLANS AS PART OF THE FRA-33-22.46 PROJECT (DATED 1961).



**LOCATION MAP**  
SCALE IN MILES



**PARTICLE SIZE DEFINITIONS**



D <sub>50</sub> VALUES			
BORING NO.	SAMPLE NO.	ELEVATION	D <sub>50</sub> VALUE
B-013-0-15	ST-9	722.0' - 720.0'	2.3500 mm
	SS-11	716.0' - 714.5'	0.6300 mm
B-014-0-15	SS-10	718.4' - 716.9'	3.0500 mm
	SS-12	713.4' - 711.9'	10.3000 mm
B-016-0-15	SS-10	718.8' - 717.3'	2.3000 mm
	SS-12	713.8' - 712.3'	2.3800 mm
B-017-0-17	SS-11	718.7' - 717.2'	1.5800 mm
	SS-14	708.7' - 707.2'	3.1900 mm

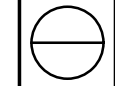
<b>RECON.</b> - BKS	01/20/16	<b>DRAWN</b> - RRM	08/22/17
<b>DRILLING</b> - CAD	02/08/16 - 03/09/16	<b>REVIEWED</b> - BRT	08/22/17
	MAW 02/16/16 - 03/14/16		
	SRB 02/29/16 - 03/08/16		
	NJA 03/09/16 - 03/10/16		

DESIGN AGENCY  
RESOURCE INTERNATIONAL  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231

PID NO.  
**98111**

**SOIL PROFILE**

**FRA - 33 - 24.26**



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GEOLOGY

THE PROJECT AREA LIES WITHIN THE COLUMBUS LOWLAND DISTRICT OF THE TILL PLAINS SECTION. THIS AREA IS CHARACTERIZED BY FLAT TO GENTLY ROLLING GROUND MORaine DEPOSITS FROM THE LATE WISCONSINAN AGE. THE SITE TOPOGRAPHY EXHIBITS LOW RELIEF. THE GROUND MORaine DEPOSITS ARE COMPOSED PRIMARILY OF SILTY LOAM TILL (DARBY, BELLEFONTAINE, CENTERBURG, GRAND LAKE, ARCANUM, KNIGHTSTOWN TILLS), WITH SMALLER ALLUVIUM AND OUTWASH DEPOSITS BORDERING THE SCIOTO RIVER, ITS TRIBUTARIES AND FLOODPLAIN AREAS. ACCORDING TO BEDROCK GEOLOGY AND TOPOGRAPHY MAPS OBTAINED FROM THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR), THE UNDERLYING BEDROCK CONSISTS OF THE DEVONIAN-AGED OHIO SHALE FORMATION. ACCORDING TO THE BEDROCK TOPOGRAPHY MAPPING, THE BEDROCK SURFACE UNDERLYING THE PROJECT ALIGNMENT IS RELATIVELY FLAT LYING, WITH THE TOP OF BEDROCK AT AN APPROXIMATE ELEVATION OF 550 FEET MEAN SEA LEVEL (MSL), WHICH IS APPROXIMATELY 180 TO 200 FEET BELOW EXISTING GRADE.

RECONNAISSANCE

THE PROJECT ALIGNMENT IS LOCATED ALONG THE EXISTING US 33, FROM JUST WEST OF THE I-270 OVERPASS TO APPROXIMATELY 2,500 FEET WEST OF THE HAMILTON ROAD OVERPASS. THE EXISTING US 33 EASTBOUND AND WESTBOUND IS A FOUR-LANE, ASPHALT PAVED ROADWAY THAT IS ALIGNED EAST-TO-WEST. THE EXISTING US 33 ROADWAY PROFILE GRADE ELEVATION VARIES ALONG THE PROJECT ALIGNMENT APPROXIMATELY 5 TO 15 FEET ABOVE SURROUNDING TERRAIN ON ENGINEERED EMBANKMENTS, WHICH ARE GRASS COVERED WITH PATCHES OF DENSE VEGETATION. THE EXISTING FRA-33-2503L/R STRUCTURE OVER THE BIG WALNUT CREEK OVERFLOW CHANNEL AND FRA-33-2509L/R STRUCTURE OVER BIG WALNUT CREEK ARE LOCATED ALONG US 33 APPROXIMATELY 1,450 AND 1,900 FEET EAST OF THE I-270 OVERPASS, RESPECTIVELY. THE TERRAIN ALONG US 33 SLOPES DOWN GENTLY TO THE EAST AND WEST OF THE STRUCTURE OVER BIG WALNUT CREEK AND SLOPES GENTLY UP AS THE ALIGNMENT APPROACHES THE HAMILTON ROAD INTERCHANGE, AND THE SURROUNDING AREA IS RELATIVELY FLAT-LYING. LAND USE ALONG THE NORTH AND SOUTH OF US 33 CONSISTS PRIMARILY OF RESIDENTIAL AND COMMERCIAL PROPERTIES ALONG WITH SOME AGRICULTURAL FIELDS.

SUBSURFACE EXPLORATION

BETWEEN FEBRUARY 8 AND MARCH 14, 2016, THIRTY-ONE (31) BORINGS, DESIGNATED AS B-013-0-15 THROUGH B-047-0-15, WERE ADVANCED TO COMPLETION DEPTHS RANGING FROM 20.0 TO 76.0 FEET BELOW THE EXISTING GROUND SURFACE. BORINGS B-013-0-15, B-014-0-15, B-016-0-15 AND B-017-0-15 WERE PERFORMED JUST OUTSIDE OF THE CONCRETE APPROACH SLABS OF THE FRA-33-2509L/R STRUCTURES. BORINGS B-014-0-15, B-015-0-15 AND B017-0-16 WERE ORIGINALLY PROPOSED TO BE LOCATED ADJACENT TO THE EXISTING PIER FOUNDATIONS AT THE FRA-33-2509L/R STRUCTURES. HOWEVER, DUE TO THE EXISTING WETLAND AREAS ADJACENT TO BIG WALNUT CREEK AT THE STRUCTURE CROSSING AND ALSO DUE TO COMPLICATIONS WITH WATERWAY PERMITTING, BORING B-015-0-15 WAS ELIMINATED AND BORINGS B-014-0-15 AND B-017-0-15 WERE RELOCATED TO THE EXISTING PAVEMENT JUST OUTSIDE OF THE APPROACH SLABS. BORINGS B-018-0-15, B-020-0-15, B-022-0-15, B-024-0-15, B-026-0-15, B-030-0-15, B-032-0-15, B-035-0-15, AND B-039-0-15 WERE PERFORMED FOR A COMBINATION OF NOISE BARRIER 5, GEOHAZARD AND EMBANKMENT EVALUATION. BORINGS B-043-0-15 THROUGH B-047-0-15 WERE PERFORMED FOR EVALUATION OF NOISE BARRIER 3. THE REMAINING BORINGS WERE PERFORMED FOR THE EVALUATION OF THE EMBANKMENT WIDENING AND GEOHAZARD ASSESSMENT ALONG US 33 WESTBOUND.

THE LOCATIONS FOR THE CURRENT EXPLORATION BORINGS PERFORMED BY RII WERE DETERMINED AND LOCATED IN THE FIELD BY RII REPRESENTATIVES. RII UTILIZED A HANDHELD GPS UNIT TO OBTAIN NORTHING AND EASTING COORDINATES OF THE BORING LOCATIONS. GROUND SURFACE ELEVATIONS AT THE BORING LOCATIONS WERE INTERPOLATED USING TOPOGRAPHIC MAPPING INFORMATION PROVIDED BY THE RII DESIGN TEAM.

THE BORINGS PERFORMED FOR THE CURRENT EXPLORATION WERE DRILLED USING A CME-55 OR MOBILE B-53 TRUCK OR CME 750X ALL-TERRAIN VEHICLE (ATV) MOUNTED ROTARY DRILLING MACHINE, UTILIZING A 3.25-INCH INSIDE DIAMETER, HOLLOW STEM AUGER OR 4.5-INCH OUTSIDE DIAMETER, CONTINUOUS FLIGHT AUGER TO ADVANCE THE HOLES. STANDARD PENETRATION TEST (SPT) AND SPLIT SPOON SAMPLING WERE PERFORMED IN THE BRIDGE STRUCTURE BORINGS AT 2.5-FOOT INCREMENTS TO A DEPTH OF 30.0 FEET, AND AT 5.0-FOOT INCREMENTS THEREAFTER TO THE BORING TERMINATION DEPTHS. NOISE BARRIER BORINGS UTILIZED 2.5-FOOT INCREMENTS SAMPLING TO BORING TERMINATION DEPTH, AND GEOHAZARD BORINGS WERE SAMPLED CONTINUOUSLY TO A DEPTH OF 10-FEET STARTING AT THE ORIGINAL GRADE ELEVATION PRIOR TO CONSTRUCTION OF US 33.

THE AUTOMATIC HAMMER FOR THE MOBILE B-53 DRILL RIG WAS CALIBRATED ON MAY 13, 2015, AND HAS A DRILL ROD ENERGY RATIO OF 77.1 PERCENT. THE AUTOMATIC HAMMERS FOR THE CME 750X AND CME 55 DRILL RIGS WERE CALIBRATED ON OCTOBER 20, 2014, AND HAVE DRILL ROD ENERGY RATIOS OF 85.7 AND 92.0 PERCENT, RESPECTIVELY.

EXPLORATION FINDINGS

BORINGS B-034-0-15, B-036-0-15, B-038-0-15 AND B-040-0-15 WERE PERFORMED AT THE TOE OF THE EXISTING EMBANKMENT SUPPORTING US 33 AND ENCOUNTERED 6.0 INCHES OF TOPSOIL EACH AT THE GROUND SURFACE. THE REMAINING BORINGS WERE PERFORMED WITHIN THE EXISTING PAVEMENT ALONG US 33 AND ENCOUNTERED 3.0 TO 12.0 INCHES OF ASPHALT OVERLYING 2.0 TO 18.0 INCHES OF AGGREGATE BASE. BORING B-037-0-15 ENCOUNTERED 12.0 INCHES OF CONCRETE BETWEEN THE ASPHALT AND AGGREGATE BASE.

EXPLORATION FINDINGS (CONTINUED)

BENEATH THE SURFICIAL MATERIALS, EXISTING EMBANKMENT FILL CONSISTING OF BOTH GRANULAR AND COHESIVE MATERIAL WAS ENCOUNTERED IN THE BORINGS PERFORMED FROM THE ROADWAY ALONG US 33 EXTENDING TO DEPTHS RANGING FROM 4.5 TO 17.5 FEET BELOW THE GROUND SURFACE. THE GRANULAR MATERIAL ENCOUNTERED WITHIN THE EXISTING EMBANKMENT WAS GENERALLY DESCRIBED AS BROWN, BROWNISH GRAY AND DARK BROWNISH GRAY GRAVEL, GRAVEL AND SAND, GRAVEL WITH SAND AND SILT, GRAVEL WITH SAND SILT AND CLAY AND COARSE AND FINE SAND (ODOT A-1-a, A-1-b, A-2-4, A-2-6, A-3a). THE COHESIVE MATERIAL ENCOUNTERED WITHIN THE EXISTING EMBANKMENT WAS GENERALLY DESCRIBED AS BROWN, BROWNISH GRAY AND MOTTLED BROWN AND GRAY SANDY SILT, SILT AND CLAY, SILTY CLAY AND CLAY (ODO A-4a, A-6a, A-6b, A-7-6).

UNDERLYING THE EXISTING EMBANKMENT FILL AND TOPSOIL IN BORINGS B-034-0-15, B-036-0-15, B-038-0-15 AND B-040-0-15, NATURAL SOILS WERE ENCOUNTERED CONSISTING OF BOTH GRANULAR AND COHESIVE MATERIAL. THE GRANULAR SOILS ENCOUNTERED WERE GENERALLY DESCRIBED AS MOTTLED GRAY, BLACK AND BROWN, BROWNISH GRAY TO GRAY AND GRAYISH BROWN GRAVEL, GRAVEL AND SAND, FINE SAND, COARSE AND FINE SAND, GRAVEL WITH SAND AND SILT, GRAVEL WITH SAND, SILT AND CLAY, SANDY SILT AND SILT (ODOT A-1-a, A-1-b, A-3, A-3a, A-2-4, A-2-6, A-4a, A-4b). THE COHESIVE SOILS ENCOUNTERED WERE GENERALLY DESCRIBED AS BROWN, DARK GRAY, GRAY, BROWNISH GRAY AND MOTTLED BLACK AND GRAY SANDY SILT, SILT, SILT AND CLAY, SILTY CLAY, ELASTIC CLAY AND CLAY (ODOT A-4a, A-4b, A-6a, A-6b, A-7-5, A-7-6).

EXPLORATION FINDINGS (CONTINUED)

IT SHOULD BE NOTED THAT ORGANIC MATERIAL WAS ENCOUNTERED THROUGHOUT THE COHESIVE SOIL IN BORINGS B-013-0-15, B-014-0-15, B-016-0-15, B-017-0-15, B-028-0-15, B-033-0-15, B-035-0-15, B-036-0-15, B-037-0-15, B-038-0-15, AT ELEVATIONS RANGING FROM 721.0 FEET (MSL) TO 730.5 FEET (MSL). IN GENERAL THE SOILS SAMPLES DISPLAYED ORGANIC CONTENTS RANGING FROM 3.4 TO 11.4 PERCENT AND CONTAINED MOISTURE CONTENTS RANGING FROM 34 TO 80 PERCENT.

THROUGHOUT THE PROJECT CORRIDOR COBBLES WERE ENCOUNTERED IN BORINGS B-014-0-15, B-027-0-15, B-034-0-15, B-035-0-15, B-037-0-15, B-038-0-15, B-039-0-15, B-040-0-15, B-041-0-15, B-042-0-15, B-045-0-15 AND B-046-0-15 AT DEPTHS RANGING FROM 3.5 TO 25.0 FEET BELOW GROUND SURFACE. ADDITIONALLY, HEAVING SANDS WERE ENCOUNTERED WITHIN THE GRANULAR SOIL DEPOSITS AT DEPTHS RANGING FROM 3.5 TO 35.0 FEET BELOW THE GROUND SURFACE IN BORINGS B-014-0-15, B-026-0-15, B-027-0-15, B-028-0-15, B-030-0-15, B-031-0-15, B-034-0-15, B-035-0-15, B-036-0-15, B-037-0-15, B-039-0-15, B-041-0-15, B-042-0-15, B-043-0-15, B-044-0-15 AND B-046-0-15.

BASED ON THE SPT BLOW COUNTS OBTAINED, THE GRANULAR SOIL ENCOUNTERED RANGED FROM VERY LOOSE (N60 < 5 BLOWS PER FOOT [BPF]) TO VERY DENSE (N60 > 50 BPF). OVERALL BLOW COUNTS RECORDED FROM THE SPT SAMPLING RANGED FROM 0 BPF (SPLIT SPOON ADVANCED UNDER THE WEIGHT OF THE HAMMER [WOH] ALONE WITHOUT REQUIRING THE HAMMER TO LIFT AND DROP) TO SPLIT SPOON SAMPLER REFUSAL. SPLIT SPOON SAMPLER REFUSAL IS DEFINED AS EXCEEDING 50 BLOWS FROM THE HAMMER WITH LESS THAN 6.0 INCHES OF PENETRATION BY THE SPLIT SPOON SAMPLER. THE COHESIVE SOIL ENCOUNTERED RANGED FROM VERY SOFT (HP < 0.25 TSF) TO HARD (HP > 4.0 TSF). THE UNCONFINED COMPRESSIVE STRENGTH OF THE COHESIVE SOIL SAMPLES TESTED, OBTAINED FROM THE HAND PENETROMETER, RANGED FROM 0.25 TO OVER 4.5 TSF (LIMIT OF INSTRUMENT).

NATURAL MOISTURE CONTENTS OF THE SOIL SAMPLES TESTED RANGED FROM 3 TO 80 PERCENT, WHICH INCLUDES THE ORGANIC LAYERS. THE NATURAL MOISTURE CONTENTS OF THE INORGANIC SOIL SAMPLES TESTED RANGED FROM 3 TO 38 PERCENT. THE NATURAL MOISTURE CONTENT OF THE COHESIVE SOIL SAMPLES TESTED FOR PLASTICITY INDEX RANGED FROM 12 PERCENT BELOW TO 59 PERCENT ABOVE THEIR CORRESPONDING PLASTIC LIMITS. WITHIN THE ORGANIC LAYERS, THE SOILS TESTED FOR OVEN DRIED LIQUID LIMIT DISPLAYED OVEN DRIED-LIQUID LIMITS RANGE FROM 31 TO 51 PERCENT. IN GENERAL, THE SOIL EXHIBITED NATURAL MOISTURE CONTENTS CONSIDERED TO BE SIGNIFICANTLY BELOW TO SIGNIFICANTLY ABOVE OPTIMUM MOISTURE LEVELS.

BEDROCK WAS NOT ENCOUNTERED IN ANY OF THE BORINGS PERFORMED FOR THIS EXPLORATION.

GROUNDWATER WAS ENCOUNTERED INITIALLY DURING THE DRILLING PROCESS IN ALL BORINGS AT DEPTHS RANGING FROM 4.5 TO 23.5 FEET BELOW THE EXISTING GROUND SURFACE, WHICH CORRESPONDS TO ELEVATIONS RANGING FROM 725.0 TO 719.4 FEET MSL. AT THE COMPLETION OF DRILLING AND PRIOR TO REMOVING THE AUGERS, GROUNDWATER ACCUMULATED IN THE AUGER STEMS OF TWENTY-THREE (23) OF THE BORINGS TO DEPTHS RANGING FROM 4.1 TO 23.5 FEET BELOW THE EXISTING GROUND SURFACE, WHICH CORRESPONDS TO ELEVATIONS RANGING FROM 725.4 TO 717.7 FEET MSL. ACCURATE GROUNDWATER LEVELS COULD NOT BE OBTAINED AT THE COMPLETION OF DRILLING IN THE REMAINING BORINGS DUE TO THE ADDITION OF WATER OR MUD AS A DRILLING FLUID TO COUNTERACT HEAVING SANDS.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JANUARY 2016.

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 OR THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1980 WEST BROAD STREET.

DRAWN	RRM	CHECKED	BRT
<b>SOIL PROFILE</b>			
<b>FRA - 33 - 24.26</b>			
			2 / 44
			

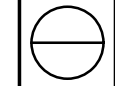
SUMMARY OF SOIL TEST DATA  
 Σ SR 33


EXPLORATION NO., STATION & OFFSET	FROM - TO	SAMPLE ID	N <sub>60</sub>	% REC	HP †sf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO <sub>4</sub>	
B-019-0-15 STA. 317+20.00, 59.0' LT. LATITUDE = 39.897052 LONGITUDE = -82.892606	02.00 - 03.50	SS-1	13	67	-	73	11	5	8	3	NP	NP	NP	4	A-1-a (0) *	440	
	03.50 - 05.00	SS-2	11	83	-	FILL: MED DE BR GRAVEL AND SAND, TR SILT, TR CLAY								9	A-1-a (V)		
	06.00 - 07.50	SS-3	20	83	3.75	30	20	13	16	21	38	18	20	14	A-6b (3)		
	08.50 - 10.00	SS-4	26	72	4.00	FILL VERY STIFF BR SILTY CLAY, SM C-F SA, SM F GR								17	A-6b (V)		
	11.00 - 12.50	SS-5	14	100	4.00	SAME AS SS-5								16	A-6b (V)		
	13.50 - 15.00	SS-6	16	100	2.50									25	A-7-6 (12)		
	15.00 - 16.50	SS-7	27	78	2.50	VERY STIFF GRAY CLAY, "AND" SILT, TR C-F SA, TR F GR								26	A-7-6 (V)		
	16.50 - 18.00	SS-8	11	89	1.50	1	0	6	46	47	50	21	29	26	A-7-6 (18)		
	18.00 - 19.50	SS-9	14	94	2.50	VERY STIFF GRAY MOT W/ BR SILT AND CLAY, TR C-F SA								23	A-6a (V)		
	19.50 - 20.70	ST-10A	-	100	1.50	SAME AS SS-9								-	A-6a (V)		
	20.70 - 21.50	ST-10B	-	100	-	MED DE BROWN GRAVEL WITH SAND AND SILT, TR CL								-	A-2-4 (V)		
	21.50 - 23.00	SS-11	26	56	-	51	19	11	12	7	28	18	10	17	A-2-4 (0)		
	23.00 - 24.50	SS-12	17	100	-	MED DE BROWN GRAVEL WITH SAND, TR SILT, TR CLAY								13	A-1-b (V)		
	28.50 - 30.00	SS-13	17	100	-	49	32	11	5	3	NP	NP	NP	20	A-1-b (0)		
	33.50 - 35.00	SS-14	29	100	-	SAME AS SS-13								9	A-1-b (V)		
38.50 - 40.00	SS-15	31	100	-	14	57	22	4	3	NP	NP	NP	21	A-1-b (0)			
B-023-0-15 STA. 321+04.01, 50.0' LT. LATITUDE = 39.896170 LONGITUDE = -82.891855	02.00 - 03.50	SS-1	14	39	-	FILL: MED DE BROWN GRAVEL WITH SAND, SILT AND CLAY								9	A-2-6 (V) *	260	
	04.25 - 06.00	SS-2	15	78	-	42	19	12	6	21	33	20	13	15	A-2-6 (0)		
	07.00 - 08.50	SS-3	26	100	-	FILL: MED DE BROWN GRAVEL WITH SAND, SILT AND CLAY								14	A-2-6 (V)		
	09.50 - 11.00	SS-4	26	100	-	SAME AS SS-4								14	A-2-6 (V)		
	12.00 - 13.50	SS-5	17	100	3.50	VERY STIFF GRAY SILTY CLAY, SM C-F SAND								30	A-6b (V)		
	14.50 - 16.50	ST-6	-	100	3.00	0	11	11	40	38	37	18	19	25	A-6b (25)		
	16.50 - 18.00	SS-7	5	100	1.50	LOOSE BR GY GRAVEL WITH SAND AND SILT, LIT CLAY								28	A-2-4 (V)		
	19.50 - 21.00	SS-8	14	83	-	35	21	13	14	17	NP	NP	NP	11	A-2-4 (0)		
	22.00 - 23.50	SS-9	31	94	-	DENSE GRAVEL WITH SAND, TRACE SILT, TRACE CLAY								13	A-1-b (V)		
	24.50 - 26.00	SS-10	49	67	-	66	28	2	0	4	NP	NP	NP	11	A-1-a (0)		
	B-027-0-15 STA. 325+20.00, 67.0' RT. LATITUDE = 39.895280 LONGITUDE = -82.890944	01.50 - 03.00	SS-1	19	78	-	FILL: MED DE BR GRAVEL WITH SAND, SILT AND CLAY								10	A-2-6 (V)	187
		03.50 - 05.00	SS-2	12	44	-	62	10	6	11	11	34	18	16	8	A-2-6 (0)	
		06.00 - 07.50	SS-3	27	100	-	FILL: MED DE BR GRAVEL WITH SAND, SILT AND CLAY								18	A-2-6 (V)	
		08.50 - 10.00	SS-4	19	56	-	SAME AS SS-3								16	A-2-6 (V)	
		11.00 - 12.50	SS-5	14	100	2.75	1	1	12	43	43	38	19	19	25	A-6b (12)	
13.50 - 15.00		SS-6	15	100	2.00	VERY STIFF GRAY SILTY CLAY, LIT C-F SAND, TR F GR								23	A-6b (V)		
19.00 - 17.50		SS-7	3	72	-	27	35	11	19	8	26	22	4	21	A-2-4 (V)		
18.50 - 20.00		SS-8	27	50	-	MED DE GRAY GRAVEL WITH SAND AND SILT, TR CLAY								15	A-2-4 (0)		
21.00 - 22.50		SS-9	45	0	-	NO RECOVERY								-	-		
22.50 - 23.00		SS-9A	37	100	-	29	30	20	15	6	19	16	3	10	A-1-b (0)		
23.50 - 25.00		SS-10	31	72	-	DENSE GRAY GRAVEL WITH SAND, LIT CLAY, TR SILT								15	A-1-b (V)		
B-031-0-15 STA. 329+20.00, 67.0' LT. LATITUDE = 39.894449 LONGITUDE = -82.890039		01.50 - 03.00	SS-1	14	78	-	FILL: MED DE BR GRAVEL WITH SAND AND SILT, TR CL								12	A-2-4 (V)	267
		03.50 - 04.50	SS-2A	14	100	-	44	20	11	11	14	27	17	10	11	A-2-4 (0)	
		04.50 - 05.00	SS-2B	8	100	4.50	HARD BR SILT AND CLAY, LIT C-F SAND, TR F GR								14	A-6a (V)	
		06.00 - 07.00	SS-3A	10	42	3.00	VERY STIFF BR SILT AND CLAY, LIT C-F SAND, TR F GR								15	A-6a (V)	
	07.00 - 07.50	SS-3B	8	83	4.50	HARD BR SILT AND CLAY, LIT C-F SAND, TR F GR								-	A-6a (V)		
	08.50 - 10.00	SS-4	18	72	4.50	2	2	11	40	45	34	22	12	21	A-6a (9)		
	11.00 - 12.50	SS-5	5	100	-	LOOSE BR MOT GRAY GRAVEL WITH SAND, SILT & CLAY								22	A-2-6 (V)		
	13.50 - 15.00	SS-6	5	100	-	36	11	22	12	19	35	16	19	24	A-2-6 (1)		
	16.00 - 17.50	SS-7	26	100	-	MED DE BR TO GY GRAVEL WITH SAND, TR SILT, TR CLAY								16	A-1-b (V)		
	18.50 - 20.00	SS-8	42	100	-	DE BR TO GY GRAVEL WITH SAND, TR SILT, TR CLAY								12	A-1-b (V)		
	21.00 - 22.50	SS-9	59	100	-	54	21	9	9	7	24	18	6	10	A-1-b (0)		
	23.50 - 25.00	SS-10	42	78	-	DE BR TO GY GRAVEL WITH SAND, TR SILT, TR CLAY								16	A-1-b (V)		
	B-033-0-15 STA. 331+20.00, 67.0' LT. LATITUDE = 39.894052 LONGITUDE = -82.889559	01.00 - 02.50	SS-1	27	39	-	FILL: MED DE BR GRAVEL WITH SAND, SILT AND CLAY								18	A-2-6 (V) *	
		03.50 - 05.00	SS-2	19	100	-	46	20	9	15	10	28	16	12	10	A-2-6 (0)	
		06.00 - 07.50	SS-3	31	44	-	FILL: DENSE BR GRAVEL WITH SAND, SILT AND CLAY								16	A-2-6 (V)	
08.50 - 10.00		SS-4	45	89	-	43	19	11	15	12	28	16	12	9	A-2-6 (0)		
10.00 - 11.50		SS-5	24	33	4.00	VERY STIFF BR SANDY SILT, LIT F GR, LIT CLAY								9	A-4a (V)		
11.50 - 13.00		SS-6	17	22	1.00	STIFF BROWN SILT AND CLAY, LIT C-F GR, LIT C-F SAND								16	A-6a (V)		
13.00 - 14.50		SS-7	21	94	2.50	0	3	15	43	39	41	18	23	24	A-7-6 (13)		
14.50 - 16.00		SS-8	6	100	1.50	STIFF BROWNISH GRAY CLAY, "AND" SILT, LIT C-F SAND								26	A-7-6 (V)		
16.00 - 17.50		SS-9	6	94	1.50	0	19	28	24	29	35	18	17	39	A-6b (6)		
17.50 - 19.00		SS-10	40	33	2.00	VERY STIFF BR SILT AND CLAY, LIT C-F SAND, TR F GR								20	A-6a (V)		
19.00 - 20.50		SS-11	15	67	-	24	35	23	12	6	22	15	7	15	A-2-4 (0)		
21.00 - 22.50		SS-12	27	78	-	VERY STIFF GY GRAVEL WITH SAND AND SILT, TR CLAY								16	A-2-4 (V)		
23.50 - 25.00		SS-13	27	83	-	39	33	13	10	5	22	15	7	13	A-2-4 (0)		
28.50 - 30.00		SS-14	28	83	-	MED DE GRAY COARSE AND FINE SAND, LIT F GR, TR SILT								15	A-3a (V)		
33.50 - 35.00		SS-15	46	78	-	SAME AS SS-14								12	A-3a (V)		
38.50 - 39.50	SS-16A	56	100	-	45	28	12	11	4	22	15	7	11	A-2-4 (0)			
39.50 - 40.00	SS-16B	33	100	4.50	HARD GY SILT AND CLAY, SM C-F SAND, SM F GR								10	A-6a (V)			
B-034-0-15 STA. 331+72.22, 126.1' RT. LATITUDE = 39.893579 LONGITUDE = -82.889928	01.00 - 02.50	SS-1	7	100	1.25	0	2	41	32	25	24	15	9	18	A-4a (4)		
	02.50 - 04.00	SS-2	9	89	0.50	MED ST BR MOT W GRAY SANDY SILT, SOME CLAY								20	A-4a (V)		
	04.00 - 06.00	ST-3	-	67	-	BROWN SILTY CLAY, "AND" C-F SAND, TR F GRAVEL								24	A-6b (4)		
	06.00 - 07.50	SS-4	10	89	-	LOOSE BR GRAVEL AND SAND, LIT SILT, TR CLAY								13	A-1-b (V)		
	07.50 - 09.00	SS-5	33	44	-	SAME AS SS-4								22	A-1-b (V)		
	09.00 - 10.50	SS-6	19	89	-	36	31	13	14	6	22	16	6	14	A-1-b (0)		
	11.00 - 12.50	SS-7	20	100	-	MED DE BROWN GRAVEL WITH SAND, LIT SILT, TR CLAY								16	A-1-b (V)		
	13.50 - 15.00	SS-8	23	100	-	13	34	29	17	7	17	13	4	16	A-3a (0)		
	16.00 - 17.50	SS-9	21	100	-	MEDIUM DENSE GRAY FINE SAND, TRACE SILT								16	A-3 (V)		
	18.50 - 20.00	SS-10	36	100	-	DENSE GRAY COARSE AND FINE SAND, TR SILT, TR CLAY								13	A-3a (V)		
	B-036-0-15 STA. 331+72.22, 126.1' RT. LATITUDE = 39.893579 LONGITUDE = -82.889928	01.00 - 02.50	SS-1	6	44	1.00	MEDIUM STIFF BR GY CLAY, "AND" SILT, TR C-F SA								37	A-7-6 (V)	
		02.50 - 04.50	ST-5	-	100	0.50	0	1	2	52	45	51	23	28	36	A-7-6 (17)	
		04.50 - 06.00	SS-3	0	100	0.00	1	6	16	53	24	40	21	19	80	A-6b (12)	
		06.00 - 07.50	SS-4	6	56	0.25	VERY SOFT GRAY SILTY CLAY, SM C-F SA, TR F GR								39	A-6b (V)	
		07.50 - 09.00	SS-5	20	67	-	43	16	7	19	15	35	17	18	17	A-2-6 (2)	
09.00 - 10.50		SS-6	20	67	-	MED DE BR GRAVEL WITH SAND, LIT SILT, TR CLAY			</								



SUMMARY OF SOIL TEST DATA  
US-33 HISTORIC BORINGS

EXPLORATION NO., STATION & OFFSET	FROM	TO	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	SHTL. CLASS
H-028-0-61 306 + 00 CENTERLINE	00.40-03.00 03.00-10.00 10.00-17.00		0 73 50	1 12 43	18 4 4	42 8 - 3	39 3 -	33 NP NP	20 NP NP	13 NP NP	22 12 13	A-6a A-1-a A-1-a
H-029-0-61 308 + 00 CENTERLINE	00.40-03.00 03.00-05.00		0 53	9 11	30 16	39 12	22 8	NP NP	NP NP	NP NP	24 10	A-4a A-1-b
H-030-0-61 313+50 CENTERLINE	00.40-06.00 06.00-12.00 12.00-18.00		0 82 75	3 10 21	9 4 3	48 - 4 - 1	40 -	64 NP NP	32 NP NP	32 NP NP	19 12 12	A-7-6 A-1-a A-1-a
H-031-0-61 317 + 00 CENTERLINE	00.40-06.00 06.00-10.00 10.00-15.00 15.00-20.00		0 71 63 63	3 15 30 31	10 4 4 4	39 6 - 3 - 2	48 4	38 NP NP NP	25 NP NP NP	13 NP NP NP	23 15 13 11	A-6a A-1-a A-1-a A-1-a
H-032-0-61 319 + 80 CENTERLINE	00.50-05.00 05.00-15.00		0 65	2 18	9 9	31 - 8	58 -	- NP	- NP	- NP	27 15	A-7-6 A-1-a
H-033-0-61 324 + 00 CENTERLINE	00.50-04.00 04.00-10.00 10.00-15.00		0 61 51	3 16 28	9 11 10	35 6 6	53 6 5	41 NP NP	23 NP NP	18 NP NP	27 19 15	A-7-6 A-1-a A-1-a
H-034-0-61 328 + 00 CENTERLINE	00.50-03.50 03.50-07.00 07.00-12.00 12.00-15.00		0 78 67 33	11 7 22 36	43 6 5 13	2 5 - 6 10	44 4 -	23 NP NP NP	16 NP NP NP	7 NP NP NP	17 19 16 17	A-4a A-1-a A-1-a A-1-b
H-035-0-61 332 + 00 CENTERLINE	00.50-01.00 01.00-02.50 02.50-10.00		0 0 81	1 0 6	7 27 5	41 42 5	51 31 3	52 26 NP	28 16 NP	24 10 NP	36 24 18	A-7-6 A-4a A-1-a
H-035-1-61 332 + 00 100' LT	00.50-04.00 04.00-08.00 08.00-10.00		0 0 74	2 0 11	4 29 6	44 38 5	50 33 4	36 23 NP	20 17 NP	16 6 NP	26 25 14	A-6a A-4a A-1-a
H-035-2-61 332 + 00 100' RT	00.50-05.00 05.00-10.00		0 73	0 15	4 4	53 - 8	43 -	40 NP	22 NP	18 NP	41 14	A-6a A-1-a
H-036-0-61 332 + 90 CENTERLINE	00.50-02.50 02.50-04.50 04.50-10.00		0 0 10	1 1 1	4 1 4	38 34 38	57 64 5	57 52 NP	42 23 NP	15 29 NP	58 52 77	A-7-5 A-7-6 A-7-5
H-037-1-61 333 + 00 100' LT	00.50-04.00 04.00-05.50 05.50-10.00		0 0 56	2 1 24	14 30 11	42 34 5	42 35 4	32 24 NP	19 14 NP	13 10 NP	24 29 -	A-6a A-4a A-1-a
H-037-2-61 333 + 00 100' RT	00.50-04.00 04.00-10.00		70 88	14 5	4 2	7 - 5	5 -	23 NP	19 NP	4 NP	9 17	A-1-a A-1-a
H-038-0-61 333 + 54 CENTERLINE	00.50-01.50 01.50-05.00 05.00-07.00		0 0 81	1 0 10	2 3 4	37 59 - 5	60 38 -	57 50 NP	37 27 NP	20 23 NP	58 62 20	A-7-5 A-7-6 A-1-a
H-038-1-61 333 + 54 40' LT.	00.50-01.50 01.50-05.50 05.50-10.00		63 0 80	18 2 6	6 17 5	8 41 4	5 40 5	NP 53 NP	NP 29 NP	NP 24 NP	12 69 19	A-1-a A-7-6 A-1-a
H-038-2-61 333 + 50 38' RT.	00.50-01.50 01.50-04.00 04.00-10.00		0 10 66	7 6 18	7 6 4	50 30 5	36 48 7	NP 43 33	NP 29 20	NP 14 13	42 60 16	A-4a A-7-6 A-2-6
H-039-1-61 334 + 00 100' LT	00.00-03.00 03.00-04.50 04.50-10.00		0 0 38	0 1 32	25 32 19	39 54 5	36 13 6	29 23 NP	15 15 NP	14 8 NP	26 33 24	A-6a A-4a A-1-a
H-039-2-61 334 + 00 100' RT	00.00-04.00 04.00-10.00		40 31	22 33	9 13	11 13	18 10	26 NP	16 NP	10 NP	17 19	A-2-6 A-1-b
H-040-0-61 334 + 50 CENTERLINE	00.50-03.00 03.00-08.00 08.00-11.00 11.00-12.00		19 41 58 13	25 14 10 34	8 10 8 38	25 20 14 9	23 15 10 6	33 27 25 NP	21 19 20 NP	12 8 5 NP	20 23 21 19	A-6a A-2-4 A-1-b A-3a
H-040-1-61 334 + 50 150' LT	00.30-03.00 03.00-04.50 04.50-10.00		0 0 45	0 1 36	28 33 10	36 37 - 9	37 29 -	29 27 NP	18 19 NP	11 6 NP	32 26 16	A-6a A-4a A-1-a
H-040-2-61 334 + 50 100' LT	00.00-04.50 04.50-10.00		41	32	9	10	8	102 NP	47 NP	55 NP	76 20	VISUAL A-1-a
H-040-3-61 334 + 50 100' RT	00.00-03.50 03.50-10.00		45 17	24 41	6 13	12 13	13 16	27 22	19 17	8 5	21 12	A-2-4 A-3a

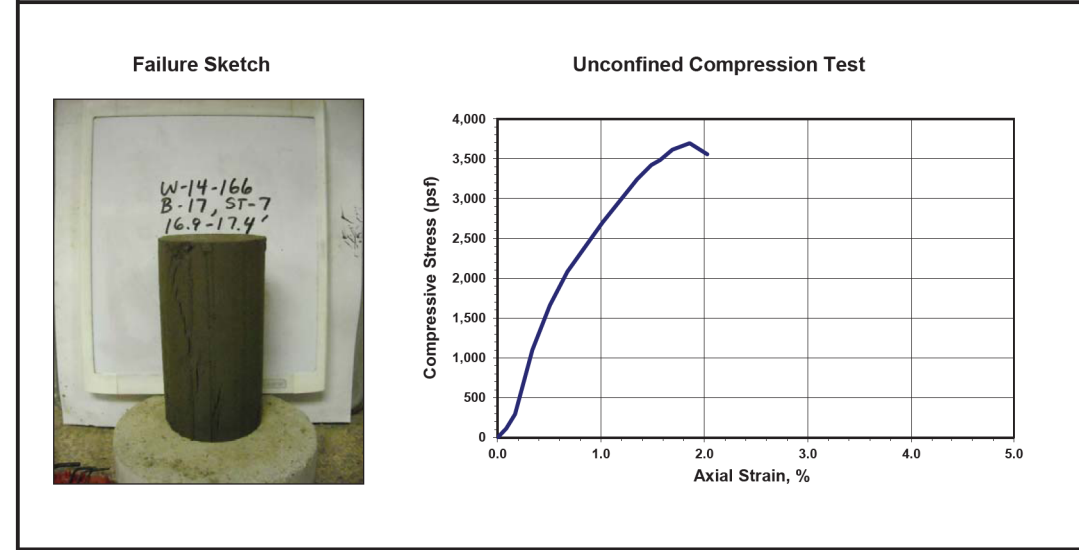



 6350 Presidential Gateway Columbus, Ohio 43231 Telephone: (614) 823-4949 Fax Number: (614) 823-4990	<b>UNCONFINED COMPRESSION</b> ASTM D2166
	PROJECT <u>FRA-33-24.26</u> JOB No. <u>W-14-166</u>
	BORING <u>B-017-0-15</u> STATION / OFFSET <u>314+22.63 / 51.9' Lt.</u> SAMPLE No. / DEPTH <u>ST-7 / 16.9 ft</u> DATE OF TESTING <u>02/25/2016</u> TESTED BY <u>C.S.</u>

Soil Description: Brownish gray CLAY, "and" silt, little fine sand.  
 Soil Classification: ODOT A-7-6

Physical Characteristics	L.L.	P.L.	P.I.	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	45	24	21	0	0	12	47	41

DIAMETER, D <sub>0</sub>	2.852 in	72.4 mm	STRAIN RATE	1.00	%/min
AREA, A <sub>0</sub>	6.388 in <sup>2</sup>	41.2 cm <sup>2</sup>	WET SOIL + PAN MASS	1288.6	g
HEIGHT, L <sub>0</sub>	5.920 in	150.38 mm	PAN MASS	107.8	g
VOLUME, V <sub>0</sub>	37.821 in <sup>3</sup>	619.78 cm <sup>3</sup>	DRY SOIL + PAN MASS	1056.7	g
MACH. RATE	0.059	in/min	WET DENSITY	118.94	lb/ft <sup>3</sup>
WATER CONT.	24.44	%	DRY DENSITY	95.58	lb/ft <sup>3</sup>
UNCONFINED COMPRESSION STRESS, q <sub>u</sub>	<b>3,694</b> psf			1.85	tsf
AXIAL STRAIN @ FAILURE				1.86	%
HAND PENETROMETER				2.00	tsf

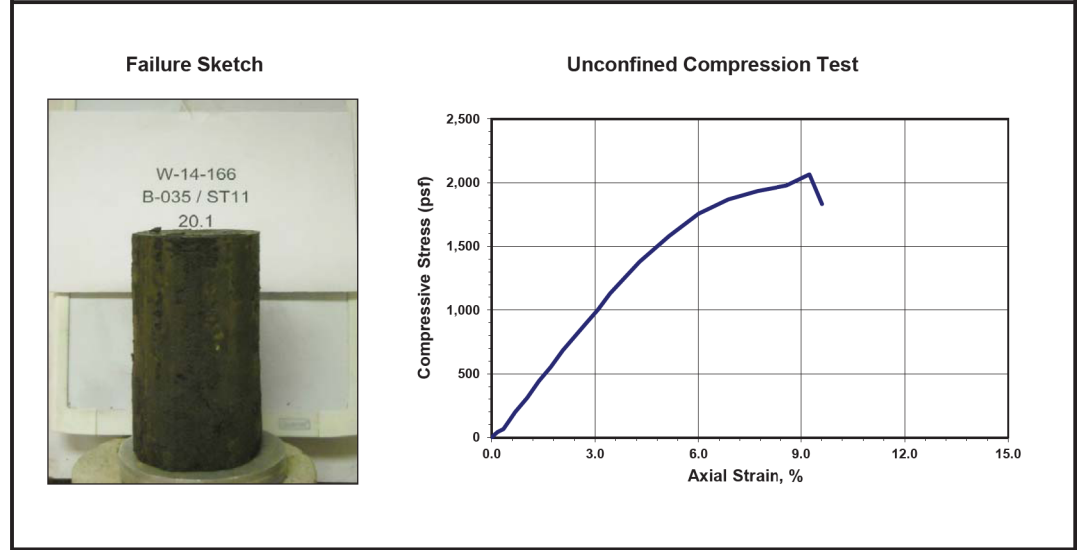


 6350 Presidential Gateway Columbus, Ohio 43231 Telephone: (614) 823-4949 Fax Number: (614) 823-4990	<b>UNCONFINED COMPRESSION</b> ASTM D2166
	PROJECT <u>FRA-33-24.26</u> JOB No. <u>W-14-166</u>
	BORING <u>B-035-0-15</u> STATION / OFFSET <u>331+80.00 / 59.0' Rt.</u> SAMPLE No. / DEPTH <u>ST-11 / 20.1 ft</u> DATE OF TESTING <u>02/22/2016</u> TESTED BY <u>JJH</u>

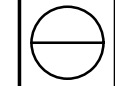
Soil Description: Dark gray CLAY, "and" silt, little coarse to fine sand, trace fine gravel, wet.  
 Soil Classification: ODOT A-7-6


Physical Characteristics	L.L.	P.L.	P.I.	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	55	29	26	5	5	12	53	25

DIAMETER, D <sub>0</sub>	2.853 in	72.5 mm	STRAIN RATE	1.00	%/min
AREA, A <sub>0</sub>	6.393 in <sup>2</sup>	41.2 cm <sup>2</sup>	WET SOIL + PAN MASS	1070.7	g
HEIGHT, L <sub>0</sub>	5.830 in	148.07 mm	PAN MASS	126.8	g
VOLUME, V <sub>0</sub>	37.268 in <sup>3</sup>	610.71 cm <sup>3</sup>	DRY SOIL + PAN MASS	689.8	g
MACH. RATE	0.058	in/min	WET DENSITY	96.48	lb/ft <sup>3</sup>
WATER CONT.	67.66	%	DRY DENSITY	57.55	lb/ft <sup>3</sup>
UNCONFINED COMPRESSION STRESS, q <sub>u</sub>	<b>2,065</b> psf			1.03	tsf
AXIAL STRAIN @ FAILURE				9.25	%
HAND PENETROMETER				1.25	tsf



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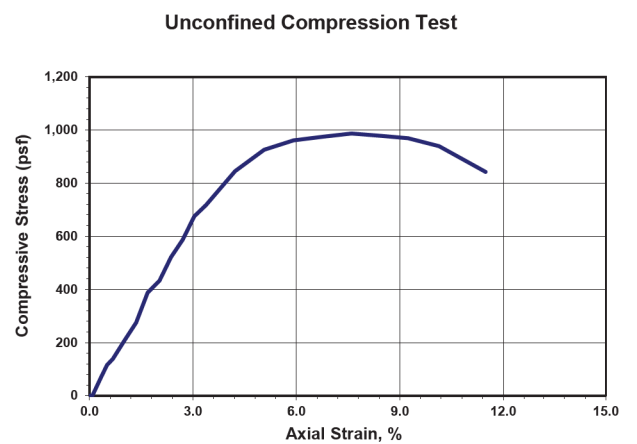



 <p>6350 Presidential Gateway Columbus, Ohio 43231 Telephone: (614) 823-4949 Fax Number: (614) 823-4990</p>	<b>UNCONFINED COMPRESSION</b> ASTM D2166	
	PROJECT	FRA-33-24.26
	JOB No.	W-14-166
	BORING	B-036-0-15
	STATION / OFFSET	331+72.22 / 126.1' Rt.
	SAMPLE No. / DEPTH	ST-2 / 3.6 ft
	DATE OF TESTING	03/22/2016
	TESTED BY	JJH

Soil Description: Gray CLAY, "and" silt, trace coarse to fine sand, moist.  
Soil Classification: ODOT A-7-6

Physical Characteristics	L.L.	P.L.	P.I.	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	51	23	28	0	1	2	52	45

DIAMETER, D <sub>0</sub>	2.810 in	71.4 mm	STRAIN RATE	1.00	%/min
AREA, A <sub>0</sub>	6.203 in <sup>2</sup>	40.0 cm <sup>2</sup>	WET SOIL + PAN MASS	1178.9	g
HEIGHT, L <sub>0</sub>	5.922 in	150.41 mm	PAN MASS	104.0	g
VOLUME, V <sub>0</sub>	36.732 in <sup>3</sup>	601.94 cm <sup>3</sup>	DRY SOIL + PAN MASS	860.0	g
MACH. RATE	0.059	in/min	WET DENSITY	111.48	lb/ft <sup>3</sup>
WATER CONT.	42.18	%	DRY DENSITY	78.40	lb/ft <sup>3</sup>
UNCONFINED COMPRESSION STRESS, q <sub>u</sub>	<b>987</b>		psf	0.49	tsf
AXIAL STRAIN @ FAILURE				7.60	%
HAND PENETROMETER				0.50	tsf

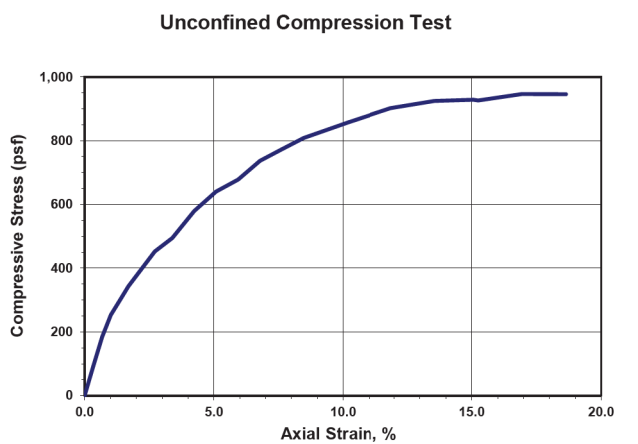


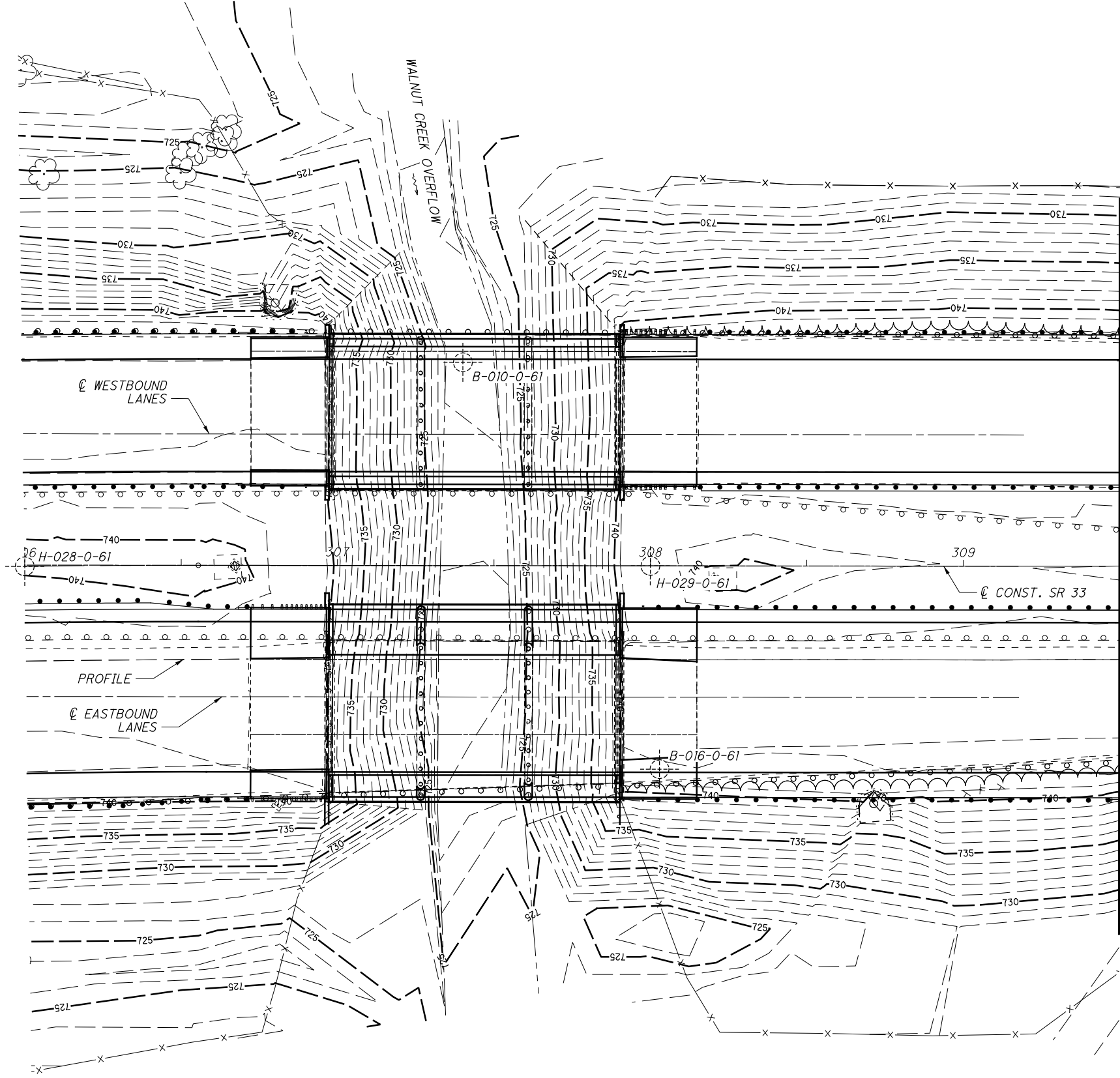
 <p>6350 Presidential Gateway Columbus, Ohio 43231 Telephone: (614) 823-4949 Fax Number: (614) 823-4990</p>	<b>UNCONFINED COMPRESSION</b> ASTM D2166	
	PROJECT	FRA-33-24.26
	JOB No.	W-14-166
	BORING	B-038-0-15
	STATION / OFFSET	333+20.00 / 118.0' Lt.
	SAMPLE No. / DEPTH	ST-4 / 5.9 ft
	DATE OF TESTING	03/22/2016
	TESTED BY	JJH

Soil Description: Brownish gray SILTY CLAY, some coarse to fine sand, moist.  
Soil Classification: ODOT A-6b

Physical Characteristics	L.L.	P.L.	P.I.	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	37	15	22	0	2	30	35	33

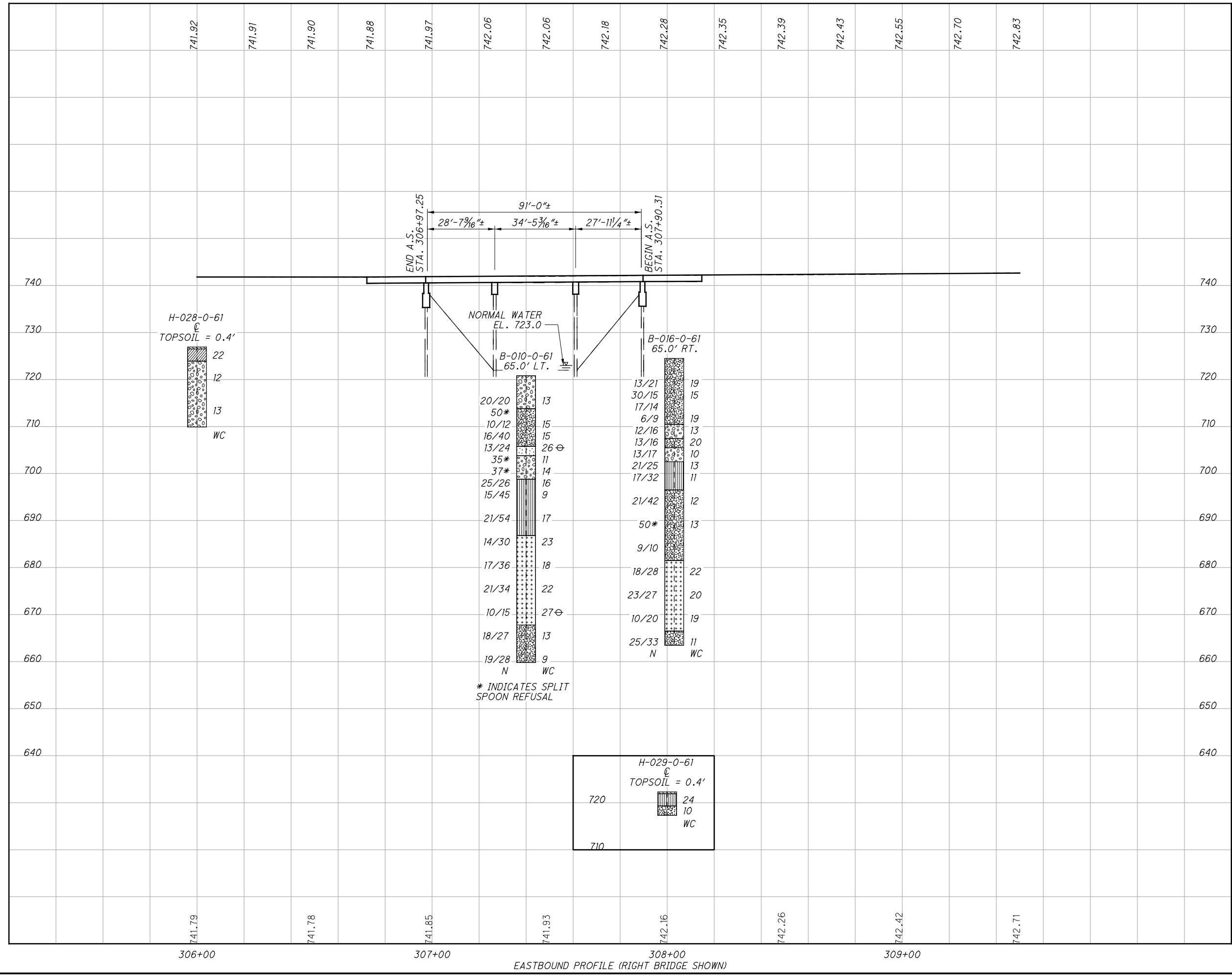
DIAMETER, D <sub>0</sub>	2.808 in	71.3 mm	STRAIN RATE	1.00	%/min
AREA, A <sub>0</sub>	6.194 in <sup>2</sup>	40.0 cm <sup>2</sup>	WET SOIL + PAN MASS	1280.1	g
HEIGHT, L <sub>0</sub>	5.902 in	149.92 mm	PAN MASS	104.8	g
VOLUME, V <sub>0</sub>	36.56 in <sup>3</sup>	599.12 cm <sup>3</sup>	DRY SOIL + PAN MASS	1039.7	g
MACH. RATE	0.059	in/min	WET DENSITY	122.46	lb/ft <sup>3</sup>
WATER CONT.	25.71	%	DRY DENSITY	97.41	lb/ft <sup>3</sup>
UNCONFINED COMPRESSION STRESS, q <sub>u</sub>	<b>946</b>		psf	0.47	tsf
AXIAL STRAIN @ FAILURE				16.94	%
HAND PENETROMETER				0.50	tsf







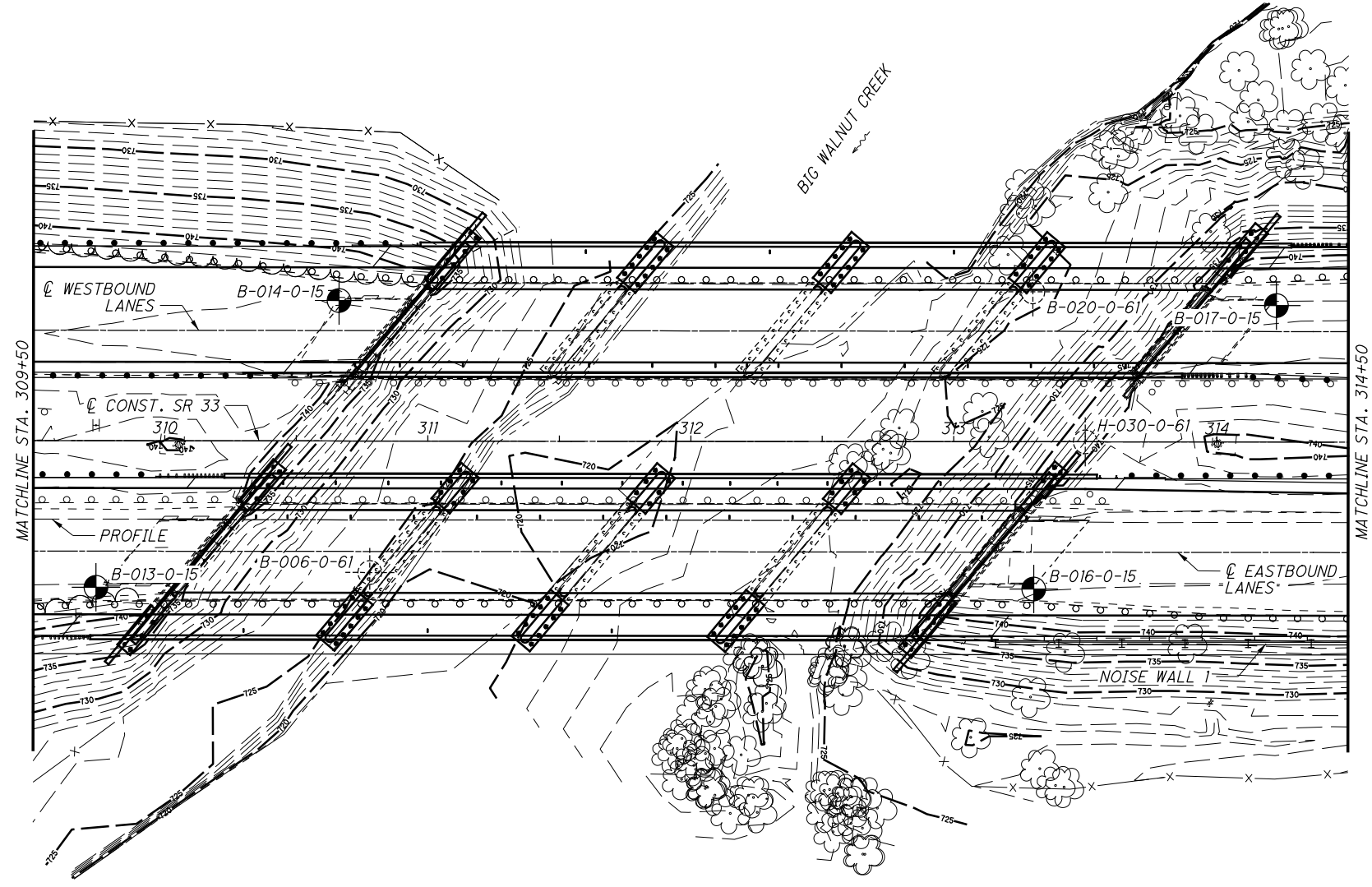
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DRAWN: RRM  
 CHECKED: BRT  
 HORIZONTAL SCALE: 1" = 40'

**STRUCTURE FOUNDATION EXPLORATION**  
**BRIDGE NO. FRA -33-2503L/R OVER WALNUT CREEK OVERFLOW**

**FRA -33-24.26**

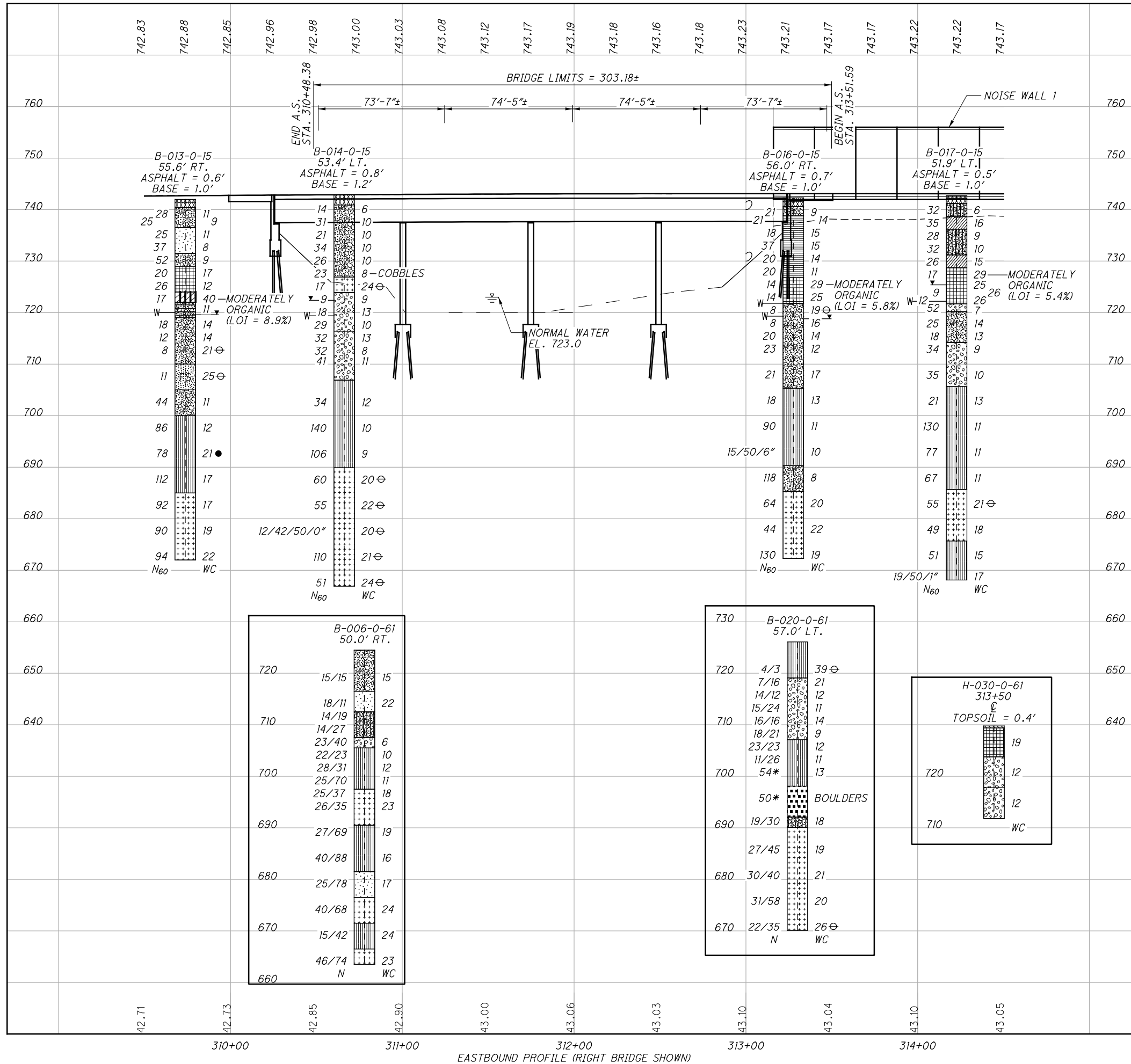


DRAWN  
RRM  
CHECKED  
BRT

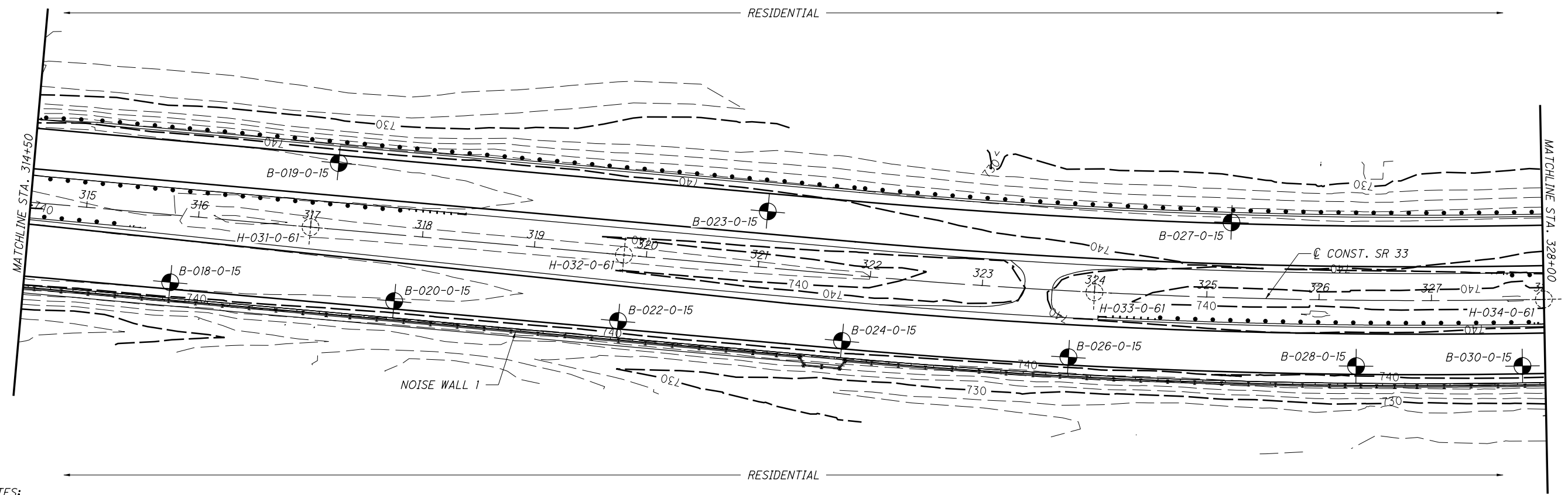
**STRUCTURE FOUNDATION EXPLORATION**  
**BRIDGE NO. FRA-33-2509L/R OVER BIG WALNUT CREEK**

**FRA-33-24.26**

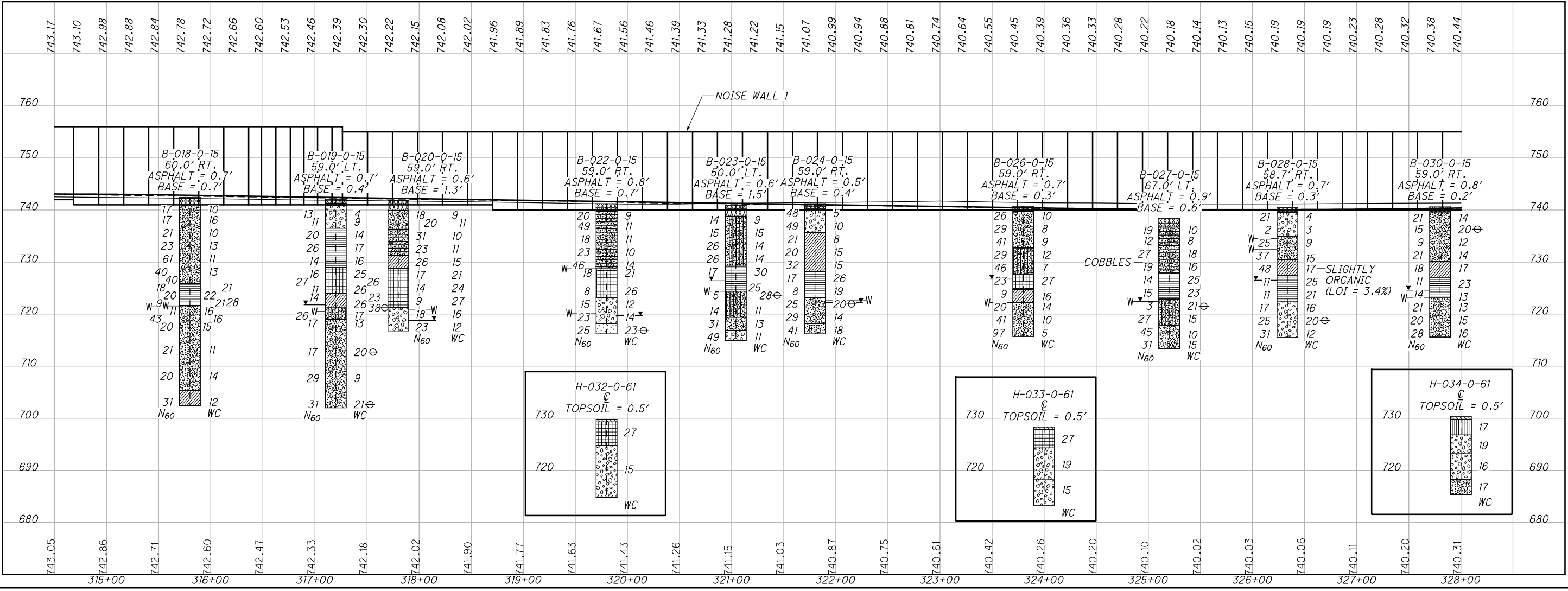
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**STRUCTURE FOUNDATION EXPLORATION**  
**BRIDGE NO. FRA-33-2503L/R OVER WALNUT CREEK OVERFLOW**

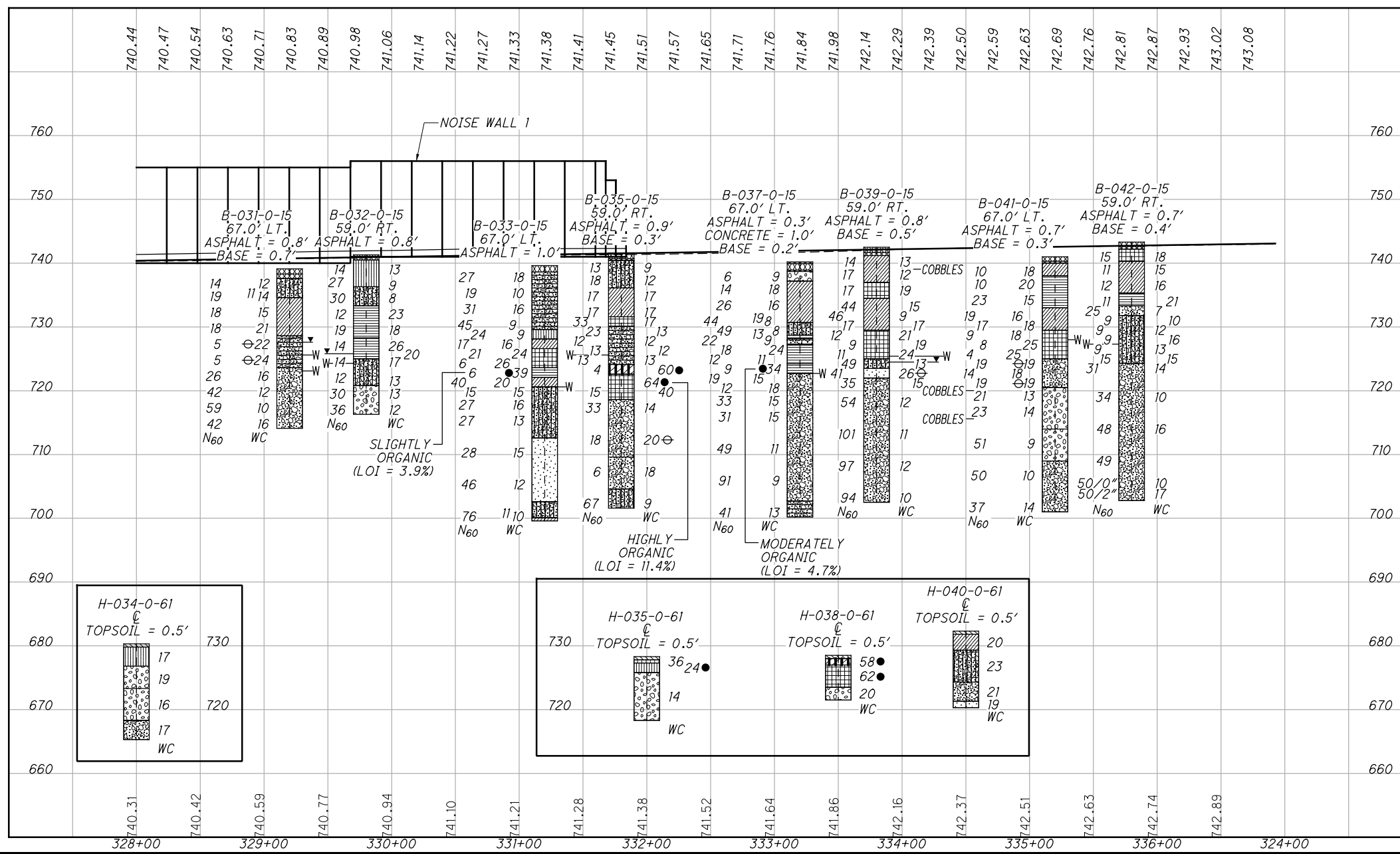
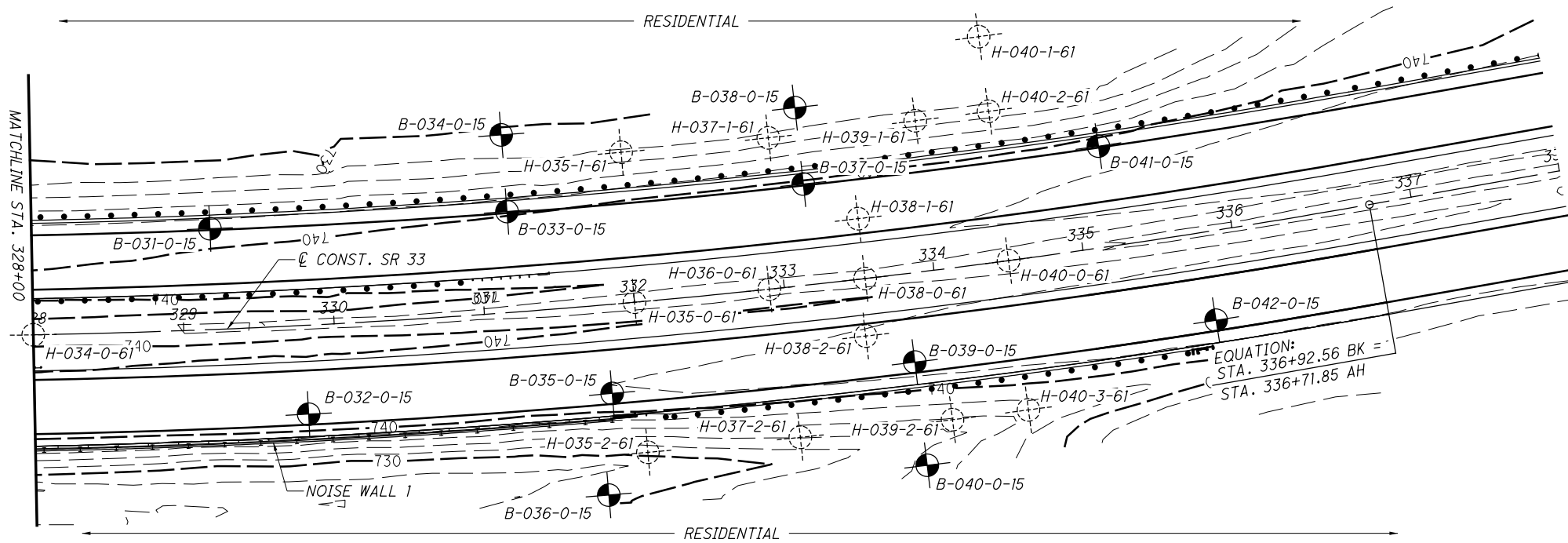


NOTES:  
 HISTORIC BORING H-031-0-61 IS ON THE DATA SHEET.



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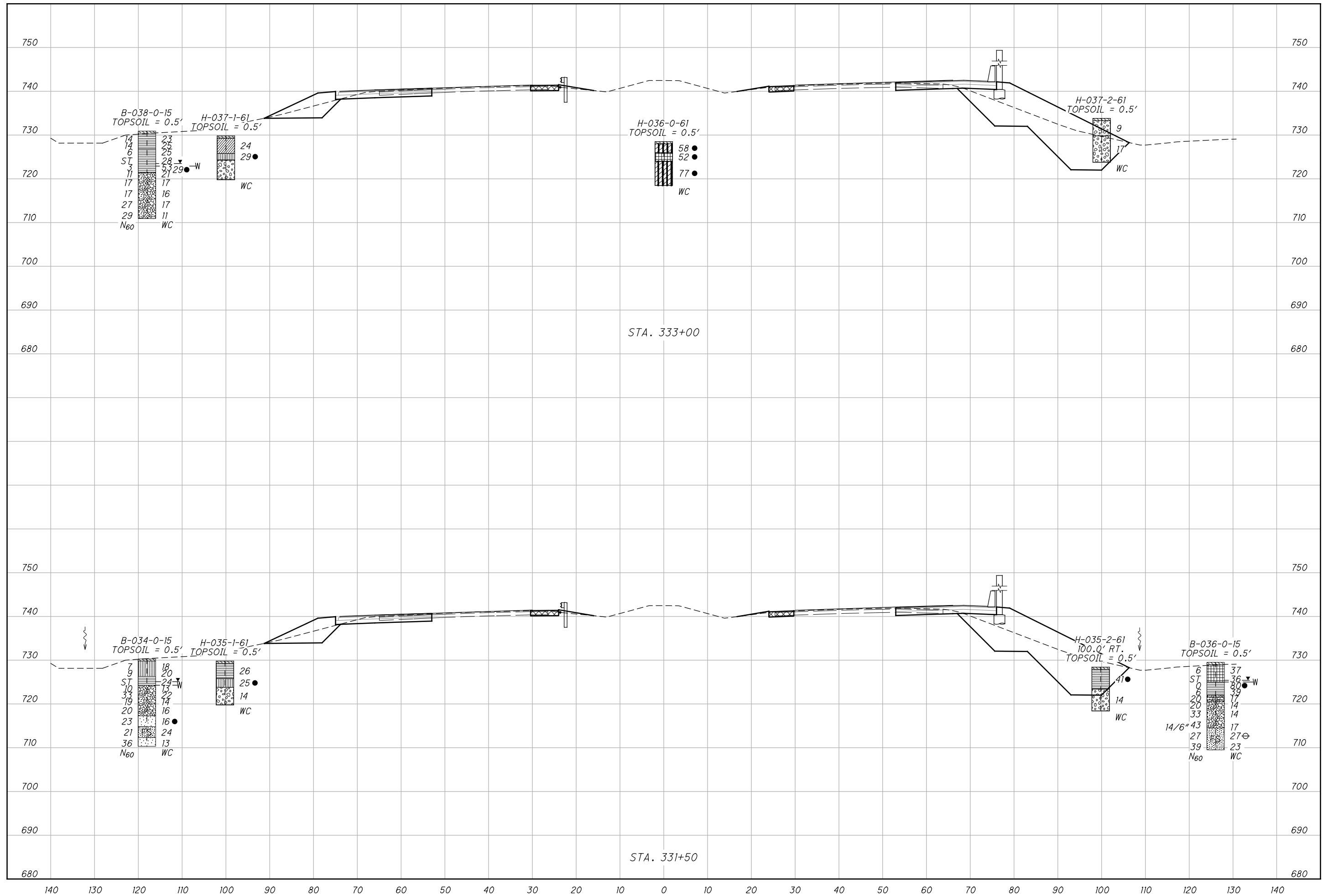


DRAWN: RRM CHECKED: BRT

**SOIL PROFILE**

**STA. 314+50 TO STA. 328+00 SR 33**

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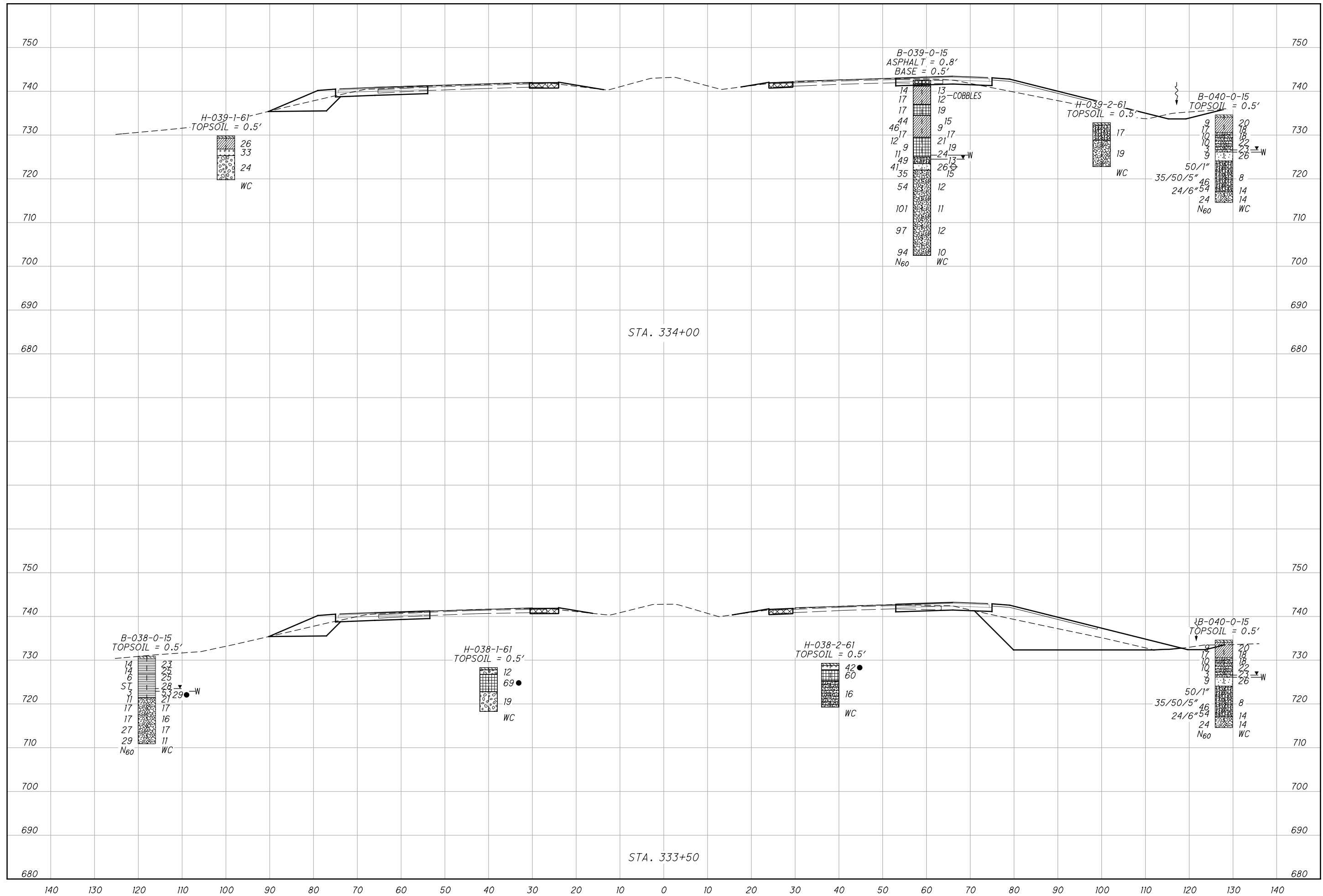


**STRUCTURE FOUNDATION EXPLORATION  
CROSS SECTION STA. 331+50 & STA. 333+00**

**FRA-33-24.26**



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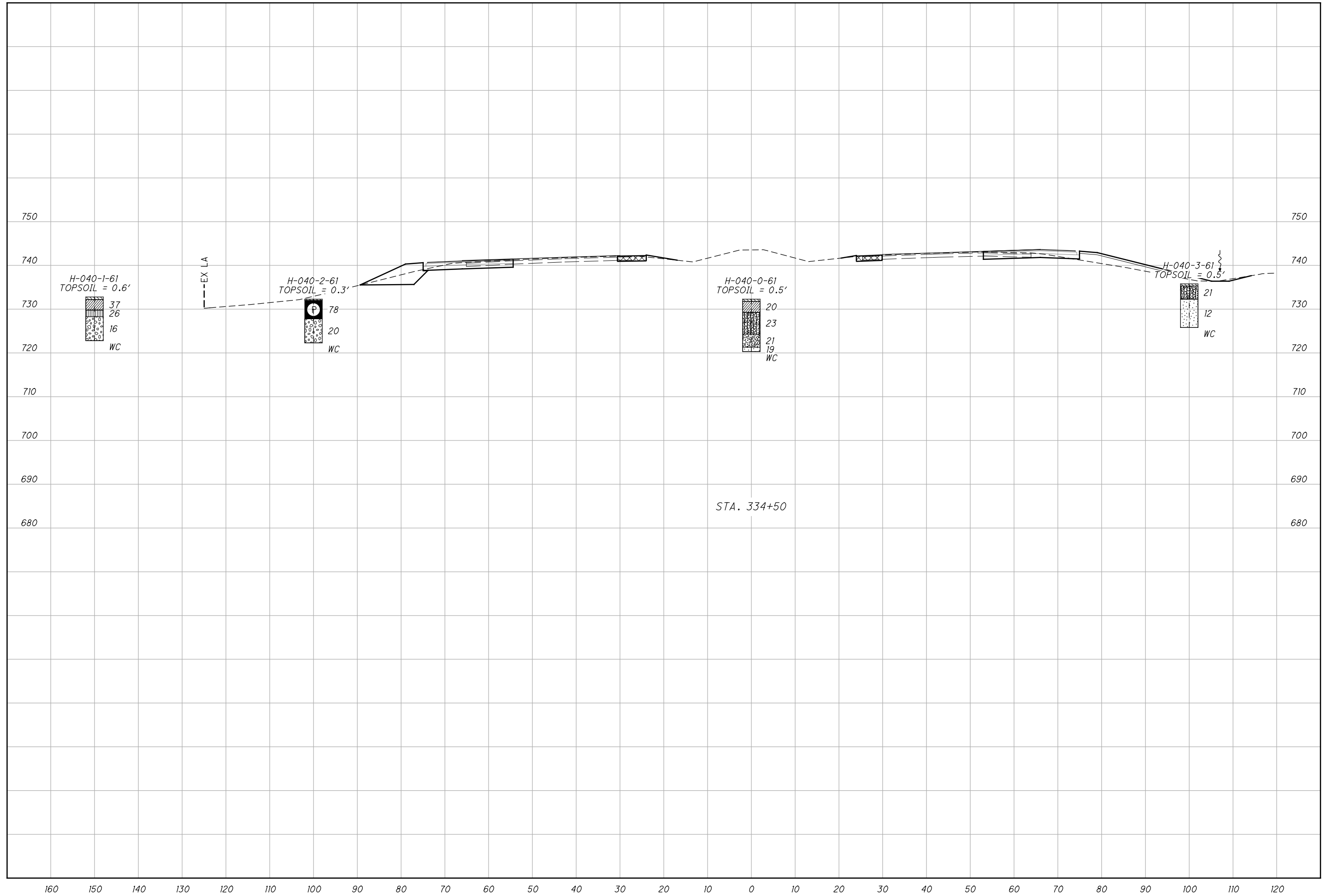
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**STRUCTURE FOUNDATION EXPLORATION  
CROSS SECTION STA. 333+50 & STA. 334+00**

**FRA-33-24.26**



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0 5 10 20  
HORIZONTAL  
SCALE IN FEET

DRAWN  
RRM  
CHECKED  
BRT

**STRUCTURE FOUNDATION EXPLORATION  
CROSS SECTION STA. 334+50**

**FRA-33-24.26**



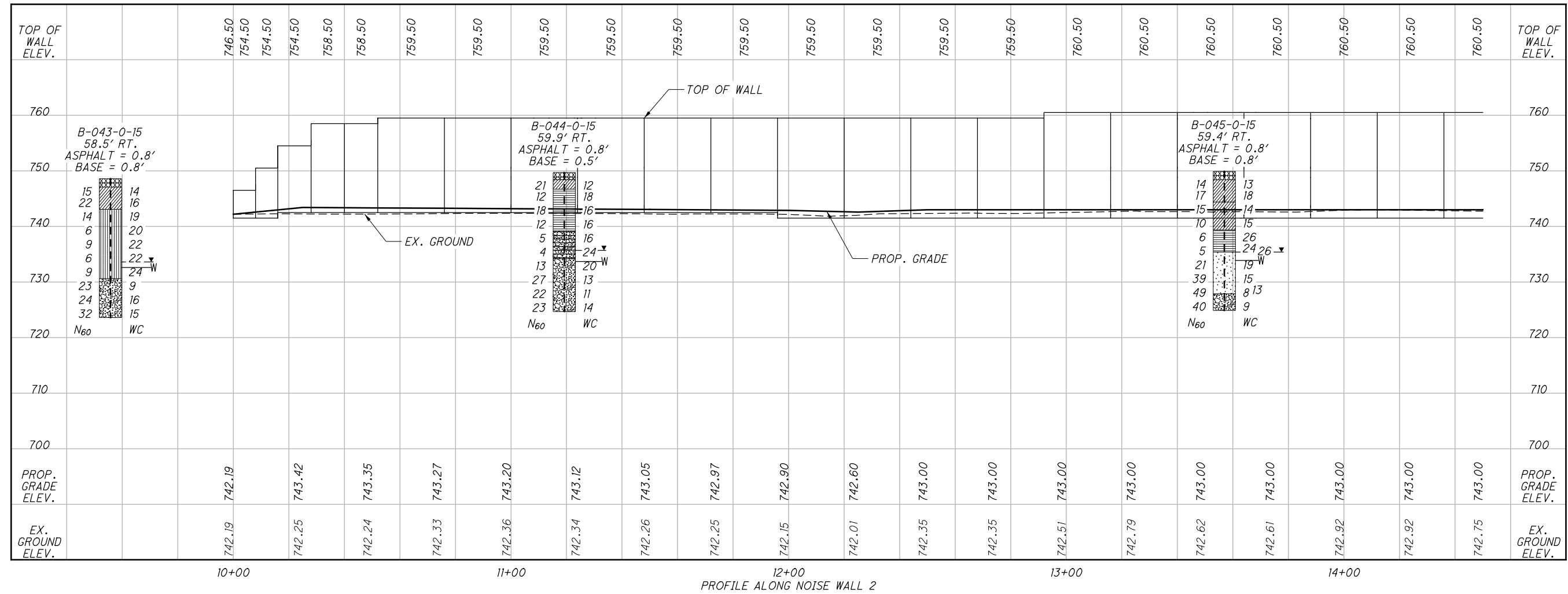
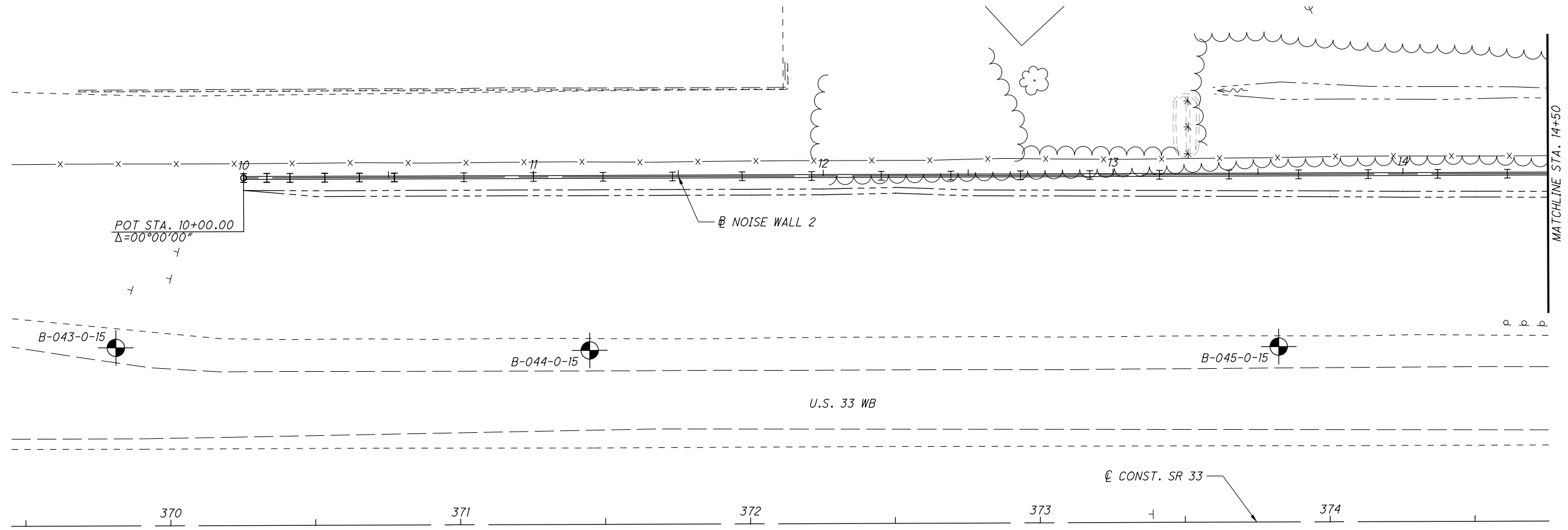




DRAWN: RRM  
CHECKED: BRT

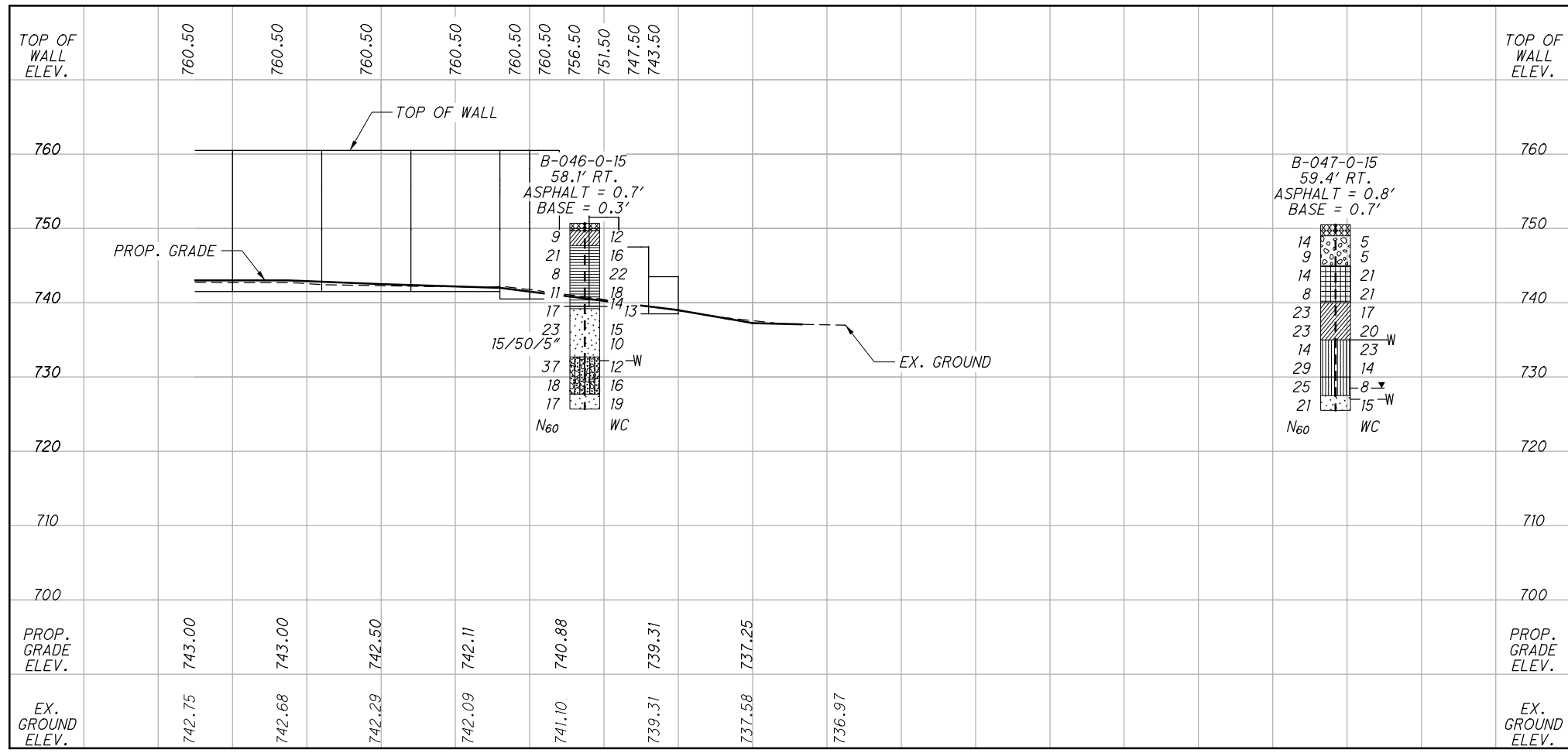
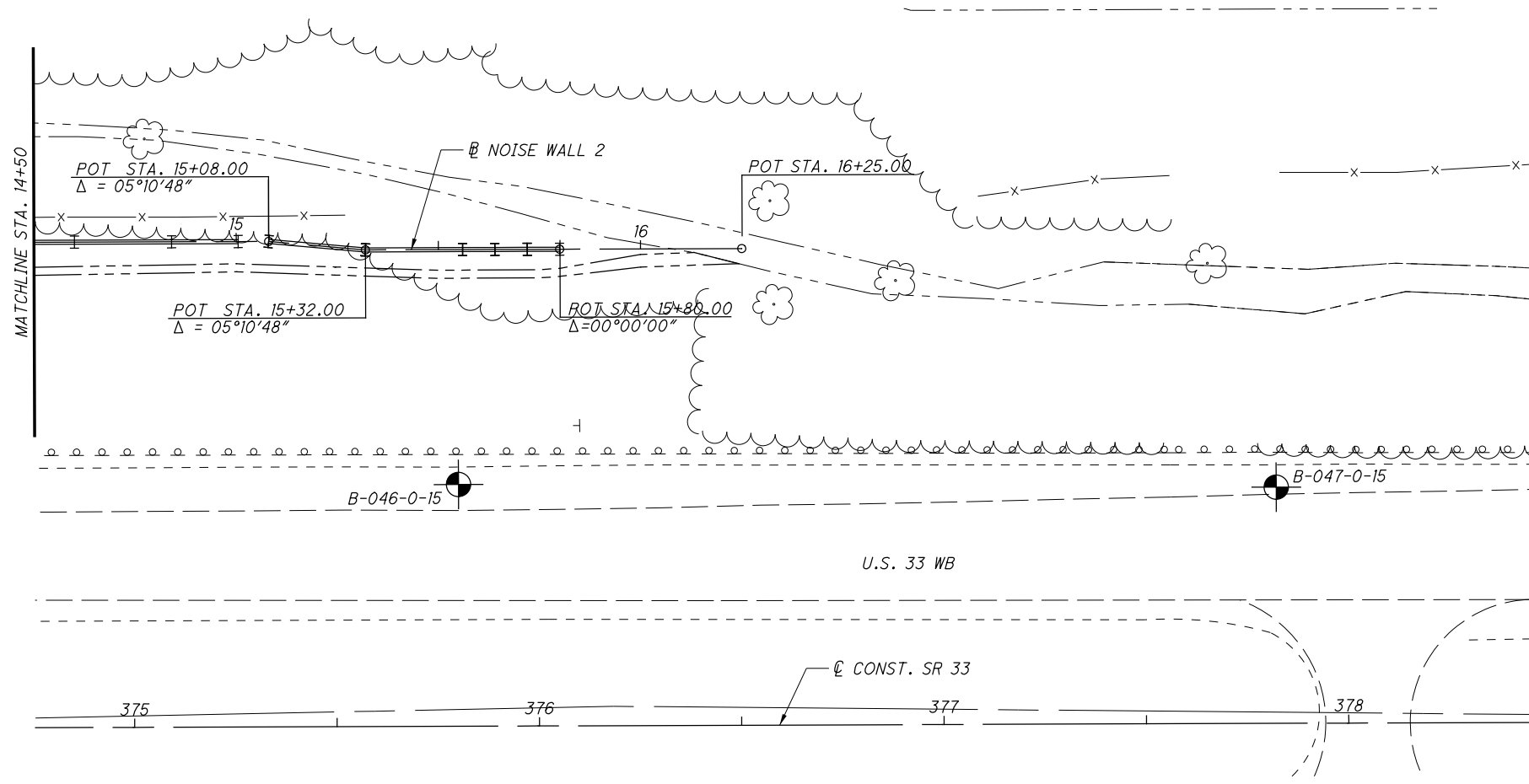
**STRUCTURE FOUNDATION EXPLORATION**  
**NOISE WALL 2 STA. 10+00 TO STA. 14+50**

**FRA - 33 - 24.26**



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16+00  
PROFILE ALONG NOISE WALL 2



DRAWN: RRM  
CHECKED: BRT

**STRUCTURE FOUNDATION EXPLORATION**  
**NOISE WALL 2 STA. 14+50 TO STA. 16+25**

**FRA - 33 - 24.26**



PROJECT: FRA-33-24.26		DRILLING FIRM / OPERATOR: RII / M.W.		DRILL RIG: CME 55 (SN 386345)		STATION / OFFSET: 309+73.69 / 55.6 RT		EXPLORATION ID								
TYPE: ROADWAY		SAMPLING FIRM / LOGGER: RII / N.A.		HAMMER: CME AUTOMATIC		ALIGNMENT: CL CONST. US-33		B-013-0-15								
PID: 98111 BR ID: FRA-33-2509L/R		DRILLING METHOD: 3.25" - HSA		CALIBRATION DATE: 10/20/14		ELEVATION: 742.0 (MSL) EOB: 70.0 ft.		PAGE								
START: 2/18/16 END: 2/19/16		SAMPLING METHOD: SPT		ENERGY RATIO (%): 92		LAT / LONG: 39.898560000, -82.894452000		1 OF 2								
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N <sub>60</sub>	REC SAMPLE (%)	HP ID (tsf)	GR	GRADATION (%)			WC	ODOT CLASS (GI)	HOLE SEALED		
									CS	FS	SI	CL	LL	PL	PI	
0.6' - ASPHALT (7.0')		742.0	1													
1.0' - AGGREGATE BASE (12.0")		740.4	2													
FILL: MEDIUM DENSE, BROWN GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, DAMP.			3	8	28	89	SS-1	31	28	16	16	9	21	17	4	11 A-1-b (0)
			4	6	25	100	SS-2									9 A-1-b (V)
		736.5	5													
FILL: MEDIUM DENSE TO DENSE, BROWN COARSE AND FINE SAND, SOME FINE GRAVEL, LITTLE SILT, LITTLE CLAY, DAMP.			6	5	25	100	SS-3	23	26	23	16	12	20	16	4	11 A-3a (0)
			7	6	10											
		731.5	8													
FILL: VERY DENSE, BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DAMP.			9	6	37	44	SS-4									8 A-3a (V)
			10	10	14											
		729.0	11													
FILL: VERY DENSE, BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DAMP.			12	13	52	100	SS-5									9 A-1-b (V)
			13	16	18											
		724.0	14	6	20	100	SS-6	33	20	10	17	20	42	18	24	17 A-7-6 (4)
			15	6	7											
			16	5	7	26	SS-7									12 A-7-6 (V)
		724.0	17	10												
			18													
FILL: VERY STIFF, DARK GRAY ELASTIC CLAY, "AND" SILT, LITTLE COARSE TO FINE SAND, HIGHLY ORGANIC, MOIST.			19	4	3	17	SS-8	2.50	0	5	13	48	34	50	35	40 A-7-5 (12)
		722.0	20	8												
- SS-8: LOI = 8.9% - WOOD FIBERS PRESENT IN SS-8			21			50	ST-9	53	20	8	12	7	29	17	12	11 A-2-6 (0)
BROWN, GRAVEL WITH SAND, SILT, AND CLAY, MOIST.			22													
		719.0	23													
FILL: LOOSE TO MEDIUM DENSE, BROWN GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, MOIST TO WET.			24	5	18	78	SS-10									14 A-1-b (V)
			25	7												
			26													
			27	2	5	12	SS-11	42	11	29	13	5	NP	NP	NP	14 A-1-b (0)
			28	3												
			29	1	2	8	SS-12									21 A-1-b (V)
			30	3												
		710.0	31													
			32													
			33													
			34	2	3	11	SS-13	6	22	66	3	3	NP	NP	NP	25 A-3 (0)
			35	4												
		705.0	36													
			37													
			38													
			39	5	11	44	SS-14									11 A-1-b (V)
			40	18												
			41													
			42													
		700.0	43													
			44	9	21	86	SS-15	4.5+	13	14	17	33	22	13	9	12 A-4a (4)
			45	35												
			46													
			47													
			48													
			49	10	20	78	SS-16	2.50								21 A-4a (V)
			50	31												
			51													
			52													
			53													
			54	15	29	112	SS-17	2.50								17 A-4a (V)
			55	44												
			56													
			57													
		685.0	58													
			59	16	30	92	SS-18		0	1	15	72	12	NP	NP	17 A-4b (8)
			60	30												

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT GDT - 4/21/16 07:32 - U:\GIS\PROJECTS\2014\W-14-166.GPJ

DRAWN  
RRM  
CHECKED  
BRT

STRUCTURE FOUNDATION EXPLORATION  
BRIDGE NO. FRA-33-2509L/R OVER BIG WALNUT CREEK  
BORING LOG B-013-0-15

FRA - 33 - 24.26



PROJECT: FRA-33-24.26		DRILLING FIRM / OPERATOR: RII / M.W.		DRILL RIG: CME 55 (SN 386345)		STATION / OFFSET: 310+66.20 / 53.4' LT		EXPLORATION ID							
TYPE: ROADWAY		SAMPLING FIRM / LOGGER: RII / J.A		HAMMER: CME AUTOMATIC		ALIGNMENT: CL CONST. US-33		B-014-0-15							
PID: 98111 BR ID: FRA-33-2509L/R		DRILLING METHOD: 3.25" - HSA		CALIBRATION DATE: 10/20/14		ELEVATION: 742.9 (MSL) EOB: 76.0 ft.		PAGE							
START: 2/17/16 END: 2/18/16		SAMPLING METHOD: SPT		ENERGY RATIO (%): 92		LAT / LONG: 39.898521000, -82.893945000		1 OF 2							
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	REC SAMPLE ID	HP (tsf)	GR	GRADATION (%)			WC	ODOT CLASS (GI)	HOLE SEALED		
					(%)			CS	FS	SI	CL	LL	PL	PI	
0.8' - ASPHALT (9.0")		742.9	1												
1.2' - AGGREGATE BASE (15.0")		740.9	2												
FILL: MEDIUM DENSE TO DENSE, BROWN TO BROWNISH GRAY GRAVEL AND SAND, TRACE TO LITTLE SILT, TRACE CLAY, MOIST.			3	5	89										
			4												
			5	10	31										
			6												
			7	5	21	89									
			8	6	8										
			9												
			10	11	34	100									
			11	10											
			12	7	26	100									
	-STONE FRAGMENTS PRESENT IN SS-5			13	11	6									
			14												
		726.9	15	4	23	83									
-COBBLES PRESENT @ 16.0'			16	10	5										
MEDIUM DENSE, GRAY SILT, SOME COARSE TO FINE SAND, LITTLE CLAY, WET.			17												
			18	3	17	100									
-ORGANICS PRESENT IN SS-7			19	4	7										
LOOSE TO MEDIUM DENSE, BROWNISH GRAY TO GRAY GRAVEL, "AND" COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, MOIST.			20	2	9	94									
			21	4	2										
			22												
			23	4	18	0									
			24	5	-	100									
			25	9	29	100									
			26	10	9										
DENSE, BROWNISH GRAY TO GRAY GRAVEL, LITTLE COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, MOIST.		716.4	27												
			28	10	15	32									
			29												
			30	36	32	33									
			31	13	8										
			32												
			33												
			34												
			35	8	15	41									
			36	12											
-HEAVING SANDS ENCOUNTERED @ 34.5'			37												
-INTRODUCED MUD @ 34.5'			38												
			39												
HARD, GRAY SANDY SILT, SOME CLAY, LITTLE FINE GRAVEL, DAMP.		706.9	40	9	10	34									
			41	12											
			42												
			43												
			44												
			45	17	140	100									
			46	41	50										
			47												
			48												
			49												
			50	10	29	106									
			51	40											
			52												
			53												
			54												
			55	10	17	60									
			56	22											
			57												
			58												
			59	9											

2016 STD ODOT BORING LOG SPT S (11X17) - OH DOT GDT - 4/21/16 07:32 - U:\GIS\PROJECTS\2014\W-14-166.GPJ

PID: 98111	BR ID: FRA-33-2509L/R	PROJECT: FRA-33-24.26	STATION / OFFSET: 310+66.20 / 53.4 LT	START: 2/17/16	END: 2/18/16	PG 2 OF 2	B-014-0-15					
MATERIAL DESCRIPTION AND NOTES		ELEV. 682.9	DEPTHS	SPT/ RQD	REC SAMPLE (%)	HP (tsf)	GRADATION (%)	WC	ODOT CLASS (g)	HOLE SEALED		
					N <sub>60</sub>		GR CS FS SI CL	NP NP NP	A-4b (8)			
VERY DENSE, GRAY SILT, LITTLE TO SOME CLAY, TRACE TO SOME COARSE TO FINE SAND, WET. (continued)			61	17	55	-	0 0 23 61 16	22	A-4b (8)			
			62	19	100	SS-18	-					
			63									
			64									
			65	12	65	42	100	SS-19	-	-	20	A-4b (V)
			66	50.0'								
			67									
			68									
			69									
			70			13	110	SS-20	-	NP NP NP	21	A-4b (8)
			71			36			0 1 0 73 26			
			72			36						
			73									
			74									
			75			7	51	SS-21	-	-	24	A-4b (V)
	76	666.9		15								
	EOB			18								

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 23.5' AND AT COMPLETION @ 20.5'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 188 LBS CEMENT / 50 LBS BENTONITE POWDER / 40 GAL WATER

FRA - 33 - 24.26	BRIDGE NO. FRA - 33 - 2509L / R OVER BIG WALNUT CREEK		DRAWN RRM
	BORING LOG B-014-0-15		CHECKED BRT



PROJECT: FRA-33-24.26		DRILLING FIRM / OPERATOR: RII / M/W.		DRILL RIG: CME 55 (SN 386345)		STATION / OFFSET: 313+30.44 / 56.0' RT		EXPLORATION ID									
TYPE: ROADWAY		SAMPLING FIRM / LOGGER: RII / N.A.		HAMMER: CME AUTOMATIC		ALIGNMENT: CL CONST. US-33		B-016-0-15									
PID: 98111 BR ID: FRA-33-2509L/R		DRILLING METHOD: 3.25" - HSA		CALIBRATION DATE: 10/20/14		ELEVATION: 742.3 (MSL) EOB: 70.0 ft.		PAGE									
START: 2/19/16 END: 2/20/16		SAMPLING METHOD: SPT		ENERGY RATIO (%): 92		LAT / LONG:		1 OF 2									
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N <sub>60</sub>	REC SAMPLE (%)	HP ID (tsf)	GR	GRADATION (%)			ATTERBERG	WC	ODOT CLASS (GI)	SOLE SEALED		
		742.3							GR	CS	FS	SI	CL	LL	PL	PI	
0.7' - ASPHALT (8.0')		741.6	1														
1.0' - AGGREGATE BASE (12.0")		740.6	2	12	21	61	SS-1	42	24	10	14	10	22	17	5		9 A-1-b (0)
FILL: MEDIUM DENSE, BROWN GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, MOIST. -STONE FRAGMENTS PRESENT IN SS-1		738.8	3	6	8												
FILL: VERY STIFF TO HARD, BROWN SILTY CLAY. SOME FINE GRAVEL, SOME COARSE TO FINE SAND, DAMP.			4	4	21	100	SS-2	31	11	12	21	25	33	17	16		14 A-6b (4)
-STONE FRAGMENTS PRESENT THROUGHOUT			5														
			6	8	7	18	SS-3	3.00	-	-	-	-	-	-	-		15 A-6b (V)
			7	7	5												
			8														
			9	8	13	37	SS-4	3.25	-	-	-	-	-	-	-		15 A-6b (V)
			10	11													
			11	6	7	20	SS-5	3.00	-	-	-	-	-	-	-		14 A-6b (V)
			12	7	6												
			13														
			14	5	6	20	SS-6	2.50	-	-	-	-	-	-	-		11 A-6b (V)
			15	7													
		726.8	16														
STIFF TO VERY STIFF, GRAY CLAY, "AND" SILT, TRACE COARSE TO FINE SAND, MODERATELY ORGANIC, MOIST. -SS-7: LOI = 5.8% -WOOD FIBERS PRESENT IN SS-7			17	3	4	14	SS-7	2.25	0	1	5	54	40	46	24	22	29 A-7-6 (14)
			18	4	5												
			19	3	4	14	SS-8	1.75	-	-	-	-	-	-	-		25 A-7-6 (V)
			20	5													
		721.8	21														
LOOSE TO MEDIUM DENSE, BROWNISH GRAY TO BROWN GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, MOIST TO WET. -ROOT FIBERS PRESENT IN SS-8			22	2	2	8	SS-9	-	-	-	-	-	-	-	-		19 A-1-b (V)
			23	3													
			24	2	2	8	SS-10	-	53	15	9	16	7	25	20	5	16 A-1-b (0)
			25	3													
			26	4	5	20	SS-11	-	-	-	-	-	-	-	-		14 A-1-b (V)
			27	8													
			28														
			29	5	7	23	SS-12	-	54	23	7	10	6	NP	NP	NP	12 A-1-b (0)
			30	8													
			31														
			32														
			33														
			34	4	6	21	SS-13	-	-	-	-	-	-	-	-		17 A-1-b (V)
			35	8													
		705.3	36														
VERY STIFF, GRAY SANDY SILT, SOME CLAY, LITTLE FINE GRAVEL, DAMP.			37														
			38														
			39	5	5	18	SS-14	3.50	11	13	18	35	23	21	15	6	13 A-4a (5)
			40	7													
			41														
			42														
			43														
			44	11	29	90	SS-15	4.5+	-	-	-	-	-	-	-		11 A-4a (V)
			45	30													
			46														
			47														
			48														
			49	15	50	6	SS-16	4.00	-	-	-	-	-	-	-		10 A-4a (V)
			50	6													
			51														
			52														
		690.3	53														
VERY DENSE, GRAY GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, MOIST.			54	39	40	118	SS-17	-	41	27	13	12	7	NP	NP	NP	8 A-1-b (0)
			55	37													
			56														
			57														
			58														
			59	9	17	64	SS-18	-	-	-	-	-	-	-	-		20 A-4b (V)
			60	25													

PID: 98111	BR ID: FRA-33-2509L/R	PROJECT: FRA-33-24.26	STATION / OFFSET: 313+30.44 / 56.0 RT	START: 2/19/16	END: 2/20/16	PG 2 OF 2	B-016-0-15											
<b>MATERIAL DESCRIPTION AND NOTES</b>		ELEV. 682.3	DEPTHS	SPT/ RQD	REC SAMPLE (%)	HP (tsf)	GRADATION (%)	ALTERBERG	WC	ODOT CLASS (g)	HOLE SEALED							
DENSE TO VERY DENSE, GRAY SILT, LITTLE FINE SAND, TRACE CLAY, MOIST. (continued)		+++++	61															
			62															
			63															
			64	11	44	100	SS-19	-	0	0	13	77	10	NP	NP	22	A-4b (8)	
			65	16														
			66															
			67															
			68															
			69	27	130	100	SS-20	-	-	-	-	-	-	-	-	-	19	A-4b (V)
			70	47														
		672.3	EOB															

NOTES: SEEPAGE ENCOUNTERED @ 20.5'. GROUNDWATER ENCOUNTERED INITIALLY @ 23.0' AND AT COMPLETION @ 23.5'.  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 188 LBS CEMENT / 50 LBS BENTONITE POWDER / 40 GAL WATER

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT GDT - 8/18/17 15:50 - U:\GIS\PROJ\ECTS\2014\W-14-166.GPJ



PROJECT: FRA-33-24.26		DRILLING FIRM / OPERATOR: RII / M.W.		DRILL RIG: CME 55 (SN 386345)		STATION / OFFSET: 314+22.63 / 51.9' LT		EXPLORATION ID								
TYPE: ROADWAY		SAMPLING FIRM / LOGGER: RII / N.A.		HAMMER: CME AUTOMATIC		ALIGNMENT: CL CONST. US-33		B-017-0-15								
PID: 98111 BR ID: FRA-33-2509L/R		DRILLING METHOD: 3.25" - HSA		CALIBRATION DATE: 10/20/14		ELEVATION: 742.7 (MSL) EOB: 74.6 ft.		PAGE								
START: 2/16/16 END: 2/16/16		SAMPLING METHOD: SPT		ENERGY RATIO (%): 92		LAT / LONG: 39.897713000, -82.893228000		1 OF 2								
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	REC SAMPLE ID	HP (tsf)	GR	GRADATION (%)				WC	ODOT CLASS (GI)	HOLE SEALED		
		742.7	1					GR	CS	FS	SI	CL	LL	PL	PI	
0.5' - ASPHALT (6.0')		742.2	2													
1.0' - AGGREGATE BASE (12.0')		741.2	3													
FILL: DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			4													
-STONE FRAGMENTS PRESENT IN SS-1		738.7	5	6	32	61	63	15	6	9	7	24	17	7	6	A-2-4 (0)
FILL: VERY STIFF, BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.			6													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.		736.2	7	5	10	35									16	A-6a (V)
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			8													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.		731.2	9	7	10	28	49	20	9	12	10	28	19	9	9	A-2-4 (0)
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			10													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			11	7	7	32										
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.		728.7	12	4	8	26										
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			13													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			14													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			15	4	5	17										
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			16													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			17													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			18													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			19	2	3	9										
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			20	3	3	12										
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			21	3	5	100	0	0	12	47	41	45	24	21	25	A-7-6 (13)
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.		721.7	22	10	19	52										
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			23	19	15	6										
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			24	22												
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			25	13	8	25	46	27	9	11	7	26	22	4	14	A-1-b (0)
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			26													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			27	4	6	18										
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			28													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.		714.2	29	8	10	34										
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			30	12												
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			31													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			32													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			33													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			34	8	10	35	59	23	9	5	4	NP	NP	NP	10	A-1-a (0)
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			35	13												
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			36													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			37													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.		705.7	38													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			39	5	6	21										
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			40	8												
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			41													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			42													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.		700.7	43													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			44	28	35	130										
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			45	50												
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			46													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			47													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			48													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			49	15	19	77	13	11	17	32	27	23	15	8	11	A-4a (5)
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			50	31												
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			51													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			52													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			53													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			54	15	17	67										
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			55	27												
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			56													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			57													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.		685.7	58													
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.			59	10	12	55	0	1	8	80	11	NP	NP	NP	21	A-4b (8)

PID: 98111	BR ID: FRA-33-2509L/R	PROJECT: FRA-33-24.26	STATION / OFFSET: 314+22.63 / 51.9 LT	START: 2/16/16		END: 2/16/16		PG 2 OF 2		B-017-0-15							
				GRADATION (%)	ATTERBERG	WC	ODOT CLASS (g)	HOLE SEALED									
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	REC SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI			
DENSE TO VERY DENSE, GRAY SILT, LITTLE CLAY, TRACE COARSE TO FINE SAND, MOIST TO WET. (continued)		682.7	61	24													
			62														
			63														
			64	11	64												
			65	15	65	49	100	SS-20	-	-	-	-	-	-	-	18 A-4b (V)	
			66	17	66												
			67		67												
			68		68												
			69		69	13											
			70		70	17	51	SS-21	-	5	12	41	30	12	NP	NP	15 A-4a (1)
			71		71	16											
			72		72												
			73		73												
VERY DENSE, GRAY SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, MOIST.		675.7	74	19													
		668.1	74	50/4"	100	SS-22	-	-	-	-	-	-	-	-	17 A-4a (V)		
			EOB														

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 20.5' AND AT COMPLETION @ 17.3'; CAVE-IN DEPTH @ 41.0'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 188 LBS CEMENT / 50 LBS BENTONITE POWDER / 40 GAL WATER; PLACED CONCRETE

<b>FRA - 33 - 24.26</b>	<b>BRIDGE NO. FRA - 33-2509L/R OVER BIG WALNUT CREEK</b> <b>BORING LOG B-017-0-15</b>	DRAWN RRM
		CHECKED BRT



<b>PROJECT:</b> FRA-33-24.26	<b>DRILLING FIRM / OPERATOR:</b> RII / S.B.	<b>DRILL RIG:</b> CME 55 (SN 386345)	<b>STATION / OFFSET:</b> 315+80.00 / 60.0' RT	<b>EXPLORATION ID:</b> B-018-0-15
<b>TYPE:</b> ROADWAY	<b>SAMPLING FIRM / LOGGER:</b> RII / N.A.	<b>HAMMER:</b> OME AUTOMATIC	<b>ALIGNMENT:</b> CL CONST. US-33	
<b>PID:</b> 98111	<b>DRILLING METHOD:</b> 3.25" -HSA	<b>CALIBRATION DATE:</b> 10/20/14	<b>ELEVATION:</b> 742.4 (MSL) EOB: 40.0 ft.	<b>PAGE:</b> 1 OF 1
<b>START:</b> 2/29/16	<b>SAMPLING METHOD:</b> SPT	<b>ENERGY RATIO (%):</b> 92	<b>LAT / LONG:</b> 39.897183000, -82.893238000	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ ROD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)						ATTERBERG			ODOT CLASS (g)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI	WC		
0.7' - ASPHALT (8.0")	742.4	1																
0.7' - AGGREGATE BASE (8.0")	741.7	2	3	17	67	SS-1	-	81	7	4	3	5	26	13	10	A-2-6 (0)		
MEDIUM DENSE, DARK BROWNISH GRAY GRAVEL WITH SAND, SILT, AND CLAY, MOIST. -SS-1: SULFATE CONTENT = 167 PPM	739.4	3	4	7														
STIFF, DARK BROWNISH GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, MOIST.	736.9	4	7	17	39	SS-2	-	20	13	28	26	32	18	14	16	A-6a (5)		
		5	6	5														
FILL: MEDIUM DENSE TO DENSE, DARK BROWNISH GRAY GRAVEL WITH SAND, SILT, AND CLAY, DAMP TO MOIST.		6	7	8	100	SS-3	-	58	13	8	9	12	28	15	10	A-2-6 (0)		
		7	8	6														
		8																
		9	6	7	33	SS-4	-	-	-	-	-	-	-	-	13	A-2-6 (V)		
		10	7	8														
		11	4	17	61	SS-5	-	-	-	-	-	-	-	-	11	A-2-6 (V)		
		12	23															
-LIMESTONE FRAGMENTS PRESENT IN SS-5		13																
		14	7	12	40	SS-6	-	44	12	11	16	17	32	15	17	13	A-2-6 (1)	
		15	15	13	40	0	SS-7	-	-	-	-	-	-	-	-	-		
	725.9	16	13															
STIFF TO VERY STIFF, DARK BROWN SILTY CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		17	5	7	78	SS-8	4.00	-	-	-	-	-	-	-	21	A-6b (V)		
		18	5	6	20	100	SS-9	1.75	-	-	-	-	-	-	22	A-6b (V)		
		19	6	7														
		20	2	3	9	100	SS-10A	1.50	1	3	30	31	35	17	16	28	A-6b (9)	
	721.6	21	4	3	11	100	SS-10B	-	-	-	-	-	-	-	21	A-1-b (V)		
MEDIUM DENSE TO DENSE, GRAY GRAVEL AND SAND, TRACE TO LITTLE SILT, TRACE CLAY, WET. -ORGANIC ODOR PRESENT IN SS-11		22	4	3	4	100	SS-11	-	49	17	14	12	8	NP	NP	16	A-1-b (0)	
		23	7	15	43	83	SS-12	-	-	-	-	-	-	-	-	16	A-1-b (V)	
		24	13															
		25	4	7	20	100	SS-13	-	48	17	13	12	10	24	18	6	15	A-1-b (0)
		26																
		27																
		28																
		29	8	6	21	100	SS-14	-	-	-	-	-	-	-	11	A-1-b (V)		
		30	8	8														
		31																
		32																
		33																
		34	4	6	20	100	SS-15	-	31	46	16	3	4	NP	NP	14	A-1-b (0)	
		35	6	7														
		36																
	705.4	37																
HARD, GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.		38																
		39	8	8	31	100	SS-16	4.00	-	-	-	-	-	-	12	A-6a (V)		
	702.4	40	12															

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 4/24/17 11:27 - U:\GIS\PROJECTS\2014\W-14-166.GPJ

NOTES: SEEPAGE ENCOUNTERED @ 20.8; GROUNDWATER ENCOUNTERED INITIALLY @ 21.0'; CAVE-IN DEPTH @ 31.0'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS

PROJECT: FRA-33-24.26	DRILLING FIRM / OPERATOR: RII / M.W.	DRILL RIG: CME 55 (SN 386345)	STATION / OFFSET: 317+80.00 / 59.0' RT	EXPLORATION ID: B-020-0-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RII / N.A.	HAMMER: OME AUTOMATIC	ALIGNMENT: CL CONST. US-33	
PID: 98111 BR ID: N/A	DRILLING METHOD: 3.25" - HSA	CALIBRATION DATE: 10/20/14	ELEVATION: 741.8 (MSL) EOB: 25.0 ft.	PAGE 1 OF 1
START: 2/19/16 END: 2/19/16	SAMPLING METHOD: SPT	ENERGY RATIO (%): 92	LAT / LONG: 39.896732000, -82.892831000	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ ROD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)							ODOT CLASS (g)	HOLE SEALED		
								GR	CS	FS	SI	CL	LL	PL			PI	WC
0.6' - ASPHALT (7.5")	741.8	1																
1.3' - AGGREGATE BASE (15.0")	741.2	2	6	18	67	SS-1	-	47	21	10	14	8	21	16	5	9	A-1-b (0)	
FILL: MEDIUM DENSE, BROWN GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, DAMP.	739.9	3	4															
		4	2	20	78	SS-2	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
		5	7															
		6	10	31	100	SS-3	-	-	-	-	-	-	-	-	-	-	10	A-2-6 (V)
		7	10															
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL WITH SAND, SILT, AND CLAY, DAMP.	736.3	8																
		9	6	23	100	SS-4	-	34	17	15	18	16	29	16	13	11	A-2-6 (1)	
		10	8	8	26	100	SS-5	4.00	-	-	-	-	-	-	-	-	15	A-6a (V)
		11																
		12	8	9														
POSSIBLE FILL: VERY STIFF, BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.	731.3	13																
		14	4	17	100	SS-6	4.5+	-	-	-	-	-	-	-	-	21	A-7-6 (V)	
		15	5	6														
		16	3	14	100	SS-7	3.00	-	1	0	7	42	50	42	20	22	24	A-7-6 (13)
		17	3	6														
-SHELLS PRESENT IN SS-8	721.3	18																
		19	2	9	100	SS-8	1.50	-	-	-	-	-	-	-	-	27	A-7-6 (V)	
		20	3	3														
		21																
		22	3	5	18	100	SS-9	-	67	13	8	8	4	NP	NP	NP	16	A-1-a (0)
MEDIUM DENSE, BROWN GRAVEL, SOME COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, WET.	716.8	23																
		24	5	23	83	SS-10	-	-	-	-	-	-	-	-	-	12	A-1-a (V)	
		25	6	9														
		EOB																

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 21.0' AND AT COMPLETION @ 23.0'; CAVE-IN DEPTH @ 17.0'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 94 LBS CEMENT / 25 LBS BENTONITE POWDER / 20 GAL WATER

	PROJECT: FRA-33-24.26	DRILLING FIRM / OPERATOR: RII / S.B.	DRILL RIG: CME 55 (SN 386345)	STATION / OFFSET: 319+80.00 / 59.0' RT	EXPLORATION ID: B-022-0-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RII / N.A.	HAMMER: OME AUTOMATIC	ALIGNMENT: CL CONST. US-33	CL. CONST. US-33	
PID: 98111	BR ID: N/A	DRILLING METHOD: 3.25" -HSA	ELEVATION: 741.2 (MSL)	EOB: 25.0 ft.	PAGE: 1 OF 1
START: 3/1/16	END: 3/1/16	SAMPLING METHOD: SPT	LAT / LONG: 39.896280000, -82.892426000		

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ ROD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)						ATTERBERG			ODOT CLASS (g)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI	WC		
0.8' - ASPHALT (9.0")	741.2	1																
0.7' - AGGREGATE BASE (9.0")	740.4	2	5	20	72	SS-1	-	37	29	10	9	15	NP	NP	NP	9	A-1-b (0)	
MEDIUM DENSE, BROWN GRAVEL AND SAND, LITTLE CLAY, TRACE SILT, DAMP. -COAL FRAGMENTS PRESENT IN SS-1 -SS-1: SULFATE CONTENT = 213 PPM	739.7	3																
FILL: MEDIUM DENSE TO DENSE - BROWN GRAVEL WITH SAND, SILT, AND CLAY, MOIST.	738.2	4	6	49	100	SS-2	-	44	23	9	10	14	28	17	11	11	A-2-6 (0)	
		5	17															
		6	11	18	39	SS-3	-	-	-	-	-	-	-	-	-	11	A-2-6 (V)	
		7	5	7														
		8																
		9	3	23	61	SS-4	-	-	-	-	-	-	-	-	-	10	A-2-6 (V)	
		10	6	9														
		11	13	46	100	SS-5	-	33	17	15	15	20	30	17	13	14	A-2-6 (1)	
	728.7	12	15															
		13	4	18	100	SS-6	4.00	-	-	-	-	-	-	-	-	21	A-7-6 (V)	
		14	5	7														
		15																
		16	2	8	100	SS-7	1.50	1	6	7	49	37	44	19	25	26	A-7-6 (15)	
	723.2	17	2	3														
		18																
MEDIUM DENSE, BROWN GRAVEL, SOME COARSE TO FINE SAND, LITTLE SILT, MOIST TO WET.		19	1	15	50	SS-8	-	-	-	-	-	-	-	-	-	12	A-1-a (V)	
		20	4	6														
		21	3	23	83	SS-9	-	52	27	8	13	0	26	20	6	14	A-1-a (0)	
		22	6	9														
	718.2	23																
MEDIUM DENSE, BROWNISH GRAY COARSE AND FINE SAND, TRACE SILT, WET.		24	3	8	100	SS-10	-	-	-	-	-	-	-	-	-	23	A-3a (V)	
	716.2	25	8															

STIFF TO VERY STIFF BROWN TO BROWNISH GRAY CLAY, "AND" SILT, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.

MEDIUM DENSE, BROWN GRAVEL, SOME COARSE TO FINE SAND, LITTLE SILT, MOIST TO WET.

MEDIUM DENSE, BROWNISH GRAY COARSE AND FINE SAND, TRACE SILT, WET.

EOB

NOTES: SEEPAGE ENCOUNTERED @ 18.0'; GROUNDWATER ENCOUNTERED INITIALLY @ 21.0'; CAVE-IN DEPTH @ 23.5'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS



PROJECT: FRA-33-24.26  
 TYPE: ROADWAY  
 PID: 98111 BR ID: N/A  
 START: 3/1/16 END: 3/1/16

DRILLING FIRM / OPERATOR: RII / S.B.  
 SAMPLING FIRM / LOGGER: RII / N.A.  
 DRILLING METHOD: 3.25" - HSA  
 SAMPLING METHOD: SPT

DRILL RIG: CME 55 (SN 386345)  
 HAMMER: OME AUTOMATIC  
 CALIBRATION DATE: 10/20/14  
 ENERGY RATIO (%): 92

STATION / OFFSET: 321+80.00 / 59.0' RT  
 ALIGNMENT: CL CONST. US-33  
 ELEVATION: 741.2 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 39.895828000, -82.892021000

EXPLORATION ID  
**B-024-0-15**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

DEPTH (ft)	SPT / ROD	REC (%)	N <sub>60</sub>	SAMPLE ID	HP (tsf)	GRADATION (%)						ATTERBERG			ODOT CLASS (g)	BACK FILL
						GR	CS	FS	SI	CL	LL	PL	PI	WC		
1	7															
2	15	48	72	SS-1	-	69	16	6	6	3	NP	NP	NP	5	A-1-a (0)	
3																
4	3	16	49	SS-2	-	-	-	-	-	-	-	-	-	10	A-1-a (V)	
5																
6	8	9	21	SS-3	4.5+	-	-	-	-	-	-	-	-	8	A-6a (V)	
7																
8																
9	3	6	20	SS-4	3.50	26	15	13	25	21	32	17	15	15	A-6a (4)	
10																
11	7	11	32	SS-5	4.5+	-	-	-	-	-	-	-	-	15	A-6a (V)	
12																
13																
14	3	5	17	SS-6	3.00	-	-	-	-	-	-	-	-	26	A-6b (V)	
15																
16	2	3	8	SS-7	1.50	2	2	9	48	39	19	20	19	19	A-6b (12)	
17																
18																
19	4	6	25	SS-8	-	-	-	-	-	-	-	-	-	20	A-1-b (V)	
20																
21																
22	5	8	29	SS-9	-	35	33	13	14	5	NP	NP	NP	14	A-1-b (0)	
23																
24	7	11	41	SS-10	-	-	-	-	-	-	-	-	-	18	A-3 (V)	
25																

0.5' - ASPHALT (6.0")  
 0.4' - AGGREGATE BASE (5.0")

FILL: DENSE, BROWN TO BROWNISH GRAY GRAVEL, SOME COARSE TO FINE SANDS, TRACE SILT, TRACE CLAY, MOIST TO WET.

-BRICK FRAGMENTS PRESENT IN SS-2

FILL: VERY STIFF TO HARD, BROWN TO BROWNISH GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, SOME FINE GRAVEL, DAMP.

STIFF TO VERY STIFF, GRAY TO BROWNISH GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.

MEDIUM DENSE, GRAY GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, WET.

DENSE, GRAY FINE SAND, TRACE SILT, MOIST.  
 -STONE FRAGMENTS PRESENT IN SS-10

Notes:  
 -GROUNDWATER ENCOUNTERED INITIALLY @ 18.5'; CAVE-IN DEPTH @ 23.5'  
 -ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS



PROJECT: FRA-33-24.26  
 TYPE: ROADWAY  
 PID: 98111 BR ID: N/A  
 START: 3/2/16 END: 3/2/16

DRILLING FIRM / OPERATOR: RII / S.B.  
 SAMPLING FIRM / LOGGER: RII / N.A.  
 DRILLING METHOD: 3.25" -HSA  
 SAMPLING METHOD: SPT

DRILL RIG: CME 55 (SN 386345)  
 HAMMER: OME AUTOMATIC  
 CALIBRATION DATE: 10/20/14  
 ENERGY RATIO (%): 92

STATION / OFFSET: 323+80.00 / 59.0' RT  
 ALIGNMENT: CL CONST. US-33  
 ELEVATION: 740.7 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 39.895377000, -82.891603000

EXPLORATION ID  
**B-026-0-15**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

DEPTH (ft)	SPT / ROD	REC (%)	N <sub>60</sub>	SAMPLE ID	HP (tsf)	GRADATION (%)						ATTERBERG			ODOT CLASS (g)	BACK FILL
						GR	CS	FS	SI	CL	LL	PL	PI	WC		
0.7' - ASPHALT (8.0')																
0.3' - AGGREGATE BASE (3.0')																
FILL: MEDIUM DENSE, BROWN GRAVEL WITH SAND AND SILT, LITTLE CLAY, DAMP.	10	61	26	SS-1	-	38	24	11	16	11	NP	NP	NP	10	A-2-4 (0)	
-SS-1: SULFATE CONTENT = 213 PPM																
FILL: MEDIUM DENSE TO DENSE; BROWN GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, DAMP.	5	39	29	SS-2	-	53	21	8	11	7	NP	NP	NP	8	A-1-b (0)	
	8		11													
	9		16													
	11		41													
	11															
	16															
FILL: MEDIUM DENSE TO DENSE; BROWN GRAVEL WITH SAND AND SILT, LITTLE CLAY, DAMP.	6	67	29	SS-4	-	45	16	9	15	15	NP	NP	NP	12	A-2-4 (0)	
	9		10													
	10															
	12		46													
	18															
	18															
	10															
	10															
	6		23													
	7		8													
	8															
	2		9													
	3		3													
	10															
	10															
	3		20													
	5		8													
	19															
	20															
	1		41													
	6		21													
	21															
	8		97													
	28		35													
	24															
	25															

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 18.5' AND AT COMPLETION @ 14.0'; CAVE-IN DEPTH @ 23.0'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS

	PROJECT: FRA-33-24.26 ROADWAY	DRILLING FIRM / OPERATOR: RII / S.B.	DRILL RIG: CME 55 (SN 386345)	STATION / OFFSET: 326+33.47 / 58.7 RT	EXPLORATION ID: B-028-0-15
PID: 98111	BR ID: N/A	SAMPLING FIRM / LOGGER: RII / N.A.	HAMMER: OME AUTOMATIC	ALIGNMENT: CL CONST. US-33	
START: 3/2/16	END: 3/2/16	DRILLING METHOD: 3.25" -HSA	CALIBRATION DATE: 10/20/14	ELEVATION: 740.5 (MSL)	PAGE: 1 OF 1
SAMPLING METHOD: SPT			ENERGY RATIO (%): 92	LAT / LONG: 39.894822000, -82.891042000	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ ROD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)								ATTERBERG			ODOT CLASS (g)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI	WC					
0.7' - ASPHALT (8.0')	740.5																				
0.3' - AGGREGATE BASE (4.0')	739.8																				
FILL: VERY LOOSE TO MEDIUM DENSE, BROWN GRAVEL, LITTLE COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, DAMP.	739.5	1	7	21	100	SS-1	-	73	15	4	6	2	NP	NP	NP	4	A-1-a (0)				
- 3.5' - 4.5' STORM DRAIN		2	7																		
		3																			
		4	1	2	6	SS-2	-	-	-	-	-	-	-	-	-	3	A-1-a (V)				
	735.0	5	WOH																		
FILL: MEDIUM DENSE TO DENSE, BROWN GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, MOIST.		6	6	25	44	SS-3	-	45	25	8	13	9	NP	NP	NP	9	A-1-b (0)				
		7	10	6																	
		8																			
		9	6	11	37	SS-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VERY STIFF, BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, SOME FINE GRAVEL, DAMP TO MOIST.	730.5	10	18	-	100	SS-4A	3.00	-	-	-	-	-	-	-	-	15	A-6a (V)				
- ORGANICS PRESENT IN SS-5 -SS-5: LOI = 3.4%		11																			
		12	5	13	48	SS-5	2.50	22	18	11	31	18	35	23	12	17	A-6a (3)				
		13		18																	
STIFF, BROWN SILTY CLAY, TRACE TO LITTLE COARSE TO FINE SAND, MOIST.	727.5	14	2	3	11	SS-6	2.00	-	-	-	-	-	-	-	-	25	A-6b (V)				
		15		4																	
		16																			
		17	2	3	11	SS-7	-	-	-	-	-	-	-	-	-	21	A-6b (V)				
		18		4																	
MEDIUM DENSE TO DENSE, BROWN GRAVEL, LITTLE COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, WET.	722.5	19	1	4	17	SS-8	-	82	11	2	3	2	NP	NP	NP	16	A-1-a (0)				
		20		7																	
		21	7	7	25	SS-9	-	-	-	-	-	-	-	-	-	20	A-1-a (V)				
		22		9																	
		23																			
		24	5	9	31	SS-10	-	-	-	-	-	-	-	-	-	12	A-1-a (V)				
	715.5	25		11	56																

NOTES: SEEPAGE ENCOUNTERED @ 6.0'; GROUNDWATER ENCOUNTERED INITIALLY @ 8.0' AND AT COMPLETION @ 14.0'; CAVE-IN DEPTH @ 19.0'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER SOIL CUTTINGS

32 / 44	<b>FRA - 33 - 24.26</b> BRIDGE NO. FRA - 33-2509L/R OVER BIG WALNUT CREEK BORING LOG B-028-0-15	DRAWN RRM CHECKED BRT
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PROJECT: FRA-33-24.26 ROADWAY		DRILLING FIRM / OPERATOR: RII / C.D.		DRILL RIG: MOBILE B-53 (SN 624400)		STATION / OFFSET: 329+80.00 / 59.0' RT		EXPLORATION ID: B-032-0-15			
TYPE: 98111 BR ID: N/A		SAMPLING FIRM / LOGGER: RII / N.A.		HAMMER: AUTOMATIC		ALIGNMENT: CL CONST. US-33		PAGE: 1 OF 1			
START: 3/7/16 END: 3/7/16		DRILLING METHOD: 3.25" - HSA		CALIBRATION DATE: 5/13/15		ELEVATION: 741.3 (MSL) EOB: 25.0 ft.					
SAMPLING METHOD: SPT		SAMPLING METHOD: SPT		ENERGY RATIO (%): 77.1		LAT / LONG: 39.894094000, -82.890228000					
MATERIAL DESCRIPTION AND NOTES		ELEV.		REC SAMPLE ID		GRADATION (%)		ATTERBERG		BACK FILL	
		741.3		N <sub>60</sub>		GR CS FS SI CL		LL PL PI WC		ODOT CLASS (g)	
		740.5		SPT/ ROD		GR CS FS SI CL		LL PL PI WC		ODOT CLASS (g)	
0.8' - ASPHALT (9.0')											
FILL: STIFF TO VERY STIFF, BROWN SANDY SILT, SOME CLAY, SOME FINE GRAVEL, MOIST.				1							
				2	14	33					13 A-4a (V)
				3	7						
				4	27	0					
				5	12						
				6							
FILL: MEDIUM DENSE, BROWN GRAVEL WITH SAND AND SILT, LITTLE CLAY, MOIST.		736.3		7	30	53	2.50	2.50	2.50	2.50	2.50
				8							
				9	12	72	3.00	3.00	3.00	3.00	3.00
				10	3						
				11	19	72	4.00	4.00	4.00	4.00	4.00
				12	9						
				13							
				14	14	81	3.50	3.50	3.50	3.50	3.50
				15	6						
				16							
				17	14	78	2.00	2.00	2.00	2.00	2.00
				18	7						
				19	12	0					
				20	5						
				21							
				22	30	78					
				23	12						
				24	18	36					
				25	10						
				EOB							

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 4/24/17 11:27 - U:\GIS\PROJECTS\2014\W-14-166.GPJ

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 17.0' AND AT COMPLETION @ 15.5'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS



DEPTH	SPT/ROD	REC SAMPLE ID	HP (tsf)	GR	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (g)	BACK FILL
					FS	SI	CL	LL	PL	PI					
1															
2	6	13	50	SS-1	91	4	2	2	1	25	18	7	9	A-2-4 (0)	
3															
4	4	18	83	SS-2	43	21	11	17	8	NP	NP	NP	12	A-1-b (0)	
5	5	9													
6	4	17	89	SS-3	4.5+	11	10	17	37	25	31	17	14	A-6a (7)	
7	5	8													
8															
9	3	17	89	SS-4	3.75	-	-	-	-	-	-	-	-	A-6a (V)	
10	5	8													
11	7	33	78	SS-5	4.5+	1	3	15	56	25	45	17	28	A-7-6 (16)	
12	4	23	72	SS-6	-	-	-	-	-	-	-	-	-	A-2-6 (V)	
13	6	12	78	SS-7	-	-	-	-	-	-	-	-	-	A-2-6 (V)	
14	5	4													
15	7	13	44	SS-8	-	-	-	-	-	-	-	-	-	A-2-6 (0)	
16	3	13	6	SS-9	-	-	-	-	-	-	-	-	-	A-2-6 (V)	
17	5	5													
18	1	4	100	SS-10	0.75	0	1	7	57	35	62	34	28	A-7-5 (19)	
19	2														
20			88	ST-11A	1.25	13	7	5	50	25	53	38	15	A-7-5 (13)	
21				ST-11B	1.25	5	5	12	60	18	55	29	26	A-7-6 (17)	
22	4	15	56	SS-12	-	-	-	-	-	-	-	-	-	A-7-6 (V)	
23	5	7													
24	4	33	72	SS-13	-	-	-	-	-	-	-	-	-	A-1-b (V)	
25	14	12													
26															
27															
28															
29	2	18	100	SS-14	-	-	-	-	-	-	-	-	-	A-1-b (0)	
30	5	9													
31															
32															
33															
34	2	6	100	SS-15	-	-	-	-	-	-	-	-	-	A-1-b (0)	
35	1	4													
36															
37															
38															
39	15	67	100	SS-16	-	-	-	-	-	-	-	-	-	A-2-4 (V)	
40	21	31													

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 4/24/17 11:27 - U:\GIS\PROJECTS\2014\W-14-166.PJ

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 16.0'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS



PROJECT: FRA-33-24.26  
 TYPE: ROADWAY  
 PID: 98111 BR ID: N/A  
 START: 2/18/16 END: 2/18/16

DRILLING FIRM / OPERATOR: RII / C.D.  
 SAMPLING FIRM / LOGGER: RII / D.T.  
 DRILLING METHOD: 4.5" - CFA  
 SAMPLING METHOD: SPT

DRILL RIG: MOBILE B-53 (SN 624400)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 5/13/15  
 ENERGY RATIO (%): 77.1

STATION / OFFSET: 369+81.24 / 61.5' LT  
 ALIGNMENT: CL CONST. US-33  
 ELEVATION: 748.6 (MSL) EOB: 25.0 ft.  
 COORD: 39.887101000, -82.879106000

EXPLORATION ID  
**B-043-0-15**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

DEPTH (ft)	SPT / ROD	REC SAMPLE ID	REC (%)	HP (tsf)	GR	GRADATION (%)						ATTERBERG			ODOT CLASS (g)	BACK FILL
						FS	SI	CL	LL	PL	PI	WC				
1																
2	4		15	SS-1												
3	5		7													
4	6		22	SS-2												
5	7		10													
6	4		14	SS-3												
7	5		6													
8	6		6													
9	3		6	SS-4												
10	2		3													
11	4		4													
12	4		3	SS-5												
13	4		3													
14	2		6	SS-6												
15	2		3													
16	3		4	SS-7												
17	4		3													
18	8		10	SS-8												
19	10		8													
20	8		23													
21	10		11	SS-9												
22	11		8													
23	8		12													
24	12		32	SS-10												
25	13		13													

0.75" - ASPHALT (9.0')

0.75" - AGGREGATE BASE (9.0')

FILL: STIFF TO VERY STIFF, BROWN SILT AND CLAY, LITTLE TO SOME COARSE TO FINE SAND, TRACE TO LITTLE FINE GRAVEL, DAMP.


MEDIUM STIFF TO STIFF, BROWN TO MOTTLED BROWN AND GRAY SANDY SILT, SOME CLAY, TRACE FINE GRAVEL, DAMP.

-HEAVING SANDS ENCOUNTERED @ 16.0'

MEDIUM DENSE TO DENSE, BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DAMP TO WET.

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 16.0' AND AT COMPLETION @ 15.0'; CAVE-IN DEPTH @ 18.5'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS

	PROJECT: FRA-33-24.26	DRILLING FIRM / OPERATOR: RII / C.D.	DRILL RIG: MOBILE B-53 (SN 624400)	STATION / OFFSET: 371+44.72 / 60.1' LT	EXPLORATION ID: B-044-0-15
TYPE: ROADWAY	BR ID: N/A	SAMPLING FIRM / LOGGER: RII / D.T.	HAMMER: AUTOMATIC	ALIGNMENT: CL CONST. US-33	
PID: 98111	END: 2/12/16	DRILLING METHOD: 4.5" - CFA	CALIBRATION DATE: 5/13/15	ELEVATION: 749.7 (MSL) EOB: 25.0 ft.	PAGE: 1 OF 1
START: 2/12/16	END: 2/12/16	SAMPLING METHOD: SPT	ENERGY RATIO (%): 77.1	COORD: 39.886809000, -82.878665000	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ ROD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)						ODOT CLASS (g)	BACK FILL		
								GR	CS	FS	SI	CL	LL			PL	PI
0.8' - ASPHALT (9.0")	749.7	1															
0.5' - AGGREGATE BASE (7.0")	748.9	2	8	21	78	SS-1	2.50	-	-	-	-	-	-	-	-		
FILL: VERY STIFF BROWN SILT AND CLAY, LITTLE COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.	748.4	3															
	746.7	4	4	12	89	SS-2	2.50	9	12	20	28	31	18	16	18	A-6b (7)	
		5															
		6	3	7	18	SS-3	2.75	-	-	-	-	-	-	-	-	16	A-6b (V)
		7															
		8															
		9	4	12	89	SS-4	3.00	-	-	-	-	-	-	-	-	16	A-6b (V)
	739.2	10															
		11															
VERY LOOSE TO LOOSE, BROWN CLAYEY SAND, LITTLE SILT, TRACE FINE GRAVEL, MOIST TO WET.		12	2	5	89	SS-5	-	7	35	25	14	19	31	17	14	16	A-2-6 (1)
		13															
		14	1	4	100	SS-6	-	-	-	-	-	-	-	-	-	24	A-2-6 (V)
	734.2	15															
		16															
MEDIUM DENSE, BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, MOIST TO WET.		17	3	13	100	SS-7	-	-	-	-	-	-	-	-	-	20	A-1-b (V)
		18															
		19	7	9	27	SS-8	-	-	-	-	-	-	-	-	-	13	A-1-b (V)
		20															
		21															
		22	7	8	22	SS-9	-	-	-	-	-	-	-	-	-	11	A-1-b (V)
		23															
		24	9	8	23	SS-10	-	-	-	-	-	-	-	-	-	14	A-1-b (V)
	724.7	25															

-HEAVING SANDS ENCOUNTERED @ 20.0'

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 16.0' AND AT COMPLETION @ 14.0'; CAVE-IN DEPTH @ 19.0'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS



PROJECT: FRA-33-24.26  
 TYPE: ROADWAY  
 PID: 98111 BR ID: N/A  
 START: 2/11/16 END: 2/11/16

DRILLING FIRM / OPERATOR: RII / C.D.  
 SAMPLING FIRM / LOGGER: RII / J.K.  
 DRILLING METHOD: 4.5" - CFA  
 SAMPLING METHOD: SPT

DRILL RIG: MOBILE B-53 (SN 624400)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 5/13/15  
 ENERGY RATIO (%): 77.1

STATION / OFFSET: 373+82.43 / 60.5' LT  
 ALIGNMENT: CL CONST. US-33  
 ELEVATION: 749.9 (MSL) EOB: 25.0 ft.  
 COORD: 39.886388000, -82.878018000

EXPLORATION ID  
**B-045-0-15**  
 PAGE  
 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ ROD	N <sub>60</sub>	REC SAMPLE ID	HP (tsf)	GRADATION (%)							ATTERBERG			ODOT CLASS (g)	BACK FILL
							GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.75" - ASPHALT (9.0')	749.9	1																
0.75" - AGGREGATE BASE (9.0')	749.2	2	3	14	SS-1	3.50												
FILL: STIFF TO VERY STIFF, BROWNISH GRAY TO BROWN SILT AND CLAY. "AND" COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.	748.4	3	5	6														
		4	2	17	SS-2	4.00												
		5	8															
		744.4	6	4	15	SS-3	3.00	13	24	20	22	21	32	19	13			
			7	6														
STIFF TO VERY STIFF, BROWN SILT AND CLAY, "AND" COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.		8																
		9	3	10	SS-4	3.50												
		10	4															
MEDIUM STIFF, BROWN SILTY CLAY, LITTLE COARSE TO FINE SAND, DAMP.	739.4	11	2	6	SS-5	1.00												
		12	2	3														
		13																
		14	2	5	SS-6A	1.00												
MEDIUM DENSE TO DENSE, BROWN TO BROWNISH GRAY COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, TRACE FINE GRAVEL, MOIST TO WET.	735.4	15	2	2	SS-6B	-												
		16	4	21	SS-7	-	4	39	38	13	6	NP	NP	NP	19			
		17	7	9														
		18																
		19	10	13	SS-8	-												
		20	17															
		21	7	21	SS-9A	-												
DENSE, GRAY GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, MOIST TO WET. -COBBLES PRESENT @ 23.0'	727.9	22	21	49	SS-9B	-												
		23	17															
		24	15	16	SS-10	-												
	724.9	25	15	40														

NOTES: SEEPAGE ENCOUNTERED @ 14.5'; GROUNDWATER ENCOUNTERED INITIALLY @ 16.0' AND AT COMPLETION @ 14.5'; CAVE-IN DEPTH @ 16.5'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 25 LBS BENTONITE CHIPS AND SOIL CUTTINGS; PLACED CONCRETE



PROJECT: FRA-33-24.26 ROADWAY  
 TYPE: 98111 BR ID: N/A  
 PID: 3/8/16 END: 3/8/16  
 START: 3/8/16

DRILLING FIRM / OPERATOR: RII / S.B.  
 SAMPLING FIRM / LOGGER: RII / N.M.  
 DRILLING METHOD: 3.25" -HSA  
 SAMPLING METHOD: SPT

DRILL RIG: CME 55 (SN 386345)  
 HAMMER: OME AUTOMATIC  
 CALIBRATION DATE: 10/20/14  
 ENERGY RATIO (%): 92

STATION / OFFSET: 375+80.20 / 59.8' LT  
 ALIGNMENT: CL CONST. US-33  
 ELEVATION: 750.7 (MSL) EOB: 25.0 ft

EXPLOSION ID: B-046-0-15  
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ ROD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)						ODOT CLASS (g)	BACK FILL	
								GR	CS	FS	SI	CL	LL			PL
0.7' - ASPHALT (8.0')	750.7															
0.3' - AGGREGATE BASE (3.0')	750.0		1													
FILL: STIFF TO VERY STIFF, MOTTLED BROWN AND GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, MOIST.	749.7		2	9	56	SS-1	4.5+	-	-	-	-	-	-	-	12	A-6b (V)
			4													
FILL: STIFF TO HARD, MOTTLED BROWN AND GRAY TO BROWN SILTY CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.	747.7		3													
			6	21	100	SS-2	4.5+	8	16	37	31	40	18	22	16	A-6b (11)
			8													
			2	8	78	SS-3	2.25	-	-	-	-	-	-	-	22	A-6b (V)
			3													
	742.7		2													
			3	11	83	SS-4	2.75	-	-	-	-	-	-	-	18	A-6b (V)
			4													
			5	17	94	SS-5A	4.5+	-	-	-	-	-	-	-	14	A-6b (V)
	739.2		5	6		SS-5B	4.25	17	24	28	11	22	17	5	13	A-3a (0)
			6													
			5	23	67	SS-6	-	-	-	-	-	-	-	-	15	A-3a (V)
			7													
			8													
- COBBLES @ 16.0'			15		36	SS-7	-	-	-	-	-	-	-	-	10	A-3a (V)
	732.7		50/5"													
MEDIUM DENSE TO DENSE, BROWNISH GRAY GRAVEL WITH SAND AND SILT, TRACE CLAY, MOIST TO WET.			5	37	78	SS-8	-	-	-	-	-	-	-	-	12	A-2-4 (V)
			11													
			13													
			3	18	100	SS-9	-	-	-	-	-	-	-	-	16	A-2-4 (V)
	727.7		6													
			6													
MEDIUM DENSE, GRAY COARSE AND FINE SAND, LITTLE FINE GRAVEL, LITTLE SILT, TRACE CLAY, WET.			3	17	94	SS-10	-	-	-	-	-	-	-	-	19	A-3a (V)
	725.7		5													
			6													

EOB

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 18.5'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS



PROJECT: FRA-33-24.26  
 TYPE: ROADWAY  
 PID: 98111 BR ID: N/A  
 START: 3/9/16 END: 3/9/16

DRILLING FIRM / OPERATOR: RII / C.D.  
 SAMPLING FIRM / LOGGER: RII / N.A.  
 DRILLING METHOD: 3.25" -HSA  
 SAMPLING METHOD: SPT

DRILL RIG: CME 55 (SN 386345)  
 HAMMER: OME AUTOMATIC  
 CALIBRATION DATE: 10/20/14  
 ENERGY RATIO (%): 92

STATION / OFFSET: 377+82.26 / 58.4' LT  
 ALIGNMENT: CL CONST. US-33  
 ELEVATION: 750.5 (MSL) EOB: 25.0 ft.  
 COORD: 39.885673000, -82.876937000

EXPLORATION ID  
**B-047-0-15**  
 PAGE  
 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ ROD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)				ATTERBERG			ODOT CLASS (g)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL		
0.8' - ASPHALT (9.0')	750.5	1														
0.7' - AGGREGATE BASE (8.0')	749.7	2	4	14	89	SS-1	-	-	-	-	-	-	-	5	A-1-a (V)	
FILL: LOOSE TO MEDIUM DENSE, BROWN GRAVEL, LITTLE COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, DAMP.	749.0	3														
		4	3	9	78	SS-2	-	12	4	4	1	NP	NP	5	A-1-a (0)	
		5														
		6	3	4	14	78	SS-3	2.00	-	-	-	-	-	-	21	A-7-6 (V)
		7	4	5												
FILL: MEDIUM STIFF TO STIFF, MOTTLED BROWN AND GRAY CLAY, "AND" SILT, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.	745.0	8														
		9	7	2	8	SS-4	1.00	7	12	40	36	18	24	21	A-7-6 (14)	
		10														
FILL: VERY STIFF TO HARD, MOTTLED BROWN AND GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST. - BRICK FRAGMENTS PRESENT IN SS-5	740.0	11	6	7	23	SS-5	4.5+	-	-	-	-	-	-	17	A-6a (V)	
		12	7	8												
- TRACE ORGANICS PRESENT THROUGHOUT	735.0	13														
		14	6	7	23	SS-6	3.50	-	-	-	-	-	-	20	A-6a (V)	
MEDIUM DENSE, MOTTLED BROWN AND GRAY SANDY SILT, SOME FINE GRAVEL, LITTLE CLAY, MOIST.		15														
		16	3	4	14	SS-7	-	-	-	-	-	-	-	23	A-4a (V)	
		17	4	5												
STIFF, MOTTLED GRAY AND OLIVE GRAY SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, DAMP.	730.0	18														
		19	3	8	29	SS-8	-	-	-	-	-	-	-	14	A-4a (V)	
MEDIUM DENSE, GRAY COARSE AND FINE SAND, SOME FINE GRAVEL, LITTLE SILT, WET.	727.5	20														
		21	4	7	25	SS-9	0.50	-	-	-	-	-	-	8	A-4a (V)	
	725.5	22	5	7	21	SS-10	-	-	-	-	-	-	-	15	A-3a (V)	
		23														
		24	7	7												
		25														

NOTES: SEEPAGE ENCOUNTERED @ 15.5'; GROUNDWATER ENCOUNTERED INITIALLY @ 23.5' AND AT COMPLETION @ 22.0'; CAVE-IN DEPTH @ 16.5'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS



B-006-0-61

State of Ohio  
Department of Highways  
Testing Laboratory

LOG OF BORING

Date Started: 6-29-61  
Date Completed: 7-6-61  
Boring No. B-6  
Station B Offset: 210+78.50 RT (BEAR PIER)  
Surface Elev. 725.2  
Sampler Type: SS  
Casing Length: 55'  
Di. 3 1/2"  
Water Elev. Immediate After: Hours

Project Identification: FRANKLIN  
FRA-33-24-26  
FRA-33  
OVER BIG WALNUT CREEK

Elev.	Depth	Std Pen. (N)	Description	Field No.	Lab. Nos.	Physical Characteristics							SHTL Class.	
						% Agt	% C.S.	% FS	% Silt	% Clay	LL	PI		W.C.
725.2	0													
720.2	2													
715.2	4													
712.7	6	15/15	Brownish-Gray Silty Gravel w/Stone Fragments	1	17551	70	8	6	12	4	NP	NP	15	
710.2	8													
707.7	10	18/11	Gray Silty Sand	2	17552	6	1	66	-27	NP	NP	NP	22	
705.2	12													
702.7	14	14/19	Gray Silty Gravelly Sand (Wash Sample)	3		V	1	S	U	A	L			
700.2	16	14/27	Gray Silty Gravelly Sand (Wash Sample)	4		V	1	S	U	A	L			
697.7	18	23/40	Gray Gravel w/Stone Fragments	5	17553	91	5	3	-1	NP	NP	NP	6	
695.2	20													
692.7	22	22/23	Gray Gravelly Sandy Silt w/Stone Fragments	6	17554	22	11	14	34	19	NP	NP	10	
690.2	24	28/31	Gray Sandy Gravelly Silt w/Stone Fragments	7	17555	37	9	11	23	20	NP	NP	12	
	26	25/70	Gray Gravelly Sandy Silt w/Stone Fragments	8	17556	22	10	15	33	20	NP	NP	11	
	28	25/37	Gray Silt	9	17557	0	1	1	66	32	NP	NP	18	
	30													
	32	26/35	Gray Silt	10	17558	0	1	3	79	17	NP	NP	23	
	34													
690.2	36	27/69	Gray Sandy Silt	11	17559	0	2	45	45	8	NP	NP	19	

Particle Sizes: Agt > 200mm, Coarse Sand = 2.00 - 0.42mm, Fine Sand = 0.42 - 0.075mm, Silt = 0.075 - 0.0075mm, Clay = < 0.0075mm

SHEET 6 of 19 Sheets

B-006-0-61

Elev.	Depth	Std Pen. (N)	Description	Field No.	Lab. Nos.	Physical Characteristics							SHTL Class.	
						% Agt	% C.S.	% FS	% Silt	% Clay	LL	PI		W.C.
685.2	38													
680.2	40	40/88	Gray Sandy Silt	12	17560	0	1	50	38	11	NP	NP	16	
	42													
	44													
675.2	46	25/78	Gray Silty Sand	13	17561	0	1	70	-29	NP	NP	NP	17	
	48													
670.2	50	40/68	Gray Silt	14	17562	0	1	14	77	8	NP	NP	24	
	52													
	54													
665.2	56	15/42	Gray Clayey Silt	15	17563	0	0	1	47	52	31	10	24	
664.2	58													
	60	46/74	Gray Silt	16	17564	0	1	2	53	44	NP	NP	23	
	62													
	64													
	66													
	68													
	70													
	72													
	74													
	76													
	78													
	80													

BOTTOM OF BORING

B-010-0-61

State of Ohio  
Department of Highways  
Testing Laboratory

LOG OF BORING

Date Started 7-12-61 Sampler Type SS Dia 1 3/8" Water Elev: Immediate  
Date Completed 7-15-61 Casing Length 60' Dia 3 1/2" After Hours

Project Identification: FRANKLIN  
FRA-33-24.26  
OVER BIG WALNUT CREEK OVERFLOW

Boring No. B10 Station B Offset 307+40.65' LT. (REAR FIER) Surface Elev 721.5

Elev.	Depth	Std. Pen. (N)	Description	Lab No.	Physical Characteristics					SHTL W.C. Class.	
					% Agg	% C.S.	% F.S.	% Silt	% Clay		LL
721.5	0										
716.5	2	20/20	Brown Sandy Gravel w/Stone Fragments	1 19044	75	20	3	-2	NP	NP	13
714.0	4	50*	Dark-Gray Gravelly Sand	2 19045	46	36	12	-6	NP	NP	15
711.5	6	10/12	Dark-Gray Gravelly Sand	3 19046	18	50	19	-13	NP	NP	15
707.0	8	16/40	Dark-Gray Silty Gravelly Sand	4 19047	0	46	37	-17	NP	NP	26
706.5	10	13/24	Dark-Gray Silty Sand (Heaved 2' in casing)	5 19048	51	27	11	-11	NP	NP	11
704.0	12	35/*	Dark-Gray Silty Sandy Gravel w/Stone Fragts	6 19049	68	15	6	5	NP	NP	14
701.5	14	37/*	Dark-Gray Silty Sandy Gravel w/Stone Fragts	7 19050	20	12	16	31	21	20	5
699.0	16	25/26	Dark-Gray Gravelly Sandy Silt w/St. Fragts.	8 19051	11	15	25	34	15	NP	9
696.5	18	15/45	Dark-Gray Sandy Silt	9 19052	8	9	55	21	7	NP	17
691.5	20	21/54	Dark-Gray Silty Sand	10 19053	0	0	1	84	15	NP	23
686.5	22	14/30	Dark-Gray Silt								

Particle Sizes: Agg. > 200mm, Course Sand = 2.00 - 0.42mm, Fine Sand = 0.42 - 0.074mm, Silt = 0.074 - 0.005mm, Clay = < 0.005mm  
\*REPUSEAL

SHEET 6 of 26 Sheets

B-010-0-61

Boring No. B10 Station B Offset 307+40.65' LT. Surface Elev 721.5

Elev.	Depth	Std. Pen. (N)	Description	Lab No.	Physical Characteristics					SHTL W.C. Class.	
					% Agg	% C.S.	% F.S.	% Silt	% Clay		LL
681.5	38										
676.5	40	17/36	Dark-Gray Silt	11 19054	0	0	1	79	20	NP	18
671.5	42										
666.5	44										
661.5	46	21/34	Dark-Gray Silt	12 19055	0	0	1	84	15	NP	22
660.5	48										
	50	10/15	Gray Silt	13 19056	0	0	1	86	13	NP	27
	52										
	54										
	56	18/27	Dark-Gray Silty Sandy Gravel	14 19057	42	26	13	14	5	NP	13
	58										
	60										
	62	19/28	Dark-Gray Silty Sandy Gravel	15 19058	48	20	12	14	6	NP	9
	64										
	66										
	68										
	70										
	72										
	74										
	76										
	78										
	80										

SHEET 7 of 26 Sheets

B-016-0-61

State of Ohio  
Department of Highways  
Testing Laboratory

LOG OF BORING

Date Started: 7-7-61  
Date Completed: 7-11-61  
Sampler: Type SS Dia. 1 3/8" Water Elev. Immediate  
Casing: Length 60' Dia. 1 1/2" After: Hours

Project Identification: FRANKLIN  
FRA-33-24.26  
FRA-33-253

Boring No. B16 Station & Offset 308+03.65 RT. (FORWARD ABUT.) Surface Elev. 225.2 OVER FLD WALNUT CREEK OVERFLOW

Elev	Depth	Std Pen (N)	Description	Physical Characteristics					SHTL			
				Lab Nos	% Ash	% C.S.	% F.S.	% Silt	% Clay	LL	PI	W.C. Class.
725.2	0											
720.2	2		Brown Silty Sandy Gravel									
	4											
717.7	6	13/21	Brown Silty Sandy Gravel	18524								14
715.2	8	30/15	Brown Silty Sandy Gravel	18525								15
712.7	10	17/14	Brown Gravelly Sand									
	12											
710.2	14	6/5	Brown Sand	18526								NP 19
707.7	16	12/16	Gray Silty Sandy Gravel	18527								NP 13
705.7	18	13/16	Gray Sandy Gravel	18528								NP 20
702.7	20	13/17	Brown & Gray Sandy Gravel	18529								NP 10
	22											
700.2	24	21/25	Gray Gravelly Sandy Silt	18530								5 13
	26	17/22	Gray Sandy Gravelly Silt	18531								4 11
	28											
695.2	30	21/42	Gray Gravelly Sand	18532								NP 12
	32											
690.2	34											
	36	52/*	Brown & Gray Gravelly Sand (Heaved 3" in casing)	18533								NP 13

Particle Sizes: App. 200mm, Coarse Sand= 200-0.42mm, Fine Sand=0.42-0.074mm, Silt=0.074-0.005mm, Clay = <0.005 mm  
\*REQUISAL

SHEET 8 of 26 Sheets

B-016-0-61

Elev	Depth	Std Pen (N)	Description	Physical Characteristics					SHTL			
				Lab Nos	% Ash	% C.S.	% F.S.	% Silt	% Clay	LL	PI	W.C. Class.
685.2	38											
	40	9/10	Gray Gravelly Sand (Wash sample)									
	42											
680.2	44											
	46	18/28	Gray Sandy Silt	18534								NP 22
	48											
675.2	50	23/27	Gray Silt	18535								NP 20
	52											
670.2	54											
	56	10/20	Gray Sandy Silt	18536								NP 19
	58											
665.2	60											
664.2	62	25/38	Gray Silty Sand	18537								NP 11
	64											
	66											
	68											
	70											
	72											
	74											
	76											
	78											
	80											

SHEET 9 of 26 Sheets

B-020-0-61

State of Ohio  
Department of Highways  
Testing Laboratory

LOG OF BORING

Date Started: 2-21-61  
Date Completed: 2-21-61  
Boring No. B-20 Station & Offset: 313+20.57' LT (FORWARD PIER) Surface Elev. 726.8  
Sampler Type: SS Dia. 1 3/8" Water Elev. Immediate  
Casing Length: Dia. After Hours

Project Identification: FRANKLIN  
Project No. FRA-33-24.26  
Project Name: OVER BIG WALNUT CREEK

Elev.	Depth	Sk. Pen.	Description	Field No.	Lab. No.	Physical Characteristics							SMTL Class.	
						% Ag	% C.S.	% F.S.	% Silt	% Clay	LL	PI		W.C.
726.8	0													
721.8	5	4/3	Gray Sandy Gravelly Silt	1	98686	35	7	13	27	18	NP	NP	39	
719.3	8	7/16	Brown Silty Sandy Gravel and Limestone Fragments	2	98687	67	17	4	8	4	NP	NP	21	
716.8	10	14/12	Brown Silty Sandy Gravel and Limestone Fragments	3	98688	56	25	8	8	3	NP	NP	12	
714.3	12	15/24	Gray Silty Sandy Gravel and Limestone Fragments	4	98689	60	23	7	6	4	NP	NP	11	
711.8	16	16/16	Gray Sandy Gravel and Limestone Fragments	5	98690	70	20	5	-5	-	NP	NP	14	
709.3	18	18/21	Gray Sandy Gravel and Limestone Fragments	6	98691	77	13	5	-5	-	NP	NP	9	
706.8	20	23/23	Gray Sandy Silt	7	98692	11	12	17	35	25	22	5	12	
704.3	24	11/26	Gray Sandy Silt	8	98693	14	12	15	35	24	20	3	11	
701.8	28	54/*	Gray Sandy Silt	9	98694	10	5	22	47	16	NP	NP	13	
696.8	30	50*	No Sample Recovered - Boulders											
691.8	36	19/39	Gray Silty Sand & Little Stone Fragments	10	98695	17	1	46	28	6	NP	NP	18	

B-020-0-61

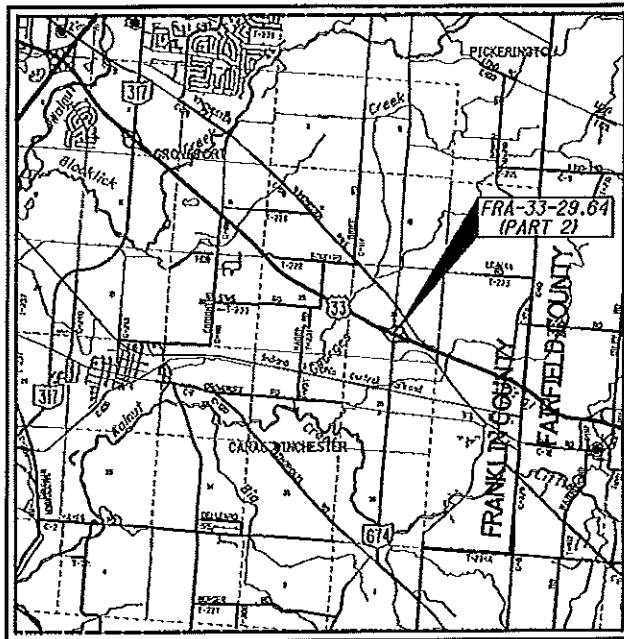
Boring No. B-20 Station & Offset: 313+20.57' LT Surface Elev. 726.8

Project: FRA-33

Elev.	Depth	Std Pen. (N)	Description	Field No.	Lab. No.	Physical Characteristics							SMTL Class.	
						% Ag	% C.S.	% F.S.	% Silt	% Clay	LL	PI		W.C.
686.8	40	27/45	Gray Sandy Silt	11	98696	0	1	29	61	9	NP	NP	19	
681.8	46	30/40	Gray Silt	12	98697	0	0	9	83	8	NP	NP	21	
676.8	50	31/58	Gray Silt	13	98698	0	1	6	84	9	NP	NP	20	
671.8	56	22/35	Gray Silt	14	98699	0	0	0	83	17	NP	NP	26	
	58		BOTTOM OF BORING											

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

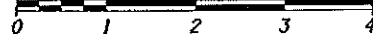
**FRA-33-29.64**  
**PART 2**  
**MADISON TOWNSHIP**  
**FRANKLIN COUNTY**  
**FOR PART 1, SEE FRA-33-24.26**



LOCATION MAP

LATITUDE: 39° 51' 30" LONGITUDE: 82° 49' 40"

SCALE IN MILES




PORTION TO BE IMPROVED	_____
INTERSTATE HIGHWAY	_____
FEDERAL ROUTES	_____
STATE ROUTES	_____
COUNTY & TOWNSHIP ROADS	_____
OTHER ROADS	_____

DESIGN DESIGNATION	US-33	GENDER RD.
CURRENT ADT (2018)	65,000	20,606
DESIGN YEAR ADT (2038)	82,000	20,500
DESIGN HOURLY VOLUME (2038)	9,600	1,800
DIRECTIONAL DISTRIBUTION	70%	53%
TRUCKS (24 HOUR B&C)	9,020	885
DESIGN SPEED	65 MPH	40 MPH
LEGAL SPEED	60 MPH	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION:		
FREEWAYS AND EXPRESSWAYS		
NHS PROJECT		YES

DESIGN EXCEPTIONS  
NONE

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



Call Before You Dig  
1-800-382-2764  
(Non-members must be called directly)

OIL & GAS PRODUCERS  
UNDERGROUND PROTECTION SERVICE  
1-800-926-0988

PLAN PREPARED BY:



INDEX OF SHEETS:

TITLE SHEET	1
GENERAL NOTES	2
MAINTENANCE OF TRAFFIC	3-13
GENERAL SUMMARY	14
STRUCTURES 20' AND OVER	15-23

PROJECT DESCRIPTION

REPLACEMENT OF FASCIA BEAM SECTION AND DECK EDGE OF SR-674 OVER WESTBOUND US-33

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: N/A ACRES  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A ACRES  
NOTICE OF INTENT EARTH DISTURBED AREA: N/A 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 SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

FEDERAL PROJECT NO. E140609  
PID NO. 98111  
CONSTRUCTION PROJECT NO.  
RAILROAD INVOLVEMENT NONE  
FRA-33-29.64 P2  
23

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
SEE PART 1				SEE PART 1	

ENGINEERS SEAL:



SIGNED: [Signature]  
DATE: DECEMBER 14, 2017

APPROVED  
DATE 12/14/17  
[Signature] DISTRICT DEPUTY DIRECTOR

APPROVED  
DATE 12/11-16/17  
[Signature] DIRECTOR, DEPARTMENT OF TRANSPORTATION

I:\ProjectData\09811\FRA-33-29.64\Design\Roadway\Sheets\8811P2.GT001.dgn P2 TITLE SHEET 12/14/2017 7:04:19 AM jhdp

I:\Project\Dat\098111\_FRA-33-29.37\Design\Roadway\Sheet\98111\_SNOO1.dgn P2 GENERAL NOTES 12/18/2017 6:20:14 AM jh1pp

**NOTIFICATION OF CONSTRUCTION INITIATION:**

AT LEAST FOURTEEN DAYS PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ADVISE THE DISTRICT OFFICE OF COMMUNICATIONS VIA EMAIL AT D06.PIO@DOT.STATE.OH.US AND THE DISTRICT WORK ZONE TRAFFIC MANAGER VIA EMAIL AT D06.MOT@DOT.STATE.OH.US 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.

**GENERAL:**

THE CONTRACTOR SHALL SUBMIT IN WRITING A SCHEDULE OF OPERATIONS TO THE ENGINEER AND RECEIVE APPROVAL IN WRITING BEFORE WORK IS STARTED ON THIS PROJECT. 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.

**ITERIM COMPLETION DATE:**

THE DEPARTEMENT HAS ESTABLISHED AN INTERIM COMPLETION DATE FOR THIS PROJECT:

**AUGUST 31, 2018:**

ALL CONSTRUCTION FOR FRA-33-29.64 PART 2 COMPLETE AND REMOVAL OF MOT ITEMS.

A DISINCENTIVE IN THE AMOUNT OF \$600 WILL BE ASSESSED FOR EACH CALANDAR DAY BEYOND THIS INTERIM COMPLETION.

**WORK LIMITS:**

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

**CONTRACTORS EQUIPMENT - OPERATION AND STORAGE:**

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC WHERE PRACTICAL. EQUIPMENT SHALL HAVE AT LEAST ONE AMBER FLASHING LIGHT. WHEN PARKED ALONG THE HIGHWAY, THE EQUIPMENT SHALL BE LOCATED EITHER A MINIMUM OF THIRTY FEET FROM THE EDGE OF PAVEMENT OR SIX FEET BEHIND GUARDRAIL WITH A MINIMUM OF 125 FEET OF GUARDRAIL PRECEDING THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT AN APPROVED CONTRACTOR'S STORAGE AREA.

**REMOVAL ITEMS:**

GUARDRAIL, POSTS, ASPHALT AND MISCELLANEOUS HARDWARE DESIGNATED FOR REMOVAL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE REMOVED ITEM.

**UNDERGROUND UTILITIES:**

THERE ARE NO UNDERGROUND UTILITIES SHOWN ON THIS PLAN. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UNDERGROUND UTILITIES THAT EXIST UNDER OR ADJACENT TO THE WORK AREA.

**UTILITIES:**

LISTED BELOW ARE THE KNOWN UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS.

**COLUMBUS DEPT. OF UTILITIES**

910 DUBLIN ROAD  
COLUMBUS, OH 43215  
614.645.8276

**ODOT OWNED HWY LIGHTING**

400 EAST WILLIAM STREET  
DELAWARE, OH 43015  
MR. KENNETH GREENE – DISTRICT 6 TRAFFIC ENGINEER  
PH. 740-833-8198  
[KEN.GREENE@DOT.OHIO.GOV](mailto:KEN.GREENE@DOT.OHIO.GOV)

**COLUMBIA GAS OF OHIO**

1600 DUBLIN ROAD EAST  
COLUMBUS, OH 43215  
NICK HOVIS  
O. 614.481.1052  
M. 614.273.4076  
[NHOVIS@NISOURCE.COM](mailto:NHOVIS@NISOURCE.COM)

**COLUMBIA GAS OF OHIO - TRANSMISSION**

301 MAPLE STREET, PO BOX 330  
SUGAR GROVE, OH 43155  
JIM SCOTT  
O. 740.304.4304  
M. 740.746.2234  
[JAMES\\_SCOTT@TRANSCANADA.COM](mailto:JAMES_SCOTT@TRANSCANADA.COM)

**SOUTH CENTRAL POWER**

2780 COONPATH ROAD  
LANCASTER, OH 43130  
PHIL STRINGER  
O. 740.689.6237  
M. 614.563.9597  
[STRINGER@SOUTHCENTRALPOWER.COM](mailto:STRINGER@SOUTHCENTRALPOWER.COM)

**AT&T - OHIO**

111 NORTH 4<sup>TH</sup> STREET  
ROOM 802  
COLUMBUS, OH 43215  
MR. GARY VAN ALMSICK  
O. 614.223.7276  
FAX 614.223.5579  
[GV2758@ATT.COM](mailto:GV2758@ATT.COM)

**ITEM 622 – PORTABLE BARRIER, 32", BRIDGE MOUNTED, AS PER PLAN**

THE CONTRACTOR SHALL ANCHOR PORTABLE BARRIER, 32" WHEN SPECIFIED IN THE PLANS. THE CONTRACTOR SHALL PROVIDE THE MINIMUM NUMBER OF ANCHORS SPECIFIED WITHIN THE PLANS. ALL ANCHORED PORTABLE BARRIER, 32" SHALL BE PAID UNDER ITEM 622 – PORTABLE BARRIER, 32", BRIDGE MOUNTED, AS PER PLAN.

THE LEADING 50 FT OF APPROACH PORTABLE BARRIER (PB-2 AND PB-3 AS DETAILED ON SHEET 12) MEASURED FROM THE TEMPORARY SUPPORTS ALONG US-33 SHALL BE ANCHORED IN ACCORDACNE WITH STD. DWG. PCB-91.

IMMEDIATLEY FOLLOWING REMOVAL OF ABOVE DESCRIVED, PORTABLE BARRIER, 32", BRIDGE MOUNTED, AS PER PLAN, ON US-33 THE DOWEL HOLES IN THE US-33 PAVEMENT SHALL BE BACFILLED WITH HOT APPLIED JOINT SEALER MEETING THE REQUIREMENTS OF CMS 705.04. ALL LABOR, EQUIPMENT, MATERIAL AND INCIDENTALS TO BACKFILL THE DOWEL HOLES WITH JOINT SEALER IS INCIDENTAL TO THE ITEM 622 – PORTABLE BARRIER, 32", BRIDGE MOUNTED, AS PER PLAN PAY ITEM.

**ITEM 625 – LIGHTING, MISC.: MAINTAIN EXISTING LIGHTING CIRCUIT**

PRIOR TO REMOVAL OF PARAPET THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE EXISTING CURCUIT LOCATED WITHIN THE FRA-33-26.49 EAST PARAPET. REFER TO EXISTING PLANS FOR DETAILS REGARDING THE LIGHTING CIRCUIT.

ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED TO MAINTAIN THE EXISTING LIGHTING CIRCUIT SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 625 – LIGHTING, MISC.: MAINTAIN EXISTING LIGHTING CIRCUIT.

IN ADDITION TO MAINTAINING THE EXISTING LIGHTING CIRCUIT, THE FOLLOWING ITEMS HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO RESTORE THE LIGHTING CIRCUIT BACK TO ITS ORIGINAL STATE:

ITEM	QTY	UNIT
ITEM 625 – NO. 4 AWB 600 VOLT DISTRIBUTION CABLE	750	FT
ITEM 625 – CONDUIT, 2", 725.05	58	FT

**ITEM 646 – EDGE LINE, 4" (WHITE)  
ITEM 646 – CENTER LINE, 6" (DASHED)  
ITEM 646 – TRANSVERSE/DIAGONAL LINE**

ALL PROVISIONS OF CMS ITEM 646 APPLY.

ALL NEW PAVEMENT MARKING(S) SHALL BE PLACED IN THE SAME LOCATION AS THE EXISTING PAVEMENT MARKING(S) AND MATCH SIZE, SHAPE AND COLOR.

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

ITEM	QTY	UNIT
ITEM 646 – EDGE LINE, 4"	0.16	MILE
ITEM 646 – CENTER LINE	0.11	MILE
ITEM 646 – TRANSVERSE/DIAGONAL	50	FT

CALCULATED  
MJR  
CHECKED  
JPH

GENERAL NOTES

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**GENERAL:**

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 (OMUTCD), CURRENT EDITION. COPIES ARE AVAILABLE FROM:

THE OHIO DEPARTMENT OF TRANSPORTATION  
BUREAU OF TRAFFIC  
1980 WEST BROAD STREET  
COLUMBUS, OHIO 43223.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH SECTION 614 AND OTHER APPLICABLE PORTIONS OF THE ODOT MANUAL OF CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), AS WELL AS THE OMUTCD, CURRENT EDITION. 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.

**ITEM 614 – MAINTAINING TRAFFIC:**

US-33

ALL LANE CLOSURES ON US 33 SHALL BE MADE WITHIN ALLOWABLE LANE CLOSURE TIMES, AS SPECIFIED IN THE UNATHOURIZED LANE USE TABLE. LANE CLOSURES ON US-33 SHALL BE IN ACCORDANCE WITH STD. DWG. MT-95.30 CORRESPONDING TO PHASE 1 AND PHASE 3 WORK AS STATED WITHIN THE SEQUENCE OF CONSTRUCTION ON SHEET 7. LANE CLOSURES SHALL UTILIZED A LEO FOR ASSITANCE FOR THE DURATION OF THE LANE CLOSURE.

SHORT DURATION CLOSURE OF US-33 WESTBOUND SHALL UTILIZE STD. DWG. MT-99.60 DURING WEEKEND CLOSURE AND SHALL BE MADE WITHIN ALLOWABLE LANE CLOSURE TIMES, AS SPECIFIED IN THE UNATHOURIZED LANE USE TABLE.

ALL ASSOCIATED RAMP CLOSURES SHALL BE MADE ACCORDING TO THE RAMP CLOSURE TABLE AND ADHERE TO THE SHORT DURATION RAMP CLOSURE NOTE.

**GENDER ROAD**

ALL LANE AND SHOULDER CLOSURES ON SR-674 SHALL BE MADE WITHIN ALLOWABLE LANE CLOSURE TIMES, AS SPECIFIED IN THE UNAUTHORIZED LANE USE.

FOR THE DURATION OF THIS PROJECT GENDER ROAD SHALL CLOSE A PORTION OF THE NORTHBOUND, RIGHT TRAVELED LANE USING BRIDGE MOUNTED PORTABLE CONCRETE BARRIER AS DETAILED ON SHEETS 10 TO 11. PORTABLE BARRIER SHALL REMAIN IN PLACE AS DETAILED UNTIL COMPLETION OF PHASE 3 WORK.

ALL ASSOCIATED RAMP CLOSURES SHALL BE MADE ACCORDING TO THE RAMP CLOSURE TABLE AND ADHERE TO THE SHORT DURATION RAMP CLOSURE NOTE.

**PUBLIC OUTREACH AND NOTIFICATION (ROAD CLOSURE):**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE DISTRICT 6 PUBLIC INFORMATION OFFICE VIA EMAIL AT d06.pio@dot.ohio.gov TO COORDINATE EFFORTS TO NOTIFY ALL LOCAL COUNTY, STATE AND FEDERAL EMERGENCY SERVICES, SCHOOL DISTRICTS AND ADJACENT RESIDENTS AND BUSINESSES OF THE UPCOMING CLOSURE. ADVANCE NOTIFICATION SHALL OCCUR NO LATER THAN TWO (2) BUSINESS DAYS PRIOR TO CLOSING THE ROAD FOR CLOSURES LESS THAN 12 HOURS AND NO LATER THAN SEVEN (7) CALENDAR DAYS FOR CLOSURES GREATER THAN 12 HOURS AND LESS THAN 2 WEEKS. IF, SUBSEQUENT TO THE ADVANCE NOTIFICATION, THE START DATE IS CHANGED, THEN A NEW SEVEN (7) DAY NOTIFICATION WILL 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.

**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. 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, DETOUR ROUTES IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

Item	Duration of Closure	Notification due to District 6 Communications Office
Ramp & Road Closures	>= 2 weeks	14 calendar days prior to closure
	> 12 hours & < 2 weeks	7 calendar days prior to closure
	< 12 hours	2 business days prior to closure
Lane Closures & Restrictions	>= 2 weeks	7 calendar days prior to closure
	< 2 weeks	2 business days prior to closure

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.

**WORK SITE LIGHTING:**

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.

**ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN):**

NOTICE OF CLOSURE SIGNS SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDNACE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURES.

THE PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

ITEM	DURATION OF CLOSURE	SIGN DISPLAY TO PUBLIC	NOTIFICATION DUE TO DISTRICT 6 COMMUNICATIONS OFFICE
RAMP & ROAD CLOSURES	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE	7 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE	2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE.

**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

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	TIME 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

**SPECIAL EVENTS**

**CANAL WINCHESTER BLUES AND RIBFEST**

DATES NOT AVAILABLE UPON DESIGN. CONTRACTOR SHALL COORDINATE WITH THE FOLLOWING FOR EVENT DATES AND SCHEDULE:

KAREN STILES  
EXECUTIVE DIRECTOR DESTINATION OF CANAL WINCHESTER  
O. 614.270.5053  
[INFO@DESTINATIONCW.ORG](mailto:INFO@DESTINATIONCW.ORG)

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.

**SHORT DURATION RAMP CLOSURES:**

FOR THE PURPOSE OF PERFORMING THE REQUIRED WORK OR WHEN REQUIRED BY THE INTERSTATE ENTRANCE RAMP CLOSURE NOTE, RAMPS MAY BE CLOSED FOR SHORT DURATIONS AND DETOURED IN ACCORDANCE WITH THE RAMP CLOSURE TABLE IF APPROVED BY THE ENGINEER. RAMP CLOSURES ARE SUBJECT TO DISINCENTIVES.

FOR ALL SERVICE RAMP CLOSURES LASTING MORE THAN 12 HOURS BUT LESS THAN 60 HOURS AND/OR, FOR ALL SYSTEM RAMP CLOSURES LASTING MORE THAN 12 HOURS BUT LESS THAN 24 HOURS

THE CONTRACTOR SHALL PROVIDE THE FOLLOWING:

- A MINIMUM OF TWO PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) PLACED, AS DIRECTED BY THE ENGINEER, TO WARN DRIVERS OF THE CLOSURE AND TO PROVIDE THE DESIGNATED DETOUR ROUTE.
- POSITIVE GUIDANCE ALONG THE DETOUR ROUTE WITH DETOUR SIGNS (M-9 SERIES) IN ACCORDANCE WITH THE DETOUR SIGNS NOTE.

FOR ALL RAMP CLOSURES LASTING LESS THAN 12 HOURS, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING:

- A MINIMUM OF TWO PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) PLACED, AS DIRECTED BY THE ENGINEER, TO WARN DRIVERS OF THE CLOSURE AND TO PROVIDE THE DESIGNATED DETOUR ROUTE.

WHEN CLOSING ENTRANCE RAMPS, CORRESPONDING LEAD-IN LANES AND TURN LANES SHALL ALSO BE CLOSED.

IF A DESIGNATED DETOUR ROUTE IS NOT PROVIDED IN THE PLANS, TRAFFIC SHALL BE DIRECTED TO THE NEXT INTERCHANGE, IF AVAILABLE, TO TURN AROUND. IF THE USE OF THE NEXT INTERCHANGE IS NOT POSSIBLE, AN ALTERNATIVE DETOUR ROUTE SHALL BE PROVIDED BY THE ENGINEER.

SERVICE RAMP: INTERCHANGE RAMPS BETWEEN FREEWAYS (OR EXPRESSWAYS) AND NON-FREEWAYS (OR NONEXPRESSWAYS). THESE RAMPS PROVIDE ACCESS (CONNECTIONS) BETWEEN FREEWAYS/EXPRESSWAYS AND OTHER PRINCIPAL/MINOR ARTERIALS, COLLECTORS OR LOCAL ROADS.

SYSTEM RAMP: INTERCHANGE RAMPS (OR CONNECTORS) BETWEEN FREEWAYS (OR EXPRESSWAYS) AND FREEWAYS (OR EXPRESSWAYS).

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CALCULATED  
MJR  
CHECKED  
JPH

MAINTENANCE OF TRAFFIC GENERAL NOTES

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**ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS:**

USE OF LEOS BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE PROJECT ENGINEER. LAW ENFORCEMENT OFFICERS (LEOS) SHOULD NOT BE USED WHERE THE ODOT INTENDS THAT FLAGGERS BE USED. IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER 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:

1. FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED. IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

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

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE SERVICES WITH:

THE CITY OF COLUMBUS 1-614-645-4545  
THE OHIO HIGHWAY PATROL 1-614-466-2660

THE LEO SHOULD REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING THE SHIFT. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF THE SHIFT.

LAW ENFORCEMENT OFFICERS (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. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A L.E.O. ARE INCLUDED WITHIN THE BID UNIT PRICE FOR ITEM-614 LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED, INCLUDING THE TIME ESTIMATED TO CONDUCT US-33 ROAD CLOSURES IN ACCORDANCE WITH STD. DWG. MT-99.60:

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE = **100 HOUR**

**USE OF WEIGHTED CHANNELIZERS:**

THE WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THIS SECTION. THE WEIGHTED CHANNELIZERS SHALL BE PREDOMINANTLY ORANGE IN COLOR AND SHALL BE MADE OF LIGHTWEIGHT, FLEXIBLE, AND DEFORMABLE MATERIAL. THEY SHALL BE AT LEAST 42 INCHES IN HEIGHT WITH A WEIGHTED BASE. THEY MAY HAVE A HANDLE OR LIFTING DEVICE, WHICH EXTENDS ABOVE THE 42" MINIMUM HEIGHT.

THE MARKINGS ON THE WEIGHTED CHANNELIZERS SHALL BE HORIZONTAL, CIRCUMFERENTIAL, ALTERNATING ORANGE AND WHITE RETRO REFLECTIVE STRIPES 6 INCHES WIDE. EACH WEIGHTED CHANNELIZERS SHALL HAVE A MINIMUM OF TWO ORANGE AND TWO WHITE STRIPES. ANY NON-RETRO REFLECTIVE SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES SHALL NOT EXCEED 2 INCHES WIDE.

THE WEIGHTED CHANNELIZERS SHALL HAVE A 4-INCH MINIMUM WIDTH, REGARDLESS OF ORIENTATION.

USE OF WEIGHTED CHANNELIZERS ON FREEWAYS AND MULTILANE HIGHWAYS SHALL BE LIMITED TO SHORT-TERM OPERATION FOR EITHER DAY OR NIGHT. UPON COMPLETION OF WORK, THE WEIGHTED CHANNELIZERS SHALL BE REMOVED. THE WEIGHTED CHANNELIZERS MAY AGAIN BE PLACED ON THE HIGHWAY WHEN THE WORK IS TO RESUME ON THE FOLLOWING DAY OR NIGHT. ANY LANE CLOSURE USING CHANNELIZATION DEVICES, EXPECTED TO REMAIN FOR MORE THAN TWELVE HOURS, SHALL REQUIRE THE USE OF DRUMS OR BARRIERS. WORK IS TO RESUME ON THE FOLLOWING DAY OR NIGHT.

WHEN USED AT NIGHT, WEIGHTED CHANNELIZERS SHALL ONLY BE PLACED IN THE TANGENT AREA. THE TANGENT AREA IS DEFINED AS THE AREA AFTER THE TRANSITION TAPER WHERE THE WORK TAKES PLACE. DRUMS SHALL BE USED IN THE TRANSITION TAPERS FOR NIGHT OPERATIONS. MAXIMUM SPACING OF THE WEIGHTED CHANNELIZERS SHALL BE 40 FEET.

STEPS SHOULD BE TAKEN TO ENSURE THAT THE WEIGHTED CHANNELIZERS WILL NOT BE BLOWN OVER OR DISPLACED BY WIND OR MOVING TRAFFIC. BALLASTS SHOULD NOT PRESENT A HAZARD IF THE WEIGHTED CHANNELIZERS ARE INADVERTENTLY STRUCK, NOR SHOULD THEY AFFECT THE VISIBILITY OF THE WEIGHTED CHANNELIZERS. ALL BALLASTS USED SHOULD BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

**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 CONCRETE PERMANENT BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE.

THE INCREASED BARRIER DELINEATION SHALL CONSIST OF THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

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 TRIPLE-STACKED 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) **28 EACH**

ITEM 614, OBJECT MARKER, ONE-WAY **28 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 - DETOUR SIGNING:**

SIZE AND PLACEMENT OF DETOUR SIGNS (M4-9) SHOULD FOLLOW THE REQUIREMENTS OF THE OMUTCD SECTION 6F.03, SECTION 2A.11 AND TABLE 6F.01.

DETOUR SIGNING SHALL PROVIDE DRIVERS ADEQUATE TIME TO CLEARLY READ THE SIGNS AND MAKE THE PROPER DECISIONS AT EACH REQUIRED TURNING MOVEMENT. THE DESIGNATED DETOUR ROUTE SHALL BE SIGNED AS DETAILED ON SHEET 8.

DETOUR SIGNS SHALL BE PLACED, WHEN POSSIBLE, NEXT TO BUT NOT BLOCKING EXISTING ROUTE MARKERS OR LANE ASSIGNMENT SIGNS. DETOUR SIGNS SHALL NOT OBSCURE OR BE OBSCURED BY OTHER EXISTING OR TEMPORARY SIGNS.

DETOUR SIGNS SHALL BE ERECTED AND/OR UNCOVERED PRIOR TO THE ROAD OR RAMP BEING CLOSED TO TRAFFIC BUT NO EARLIER THAN FOUR HOURS PRIOR TO THE CLOSURE. DETOUR SIGNS SHALL BE COVERED AND/OR REMOVED NO LATER THAN FOUR HOURS FOLLOWING THE ROAD OR RAMP RE-OPENING TO TRAFFIC.

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, PROPER SIGN PLACEMENT AND SIZING, TIMELY ERECTING AND/OR UNCOVERING OF SIGNS, MAINTAINING SIGNS, AND TIMELY COVERING AND/OR REMOVING SIGNS AND SUPPORTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614 - DETOUR SIGNING = **LUMP SUM**

**ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN:**

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE WHEN NO LONGER NEEDED, CHANGEABLE MESSAGE SIGNS, ON SITE, TO BE USED AS DIRECTED.

THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR. ONLY CLASS I OR II SIGNS WILL BE PERMITTED. EACH SIGN SHALL BE TRAILER MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM TO DIM THE SIGN DURING DARKNESS AND A TEMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLE SHOOT THE UNIT.

THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM

A LOCAL UTILITY COMPANY. PLACEMENT OF THE PCMS'S SHALL BE AS DIRECTED BY THE ENGINEER.

SIGN ACTIVATION SHALL BE 14 DAYS PRIOR TO CONSTRUCTION INITIATION OR AS DIRECTED BY THE ENGINEER. OPERATION AND MAINTENANCE OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE HIGH INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9 INCHES BY 15 INCHES MINIMUM, FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLE SHOOT THE UNIT AND TO REVISE SIGN MESSAGES, IF NEEDED. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD.

THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHOULD BE SUPPORTED, BUT NORMALLY, NOT MORE THAN TWO MESSAGE PHASES SHOULD BE EMPLOYED, ALTHOUGH THREE PHASES MAY BE USED IN UNUSUAL CONDITIONS. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST ONCE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED, OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614.03. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS

TO ASSURE PROMPT SERVICE IN THE EVENT OF A FAILURE. ANY FAILURE SHALL NOT RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC AND THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON THE CONTRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATIONS AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN, AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF ITS RESPONSIBILITIES AS OUTLINED IN 104.04. PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT BID PRICE PER MONTH FOR EACH ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE, AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

\*PCMS USED AS DESCRIBED IN THE "SHORT DURATION RAMP CLOSURES NOTE" ARE TO BE PAID FOR UNDER THE LUMP SUM BID PRICE FOR MAINTENANCE OF TRAFFIC.

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

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN = **4 SNMT**



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**ITEM 614 - WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (BIDIRECTIONAL):**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ONE OF THE FOLLOWING IMPACT ATTENUATORS:

1. THE QUADGUARD CZ, (24 INCHES (610 MILLIMETERS) WIDE SIX-BAY) WORK ZONE IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., 35 EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

THE LENGTH OF THE SIX-BAY QUADGUARD CZ IS 20'-9" (6.33 METERS). INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER	DRAWING NAME	DRAWING/ REVISION DATE	ODOT APPROVAL DATE
QSCZCVR-T4	QUADGUARD CZ SYSTEM FOR CONSTRUCTION ZONES	5/13/99 REV. J	8/27/99
35-40-10	QUADGUARD SYSTEM CONCRETE PAD, CZ, QG	11/19/97 REV. D	8/27/99
35-4-16	QUADGUARD SYSTEM BACKUP ASSEMBLY, CZ, QG	7/30/99 REV. F	8/27/99
354051Z	QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, QG, 24, 30, 36	5/17/99	8/27/99
35-40-18	TRANSITION ASSEMBLY, 4 OFFSET, QG	6/25/99 REV. F	8/27/99
35400260	QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY	11/19/97 REV. C	8/27/99

2. THE TRACC (TRINITY ATTENUATING CRASH CUSHION) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE TRACC IS 21'-0" (6.4 METERS) LONG AND 2'-7" (0.8 METER) WIDE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER	DRAWING NAME	DRAWING/ REVISION DATE	ODOT APPROVAL DATE
SS450	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS	3/12/99 REV. 1	8/27/99
SS455	TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS	2/18/1999	8/27/99
SS461	TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER PLAN, ELEVATION & SECTIONS	6/30/99 REV. 1	8/27/99
SS462	TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS	6/30/1999	8/27/99

3. THE BARRIER SYSTEMS, INC. TAU-II IMPACT ATTENUATOR, DISTRIBUTED BY ROAD SYSTEMS, INC., SALES SUPPORT, 2183 ELM TRACE, AUSTINTOWN, OH 44515, (TELEPHONE 330-799-9291).

THE TAU-II FOR THIS NOTE IS A PARALLEL 8-BAY UNIT 24' LONG AND 35" WIDE). INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER	DRAWING NAME	DRAWING/ REVISION DATE	ODOT APPROVAL DATE
A040416	UNIVERSAL TAU-II PARTS LIST	4/22/04	10/16/04
A040420	UNIVERSAL TAU-II FOUNDATION, FLUSH MOUNT BACKSTOP	4/28/04	10/16/04
A040105	UNIVERSAL TAU-II FOUNDATION, PCB BACKSTOP (REFERENCED ON A04020)	1/7/04	10/16/04
B040239	APPLICATION, FLUSH MOUNT BACKSTOP (TYPICAL FOR PARALLEL 60 MPH UNIT)	4/21/04	10/16/04

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. 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.

CALCULATED  
MJR  
CHECKED  
JPH

MAINTENANCE OF TRAFFIC GENERAL NOTES

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**UNAUTHORIZED LANE USE TABLE:**

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 BELOW:

**US-33**

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	
<b>FRA-33</b>						
I-270 (24.75) to Fairfield County Line (31.23) Eastbound	2	2 to 1	5AM-9PM	8AM-9PM	5PM-10PM	\$75
I-270 (24.75) to Fairfield County Line (31.23) Westbound	2	2 to 1	5AM-7PM	8AM-8PM	9AM-8PM	\$75
I-270 (24.75) to Fairfield County Line (31.23) Westbound	2	2 to 0	NOT PERMITTED	12AM - 5AM OR AS APPROVED BY THE ENGINEER	12AM - 5AM OR AS APPROVED BY THE ENGINEER	\$150 after a duration of 20min has been exceeded
Short term shoulder closures are NOT permitted 5AM-9AM and 3PM-6PM Monday-Friday.						

**SR-674/GENDER ROAD**

UNAUTHORIZED LANE USE TABLE						
Section	Existing Number of Lanes per Direction	Lane closures are NOT permitted:				Disincentive Amounts per minute per lane
		Lane Reduction	Mon to Fri	Sat	Sun	
<b>FRA-33</b>						
Waterloo Street to Winchester Pike	2	2 to 1	5AM-9PM	8AM-9PM	5PM-10PM	\$75
Short term shoulder closures are NOT permitted 5AM-9AM and 3PM-6PM Monday-Friday.						

**RAMP CLOSURE TABLE:**

RAMP DESIGNATION	WORK PHASE	MOVEMENT	Ramp Closures ARE Permitted		Ramp Closure	Primary Detour Route	Secondary Detour Route	DISINCENTIVE AMOUNTS PER MINUTE
			Mon-Fri	Sat-Sun				
SR-674	PHASE 1, PRE-PHASE 2, PHASE 3, PHASE 4	SR 674 NB TO US-33 WB	7PM-5AM	8PM-8AM	RAMP CLOSURE SHALL BE IN ACCORDANCE WITH STD. DWG. MT-98.29 AND MEET REQUIREMENTS OF SHORT DURATION RAMP CLOSURE NOTE.	GENDER ROAD NORTH TO RAMP B (GENDER TO US-33 EAST) THENCE ALONG US-33 EASTBOUND TO DILEY ROAD, EXIT RIGHT TO DILEY ROAD, THENCE A LEFT ON DILEY ROAD, THENCE NORTH ON DILEY ROAD TO THE US-33 WB ENTRANCE RAMP, THENCE ALONG US-33 WEST.	GENDER RD. TO WINCHESTER PIKE TO SR-317 SOUTH TO US-33	\$75
SR-674	PHASE 2 - WEEKEND CLOSURE	SR 674 NB TO US-33 WB	7PM (FRI.) TO 5AM (MON.)					

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# SEQUENCE OF CONSTRUCTION

## PHASE 1

SUBMIT NOTIFICATION OF CONSTRUCTION INITIATION IN ACCORDANCE WITH NOTIFICATION OF CONSTRUCTION INITIATION NOTE ON SHEET 2.

PLACE PORTABLE CHANGEABLE MESSAGE SIGN ON GENDER ROAD AS DETAILED ON SHEET 10. THE PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE IN ACCORDANCE WITH ITEM 614 – PORTABLE MESSAGE SIGN, AS PER PLAN NOTE ON SHEET 4. PORTABLE MESSAGE SIGN SHALL BE ACTIVATED AT LEAST 14 DAYS PRIOR TO CONSTRUCTION INITIATION OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES IN ACCORDANCE WITH THE NOTIFICATION OF TRAFFIC RESTRICTIONS NOTE ON SHEET 3.

CLOSE PORTION OF SR-674 NORTHBOUND LANE USING PORTABLE CONCRETE BARRIER RIGHT AS DETAILED ON SHEETS 10 TO 11. ALL SEGMENTS OF PORTABLE CONCRETE BARRIER FULLY LOCATED ON THE GENDER ROAD BRIDGE OVER US-33 SHALL BE BRIDGE MOUNTED IN ACCORDANCE WITH THE PORTABLE CONCRETE BARRIER, 32" AS PER PLAN NOTE ON SHEET 2.

REMOVE PARAPET AND DECK TO LIMITS DETAILED.

PORTIONS OF DECK AND PARAPET REMOVAL OVER RAMP E SHALL INVOLVE THE CLOSURE OF RAMP E IN ACCORDANCE WITH THE RAMP CLOSURE TABLE ON SHEET 6. THE PORTABLE CHANGEABLE MESSAGE SIGN(S) ON GENDER ROAD SHALL BE ADJUSTED ACCORDINGLY, NOTIFYING MOTORIST OF THE RAMP CLOSURE DATE, TIME AND DURATION OF CLOSURE. TRAFFIC SHALL BE DETOURED AS DETAILED ON SHEET 8.

ONE LANE OF US-33 WESTBOUND SHALL BE MAINTAINED AT ALL TIMES DURING PHASE 1 WORK. ALL PORTIONS OF DECK AND PARAPET REMOVAL OVER US-33 TRAVELED WAY SHALL CLOSE THE US-33 LANE DIRECTLY BENEATH THE WORK PERFORMED USING STD. DWG. MT-95.30 AND UTILIZE A LEO FOR ASSISTANCE DURING THE FULL DURATION OF THE LANE CLOSURE.

## PRE-PHASE 2

THE CONTRACTOR SHALL INSTALL MAINTENANCE OF TRAFFIC ALONG US-33 AS DETAILED ON SHEETS 12 TO 13.

THE LEADING 50FT OF APPROACH PORTABLE BARRIER MEASURED FROM THE TEMPORARY SUPPORTS ALONG US-33 SHALL BE ANCHORED. A MINIMUM OF 4 ANCHORS PER BARRIER SEGMENT SHALL BE USED.

## PHASE 2

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES IN ACCORDANCE WITH THE NOTIFICATION OF TRAFFIC RESTRICTIONS NOTE ON SHEET 3.

THE FOLLOWING ACTIVITIES SHALL TAKE PLACE ENTIRELY WITHIN A WEEKEND CLOSURE.

CLOSE RAMP E IN ACCORDANCE WITH THE RAMP CLOSURE TABLE ON SHEET 6.

INSTALL TEMPORARY SUPPORTS FOR EXISTING STRUCTURE AT SPLICE "B" AND SPLICE "C".

CLOSE US-33WB USING STD. DWG. MT-99.60 FOR REMOVAL OF MAIN AND SECONDARY STEEL MEMBERS.

REOPEN US-33WB TO TRAFFIC UPON COMPLETION OF REMOVAL OF ALL MAIN AND SECONDARY MEMBERS LOCATED OVER US-33WB.

ONCE ALL REQUIRED MAIN AND SECONDARY STEEL MEMBERS HAVE BEEN REMOVED, PREFORM HEAT STRAIGHTENING OF EXISTING BEAMS AS NEEDED.

CLOSE US-33WB A SECOND TIME USING STD. DWG. MT-99.60 FOR ERECTION AND PLACEMENT OF NEW BEAM ONTO TEMPORARY SUPPORTS.

PERFORM FIT UP WITH REMAINING WEB PLATES AND FIELD DRILLING NEW BEAM MEMBER. ATTACH BOLTS.

PERFORM FIT UP WITH NEW FLANGE PLATES AND FIELD DRILLING NEW BEAM MEMBER. ATTACH BOLTS.

## PHASE 2 CONT...

TEMPORARY SUPPORT AT SPLICE "B" SHALL BE REMOVED AT COMPLETION OF PHASE 2 TO ALLOW REOPENING OF RAMP E.

## PHASE 3

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES IN ACCORDANCE WITH THE NOTIFICATION OF TRAFFIC RESTRICTIONS NOTE ON SHEET 3.

INSTALL REMAINING STEEL MEMBERS.

CONSTRUCT NEW PORTIONS OF EXISTING DECK AND PARAPET.

PORTIONS OF DECK AND PARAPET CONSTRUCTION OVER RAMP E SHALL INVOLVE THE CLOSURE OF RAMP E IN ACCORDANCE WITH THE RAMP CLOSURE TABLE ON SHEET 6. THE PORTABLE CHANGEABLE MESSAGE SIGN(S) ON GENDER ROAD SHALL BE ADJUSTED ACCORDINGLY, NOTIFYING MOTORIST OF THE RAMP CLOSURE DATE, TIME AND DURATION OF CLOSURE. TRAFFIC SHALL BE DETOURED AS DETAILED ON SHEET 8.

ONE LANE OF US-33 WESTBOUND SHALL BE MAINTAINED AT ALL TIMES DURING PHASE 3 WORK. ALL PORTIONS OF DECK AND PARAPET CONSTRUCTION OVER US-33 TRAVELED WAY SHALL CLOSE THE US-33 LANE DIRECTLY BENEATH THE WORK PERFORMED USING STD. DWG. MT-95.30.

REMOVE ALL MOT ALONG US-33 ONCE PHASE 3 WORK IS COMPLETE.

## PHASE 4

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES IN ACCORDANCE WITH THE NOTIFICATION OF TRAFFIC RESTRICTIONS NOTE ON SHEET 3.

REMOVE ALL MOT ALONG GENDER ROAD AND REPLACE PAVEMENT MARKINGS IMMEDIATELY FOLLOWING MOT REMOVAL.

UTILIZE NIGHTLY LANE CLOSURES ON GENDER ROAD USING STD. DWG. MT-95.30 FOR REPLACEMENT OF PAVEMENT MARKINGS ALONG GENDER ROAD MAINLINE.

UTILIZE NIGHTLY SHORT DURATION RAMP CLOSURE OF RAMP E FOR REPLACEMENT OF PAVEMENT MARKINGS AT OR NEAR RAMP E.

CALCULATED  
MJR  
CHECKED  
JPH

MAINTENANCE OF TRAFFIC GENERAL NOTES

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- ①

DETOUR

M4-8-24

WEST

M3-4-24

33

M1-4-24-2

↘

M5-1-21
- ②

DETOUR

M4-8-24

WEST

M3-4-24

33

M1-4-24-2

↑

M6-3-21
- ③

DETOUR

M4-8-24

WEST

M3-4-24

33

M1-4-24-2

↙

M5-1-21
- ④

DETOUR

M4-8-24

WEST

M3-4-24

33

M1-4-24-2

↙

M5-1-21
- ⑤

END

DETOUR

M4-8a-24

	U	S		3	3	W	
		R	A	M	P		
	C	L	O	S	E	D	

	D	E	T	O	U	R	
E	X	I	T		R	T	

	U	S	E		3	3	E
	F	O	L	L	O		
	D	E	T	O	U	R	


PCMS  
DETAIL A

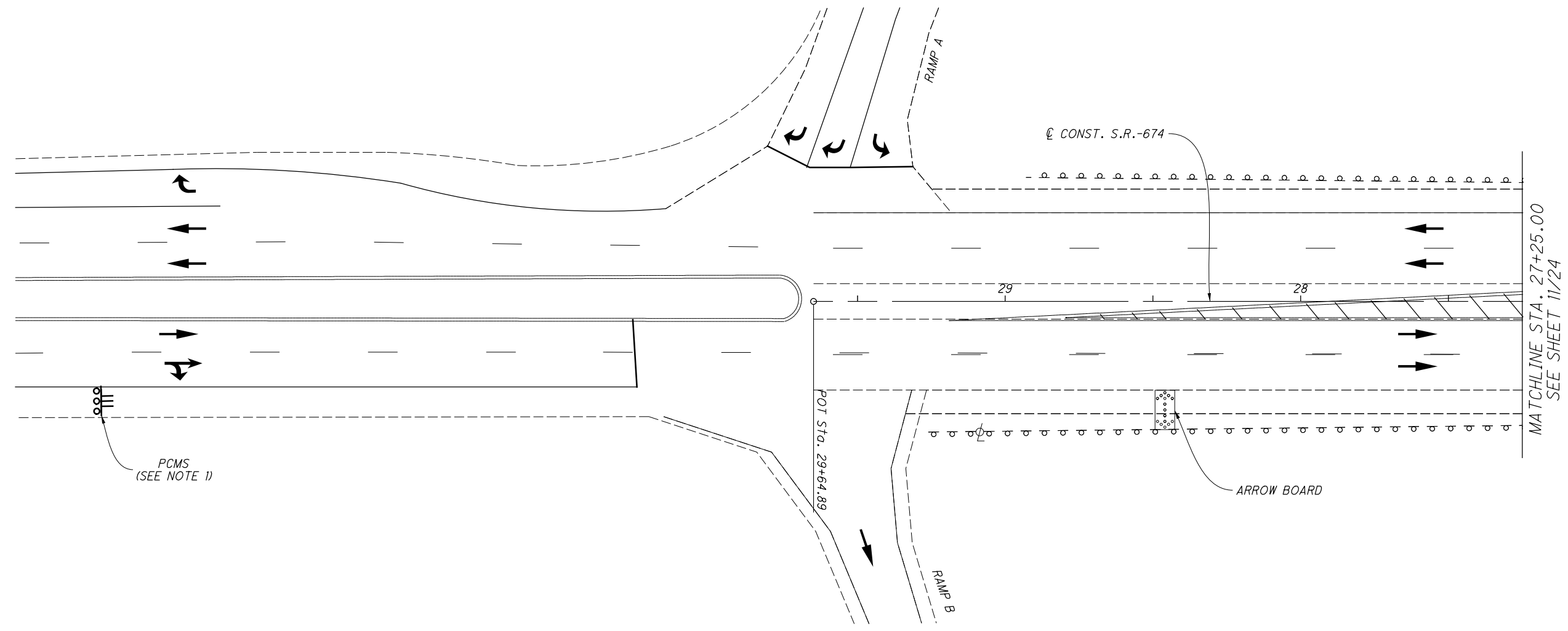
PCMS  
DETAIL B

CALCULATED  
MJR  
CHECKED  
JPH

0 1500 3000  
HORIZONTAL  
SCALE IN FEET

MAINTENANCE OF TRAFFIC  
 RAMP E - DETOUR MAP

REF NO.	ALIGNMENT	STATION		SHEET	614	614	614	614	614	622	622
		FROM	TO		WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	BARRIER REFLECTOR, TYPE 1, ONE WAY	OBJECT MARKER, ONE WAY	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	WORK ZONE EDGE LINE, CLASS III, 4", 642 PAINT	PORTABLE BARRIER, 32"	PORTABLE BARRIER, 32", BRIDGE MOUNTED, AS PER PLAN
					EACH	EACH	EACH	MILE	MILE	FT	FT
CL-1	GENDER RD/SR-674	21+50	27+10	11				0.11			
EL-1	GENDER RD/SR-674	RAMP E	27+10	11				0.10			
EL-2	GENDER RD/SR-674	21+50	23+29	11				0.04			
EL-3	GENDER RD/SR-674	RAMP E	23+29	11				0.02			
PB-1	GENDER RD/SR-674	24+24	26+63	11	1	6	6			20	220
PB-2	US-33	548+27	553+27	12	1	11	11			450	50
PB-3	US-34	548+36	553+16	12	1	11	11			430	50
TOTALS CARRIED TO SUBSUMMARY					3	28	28	0.11	0.16	900	320



**NOTES**

1. PCMS AS DIRECTED BY THE ENGINEER. PCMS DISPLAY SHALL BE ADJUSTED ACCORDINGLY FOR THE FOLLOWING SCENARIOS:
  - i. USED DURING NOTIFICATION OF CLOSURE PERIOD
  - ii. DURING PHASE WORK WITH RAMP E OPEN
  - iii. DURING PHASE WORK WITH RAMP E CLOSED
2. WORK TO INSTALL TEMPORARY TRAFFIC CONTROL TO BE PAID UNDER ITEM 614 MAINTENANCE OF TRAFFIC LUMP SUM.
3. THE COST OF REMOVAL OR COVERING OF CONFLICTING PAVEMENT MARKINGS IN ACCORDANCE WITH CMS 614 IS INCIDENTAL TO THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTENANCE OF TRAFFIC.

	R	O	A	D	
	W	O	R	K	
	A	H	E	A	D

	U	S		3	3	W	
	E	X	I	T			
	O	P	E	N			

PCMS  
(RAMP E OPEN)

	U	S		3	3	W	
	R	A	M	P			
	C	L	O	S	E	D	

	U	S	E		3	3	E	
	F	O	L	L	O	W		
	D	E	T	O	U	R		

PCMS  
(RAMP E CLOSED)

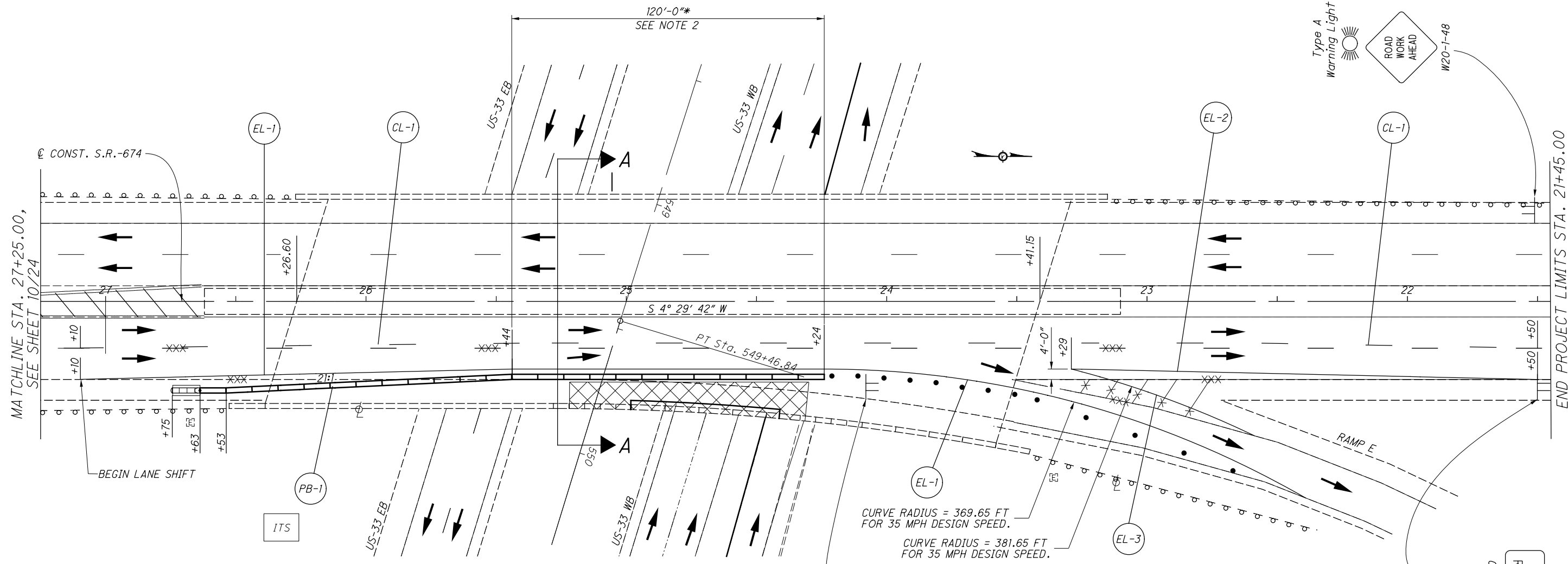
**LEGEND**

	PORTABLE BARRIER		CL-X WORK ZONE CENTER LINE, CLASS III, 642 PAINT, 6"
	DRUMS		EL-X WORK ZONE EDGE LINE, CLASS III, 642 PAINT, 4"
	IMPACT ATTENUATOR		PB-X PORTABLE CONCRETE BARRIER, 32", UNANCHORED
	WORK AREA		
	DIRECTION OF TRAVEL		

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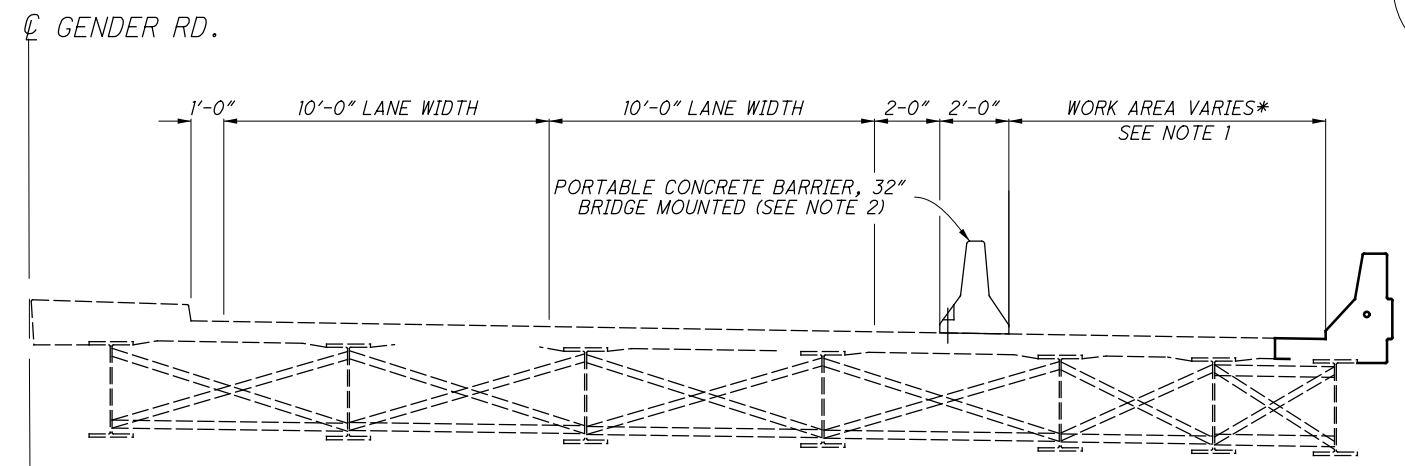
MATCHLINE STA. 27+25.00,  
SEE SHEET 10/24

END PROJECT LIMITS STA. 21+45.00



CURVE RADIUS = 369.65 FT  
FOR 35 MPH DESIGN SPEED.

CURVE RADIUS = 381.65 FT  
FOR 35 MPH DESIGN SPEED.



**NOTES**

1. MAINTAIN MIN. WIDTH OF 8 FT WITHIN WORK AREA
2. PORTABLE BARRIER, 32" SEGMENTS SHALL BE ANCHORED TO BRIDGE DECK. MINIMUM OF 3 ANCHORS PER BARRIER SEGMENT.
3. THE COST OF REMOVAL OR COVERING OF CONFLICTING PAVEMENT MARKINGS IN ACCORDANCE WITH CMS 614 IS INCIDENTAL TO THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTENANCE OF TRAFFIC.
4. WORK TO INSTALL TEMPORARY TRAFFIC CONTROL TO BE PAID UNDER ITEM 614 MAINTENANCE OF TRAFFIC LUMP SUM.
5. PAVEMENT MARKINGS REMOVED SHALL BE REPLACED TO THE REMOVED LIMITS WITH THE APPLICABLE 646 ITEM.

**SECTION A**

\* STA. 24+24, 15 FT  
STA. 25+44, 9 FT  
STA. 26+53, 4 FT

ES-2-48  
EXIT  
OPEN

**LEGEND**

	PORTABLE BARRIER		WORK ZONE CENTER LINE, CLASS III, 642 PAINT, 6"
	DRUMS		WORK ZONE EDGE LINE, CLASS III, 642 PAINT, 4"
	IMPACT ATTENUATOR		PORTABLE CONCRETE BARRIER, 32", UNANCHORED
	WORK AREA		
	DIRECTION OF TRAVEL		

**MAINTENANCE OF TRAFFIC - DECK REMOVAL  
GENDER ROAD STA. 21+45 TO STA. 27+25**

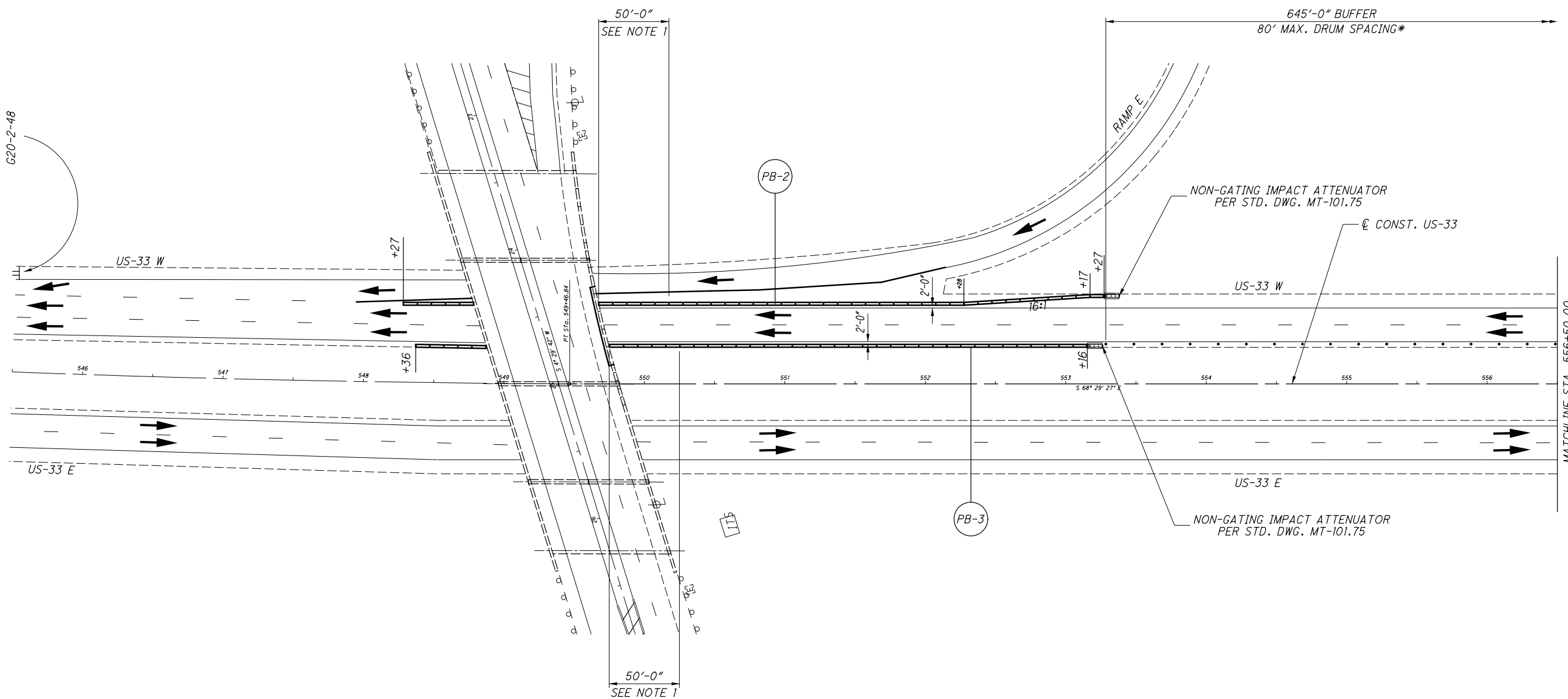
**FRA -33-29.64 P2**

CALCULATED  
MJR  
CHECKED  
JPH

0 20 40  
HORIZONTAL  
SCALE IN FEET

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END ROAD WORK  
G20-2-48









**NOTES**

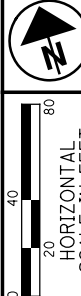
1. THE LEADING 50FT OF WESTBOUND APPROACH PORTABLE BARRIER MEASURED FROM THE TEMPORARY SUPPORTS SHALL BE ANCHORED. MINIMUM OF 4 ANCHORS PER BARRIER SEGMENT. PAYMENT FOR ANCHORED BARRIER IS SHALL BE PAID UNDER ITEM 622 - PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED, AS PER PLAN.
2. WORK TO INSTALL TEMPORARY TRAFFIC CONTROL TO BE PAID UNDER ITEM 614 MAINTENANCE OF TRAFFIC LUMP SUM.

\* MEASURED ALONG ROADWAY CENTERLINE

**LEGEND**

	PORTABLE BARRIER		PORTABLE CONCRETE BARRIER, 32", UNANCHORED
	DRUMS		
	IMPACT ATTENUATOR		
	WORK AREA		
	DIRECTION OF TRAVEL		

CALCULATED  
MJR  
CHECKED  
JPH



0 20 40 80  
HORIZONTAL  
SCALE IN FEET

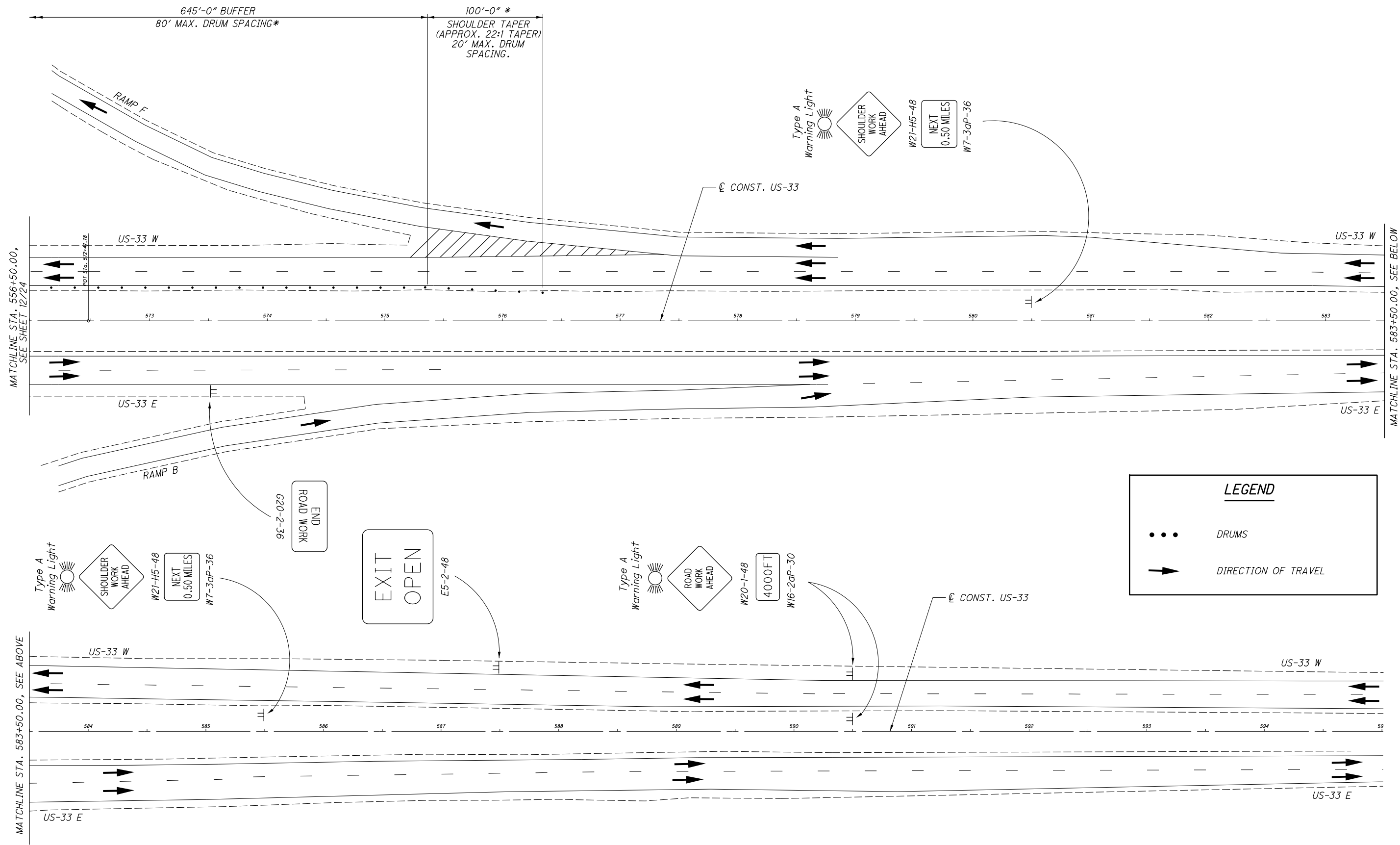
**MAINTENANCE OF TRAFFIC**  
**US-33 W STA. 545+50 TO STA. 556+50**

**FRA-33-29.64 P2**

MATCHLINE STA. 556+50.00,  
SEE SHEET 13/24



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**NOTES**

1. WORK TO INSTALL TEMPORARY TRAFFIC CONTROL TO BE PAID UNDER ITEM 614 MAINTENANCE OF TRAFFIC LUMP SUM.

**LEGEND**

- DRUMS
- ➔ DIRECTION OF TRAVEL

CALCULATED  
MJR  
CHECKED  
JPH

0 20 40 80  
HORIZONTAL SCALE IN FEET

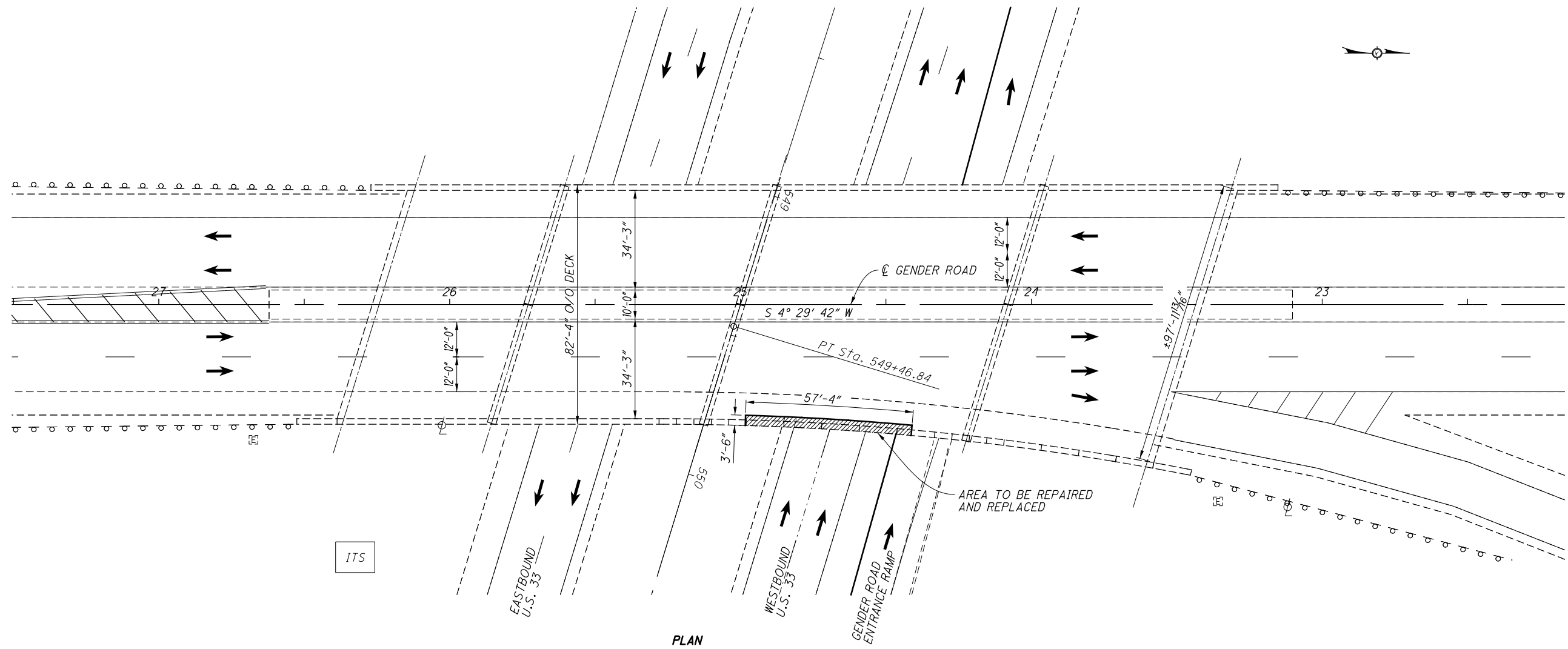
**MAINTENANCE OF TRAFFIC**  
**US-33 W STA. 556+50 TO STA. 595+00**

**FRA-33-29.64 P2**

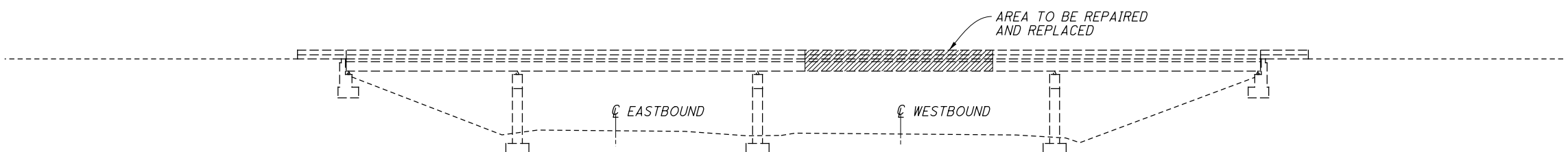
\* MEASURED ALONG ROADWAY CENTERLINE



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**PLAN**



**ELEVATION**

EXISTING STRUCTURE	
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE	
SPANS: 64'-6", 92'-0", 73'-0", 51'-0"	
ROADWAY: VARIABLE WIDTH	
LOADING: HS-20-44	
SKEW: 17°08' LEFT FORWARD	
APPROACH SLABS: 25'-0" LONG	
ALIGNMENT: TANGENT - GENDER ROAD; Dc = 6° LEFT RAMP	
CROWN: NORMAL	
STRUCTURAL FILE NUMBER: 2517361	
DATE BUILT: 11/2/1971	



DESIGN AGENCY  
OHIO DEPARTMENT OF  
TRANSPORTATION DISTRICT 6

REVIEWED DATE  
KRF 12/12/2017  
STRUCTURE FILE NUMBER  
2517361

DRAWN JPH  
JPH  
REVISOR  
MUR

**GENERAL PLAN & ELEVATION**  
BRIDGE NO. FRA-33-2964  
UNDER SR 664/GENDER ROAD

**FRA -33-29.64 P2**  
PID No. 98111

1 / 9

15  
23

**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

GSD-1-96	DATED/REVISED	7/19/2002
PCB-91	DATED/REVISED	1/18/2013

AND THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

SS 849	DATED/REVISED	1/18/2013
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**DESIGN SPECIFICATIONS**

DESIGN SPECIFICATIONS: THESE STRUCTURES CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17<sup>TH</sup> EDITION 2002, AND THE ODOT BRIDGE DESIGN MANUAL, 2004.

**DESIGN DATA**

CONCRETE CLASS QC2 – COMPRESSIVE STRENGTH 4.5 KSI

REINFORCING STEEL – MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL – A709 GRADE 50

**EXISTING STRUCTURE VERIFICATION**

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON 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 REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04. 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 WHICH HAVE BEEN VERIFIED IN THE FIELD.

**ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (CONCRETE DECK AND PARAPET)**

THIS ITEM SHALL INCLUDE THE REMOVAL OF PORTIONS OF DECK AND PARAPET AS DETAILED IN THE PLANS. PRIOR TO REMOVAL, MARK THE REMOVAL LIMITS AS WELL AS BEAM LINES ON THE TOP OF THE DECK. ADDITIONALLY, DRILL PILOT HOLES THROUGH THE DECK AT THE ENDS OF THE REMOVAL TO VERIFY DEPTH OF SAWCUT. SAWCUT AND REMOVE THE DECK IN PHASES IN ORDER TO MAINTAIN CONTROL OF THE REMOVED SECTIONS. THE USE OF EXPLOSIVES, HEADACHE BALLS, HOE-RAMS, OR MECHANICAL CRUSHING DEVICES WILL NOT BE PERMITTED. FOLLOWING REMOVAL OF THE DECK, HAND CHIP AND EXPOSE REBAR TO ALLOW ENOUGH CLEARANCE TO ATTACH MECHANICAL CONNECTORS TO THE EXISTING DECK STEEL. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN 35 POUNDS AND NOT PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

THE DEPARTMENT WILL INCLUDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK WITH ITEM 202 – PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (CONCRETE DECK AND PARAPET): CUBIC YARD.

**ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (STRUCTURAL STEEL MEMBERS)**

THIS ITEM SHALL INCLUDE THE REMOVAL OF STRUCTURAL STEEL MAIN MEMBERS AND SECONDARY MEMBERS. SUPPORT THE EXISTING MAIN MEMBERS PRIOR TO REMOVALS.

FOR SECONDARY MEMBERS, FLAME OR SAWCUT THE EXISTING MEMBERS TO WITHIN 1/8" OF EXISTING STEEL TO BE RETAINED. PROVIDE SHIELDING AS NECESSARY TO PREVENT DAMAGE TO MAIN OR SECONDARY MATERIALS TO REMAIN. GRIND THE EXISTING MEMBER SMOOTH. PROVIDE A SURFACE FINISH ACCORDING TO ANSI B46.1 OF 250 MILL (TO ACCOMMODATE THE PROPOSED REPLACEMENT MATERIALS).

FOR MAIN MEMBER, UNBOLT THE MEMBER FROM THE EXISTING SPLICE PLATES. IF UNBOLTING IS NOT POSSIBLE, FLAME CUT THE MEMBER OUTSIDE OF THE SPLICE PLATE LIMITS AND UNBOLT THE PLATES ACCORDINGLY TO RETAIN THE EXISTING BEAM LINE.

THE DEPARTMENT WILL INCLUDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK FOR PAYMENT WITH ITEM 202 – PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (STRUCTURAL STEEL MEMBERS): POUND

**ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:**

THIS WORK CONSISTS OF SUPPORTING THE EXISTING AND PROPOSED STRUCTURAL MEMBERS TO THE PERFORM REPAIRS ON.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH C&MS 501.05.

IF DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH C&MS 512.07. THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

**ITEM 513 – STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN**

ALL REQUIREMENTS OF 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PRE-QUALIFIED AS SPECIFIED IN SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE, 501.06, TO THE ENGINEER. PROVIDE SHOP DRAWINGS ACCORDING TO 513.06 OR SUPPLY THE ENGINEER WITH "AS BUILT" DRAWINGS MEETING 513.06 AFTER COMPLETION OF FIELD FABRICATION. THE ENGINEER WILL REVIEW THE SUBMITTED DRAWINGS FOR CONCURRENCE WITH THE FINAL AS-BUILT DRAWINGS FOR CONCURRENCE WITH THE FINAL AS-BUILT CONDITION. THE ENGINEER MAY CONTACT THE OFFICE OF STRUCTURAL ENGINEERING FOR TECHNICAL ASSISTANCE. IF THE ENGINEER IS SATISFIED WITH THE "AS-BUILT" DRAWINGS AND THE DELIVERED MATERIALS. SUPPLY A COPY OF THE DRAWINGS, STAMPED, SEALED AND DATED, ACCORDING TO S1002, TO THE STRUCTURAL, WELDING AND METALS SECTION OF THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES. THE DEPARTMENT WILL INCLUDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK FOR PAYMENT WITH ITEM 513 – STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN: POUND.

**ITEM 849 HEAT STRAIGHTENING OF DAMAGE MEMBERS**

THE FOLLOWING ITEMS HAVE BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 849 DAMAGE ASSESSMENT: LUMP SUM  
ITEM 849 SURFACE PREPARATION: LUMP SUM  
ITEM 849 REPAIRING DAMAGED MEMBERS BY GRINDING: 2 HOURS  
ITEM 849 STRAIGHTENING DAMAGED MEMBERS: LUMP SUM

FOLLOWING REMOVAL OF MAIN MEMBER, VERIFY THE PLUMB OF THE EXISTING MEMBERS AS TO BE REATCHED TO. IF IT IS NOTED THE BEAMS ARE OUT OF PLUMB JACK AND HEAT STRAIGHTEN THE DAMAGED MEMBERS ACCORDING TO SUPPLEMENTAL SPECIFICATION 849.

EXISTING ASTM A709 GRADE 36 – DO NOT SUBJECT ANY PART OF THE STRUCTURE TO A JACKING, PULLING OR RESTRAINING UNIT STRESS EXCEEDING 18,000 PSI (124.1 MPA).

**ITEM 514 – SPECIAL – SHOP PAINTING AND FIELD TOUCH UP OF STRUCTURAL STEEL**

THIS ITEM SHALL INCLUDE THE SURFACE PREPARATION, PRIME COAT, INTERMEDIATE COAT, AND FINISH COAT FOR PAINTING OF STRUCTURAL STEEL MEMBERS. APPLY ALL THREE COATS OF PAINT ACCORDING TO C&MS 514 DURING SHOP PREPARATION OF MEMBERS AND FOLLOWING ERECTING THE NEW MEMBERS PERFORM FIELD TOUCH UPS TO EXISTING AND NEW MEMBERS IN AREAS WHERE THERE IS EXPOSED STEEL.

FINISHED COLOR SHALL BE FEDERAL COLOR STANDARD FS-595C, 14277 GREEN

THE DEPARTMENT WILL INCLUDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK FOR PAYMENT WITH ITEM 514 – SPECIAL – SHOP PAINTING AND FIELD TOUCH UP OF STRUCTURAL STEEL: SF.

**SEQUENCE OF OPERATIONS**

- 1: INSTALL MOT REQUIREMENTS ON GENDER ROAD
- 2: REMOVE PARAPET AND DECK TO LIMITS DETAILED
- 3: INSTALL MOT REQUIREMENTS ON U.S. 33
- DURING WEEKEND CLOSURE
- 4: INSTALL TEMPORARY SUPPORTS
- 5: REMOVE MAIN AND SECONDARY STEEL MEMBERS
- 6: IF REQUIRED, PERFORM HEAT STRAIGHTENING TO EXISTING BEAMS
- 7: ERECT NEW MAIN MEMBER ONTO TEMPORARY SUPPORTS
- 8: PERFORM FIT UP WITH NEW WEB PLATES AND FIELD DRILL NEW MEMBER. ATTACH BOLTS
- 9: PERFORM FITUP WITH NEW FLANGE PLATES AND FIELD DRILL NEW MEMBER ATTACH BOLTS
- 10: REMOVE TEMPORARY SUPPORTS  
NOTE:  
DURING WEEKEND CLOSURE INSTALLATION OF WEB AND FLANGE PLATES MUST BE COMPLETED AT SPLICE "B" SO THAT REMOVAL OF TEMPORARY SUPPORTS AND REOPENING OF GENDER ROAD ON RAMP CAN BE COMPLETED. KEEP TEMPORARY SUPPORTS IN PLACE FOR SPLICE "C" UNTIL ALL SPLICES HAVE BEEN COMPLETED.
- AFTER WEEKEND CLOSURE
- 11: INSTALL SECONDARY STRUCTURAL STEEL MEMBERS
- 12: CONSTRUCT NEW PORTIONS OF DECK AND PARAPET
- 13: REMOVE MOT ITEMS

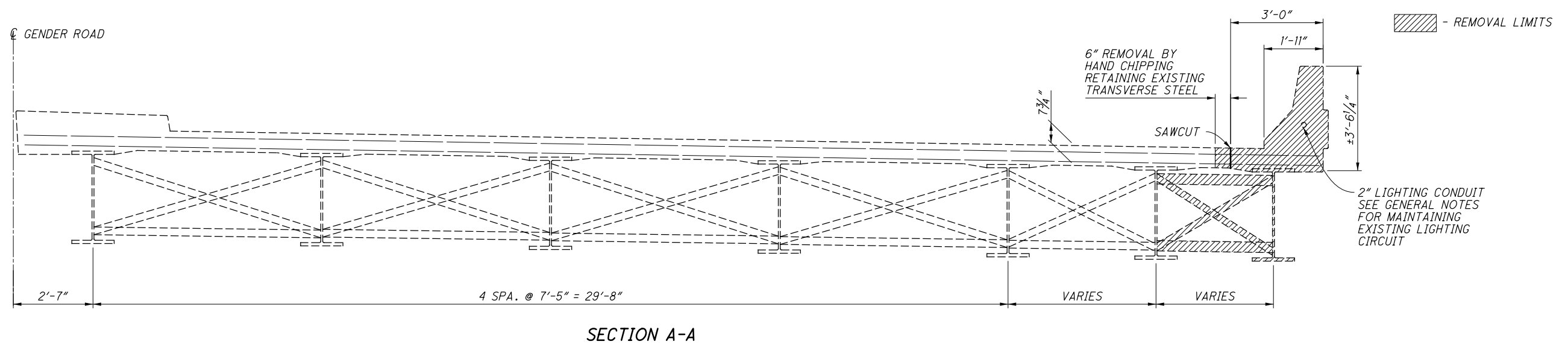
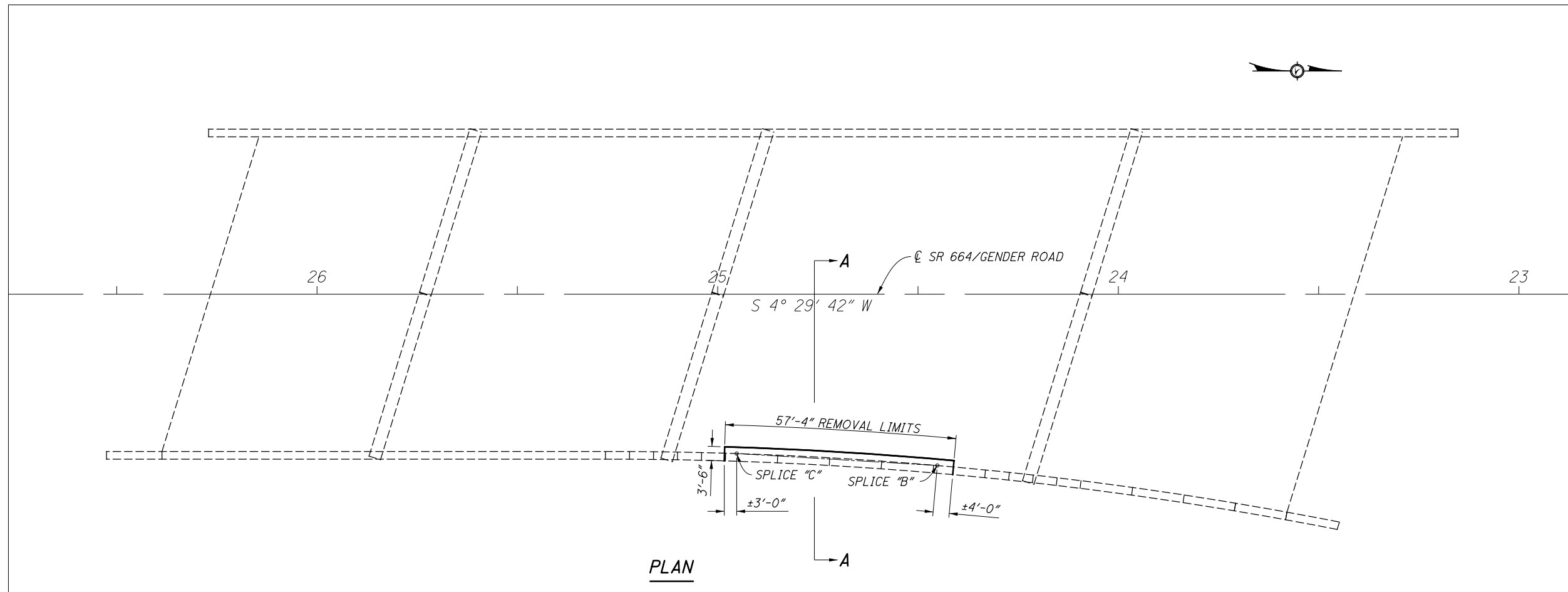
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<b>BRIDGE NOTES</b> BRIDGE NO. FRA-33-2964 UNDER SR 664/GENDER ROAD	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 6
<b>FRA -33-29.64 P2</b> PID No. 98111	REVIEWED KRF 12/12/2017 STRUCTURE FILE NUMBER 2517361
DESIGNED JPH CHECKED MJR	DRAWN JPH REVISED
2 / 9	16 23

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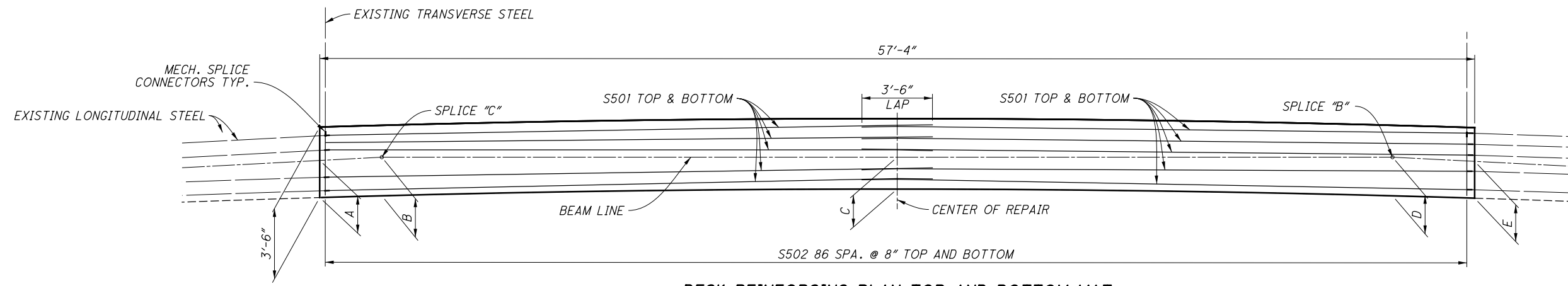
ESTIMATED QUANTITIES									
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	11301	14	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (CONCRETE DECK AND PARAPET)			7		2/9
202	11401	13,744	LB	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (STRUCTURAL STEEL MEMBERS)			13,744		2/9
509	10000	2,325	LB	EPOXY COATED REINFORCING STEEL			2,325		
511	34410	14	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE			14		
512	10050	51	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)			51		
513	10201	2,306	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN			2,306		2/9
513	10240	11,590	LB	STRUCTURAL STEEL MEMBERS, LEVEL 2			11,590		
514	80020	676	SF	SHOP PAINTING AND FIELD TOUCH-UP OF STRUCTURAL STEEL					
516	47001		LS	JACKING TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					
849	10000		LS	DAMAGE ASSESSMENT					2/9
849	10500		LS	SURFACE PREPARATION					2/9
849	10600	2	HOURL	REPAIRING DAMAGED MEMBERS BY GRINDING			2		2/9
849	10700		LS	STRAIGHTENING DAMAGED MEMBERS					2/9

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DESIGNED		DRAWN	REVIEWED	DATE	DESIGN AGENCY
JPH		JPH	KRF	12/12/2017	OHIO DEPARTMENT OF
CHECKED		REVISED	STRUCTURE FILE NUMBER	2517361	TRANSPORTATION DISTRICT 6
MUR					
<b>SUPERSTRUCTURE REMOVAL DETAILS</b>					
BRIDGE NO. FRA-33-2964					
UNDER SR 664/GENDER ROAD					
FRA - 33 - 29 . 64 P 2					
PID No. 98111					
4 / 9					
18					
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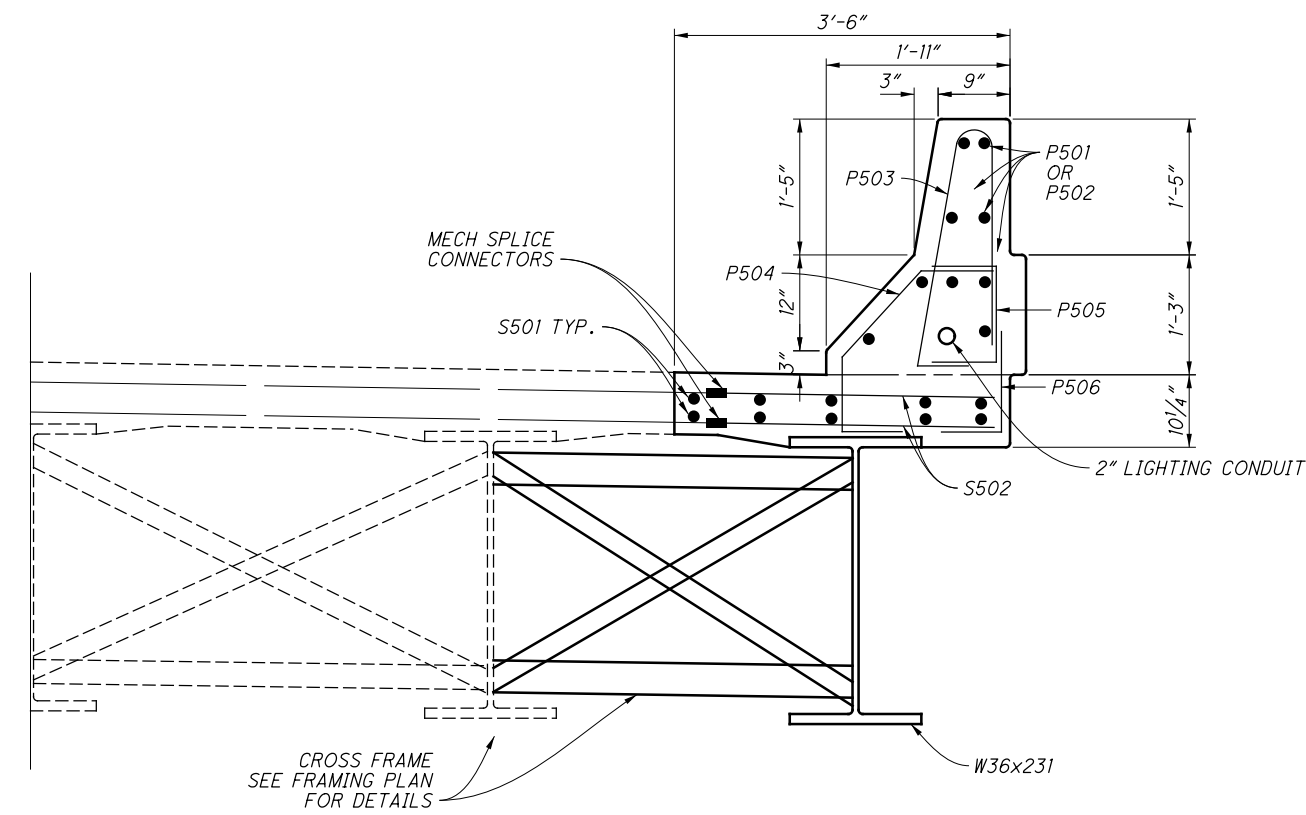
**DECK REINFORCING PLAN TOP AND BOTTOM MAT**

**DIMENSIONS**

- A = ±1'-10<sup>1</sup>/<sub>8</sub>"
- B = 1'-11"
- C = 1'-7"
- D = 1'-11"
- E = ±1'-9<sup>5</sup>/<sub>16</sub>"

**NOTES:**

- 1: LOCATION OF PROPOSED AND EXISTING REINFORCING STEEL SHOWN TO BE THE APPROXIMATE LOCATION BASED ON THE EXISTING PLANS.
- 2: SEAL ALL NEW CONSTRUCTION JOINTS WITH HMWM AS PER C&MS 511.19.



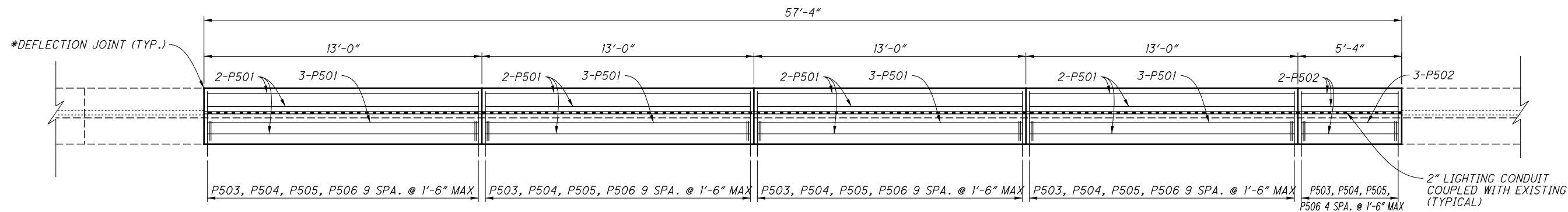
**TRANSVERSE SECTION**

**NOTES**

- 1: SEAL ENTIRE PERIMETER AND 6" UNDER DECK WITH ITEM 516 NON-EPOXY SEALER

<b>FRA -33-29.64 P2</b>	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 6
PID No. 98111	DESIGNED JPH CHECKED MUR
5 / 9	DRAWN JPH REVISED
19 23	REVIEWED KRF STRUCTURE FILE NUMBER 2517361
DATE 12/12/2017	DATE 12/12/2017
SUPERSTRUCTURE DETAILS BRIDGE NO. FRA-33-2964 UNDER SR 664/GENDER ROAD	

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**PARAPET ELEVATION DETAILS**

\* - SAWCUT DEFLECTION JOINTS MINIMUM OF 1/4" ALONG THE PERIMETER OF PARAPET WHILE CONCRETE IS STILL GREEN OR AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

AFTER THE CONCRETE CURING PERIOD SPECIFIED IN CMS 511.14 HAS BEEN REACHED, PERFORM 4" SAWCUT ALONG THE PERIMETER OF THE PARAPET.

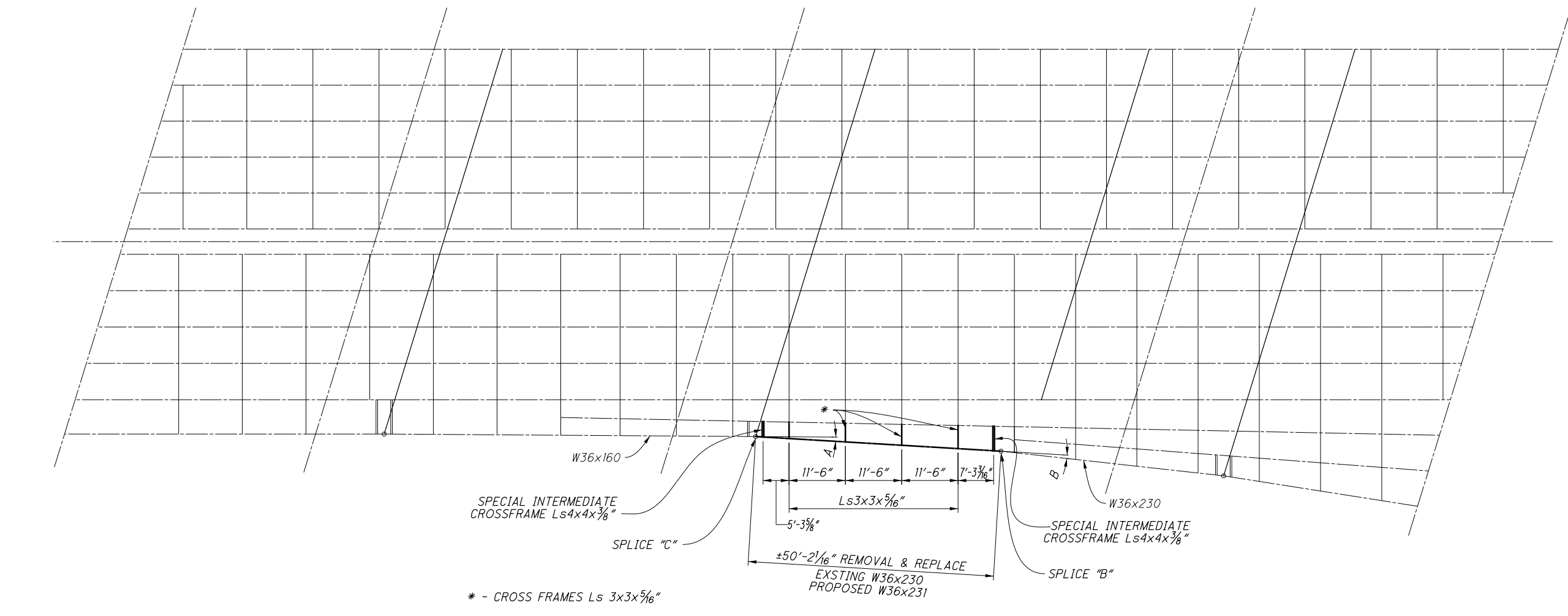
SEAL THE PERIMETER OF THE DEFLECTION JOINTS TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM G920, TYPE S. LEAVE THE BOTTOM 1/2" OF BOTH THE INSIDE AND OUTSIDE FACES OF THE PARAPET UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

SAWCUTTING AND SEALING OF DEFLECTION JOINTS SHALL BE INCLUDED FOR PAYMENT IN ITEM 511 CLASS QC2 CONCRETE, SUPERSTRUCTURE.

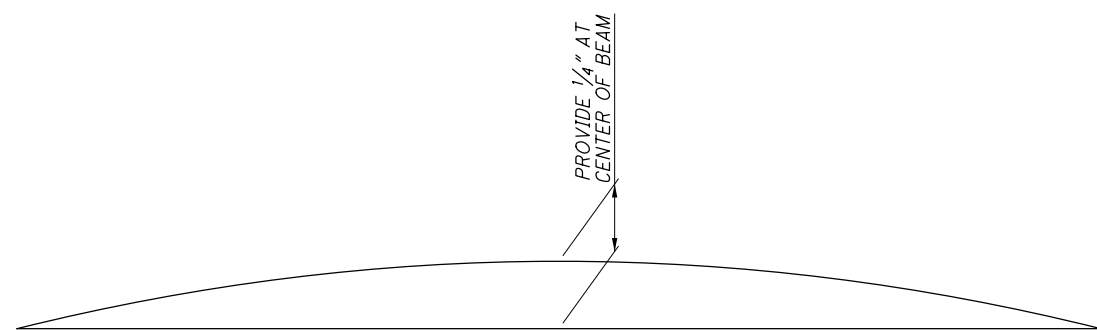
DESIGNED JPH		DRAWN JPH	REVIEWED KRF	DATE 12/12/2017	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 6
CHECKED MJR		REVISED	STRUCTURE FILE NUMBER 2577361		
<b>PARAPET DETAILS</b>					
BRIDGE NO. FRA-33-2964 UNDER SR 664/GENDER ROAD					
FRA -33-29.64 P2		PID No. 98111			
20 23					



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**FRAMING PLAN**



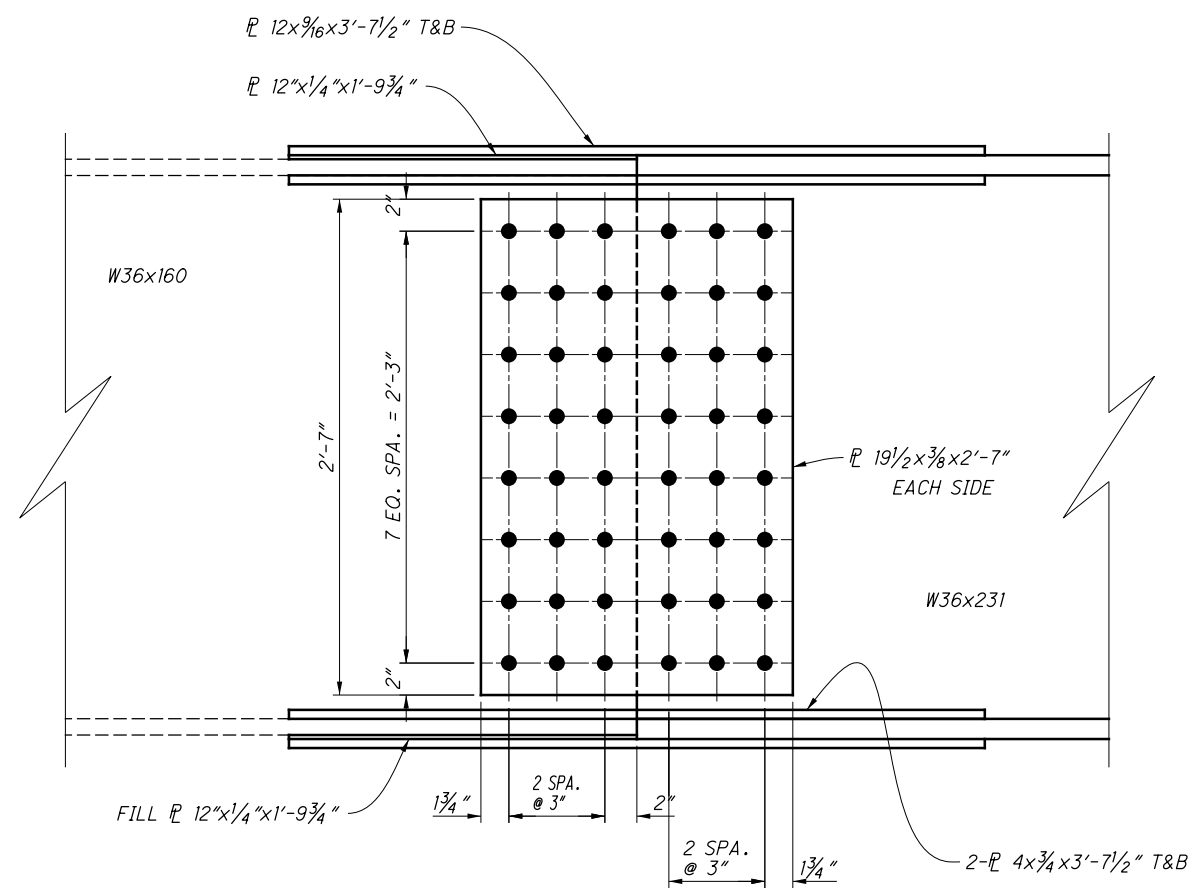
**CAMBER INFORMATION FOR PROPOSED BEAM**

**DEFLECTIONS**

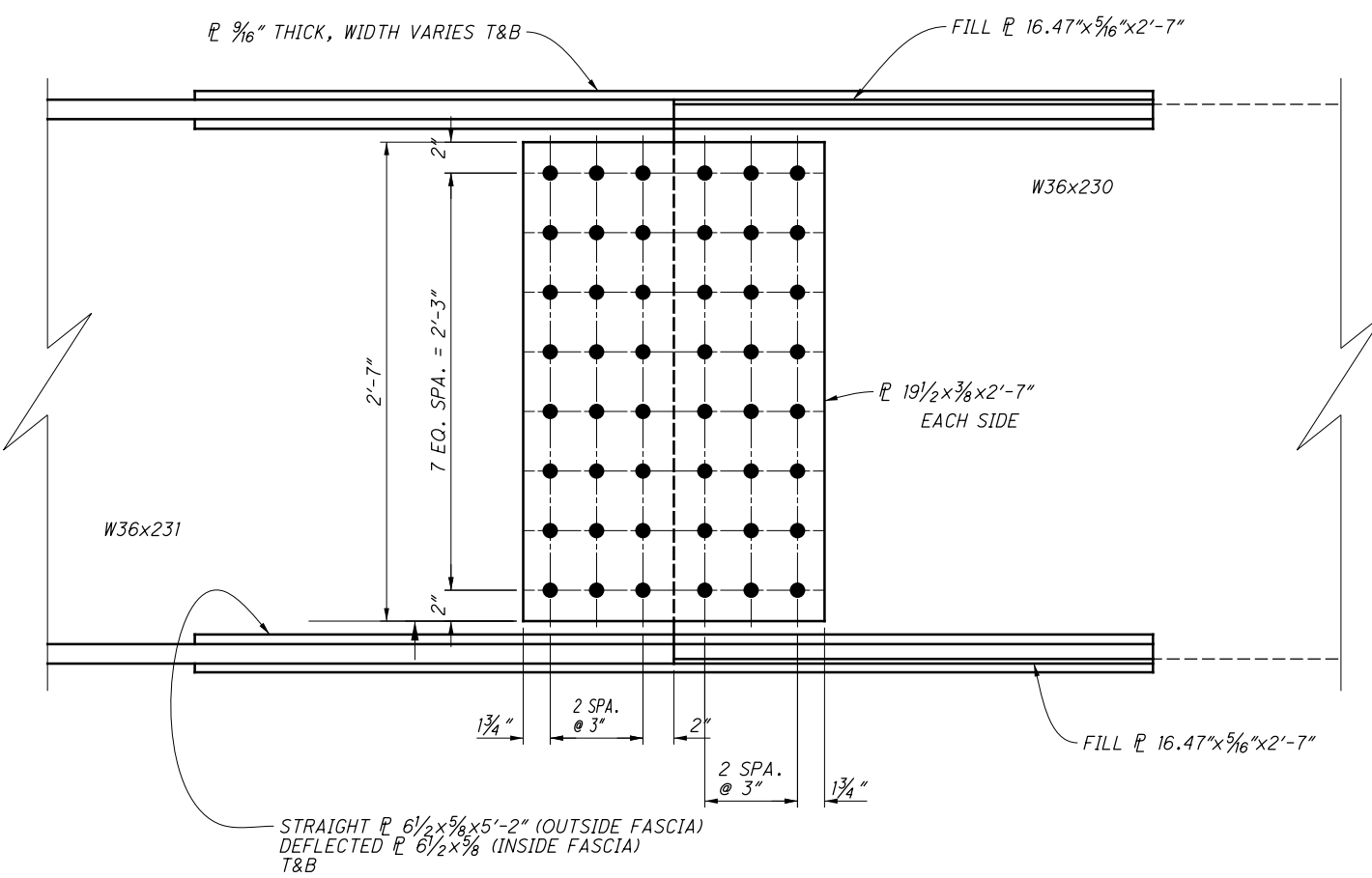
A = 3°-01'-13"  
B = 2°-54'-19"

<b>FRA -33-29.64 P2</b> PID No. 98111	<b>FRAMING PLAN</b> BRIDGE NO. FRA-33-2964 UNDER SR 664/GENDER ROAD		DESIGNED JPH	DRAWN JPH	REVIEWED KRF	DATE 12/12/2017	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 6
	7 / 9	CHECKED MJR	REVISED	STRUCTURE FILE NUMBER 2577361			

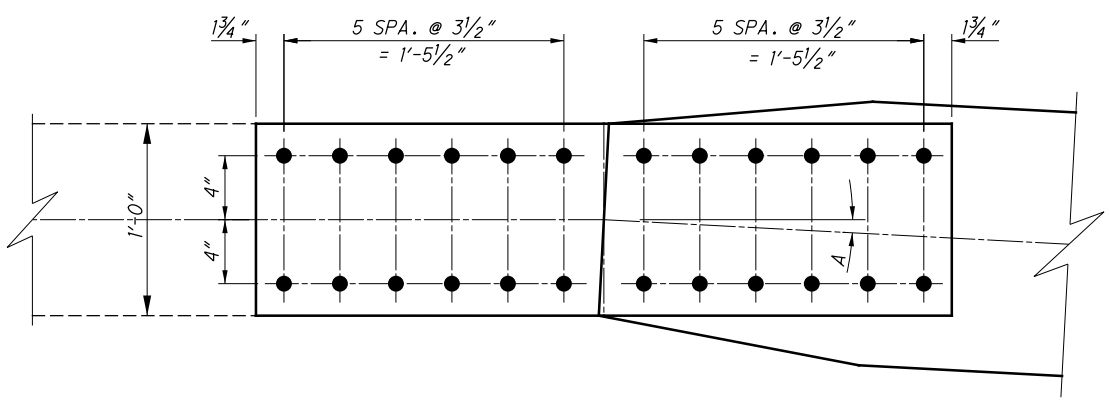
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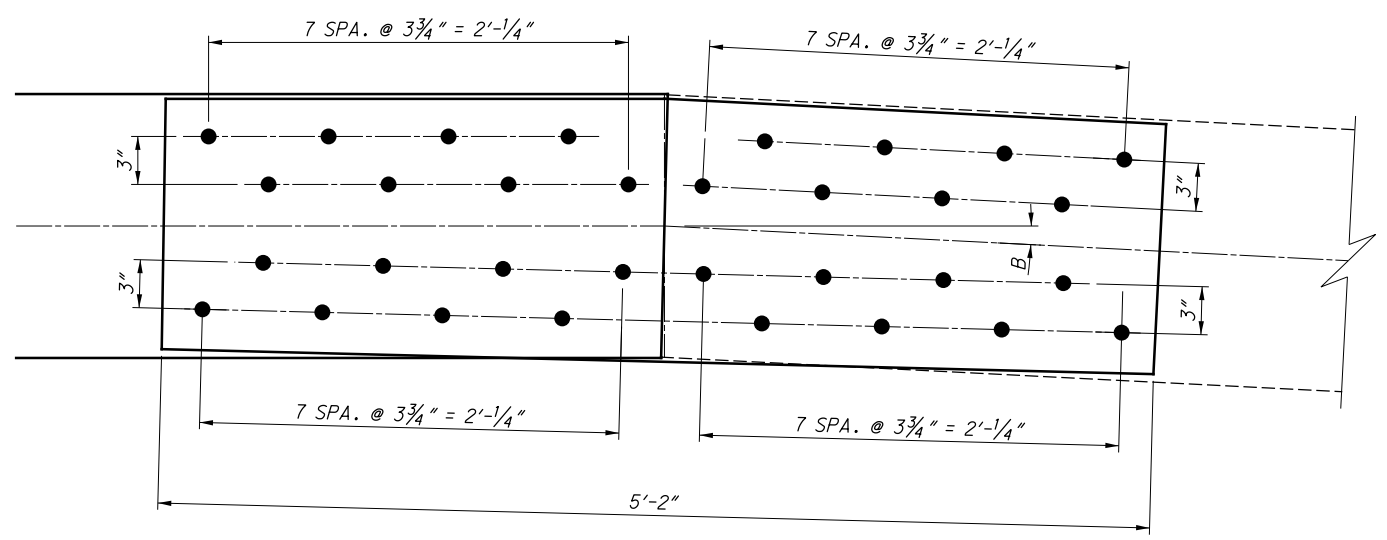
**SPLICE "C"**



**SPLICE "B"**



**SPLICE "C"**



**SPLICE "B"**

**NOTES**

- 1: AS DIRECTED BY THE ENGINEER, USE OF EXISTING WEB PLATES, AND FLANGE PLATES ARE ALLOWED. ADDITIONAL WEB PLATES AND FLANGE PLATES HAVE BEEN INCLUDED IN ITEM 513 IF THEY CANNOT BE REUSED.
- 2: LOCATIONS OF BOLT PATTERNS AND SPLICE PLATES ARE TO BE TAKEN AS APPROXIMATE THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF EXISTING FLANGE PLATES AND BOLT PATTERNS.
- 3: FIELD DRILLING REQUIRED TO ATTACH NEW BEAM SHALL BE INCLUDED IN ITEM 513
- 4: ALL BOLTS ARE 1"φ HIGH STRENGTH ASTM A325M

DESIGNED JPH		CHECKED MJR		DRAWN JPH		REVISED		REVIEWED KRF	DATE 12/12/2017	STRUCTURE FILE NUMBER 2517361	DESIGN AGENCY OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 6
<b>SPLICE DETAILS</b>											
BRIDGE NO. FRA-33-2964 UNDER SR 664/GENDER ROAD											
FRA-33-29.64 P2						PID No. 98111					
8 / 9						22 23					

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOTAL				A	B	C	D	E	R	INC
<b>SUPERSTRUCTURE</b>											
S501	20	30'-2"	629	STR							
S502	174	3'-2"	575	STR							
P501	36	12'-8"	476	STR							
P502	9	5'-0"	47	STR							
P503	45	5'-4"	250	22	7'-6"	2'-5"	2'-2"				2'-3"
P504	45	3'-0"	141	14	0'-8"	0'-8"	11'-6"	0'-9"	0'-9"		
P505	45	2'-1"	98	2	0'-8"	1'-0"	0'-8"				
P506	45	2'-4"	109	1	0'-8"	1'-9"					
<b>GRAND TOTAL</b>			<b>2325</b>								

