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

Conformed Set

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

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

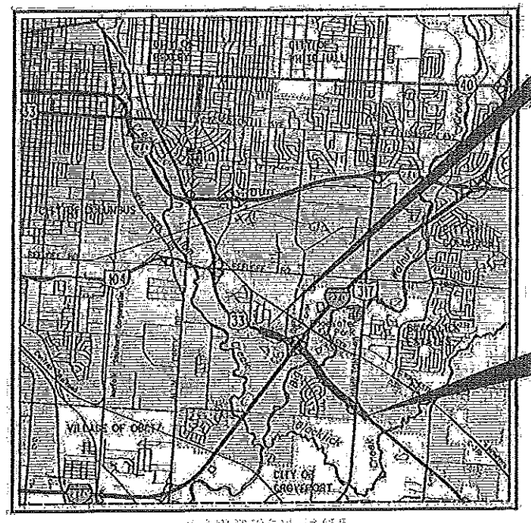
FRA-33-24.26

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 0 1 2 3 4

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 B&C)	7%
DESIGN SPEED	65 M.P.H.
LEGAL SPEED	60 M.P.H.

DESIGN FUNCTIONAL CLASSIFICATION:
01 MINOR ARTERIAL (URBAN = 20.89 TO 21.91)
02 FREEWAY (URBAN = 21.91 TO 26.12)

NHS PROJECT: YES

DESIGN EXCEPTIONS

NONE

PLAN CERTIFIED AS TO COMPLETENESS AND QUALITY

SIGNATURE — DATE: 12/15/17

RESOURCE INTERNATIONAL INC. — FIRM

VICE PRESIDENT TRANSPORTATION ENGINEERING — TITLE

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

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* - POST-CONSTRUCTION BMPS SHOWN ON PROJECT SITE PLAN

ENGINEERS SEAL: STATE OF OHIO ANDREW B. SCHETTER E-71848 REGISTERED PROFESSIONAL ENGINEER

SIGNED: A. B. Schetter
DATE:

ENGINEERS SEAL: STATE OF OHIO S. SAM KHORSHIDI E-68130 REGISTERED PROFESSIONAL ENGINEER

SIGNED: S. Sam Khorshidi
DATE:

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	
		HL-20.21	7/21/17	MGS-5.3	7/15/16	MT-101.70	1/17/14	TC-21.20	7/21/17	804	1/20/17	
AS-1-15	7/17/15	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	
		HL-30.31	1/17/14			MT-101.80	1/16/16	TC-41.10	10/18/13	809	7/21/17	
BP-2.0	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	4/20/12	
BP-2.5	7/19/13											
BP-3.1	7/18/14	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	
BP-5.1	7/19/13	HL-50.11	1/15/16	MT-95.40	1/20/17	MT-102.20	7/18/14	TC-52.10	10/18/13	875	1/17/14	
BP-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-1-67	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	10/16/15	TC-65.11	7/21/17	908	10/20/17	
CPP-1-08	1/17/14	NW-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	
				MT-98.20	7/18/14			TC-82.10	7/17/15			
CS-1-08	7/18/08	I-2.3	1/15/16	MT-98.22	1/20/17	NBS-1-09	7/21/17			849	1/18/13	
				MT-98.28	1/20/17			SBR-1-13	1/17/14	818	4/21/17	
DM-1.1	7/21/17	ITS-14.10	7/17/15	MT-98.29	1/20/17	PCB-91	1/18/13					
DM-1.2	1/18/13	ITS-14.11	7/17/15					MT-95.31	7/21/17			
DM-4.1	1/15/16			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			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-1-98	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 RAMPS FOR HAMILTON RD AND THE RAMPS FOR NORTHBOUND I-270 IN BOTH DIRECTIONS OF US 33. ALSO WIDEN EAST BOUND US 33 IN THE MEDIAN TO PROVIDE AN ADDITIONAL LANE THROUGH THE IR-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 1-800-362-2764
(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 R. Bhirdsall
DATE: 12/19/17 DISTRICT DEPUTY DIRECTOR

APPROVED: Jerry Wray
DATE: 12-11-17 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO.: E140 (609)
PID NO.: 98111
CONSTRUCTION PROJECT NO.:
RAILROAD INVOLVEMENT: NONE

FRA-33-24.26

3428-E

1/287

SCHEMATIC PLAN & GEOMETRIC LAYOUT

HORIZONTAL SCALE IN FEET
0 100 200 400

BEGIN PROJECT
STA 266+10.96
S.L.M. 24.26
℄140 (609)

STA. 273+07.00
℄ CONST. US-33
EX. 60" CCP

US-33 WB
US-33 EB
S 69° 55' 15" E

TS STA. 40+40.48 RAMP C
STA. 279+87.98, 79.00' LT. US 33
℄ CONST. US-33

WATKINS RD
N 4° 44' 12" E
S 62° 38' 53" E
TS STA. 14+11.05
SC STA. 18+11.05
SC STA. 51+60.67
CS STA. 49+50.67
PC STA. 28+29.07
RAMP D
CS STA. 44+88.72
TS STA. 42+88.72
ST STA. 41+94.96
CS STA. 39+94.96
N 11° 00' 51" W

PT STA. 55+47.40 RAMP D
STA. 275+50.00, 66.00' RT. US 33

THREE CREEKS METRO PARK

ST STA. 32+18.74
CS STA. 28+18.74
CS STA. 42+40.48
SC STA. 44+40.48
CS STA. 44+23.37
ST STA. 46+23.37
℄ CONST. RAMP C
50 RAMP C
N 78° 01' 35" E

IR-270 SB
IR-270 NB
RAMP H
RAMP G
RAMP E
RAMP F
RAMP A
N 37° 26' 03" E

STRUCTURE NO.
FRA-33-2456
SFN: 2501899

STRUCTURE NO.
FRA-270-4613L
SFN: 2514168

STRUCTURE NO.
FRA-270-4613R
SFN: 2514133

STRUCTURE NO.
FRA-270-4613A
SFN: 2514109

CCTV CAMERA

℄ CONST. RAMP B
PC STA. 55+72.31
55 RAMP B
N 6° 41' 01" E

ST STA. 50+04.00
CS STA. 48+04.00
PCC STA. 47+64.00
PCC STA. 43+45.03
PRC STA. 41+29.69
PC STA. 40+22.92
N 34° 15' 06" W
S 34° 20' 00" E

STA. 305+99.52
℄ CONST. US-33
138 KV OVERHEAD
ELECTRICAL LINE
(AEP)

FEMA 100-YR FLOODPLAIN

STRUCTURE NO.
FRA-33-2503L
SFN: 2501929

STRUCTURE NO.
FRA-33-2509L
SFN: 2501988

STRUCTURE NO.
FRA-33-2503R
SFN: 2501953

STRUCTURE NO.
FRA-33-2509R
SFN: 2502011

BIG WALNUT CREEK
BM #13
BM #14
MATCHLINE US 33 STA. 315+00, SEE SHEET 4

ST STA. 46+74.79
CS STA. 49+55.01
CS STA. 51+55.01
ST STA. 42+15.33
CS STA. 40+15.33
PT STA. 306+55.49
PT STA. 53+46.07

℄ CONST. RAMP A
STATION EQUATION
SC STA. 36+64.61 (AH) =
STA. 57+69.41 (BK)
STATION EQUATION
TS STA. 55+69.41 (AH) =
STA. 34+64.61 (BK)
N 37° 26' 03" E
PT STA. 32+15.78

℄ CONST. RAMP D
SC STA. 36+04.28
TS STA. 34+04.28
STA. 31+04.29 RAMP D
STA. 831+04.29, 91.00' LT.
N 36° 14' 26" E
PRC STA. 28+22.39
PC STA. 24+29.00 RAMP A
STA. 824+29.00, 66.00' RT. IR-270

ELK RUN PARK

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

FRA-33-24.26

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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′
e_{max} = 0.048
PC STA. 282+29.07
PT STA. 306+55.49

EX. CURVE DATA NO. 2
P.I. STA. 329+42.69
Δ = 15° 07′ 42″ (LT)
Dc = 1° 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

IR 270 RAMP C

EX. CURVE DATA NO. 3
P.I. STA. 43+37.19
Δ = 30° 37′ 52″ (LT)
Dc = 8° 00′ 00″
R = 716.20′
Ls = 200.00′
θs = 8° 00′ 00″
LT = 133.47′
ST = 66.79′
x = 199.61′
y = 9.30′
k = 99.94′
p = 2.33′
Δc = 14° 37′ 52″ (LT)
Lc = 182.89′
Ts = 296.71′
Es = 28.78′
e_{max} = 0.083
TS STA. 40+40.48
ST STA. 46+23.37

EX. CURVE DATA NO. 4
P.I. STA. 56+55.99
Δ = 34° 10′ 16″ (LT)
Dc = 8° 00′ 00″
R = 716.20′
Ls = 200.00′
θs = 8° 00′ 00″
LT = 133.47′
ST = 66.79′
x = 199.61′
y = 9.30′
k = 99.94′
p = 2.33′
Δc = 18° 10′ 16″ (LT)
Lc = 227.14′
Ts = 320.78′
Es = 35.50′
e_{max} = 0.083
TS STA. 53+35.21
SC STA. 59+62.34

EX. CURVE DATA NO. 5
P.I. STA. 61+76.61
Δ = 6° 25′ 16″ (LT)
Dc = 1° 30′ 00″
R = 3,819.72′
T = 214.26′
L = 428.08′
E = 6.00′
e_{max} = 0.046
SC STA. 59+62.34
PT STA. 63+90.42

IR 270 RAMP D

EX. CURVE DATA NO. 6
P.I. STA. 38+18.54
Δ = 47° 15′ 16″ (LT)
Dc = 8° 00′ 00″
R = 716.20′
Ls = 200.00′
θs = 8° 00′ 00″
LT = 133.47′
ST = 66.79′
x = 199.61′
y = 9.30′
k = 99.94′
p = 2.33′
Δc = 31° 15′ 17″ (LT)
Lc = 390.68′
Ts = 414.26′
Es = 68.07′
e_{max} = 0.083
TS STA. 34+04.28
ST STA. 41+94.96

EX. CURVE DATA NO. 7
P.I. STA. 47+46.55
Δ = 52° 57′ 21″ (LT)
Dc = 8° 00′ 00″
R = 716.20′
Ls = 200.00′
θs = 8° 00′ 00″
LT = 133.47′
ST = 66.79′
x = 199.61′
y = 9.30′
k = 99.94′
p = 2.33′
Δc = 36° 57′ 21″ (LT)
Lc = 461.95′
Ts = 457.83′
Es = 86.53′
e_{max} = 0.083
TS STA. 42+88.72
SC STA. 51+50.67

PROP CURVE DATA NO. 8
P.I. STA. 53+49.21
Δ = 5° 57′ 03″ (LT)
Dc = 1° 30′ 00″
R = 3,819.72′
T = 198.54′
L = 396.73′
E = 5.16′
e_{max} = 0.041
SC STA. 51+50.67
PT STA. 55+47.40

IR 270 RAMP B

PROP CURVE DATA NO. 9
P.I. STA. 40+76.31
Δ = 1° 32′ 24″ (LT)
Dc = 1° 26′ 32″
R = 3,972.50′
T = 53.39′
L = 106.77′
E = 0.36′
e_{max} = 0.0242
PC STA. 40+22.92
PRC STA. 41+29.69

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′
e_{max} = 0.049
PRC STA. 41+29.69
PCC STA. 43+45.03

PROP CURVE DATA NO. 11
P.I. STA. 45+58.98
Δ = 28° 37′ 47″ (RT)
Dc = 6° 50′ 00″
R = 838.47′
T = 213.96′
L = 418.97′
E = 26.87′
e_{max} = 0.066
PCC STA. 43+45.03
PCC STA. 47+64.00

PROP CURVE DATA NO. 12
P.I. STA. 47+84.00
Δ = 2° 47′ 59″ (RT)
Dc = 7° 00′ 00″
R = 818.51′
T = 20.00′
L = 40.00′
E = 0.24′
e_{max} = 0.066
PCC STA. 47+64.00
CS STA. 48+04.00

EX. CURVE DATA NO. 13
P.I. STA. 48+70.76
Dc = 7° 00′ 00″
R = 818.51′
Ls = 200.00′
θs = 7° 00′ 00″ (RT)
LT = 133.44′
ST = 66.76′
x = 199.70′
y = 8.14′
k = 99.95′
p = 2.04′
e_{max} = 0.066
CS STA. 48+04.00
ST STA. 50+04.00

EX. CURVE DATA NO. 14
P.I. STA. 59+38.19
Δ = 28° 39′ 27″ (RT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 365.88′
L = 716.44′
E = 45.99′
e_{max} = 0.066
PC STA. 55+72.31
PT STA. 62+88.75

IR 270 RAMP A

EX. CURVE DATA NO. 15
P.I. STA. 26+25.77
Δ = 3° 56′ 02″ (RT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 196.77′
L = 393.39′
E = 3.38′
e_{max} = NC
PC STA. 24+29.00
PRC STA. 28+22.39

EX. CURVE DATA NO. 16
P.I. STA. 30+19.16
Δ = 3° 56′ 02″ (LT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 196.77′
L = 393.39′
E = 3.38′
e_{max} = NC
PRC STA. 28+22.39
PT STA. 32+15.78

EX. CURVE DATA NO. 17
P.I. STA. 38+55.26
Δ = 44° 03′ 25″ (RT)
Dc = 8° 00′ 00″
R = 716.20′
Ls = 200.00′
θs = 8° 00′ 00″
LT = 133.47′
ST = 66.79′
x = 199.61′
y = 9.30′
k = 99.94′
p = 2.33′
Δc = 28° 03′ 25″ (RT)
Lc = 350.71′
Ts = 390.65′
Es = 58.91′
e_{max} = 0.047
TS STA. 34+64.61
ST STA. 42+15.33

PROP CURVE DATA NO. 18
P.I. STA. 46+08.43
Dc = 12° 00′ 00″
R = 477.46′
Ls = 200.00′
θs = 12° 00′ 00″ (RT)
LT = 133.64′
ST = 66.95′
x = 199.12′
y = 13.92′
k = 99.85′
p = 3.49′
e_{max} = 0.057
TS STA. 44+74.79
SC STA. 46+74.79

PROP CURVE DATA NO. 19
P.I. STA. 48+19.06
Δ = 33° 37′ 36″ (RT)
Dc = 12° 00′ 00″
R = 477.46′
T = 144.28′
L = 280.22′
E = 21.32′
e_{max} = 0.057
SC STA. 46+74.79
CS STA. 49+55.01

PROP CURVE DATA NO. 20
P.I. STA. 50+32.65
Δ = 14° 15′ 00″ (RT)
D1 = 2° 15′ 00″
R1 = 2,546.48′
D2 = 12° 00′ 00″
R2 = 477.46′
Ls = 200.00′
p = 2.83′
Δ1 = 2° 14′ 50″
Δ2 = 12° 00′ 00″
T1 = 77.64′
T2 = 123.30′
e_1 = 0.057
e_2 = 0.048
CS STA. 49+55.01
SC STA. 51+55.01

PROP CURVE DATA NO. 21
P.I. STA. 52+50.59
Δ = 4° 17′ 56″ (RT)
Dc = 2° 15′ 00″
R = 2,546.48′
T = 95.58′
L = 191.06′
E = 1.79′
e_{max} = 0.048
SC STA. 51+55.01
PT STA. 53+46.07

IR 270 RAMP H

EX. CURVE DATA NO. 22
P.I. STA. 48+29.11
Δ = 2° 05′ 18″ (LT)
Dc = 1° 30′ 00″
R = 3,819.72′
T = 69.61′
L = 139.21′
E = 0.63′
e_{max} = NC
PC STA. 47+59.50
CS STA. 48+98.71

EX. CURVE DATA NO. 23
P.I. STA. 50+33.39
Dc = 24° 54′ 40″
R = 230.00′
Ls = 200.00′
θs = 24° 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
CS STA. 48+98.71
SC STA. 50+98.71

EX. CURVE DATA NO. 24
P.I. STA. 54+60.59
Δ = 244° 52′ 40″ (LT)
Dc = 24° 54′ 40″
R = 230.00′
T = 361.88′
L = 983.00′
E = 658.79′
e_{max} = 0.083
SC STA. 50+98.71
PCC STA. 60+81.72

EX. CURVE DATA NO. 25
P.I. STA. 61+39.96
Δ = 2° 54′ 41″ (LT)
Dc = 2° 30′ 00″
R = 2,291.83′
T = 58.24′
L = 116.46′
E = 0.74′
e_{max} = NC
PCC STA. 60+81.72
PT STA. 61+98.18

IR 270 RAMP G

EX. CURVE DATA NO. 26
P.I. STA. 50+46.61
Dc = 24° 54′ 40″
R = 230.00′
Ls = 200.00′
θs = 24° 54′ 40″ (RT)
LT = 134.68′
ST = 67.89′
x = 196.25′
y = 28.60′
k = 99.37′
p = 7.20′
e_{max} = 0.045
TS STA. 49+11.93
SC STA. 51+11.93

EX. CURVE DATA NO. 27
P.I. STA. 54+91.14
Δ = 242° 28′ 34″ (RT)
Dc = 24° 54′ 40″
R = 230.00′
T = 379.21′
L = 973.36′
E = 673.51′
e_{max} = 0.083
SC STA. 51+11.93
PCC STA. 60+85.29

EX. CURVE DATA NO. 28
P.I. STA. 61+57.69
Δ = 3° 37′ 08″ (RT)
Dc = 2° 30′ 00″
R = 2,291.83′
T = 72.40′
L = 144.75′
E = 1.14′
e_{max} = NC
PCC STA. 60+85.29
PT STA. 62+30.04

IR 270 RAMP E

EX. CURVE DATA NO. 29
P.I. STA. 33+99.73
Δ = 262° 10′ 08″ (LT)
Dc = 24° 54′ 40″
R = 230.00′
Ls = 200.00′
θs = 24° 54′ 40″
LT = 134.68′
ST = 67.89′
x = 196.25′
y = 28.60′
k = 99.37′
p = 7.20′
Δc = 212° 20′ 47″ (LT)
Lc = 852.41′
Ts = 172.68′
Es = 18.27′
e_{max} = 0.083
TS STA. 32+27.05
SC STA. 44+79.46

EX. CURVE DATA NO. 30
P.I. STA. 45+51.10
Δ = 2° 08′ 56″ (LT)
Dc = 1° 30′ 00″
R = 3,819.72′
T = 71.64′
L = 143.26′
E = 0.67′
e_{max} = 0.083
SC STA. 44+79.46
PT STA. 46+22.72

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′
e_{max} = 0.083
TS STA. 34+02.40
ST STA. 45+40.70

HORIZONTAL SCALE IN FEET
0 100 200 400

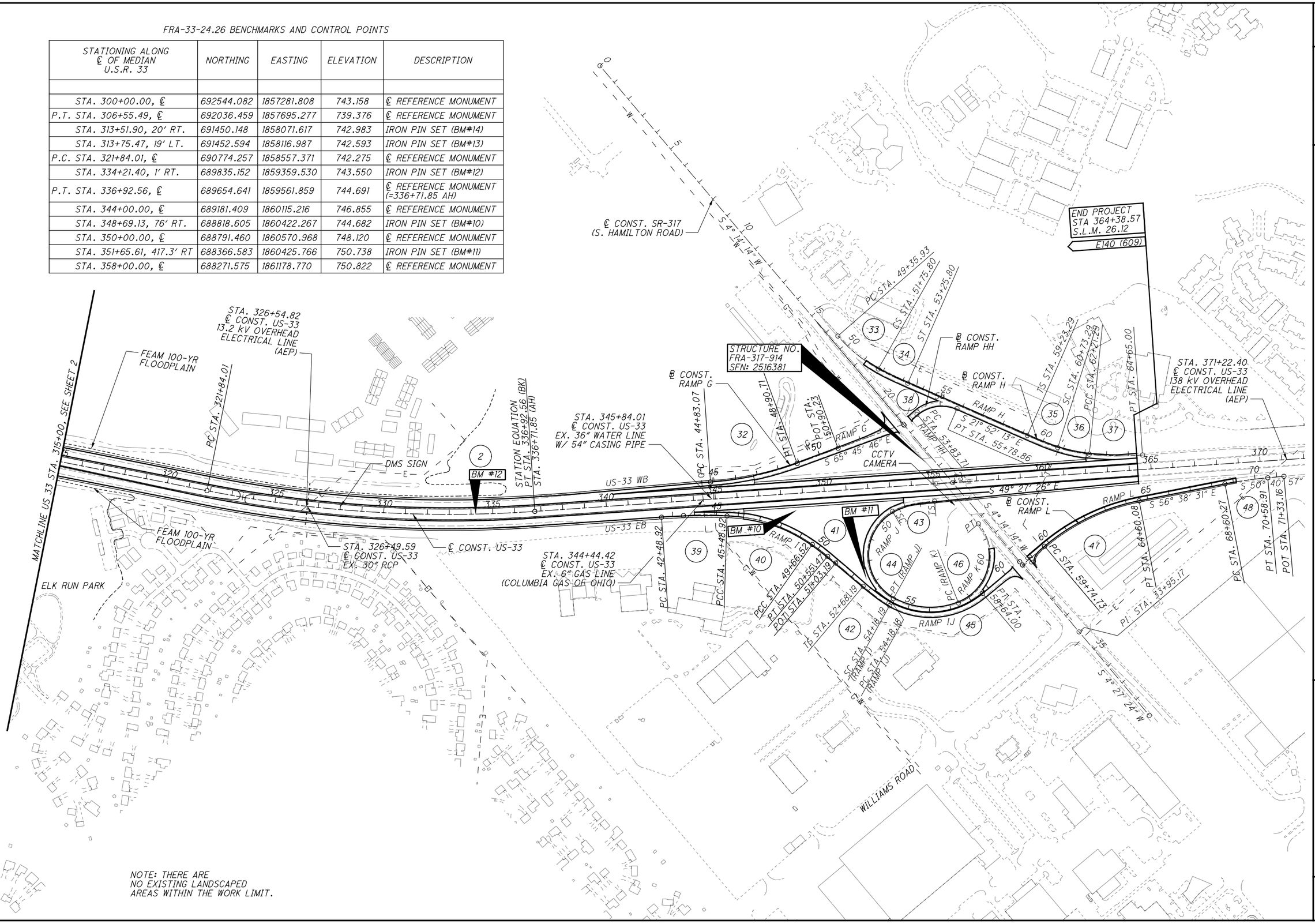
SCHEMATIC PLAN & GEOMETRIC LAYOUT

FRA-33-24.26

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FRA-33-24.26 BENCHMARKS AND CONTROL POINTS

STATIONING ALONG ℄ OF MEDIAN U.S.R. 33	NORTHING	EASTING	ELEVATION	DESCRIPTION
STA. 300+00.00, ℄	692544.082	1857281.808	743.158	℄ REFERENCE MONUMENT
P.T. STA. 306+55.49, ℄	692036.459	1857695.277	739.376	℄ 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, ℄	690774.257	1858557.371	742.275	℄ 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, ℄	689654.641	1859561.859	744.691	℄ REFERENCE MONUMENT (=336+71.85 AH)
STA. 344+00.00, ℄	689181.409	1860115.216	746.855	℄ REFERENCE MONUMENT
STA. 348+69.13, 76' RT.	688818.605	1860422.267	744.682	IRON PIN SET (BM#10)
STA. 350+00.00, ℄	688791.460	1860570.968	748.120	℄ REFERENCE MONUMENT
STA. 351+65.61, 417.3' RT	688366.583	1860425.766	750.738	IRON PIN SET (BM#11)
STA. 358+00.00, ℄	688271.575	1861178.770	750.822	℄ REFERENCE MONUMENT



HORIZONTAL SCALE IN FEET
0 100 200 400

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
Δ = 16° 18′ 20″ (LT)
Dc = 4° 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

SR 317 RAMP H

EX. CURVE DATA NO. 33
P.I. STA. 50+57.00
Δ = 19° 11′ 22″ (LT)
Dc = 8° 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

EX. CURVE DATA NO. 34
P.I. STA. 52+25.85
Dc = 8° 00′ 00″
R = 716.20′
Ls = 150.00′
θs = 6° 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° 00′ 00″
R = 716.20′
Ls = 150.00′
θs = 6° 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
Δ = 11° 50′ 24″ (LT)
Dc = 8° 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
Δ = 9° 44′ 54″ (LT)
Dc = 4° 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
Δ = 63° 53′ 35″ (RT)
Dc = 32° 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
Δ = 5° 45′ 00″ (RT)
Dc = 1° 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
Δ = 33° 24′ 28″ (RT)
Dc = 8° 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

PROP CURVE DATA NO. 41
P.I. STA. 50+11.02
Δ = 4° 57′ 31″ (RT)
Dc = 5° 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° 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_{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° 54′ 40″
R = 230.00′
Ls = 200.00′
θs = 24° 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
Δ = 120° 38′ 42″ (LT)
Dc = 24° 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
Δ = 69° 19′ 04″ (LT)
Dc = 15° 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
Δ = 108° 48′ 22″ (LT)
Dc = 24° 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
Δ = 29° 07′ 15″ (RT)
Dc = 6° 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

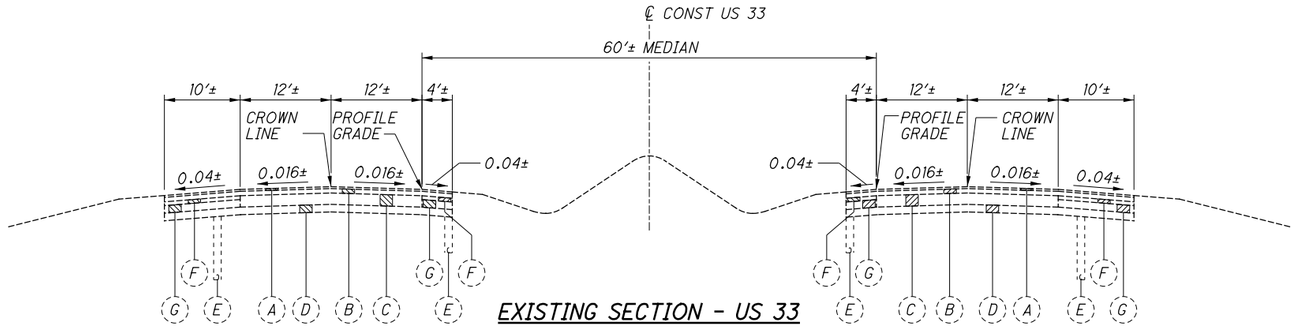
PROP CURVE DATA NO. 48
P.I. STA. 69+59.68
Δ = 5° 57′ 34″ (RT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 99.41′
L = 198.65′
E = 2.58′
e_{max} = 0.059
PC STA. 68+60.27
PT STA. 70+58.91

HORIZONTAL SCALE IN FEET
0 100 200 400

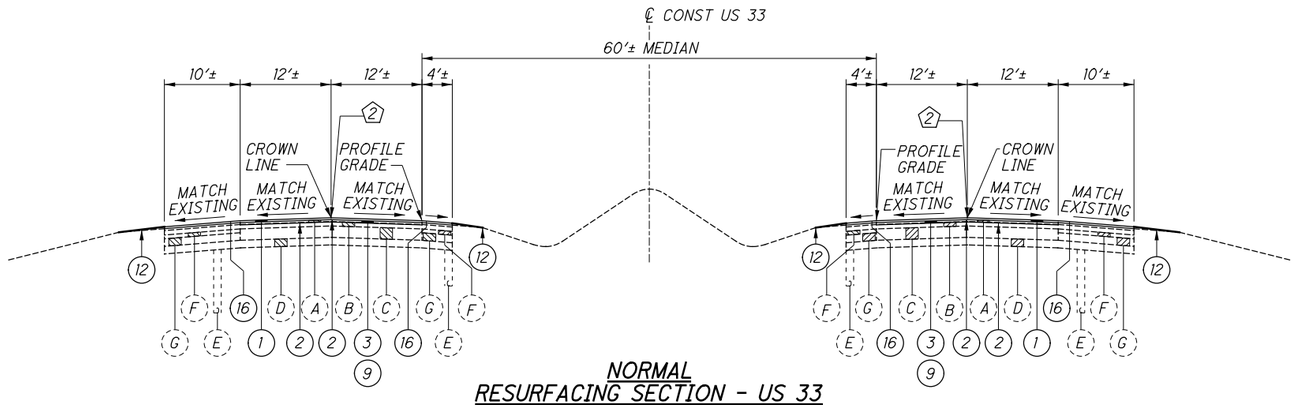
SCHEMATIC PLAN & GEOMETRIC LAYOUT

FRA-33-24.26

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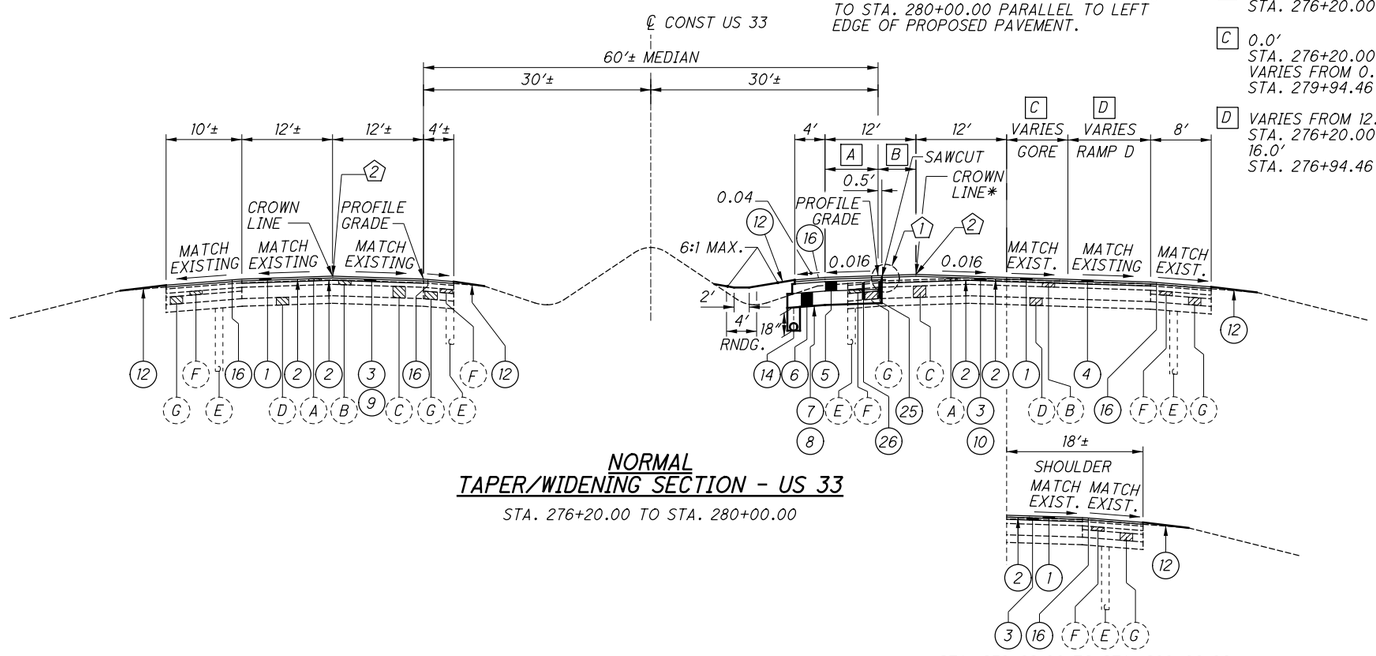


EXISTING SECTION - US 33



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.



NORMAL TAPER/WIDENING SECTION - US 33

STA. 276+20.00 TO STA. 280+00.00

A VARIES FROM 0.0' TO 5.85'
STA. 276+20.00 TO STA. 280+00.00

B VARIES FROM 12.0' TO 6.15'
STA. 276+20.00 TO STA. 280+00.00

C 0.0'
STA. 276+20.00 TO STA. 279+94.46
VARIES FROM 0.0' TO 26.15'
STA. 279+94.46 TO STA. 279+82.00

D VARIES FROM 12.72' TO 16.0'
STA. 276+20.00 TO STA. 276+94.46
16.0'
STA. 276+94.46 TO STA. 279+82.00

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
27. ITEM 304 - 6" AGGREGATE BASE

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 169-171 .

FOR RAMP TERMINAL DETAILS, SEE SHEETS 163-168.

TYPICAL SECTIONS - US 33

FRA-33-24.26

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(2) FOR SURFACE COURSE NOTE "A", SEE SHEET 6.

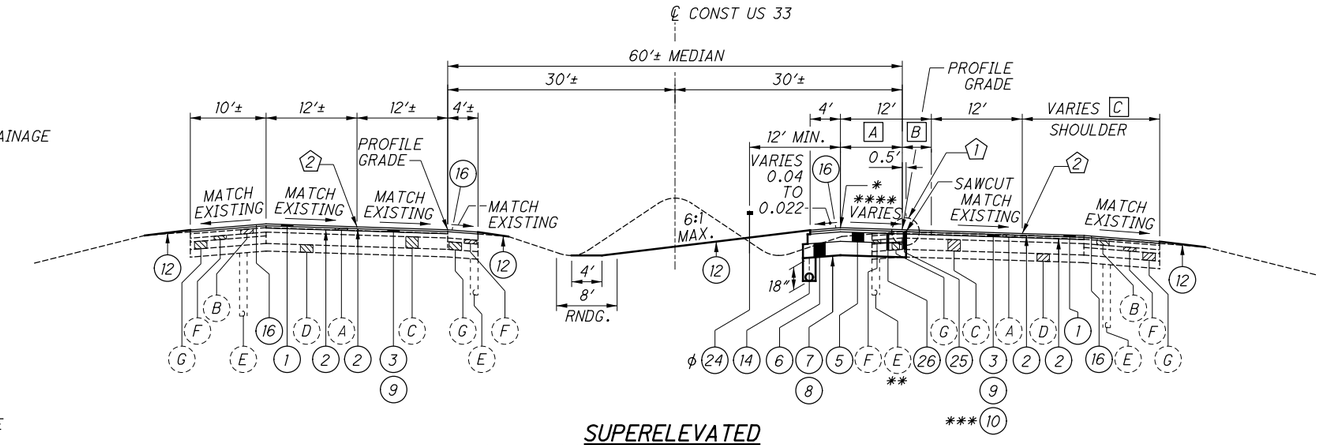
* - 7.00% MAX BREAK

** - 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

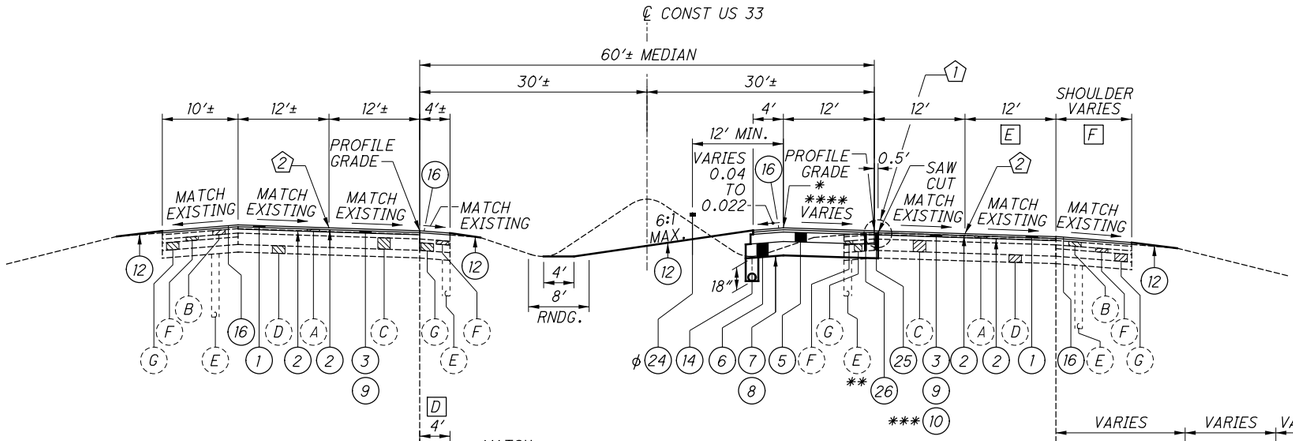
**** - FOR PAVEMENT ELEVATION TABLES, SEE SHEETS 169-170

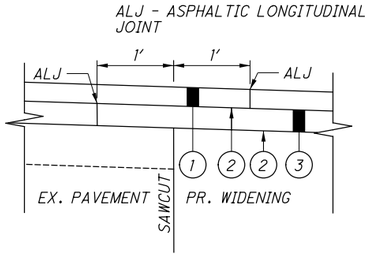
ϕ - DISTANCE FROM EDGE OF TRAVELED WAY TO CABLE RAIL SHOULD BE MINIMUM OF 12 FEET, OR 3 FEET FROM THE EDGE OF TREATED SHOULDER IF THE TREATED SHOULDER IS MORE THAN 10 FEET WIDE. AT THE DISCRETION OF THE CONTRACTOR AND THE PROJECT ENGINEER, THE DISTANCE CAN BE ALTERED IF CONSTRUCTABILITY AND/OR MAINTENANCE 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





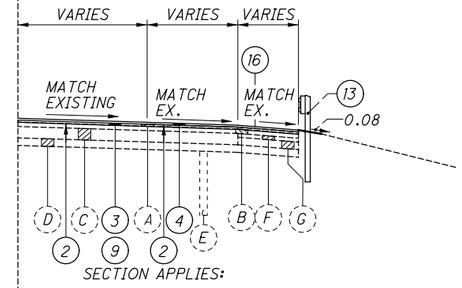
(1) DETAIL A

JOINT STAGGERING DETAIL

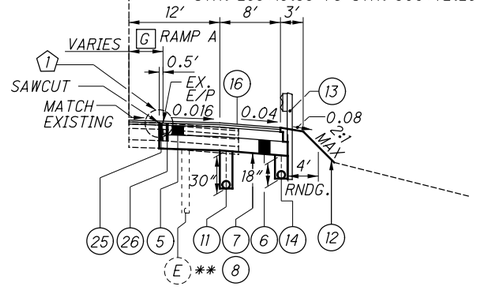
SECTION APPLIES:
STA. 300+40.00 TO STA. 306+72.25
STA. 308+14.75 TO STA. 308+27.00

SUPERELEVATED WIDENING SECTION - US 33

STA. 284+00.00 TO STA. 306+72.25
STA. 308+14.75 TO STA. 308+27.00



SECTION APPLIES:
STA. 288+19.33 TO STA. 306+72.25



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

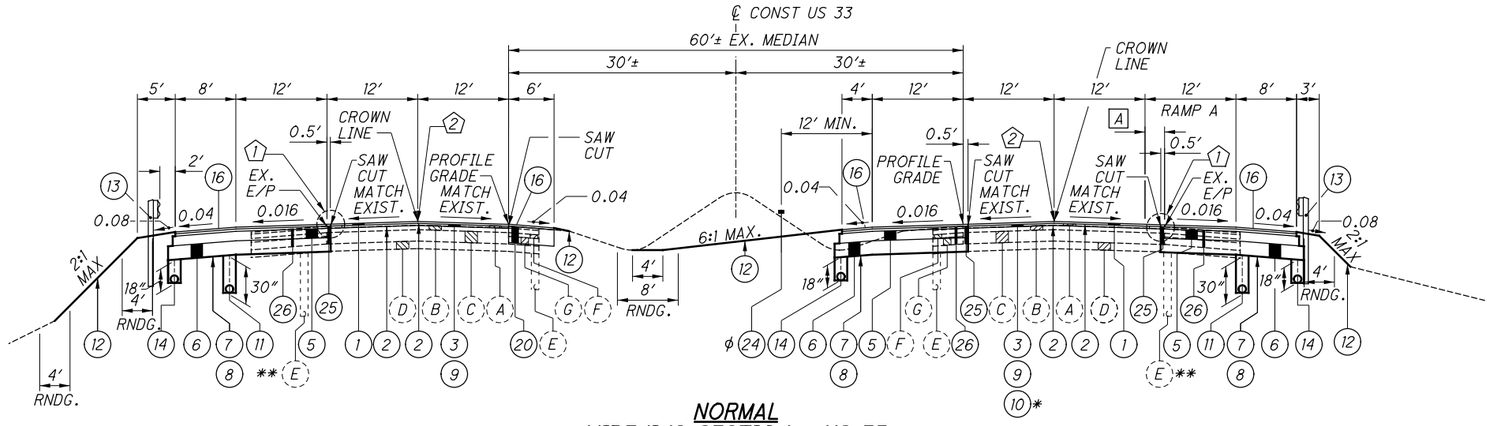
FOR LEGEND, SEE SHEET 6.

FOR RUMBLE STRIP DETAIL, SEE SHEET 9.

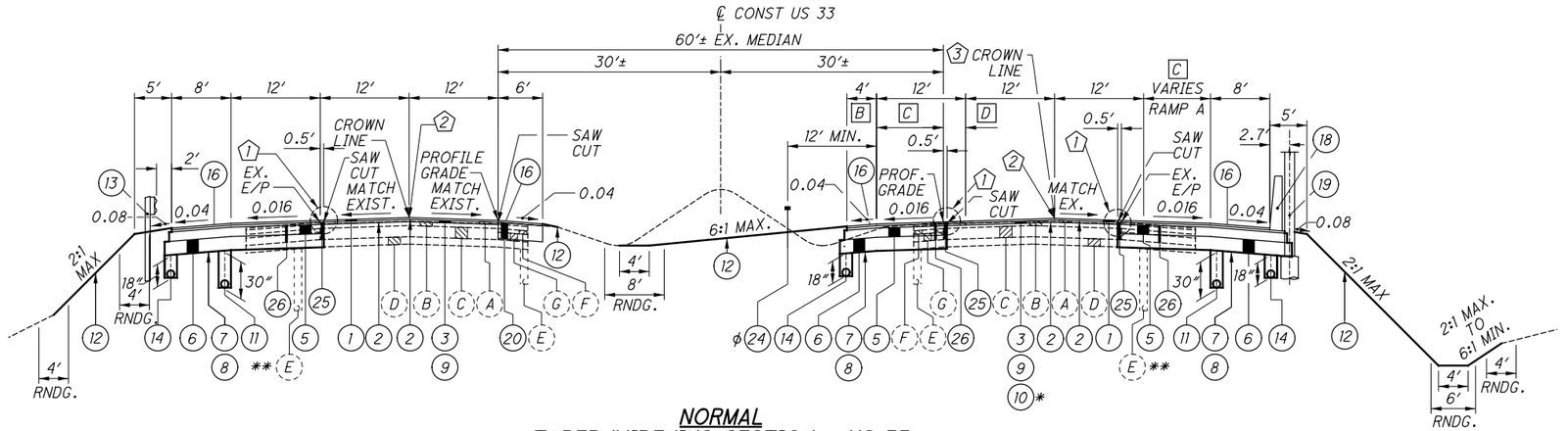
TYPICAL SECTIONS - US 33

FRA-33-24.26

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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

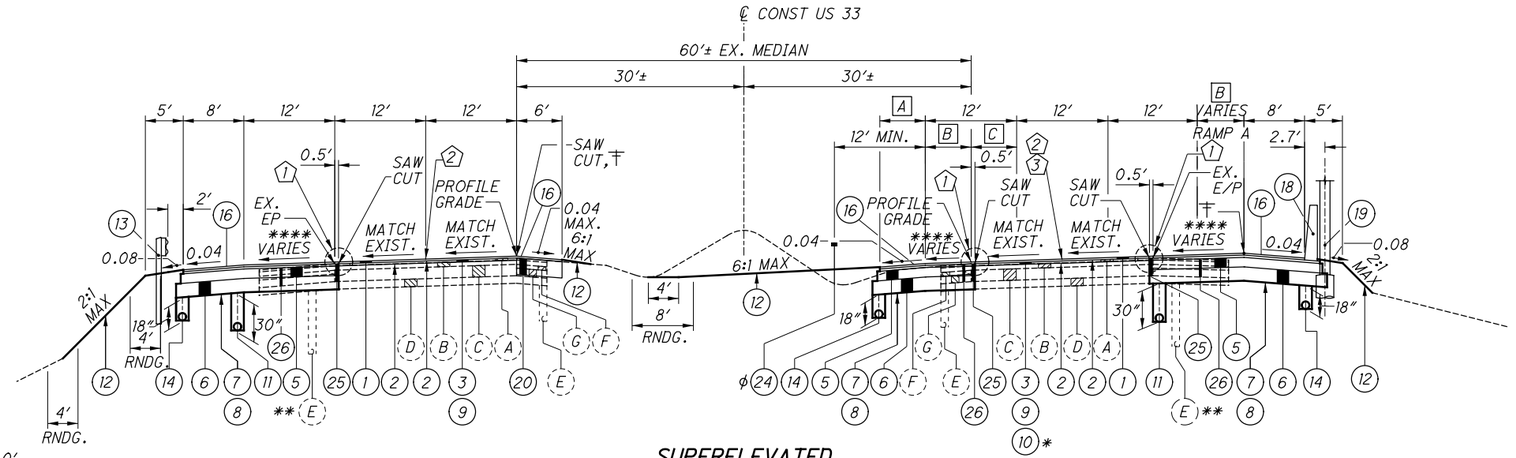
ϕ - DISTANCE FROM EDGE OF TRAVELED WAY TO CABLE RAIL SHOULD BE MINIMUM OF 12 FEET, OR 3 FEET FROM THE EDGE OF TREATED SHOULDER IF THE TREATED SHOULDER IS MORE THAN 10 FEET WIDE. AT THE DISCRETION OF THE CONTRACTOR AND THE PROJECT ENGINEER, THE DISTANCE CAN BE ALTERED IF CONSTRUCTABILITY AND/OR MAINTENANCE 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.

TYPICAL SECTIONS - US 33

FRA-33-24.26

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SUPERELEVATED TAPER/WIDENING SECTION - US 33

STA. 320+09.00 TO STA. 321+30.00

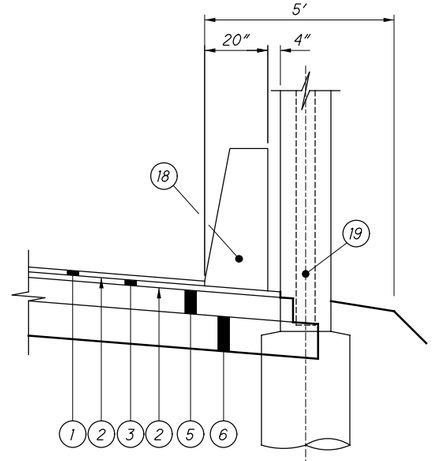
A VARIES FROM 4.14' TO 6.0'
STA. 320+09.00 TO 321+30.00

B VARIES FROM 1.86' TO 0.0'
STA. 320+09.00 TO 321+30.00

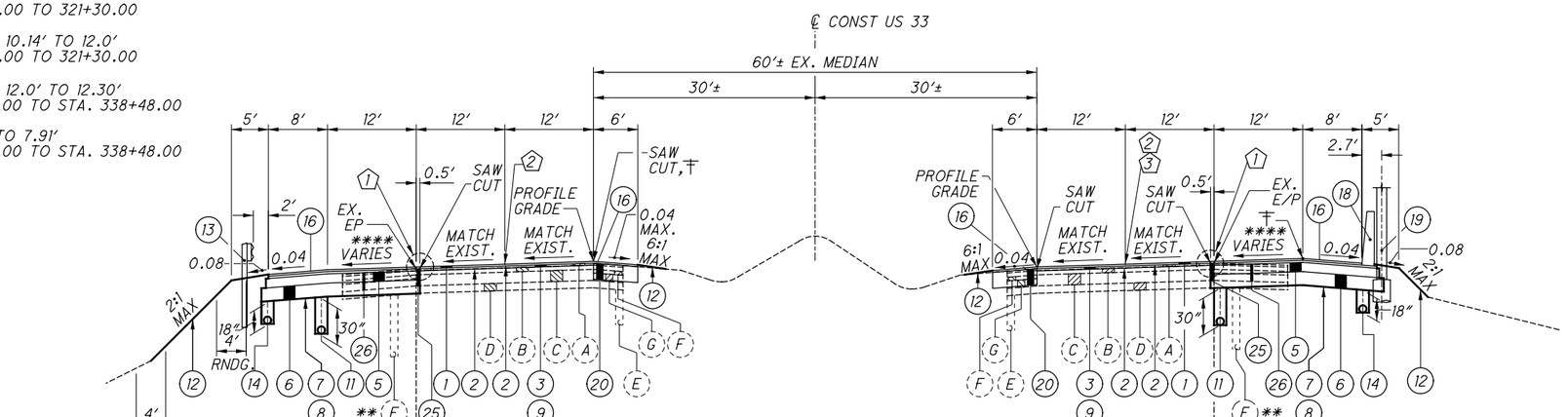
C VARIES FROM 10.14' TO 12.0'
STA. 320+09.00 TO 321+30.00

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



TYPICAL CONCRETE BARRIER/NOISE WALL EDGE COURSE DETAIL



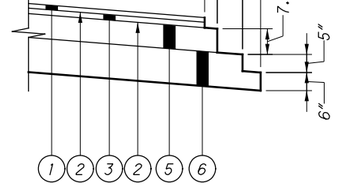
SUPERELEVATED WIDENING SECTION - US 33

STA. 321+30.00 TO STA. 338+48.00

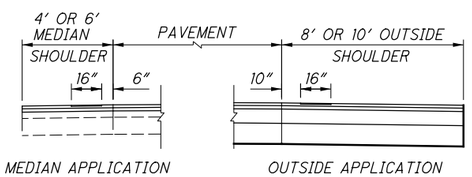
SECTION APPLIES:
STA. 338+33.00 TO STA. 338+48.00

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

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



TYPICAL ASPHALT WIDENING EDGE COURSE DETAIL



SHOULDER RUMBLE STRIP DETAIL (REVERSE FOR WB)

(SEE STANDARD CONSTRUCTION DRAWING BP-9.1 FOR ADDITIONAL DETAILS)

FOR LEGEND, SEE SHEET 6.

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.

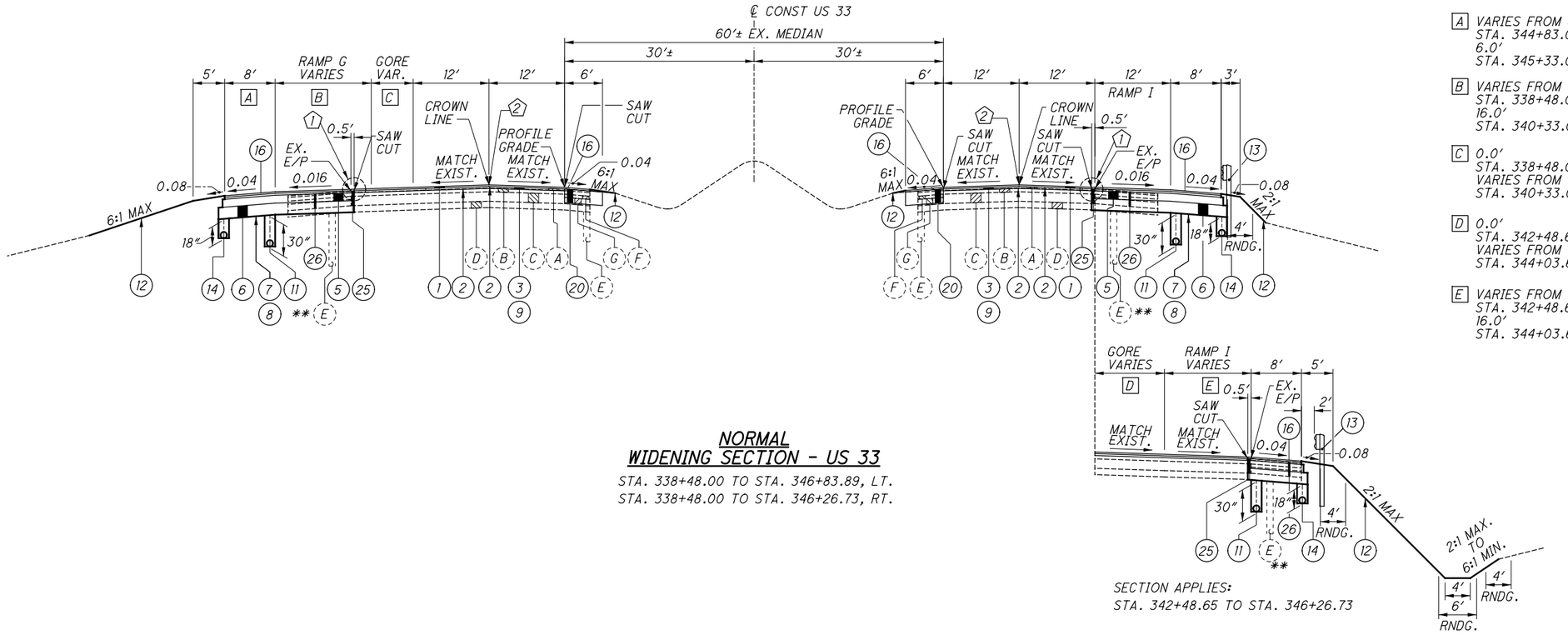
∓ - 7.00% MAX BREAK

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.

TYPICAL SECTIONS - US 33

FRA-33-24.26

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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

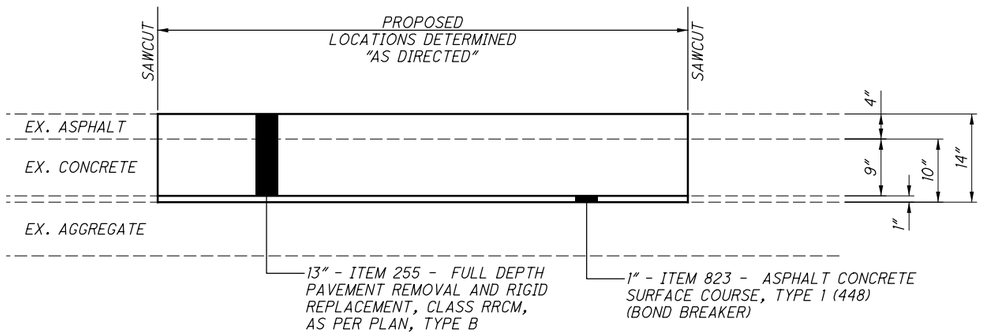
D 0.0'
STA. 342+48.65 TO STA. 344+03.65
VARIES FROM 0.0' TO 23.0'
STA. 344+03.65 TO STA. 346+26.73

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

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.

SECTION APPLIES:
STA. 342+48.65 TO STA. 346+26.73

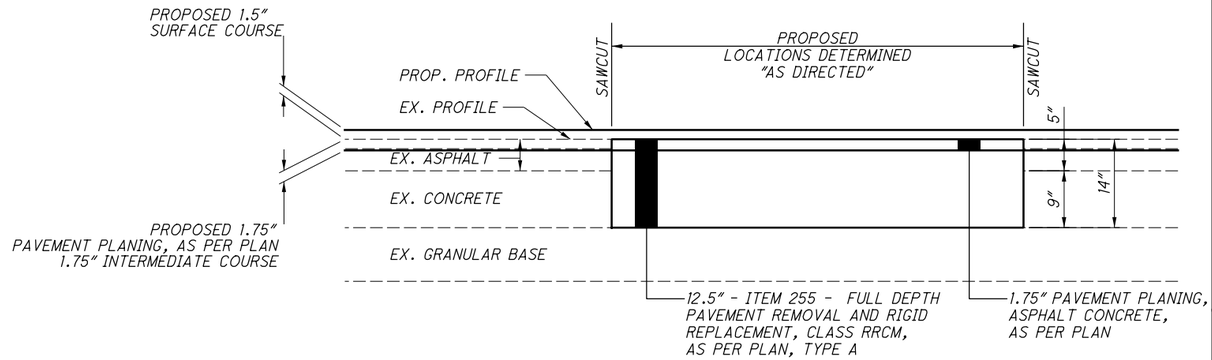


IR-270 SB, RAMP E (46.18 MM)

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

FOR FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN, TYPE B SEE GENERAL NOTES 15.

FOR THIS DETAIL, SCREED THE PAVEMENT ACROSS THE LANE, NOT WITH TRAFFIC



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

SEE GENERAL NOTES 15 FOR MORE INFORMATION REGARDING ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN, TYPE A

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.

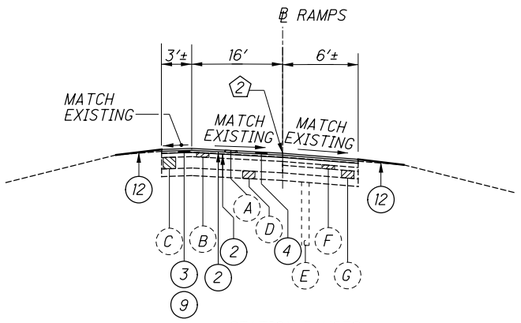
FOR RAMP TERMINAL DETAILS, SEE SHEETS 163-168.

TYPICAL PAVEMENT REPAIR

FRA-33-24.26

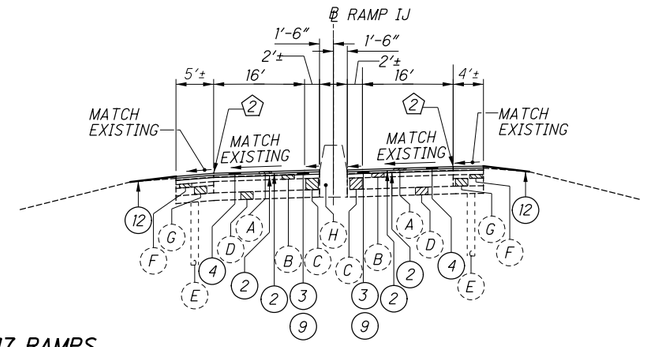
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RAMP G
STA. 46+81.95 TO STA. 53+66.17
RAMP H
STA. 51+09.21 TO STA. 62+07.60
RAMP HH
STA. 53+46.08 TO STA. 54+91.21
RAMP I
STA. 46+13.92 TO STA. 54+18.19
RAMP IJ
STA. 58+75.99 TO STA. 60+46.32
(OPPOSITIE HAND)
RAMP J
STA. 48+72.65 TO STA. 54+18.18
(STATIONING 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

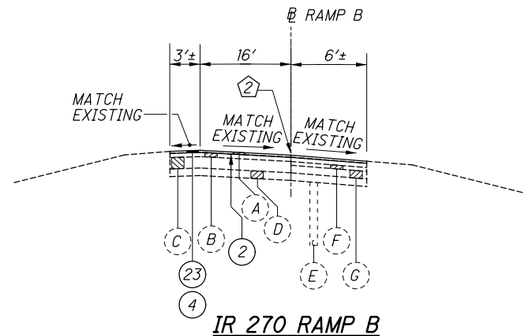


STATION RANGES
AT LEFT

SR 317 RAMPS



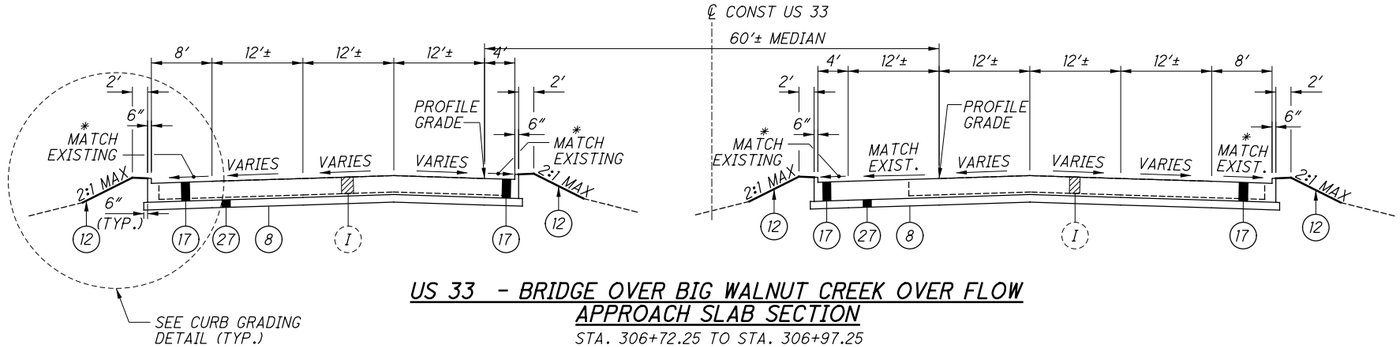
RAMP IJ
STA. 54+18.18 TO STA. 58+75.99



IR 270 RAMP B

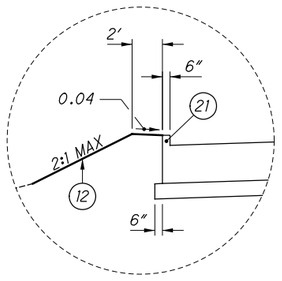
STA. 44+18.23 TO STA. 61+04.00

(2) FOR ASPHALT CONCRETE COURSE
NOTE "A", SEE SHEET 6 .



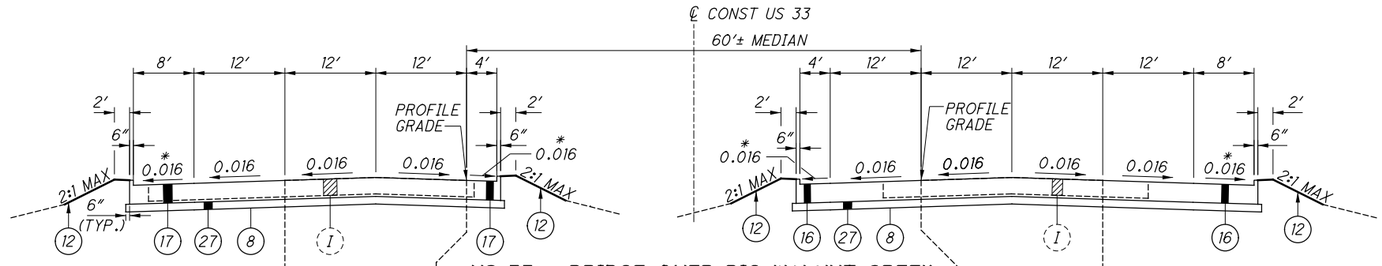
US 33 - BRIDGE OVER BIG WALNUT CREEK OVER FLOW APPROACH SLAB SECTION

STA. 306+72.25 TO STA. 306+97.25
STA. 307+90.31 TO STA. 308+15.31



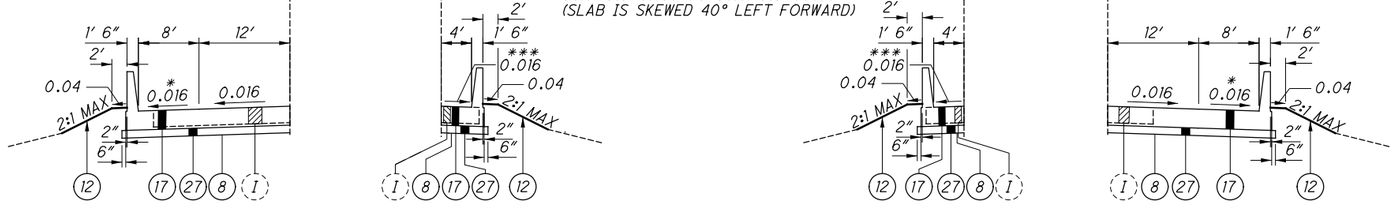
CURB GRADING DETAIL

(LEFT SIDE SHOWN,
REVERSE FOR RIGHT SIDE)



US 33 - BRIDGE OVER BIG WALNUT CREEK APPROACH SLAB SECTION

STA. 310+23.41 TO STA. 310+48.41
STA. 313+51.59 TO STA. 313+76.59
(SLAB IS SKEWED 40° LEFT FORWARD)



SECTION APPLIES:
STA. 310+34.84 TO STA. 310+48.41
STA. 313+51.59 TO STA. 313+66.21

SECTION APPLIES:
STA. 310+33.71
TO STA. 310+48.41
STA. 313+51.59
TO STA. 313+64.96

SECTION APPLIES:
STA. 310+34.38
TO STA. 310+48.41
STA. 313+51.59
TO STA. 313+66.22

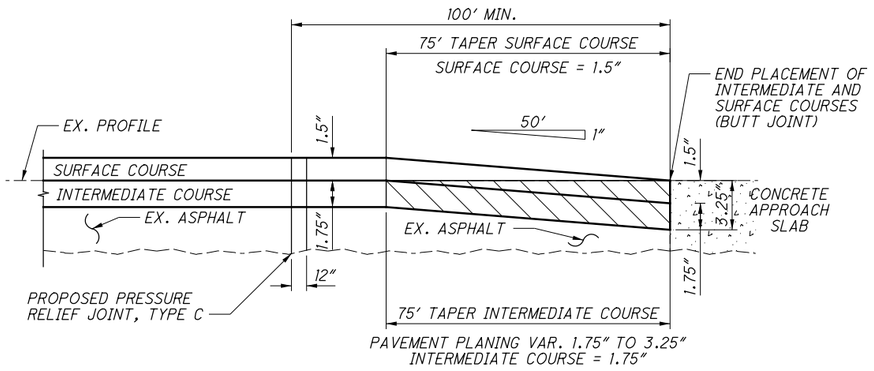
SECTION APPLIES:
STA. 310+33.81 TO STA. 310+48.41
STA. 313+51.59 TO STA. 313+76.59

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

FOR LEGEND, SEE SHEET 6 .

FRA-33-24.26 TYPICAL SECTIONS - U.S. 33 APPROACH SLABS & S.R. 317 RAMPS

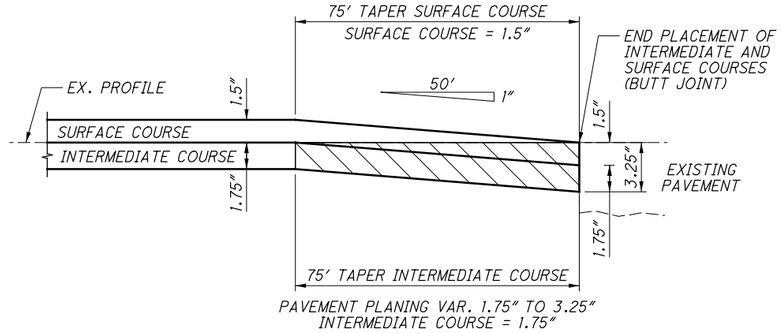
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TAPERING TO AT-GRADE STRUCTURES DETAIL

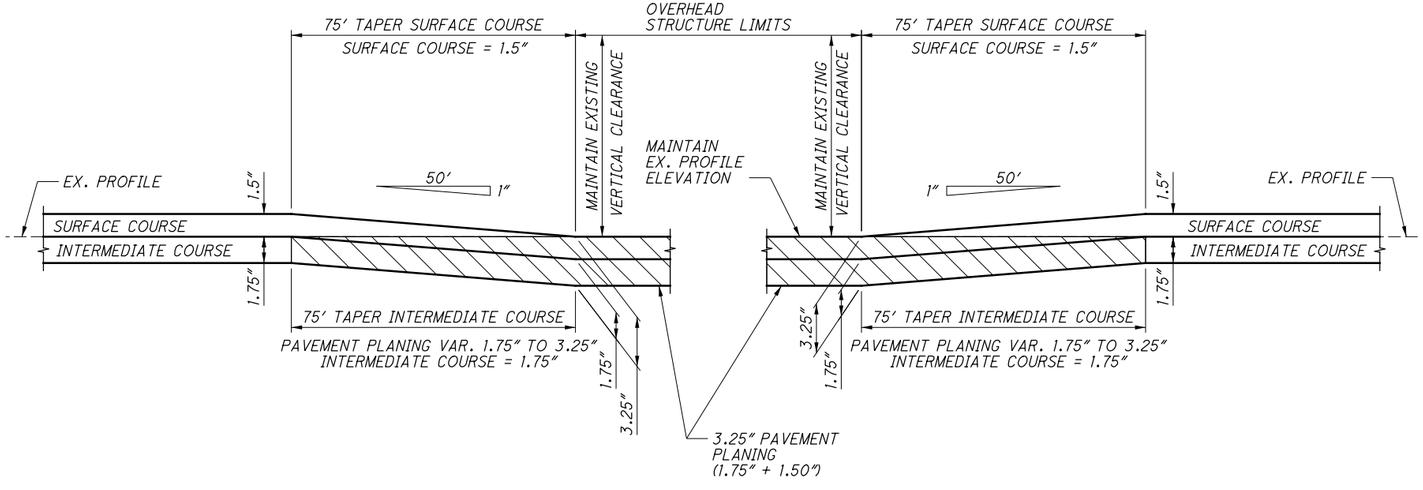
U.S. 33 FROM STA. 305+97.25 TO STA. 306+72.25 (BRIDGES FRA-33-2503 L/R)
U.S. 33 FROM STA. 314+76.59 TO STA. 314+97.00 (BRIDGE FRA-33-2509L)
U.S. 33 FROM STA. 314+76.59 TO STA. 314+30.00 (BRIDGE FRA-33-2509R)

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 (LT.)
U.S. 33 UNDER S.R. 317, FROM STA. 354+88.00 TO STA. 357+79.00 (RT.)

TRANSITION DETAILS

FRA-33-24.26

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ROUNDING

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

UTILITIES

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

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

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

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

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

SPECTRUM
3760 INTERCHANGE DR.
COLUMBUS, OH 43204
ATTN: SAM LUTZ
PHONE: (614) 481-5047
EMAIL: SAMUEL.LUTZ @CHARTER.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
ATTN: AL RIVERA
PHONE: (614) 223-8903
EMAIL: AR8341@ATT.COM

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

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: colspermits@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 IST 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 FOURTEN (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.

CALCULATED K.S.J
CHECKED BBB

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 UTILITES 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

PER THE ODNR IN-STREAM RESTRICTION WAIVER, PLACEMENT OR REMOVAL OF IN-STREAM FILL WILL NOT BE PERMITTED FROM APRIL 15 TO MAY 1.

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 LIMITS.

ODOT WILL BE CUTTING TREES AND BRUSH IN ADVANCE OF THE PROJECT START AT THE FOLLOWING LOCATIONS.

- IN THE MEDIAN BETWEEN THE 2503L/R AND 2509L/R BRIDGES.
- NORTH SIDE OF US 33 WEST BOUND, APPROX. 30 FT. BEHIND THE GUARDRAIL STARTING 200 FT. WEST OF 2503L/R BRIDGE; APPROX. 50 FT. BEHIND THE GUARDRAIL IN THE AREA BETWEEN 2503L AND 2509L BRIDGES; APPROX. 75 FT. BEHIND THE GUARDRAIL IN THE AREA BETWEEN PIER 5 AND ABUTMENT AND APPROX. 300 FT. EAST OF 2509L; AND APPROX. 50 FT. BEHIND THE GUARDRAIL FOR AN ADDITIONAL 120 FT. EAST.
- SOUTH SIDE OF US 33 EAST BOUND, APPROX. 50 FT. BEHIND THE GUARDRAIL STARTING 150 FT. WEST OF 2503R BRIDGE; AREA BETWEEN 2503R AND 2509R BRIDGES; 2509R AREA BETWEEN PIER 6 AND ABUTMENT; AND APPROX. 2,450 FT. EAST OF THE 2509R BRIDGE.

THE TREES WILL BE FELLED IN PLACE IN ADVANCE OF THE PROJECT AND ARE TO BE REMOVED BY THE HIGHWAY CONTRACTOR. THE BRUSH WILL BE CUT AND CHIPPED.

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:

1. SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
2. 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.
3. COMPACT THE SUBGRADE ACCORDING TO 204.03.
4. 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.
5. 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.
6. PROOF ROLL THE STABILIZED AREAS ACCORDING TO 204.06 TO VERIFY STABILITY.
7. 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.

CALCULATED K.S.J
CHECKED BBB

GENERAL NOTES

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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 RRCM, AS PER PLAN, TYPE A

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, TYPE B

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.

CALCULATED K.S.J CHECKED BBB

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 OR BIDIRECTIONAL

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)], 1 EACH; [(SPEED - 65 MPH, HAZARD WIDTH - 60"), (BIDIRECTIONAL)], 4 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 TERMININAL 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.

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 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.

ITEM SPECIAL - NOISE BARRIER, TRANSPARENT ACRYLIC, 10' HEIGHT AND UNDER (ALT NO 2):

THE NOISE WALL FROM STA. 17+14 TO STA. 18+28 WILL BE TRANSPARENT ACRYLIC ON TOP OF 5' TALL DRYSTACK PANELS. USE ODOT APPROVED ACRYLIC SUPPLIERS OR ENGINEER APPROVED EQUAL.

POSTS 31 TO 36 SHALL HAVE NO COLOR. A CONCRETE WATERPROOFING ADMIXTURE USING CRYSTALLINE TECHNOLOGY SHALL BE APPLIED TO POSTS FROM BAY 31 TO 35. BASF MASTERLIFE 300D AND PENETRON ADMIX SB ARE ODOT-APPROVED SUPPLIERS.

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING 15-IN DIAMETER CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT, AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CONDUIT, IT MAY BE REMOVED. THE LENGTH, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

CALCULATED K.S.J
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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 ACCORDNACE 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, ADDITONAL 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 OMUTCD 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 [70] SIGN MNTH
ASSUMING [5] DSL SIGN ASSEMBLY(IES) FOR [14] 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 UNCOMPLETED 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
[28] SIGN MONTH
ASSUMING [28] SENSORS FOR [1] MONTHS

ITEM 896, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN
[8] SIGN MONTH
ASSUMING [8] PCMS SIGN(S) FOR [1] MONTH(S)

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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 PENALITIES 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 PENALITIES 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 EJC CHECKED ABS

MAINTENANCE OF TRAFFIC GENERAL NOTES

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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.

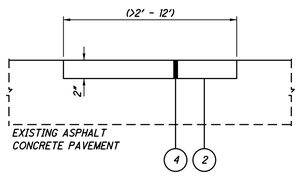
TYPE 1 IS TO BE USED WHEN YOU NEED TO MILL & FILL AN AREA OF VARYING LENGTH AND HAVE AN AVERAGE WIDTH OF NOT LESS THAN 2 FEET.

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

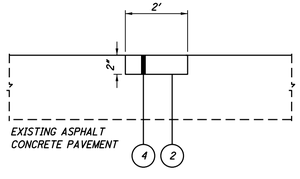
TYPE 3 IS TO BE USED FOR DEEPER REPAIRS (POTHOLES) OF VARYING LENGTH AND WILL HAVE AN AVERAGE WIDTH OF NOT LESS THAN 4 FEET.

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

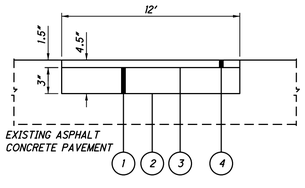
ALL COSTS ASSOCIATED WITH REMOVING AND REPLACING PAVEMENT AND TACK COAT FOR THE REPAIRS SHALL BE INCIDENTAL TO ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN.



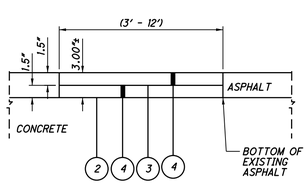
TYPE 1 DETAIL
PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN TYPE 1



TYPE 2 DETAIL
PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN TYPE 2



TYPE 3 DETAIL
PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN TYPE 3



TYPE 4 DETAIL
PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN TYPE 4

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 OMUTCD 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.

MAINTENANCE OF TRAFFIC FOR MARKING PAVEMENT REPAIRS

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

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

ITEM 614, 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 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.

CALCULATED EJC CHECKED ABS

MAINTENANCE OF TRAFFIC GENERAL NOTES

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MAINTENANCE OF TRAFFIC GENERAL NOTES

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 RESPONSBILE 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 MISALIGNED 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 EXCEPTION(S)

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 (123-001(SP)).

APPROVED MOT EXCEPTION(S) INCULDE:

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 NOTIFICATOIN 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.

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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 GUARD-RAIL 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.

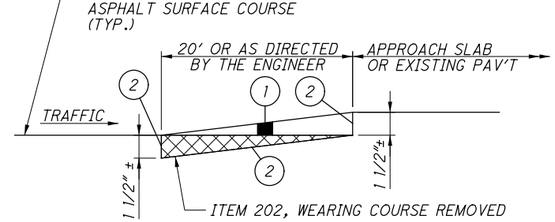
ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE [1750] HOURS

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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MAINTENANCE OF TRAFFIC GENERAL NOTES

FRA-33-24.26

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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 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

NIGHTLY RAMP CLOSURES	##/##/## TO ##/##/##
OR;	
WEEKEND RAMP CLOSURES	##/##/## TO ##/##/##

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: Lane Reduction	Mon to Fri	Sat	Sun	Disincentive Amounts per minute per lane
FRA-33						
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 D) 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 interchage (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 interchage (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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MAINTENANCE OF TRAFFIC GENERAL NOTES

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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
							TOTAL=	**9481.44**	**TOTAL=**	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.

CALCULATED CAC
CHECKED ABS

MAINTENANCE OF TRAFFIC GENERAL NOTES

FRA-33-24.26

SEQUENCE OF CONSTRUCTION

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 OMUTCD 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 WEST-BOUND 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 APPROVEL 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.

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 MARK-INGS 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 OMUTCD 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, MAIN-TAINING 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.

CALCULATED EJC
CHECKED CAC

MAINTENANCE OF TRAFFIC GENERAL NOTES

FRA-33-24.26

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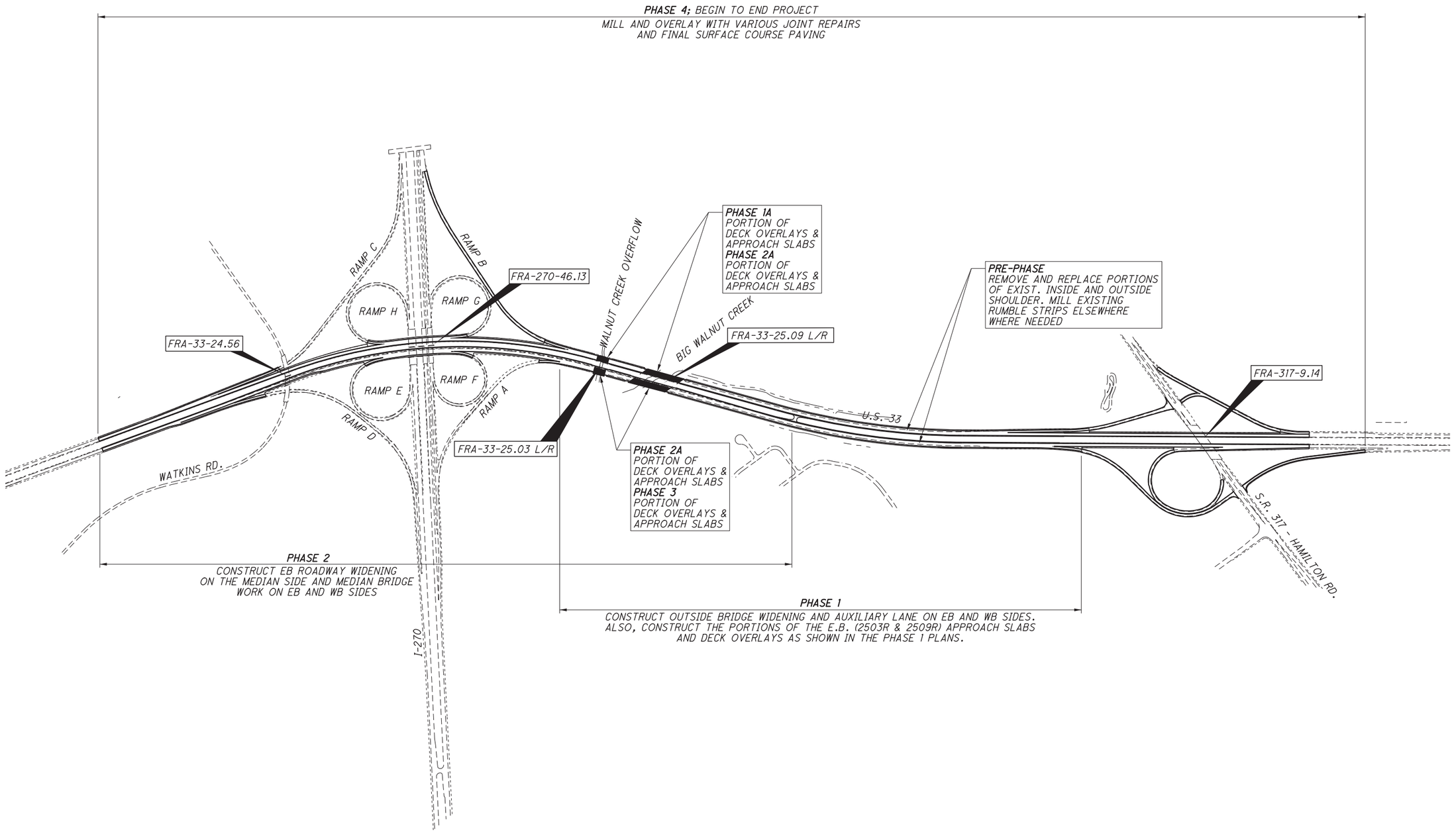
PHASE			RE-APPLICATIONS OF TEMPORARY MARKINGS (NUMBER HAS BEEN APPLIED TO QUANTITIES)	614	614	614	614	614	622	873
	FROM	TO		WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	WORK ZONE LANE LINE, CLASS I	WORK ZONE EDGE LINE, CLASS I	WORK ZONE CHANNELIZING LINE, CLASS I	WORK ZONE DOTTED LINE, CLASS I	PORTABLE BARRIER, 32"	WET REFLECTIVE REMOVABLE TAPE
				EACH	MILE	MILE	FT	FT	FT	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

CALCULATED CAC
CHECKED EJC

MAINTENANCE OF TRAFFIC - SUBSUMMARY

FRA-33-24.26

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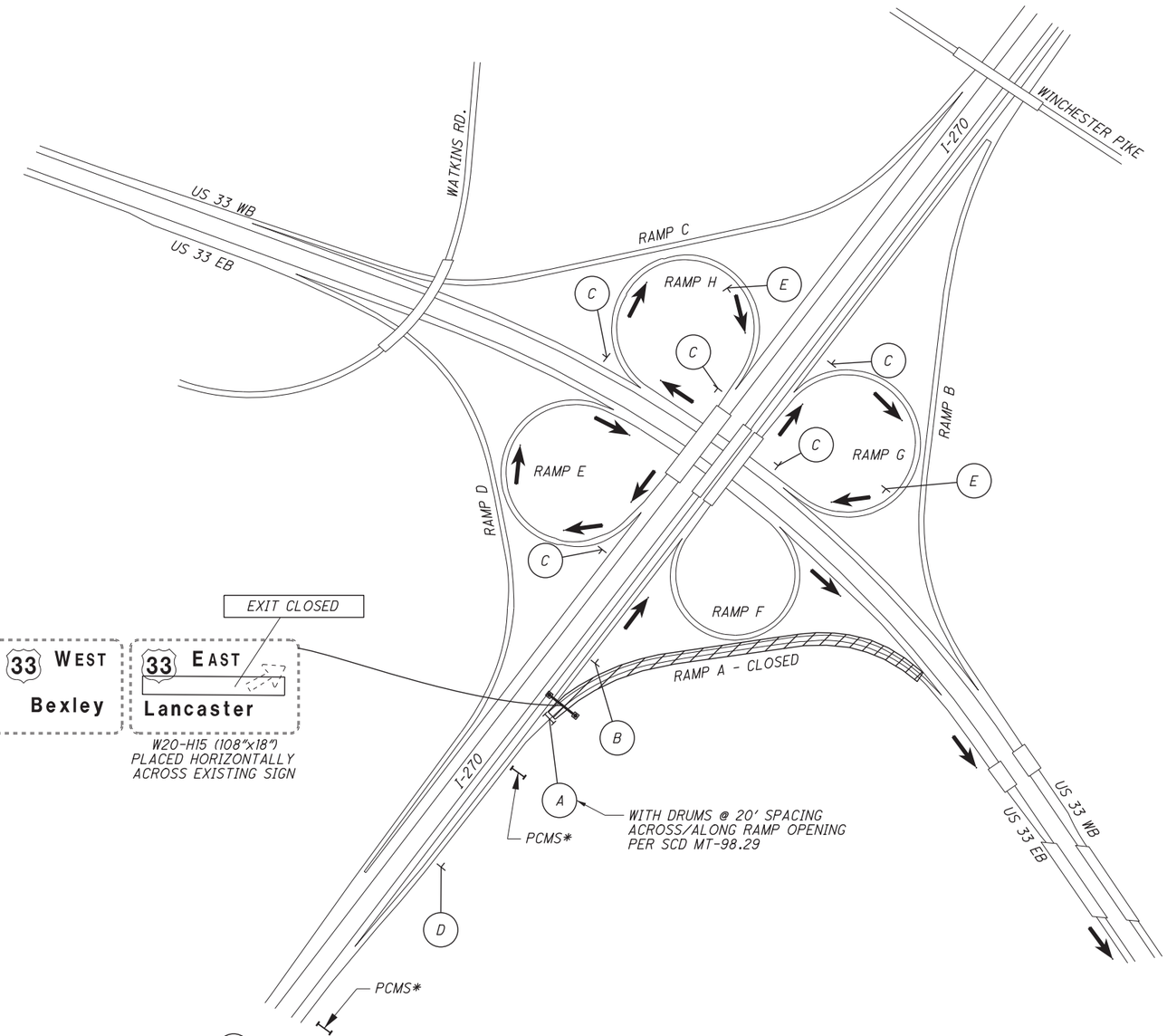
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HORIZONTAL SCALE IN FEET

MOT SCHEMATIC PLAN

FRA-33-24.26

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



NOTES:

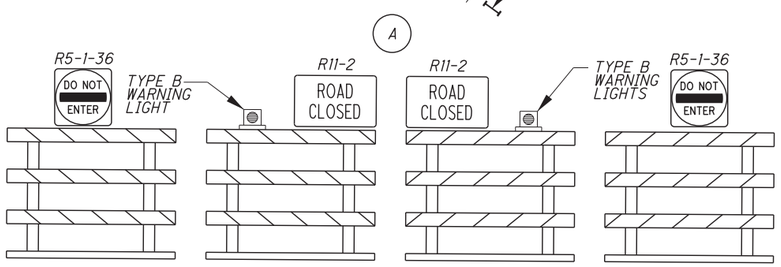
SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

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 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.



SOLID ACROSS INTERSECTION
TYPE III BARRICADES PER MT-101.60

B
TO M4-5-30
EAST M3-2-30
33 M1-4-36-2
DETOUR M4-9C-48

C
TO M4-5-30
EAST M3-2-30
33 M1-4-36-2
DETOUR SPECIAL 42" X 36"

D
US-33 EAST EXIT
CLOSED
USE US-33 WEST EXIT
SPECIAL - BLACK ON ORANGE 96" X 48"
DETOUR M4-9C-48

E
DETOUR M4-8-30
EAST M3-2-30
33 M1-4-36-2
KEEP RIGHT R4-7B-36

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

N

0 125 250 500 HORIZONTAL SCALE IN FEET

CALCULATED EJC CHECKED ABS

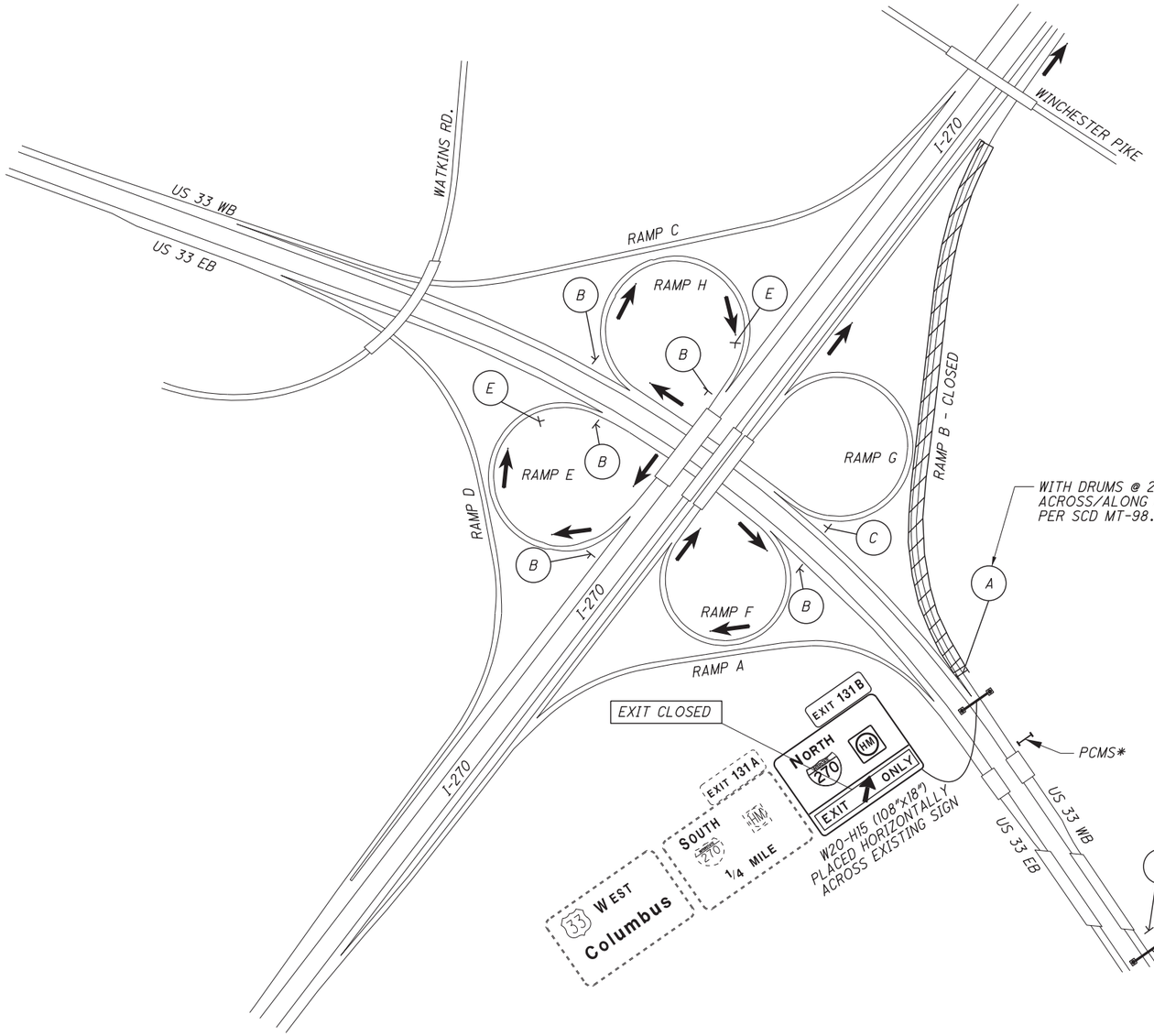
DETOUR PLAN
RAMP A - I-270 NB EXIT RAMP TO US33 E

FRA-33-24.26

29
287

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



NOTES:

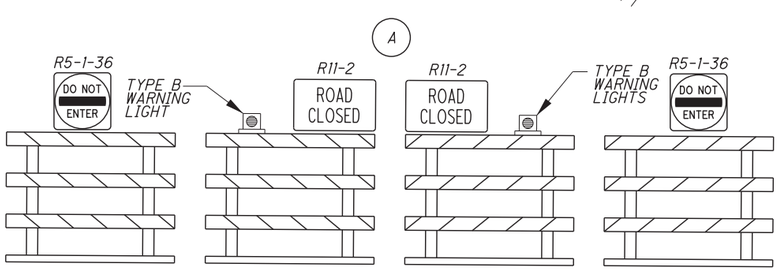
SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

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.*



SOLID ACROSS INTERSECTION
TYPE III BARRICADES PER MT-101.60

B

TO — M4-5-30
NORTH — M3-1-30
INTERSTATE 270 — M1-1-36-3
DETOUR — *SPECIAL 42" X 36"*

C

TO — M4-5-30
NORTH — M3-1-30
INTERSTATE 270 — M1-1-36-3
DETOUR — M4-9C-48

D

I-270 NORTH EXIT CLOSED
USE I-270 SOUTH EXIT

SPECIAL - BLACK ON ORANGE 96" X 48"

DETOUR — M4-9C-48

E

DETOUR — M4-8-30
NORTH — M3-1-30
INTERSTATE 270 — M1-1-36-3
KEEP RIGHT — R4-7B-36

LEGEND:

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

HORIZONTAL SCALE IN FEET
0 125 250 500

CALCULATED EJC
CHECKED ABS

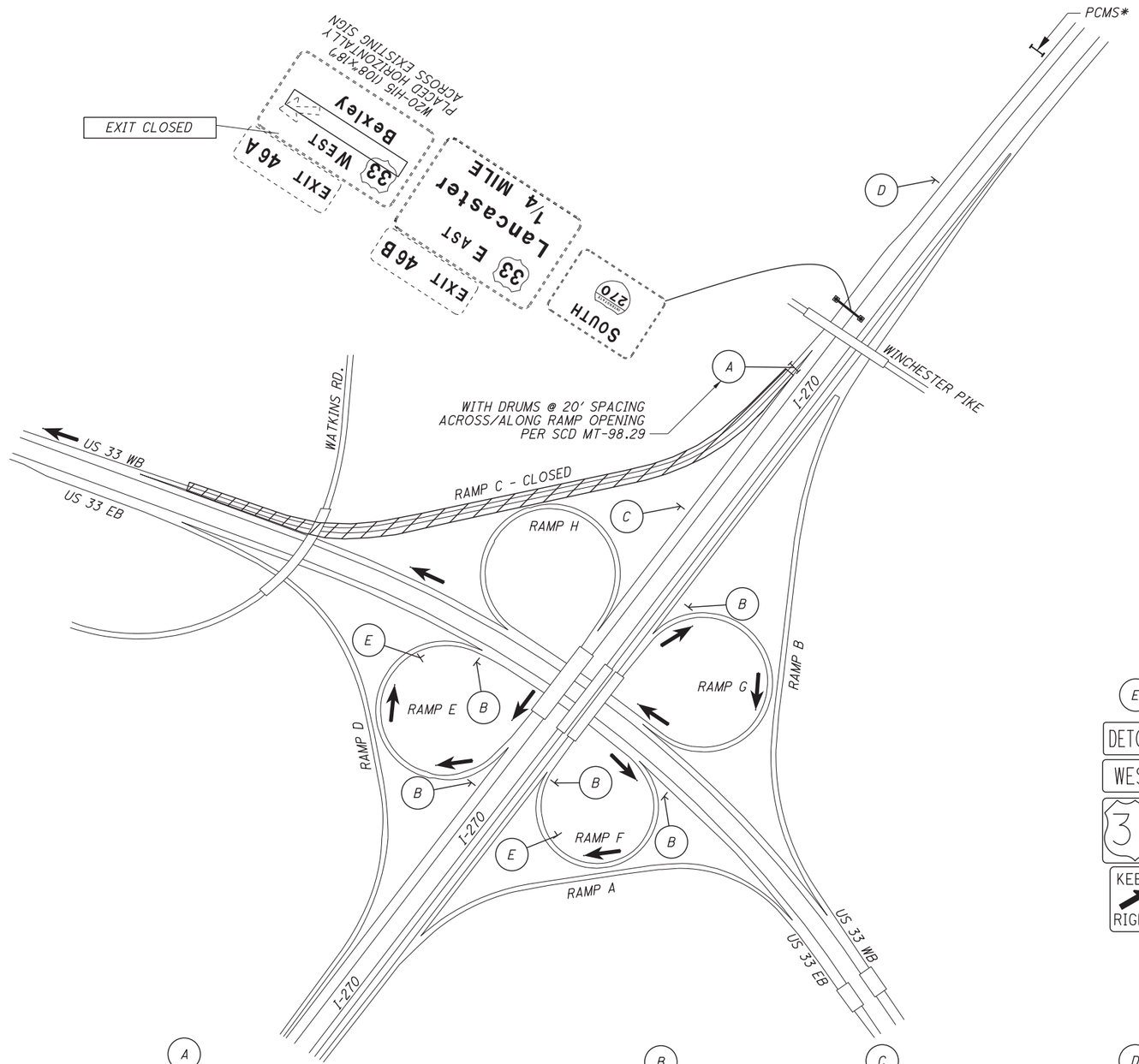
DETOUR PLAN
RAMP B - US 33 WB TO I-270 NB

FRA-33-24.26

30
287

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



NOTES:

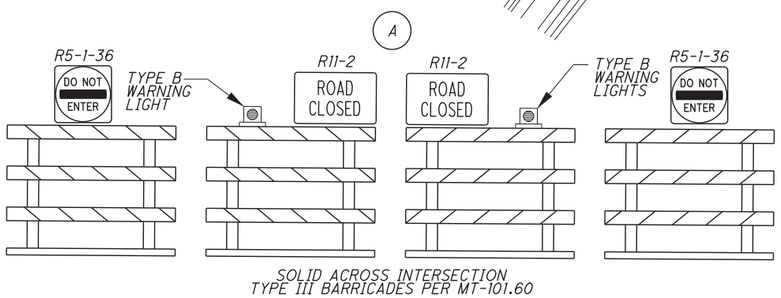
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RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMPS AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270 AND US 33.

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.

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



SOLID ACROSS INTERSECTION
TYPE III BARRICADES PER MT-101.60

B

TO	M4-5-30
WEST	M3-4-30
33	M1-4-36-2
DETOUR	SPECIAL 42" X 36"

C

TO	M4-5-30
WEST	M3-4-30
33	M1-4-36-2
DETOUR	M4-9C-48

D

US-33 WEST EXIT
CLOSED
USE US-33 EAST EXIT

SPECIAL - BLACK ON ORANGE
96" X 48"

DETOUR M4-9C-48

E

DETOUR	M4-8-30
WEST	M3-4-30
33	M1-4-36-2
KEEP RIGHT	R4-7B-36

LEGEND:

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

N

0 125 250 500 HORIZONTAL SCALE IN FEET

CALCULATED EJC
CHECKED ABS

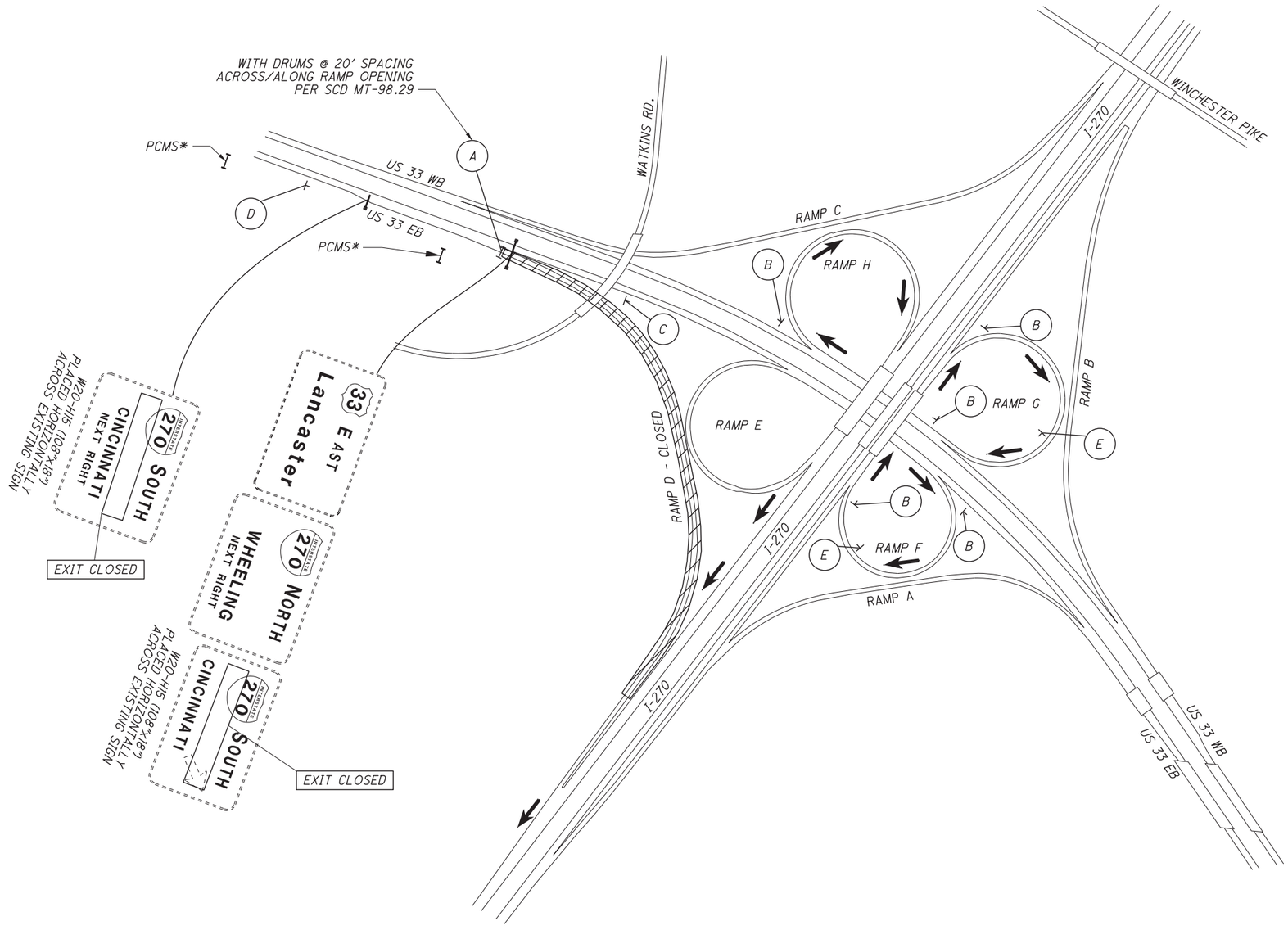
DETOUR PLAN
RAMP C - I-270 SB TO US 33 WB

FRA-33-24.26

31
287

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



NOTES:

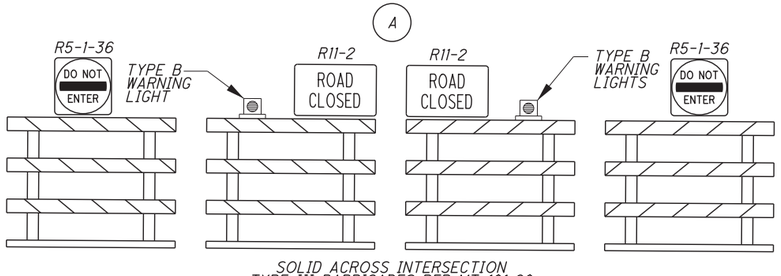
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CONTRACTOR SHALL COORDINATE THIS DETOUR WITH ANY CONFLICTING DETOUR/SIGNING OR CLOSURES IN THE AREA OR AS DIRECTED BY THE ENGINEER.

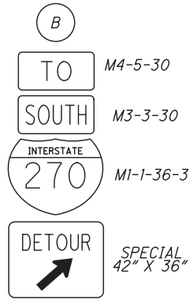
RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMPS AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270 AND US 33.

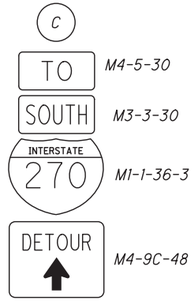
RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

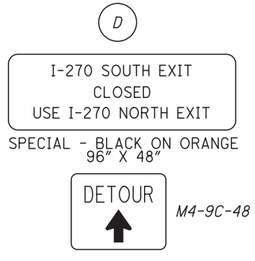
* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.

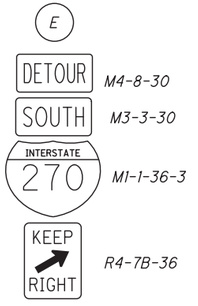


SOLID ACROSS INTERSECTION
TYPE III BARRICADES PER MT-101.60









LEGEND:

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

HORIZONTAL SCALE IN FEET
0 125 250 500

CALCULATED EJC
CHECKED ABS

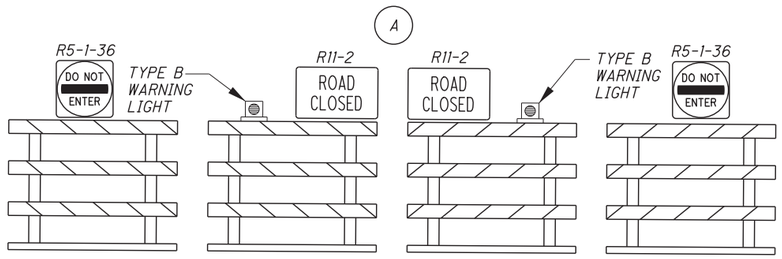
DETOUR PLAN
RAMP D - US 33 EB TO I-270 SB

FRA-33-24.26

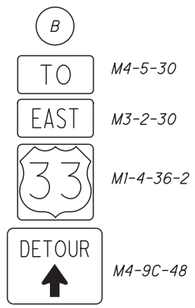
32
287

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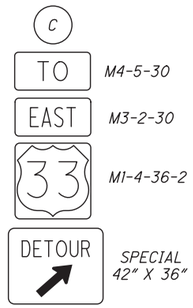
DETOUR - RAMP E (I-270 SB to US 33 EB)



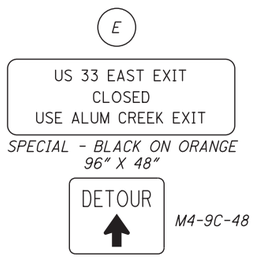
SOLID ACROSS INTERSECTION
TYPE III BARRICADES PER MT-101.60



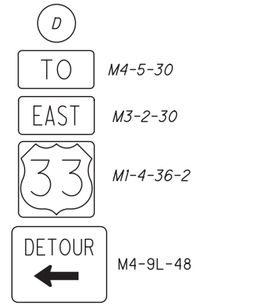
M4-5-30
M3-2-30
M1-4-36-2
M4-9C-48



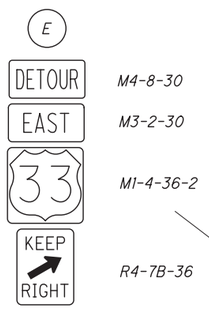
M4-5-30
M3-2-30
M1-4-36-2
SPECIAL 42" X 36"



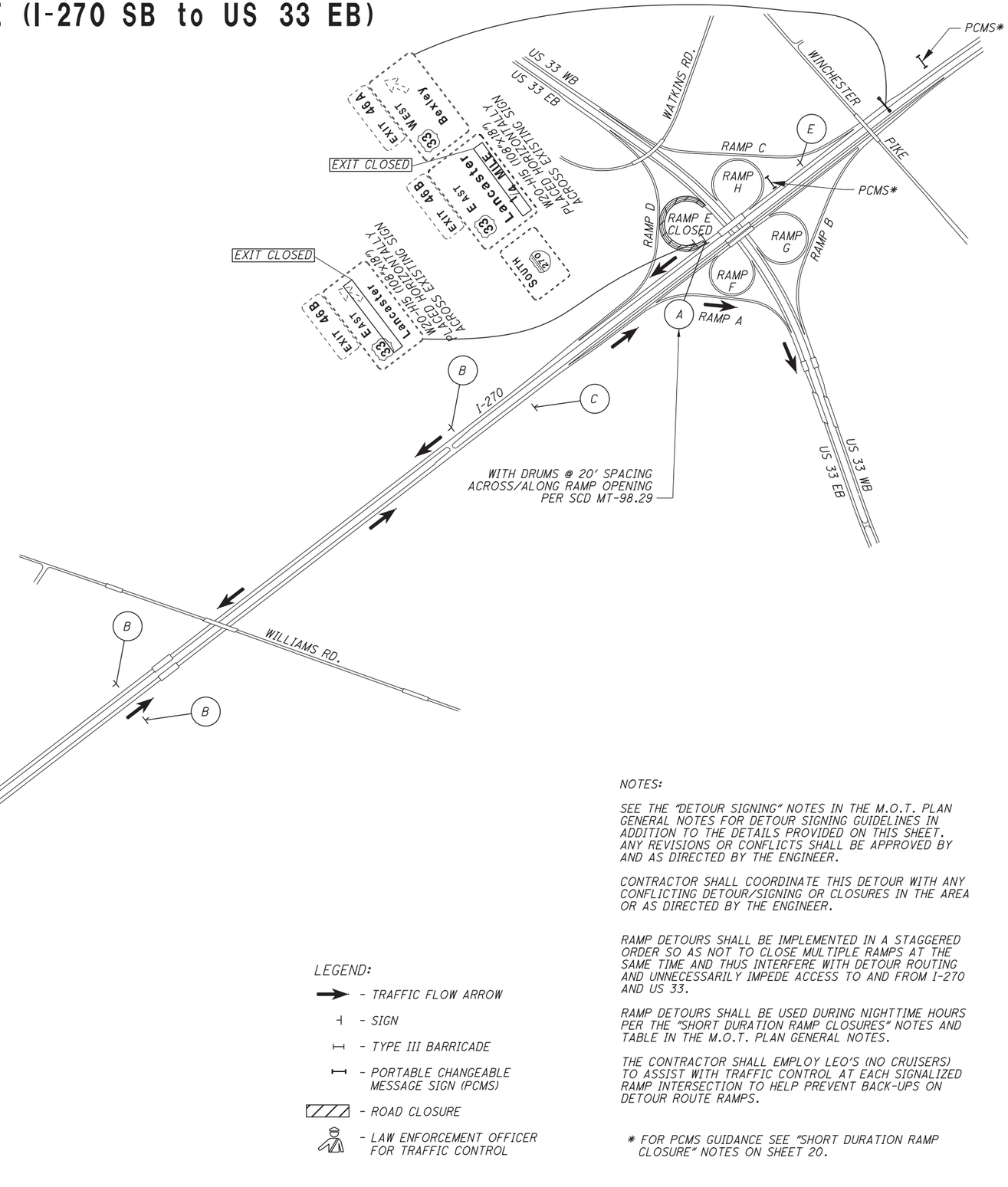
SPECIAL - BLACK ON ORANGE
96" X 48"
M4-9C-48



M4-5-30
M3-2-30
M1-4-36-2
M4-9L-48



M4-8-30
M3-2-30
M1-4-36-2
R4-7B-36



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 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.

N

0 300 600 1200 HORIZONTAL SCALE IN FEET

CALCULATED EJC CHECKED ABS

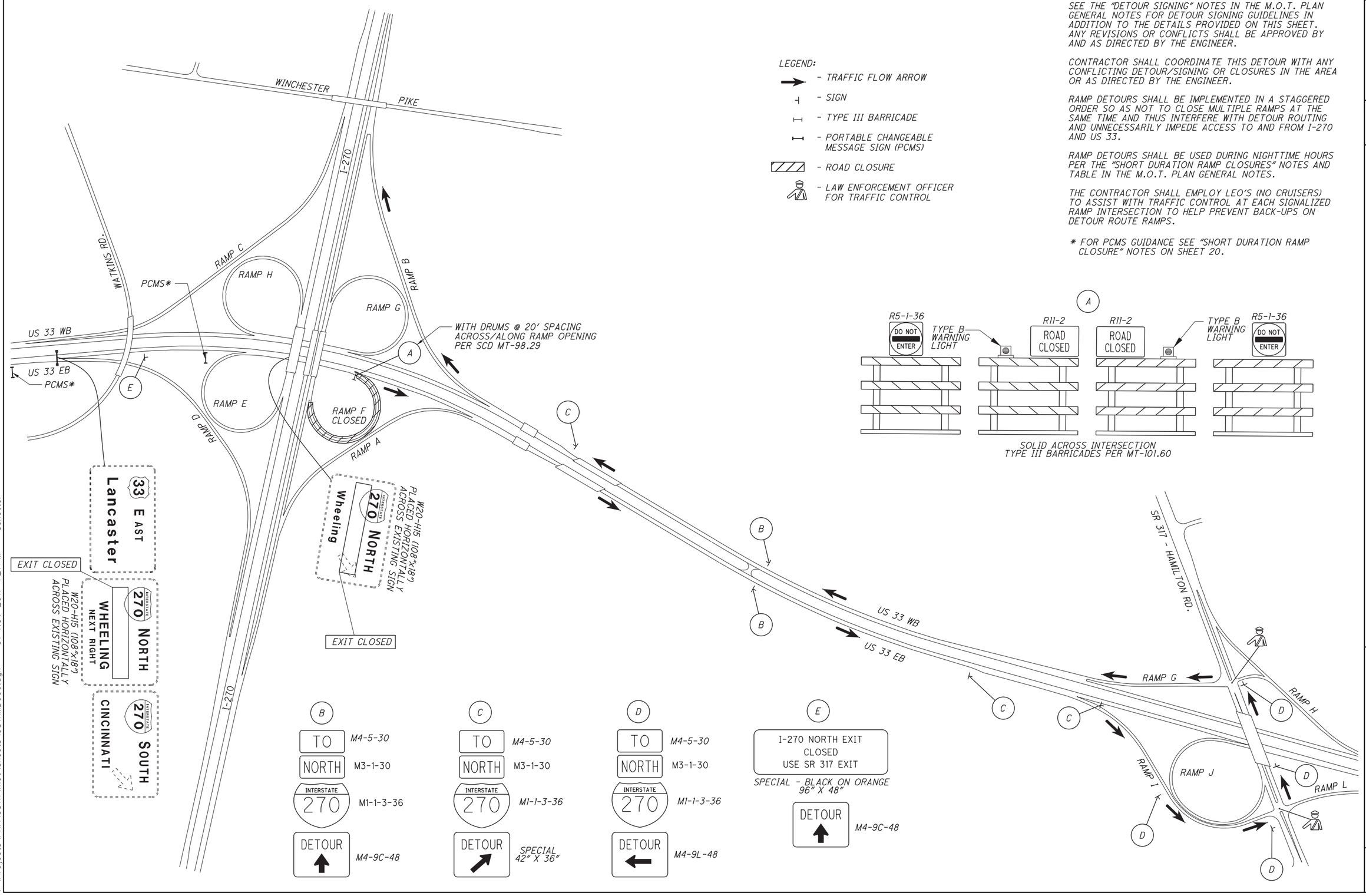
DETOUR PLAN
RAMP E - I-270 SB TO US 33 EB

FRA-33-24.26

33
287

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



LEGEND:

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

NOTES:

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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.

SOLID ACROSS INTERSECTION
TYPE III BARRICADES PER MT-101.60

B

TO	M4-5-30
NORTH	M3-1-30
INTERSTATE 270	M1-1-3-36
DETOUR	M4-9C-48

C

TO	M4-5-30
NORTH	M3-1-30
INTERSTATE 270	M1-1-3-36
DETOUR	SPECIAL 42" X 36"

D

TO	M4-5-30
NORTH	M3-1-30
INTERSTATE 270	M1-1-3-36
DETOUR	M4-9L-48

E

I-270 NORTH EXIT CLOSED USE SR 317 EXIT

SPECIAL - BLACK ON ORANGE 96" X 48"

DETOUR M4-9C-48

HORIZONTAL SCALE IN FEET: 0, 150, 300, 600

CALCULATED EJC CHECKED ABS

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

FRA-33-24.26

34
287

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

NOTES:

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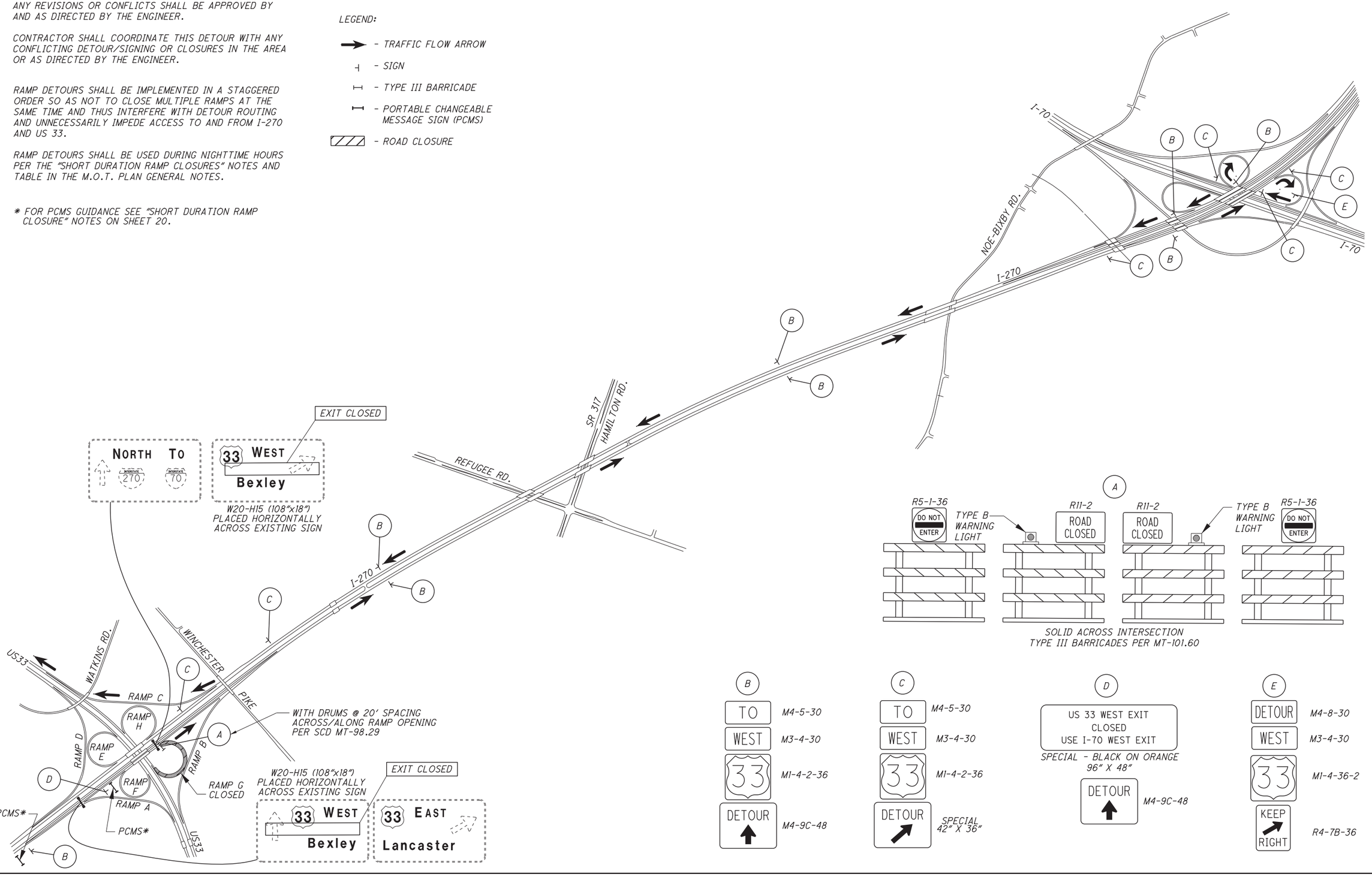
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* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.

LEGEND:

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



SOLID ACROSS INTERSECTION
TYPE III BARRICADES PER MT-101.60

B

C

D

US 33 WEST EXIT
CLOSED
USE I-70 WEST EXIT

SPECIAL - BLACK ON ORANGE
96" X 48"

E

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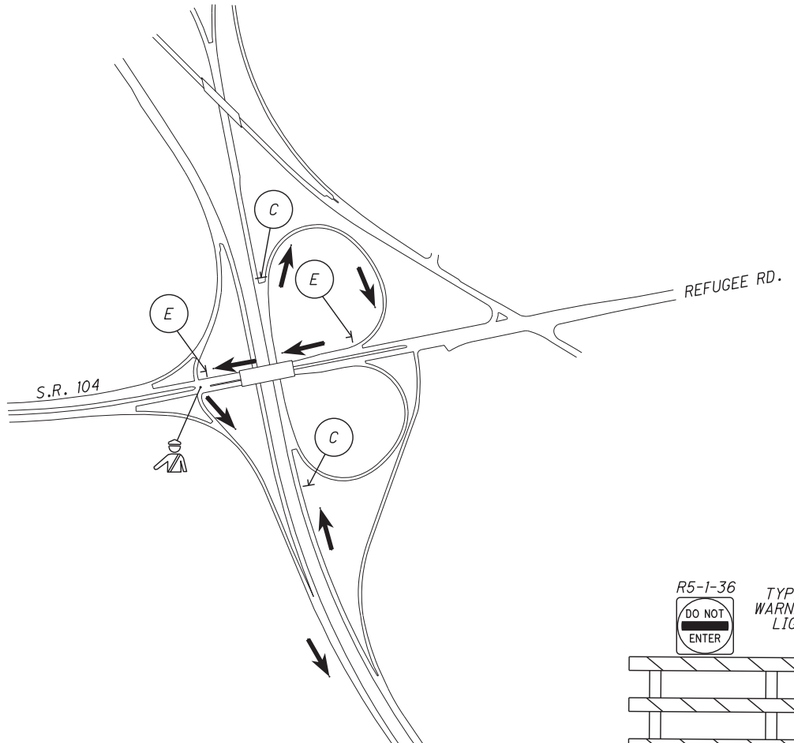


CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

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



NOTES:

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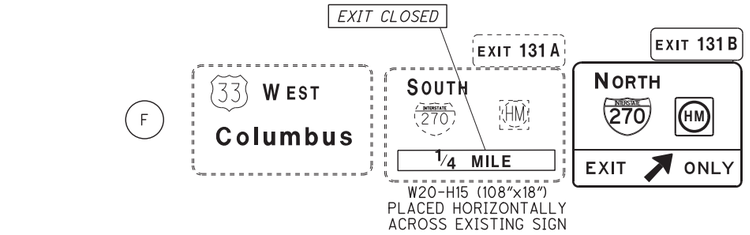
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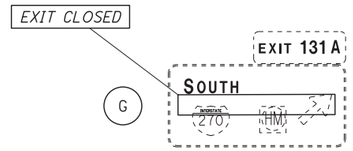
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THE CONTRACTOR SHALL EMPLOY LEO'S (NO CRUISERS) TO ASSIST WITH TRAFFIC CONTROL AT EACH SIGNALIZED RAMP INTERSECTION TO HELP PREVENT BACK-UPS ON DETOUR ROUTE RAMPS.

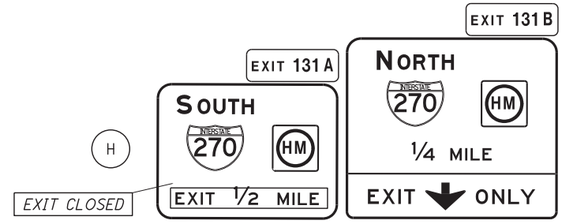
* FOR PCMS GUIDANCE SEE "SHORT DURATION RAMP CLOSURE" NOTES ON SHEET 20.



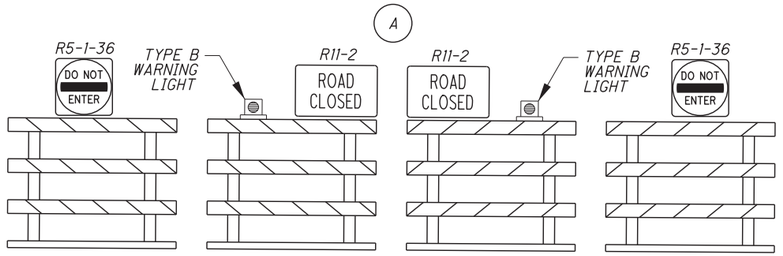
W20-H15 (108"x18")
PLACED HORIZONTALLY
ACROSS EXISTING SIGN



W20-H15 (108"x18")
PLACED HORIZONTALLY
ACROSS EXISTING SIGN



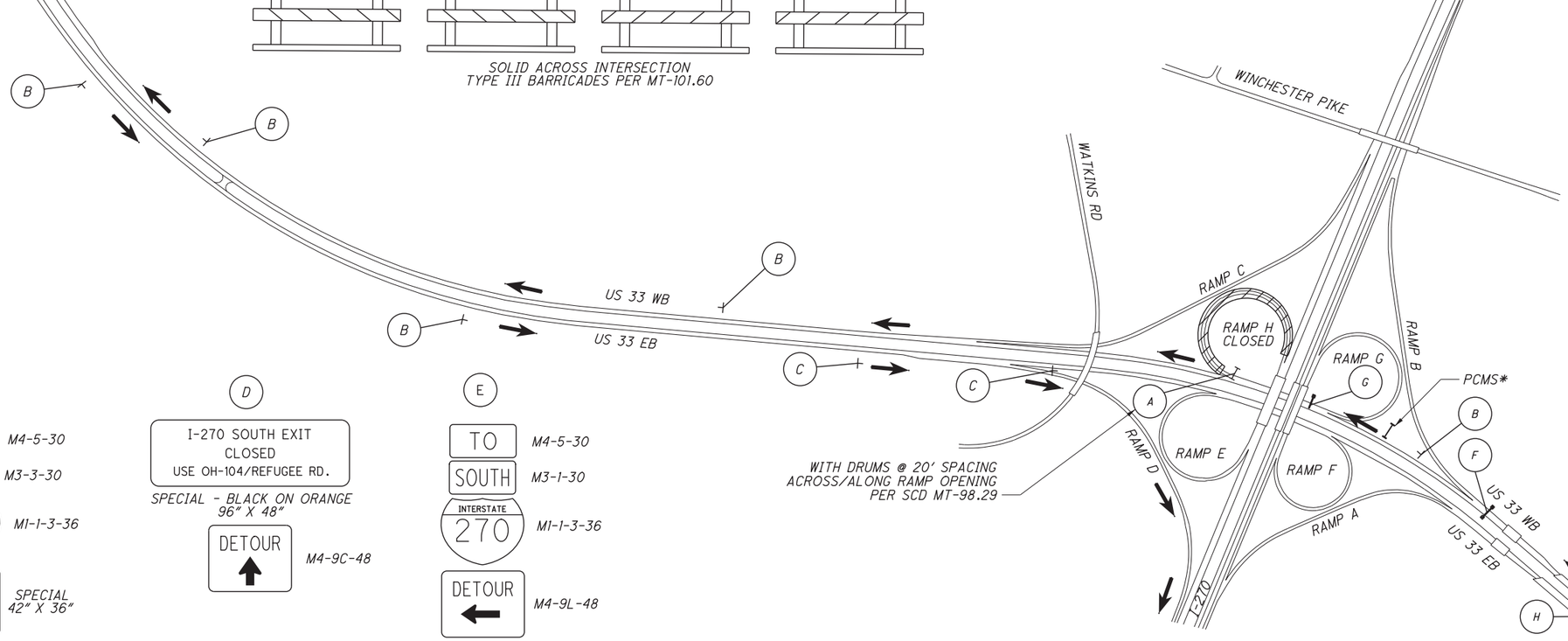
W20-H15 (108"x18")
PLACED HORIZONTALLY
ACROSS EXISTING SIGN



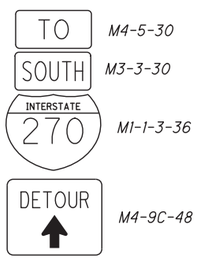
SOLID ACROSS INTERSECTION
TYPE III BARRICADES PER MT-101.60

LEGEND:

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

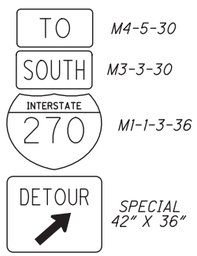


B



M4-5-30
M3-3-30
M1-1-3-36
M4-9C-48

C



M4-5-30
M3-3-30
M1-1-3-36
SPECIAL
42" X 36"

D

I-270 SOUTH EXIT
CLOSED
USE OH-104/REFUGEE RD.

SPECIAL - BLACK ON ORANGE
96" X 48"

M4-9C-48

E

M4-5-30
M3-1-30
M1-1-3-36
M4-9L-48

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HORIZONTAL SCALE IN FEET
0 200 400 800

CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

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.

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.

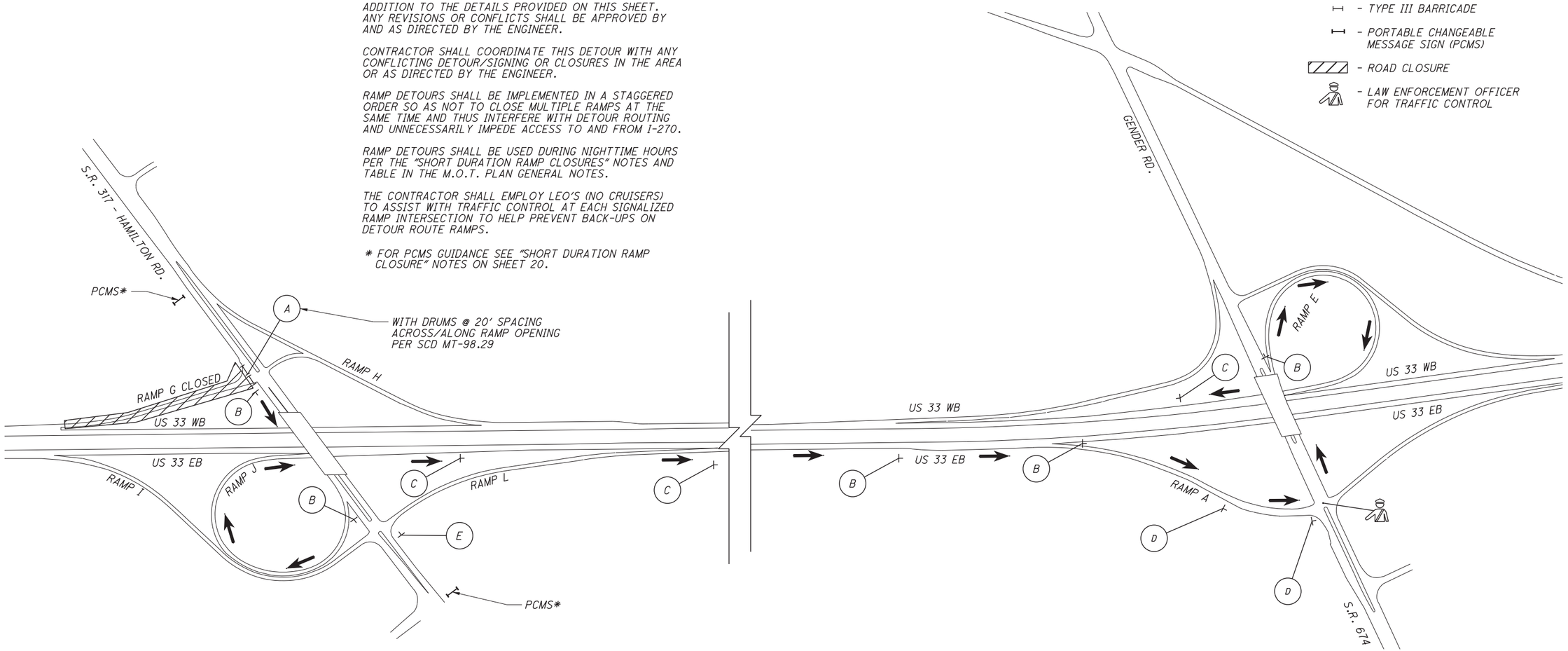
RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

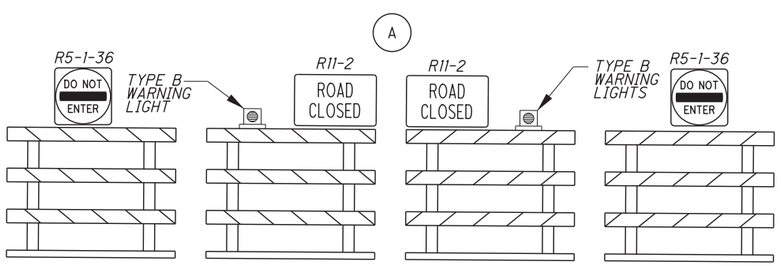
THE CONTRACTOR SHALL EMPLOY LEO'S (NO CRUISERS) TO ASSIST WITH TRAFFIC CONTROL AT EACH SIGNALIZED RAMP INTERSECTION TO HELP PREVENT BACK-UPS ON DETOUR ROUTE RAMPS.

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

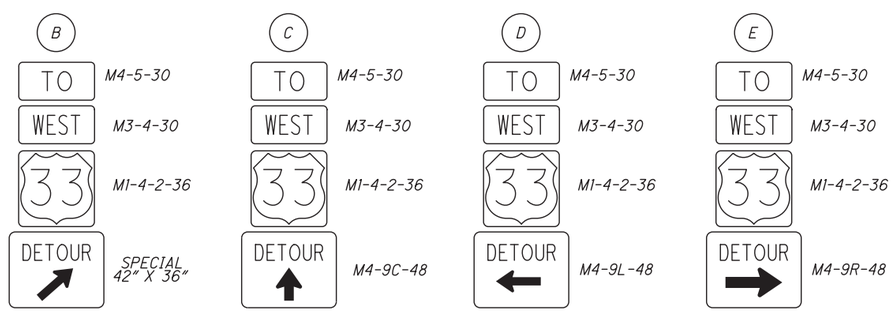
LEGEND:

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





SOLID ACROSS INTERSECTION
TYPE III BARRICADES PER MT-101.60



HORIZONTAL SCALE IN FEET
0 125 250 500

CALCULATED EJC
CHECKED ABS

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:

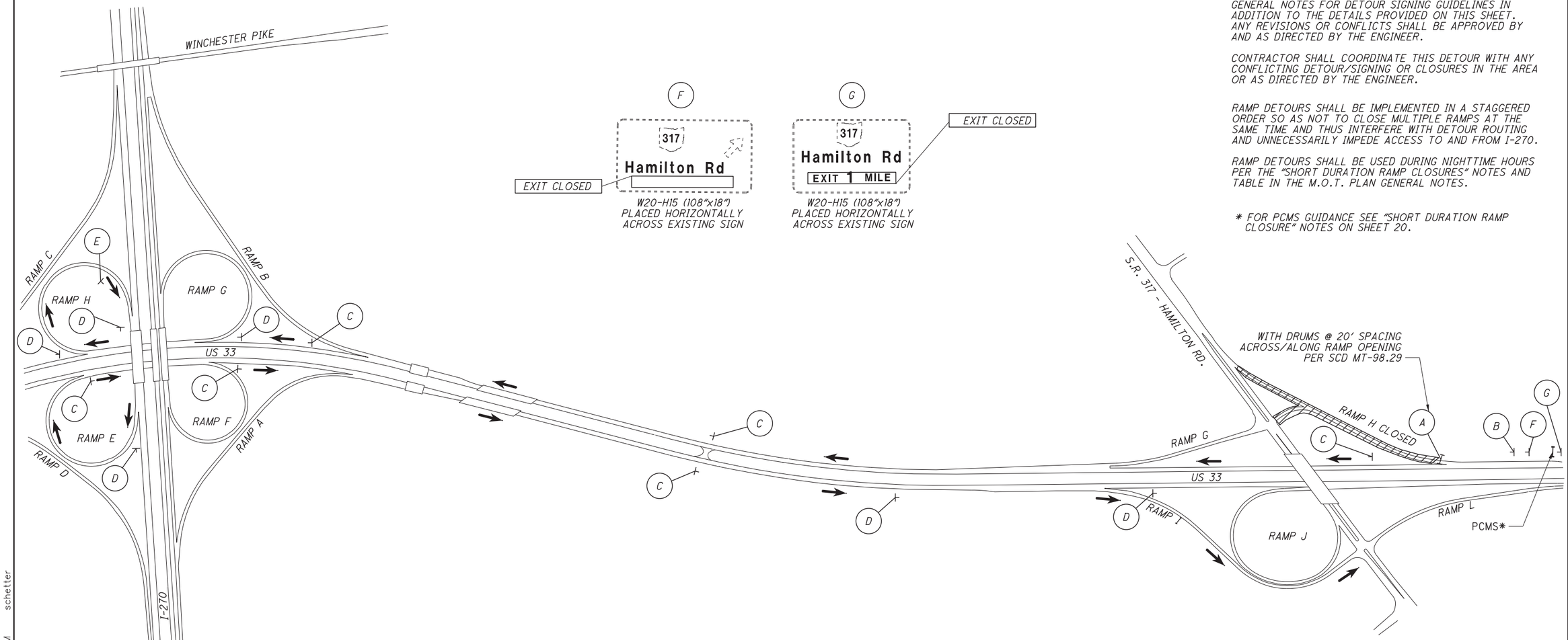
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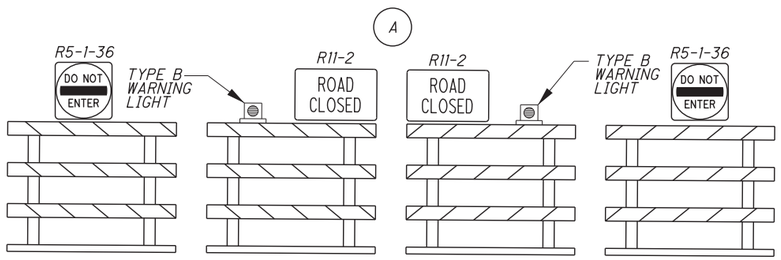
CONTRACTOR SHALL COORDINATE THIS DETOUR WITH ANY CONFLICTING DETOUR/SIGNING OR CLOSURES IN THE AREA OR AS DIRECTED BY THE ENGINEER.

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.





SOLID ACROSS INTERSECTION
TYPE III BARRICADES PER MT-101.60

B

S.R. 317 EXIT
CLOSED
USE I-270 SOUTH EXIT

SPECIAL - BLACK ON ORANGE 96" X 48"

C

TO M4-5-30
HAMILTON RD D3-H3 60"x18"
317 M1-5-36-3
DETOUR M4-9C-48

D

TO M4-5-30
HAMILTON RD D3-H3 60"x18"
317 M1-5-36-3
DETOUR SPECIAL 42" X 36"

E

DETOUR M4-8-30
HAMILTON RD D3-H3 60"x18"
317 M1-5-36-3
KEEP RIGHT R4-7B-36

LEGEND:

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

HORIZONTAL SCALE IN FEET
0 125 250 500

CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

38
287

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

NOTES:

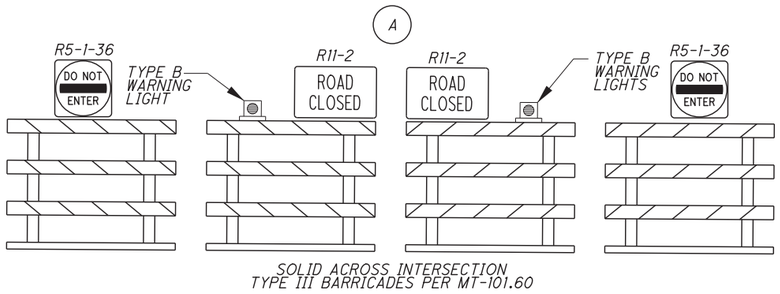
SEE THE "DETOUR SIGNING" NOTES IN THE M.O.T. PLAN GENERAL NOTES FOR DETOUR SIGNING GUIDELINES IN ADDITION TO THE DETAILS PROVIDED ON THIS SHEET. ANY REVISIONS OR CONFLICTS SHALL BE APPROVED BY AND AS DIRECTED BY THE ENGINEER.

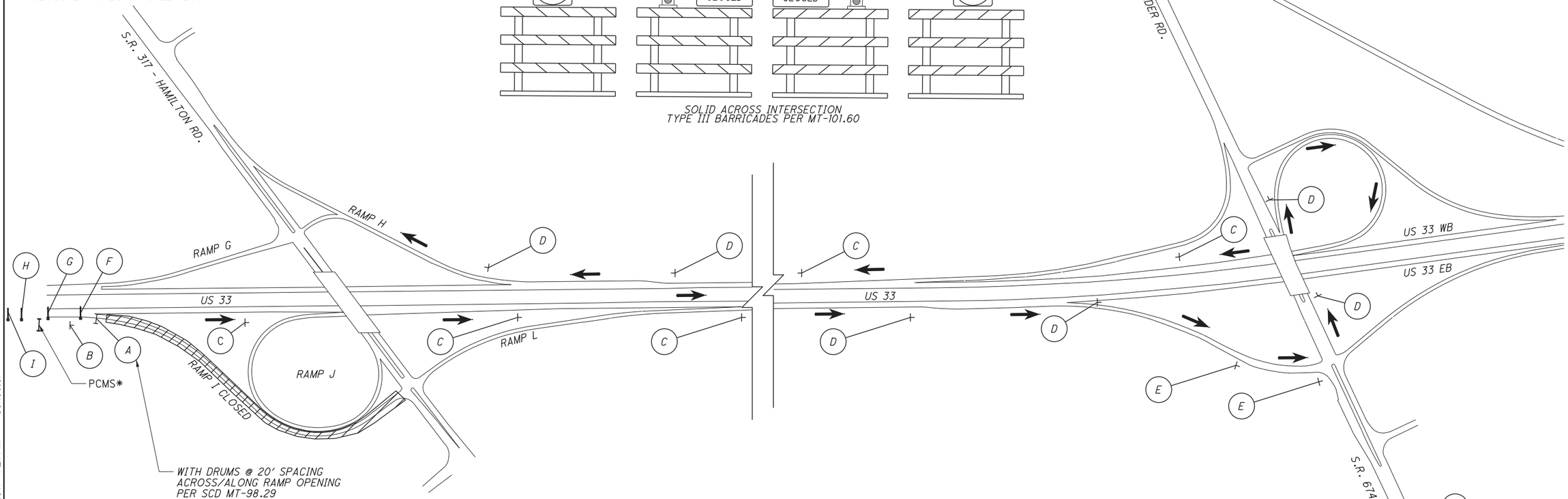
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RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMPS AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270.

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.





B

HAMILTON RD EXIT
CLOSED
USE GENDER RD EXIT

SPECIAL - BLACK ON ORANGE
96" X 48"

C

TO M4-5-30
HAMILTON RD D3-H3 60" X 18"
317 M1-5-36-3
DETOUR M4-9C-48

D

TO M4-5-30
HAMILTON RD D3-H3 60" X 18"
317 M1-5-36-3
DETOUR SPECIAL 42" X 36"

E

TO M4-5-30
HAMILTON RD D3-H3 60" X 18"
317 M1-5-36-3
DETOUR M4-9L-48

F

EXIT CLOSED



W20-H15 (108"x18")
PLACED HORIZONTALLY
ACROSS EXISTING SIGN

G

EXIT CLOSED



W20-H15 (108"x18")
PLACED HORIZONTALLY
ACROSS EXISTING SIGN

H

EXIT CLOSED



W20-H15 (108"x18")
PLACED HORIZONTALLY
ACROSS EXISTING SIGN

I

EXIT CLOSED



W20-H15 (108"x18")
PLACED HORIZONTALLY
ACROSS EXISTING SIGN

LEGEND:

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

HORIZONTAL SCALE IN FEET
0 125 250 500

CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

39
287

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

NOTES:

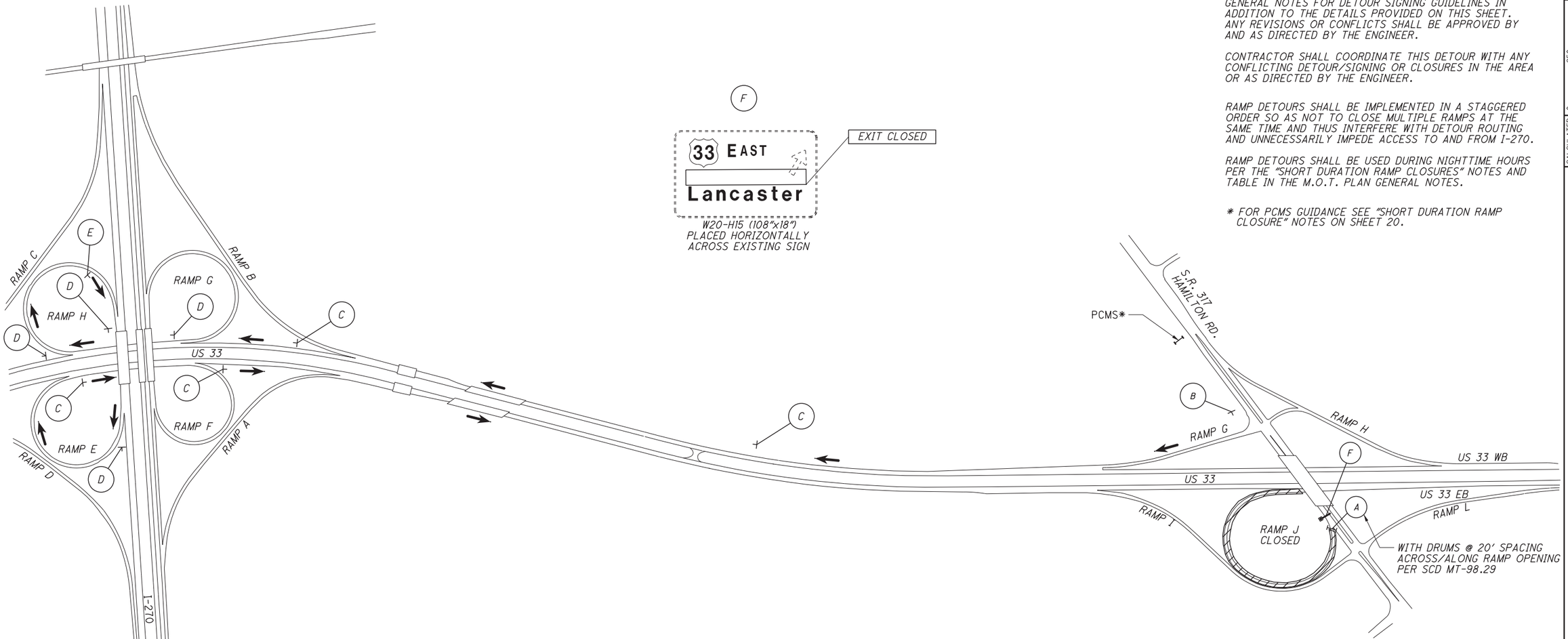
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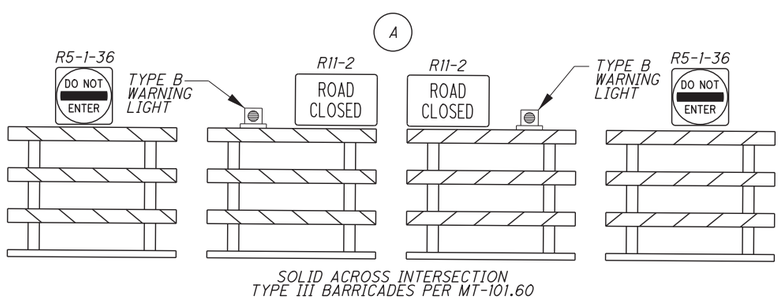
CONTRACTOR SHALL COORDINATE THIS DETOUR WITH ANY CONFLICTING DETOUR/SIGNING OR CLOSURES IN THE AREA OR AS DIRECTED BY THE ENGINEER.

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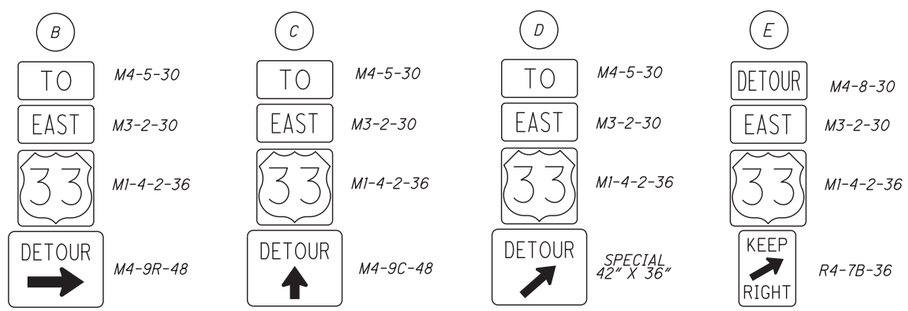
RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

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





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

HORIZONTAL SCALE IN FEET
0 125 250 500

CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

40
287

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

NOTES:

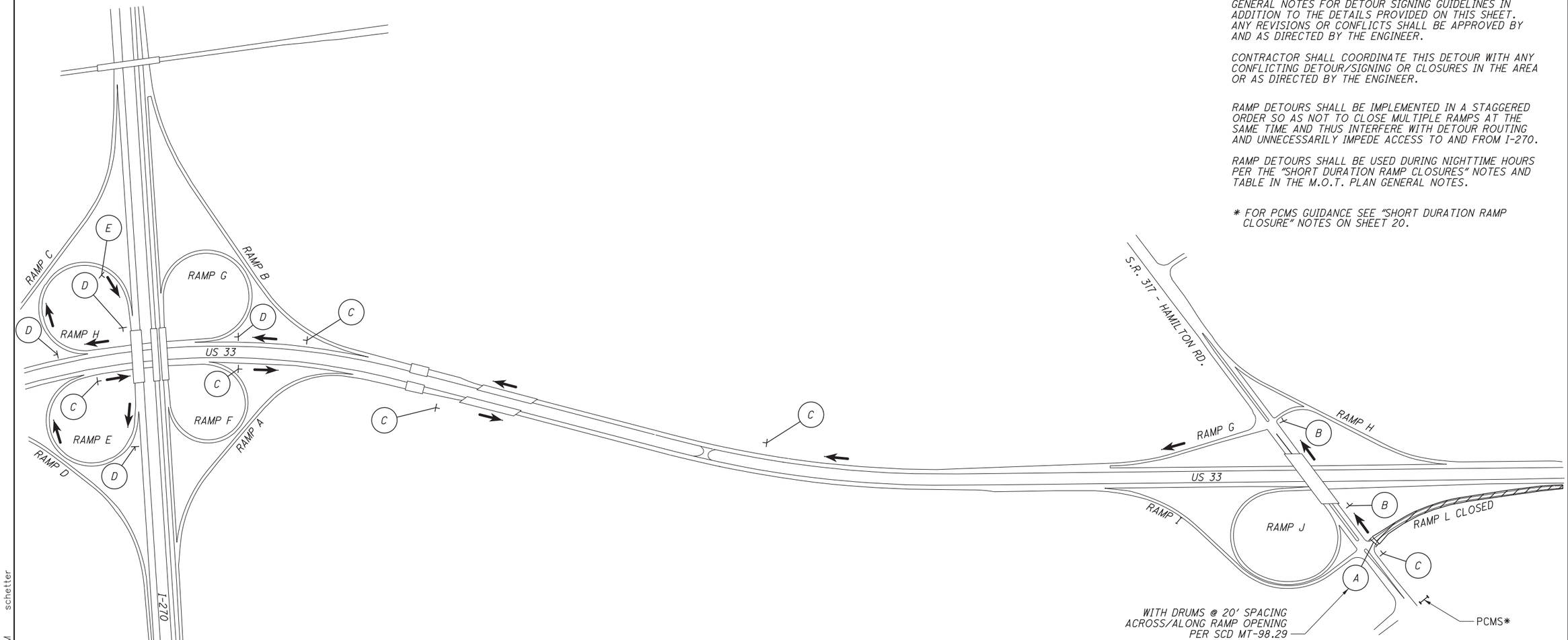
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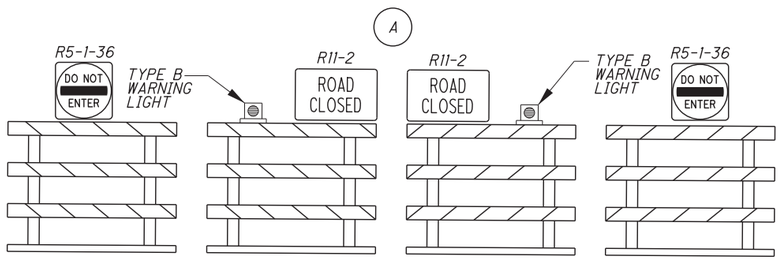
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RAMP DETOURS SHALL BE IMPLEMENTED IN A STAGGERED ORDER SO AS NOT TO CLOSE MULTIPLE RAMPS AT THE SAME TIME AND THUS INTERFERE WITH DETOUR ROUTING AND UNNECESSARILY IMPEDE ACCESS TO AND FROM I-270.

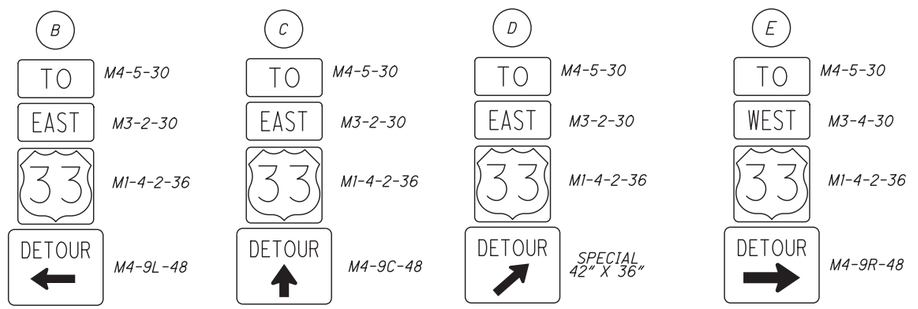
RAMP DETOURS SHALL BE USED DURING NIGHTTIME HOURS PER THE "SHORT DURATION RAMP CLOSURES" NOTES AND TABLE IN THE M.O.T. PLAN GENERAL NOTES.

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





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

HORIZONTAL SCALE IN FEET
0 125 250 500

CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

41
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
- - 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

N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

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

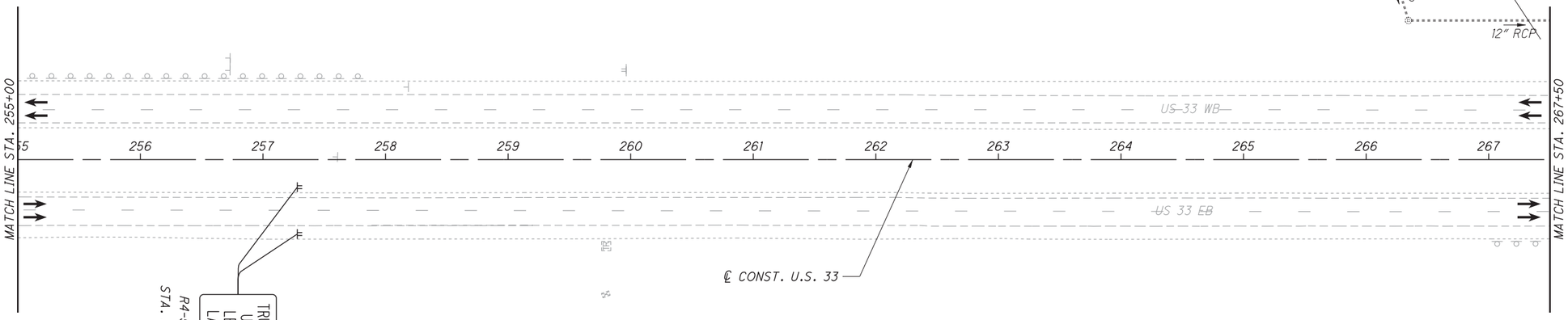
FRA-33-24.26

42
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
- - 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



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N

HORIZONTAL SCALE IN FEET
0 25 50 100

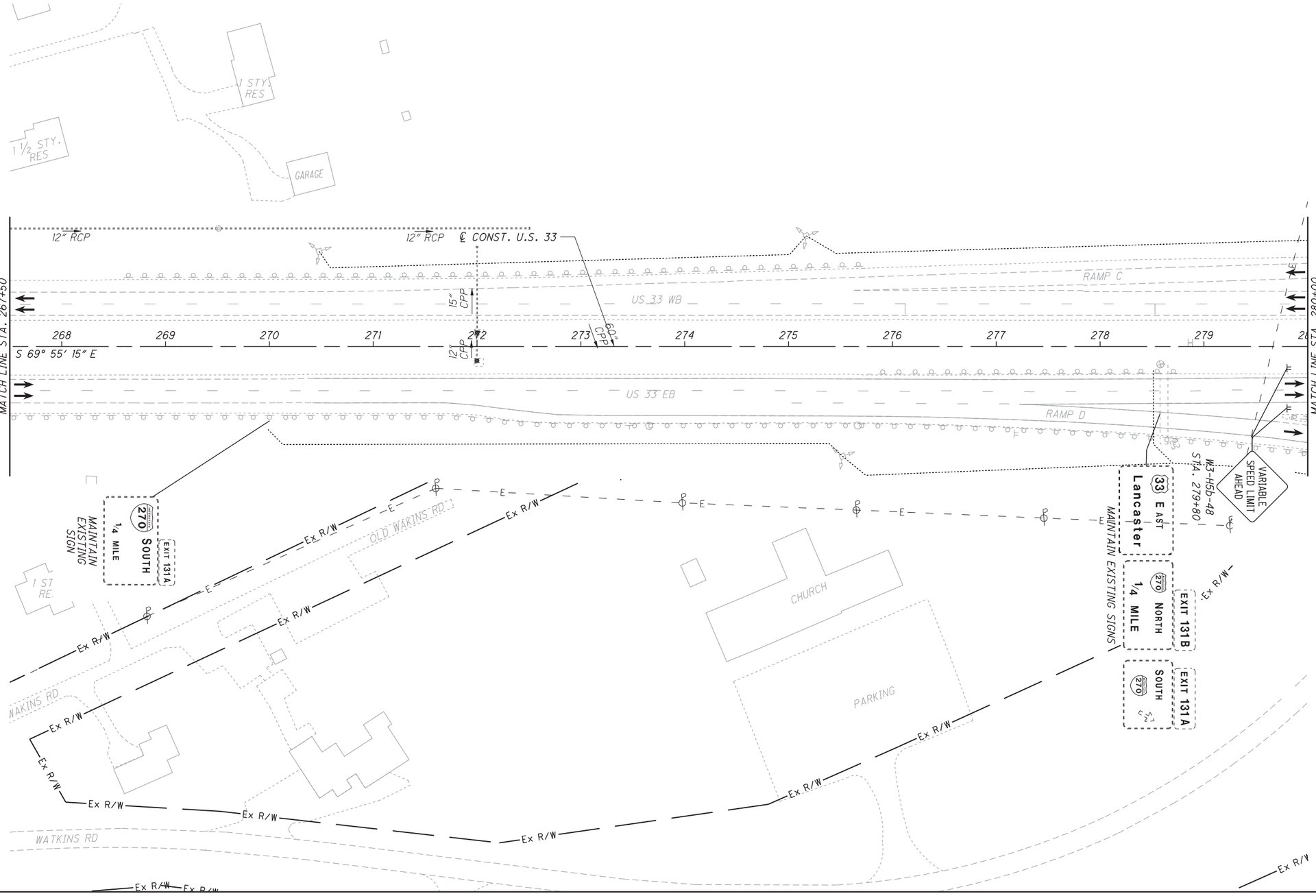
CALCULATED EJC
CHECKED ABS

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
- - 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



N

HORIZONTAL SCALE IN FEET
0 25 50 100

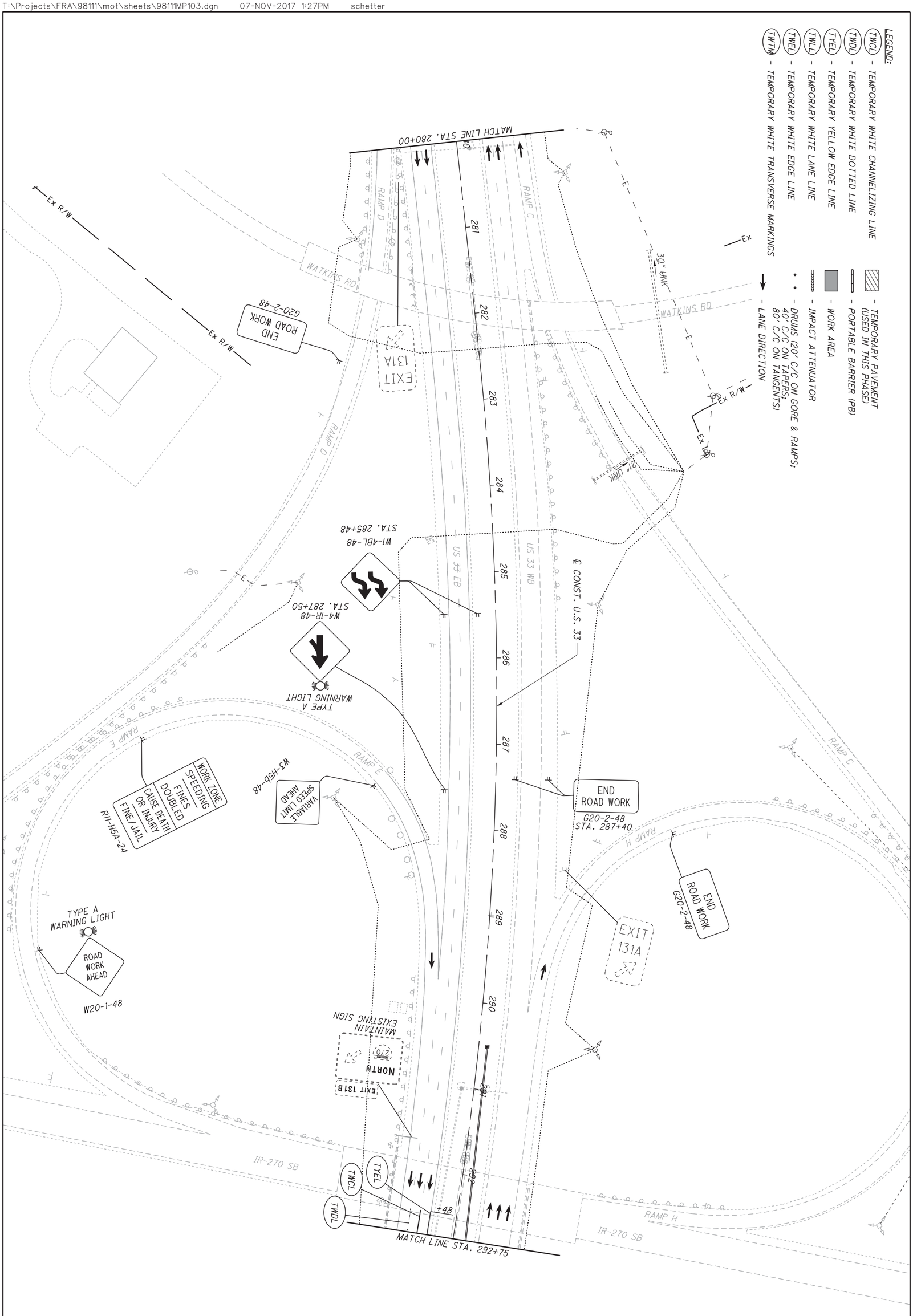
CALCULATED EJC
CHECKED ABS

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

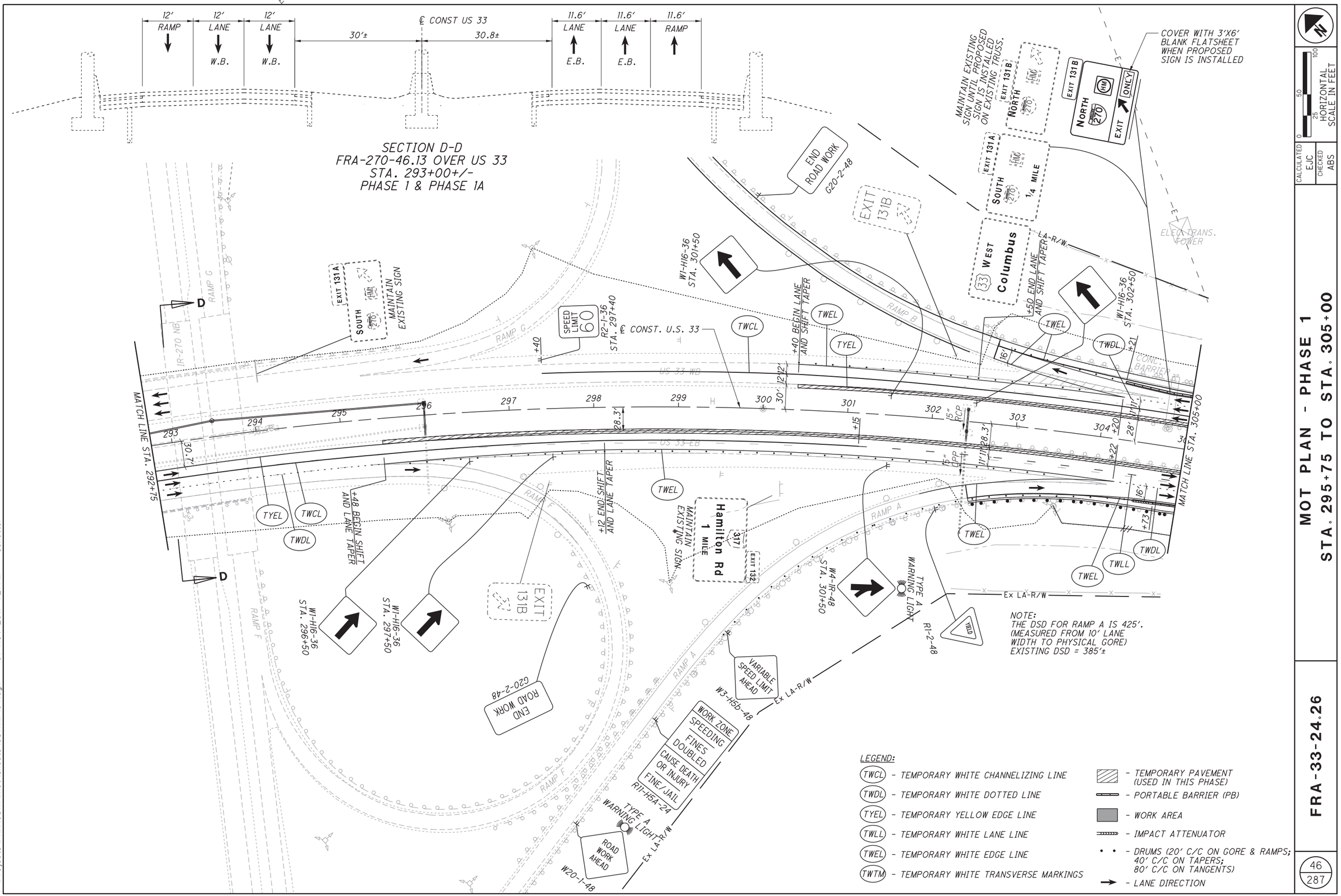
FRA-33-24.26

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45 / 287	FRA-33-24.26	MOT PLAN - PHASE 1 STA. 280+00 TO STA. 292+75	CALCULATED EJC CHECKED ABS	0 50 25 100 HORIZONTAL SCALE IN FEET



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

MOT PLAN - PHASE 1
STA. 295+75 TO STA. 305+00

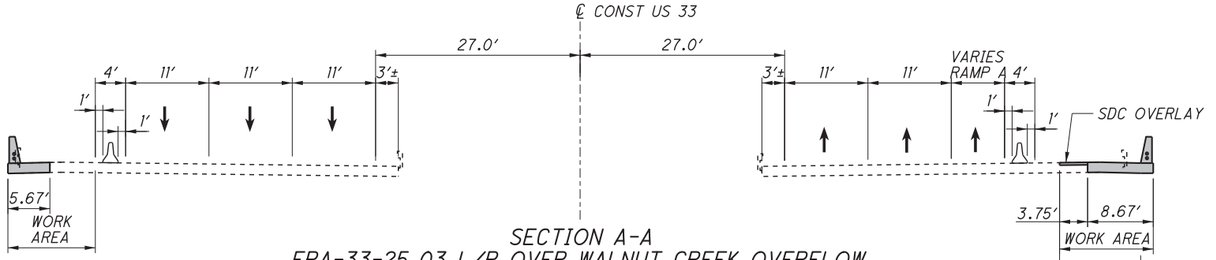
FRA-33-24.26

46
287

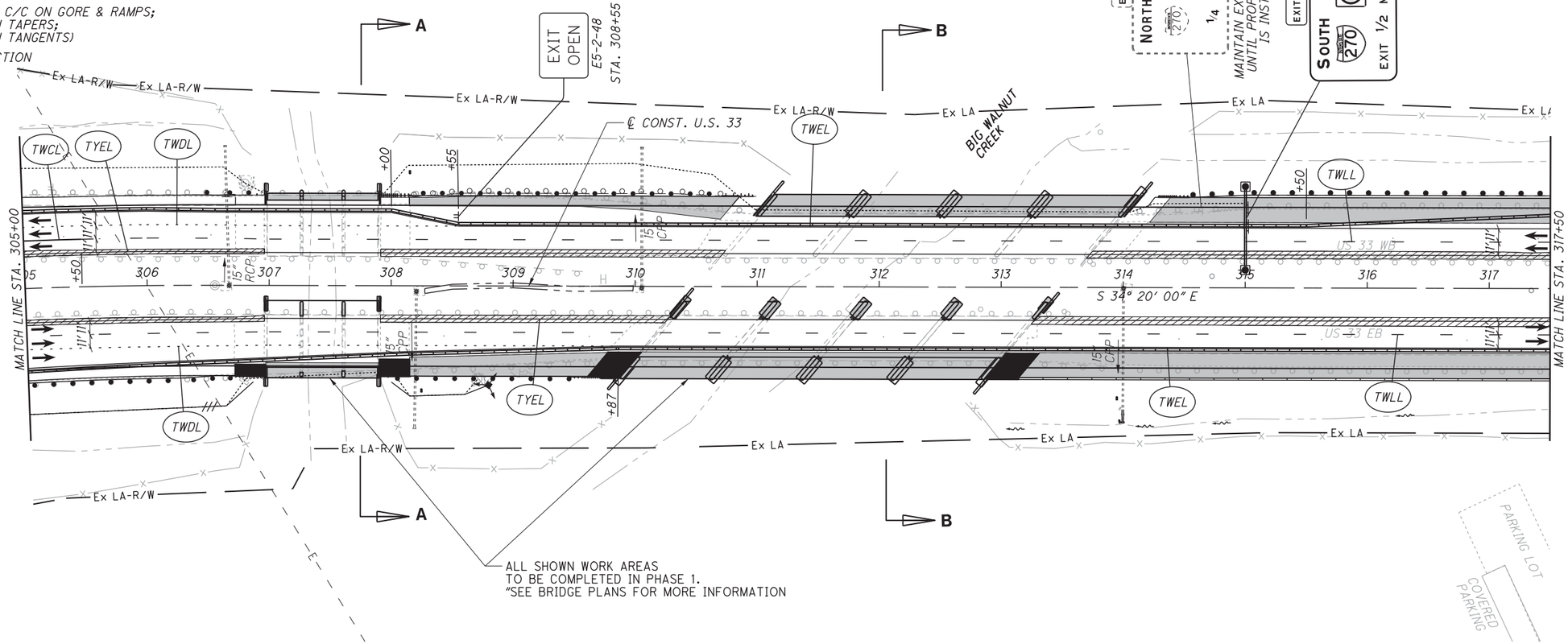
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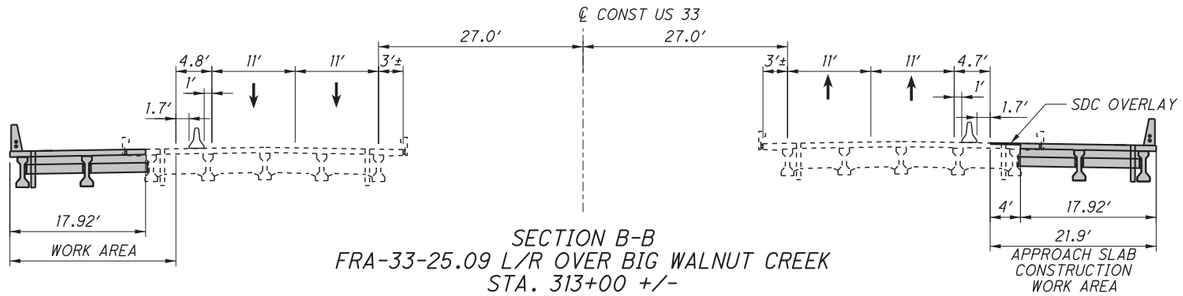
LEGEND:

- (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
- TEMPORARY PAVEMENT (USED IN THIS PHASE)
- PORTABLE BARRIER (PB)
- WORK AREA
- PROPOSED APPROACH SLAB WORK
- 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 1 - REMOVAL & CONSTRUCTION
(RAMPS A & B OPEN)





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

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

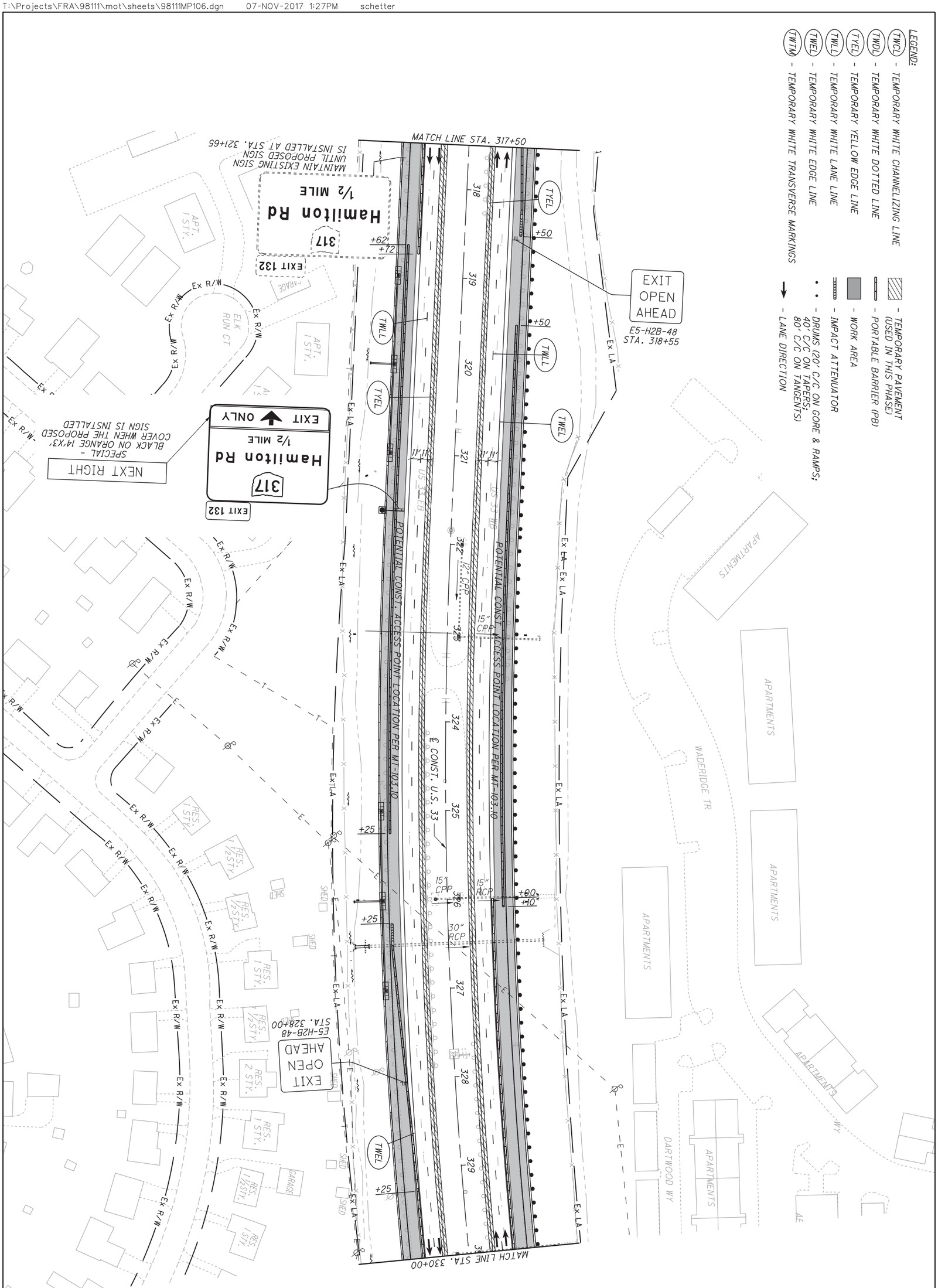
MOT PLAN - PHASE 1
STA. 305+00 TO STA. 317+50

FRA-33-24.26

47
287

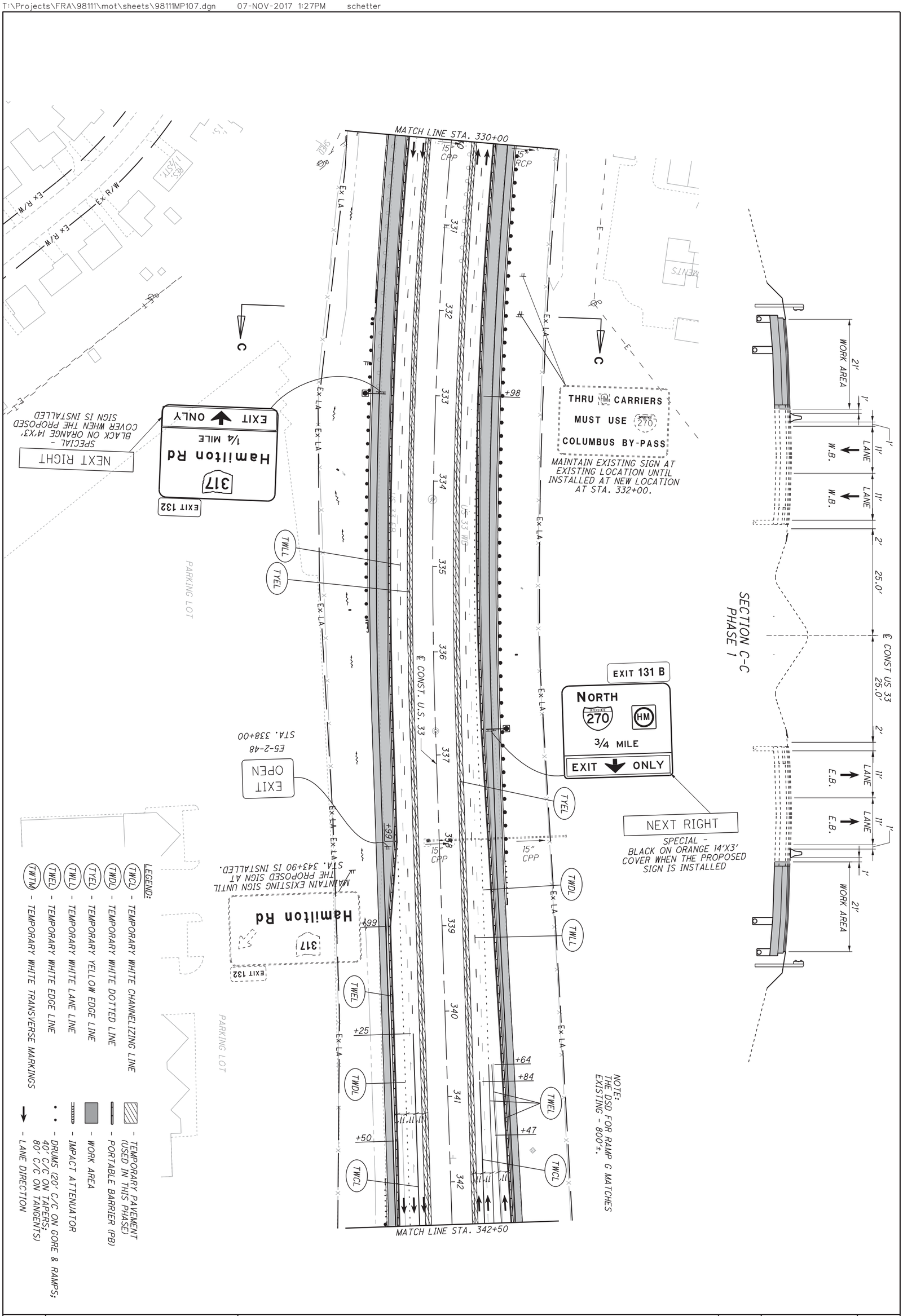
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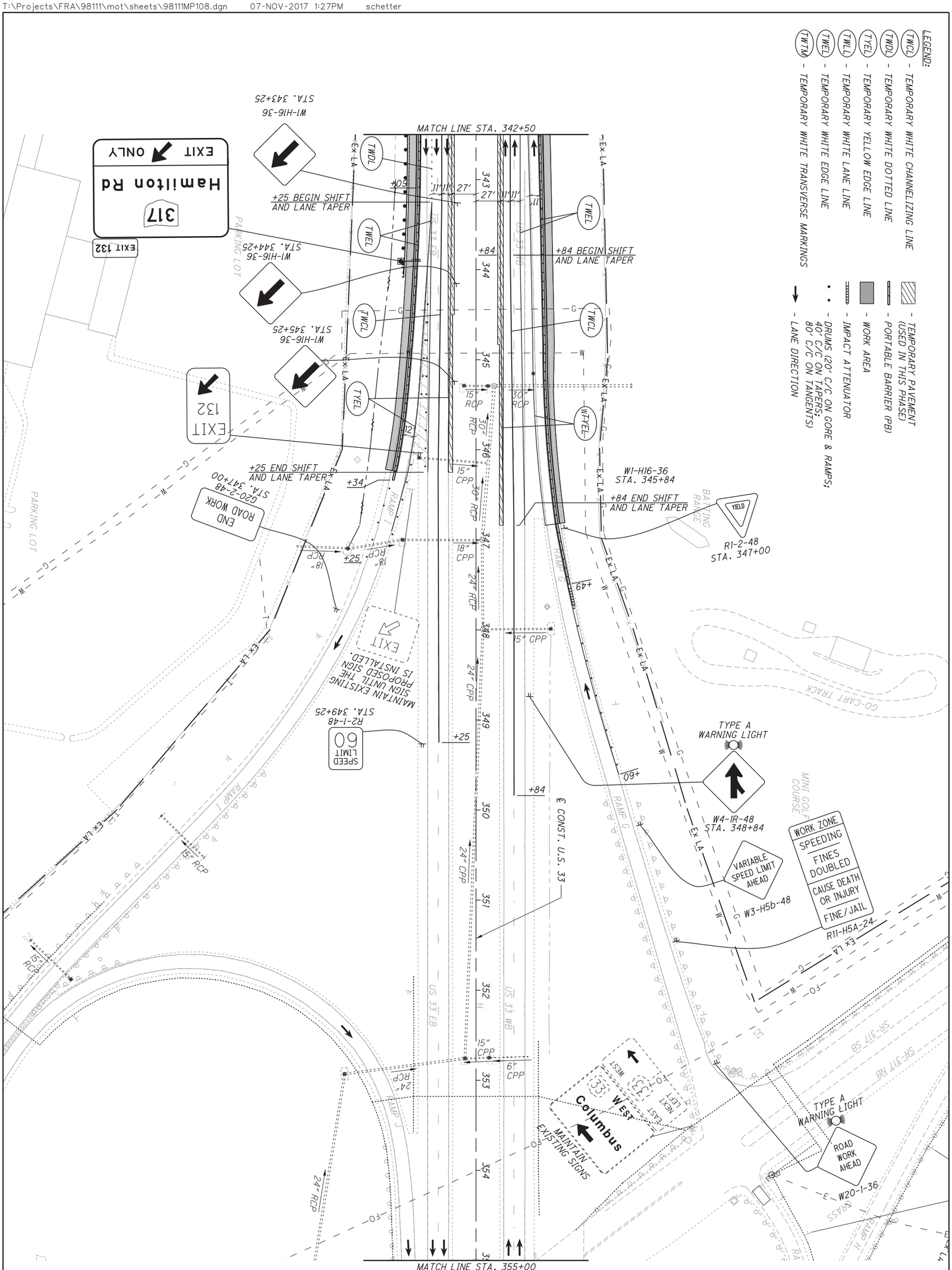
48 / 287	FRA-33-24.26	MOT PLAN - PHASE 1 STA. 317+50 TO STA. 330+00	CALCULATED EJC CHECKED ABS	0 50 25 100 HORIZONTAL SCALE IN FEET

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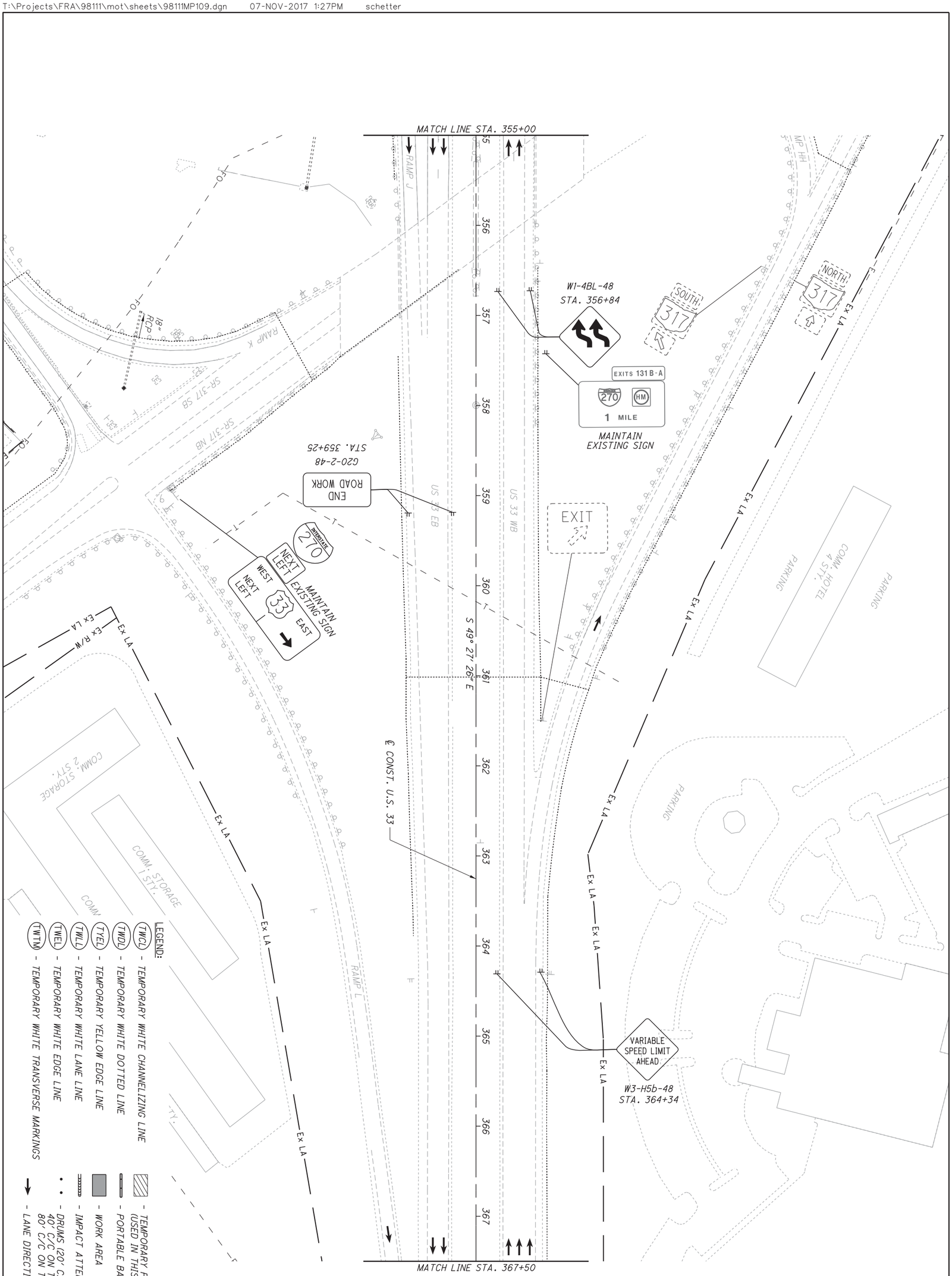
49 / 287	FRA-33-24.26	MOT PLAN - PHASE 1 STA. 330+00 TO STA. 342+50	CALCULATED EJC CHECKED ABS	0 50 25 100 HORIZONTAL SCALE IN FEET

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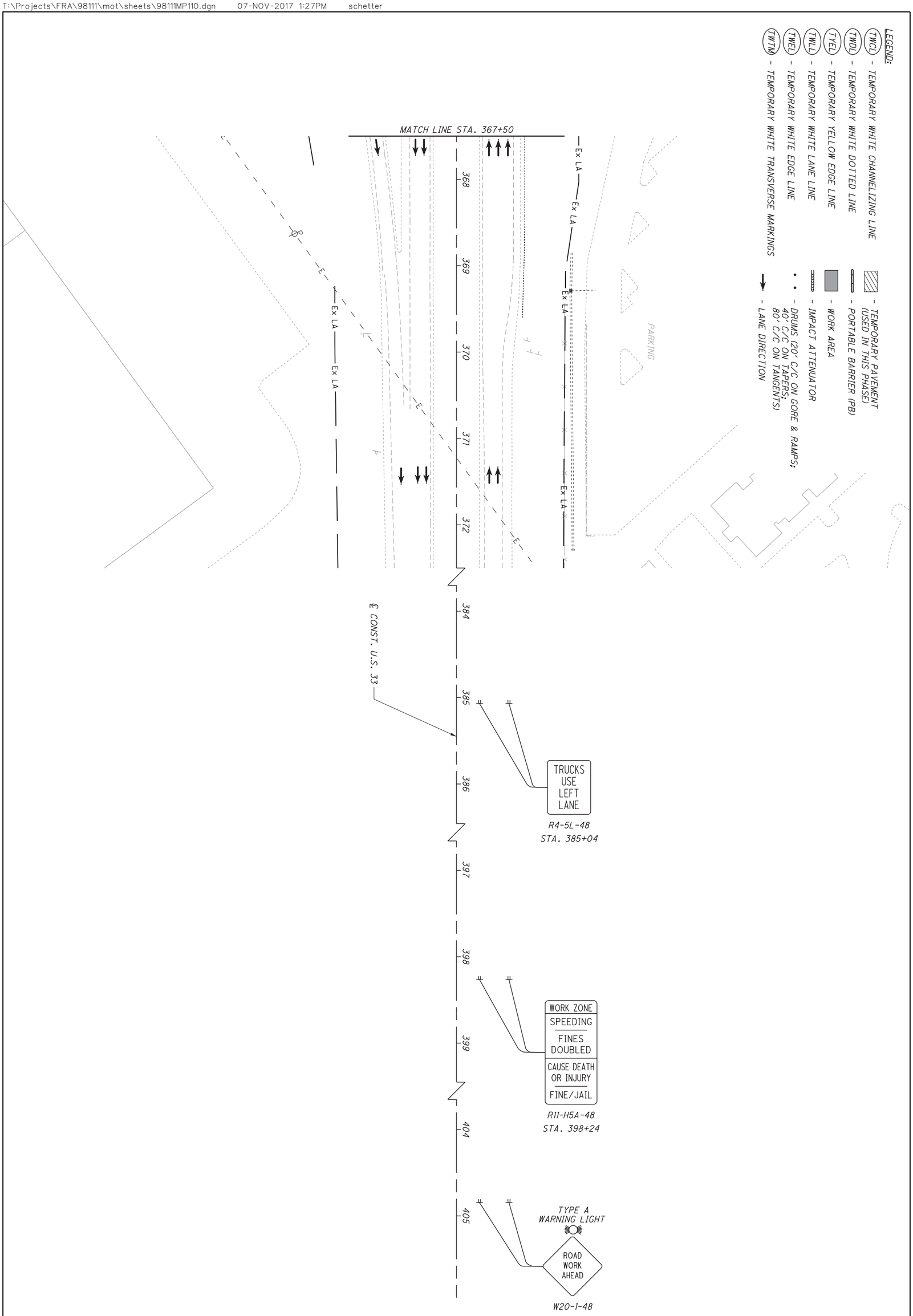


50 / 287	FRA-33-24.26	MOT PLAN - PHASE 1 STA. 342+50 TO STA. 355+00	CALCULATED EJC CHECKED ABS	0 50 25 100 HORIZONTAL SCALE IN FEET

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51 / 287	FRA-33-24.26	MOT PLAN - PHASE 1 STA. 355+00 TO STA. 367+50	CALCULATED EJC CHECKED ABS	0 50 25 100 HORIZONTAL SCALE IN FEET



52 / 287	FRA-33-24.26	MOT PLAN - PHASE 1 STA. 367+50 TO END WORK	CALCULATED EJC CHECKED ABS 0 25 50 100 HORIZONTAL SCALE IN FEET

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
- - 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

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.

N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

53
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
- - 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

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.

MATCH LINE STA. 280+00

WATKINS RD.

30" UNK

12" UNK

Ex R/W

Ex L&P

RAMP C

RAMP H

EXIT 131A

℄ CONST. U.S. 33

US 33 WB

US 33 EB

280 281 282 283 284 285 286 287 288 289 290 291 292 +48

MATCH LINE STA. 292+75

IR-270 SB

RAMP D

RAMP E

MAINTAINING EXISTING SIGN

NORTH

EXIT 131B

Ex R/W

Ex R/W

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N

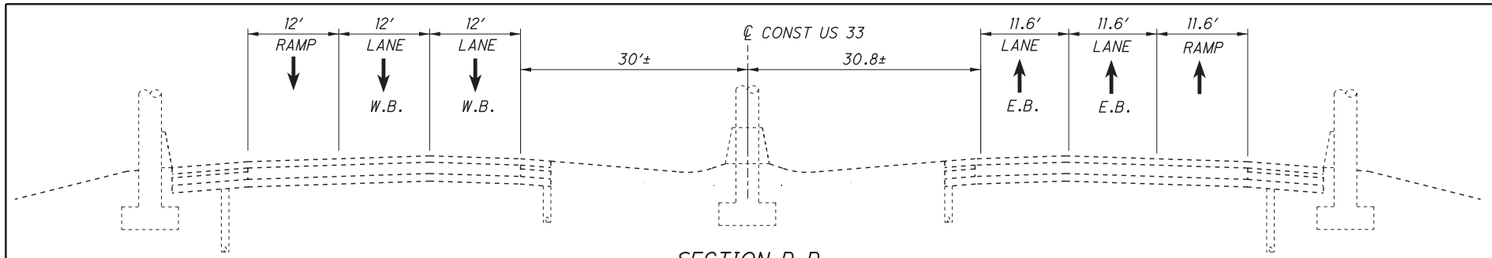
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

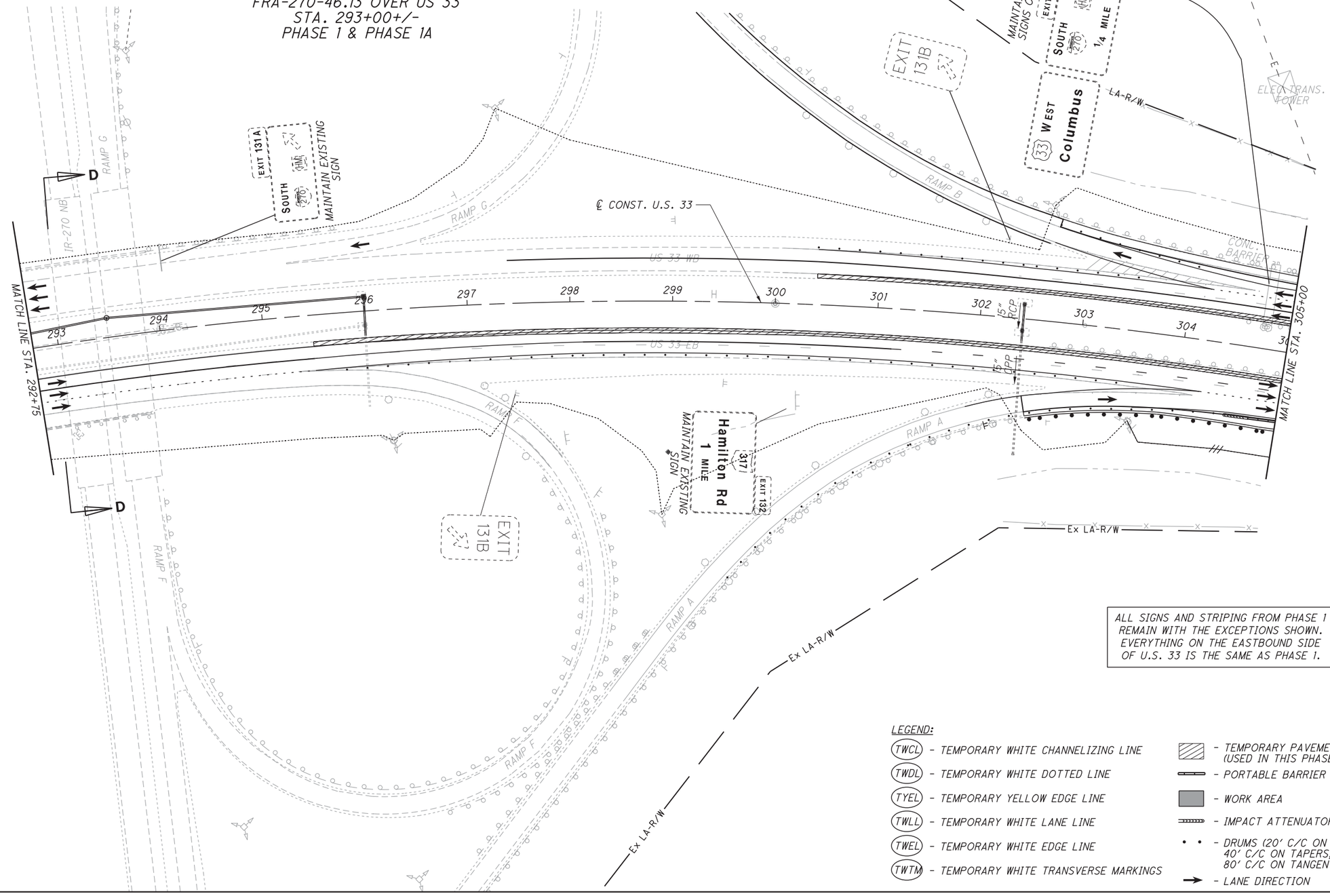
MOT PLAN - PHASE 1A
STA. 280+00 TO STA. 292+75

FRA-33-24.26

54
287



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
- - 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

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

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

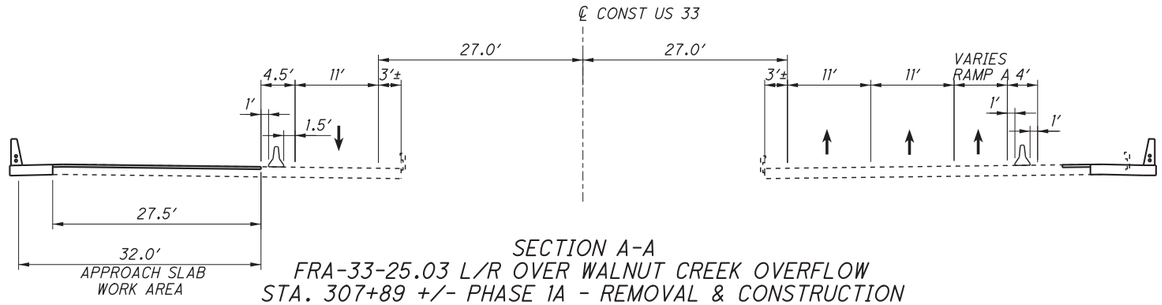
FRA-33-24.26

55
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
- TEMPORARY PAVEMENT (USED IN THIS PHASE)
- PORTABLE BARRIER (PB)
- WORK AREA
- PROPOSED APPROACH SLAB WORK
- 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 1A - REMOVAL & CONSTRUCTION
(WEEKEND WORK ONLY - LIMITED PER PIAC APPROACH; 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"

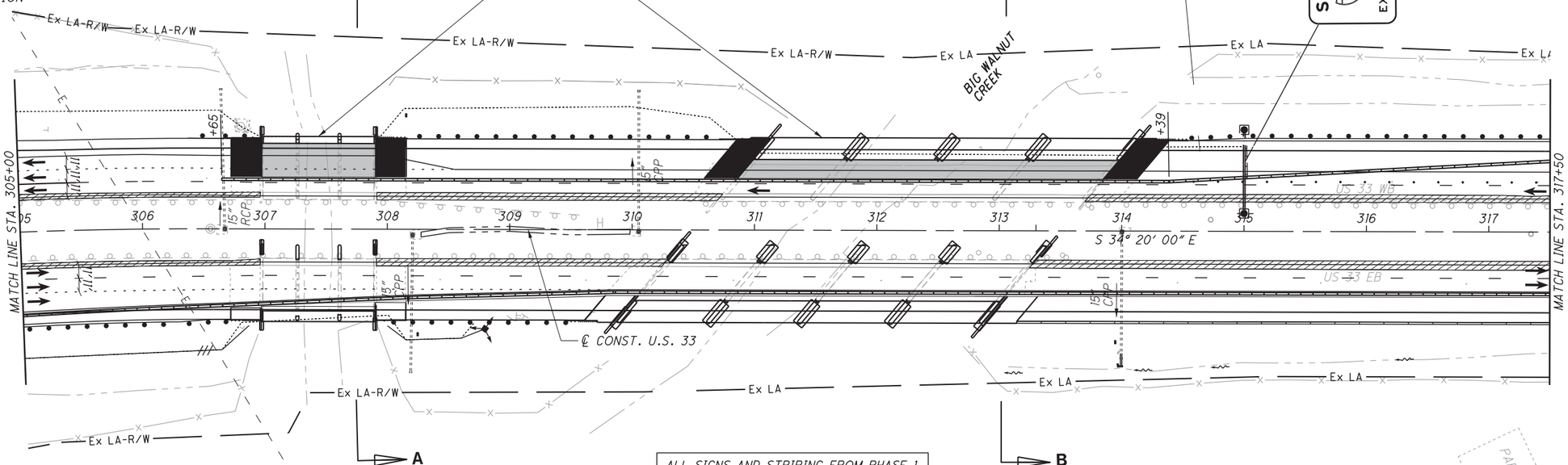
NEXT RIGHT

SPECIAL - BLACK ON ORANGE 14"X3'

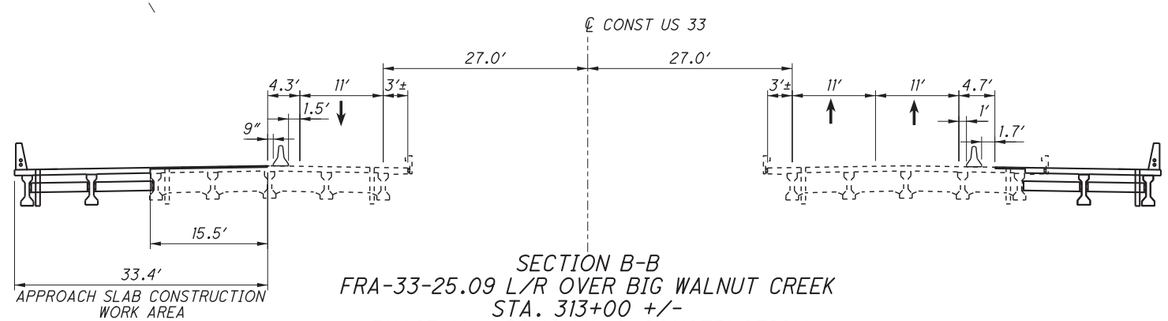
EXIT 131B — NORTH 270 — 1/4 MILE — EXIT ONLY

EXIT 131B — NORTH 270 — 1/4 MILE

EXIT 131A — SOUTH 270 — EXIT 1/2 MILE



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.



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 APPROACH; SEE MOT NOTES)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

56
287

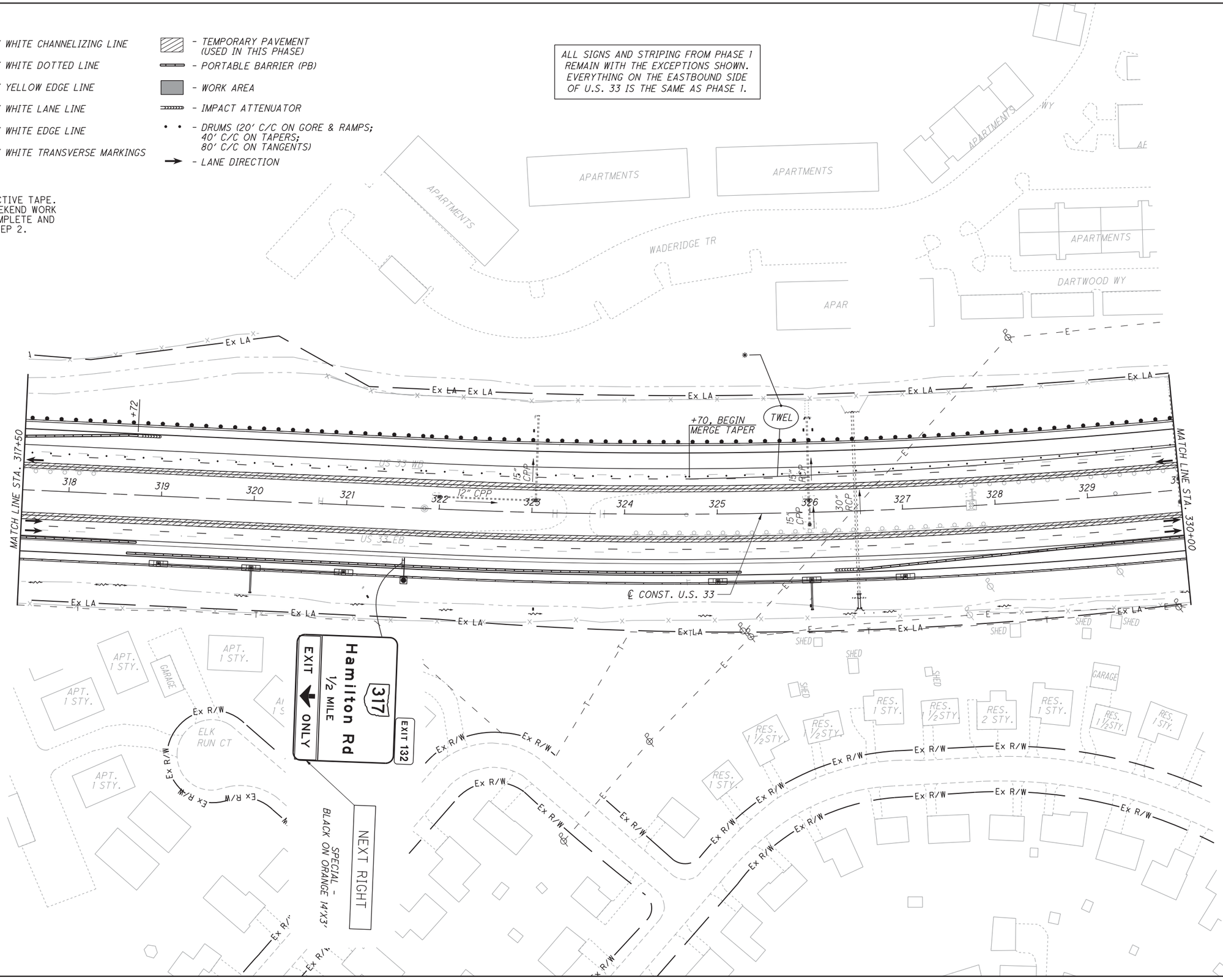
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LEGEND:

- (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
- - 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

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

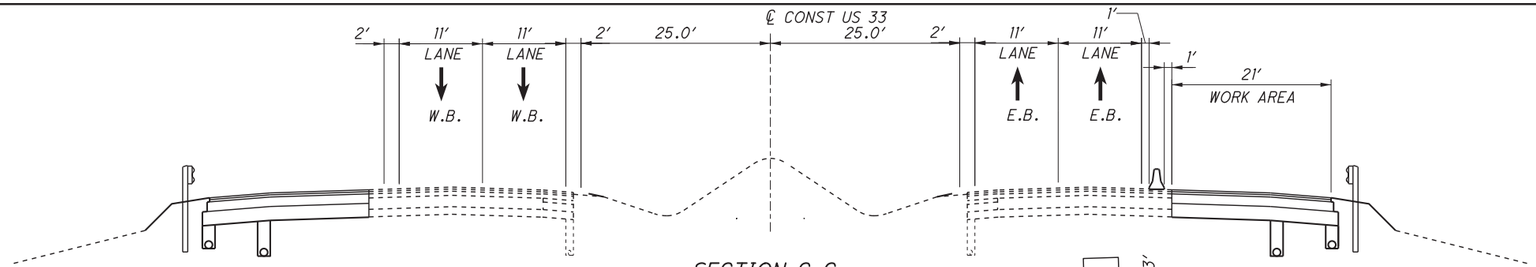
HORIZONTAL SCALE IN FEET
0 25 50 100

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

FRA-33-24.26

57
287

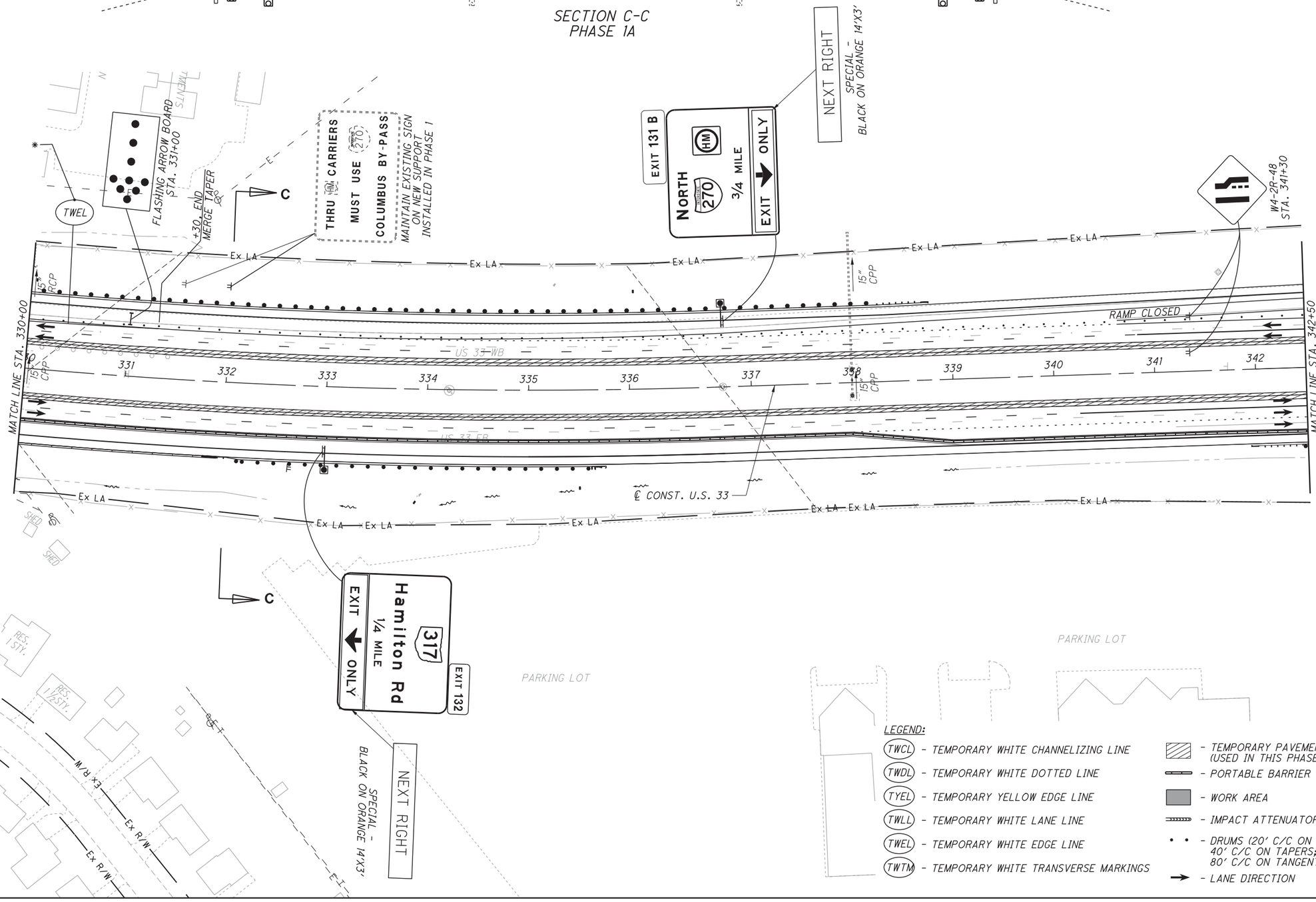
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SECTION C-C
PHASE 1A

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.

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



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
- - 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

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

58
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

- 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:
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

TYPE A WARNING LIGHT

RIGHT LANE CLOSED AHEAD
W20-5-48
STA. 354+84

RAMP CLOSED

WEST Columbus
TO EAST NEXT LEFT
WEST

℄ CONST. U.S. 33

MATCH LINE STA. 342+50

MATCH LINE STA. 355+00
SEE PHASE 1 SHEET 51

US 33 WB
US 33 EB

343 344 345 346 347 348 349 350 351 352 353 354

15" RCP
30" RCP
30" RCP
15" CPP
30" RCP
18" CPP
24" RCP
24" CPP
24" CPP
15" CPP
6" CPP
24" RCP
24" RCP

RAMP G
RAMP I
RAMP J

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.

PARKING LOT
PARKING LOT

EXIT 132

317
Hamilton Rd
EXIT ONLY

EXIT 132

MINI GOLF COURSE
GO CART TRACK
BATTING RANGE

SR-317 NB
SR-317 SB
RAMP H
GRASS

Ex LA
G
W
F
FO
T

HORIZONTAL SCALE IN FEET
0 25 50 100

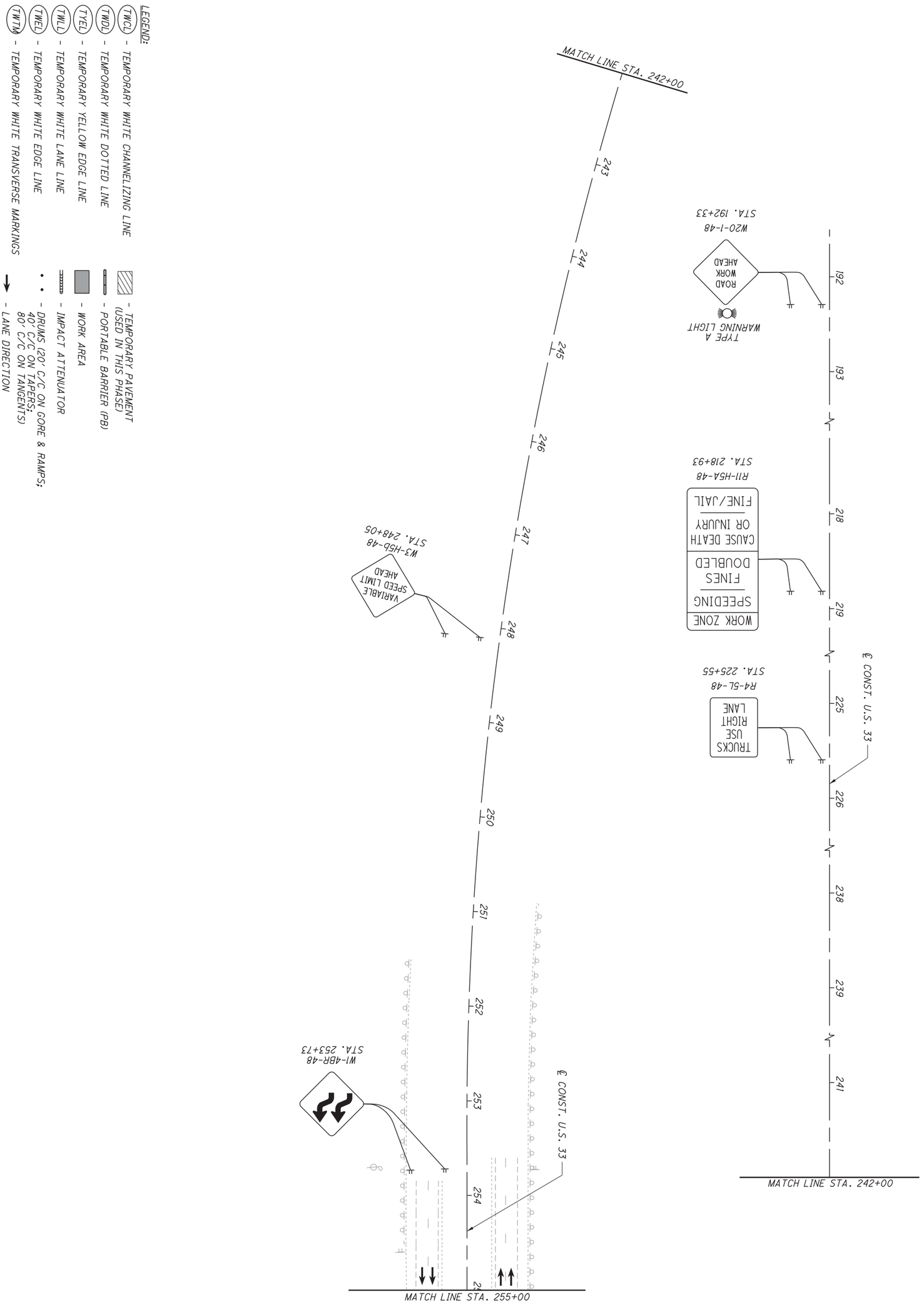
CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

59
287

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FRA-33-24.26

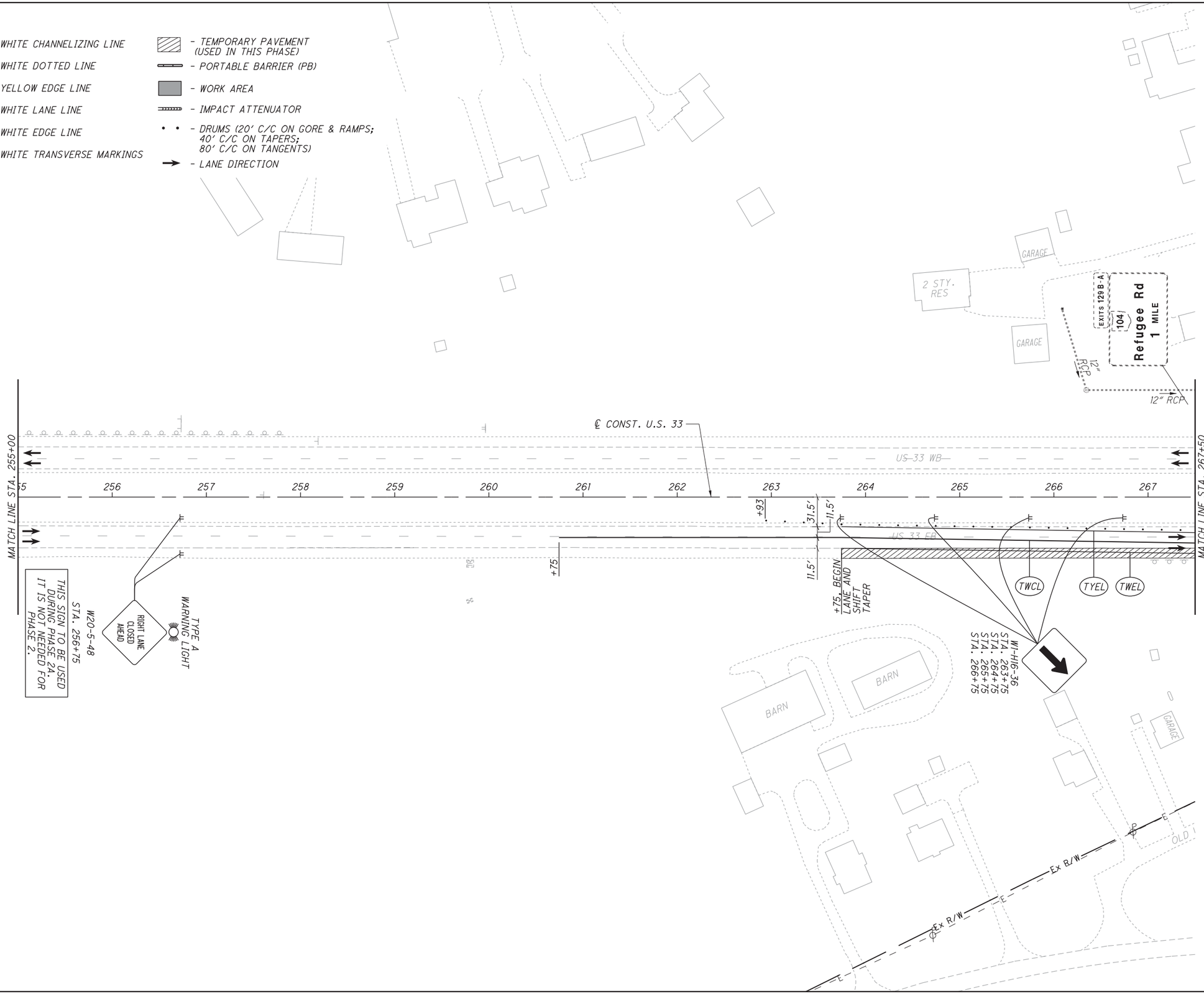
MOT PLAN - PHASE 2
BEGIN WORK TO STA. 255+00

CALCULATED EJC
CHECKED ABS

0 50
25 100
HORIZONTAL SCALE IN FEET

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
- - 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



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N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

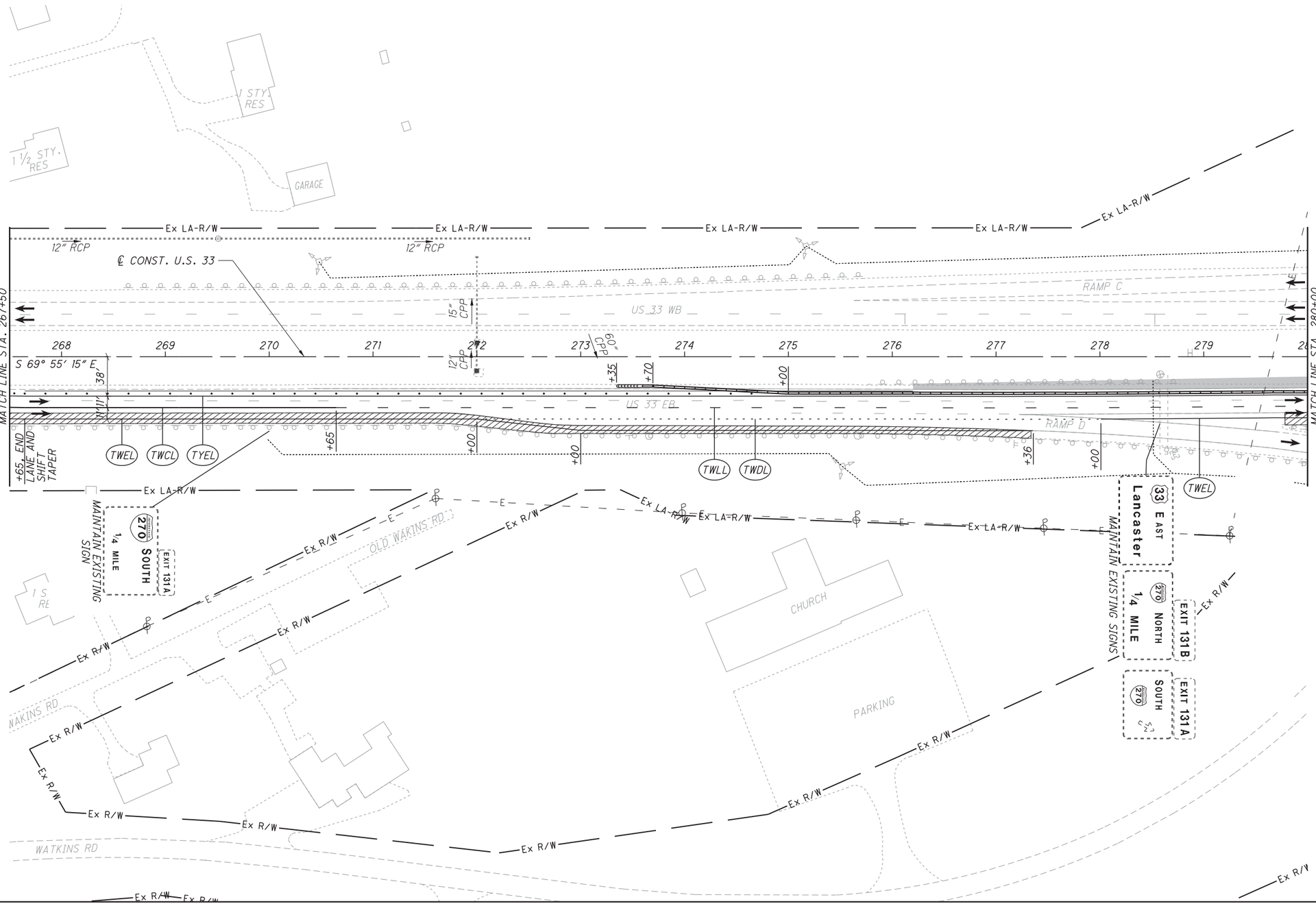
MOT PLAN - PHASE 2
STA. 255+00 TO STA. 267+50

FRA-33-24.26

61
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
- - 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



N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

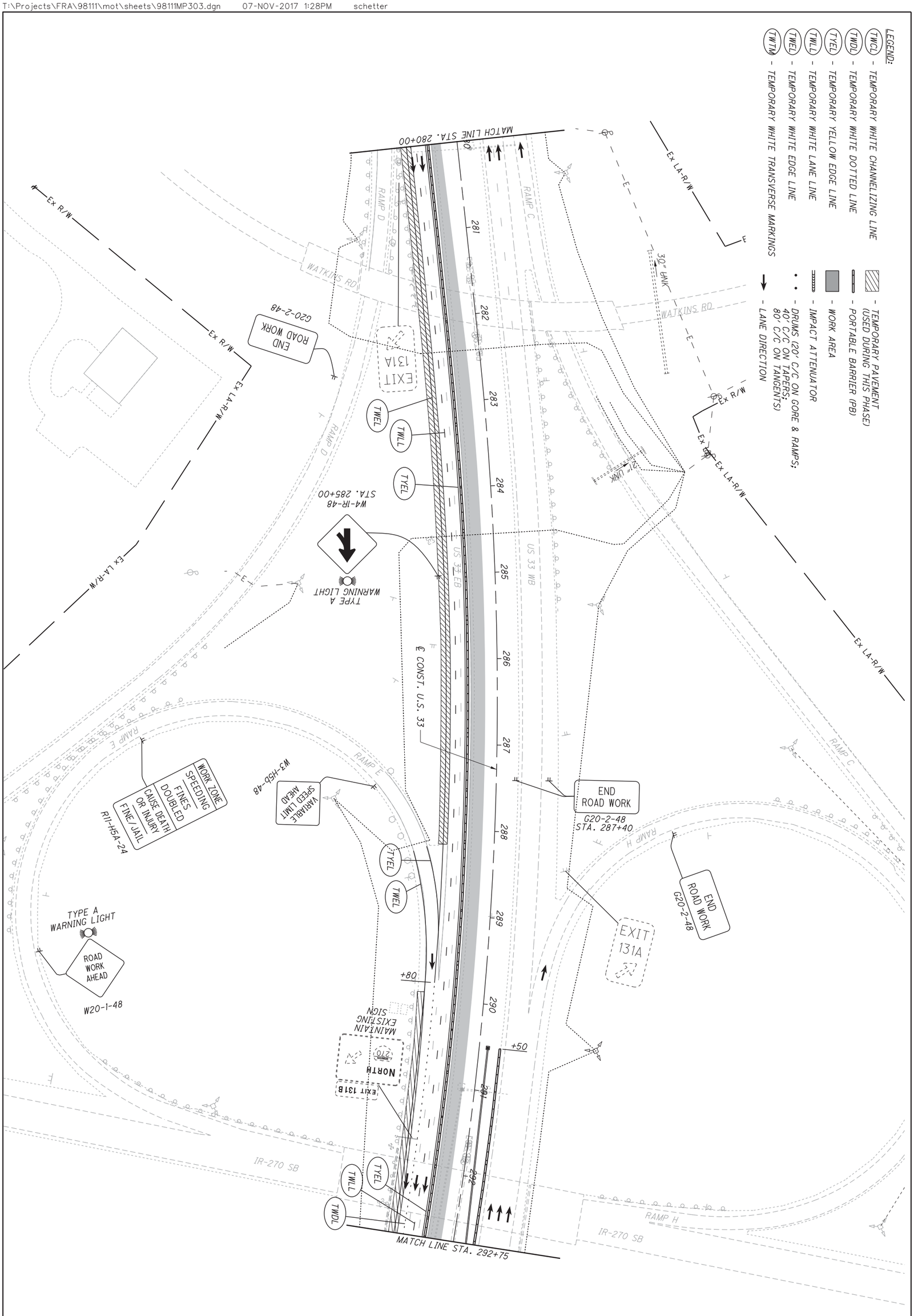
MOT PLAN - PHASE 2
STA. 267+50 TO STA. 280+00

FRA-33-24.26

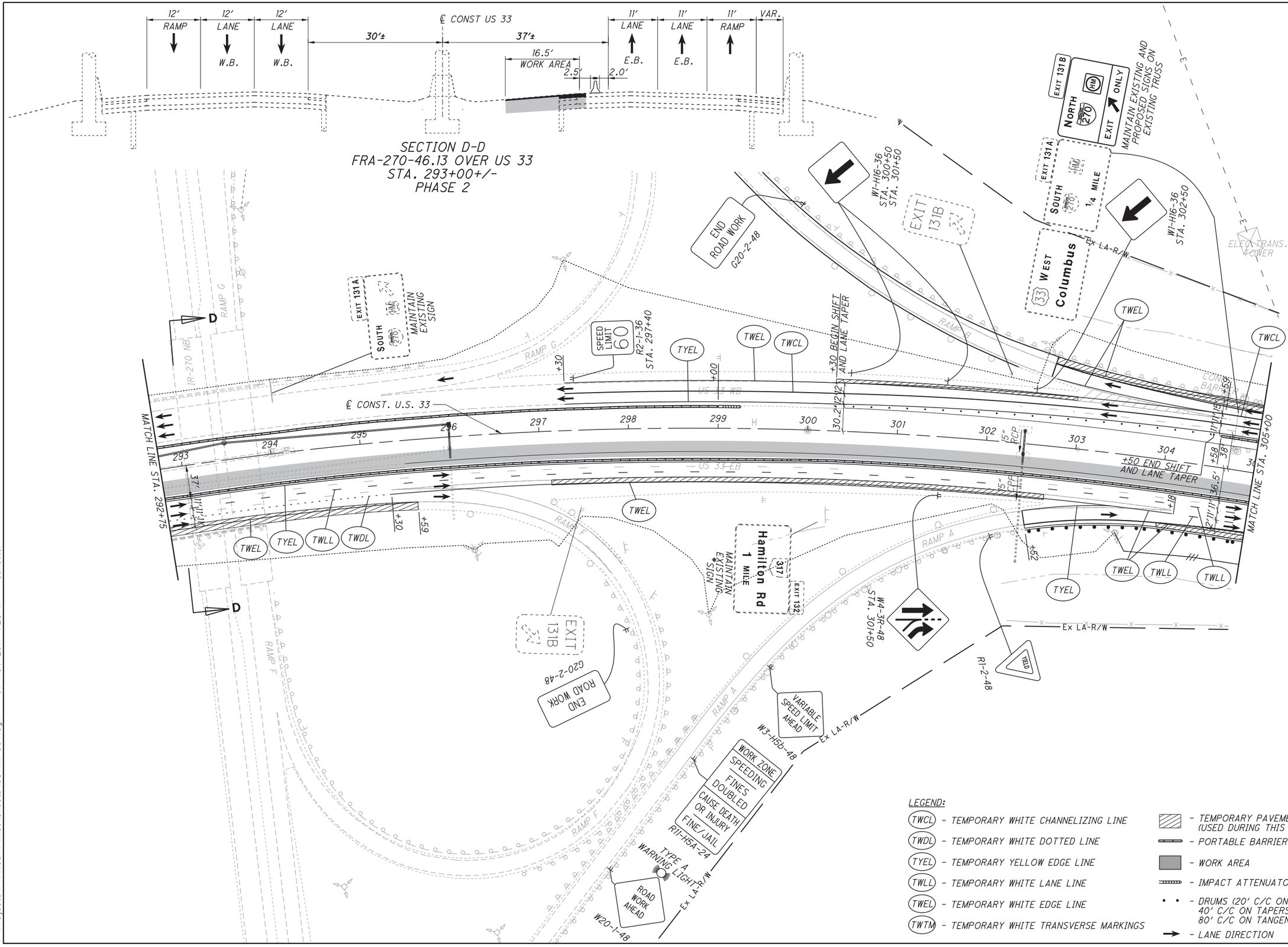
62
287

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63 / 287	FRA-33-24.26	MOT PLAN - PHASE 2 STA. 280+00 TO STA. 292+75	CALCULATED EJC CHECKED ABS	0 50 25 100 HORIZONTAL SCALE IN FEET



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

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

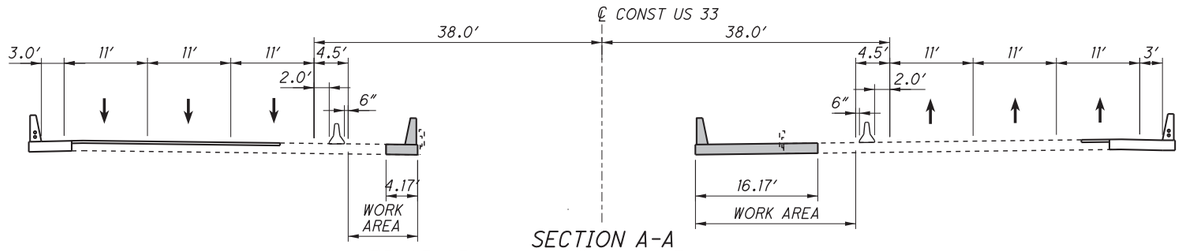
FRA-33-24.26

64
287

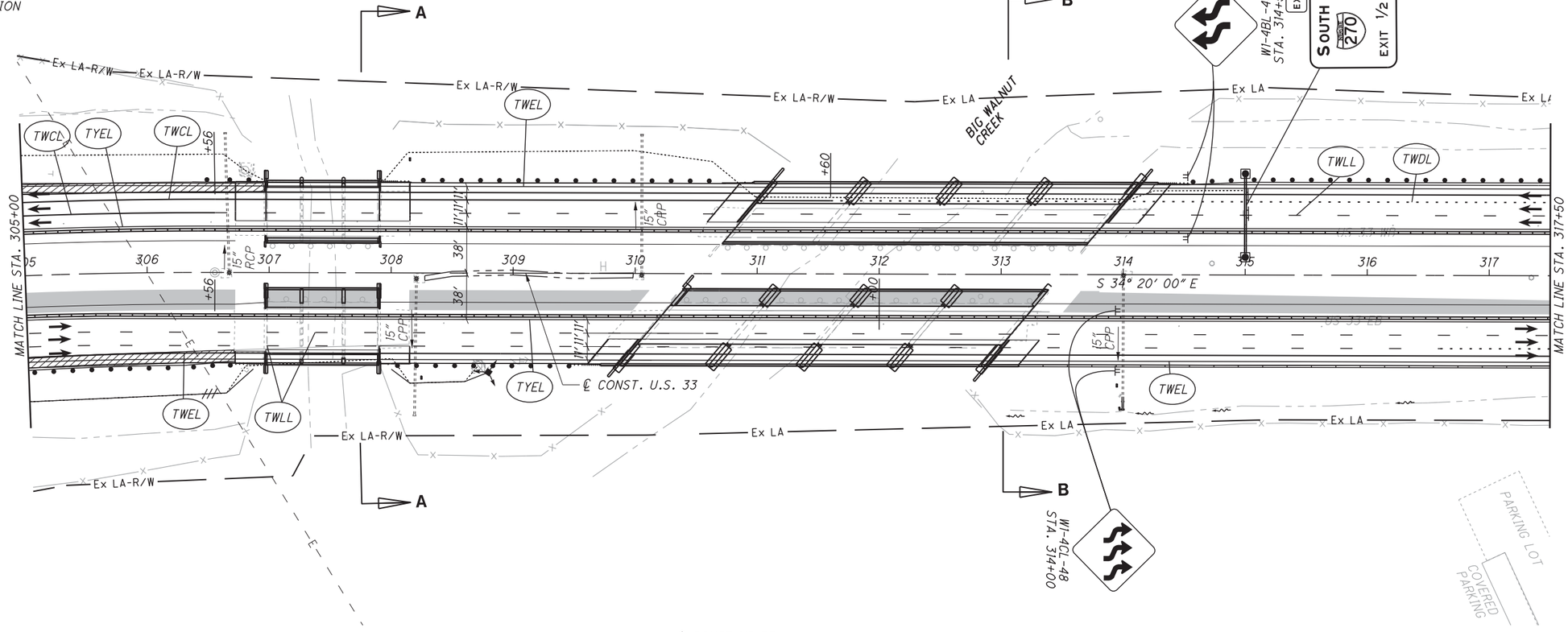
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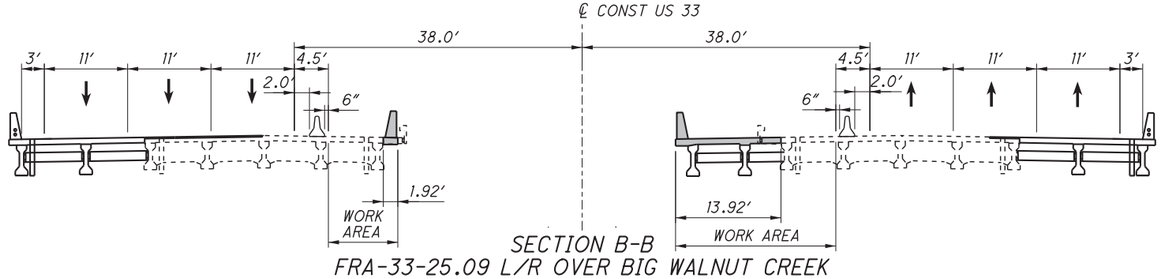
LEGEND:

- (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
- - 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

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

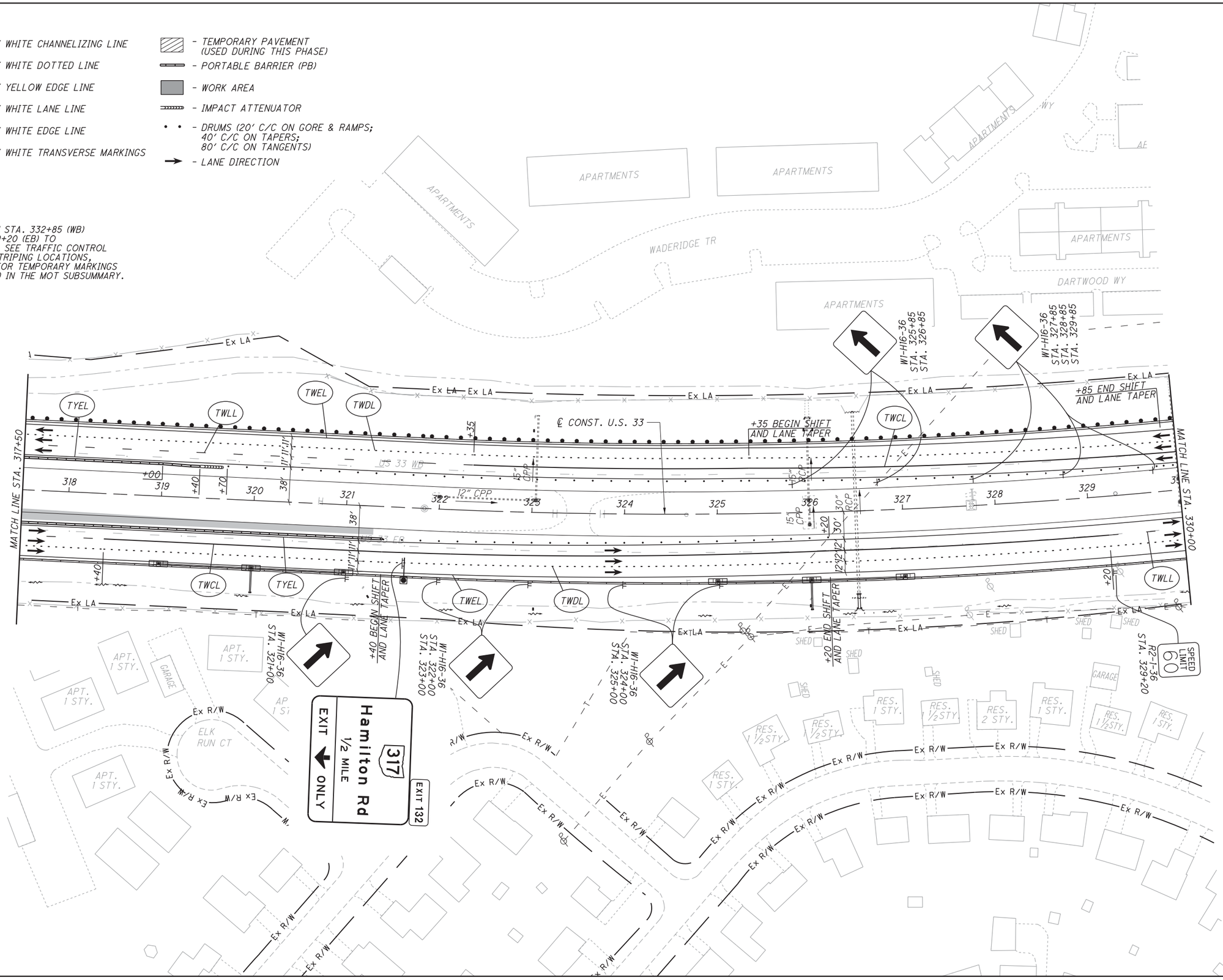
65
287

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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
- - 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

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.



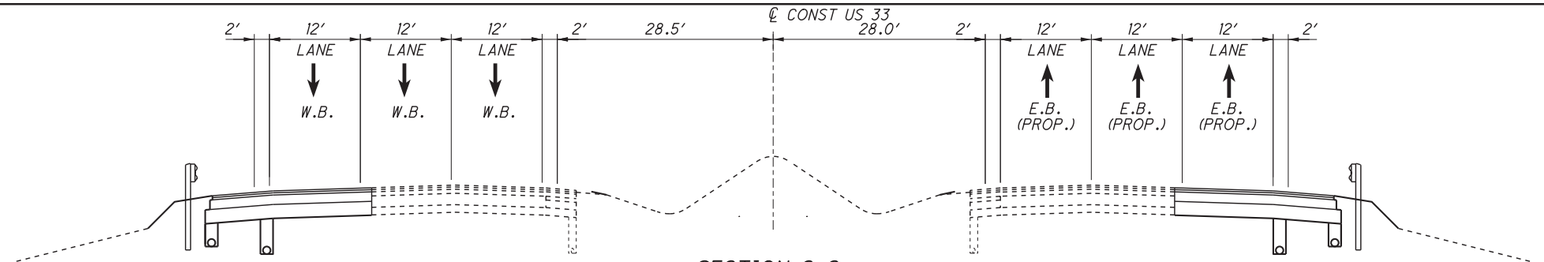
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

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SECTION C-C
PHASE 2

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.

THRU CARRIERS MUST USE COLUMBUS BY-PASS 270

MAINTAIN EXISTING SIGN ON NEW SUPPORT INSTALLED IN PHASE 1

EXIT 131 B
NORTH 270
3/4 MILE
EXIT ONLY

W1-4CR-48
STA. 339+85

TWEL TWDL TYEL TWCL TWLL TYCL

Ex LA

15" CPP

MATCH LINE STA. 330+00

MATCH LINE STA. 342+50

US 33 WB

US 33 EB

℄ CONST. U.S. 33

END ROAD WORK
G20-2-48
STA. 332+50

EXIT 317
Hamilton Rd
1/4 MILE
EXIT ONLY
EXIT 132

PARKING LOT

RES. 1 STY.

RES. 1 1/2 STY.

SHED

Ex R/W

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
- – 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

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

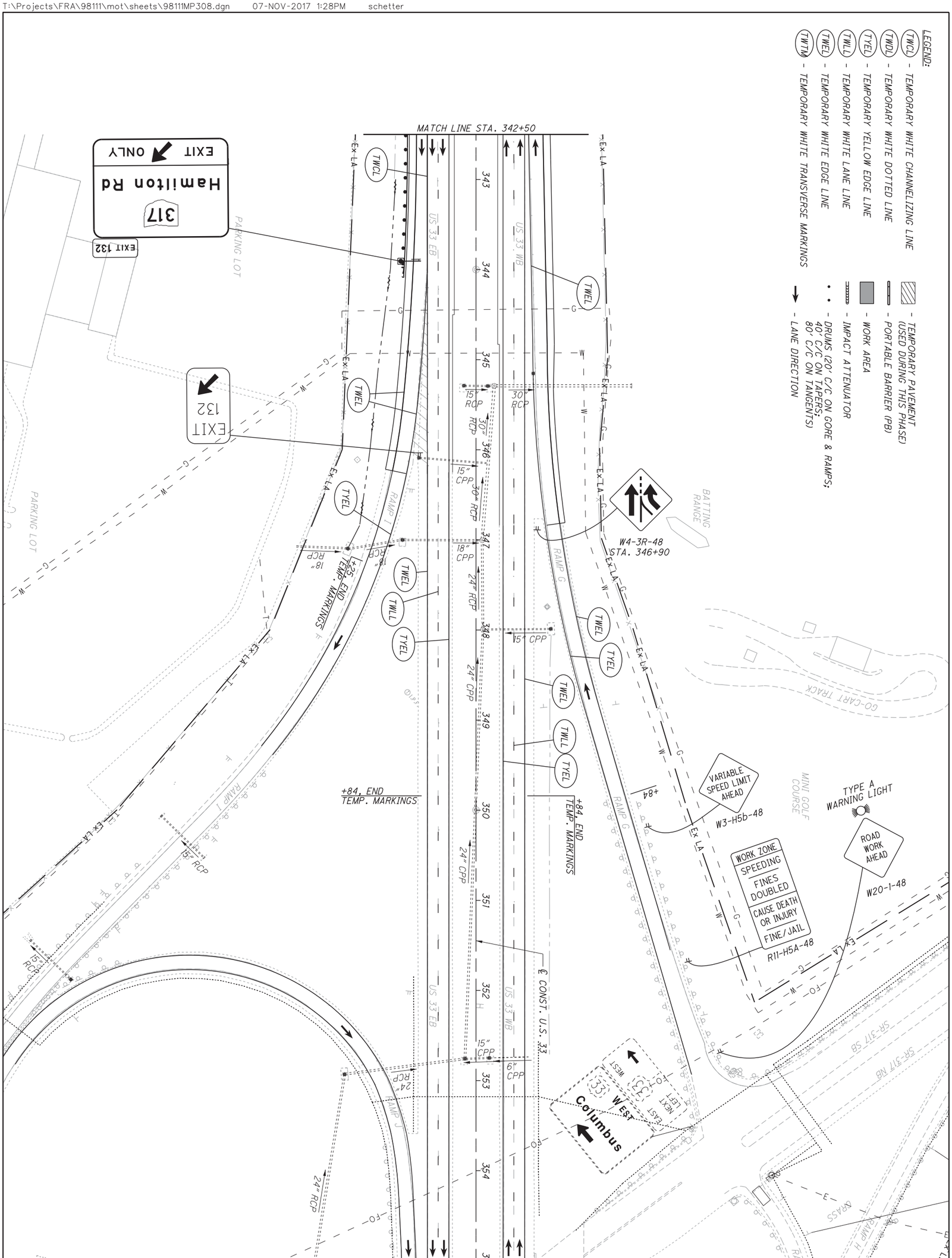
MOT PLAN - PHASE 2
STA. 330+00 TO STA. 342+50

FRA-33-24.26

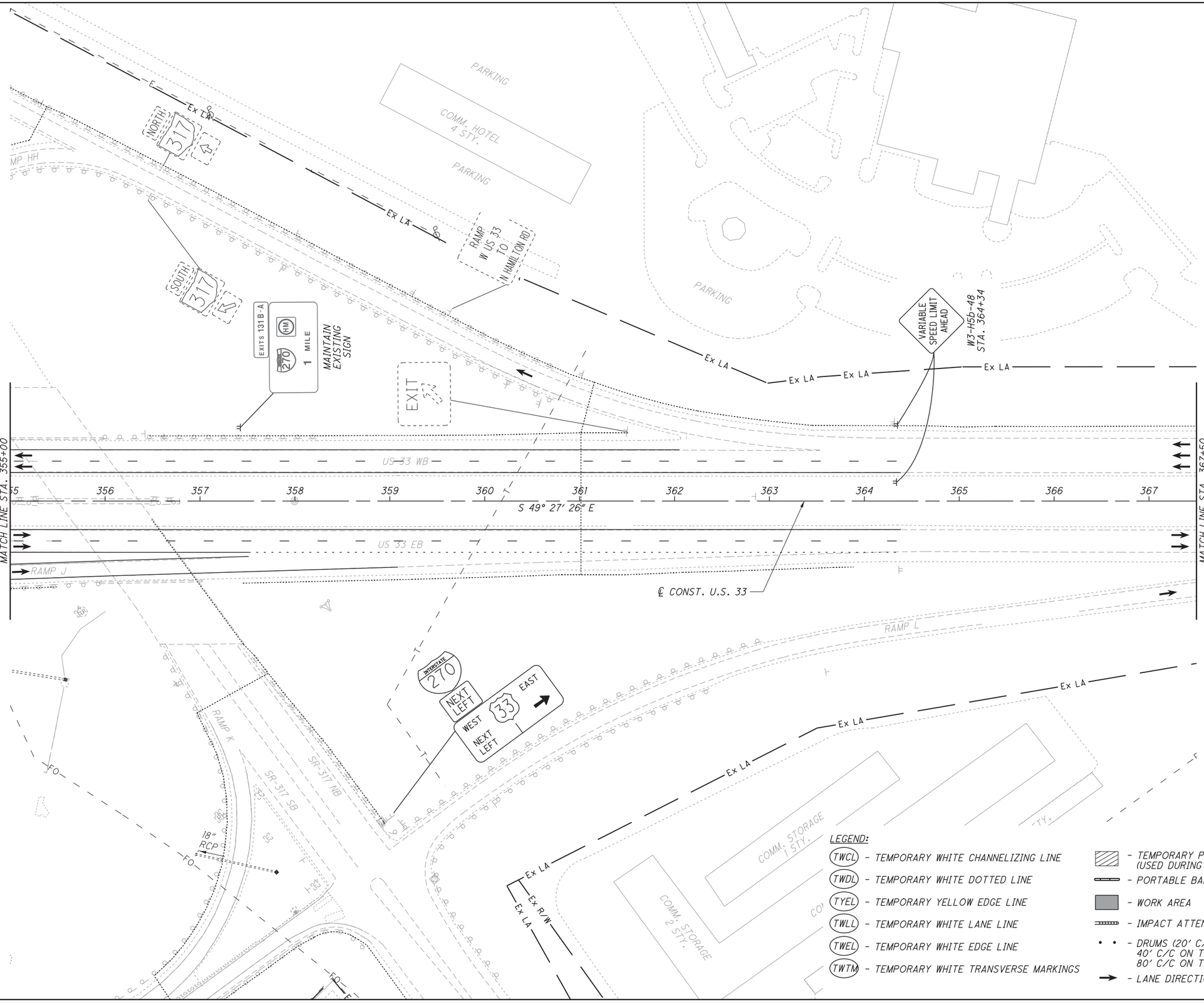
67
287

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68 / 287	FRA-33-24.26	MOT PLAN - PHASE 2 STA. 342+50 TO STA. 355+00	CALCULATED EJC CHECKED ABS	0 25 50 100 HORIZONTAL SCALE IN FEET



HORIZONTAL SCALE IN FEET
0 25 50 100

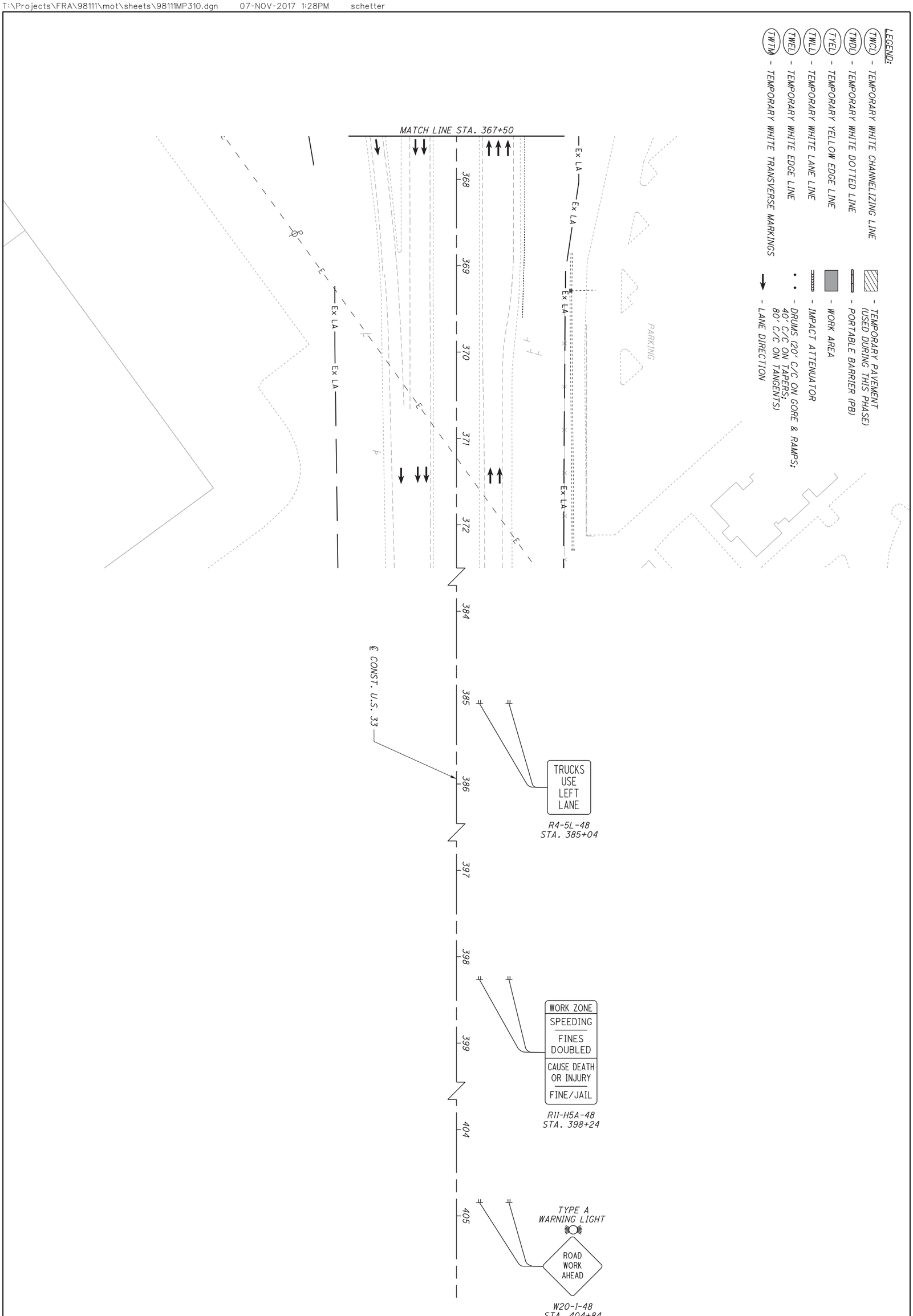
CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

69
287

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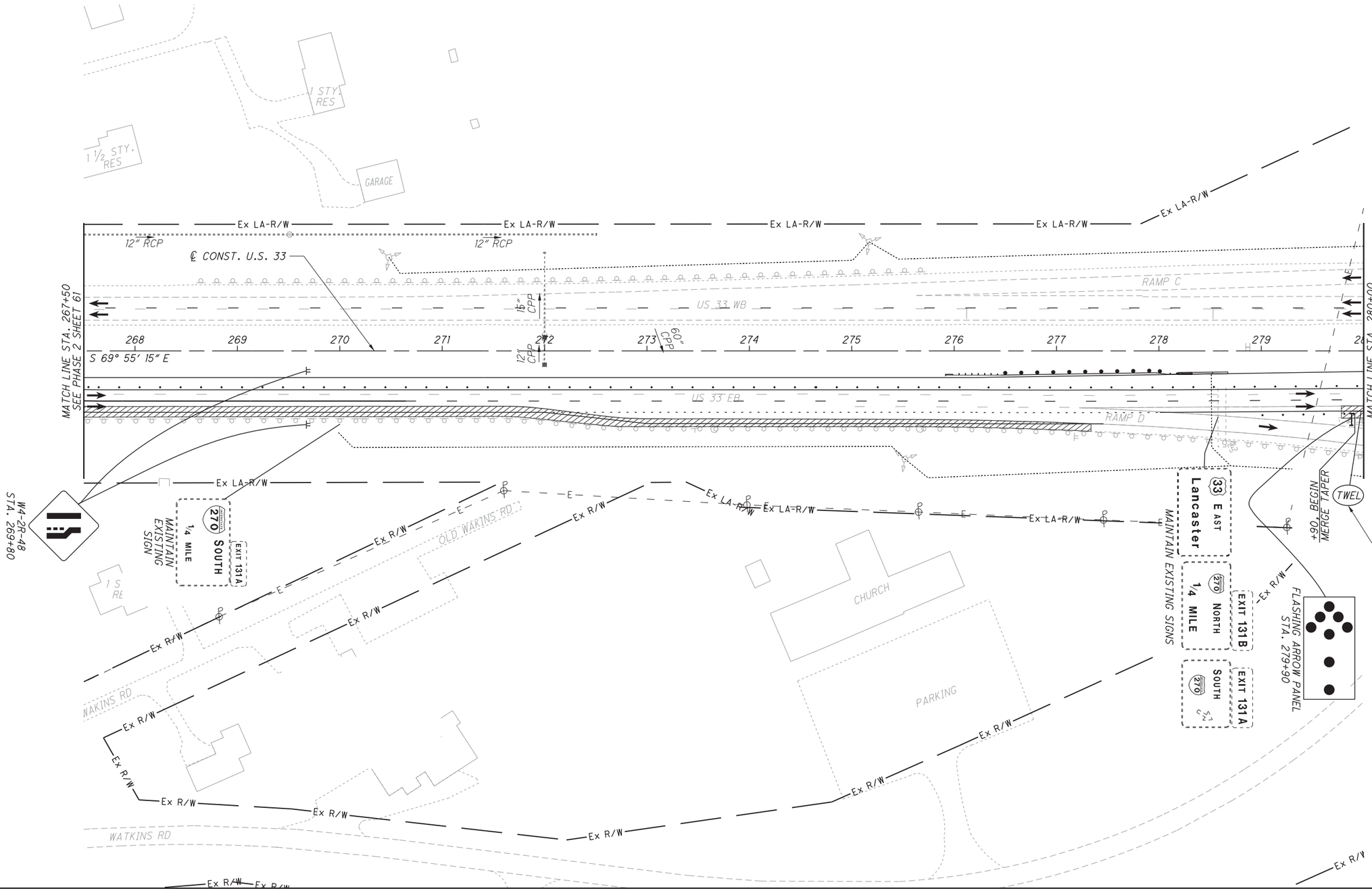
70 287	FRA-33-24.26	MOT PLAN - PHASE 2 STA. 367+50 TO STA. 380+00	CALCULATED EJC CHECKED ABS 0 25 50 100 HORIZONTAL SCALE IN FEET

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
- - 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

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.



N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

71
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
- - 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

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.

Ex LA-R/W
Ex R/W
WATKINS RD
30" UNK
24" UNK
RAMP C
RAMP H
RAMP D
RAMP E
IR-270 SB
℄ CONST. U.S. 33
US 33 WB
US 33 EB
EXIT 131A
EXIT 131B
MATCH LINE STA. 280+00
MATCH LINE STA. 292+75
280
281
282
283
284
285
286
287
288
289
290
291
292
TWEL
TYEL
**
EXIT CLOSED AHEAD
E5-H2C-48
STA. 281+00
TYPE A WARNING LIGHT
EXIT CLOSED
E5-24-48
STA. 286+00
+20' END MERGE TAPER
EXIT CLOSED
E5-24-48
STA. 291+00
MAINTAIN EXISTING SIGN
NORTH
+50' BEGIN SHIFT TAPER

HORIZONTAL SCALE IN FEET
0 25 50 100

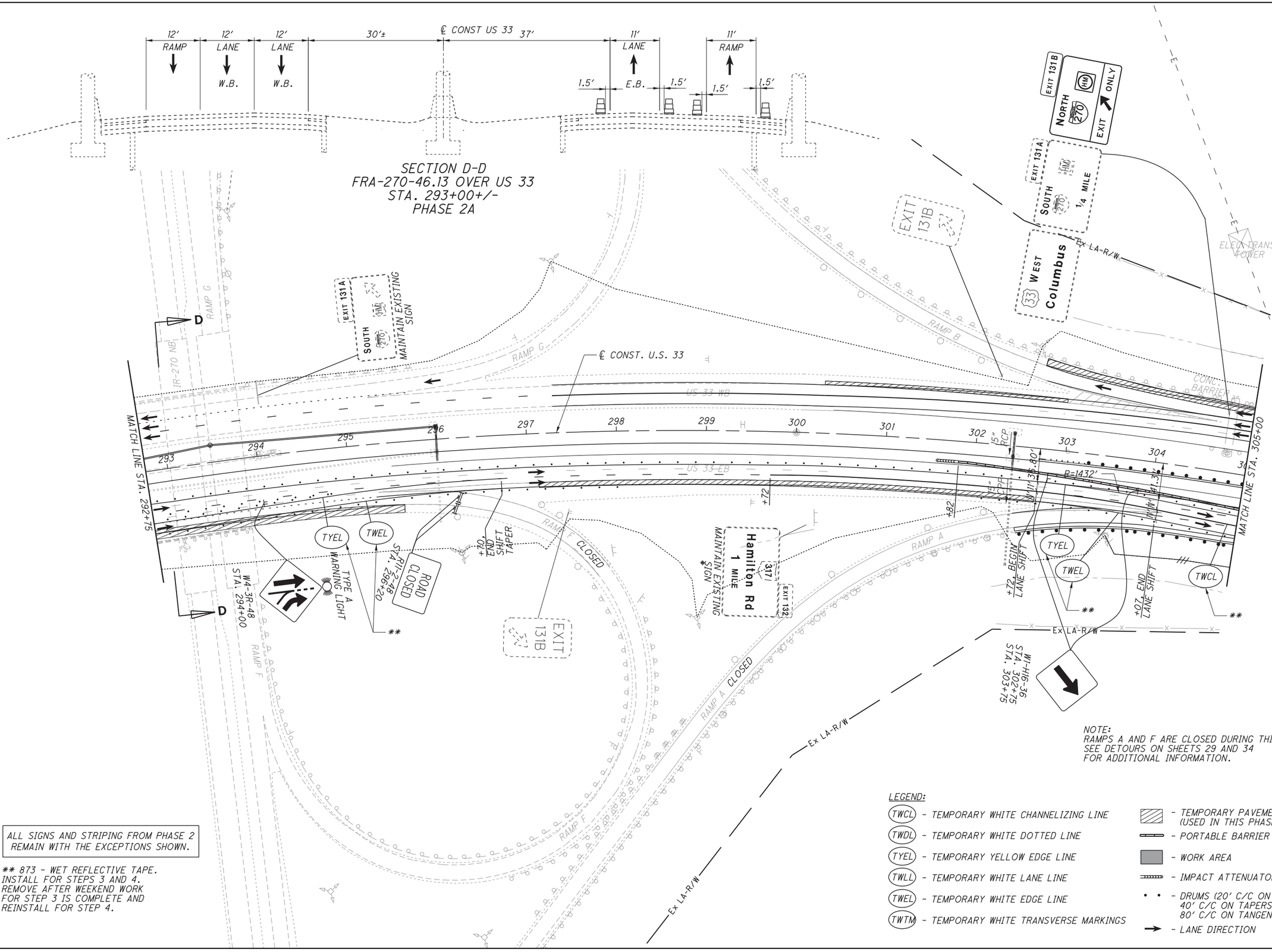
CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

72
287

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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
- - 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

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

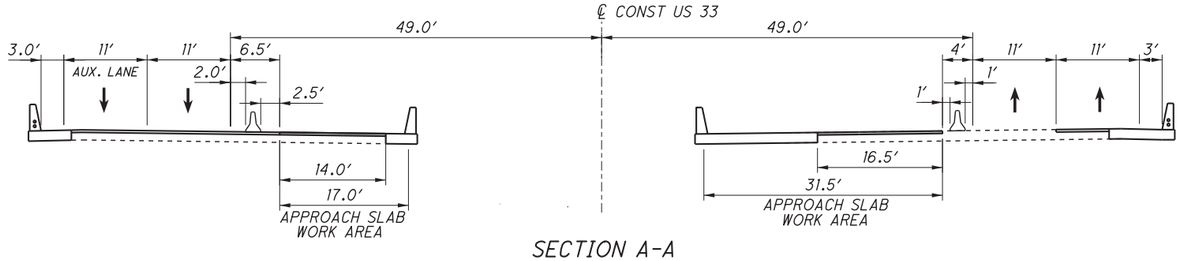
MOT PLAN - PHASE 2A
STA. 292+75 TO STA. 305+00

FRA-33-24.26

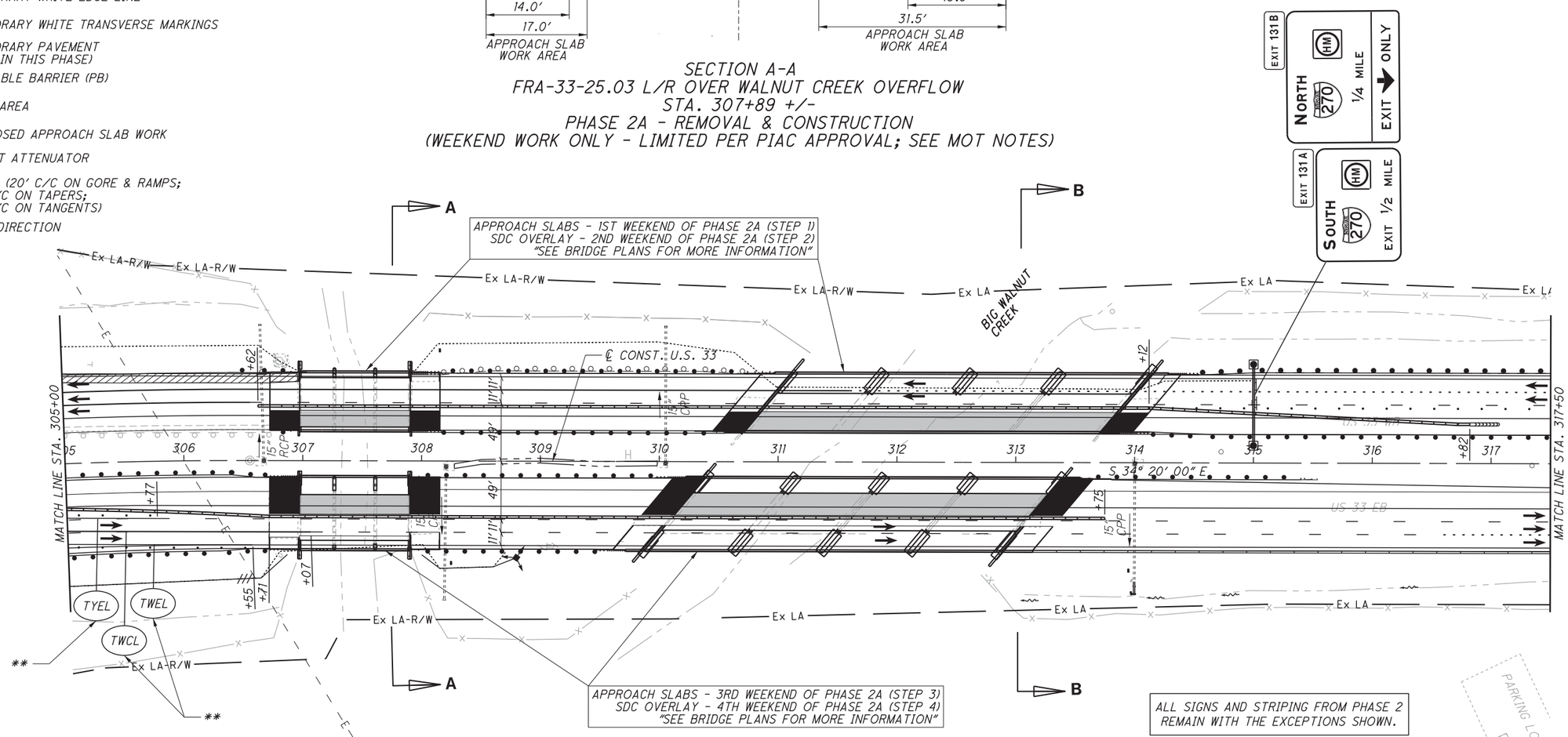
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LEGEND:

- (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
- - TEMPORARY PAVEMENT (USED IN THIS PHASE)
- - PORTABLE BARRIER (PB)
- - WORK AREA
- - PROPOSED APPROACH SLAB WORK
- - IMPACT ATTENUATOR
- - DRUMS (20' C/C ON GORE & RAMPS; 40' C/C ON TAPERS; 80' C/C ON TANGENTS)
- - LANE DIRECTION

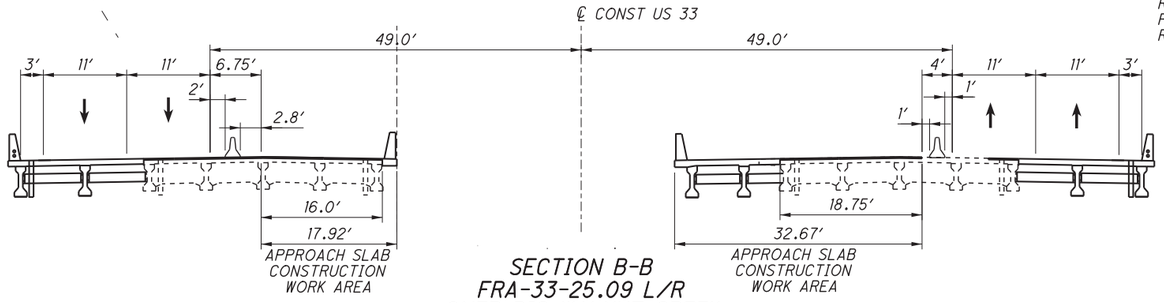


SECTION A-A
FRA-33-25.03 L/R OVER WALNUT CREEK OVERFLOW
STA. 307+89 +/-
PHASE 2A - REMOVAL & CONSTRUCTION
(WEEKEND WORK ONLY - LIMITED PER PIAC APPROVAL; SEE MOT NOTES)



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.



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)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

74
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

- - 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

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

APARTMENTS
APARTMENTS
APARTMENTS
APARTMENTS
WADERIDGE TR
DARTWOOD WY
AP
WY
AE

MATCH LINE STA. 317+50
MATCH LINE STA. 330+00
℄ CONST. U.S. 33
Ex LA
318 319 320 321 322 323 324 325 326 327 328 329
12" CPP
15" CPP
15" RCP
15" CPP
30" RCP

317
Hamilton Rd
½ MILE
EXIT ONLY
EXIT 132

Ex R/W
ELK RUN CT
APT. 1 STY.
GARAGE
RES. 1 STY.
RES. 1½STY.
RES. 2 STY.
SHED

HORIZONTAL SCALE IN FEET
0 25 50 100

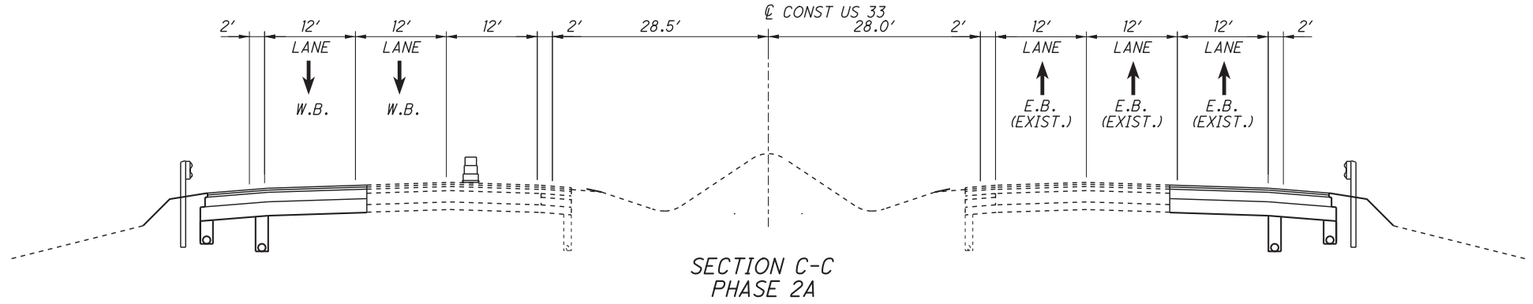
CALCULATED EJC
CHECKED ABS

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

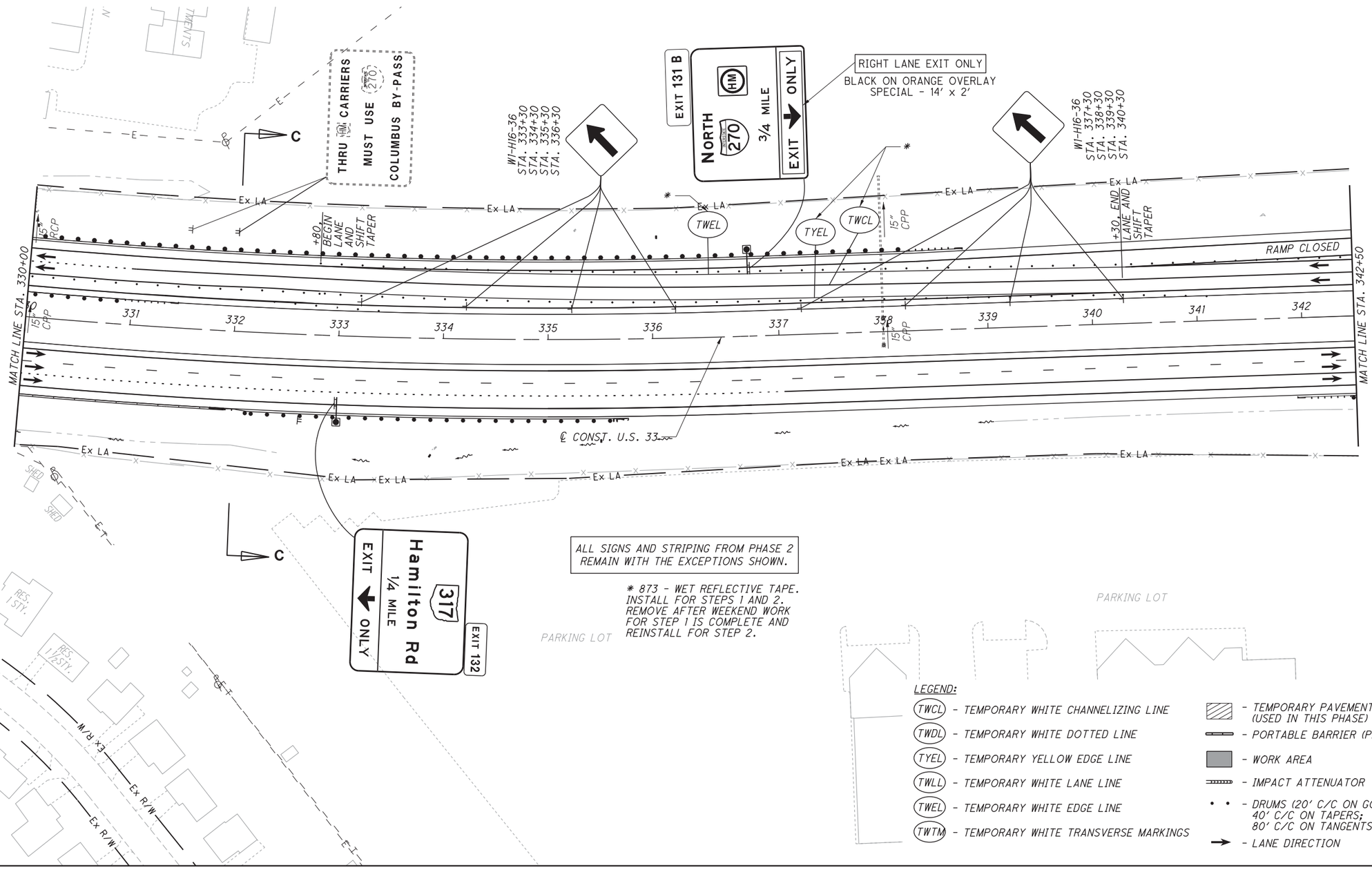
FRA-33-24.26

75
287

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SECTION C-C
PHASE 2A



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

76
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
- - 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

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.

HORIZONTAL SCALE IN FEET
0 25 50 100

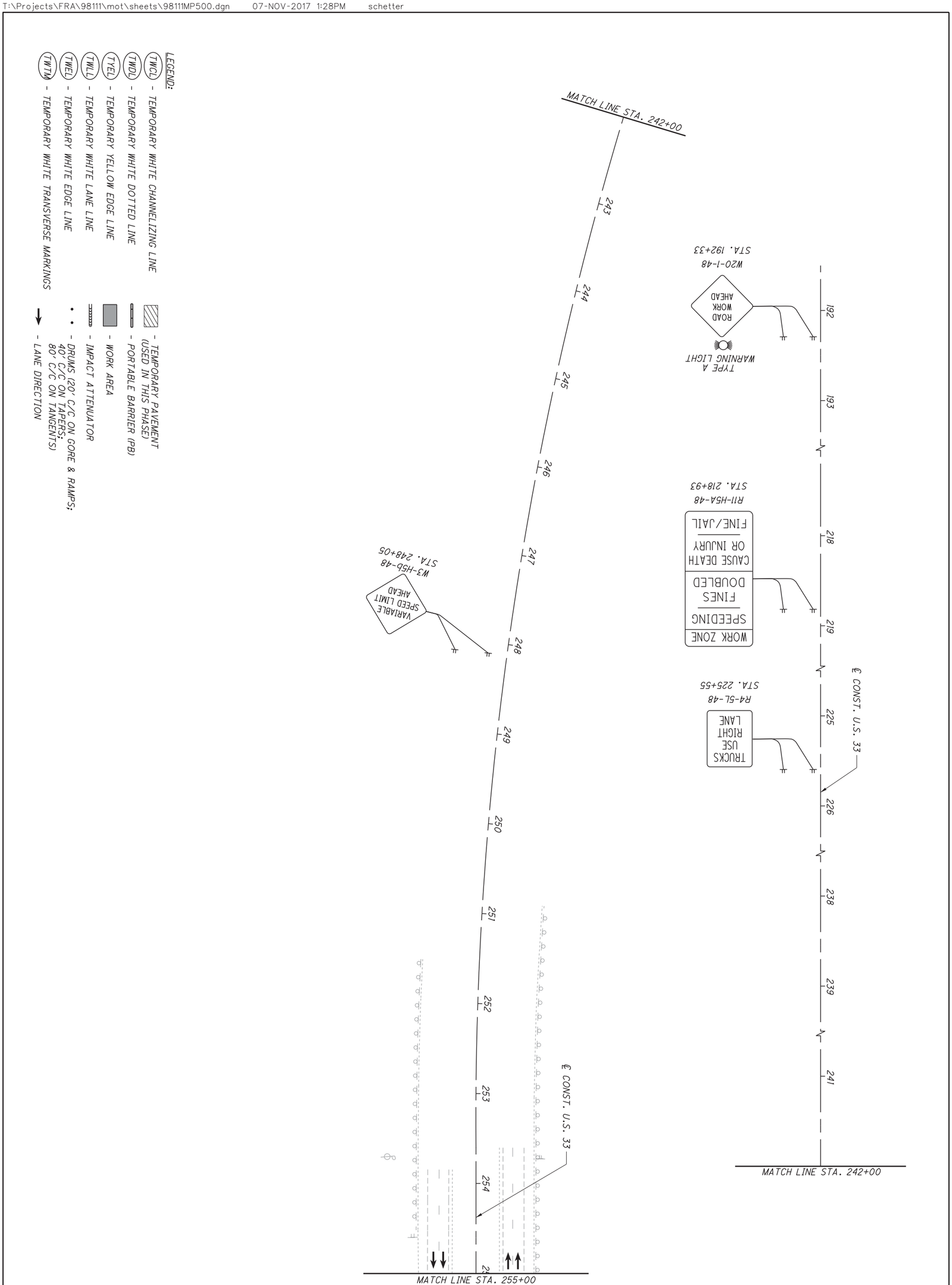
CALCULATED EJC
CHECKED ABS

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

FRA-33-24.26

77
287

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FRA-33-24.26

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

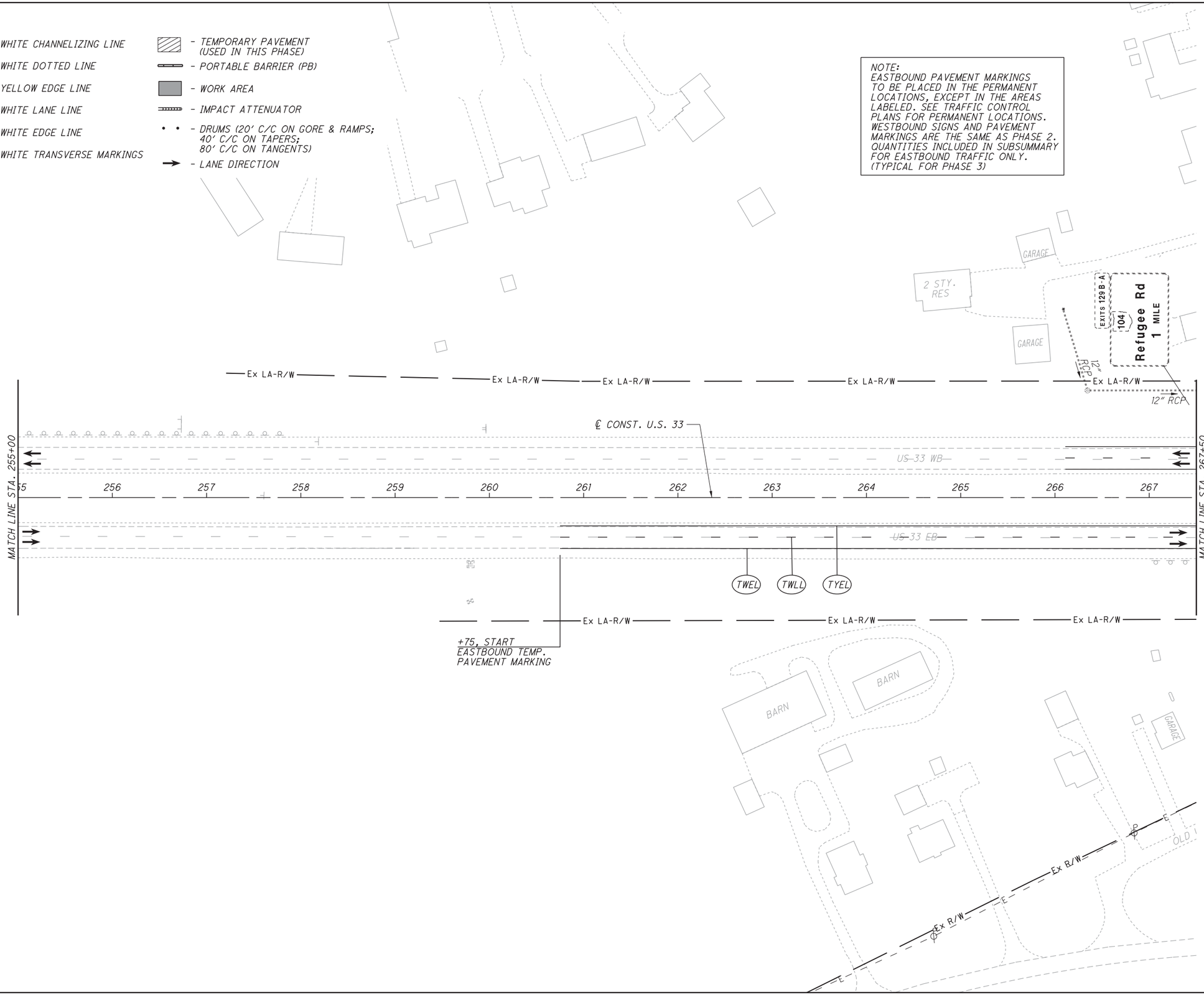
CALCULATED EJC
CHECKED ABS

0 25 50 100
HORIZONTAL SCALE IN FEET

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
- - 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:
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)



N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

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

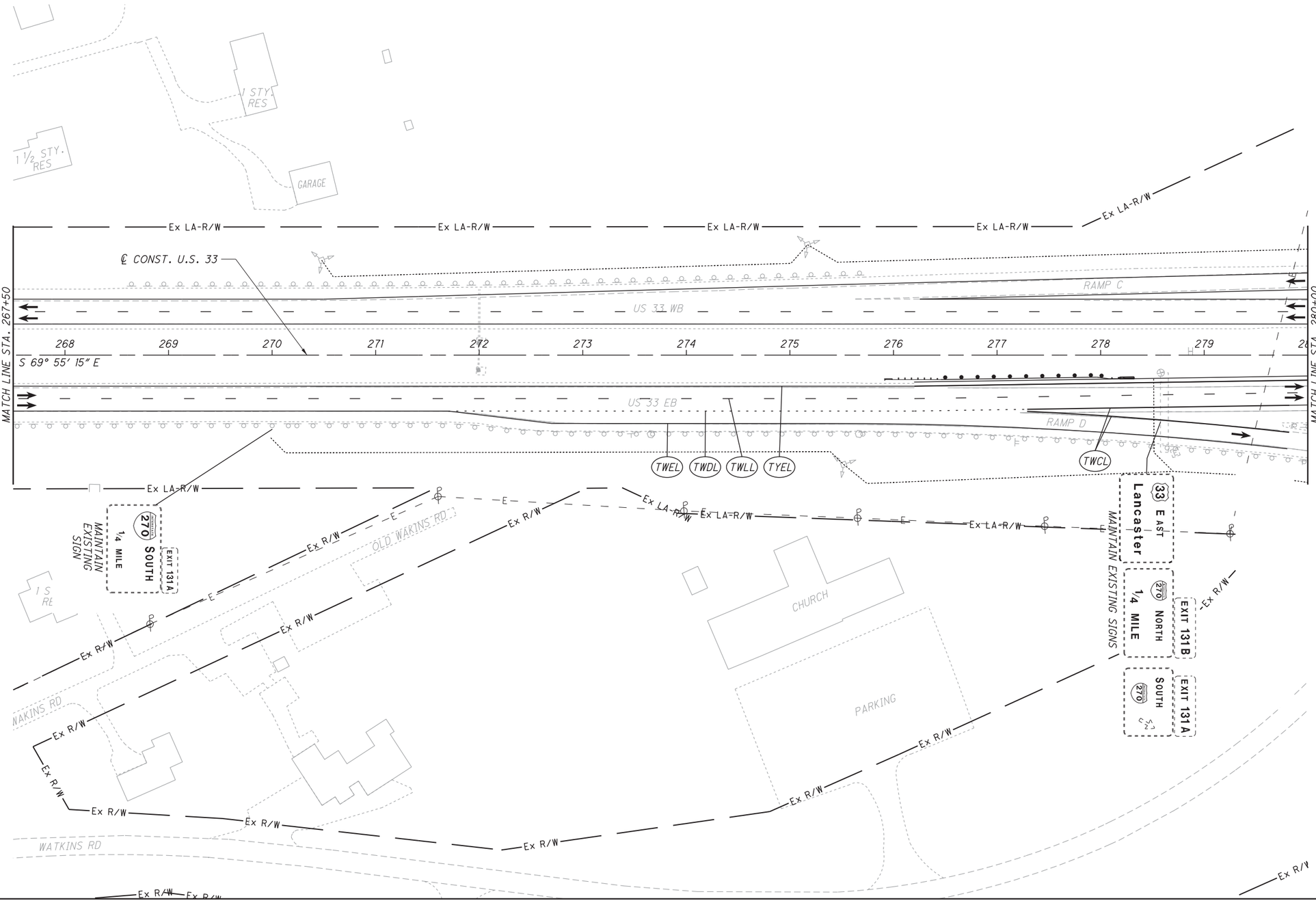
FRA-33-24.26

79
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
- - 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



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

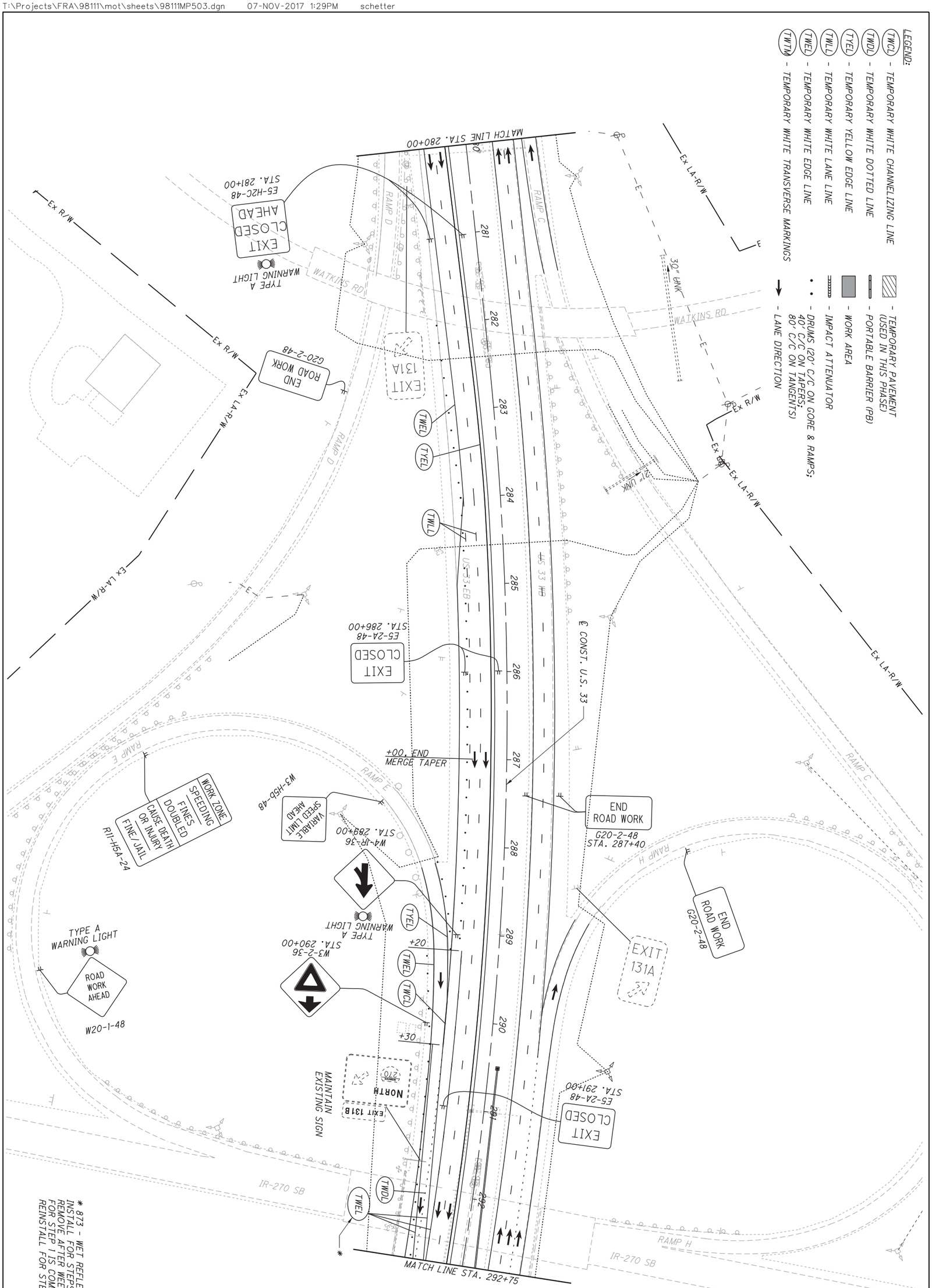
MOT PLAN - PHASE 3
STA. 267+50 TO STA. 280+00

FRA-33-24.26

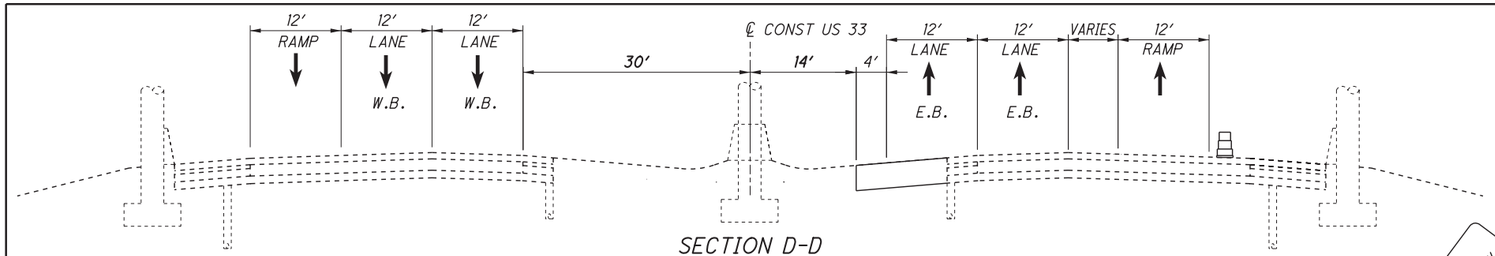
80
287

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81 / 287	FRA-33-24.26	MOT PLAN - PHASE 3 STA. 280+00 TO STA. 292+75	CALCULATED EJC CHECKED ABS	0 25 50 100 HORIZONTAL SCALE IN FEET



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

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
- 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

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

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

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

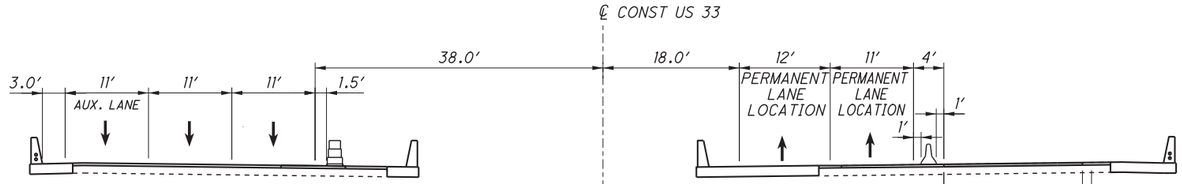
FRA-33-24.26

82
287

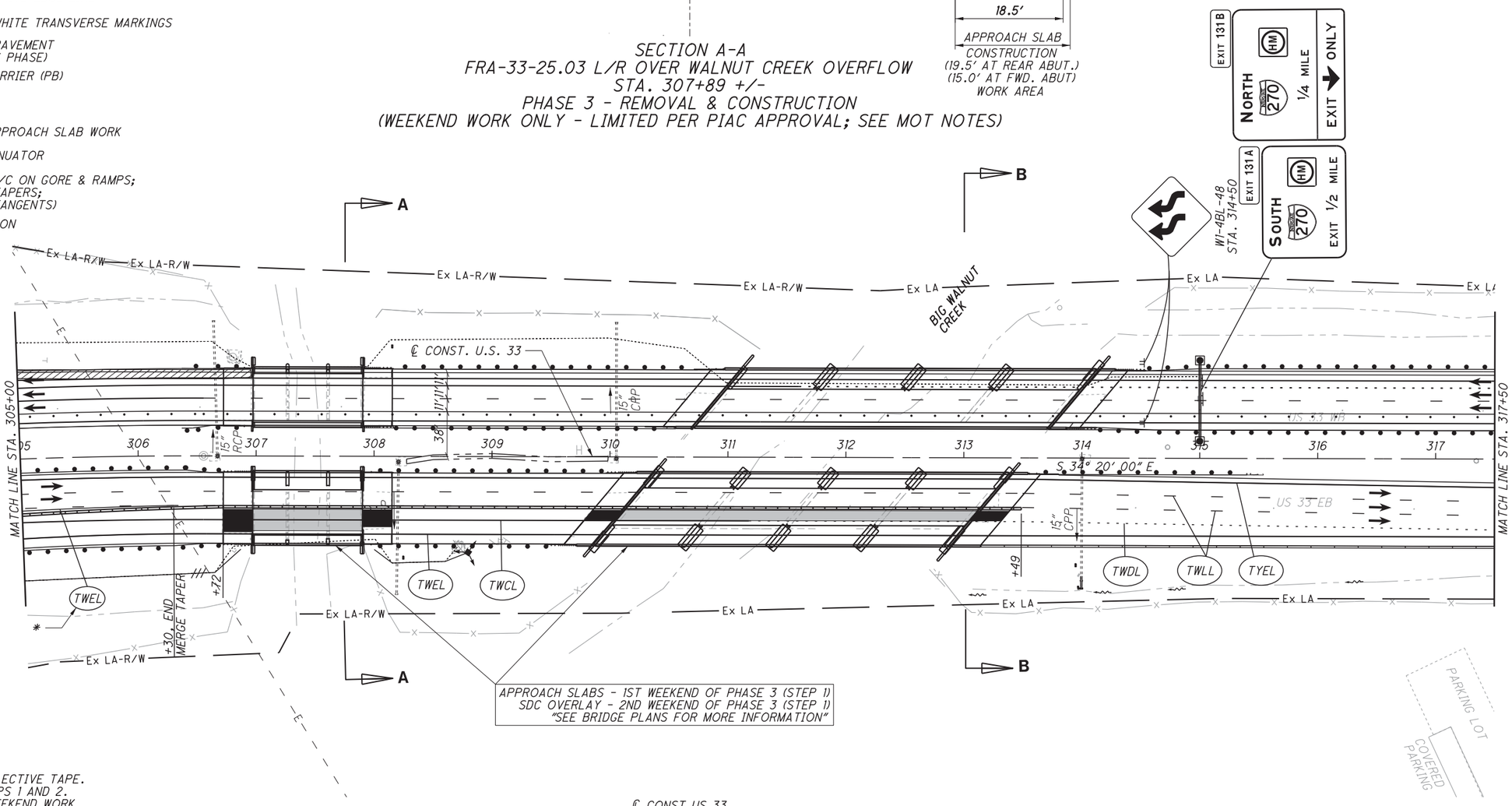
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LEGEND:

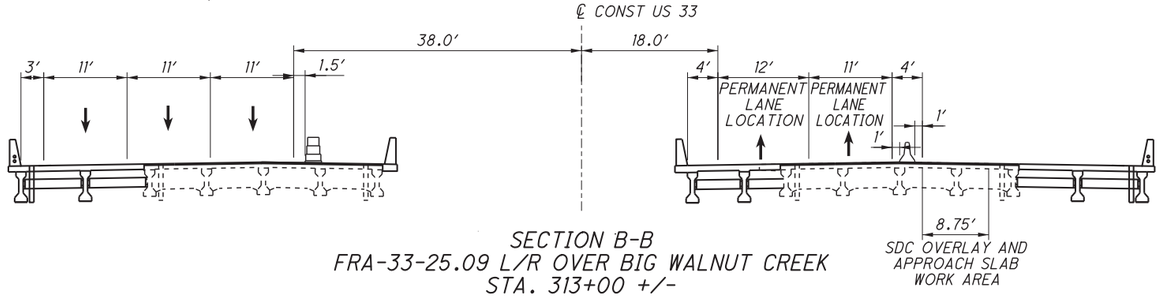
- (TWCL) - TEMPORARY WHITE CHANNELIZING LINE
- (TWDL) - TEMPORARY WHITE DOTTED LINE
- (TYEL) - TEMPORARY YELLOW EDGE LINE
- (TWLL) - TEMPORARY WHITE LANE LINE
- (TWEL) - TEMPORARY WHITE EDGE LINE
- (TWTM) - TEMPORARY WHITE TRANSVERSE MARKINGS
- TEMPORARY PAVEMENT (USED IN THIS PHASE)
- PORTABLE BARRIER (PB)
- WORK AREA
- PROPOSED APPROACH SLAB WORK
- 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 3 - REMOVAL & CONSTRUCTION
(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.



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)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

MOT PLAN - PHASE 3
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
- - 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.

APARTMENTS
WADERIDGE TR
DARTWOOD WY
W1-H16-36 STA. 325+85 STA. 326+85
W1-H16-36 STA. 327+85 STA. 328+85 STA. 329+85
Ex LA
MATCH LINE STA. 317+50
MATCH LINE STA. 330+00
318 319 320 321 322 323 324 325 326 327 328 329
12" CPP
15" CPP
30" RCP
℄ CONST. U.S. 33
TYEL TWEL TWDL TWLL
R2-1-48 STA. 322+50 SPEED LIMIT 60
EXIT 317 Hamilton Rd 1/2 MILE EXIT ONLY EXIT 132
+20, END TEMP. PAVEMENT MARKINGS (NOTE 1)
Ex R/W
ELK RUN CT
APT. 1 STY.
GARAGE
SHED
RES. 1 STY.
RES. 1½STY.
RES. 2 STY.

HORIZONTAL SCALE IN FEET
0 25 50 100

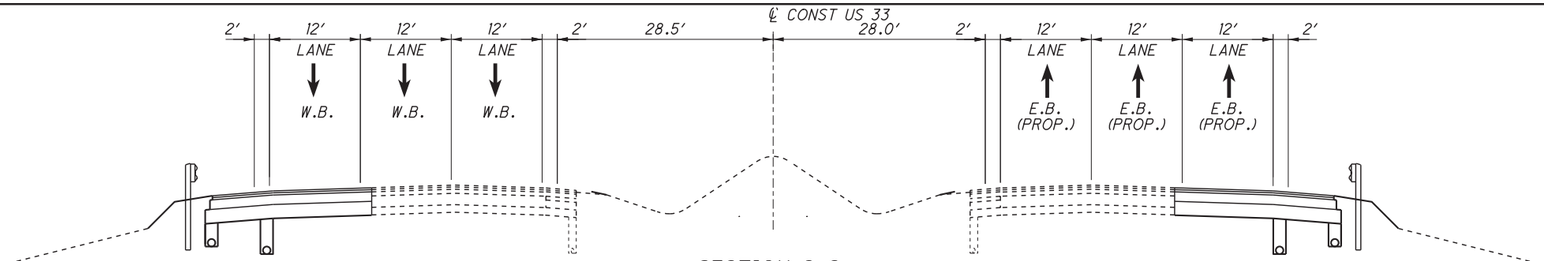
CALCULATED EJC
CHECKED ABS

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

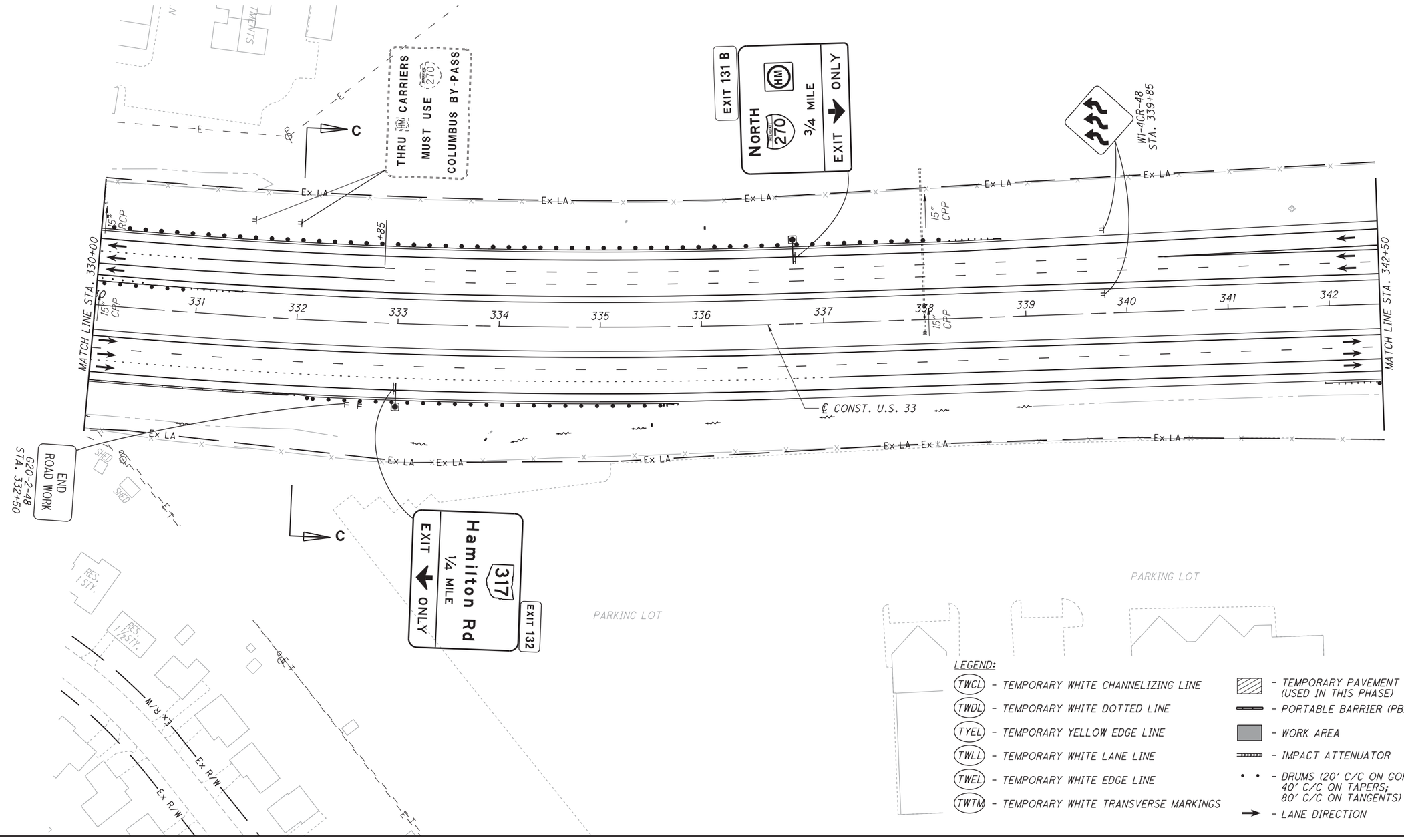
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SECTION C-C
PHASE 3



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
- - 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

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EJC
CHECKED ABS

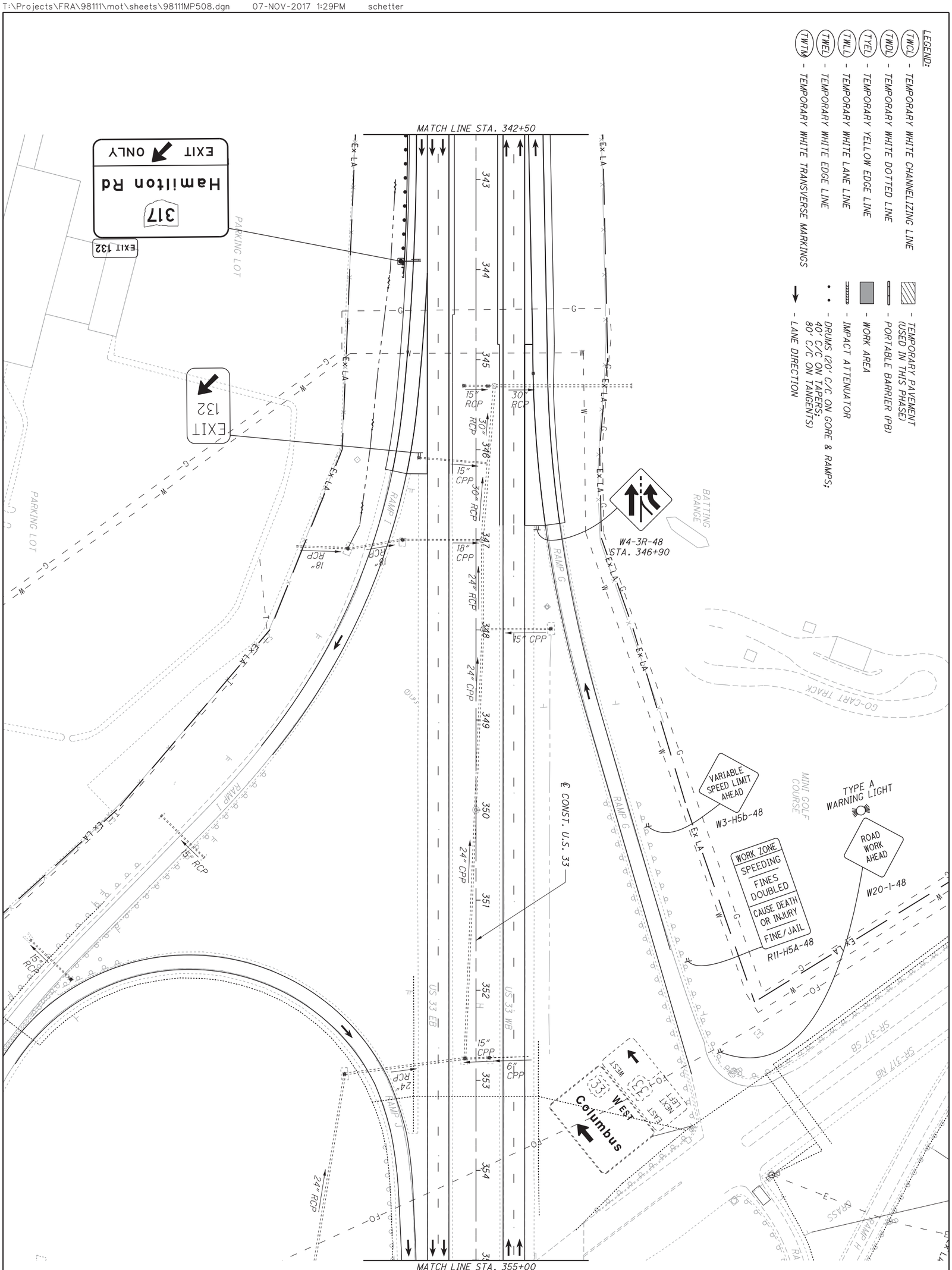
MOT PLAN - PHASE 3
STA. 330+00 TO STA. 342+50

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86 / 287	FRA-33-24.26	MOT PLAN - PHASE 3 STA. 342+50 TO STA. 355+00	CALCULATED EJC CHECKED ABS	0 25 50 100 HORIZONTAL SCALE IN FEET

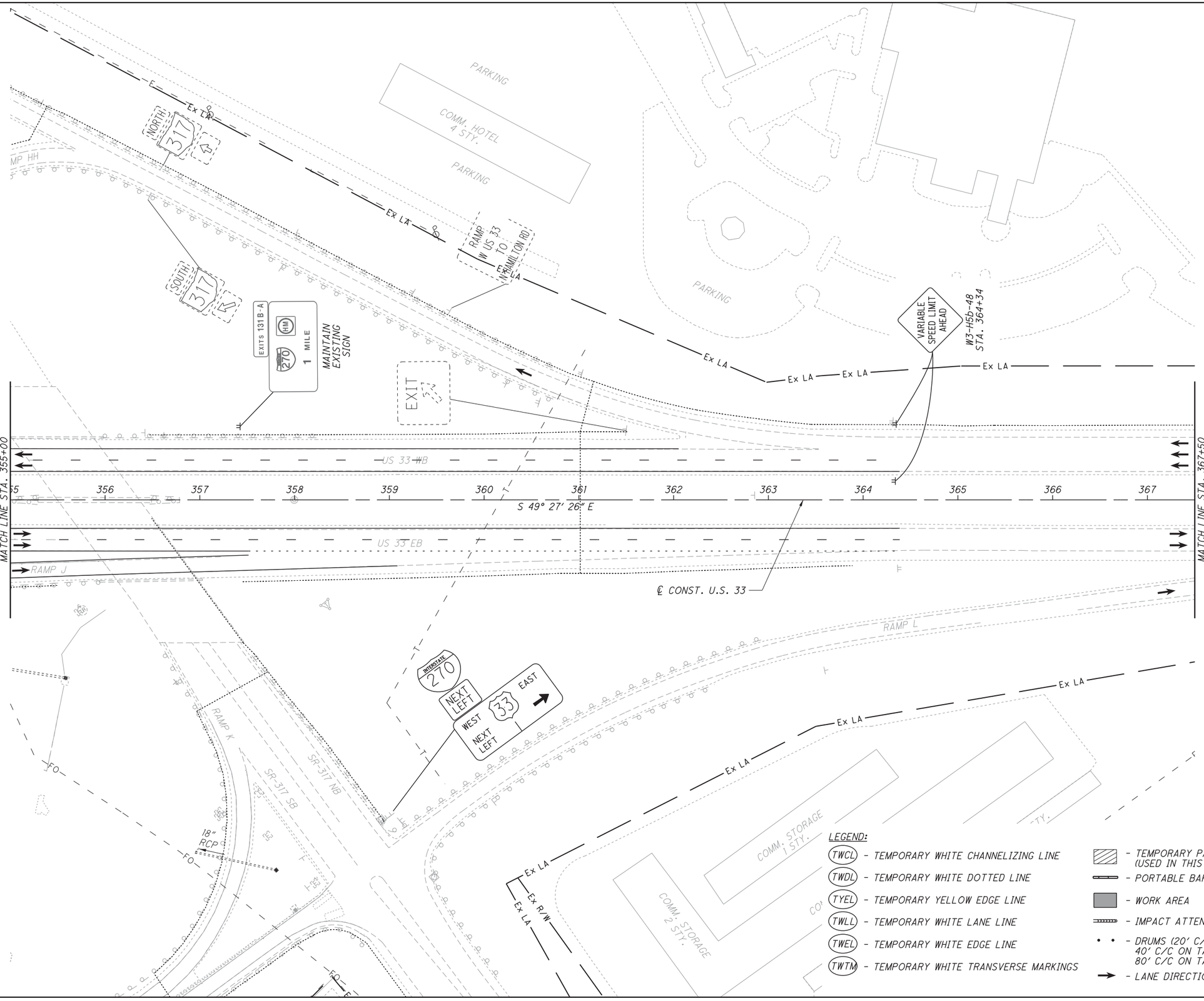
MOT PLAN - PHASE 3
STA. 355+00 TO STA. 367+50

FRA-33-24.26

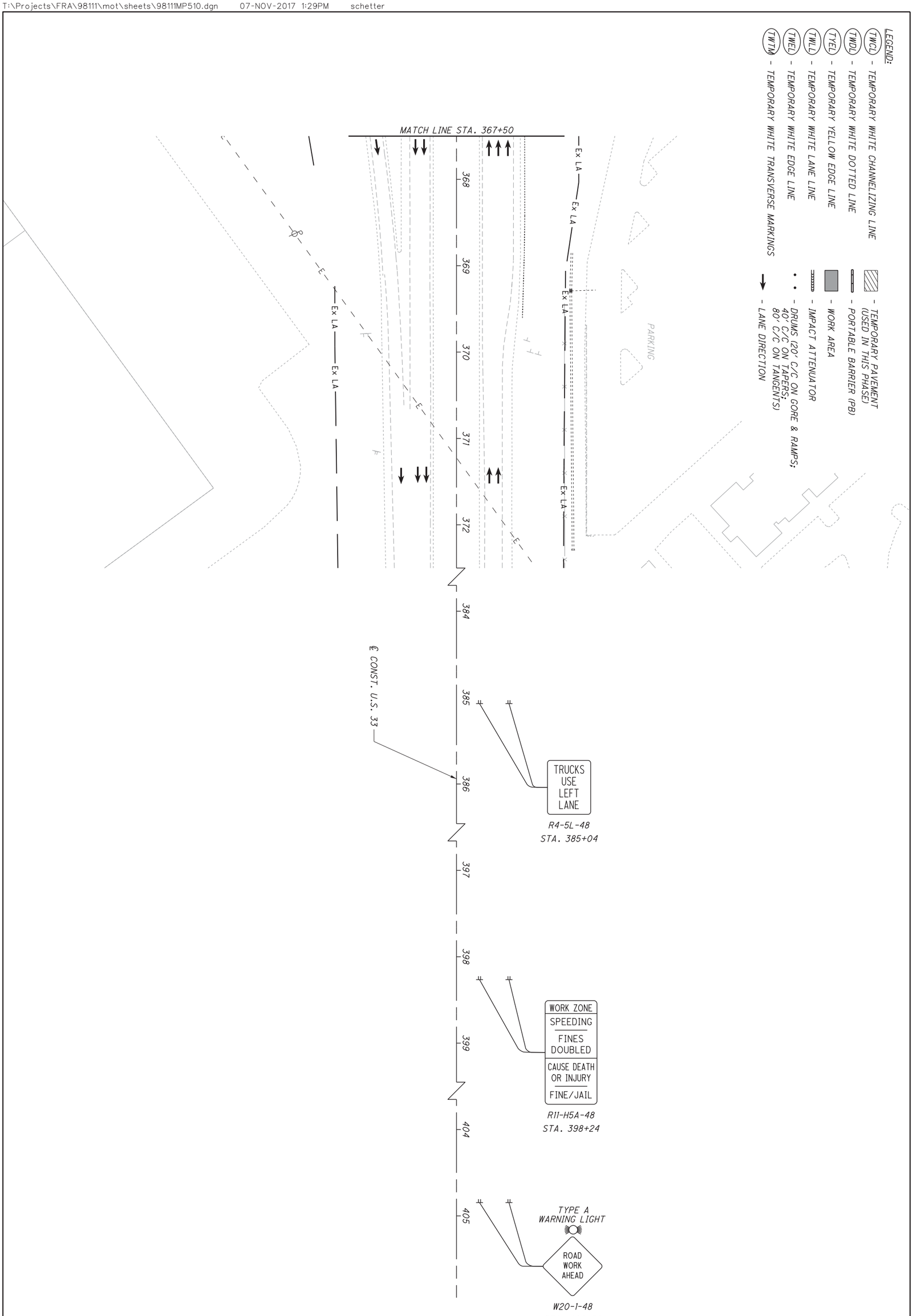
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CALCULATED EJC
CHECKED ABS

HORIZONTAL SCALE IN FEET
0 25 50 100



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

CALCULATED EJC
CHECKED ABS

0 25 50 100
HORIZONTAL SCALE IN FEET

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/SAF/OT							
																			ROADWAY	
LUMP											LUMP				201	11000	LS		CLEARING AND GRUBBING	
								2					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	
								111					111		202	35100	111	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					5		202	58100	5	EACH	CATCH BASIN REMOVED	
								490					490		SPECIAL	20270000	490	FT	FILL AND PLUG EXISTING CONDUIT	
										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
			1								1				606	60022	1	EACH	IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL)	16
			3		1								4		606	60028	4	EACH	IMPACT ATTENUATOR, TYPE 2 (BIDIRECTIONAL)	16
					279								279		609	24000	279	FT	CURB, TYPE 4-A	
					131								131		609	24510	131	FT	CURB, TYPE 4-C	
			20	1,381		184							1,585		622	10160	1,585	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							25					32.2		601	21050	32.2	SY	TIED CONCRETE BLOCK MAT, TYPE 1	
					110								110		601	21060	110	SY	TIED CONCRETE BLOCK MAT, TYPE 2	
								8					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													6.1		659	20000	6.1	TON	COMMERCIAL FERTILIZER	
9.4													9.4		659	31000	9.4	ACRE	LIME	
244													244		659	35000	244	MGAL	WATER	
102													102		659	40000	102	MSF	MOWING	
									484				484		670	00200	484	SY	VEGETATED SWALE EROSION PROTECTION	
									7,966				7,966		670	00500	7,966	SY	SLOPE EROSION PROTECTION	
									252				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	
													LS		832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	

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GENERAL SUMMARY

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SHEET NUM.										PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	15	16	96		116		174		226	01/NHS/ PV	02/NHS/ BR	03/SAF/ OT							
																		DRAINAGE	
							2					2		602	20000	2	CY	CONCRETE MASONRY	
							9,579					9,579		605	11110	9,579	FT	6" SHALLOW PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	
							1,534					1,534		605	13410	1,534	FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	
							5,667					5,667		605	14020	5,667	FT	6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	
	63						771					834		611	01500	834	FT	6" CONDUIT, TYPE F	
							486					486		611	05900	486	FT	15" CONDUIT, TYPE B	
							608					608		611	06100	608	FT	15" CONDUIT, TYPE C	
		400										400		611	08100	400	FT	18" CONDUIT, TYPE E, FOR DRAINAGE CONNECTION	
							17					17		611	13200	17	FT	30" CONDUIT, TYPE A, 706.02	
							2					2		611	98410	2	EACH	CATCH BASIN, NO. 8	
							1					1		611	98630	1	EACH	CATCH BASIN ADJUSTED TO GRADE	
							6					6		611	99114	6	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D	
							1					1		611	99574	1	EACH	MANHOLE, NO. 3	
	4						14					18		611	99710	18	EACH	PRECAST REINFORCED CONCRETE OUTLET	
																		PAVEMENT	
23,308												23,308		204	10000	23,308	SY	SUBGRADE COMPACTION	
7.8												7.8		204	45000	7.8	HOUR	PROOF ROLLING	
10,985												10,985		252	01500	10,985	FT	FULL DEPTH PAVEMENT SAWING	
4,683										4,683				254	01001	4,683	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (1.50")	15
64,590										64,590				254	01001	64,590	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (1.75")	15
18,772										18,772				254	01001	18,772	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (VARIABLE DEPTH)	15
			1,805							1,805				255	10501	1,805	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN, TYPE A	15
			136							136				255	10501	136	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN, TYPE B	15
			8,386							8,386				255	20000	8,386	FT	FULL DEPTH PAVEMENT SAWING	
4,357												4,357		302	46000	4,357	CY	ASPHALT CONCRETE BASE, PG64-22	
6,833												6,833		304	20000	6,833	CY	AGGREGATE BASE	
12,220										10,049		2,171		407	20000	12,220	GAL	NON-TRACKING TACK COAT	
10,006										8,167		1,839		442	00100	10,006	CY	ANTI-SEGREGATION EQUIPMENT	
3,624										2,829		795		442	10000	3,624	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	
1,515										1,462		53		442	10001	1,515	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN (PG76-22M)	15
4,864										3,873		991		442	10100	4,864	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	
					119							119		SPECIAL	45132000	119	FT	PRESSURE RELIEF JOINT, TYPE C	
7.34										5.31		2.03		618	40600	7.34	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)	
			4							4				823	10000	4	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448) (BOND BREAKER)	
22,771										20,438		2,333		875	10000	22,771	LB	LONGITUDINAL JOINT ADHESIVE	
																		LIGHTING	
									6			6		625	00480	6	EACH	CONNECTION, UNFUSED PERMANENT	
									1			1		625	15301	1	EACH	LIGHT TOWER FOUNDATION, 36" X 30' DEEP, AS PER PLAN	224
									556			556		625	24320	556	FT	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	
									1,980			1,980		625	25400	1,980	FT	CONDUIT, 2", 725.04	
									431			431		625	29002	431	FT	TRENCH, 24" DEEP	
									8			8		625	30700	8	EACH	PULL BOX, 725.08, 18"	
									2			2		625	32000	2	EACH	GROUND ROD	
									1			1		625	34011	1	EACH	POWER SERVICE REFURBISHED, AS PER PLAN	224
									1			1		625	35021	1	EACH	RE-ERECT EXISTING LIGHT TOWER, AS PER PLAN	224
									431			431		625	36000	431	FT	PLASTIC CAUTION TAPE	
									1			1		625	75540	1	EACH	LIGHT TOWER FOUNDATION REMOVED	

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GENERAL SUMMARY

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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/SAF/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	
									767	767				625	25750	767	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	
									4	4				625	29931	4	EACH	MEDIAN JUNCTION BOX, AS PER PLAN	219
									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

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GENERAL SUMMARY

FRA-33-24.26

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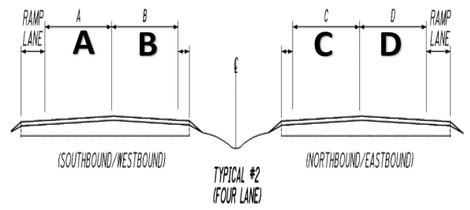
SHEET NUM.									PART.				ALT	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
17	18	19	20	22	24	25	27	184	01/NHS/PV	02/NHS/BR	03/SAF/OT		(X)						
																		NOISE BARRIERS	
								1,122			1,122			SPECIAL	60610200	1,122	SF	NOISE BARRIER (REFLECTIVE), 10' HEIGHT AND UNDER	184
								4,524			4,524			SPECIAL	60610210	4,524	SF	NOISE BARRIER (REFLECTIVE), OVER 10' TO 14' HEIGHT	184
								31,242			31,242			SPECIAL	60610220	31,242	SF	NOISE BARRIER (REFLECTIVE), OVER 14' TO 20' HEIGHT	184
																		NOISE BARRIERS ALTERNATES	
								1,140			1,140		X	SPECIAL	60610200	1,140	SF	NOISE BARRIER (REFLECTIVE), 10' HEIGHT AND UNDER (ALT NO 1)	184
								1,140			1,140		X	SPECIAL	60610000	1,140	SF	NOISE BARRIER, TRANSPARENT ACRYLIC, 10' HEIGHT AND UNDER (ALT NO 2)	16,184
																		STRUCTURE OVER 20 FOOT SPAN (FRA-33-2503L, SFN 2501929)	
										X								STRUCTURE GENERAL SUMMARY	233
																		STRUCTURE OVER 20 FOOT SPAN (FRA-33-2503R, SFN 2501953)	
										X								STRUCTURE GENERAL SUMMARY	233
																		STRUCTURE OVER 20 FOOT SPAN (FRA-33-2509L, SFN 2501988)	
										X								STRUCTURE GENERAL SUMMARY	257
																		STRUCTURE OVER 20 FOOT SPAN (FRA-33-2509R, SFN 2502011)	
										X								STRUCTURE GENERAL SUMMARY	257
																		MAINTENANCE OF TRAFFIC	
120									120					203	10000	120	CY	EXCAVATION	
1,000									1,000					203	20000	1,000	CY	EMBANKMENT	
	2,589								2,589					254	01000	2,589	SY	PAVEMENT PLANING, ASPHALT CONCRETE; 1.5" OR AS DIRECTED BY ENGINEER	
40									40					410	12000	40	CY	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
423									423					411	10000	423	CY	STABILIZED CRUSHED AGGREGATE	
LUMP									LUMP					614	11001	LS		MAINTAINING TRAFFIC, AS PER PLAN	17
				1,750					1,750					614	11110	1,750	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
					18				18					614	11500	18	MNTH	WORKSITE TRAFFIC SUPERVISOR	
							18		18					614	12336	18	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
									LS					614	12420	LS		DETOUR SIGNING	
24									24					614	12460	24	EACH	WORK ZONE MARKING SIGN	
		21							21					614	12484	21	EACH	WORK ZONE INCREASED PENALTIES SIGN	
		10							10					614	12500	10	EACH	REPLACEMENT SIGN	
		25							25					614	12600	25	EACH	REPLACEMENT DRUM	
				1,790					1,790					614	12801	1,790	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	22
100									100					614	13000	100	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
				1,467					1,467					614	13310	1,467	EACH	BARRIER REFLECTOR, TYPE 1 , ONE WAY	
				111					111					614	13312	111	EACH	BARRIER REFLECTOR, TYPE 2 , ONE WAY	
				600					600					614	13350	600	EACH	OBJECT MARKER, ONE WAY	
			25,000						25,000					614	18000	25,000	EACH	MAINTAINING TRAFFIC, MISC.: BRIDGE DECK AND PAVEMENT PATCHING	20
4									4					614	18600	4	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN	
			10						10					614	18601	10	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	20
	70								70					614	18700	70	SNMT	DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	
3							9.17		12.17					614	20000	12.17	MILE	WORK ZONE LANE LINE, CLASS I, 4"	
2.5									2.5					614	20000	2.5	MILE	WORK ZONE LANE LINE, CLASS I, 4", SPRAY THERMOPLASTIC, AS PER PLAN	17
6							22.81		28.81					614	22000	28.81	MILE	WORK ZONE EDGE LINE, CLASS I, 4"	
6.25									6.25					614	22000	6.25	MILE	WORK ZONE EDGE LINE, CLASS I, 4", SPRAY THERMOPLASTIC, AS PER PLAN	17
1,000							19,825		20,825					614	23000	20,825	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8"	
6,000									6,000					614	23000	6,000	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8", SPRAY THERMOPLASTIC, AS PER PLAN	17
							20,723		20,723					614	24000	20,723	FT	WORK ZONE DOTTED LINE, CLASS I	
6,500									6,500					614	24000	6,500	FT	WORK ZONE DOTTED LINE, CLASS I, SPRAY THERMOPLASTIC, AS PER PLAN	17
LUMP									LUMP					615	10000	LS		ROADS FOR MAINTAINING TRAFFIC	
						9,482			9,482					615	20000	9,482	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
			1,000						1,000					615	25001	1,000	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN (CONTINGENCY)	20
			150						150					615	25001	150	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN (TYPE 1)	20
			1,800						1,800					615	25001	1,800	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN (TYPE 2)	20
1,000	200								1,200					616	10000	1,200	MGAL	WATER	
							24,440		24,440					622	41000	24,440	FT	PORTABLE BARRIER, 32"	
							17,330		17,330					873	10000	17,330	FT	WET REFLECTIVE REMOVABLE TAPE	
	28								28					896	00012	28	SNMT	PORTABLE NON-INTRUSIVE TRAFFIC SENSOR, CLASS II	
	8								8					896	00021	8	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	18
																		INCIDENTALS	
									LS					614	11000	LS		MAINTAINING TRAFFIC	
									18					619	16010	18	MNTH	FIELD OFFICE, TYPE B	
									LS					623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
									LS					624	10000	LS		MOBILIZATION	

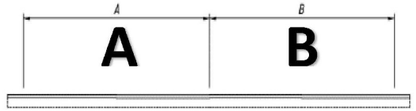
CALCULATED K.S.J
CHECKED N.C.K

GENERAL SUMMARY

FRA-33-24.26

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LOCATION							LANE						255	255					
PRIORITY	ROUTE	SIDE	STATE LOG	BEGIN SLM	LENGTH OF REPAIR	WIDTH OF REPAIR	 TYPICAL #2 (FOUR LANE)						FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN, TYPE A	FULL DEPTH PAVEMENT SAWING					COMMENTS
1 = HIGHEST 2 = MEDIUM 3 = LOWEST					FT	FT	RAMP LANE	A	B	C	D	RAMP LANE	SY	FT					
1	US-33	EB	130.58	24.31	24	6				X	X		16.00	72					
1	US-33	EB	130.60	24.33	24	6				X	X		16.00	72					
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	72					
1	US-33	EB											88.00	492					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	108					
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	72					
1	US-33	WB	131.20	24.93	24	6		X	X				16.00	72					
1	US-33	WB	131.36	25.09	36	6	X	X	X				24.00	108					
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	132.41	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	72					
1	US-33	WB	132.42	26.15	12	6	X						8.00	36					
1	US-33	WB											112.00	612					FOR USE - AS DIRECTED BY THE ENGINEER

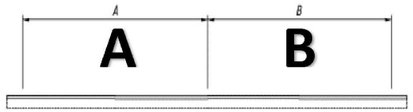
LOCATION							LANE								255	255		
PRIORITY	ROUTE	SIDE	STATE LOG	BEGIN SLM	LENGTH OF REPAIR	WIDTH OF REPAIR	 TYPICAL #5 (1 LANE RAMP/CD ROAD)		 TYPICAL #6 (2 LANE RAMP/CD ROAD)						FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN, TYPE A	FULL DEPTH PAVEMENT SAWING		COMMENTS
1 = HIGHEST 2 = MEDIUM 3 = LOWEST					FT	FT		A	B						SY	FT		
US-33 WEST TO HAMILTON RD. RAMP																		
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					43	5		X							23.89	116		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					35	5		X							19.44	100		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					5	10		X							5.56	30		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					24	6		X							16.00	72		RAMP STARTS DOG LEG SPLIT
1					17	6			X						11.33	46		DOG LEG RAMP
1					17	6			X						11.33	46		DOG LEG RAMP
1					17	6			X						11.33	46		DOG LEG RAMP
1					17	6			X						11.33	46		DOG LEG RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
1					17	6		X							11.33	46		JOINT / US-33 W TO HAMILTON RD. RAMP
HAMILTON RD. TO US-33 WEST RAMP																		
1					20	6		X							13.33	64		HAMILTON RD. TO US-33 WEST RAMP
1					20	4		X							8.89	60		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					5	2		X							1.11	14		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
1					17	6		X							11.33	46		HAMILTON RD. TO US-33 WEST RAMP
																		SEE GENERAL NOTE SHEET 15 FOR LOCATION DETERMINATION
TOTALS THIS SHEET															599	2,526		

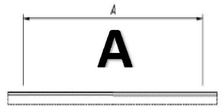
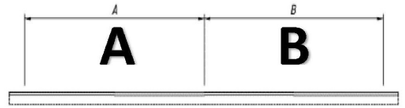
CALCULATED K.S.J
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FULL DEPTH PAVEMENT REPAIR SUBSUMMARY

FRA-33-24.26

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LOCATION							LANE								255	255		
PRIORITY	ROUTE	SIDE	STATE LOG	BEGIN SLM	LENGTH OF REPAIR	WIDTH OF REPAIR	 TYPICAL #5 (1 LANE RAMP/CD ROAD)		 TYPICAL #6 (2 LANE RAMP/CD ROAD)						FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN, TYPE A	FULL DEPTH PAVEMENT SAWING		COMMENTS
1 = HIGHEST 2 = MEDIUM 3 = LOWEST					FT	FT		A	B						SY	FT		
US-33 EAST TO HAMILTON RD. RAMP																		
1					17	6		X							11.33	46		US-33 EAST TO HAMILTON RD. RAMP

LOCATION							LANE								255	255	255	823	
PRIORITY	ROUTE	SIDE	STATE LOG	BEGIN SLM	LENGTH OF REPAIR	WIDTH OF REPAIR	 TYPICAL #5 (1 LANE RAMP/CD ROAD)		 TYPICAL #6 (2 LANE RAMP/CD ROAD)						FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN, TYPE A	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN, TYPE B	FULL DEPTH PAVEMENT SAWING	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448) (BOND BREAKER)	COMMENTS
1 = HIGHEST 2 = MEDIUM 3 = LOWEST					FT	FT		A	B						SY	SY	FT	CY	
HAMILTON RD. SOUTH TO US-33 RAMP																			
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
1					17	6		X							11.33		46		HAMILTON RD. SOUTH TO US-33 RAMP
IR-270 SB RAMP TO US-33 EB																			
1	IR-270	RT		46.18	17	6		X								11.33	46	0.31	IR-270 SB RAMP TO US-33 EB
1					17	6		X								11.33	46	0.31	IR-270 SB RAMP TO US-33 EB
1					17	6		X								11.33	46	0.31	IR-270 SB RAMP TO US-33 EB
1					17	6		X								11.33	46	0.31	IR-270 SB RAMP TO US-33 EB
1					17	6		X								11.33	46	0.31	IR-270 SB RAMP TO US-33 EB
1					17	6		X								11.33	46	0.31	IR-270 SB RAMP TO US-33 EB
1																22.66	92	0.63	FOR USE - AS DIRECTED BY THE ENGINEER
US-33 WB RAMP TO IR-270 NB																			
1					17	6		X								11.33	46	0.31	US-33 WB RAMP TO IR-270 NB
1					17	6		X								11.33	46	0.31	US-33 WB RAMP TO IR-270 NB
1					17	6		X								11.33	46	0.31	US-33 WB RAMP TO IR-270 NB
1					17	6		X								11.33	46	0.31	US-33 WB RAMP TO IR-270 NB
																			SEE GENERAL NOTE SHEET 15 FOR LOCATION DETERMINATION
TOTALS THIS SHEET															340	136	1,932	4	
TOTALS FROM SHEET 93															480		2,364		
TOTALS FROM SHEET 94															599		2,526		
TOTALS FROM SHEET 95															386		1,564		
TOTALS CARRIED TO GENERAL SUMMARY															1,805	136	8,386	4	

CALCULATED K.S.J
CHECKED NCK

FULL DEPTH PAVEMENT REPAIR SUBSUMMARY

FRA-33-24.26

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SHEET NO.	STATION TO STATION			203 EXCAVATION CY	203 EMBANKMENT CY	203 GRANULAR MATERIAL, TYPE B CY	203 GRANULAR MATERIAL, TYPE D CY	659 SEEDING AND MULCHING 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:

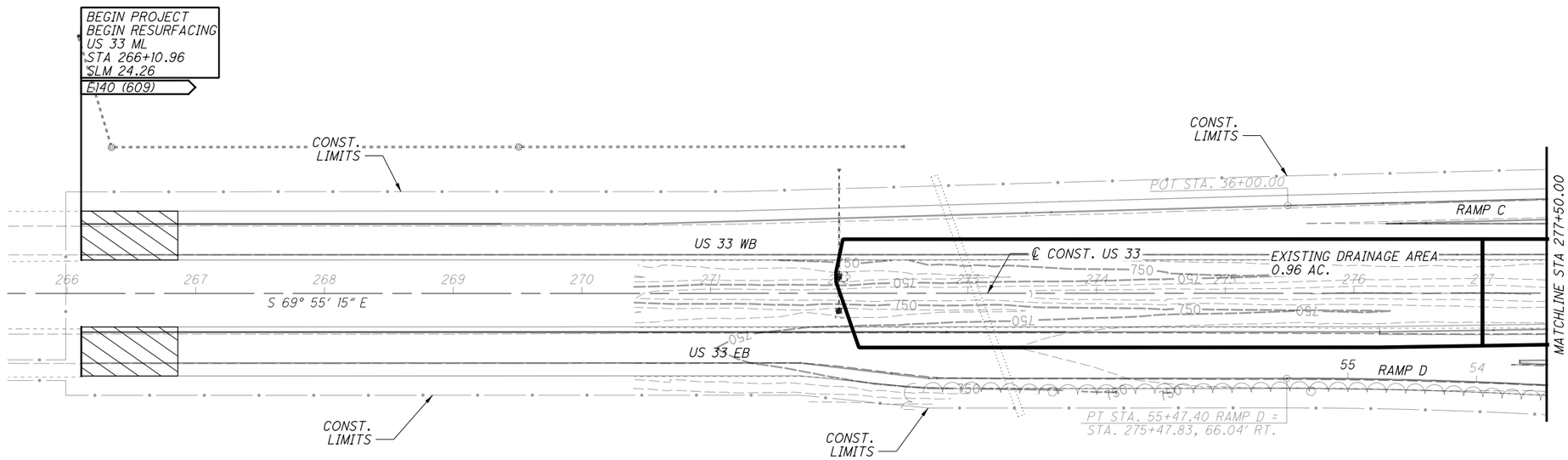
ESTIMATED SPECIAL BENCHING EARTHWORK TOTAL IS 10,109 CY (IT IS INCORPORATED INTO QUANTITIES SHOWN)
EXCAVATION AND EMBANKMENT CARRIED TO GENERAL SUMMARY, SEE SHEET 89
SEEDING & MULCHING CARRIED TO GENERAL NOTES, SEE SHEET 14

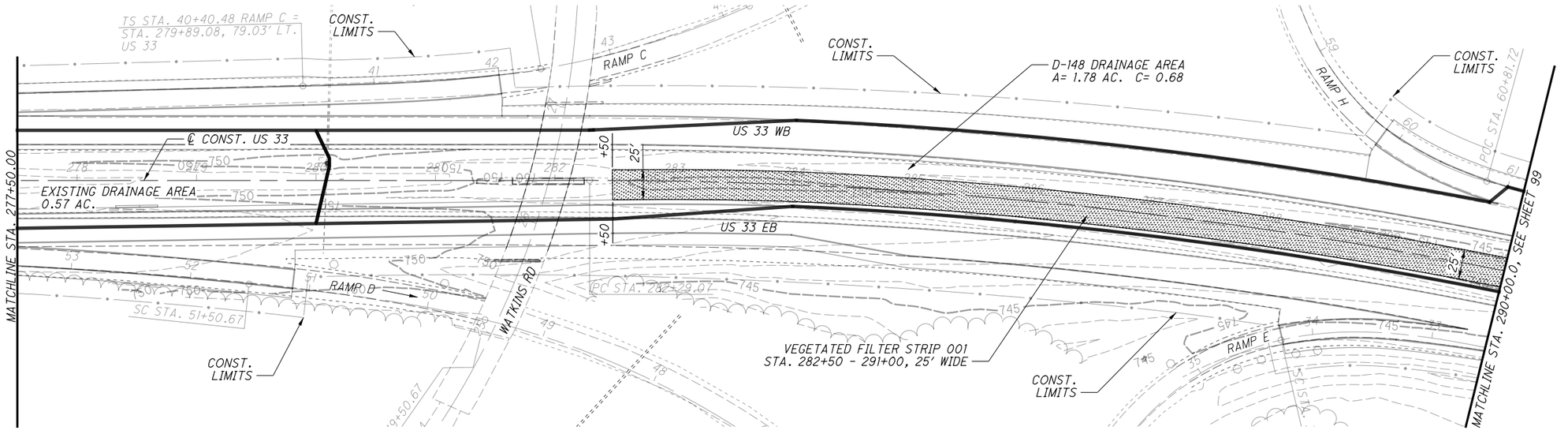
CALCULATED K.S.J
CHECKED NCK

EARTHWORK AND SEEDING SUBSUMMARY

FRA-33-24.26

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LEGEND

ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)

FOR POST-CONSTRUCTION STORM WATER BMP INFORMATION
SEE SHEETS 102

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED ECH
CHECKED SSK

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

FRA-33-24.26

98
287

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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

CS STA. 48+98.71

ST STA. 49+11.93 RAMP G=
STA. 846+17.00, 78.00' LT., IR 270

PT STA. 62+30.04

PCC STA. 60+85.29

CONST. LIMITS

D-147
MH No.3
48"ϕ

D-146
CB No.8
48"ϕ

D-148
CB No.8

IR-270 SB

RAMP G

US 33 WB

℄ CONST. US 33

15" TYPE C

15" TYPE B

+00

MATCH-LINE STA. 290+00.00 SHEET 98

MATCH-LINE STA. 302+50.00

D-103 DRAINAGE AREA
A= 1.56 AC. C= 0.69

FEMA ZONE AE

FEMA 100-YEAR
FLOODPLAIN BOUNDARY

D-103
Ex. CB

D-102 EX. CB
TO BE REMOVED

FEMA ZONE X

US 33 EB

RAMP F

RAMP A

D-105 DRAINAGE AREA
A= 0.97 AC. C= 0.71

ST STA. 34+02.40

ST STA. 32+27.05

SC STA. 44+79.46

N 37° 26' 03" E

S 34° 20' 00" E

BEGIN PAVMT. WIDENING
US 33 ML WB & EB
STA. 308+14.75, 65.00' LT
SLM

MATCH-LINE STA. 315+00.0, SEE SHEET 100

D-103
DRAINAGE AREA

D-105
EX. CB

BRIDGE FLUME
DRAINAGE AREA
A= 0.06 AC. C= 0.90

D-107
EX. CB

VEGETATED BIOFILTER No. 1 - STA. 308+25 - 309+00

VEGETATED BIOFILTER No. 1 - STA. 309+00 - 310+00

D-109
EX. CB

D-111
EX. CB

BIG WALNUT
CREEK

NOISE
WALL
NO 1

22'

+25

BRIDGE FLUME
DRAINAGE AREA
A= 0.13 AC. C= 0.90

D-105 DRAINAGE AREA
A= 0.51 AC. C= 0.76

D-107 DRAINAGE AREA
A= 0.20 AC. C= 0.70

D-109 DRAINAGE AREA
A= 0.59 AC. C= 0.81

D-105 DRAINAGE AREA
A= 0.42 AC. C= 0.74

VEGETATED FILTER STRIP
No. 2

NOTES:

(1) DM-1.1 PRECAST REINFORCED CONCRETE OUTLET

(2) DM-4.1 EROSION CONTROL FLUME

LEGEND

ITEM 670 - VEGETATED SWALE EROSION PROTECTION (VEGETATED BIOFILTER)

ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED ECH
CHECKED SSK

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

FRA-33-24.26

99
287

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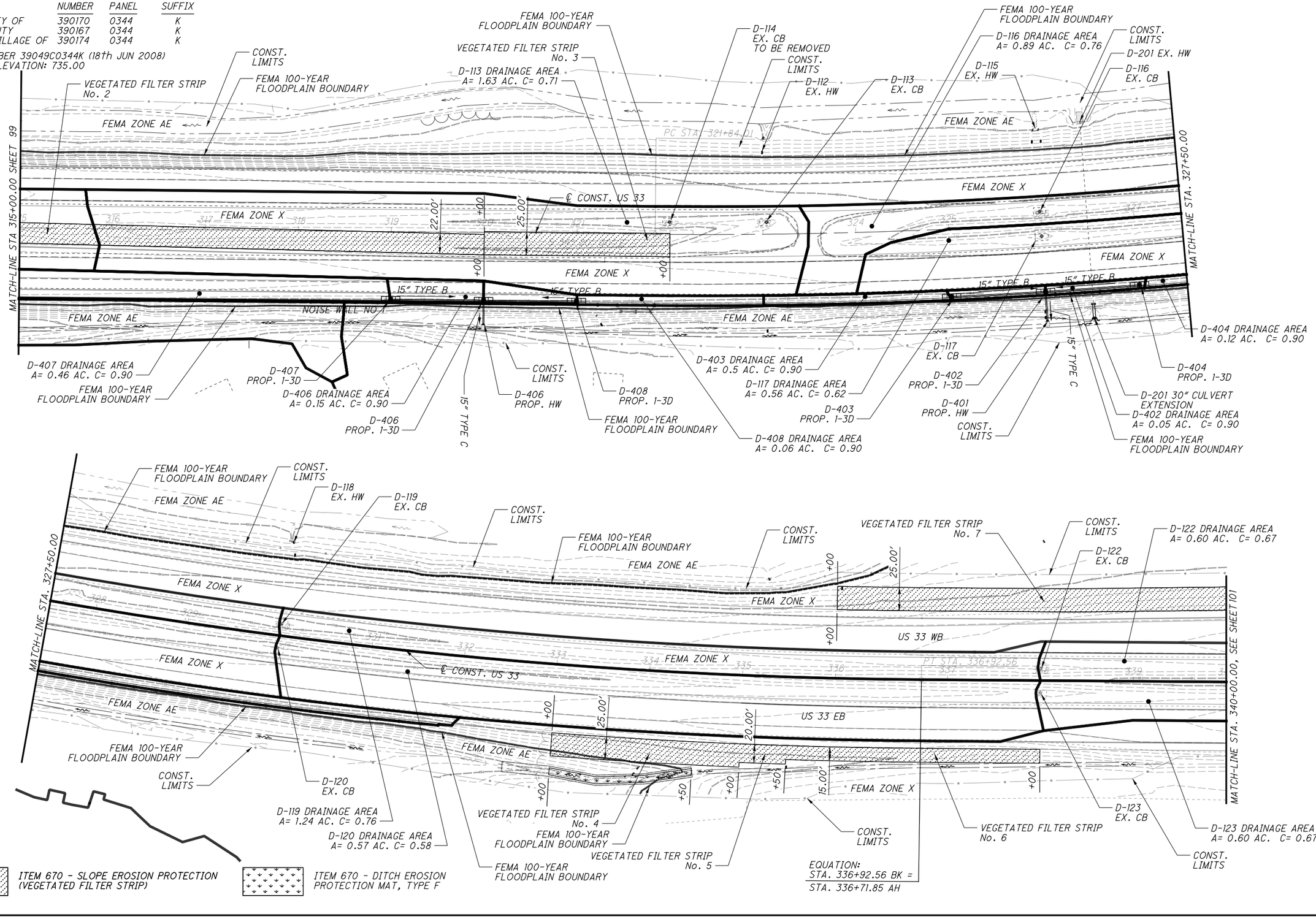
NOTES:

(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

HORIZONTAL SCALE IN FEET
0 25 50 100

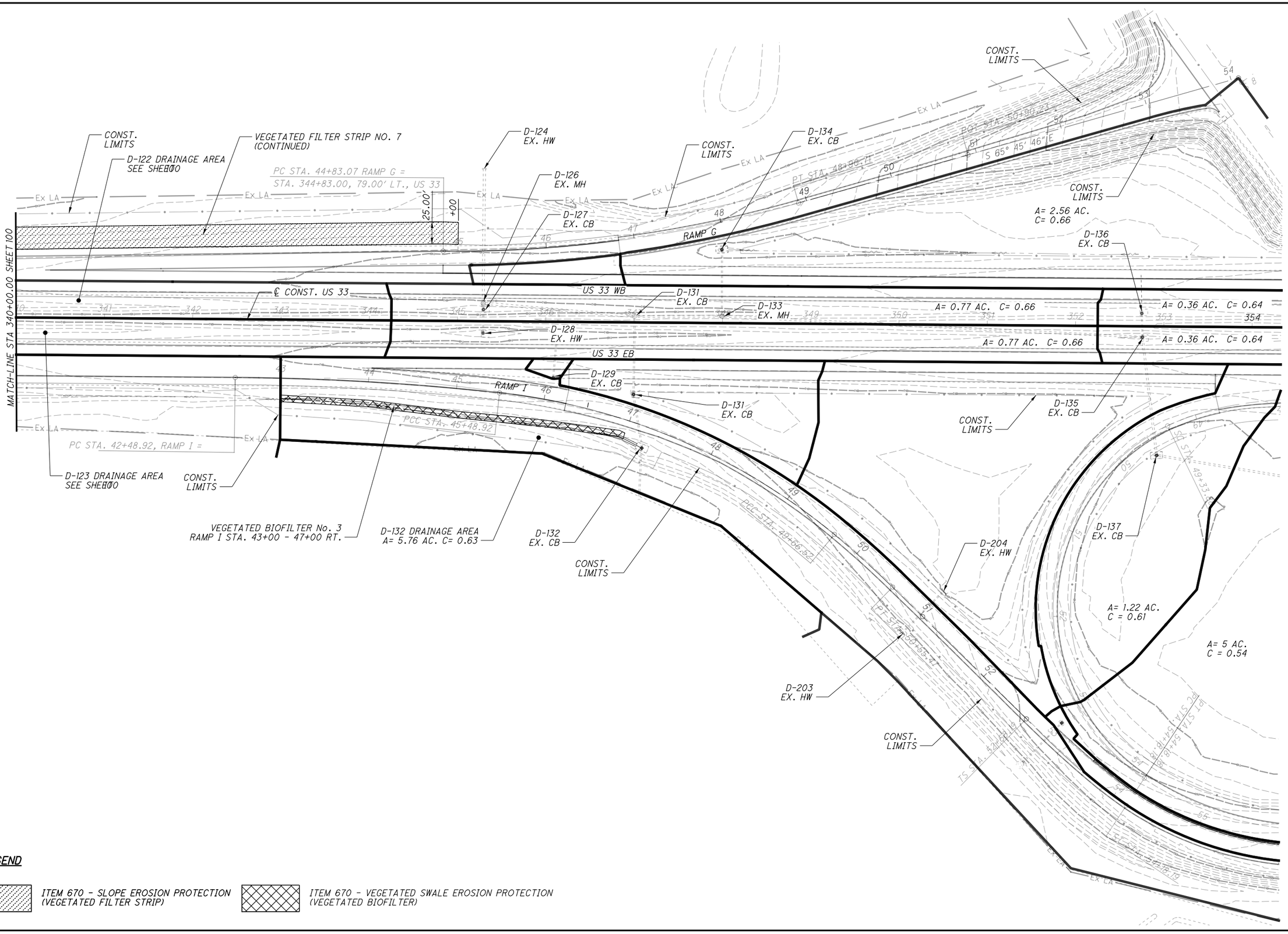
CALCULATED CFR
CHECKED ECH

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

FRA-33-24.26

100
287

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LEGEND

ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)

ITEM 670 - VEGETATED SWALE EROSION PROTECTION (VEGETATED BIOFILTER)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED ECH
CHECKED SSK

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

FRA-33-24.26

101
287

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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 ACCORDACE 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	START LATITUDE	START LONGITUDE	END LATITUDE	END 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	START LATITUDE	START LONGITUDE	END LATITUDE	END 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.
PROJECT EARTH DISTURBED AREA (FIGURE 1112-1(A))	20.412 AC.
ESTIMATED CONTRACTOR EARTH DISTURBED AREA (FIGURE 1112-1(K))	2.56 AC.
NOTICE OF INTENT EARTH DISTURBED AREA (FIGURE 1112-1(M))	22.972 AC.
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.70
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.71
TOTAL IMPERVIOUS AREA (PRE-CONSTRUCTION)	23.436 AC.
TOTAL IMPERVIOUS AREA (POST-CONSTRUCTION)	25.660 AC.

SOIL MAP REFERENCE	FRANKLIN COUNTY SOIL MAP (WEB SOIL SURVEY)
IMMEDIATE RECEIVING WATERS	TRIBUTARIES TO BIG WALNUT CREEK
SUBSEQUENT RECEIVING WATERS	BIG WALNUT CREEK
LATITUDE	N 39° 53' 51"
LONGITUDE	W 82° 53' 35"
USGS MAP REFERENCE	SOUTHEAST COLUMBUS, REYNOLDSBURG, CANAL WINCHESTER QUADRANGLES

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

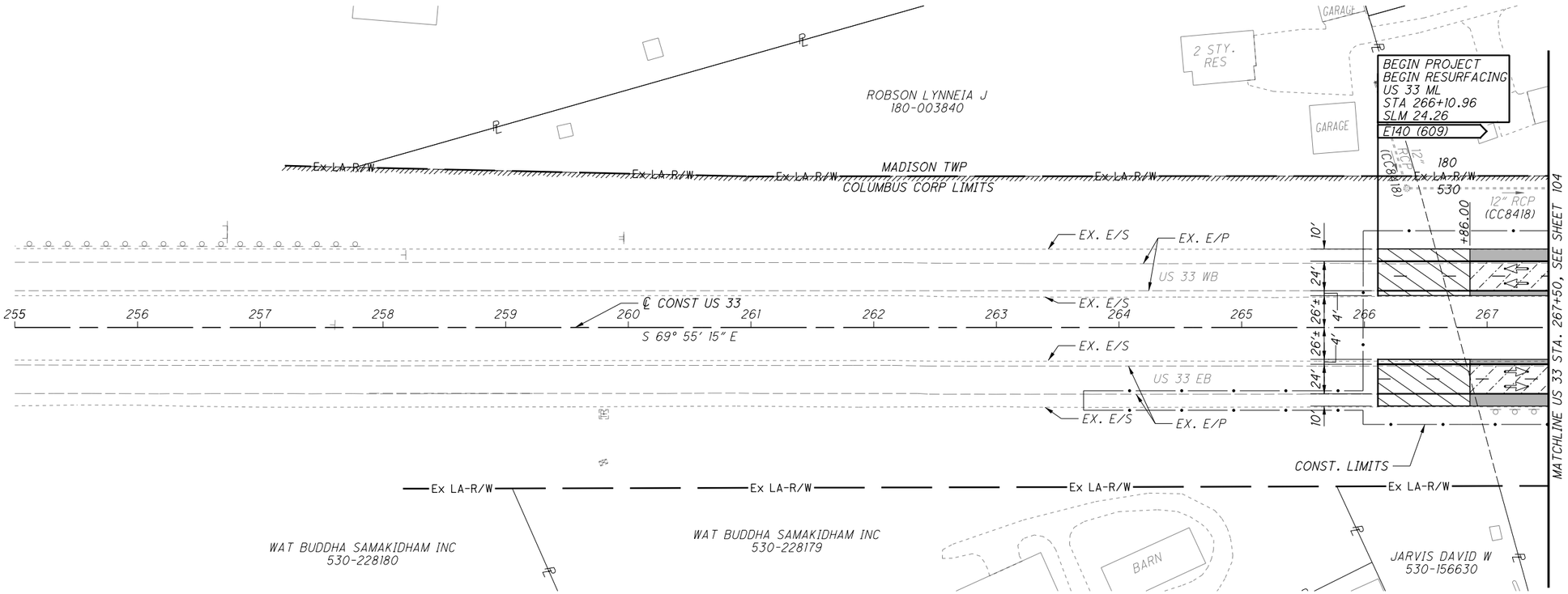
CALCULATED ECH
CHECKED BSB

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 ℄ REFERENCES AND BENCHMARKS, SEE SHEETS 2–5

FOR SUBSUMMARY, SEE SHEET 108

FOR CROSS SECTIONS, SEE SHEETS 128–162

HORIZONTAL SCALE IN FEET
0 25 50 100

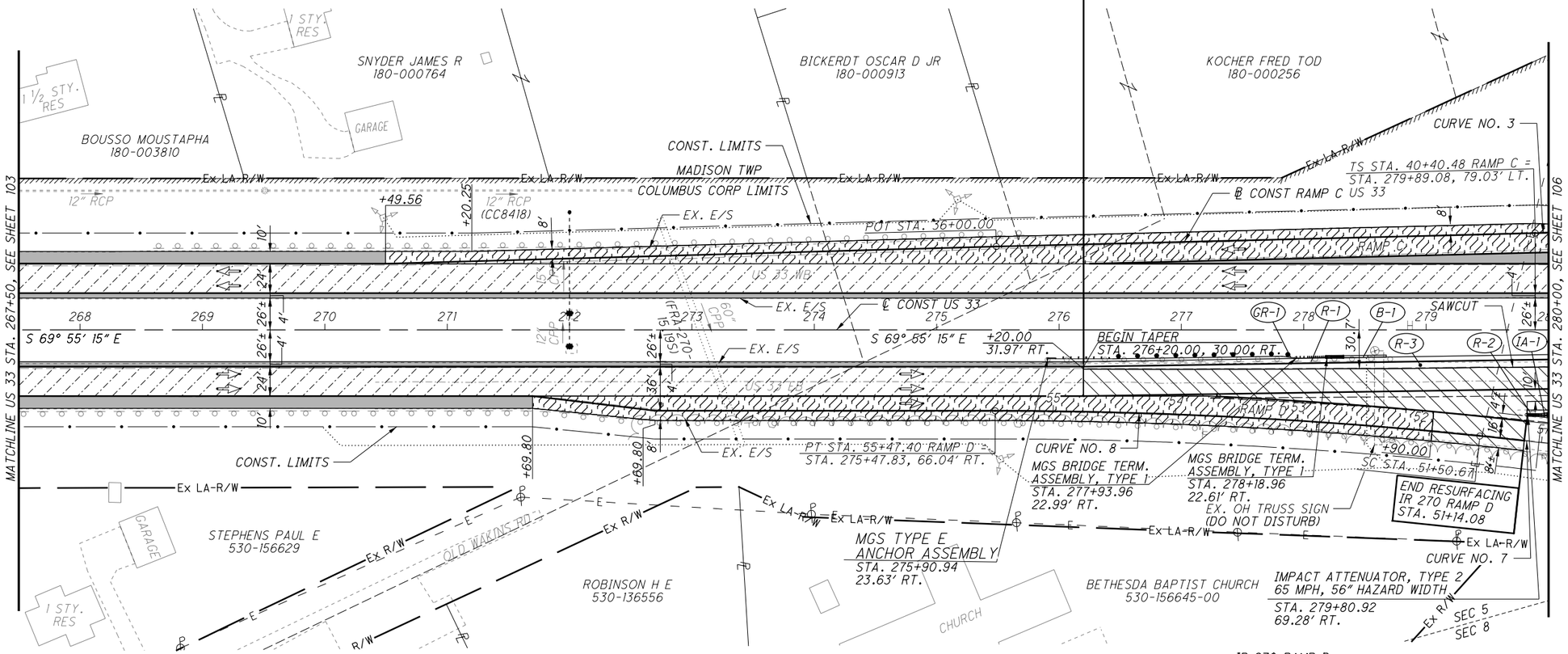
CALCULATED CFR
CHECKED SSK

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

FRA-33-24.26

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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)



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 C

EX. CURVE DATA NO. 3
P.I. STA. 43+37.19
Δ = 30° 37' 52" (LT)
Dc = 8° 00' 00"
R = 716.20'
Ls = 200.00'
θs = 8° 00' 00"
LT = 133.47'
ST = 66.79'
x = 199.61'
y = 9.30'
k = 99.94'
p = 2.33'
Δc = 14° 37' 52" (LT)
Lc = 182.89'
Ts = 296.71'
Es = 28.78'
e_{max} = 0.083
TS STA. 40+40.48
ST STA. 46+23.37

IR 270 RAMP D

EX. CURVE DATA NO. 7
P.I. STA. 47+46.55
Δ = 52° 57' 21" (LT)
Dc = 8° 00' 00"
R = 716.20'
Ls = 200.00'
θs = 8° 00' 00"
LT = 133.47'
ST = 66.79'
x = 199.61'
y = 9.30'
k = 99.94'
p = 2.33'
Δc = 36° 57' 21" (LT)
Lc = 461.95'
Ts = 457.83'
Es = 86.53'
e_{max} = 0.083
TS STA. 42+88.72
SC STA. 51+50.67

PROP. CURVE DATA NO. 8
P.I. STA. 53+49.21
Δ = 5° 57' 03" (LT)
Dc = 1° 30' 00"
R = 3,819.72'
T = 198.54'
L = 396.73'
E = 5.16'
e_{max} = 0.041
SC STA. 51+50.67
PT STA. 55+47.40

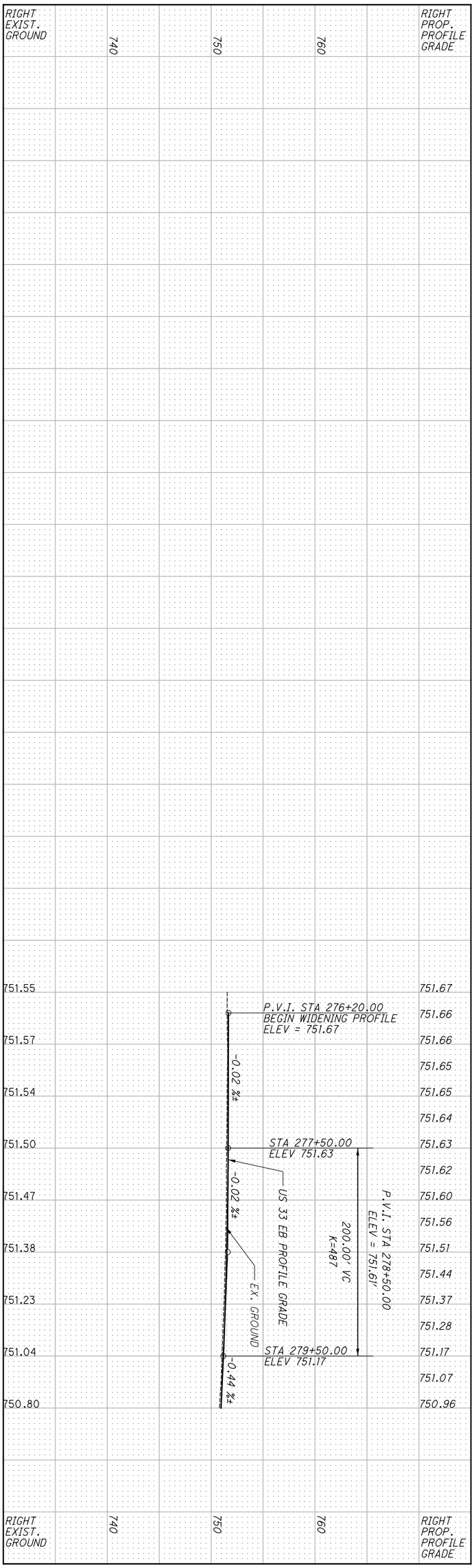
FOR ℄ REFERENCES AND BENCHMARKS, SEE SHEETS 2–5
FOR SUBSUMMARY, SEE SHEET 108
FOR CROSS SECTIONS, SEE SHEETS 128–162

HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED CFR
CHECKED SSK

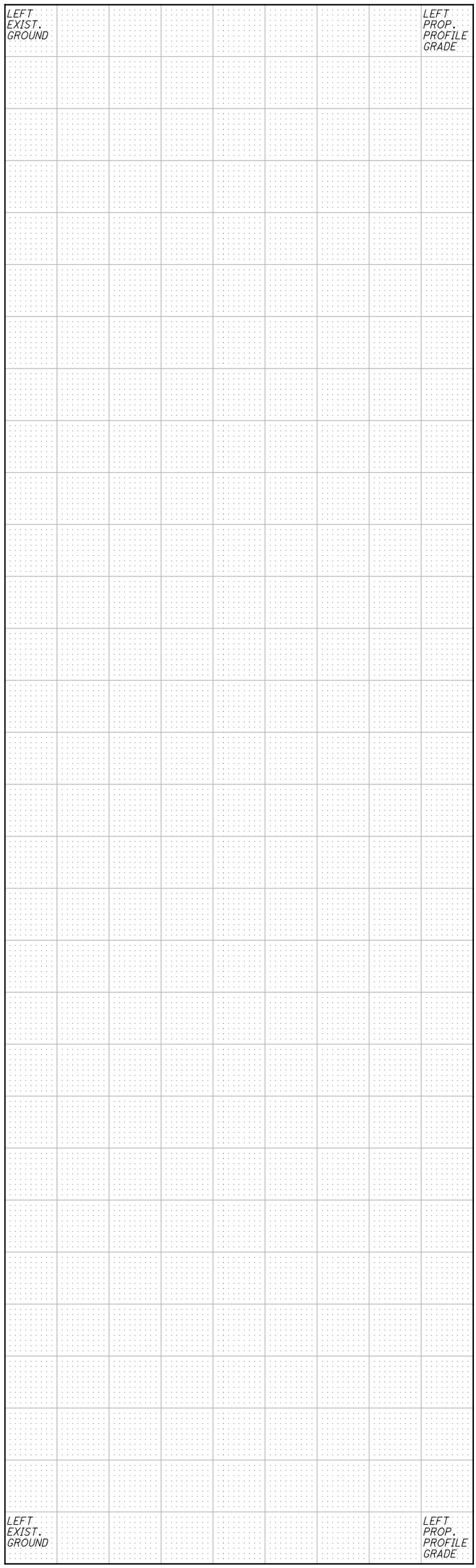
PLAN - U.S. 33 STA. 267+50 TO STA. 280+00

FRA-33-24.26

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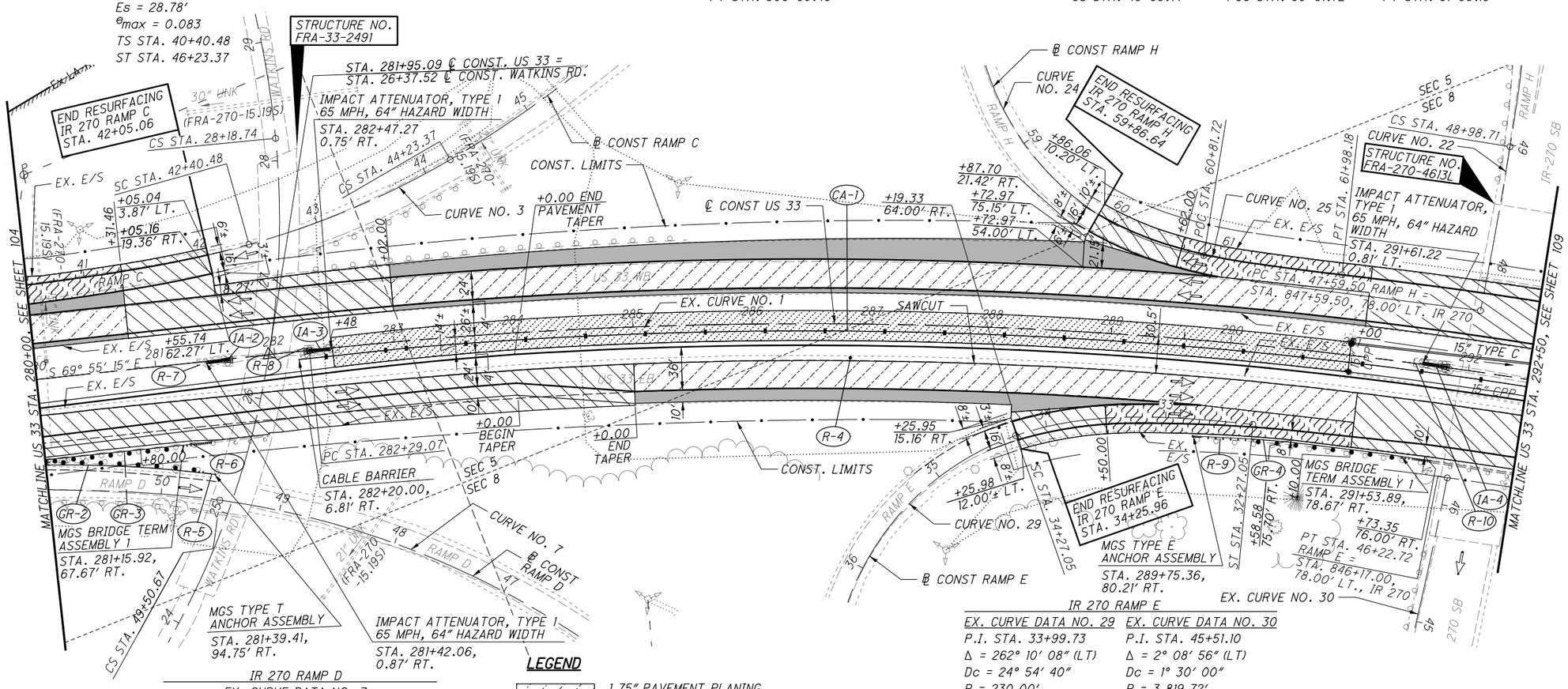
NOTE: "RT" AND "LT" NOTATIONS ARE WITH RESPECT TO ℄ CONSTRUCTION US-33.



FRA-33-24.26

PROFILE - US 33
STA. 276+00 TO STA. 280+00

CALCULATED KSJ
CHECKED BBB



IR 270 RAMP C
EX. CURVE DATA NO. 3

- P.I. STA. 43+27.19
- Δ = 30° 37′ 52″ (LT)
- Dc = 8° 00′ 00″
- R = 716.20′
- Ls = 200.00′
- θs = 8° 00′ 00″
- LT = 133.47′
- ST = 66.79′
- x = 199.61′
- y = 9.30′
- k = 99.94′
- p = 2.33′
- Δc = 14° 37′ 52″ (LT)
- Lc = 182.89′
- Ts = 296.71′
- Es = 28.78′
- e_{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
- Δ = 35° 35′ 15″ (RT)
- Dc = 1° 28′ 00″
- R = 3,906.53′
- T = 1,253.78′
- L = 2,426.42′
- E = 196.27′
- e_{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
Δ = 2° 05′ 18″ (LT)	Δ = 244° 52′ 40″ (LT)	Δ = 2° 54′ 41″ (LT)
Dc = 1° 30′ 00″	Dc = 24° 54′ 40″	Dc = 2° 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′
e_{max} = NC	e_{max} = 0.083	e_{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

IR 270 RAMP D
EX. CURVE DATA NO. 7

P.I. STA. 47+46.55	k = 99.94′
Δ = 52° 57′ 21″ (LT)	p = 2.33′
Dc = 8° 00′ 00″	Δc = 36° 57′ 21″ (LT)
R = 716.20′	Lc = 461.95′
Ls = 200.00′	Ts = 457.83′
θs = 8° 00′ 00″	Es = 86.53′
LT = 133.47′	e_{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
Δ = 262° 10′ 08″ (LT)	Δ = 2° 08′ 56″ (LT)
Dc = 24° 54′ 40″	Dc = 1° 30′ 00″
R = 230.00′	R = 3,819.72′
Ls = 200.00′	T = 71.64′
θs = 24° 54′ 40″	L = 143.26′
LT = 134.68′	E = 0.67′
ST = 67.89′	e_{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′	
Δc = 212° 20′ 47″ (LT)	
Lc = 852.41′	
Ts = 172.68′	
Es = 18.27′	
e_{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 ℄ REFERENCES AND BENCHMARKS, SEE SHEETS 2–5

FOR SUBSUMMARY, SEE SHEET 108

FOR CROSS SECTIONS, SEE SHEETS 128–162

HORIZONTAL SCALE IN FEET
0 25 50 100

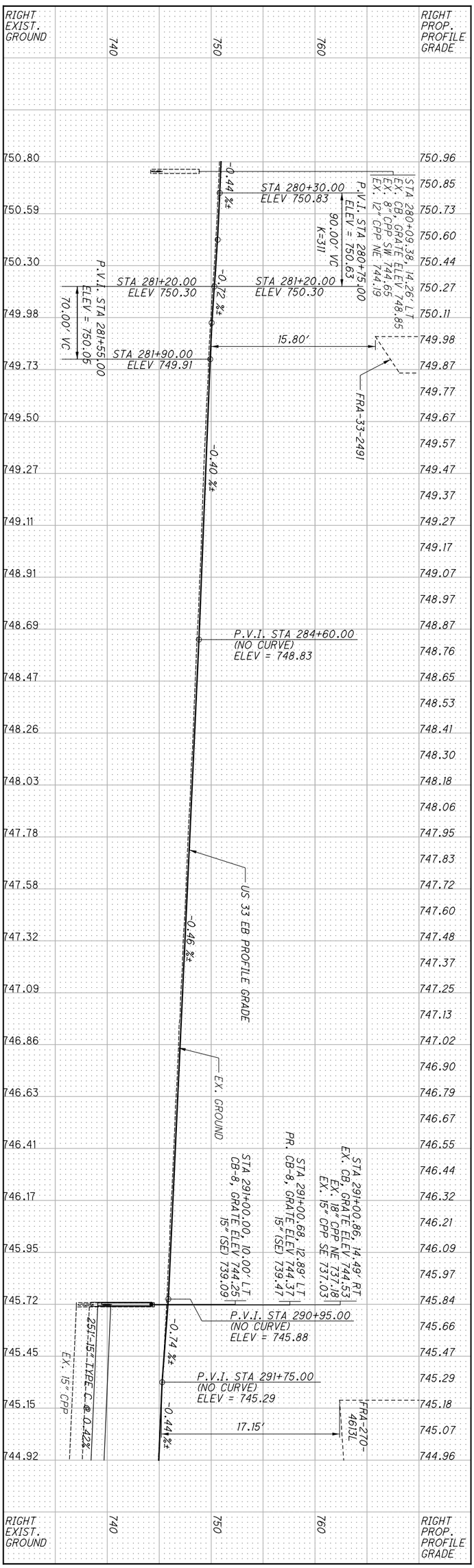
CALCULATED CFR
CHECKED SSK

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

FRA-33-24.26

106
287

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

LEFT EXIST. GROUND

LEFT PROP. PROFILE GRADE

LEFT EXIST. GROUND

LEFT PROP. PROFILE GRADE

FRA-33-24.26

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

CALCULATED KSJ

CHECKED BBB

REF NO.	SHEET NO.	STATION TO STATION			SIDE	202 PAVEMENT REMOVED, AS PER PLAN	202 PAVEMENT REMOVED, ASPHALT	202 GUARDRAIL REMOVED			202 IMPACT ATTENUATOR REMOVED		606 GUARDRAIL, TYPE MGS	606 ANCHOR ASSEMBLY, MGS TYPE E	606 ANCHOR ASSEMBLY, MGS TYPE T	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1		SPECIAL CABLE BARRIER	SPECIAL CABLE BARRIER, ANCHOR ASSEMBLY	606 IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL)	606 IMPACT ATTENUATOR, TYPE 2 (BIDIRECTIONAL)	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE D	622 CONCRETE BARRIER END SECTION, TYPE D, REINFORCED	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	626 BARRIER REFLECTOR, TYPE 1
						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.															1					
IA-2	106	281+42.06	TO	281+64.53	RT.																1				
IA-3	106	282+47.27	TO	282+24.80	RT.																1				
IA-4	106	291+61.22	TO	291+83.67	LT.																1				
TOTALS CARRIED TO GENERAL SUMMARY						89	715	800			4		512.5	2	1	3		1,030	1	1	3	20	1	1	10

CALCULATED KSJ
CHECKED NCK

ROADWAY SUBSUMMARY

FRA-33-24.26

108
287

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IR 270 RAMP G

EX. CURVE DATA NO. 26
P.I. STA. 50+46.61
Dc = 24° 54′ 40″
R = 230.00′
Ls = 200.00′
θs = 24° 54′ 40″ (RT)
LT = 134.68′
ST = 67.89′
x = 196.25′
y = 28.60′
k = 99.37′
p = 7.20′
e_{max} = 0.045
TS STA. 49+11.93
SC STA. 51+11.93

EX. CURVE DATA NO. 27
P.I. STA. 54+91.14
Δ = 242° 28′ 34″ (RT)
Dc = 24° 54′ 40″
R = 230.00′
T = 379.21′
L = 973.36′
E = 673.51′
e_{max} = 0.083
SC STA. 51+11.93
PCC STA. 60+85.29

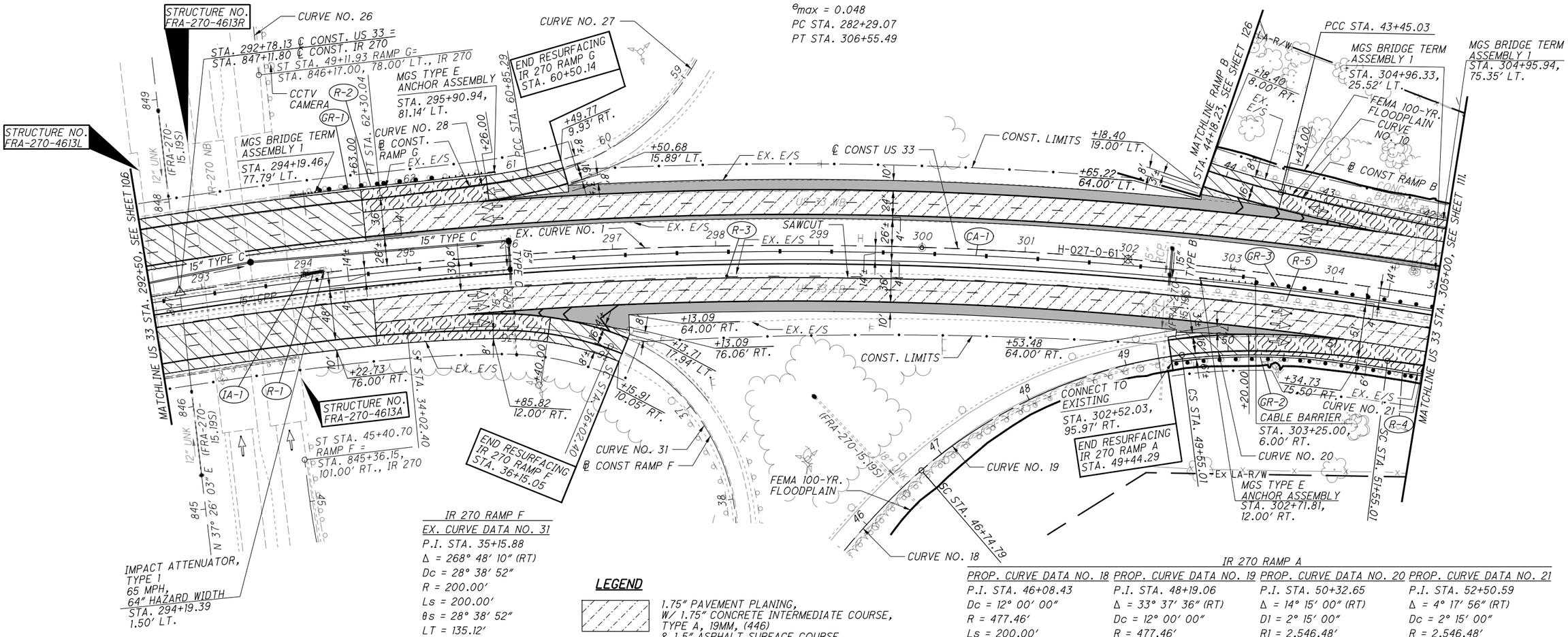
EX. CURVE DATA NO. 28
P.I. STA. 61+57.69
Δ = 3° 37′ 08″ (RT)
Dc = 2° 30′ 00″
R = 2,291.83′
T = 72.40′
L = 144.75′
E = 196.27′
e_{max} = NC
PCC STA. 60+85.29
PT STA. 62+30.04

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′
e_{max} = 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′
e_{max} = 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′
e_{max} = 0.083
TS STA. 34+02.40
ST STA. 45+40.70

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 (PG76-22M)

HISTORICAL SOIL BORING

IR 270 RAMP A

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′	e_{max} = 0.057	p = 2.83′	e_{max} = 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′	
e_{max} = 0.057		T2 = 123.30′	
TS STA. 44+74.79		e_1 = 0.057	
SC STA. 46+74.79		e_2 = 0.48	
		CS STA. 49+55.01	
		SC STA. 51+55.01	

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

HORIZONTAL SCALE IN FEET
0 25 50 100

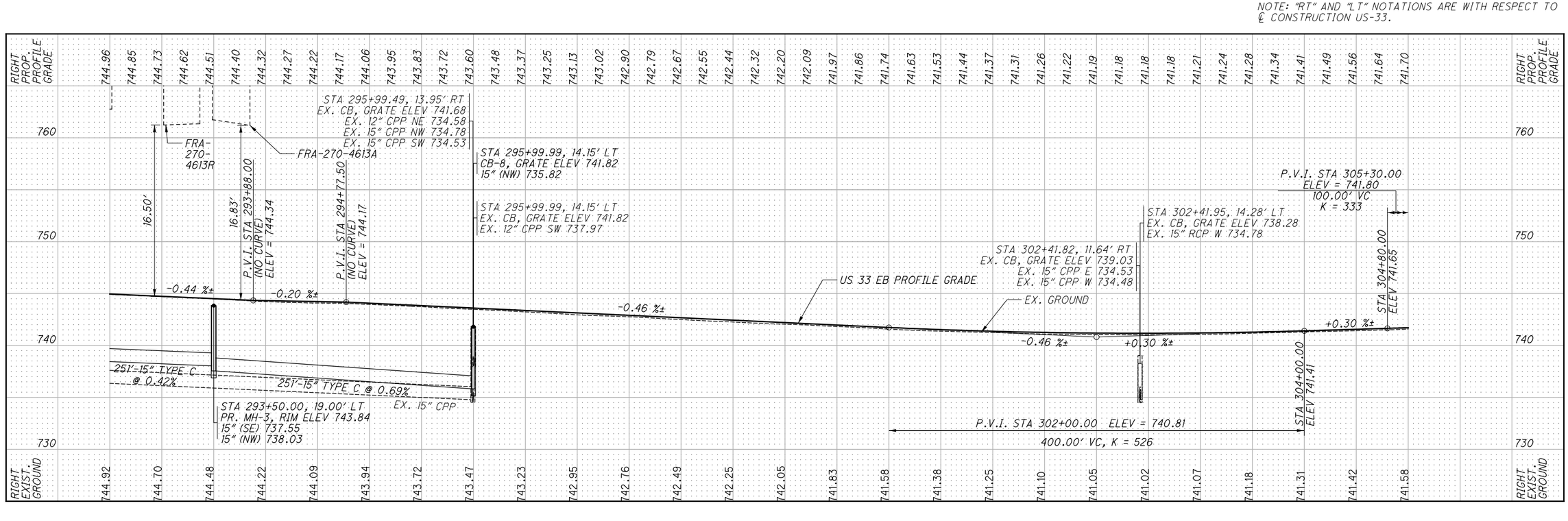
CALCULATED CFR
CHECKED SSK

PLAN - U.S. 33
STA. 292+50 TO STA. 305+00

FRA-33-24.26

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



PROFILE - US 33
STA. 292+50 TO STA. 305+00

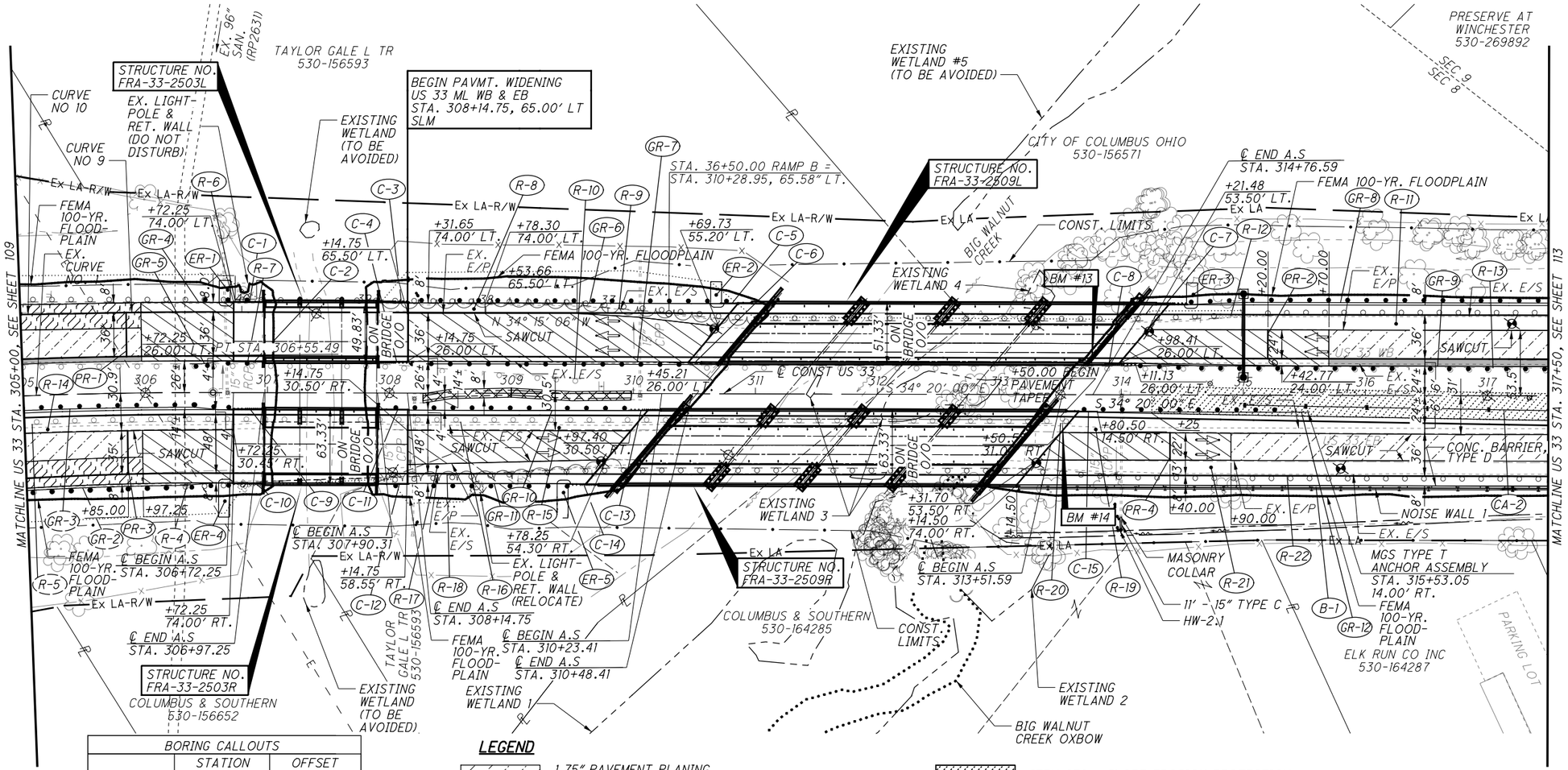
CALCULATED K.S.J
CHECKED BBB

FRA-33-24.26

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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
Δ = 35° 35′ 15″ (RT)	Δ = 1° 32′ 24″ (LT)	Δ = 4° 07′ 38″ (RT)
Dc = 1° 28′ 00″	Dc = 1° 26′ 32″	Dc = 1° 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′
e_{max} = 0.048	e_{max} = 0.041	e_{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



BORING CALLOUTS		
	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)

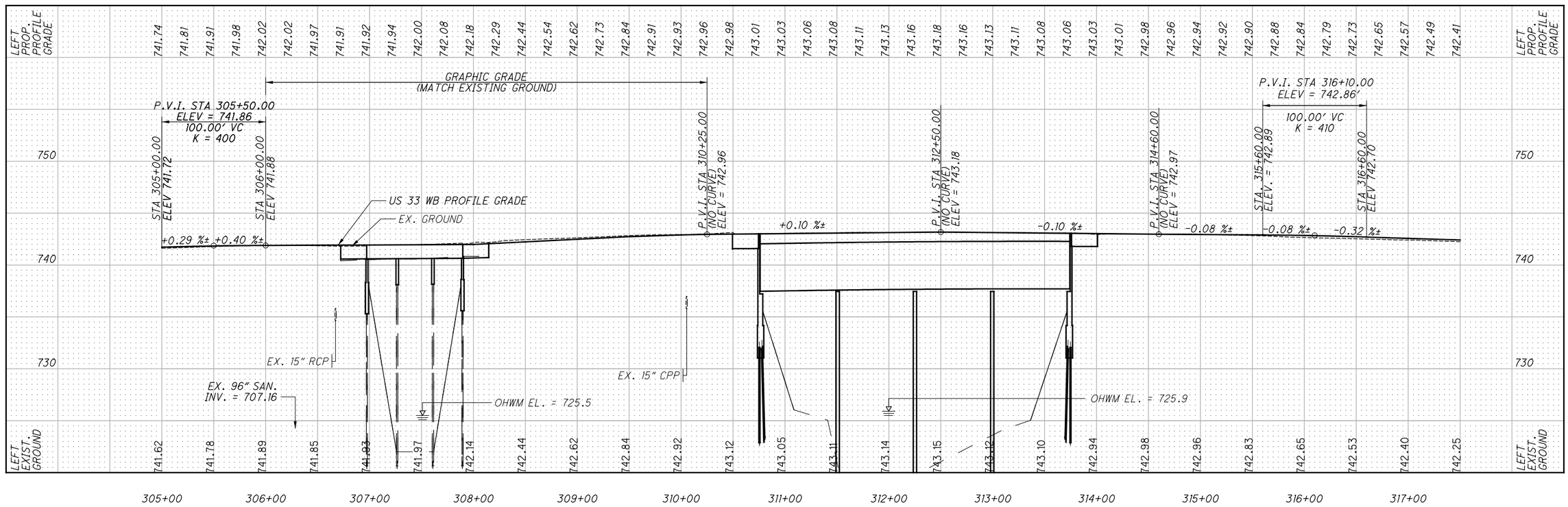
FOR ℄ REFERENCES AND BENCHMARKS, SEE SHEETS 2–5
FOR SUBSUMMARY, SEE SHEETS 115 – 116
FOR CROSS SECTIONS, SEE SHEETS 128 – 162
FOR CURBING AND GUARDRAIL DETAILS, SEE SHEETS 172 – 173
FOR NOISE WALL 1 DETAILS, SEE SHEETS 181 - 189

HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED CFR
CHECKED SSK

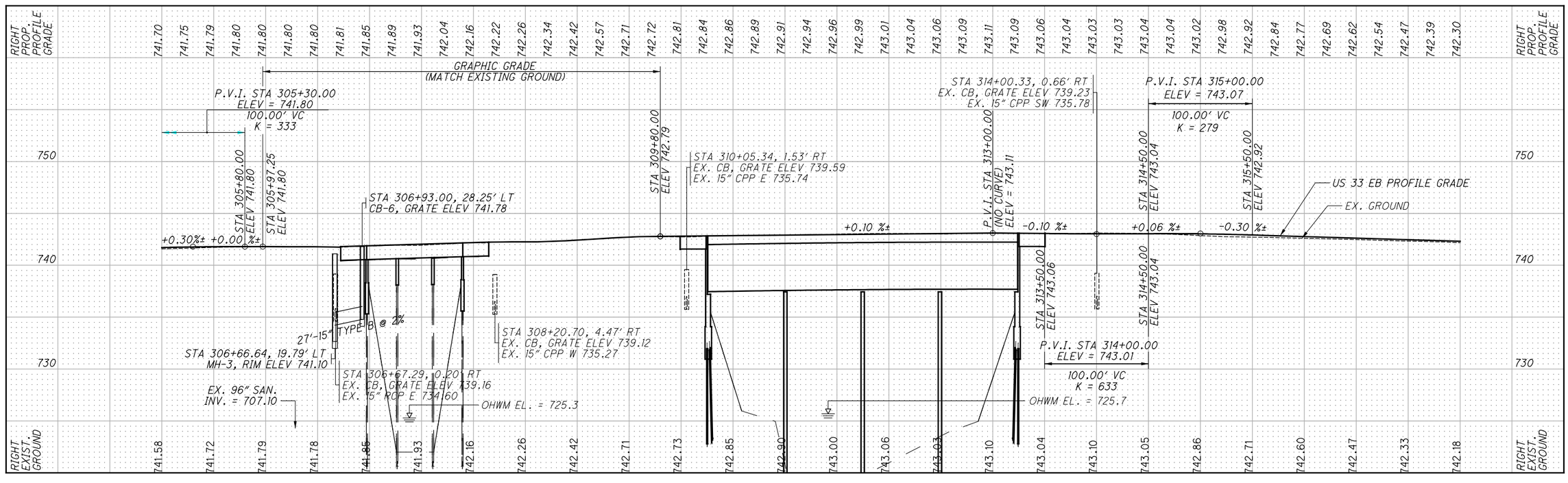
PLAN
STA. 305+00 TO STA. 317+50

FRA-33-24.26

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



PROFILE - US 33
STA. 305+00 TO STA. 317+50

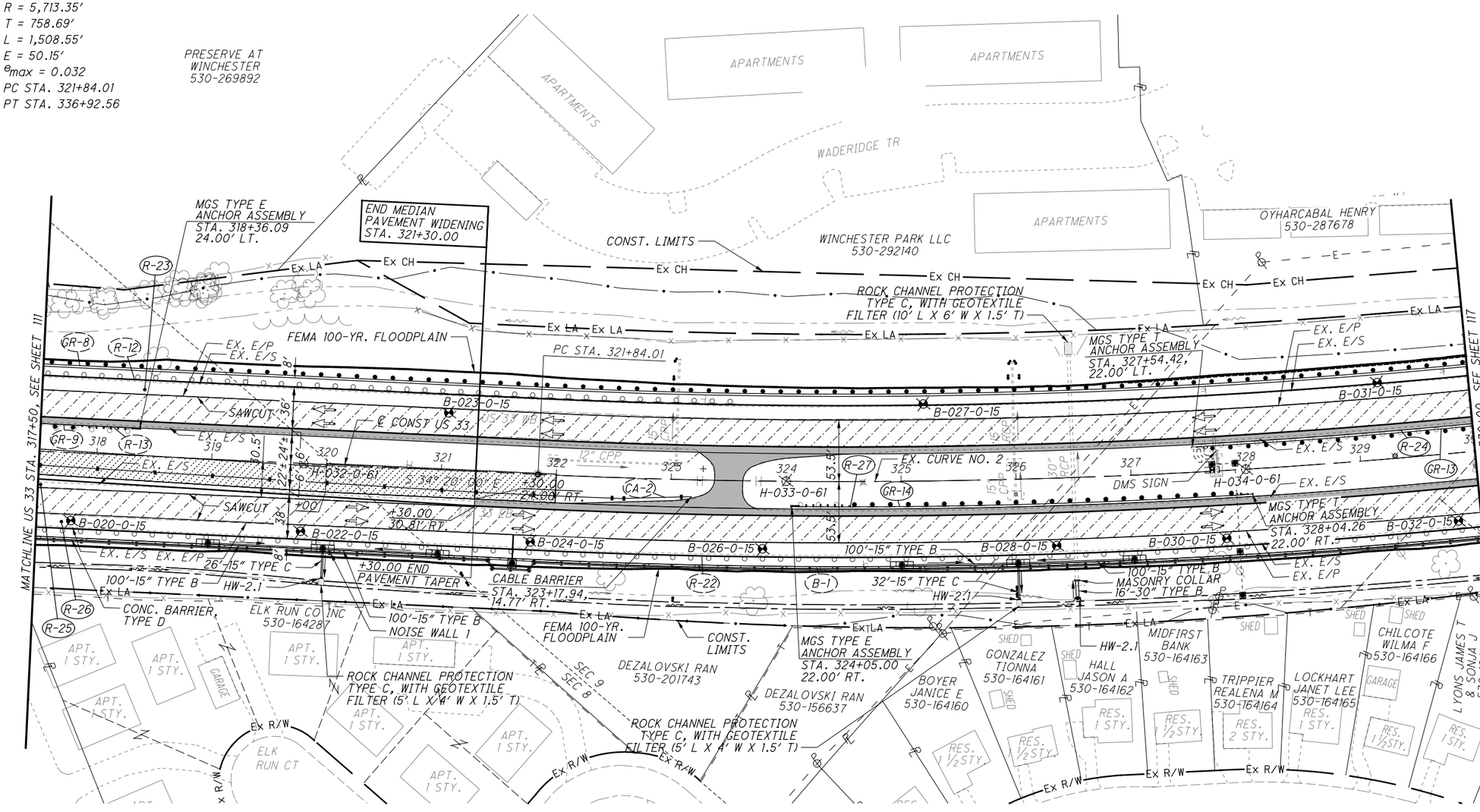
CALCULATED CFR
CHECKED SSK

FRA-33-24.26

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287

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US-33
EX. CURVE DATA NO. 2
P.I. STA. 329+42.69
Δ = 15° 07′ 42″ (LT)
Dc = 1° 00′ 10″
R = 5,713.35′
T = 758.69′
L = 1,508.55′
E = 50.15′
emax = 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)
- 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)

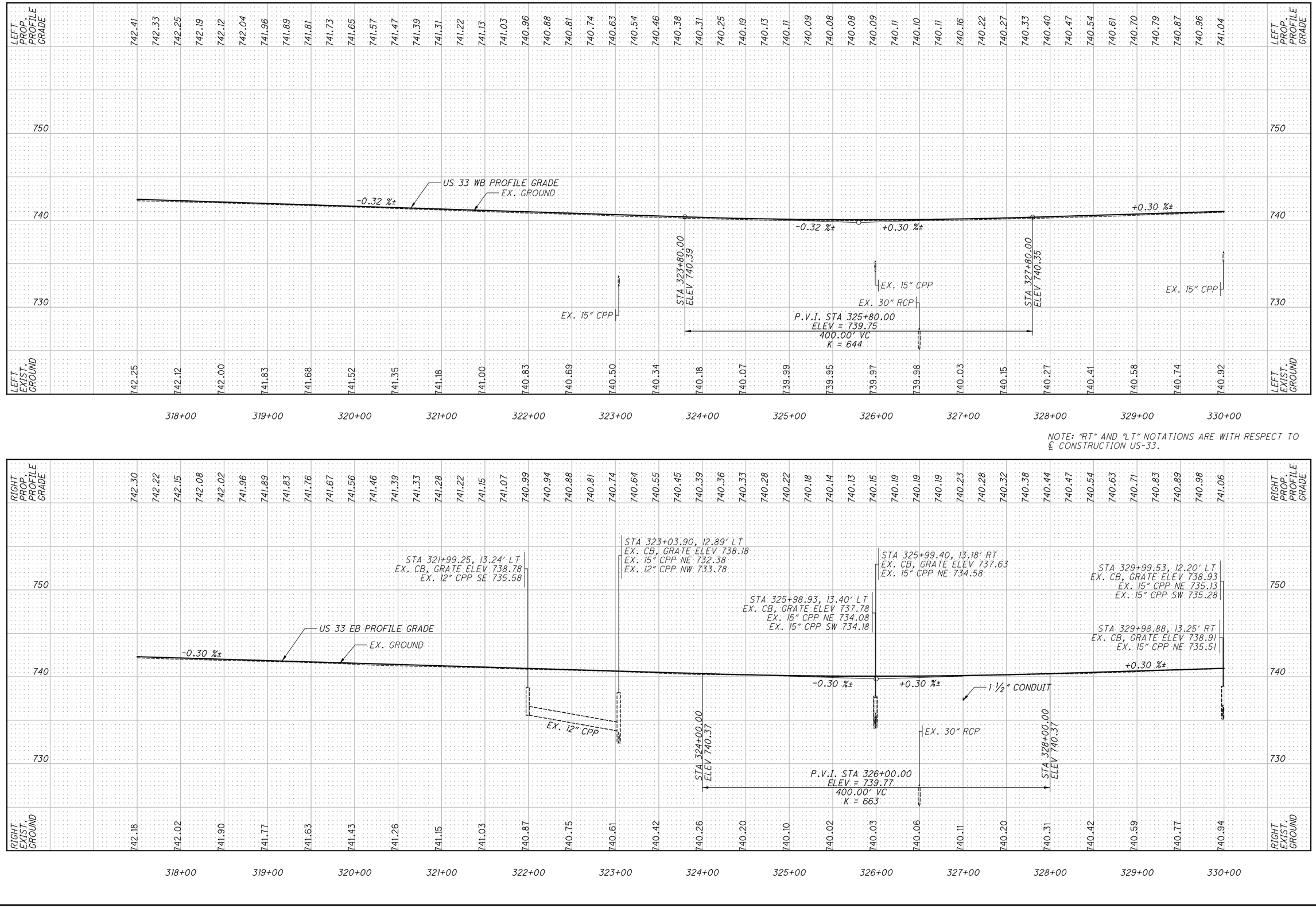
FOR ℄ REFERENCES AND BENCHMARKS, SEE SHEETS 2–5
FOR SUBSUMMARY, SEE SHEETS 115 – 116
FOR CROSS SECTIONS, SEE SHEETS 128 – 162
FOR NOISE WALL 1 DETAILS, SEE SHEETS 181 - 189

HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED CFR
CHECKED SSK

PLAN - U.S. 33
STA. 317+50 TO STA. 330+00

FRA-33-24.26

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CALCULATED CFR
CHECKED SSK

PROFILE - U.S. 33
STA. 317+50 TO STA. 330+00

FRA-33-24.26

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REF NO.	SHEET NO.	STATION TO STATION			SIDE	202 PAVEMENT REMOVED, AS PER PLAN SY	202 PAVEMENT REMOVED, ASPHALT SY	202 CONCRETE BARRIER REMOVED FT	202 GUARDRAIL REMOVED FT		202 IMPACT ATTENUATOR REMOVED EACH		606 GUARDRAIL, TYPE MGS FT	606 GUARDRAIL, TYPE MGS WITH LONG POSTS FT	606 ANCHOR ASSEMBLY, MGS TYPE E EACH	606 ANCHOR ASSEMBLY, MGS TYPE T EACH	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH	SPECIAL CABLE BARRIER FT	SPECIAL CABLE BARRIER, ANCHOR ASSEMBLY EACH			622 CONCRETE BARRIER, SINGLE SLOPE, TYPE D FT	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D EACH	626 BARRIER REFLECTOR, TYPE 1 EACH
R-1	109	293+96.98	TO	294+24.62	LT.						1														
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.																			1,381	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		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			1,381	13	74

CALCULATED KSJ
CHECKED NCK

ROADWAY SUBSUMMARY

FRA-33-24.26

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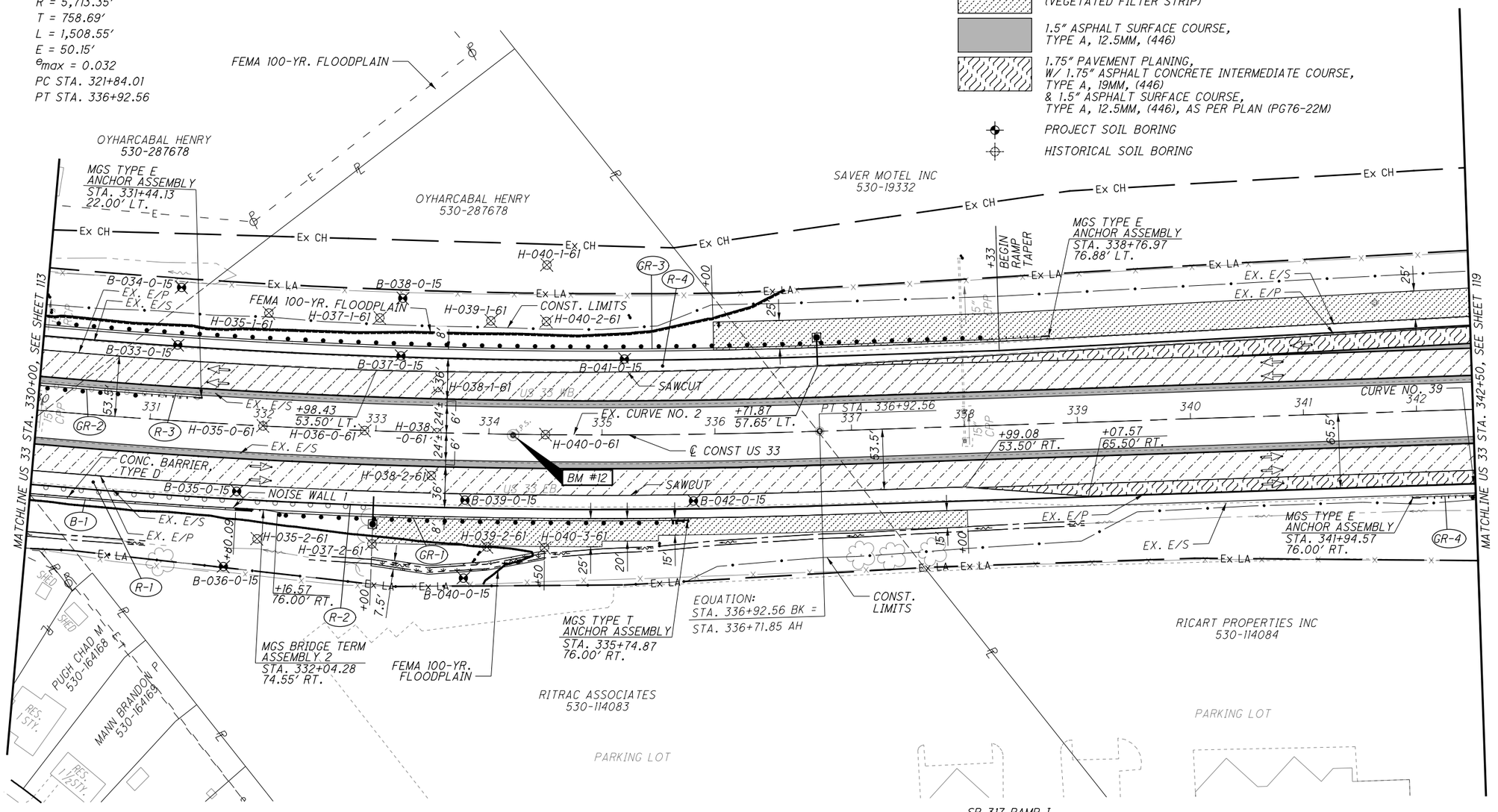
REF NO.	SHEET NO.	STATION TO STATION			SIDE							SPECIAL						601			606		609	609	
												PRESSURE RELIEF JOINT, TYPE C						TIED CONCRETE BLOCK MAT, TYPE 2			IMPACT ATTENUATOR, TYPE 2 (BIDIRECTIONAL)		CURB, TYPE 4-A	CURB, TYPE 4-C	
												FT						SY			EACH		FT	FT	
IA-1	109	293+96.98	TO	294+19.39	LT.																1				
PR-1	111			305+85.00	LT.							36													
PR-2	111			315+20.00	LT.							24													
PR-3	111			305+85.00	RT.							36													
PR-4	111			314+40.00	RT.							23													
ER-1	111	306+60.00	TO	306+71.00	LT.													18							
ER-2	111	310+63.00	TO	310+74.00	LT.													18							
ER-3	111	314+51.00	TO	314+62.00	LT.													18							
ER-4	111	306+60.00	TO	306+71.00	RT.													28							
ER-5	111	309+38.00	TO	309+49.00	RT.													28							
C-1	111	306+68.00	TO	306+97.00	LT.																		25	4	
C-2	111	306+68.00	TO	306+97.00	LT.																		25	4	
C-3	111	307+90.00	TO	308+16.00	LT.																		25	1	
C-4	111	307+90.00	TO	308+16.00	LT.																		25	1	
C-5	111	310+71.00	TO	310+97.00	LT.																		12	15	
C-6	111	310+30.00	TO	310+56.00	LT.																		11	16	
C-7	111	314+28.00	TO	314+54.00	LT.																		11	16	
C-8	111	313+87.00	TO	314+13.00	LT.																		12	15	
C-9	111	306+68.00	TO	306+97.00	RT.																		25	4	
C-10	111	306+68.00	TO	306+97.00	RT.																		25	4	
C-11	111	307+90.00	TO	308+16.00	RT.																		25	2	
C-12	111	307+90.00	TO	308+16.00	RT.																		25	2	
C-13	111	309+96.00	TO	310+23.00	RT.																		11	15	
C-14	111	309+46.00	TO	309+72.00	RT.																		11	16	
C-15	111	313+55.00	TO	313+77.00	RT.																		11	16	
TOTALS CARRIED TO GENERAL SUMMARY												119						110			1		279	131	

CALCULATED KSJ
CHECKED NCK

ROADWAY SUBSUMMARY

FRA-33-24.26

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SR 317 RAMP I
PROP. CURVE DATA NO. 39
P.I. STA. 43+99.05
Δ = 5° 45' 00" (RT)
Dc = 1° 55' 00"
R = 2,989.35'
T = 150.13'
L = 300.00'
E = 3.77'
emax = 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)

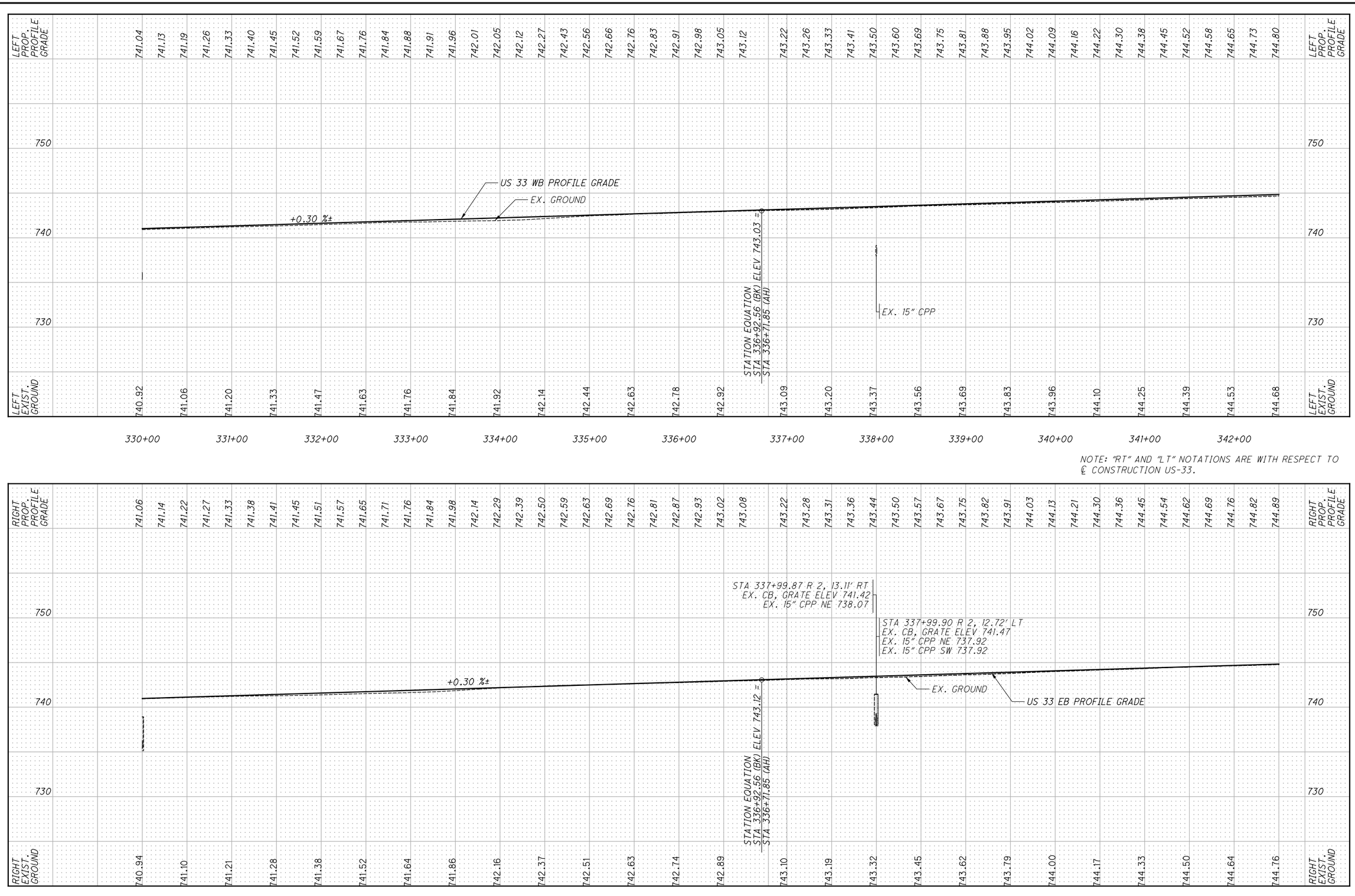
FOR ℄ REFERENCES AND BENCHMARKS, SEE SHEETS 2–5
FOR SUBSUMMARY, SEE SHEET 122
FOR CROSS SECTIONS, SEE SHEETS 128–162
FOR NOISE WALL 1 DETAILS, SEE SHEETS 181 - 189

HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED CFR
CHECKED SSK

PLAN - U.S. 33
STA. 330+00 TO STA. 342+50

FRA-33-24.26

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PROFILE - U.S. 33
STA. 330+00 TO STA. 342+50

CALCULATED CFR
CHECKED SSK

FRA-33-24.26

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FOR ℄ REFERENCES AND BENCHMARKS, SEE SHEETS 2–5

FOR SUBSUMMARY, SEE SHEET 122

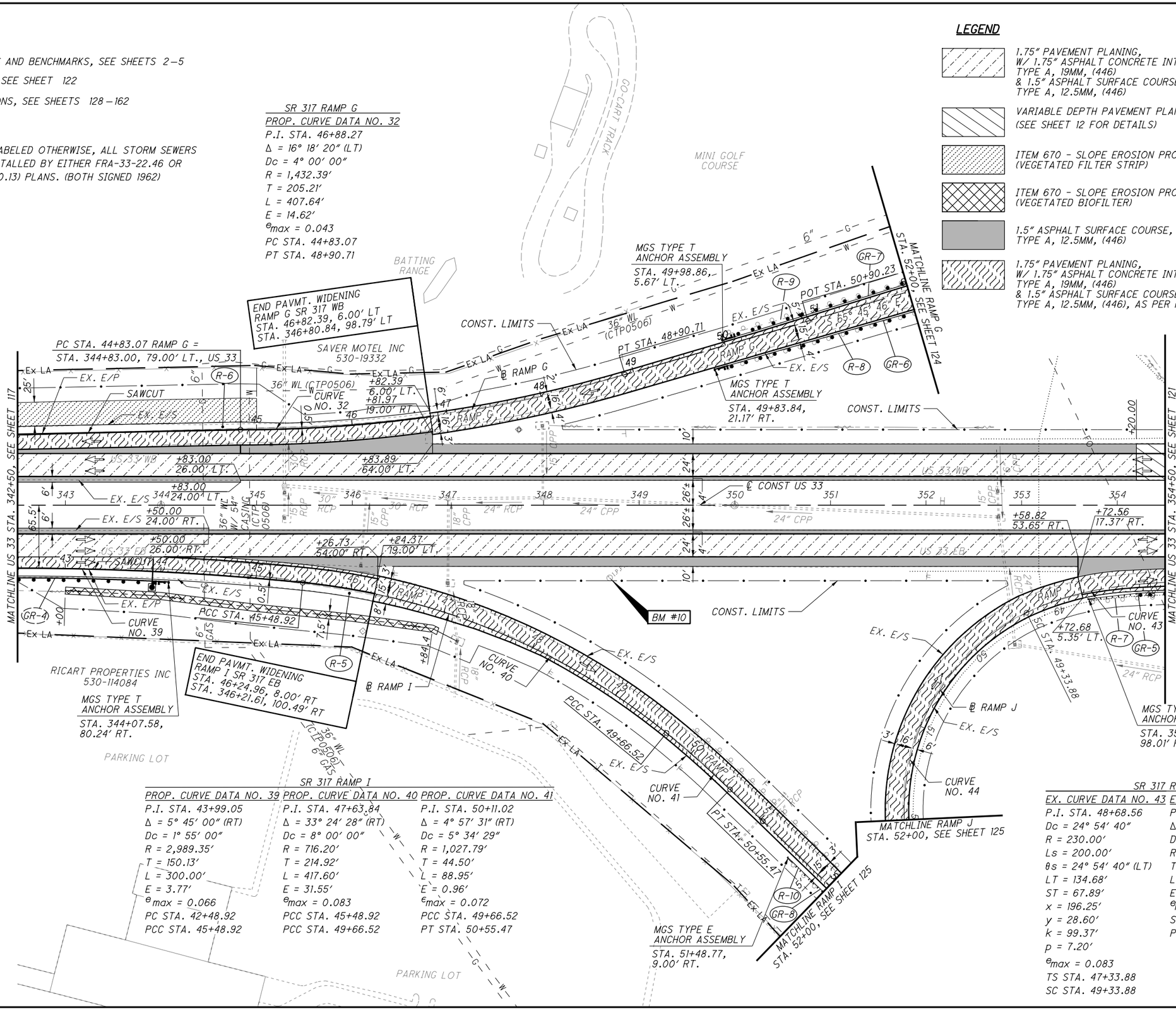
FOR CROSS SECTIONS, SEE SHEETS 128–162

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
Δ = 16° 18′ 20″ (LT)
Dc = 4° 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	PROP. CURVE DATA NO. 40	PROP. CURVE DATA NO. 41
P.I. STA. 43+99.05	P.I. STA. 47+63.84	P.I. STA. 50+11.02
Δ = 5° 45′ 00″ (RT)	Δ = 33° 24′ 28″ (RT)	Δ = 4° 57′ 31″ (RT)
Dc = 1° 55′ 00″	Dc = 8° 00′ 00″	Dc = 5° 34′ 29″
R = 2,989.35′	R = 716.20′	R = 1,027.79′
T = 150.13′	T = 214.92′	T = 44.50′
L = 300.00′	L = 417.60′	L = 88.95′
E = 3.77′	E = 31.55′	E = 0.96′
e max = 0.066	e max = 0.083	e max = 0.072
PC STA. 42+48.92	PCC STA. 45+48.92	PCC STA. 49+66.52
PCC STA. 45+48.92	PCC STA. 49+66.52	PT STA. 50+55.47

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′	Dc = 24° 54′ 40″
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 max = 0.083
y = 28.60′	SC STA. 49+33.88
k = 99.37′	PT STA. 54+18.18
p = 7.20′	
e max = 0.083	
TS STA. 47+33.88	
SC STA. 49+33.88	

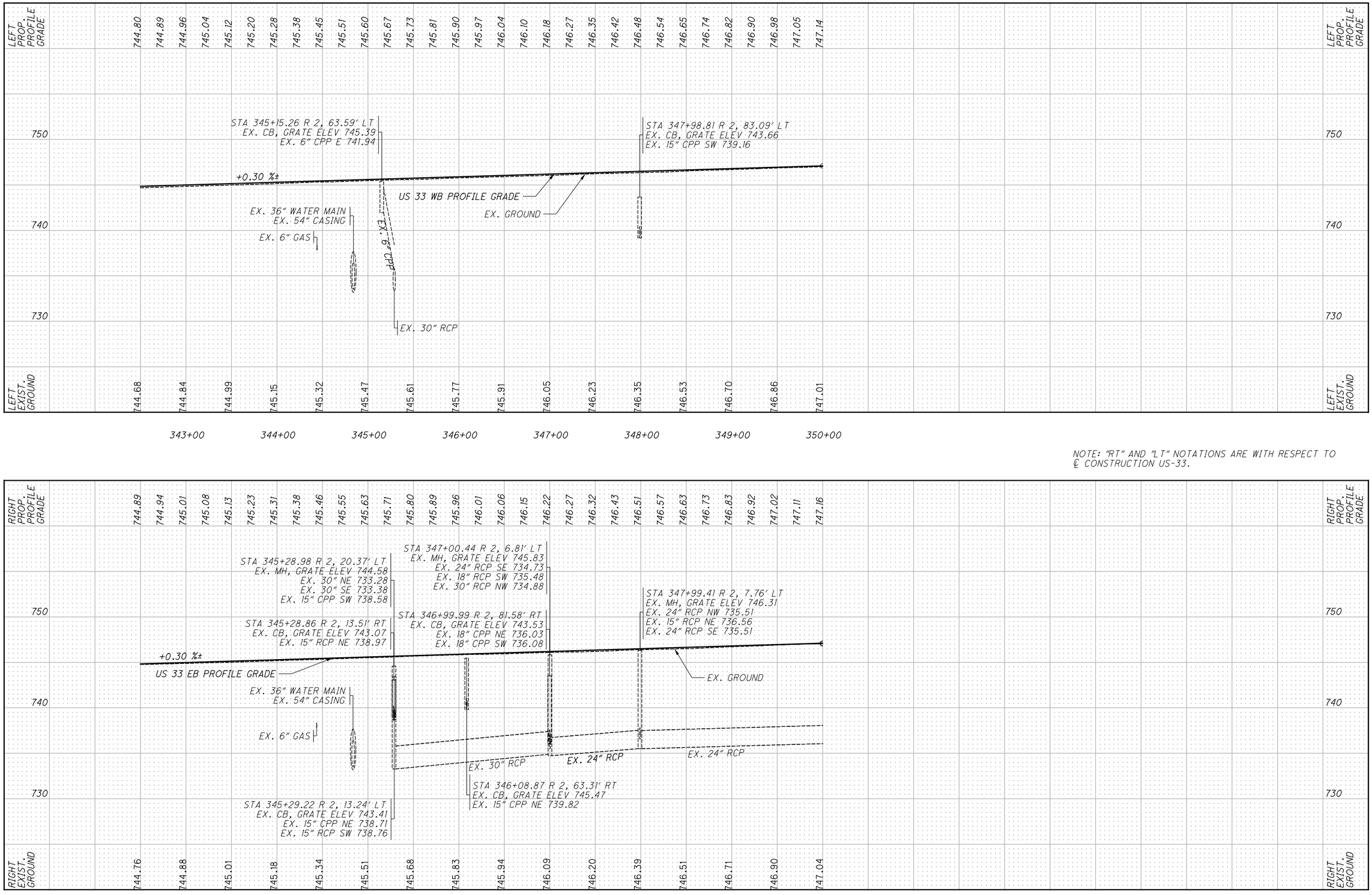
HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED CFR
CHECKED SSK

PLAN - U.S. 33
STA. 342+50 TO STA. 354+50

FRA-33-24.26

119
287

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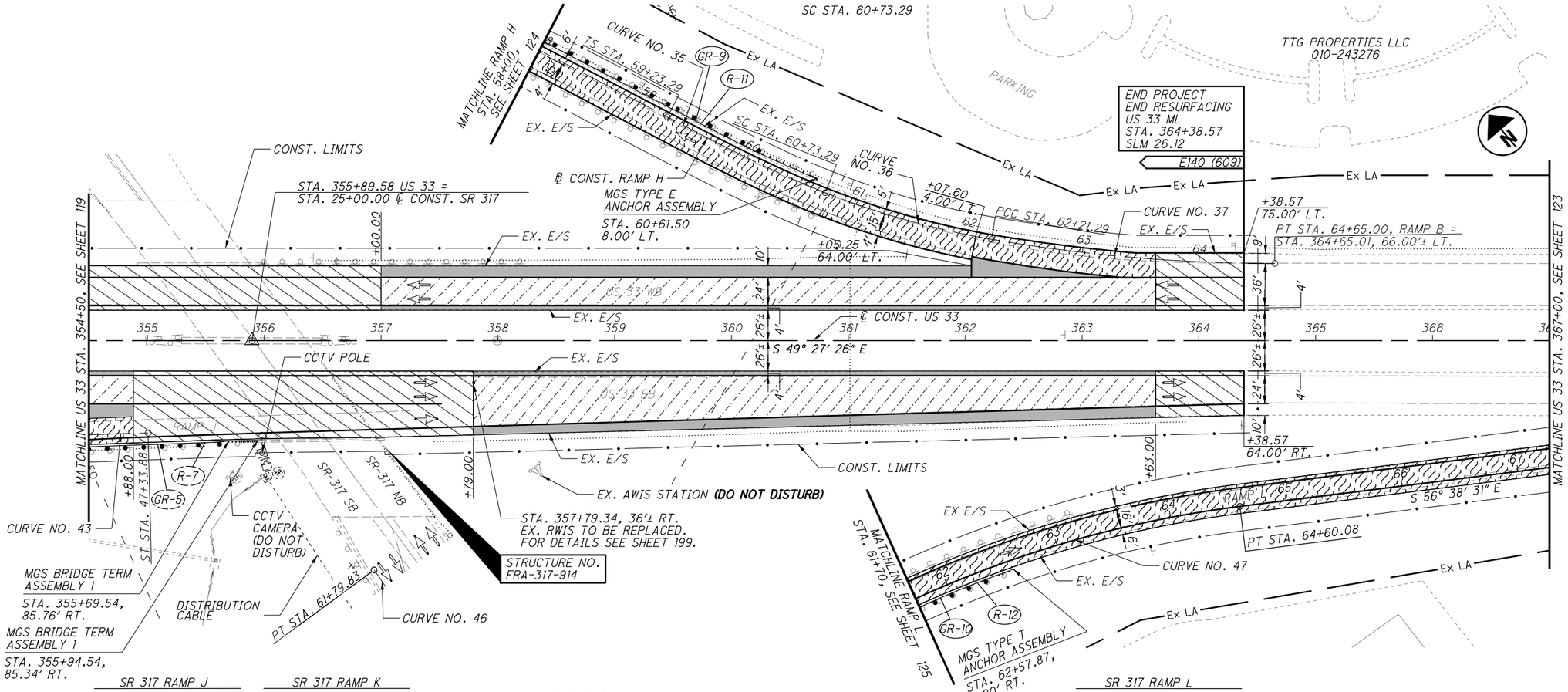
PROFILE - U.S. 33
STA. 342+50 TO STA. 350+00

CALCULATED CFR
CHECKED SSK

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′	e_{max} = 0.080	e_{max} = 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′		
e_{max} = 0.080		
TS STA. 59+23.29		
SC STA. 60+73.29		



SR 317 RAMP J	
EX. CURVE DATA NO. 43	
P.I. STA. 48+68.56	
Dc = 24° 54′ 40″	
R = 230.00′	
Ls = 200.00′	
θs = 24° 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 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_{max} = 0.083	
PC STA. 57+43.05	
PT STA. 61+79.83	

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′ 0″0	
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	

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
0 25 50 100

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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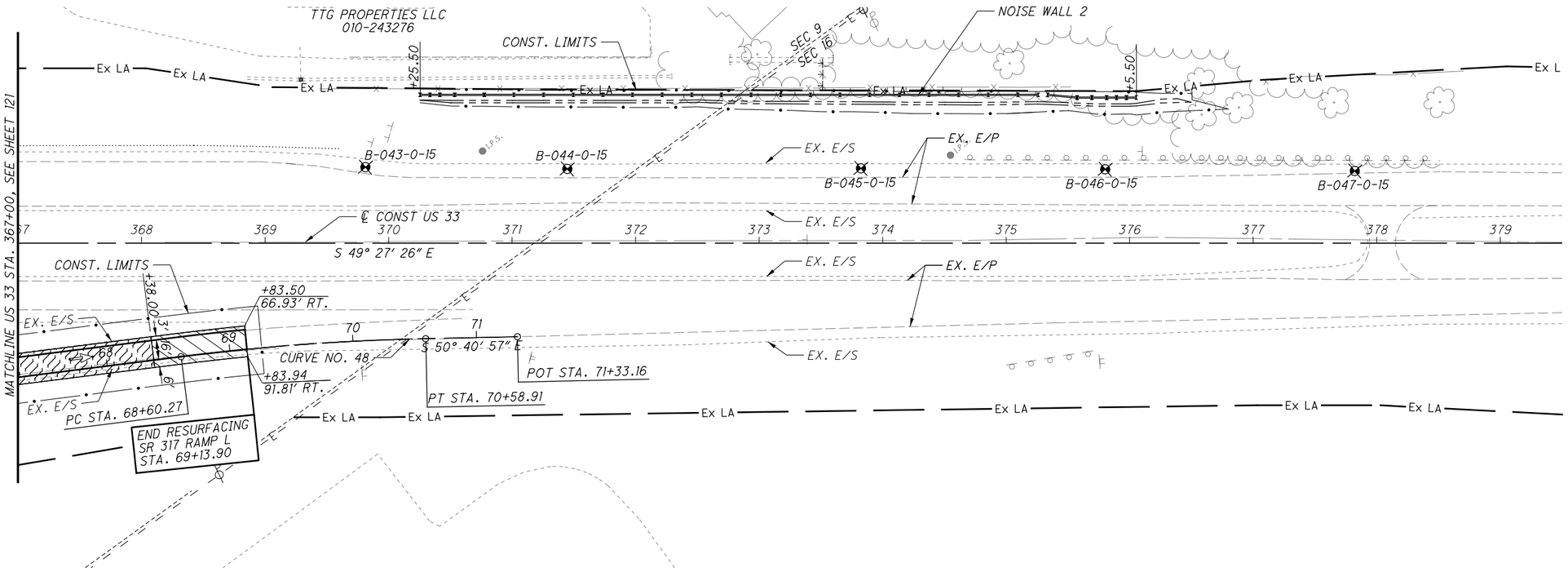
REF NO.	SHEET NO.	STATION TO STATION			SIDE	202 PAVEMENT REMOVED, AS PER PLAN SY	202 PAVEMENT REMOVED, ASPHALT SY	202 GUARDRAIL REMOVED FT					606 GUARDRAIL, TYPE MGS FT	606 GUARDRAIL, TYPE MGS WITH LONG POSTS FT	606 ANCHOR ASSEMBLY, MGS TYPE E EACH	606 ANCHOR ASSEMBLY, MGS TYPE T EACH	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH					622 CONCRETE BARRIER, SINGLE SLOPE, TYPE D FT	622 CONCRETE BARRIER END SECTION, TYPE D, REINFORCED EACH	626 BARRIER REFLECTOR, TYPE 1 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.			305																	
R-3	117	330+00.00	TO	331+51.00	LT.			151																	
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.			228																	
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.																			184	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
TOTALS CARRIED TO GENERAL SUMMARY						208	3,390	1,496					2,187.5	100	6	5	1	1					184	1	33

CALCULATED KSJ
CHECKED NCK

ROADWAY SUBSUMMARY

FRA-33-24.26

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SR 317 RAMP L
PROP. CURVE DATA NO. 48
P.I. STA. 69+59.68
Δ = 5° 57′ 34″ (RT)
Dc = 3° 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 ℄ 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

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CFR
CHECKED SSK

PLAN - U.S. 33
STA. 367+00 TO STA. 379+50

FRA-33-24.26

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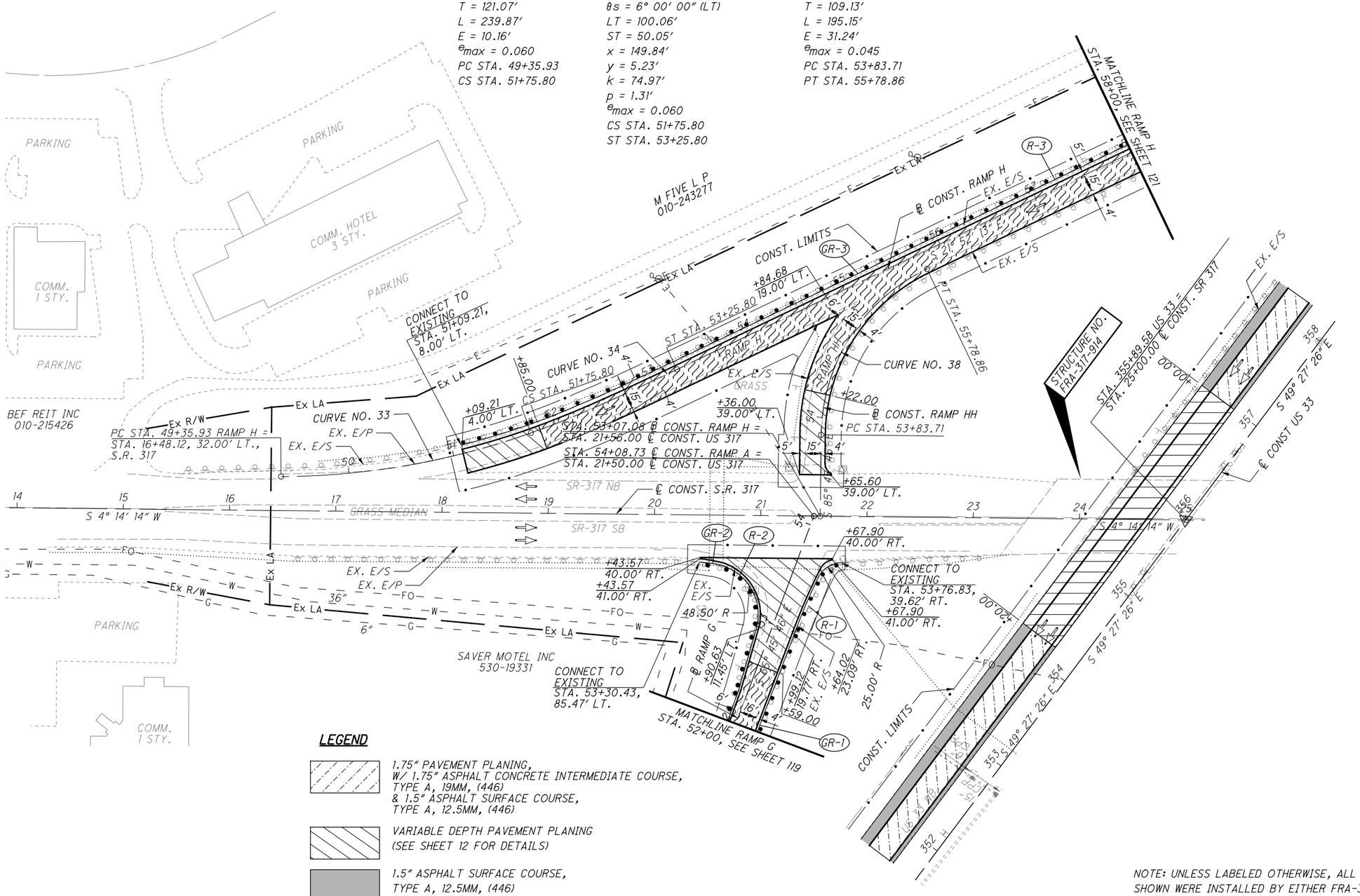
SR 317 RAMP H

EX. CURVE DATA NO. 33
P.I. STA. 50+57.00
Δ = 19° 11′ 22″ (LT)
Dc = 8° 00′ 00″
R = 716.20′
T = 121.07′
L = 239.87′
E = 10.16′
emax = 0.060
PC STA. 49+35.93
CS STA. 51+75.80

EX. CURVE DATA NO. 34
P.I. STA. 52+25.85
Dc = 8° 00′ 00″
R = 716.20′
Ls = 150.00′
θs = 6° 00′ 00″ (LT)
LT = 100.06′
ST = 50.05′
x = 149.84′
y = 5.23′
k = 74.97′
p = 1.31′
emax = 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
Δ = 63° 53′ 35″ (RT)
Dc = 32° 44′ 26″
R = 175.00′
T = 109.13′
L = 195.15′
E = 31.24′
emax = 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

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CFR
CHECKED SSK

PLAN - S.R. 317 (RAMPS G, H, & HH)
STA. 14+00 TO STA. 25+00 (S.R. 317)

FRA-33-24.26

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SR 317 RAMP J

EX. CURVE DATA NO. 43
P.I. STA. 48+68.56
Dc = 24° 54′ 40″
R = 230.00′
Ls = 200.00′
θs = 24° 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
Δ = 120° 38′ 42″ (LT)
Dc = 24° 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 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_{max} = 0.083
PC STA. 57+43.05
PT STA. 61+79.83

SR 317 RAMP L

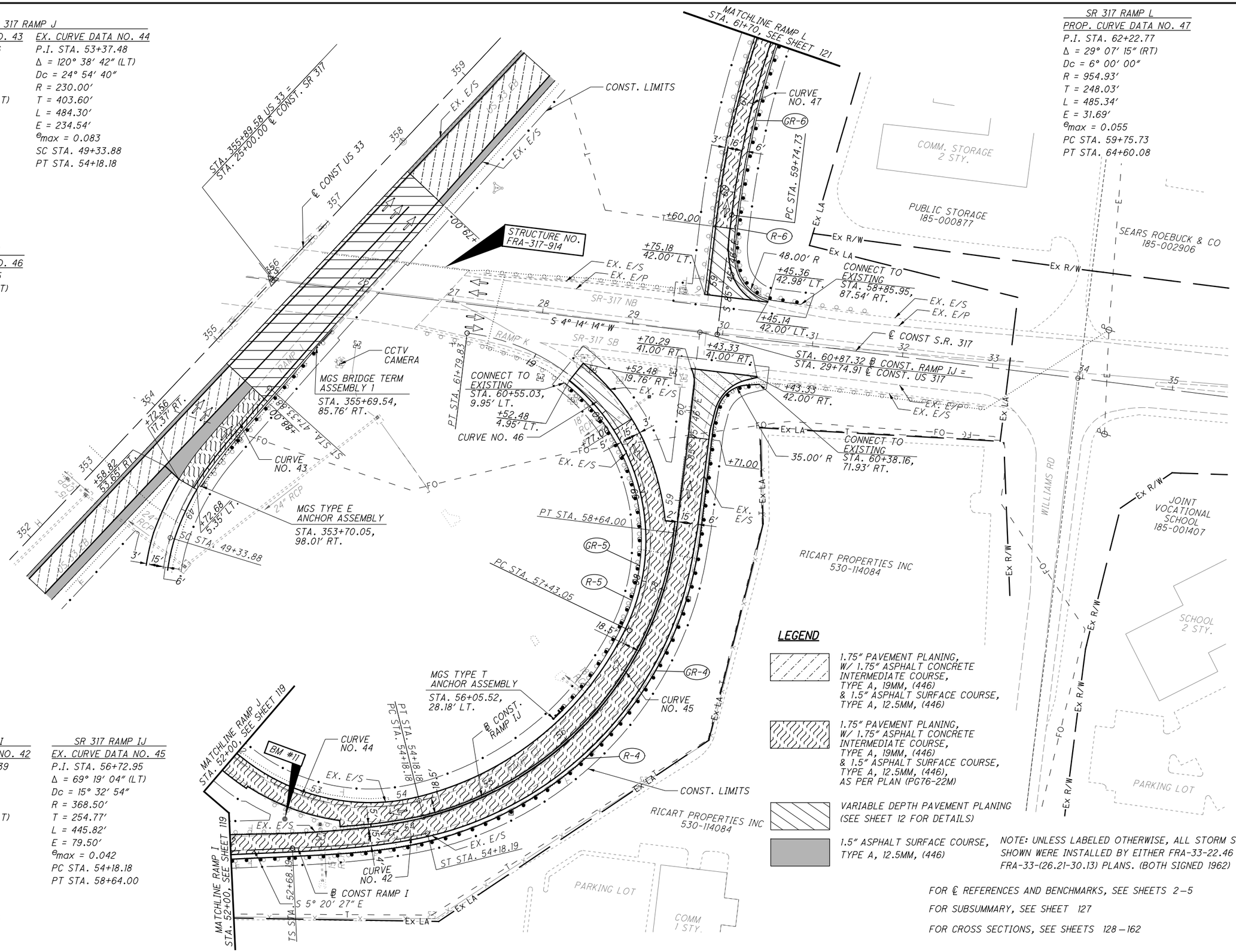
PROP. CURVE DATA NO. 47
P.I. STA. 62+22.77
Δ = 29° 07′ 15″ (RT)
Dc = 6° 00′ 00″
R = 954.93′
T = 248.03′
L = 485.34′
E = 31.69′
e_{max} = 0.055
PC STA. 59+75.73
PT STA. 64+60.08

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_{max} = 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_{max} = 0.042
PC STA. 54+18.18
PT STA. 58+64.00



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

HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED CFR
CHECKED SSK

PLAN - S.R. 317 (RAMPS I, J, & L)
STA. 25+00 TO STA. 35+50 (S.R. 317)

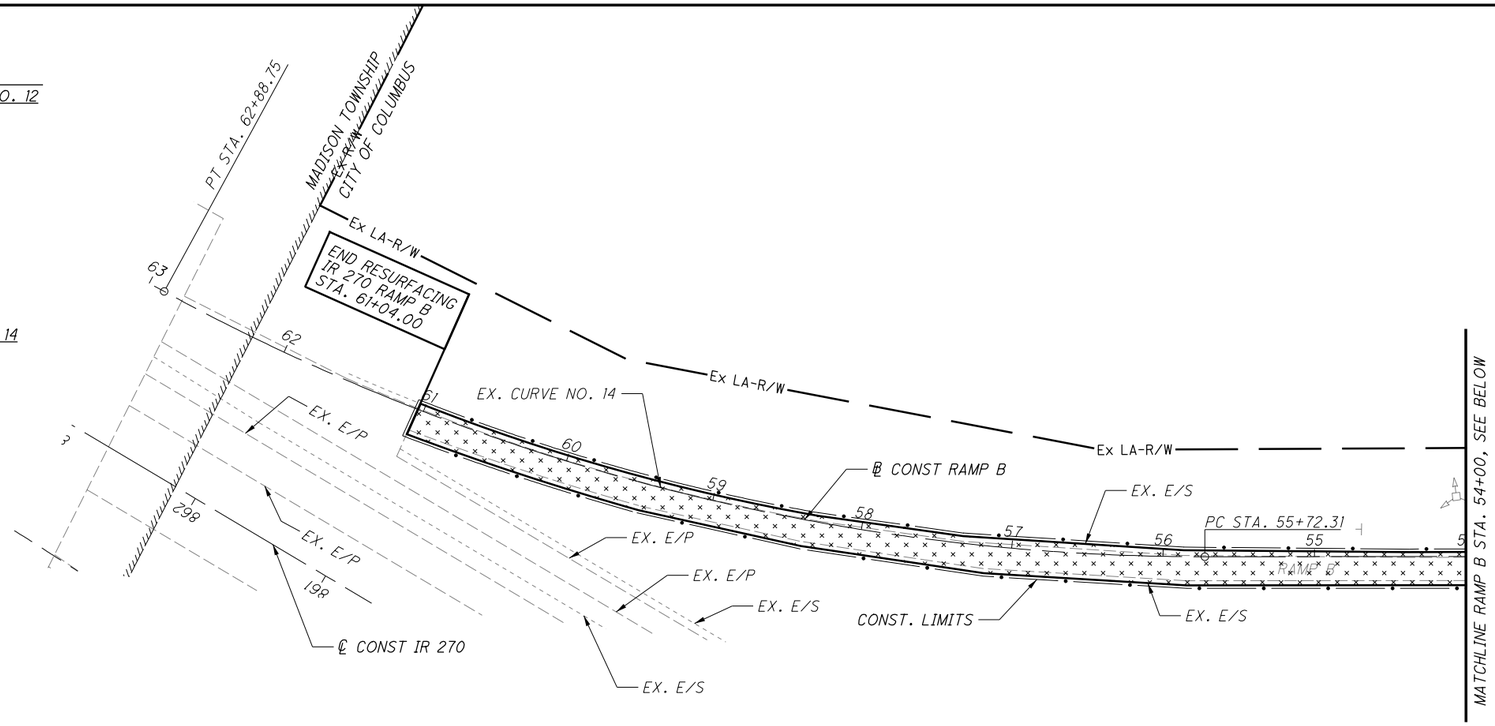
FRA-33-24.26

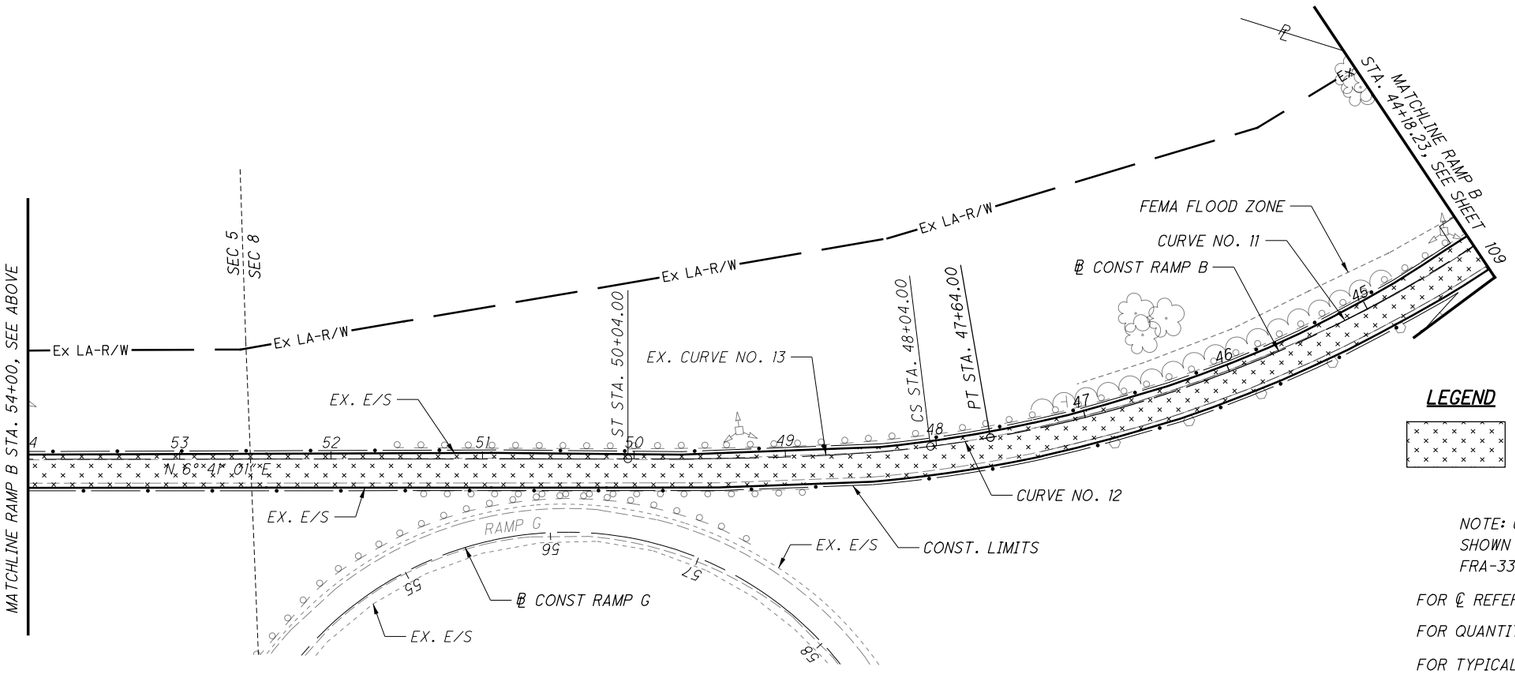
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IR 270 RAMP B

PROP CURVE DATA NO. 11	PROP CURVE DATA NO. 12
P.I. STA. 45+58.98	P.I. STA. 47+84.00
Δ = 28° 37′ 47″ (RT)	Δ = 2° 47′ 59″ (RT)
Dc = 6° 50′ 00″	Dc = 7° 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° 00′ 00″	Δ = 28° 39′ 27″ (RT)
R = 818.51′	Dc = 4° 00′ 00″
Ls = 200.00′	R = 1,432.39′
θs = 7° 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 ℄ REFERENCES AND BENCHMARKS, SEE SHEETS 2–5

FOR QUANTITIES, SEE "OFFICE CALCS" ON SHEET 90

FOR TYPICAL, SEE SHEET 11

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED KSJ
CHECKED SSK

PLAN - RAMP B
STA. 44+18.23 TO STA. 63+00.00

FRA-33-24.26

126
287

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REF NO.	SHEET NO.	STATION TO STATION			SIDE			202 GUARDRAIL REMOVED FT					606 GUARDRAIL, TYPE MGS FT	606 GUARDRAIL, TYPE MGS WITH LONG POSTS FT		606 ANCHOR ASSEMBLY, MGS TYPE T EACH									626 BARRIER REFLECTOR, TYPE 1, ONE WAY 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 K.S.J
CHECKED NCK

ROADWAY SUBSUMMARY

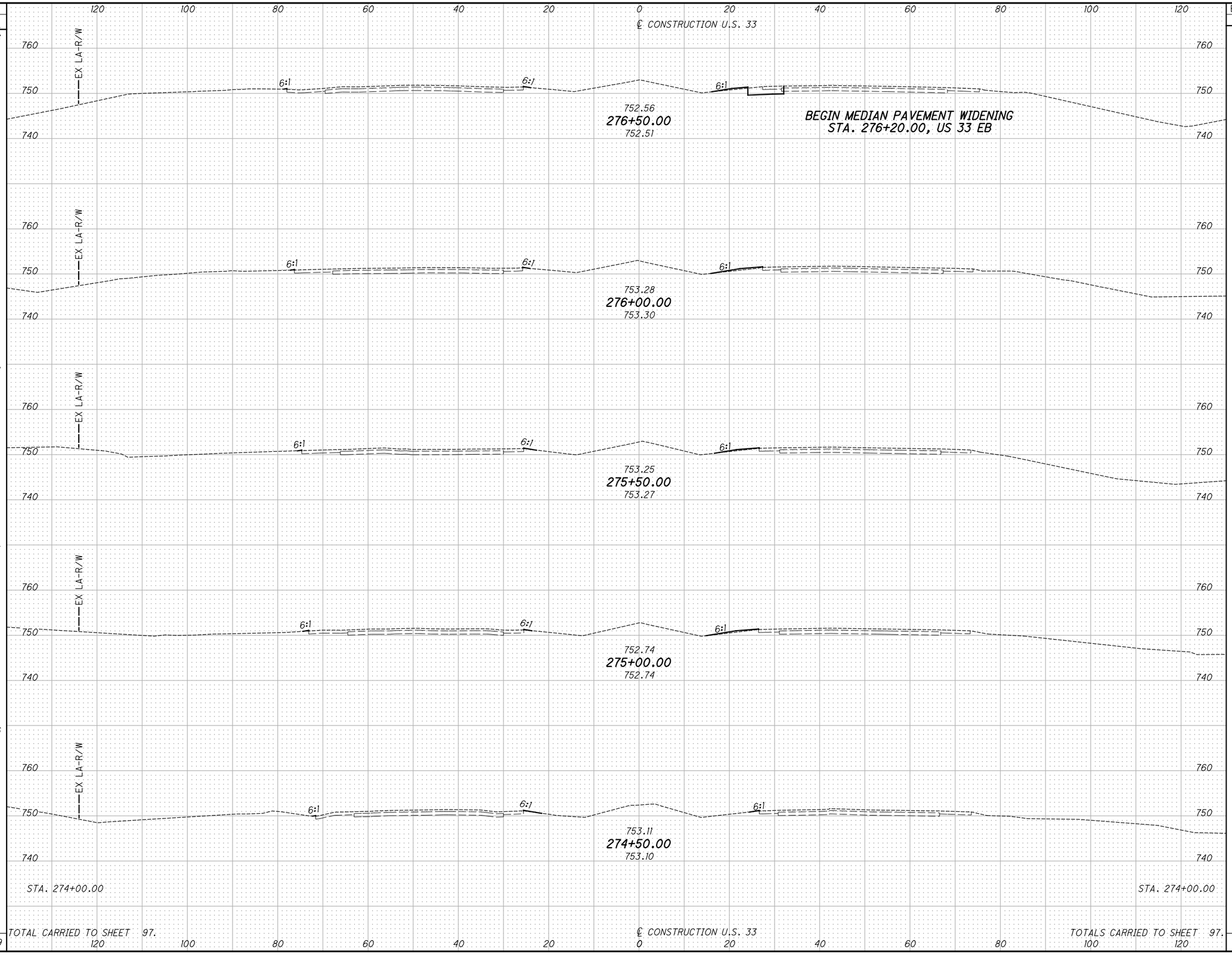
FRA-33-24.26

127
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
19	103
22	114
22	122
23	125
15	106
17	89
	659

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10	2	19	4
0	3	9	5
0	2	0	5
0	2	0	4
0	0	0	2
0	1	0	1
		28	21



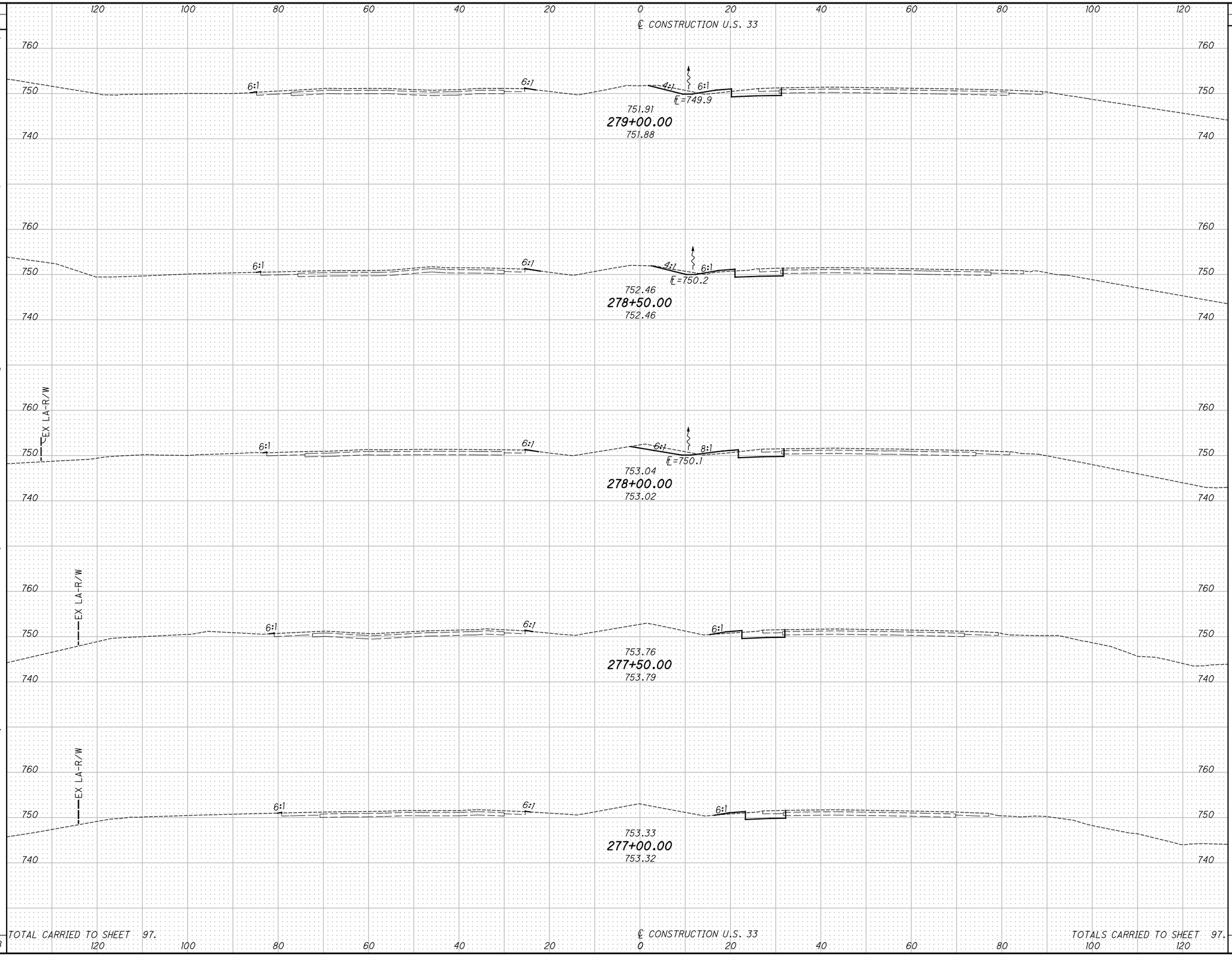
CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 274+50.00 TO STA. 276+50.00

FRA-33-24.26

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SEEDING END WIDTH	SEEDING SQ. YDS.
31	178
32	175
36	189
19	153
18	103
	798



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
20	4	39	8
17	3	34	6
24	4	38	6
11	2	32	6
11	2	20	4
		163	30

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 277+00.00 TO STA. 279+00.00

FRA-33-24.26

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
23	122	17	3	31	5
45	189	26	6	40	8
34	219	22	6	44	11
38	200	23	5	42	10
33	197	22	5	42	9
	927			199	43

℄ CONSTRUCTION U.S. 33

749.72
281+50.00
749.72

751.40
281+00.00
751.39

752.12
280+50.00
752.12

STA 280+09.38, 14.26' LT
EX. CB, GRATE ELEV 748.85
15" CPP NE 744.19
8" CPP SW 744.65

751.47
280+00.00
751.47

EX. 15" CPP
EX. 8" CPP

752.39
279+50.00
752.40

TOTAL CARRIED TO SHEET 97.
TOTALS CARRIED TO SHEET 97.

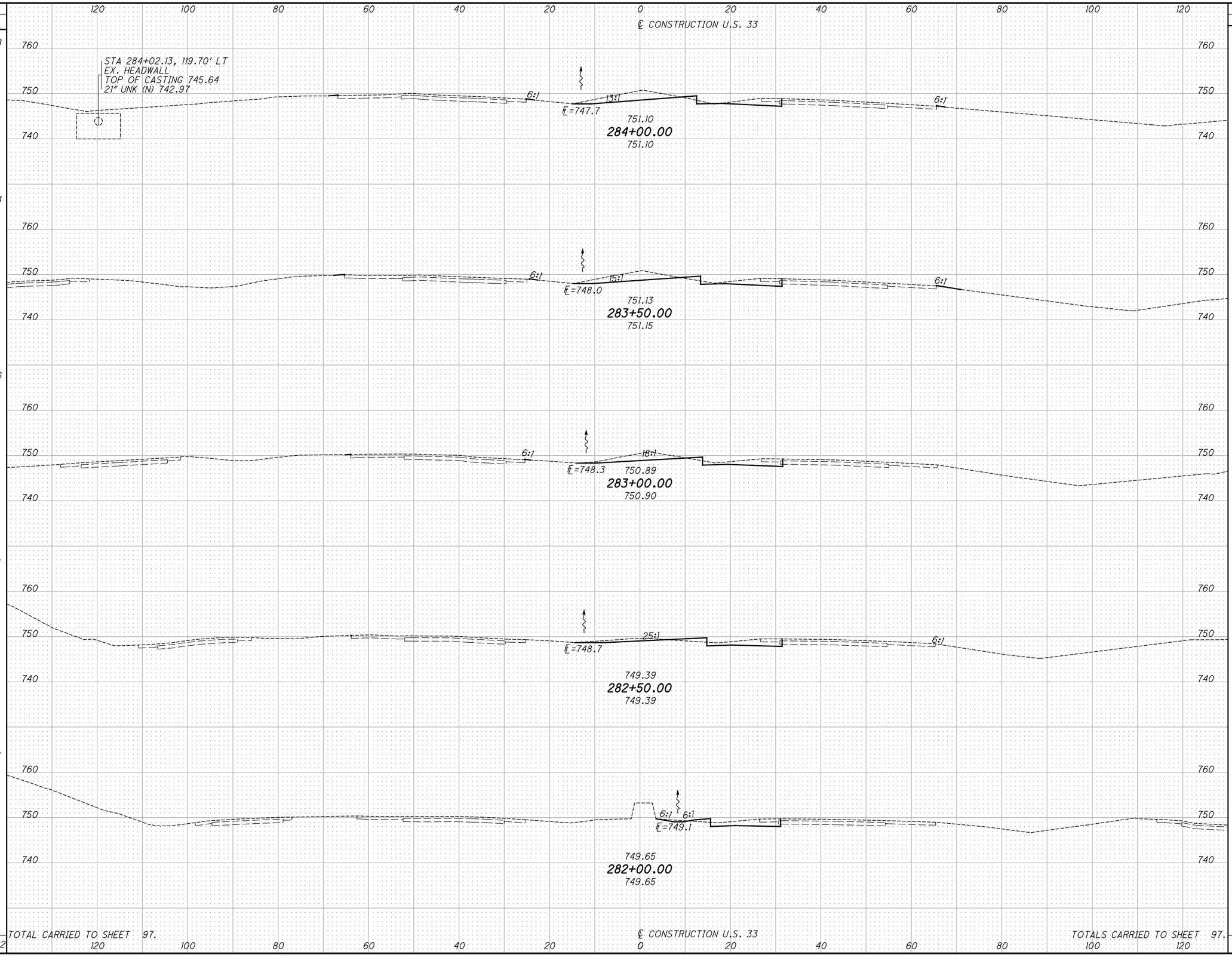
CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 279+50.00 TO STA. 281+50.00

FRA-33-24.26

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SEEDING END WIDTH	SEEDING SQ. YDS.
42	228
	244
46	
	236
39	
	217
39	
	167
21	
1,092	



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
40	2	70	5
		75	5
41	3		
		71	5
36	2		
		55	6
23	4		
		37	6
17	2		
		308	27

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 282+00.00 TO STA. 284+00.00

FRA-33-24.26

131
287

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
40	222	38	3	73	5
	225			69	6
41		37	4		
	222			69	6
39		37	3		
	222			68	6
41		36	3		
	225			67	6
40		36	3		
	1,116			346	29

℄ CONSTRUCTION U.S. 33

760 / 750 / 740

6:1 — 6:1 — ℄=746.1 — 10:1 — 6:1

749.50
286+50.00
749.54

6:1 — 6:1 — ℄=746.4 — 10:1 — 6:1

749.60
286+00.00
749.66

6:1 — 6:1 — ℄=746.7 — 11:1 — 6:1

749.78
285+50.00
749.81

6:1 — 6:1 — ℄=747.0 — 11:1 — 6:1

749.34
285+00.00
749.33

6:1 — 6:1 — ℄=747.4 — 12:1 — 6:1

750.24
284+50.00
750.26

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

120 100 80 60 40 20 0 20 40 60 80 100 120

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 284+50.00 TO STA. 286+50.00

FRA-33-24.26

132
287

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
49	261	41	5	75	10
46	264	36	5	71	9
39	236	42	3	72	7
40	219	40	3	76	6
40	222	41	2	75	5
	1,202			369	37

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 287+00.00 TO STA. 289+00.00

FRA-33-24.26

133
287

℄ CONSTRUCTION U.S. 33

289+00.00
747.73
747.69
℄ =745.5
6:1 6:1 6:1 6:1

288+50.00
748.09
748.07
℄ =745.6
6:1 6:1 6:1 6:1

288+00.00
748.76
748.76
℄ =745.8
6:1 6:1 6:1 6:1

287+50.00
748.73
748.69
℄ =745.9
6:1 6:1 6:1 6:1

287+00.00
749.31
749.31
℄ =746.0
6:1 6:1 6:1 6:1

760 / 750 / 740

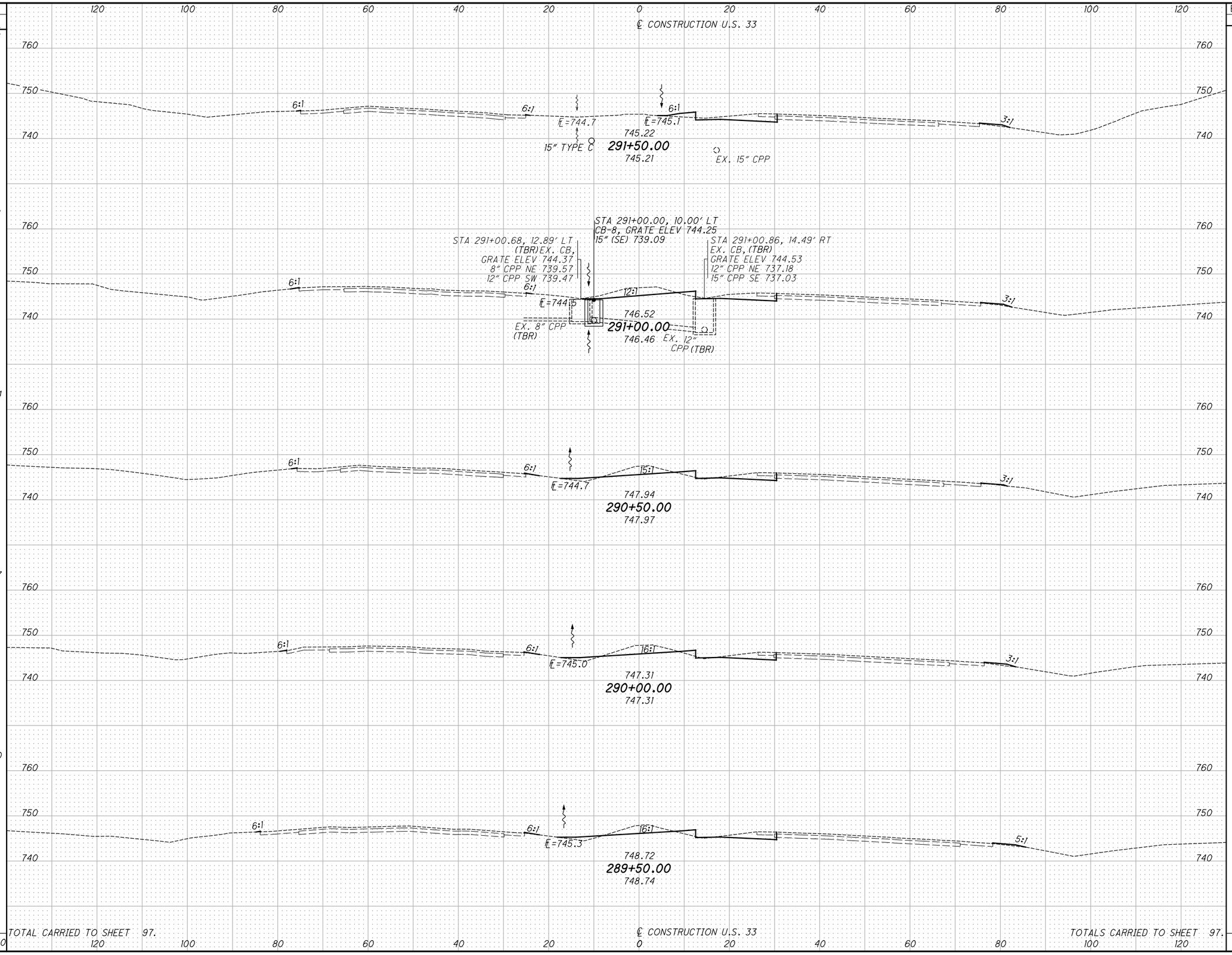
TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

120 100 80 60 40 20 0 20 40 60 80 100 120

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SEEDING END WIDTH	SEEDING SQ. YDS.
26	125
44	194
44	244
45	247
45	250
	1,060



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		30	10
16	7		
		51	10
39	4		
		73	8
40	5		
		77	9
43	5		
		77	10
40	6		
		308	47

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 289+50.00 TO STA. 291+50.00

FRA-33-24.26

134
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
	128
18	
	100
18	
	103
19	
	106
19	
	437

120 100 80 60 40 20 0 20 40 60 80 100 120

℄ CONSTRUCTION U.S. 33

STA 293+50.00, 19.00' LT
MH-3, RIM ELEV 743.84
15" (SE) 737.55
15" (NW) 738.03

760 750 740 730

6:1 6:1 6:1 6:1

℄=744.3

744.35
293+50.00
744.35

EX. 15" CPP

℄=744.0

15" TYPE C 744.83
293+00.00
744.82

EX. 15" CPP

℄=744.1

15" TYPE C 744.85
292+50.00
744.85

EX. 15" CPP

℄=744.3

15" TYPE C 745.56
292+00.00
745.56

EX. 15" CPP

℄=744.8

℄=744.6

℄=744.9

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		29	7
15	4		
		30	6
17	3		
		32	6
18	3		
		31	6
16	4		
		122	25

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 292+00.00 TO STA. 293+50.00

FRA-33-24.26

135
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
	275
48	
	258
45	
	236
40	
	189
28	
	958

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		61	17
35	8		
		65	12
35	5		
		62	6
32	2		
		44	6
16	4		
		232	41

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 294+00.00 TO STA. 295+50.00

FRA-33-24.26

136
287

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

℄ CONSTRUCTION U.S. 33

℄ CONSTRUCTION U.S. 33

295+50.00
745.01
745.02
℄=742.2
15" TYPE C
EX. 15" CPP
4:1
6:1
7:1
6:1

295+00.00
745.54
745.55
℄=742.6
15" TYPE C
EX. 15" CPP
6:1
7:1
5.5:1

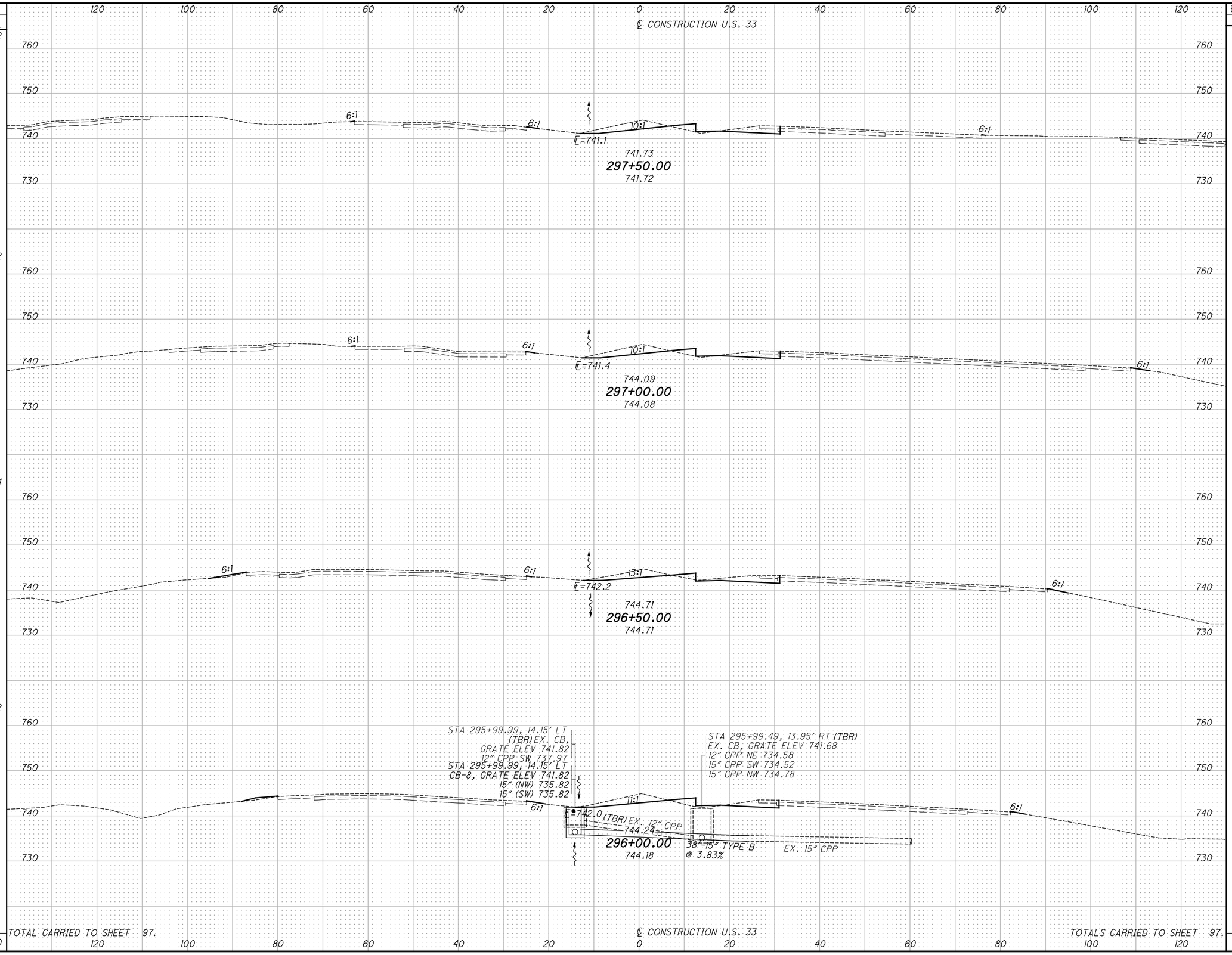
294+50.00
745.71
745.73
℄=742.9
15" TYPE C
EX. 15" CPP
6:1
13:1
6:1

294+00.00
744.56
744.55
℄=743.8
15" TYPE C
EX. 15" CPP
6:1
6:1
6:1
6:1

760
750
740
730
120
100
80
60
40
20
0

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
39	222	33	7	59	14
	222			62	12
41		34	6		
	244			62	11
47		33	6		
	272			59	15
51		31	10		
	960			242	52



CALCULATED KSJ
CHECKED BBB

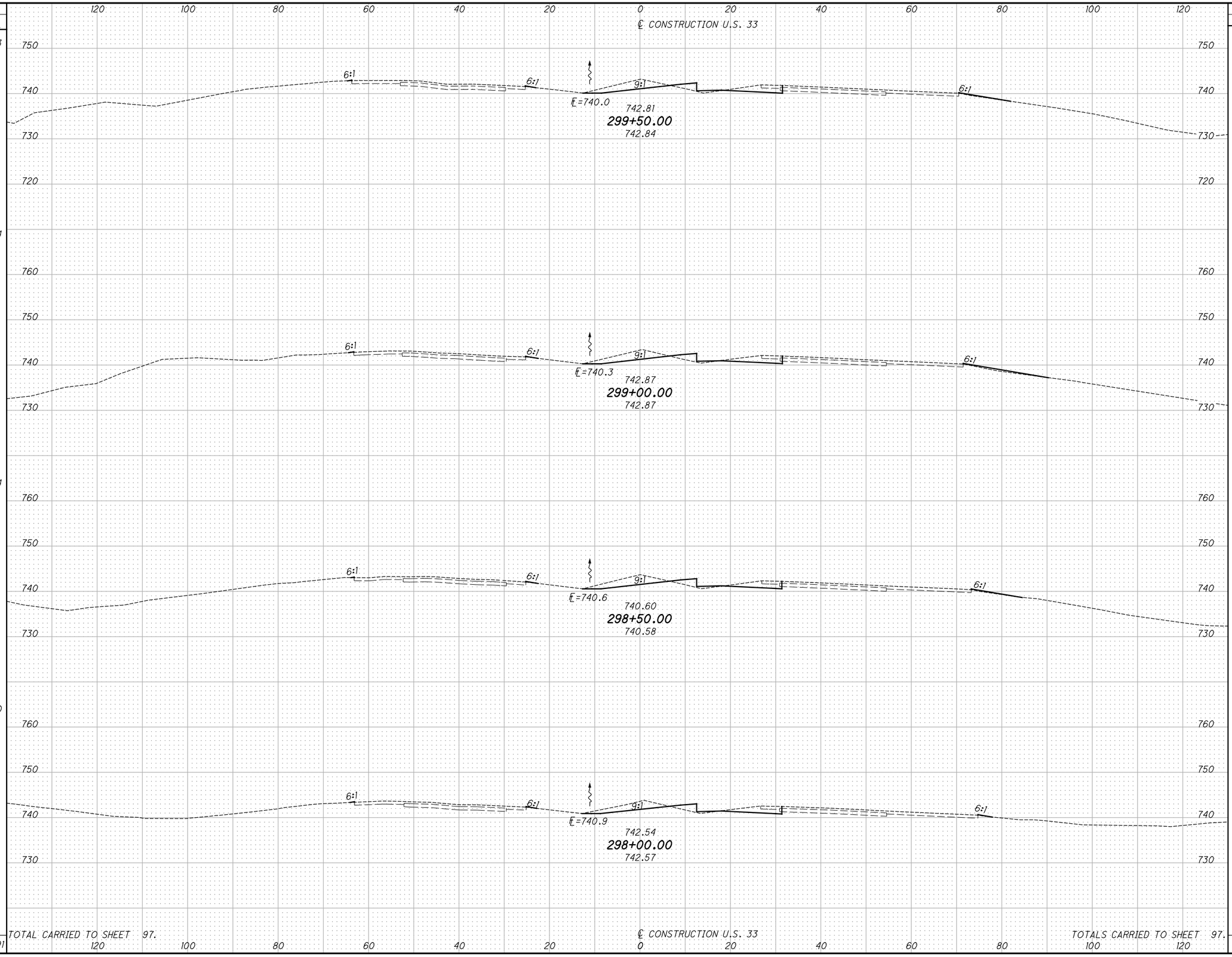
CROSS SECTIONS - U.S. 33
STA. 296+00.00 TO STA. 297+50.00

FRA-33-24.26

137
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
49	253
	294
57	
	294
49	
	250
41	
	1,091



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		67	15
33	9		
		62	19
34	12		
		62	19
33	9		
		59	16
31	8		
		250	69

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 298+00.00 TO STA. 299+50.00

FRA-33-24.26

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
39	217	42	6	77	12
	219			79	9
40		43	4		
	228			79	8
42		42	5		
	233			75	11
42		39	7		
	951			310	40

℄ CONSTRUCTION U.S. 33

℄=739.5
742.63
301+50.00
742.64

℄=739.6
742.80
301+00.00
742.80

℄=739.7
743.01
300+50.00
743.01

℄=739.9
741.85
300+00.00
741.81

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

CALCULATED K.S.J
CHECKED BBB

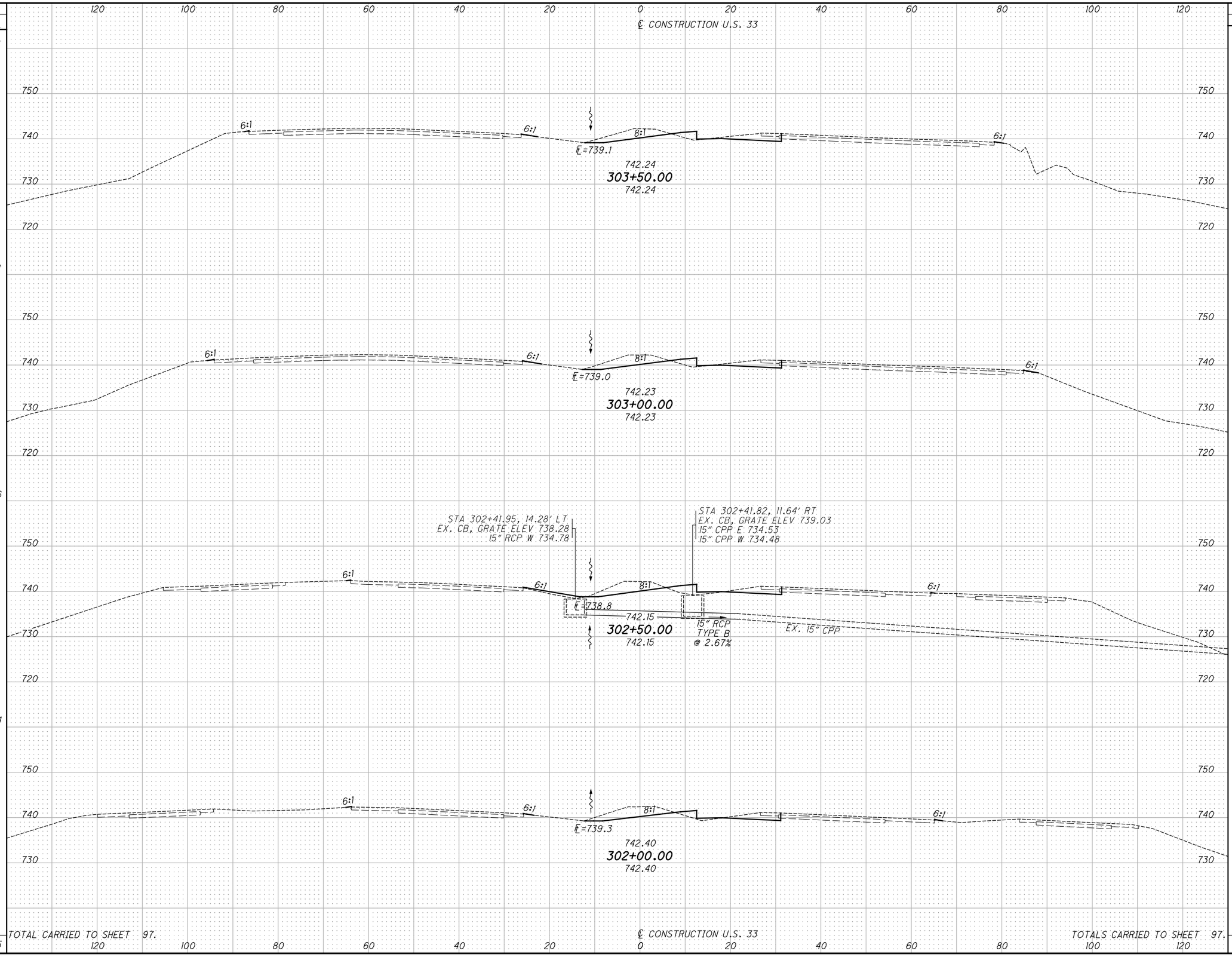
CROSS SECTIONS - U.S. 33
STA. 300+00.00 TO STA. 301+50.00

FRA-33-24.26

139
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
40	214
	231
43	
	256
49	
	244
39	
	945



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		69	11
38	7		
		73	14
41	8		
		73	23
38	17		
		73	22
41	7		
		288	70

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 302+00.00 TO STA. 303+50.00

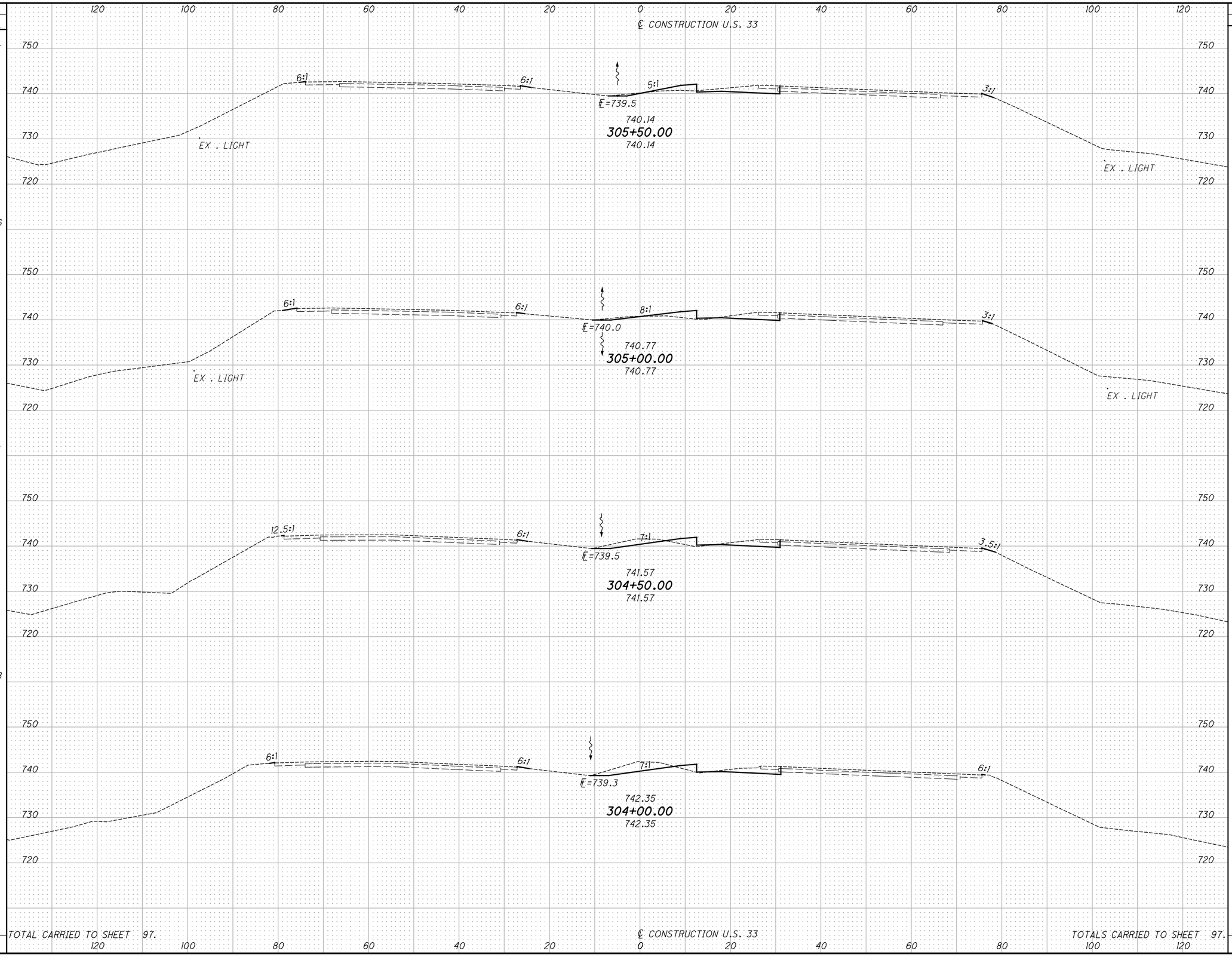
FRA-33-24.26

140
287

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
35	183	18	9	35	16
39	206	14	12	30	19
38	214	25	9	36	19
37	208	36	5	56	13
	811			157	67

CALCULATED K.S.J
CHECKED BBB



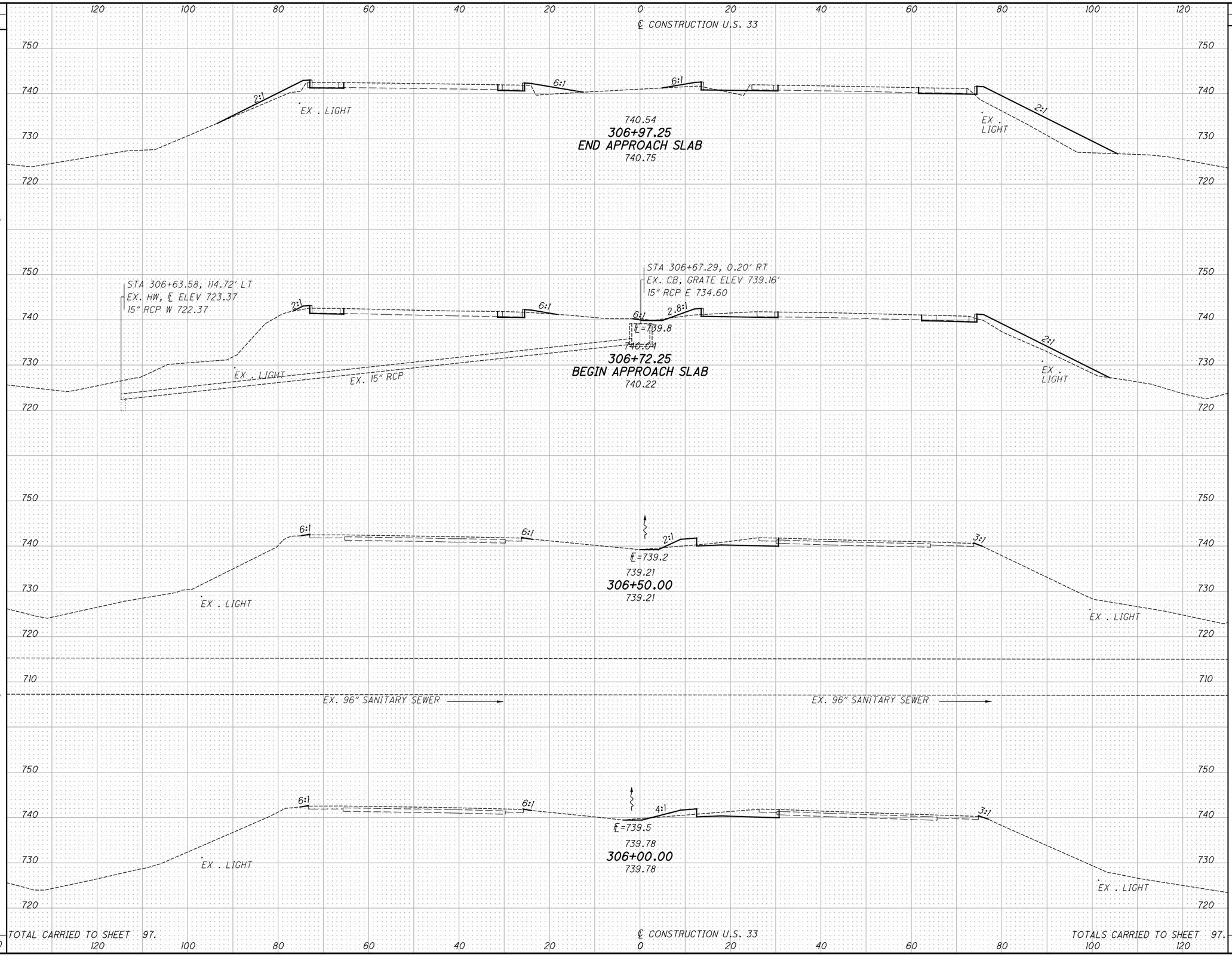
CROSS SECTIONS - U.S. 33
STA. 304+00.00 TO STA. 305+50.00

FRA-33-24.26

141
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
88	217
68	119
28	164
31	
	500



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
41	135	41	84
48	46		
		27	23
17	9		
20	8		
		34	16
		102	123

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 306+00.00 TO STA. 306+97.25

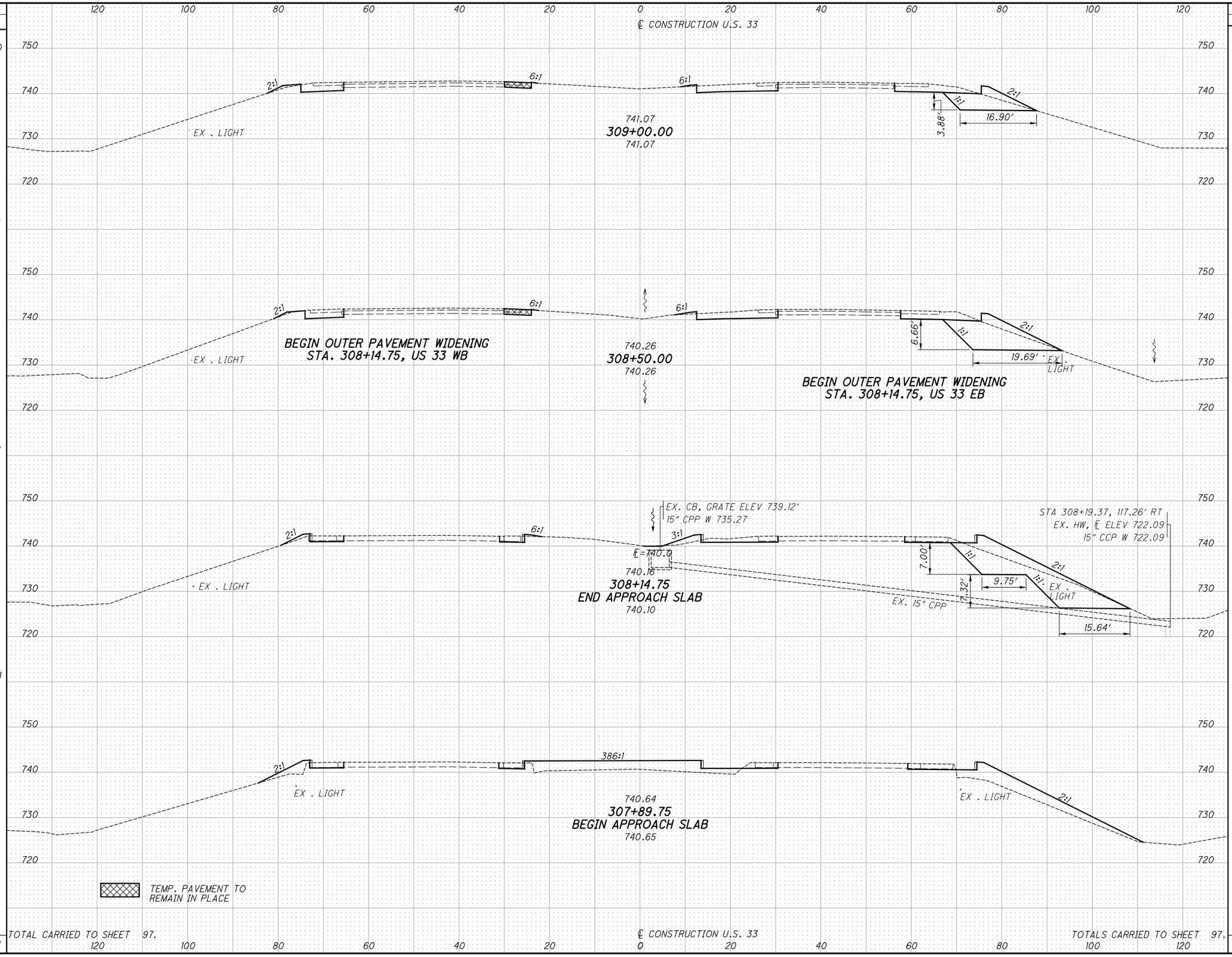
FRA-33-24.26

142
287

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	250			256	231
35		107	64		
	214			234	164
42		146	113		
	219			219	206
70		190	203		
	238			106	181
101		38	188		
	921			815	782

CALCULATED K.S.J
CHECKED BBB



TOTAL CARRIED TO SHEET 97.

℄ CONSTRUCTION U.S. 33

TOTALS CARRIED TO SHEET 97.

CROSS SECTIONS - U.S. 33
STA. 307+89.75 TO STA. 309+00.00

FRA-33-24.26

143
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
87	228
77	169
53	300
55	
	697

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
49	388	49	258
56	169	92	145
157	167	303	327
170	186		
		444	730

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 309+50.00 TO STA. 310+48.38

FRA-33-24.26

144
287

℄ CONSTRUCTION U.S. 33

MATCH LINE STA. 310+00.00

EX . LIGHT

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

STA 310+05.32, 114.19' LT
EX. HW, ℄ ELEV 725.23

STA 310+05.34, 1.53' RT
EX. CB, GRATE ELEV 739.59
15" CPP E 735.74

2.5:1
1:1
9.00'
23.57'
EX . LIGHT
EX. 15" CPP

739.98
310+00.00
739.98

740.99
309+50.00
740.99

8.14'
25.54'

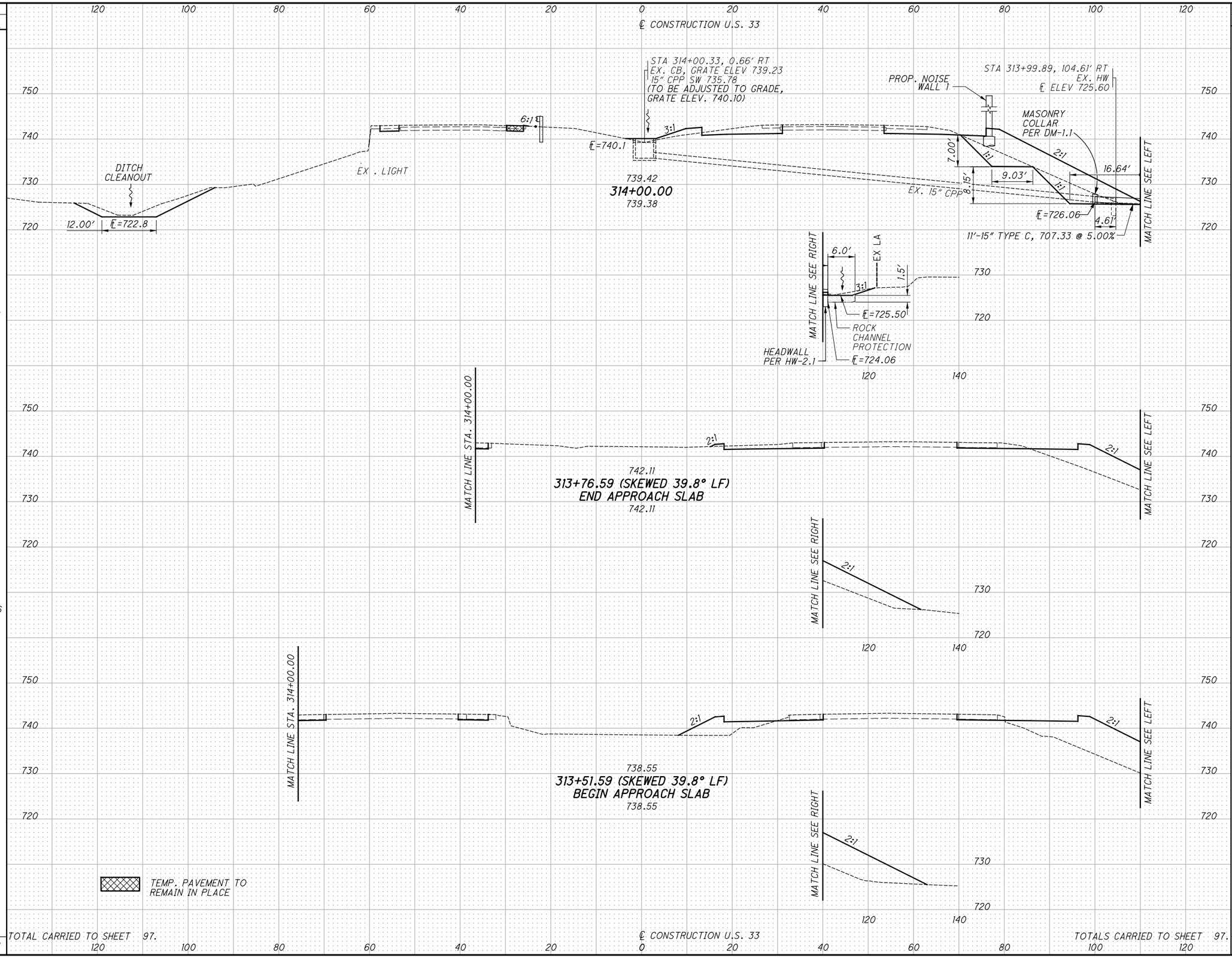
TEMP. PAVEMENT TO REMAIN IN PLACE

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

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SEEDING END WIDTH	SEEDING SQ. YDS.
	517
	72
	198
	80
	236
	90
	951



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		405	664
159	225		
		98	203
67	241		
		51	301
44	409		
		554	1,168

CALCULATED KSJ
CHECKED BBB

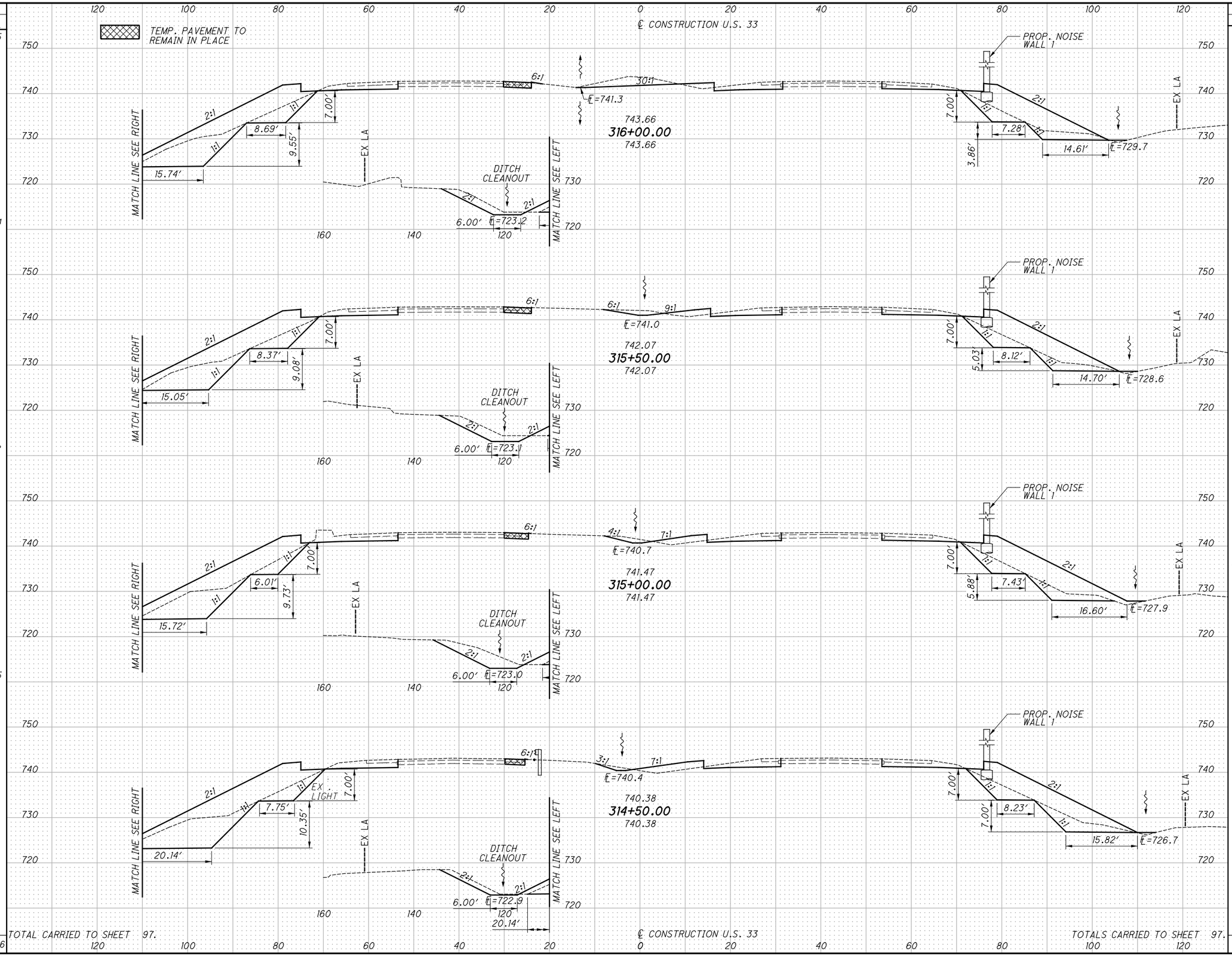
CROSS SECTIONS - U.S. 33
STA. 313+51.59 TO STA. 314+00.00

FRA-33-24.26

145
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
	675
119	
	634
109	
	612
111	
	625
114	
	2,546



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		495	696
258	397		
		465	749
244	411		
		467	788
260	440		
		499	863
278	492		
		1,926	3,096

CALCULATED K.S.J
CHECKED BBB

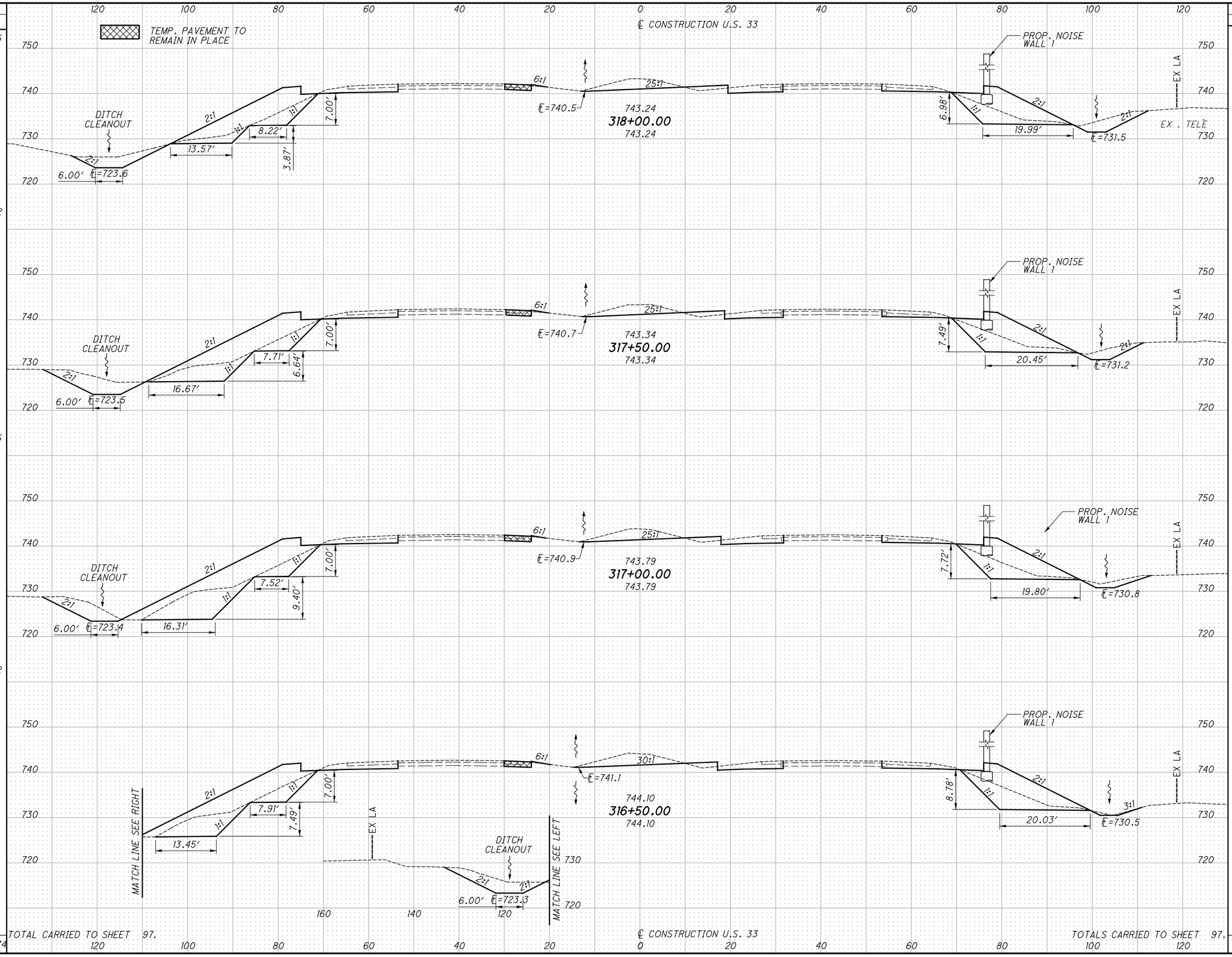
CROSS SECTIONS - U.S. 33
STA. 314+50.00 TO STA. 316+00.00

FRA-33-24.26

146
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
124	695
	692
125	
	695
125	
	692
124	
	695
	2,774



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		430	497
225	277		
		466	571
278	339		
		528	674
292	388		
		526	688
276	354		
		1,950	2,430

CALCULATED K.S.J
CHECKED BBB

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	SEEDING SQ. YDS.
	645
118	
	653
117	
	684
	709
129	
126	
	2,691

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		457	418
252	245		
		472	468
257	260		
		476	479
257	257		
		460	478
239	259		
		1,865	1,843

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 318+50.00 TO STA. 320+00.00

FRA-33-24.26

148
287

TEMP. PAVEMENT TO REMAIN IN PLACE

℄ CONSTRUCTION U.S. 33

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

MATCH LINE SEE RIGHT

MATCH LINE SEE LEFT

EX LA

EX . TELE

PROP. NOISE WALL 1

DITCH CLEANOUT

ROCK CHANNEL PROTECTION TYPE C, WITH GEOTEXTILE FILTER (5′ L X 4′ W), 18″ THICK (6″ ROCK)

26′-15″ TYPE C @ 16.11%

15″ TYPE B

STA 320+00.00, 72.75′ RT
I-3-D, GRATE ELEV 740.94
15″ (SW) 734.94
15″ (SE) 735.11
15″ (NW) 735.11

STA 320+00.00, 99.73′ RT
HW-2.2
℄ ELEV. 730.70

℄=739.9
743.14
320+00.00
743.14

℄=729.7

℄=740.0
743.17
319+50.00
743.17

℄=731.0

STA 319+00.00, 72.75′ RT
I-3-D, GRATE ELEV 741.28
15″ (SE) 736.78

℄=740.2
743.08
319+00.00
743.08

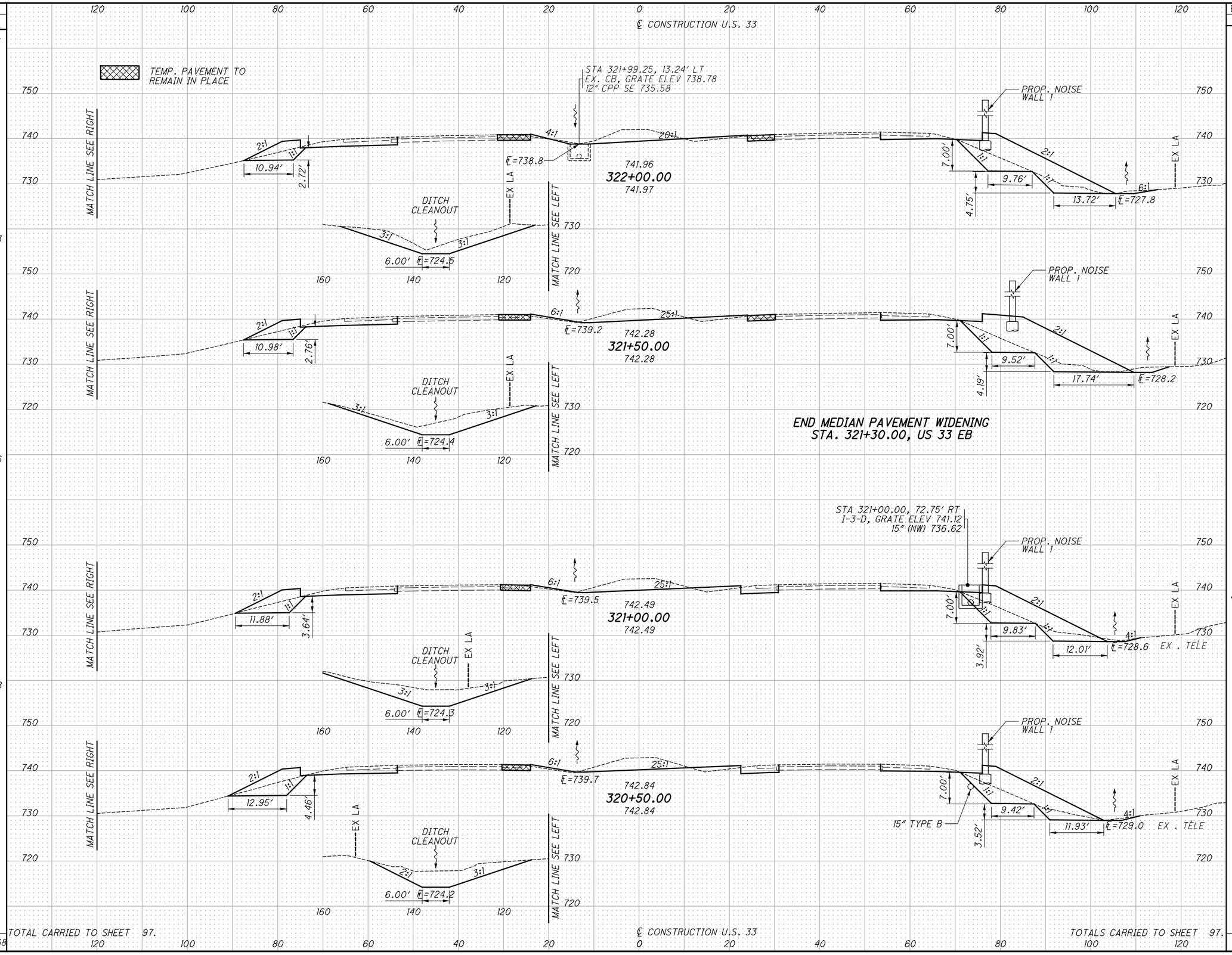
℄=731.5

℄=740.4
743.21
318+50.00
743.21

℄=731.9

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SEEDING END WIDTH	SEEDING SQ. YDS.
	631
111	
	653
124	
	656
	628
112	
114	
	2,568



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		368	407
218	206		
		411	429
225	257		
		450	421
260	197		
		464	374
241	206		
		1,693	1,631

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 320+50.00 TO STA. 322+00.00

FRA-33-24.26

149
287

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
68	400	128	227	239	429
	373			265	423
66		158	229		
	431			298	440
89		163	246		
	570			317	444
116		179	233		
	1,774			1,119	1,736

TEMP. PAVEMENT TO REMAIN IN PLACE

℄ CONSTRUCTION U.S. 33

MATCH LINE SEE RIGHT

MATCH LINE SEE LEFT

EX LA

PROP. NOISE WALL 1

DITCH CLEANOUT

739.22
324+00.00
739.22

740.16
323+50.00
740.17

739.26
323+00.00
739.26

738.67
322+50.00
738.65

STA 323+04.54, 104.79' LT
EX. HW
℄ 15" ELEV 729.35

STA 323+03.90, 12.89' LT
EX. CB, GRATE ELEV 738.18
15" CPP NE 732.38
12" CPP NW 733.78

EX. 15" CPP

EX. 12" CPP

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

CALCULATED K.S.J

CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 322+50.00 TO STA. 324+00.00

FRA-33-24.26

150
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
	675
104	
	506
78	
	425
75	
	420
76	
	2,026

TEMP. PAVEMENT TO REMAIN IN PLACE

℄ CONSTRUCTION U.S. 33

STA 325+99.15, 103.15' LT
EX. HW
℄ ELEV 729.09

STA 325+98.93, 13.40' LT
EX. CB, GRATE ELEV 737.78
15" CPP NE 734.08
15" CPP SW 734.18

STA 325+99.40, 13.18' RT
EX. CB, GRATE ELEV 737.63
15" CPP NE 734.58

STA 326+00.00, 72.75' RT
I-3-D, GRATE ELEV 740.99
15" (NW) 735.09
15" (SE) 735.09
15" (SW) 734.99

MATCH LINE SEE RIGHT

MATCH LINE SEE LEFT

EX. 15" CPP

℄=737.8

741.33
326+00.00
741.33

PROP. NOISE WALL 1

INVERT AT BEND 734.89

INVERT AT BEND ELEV 728.05

STA 326+00.00, 105.18' RT
HW-2.2 OR 2.2
℄ ELEV. 728.00

10'-15" TYPE F @ 1.00%
16'-15" TYPE F @ 42.75%
5'-15" TYPE F @ 1.00%

ROCK CHANNEL PROTECTION TYPE C, WITH GEOTEXTILE FILTER (5' L X 4' W), 18" THICK (6" ROCK)

EX LA

EX. TELE

℄=726.5

DITCH CLEANOUT

6.00' ℄=725.3

741.49
325+50.00
741.49

℄=738.6

15" TYPE B

℄=726.6

EX . TELE

6.00' ℄=725.2

741.78
325+00.00
741.78

STA 325+00.00, 72.75' RT
I-3-D, GRATE ELEV 741.09
15" (SE) 736.59

℄=726.7

EX . TELE

6.00' ℄=725.1

740.14
324+50.00
740.14

6.00' ℄=725.0

℄=726.8

EX . TELE

TOTAL CARRIED TO SHEET 97.

TOTALS CARRIED TO SHEET 97.

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		300	419
156	232		
		272	416
137	217		
		247	413
129	228		
		240	430
130	236		
		1,059	1,678

CALCULATED KSJ
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 324+50.00 TO STA. 326+00.00

FRA-33-24.26

151
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
	436
76	
	436
81	
	469
88	
	631
139	
	1,972

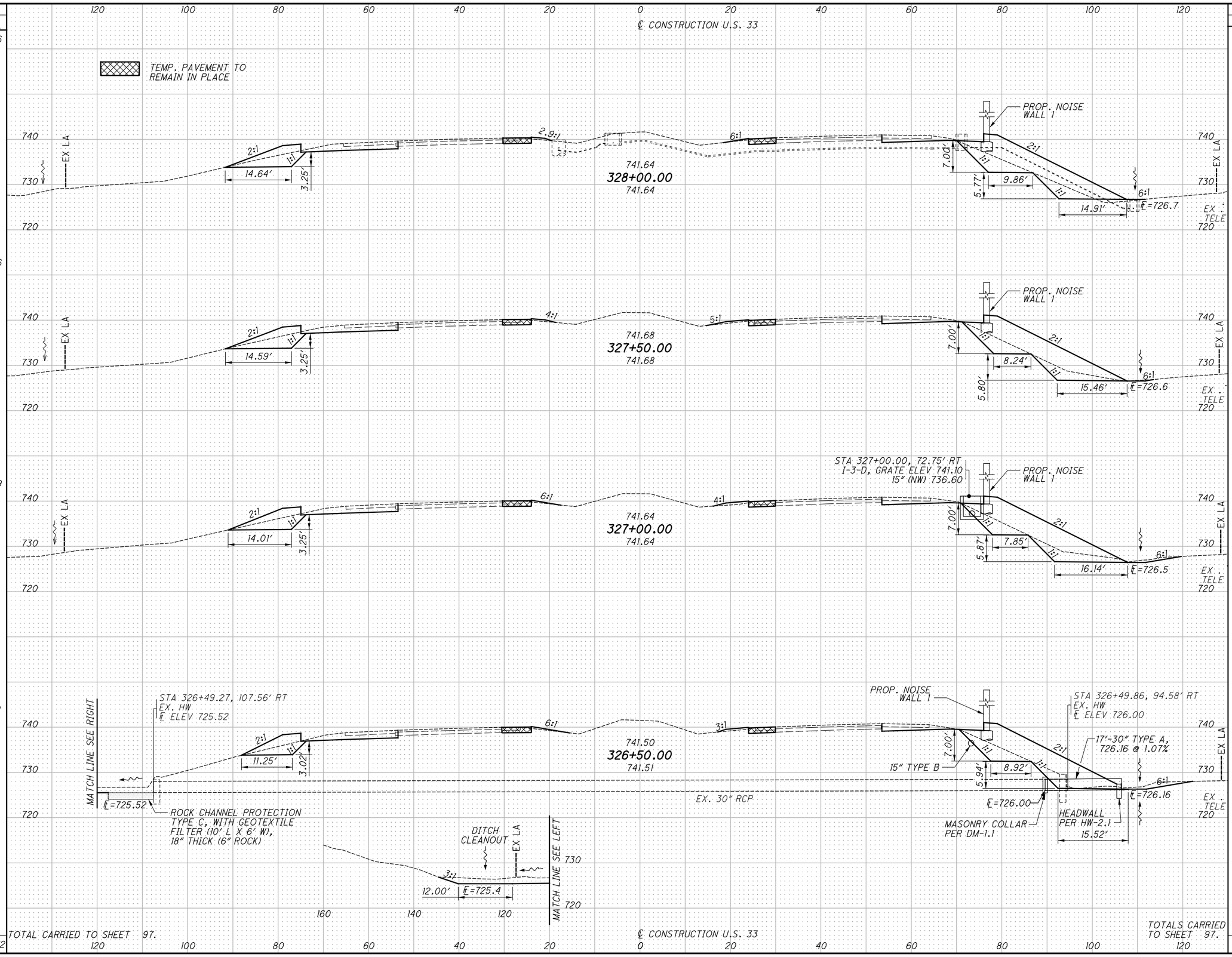
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		224	442
120	235		
		221	428
119	227		
		226	427
124	233		
		271	420
168	220		
		942	1,717

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 326+50.00 TO STA. 328+00.00

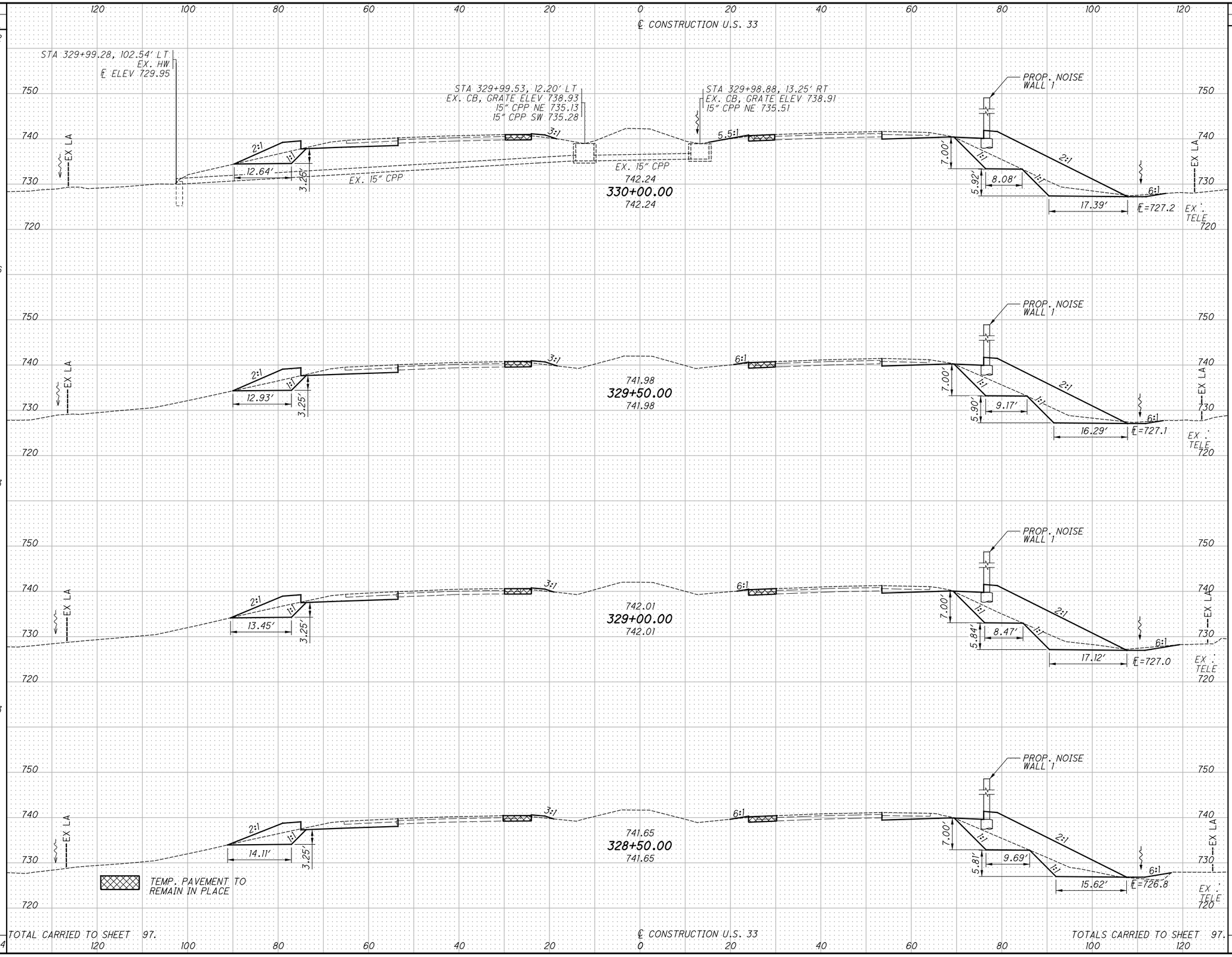
FRA-33-24.26

152
287



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SEEDING END WIDTH	SEEDING SQ. YDS.
	472
83	
	456
81	
	453
82	
	453
81	
	1,834



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		214	452
117	245		
		217	449
117	240		
		221	450
122	246		
		226	452
122	242		
		878	1,803

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 328+50.00 TO STA. 330+00.00

FRA-33-24.26

153
287

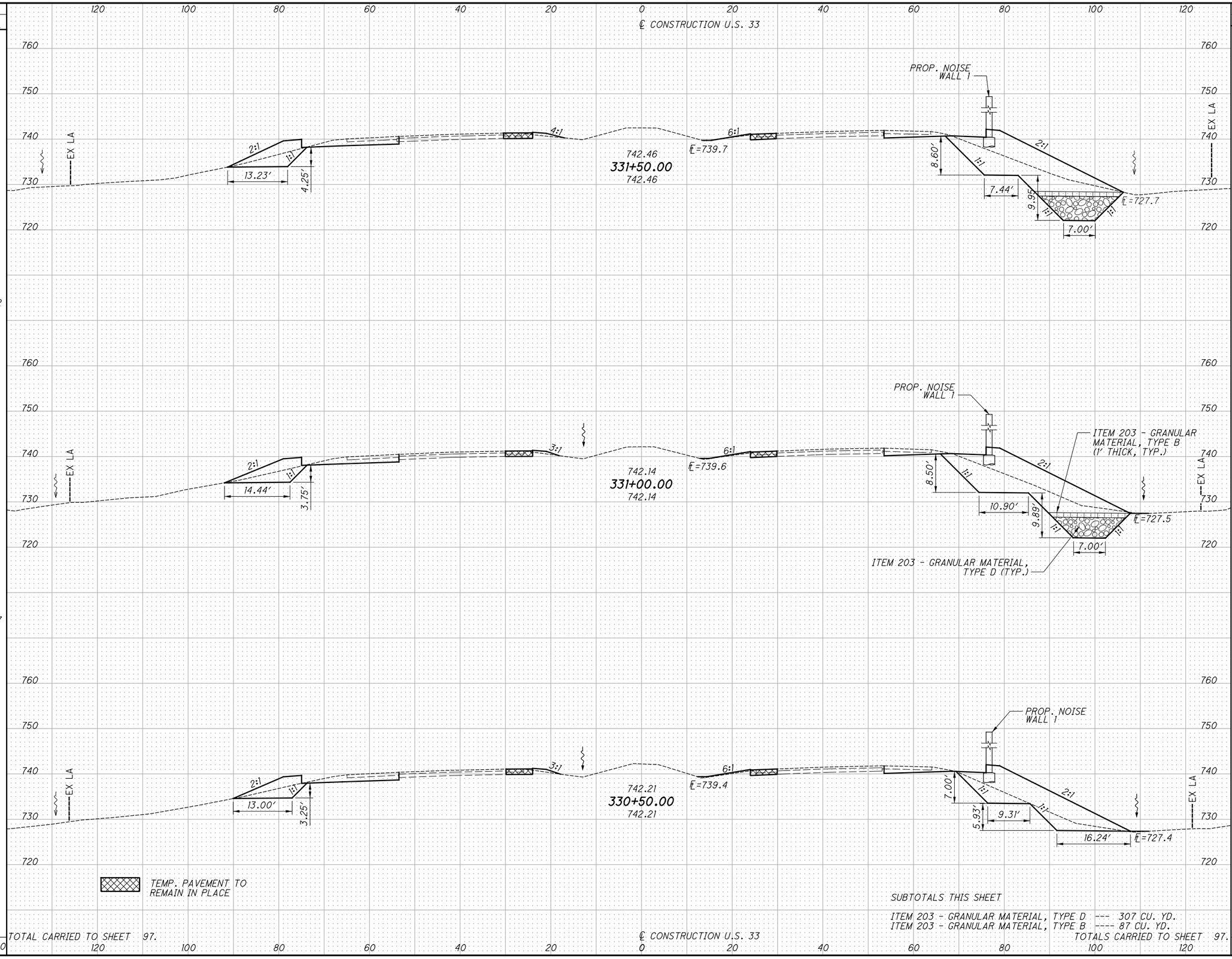
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SEEDING	
END WIDTH	SQ. YDS.
	411
78	
	472
92	
	497
87	
	1,380

END AREA	
CUT	FILL
263	289
248	302
114	243

VOLUME	
CUT	FILL
572	563
473	548
335	505
1,380	1,616

CALCULATED K.S.J
CHECKED BBB



CROSS SECTIONS - U.S. 33
STA. 330+50.00 TO STA. 331+50.00

FRA-33-24.26

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SEEDING END WIDTH	SEEDING SQ. YDS.
88	514
	464
79	
	414
70	
	1,392

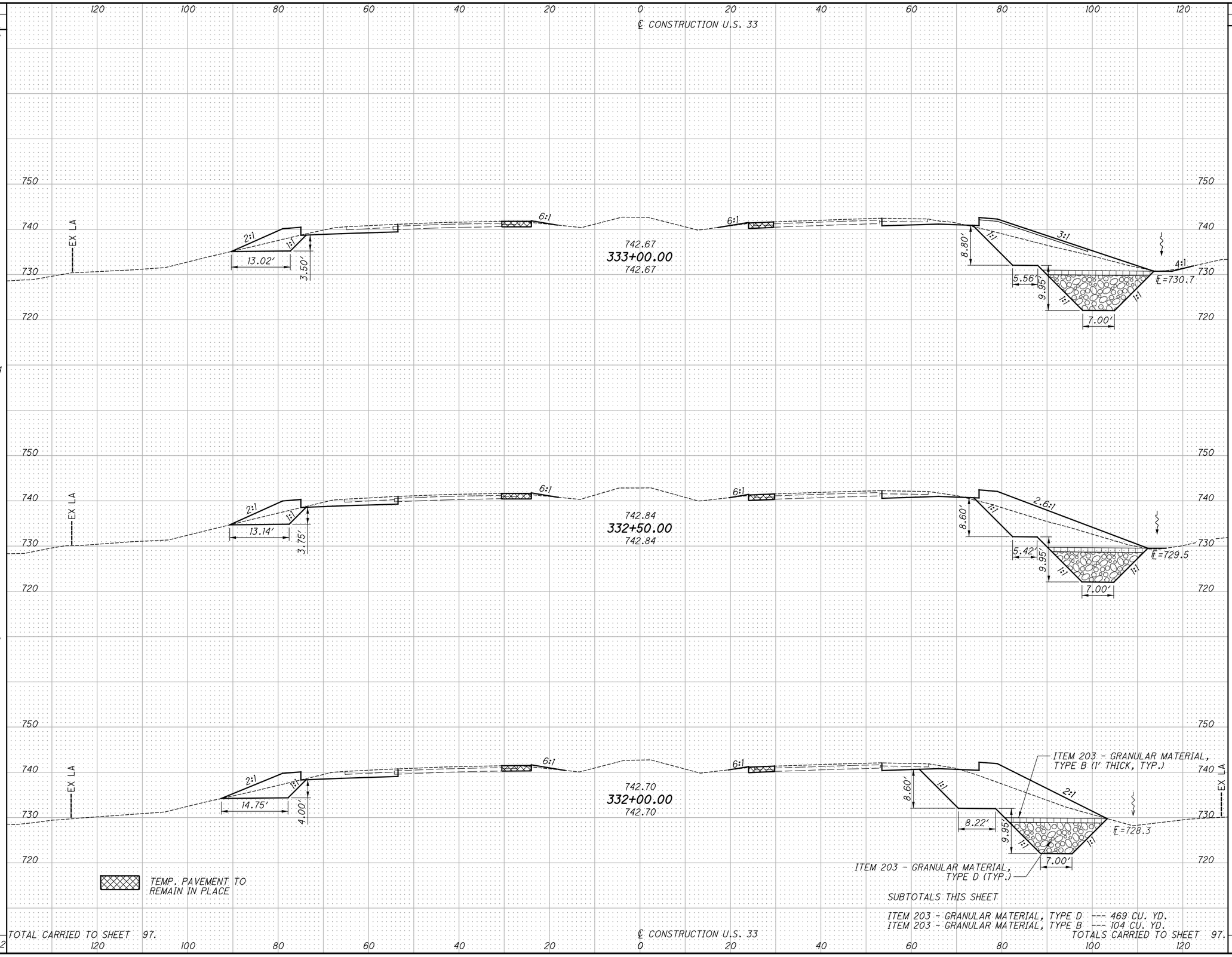
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
332	248	499	500
		575	459
289	247		
		596	525
355	319		
		1,670	1,484

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 332+00.00 TO STA. 333+00.00

FRA-33-24.26

155
287



SUBTOTALS THIS SHEET

ITEM 203 - GRANULAR MATERIAL, TYPE D --- 469 CU. YD.
ITEM 203 - GRANULAR MATERIAL, TYPE B --- 104 CU. YD.

TOTAL CARRIED TO SHEET 97.

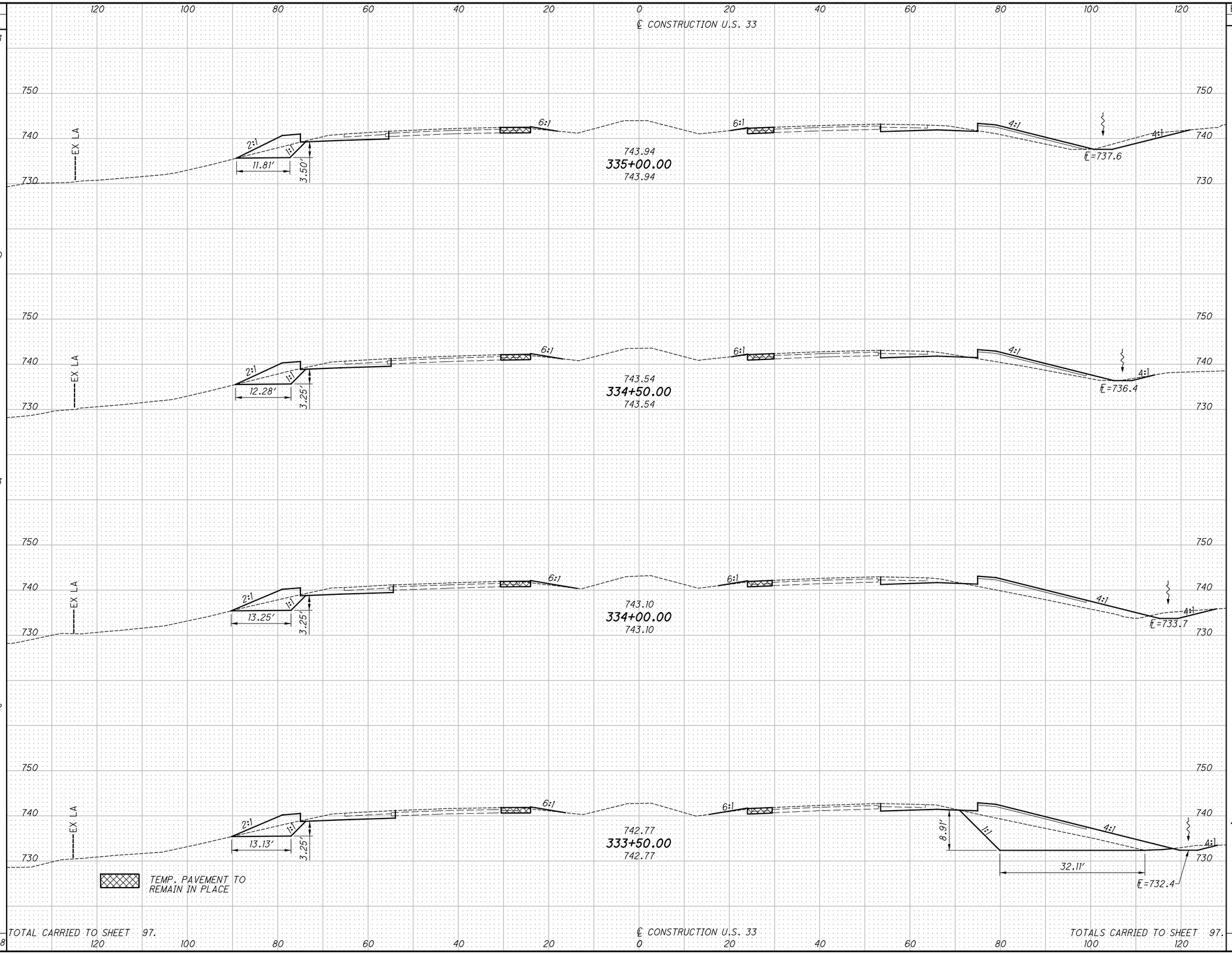
TOTALS CARRIED TO SHEET 97.

℄ CONSTRUCTION U.S. 33

120 100 80 60 40 20 0 20 40 60 80 100 120

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SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	483				163	160
86		335+00.00	74	83		
	450				120	159
76		334+50.00	56	89		
	483				118	196
98		334+00.00	71	123		
	542				257	384
97		333+50.00	207	292		
	1,958				658	899



CALCULATED KSJ
CHECKED BBB

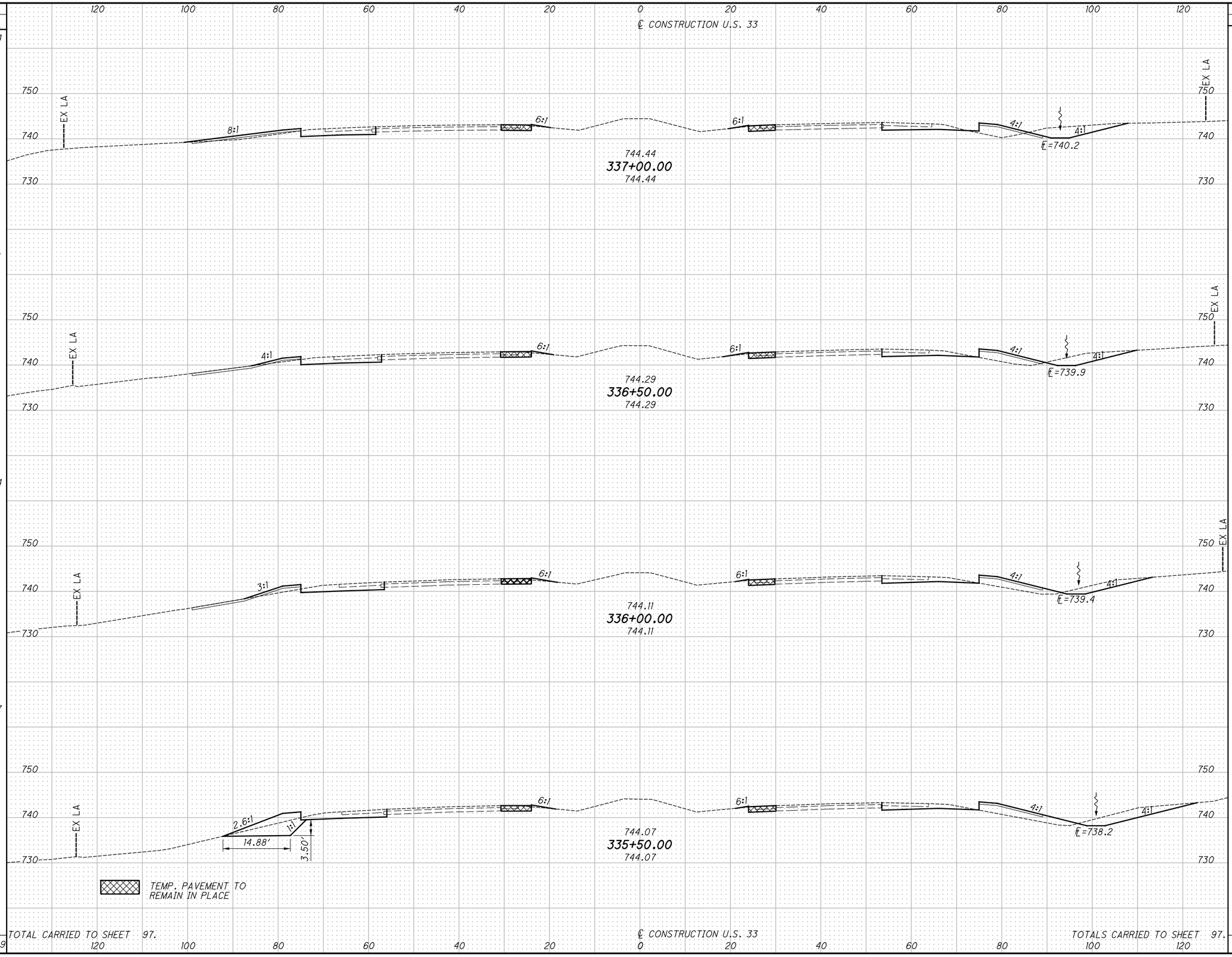
CROSS SECTIONS - U.S. 33
STA. 333+50.00 TO STA. 335+00.00

FRA-33-24.26

156
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
80	444
69	414
73	394
88	447
	1,699



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		115	68
64	39		
		115	67
60	33		
		106	69
55	41		
		145	121
102	90		
		481	325

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 335+50.00 TO STA. 337+00.00

FRA-33-24.26

157
287

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
70	253	33	10	50	10
69	386	47	18	74	26
72	392	60	27	99	42
80	422	60	34	111	56
	1,453			334	134

CALCULATED KSJ
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 337+50.00 TO STA. 339+00.00

FRA-33-24.26

158
287

℄ CONSTRUCTION U.S. 33

745.21
339+00.00
745.21

744.82
338+50.00
744.82

744.50
338+00.00
744.50

744.37
337+50.00
744.37

EX LA
8:1
6:1
4:1
℄=740.8
℄=740.7
℄=740.5
℄=740.4
STA 337+99.90, 12.72' LT
EX. CB, GRATE ELEV 741.47
15" CPP NE 737.92
15" CPP SW 737.92
STA 337+99.87, 13.11' RT
EX. CB, GRATE ELEV 741.42
15" CPP NE 738.07
EX. 15" CPP
TEMP. PAVEMENT TO REMAIN IN PLACE

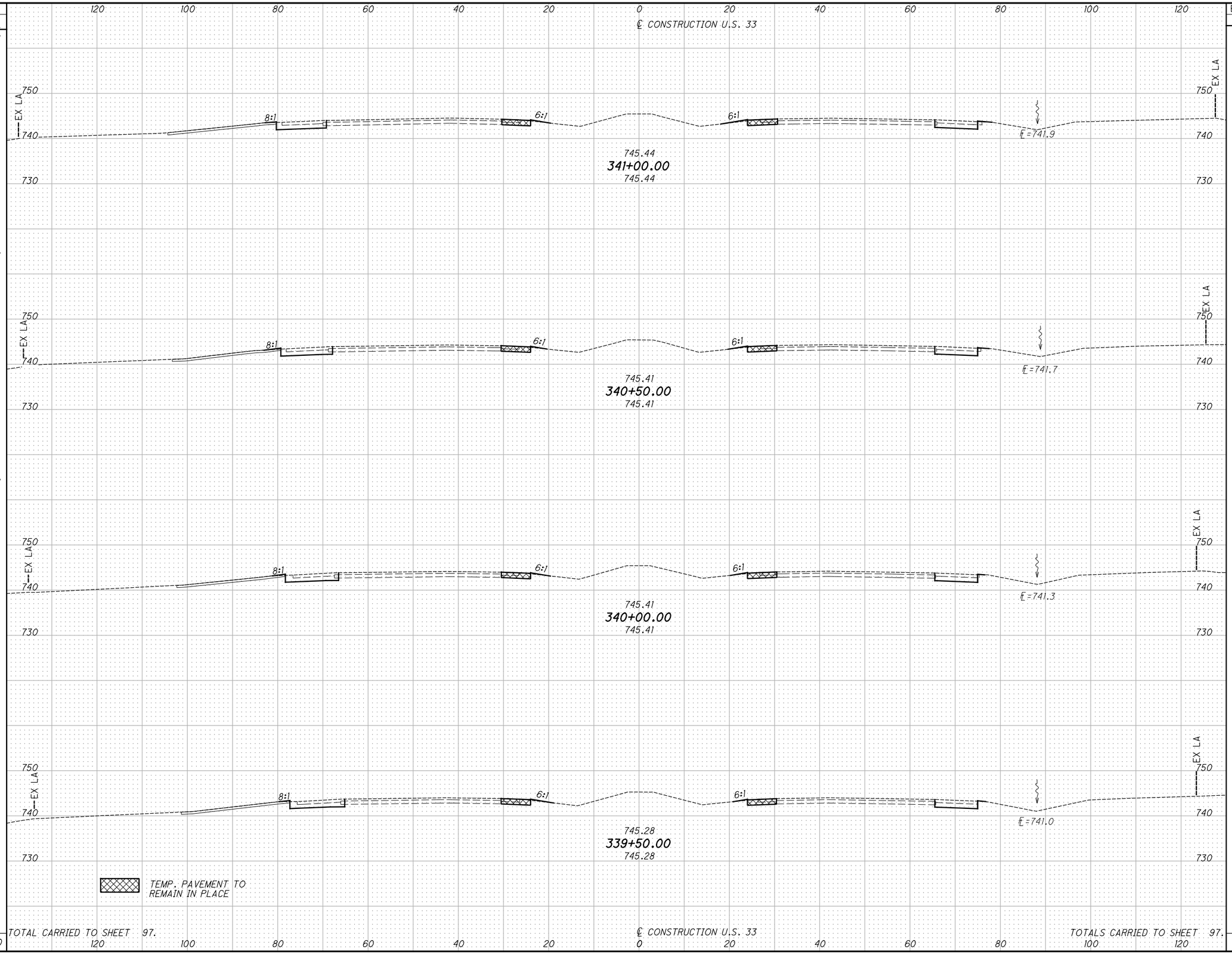
TOTAL CARRIED TO SHEET 97.
TOTALS CARRIED TO SHEET 97.

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SEEDING END WIDTH	SEEDING SQ. YDS.
25	128
	133
23	
	122
21	
	117
21	
	500

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		38	4
20	2		
		37	4
20	2		
		38	4
21	2		
		39	3
21	1		
		152	15

CALCULATED K.S.J
CHECKED BBB



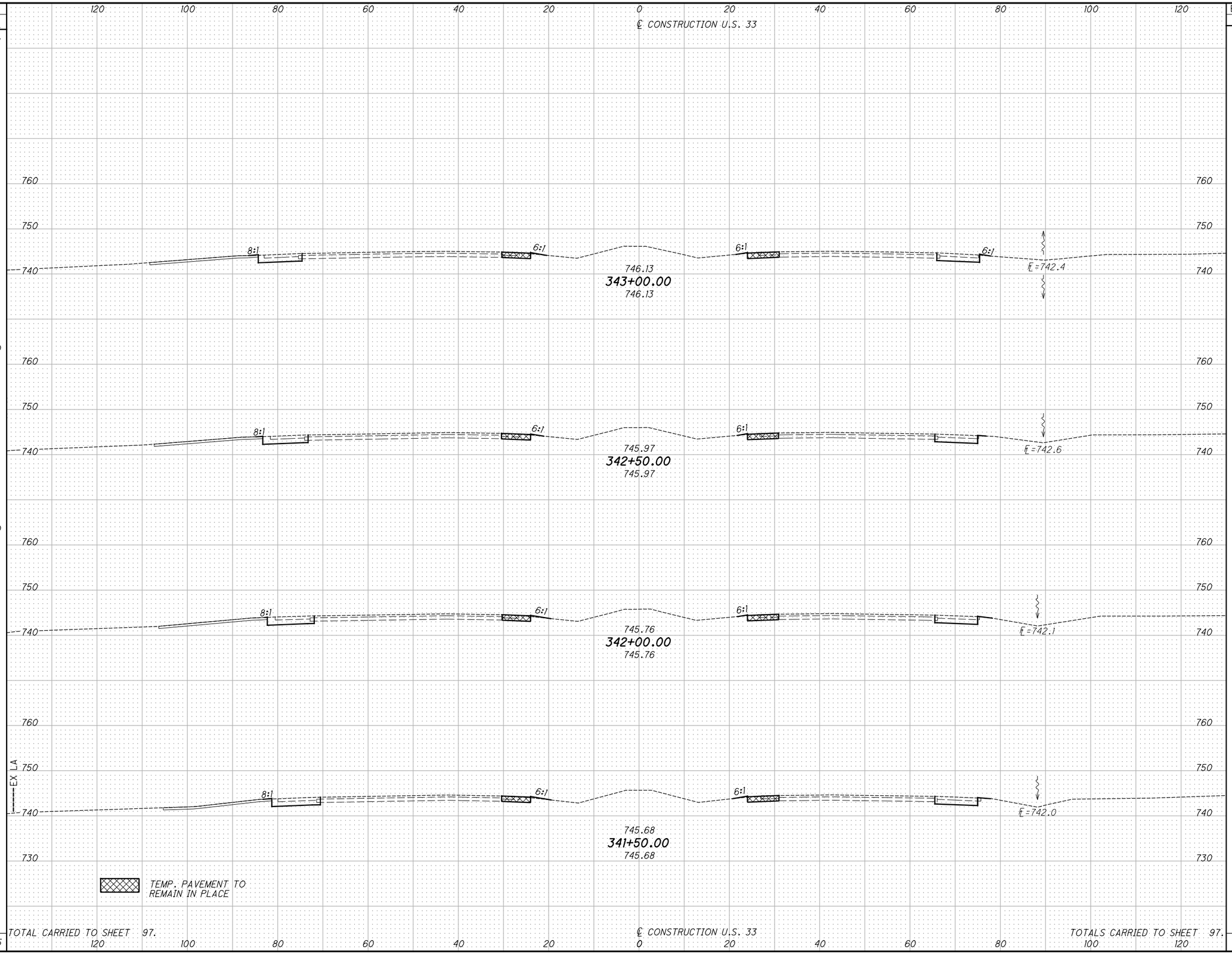
CROSS SECTIONS - U.S. 33
STA. 339+50.00 TO STA. 341+00.00

FRA-33-24.26

159
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
	144
19	
	100
17	
19	
	100
19	
	111
21	
	455



END AREA CUT	END AREA FILL
19	1
20	1
21	1
21	2

VOLUME CUT	VOLUME FILL
37	3
36	2
38	2
39	3
150	10

CALCULATED K.S.J
CHECKED BBB

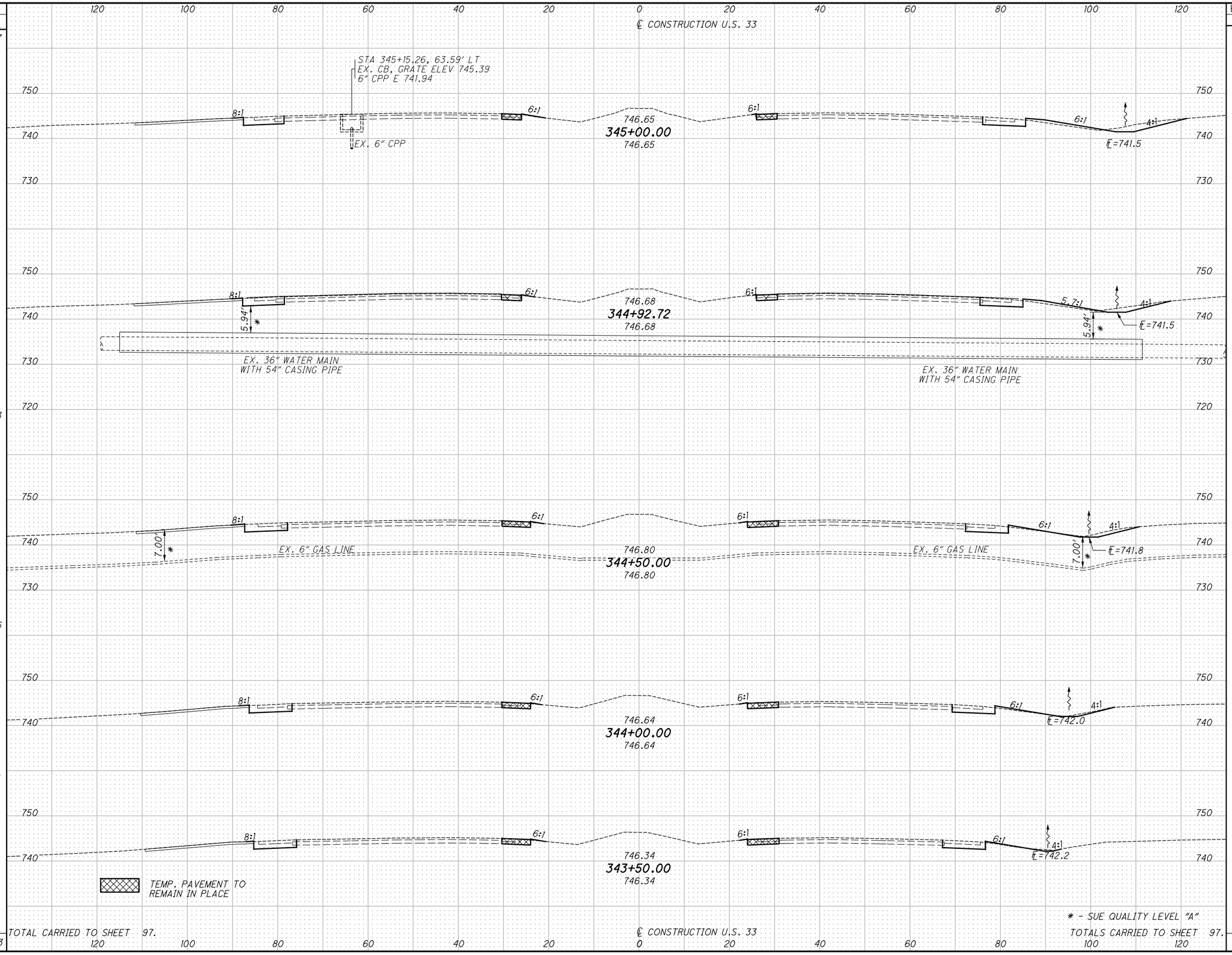
CROSS SECTIONS - U.S. 33
STA. 341+50.00 TO STA. 343+00.00

FRA-33-24.26

160
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
	367
56	
	43
50	
	233
48	
	256
44	
	214
33	
	1,113



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		74	17
35	9		
		5	1
0	0		
		22	2
28	3		
		47	6
23	3		
		41	5
21	2		
		189	31

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 343+50.00 TO STA. 345+00.00

FRA-33-24.26

161
287

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SEEDING END WIDTH	SEEDING SQ. YDS.
19	128
28	219
51	306
59	375
76	
	1,028

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	1		
		0	2
0	1		
		17	2
18	1		
		56	7
43	7		
		81	15
45	9		
		154	26

CALCULATED K.S.J
CHECKED BBB

CROSS SECTIONS - U.S. 33
STA. 345+50.00 TO STA. 347+00.00

FRA-33-24.26

162
287

STA. 347+50.00
FOR ADDITIONAL QUANTITIES OF SEEDING, SEE SHEET 97 .

℄ CONSTRUCTION U.S. 33

STA. 347+50.00
FOR ADDITIONAL QUANTITIES OF CUT & FILL, SEE SHEET 97 .

STA 347+00.44 R 2, 6.81' LT
EX. MH, GRATE ELEV 745.83'
24" RCP SE 734.73
18" RCP SW 735.48
30" RCP NW 734.88

STA 346+99.99 R 2, 81.58' RT
EX. CB, GRATE ELEV 743.53'
18" CPP NE 736.03
18" CPP SW 736.08

EX LA

END PAVEMENT WIDENING
346+83.89 US 33 WB

747.20
347+00.00
747.20

EX. 18" CPP
EX. 18" RCP

EX. 36" WATER MAIN

EX. 30" RCP
747.25
346+50.00
747.25

MATCH LINE SEE RIGHT
MATCH LINE SEE LEFT

℄=740.8

END PAVEMENT WIDENING
346+10.91 US 33 EB

STA 346+08.87, 63.31' RT
EX. CB, GRATE ELEV 745.47
15" CCP NE 739.82

747.01
346+00.00
747.01

EX. 30" RCP
EX. 15" CCP

℄=741.0

STA 345+28.98, 20.37' LT
EX. MH, GRATE ELEV 744.58
30" NE 733.28
30" SE 733.38
15" CPP SW 738.58

STA 345+29.22, 13.24' LT
EX. CB, GRATE ELEV 743.41
15" CPP NE 738.71
15" RCP SW 738.76

STA 345+28.86, 13.51' RT
EX. CB, GRATE ELEV 743.07
15" RCP NE 738.97

℄=743.7

EX. 6" CPP
EX. 15" RCP
EX. 15" CPP
EX. 30" CI

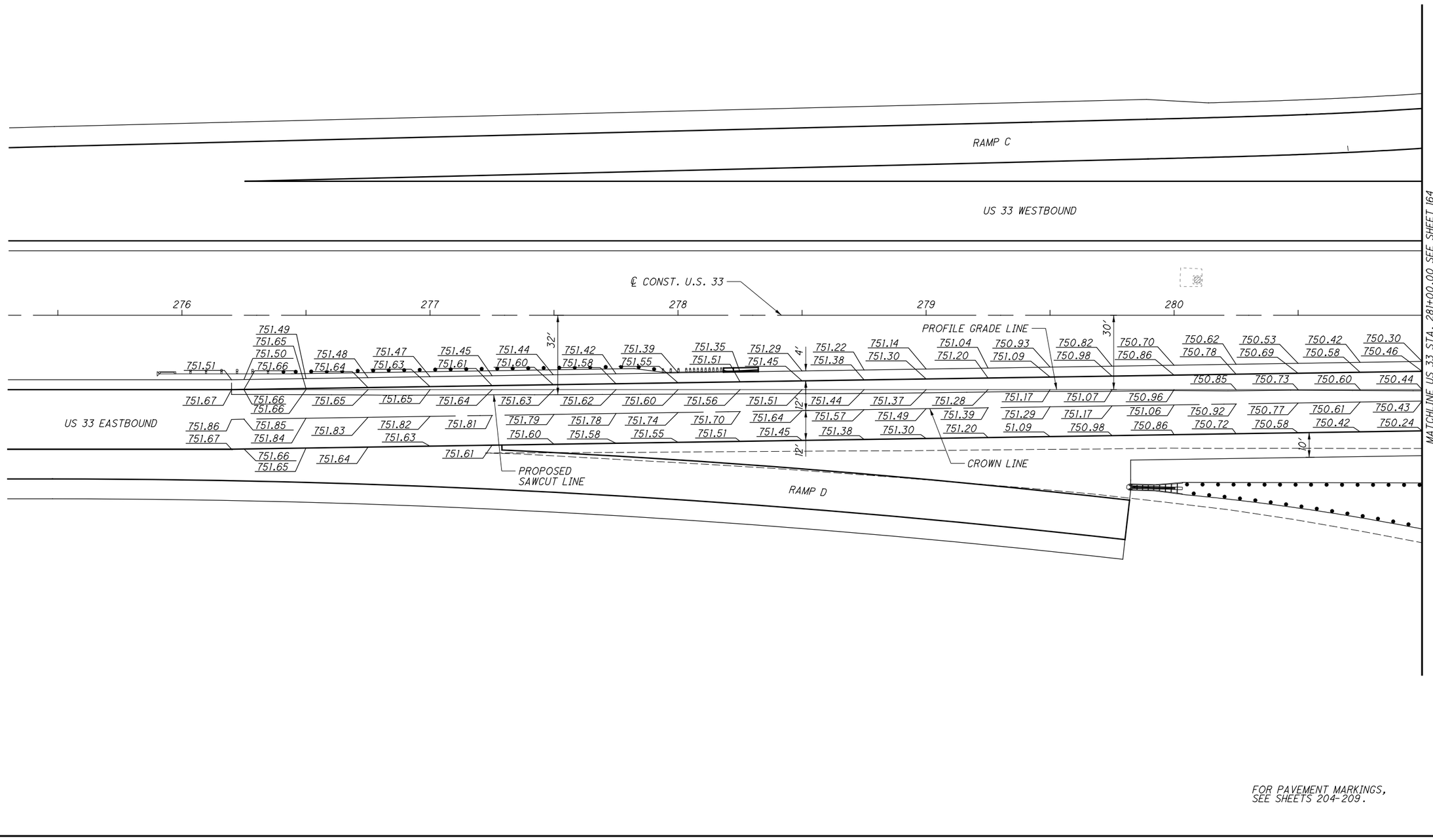
746.83
345+50.00
746.83

℄=741.3

TEMP. PAVEMENT TO REMAIN IN PLACE

TOTAL CARRIED TO SHEET 97.
TOTALS CARRIED TO SHEET 97.

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FOR PAVEMENT MARKINGS, SEE SHEETS 204-209.

HORIZONTAL SCALE IN FEET
0 10 20 40

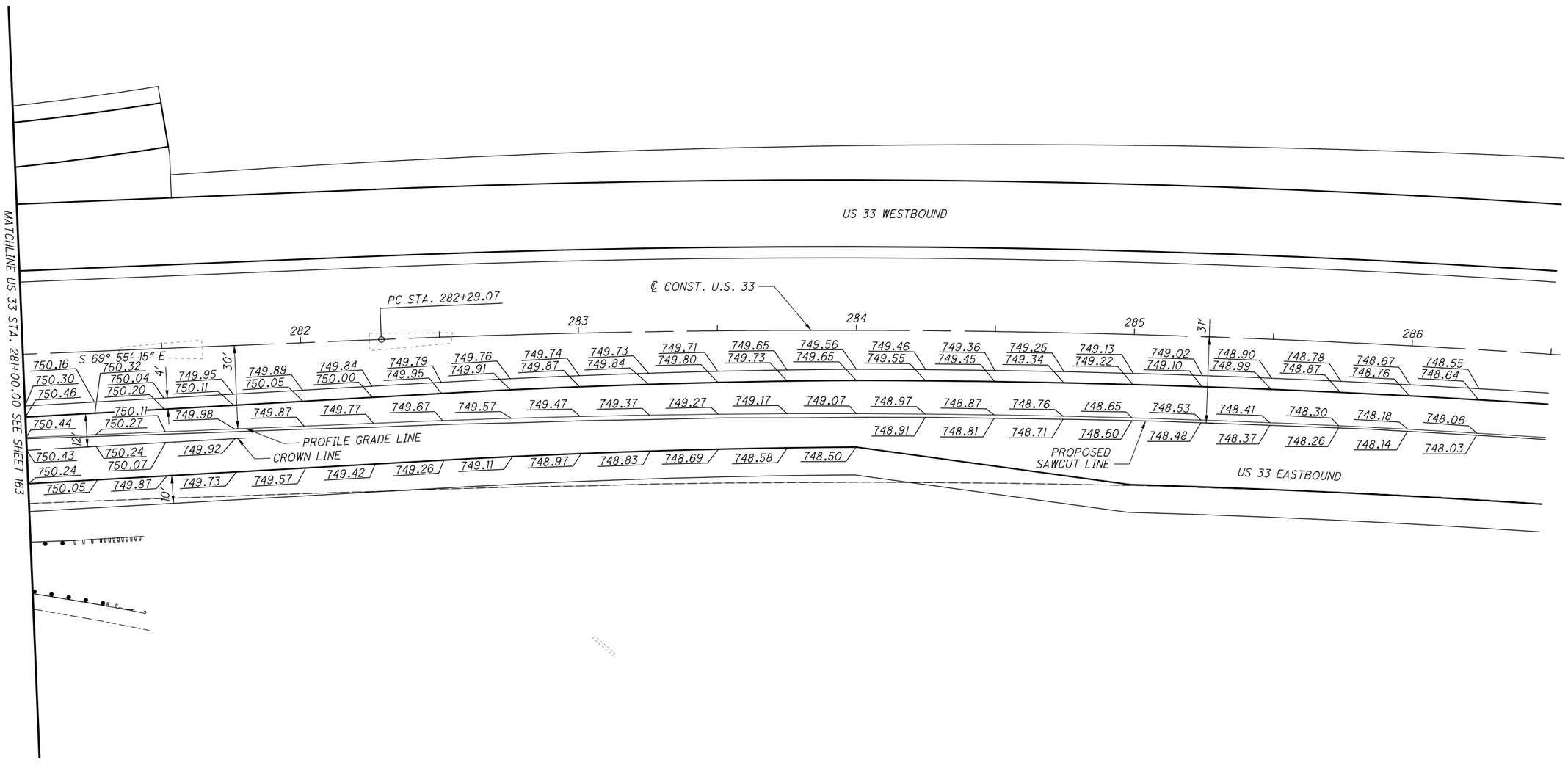
CALCULATED KSJ
CHECKED BBB

MEDIAN TAPER DETAILS
STA. 275+50.00 TO STA. 281+00.00

FRA-33-24.26

163
287

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FOR ADDITIONAL PAVEMENT ELEVATION INFORMATION, SEE SHEET 169 .

FOR PAVEMENT MARKINGS, SEE SHEETS 204-209.

HORIZONTAL SCALE IN FEET
0 10 20 40

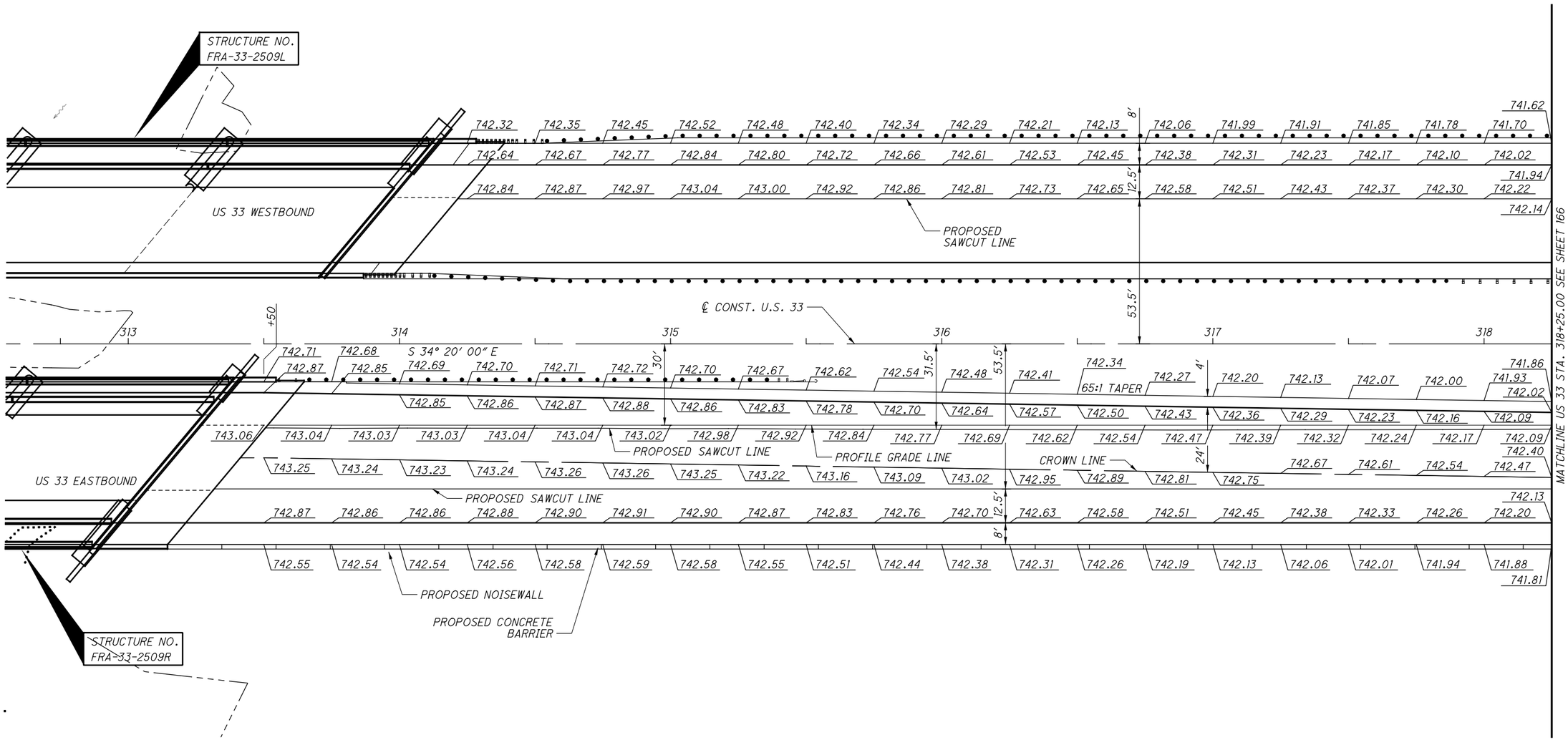
CALCULATED KSJ
CHECKED BBB

MEDIAN TAPER DETAILS
STA. 281+00.00 TO STA. 286+50.00

FRA-33-24.26

164
287

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FOR ADDITIONAL PAVEMENT ELEVATION INFORMATION, SEE SHEET 170 .

FOR PAVEMENT MARKINGS, SEE SHEETS 204-209.

HORIZONTAL SCALE IN FEET
0 10 20 40

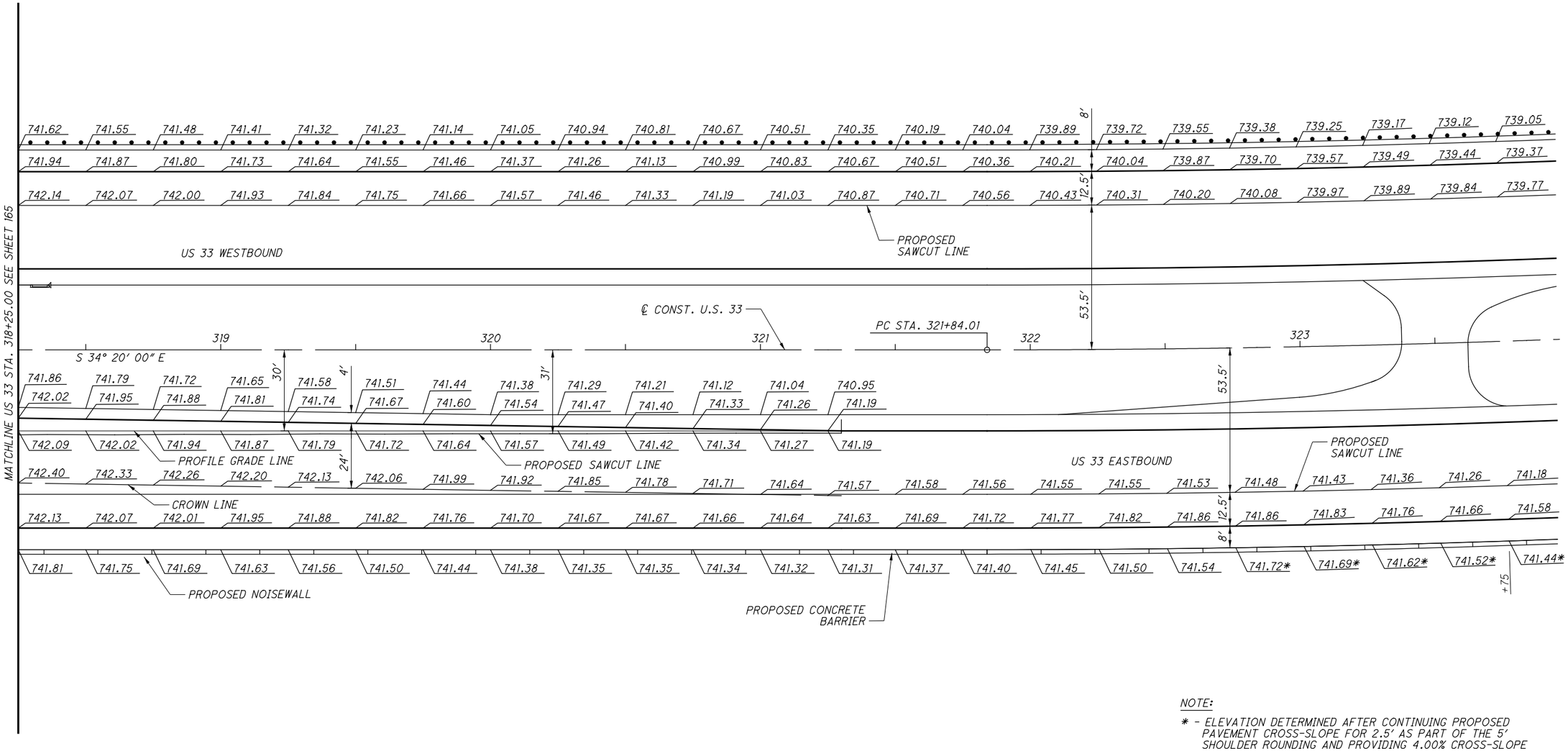
CALCULATED KSJ
CHECKED BBB

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.

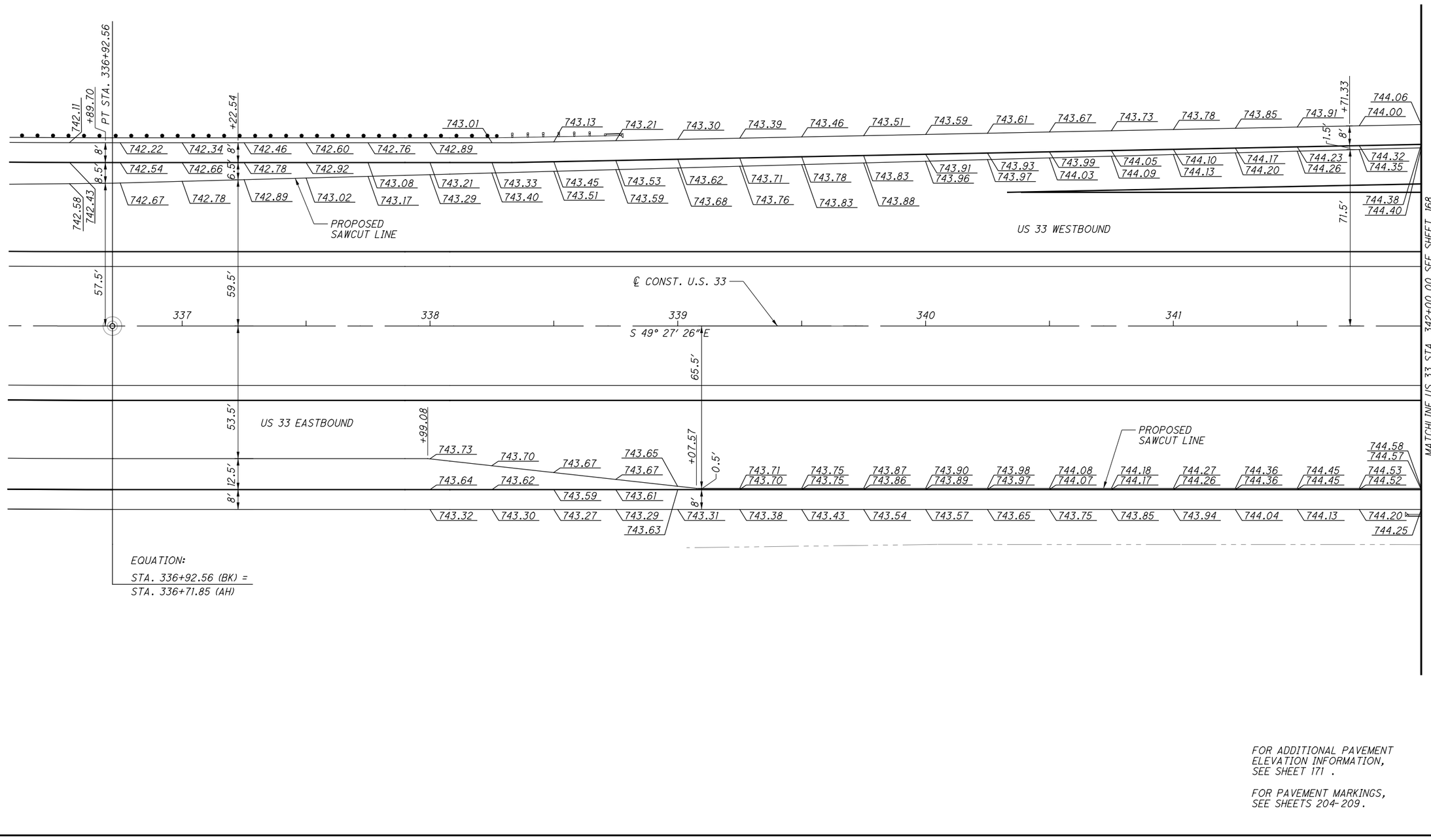
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KSJ
CHECKED BBB

MEDIAN TAPER/OUTSIDE WIDENING DETAILS
STA. 318+25.00 TO STA. 323+75.00

FRA-33-24.26

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HORIZONTAL SCALE IN FEET
0 10 20 40

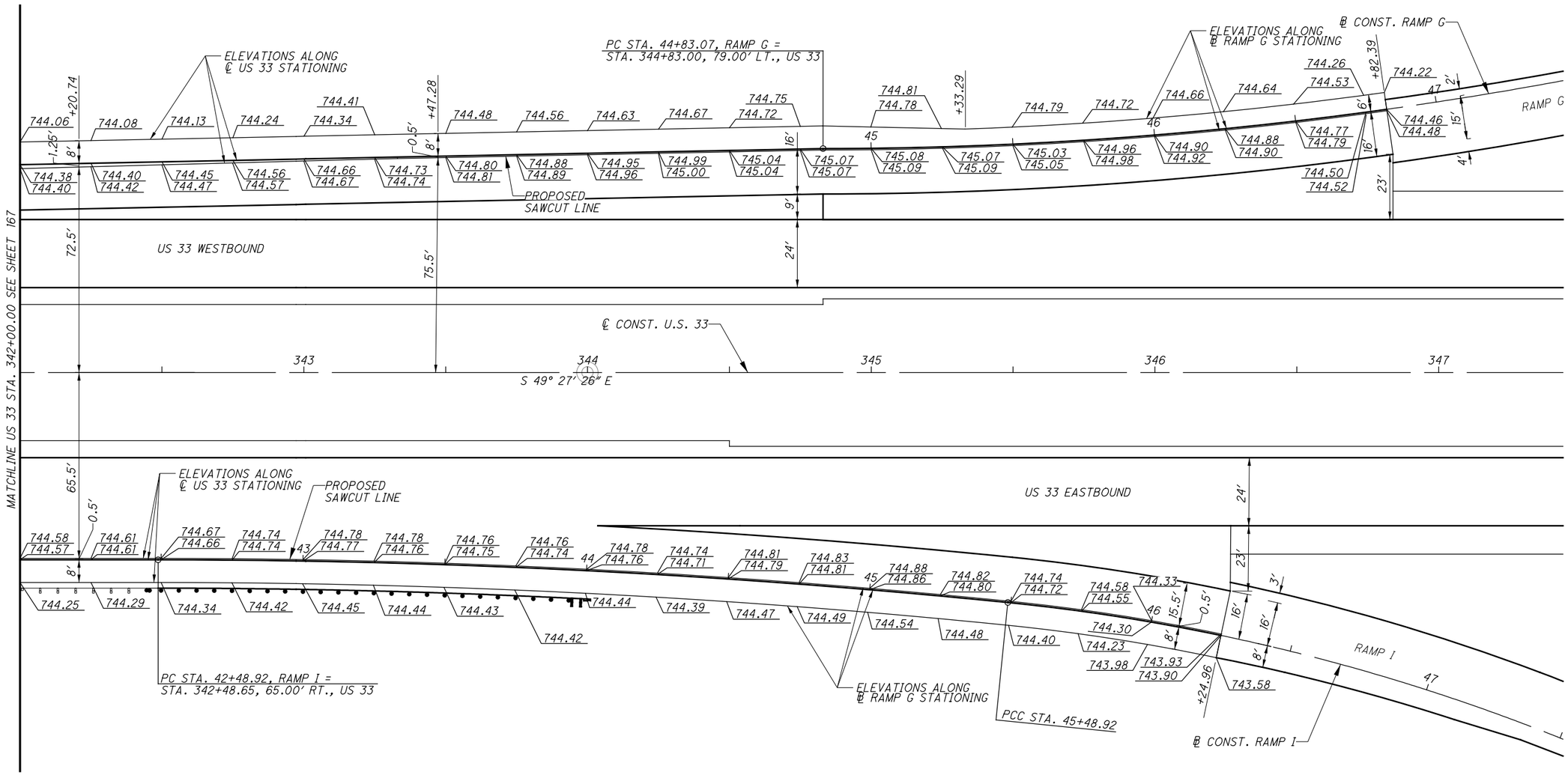
CALCULATED KSJ
CHECKED BBB

RAMP TERMINAL DETAILS
STA. 336+00.00 TO STA. 342+00.00

FRA-33-24.26

167
287

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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KSJ
CHECKED BBB

RAMP TERMINAL DETAILS
STA. 342+00.00 TO STA. 347+00.00

FRA-33-24.26

168
287

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PAVEMENT ELEVATION TABLE - U.S. 33

CURVE #1	P.I. STA. 294+82.85	Dc = 1° 28' 00"

CENTERLINE	MEDIAN EASTBOUND										REMARKS
STATION	E/S ELEVATION	ELEVATION CORRECTION	SHOULDER CROSS-SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS-SLOPE	WIDTH	ELEVATION AT SAWCUT	
286+25.00	748.55	-0.09	-2.20%	4.00	748.64		0.61	4.80%	12.79	748.03	
286+50.00	748.44	-0.09	-2.20%	4.00	748.52		0.61	4.80%	12.77	747.91	
286+75.00	748.32	-0.09	-2.20%	4.00	748.41		0.62	4.80%	12.82	747.79	
287+00.00	748.20	-0.09	-2.20%	4.00	748.29		0.62	4.80%	12.87	747.67	
287+25.00	748.09	-0.09	-2.20%	4.00	748.18		0.61	4.80%	12.81	747.56	
287+50.00	747.97	-0.09	-2.20%	4.00	748.06		0.61	4.80%	12.73	747.45	
287+75.00	747.85	-0.09	-2.20%	4.00	747.94		0.61	4.80%	12.77	747.33	
288+00.00	747.74	-0.09	-2.20%	4.00	747.83		0.61	4.80%	12.67	747.22	
288+25.00	747.62	-0.09	-2.20%	4.00	747.71		0.61	4.80%	12.78	747.10	
288+50.00	747.51	-0.09	-2.20%	4.00	747.59		0.60	4.80%	12.55	746.99	
288+75.00	747.39	-0.09	-2.20%	4.00	747.48		0.60	4.80%	12.59	746.87	
289+00.00	747.27	-0.09	-2.20%	4.00	747.36		0.60	4.80%	12.49	746.76	
289+25.00	747.16	-0.09	-2.20%	4.00	747.25		0.60	4.80%	12.44	746.65	
289+50.00	747.04	-0.09	-2.20%	4.00	747.13		0.60	4.80%	12.46	746.53	
289+75.00	746.93	-0.09	-2.20%	4.00	747.01		0.60	4.80%	12.46	746.42	
290+00.00	746.81	-0.09	-2.20%	4.00	746.90		0.59	4.80%	12.38	746.30	
290+25.00	746.69	-0.09	-2.20%	4.00	746.78		0.59	4.80%	12.30	746.19	
290+50.00	746.58	-0.09	-2.20%	4.00	746.66		0.60	4.80%	12.45	746.07	
290+75.00	746.46	-0.09	-2.20%	4.00	746.55		0.59	4.80%	12.39	745.95	
291+00.00	746.33	-0.09	-2.20%	4.00	746.42		0.60	4.80%	12.48	745.82	
291+25.00	746.15	-0.09	-2.20%	4.00	746.23		0.60	4.80%	12.50	745.63	
291+50.00	745.96	-0.09	-2.20%	4.00	746.05		0.60	4.80%	12.58	745.45	
291+75.00	745.78	-0.09	-2.20%	4.00	745.87		0.60	4.80%	12.42	745.27	
292+00.00	745.67	-0.09	-2.20%	4.00	745.75		0.61	4.80%	12.65	745.15	
292+25.00	745.56	-0.09	-2.20%	4.00	745.64		0.60	4.80%	12.60	745.04	
292+50.00	745.44	-0.09	-2.20%	4.00	745.53		0.60	4.80%	12.57	744.93	
292+75.00	745.33	-0.09	-2.20%	4.00	745.42		0.61	4.80%	12.68	744.81	
293+00.00	745.22	-0.09	-2.20%	4.00	745.31		0.61	4.80%	12.76	744.70	
293+25.00	745.11	-0.09	-2.20%	4.00	745.20		0.61	4.80%	12.75	744.59	
293+50.00	745.00	-0.09	-2.20%	4.00	745.09		0.61	4.80%	12.76	744.48	
293+75.00	744.89	-0.09	-2.20%	4.00	744.98		0.62	4.80%	12.82	744.36	
294+00.00	744.81	-0.09	-2.20%	4.00	744.90		0.62	4.80%	12.84	744.28	
294+25.00	744.76	-0.09	-2.20%	4.00	744.85		0.62	4.80%	12.84	744.23	
294+50.00	744.71	-0.09	-2.20%	4.00	744.80		0.61	4.80%	12.81	744.18	
294+75.00	744.66	-0.09	-2.20%	4.00	744.75		0.62	4.80%	12.90	744.13	
295+00.00	744.55	-0.09	-2.20%	4.00	744.64		0.61	4.80%	12.71	744.03	
295+25.00	744.44	-0.09	-2.20%	4.00	744.52		0.62	4.80%	12.83	743.91	
295+50.00	744.32	-0.09	-2.20%	4.00	744.41		0.61	4.80%	12.75	743.80	
295+75.00	744.20	-0.09	-2.20%	4.00	744.29		0.62	4.80%	12.96	743.67	
296+00.00	744.09	-0.09	-2.20%	4.00	744.18		0.62	4.80%	12.98	743.55	
296+25.00	743.97	-0.09	-2.20%	4.00	744.06		0.64	4.80%	13.24	743.42	
296+50.00	743.85	-0.09	-2.20%	4.00	743.94		0.63	4.80%	13.16	743.31	
296+75.00	743.74	-0.09	-2.20%	4.00	743.83		0.63	4.80%	13.22	743.19	
297+00.00	743.62	-0.09	-2.20%	4.00	743.71		0.64	4.80%	13.27	743.07	
297+25.00	743.51	-0.09	-2.20%	4.00	743.59		0.64	4.80%	13.32	742.95	
297+50.00	743.39	-0.09	-2.20%	4.00	743.48		0.64	4.80%	13.24	742.84	
297+75.00	743.27	-0.09	-2.20%	4.00	743.36		0.64	4.80%	13.33	742.72	
298+00.00	743.16	-0.09	-2.20%	4.00	743.25		0.64	4.80%	13.38	742.60	
298+25.00	743.04	-0.09	-2.20%	4.00	743.13		0.64	4.80%	13.43	742.49	
298+50.00	742.93	-0.09	-2.20%	4.00	743.01		0.64	4.80%	13.38	742.37	
298+75.00	742.81	-0.09	-2.20%	4.00	742.90		0.64	4.80%	13.38	742.25	
299+00.00	742.69	-0.09	-2.20%	4.00	742.78		0.65	4.80%	13.47	742.13	
299+25.00	742.58	-0.09	-2.20%	4.00	742.66		0.65	4.80%	13.54	742.01	
299+50.00	742.46	-0.09	-2.20%	4.00	742.55		0.65	4.80%	13.52	741.90	
299+75.00	742.34	-0.09	-2.20%	4.00	742.43		0.64	4.80%	13.40	741.79	
300+00.00	742.23	-0.09	-2.20%	4.00	742.32		0.63	4.80%	13.19	741.68	
300+25.00	742.12	-0.09	-2.20%	4.00	742.21		0.62	4.80%	12.95	741.58	
300+50.00	742.02	-0.09	-2.20%	4.00	742.11		0.62	4.80%	12.85	741.49	
300+75.00	741.93	-0.09	-2.20%	4.00	742.02		0.62	4.80%	12.92	741.40	
301+00.00	741.86	-0.09	-2.20%	4.00	741.95		0.63	4.80%	13.03	741.32	

CENTERLINE	MEDIAN EASTBOUND										REMARKS
STATION	E/S ELEVATION	ELEVATION CORRECTION	SHOULDER CROSS-SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS-SLOPE	WIDTH	ELEVATION AT SAWCUT	
301+25.00	741.80	-0.09	-2.20%	4.00	741.88		0.62	4.80%	12.92	741.26	
301+50.00	741.75	-0.09	-2.20%	4.00	741.83		0.62	4.80%	12.96	741.21	
301+75.00	741.71	-0.09	-2.20%	4.00	741.80		0.63	4.80%	13.08	741.17	
302+00.00	741.68	-0.09	-2.20%	4.00	741.77		0.63	4.80%	13.12	741.14	
302+25.00	741.67	-0.09	-2.20%	4.00	741.75		0.63	4.80%	13.22	741.12	
302+50.00	741.66	-0.09	-2.20%	4.00	741.75		0.64	4.80%	13.34	741.11	
302+75.00	741.67	-0.09	-2.20%	4.00	741.76		0.64	4.80%	13.28	741.12	
303+00.00	741.69	-0.09	-2.20%	4.00	741.78		0.64	4.80%	13.33	741.14	
303+25.00	741.73	-0.09	-2.20%	4.00	741.81		0.64	4.80%	13.26	741.18	
303+50.00	741.77	-0.09	-2.20%	4.00	741.86		0.64	4.80%	13.25	741.22	
303+75.00	741.83	-0.09	-2.20%	4.00	741.92		0.64	4.80%	13.25	741.28	
304+00.00	741.90	-0.09	-2.20%	4.00	741.99		0.63	4.80%	13.15	741.35	
304+25.00	741.97	-0.09	-2.20%	4.00	742.06		0.63	4.80%	13.10	741.43	
304+50.00	742.05	-0.09	-2.20%	4.00	742.14		0.62	4.80%	12.99	741.51	
304+75.00	742.12	-0.09	-2.20%	4.00	742.21		0.63	4.80%	13.02	741.59	
305+00.00	742.19	-0.09	-2.20%	4.00	742.28		0.62	4.80%	12.92	741.66	
305+25.00	742.24	-0.09	-2.20%	4.00	742.33		0.62	4.80%	12.86	741.71	
305+27.00	742.25	-0.09	-2.20%	4.00	742.33		0.62	4.80%	12.85	741.72	F.S.
305+50.00	742.20	-0.11	-2.69%	4.00	742.30		0.56	4.31%	12.93	741.75	
305+75.00	742.12	-0.13	-3.22%	4.00	742.25		0.49	3.78%	12.99	741.76	
306+00.00	742.04	-0.15	-3.76%	4.00	742.19	427:1	0.41	3.24%	12.79	741.77	
306+25.00	741.97	-0.16	-4.00%	4.00	742.13		0.34	2.71%	12.72	741.78	
306+50.00	741.90	-0.16	-4.00%	4.00	742.06		0.28	2.18%	12.63	741.79	
306+72.25	741.84	-0.16	-4.00%	4.00	742.00		0.21	1.70%	12.45	741.79	
	SEE BRIDGE FRA-033-2503 R FOR ELEVATIONS										

CALCULATED K.S.J
CHECKED BBB

ELEVATION TABLE - US 33 EASTBOUND

PAVEMENT

FRA-33-24.26

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PAVEMENT ELEVATION TABLE - U.S. 33

CURVE #1	P.I. STA. 294+82.85	Dc = 1° 28' 00"

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											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	
E/S ELEVATION	ELEVATION CORRECTION	SHOULDER CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS-SLOPE	WIDTH	ELEVATION AT SAWCUT	STATION	REMARKS
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											

CALCULATED KSJ CHECKED BBB

PAVEMENT ELEVATION TABLE - US 33 EASTBOUND/ WESTBOUND

FRA-33-24.26

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PAVEMENT ELEVATION TABLE - U.S. 33

CURVE #2	P.I. STA. 329+42.69	Dc = 1° 00' 10"

WESTBOUND OUTSIDE										CENTERLINE	EASTBOUND OUTSIDE										REMARKS
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	
739.05	-0.32	-4.00%	8.00	739.37		-0.40	-3.20%	12.50	739.77	323+75.00	741.18	12.50	3.20%	0.40		741.58	8.00	-4.00%*	-0.14	741.44	
738.97	-0.32	-4.00%	8.00	739.29		-0.40	-3.20%	12.50	739.69	324+00.00	741.11	12.50	3.20%	0.40		741.51	8.00	-4.00%*	-0.14	741.37	
738.90	-0.32	-4.00%	8.00	739.22		-0.40	-3.20%	12.50	739.62	324+25.00	741.10	12.50	3.20%	0.40		741.50	8.00	-4.00%*	-0.14	741.36	
738.86	-0.32	-4.00%	8.00	739.18		-0.40	-3.20%	12.50	739.58	324+50.00	741.07	12.50	3.20%	0.40		741.47	8.00	-4.00%*	-0.14	741.33	
738.84	-0.32	-4.00%	8.00	739.16		-0.40	-3.20%	12.50	739.56	324+75.00	741.01	12.50	3.20%	0.40		741.41	8.00	-4.00%*	-0.14	741.27	
738.80	-0.32	-4.00%	8.00	739.12		-0.40	-3.20%	12.50	739.52	325+00.00	740.98	12.50	3.20%	0.40		741.38	8.00	-4.00%*	-0.14	741.24	
738.76	-0.32	-4.00%	8.00	739.08		-0.40	-3.20%	12.50	739.48	325+25.00	740.95	12.50	3.20%	0.40		741.35	8.00	-4.00%*	-0.14	741.21	
738.73	-0.32	-4.00%	8.00	739.05		-0.40	-3.20%	12.50	739.45	325+50.00	740.89	12.50	3.20%	0.40		741.29	8.00	-4.00%*	-0.14	741.15	
738.71	-0.32	-4.00%	8.00	739.03		-0.40	-3.20%	12.50	739.43	325+75.00	740.88	12.50	3.20%	0.40		741.28	8.00	-4.00%*	-0.14	741.14	
738.73	-0.32	-4.00%	8.00	739.05		-0.40	-3.20%	12.50	739.45	326+00.00	740.89	12.50	3.20%	0.40		741.29	8.00	-4.00%*	-0.14	741.15	
738.74	-0.32	-4.00%	8.00	739.06		-0.40	-3.20%	12.50	739.46	326+25.00	740.91	12.50	3.20%	0.40		741.31	8.00	-4.00%*	-0.14	741.17	
738.74	-0.32	-4.00%	8.00	739.06		-0.40	-3.20%	12.50	739.46	326+50.00	740.92	12.50	3.20%	0.40		741.32	8.00	-4.00%*	-0.14	741.18	
738.77	-0.32	-4.00%	8.00	739.09		-0.40	-3.20%	12.50	739.49	326+75.00	740.94	12.50	3.20%	0.40		741.34	8.00	-4.00%*	-0.14	741.20	
738.81	-0.32	-4.00%	8.00	739.13		-0.40	-3.20%	12.50	739.53	327+00.00	740.98	12.50	3.20%	0.40		741.38	8.00	-4.00%*	-0.14	741.24	
738.87	-0.32	-4.00%	8.00	739.19		-0.40	-3.20%	12.50	739.59	327+25.00	741.02	12.50	3.20%	0.40		741.42	8.00	-4.00%*	-0.14	741.28	
738.88	-0.32	-4.00%	8.00	739.20		-0.40	-3.20%	12.50	739.60	327+50.00	741.05	12.50	3.20%	0.40		741.45	8.00	-4.00%*	-0.14	741.31	
738.94	-0.32	-4.00%	8.00	739.26		-0.40	-3.20%	12.50	739.66	327+75.00	741.05	12.50	3.20%	0.40		741.45	8.00	-4.00%*	-0.14	741.31	
739.02	-0.32	-4.00%	8.00	739.34		-0.40	-3.20%	12.50	739.74	328+00.00	741.10	12.50	3.20%	0.40		741.50	8.00	-4.00%*	-0.14	741.36	
739.08	-0.32	-4.00%	8.00	739.40		-0.40	-3.20%	12.50	739.80	328+25.00	741.16	12.50	3.20%	0.40		741.56	8.00	-4.00%*	-0.14	741.42	
739.14	-0.32	-4.00%	8.00	739.46		-0.40	-3.20%	12.50	739.86	328+50.00	741.25	12.50	3.20%	0.40		741.65	8.00	-4.00%*	-0.14	741.51	
739.23	-0.32	-4.00%	8.00	739.55		-0.40	-3.20%	12.50	739.95	328+75.00	741.33	12.50	3.20%	0.40		741.73	8.00	-4.00%*	-0.14	741.59	
739.33	-0.32	-4.00%	8.00	739.65		-0.40	-3.20%	12.50	740.05	329+00.00	741.39	12.50	3.20%	0.40		741.79	8.00	-4.00%*	-0.14	741.65	
739.43	-0.32	-4.00%	8.00	739.75		-0.40	-3.20%	12.50	740.15	329+25.00	741.49	12.50	3.20%	0.40		741.89	8.00	-4.00%*	-0.14	741.75	
739.48	-0.32	-4.00%	8.00	739.80		-0.40	-3.20%	12.50	740.20	329+50.00	741.58	12.50	3.20%	0.40		741.98	8.00	-4.00%*	-0.14	741.84	
739.54	-0.32	-4.00%	8.00	739.86		-0.40	-3.20%	12.50	740.26	329+75.00	741.65	12.50	3.20%	0.40		742.05	8.00	-4.00%*	-0.14	741.91	
739.61	-0.32	-4.00%	8.00	739.93		-0.40	-3.20%	12.50	740.33	330+00.00	741.74	12.50	3.20%	0.40		742.14	8.00	-4.00%*	-0.14	742.00	
739.69	-0.32	-4.00%	8.00	740.01		-0.40	-3.20%	12.50	740.41	330+25.00	741.81	12.50	3.20%	0.40		742.21	8.00	-4.00%*	-0.14	742.07	
739.76	-0.32	-4.00%	8.00	740.08		-0.40	-3.20%	12.50	740.48	330+50.00	741.90	12.50	3.20%	0.40		742.30	8.00	-4.00%*	-0.14	742.16	
739.81	-0.32	-4.00%	8.00	740.13		-0.40	-3.20%	12.50	740.53	330+75.00	741.93	12.50	3.20%	0.40		742.33	8.00	-4.00%*	-0.14	742.19	
739.89	-0.32	-4.00%	8.00	740.21		-0.40	-3.20%	12.50	740.61	331+00.00	741.96	12.50	3.20%	0.40		742.36	8.00	-4.00%*	-0.14	742.22	
739.94	-0.32	-4.00%	8.00	740.26		-0.40	-3.20%	12.50	740.66	331+25.00	741.99	12.50	3.20%	0.40		742.39	8.00	-4.00%*	-0.14	742.25	
740.00	-0.32	-4.00%	8.00	740.32		-0.40	-3.20%	12.50	740.72	331+50.00	742.04	12.50	3.20%	0.40		742.44	8.00	-4.00%*	-0.14	742.30	
740.07	-0.32	-4.00%	8.00	740.39		-0.40	-3.20%	12.50	740.79	331+75.00	742.11	12.50	3.20%	0.40		742.51	8.00	-4.00%*	-0.14	742.37	
740.17	-0.32	-4.00%	8.00	740.49		-0.40	-3.20%	12.50	740.89	332+00.00	742.20	12.50	3.20%	0.40		742.60	8.00	-3.80%	-0.30	742.30	
740.29	-0.32	-4.00%	8.00	740.61		-0.40	-3.20%	12.50	741.01	332+25.00	742.28	12.50	3.20%	0.40		742.68	8.00	-3.80%	-0.30	742.38	
740.37	-0.32	-4.00%	8.00	740.69		-0.40	-3.20%	12.50	741.09	332+50.00	742.36	12.50	3.20%	0.40		742.76	8.00	-3.80%	-0.30	742.46	
740.45	-0.32	-4.00%	8.00	740.77		-0.40	-3.20%	12.50	741.17	332+75.00	742.44	12.50	3.20%	0.40		742.84	8.00	-3.80%	-0.30	742.54	
740.52	-0.32	-4.00%	8.00	740.84		-0.40	-3.20%	12.49	741.24	333+00.00	742.55	12.50	3.20%	0.40		742.95	8.00	-3.80%	-0.30	742.65	
740.56	-0.32	-4.00%	8.00	740.88		-0.39	-3.20%	12.27	741.27	333+25.00	742.71	12.50	3.20%	0.40		743.11	8.00	-3.80%	-0.30	742.81	
740.60	-0.32	-4.00%	8.00	740.92		-0.39	-3.20%	12.05	741.31	333+50.00	742.84	12.50	3.20%	0.40		743.24	8.00	-3.80%	-0.30	742.94	
740.62	-0.32	-4.00%	8.00	740.94		-0.38	-3.20%	11.83	741.32	333+75.00	742.95	12.50	3.20%	0.40		743.35	8.00	-3.80%	-0.30	743.05	
740.59	-0.32	-4.00%	8.00	740.91		-0.37	-3.20%	11.59	741.28	334+00.00	743.04	12.50	3.20%	0.40		743.44	8.00	-3.80%	-0.30	743.14	
740.60	-0.32	-4.00%	8.00	740.92		-0.36	-3.20%	11.35	741.28	334+25.00	743.11	12.50	3.20%	0.40		743.51	8.00	-3.80%	-0.30	743.21	
740.69	-0.32	-4.00%	8.00	741.01		-0.36	-3.20%	11.11	741.37	334+50.00	743.20	12.50	3.20%	0.40		743.60	8.00	-3.80%	-0.30	743.30	
740.89	-0.32	-4.00%	8.00	741.21		-0.35	-3.20%	10.85	741.56	334+75.00	743.27	12.50	3.20%	0.40		743.67	8.00	-3.80%	-0.30	743.37	
741.06	-0.32	-4.00%	8.00	741.38		-0.34	-3.20%	10.59	741.72	335+00.00	743.32	12.50	3.20%	0.40		743.72	8.00	-3.80%	-0.30	743.42	
741.21	-0.32	-4.00%	8.00	741.53		-0.33	-3.20%	10.32	741.86	335+25.00	743.37	12.50	3.20%	0.40		743.77	8.00	-3.80%	-0.30	743.47	
741.32	-0.32	-4.00%	8.00	741.64		-0.32	-3.20%	10.05	741.96	335+50.00	743.44	12.50	3.20%	0.40		743.84	8.00	-3.80%	-0.30	743.54	
741.43	-0.32	-4.00%	8.00	741.75		-0.31	-3.20%	9.77	742.06	335+75.00	743.52	12.50	3.20%	0.40		743.92	8.00	-3.80%	-0.30	743.62	
741.51	-0.32	-4.00%	8.00	741.83		-0.31	-3.20%	9.56	742.14	335+93.00	743.56	12.50	3.20%	0.40		743.96	8.00	-3.80%	-0.30	743.66	F.S.
741.57	-0.32	-4.00%	8.00	741.89		-0.29	-3.08%	9.48	742.18	336+00.00	743.58	12.50	3.08%	0.38		743.96	8.00	-3.92%	-0.31	743.65	
741.75	-0.32	-4.00%	8.00	742.07		-0.24	-2.64%	9.18	742.31	336+25.00	743.62	12.50	2.64%	0.33		743.95	8.00	-4.00%	-0.32	743.63	
741.93	-0.32	-4.00%	8.00	742.25		-0.20	-2.21%	8.88	742.45	336+50.00	743.67	12.50	2.21%	0.28		743.95	8.00	-4.00%	-0.32	743.63	
742.11	-0.32	-4.00%	8.00	742.43		-0.15	-1.77%	8.57	742.58	336+75.00	743.71	12.50	1.77%	0.22		743.93	8.00	-4.00%	-0.32	743.61	STA. 336+92.56 (BK) =
742.22	-0.32	-4.00%	8.00	742.54		-0.13	-1.60%	8.27	742.67	336+75.00	743.72	12.50	1.41%	0.18		743.90	8.00	-4.00%	-0.32	743.58	STA. 336+71.85 (AH)
										337+00.00	743.73	12.50	0.98%	0.12		743.85	8.00	-4.00%	-0.32	743.53	
										337+25.00	743.73	12.50	0.54%	0.07		743.80	8.00	-4.00%	-0.32	743.48	
										337+50.00	753.72	12.50	0.11%	0.01		753.73	8.00	-4.00%	-0.32	753.41	
										337+75.00	743.73	12.50	-0.33%	-0.04		743.69	8.00	-4.00%	-0.32	743.37	
										338+00.00	743.73	12.40	-0.75%	-0.09		743.64	8.00	-4.00%	-0.32	743.32	

5:1 | 571:1 | 296:1

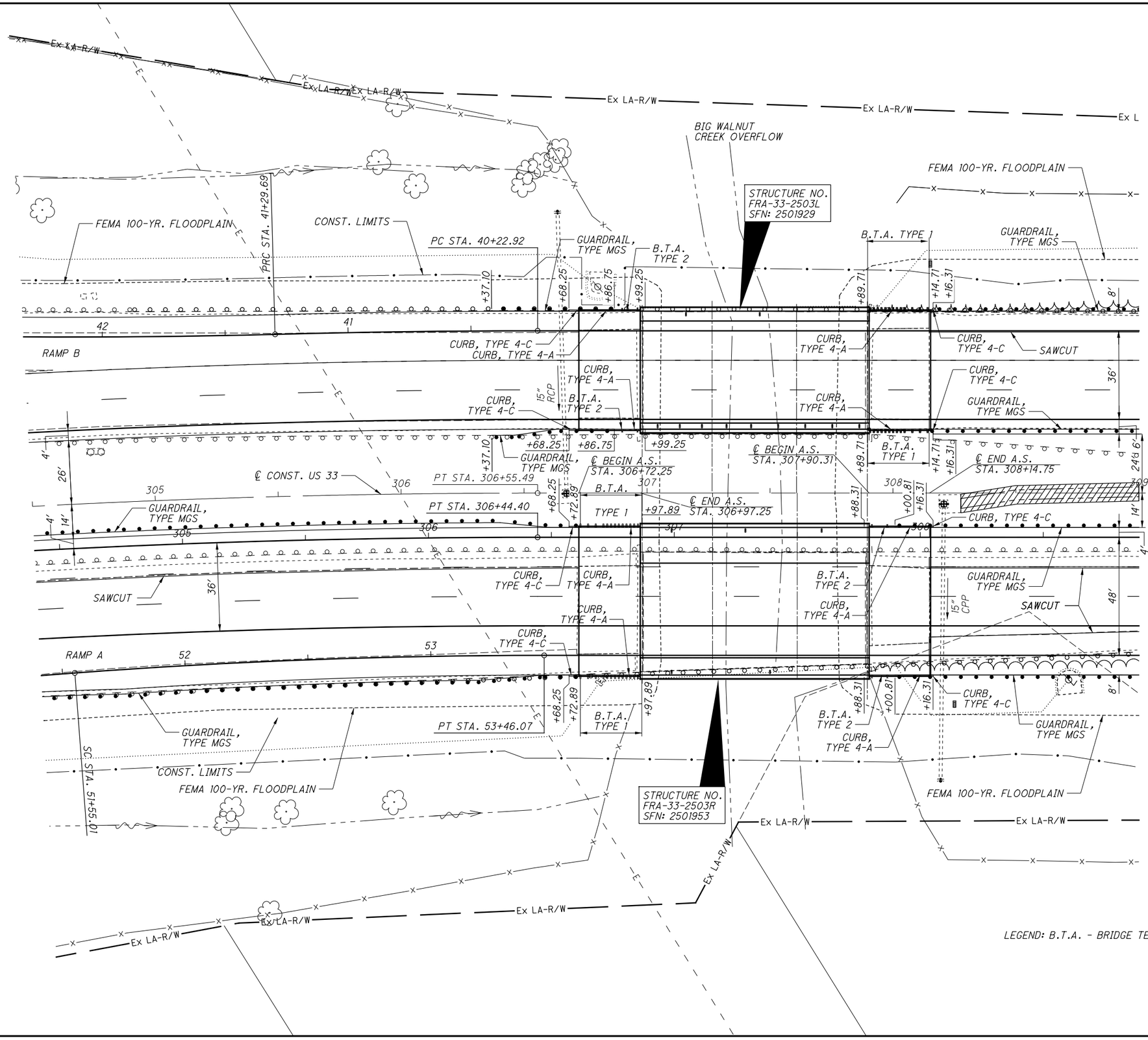
* 4.00% CROSS-SLOPE APPLIES AFTER CONTINUING PAVEMENT CROSS-SLOPE FOR 2.5' AS PART OF 5' SHOULDER ROUNDING

CALCULATED K.S.J | CHECKED BBB

PAVEMENT ELEVATION TABLE - US 33 EASTBOUND/WESTBOUND

FRA-33-24.26

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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KSJ
CHECKED BBB

CURBING AND GUARDRAIL DETAILS

FRA-33-24.26

172
287

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CURBING AND GUARDRAIL DETAILS

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KSJ
CHECKED BBB

FRA-33-24.26

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A-R/W — Ex LA-R/W — Ex LA-R/W — Ex LA-R/W — Ex LA — Ex LA

FEMA 100-YR. FLOODPLAIN

CONST. LIMITS

STRUCTURE NO. FRA-33-2509L SFN: 2501988

BIG WALNUT CREEK

GUARDRAIL, TYPE MGS

8'

+71.13

+86.63

B.T.A. TYPE 2

+99.13

CURB, TYPE 4-C

CURB, TYPE 4-A

SAWCUT

36'

15" CPP

B.T.A. TYPE 2

CURB, TYPE 4-A

CURB, TYPE 4-C

GUARDRAIL, TYPE MGS

6'

24'

+29.60

+45.10

+57.60

℄ BEGIN A.S. STA. 310+23.41

℄ CONST. US 33

309 310 311 312 313 314 315

14'

4'

+96.60

+98.24

B.T.A. TYPE 1

+23.24

℄ END A.S. STA. 310+48.41

S 34° 20' 00" E

48'

CURB, TYPE 4-C

GUARDRAIL, TYPE MGS

CURB, TYPE 4-A

SAWCUT

8'

+45.69

+47.33

B.T.A. TYPE 1

+72.33

CURB, TYPE 4-C

GUARDRAIL, TYPE MGS

FEMA 100-YR. FLOOD-PLAIN

STRUCTURE NO. FRA-33-2509R SFN: 2502011

CONST. LIMITS

Ex LA-R/W — Ex LA — Ex LA

FEMA 100-YR. FLOOD-PLAIN

+27.67

CURB, TYPE 4-C

B.T.A. TYPE 1

+52.67

+54.30

GUARDRAIL, TYPE MGS

8'

CURB, TYPE 4-A

SAWCUT

36'

GUARDRAIL, TYPE MGS

CURB, TYPE 4-C

+86.13

B.T.A. TYPE 1

+11.13

+12.77

24'±

6'±

℄ END A.S. STA. 314+76.59

℄ BEGIN A.S. STA. 313+51.59

+52.48

+64.98

PI STA. 313+38.91

B.T.A. TYPE 2 +80.48

S 34° 20' 00" E

BEGIN CABLE BARRIER STA. 315+01, 7.80' RT.

CURB, TYPE 4-C

CURB, TYPE 4-A

SAWCUT

15" CPP

GUARDRAIL, TYPE MGS

PROP. CONCRETE BARRIER

PROP. NOISE WALL 1

FEMA 100-YR. FLOOD-PLAIN

Ex LA — Ex LA — Ex LA — Ex LA

LEGEND

B.T.A. - BRIDGE TERMINAL ASSEMBLY

REF NO.	SHEET NO.	STATION TO STATION	SIDE	202 HEADWALL REMOVED EACH	202 PIPE REMOVED, 24" AND UNDER FT	202 PIPE REMOVED, OVER 24" FT	202 CATCH BASIN REMOVED EACH	SPECIAL FILL AND PLUG EXISTING CONDUIT FT	209 DITCH CLEANOUT FT	601 TIED CONCRETE BLOCK MAT, TYPE 1 SY	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER CY	602 CONCRETE MASONRY CY	605 6" SHALLOW PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC FT	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC FT	605 6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC FT	611 6" CONDUIT, TYPE F FT	611 15" CONDUIT, TYPE B FT	611 15" CONDUIT, TYPE C FT	611 15" CONDUIT, TYPE F FT	611 30" CONDUIT, TYPE A, 706.02 FT	611 CATCH BASIN, NO. 8 EACH	611 CATCH BASIN ADJUSTED TO GRADE EACH	611 INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D EACH	611 MANHOLE, NO. 3 EACH	611 PRECAST REINFORCED CONCRETE OUTLET EACH
D-1	177	291+00.00 TO 296+00.00	LT/RT														39	550			2			1	
D-2	177	302+42.00 TO 302+42.00	LT/RT														36					1			
D-3	177	314+00.00 TO 314+00.00	RT								1.11	0.22					11								
D-4	178	319+00.00 TO 321+00.00	RT														200						2		
D-5	178	320+00.00 TO 320+00.00	RT								1.11	0.22						26					1		
D-6	178	325+00.00 TO 327+00.00	RT														200						2		
D-7	178	326+00.00 TO 326+00.00	RT								1.11	0.22						32					1		
D-8	178	326+50.00 TO 326+50.00	RT								4	0.56								17					
D-9	177-178	314+50.00 TO 326+50.00	LT						1285																
R-1	177	291+00.00 TO 296+00.00	RT		70		4	490																	
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										1077			43									
UD-3	177	290+05.00 TO 296+00.00	RT										488	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									
	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									
	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 330+00.00	RT										295			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-33	178	330+00.00 TO 335+45.00	RT										545												
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	111	8	5	490	1285	25	8	2	9579	1534	5667	771	486	608		17	2	1	6	1	14

DRAINAGE SUBSUMMARY

CALCULATED CFR
CHECKED ECH

FRA-33-24.26

174
287

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REF NO.	SHEET NO.	STATION TO STATION	SIDE	659 TOPSOIL	670 VEGETATED SWALE EROSION PROTECTION	670 SLOPE EROSION PROTECTION	670 DITCH EROSION PROTECTION
				CY	SY	SY	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

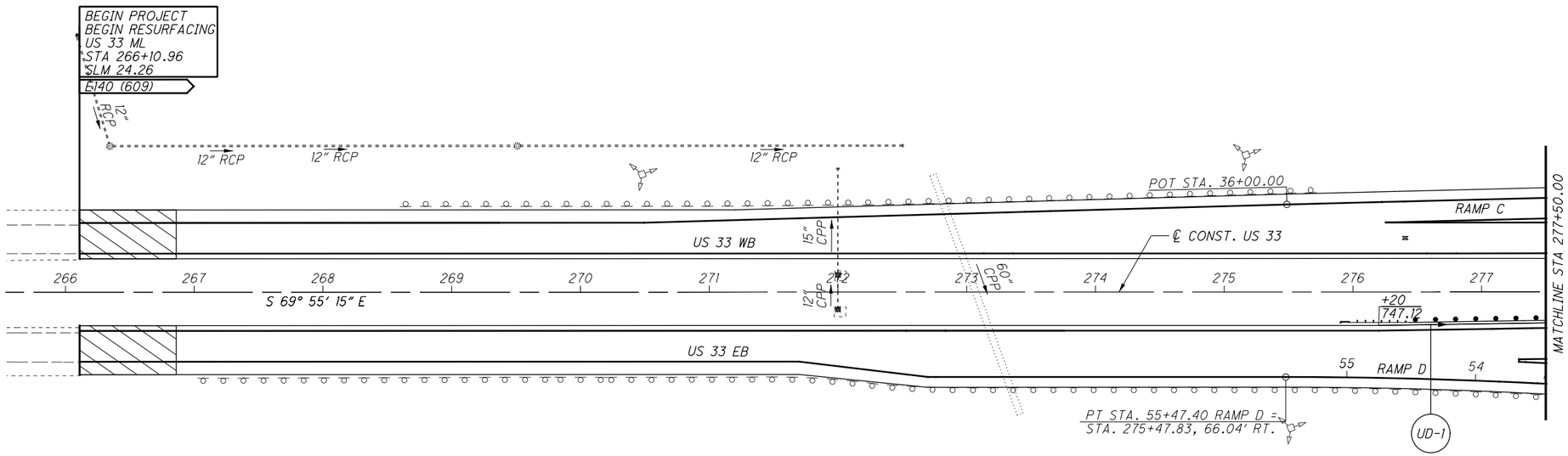
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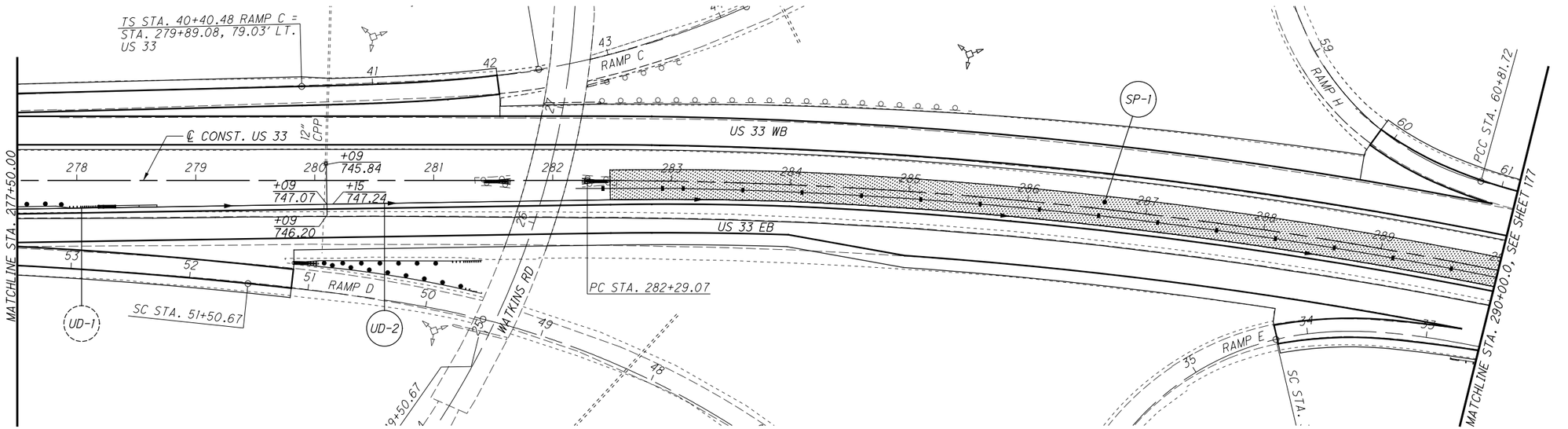
DRAINAGE SUBSUMMARY

FRA-33-24.26

175
287

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LEGEND

ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)

FOR ADDITIONAL INFORMATION SEE PROJECT SITE PLANS, SEE SHEETS 98 - 101

HORIZONTAL SCALE IN FEET
0 25 50 100

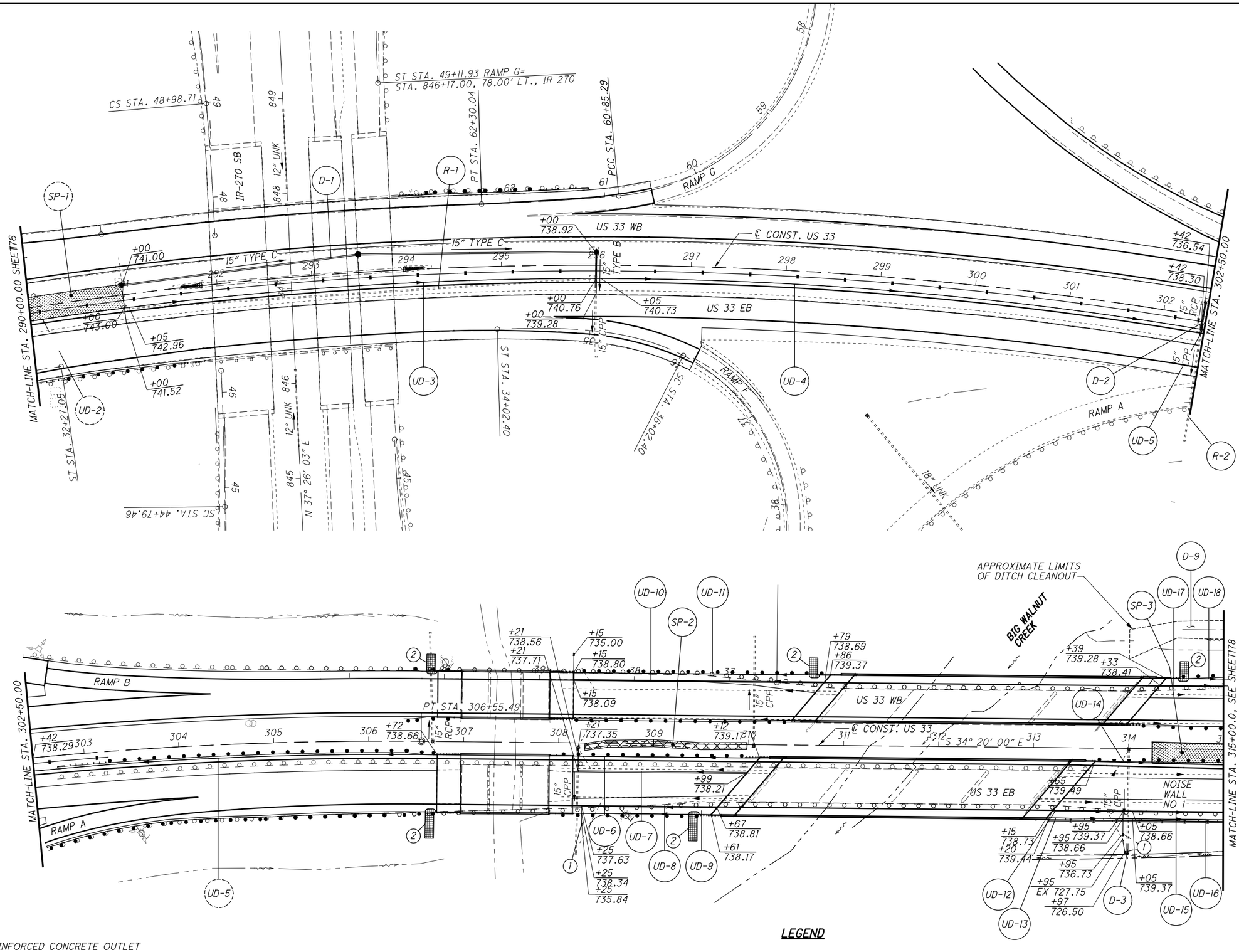
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DRAINAGE PLAN
STA. 266+00.00 TO STA. 290+00.00

FRA-33-24.26

176
287

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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)

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CFR
CHECKED ECH

DRAINAGE PLAN
STA. 290+00.00 TO STA. 315+00.00

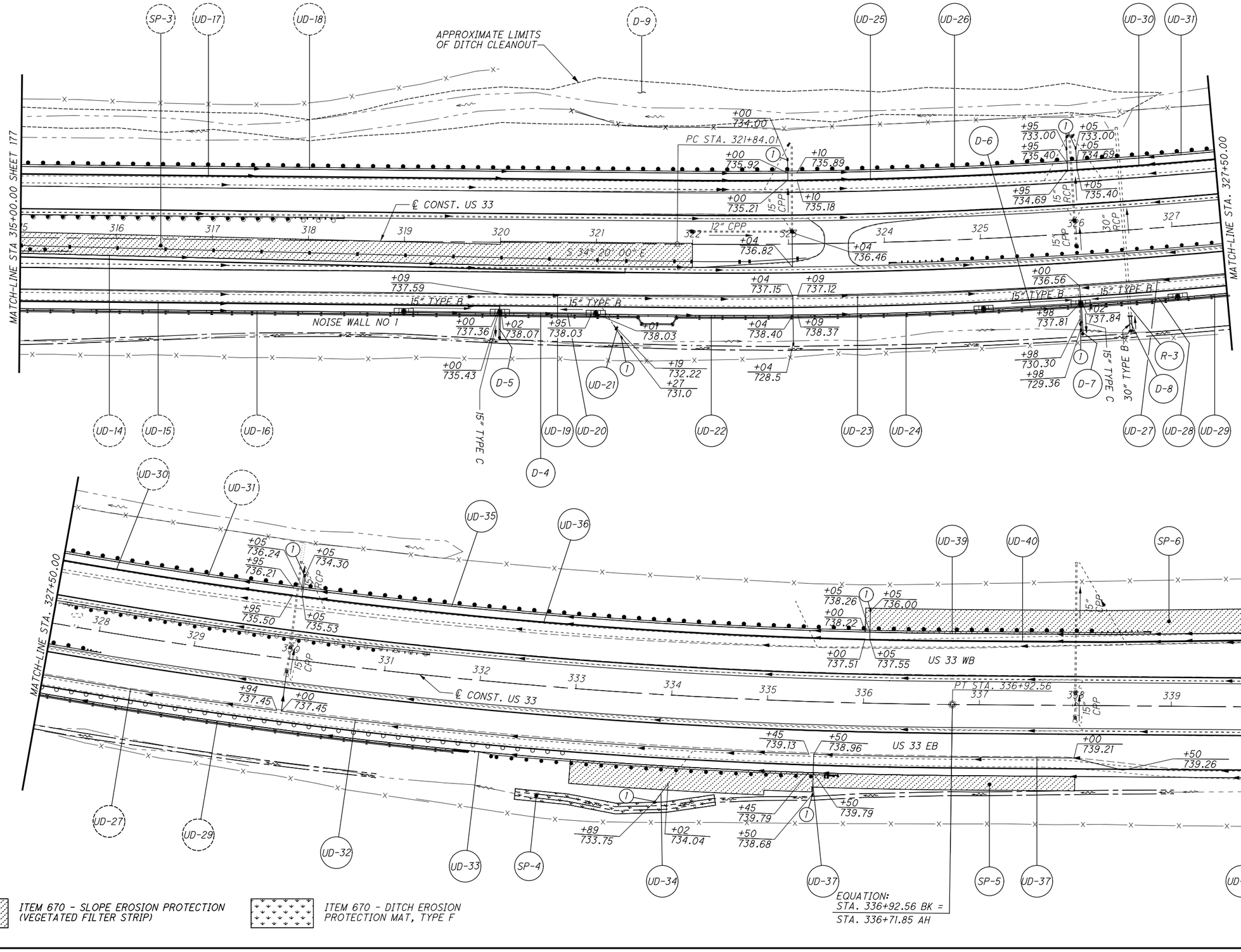
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287

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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

HORIZONTAL SCALE IN FEET
0 25 50 100

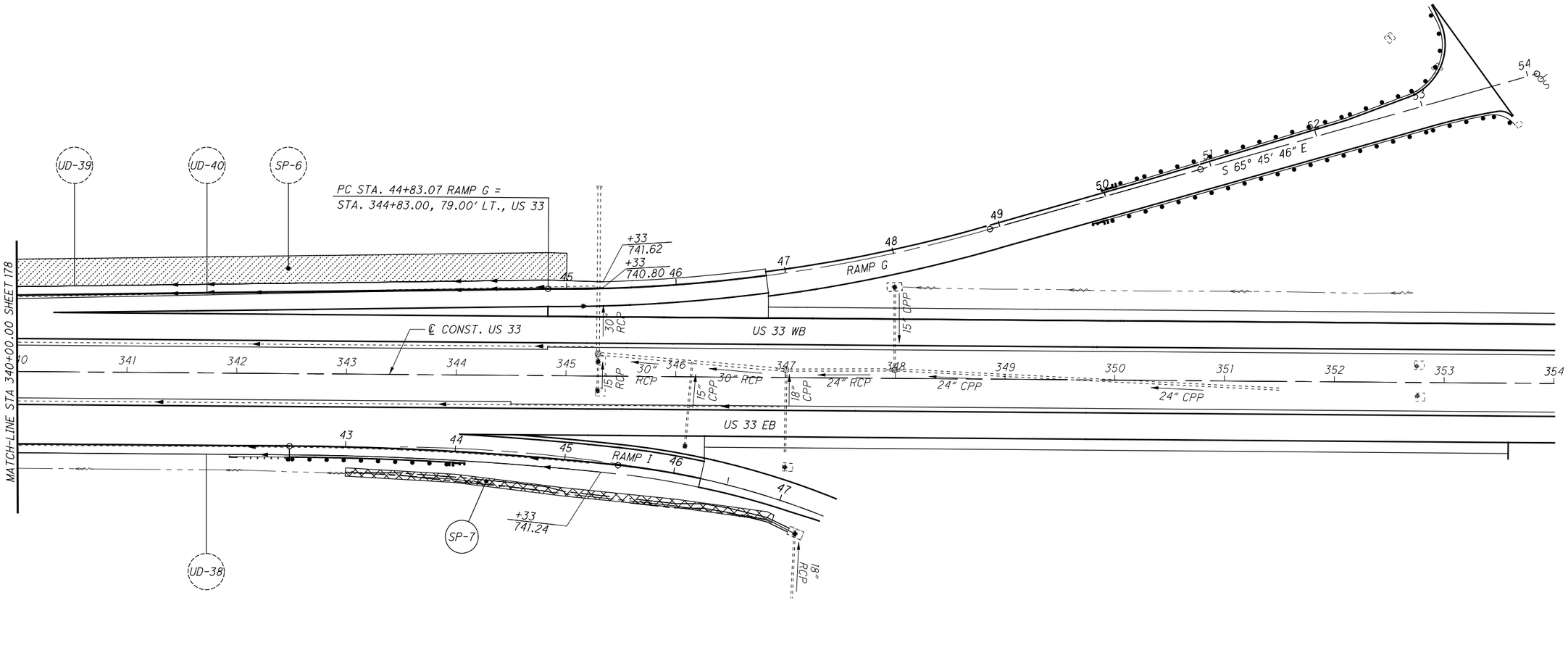
CALCULATED CFR
CHECKED ECH

DRAINAGE PLAN
STA. 315+00.00 TO STA. 340+00.00

FRA-33-24.26

178
287

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LEGEND

ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)

ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED BIOFILTER)

HORIZONTAL SCALE IN FEET
0 25 50 100

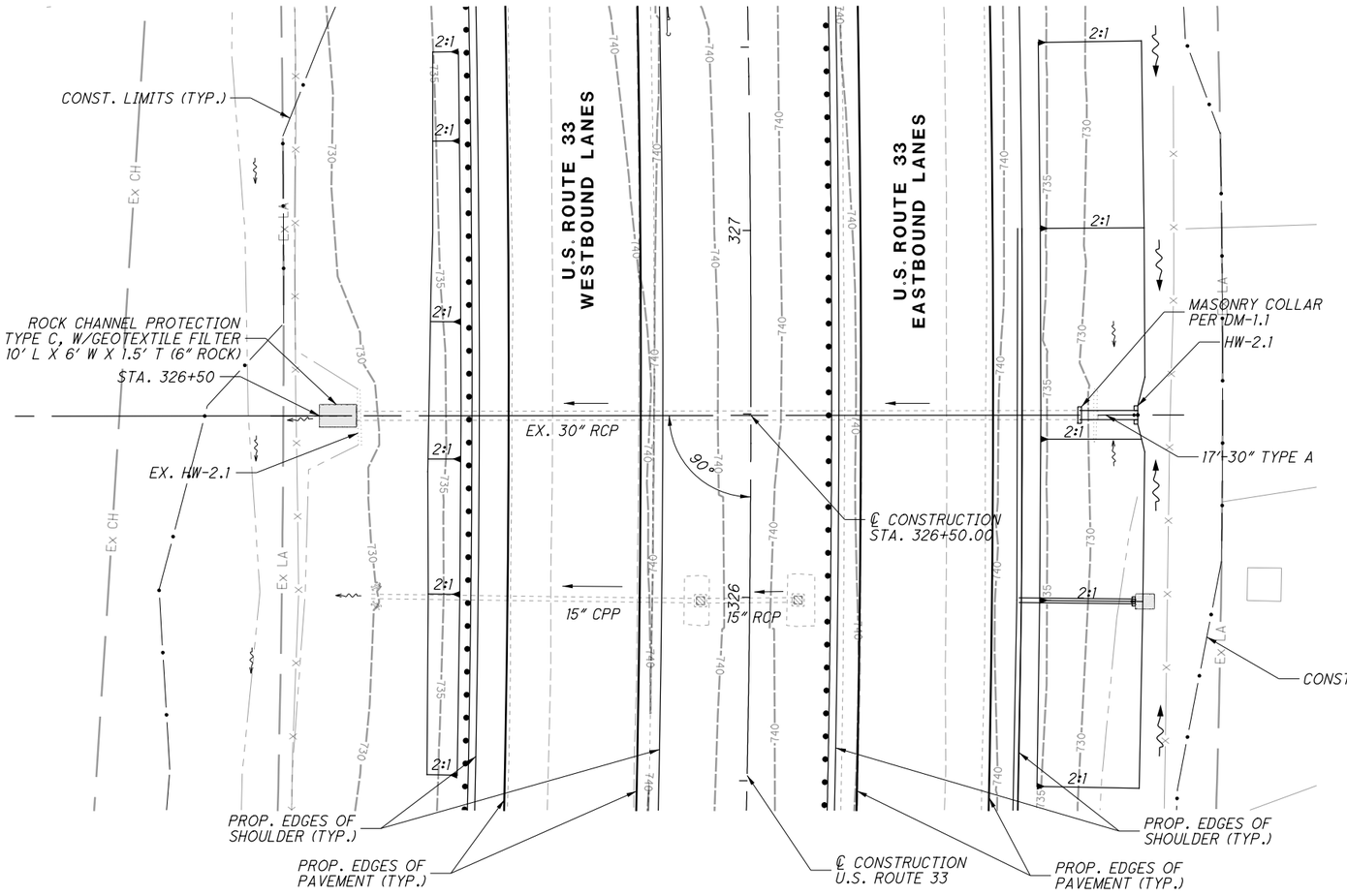
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CHECKED ECH

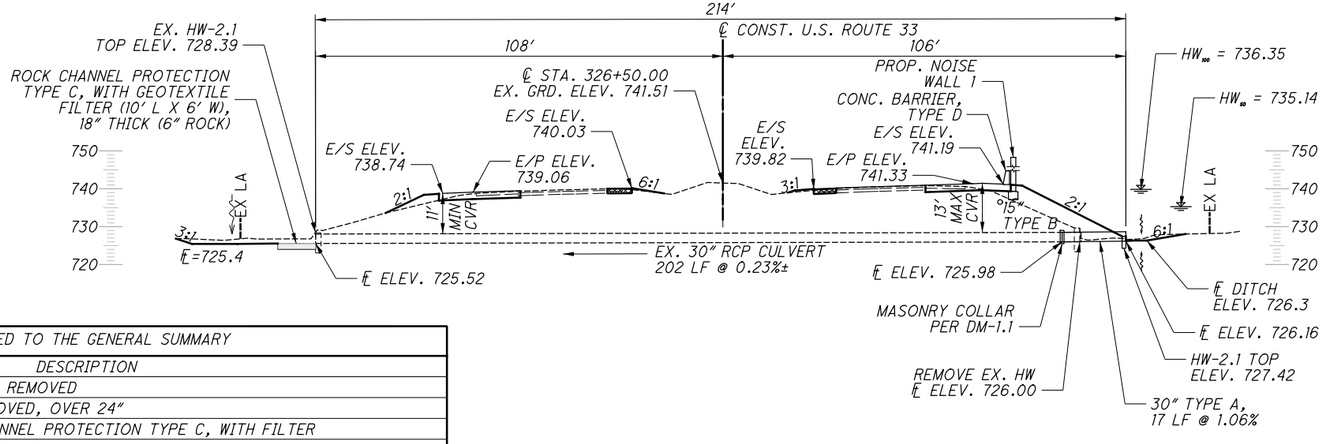
DRAINAGE PLAN
STA. 340+00.00 TO STA. 354+00.00

FRA-33-24.26

179
287

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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
SKEW: 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)

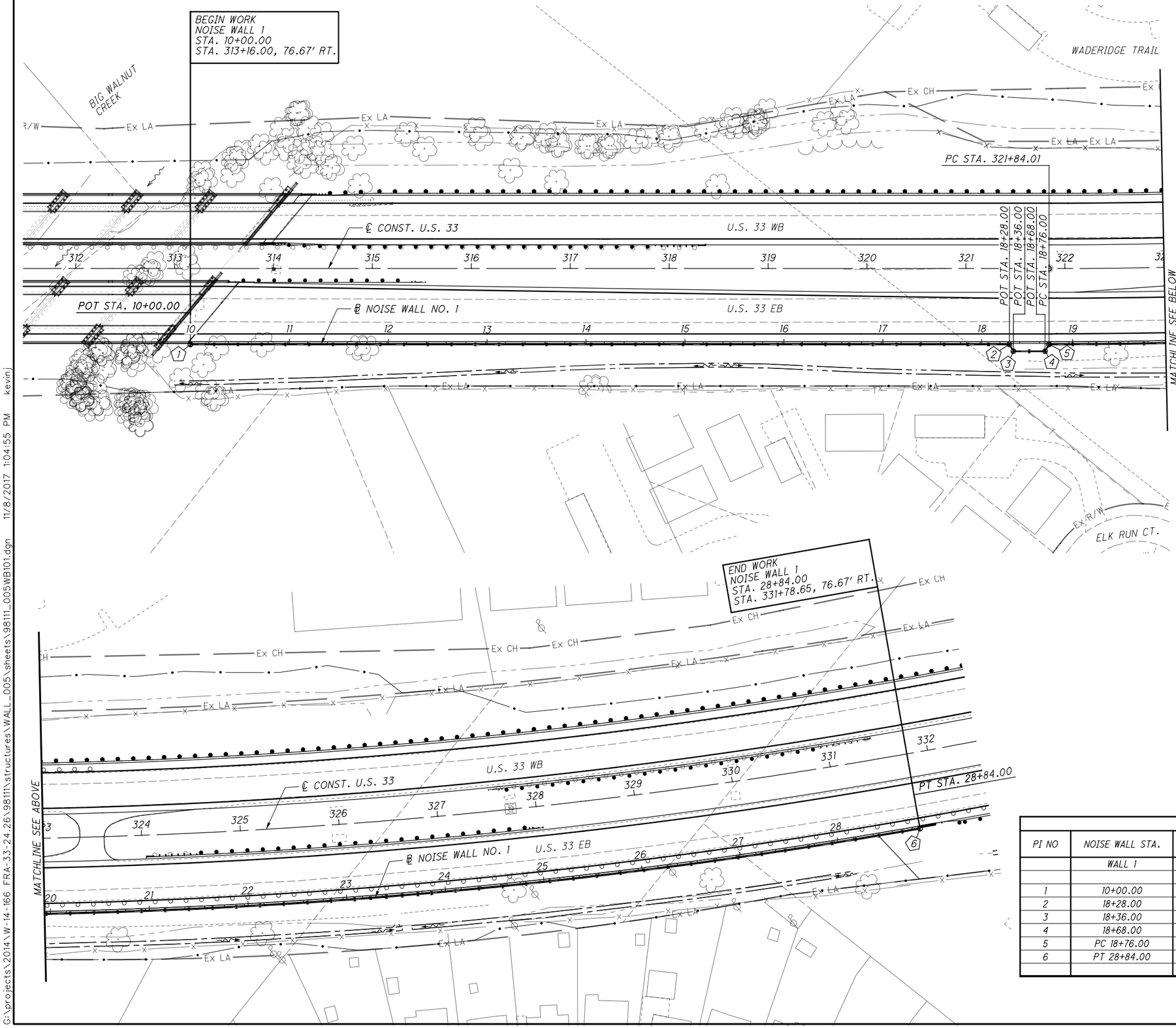
HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED ECH CHECKED SSK

CULVERT DETAIL STA. 326+50.00

FRA-33-24.26

180
287

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SEE HORIZONTAL AND VERTICAL CONTROL SHEET 3 FOR REFERENCE POINTS FOR U.S. 33 CENTERLINE.

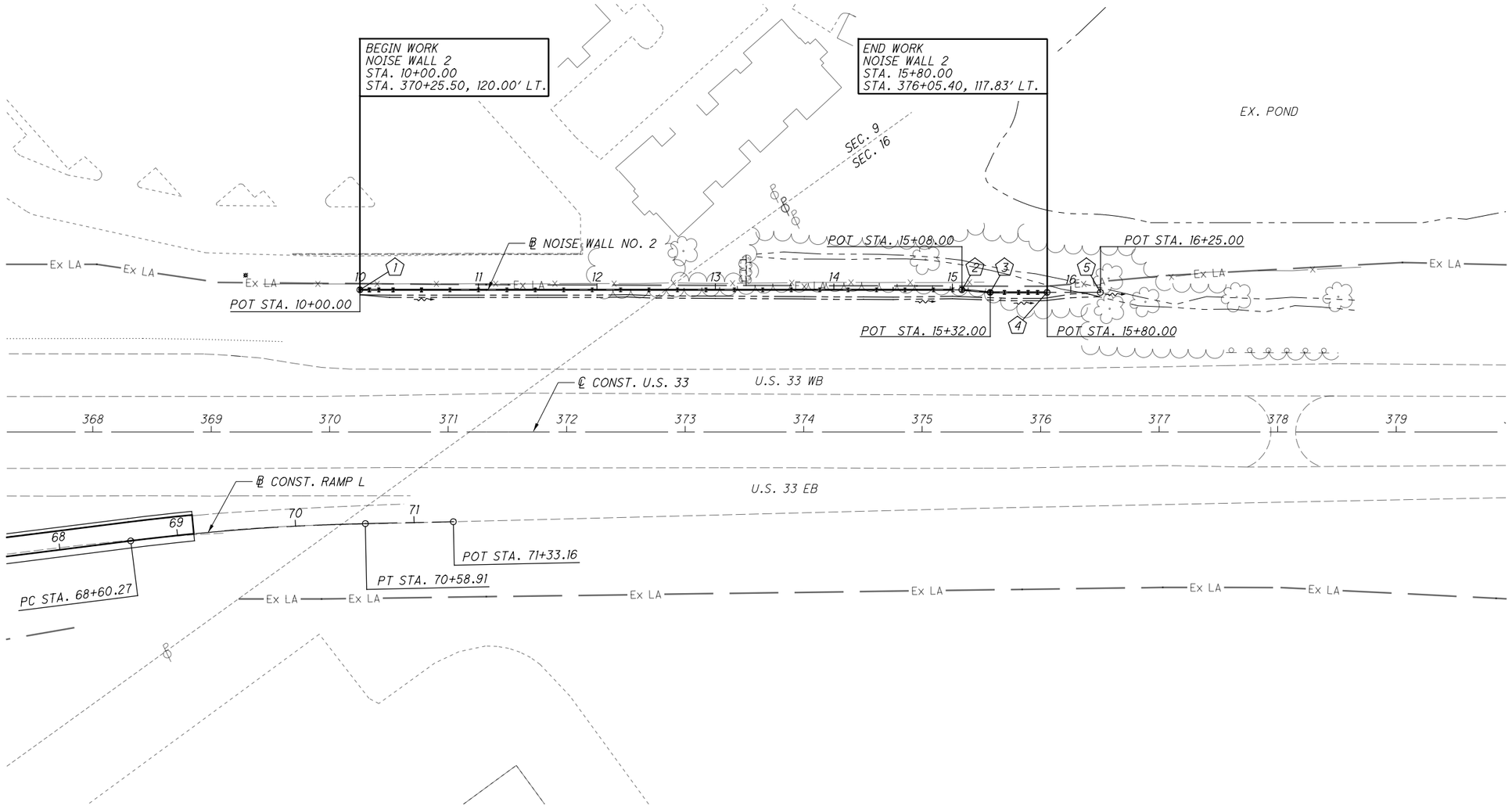
NOISE WALL BASELINE GEOMETRY						
PI NO	NOISE WALL STA.	U.S. 33 STA.	U.S. 33 OFFSET	NORTHING	EASTING	BEARING
	WALL 1					
1	10+00.00	313+16.00	76.67' RT.	691447.79	1858004.50	S 34° 20' 00" E
2	18+28.00	321+44.00	76.67' RT.	690764.05	1858471.50	S 25°40' 00" W
3	18+36.00	321+48.00	83.59' RT.	690756.84	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

HORIZONTAL SCALE IN FEET
0 25 50 100

NOISE WALL 1 SCHEMATIC PLAN

FRA-33-24.26

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SEE HORIZONTAL AND VERTICAL CONTROL SHEET 3 FOR REFERENCE POINTS FOR U.S. 33 CENTERLINE.

NOISE WALL BASELINE GEOMETRY

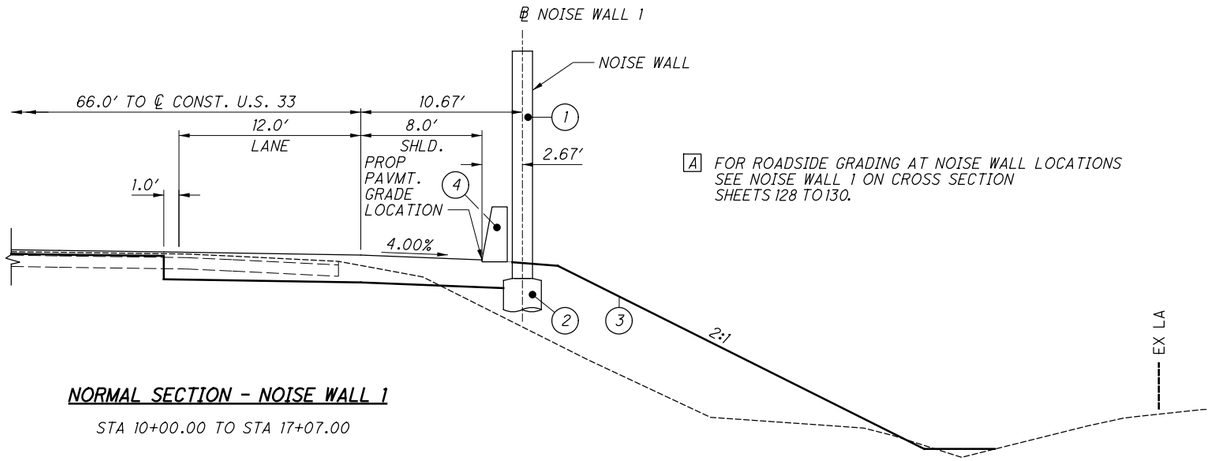
PI NO	NOISE WALL STA.	U.S. 33 STA.	U.S. 33 OFFSET	NORTHING	EASTING	BEARING
	WALL 2					
1	10+00.00	370+25.50	120.00' LT.	687565.90	1862188.36	S 49° 27' 26" E
2	15+08.00	375+33.50	120.00' LT.	687188.89	1862629.12	S 44° 16' 38" E
3	15+32.00	375+57.40	117.83' LT.	687218.51	1862591.16	S 49° 27' 26" E
4	15+80.00	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

HORIZONTAL SCALE IN FEET
0 25 50 100

NOISE WALL 2 SCHEMATIC PLAN

FRA-33-24.26

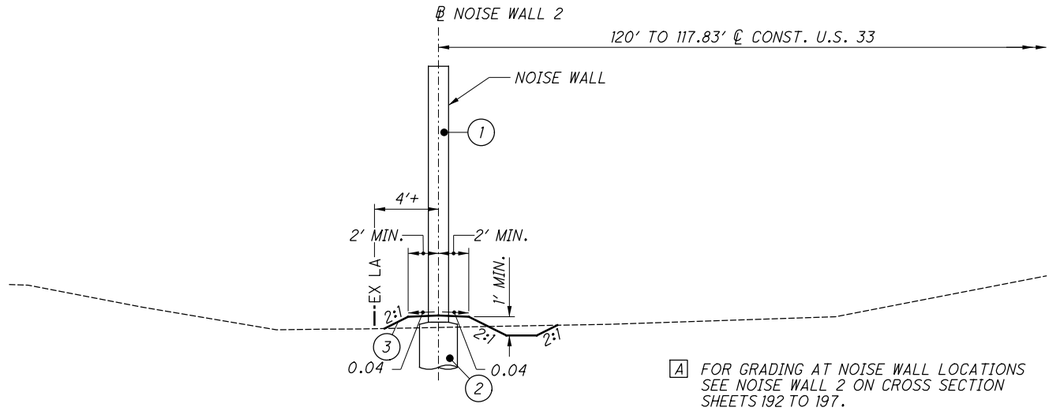
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A FOR ROADSIDE GRADING AT NOISE WALL LOCATIONS SEE NOISE WALL 1 ON CROSS SECTION SHEETS 128 TO 130.

NORMAL SECTION - NOISE WALL 1

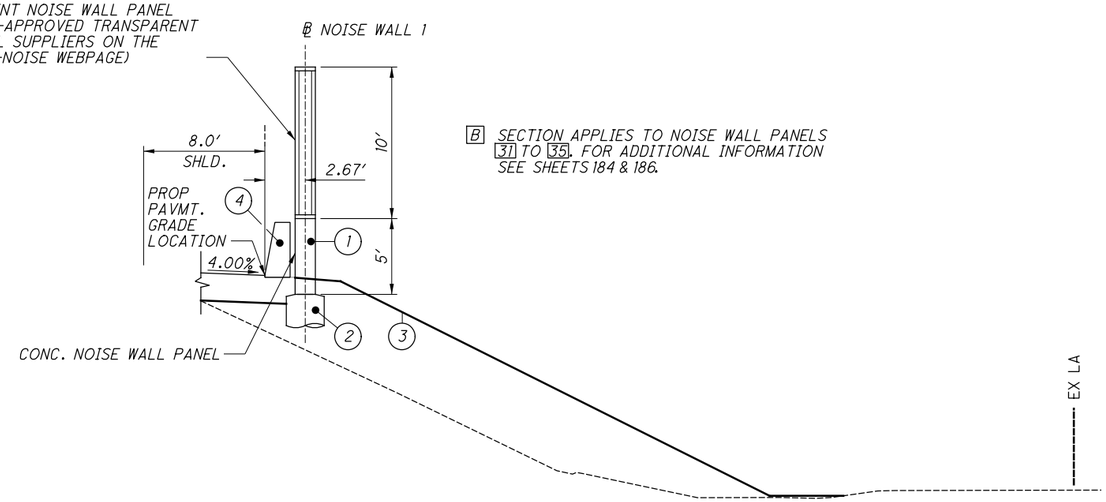
STA 10+00.00 TO STA 17+07.00



A FOR GRADING AT NOISE WALL LOCATIONS SEE NOISE WALL 2 ON CROSS SECTION SHEETS 192 TO 197.

NORMAL SECTION - NOISE WALL 2

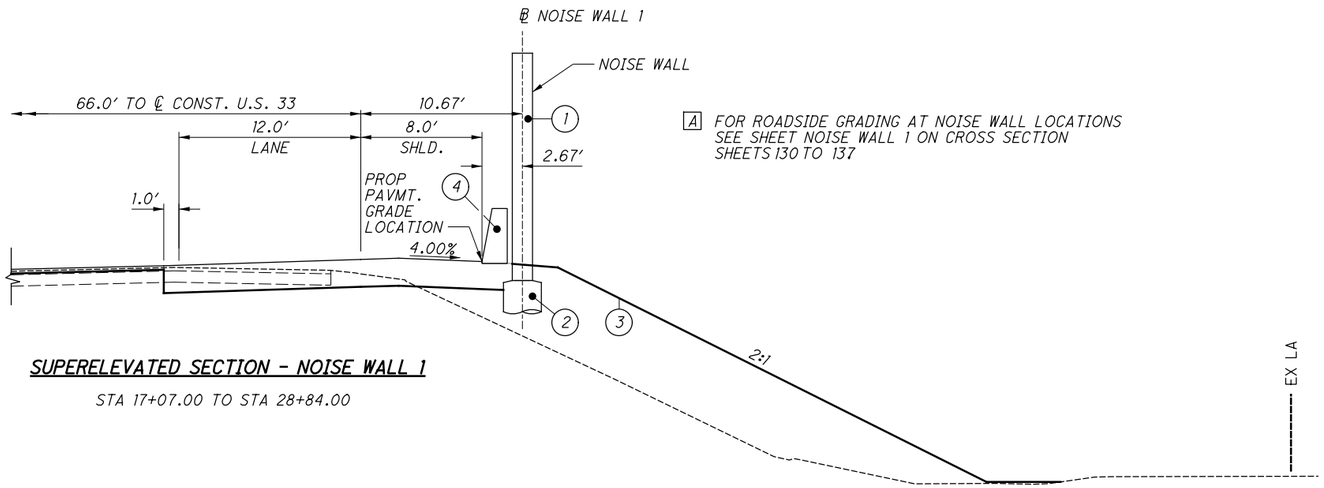
STA 10+00.00 TO STA 15+80.00



B SECTION APPLIES TO NOISE WALL PANELS 31 TO 35. FOR ADDITIONAL INFORMATION SEE SHEETS 184 & 186.

WALL SECTION W/ TRANSPARENT PANEL - NOISE WALL 1

STA 17+14.00 TO STA 18+28.00



A FOR ROADSIDE GRADING AT NOISE WALL LOCATIONS SEE SHEET NOISE WALL 1 ON CROSS SECTION SHEETS 130 TO 137

SUPERELEVATED SECTION - NOISE WALL 1

STA 17+07.00 TO STA 28+84.00

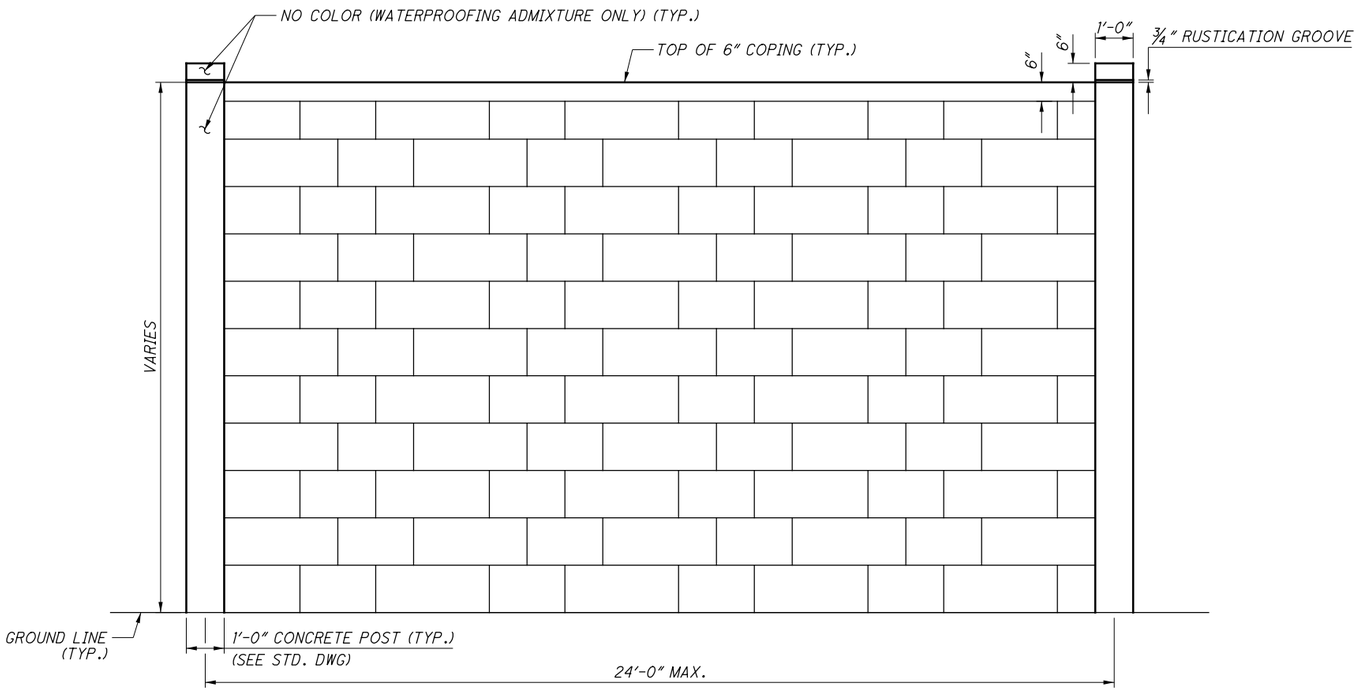
LEGEND

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

NOISE WALL 1 & 2 TYPICAL SECTIONS

FRA-33-24.26

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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 SPECIAL-NOISE BARRIER (REFLECTIVE), 10' HEIGHT AND UNDER	606 SPECIAL-NOISE BARRIER (REFLECTIVE), 10' HEIGHT AND UNDER (ALT NO. 1)	606 SPECIAL-NOISE BARRIER, TRANSPARENT ACRYLIC, 10' HEIGHT AND UNDER (ALT NO. 2)	606 SPECIAL-NOISE BARRIER (REFLECTIVE), OVER 10' TO 14' HEIGHT	606 SPECIAL-NOISE BARRIER (REFLECTIVE), OVER 14' TO 20' HEIGHT
				SF	SF	SF	SF	SF
		NOISE WALL NO 1						
1-7	185	10+00.00	11+68.00				2352	
8-18	185	11+68.00	14+26.00					3870
19-24	185-186	14+26.00	15+70.00				2016	
25-30	185-186	15+70.00	17+14.00					2160
31-35	186	17+14.00	18+28.00	570	1140	1140		
36-84	186-188	18+28.00	28+68.00					15600
85-86	188	28+68.00	28+90.00	144				
		NOISE WALL NO 2						
1-2	190	10+00.00	10+16.00	128				
3	190	10+16.00	10+28.00				156	
4-21	190-191	10+28.00	14+36.00					7320
22-26	191	14+36.00	15+56.00					2292
27	191	15+56.00	15+64.00	120				
28-29	191	15+64.00	15+80.00	160				
TOTALS CARRIED TO GENERAL SUMMARY				1122	1140	1140	4524	31242

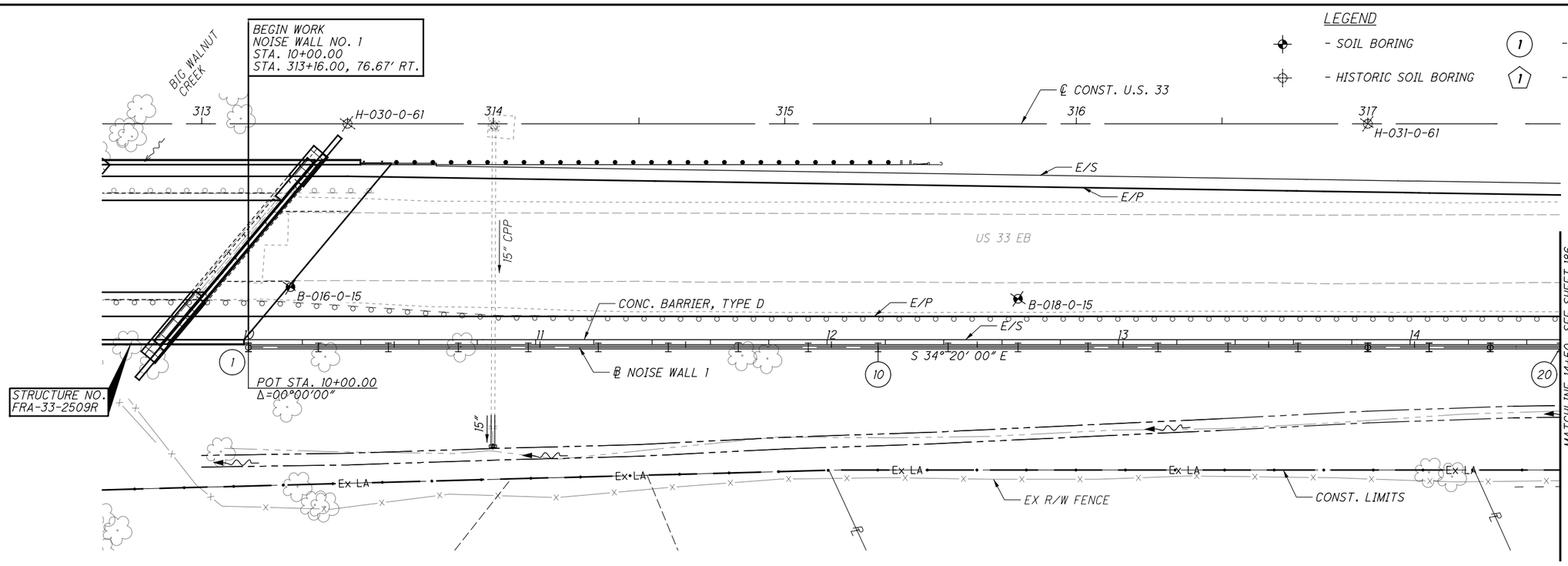
CALCULATED CFR CHECKED NCK

GENERAL NOTES AND SUB-SUMMARY

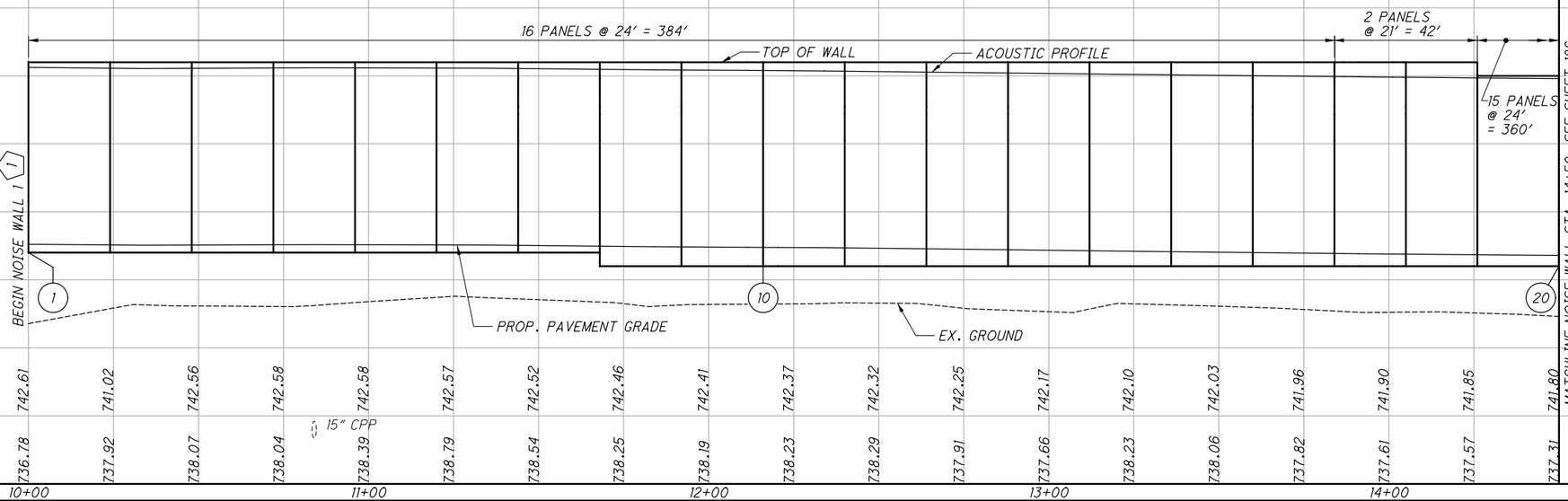
NOISE WALL

FRA-33-24.26

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TOP OF WALL ELEV.		756.00	756.00	756.00	756.00	756.00	756.00	756.00	756.00	756.00	756.00	756.00	756.00	756.00	756.00	756.00	756.00	756.00	756.00	756.00	755.00
ACOUSTIC PROFILE ELEV.	749.78	754.02	755.56	755.58	755.58	755.57	755.52	755.46	755.41	755.37	755.32	755.25	755.17	755.10	755.03	754.96	754.90	754.85	754.80		
BOTTOM OF WALL ELEV.		742.00	742.00	742.00	742.00	742.00	742.00	742.00	741.00	741.00	741.00	741.00	741.00	741.00	741.00	741.00	741.00	741.00	741.00	741.00	
PANEL NO.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
PROP. GRADE ELEV.	742.61	741.02	742.56	742.58	742.58	742.57	742.52	742.46	742.41	742.37	742.32	742.25	742.17	742.10	742.03	741.96	741.90	741.85	741.80	MATCHLINE NOISE WALL STA. 14+50, SEE SHEET 186	
EX. GROUND ELEV.	736.78	737.92	738.07	738.04	738.39	738.79	738.54	738.25	738.19	738.23	738.29	737.91	737.66	738.23	738.06	737.82	737.61	737.57	737.31		



CALCULATED CFR
CHECKED NCK

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - NOISE WALL 1
STA. 10+00 TO STA. 14+50

FRA-33-24.26

185
287

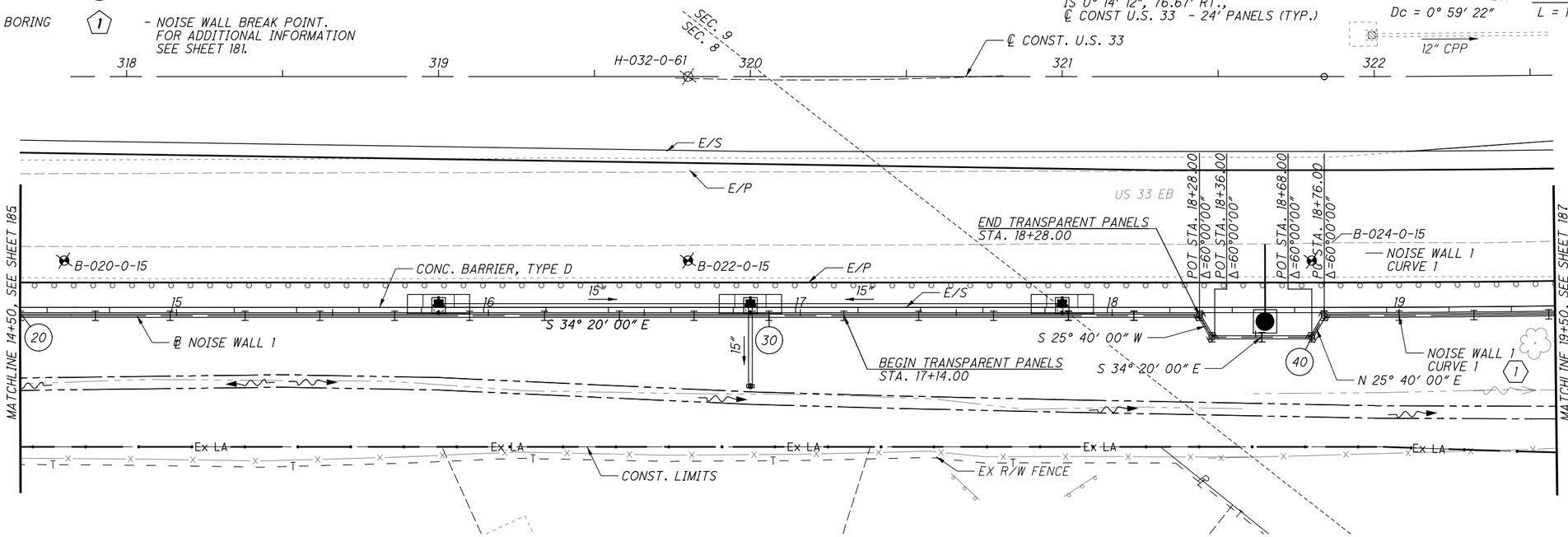
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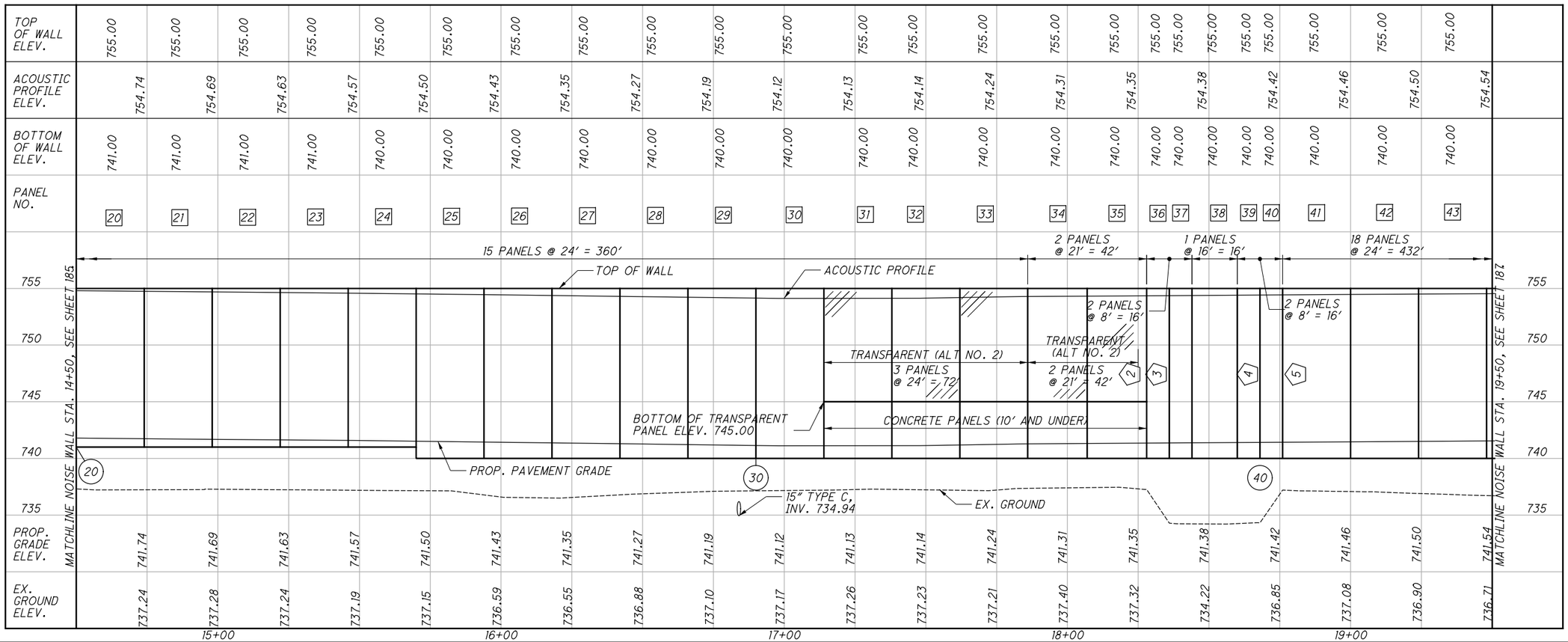
LEGEND

- SOIL BORING
- HISTORIC SOIL BORING
- (1) - DRILLED SHAFT NUMBERS
- (1) - NOISE WALL BREAK POINT. FOR ADDITIONAL INFORMATION SEE SHEET 181.

(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.)

NOISE WALL 1 CURVE 1
P.I. STA. 23+87.28 R = 5,790.09′ E = 22.00′
Δ = 9° 58′ 29″ (LT) T = 505.28′
Dc = 0° 59′ 22″ L = 1,008.00′





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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED CFR
CHECKED NCK

PLAN AND PROFILE - NOISE WALL 1
STA. 14+50 TO STA. 19+50

FRA-33-24.26

(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

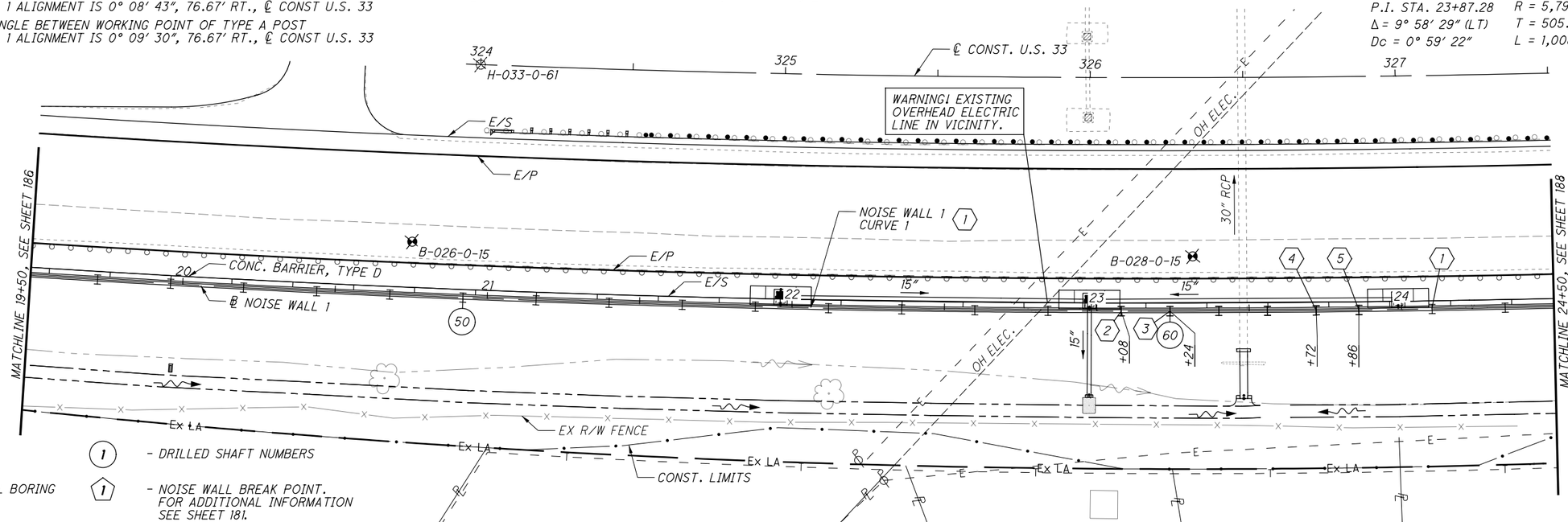
(3) THE DEFLECTION ANGLE BETWEEN WORKING POINT OF TYPE A POST AND ℄ NOISE WALL 1 ALIGNMENT IS 0° 09′ 30″, 76.67′ RT., ℄ CONST U.S. 33

(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

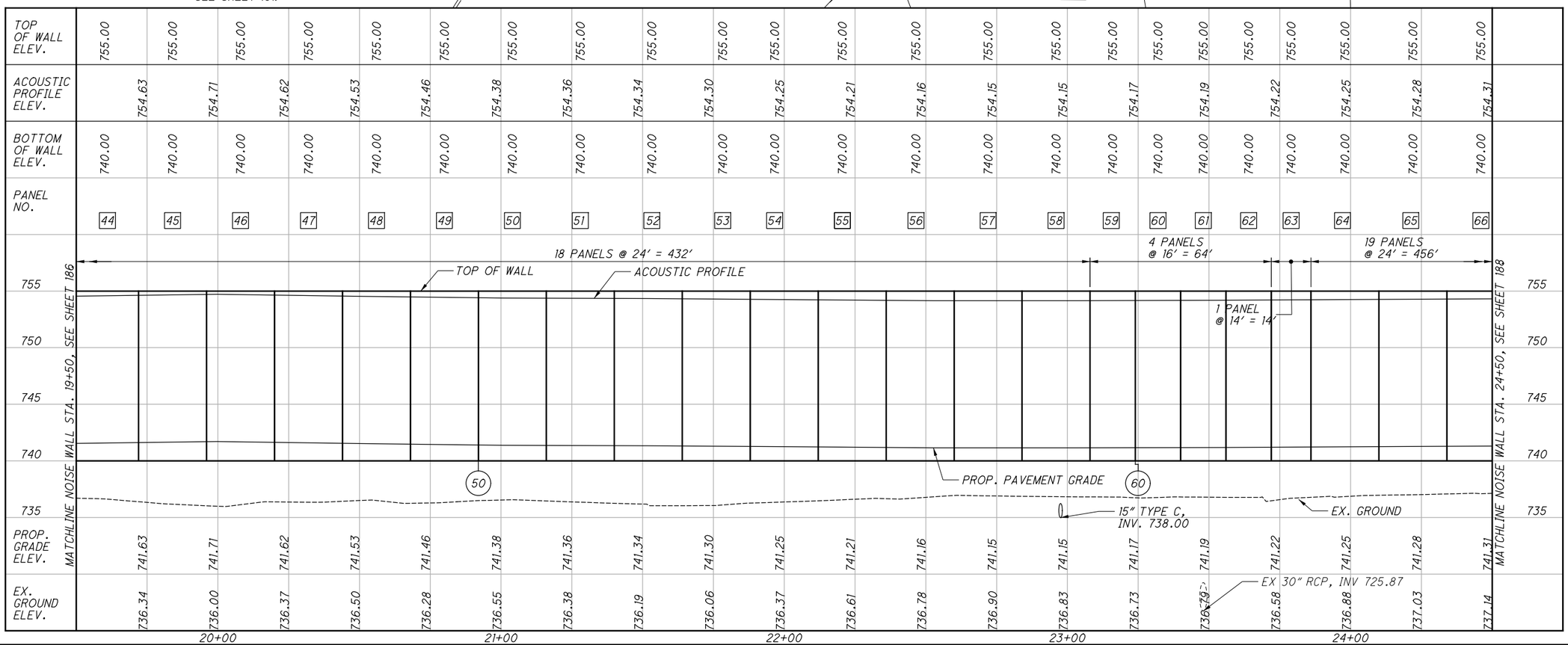
(7) THE DEFLECTION ANGLE BETWEEN WORKING POINT OF TYPE A POST AND ℄ NOISE WALL 1 ALIGNMENT IS 0° 12′ 46″, 76.67′ RT., ℄ CONST U.S. 33

NOISE WALL 1 CURVE 1
P.I. STA. 23+87.28 R = 5,790.09′ E = 22.00′
Δ = 9° 58′ 29″ (LT) T = 505.28′
Dc = 0° 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.



HORIZONTAL SCALE IN FEET
0 10 20 40

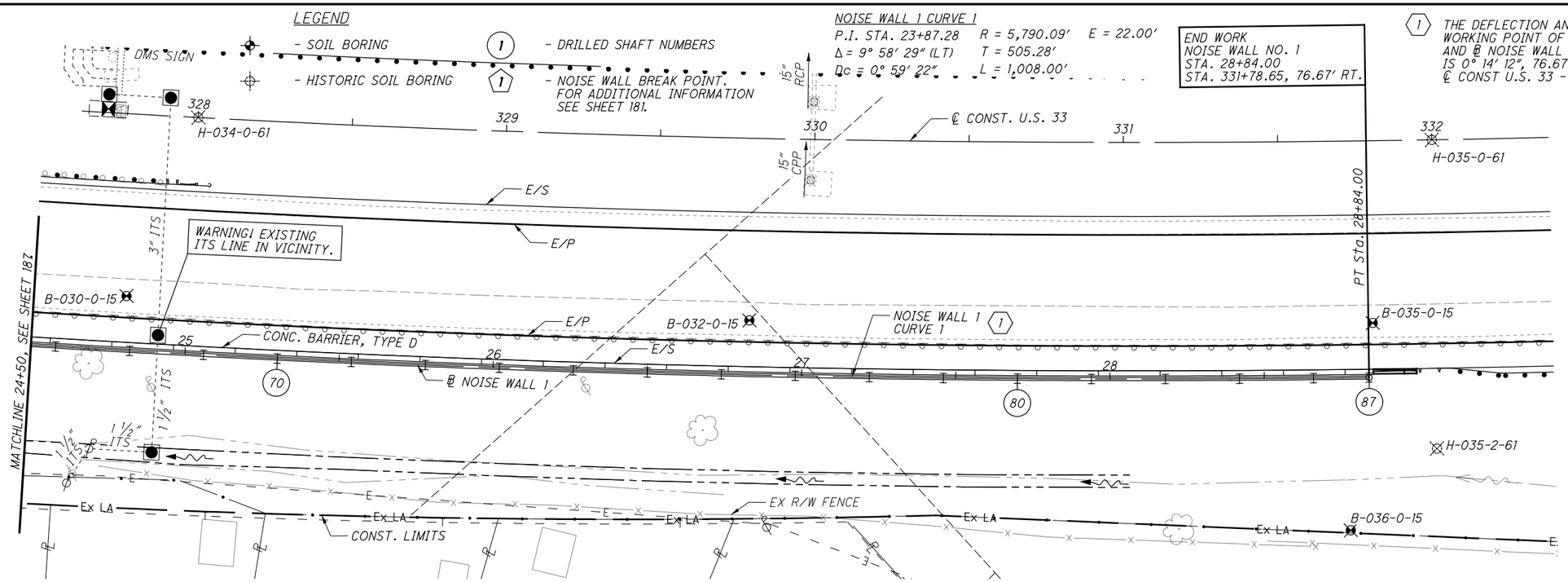
CALCULATED CFR
CHECKED NCK

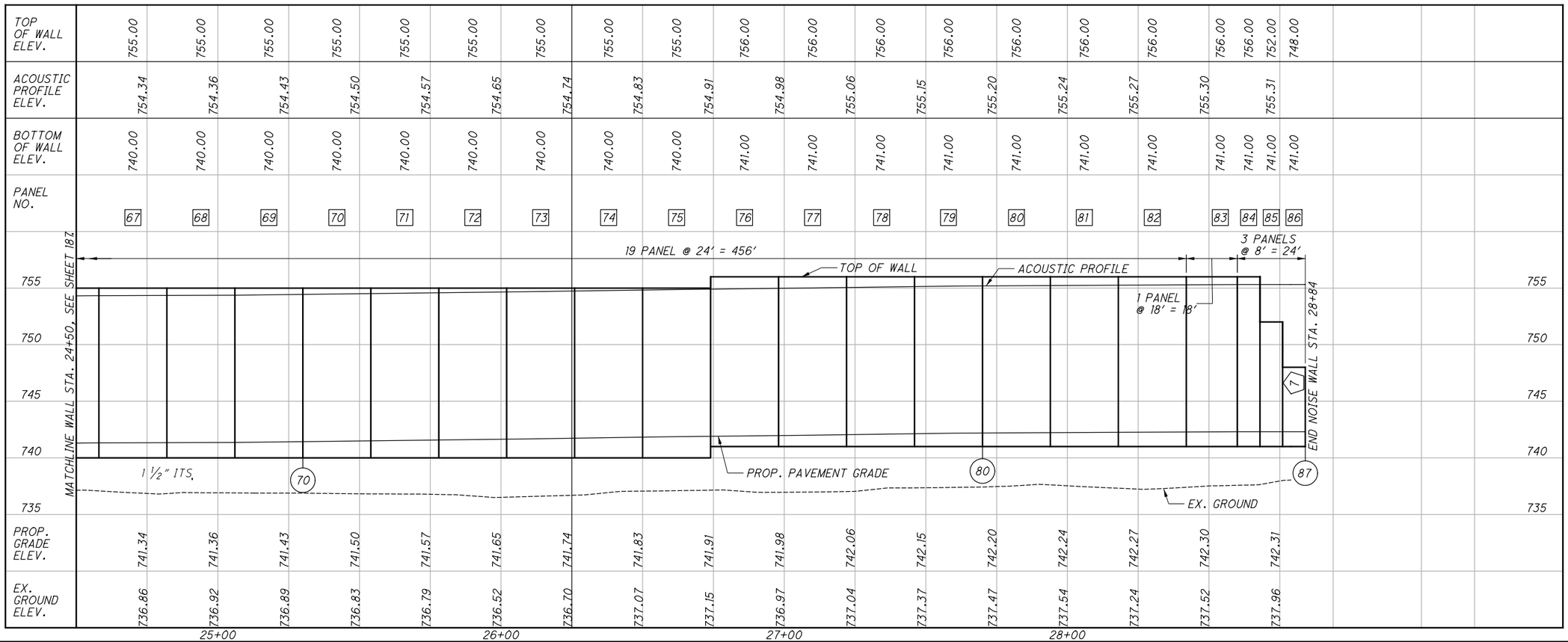
PLAN AND PROFILE - NOISE WALL 1
STA. 19+50 TO STA. 24+50

FRA-33-24.26

187
287

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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED CFR
CHECKED NCK

PLAN AND PROFILE - NOISE WALL 1
STA. 24+50 TO STA. 28+84

FRA-33-24.26

188
287

POST NO.	POST TYPE	WORK POINT STATION	DRILLED SHAFT TOP ELEVATION	SHAFT LENGTH
1	B	10+00.00	741.69	16
2	A	10+24.00	741.69	16
3	A	10+48.00	741.69	16
4	A	10+72.00	741.69	16
5	A	10+96.00	741.69	16
6	A	11+20.00	741.69	16
7	A	11+44.00	741.69	16
8	A	11+68.00	740.69	16
9	A	11+92.00	740.69	16
10	A	12+16.00	740.69	16
11	A	12+40.00	740.69	16
12	A	12+64.00	740.69	16
13	A	12+88.00	740.69	16
14	A	13+12.00	740.69	16
15	A	13+36.00	740.69	16
16	A	13+60.00	740.69	16
17	A	13+84.00	740.72	16
18	A	14+05.00	740.72	16
19	A	14+26.00	740.69	16
20	A	14+50.00	740.72	16
21	A	14+74.00	740.72	16
22	A	14+98.00	740.69	16
23	A	15+22.00	740.69	16
24	A	15+46.00	740.69	16
25	A	15+70.00	740.69	16
26	A	15+94.00	740.69	16
27	A	16+18.00	740.69	16
28	A	16+42.00	739.69	16
29	A	16+66.00	739.69	16
30	A	16+90.00	739.69	16
31	A	17+14.00	739.69	16
32	A	17+38.00	739.69	16
33	A	17+62.00	739.69	16
34	A	17+86.00	739.69	16
35	A	18+07.00	739.69	16
36	E	18+28.00	739.69	16
37	E	18+36.00	739.69	16
38	A	18+44.00	739.69	16
39	A	18+60.00	739.69	16
40	E	18+68.00	739.69	16
41	E	18+76.00	739.69	16
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

POST NO.	POST TYPE	WORK POINT STATION	DRILLED SHAFT TOP ELEVATION	SHAFT LENGTH
47	A	20+20.00	739.69	16
48	A	20+44.00	739.69	16
49	A	20+68.00	739.69	16
50	A	20+92.00	739.69	16
51	A	21+16.00	739.69	16
52	A	21+40.00	739.69	16
53	A	21+64.00	739.69	16
54	A	21+88.00	739.69	16
55	A	22+12.00	739.69	16
56	A	22+36.00	739.69	16
57	A	22+60.00	739.69	16
58	A	22+84.00	739.69	16
59	A	23+08.00	739.69	16
60	A	23+24.00	739.69	16
61	A	23+40.00	739.69	16
62	A	23+56.00	739.69	16
63	E	23+72.00	739.69	16
64	E	23+86.00	739.69	16
65	E	24+10.00	739.69	19
66	A	24+34.00	739.69	19
67	E	24+58.00	739.69	19
68	E	24+82.00	739.69	19
69	A	25+06.00	739.69	19
70	A	25+30.00	739.69	19
71	A	25+54.00	739.69	19
72	A	25+78.00	739.69	19
73	A	26+02.00	739.69	19
74	A	26+26.00	739.69	19
75	A	26+50.00	739.69	19
76	A	26+74.00	739.69	19
77	A	26+98.00	740.69	19
78	A	27+22.00	740.69	19
79	A	27+46.00	740.69	19
80	A	27+70.00	740.69	19
81	A	27+94.00	740.69	19
82	A	28+18.00	740.69	19
83	A	28+42.00	740.69	19
84	A	28+60.00	740.69	19
85	A	28+68.00	740.69	19
86	A	28+76.00	740.69	19
87	B	28+84.00	740.69	19

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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BEGIN WORK
NOISE WALL NO. 2
STA. 10+00.00
STA. 370+25.50, 120.00' RT.

EX. PARKING LOT

24" CPP

48" CPP

EX R/W FENCE

CONST. LIMITS

EX. FLOWER BED

EX. PRIVATE SIGN

EX. R/W FENCE

H.P. 14+13.70
EX ℄ 737.9±

SEC. 9

SEC. 16

Ex LA

10

11

12

13

14

S 49° 27' 26" E

POT STA. 10+00.00
Δ=00°00'00"

℄ NOISE WALL 2

CONST. LIMITS

MATCHLINE STA. 14+50, SEE SHT 191.

WARNING! EXISTING
OVERHEAD TRANSMISSION
LINE IN VICINITY.

OHE TRANSMISSION
(138 kV)

OHE TRANSMISSION
(138 kV)

OHE TRANSMISSION
(138 kV)

I.P.S.

E/S

B-043-0-15

B-044-0-15

B-045-0-15

E/P

U.S. 33 WB

E/P

E/S

℄ CONST. U.S. 33

LEGEND

- SOIL BORING
- DRILLED SHAFT NUMBERS
- NOISE WALL BREAK POINT. FOR ADDITIONAL INFORMATION SEE SHEET 181.

	370	371	372	373	374
TOP OF WALL ELEV.	747.50 747.50 751.50 755.50 759.50	759.50 759.50 759.50 759.50 759.50	759.50 759.50 759.50 759.50 759.50	759.50 759.50 760.50 760.50 760.50	760.50 760.50 760.50 760.50 760.50
ACOUSTIC PROFILE ELEV.	759.19 759.25 759.24 759.33 759.36	759.34 759.26 759.25 759.15 759.01	759.35 759.35 759.51 759.79 759.62	759.61 759.92 759.92 759.75	
BOTTOM OF WALL ELEV.	741.50 742.50 742.50 742.50 742.50	742.50 742.50 742.50 742.50 742.50	742.50 741.50 741.50 741.50 741.50	741.50 741.50 741.50 741.50 741.50	741.50 741.50 741.50 741.50 741.50
PANEL NO.	1 2 3 4 5	6 7 8 9 10	11 12 13 14 15	16 17 18 19 20	21

2 PANELS
@ 8' =16'

1 PANELS
@ 12' = 12'

21 PANELS @ 24' = 504'

BEGIN NOISE WALL 1

TOP OF WALL

ACOUSTIC PROFILE

EX. US 33 WB LT
E/P PROFILE

EX. GROUND

PROP GROUND

MATCHLINE NOISE WALL STA. 14+50, SEE SHEET 191.

	370	371	372	373	374
PROP. GRADE ELEV.	742.19 743.42 743.35 743.27 743.20	743.12 743.05 742.97 742.90 742.60	743.00 743.00 743.00 743.00 743.00	743.00 743.00 743.00 743.00 743.00	
EX. GROUND ELEV.	742.19 742.25 742.24 742.33 742.36	742.34 742.26 742.25 742.15 742.01	742.35 742.35 742.51 742.79 742.62	742.61 742.92 742.92 742.75	

10+00 11+00 12+00 13+00 14+00

755 750 745 740 735 730 725

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED CFR
CHECKED NCK

PLAN AND PROFILE - NOISE WALL 2
STA. 10+00 TO STA. 14+50

FRA-33-24.26

190
287

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END WORK
NOISE WALL NO. 2
STA. 15+80.00
STA. 376+05.40, 117.83' LT.

EX. POND

LEGEND
- SOIL BORING
(1) - DRILLED SHAFT NUMBERS
(1) - NOISE WALL BREAK POINT. FOR ADDITIONAL INFORMATION SEE SHEET 181.

MATCHLINE STA. 14+50, SEE SHT 190

POT STA. 15+08.00
Δ = 05°10'48"

℄ NOISE WALL 2

S 44° 16' 38" E

S 49° 27' 26" E

POT STA. 15+32.00
Δ = 05°10'48"

CONST. LIMITS

S 49° 27' 26" E

30

CONST. LIMITS

POT STA. 16+25.00

EX R/W FENCE

Ex LA

E/S

B-046-0-15

E/P

B-047-0-15

U.S. 33 WB

E/P

E/S

℄ CONST. U.S. 33

375 376 377 378 379

TOP OF WALL ELEV.	760.50	760.50	760.50	760.50	758.50	754.50	750.50	746.50
ACOUSTIC PROFILE ELEV.	759.68	759.29	759.02		757.66		755.82	
BOTTOM OF WALL ELEV.	741.50	741.50	741.50	740.50	739.50	739.50	738.50	738.50
PANEL NO.	21	22	23	24	25	26	27	28	29
PROP. GRADE ELEV.	743.00	742.50	742.11		740.88		739.31		737.25	
EX. GROUND ELEV.	742.68	742.29	742.09		741.10		739.31		737.58	736.97

21 PANELS @ 24' = 504'
3 PANELS @ 8' = 24'
2 PANELS @ 12' = 24'

MATCHLINE NOISE WALL STA. 14+50, SEE SHEET 190

TOP OF WALL
ACOUSTIC PROFILE
EX. US 33 WB LT E/P PROFILE
PROP. GROUND
EX. GROUND

(2) (3) (4) 30

760 755 750 745 740 735 730 725

15+00 16+00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED CFR
CHECKED NCK

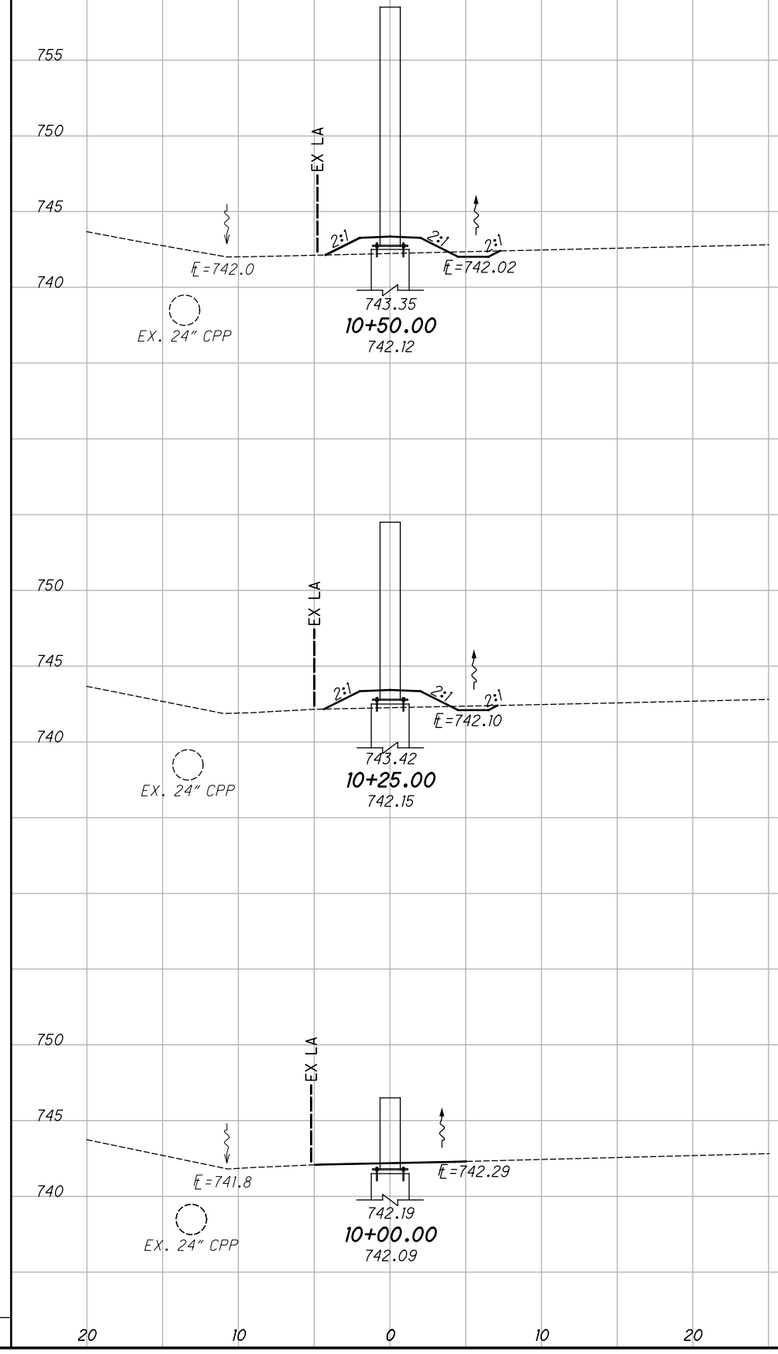
PLAN AND PROFILE - NOISE WALL 2
STA. 14+50 TO STA. 16+25

FRA-33-24.26

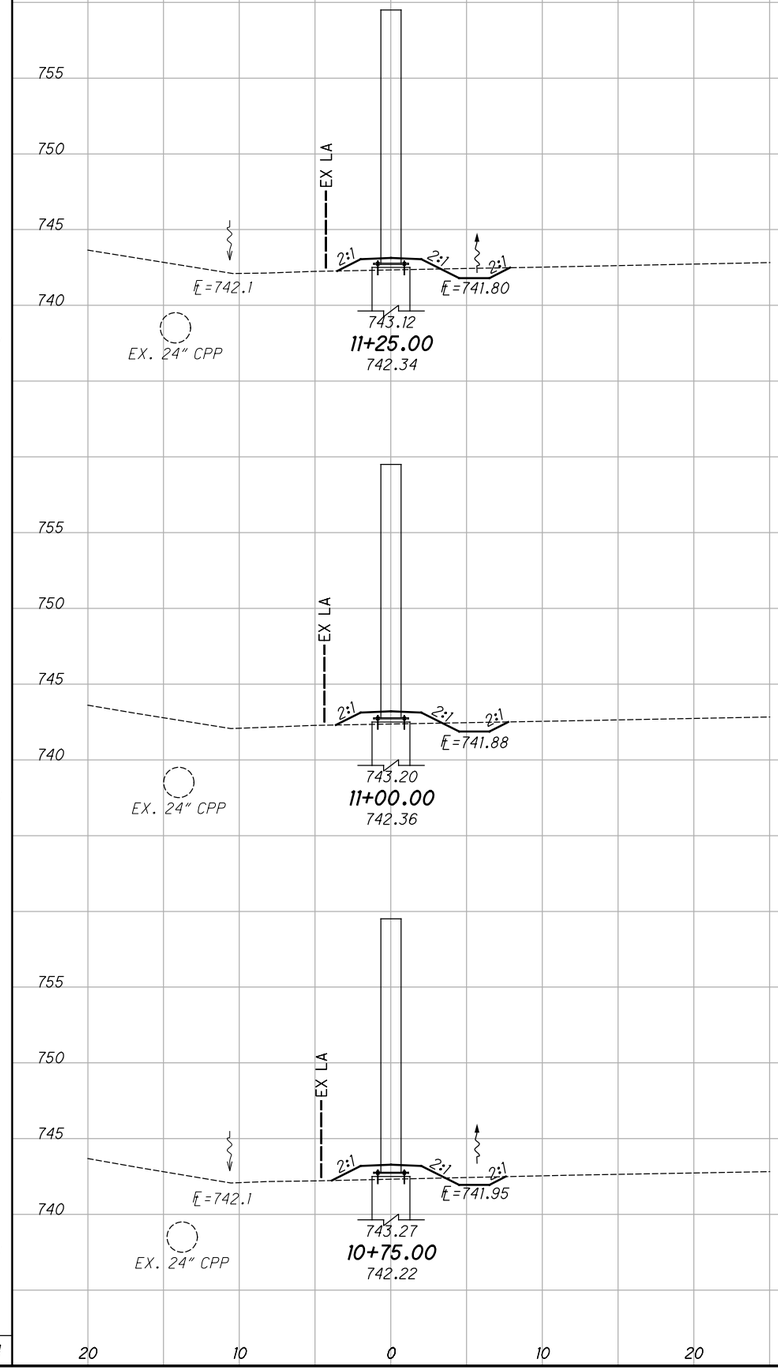
191
287

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
16	45	1	6	1	6
16	42	1	7	0	3
14	0	0	0	0	0
·	87	·	·	1	9



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
16	44	2	4	2	4
16	45	2	4	2	4
16	45	2	5	1	5
·	134	·	·	5	13



CALCULATED CFR
CHECKED SSK

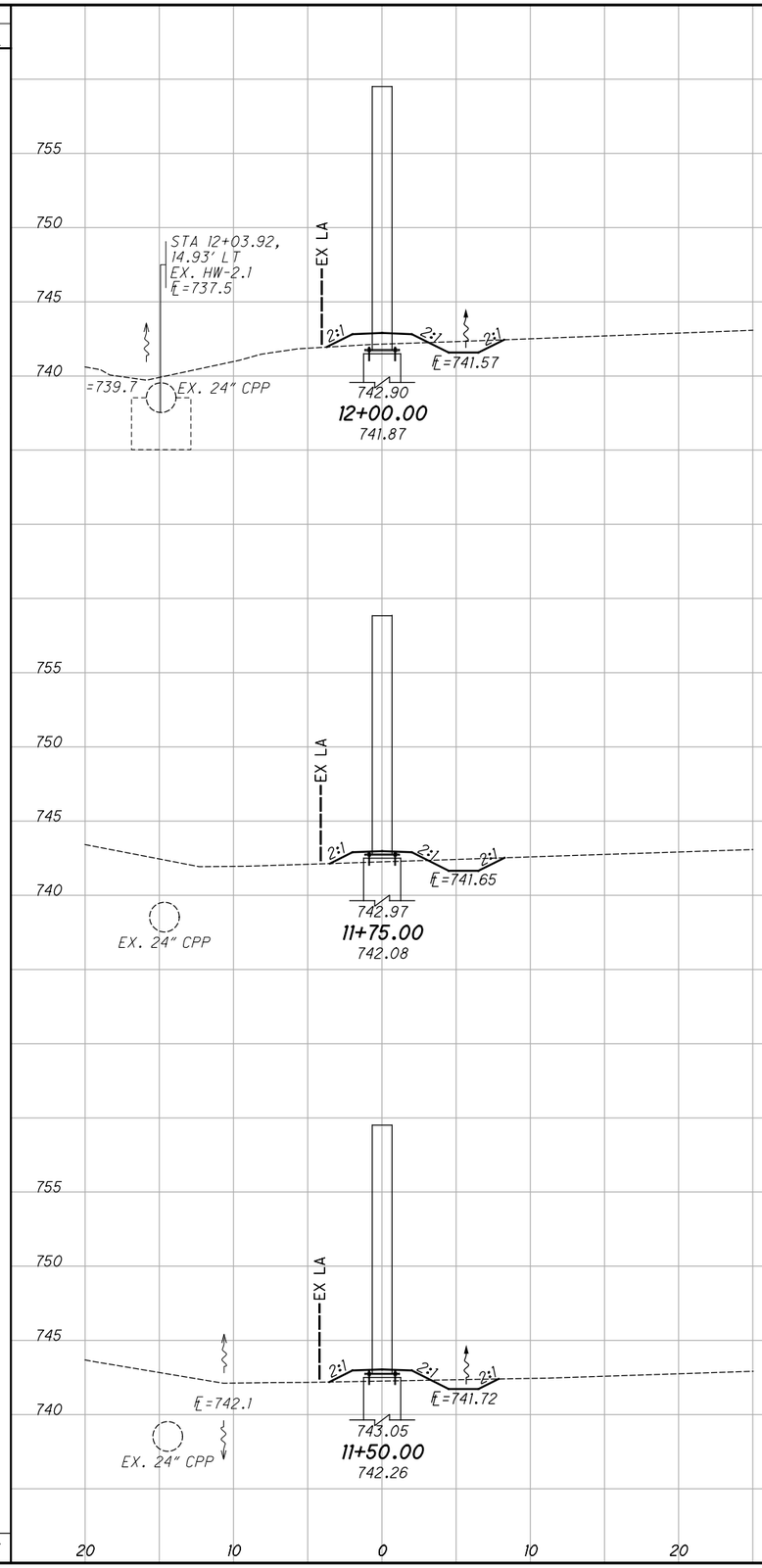
CROSS SECTIONS NOISE WALL 2
STA. 10+00.00 TO STA. 11+25.00

FRA-33-24.26

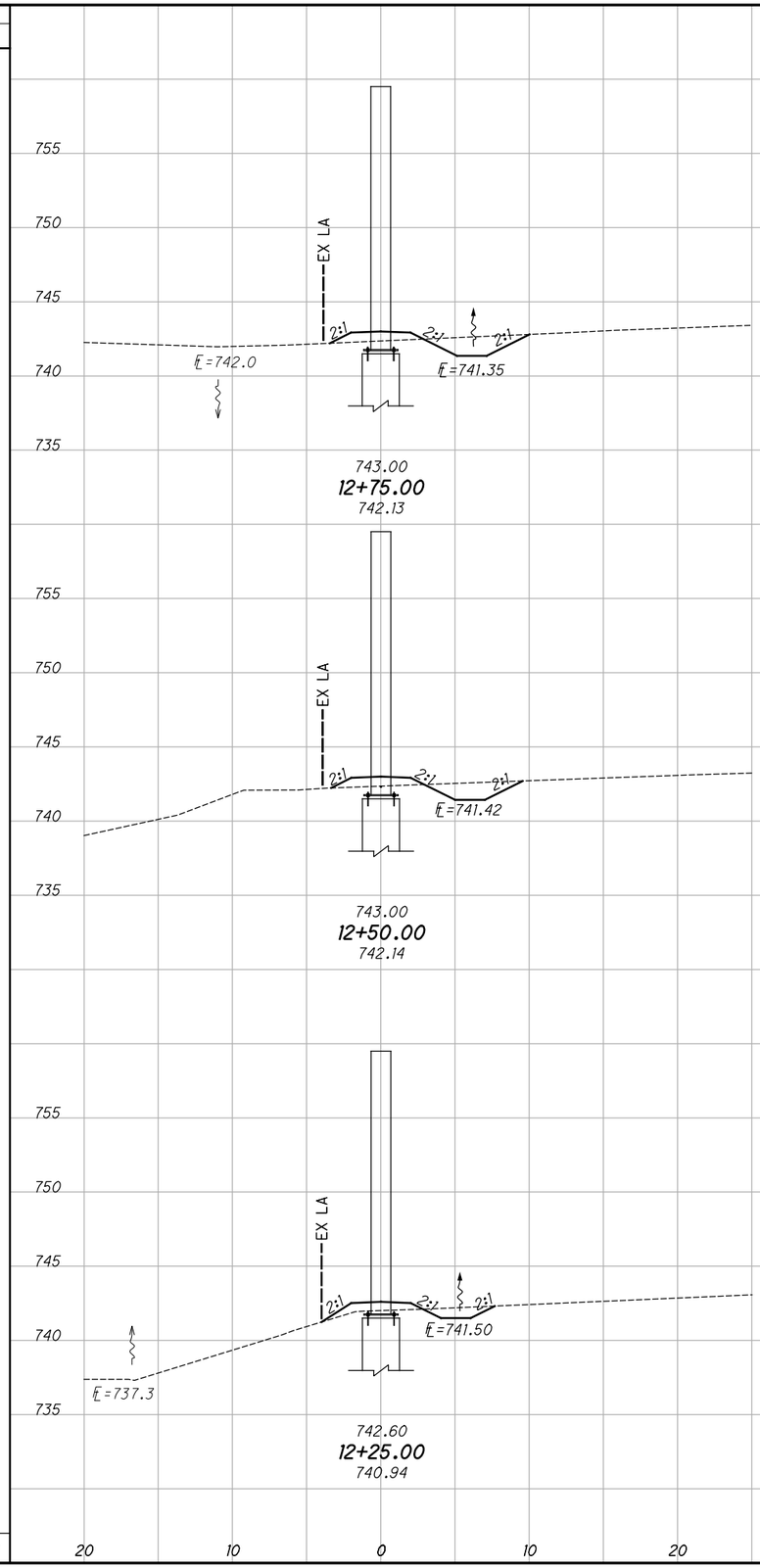
192
287

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SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
17	46	12+00.00	3	4	3	3
16	45	11+75.00	3	4	2	4
16	45	11+50.00	2	4	2	4
·	136		·	·	7	14



SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
18	50	12+75.00	6	3	5	3
18	50	12+50.00	5	3	3	3
16	48	12+25.00	2	3	2	3
·	144		·	·	10	9



CALCULATED CFR
CHECKED SSK

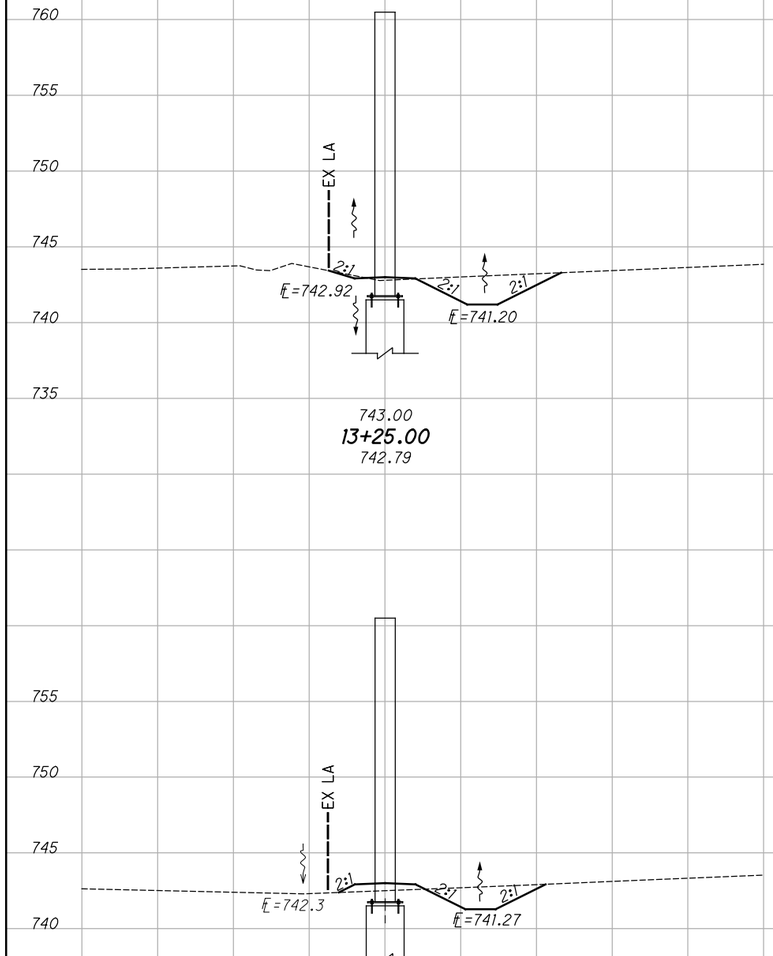
CROSS SECTIONS NOISE WALL 2
STA. 11+50.00 TO STA. 12+75.00

FRA-33-24.26

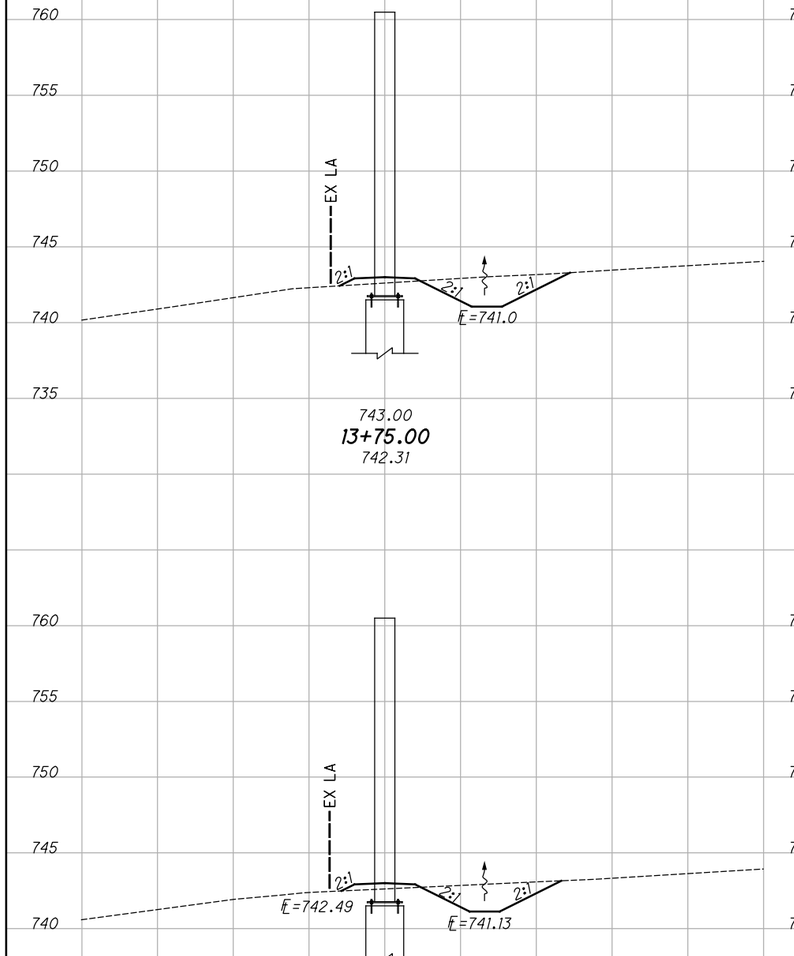
193
287

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
20	54	11	0		
19	51	7	2	9	1
·	105	·	·	15	3



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
20	55	12	2		
20	55	10	2	10	1
·	110	·	·	20	2



CALCULATED CFR
CHECKED SSK

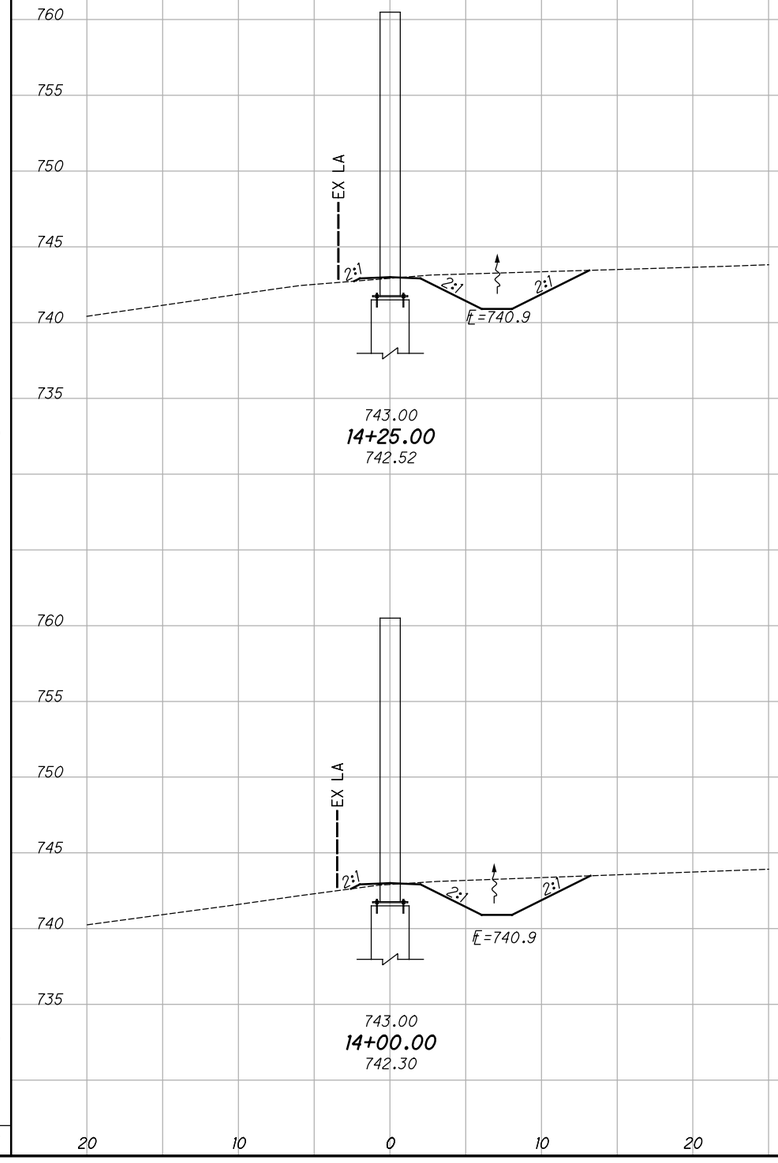
CROSS SECTIONS NOISE WALL 2
STA. 13+00.00 TO STA. 13+75.00

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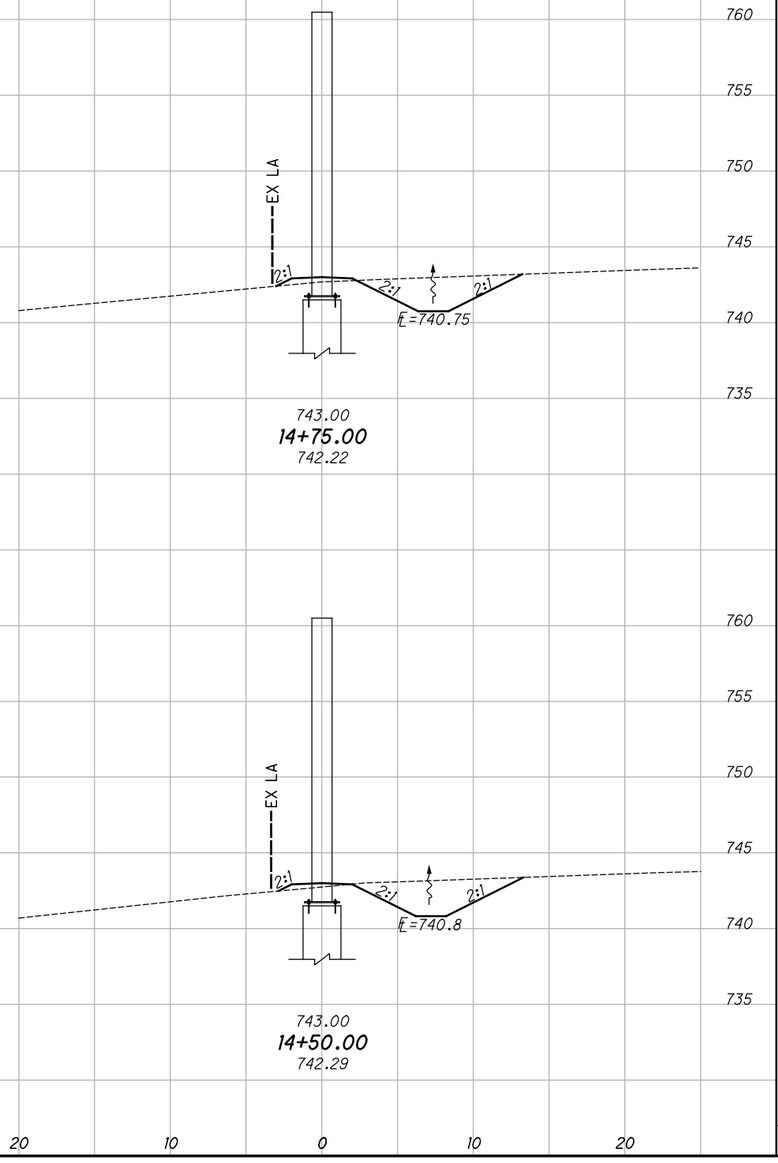
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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
21	58	16	0	15	0
21	58	16	0	13	1
·	116	·	·	28	1



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
21	59	14	1	14	1
21	58	16	1	15	1
·	117	·	·	29	2



CALCULATED CFR
CHECKED SSK

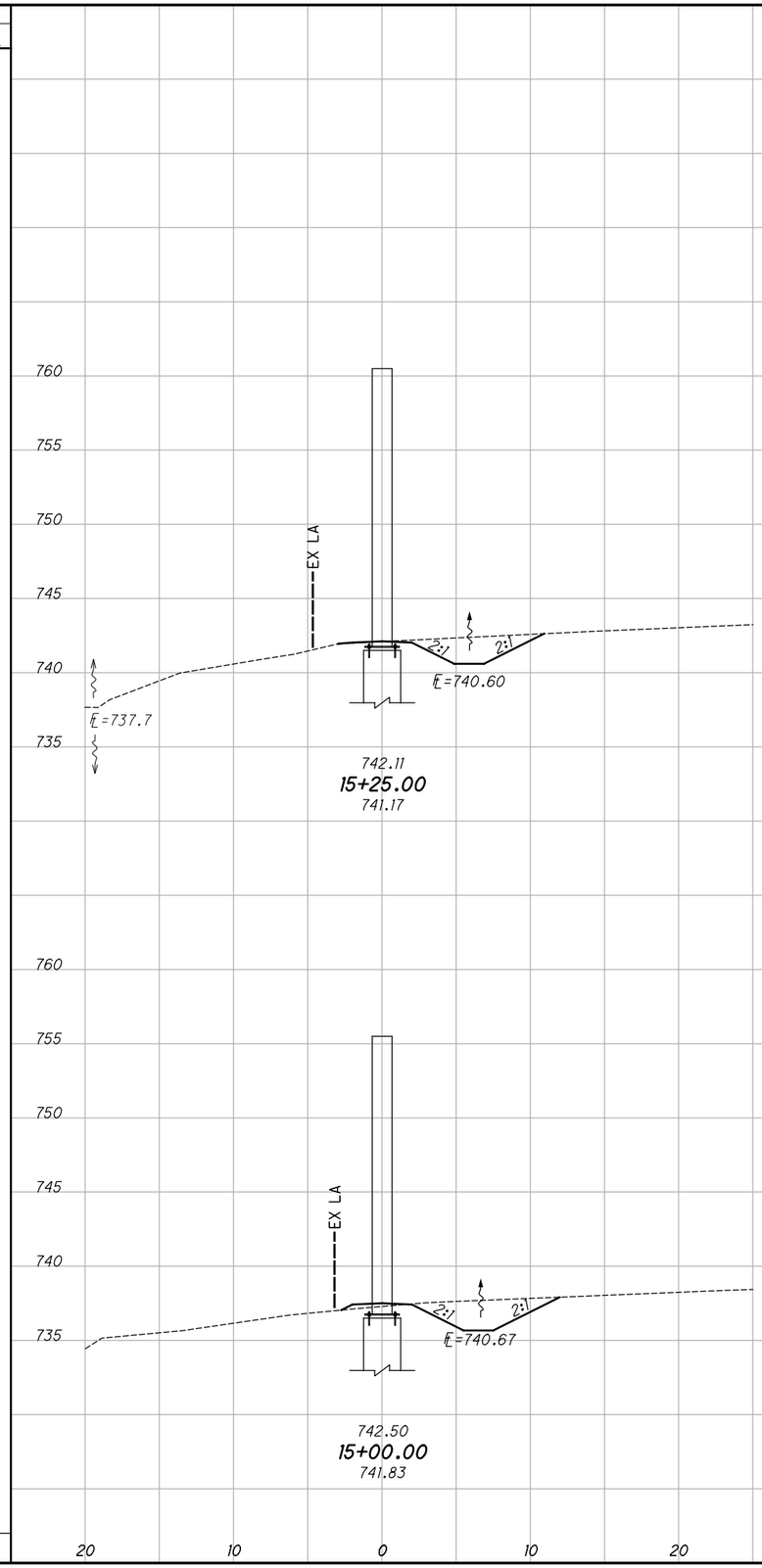
CROSS SECTIONS NOISE WALL 2
STA. 14+00.00 TO STA. 14+75.00

FRA-33-24.26

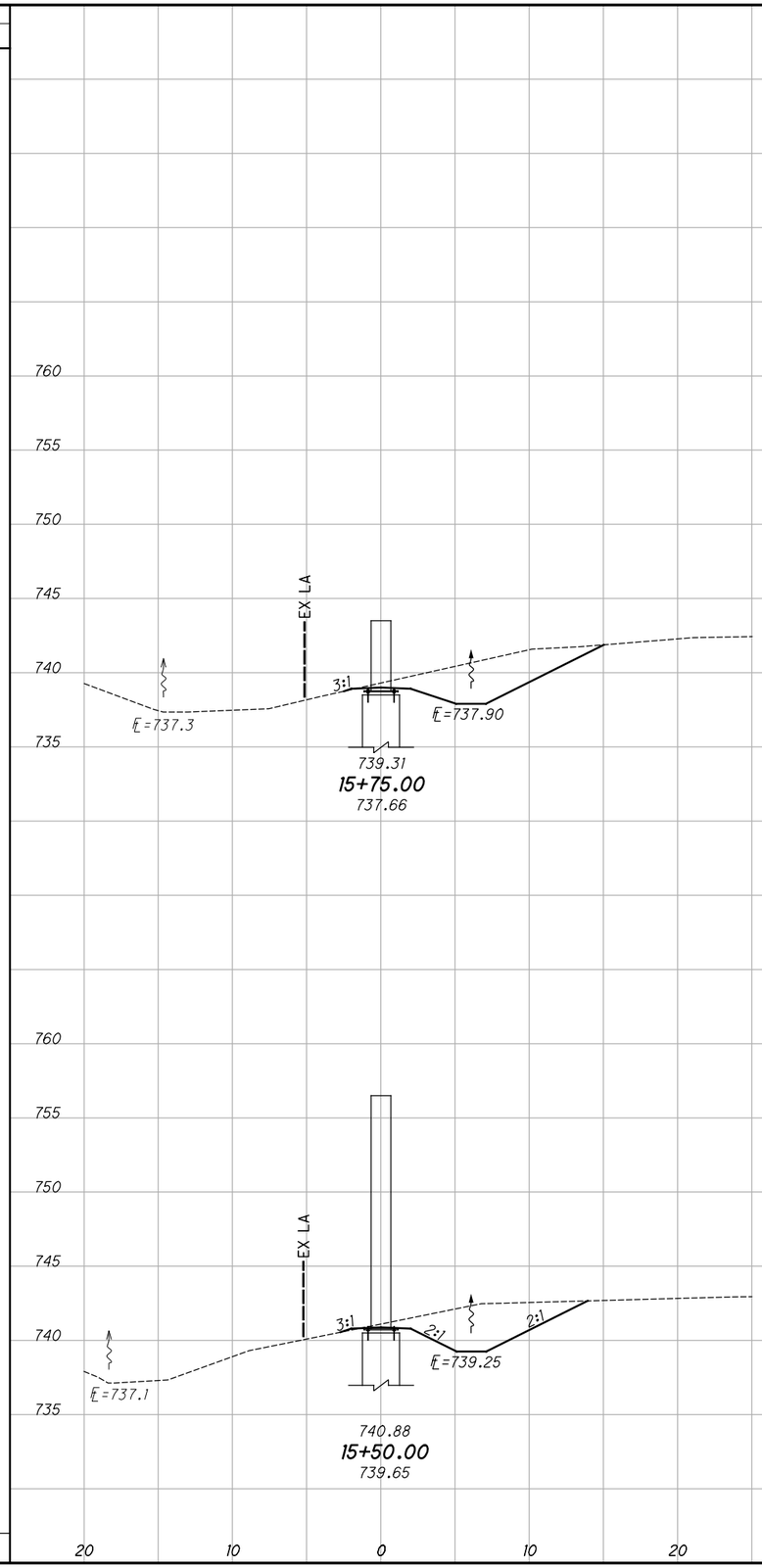
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SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
19	54	10	0	10	0
20	57	12	1	12	1
·	111	·	·	22	1



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
23	62	25	0	23	0
22	56	24	0	16	0
·	118	·	·	39	0



CALCULATED CFR
CHECKED SSK

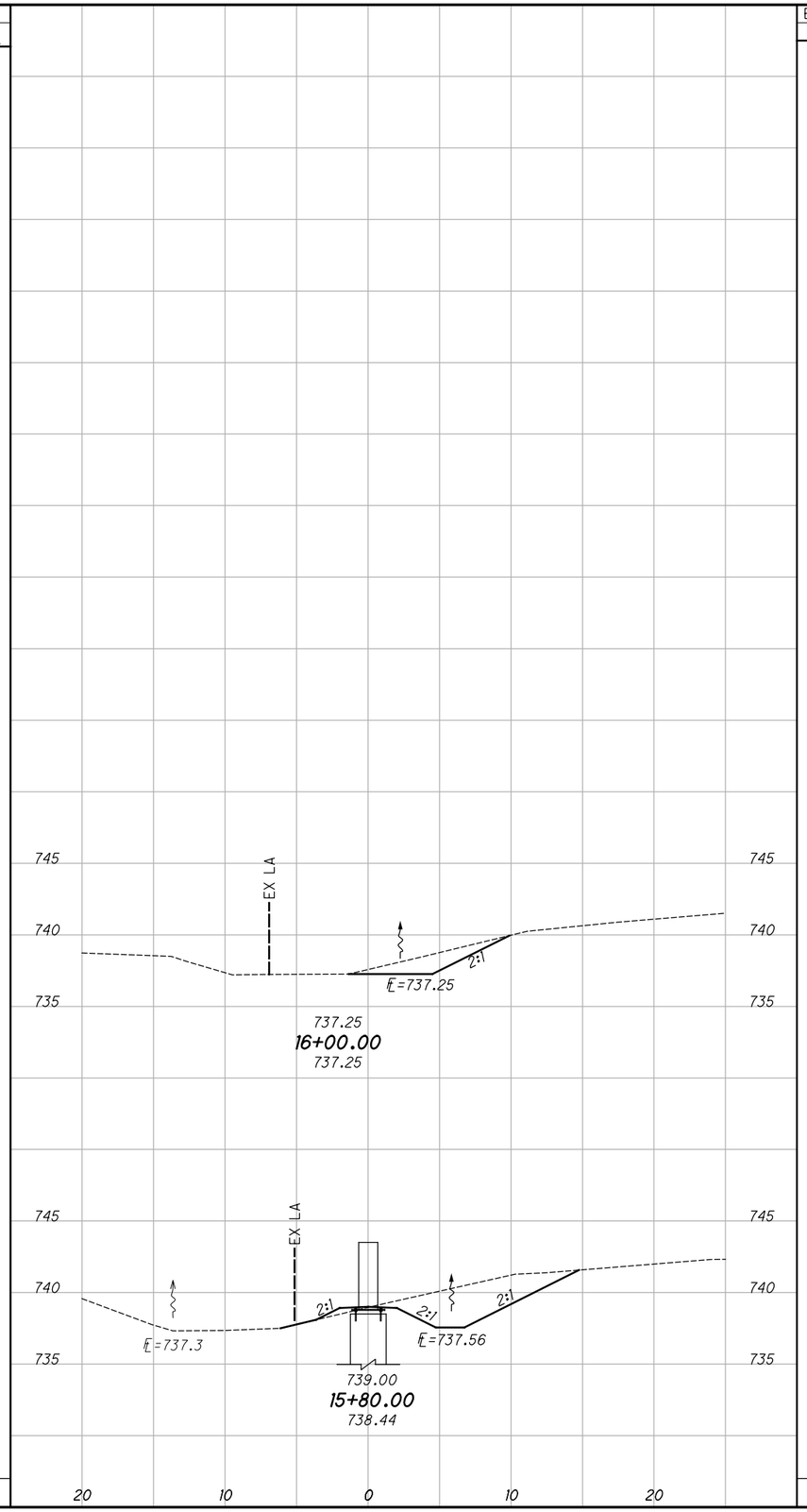
CROSS SECTIONS NOISE WALL 2
STA. 15+00.00 TO STA. 15+75.00

FRA-33-24.26

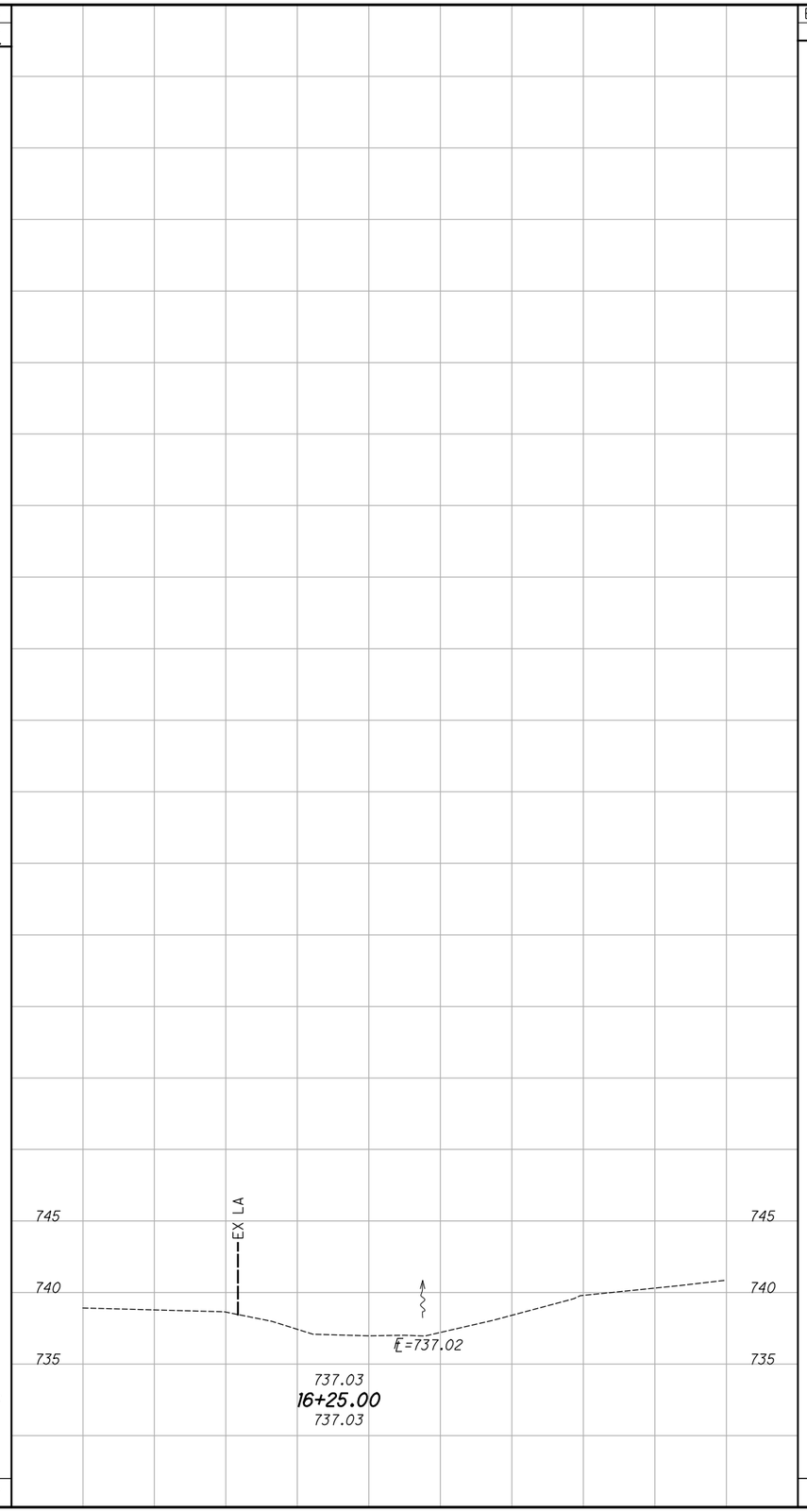
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287

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SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
16	22	8	0	11	0
26	47	23	1	4	0
·	61	·	·	15	0



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
19	56	0	0	4	0
0	22	·	·	4	0



CALCULATED CFR
CHECKED SSK

CROSS SECTIONS NOISE WALL 2
STA. 15+80.00 TO STA. 16+25.00

FRA-33-24.26

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287

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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					

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 2 FOUNDATION DATA

FRA-33-24.26

198
287

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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 DIAMTER) 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 GROVE. 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 CUTE 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.*

FIG A

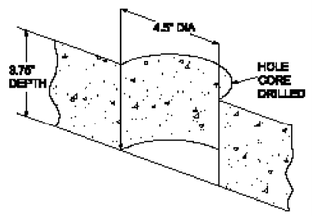


FIG B

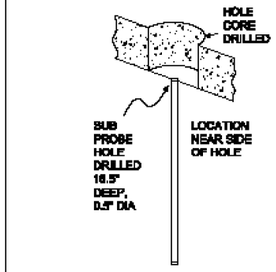


FIG C1

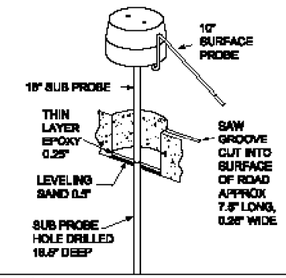


FIG C2

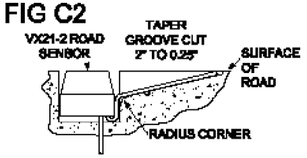


FIG C3

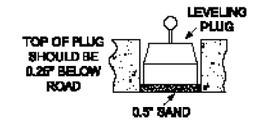


FIG D

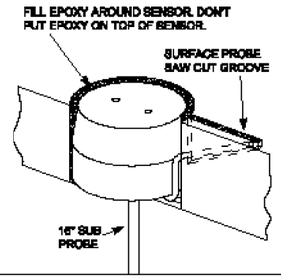
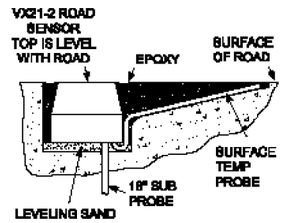
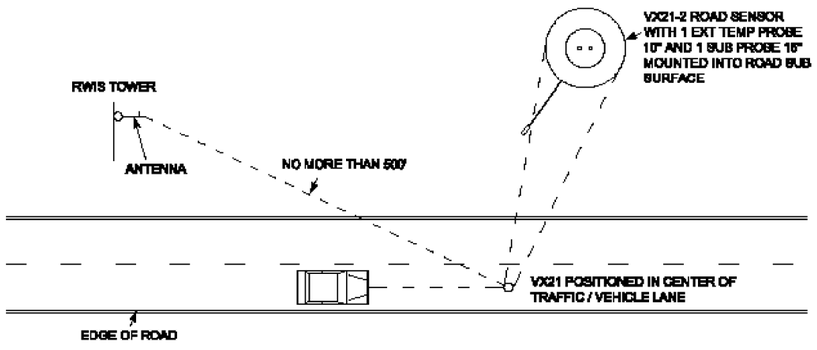


FIG E



DATE: 4-10-2014 REV:	M.H. CORBIN INC. 8355 RAUSCH DR. PLAIN CITY, OH 43064	VX 21 ROAD SENSOR	TYPICAL VX21-2 INSTALLATION



DATE: 4-10-2014 REV:	M.H. CORBIN INC. 8355 RAUSCH DR. PLAIN CITY, OH 43064	VX 21 ROAD SENSOR	PLACEMENT OF VX21 WITH RESPECT TO RWIS SITE

CALCULATED KSJ
CHECKED BBB

MISCELLANEOUS DETAIL - VX21 ROAD SENSOR

FRA-33-24.26

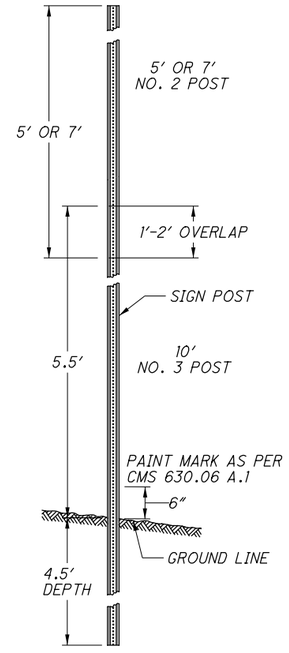
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ITEM 630 - SPECIFIC SERVICE AND TOURIST-ORIENTED DIRECTIONAL SIGNS REMOVAL AND REINSTALLATION

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.

CALCULATED K.S.J
CHECKED BBB

TRAFFIC CONTROL NOTES

FRA-33-24.26

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REF NO.	SHEET NO.	STATION	SIDE	CODE	SIZE	625 GROUND ROD EACH	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 GROUND MOUNTED SUPPORT, NO. 4 POST FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7 FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22 FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12 FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W12X30 FT	630 BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 8 EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10 EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8 EACH	630 SIGN ATTACHMENT ASSEMBLY EACH	630 SIGN, FLAT SHEET SF	630 SIGN, OVERHEAD EXTRUSHEET SF	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL EACH
S1	204	282+52.00	LT	R1-2	EXIST.																		1					2		
S2	204	286+90.00	LT	W11-3	EXIST.																		1					2		
S3	204	288+58.00	RT	R1-2	EXIST.																		1					1		
S4	205	296+93.00	LT	R1-2	EXIST.																		1					1		
S5	205	299+46.00	RT	W4-3R-36	48"x48"			34.4											16				1					2		
S6	205	302+74.00	RT	R1-2	EXIST.																		1					1		
S7	205	304+77.00	LT	OVERHEAD	13'x10'													6		130									1	
				E1-H5P-117	117"x30"													2		24.4									2	
S8	205	306+96.00	RT	I-H25A-12	12"x12"		12.9												1											
S9	205	309+05.00	RT	E9-H1									59.6	2							2						1		2	
S10	205	309+48.00	RT	I-3-36	36"x24"		14.3												6				1					1		
S11	205	309+90.00	RT	I-H25A-12	12"x12"		12.9												1											
S12	205	313+00.00	RT	M1-4-36-2	36"x36"				15.7										9											
				M3-2-36	36"x18"														4.5											
S13	205	314+65.00	LT	I-3-36	36"x24"		14.3												6				1					1		
S14	205	315+00.00	LT	OVERHEAD																									2	1
S15	205	315+00.00	LT	OVERHEAD (2)	12'x9' &14'x12'	2											1			276		2								
				E1-H5P-117(2)	117"x30"(2)															48.8											
S16	206	317+50.00	RT	M1-5	EXIST																		1					2		
S17	206	317+50.00	RT	E1-204 (L.V1)	EXIST.																					1			2	
S18	206	319+50.00	LT	SPECIAL	EXIST					28				2				2						1				2		
S19	206	319+94.00	RT	R2-1-48	EXIST																		1					2		
S20	206	321+65.00	RT	OVERHEAD	15'x12'	1									1					180		1								
				E1-H5P-96	97"x30"															20.2											
S21	206	323+27.00	LT	M1-4-36-2	36"x36"				16.0										9				2					2		
				M3-4-36	36"x18"														4.5											
S22	206	324+67.00	RT	E9-H1 Exist	EXIST																						2		2	
		334+00.00	RT	E9-H1 Exist	EXIST			12.8			61.3			2							2									
S23	206	327+68.00	LT	W11-3	EXIST																		1					2		
S24	206	329+26.00	RT	D3-2	EXIST																		1					2		
S25	206	329+90.00	LT	R2-1-36	36"x48"			32.7											12				1					2		
S26	206	332+00.00	LT	Exist	EXIST						53.6			2							2						1		2	
S27	206	332+73.00	RT	E1-H5P-96	EXIST			12.5				42.4		2													2		2	
S28	206	333+00.00	RT	OVERHEAD	15'x12'	1										1				180		1								
				E1-H5P-96	97"x30"															20.2											
S29	206	335+00.00	RT	R2-1-36	36"x48"			31.6											12											
S30	206	336+92.00	LT	OVERHEAD	14'x12'	1										1				168		1								
				E1-H5P-117	117"x30"															24.4											
S31	206	337+00.00	RT	D3-2-72	72"x36"					32.9				2					18		2										
				E1-H5P-60	60"x18"														7.5											
S32	206	338+31.00	RT	E1-H5P-96	EXIST																					2			2	
S33	207	343+90.00	RT	OVERHEAD	15'x11'	1										1				165		1								
				E1-H5P-96	97"x30"															20.2											
S34	207	348+77.00	LT	W4-3R-36	48"x48"			31.3											16				1					2		
S35	207	356+42.00	LT	R5-10a	30"x36"			14.3											7.5				1					1		
S36	207	356+58.00	LT	D11-1	EXIST																		1					1		
S37	207	357+04.00	RT	D11-1	EXIST																		1					1		
TOTALS CARRIED TO GENERAL SUMMARY						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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REF NO.	SHEET NO.	STATION TO STATION			SIDE	621 RPM, 2-WAY WHITE/RED EACH	621 RPM, 2-WAY YELLOW/RED EACH	621 RAISED PAVEMENT MARKER REMOVED EACH		644 EDGE LINE, 6" (WHITE) MILE	644 EDGE LINE, 6" (YELLOW) MILE	644 LANE LINE, 6" MILE	644 CHANNELIZING LINE, 12" FT	644 STOP LINE FT	644 TRANSVERSE/DIAGONAL LINE FT	644 DOTTED LINE, 6" FT
		US 33														
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					
			TO													
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	
SUBTOTOTALS						533	253	577		3.83	3.82	4.54	8176			8343
SUBTOTOTALS THIS SHEET						533	253	577		7.65		4.54	8176			8343

CALCULATED K.S.J
CHECKED NCK

PAVEMENT MARKING SUBSUMMARY

FRA-33-24.26

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REF NO.	SHEET NO.	STATION TO STATION				621 RPM, 2-WAY WHITE/RED EACH	621 RPM, 2-WAY YELLOW/RED EACH	621 RAISED PAVEMENT MARKER REMOVED EACH		644 EDGE LINE, 6" (WHITE) MILE	644 EDGE LINE, 6" (YELLOW) MILE	644 LANE LINE, 6" MILE	644 CHANNELIZING LINE, 12" FT	644 STOP LINE FT	644 TRANSVERSE/DIAGONAL LINE FT	644 DOTTED LINE, 6" FT
		US 33 (Cont.)														
TW-1	205	302+70.00	TO	304+38.00	LT										112	
TW-2	207	344+03.00	TO	346+27.00	RT										131	
TW-3	207	362+05.00	TO	363+34.00	LT										90	
		RAMP G														
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			
		RAMP I														
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		
		RAMP J														
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					
		RAMP H														
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					
		RAMP HH														
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		
		RAMP L														
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					
		RAMP 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					
SUBTOTALS FROM SHEET		202				533	253	577		3.83	3.82	4.54	8176			8343
SUBTOTALS THIS SHEET							91	91		1.36	1.35		95	67	333	
TOTALS CARRIED TO GENERAL SUMMARY						533	344	668		10.36		4.54	8271	67	333	8343

CALCULATED K.S.J
CHECKED NCK

PAVEMENT MARKING SUBSUMMARY

FRA-33-24.26

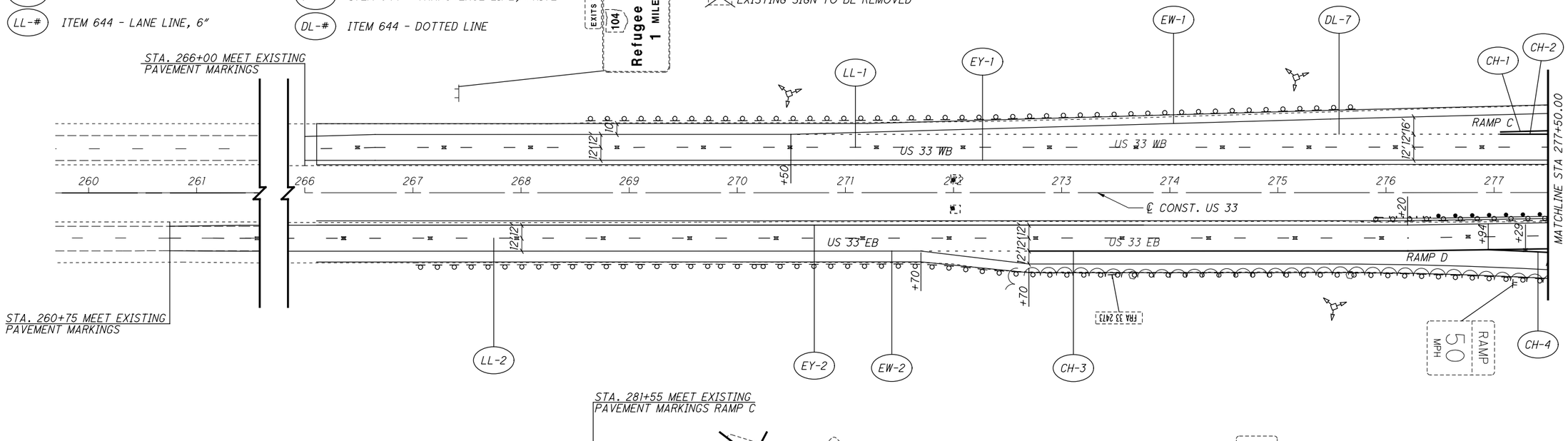
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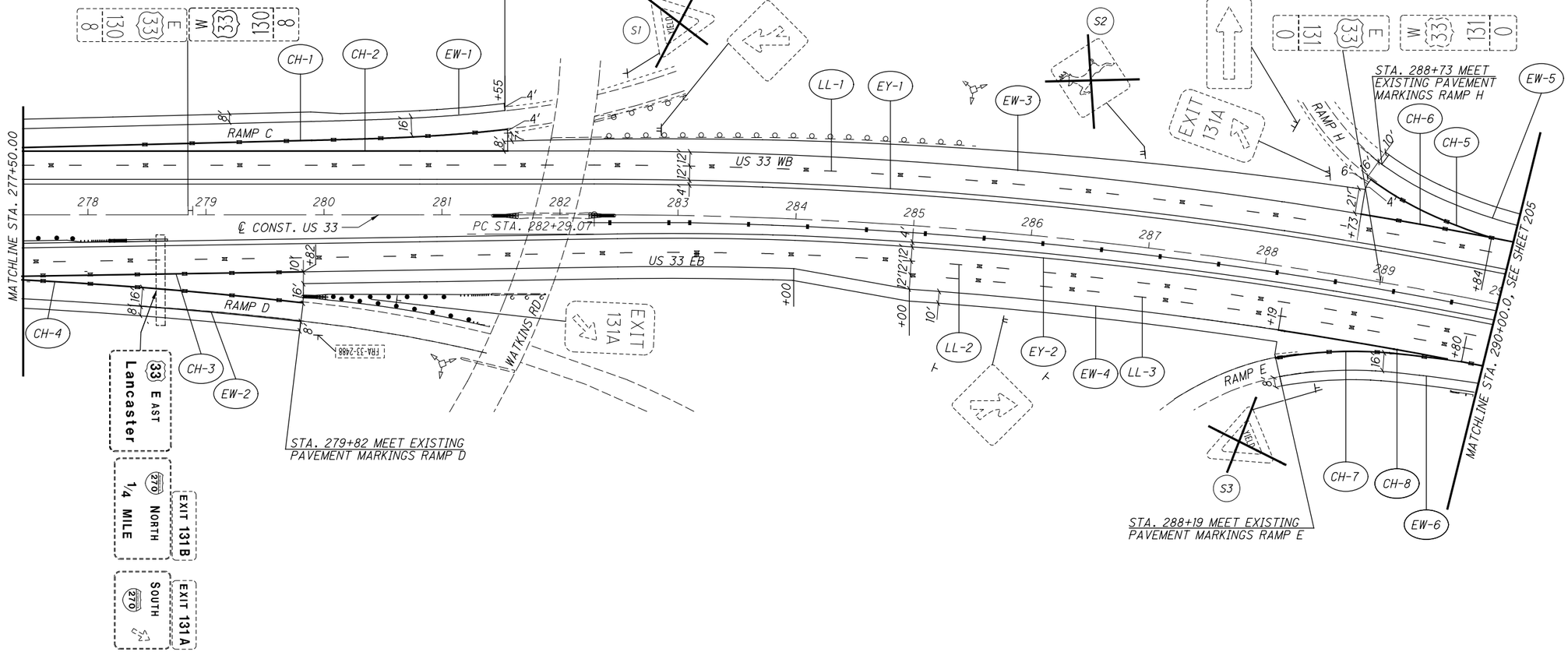
PAVEMENT MARKING LEGEND

- 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

SIGNING LEGEND

- PROPOSED SIGN
- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED





HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JAS
CHECKED SSK

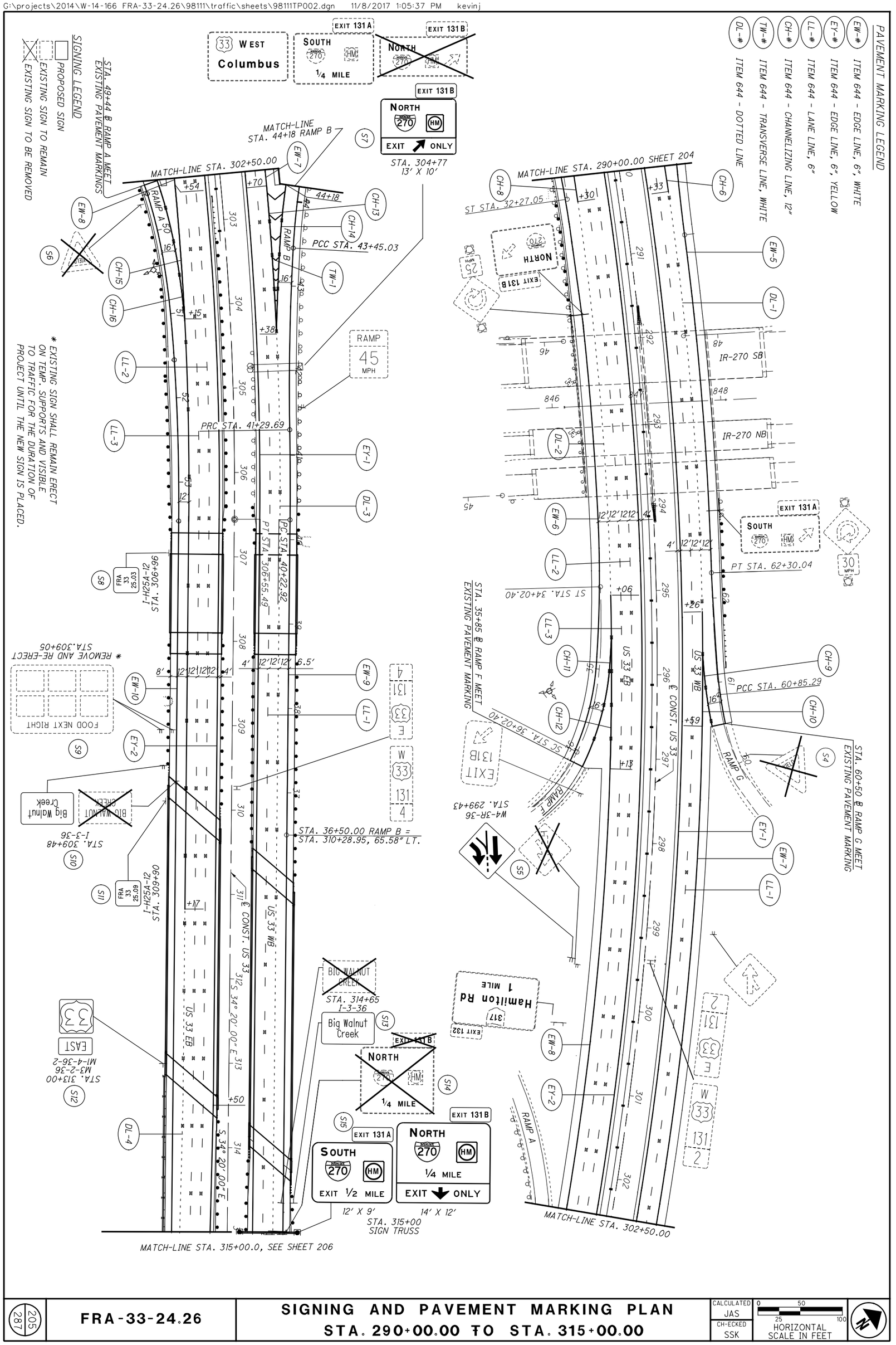
SIGNING AND PAVEMENT MARKING PLAN
STA. 265+50.00 TO STA. 290+00.00

FRA-33-24.26

204
287

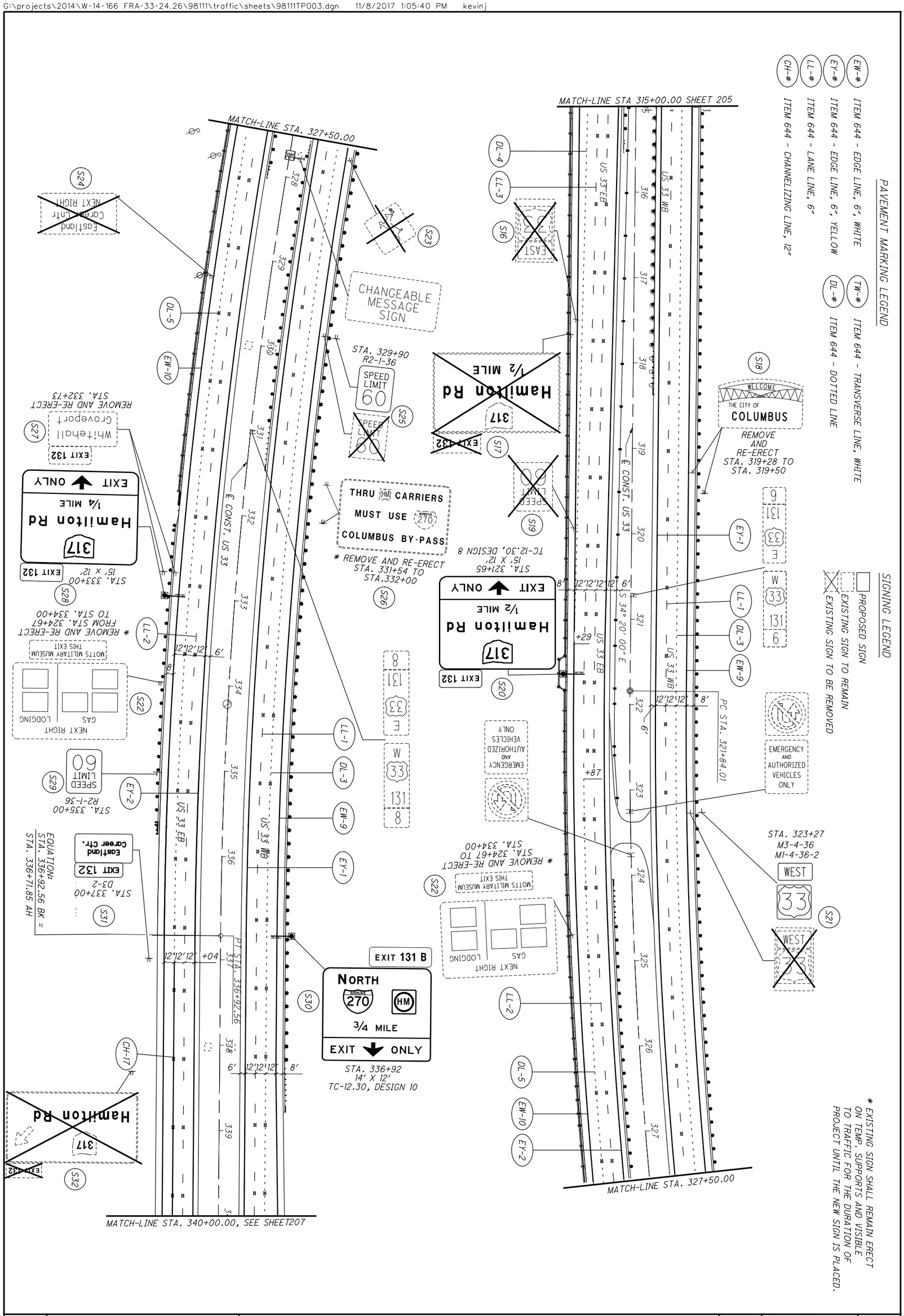
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205 / 287	FRA-33-24.26	SIGNING AND PAVEMENT MARKING PLAN STA. 290+00.00 TO STA. 315+00.00	CALCULATED JAS / CH-ECKED SSK	0 50 25 100 HORIZONTAL SCALE IN FEET

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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

* EXISTING SIGN SHALL REMAIN ERECT ON TEMP. SUPPORTS AND VISIBLE TO TRAFFIC FOR THE DURATION OF PROJECT UNTIL THE NEW SIGN IS PLACED.

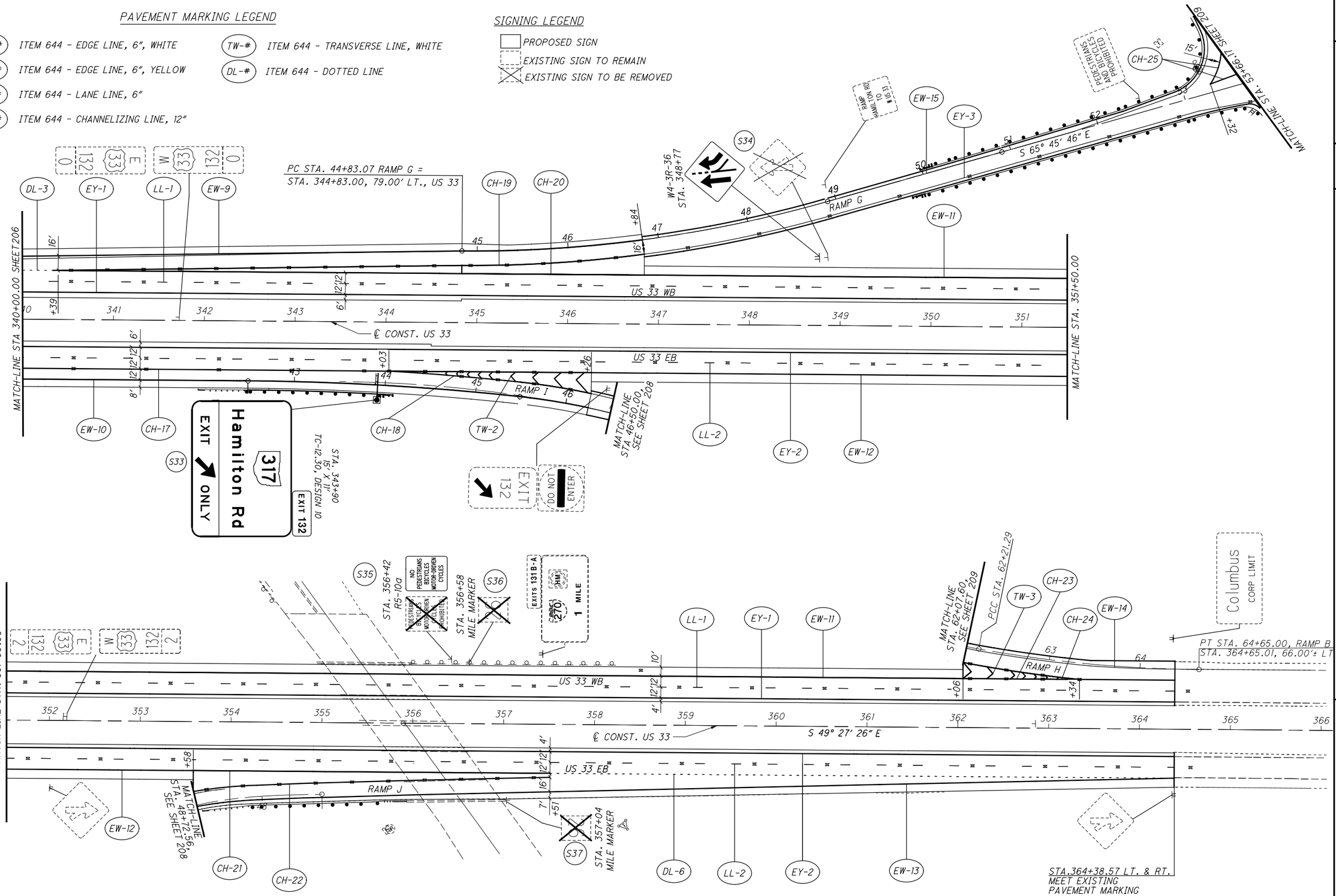
206 / 287	FRA-33-24.26	SIGNING AND PAVEMENT MARKING PLAN STA. 315+00.00 TO STA. 340+00.00	CALCULATED JAS / CH-ECKED SSK	0 50 25 100 HORIZONTAL SCALE IN FEET

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

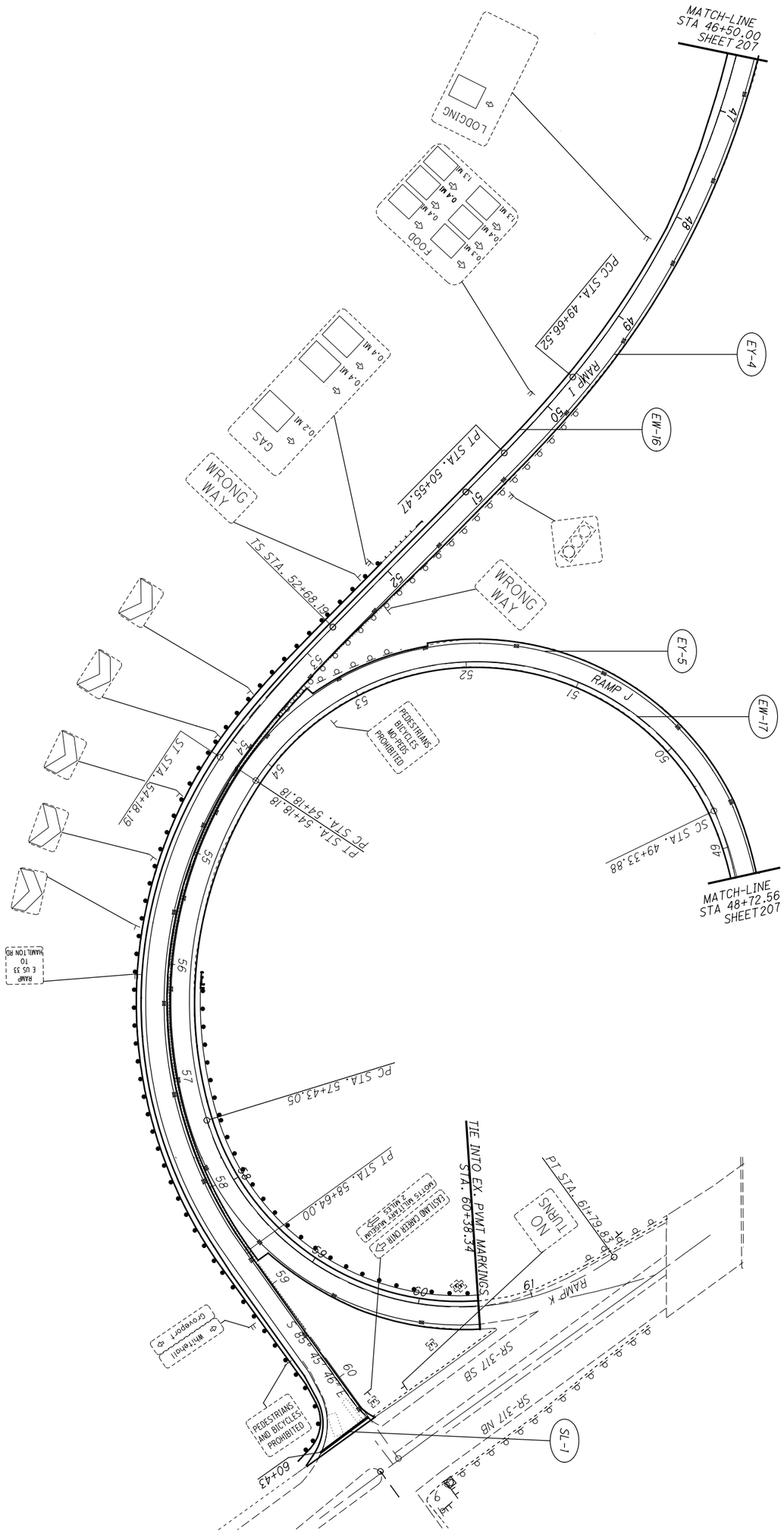

MATCH-LINE STA 340+00.00 SHEET206
PC STA. 44+83.07 RAMP G =
STA. 344+83.00, 79.00' LT., US 33
W4-3R-36
STA. 348+77
RAMP G
S 65° 45' 46" E
MATCH-LINE STA. 351+50.00
US 33 WB
℄ CONST. US 33
US 33 EB
RAMP I
MATCH-LINE
STA 46+50.00,
SEE SHEET 208
EXIT 132
Hamilton Rd
317
EXIT ONLY
STA. 343+90
15' X 11'
TC-12.30, DESIGN 10
EXIT 132
DO NOT ENTER
MATCH-LINE STA. 351+50.00
MATCH-LINE
STA. 62+07.60,
SEE SHEET 209
PCC STA. 62+21.29
RAMP H
PT STA. 64+65.00, RAMP B
STA. 364+65.01, 66.00'± LT
Columbus
CORP LIMIT
℄ CONST. US 33
S 49° 27' 26" E
US 33 WB
US 33 EB
RAMP J
MATCH-LINE
STA 48+72.56,
SEE SHEET 208
STA. 356+42
R5-10a
NO PEDESTRIANS BICYCLES MOTOR-DRIVEN CYCLES
PEDESTRIANS MOTOR-DRIVEN CYCLES PROHIBITED
STA. 356+58
MILE MARKER
EXITS 131 B-A
1 MILE
STA. 357+04
MILE MARKER
STA.364+38.57 LT. & RT.
MEET EXISTING
PAVEMENT MARKING
MATCH-LINE STA. 346+50.00 SHEET 207
MATCH-LINE
STA. 53+66.17 SHEET 209
PEDESTRIANS AND BICYCLES PROHIBITED
RAMP G TO HAMILTON RD
EXIT 132
EXIT 131 B-A
EXIT 131 B-A
EXIT 132
EXIT 132
EXIT 132

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



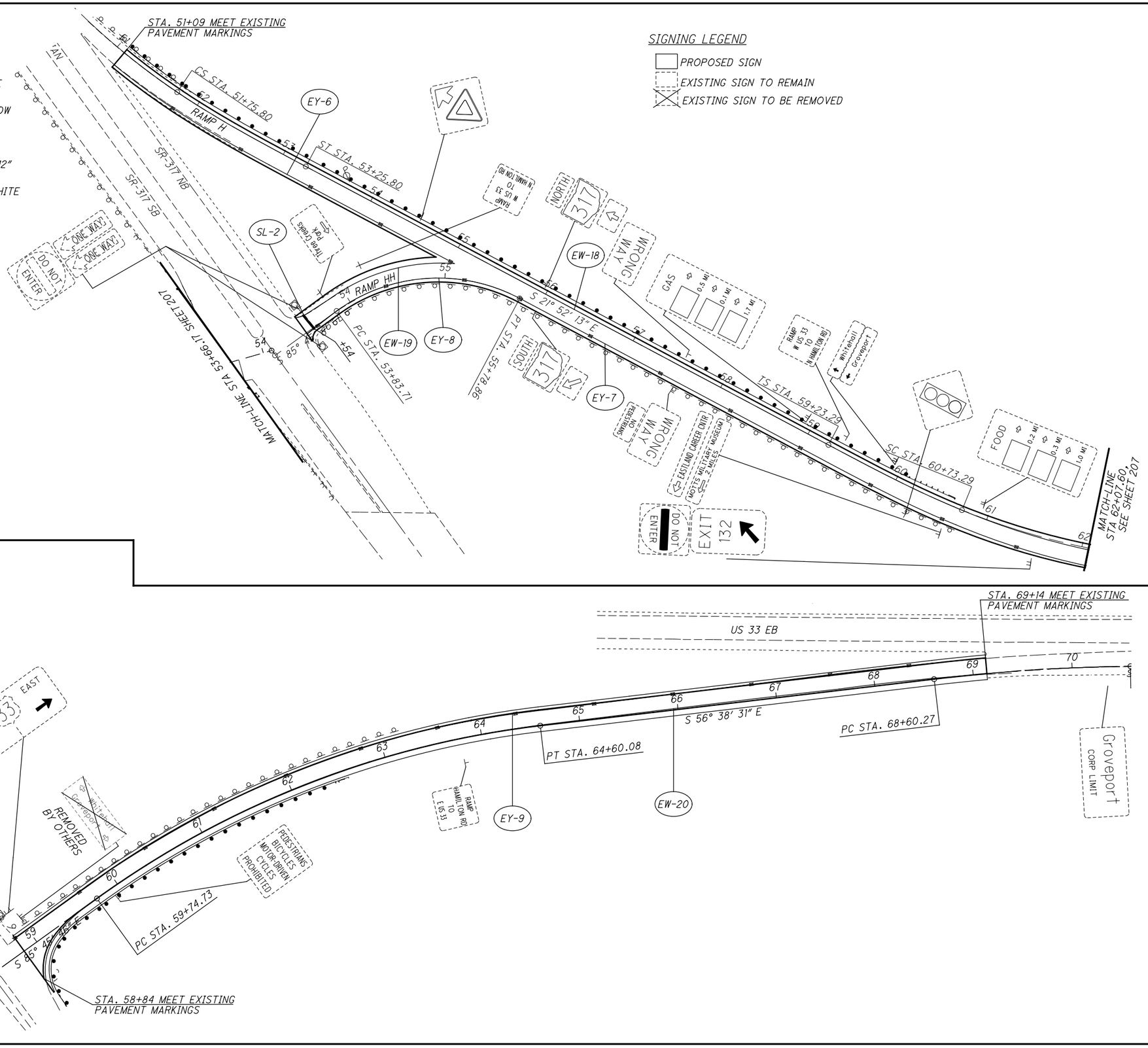
208 / 287	FRA-33-24.26	SIGNING AND PAVEMENT MARKING PLAN RAMP I AND RAMP J	CALCULATED JAS; CHECKED SSK; 0 50 25 100 HORIZONTAL SCALE IN FEET

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



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JAS
CHECKED SSK

SIGNING AND PAVEMENT MARKING PLAN
RAMP H, RAMP HH AND RAMP L

FRA-33-24.26

209
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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

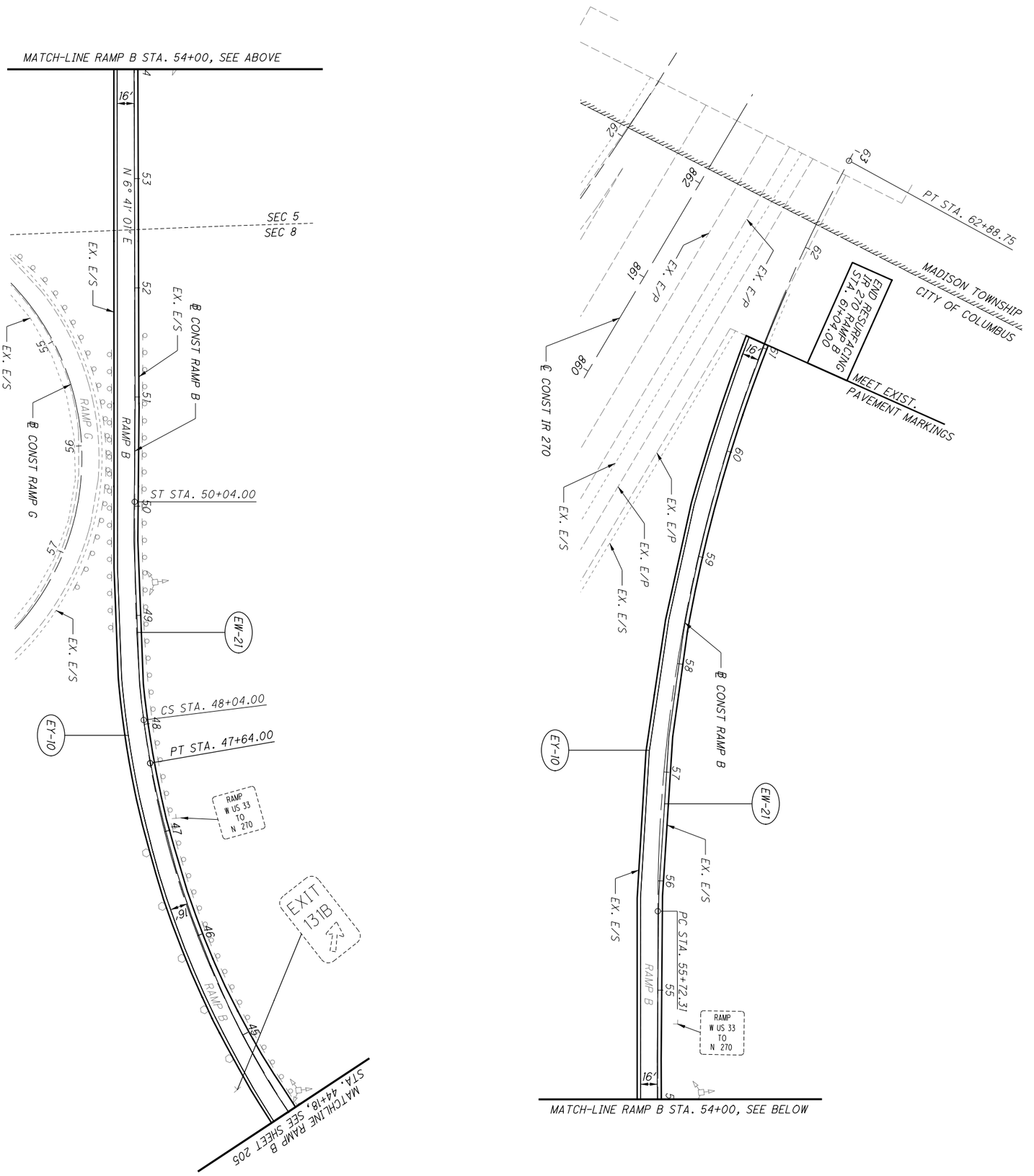
DL-# ITEM 644 - DOTTED LINE

SIGNING LEGEND

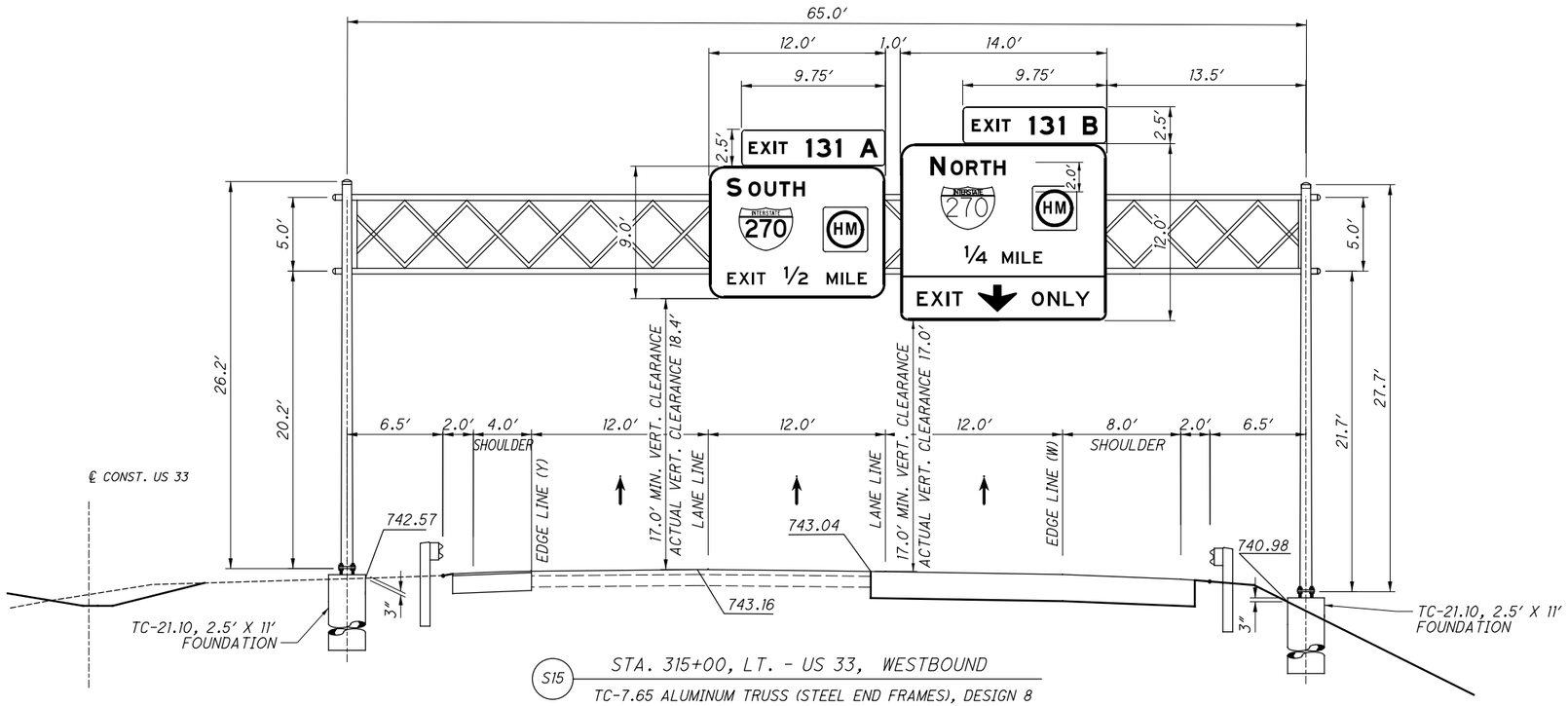
PROPOSED SIGN

EXISTING SIGN TO REMAIN

EXISTING SIGN TO BE REMOVED

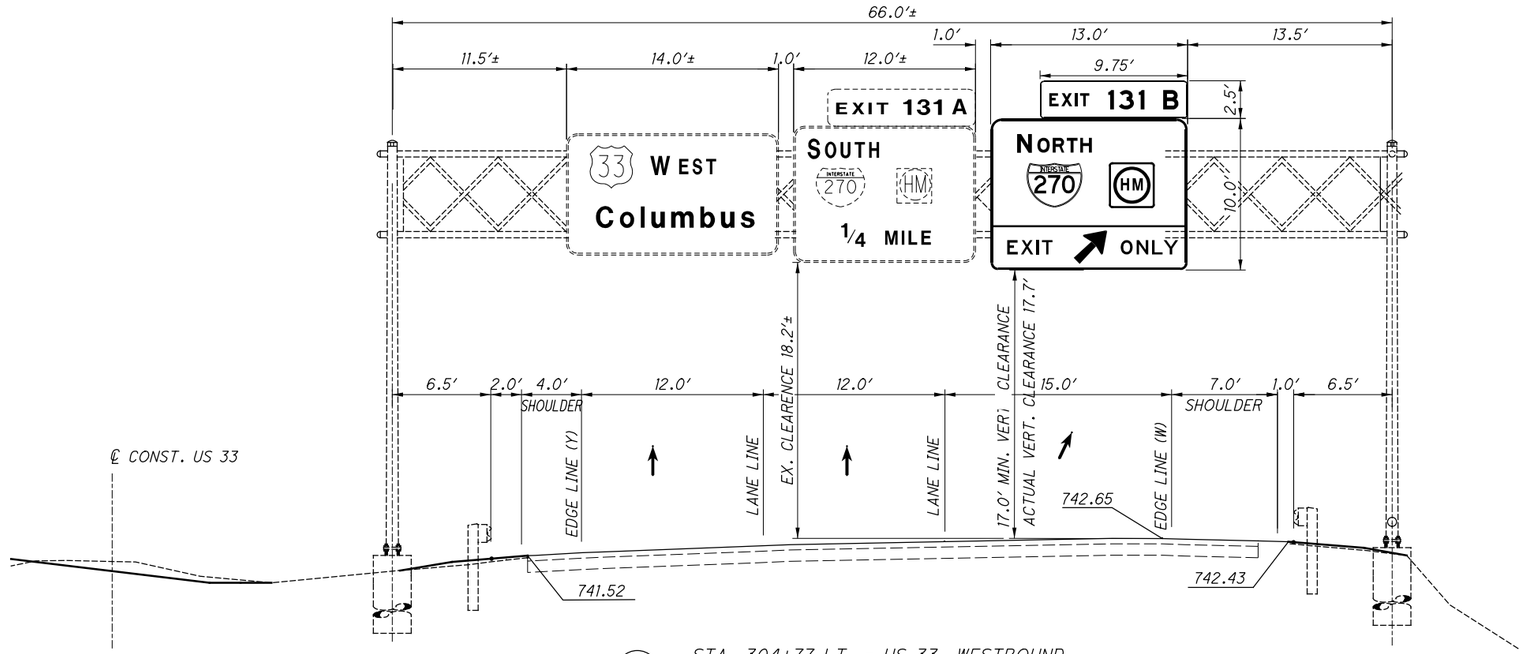


210/287	FRA-33-24.26	SIGNING & PAVEMENT MARKING PLAN, RAMP B STA. 46+00 TO STA. 63+00	CALCULATED JAS / CH-ECKED SSK	0 50 100 HORIZONTAL SCALE IN FEET	N



S15 STA. 315+00, LT. - US 33, WESTBOUND

TC-7.65 ALUMINUM TRUSS (STEEL END FRAMES), DESIGN 8



S7 STA. 304+77 LT. - US 33, WESTBOUND

EXISTING TRUSS

HORIZONTAL SCALE IN FEET
0 2.5 5 10

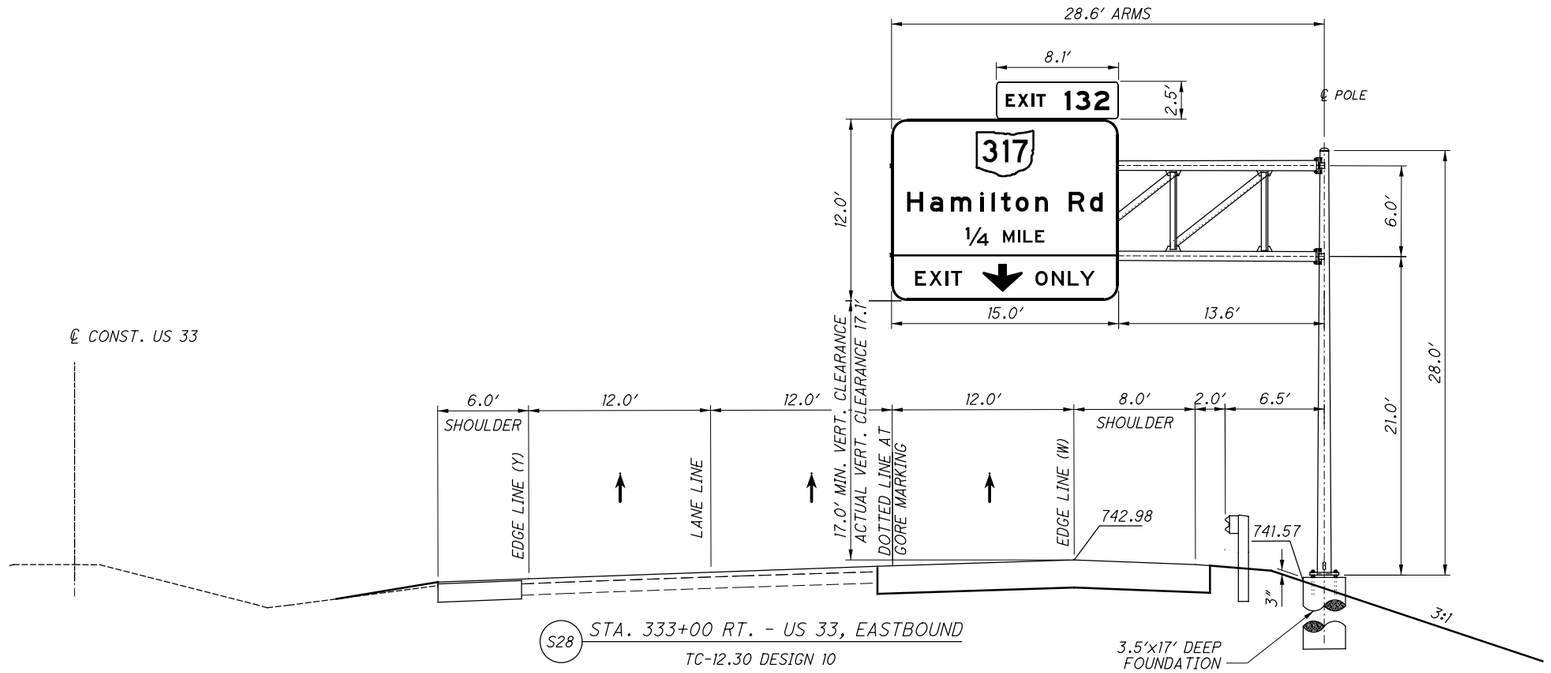
CALCULATED JAS
CHECKED SSK

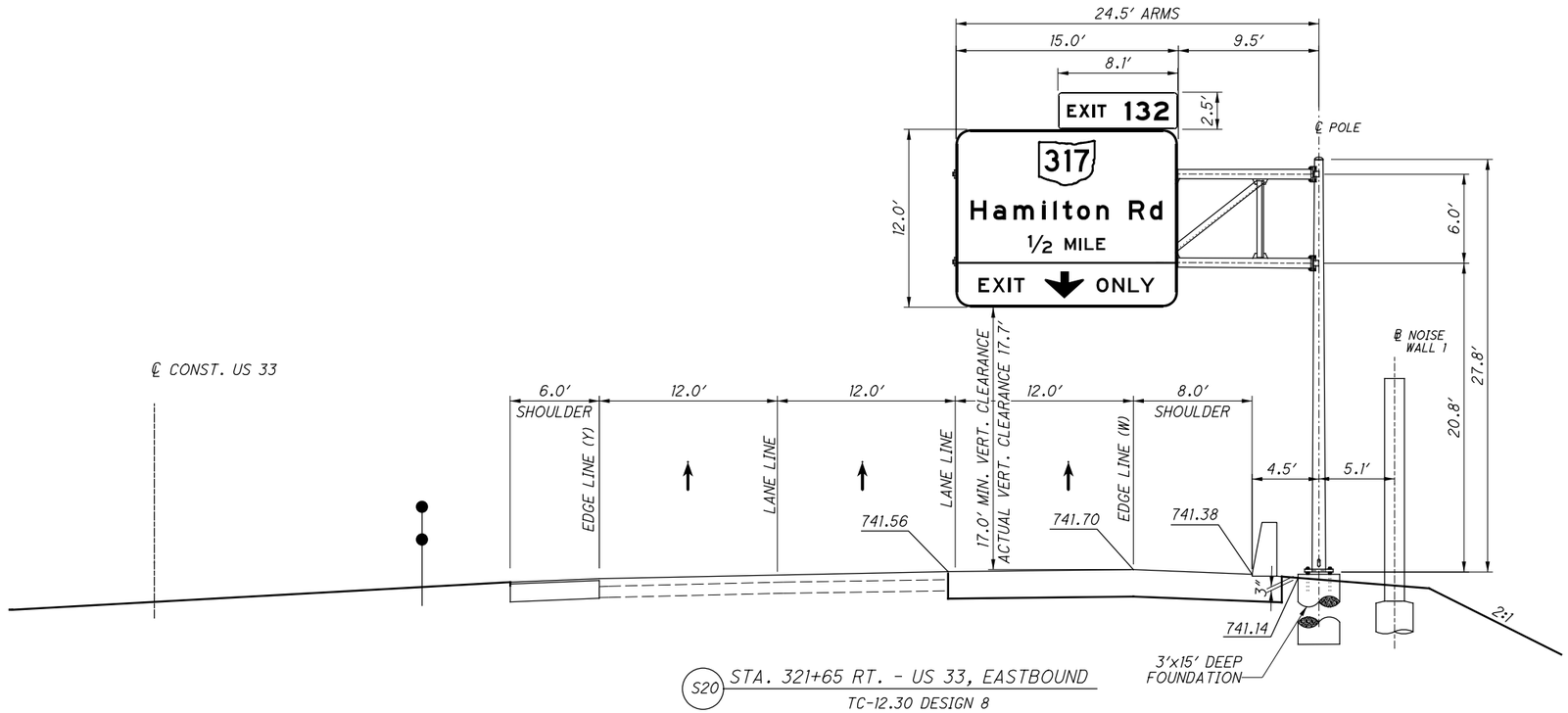
SIGN ELEVATION, STA. 304+77 AND STA. 315+00

FRA-33-24.26

211
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HORIZONTAL SCALE IN FEET
0 2.5 5 10

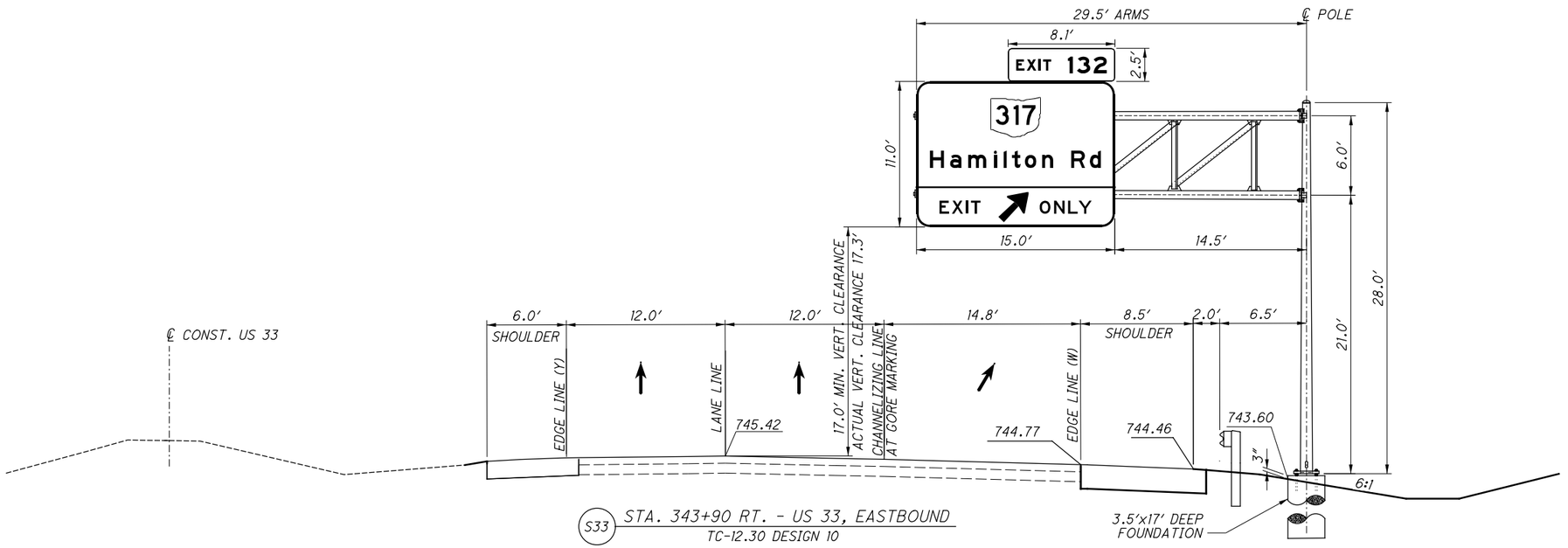
CALCULATED JAS
CHECKED SSK

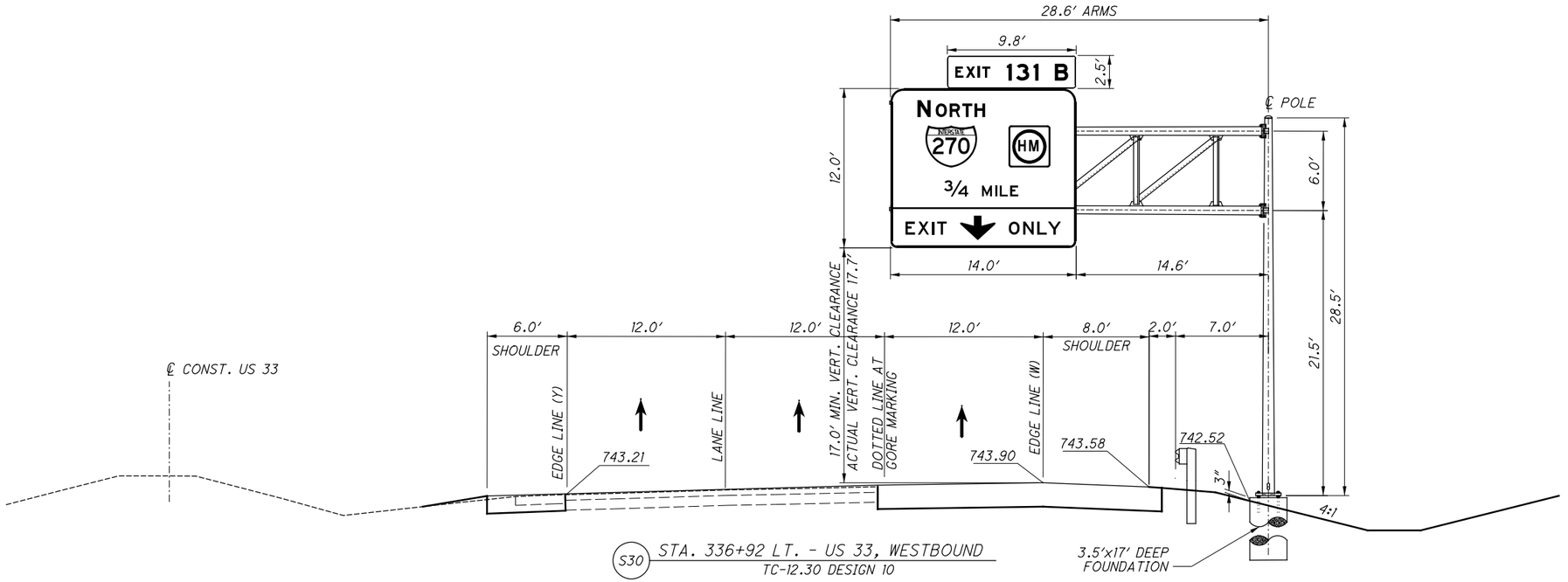
SIGN ELEVATION, STA. 321+65 AND STA. 333+00

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HORIZONTAL SCALE IN FEET
0 2.5 5 10

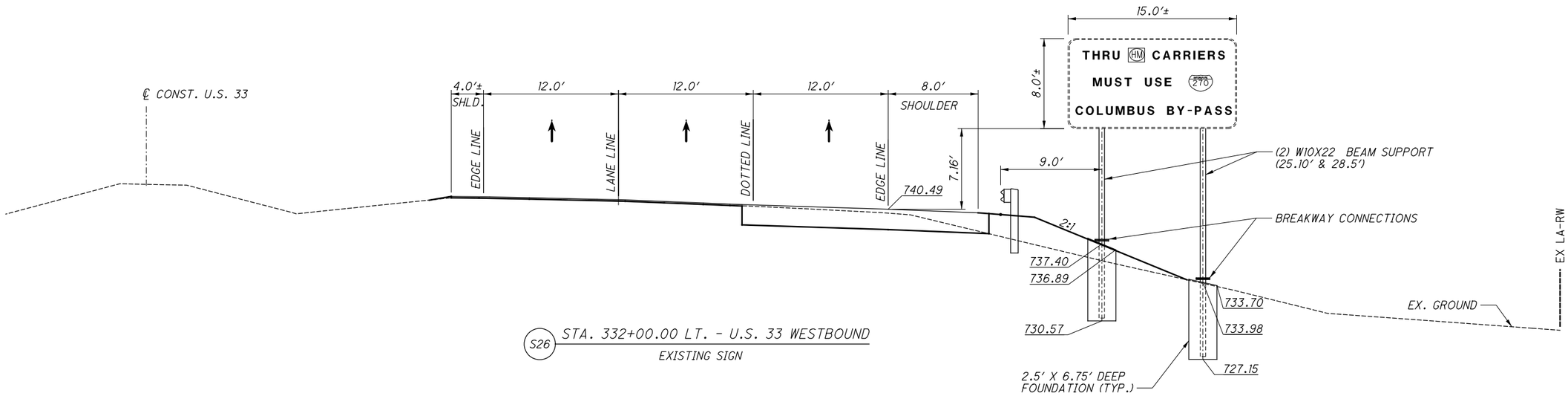
CALCULATED JAS
CHECKED SSK

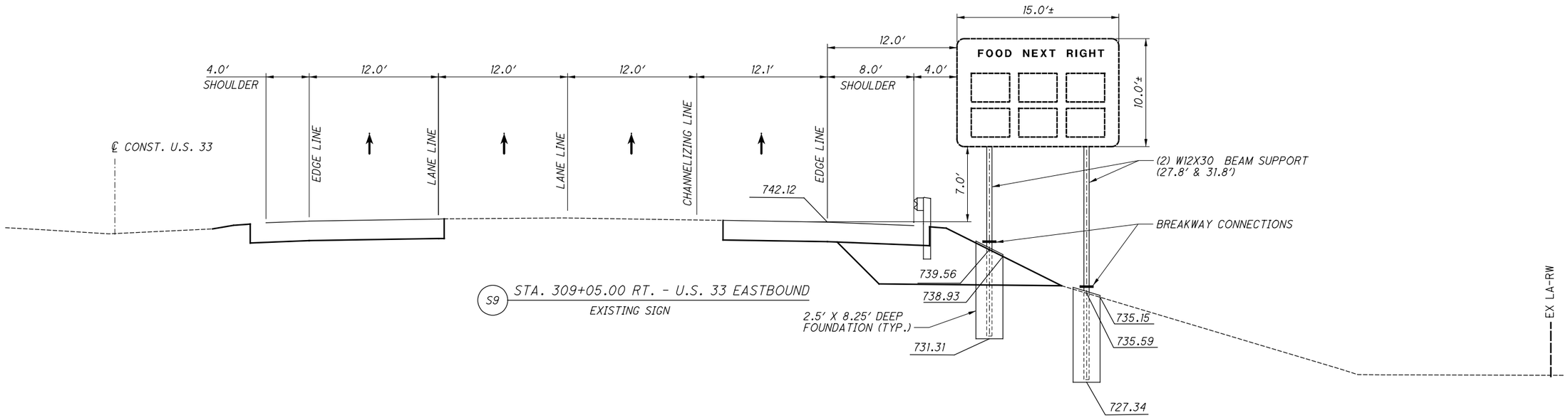
SIGN ELEVATION, STA. 336+92 AND STA. 343+90

FRA-33-24.26

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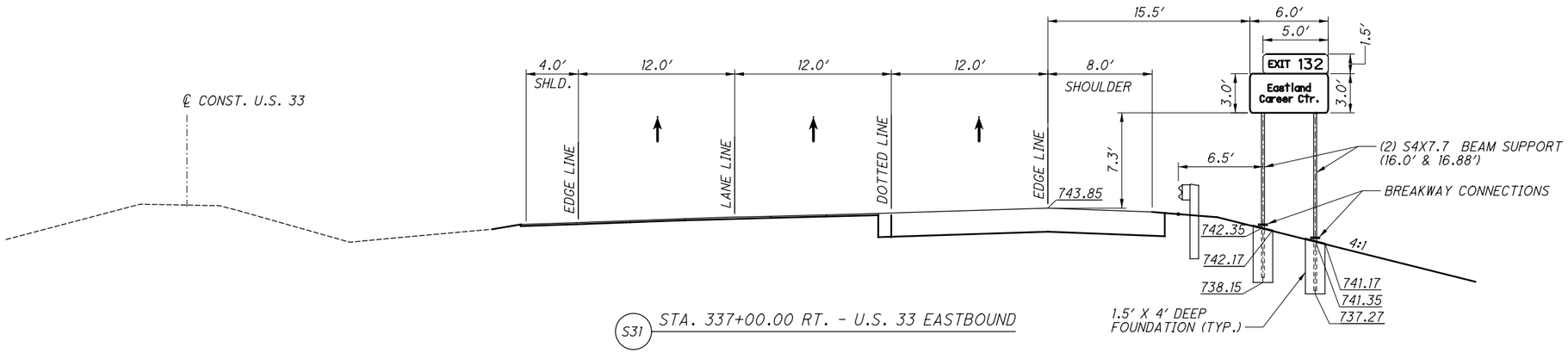
HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED JAS
CHECKED SSK

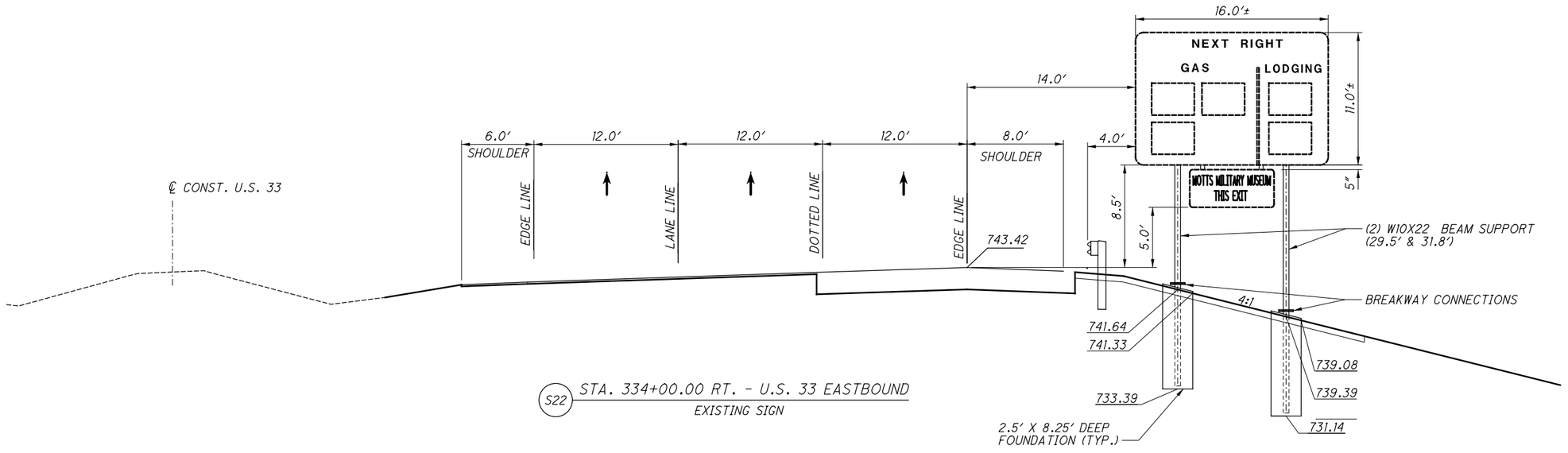
SIGN ELEVATION, STA. 309+05 AND STA. 332+00

FRA-33-24.26

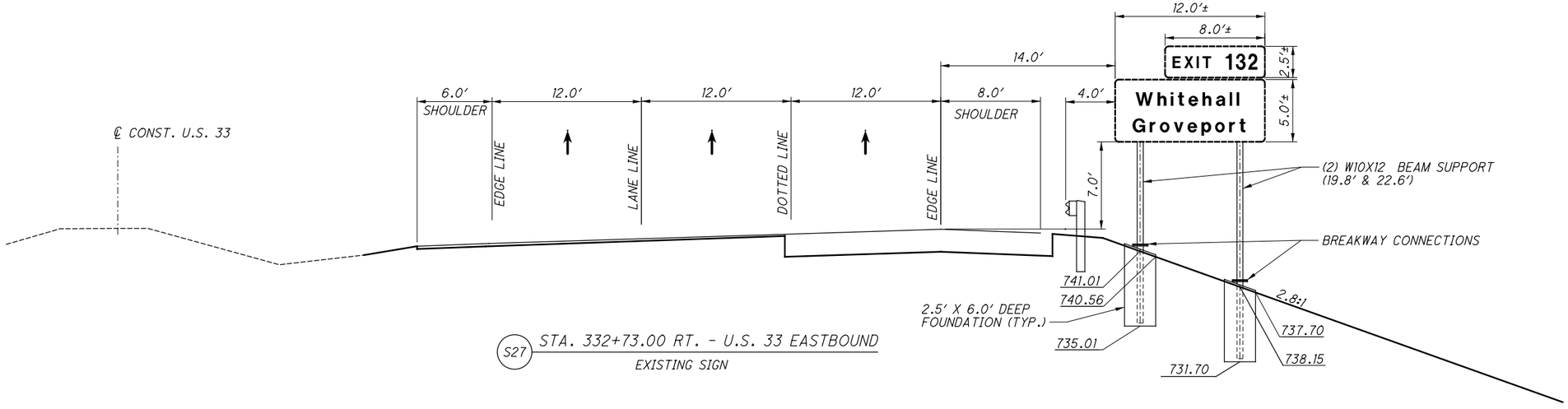
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S31 STA. 337+00.00 RT. - U.S. 33 EASTBOUND



S22 STA. 334+00.00 RT. - U.S. 33 EASTBOUND
EXISTING SIGN



S27 STA. 332+73.00 RT. - U.S. 33 EASTBOUND
EXISTING SIGN

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED JAS
CHECKED SSK

SIGN ELEVATIONS, STA. 332+73, 334+00 AND 337+00

FRA-33-24.26

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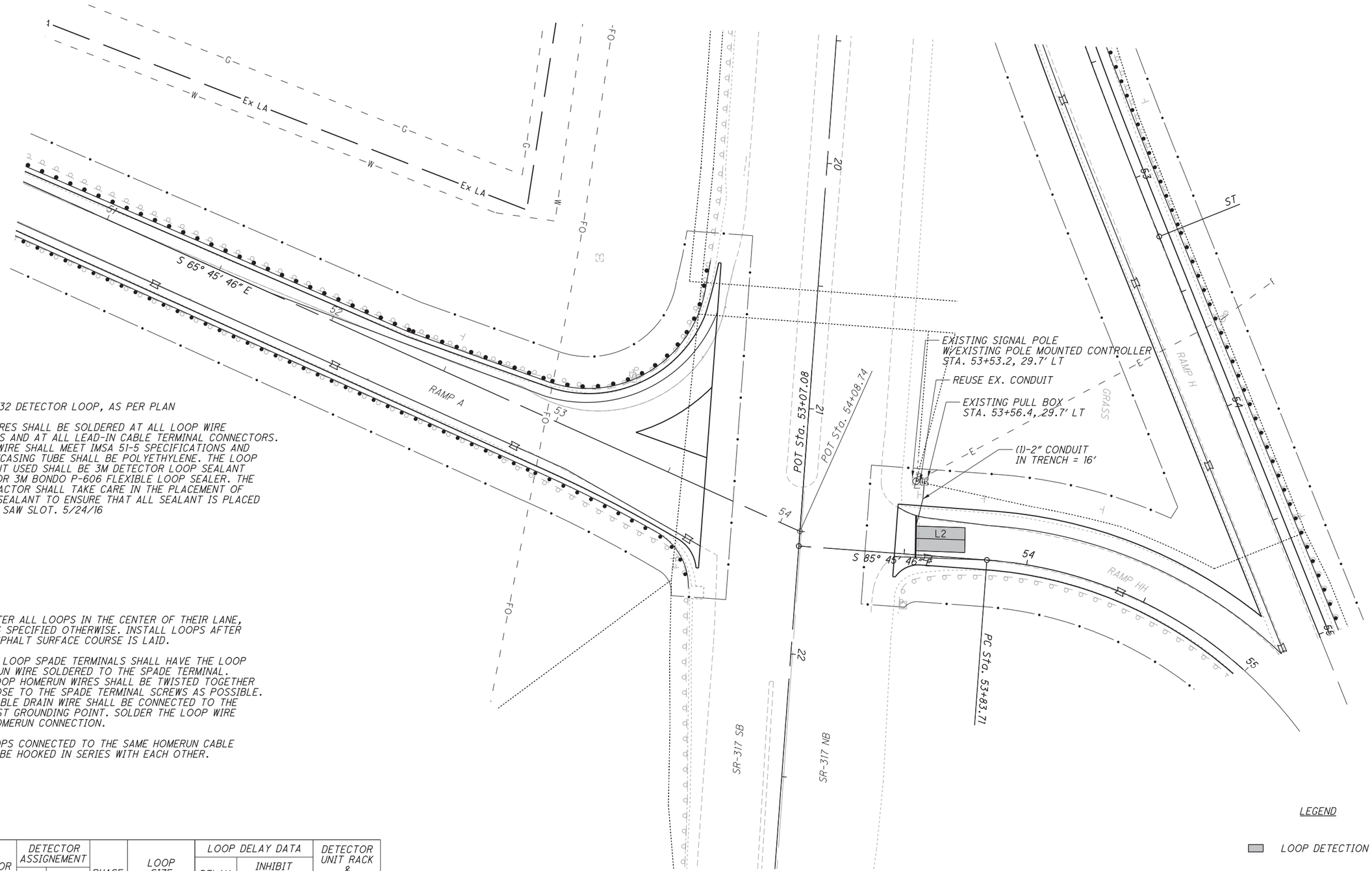
SHEET NO.	LOCATION	625 CONDUIT, 1-1/2", 725.04 FT	625 CONDUIT, 2", 725.04 FT	625 CONDUIT, 4", MULTICELL, 725.20, EPC-40 (TRAFFIC SURVEILLANCE RACEWAY) FT	625 CONDUIT, JACKED OR DRILLED, 725.04, 1-1/2" FT	625 CONDUIT, MISC.: JACKED OR DRILLED, 725.20, 4", EPC-80 FT	625 TRENCH, 30" DEEP FT	625 MEDIAN JUNCTION BOX, AS PER PLAN EACH	625 PULL BOX, 725.08, 18" EACH	625 PULL BOX, 725.08, 32" EACH	625 PULL BOX REMOVED EACH	625 PLASTIC CAUTION TAPE FT		632 DETECTOR LOOP, AS PER PLAN EACH	632 LOOP DETECTOR LEAD-IN CABLE FT	632 POWER CABLE, 2 CONDUCTOR, NO. 4 AWG FT						
217	S.R. 317 & U.S. 33 WESTBOUND (RAMP HH)		16				16					16		1	30							
218	S.R. 317 & U.S. 33 EASTBOUND (RAMP C)		24				12					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			725				4		4												
TOTALS CARRIED TO GENERAL SUMMARY		102	40	767	88	85	172	4	3	6	2	172		3	80	275						

CALCULATED NRW
CHECKED JRL

SIGNAL SUBSUMMARY

FRA-33-24.26

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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 ASSIGNEMENT		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.

LEGEND

- *LOOP DETECTION ZONE*
- *SIGNAL PULL BOX*
- *UNDERGROUND CONDUIT*

HORIZONTAL SCALE IN FEET
0 10 20 40

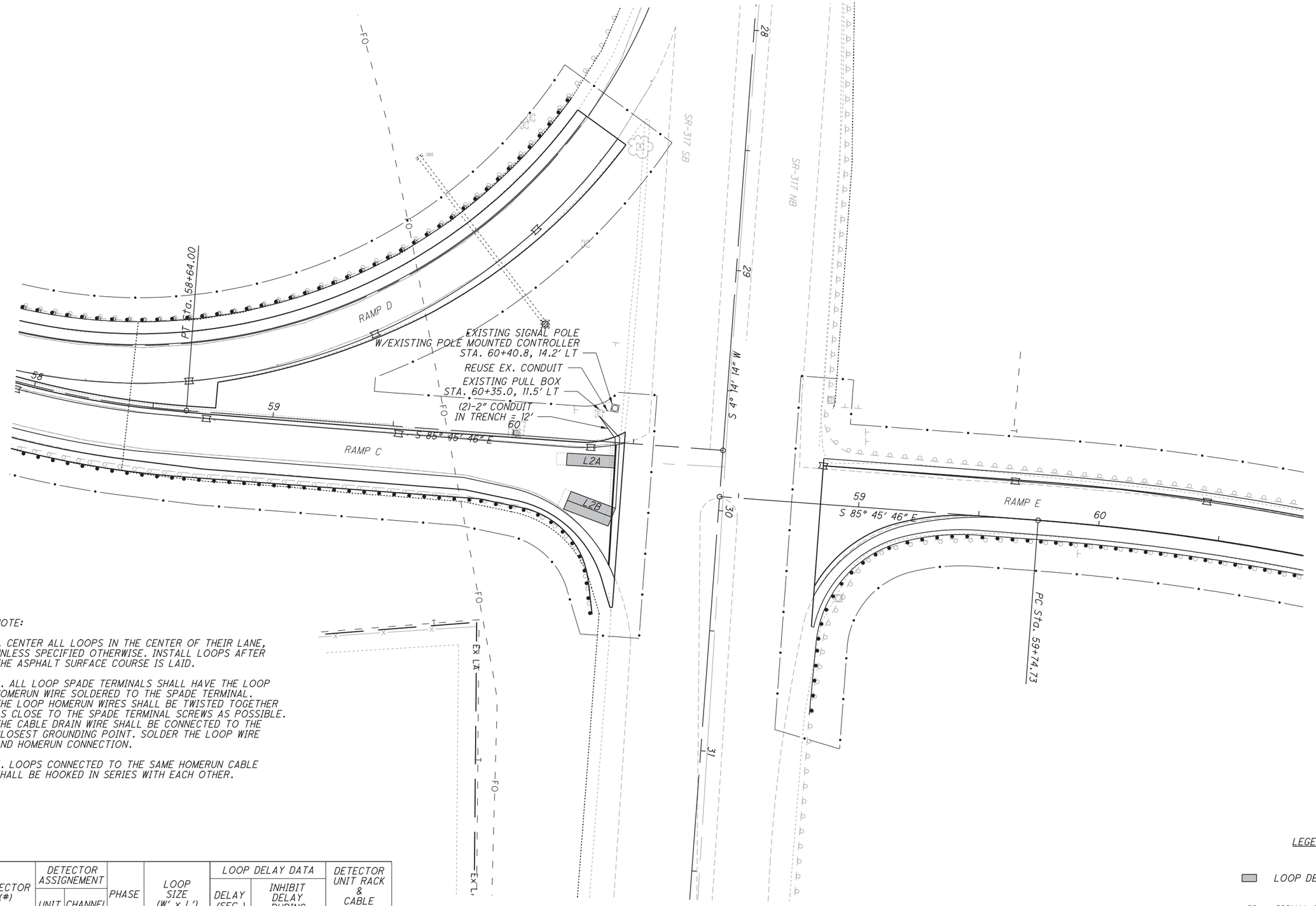
CALCULATED NRW
CHECKED JRL

TRAFFIC SIGNAL PLAN
S.R. 317 & U.S. 33 WB (RAMP HH)

FRA-33-24.26

217
287

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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 ASSIGNEMENT		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

LOOPS ARE TO BE HOOKED TO THE UNIT AND CHANNEL AS INDICATED TO ENHANCE LOOP PERFORMANCE AND DECREASE LOOP CROSSTALK.

LEGEND

- LOOP DETECTION ZONE
- SIGNAL PULL BOX
- UNDERGROUND CONDUIT

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED NRW
CHECKED JRL

TRAFFIC SIGNAL PLAN
S.R. 317 & U.S. 33 EB (RAMP C)

FRA-33-24.26

218
287

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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 WITHCONDUIT 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 $\frac{1}{4}$-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).

CALCULATED NRW
CHECKED JRL

ITS PLAN NOTES

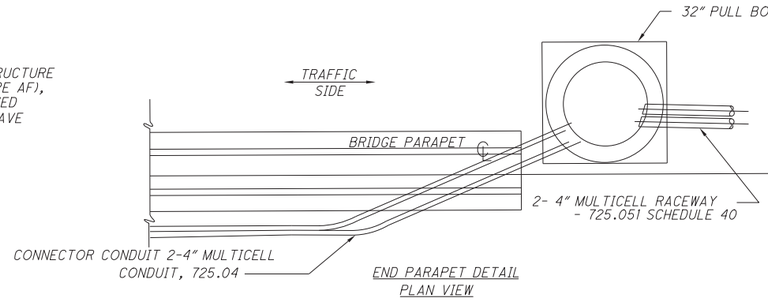
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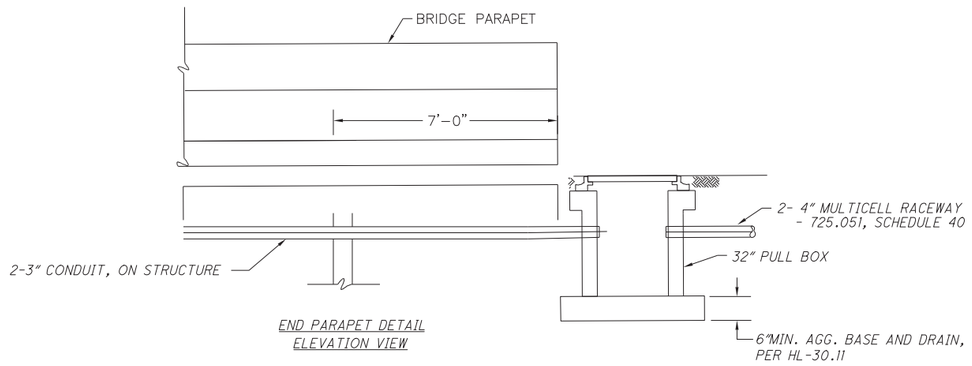
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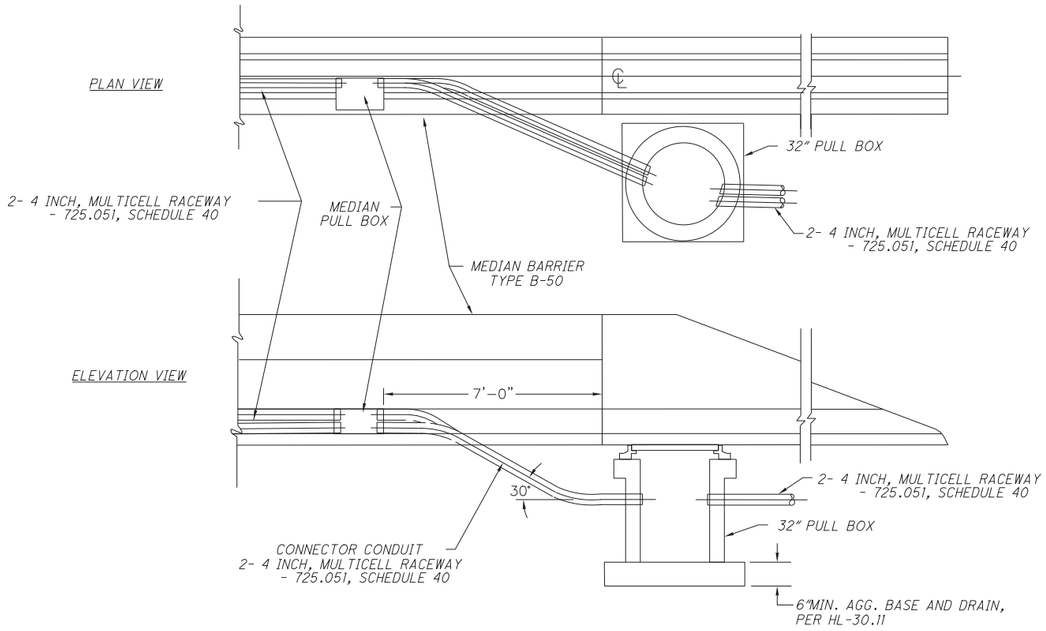
CONDUIT ON STRUCTURE

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.

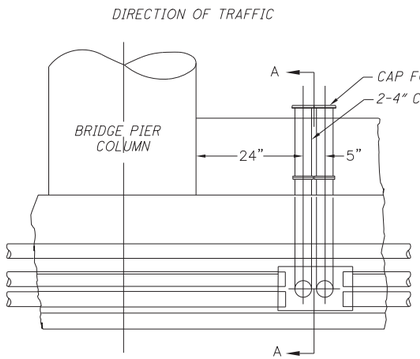




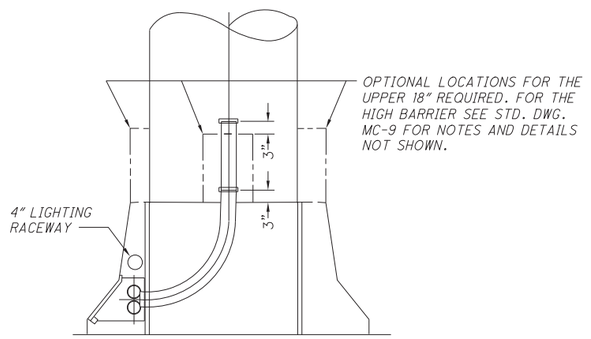
TYPICAL SURVEILLANCE CONDUIT TREATMENT AT END OF BRIDGE PARAPET



TYPICAL SURVEILLANCE CONDUIT TREATMENT AT END BARRIER WALL

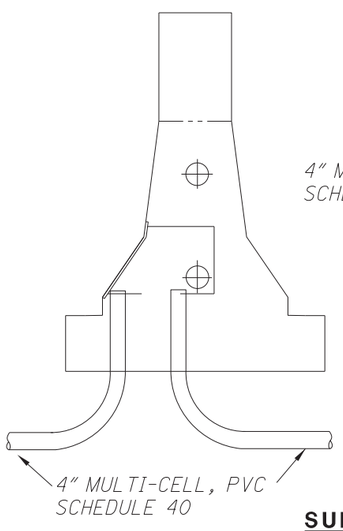


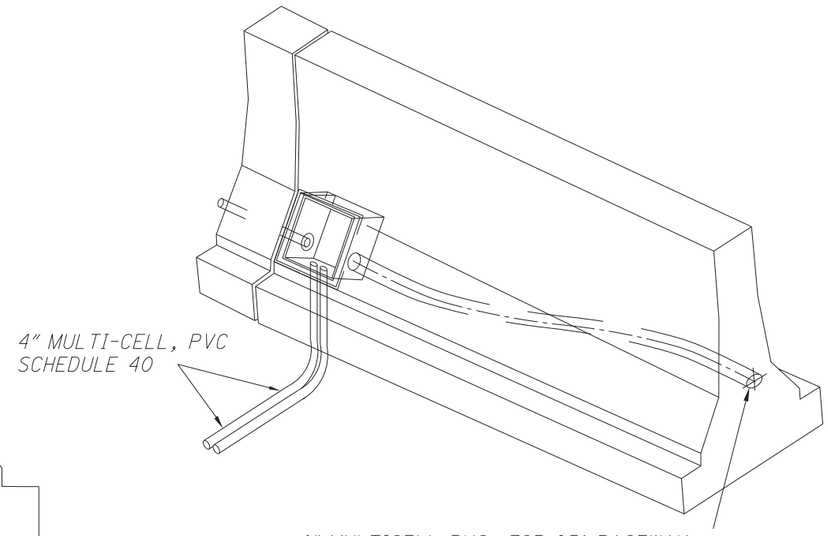
ELEVATION



SECTION A-A

BRIDGE PIER RISER





SURVEILLANCE PULL BOX AND CONDUIT

CALCULATED NRW
CHECKED JRL

CONDUIT AND PULL BOX DETAILS

CONDUIT

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NOTES:

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

Ex LA

EX. RIGID OVERHEAD SIGN SUPPORT FOUNDATION, TO REMAIN
EX. OVERHEAD SIGN SUPPORT, TO REMAIN
EX. DMS ASSEMBLY, TYPE B, TO REMAIN
EX. DMS CONTROL CABLE, TO REMAIN
EX. WIRELESS COMMUNICATION ASSEMBLY, TO REMAIN
EX. WIRELESS CABLE, TO REMAIN
EX. WIRELESS INTERFACE UNIT, TO REMAIN
N: 690315.9995
E: 1858922.6037

EX. CONDUIT, UG, 1 1/2", 20', TO REMAIN
EX. POWER CABLE, 2-#4 AWG

EX. PULL BOX, 32", TO REMAIN

EX. PULL BOX, 18", TO REMAIN

CONDUIT, UG, 1 1/2", 20'
POWER CABLE, 2-#4 AWG

PULL BOX, 18"
STA. 328+10, 6' LT

325 326 327 329 330

EX. CABINET FOUNDATION AND CONTROLLER WORK PAD, TO REMAIN
EX. DMS CONTROLLER CABINET, TO REMAIN

PULL BOX, 32"
STA. 328+14, 3' LT

4" MULTICELL SCH. 40 PVC COMM. CONDUIT, 42'

CONDUIT, UG, 1 1/2", 88'
POWER CABLE, 2-#4 AWG
BORED UNDER ROADWAY

4" MULTICELL SCH. 80 PVC COMM. CONDUIT, 85'
BORED UNDER ROADWAY

EX. PULL BOX, 18" (REMOVE)

PULL BOX, 32"
STA. 328+13, 82' RT

22 23 24 25 26 27

PULL BOX, 18"
STA. 328+10, 82' RT

CONDUIT, UG, 1 1/2", 40'
POWER CABLE, 2-#4 AWG

EX. PULL BOX, 18" (REMOVE)

PULL BOX, 18"
STA. 328+10, 122' RT

CONDUIT, UG, 1 1/2", 42'
POWER CABLE, 2-#4 AWG

EX. WOOD POLE, CLASS 4, 35', TO REMAIN
EX. CONDUIT RISER, 2" DIA., TO REMAIN
EX. POWER CABLE 2-#4 AWG. 30',

EX. MESSENGER WIRE, 15', TO REMAIN

EX. POWER SOURCE, TO REMAIN
N: 690234.7000
E: 1858816.3000

LEGEND

- 18" PULL BOX
- 32" PULL BOX
- 4" MULTICELL SCH. 40 PVC COMM. CONDUIT

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED NRW
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ITS PLAN - U.S. 33
DMS - SITE 91

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NOTES:

1. SEE SHEET 220 AND SCD ITS-14.10 FOR PULL BOX AND CONDUIT DETAILS.

PULL BOX, 32"
STA. 306+77.56, 7.6' RT
℄ U.S. 33

MEDIAN JUNCTION BOX, APP
STA. 307+07.14, 13.3' RT
℄ U.S. 33

MEDIAN JUNCTION BOX, APP
STA. 307+80.31, 13.3' RT
℄ U.S. 33

PULL BOX, 32"
STA. 308+09.46, 7.9' RT
℄ U.S. 33

PULL BOX, 32"
STA. 310+02.66, 8.0' RT
℄ U.S. 33

MEDIAN JUNCTION BOX, APP
STA. 310+48.02, 13.3' RT
℄ U.S. 33

MEDIAN JUNCTION BOX, APP
STA. 313+27.56, 13.3' RT
℄ U.S. 33

PULL BOX, 32"
STA. 313+73.86, 7.7' RT
℄ U.S. 33

PCC STA. 43+45.03

PRC STA. 41+29.69

PC STA. 40+22.92

PT STA. 53+46.07

CS STA. 49+55.01

SC STA. 51+55.01

46+74.79

EXISTING CIRCUIT D

Ex LA-R/W

Ex LA

4" MULTICELL SCH. 40 PVC COMM. CONDUIT

4" MULTICELL SCH. 40 PVC COMM. CONDUIT

4" MULTICELL SCH. 40 PVC COMM. CONDUIT

LEGEND

MEDIAN JUNCTION BOX

32" PULL BOX

4" MULTICELL SCH. 40 PVC COMM. CONDUIT

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED NRW
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ITS PLAN - U.S. 33

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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 DOWNED 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

LIGHTING

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LIGHTING GENERAL NOTES

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

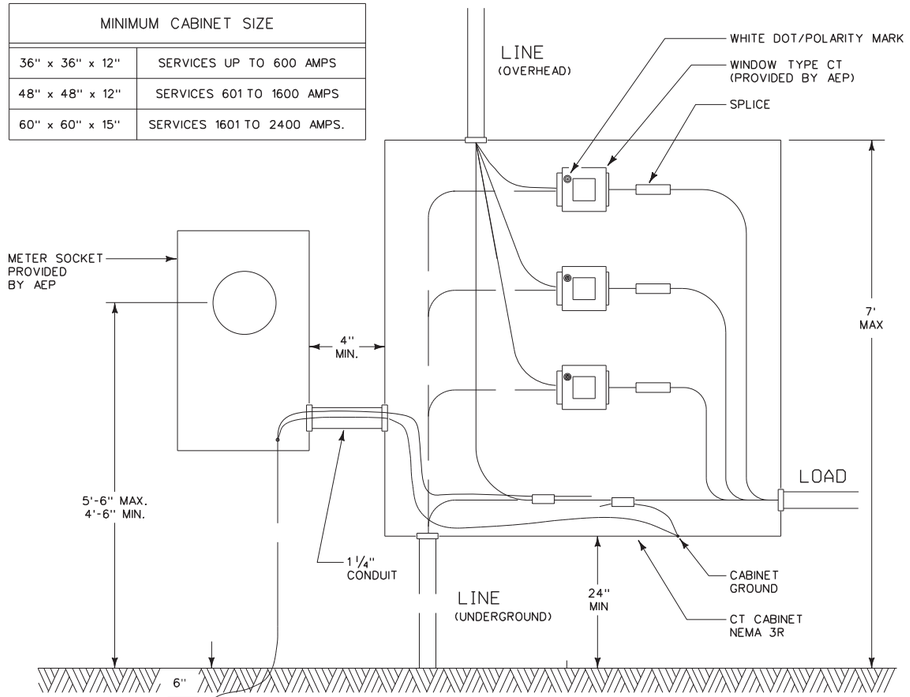
THE CONTRACTOR SHALL INSTALL PROPER ARC FLASH HAZARD LABELING (PER NEC 2014) TO ALL APPLICABLE ENCLOSURES.

PAYMENT SHALL BE MADE AT THE UNIT PRICE FOR THE ITEM INCLUDING ALL LABOR, MATERIAL, EQUIPMENT, INSPECTIONS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

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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.



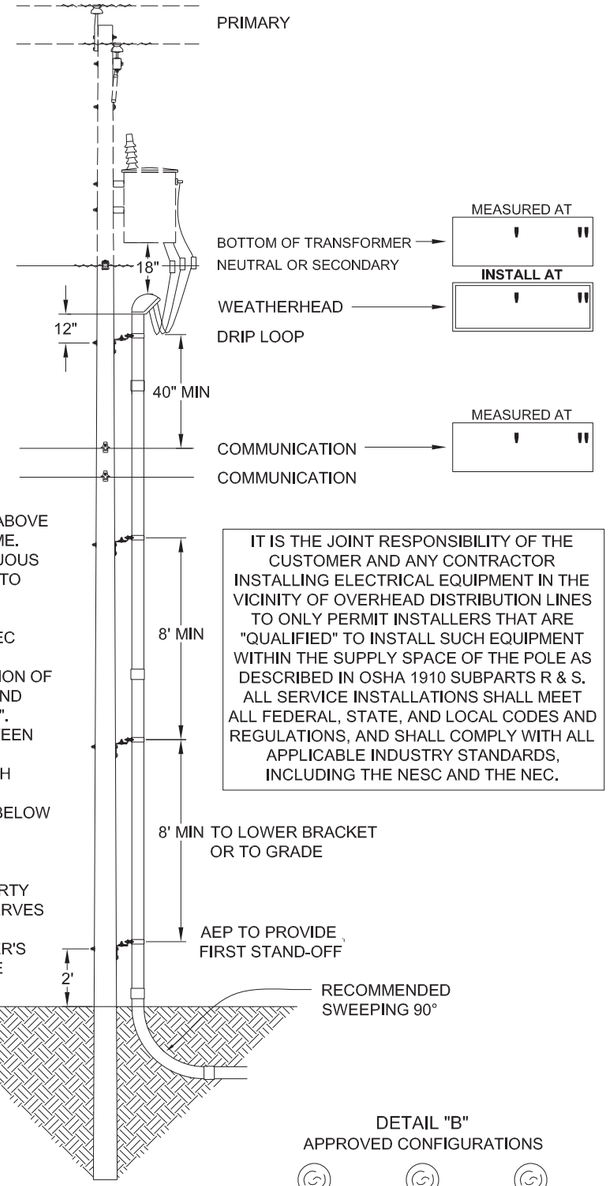
NOTES:

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 ¾" 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 ¼" 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 ¼" 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

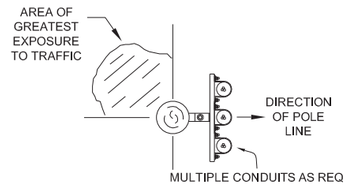


NOTES:

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

CALCULATED ABS
CHECKED JRL

LIGHTING GENERAL NOTES

FRA-33-24.26

225
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SHEET NO.	LOCATION		202 DISCONNECT EXISTING CIRCUIT EACH	625 CONNECTION, UNFUSED PERMANENT EACH	625 LIGHT TOWER FOUNDATION, 36" X 30' DEEP, AS PER PLAN EACH	625 1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES FT	625 CONDUIT, 2", 725.04 FT	625 TRENCH, 24" DEEP FT	625 PULL BOX, 725.08, 18" EACH	625 GROUND ROD EACH	625 PLASTIC CAUTION TAPE FT	625 RE-ERECT EX. LIGHT TOWER, AS PER PLAN EACH	625 LIGHT TOWER FOUNDATION REMOVED EACH	625 POWER SERVICE REFURBISHED, AS PER PLAN EACH				
	CIRCUIT D																	
227	EX. CONTROL CENTER "5"													1				
228	EX-D1	PB-1		6		345		345			345							
228	PB-1	PB-2				125	250		1									
228	PB-2	5D-1			1	86		86	1	2	86							
228	R-1		1									1	1					
228	PB-3	PB-4					250		2									
228	PB-5	PB-6					750		2									
228	PB-7	PB-8					730		2									
	TOTALS CARRIED TO GENERAL SUMMARY		1	6	1	556	1,980	431	8	2	431	1	1	1				

CALCULATED NRW
CHECKED JTB

LIGHTING SUBSUMMARY

FRA-33-24.26

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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

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED CRG
CHECKED JRL

LIGHTING PLAN - U.S. 33
CIRCUIT DIAGRAM

FRA-33-24.26

227
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LEGEND

EXISTING LIGHT TOWER

PROPOSED LIGHT TOWER

PROPOSED PULL BOX

EXISTING CIRCUIT

PROPOSED CIRCUIT

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRG CHECKED JRL

STA. 302+62.58, 113.3' LT, ℄ U.S. 33 EX-C2
EXISTING LIGHT TOWER TO REMAIN

STA. 306+79.96, 83.9' LT, ℄ U.S. 33 EX-C1
EXISTING LIGHT TOWER TO REMAIN

EX. 96" SAN.

STA. 306+87.25, 77.5' LT, ℄ U.S. 33 PB-3
18" PULL BOX

2" CONDUIT (LIGHTING)
2" CONDUIT (FUTURE USE)

STA. 308+00.31, 77.5' LT, ℄ U.S. 33 PB-4
18" PULL BOX

STA. 36+50.00 RAMP B = STA. 310+28.95, 65.58" LT.

STA. 310+87.13, 79.0' LT, ℄ U.S. 33 PB-7
18" PULL BOX

2" CONDUIT (LIGHTING)
2" CONDUIT (FUTURE USE)

STA. 314+38.31, 79.0' LT, ℄ U.S. 33 PB-8
18" PULL BOX

BIG WALNUT CREEK

Ex LA-R/W

Ex LA

℄ CONST. U.S. 33

PCC STA. 43+45.03

EXISTING CIRCUIT C

PC STA. 40+22.92

PT STA. 306+55.49

PRC STA. 41+29.69

15" RCP

15" CPP

S 34° 20' 00" E

EXISTING CIRCUIT D

CIRCUIT D

PT STA. 53+46.07

CS STA. 49+55.01

SC STA. 51+55.01

46+74.79 Ex LA-R/W

STA. 50+45.80, 13.7' RT, ℄ RAMP A EX-D1
EXISTING LIGHT TOWER TO REMAIN
RECONNECT SPLICE TO EXISTING CIRCUIT

STA. 306+81.02, 76.5' RT, ℄ U.S. 33 PB-1
18" PULL BOX

STA. 309+61.69, 79.0' RT, ℄ U.S. 33 PB-5
18" PULL BOX

RE-ERECT EXISTING LIGHT TOWER 5D-1
STA. 308+81.00, 81.3' RT, ℄ U.S. 33

EXISTING TOWER AND PLATFORM R-1
TO BE RELOCATED
STA. 308+71.53, ℄ U.S. 33
75.9' RT

STA. 308+15.57, 90.5' RT, ℄ U.S. 33 PB-2
18" PULL BOX

STA. 313+24.50, 79.0' RT, ℄ U.S. 33 PB-6
18" PULL BOX

2" CONDUIT (LIGHTING)
2" CONDUIT (FUTURE USE)

2" CONDUIT WITH 3 - #4 AWG 2400 VOLT CABLES
2" CONDUIT (FUTURE USE)

CONDUIT EXPANSION AND DEFLECTION

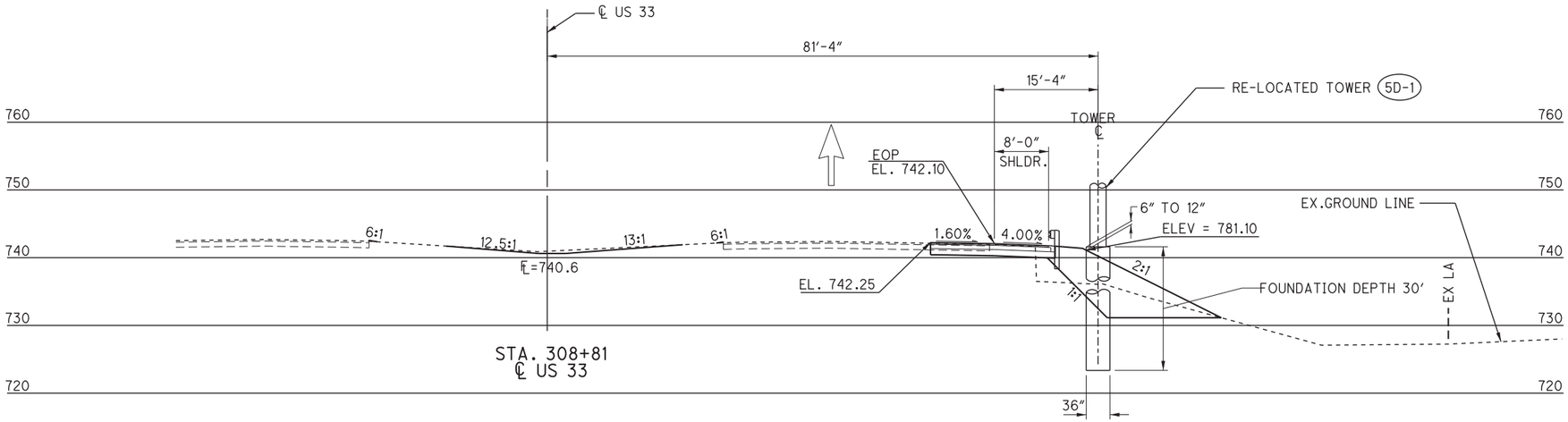
EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XJG, APPLETON TYPE AX, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE EITHER 4 OR 8 INCHES (100 OR 200 MILLIMETERS) TOTAL MOVEMENT AS SPECIFIED BY THE PLAN DETAILS AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BYT HE 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.

LIGHTING PLAN - U.S. 33

FRA-33-24.26

228
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NOTES:
1. SEE SHEET 228 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 5 10 20

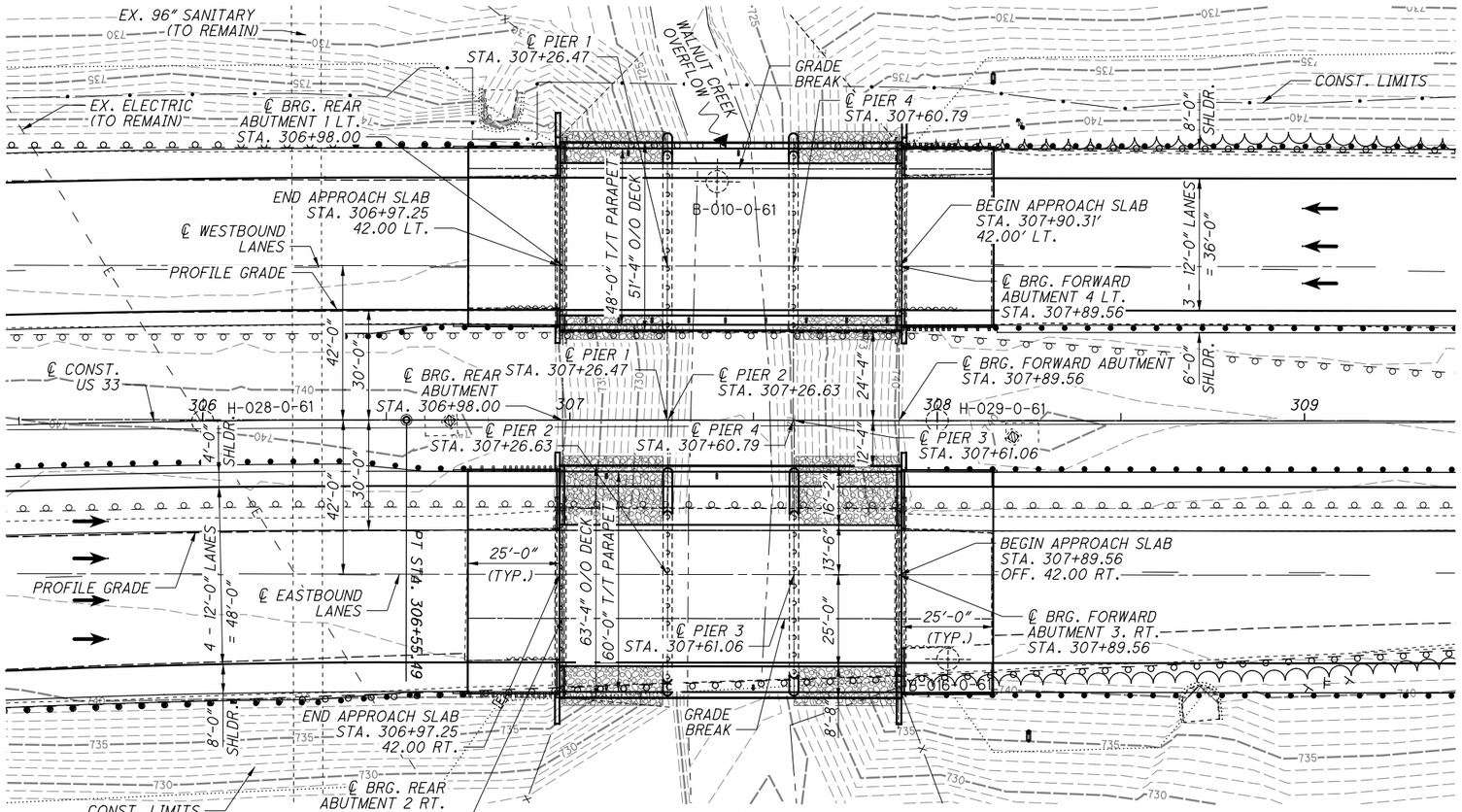
CALCULATED JRW
CHECKED ABS

LIGHTING PLANS - U.S.33
HIGH MAST TOWER ELEVATION

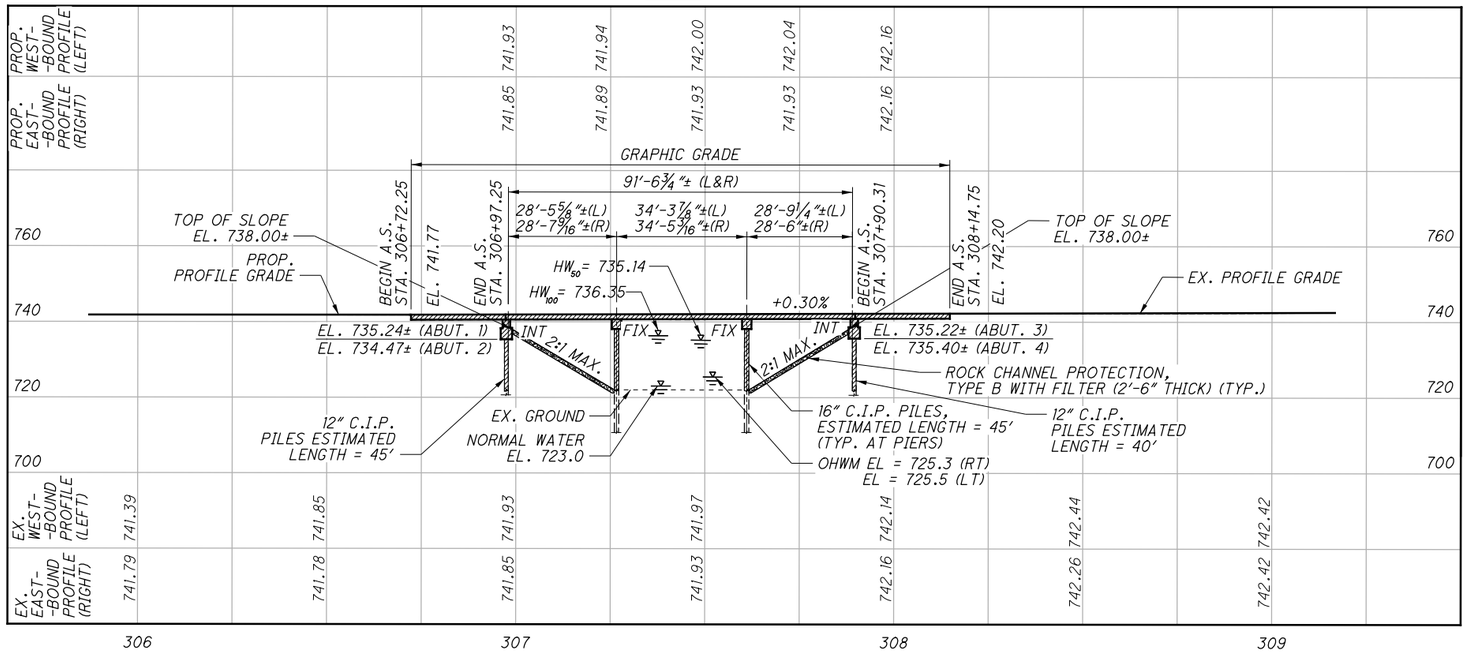
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PLAN



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 111/287

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'-5⅝"±, 34'-3⅞"±, 28'-9¼"± C/C BEARINGS (LEFT)
28'-7⅞"±, 34'-5⅜"±, 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 ¼" 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

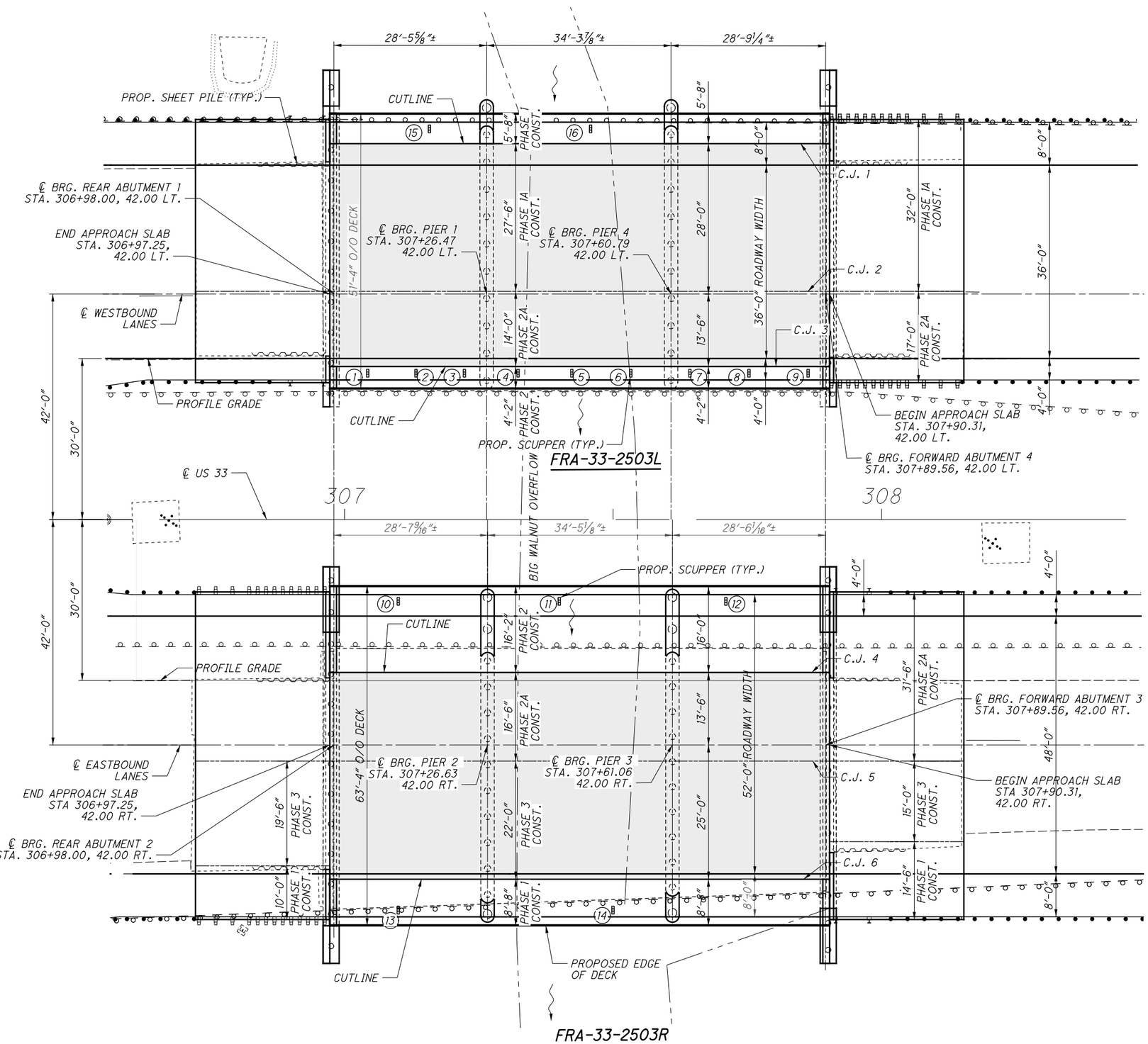
DESIGNED JGM | DRAWN JGM | REVIEWED SSK | DATE 11/07/17
CHECKED NCK | REVISED | STRUCTURE FILE NUMBER 2501929/2501953

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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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

1. REMOVE A PORTION OF CONCRETE SLAB, ALL EXISTING RAILING, PORTION OF ABUTMENTS AND EXISTING APPROACH SLABS.
2. WIDEN BRIDGE FRA-33-2503R AND APPROACH SLABS TO ACCOMODATE 12' INSIDE AND 8' OUTSIDE SHOULDERS.
3. WIDEN BRIDGE FRA-33-2503L AND APPROACH SLABS TO ACCOMODATE AN 8' WIDE OUTSIDE SHOULDER.
4. CONSTRUCT ABUTMENTS, WINGWALLS, PIER CAPS AND PILES TO ACCOMODATE PROPOSED WIDENING.
5. CONSTRUCT APPROACH SLABS.
6. INSTALL PROPOSED SCUPPERS.
7. CONSTRUCT SBR-1-13 RAILING.
8. REMOVE EXISTING CONCRETE OVERLAY AND REPLACE WITH SDC CONCRETE OVERLAY USING HYDRODEMOLITION PER SS848.
9. SEAL ALL EXISTING AND PROPOSED SURFACES WITH EPOXY-URETHANE SEALER AS SHOWN IN THE PLANS.
10. PATCH ABUTMENTS.
11. ADD ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER, 2'-6" THICK TO WIDENED AREAS.

LEGEND:

▭ - LIMITS OF SDC OVERLAY

RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED JGM | DRAWN JGM | REVIEWED SSK | DATE 11/07/17 | CHECKED NCK | REVISED | STRUCTURE FILE NUMBER 2501929/2501953

GENERAL PLAN
BRIDGE NO. FRA-033-2503 L/R
OVER BIG WALNUT OVERFLOW

FRA-33-24.26
PID No. 98111

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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
2½" CONCRETE COVER
4¼" 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 INDICATINVE 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.

MEAUSREMENT & 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

ITEM 526, REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN:

TO EXPEDITE WORK, CLASS QC2 CONCRETE WITH AN ACCELERATING ADMIXTURE SUCH AS SILKA RAPID-1 OR ANY APPROVED EQUIVALENT ADMIXTURE SHALL BE USED TO ACHIEVE 3000 PSI COMPRESSIVE STRENGTH IN 12 HOURS. USE A NON-CHLORIDE ACCELERATING ADMIXTURE AND PROVIDE DOCUMENTATION THAT THE MIX WILL PROVIDE THE STRENGTH IN THE SPECIFIED TIME.

THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS.

AT LEAST 5 DAYS PRIOR RO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A SCHEDULE OF REPAIR WORK ITEMS TO BE COMPLETED. THE SCHEDULE SHALL INCLUDE A BREAKDOWN OF ALL MAJOR WORK ACTIVITIES ON AN HOURLY BASIS. REPAIR WORK SHALL NOT BEGIN UNTILL THE SCHEDULE IS APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL CONTINUE THE WE CURE FOR THE MAXIMUM NUMBER OF HOURS POSSIBLE DURING THE PERMITTED LANE CLOSURE. THE CLOCK STARTS FOR THE WET CURE WHEN THE CONCRETE PLACEMENT IS COMPLETE.

IF THE CONTRACTOR FAILS TO OPEN LANES TO TRAFFIC AT THE TIMES ERQUIRED IN THE MAINTENANCE OF THE TRAFFIC GENERAL NOTES, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE AS SHOWN ON THE LANE VALUE CONTRACT TABLE.

TRAFFIC WILL NOT BE PERMITTED ON THE FINISHED CONCRETE SURFACE UNTILL AFTER COMPLETION OF A 12 HOUR MINIMUM WET CURE AND AFTER TWO TEST BEAMS HAVE ATTAINED AN AVERAGE MODULUS OF RUPTURE OF 400 PSI.

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NCK	-	2501929/2501953	

GENERAL NOTES
BRIDGE NO. FRA-33-2503 L/R
OVER WALNUT CREEK OVERFLOW

FRA-33-24.26
PID No. 98111

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ESTIMATED QUANTITIES

CALCULATED BY: JGM DATE: 1/29/2018
CHECKED BY: NCK DATE: 1/29/2018

		PART.				LEFT BRIDGE				RIGHT BRIDGE				
		02/NHS/BR												
ITEM	EXTENSION	QUANTITY LEFT SFN: 2501929	QUANTITY RIGHT SFN: 2501953	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	ABUT.	PIERS	SUPER.	GEN.	SHEET NO.
202	11203	LUMP	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN				LUMP				LUMP	3
202	22900	200	185	SY	APPROACH SLAB REMOVED				200				185	
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	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	264	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				52				80	
518	40010	36	36	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS				36				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	25001	272	339	SQ YD	REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN				272				339	3
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		

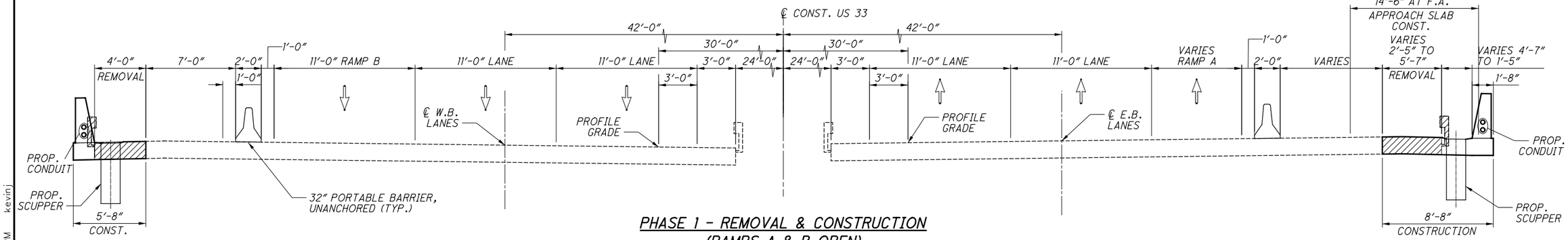
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(614) 823-4949

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CHECKED NCK | REVISED | STRUCTURE FILE NUMBER 2501929/2501953

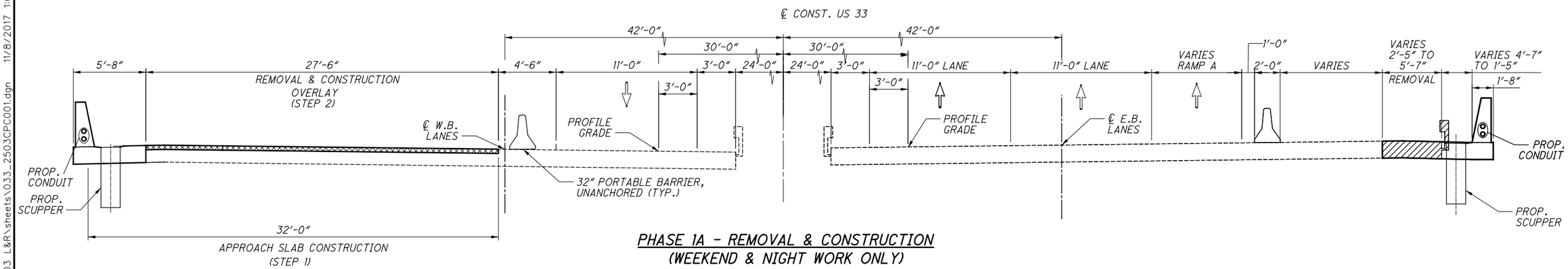
ESTIMATED QUANTITIES
BRIDGE NO. FRA-033-2503 L/R
OVER BIG WALNUT OVERFLOW

FRA-33-24.26
PID No. 98111

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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 PROTIONS 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.

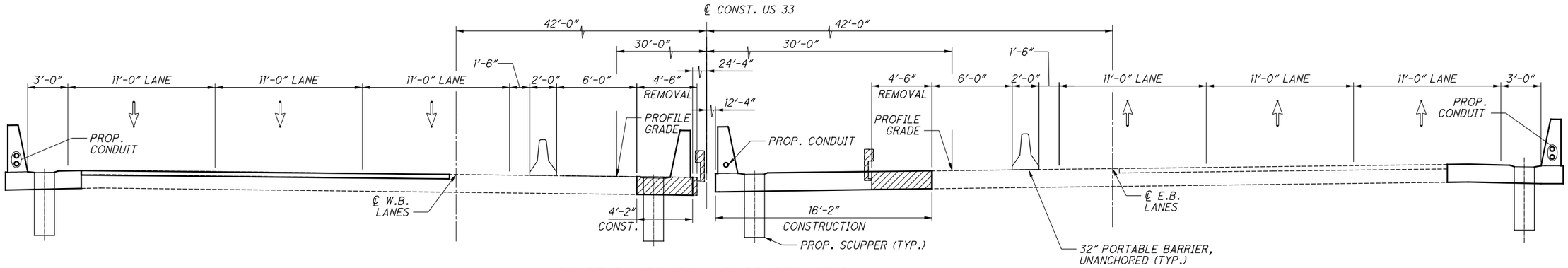
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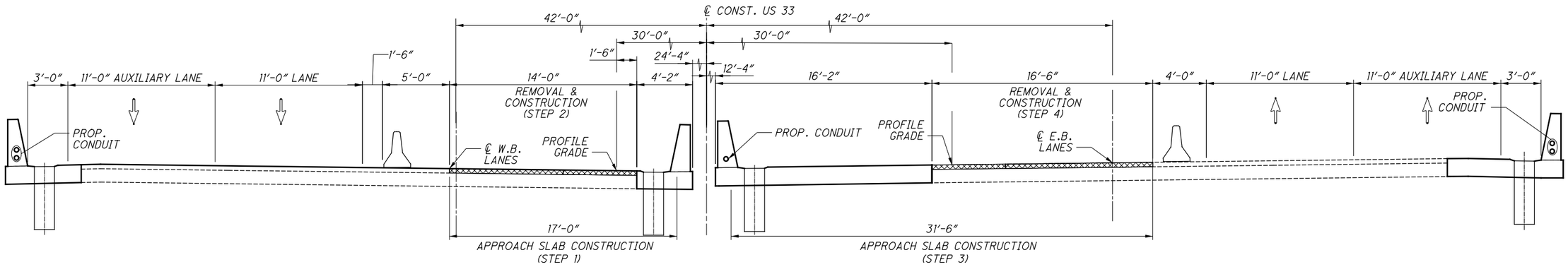
PHASE CONSTRUCTION DETAILS
BRIDGE NO. FRA-033-2503 L/R
OVER BIG WALNUT OVERFLOW

FRA-33-24.26
PID No. 98111

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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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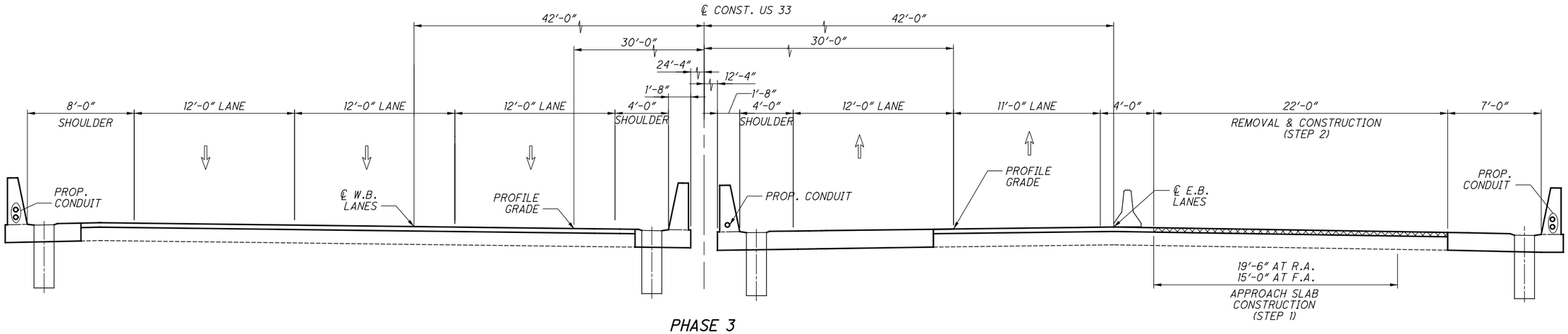
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BRIDGE NO. FRA-033-2503 L/R
OVER BIG WALNUT OVERFLOW

FRA-33-24.26
PID No. 98111

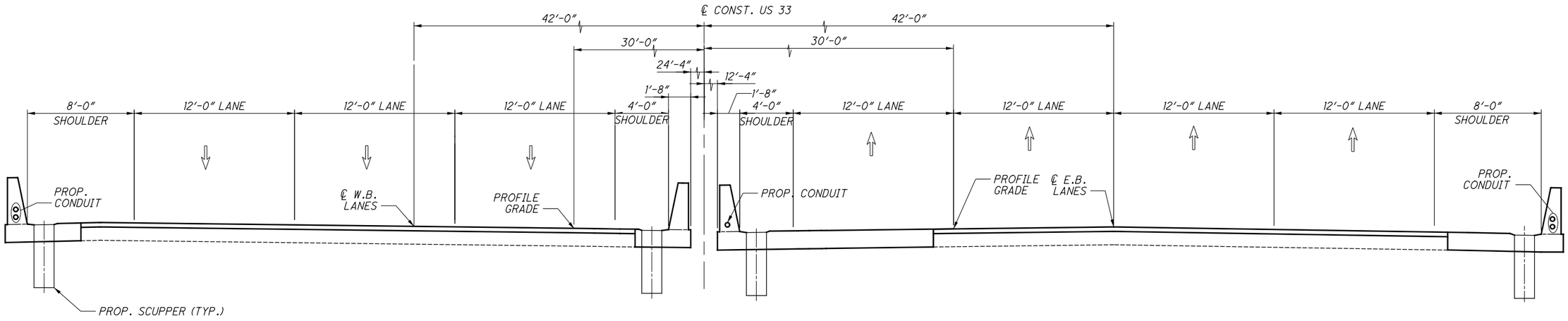
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PHASE 3



FINAL CONFIGURATION

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.

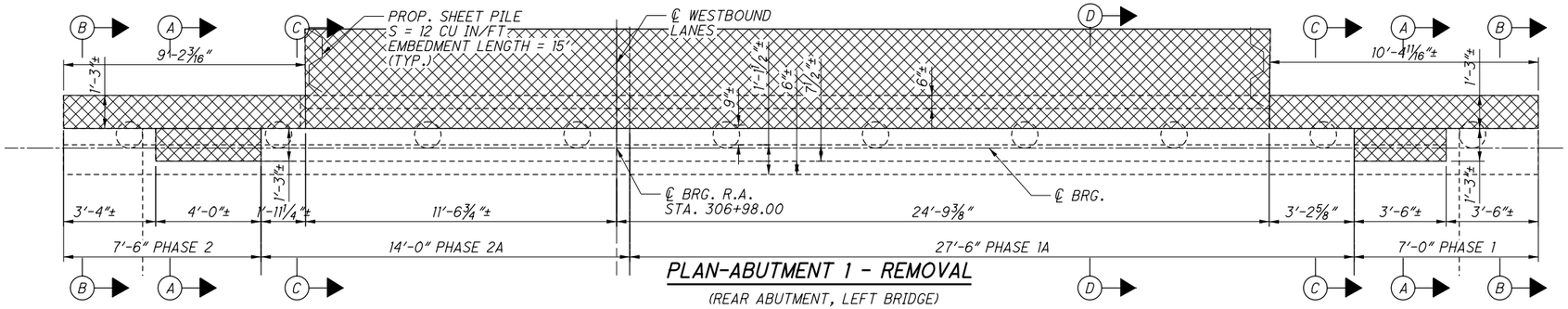
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PHASE CONSTRUCTION DETAILS
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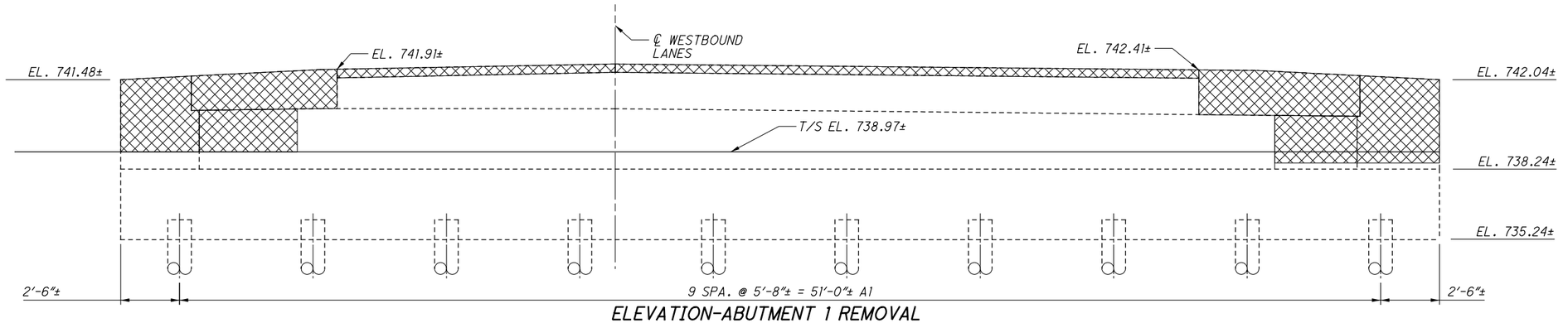
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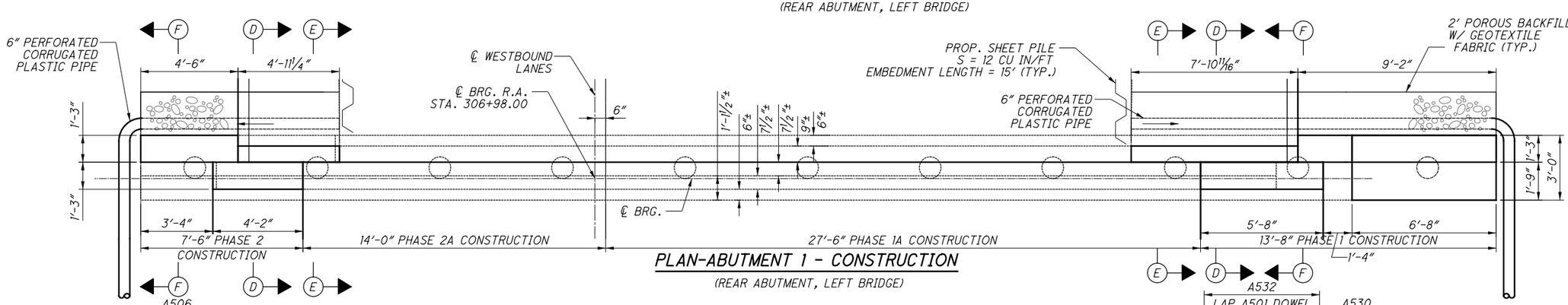
PLAN-ABUTMENT 1 - REMOVAL

(REAR ABUTMENT, LEFT BRIDGE)



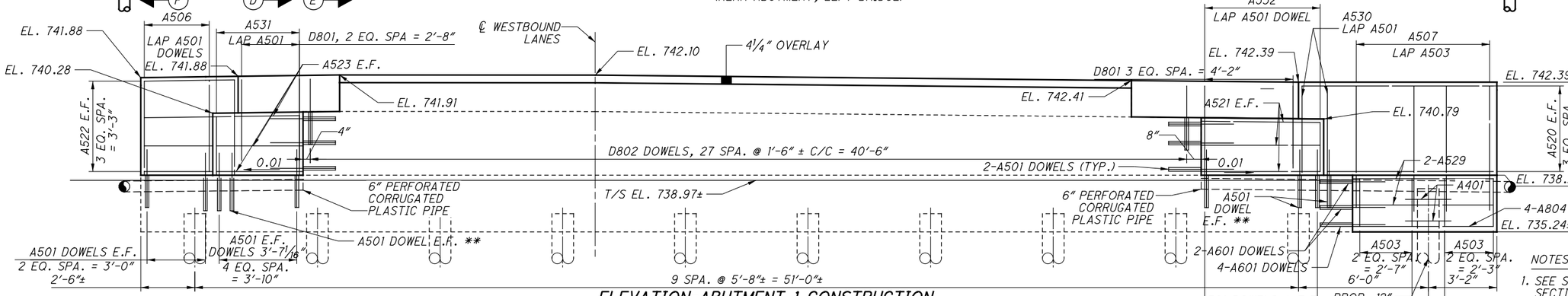
ELEVATION-ABUTMENT 1 REMOVAL

(REAR ABUTMENT, LEFT BRIDGE)



PLAN-ABUTMENT 1 - CONSTRUCTION

(REAR ABUTMENT, LEFT BRIDGE)



ELEVATION-ABUTMENT 1 CONSTRUCTION

(REAR ABUTMENT, LEFT BRIDGE)

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.)

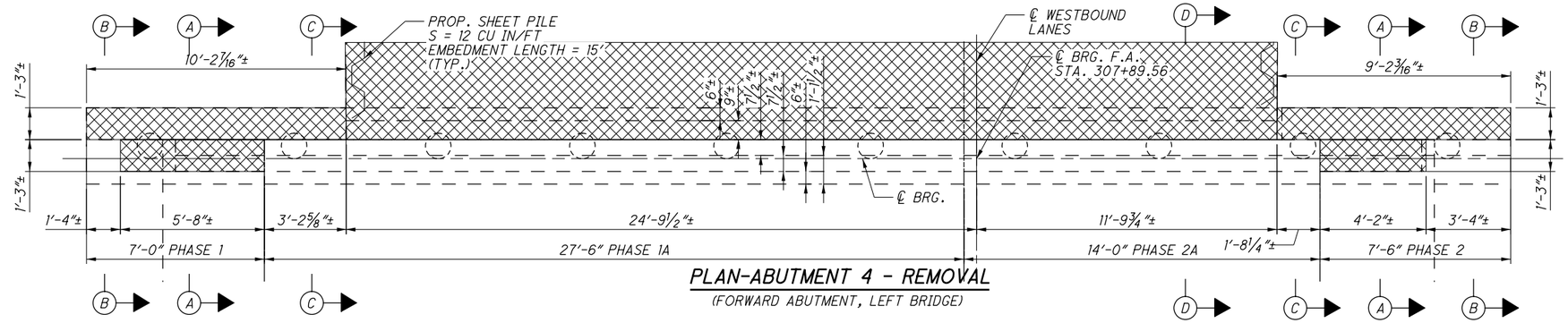
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ABUTMENT 1 DETAILS
BRIDGE NO. FRA-033-2503 L/R
OVER BIG WALNUT OVERFLOW

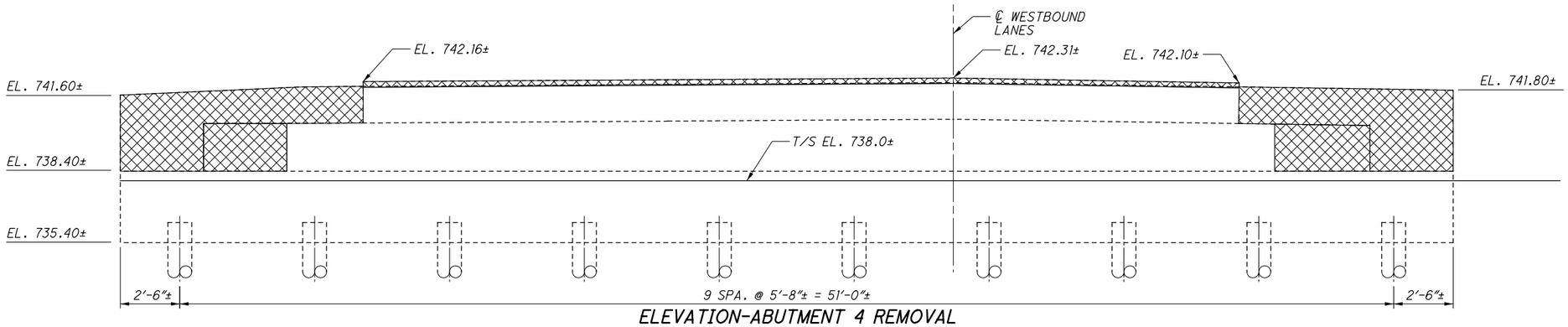
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PID No. 98111

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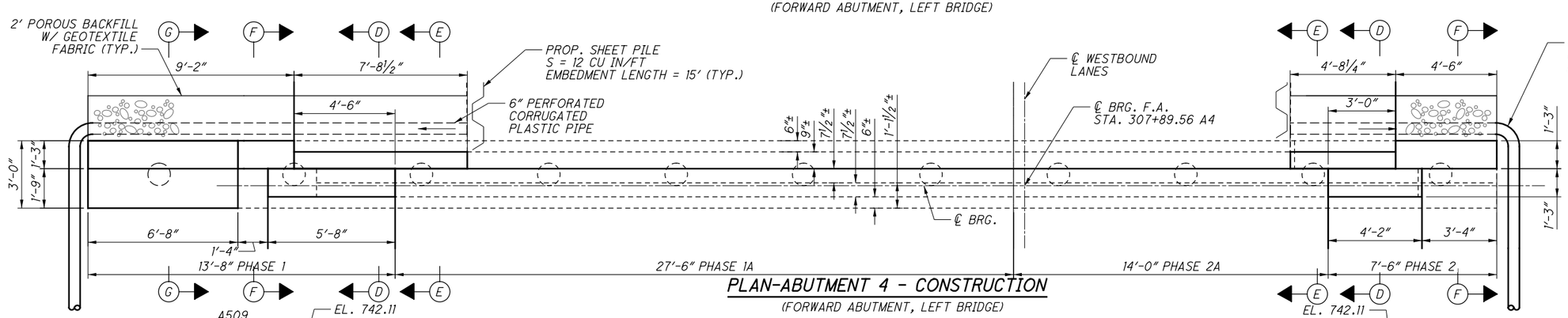
PLAN-ABUTMENT 4 - REMOVAL

(FORWARD ABUTMENT, LEFT BRIDGE)



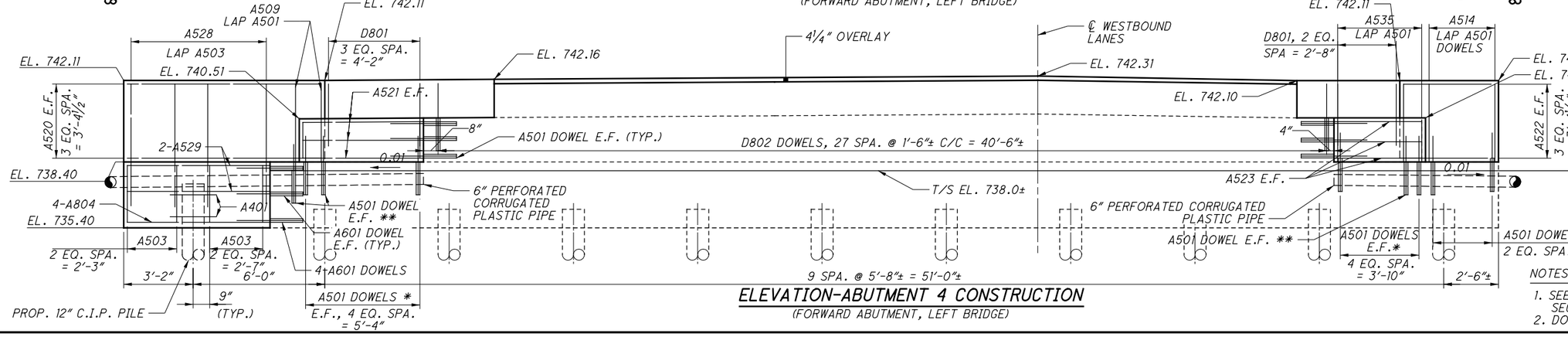
ELEVATION-ABUTMENT 4 REMOVAL

(FORWARD ABUTMENT, LEFT BRIDGE)



PLAN-ABUTMENT 4 - CONSTRUCTION

(FORWARD ABUTMENT, LEFT BRIDGE)



ELEVATION-ABUTMENT 4 CONSTRUCTION

(FORWARD ABUTMENT, LEFT BRIDGE)

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.)

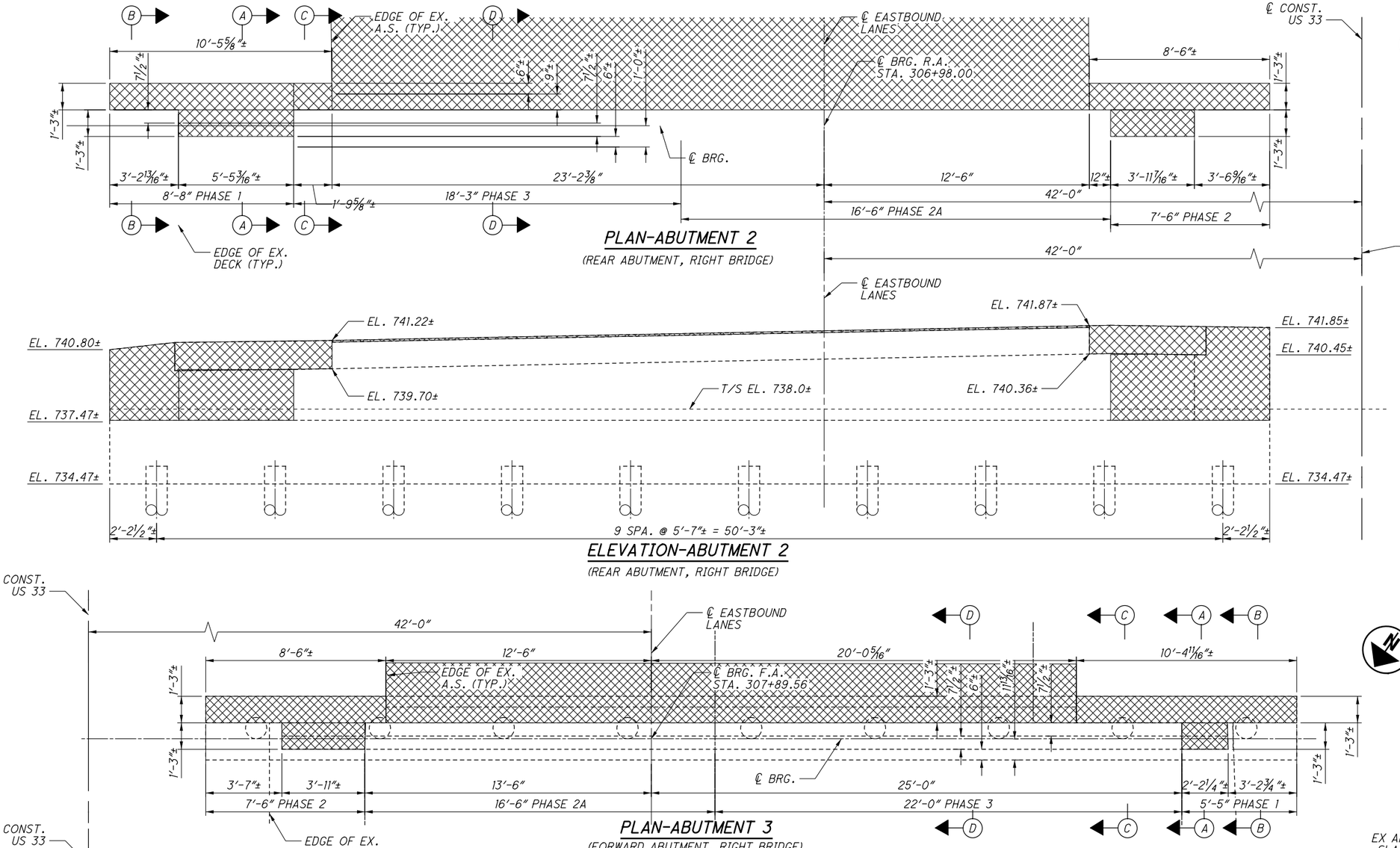
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501929/2501953	

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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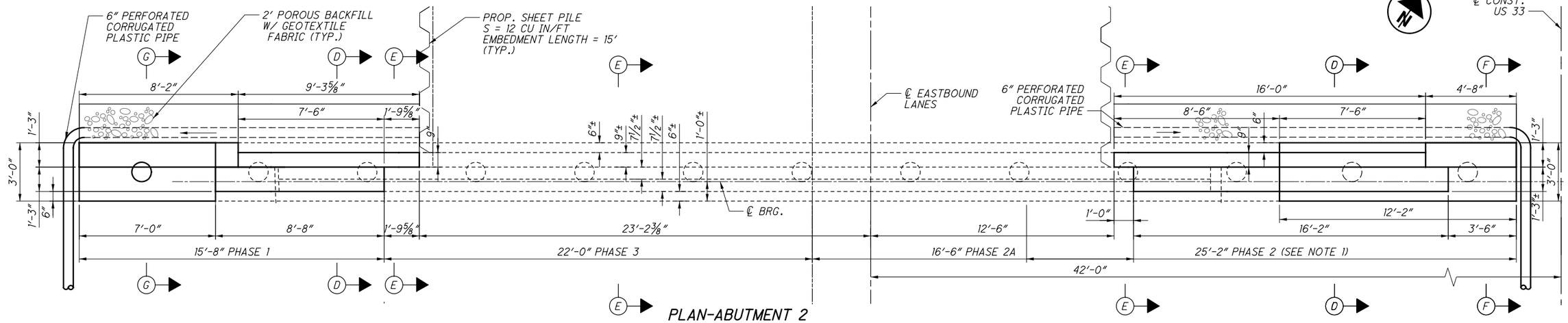
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501929/2501953	

ABUTMENT #2 & #3 REMOVAL DETAILS

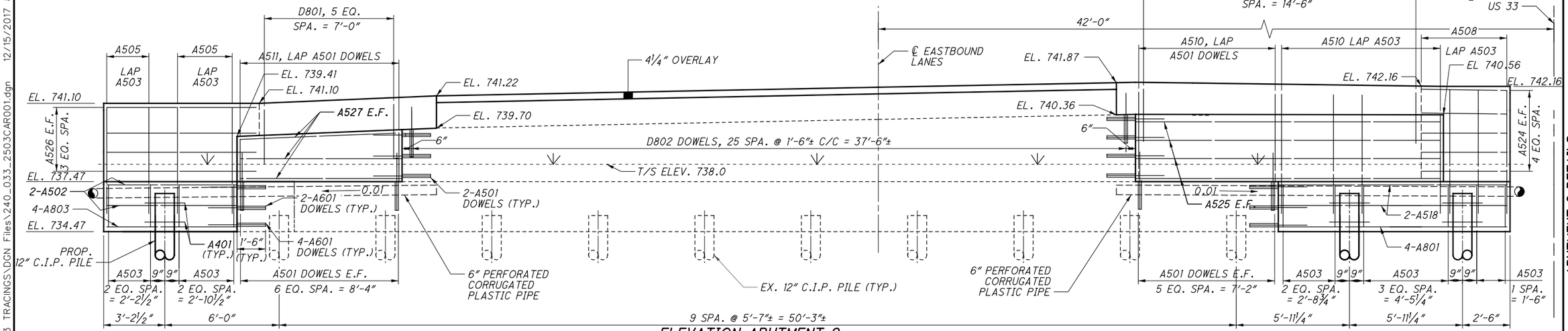
BRIDGE NO. FRA-033-2503 L/R
OVER BIG WALNUT OVERFLOW

FRA-33-24.26
PID No. 98111



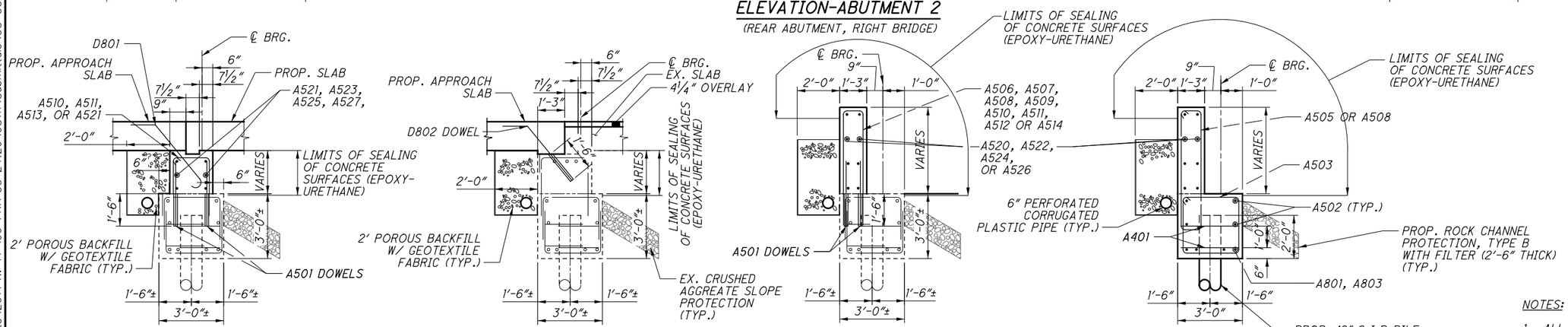
PLAN-ABUTMENT 2

(REAR ABUTMENT, RIGHT BRIDGE)



ELEVATION-ABUTMENT 2

(REAR ABUTMENT, RIGHT BRIDGE)



NOTES:

1. ALL PILES SHALL BE INSTALLED DURING PHASE 1.
2. DOWEL EMBEDMENT = 1'-6" (TYP.)

RESOURCE INTERNATIONAL INC.
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COLUMBUS, OHIO 43231
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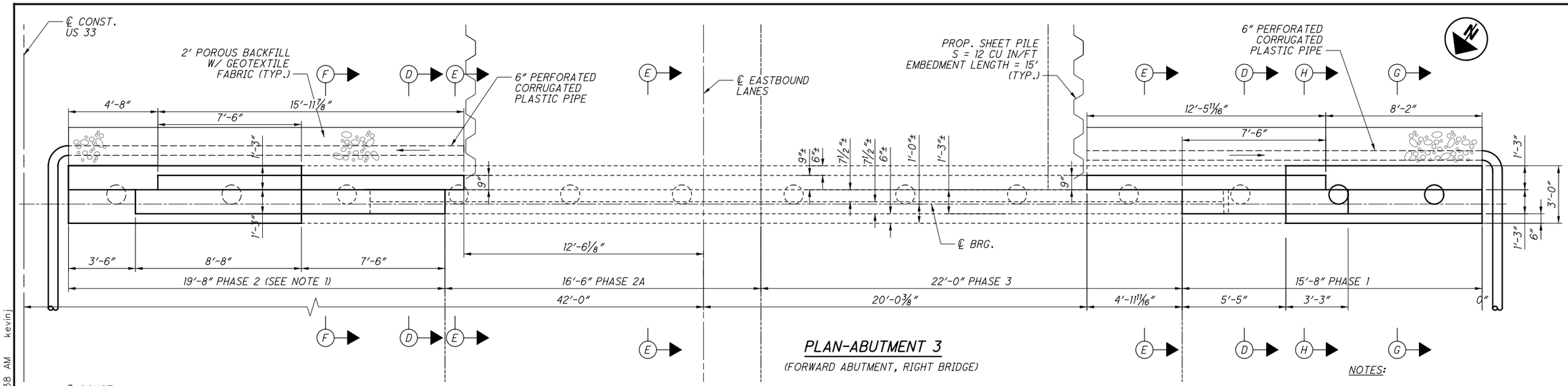
DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501929/2501953	

ABUTMENT 2 DETAILS

BRIDGE NO. FRA-033-2503 L/R
OVER BIG WALNUT OVERFLOW

FRA-33-24.26
PID No. 98111

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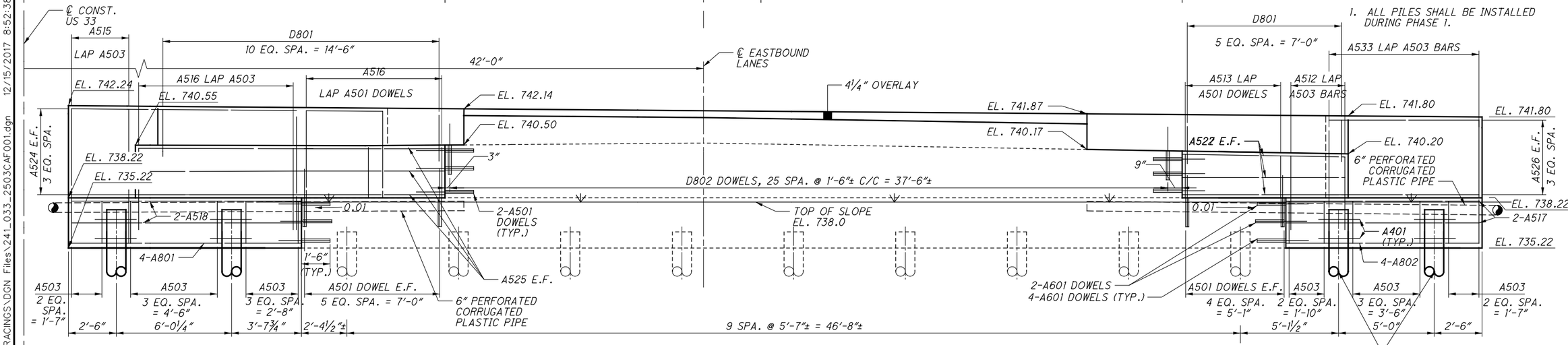


PLAN-ABUTMENT 3

(FORWARD ABUTMENT, RIGHT BRIDGE)

NOTES:

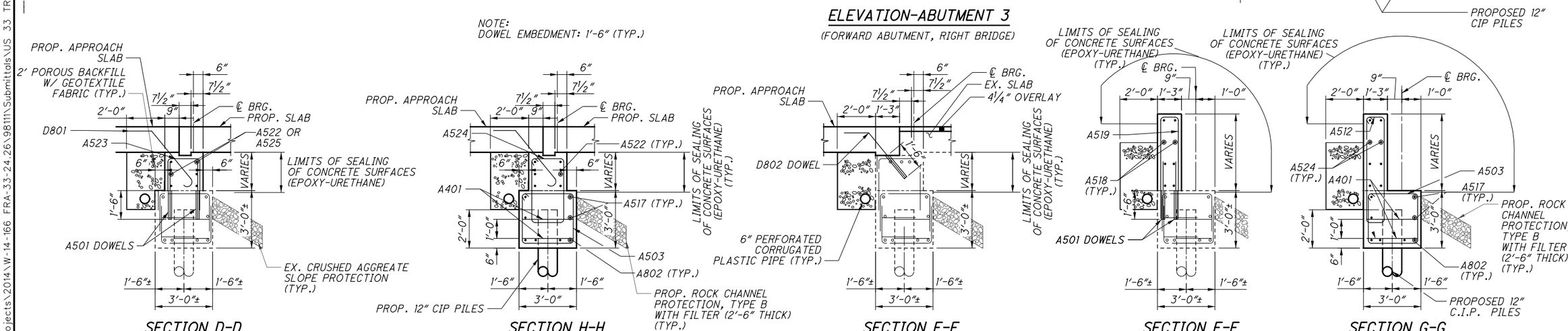
1. ALL PILES SHALL BE INSTALLED DURING PHASE 1.



ELEVATION-ABUTMENT 3

(FORWARD ABUTMENT, RIGHT BRIDGE)

NOTE:
DOWEL EMBEDMENT: 1'-6" (TYP.)



RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501929/2501953	

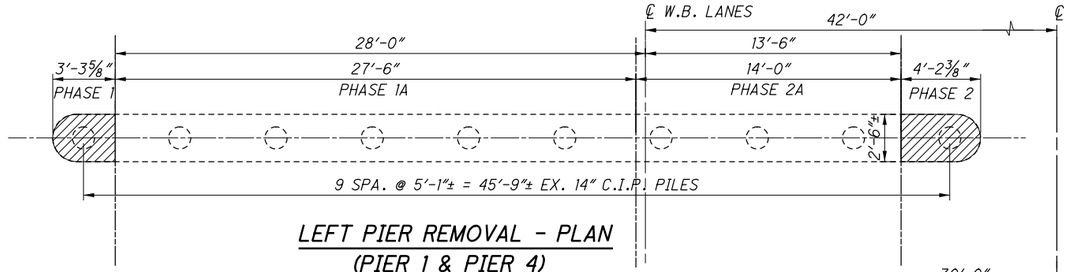
ABUTMENT 3 DETAILS
BRIDGE NO. FRA-033-2503 L/R
OVER BIG WALNUT OVERFLOW

FRA-33-24.26
PID No. 98111

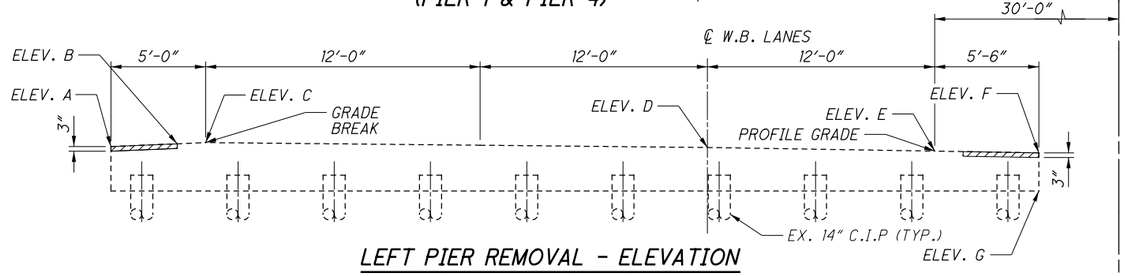
12 / 24

241 / 287

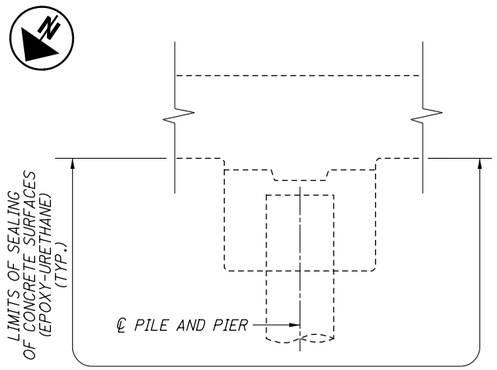
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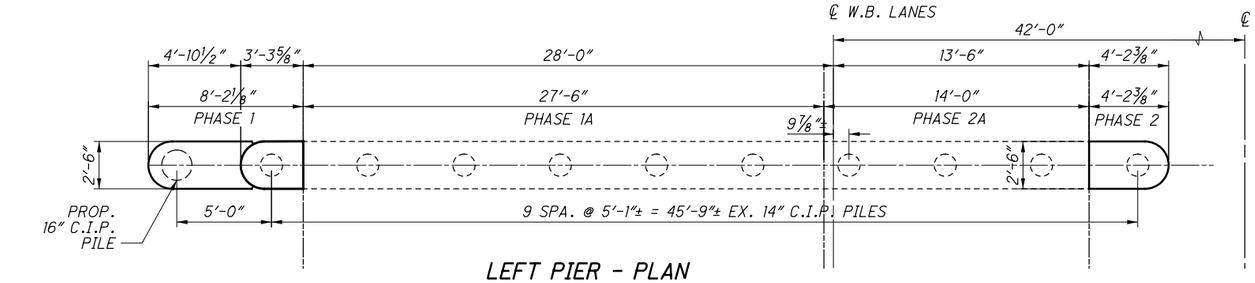
LEFT PIER REMOVAL - PLAN
(PIER 1 & PIER 4)



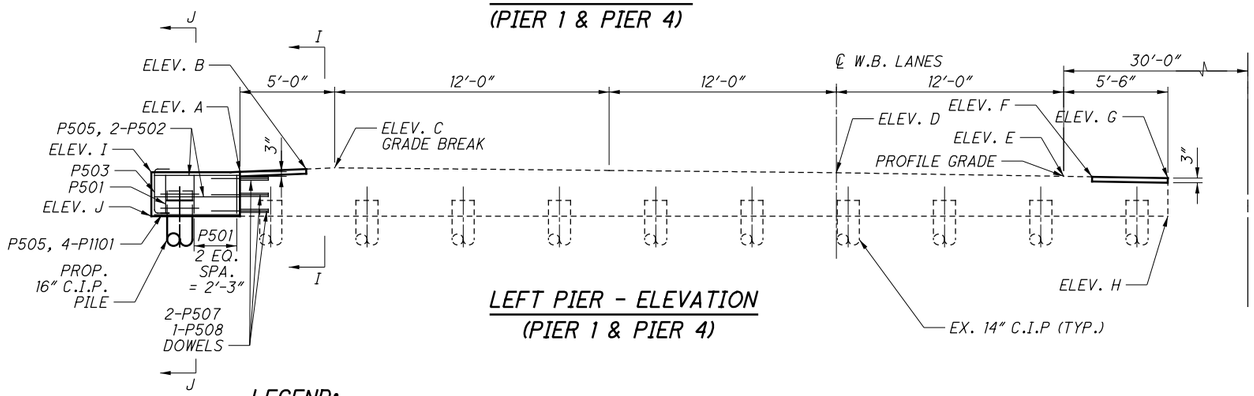
LEFT PIER REMOVAL - ELEVATION
(PIER 1 & PIER 4)



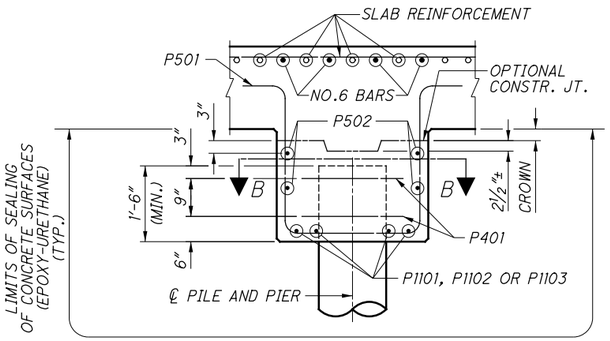
SECTION I-I



LEFT PIER - PLAN
(PIER 1 & PIER 4)



LEFT PIER - ELEVATION
(PIER 1 & PIER 4)



SECTION J-J

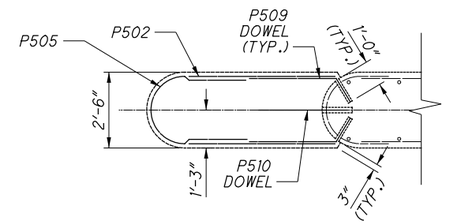
LEGEND:

▨ - 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

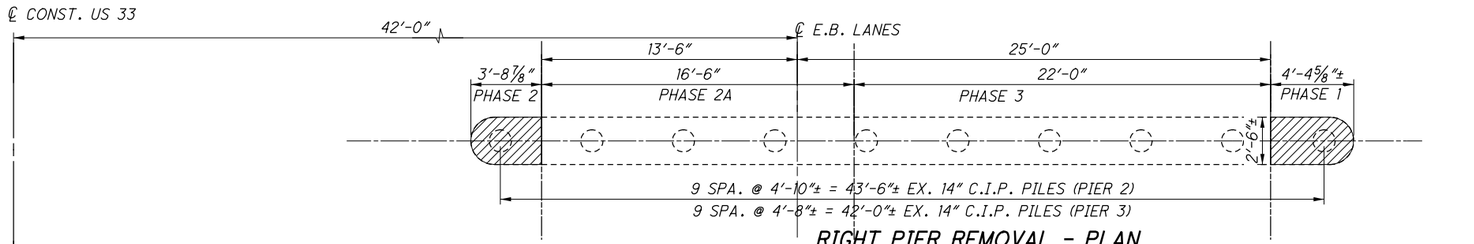
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501929/2501953	

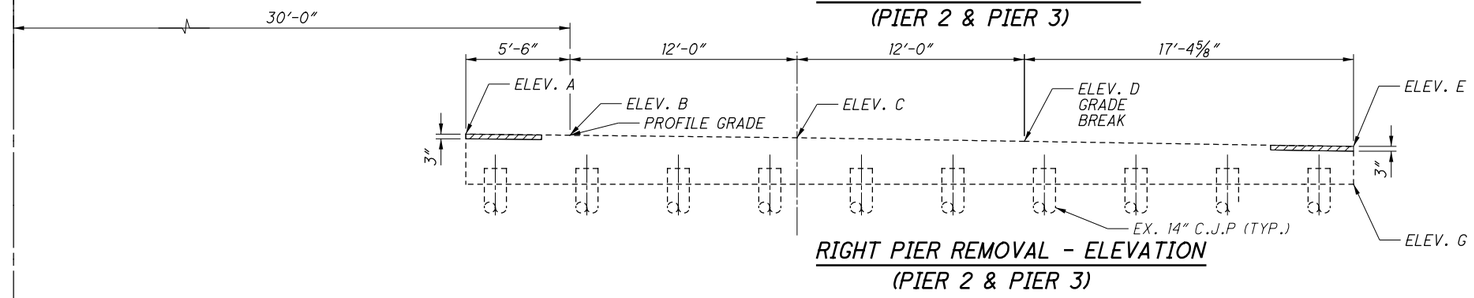
PIER #1 & #4 DETAILS
BRIDGE NO. FRA-033-2503 L/R
OVER BIG WALNUT OVERFLOW

FRA-33-24.26
PID No. 98111

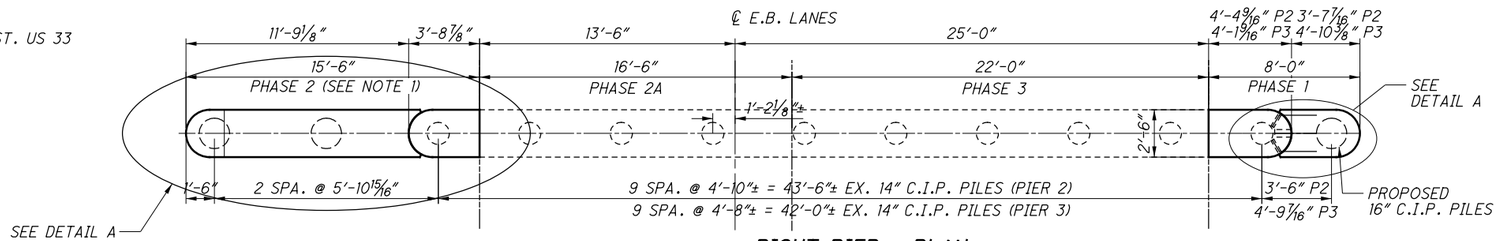
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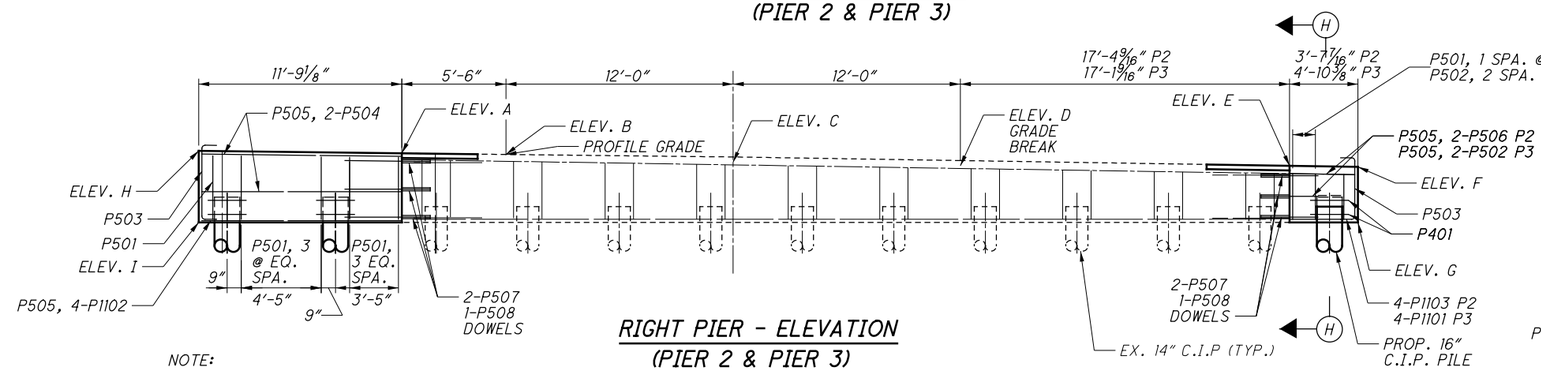
RIGHT PIER REMOVAL - PLAN
(PIER 2 & PIER 3)



RIGHT PIER REMOVAL - ELEVATION
(PIER 2 & PIER 3)



RIGHT PIER - PLAN
(PIER 2 & PIER 3)



RIGHT PIER - ELEVATION
(PIER 2 & PIER 3)

NOTES:

1. ALL PILES SHALL BE INSTALLED DURING PHASE 1.

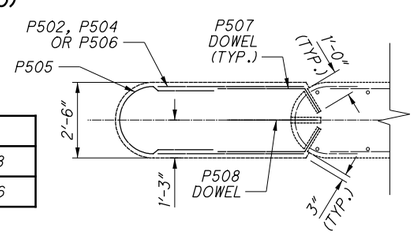
LEGEND:

▨ - ITEM 202 - STRUCTURE REMOVED, AS PER PLAN

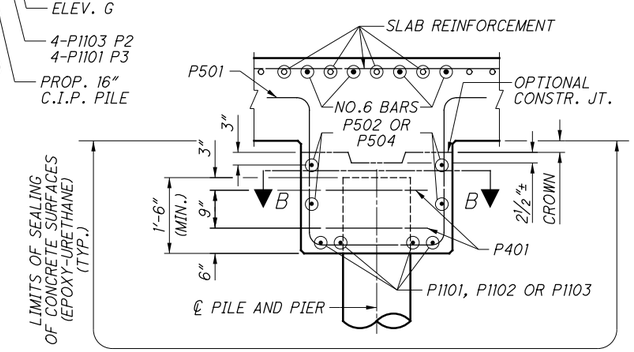
NOTE:

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

RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501929/2501953	

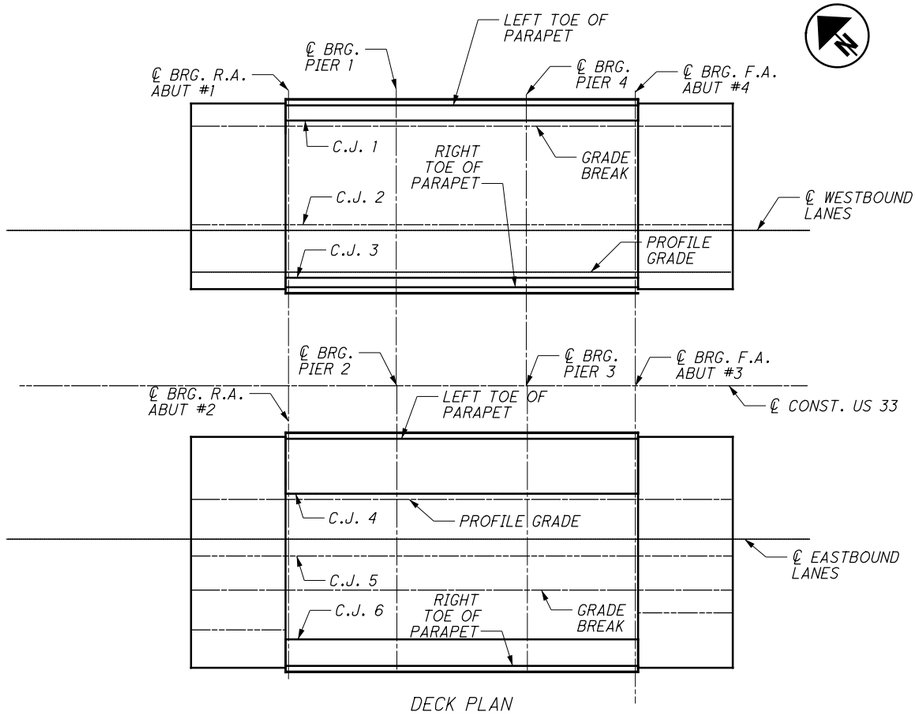
PIER #2 & #3 DETAILS

BRIDGE NO. FRA-033-2503 L/R
OVER BIG WALNUT OVERFLOW

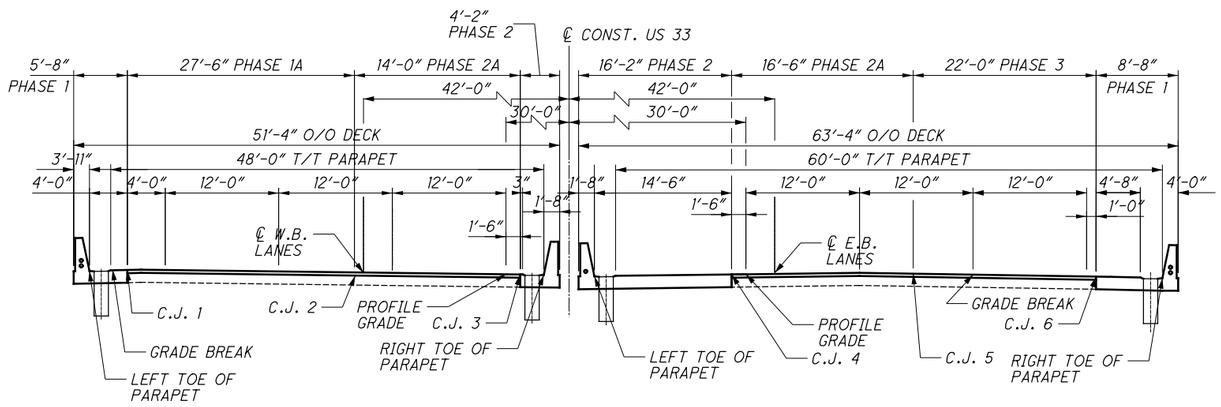
FRA-33-24.26

PID No. 98111

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DECK PLAN



DECK TYPICAL

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

	SPAN 1								SPAN 2								SPAN 3									
LOCATION	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

	SPAN 1								SPAN 2								SPAN 3									
LOCATION	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

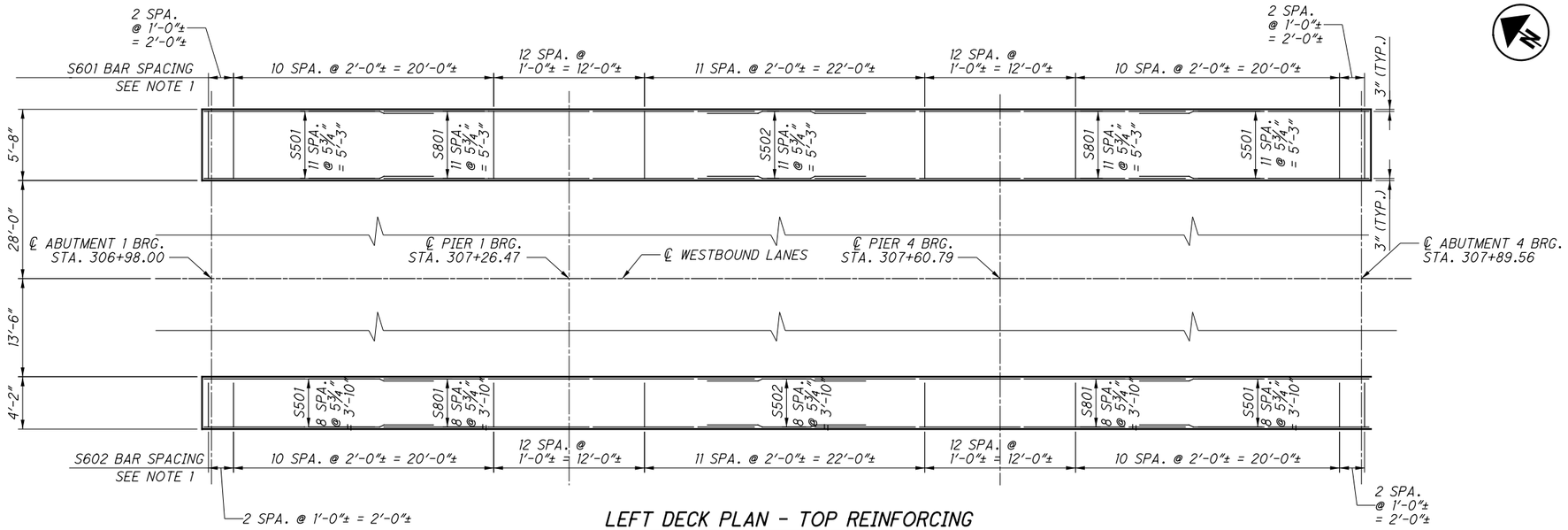
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JLM	JLM	NCK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JGM	-	2501929/2501953	

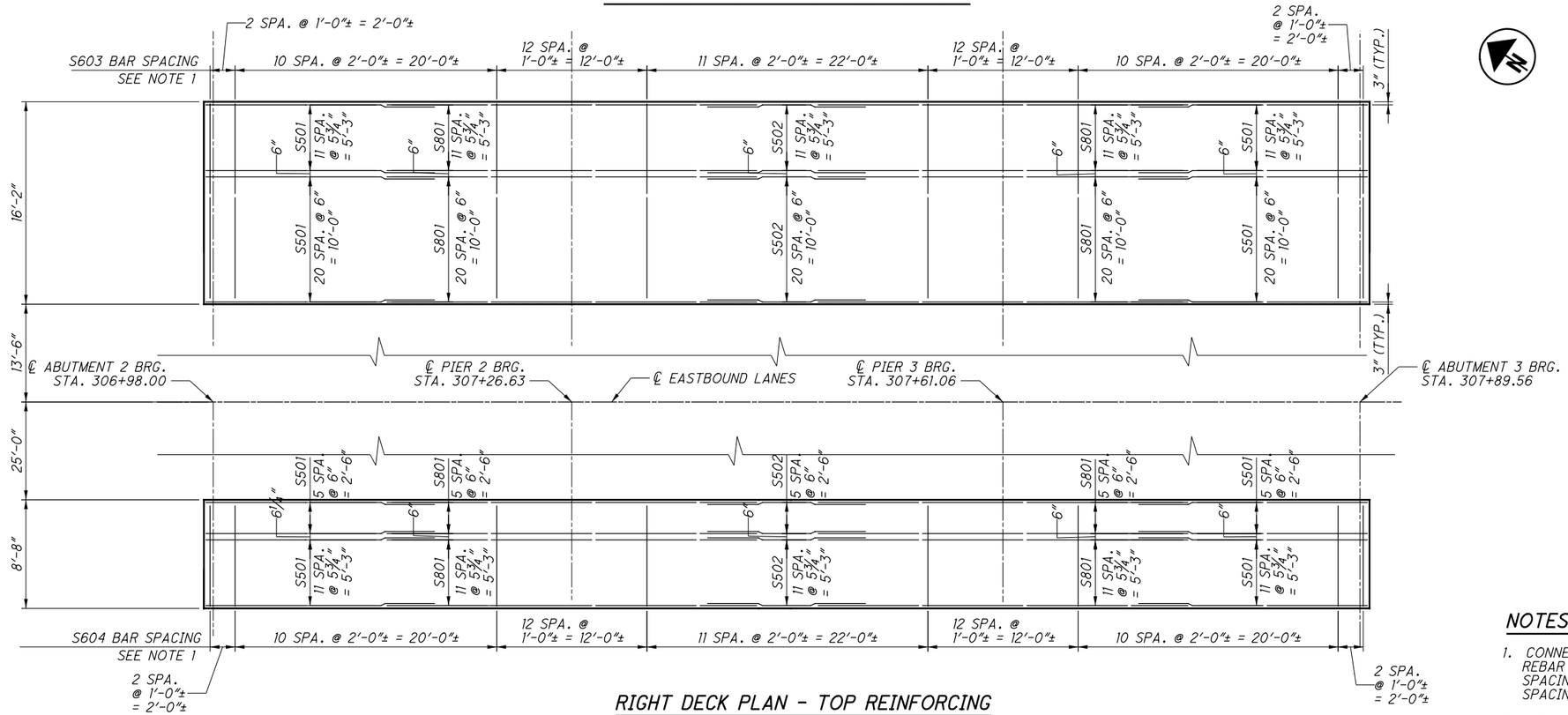
FINAL DECK SURFACE ELEVATIONS
BRIDGE NO. FRA-33-2503 L/R
OVER WALNUT CREEK OVERFLOW

FRA-33-24.26
PID No. 98111

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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.

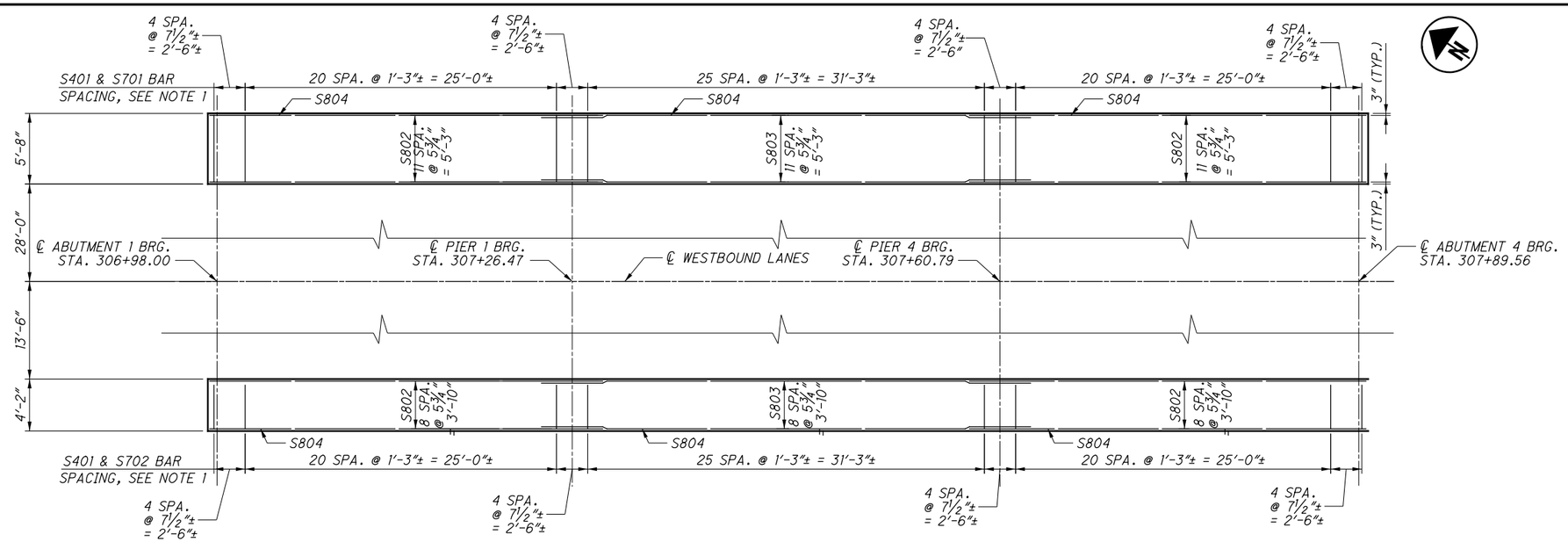
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501929/2501953	

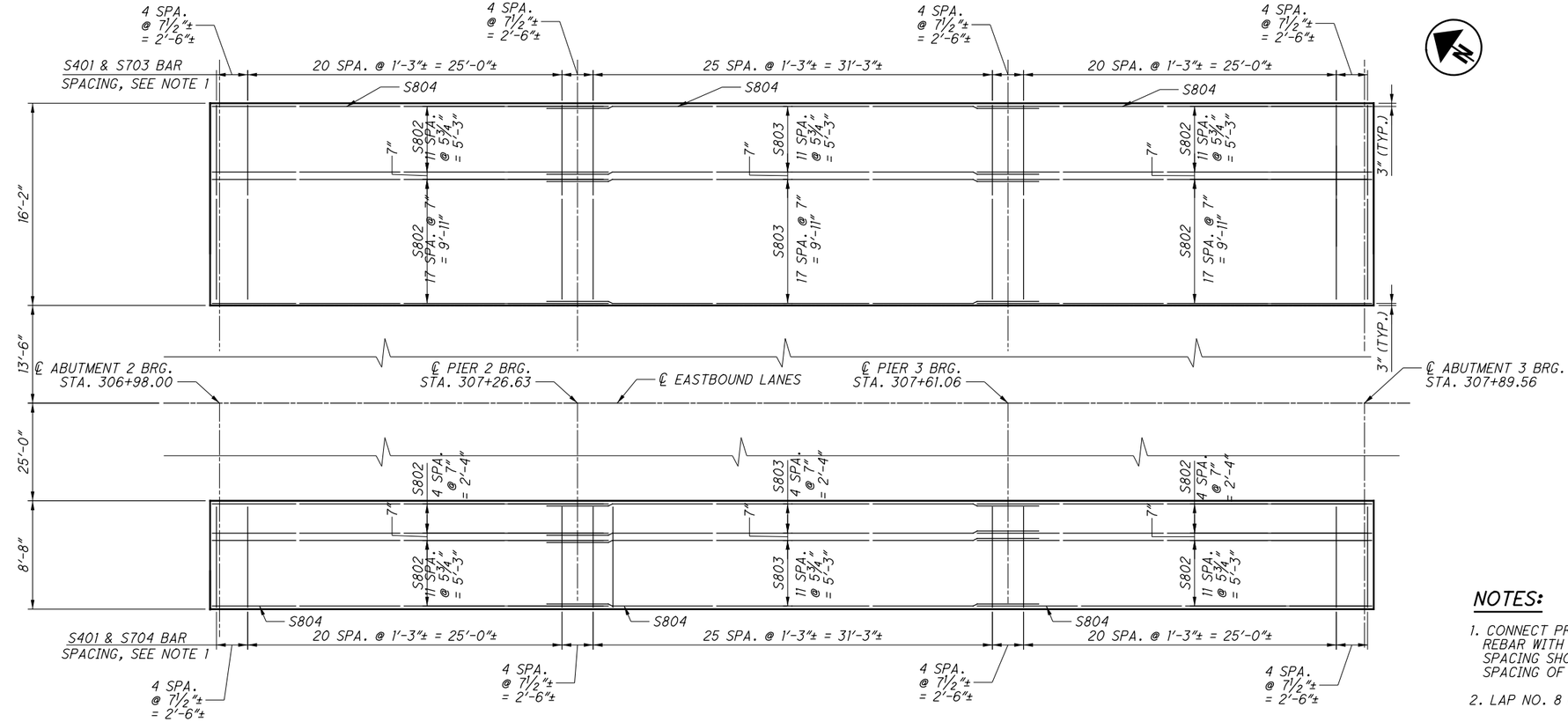
DECK PLAN - TOP REINFORCING
BRIDGE NO. FRA-033-2503 L/R
OVER WALNUT CREEK OVERFLOW

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.

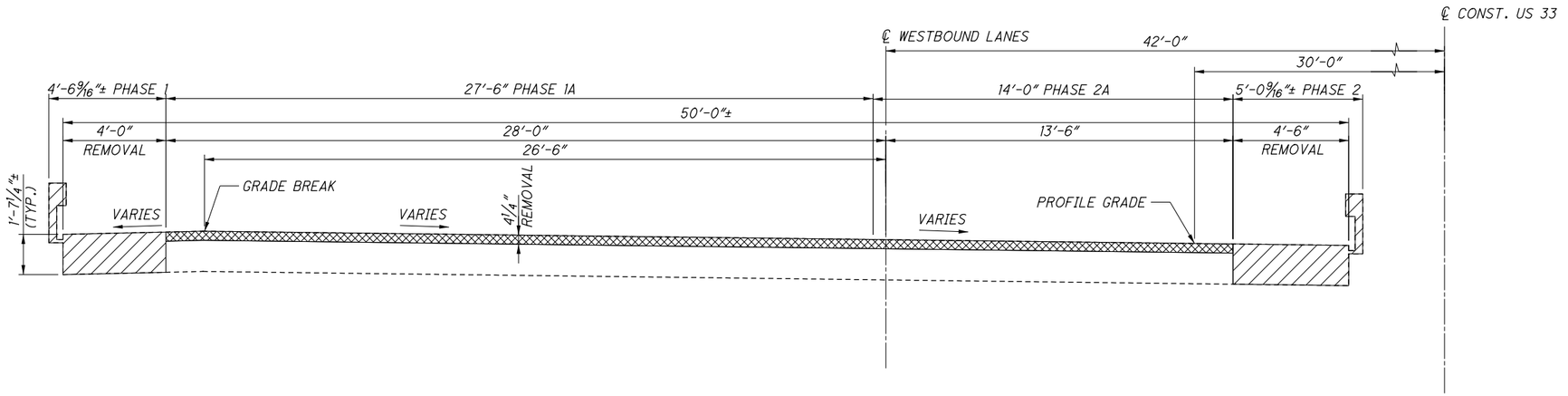
RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501929/2501953	

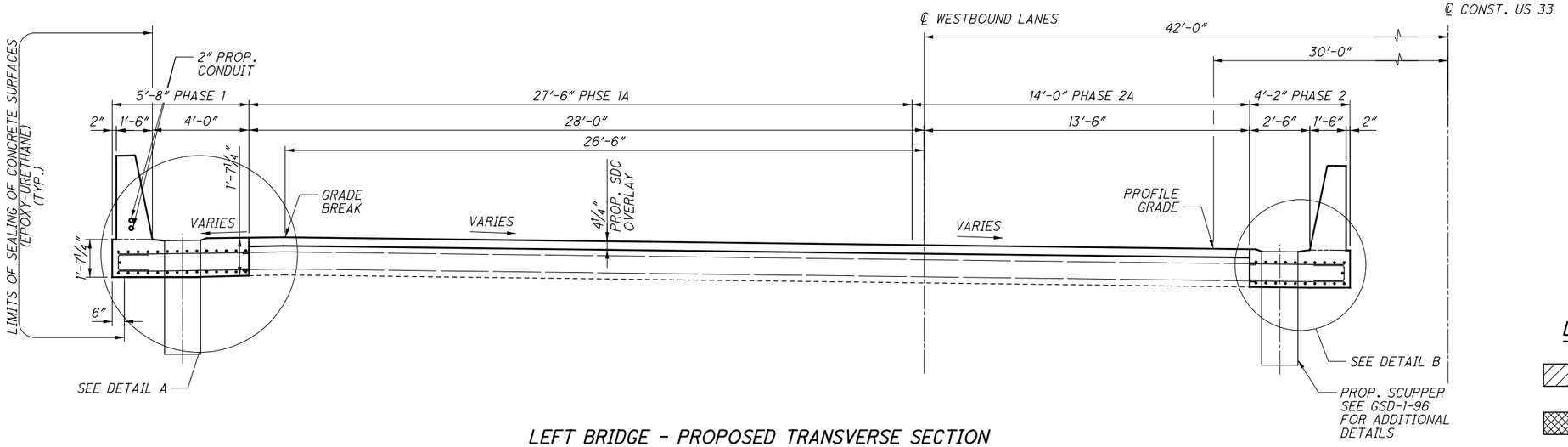
DECK PLAN - BOTTOM REINFORCING
BRIDGE NO. FRA-033-2503 L/R
OVER WALNUT CREEK OVERFLOW

FRA-33-24.26
PID No. 98111

11/8/2017 1:07:46 PM kevinj
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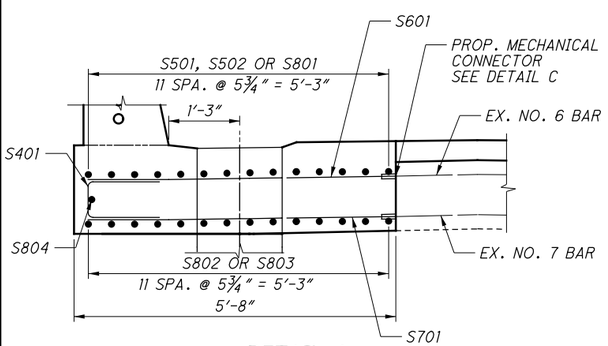
LEFT BRIDGE - REMOVAL



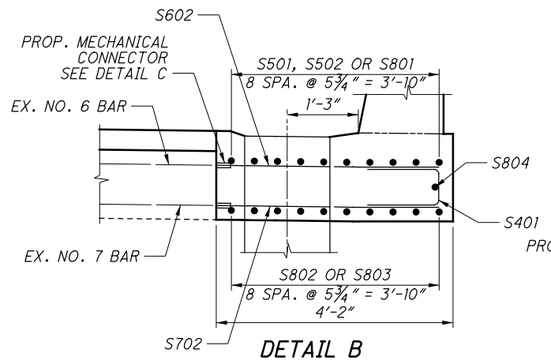
LEFT BRIDGE - PROPOSED TRANSVERSE SECTION

LEGEND:

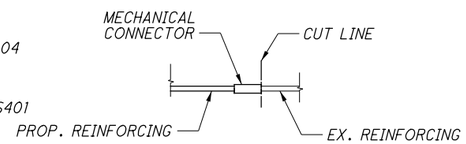
- ITEM 202 - STRUCTURE REMOVED, AS PER PLAN
- ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION



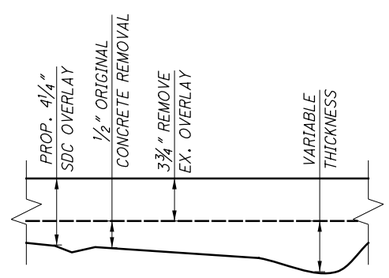
DETAIL A



DETAIL B



DETAIL C



OVERLAY DETAIL

RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

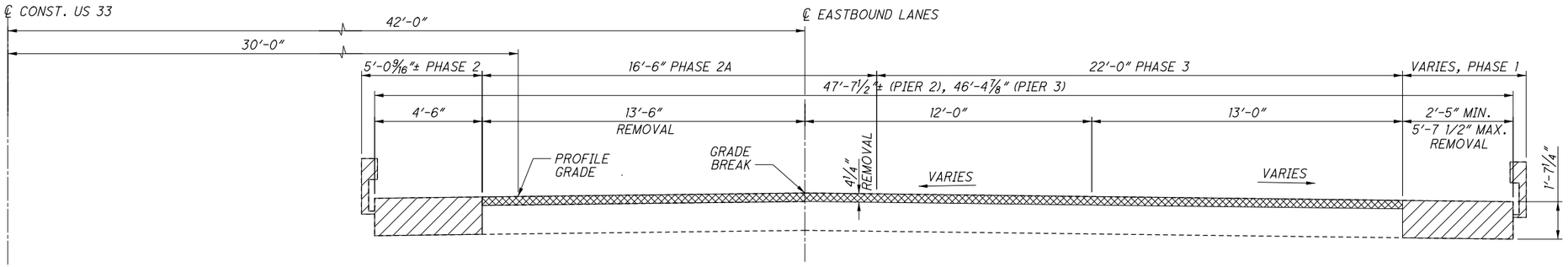
DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501929/2501953	

TRANSVERSE SECTION - LEFT BRIDGE

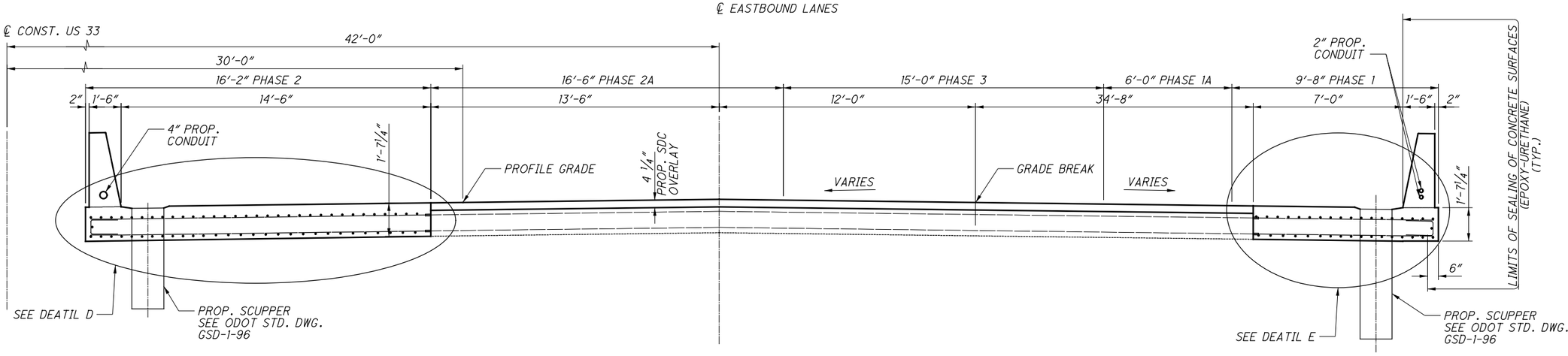
BRIDGE NO. FRA-033-2503 L/R
OVER BIG WALNUT OVERFLOW

FRA-33-24.26
PID No. 98111

4/2/2018 10:59:57 AM kevinj
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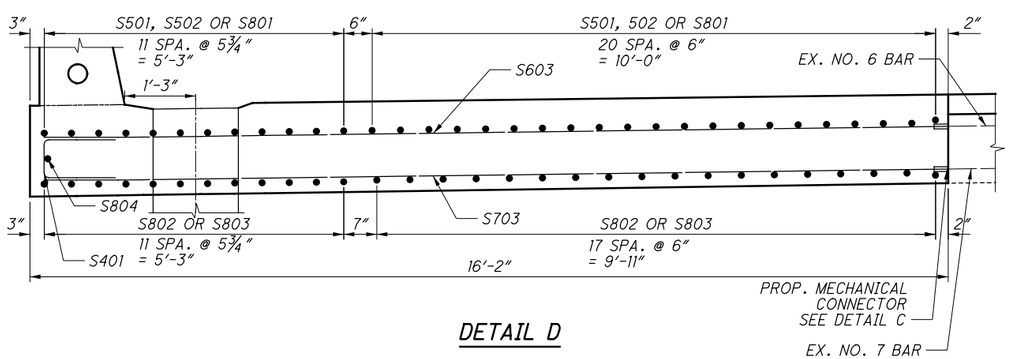
RIGHT BRIDGE - REMOVAL



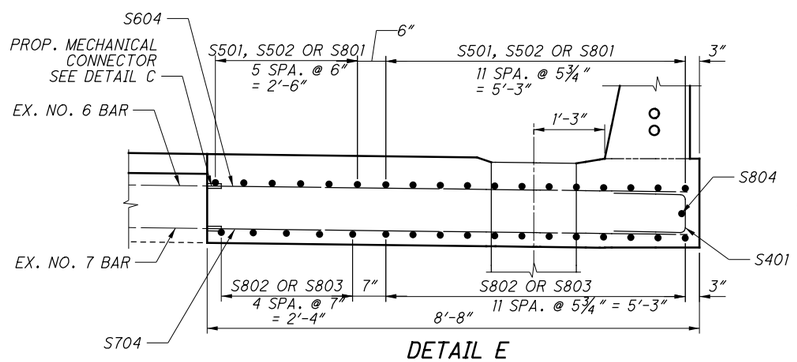
RIGHT BRIDGE - PROPOSED TRANSVERSE SECTION

LEGEND:

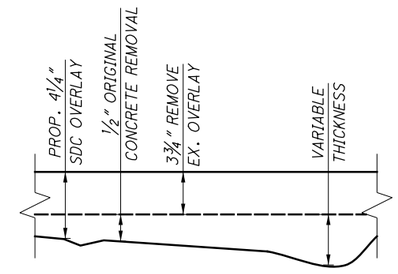
- ITEM 202 - STRUCTURE REMOVED, AS PER PLAN
- ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION



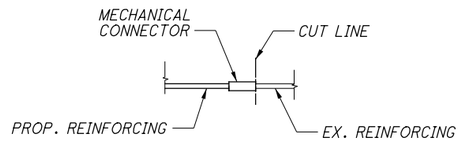
DETAIL D



DETAIL E



OVERLAY DETAIL



DETAIL F

RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
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(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501929/2501953	

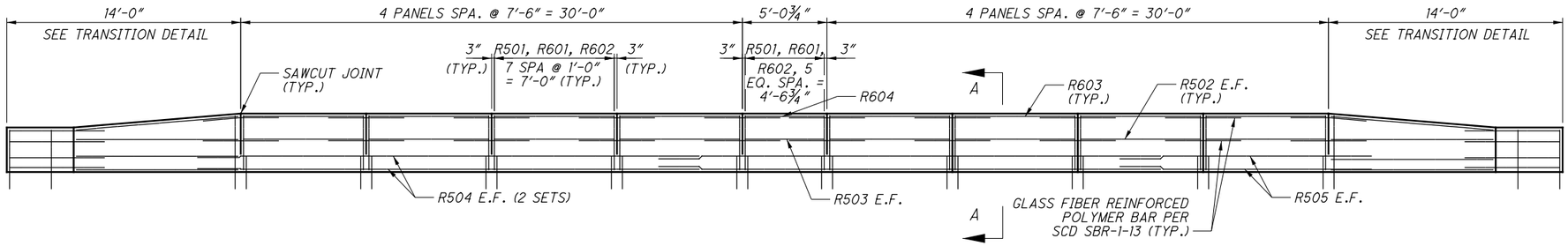
TRANSVERSE SECTION - RIGHT BRIDGE
BRIDGE NO. FRA-033-2503 L/R
OVER BIG WALNUT OVERFLOW

FRA-33-24.26
PID No. 98111

19 / 24

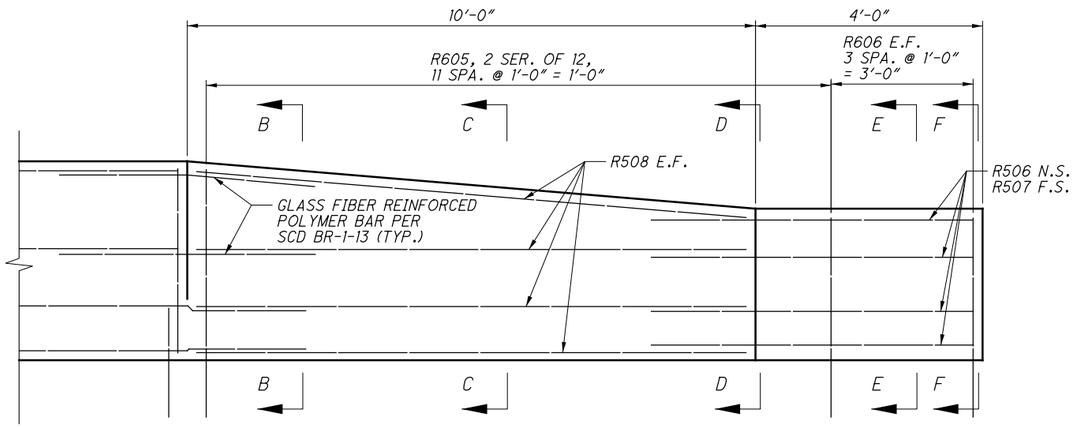
248
287

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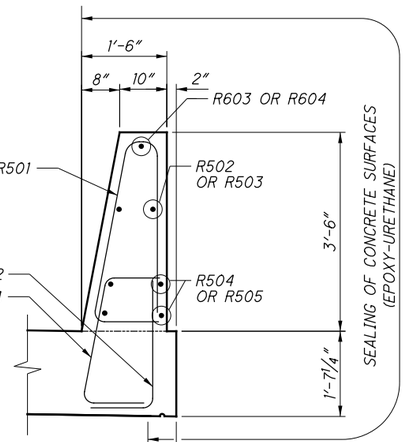


PARAPET ELEVATION

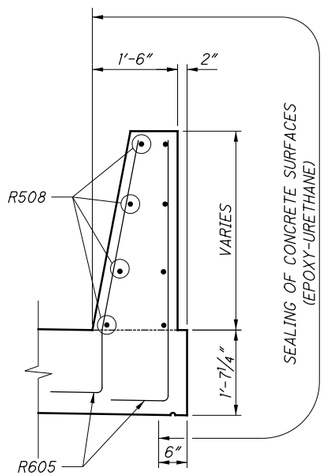
(WESTBOUND LEFT SHOWN
WESTBOUND RIGHT, EASTBOUND LEFT AND EASTBOUND RIGHT SIMILAR)



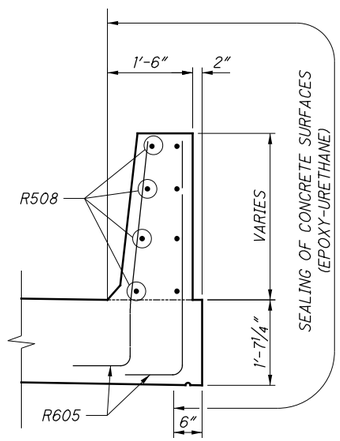
PARAPET TRANSITION DETAIL



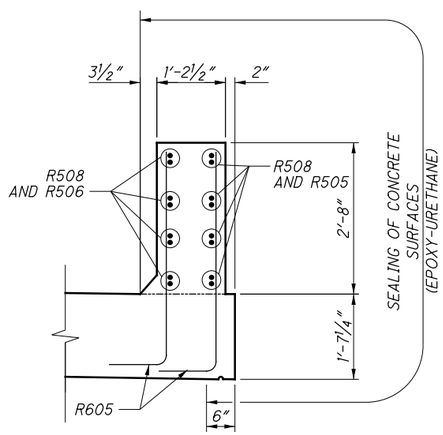
SECTION A-A



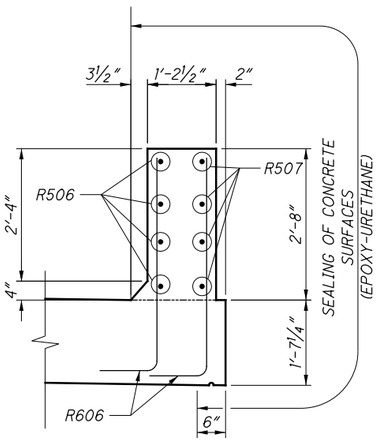
SECTION B-B



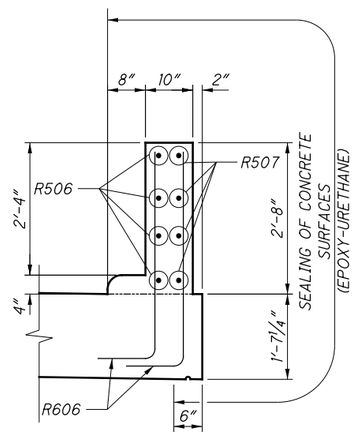
SECTION C-C



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"

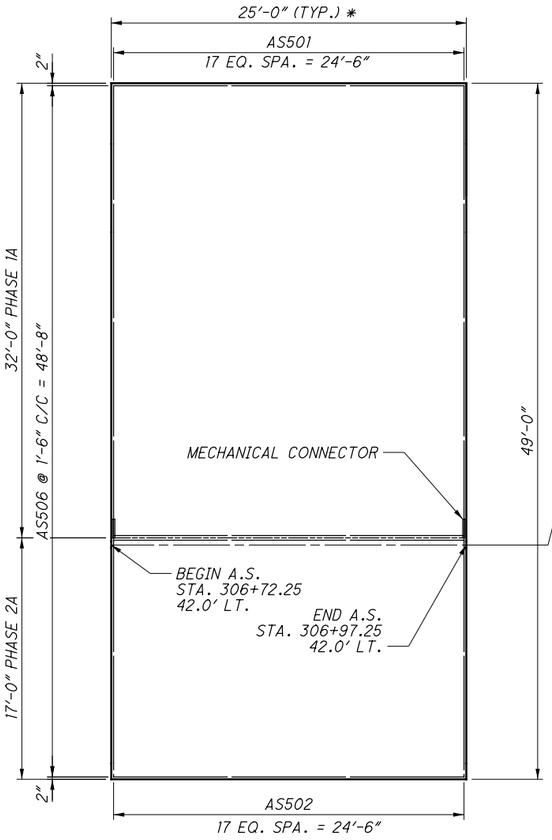
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
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NCK		2501929/2501953	

PARAPET & TRANSITION DETAILS
BRIDGE NO. FRA-33-2503 L/R
OVER WALNUT CREEK OVERFLOW

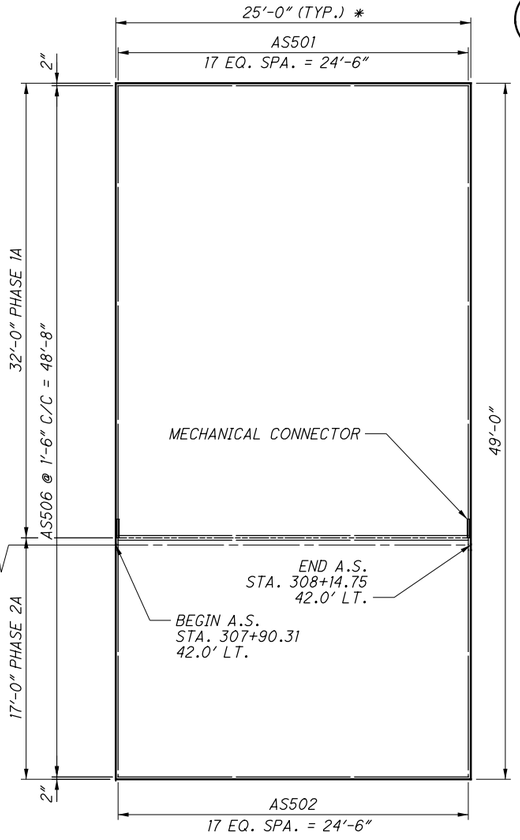
FRA-33-24.26
PID No. 98111

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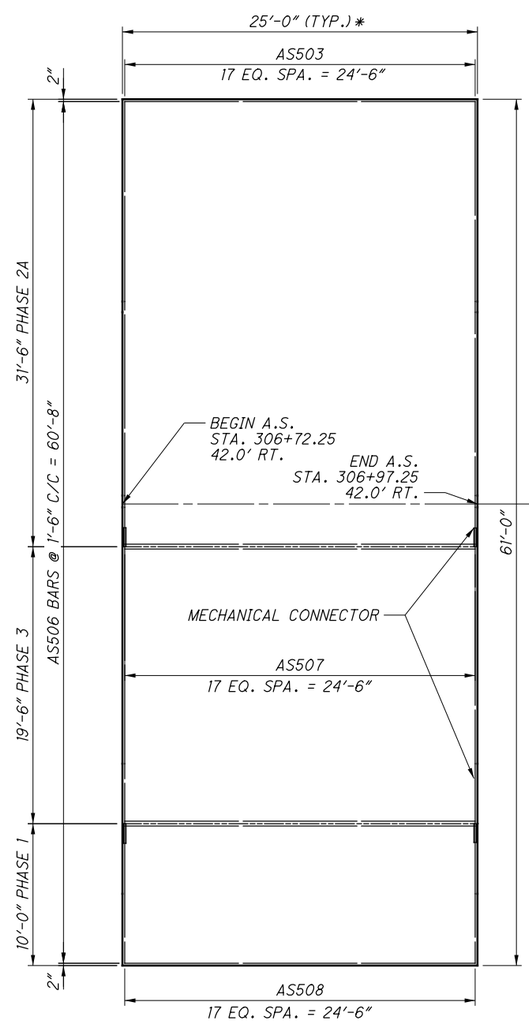
LEFT REAR APPROACH SLAB

(TOP REINFORCING)



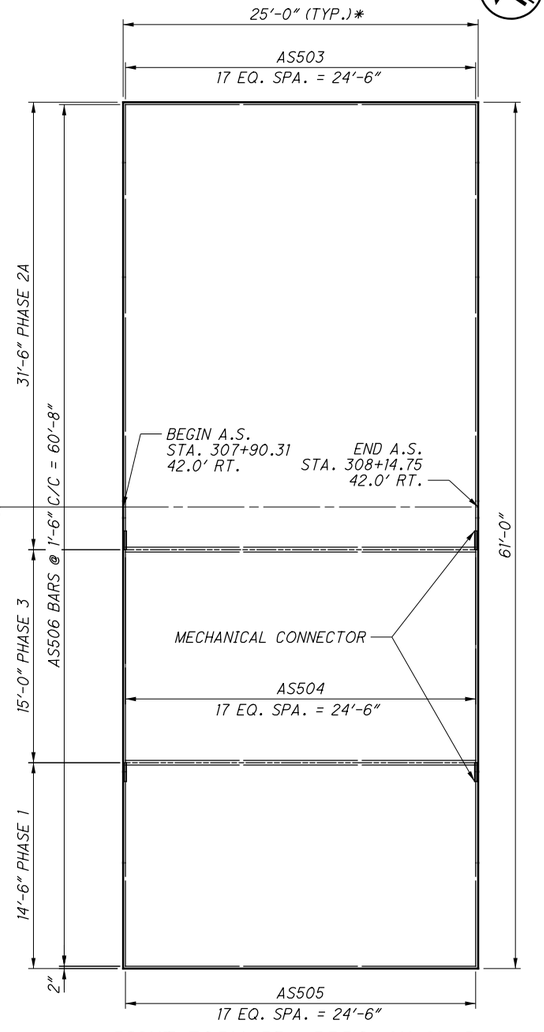
LEFT FORWARD APPROACH SLAB

(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.

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COLUMBUS, OHIO 43231
(614) 823-4949

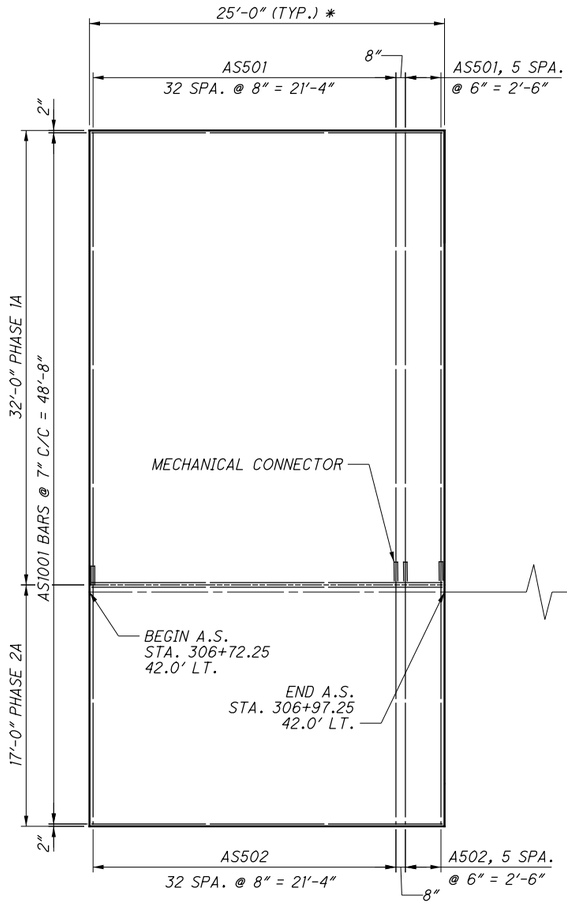
DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501929/2501953	

APPROACH SLAB DETAILS - TOP REINFORCING

BRIDGE NO. FRA-033-2503 L/R
OVER WALNUT CREEK OVERFLOW

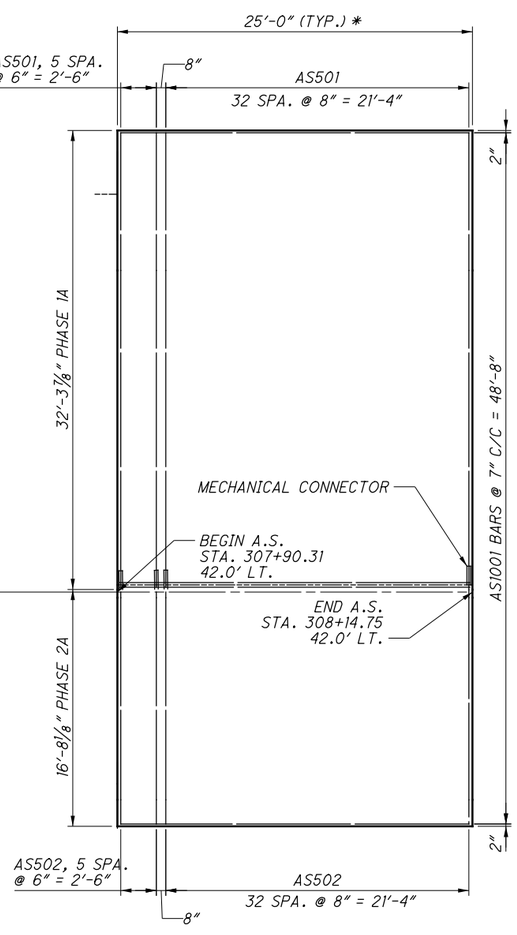
FRA-33-24.26
PID No. 98111

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LEFT REAR APPROACH SLAB

(BOTTOM REINFOPRCING)

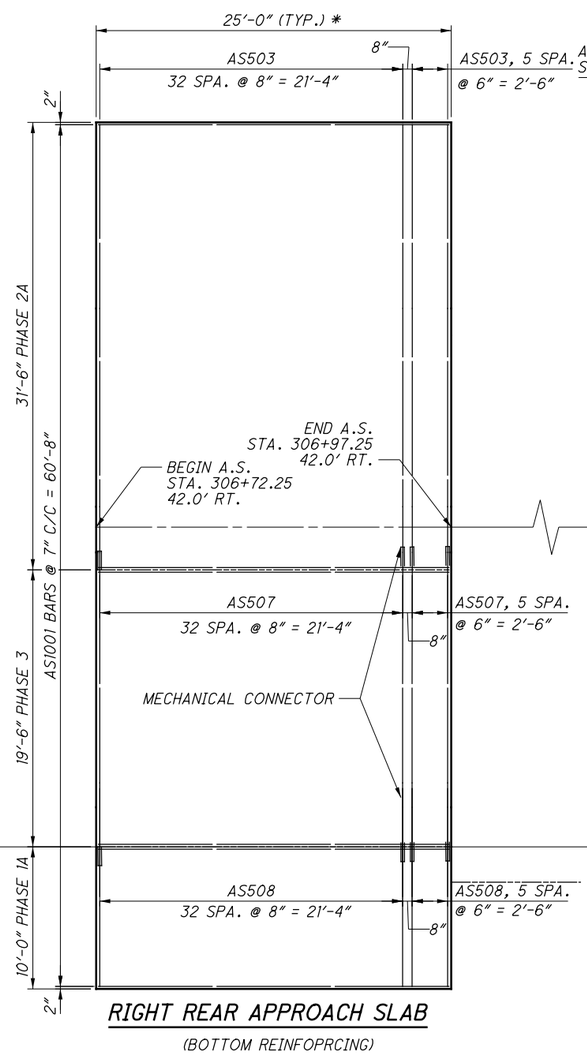


LEFT FORWARD APPROACH SLAB

(BOTTOM REINFOPRCING)

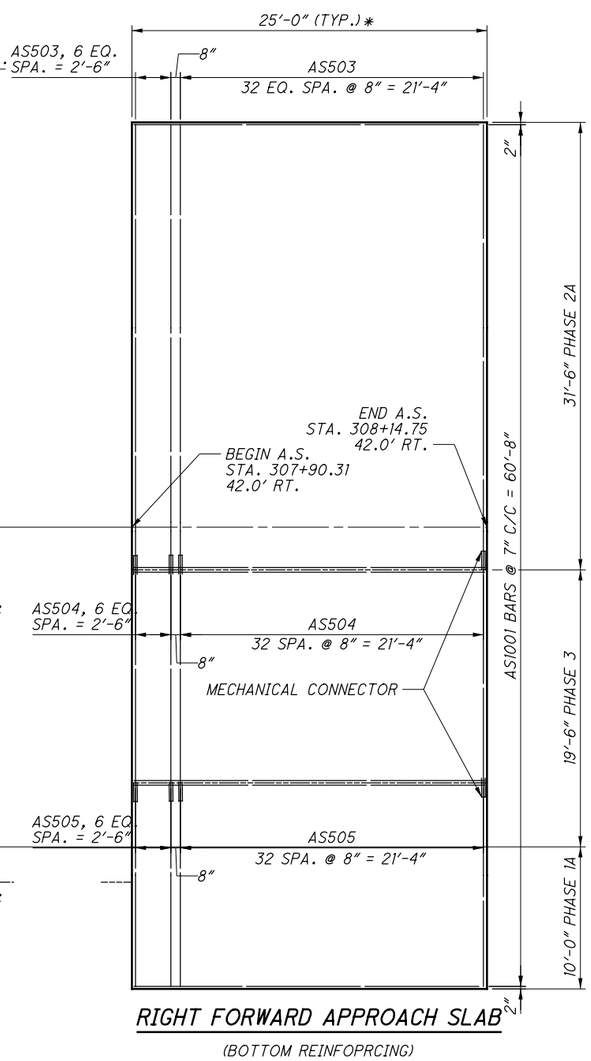
LEGEND:

* SEE ROADWAY PLANS FOR QUANTITIES FOR ITEM 609 - CURB, TYPE 4-A.



RIGHT REAR APPROACH SLAB

(BOTTOM REINFOPRCING)



RIGHT FORWARD APPROACH SLAB

(BOTTOM REINFOPRCING)

RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
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DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501929/2501953	

APPROACH SLAB DETAILS - BOTTOM REINFORCING

BRIDGE NO. FRA-033-2503 L/R
OVER WALNUT CREEK OVERFLOW

FRA-33-24.26
PID No. 98111

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MARK	NUMBER: ABUT 1 LEFT 2501929	NUMBER: ABUT 2 RIGHT 2501953	NUMBER: ABUT 4 LEFT 2501929	NUMBER: ABUT 3 RIGHT 2501953	NUMBER: TOTAL	LENGTH	WEIGHT 2501929	WEIGHT 2501953	TYPE	DIMENSIONS: A	B	C	INC
ABUTMENT													
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
SUPERSTRUCTURE										
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
PARAPET											
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					
	4	4	4'-9"					3'-11"			
R605	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						

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.

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.

RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED JGM | DRAWN JGM | REVIEWED SSK | DATE 11/07/17
CHECKED NCK | REVISED - | STRUCTURE FILE NUMBER 2501929/2501953

REINFORCING STEEL LIST

BRIDGE NO. FRA-33-2503 L/R
OVER WALNUT CREEK OVERFLOW

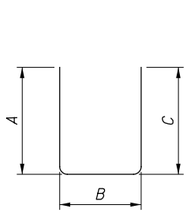
FRA-33-24.26
PID No. 98111

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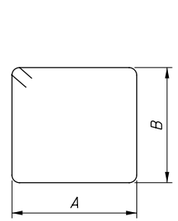
MARK	TOTAL LEFT 2501929	TOTAL RIGHT 2501953	LENGTH	WEIGHT LEFT 2501929	WEIGHT RIGHT 2501953	TYPE	DIMENSIONS						
							A	B	C	D	E	R	INC
APPROACH SLABS - INFO ONLY													
AS501**	114		31'-10"	3785		ST							
AS502**	114		16'-10"	2001		ST							
AS503**		115	31'-4"		3758	ST							
AS504**		58	15'-0"		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							
AS1001	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
PIER													
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								

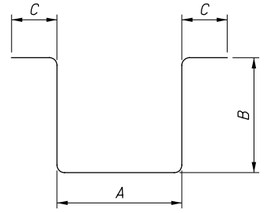
BENDING DIAGRAMS



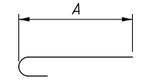
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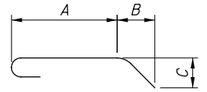
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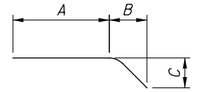
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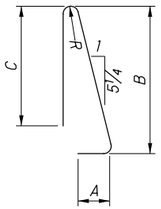
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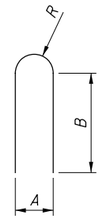
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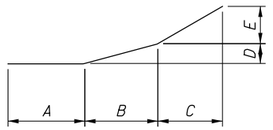
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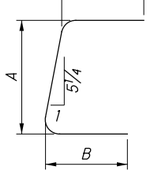
TYPE-23



TYPE-24



TYPE-25



TYPE-28

LEGEND:

** - INDICATES DOWEL BAR.*

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3 - REVISED 1/29/2018

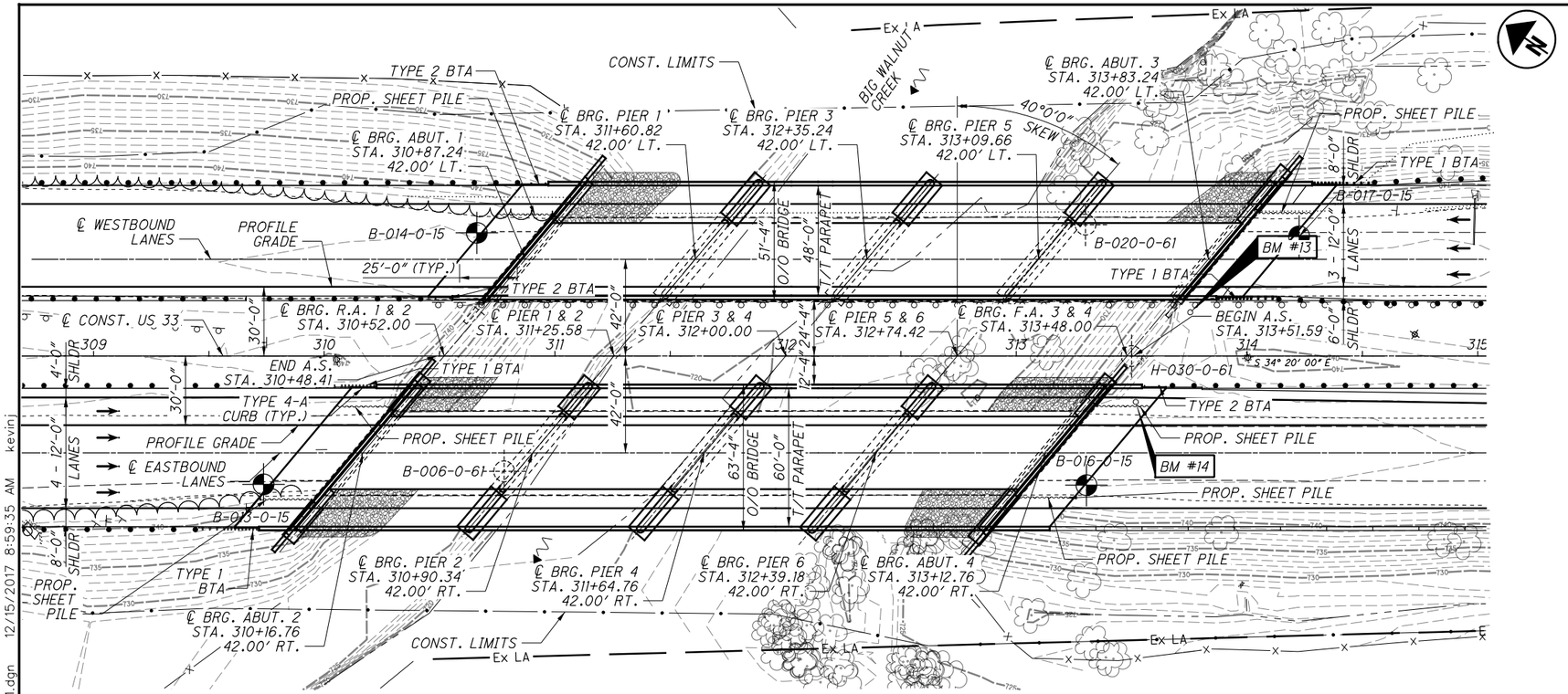
RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK	JGM	2501929/2501953	

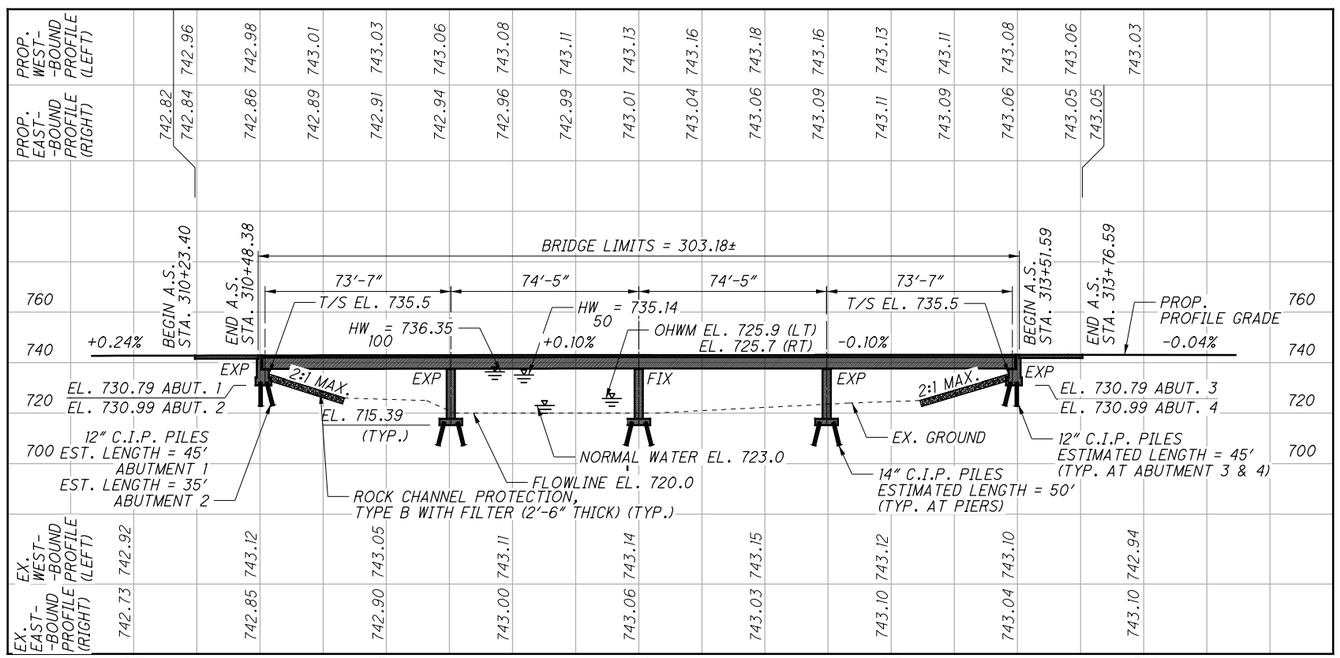
REINFORCING STEEL LIST
BRIDGE NO. FRA-33-2503 L/R
OVER WALNUT CREEK OVERFLOW

FRA-33-24.26
PID No. 98111

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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 111/287

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 ½" 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"

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CHECKED — | REVISED — | STRUCTURE FILE NUMBER 2501988/2502011

FRANKLIN COUNTY
STA. 310+13.17
STA. 313+16.35

FRANKLIN COUNTY
STA. 310+83.65
STA. 313+86.83

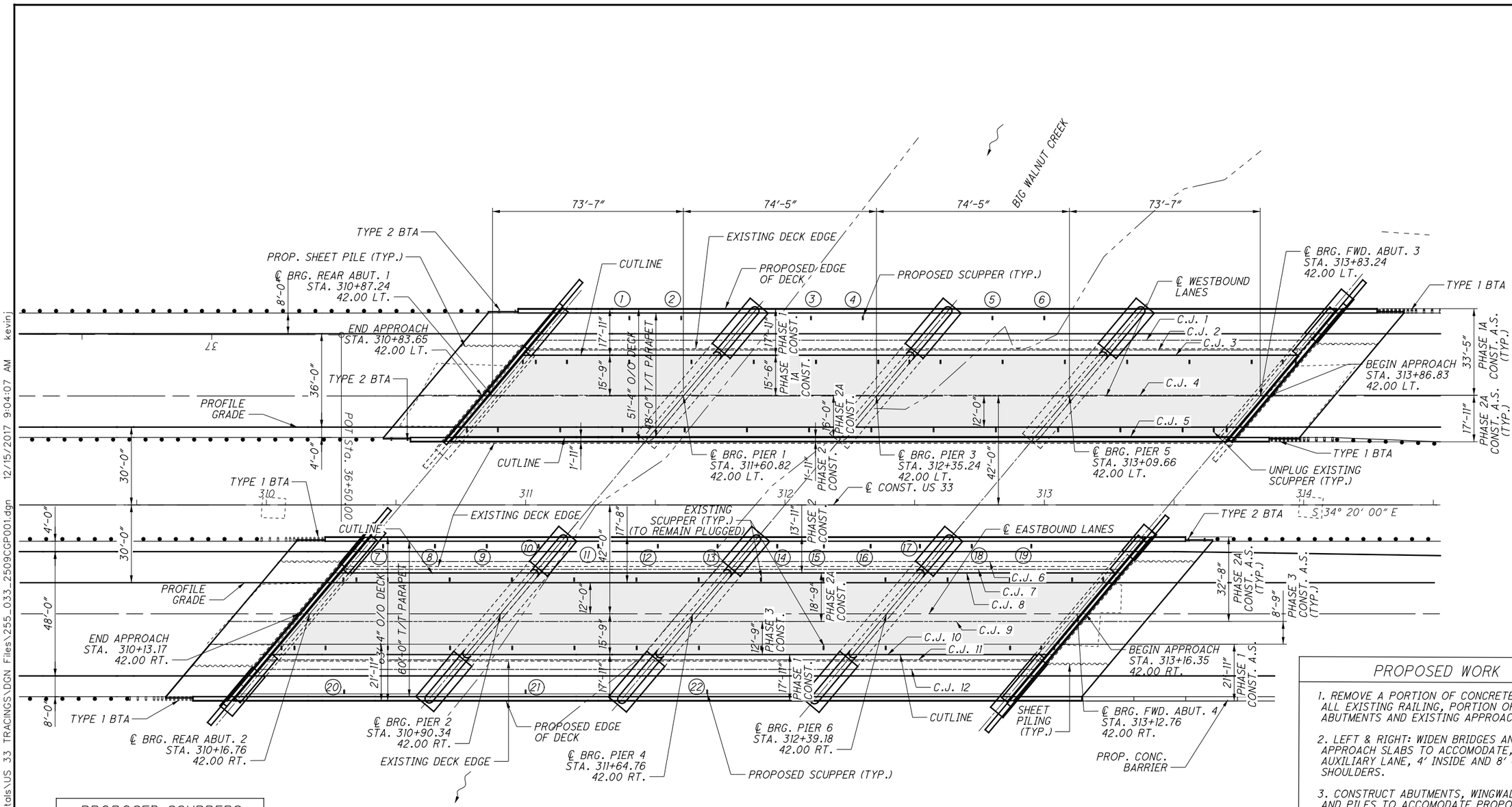
SITE PLAN
BRIDGE NO. FRA-033-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111

1 / 34

254 / 287

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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.

FRA-33-2509L/R

LEGEND:

▭ - LIMITS OF SDC OVERLAY

PROPOSED WORK

1. REMOVE A PORTION OF CONCRETE DECK, ALL EXISTING RAILING, PORTION OF ABUTMENTS AND EXISTING APPROACH SLABS.
2. LEFT & RIGHT: WIDEN BRIDGES AND APPROACH SLABS TO ACCOMODATE, 12' AUXILIARY LANE, 4' INSIDE AND 8' OUTSIDE SHOULDERS.
3. CONSTRUCT ABUTMENTS, WINGWALLS, PIERS AND PILES TO ACCOMODATE PROPOSED WIDENING.
4. CONSTRUCT APPROACH SLABS.
5. LEFT: INSTALL PROPOSED SCUPPERS, UNPLUG EXISTING SCUPPERS AS SHOWN IN THE PLANS.
   RIGHT: INSTALL PROPOSED SCUPPERS, KEEP EXISTING SCUPPERS PLUGGED.
6. CONSTRUCT SBR-1-13 RAILING.
7. REMOVE EXISTING CONCRETE OVERLAY AND REPLACE WITH SDC CONCRETE OVERLAY USING HYDRODEMOLITION PER SS848.
8. SEAL ALL EXISTING AND PROPOSED SURFACES WITH EPOXY-URETHANE SEALER AS SHOWN IN THE PLANS.
9. PATCH ABUTMENTS.
10. ADD ROCK CHANNEL PROTECTION, TYPE B WITH FILTER (2'-6" THICK) TO WIDENED AREAS.

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DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501988/2502011	

GENERAL PLAN
BRIDGE NO. FRA-33-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111

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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
EXJ-16-17	REVISED	01-20-17
GSD-1-96	REVISED	07-19-02
PCB-91	REVISED	01-18-13
~~PSID 1-99~~	~~REVISED~~	~~07-18-08 (RETIRED)~~
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
2½" CONCRETE COVER
3 ½" 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 INDICATINVE 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.

MEAUSREMENT & 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:

PROVIDE CONCRETE INTERMEDIATE DIAPHRAGMS BETWEEN PROPOSED BEAMS PER STD. DWG. PSID-1-13 AND AT SPACING SHOWN ON FRAMING PLAN SHEET 17/34.

THERE WILL BE NO INTERMEDIATE DIAPHRAGMS BETWEEN EXISTING EXTERIOR BEAM AND PROPOSED INTERIOR BEAM. CONTRACTOR TO BRACE THESE BEAMS ADEQUATELY TO PREVENT ROTATION DURING CONSTRUCTION OF THE WIDENING.

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

ITEM 526, REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN:

TO EXPEDITE WORK, CLASS QC2 CONCRETE WITH AN ACCELERATING ADMIXTURE SUCH AS SILKA RAPID-1 OR ANY APPROVED EQUIVALENT ADMIXTURE SHALL BE USED TO ACHIEVE 3000 PSI COMPRESSIVE STRENGTH IN 12 HOURS. USE A NON-CHLORIDE ACCELERATING ADMIXTURE AND PROVIDE DOCUMENTATION THAT THE MIX WILL PROVIDE THE STRENGTH IN THE SPECIFIED TIME.

THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS.

AT LEAST 5 DAYS PRIOR RO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A SCHEDULE OF REPAIR WORK ITEMS TO BE COMPLETED. THE SCHEDULE SHALL INCLUDE A BREAKDOWN OF ALL MAJOR WORK ACTIVITIES ON AN HOURLY BASIS. REPAIR WORK SHALL NOT BEGIN UNTILL THE SCHEDULE IS APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL CONTINUE THE WE CURE FOR THE MAXIMUM NUMBER OF HOURS POSSIBLE DURING THE PERMITTED LANE CLOSURE. THE CLOCK STARTS FOR THE WET CURE WHEN THE CONCRETE PLACEMENT IS COMPLETE.

IF THE CONTRACTOR FAILS TO OPEN LANES TO TRAFFIC AT THE TIMES ERQUIRED IN THE MAINTENANCE OF THE TRAFFIC GENERAL NOTES, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE AS SHOWN ON THE LANE VALUE CONTRACT TABLE.

TRAFFIC WILL NOT BE PERMITTED ON THE FINISHED CONCRETE SURFACE UNTILL AFTER COMPLETION OF A 12 HOUR MINIMUM WET CURE AND AFTER TWO TEST BEAMS HAVE ATTAINED AN AVERAGE MODULUS OF RUPTURE OF 400 PSI.

RESOURCE INTERNATIONAL INC.
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DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK	-	2501988/2502011	

GENERAL NOTES
BRIDGE NO. FRA-33-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111

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ESTIMATED QUANTITIES

CALCULATED BY: JGM DATE: 3/29/2018
CHECKED BY: NCK DATE: 3/29/2018

		PART.				LEFT BRIDGE				RIGHT BRIDGE				
		02/NHS/BR												
ITEM	EXTENSION	QUANTITY LEFT SFN: 2501988	QUANTITY RIGHT SFN: 2502011	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	ABUT.	PIERS	SUPER.	GEN.	SHEET NO.
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		14260	46181	106446		
509	20001	1066	1669	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				1066				1669	3
510	10000	556	798	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	288	168	100		362	336	100		
511	33417	36	63	CU YD	CLASS QC2 CONCRETE,SUPERSTRUCTURE, AS PER PLAN			36				63		23
511	34446	209	338	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			209				338		
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	14021	2	4	EACH	STRAIGHT STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 2, TYPE 4, AS PER PLAN (L = 74'-1")			2				4		18
515	14021	2	4	EACH	STRAIGHT STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 2, TYPE 4, AS PER PLAN (L = 73'-11")			2				4		18
515	14021	2	4	EACH	STRAIGHT STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 2, TYPE 4, AS PER PLAN (L = 74'-1")			2				4		19
515	14021	2	4	EACH	STRAIGHT STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 2, TYPE 4, AS PER PLAN (L = 73'-11")			2				4		19
515	20001	14	28	EACH	INTERMEDIATE DIAPHRAMS, AS PER PLAN			14				28		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"	4	12			8	24			
					WITH 10" X 16 3/4" X 1 1/2" LOAD PLATE									
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	25001	280	348	SQ YD	REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN				280				348	3
601	32100	139	148	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER				139				148	
848	10200	1061	1061	SQ YD	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION (3 1/2" THICK)			1061				1061		
848	20000	1061	1061	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION			1061				1061		
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	1061	1061	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (3" THICK)			1061				1061		
848	50340	219	219	SQ YD	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY			219				219		

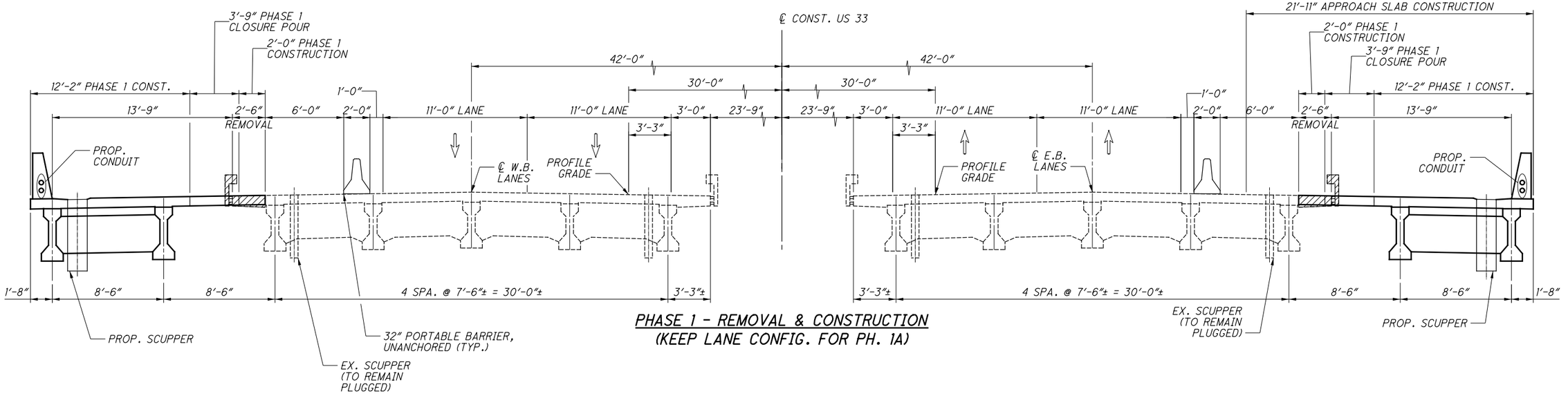
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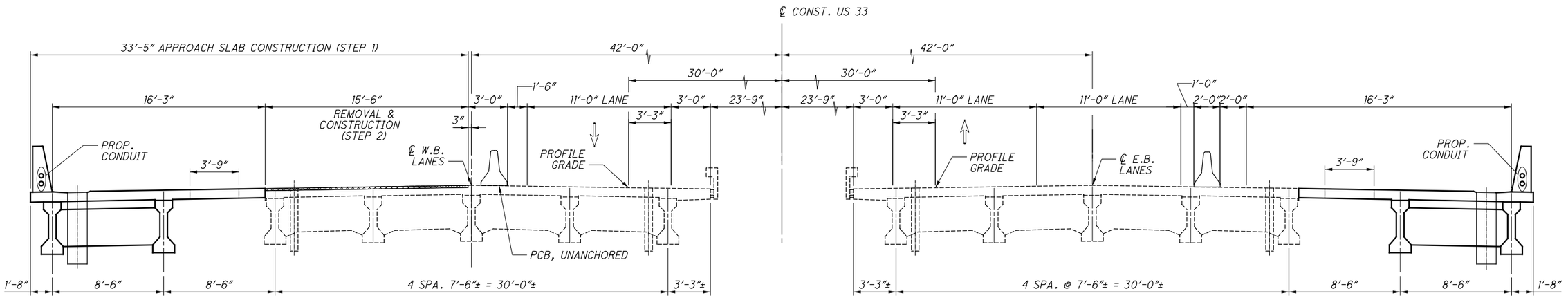
DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
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ESTIMATED QUANTITIES
BRIDGE NO. FRA-033-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111



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 SLABON 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 DIAPHRAGMS & PARAPET.
6. ON THE LEFT AND RIGHT BRIDGE CONSTRUCT 3'-9" OF CLOSURE POUR.

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.

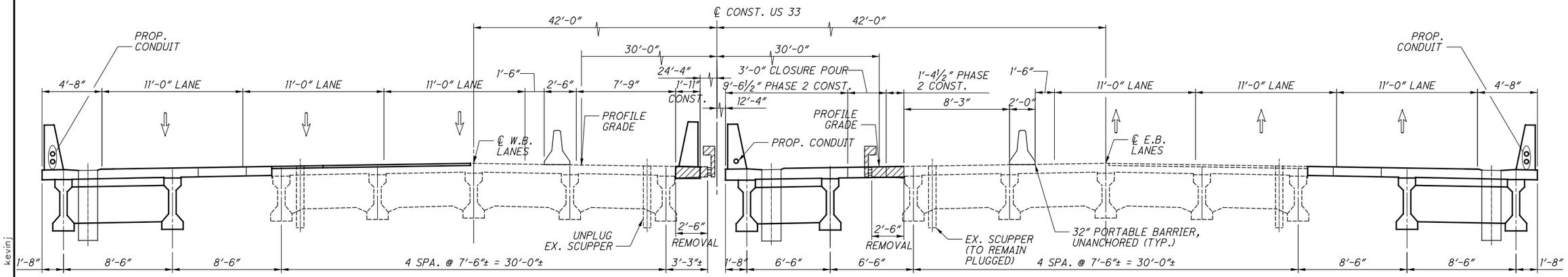
DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
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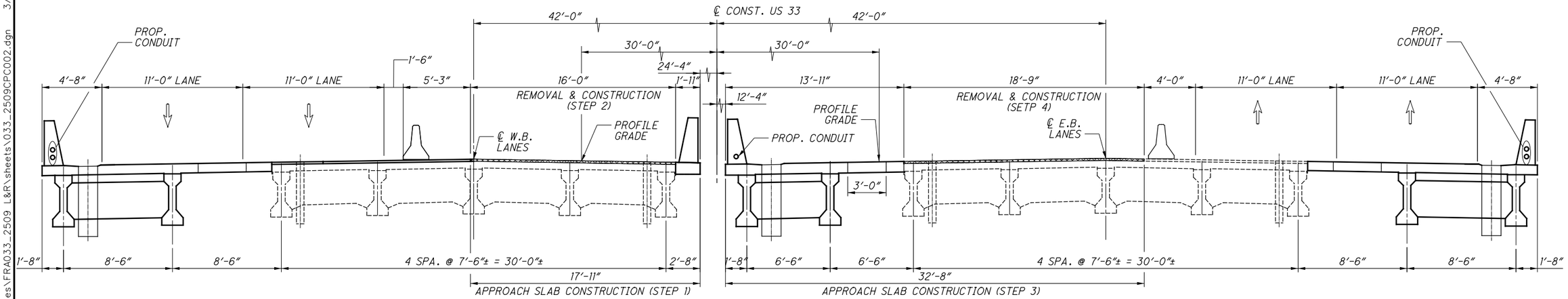
PHASE CONSTRUCTION DETAILS
BRIDGE NO. BRA-033-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
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PHASE 2 - REMOVAL & CONSTRUCTION



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. COSNTRUCT REMAINING ABUTMENTS & PIERS ON THE RIGHT BRIDGE.
2. ON THE RIGHT BRIDGE, CONSTRUCT 1'-7½" OF THE BRIDGE DECK, CONSTRUCT 9'-6½" OF THE BRIDGE DECK, BEAMS, OUTSIDE DIAPHRAGMS AND PARAPET.
3. ON THE RIGHT BRIDGE, CONSTRUCT 3'-0" CLOSURE POUR.

PHASE 2A - REMOVAL & CONSTRUCTION
(WEEKEND & NIGHT WORK ONLY)

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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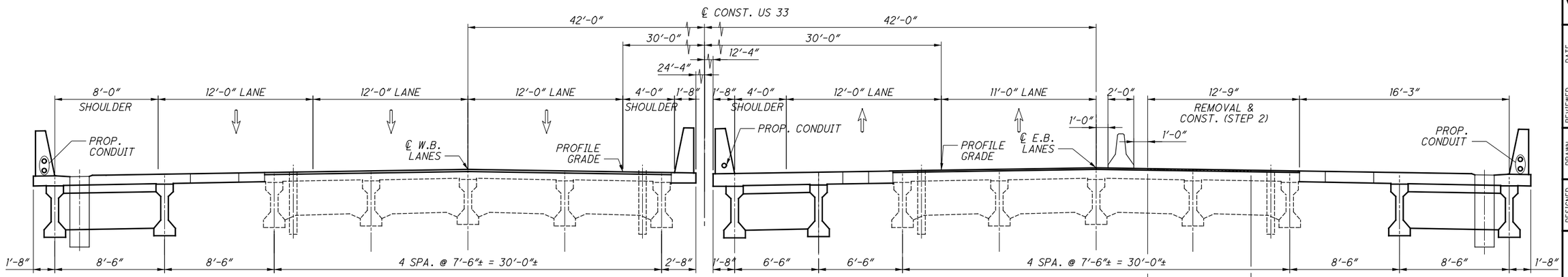
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JGM	JGM	NCK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501988/2502011	

PHASE CONSTRUCTION DETAILS

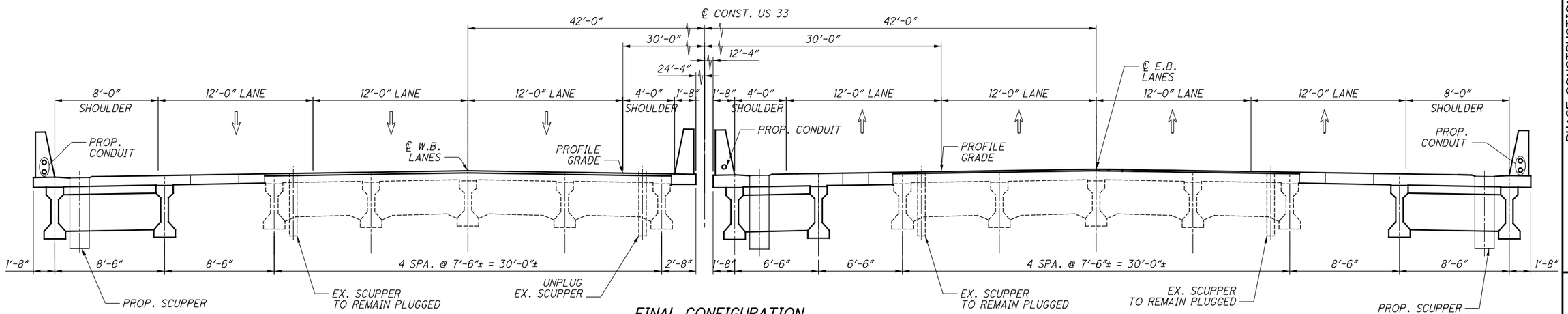
BRIDGE NO. BRA-033-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111

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PHASE 3



FINAL CONFIGURATION

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.

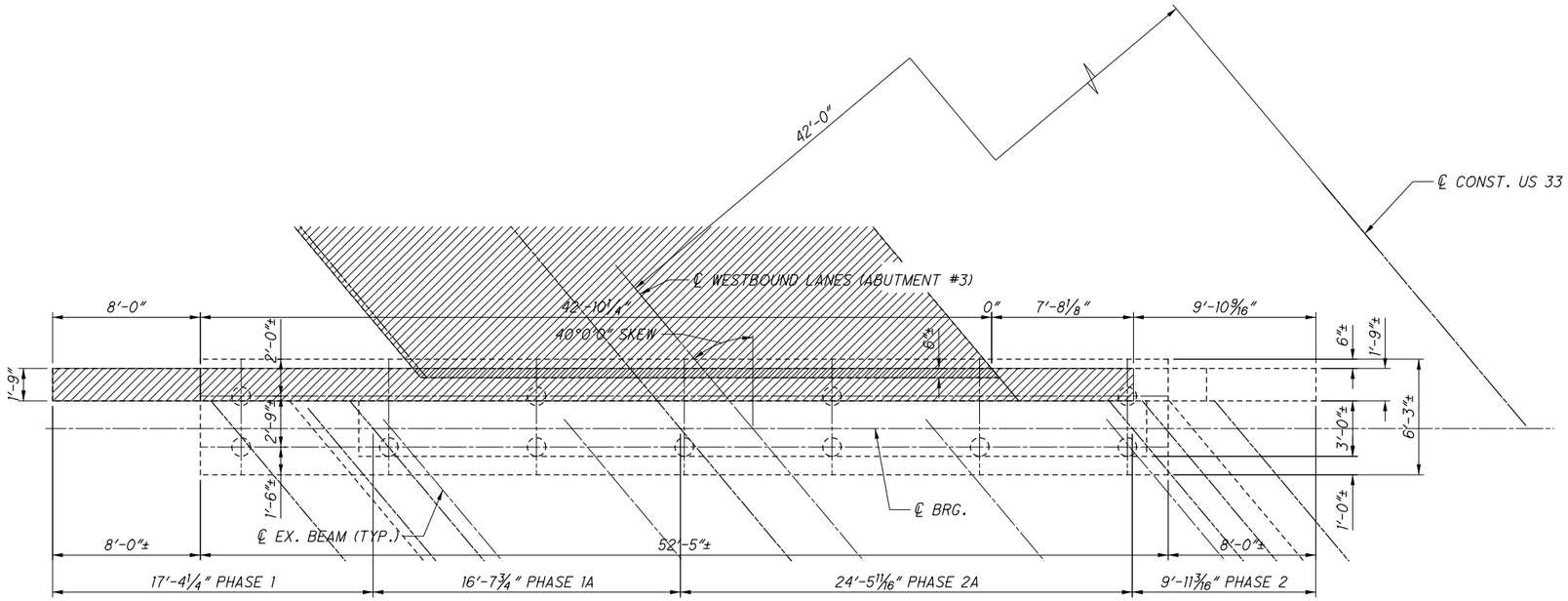
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DESIGNED JGM | DRAWN JGM | REVIEWED NCK | DATE 11/07/17
CHECKED NCK | REVISED | STRUCTURE FILE NUMBER 2501988/2502011

PHASE CONSTRUCTION DETAILS
BRIDGE NO. BRA-033-2509 L/R
OVER BIG WALNUT CREEK

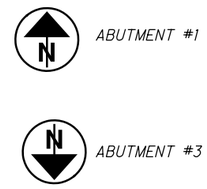
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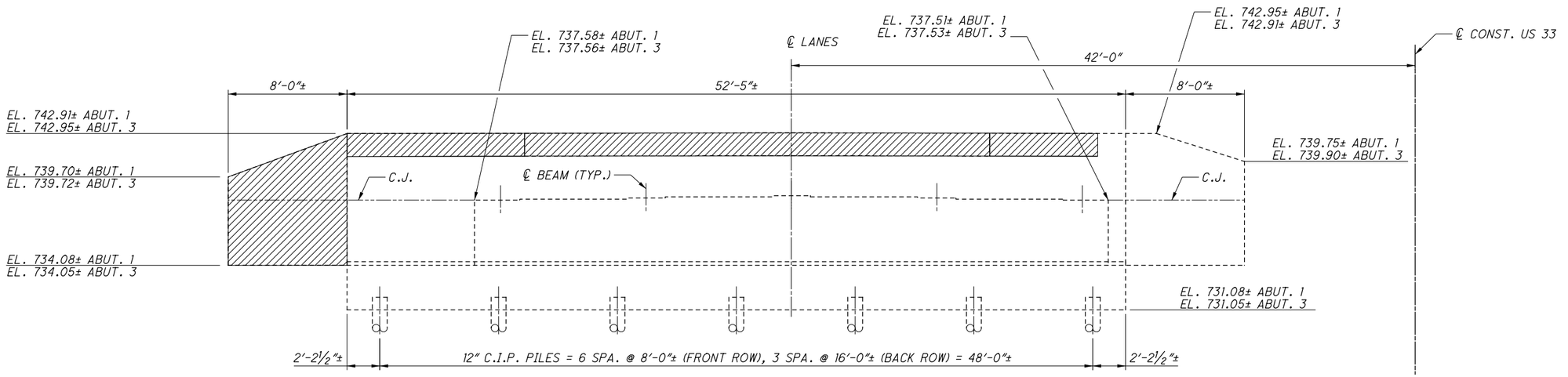
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PLAN-ABUTMENT #3

ABUTMENT #1 OPPOSITE HAND





ELEVATION-ABUTMENT #3

ABUTMENT #1 OPPOSITE HAND

LEGEND:

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

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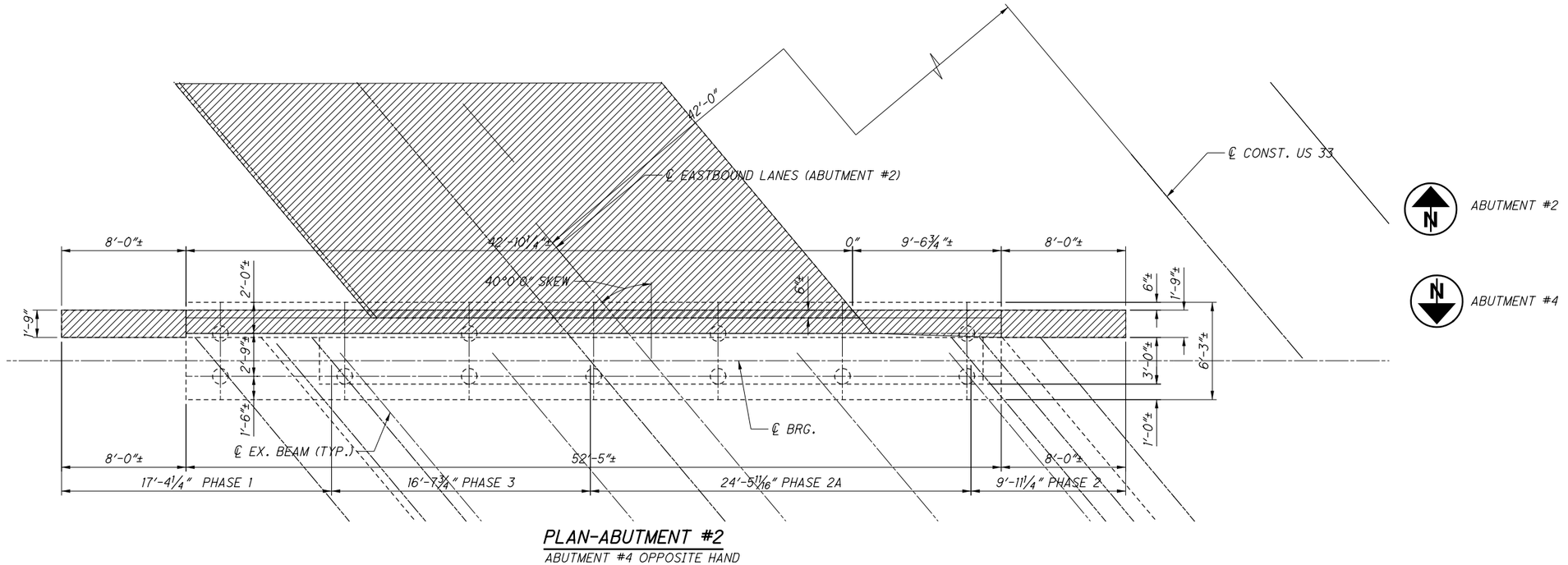
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501988/2502011	

ABUTMENT #1 & #3 REMOVAL DETAILS

BRIDGE NO. FRA-033-2509 L/R
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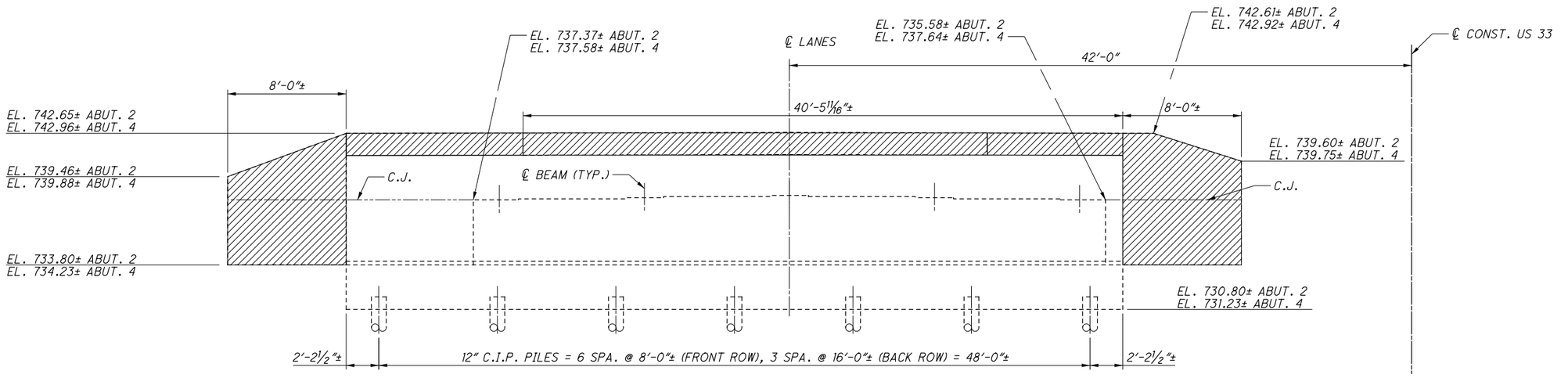
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PLAN-ABUTMENT #2

ABUTMENT #4 OPPOSITE HAND



ELEVATION-ABUTMENT #2

ABUTMENT #4 OPPOSITE HAND

LEGEND:

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

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NCK		2501988/2502011	

ABUTMENT #2 & #4 REMOVAL DETAILS

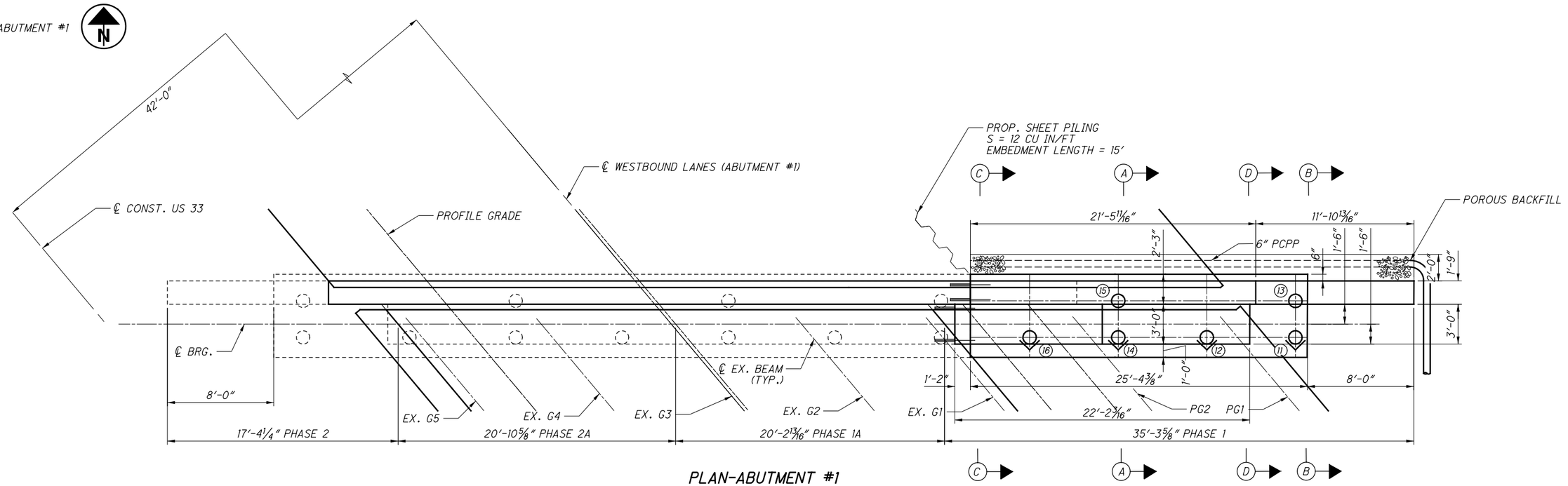
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FRA-33-24.26
PID No. 98111

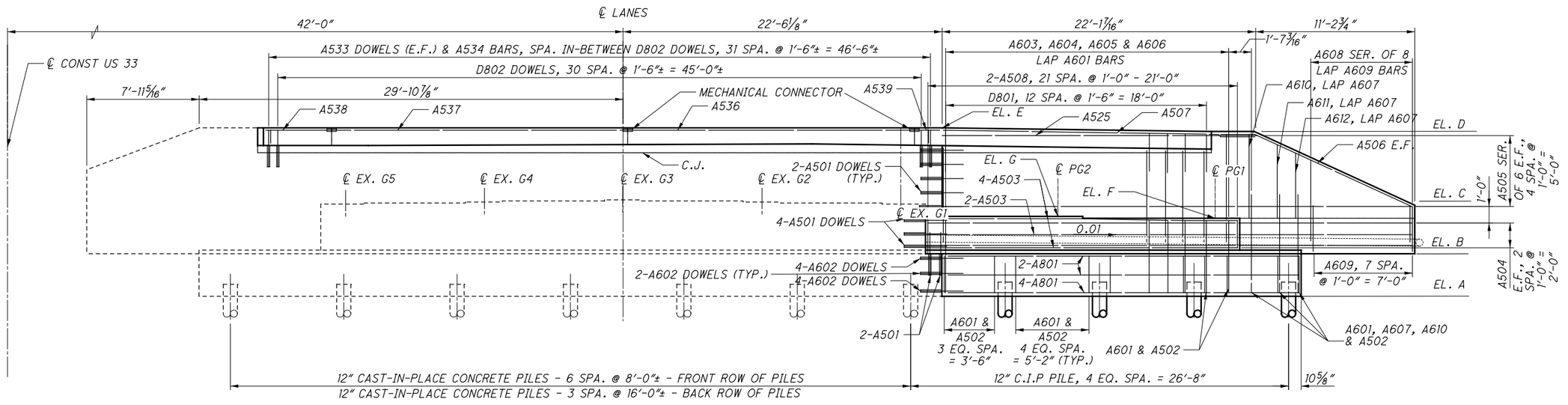
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PLAN-ABUTMENT #1



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

TABLE 1		
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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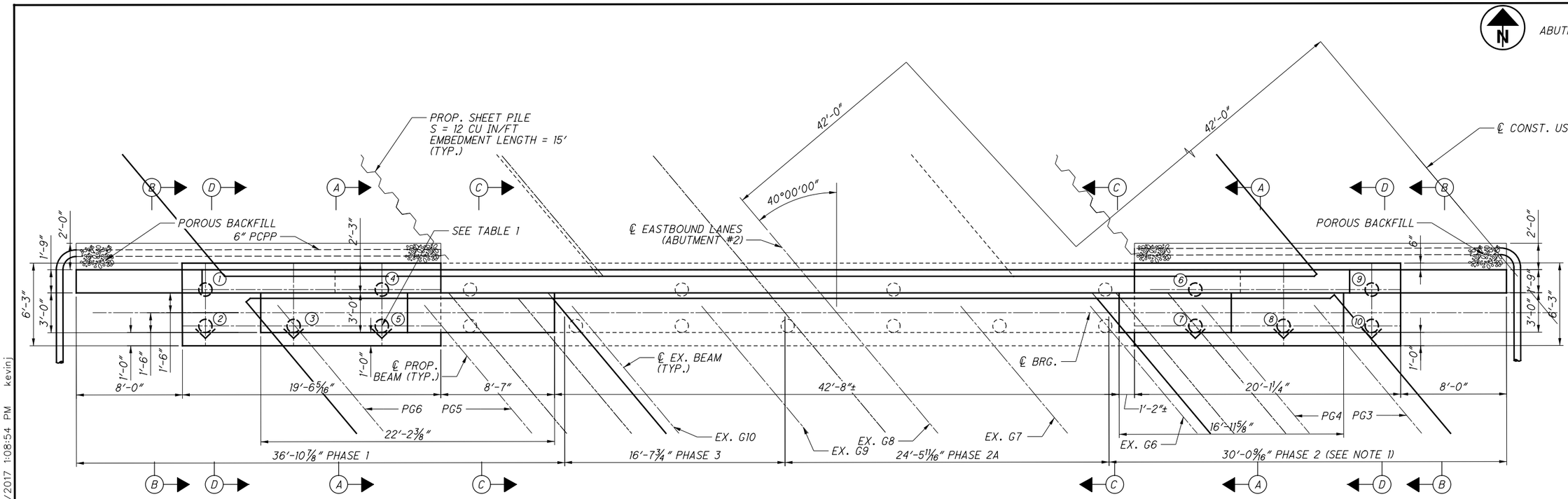
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ABUTMENT #1 DETAILS
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PID No. 98111

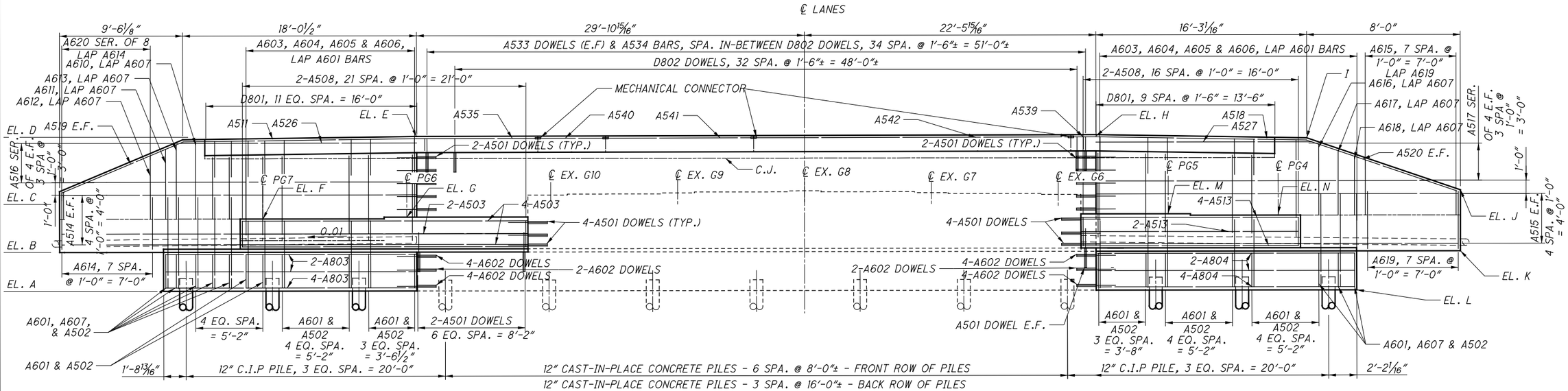
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PLAN-ABUTMENT #2

TABLE 1		
PILE LOCATION	STATION	OFFSET
ABUTMENT 2	309+95.43	68.98' RT.



ELEVATION-ABUTMENT #2

NOTES:

1. ALL PILES SHALL BE INSTALLED DURING PHASE 1.
2. SEE SHEET 12/34 FOR SECTIONS.
3. 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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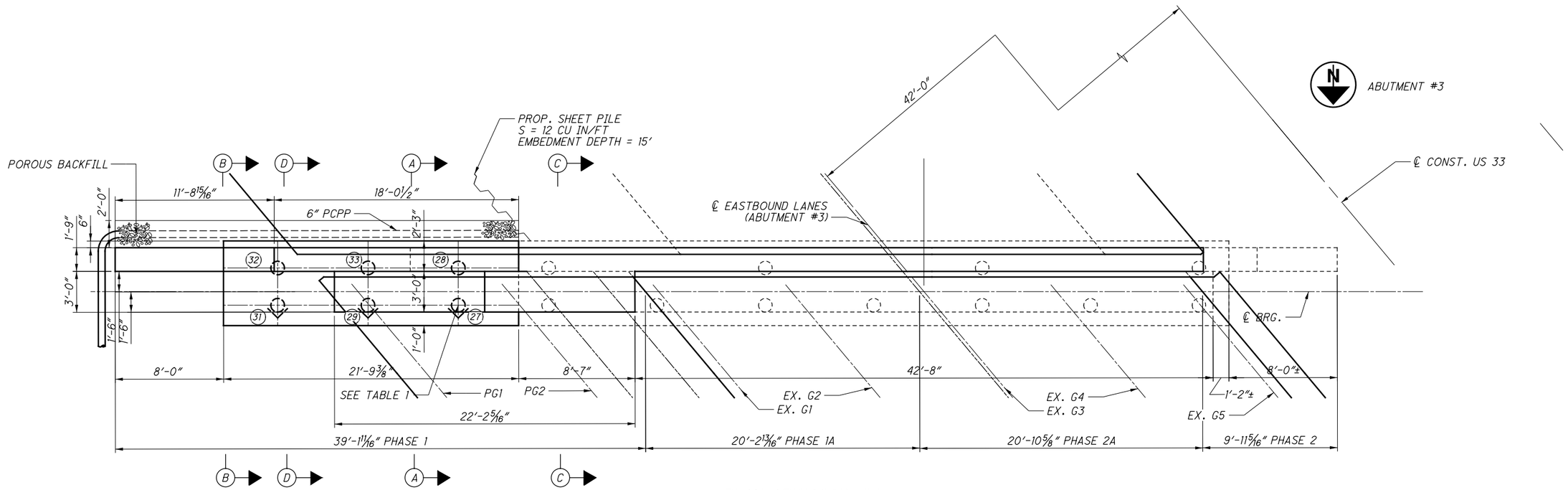
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ABUTMENT #2 DETAILS

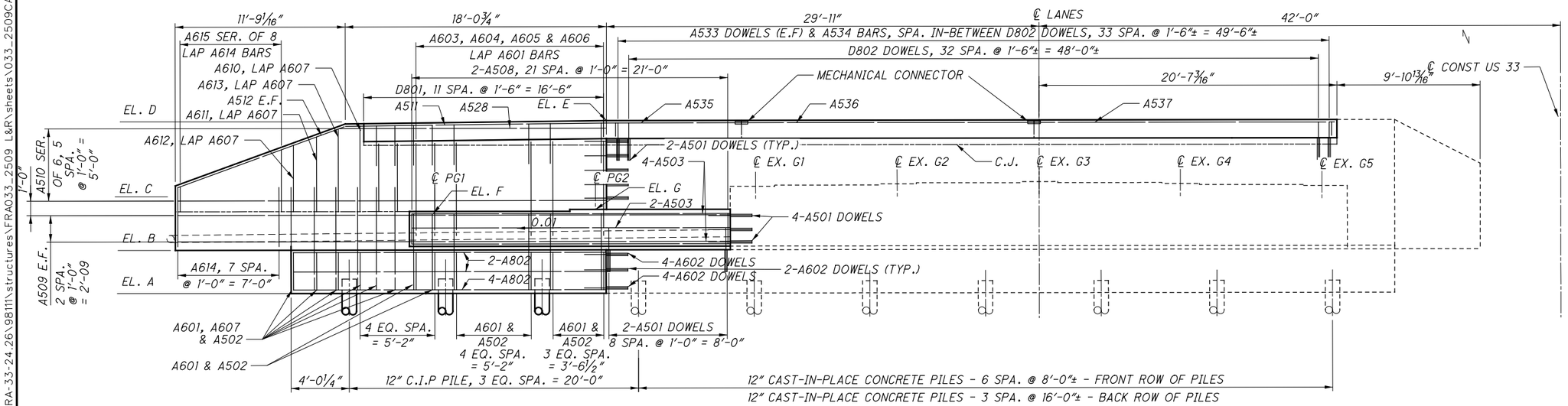
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PID No. 98111

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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

TABLE 1		
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.)

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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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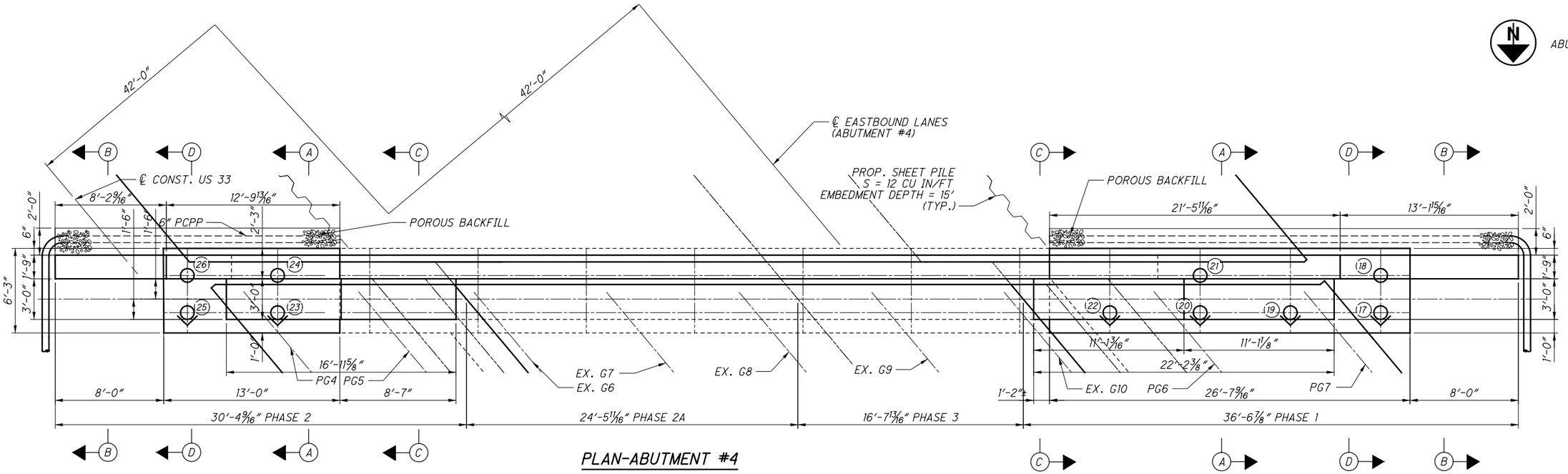
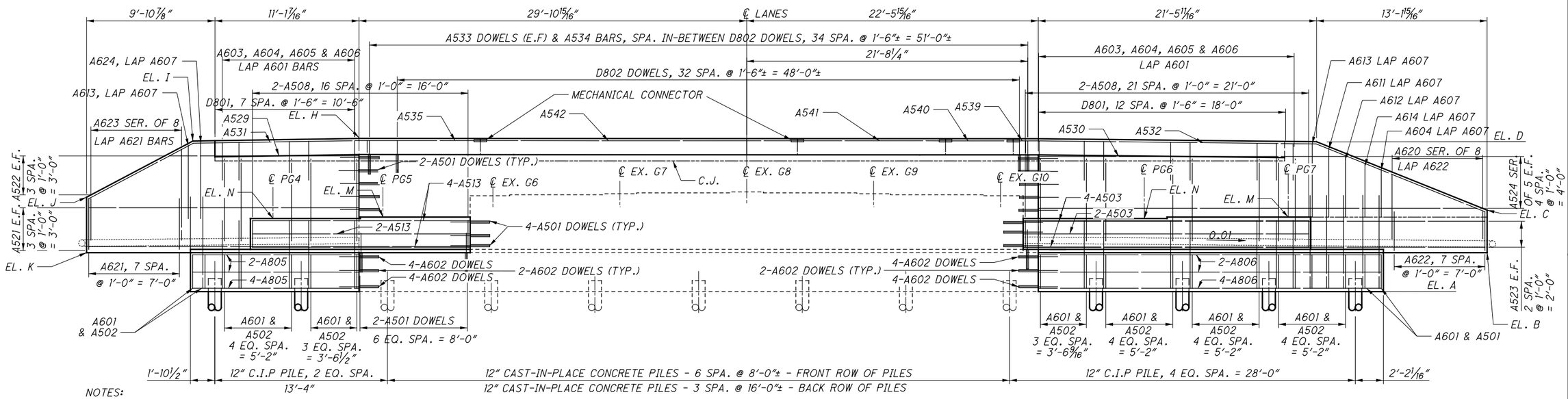


TABLE 1		
PILE LOCATION	STATION	OFFSET
ABUTMENT 4	314+04.57	68.97' LT.



ELEVATION-ABUTMENT #4

NOTES:

1. ALL PILES SHALL BE INSTALLED DURING PHASE 1.
2. SEE SHEET 12/34 FOR SECTIONS.
3. 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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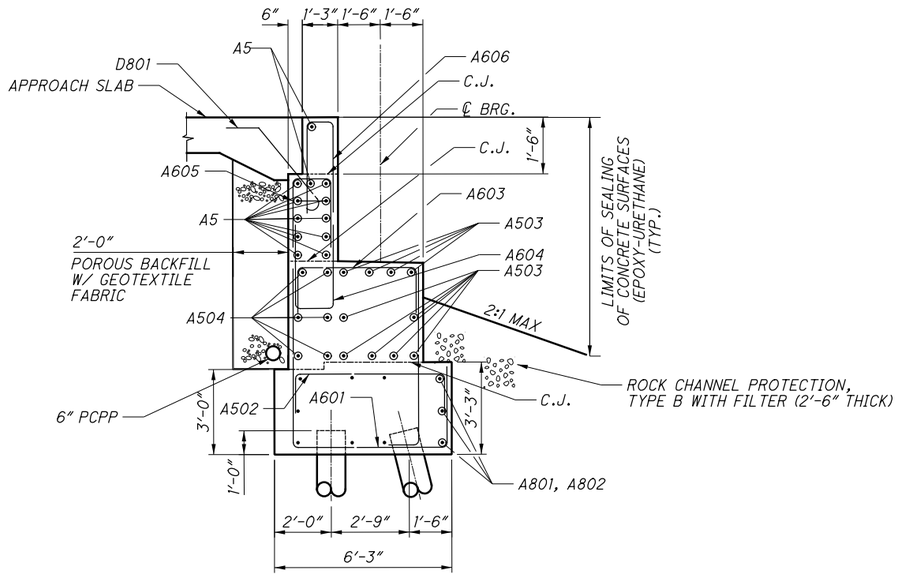
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BRIDGE NO. FRA-033-2509 L/R
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FRA-33-24.26
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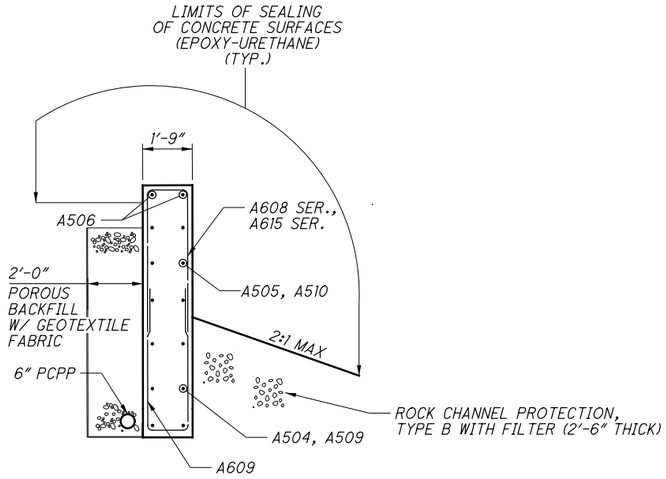
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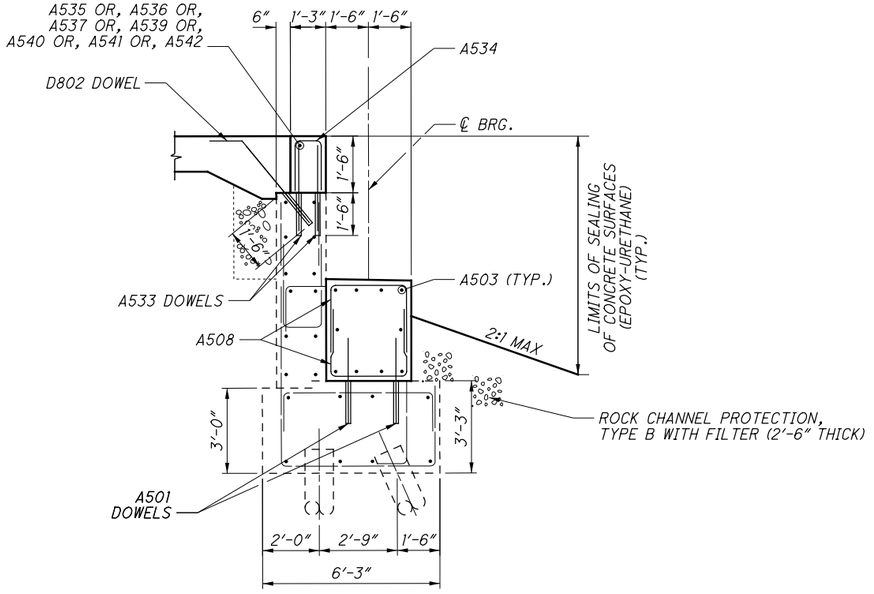
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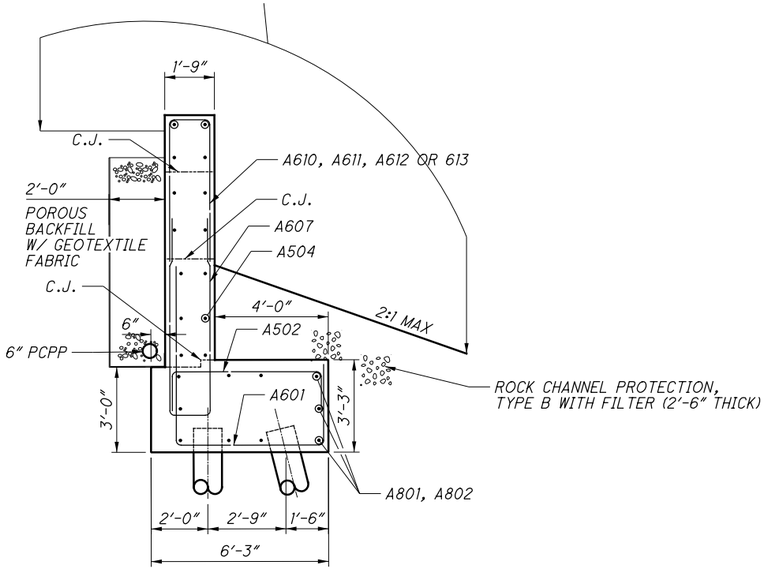
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
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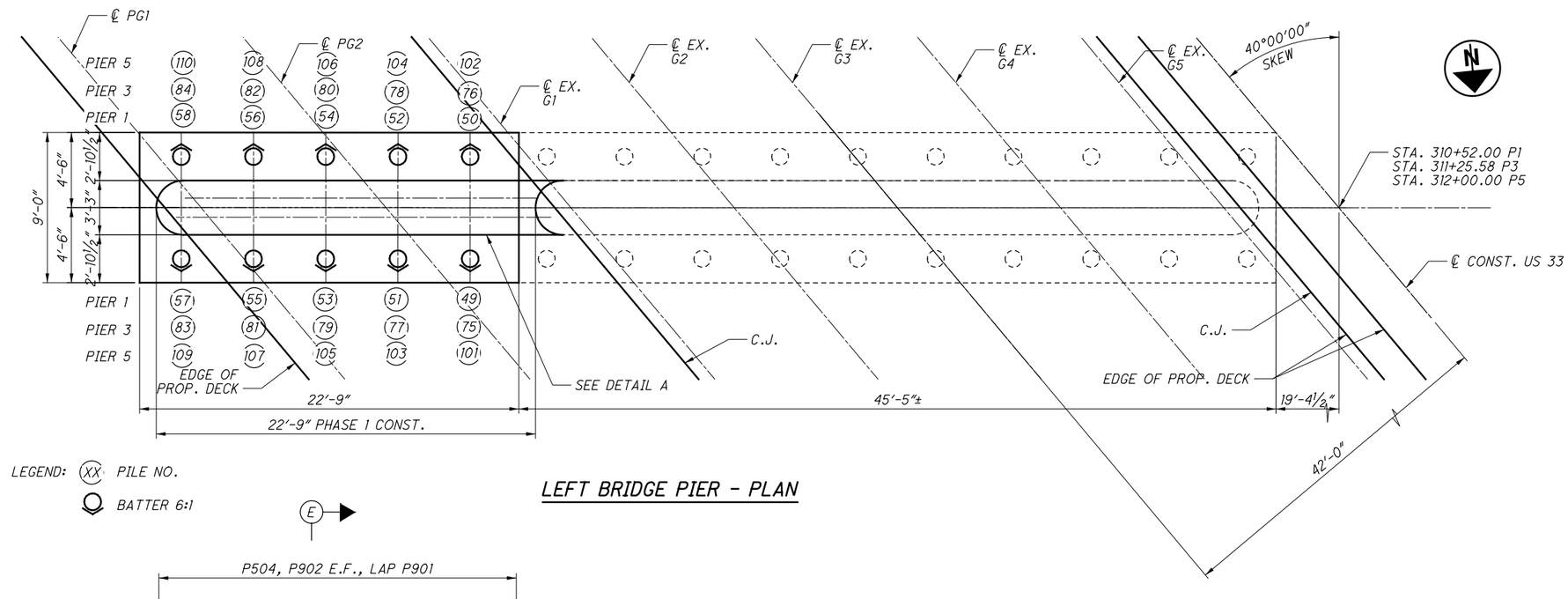
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OVER BIG WALNUT CREEK

FRA-33-24.26

PID No. 98111

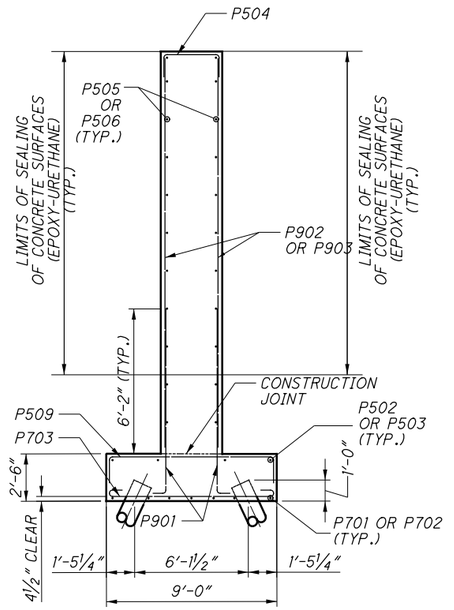
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LEGEND: (XX) PILE NO.

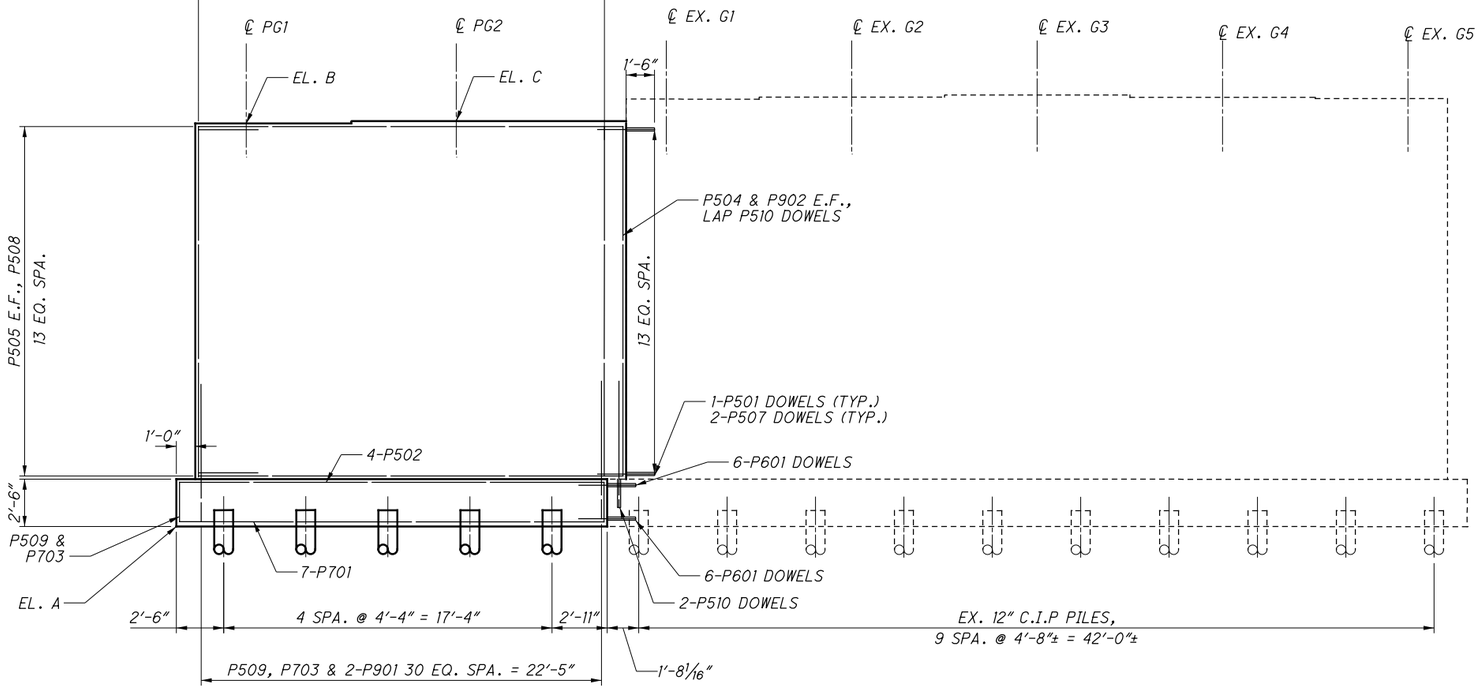
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LEFT BRIDGE PIER - PLAN



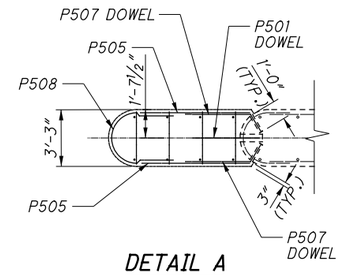
SECTION E-E

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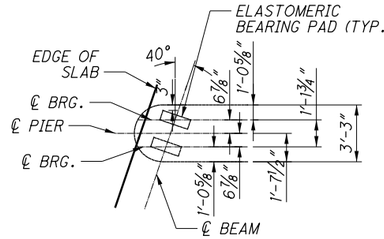


LEFT BRIDGE PIER ELEVATION

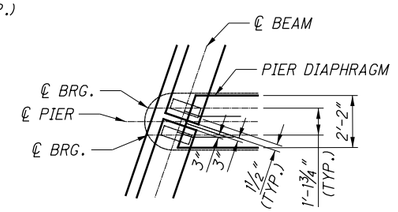
E



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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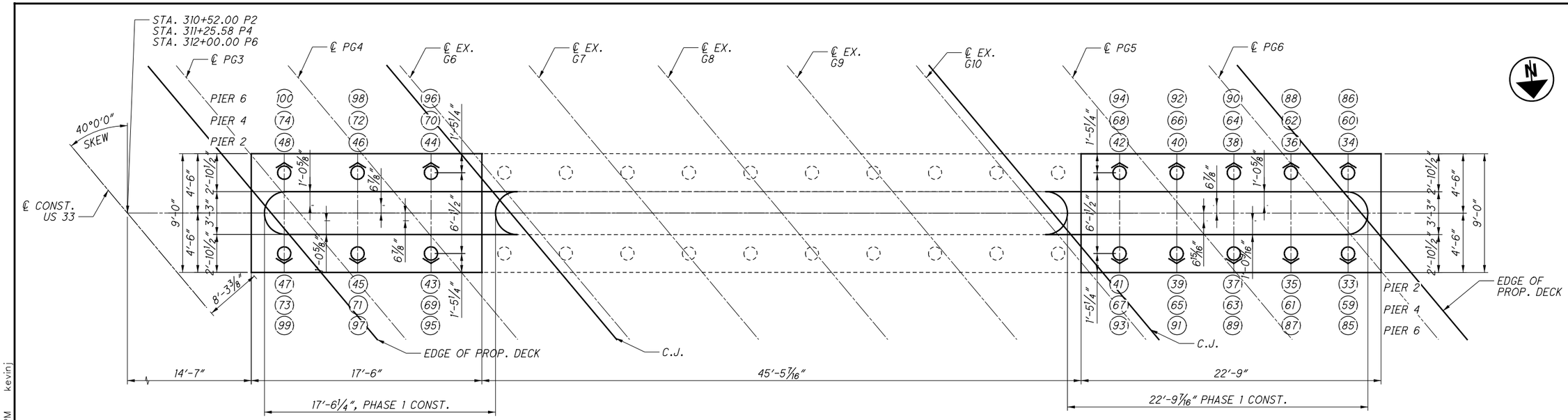
LEFT PIER DETAILS
BRIDGE NO. FRA-033-2509 L/R
OVER BIG WALNUT CREEK

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PID No. 98111

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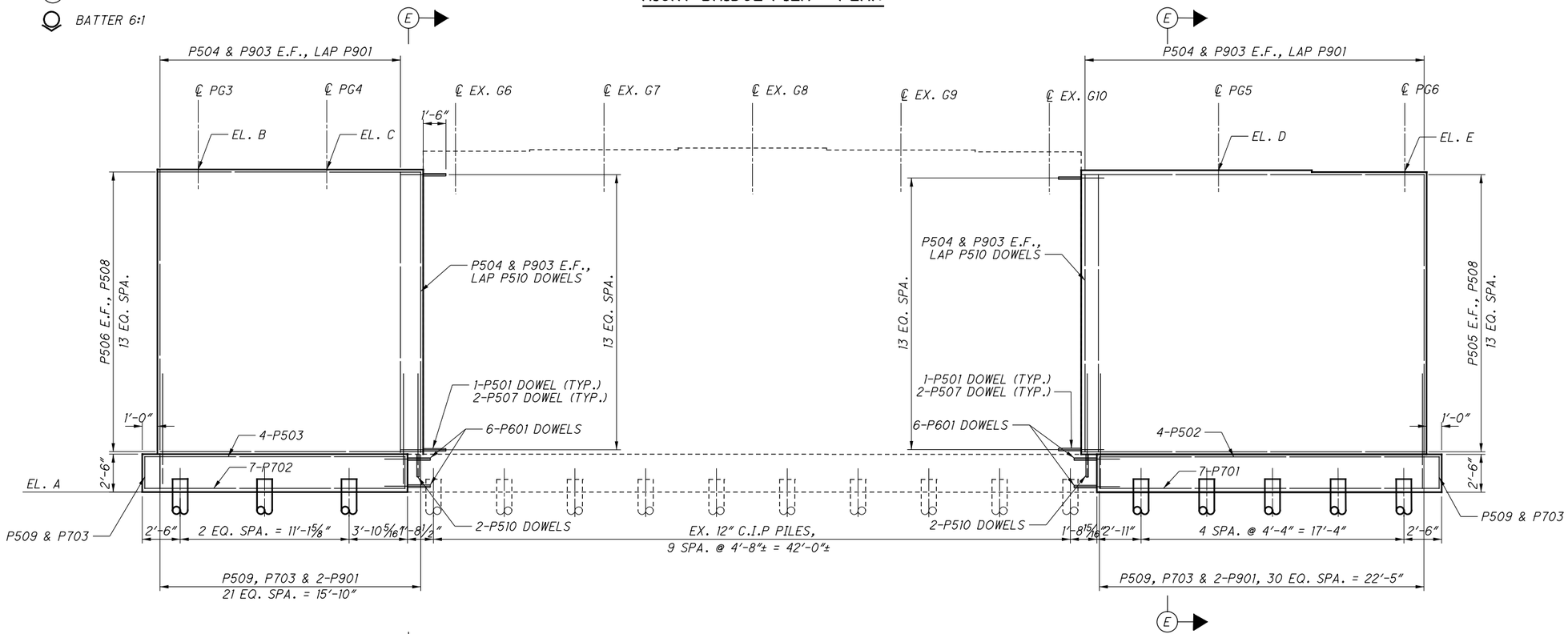
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LEGEND: (XX) PILE NO.

BATTER 6:1

RIGHT BRIDGE PIER - PLAN



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.

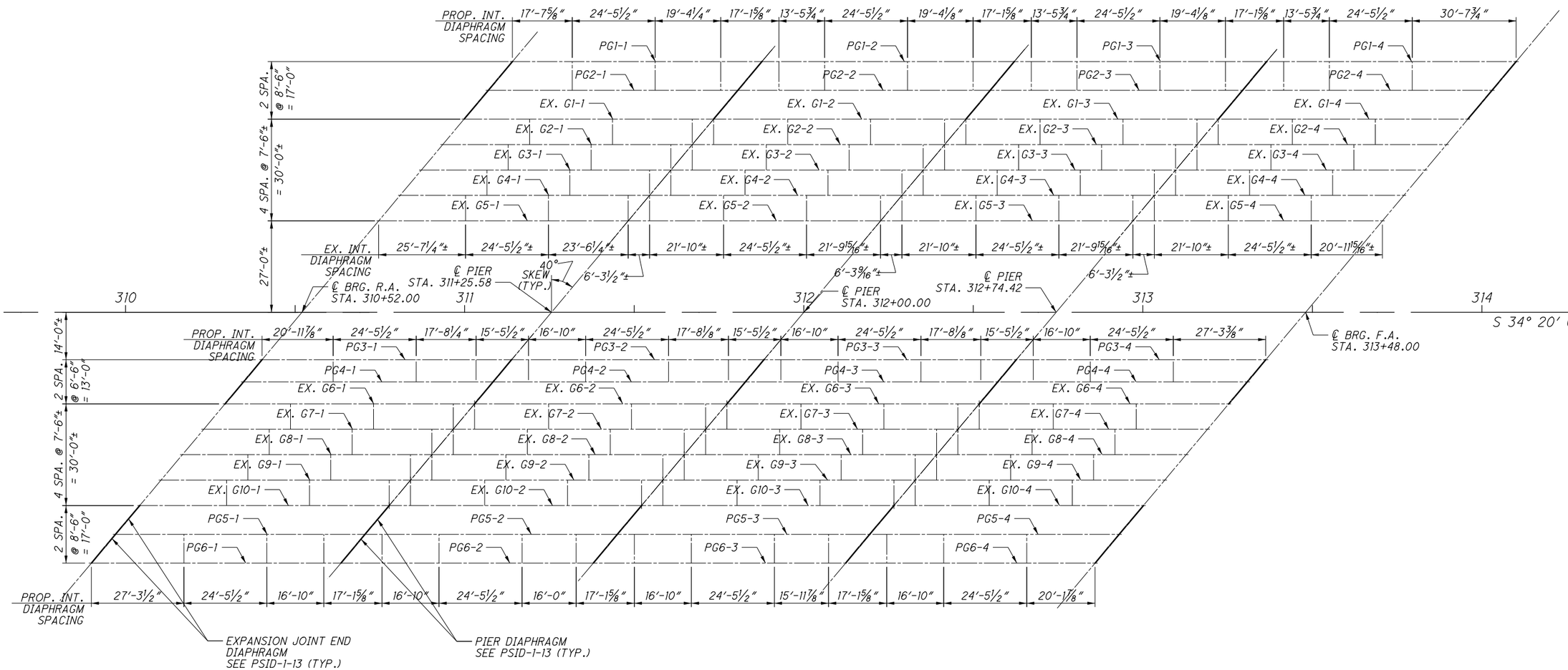
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RIGHT PIER DETAILS
BRIDGE NO. FRA-033-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
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FRAMING PLAN

RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501988/2502011	

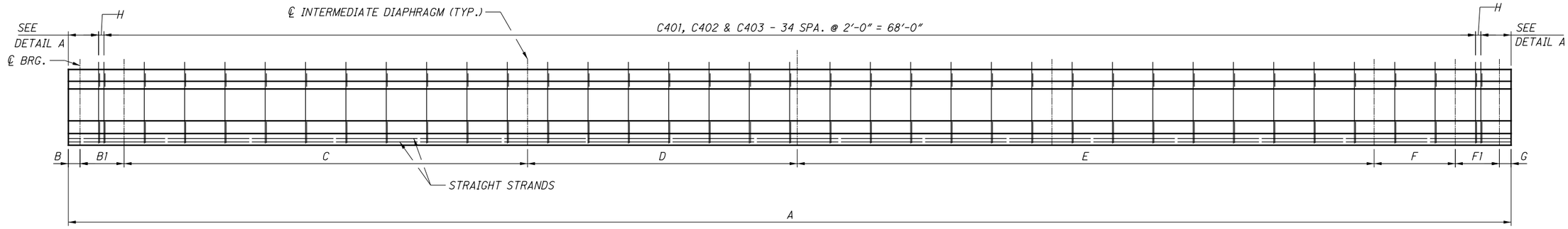
FRAMING PLAN
BRIDGE NO. FRA-033-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111

17 / 34

270
287

G:\projects\2014\W-14-166 FRA-33-24.26\98111\structures\FRA033_2509 L&R\sheets\033_2509CSD001.dgn 3/29/2018 2:08:00 PM kevinj

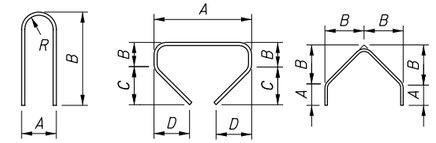


TYPICAL BEAM ELEVATION

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

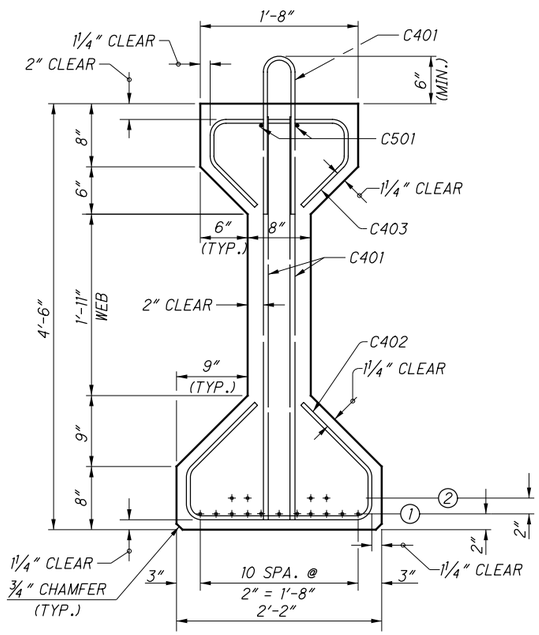
MARK	TYPE	DIMENSIONS				
		A	B	C	D	R
C401	1	4"	4'-10"			2¼"
C402	2	1'-11½"	6¼"	8"	8"	
C403	2	1'-5½"	5½"	5½"	5½"	
C405	3	6¼"	11¾"			
C501	ST.	73'-11" TOTAL LENGTH, MIN. SPLICE 2'-6"				



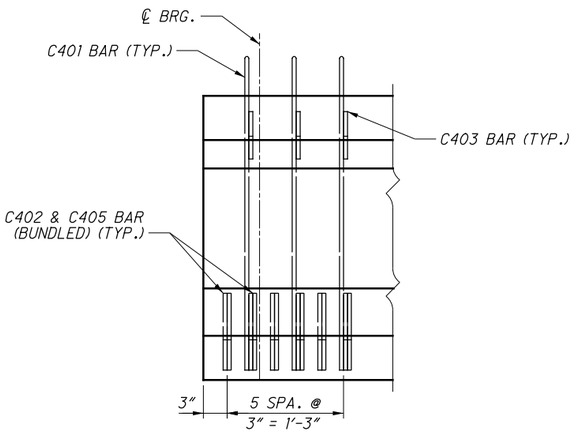
TYPE 1

TYPE 2

TYPE 3



AASHTO TYPE 4



DETAIL A

ANCHORAGE REINFORCEMENT

BEAM	DIMENSIONS									
	A	B	B1	C	D	E	F	F1	G	H
PG1-1	74'-1"	9"	0	17'-7⅝"	24'-5½"	19'-4¼"	11'-4⅝"	0	10"	1'-6½"
PG1-2	73'-11"	10"	4'-3"	13'-5¾"	24'-5½"	19'-4⅛"	11'-4⅝"	0	10"	1'-5½"
PG1-3	73'-11"	10"	4'-3"	13'-5¾"	24'-5½"	19'-4⅛"	11'-4⅝"	0	10"	1'-5½"
PG1-4	74'-1"	10"	4'-3"	13'-5¾"	24'-5½"	30'-7 11/16"	0	0	9"	1'-6½"
PG3-1	74'-1"	9"	0	20'-11⅛"	24'-5½"	17'-8¼"	9'-8½"	0	10"	1'-6½"
PG3-2	73'-11"	10"	4'-3"	16'-10"	24'-5½"	17'-8⅛"	9'-8½"	0	10"	1'-5½"
PG3-3	73'-11"	10"	4'-3"	16'-10"	24'-5½"	17'-8⅛"	9'-8½"	0	10"	1'-5½"
PG3-4	74'-1"	10"	4'-3"	16'-10"	24'-5½"	27'-3⅜"	0	0	9"	1'-6½"
PG6-1	74'-1"	9"	0	27'-3½"	24'-5½"	16'-10"	4'-3"	0	10"	1'-6½"
PG6-2	73'-11"	10"	0	11'-4⅝"	16'-10"	24'-5½"	16'-0"	4'-3"	10"	1'-5½"
PG6-3	73'-11"	10"	0	11'-4⅝"	16'-10"	24'-5½"	15'-11⅞"	4'-3"	10"	1'-5½"
PG6-4	74'-1"	10"	0	11'-4⅝"	16'-10"	24'-5½"	20'-1⅞"	0	9"	1'-6½"

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
JLM		2501988/2502011	

BEAM DETAILS & EXPANSION JOINT

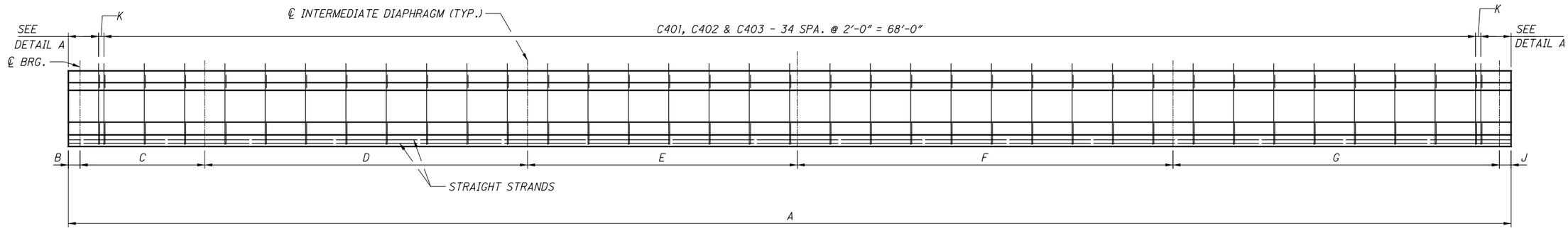
BRIDGE NO. FRA-33-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 86067

18 / 34

271
287

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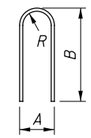


TYPICAL BEAM ELEVATION

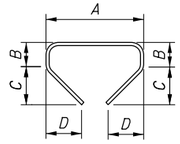
AASHTO TYPE 4 I-GIRDERS, PG2, PG4 & PG5

SPAN	BEAM MARK	ROW NUMBER ①	ROW NUMBER ②	TOTAL STRANDS	CONCRETE STRENGTHS (KSI) f'ci	f'ci	C401 BARS REQ'D	C402 BARS REQ'D	C403 BARS REQ'D
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

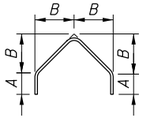
MARK	TYPE	DIMENSIONS A	B	C	D	R
C401	1	4"	4'-10"			2¼"
C402	2	1'-11½"	6¼"	8"	8"	
C403	2	1'-5½"	5½"	5½"	5½"	
C405	3	6¼"	11¾"			
C501	ST.	73'-11" TOTAL LENGTH, MIN. SPLICE 2'-6"				



TYPE 1

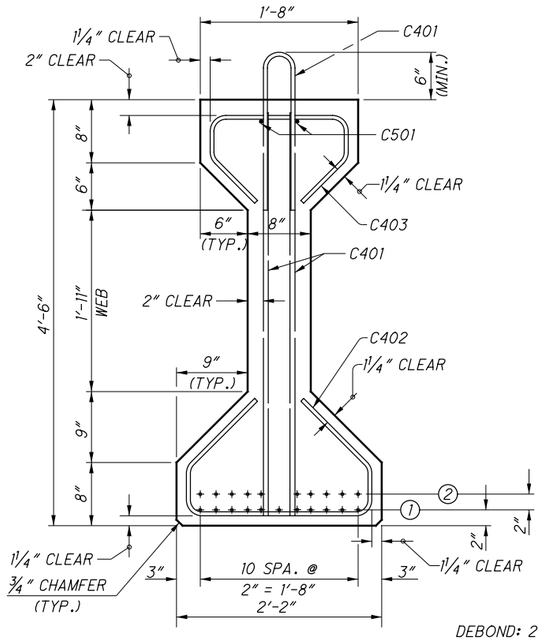


TYPE 2



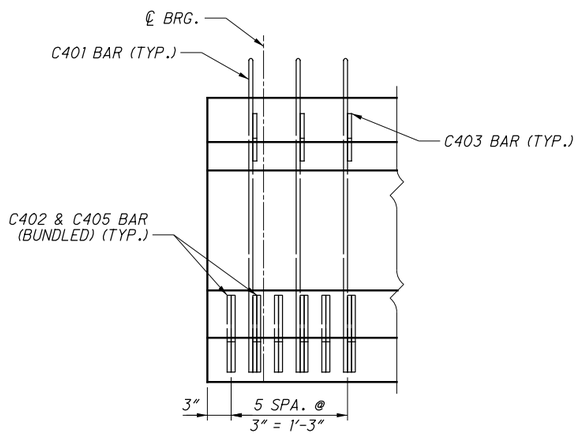
TYPE 3

BEAM	DIMENSIONS A	B	C	D	E	F	G	J	K
PG2-1	74'-1"	9"	24'-9⅛"	24'-5½"	19'-4¼"	4'-3"	0	10"	1'-6½"
PG2-2	73'-11"	10"	11'-4⅝"	13'-5¾"	24'-5½"	19'-4⅛"	4'-3"	10"	1'-5½"
PG2-3	73'-11"	10"	11'-4⅝"	13'-5¾"	24'-5½"	19'-4⅛"	4'-3"	10"	1'-5½"
PG2-4	74'-1"	10"	11'-4⅝"	13'-5¾"	24'-5½"	23'-6⅛"	0	9"	1'-6½"
PG4-1	74'-1"	9"	26'-5⅜"	24'-5½"	17'-8¼"	4'-3"	0	10"	1'-6½"
PG4-2	73'-11"	10"	9'-8½"	16'-10"	24'-5½"	17'-8⅛"	4'-3"	10"	1'-5½"
PG4-3	73'-11"	10"	9'-8½"	16'-10"	24'-5½"	17'-8⅛"	4'-3"	10"	1'-5½"
PG4-4	74'-1"	10"	9'-8½"	16'-10"	24'-5½"	21'-10"	0	9"	1'-6½"
PG5-1	74'-1"	9"	20'-1⅞"	24'-5½"	16'-10"	11'-4½"	0	10"	1'-6½"
PG5-2	73'-11"	10"	4'-3"	16'-10"	24'-5½"	16'-0"	11'-4½"	10"	1'-5½"
PG5-3	73'-11"	10"	4'-3"	16'-10"	24'-5½"	15'-11⅞"	11'-4½"	10"	1'-5½"
PG5-4	74'-1"	10"	4'-3"	16'-10"	24'-5½"	27'-3⅜"	0	9"	1'-6½"



AASHTO TYPE 4

DEBOND: 2 STRANDS @ 2", 4'-0" LONG
1 STRAND @ 2", 2'-0" LONG



DETAIL A

ANCHORAGE REINFORCEMENT

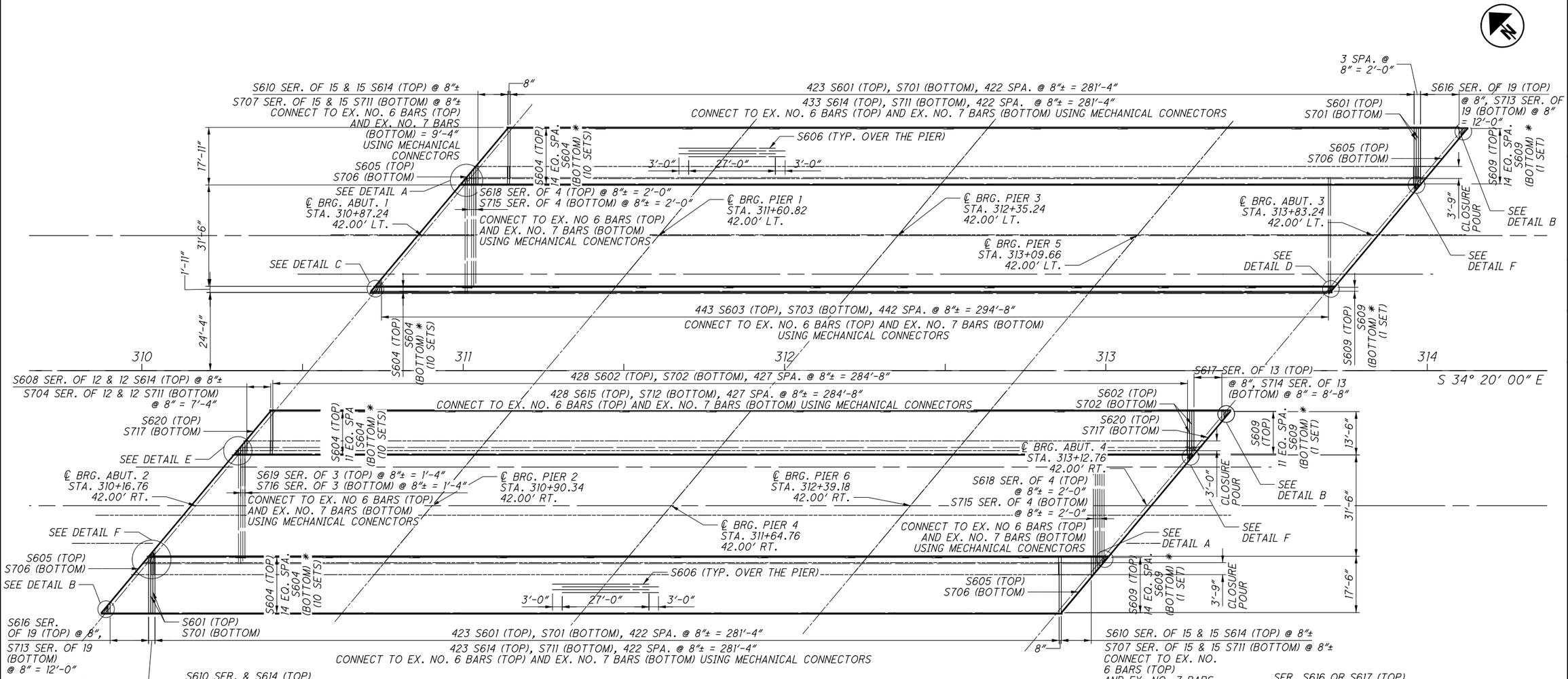
RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	NCK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JLM		2501988/2502011	

BEAM DETAILS
BRIDGE NO. FRA-033-2509
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 86067

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DECK PLAN

NOTES:

LAP NO. 6 BAR: 2'-11" MIN.

LEGEND:

* SEE TRANSVERSE SECTION SHEETS 21/34 & 22/34 FOR SPACING.

RESOURCE INTERNATIONAL INC.
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NCK		2501988/2502011	

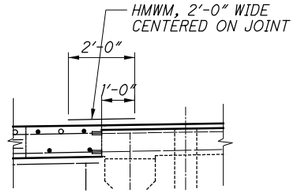
DECK PLAN
BRIDGE NO. FRA-033-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111

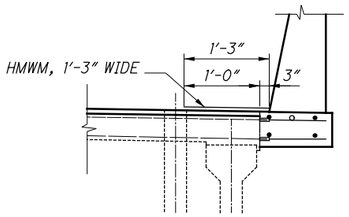
20/34

273/287

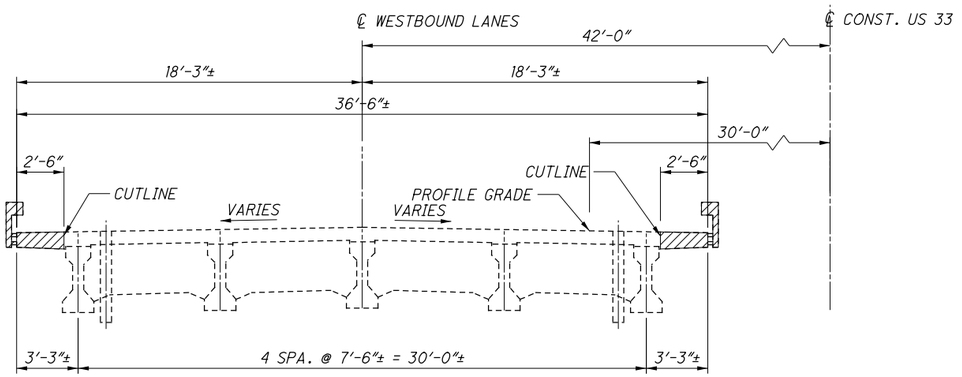
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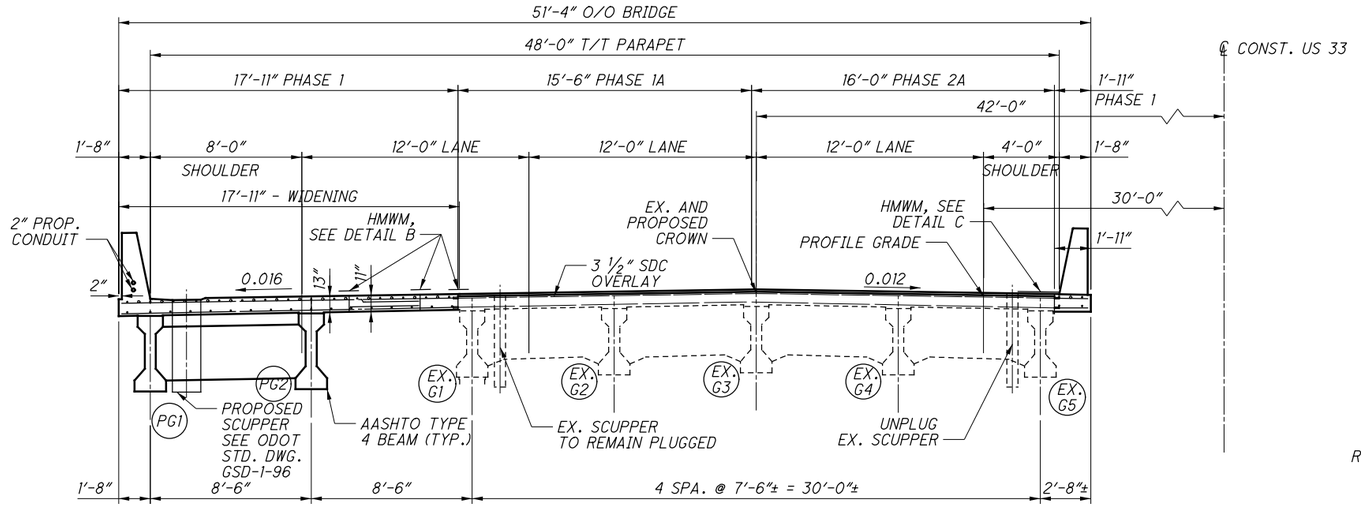
DETAIL B



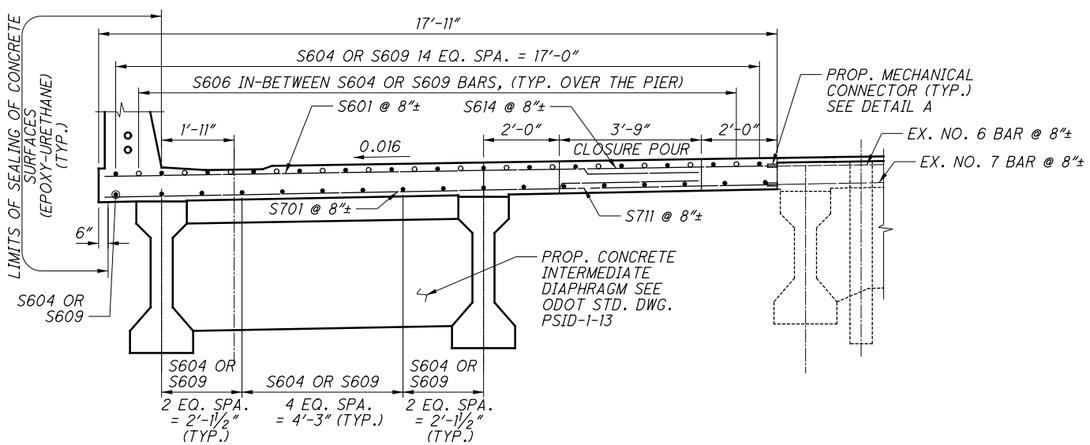
DETAIL C



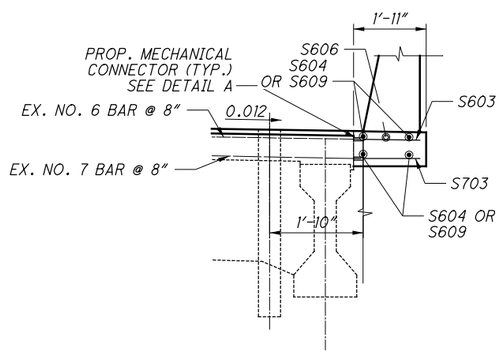
LEFT BRIDGE-REMOVAL



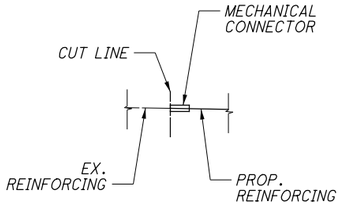
LEFT BRIDGE-PROPOSED



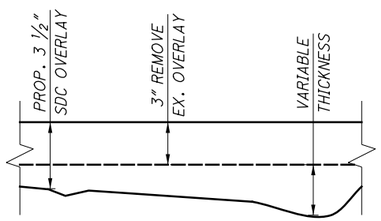
PROP. DECK REINFORCING



PROP. DECK REINFORCING



DETAIL A



OVERLAY DETAIL

NOTE:

1. LAP NO. 6 BAR: 2'-11" MIN.
   LAP NO. 7 BAR: 3'-8" MIN.

DESIGN AGENCY
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6350 PRESIDENTIAL GATEWAY
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501988/2502011	

TRANSVERSE SECTION - LEFT BRIDGE

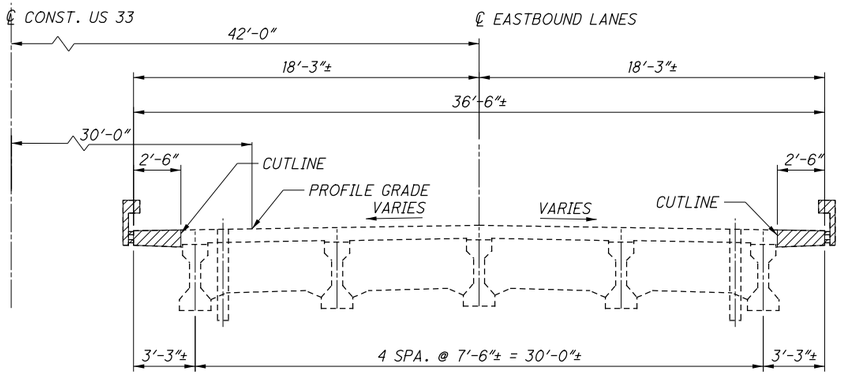
BRIDGE NO. FRA-033-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111

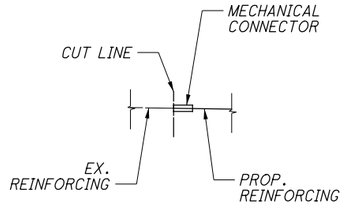
21/34

274/287

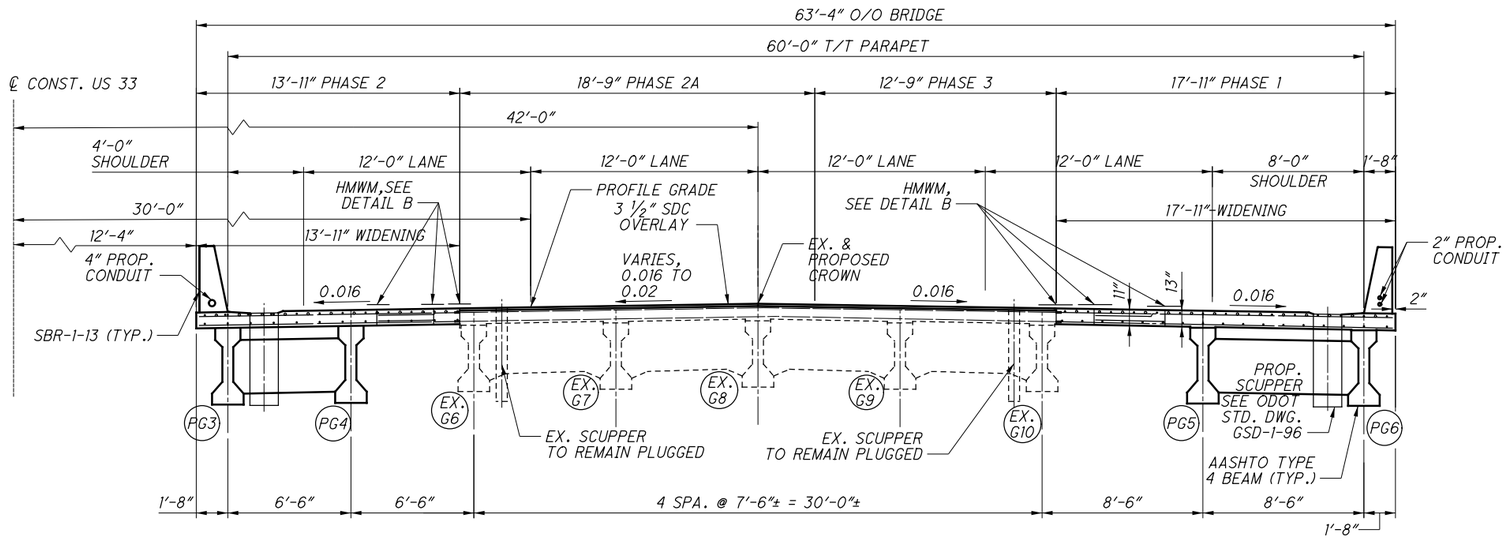
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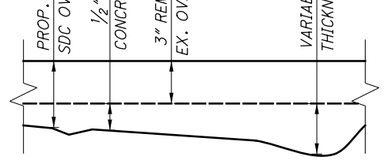
RIGHT BRIDGE-REMOVAL



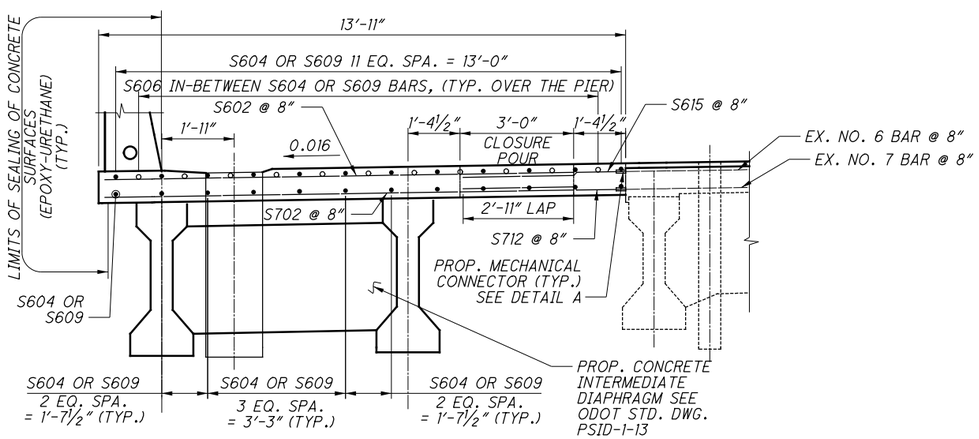
DETAIL A



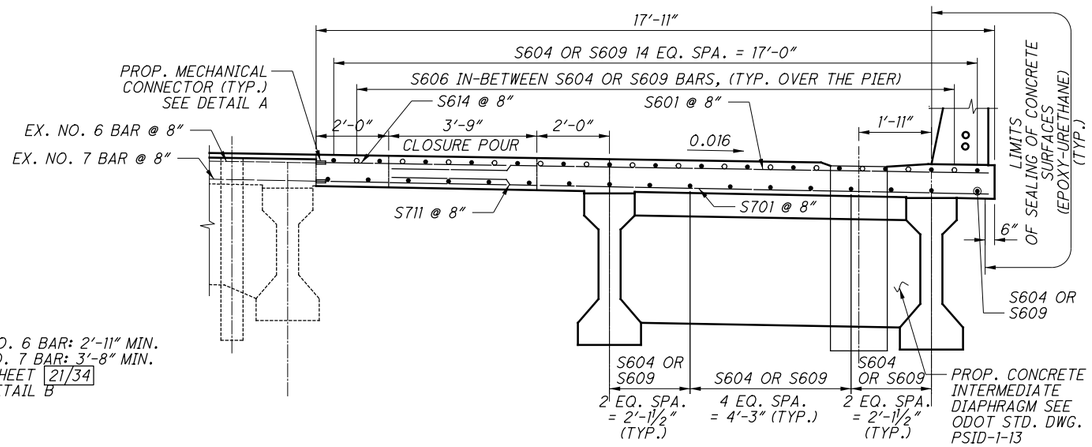
RIGHT BRIDGE-PROPOSED



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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NCK		2501988/2502011	

TRANSVERSE SECTION - RIGHT BRIDGE

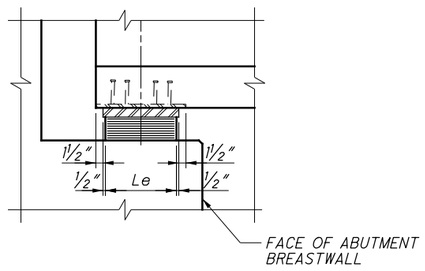
BRIDGE NO. FRA-033-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111

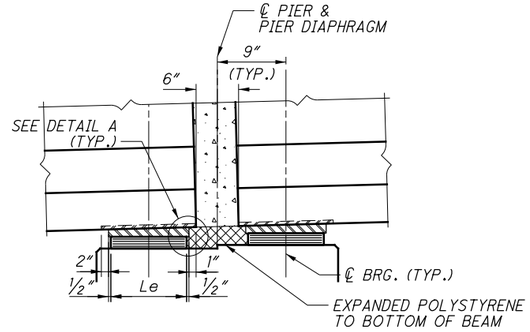
22/34

275/287

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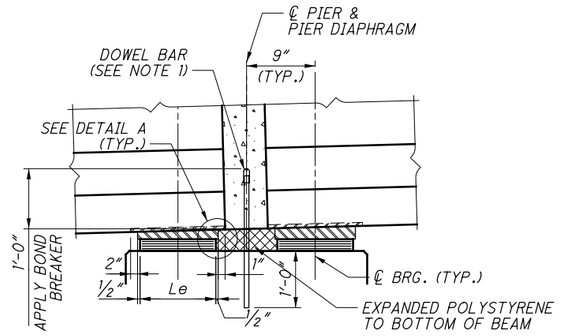


ABUTMENT DETAIL



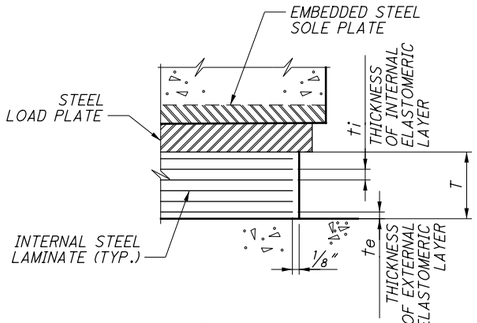
EXPANSION PIER DETAIL

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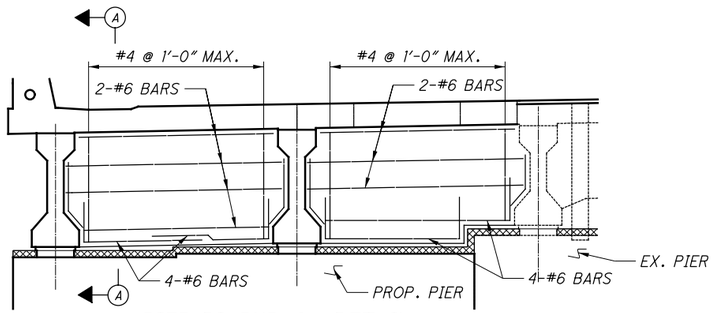


FIXED PIER DETAIL

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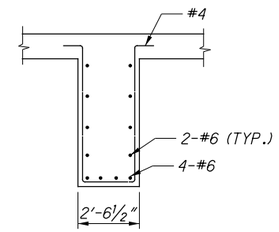


DETAIL A

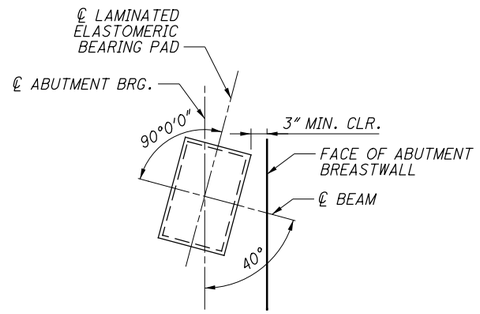


PIER DIAPHRAGM DETAIL

PIER DIAPHRAGM REINFORCING SHALL BE INCLUDED WITH ITEM 511 CLASS QC2 CONCRETE, SUPERSTRUCTURE, AS PER PLAN FOR PAYMENT. REFER TO STANDARD DRAWING PSID-1-13 FOR ADDITIONAL DETAILS.

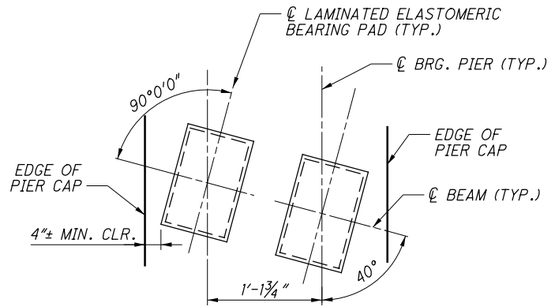


SECTION A-A



ABUTMENT BEARING ORIENTATION PLAN

(BEAM NOT SHOWN)



PIER BEARING ORIENTATION PLAN

(BEAMS NOT SHOWN)

LAMINATED ELASTOMERIC BEARINGS											
		BEARING DIMENSION						STEEL LOAD PLATE	REACTIONS		TOTAL LOAD (kip)
LOCATION		L	W	ti	te	T	N	LENGTHxWIDTHxTHICKNESS	DL (kip)	LL (kip)	
R.A. & F.A.	EXP.	9"	15¾"	0.37"	0.26"	2.82"	6	10" X 16¾" X 1½"	93.6	35.9	129.5
P1, P2, P5 & P6	EXP.	9"	15¾"	0.37"	0.26"	2.82"	6	10" X 16¾" X 1½"	93.6	35.9	129.5
P3 & P4	FIX.	9"	15¾"	0.37"	0.26"	2.82"	6	10" X 16¾" X 1½"	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:

1. 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.
2. SHOP FABRICATE THE LOAD PLATES AND HP SHAPES USING ASTM A709 GRADE 36 OR GRADE 50 STEEL AND GALVANIZE IN ACCORDANCE WITH 711.02.
3. BOND THE GALVANIZED STEEL LOAD PLATES TO THE ELASTOMERIC BEARING BY VULCANIZING DURING THE MOLDING PROCESS.
4. FOR ADDITIONAL DETAILS, SEE STD. DWG. PSID-1-13.
5. ABUTMENT AND PIER DIAPHRAGMS ARE PER STD. DWG. PSID-1-13.

RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501988/2502011	

ELASTOMERIC BEARING DETAILS

BRIDGE NO. FRA-033-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111

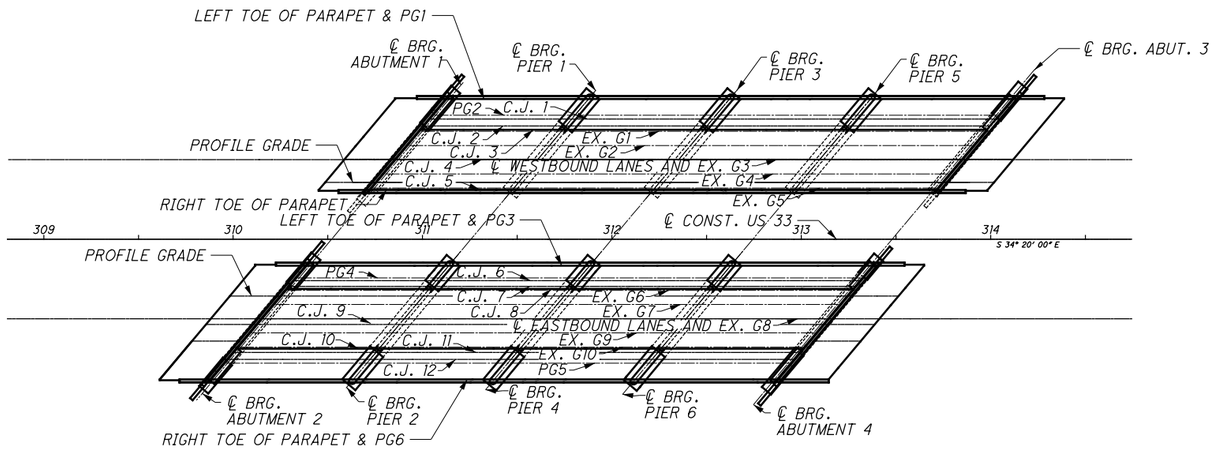
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TOP OF HAUNCH ELEVATIONS - LEFT BRIDGE																	
	SPAN 1										SPAN 2						
LOCATION	BRG. R.A.		1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG.PIER 1		1/4 SPAN		3/4 SPAN		.75 SPAN		BRG. PIER 3	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	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
	SPAN 3								SPAN 4									
LOCATION	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.		
PG1	312+80.70	741.90	312+99.30	741.89	313+17.91	741.86	313+36.51	741.81	313+54.91	741.82	313+73.30	741.82	313+91.70	741.79	314+10.09	741.74		
PG2	312+73.56	742.04	312+92.17	742.04	313+10.77	742.00	313+29.38	741.95	313+47.77	741.97	313+66.17	741.96	313+84.56	741.93	314+02.96	741.88		

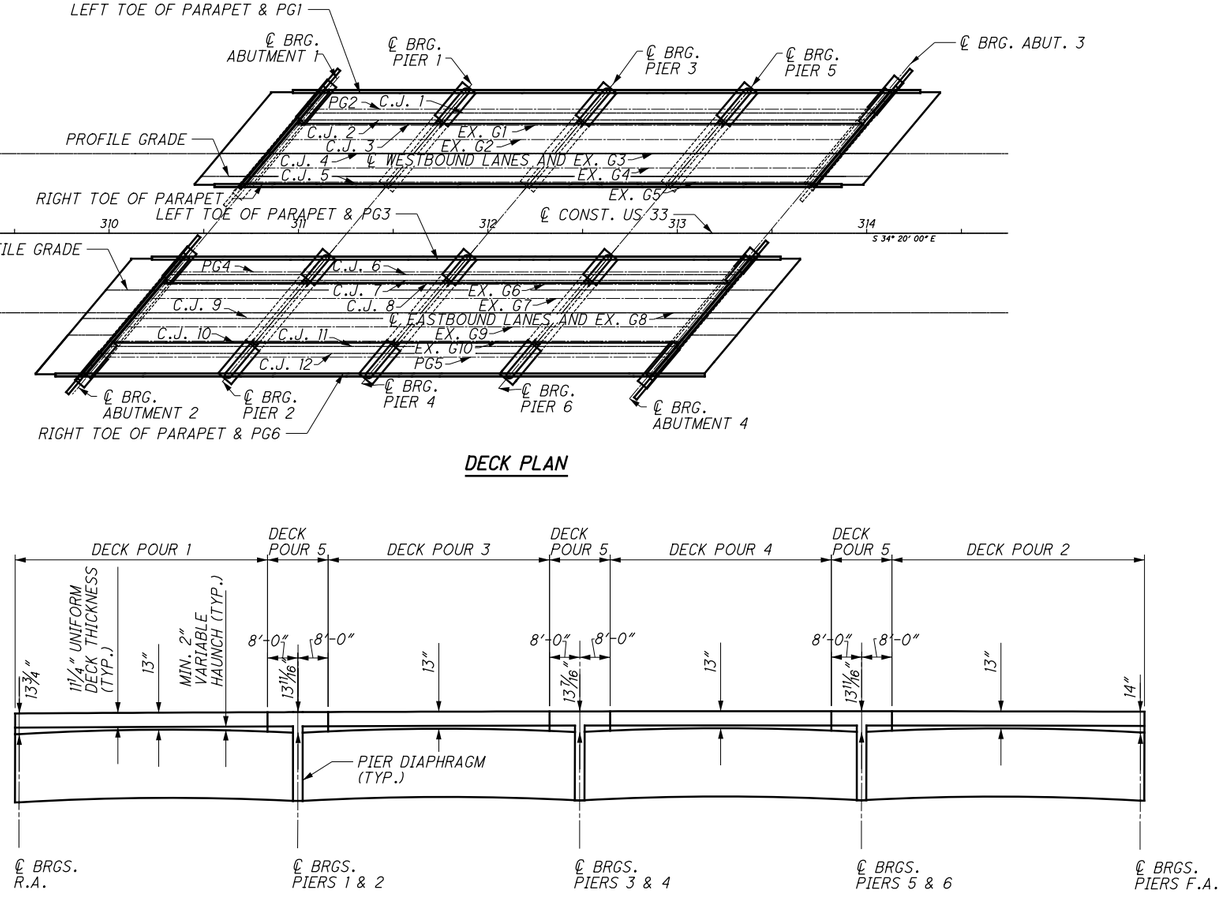
TOP OF HAUNCH ELEVATIONS - RIGHT BRIDGE																	
	SPAN 1										SPAN 2						
LOCATION	BRG. R.A.		1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG.PIER 2		1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. PIER 4	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	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
	SPAN 3								SPAN 4									
LOCATION	1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. PIER 6		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.		
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		

TOP OF HAUNCH ELEVATIONS

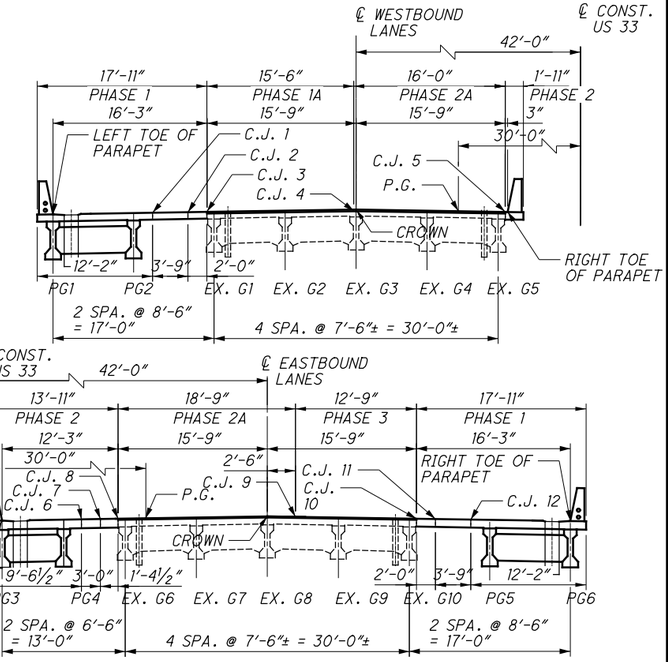
TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM/GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.



DECK PLAN



CAMBER DIAGRAM AND DECK POUR SEQUENCE



DECK TYPICALS

NOTES:

1. 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&MS 511 WITH A DESIGN STRENGTH OF 4.5 KSI.
2. 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.
3. CAMBER:
   ESTIMATED CAMBER AT DAY 0 (D_0) IS 0.627 INCHES
   ESTIMATED CAMBER AT DAY 30 (D_{30}) IS 1.103 INCHES
   DEFLECTION DUE TO REMAINING DEAD LOAD IS 0.608 INCHES
   THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D_{30} WITH A SACRIFICIAL HAUNCH THICKNESS OF 2 INCHES.

RESOURCE INTERNATIONAL INC.
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COLUMBUS, OHIO 43231
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DESIGNED	DRAWN	REVIEWED	DATE
JLM	JLM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JGM		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

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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

	SPAN 1										SPAN 2							
LOCATION	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	742.73	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

	SPAN 3								SPAN 4							
LOCATION	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	742.81	312+99.30	742.81	313+17.91	742.78	313+36.51	742.73	313+54.91	742.74	313+73.30	742.74	313+91.70	742.70	314+10.09	742.65
C.J. 1	312+73.56	742.96	312+92.17	742.95	313+10.77	742.92	313+29.38	742.87	313+47.77	742.88	313+66.17	742.88	313+84.56	742.85	314+02.96	742.80
C.J. 2	312+71.89	742.97	312+90.49	742.96	313+09.10	742.93	313+27.70	742.90	313+46.10	742.89	313+64.49	742.88	313+82.89	742.86	314+01.28	742.83
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
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
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
C.J. 5	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

SCREED ELEVATIONS - RIGHT BRIDGE

	SPAN 1										SPAN 2							
LOCATION	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.	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

	SPAN 3								SPAN 4							
	1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. PIER 6		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 & PG3	312+06.86	742.79	312+25.46	742.83	312+44.07	742.83	312+62.67	742.82	312+81.07	742.87	312+99.46	742.90	313+17.86	742.87	313+36.25	742.82
C.J. 6	312+01.41	742.89	312+20.01	742.92	312+38.62	742.93	312+57.22	742.92	312+75.62	742.97	312+94.01	743.00	313+12.41	742.98	313+30.80	742.93
C.J. 7	312+00.25	742.89	312+18.86	742.91	312+37.46	742.93	312+56.07	742.94	312+74.46	742.97	312+92.86	742.99	313+11.25	742.98	313+29.65	742.95
C.J. 8	311+96.58	742.95	312+15.19	742.97	312+33.79	742.98	312+52.40	743.00	312+70.79	743.02	312+89.19	743.04	313+07.58	743.04	313+25.98	743.02
PROFILE GRADE	311+93.43	743.00	312+12.04	743.02	312+30.64	743.04	312+49.25	743.06	312+67.64	743.08	312+86.04	743.10	313+04.43	743.11	313+22.83	743.09
CL EASTBOUND LANES & EX. G8	311+83.37	743.19	312+01.97	743.20	312+20.58	743.22	312+39.18	743.24	312+57.58	743.26	312+75.97	743.28	312+94.37	743.30	313+12.76	743.29
C.J. 9	311+80.85	743.13	311+99.45	743.15	312+18.06	743.17	312+36.66	743.19	312+55.06	743.21	312+73.45	743.23	312+91.85	743.25	313+10.24	743.24
C.J. 10	311+70.15	742.92	311+88.75	742.94	312+07.36	742.96	312+25.96	742.98	312+44.36	742.99	312+62.75	743.01	312+81.15	743.03	312+99.54	743.05
C.J. 11	311+68.47	742.90	311+87.08	742.92	312+05.68	742.93	312+24.29	742.94	312+42.68	742.97	312+61.08	742.99	312+79.47	743.01	312+97.87	743.02
C.J. 12	311+65.32	742.86	311+83.93	742.89	312+02.53	742.89	312+21.14	742.88	312+39.53	742.93	312+57.93	742.96	312+76.32	742.97	312+94.72	742.96
RIGHT TOE OF PARAPET & PG4	311+56.51	742.68	311+75.12	742.71	311+93.72	742.72	312+12.33	742.70	312+30.72	742.75	312+49.12	742.79	312+67.51	742.79	312+85.91	742.78

RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED JLM | DRAWN JLM | REVIEWED SSK | DATE 11/07/17
CHECKED JGM | REVISED | 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

G:\projects\2014\W-14-166 FRA-33-24.26\98111\structures\FRA033_2509 L&R\sheets\033_2509CSD008.dgn 11/8/2017 1:09:59 PM kevinj

FINAL DECK SURFACE ELEVATIONS - LEFT BRIDGE

	SPAN 1								SPAN 2									
LOCATION	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	743.20	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
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

	SPAN 3								SPAN 4							
LOCATION	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

	SPAN 1								SPAN 2									
LOCATION	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.	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	311+88.25	742.74
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	311+82.80	742.84
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	311+81.65	742.86
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	311+79.13	742.91
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
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	311+77.35	742.94
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
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	311+71.05	743.05
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
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	311+58.47	743.04
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	311+52.17	742.91
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	742.74	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	311+49.87	742.87
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	311+46.72	742.80
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	311+45.04	742.77
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	311+37.91	742.63

	SPAN 3								SPAN 4							
LOCATION	1/4 SPAN		1/2 SPAN		3/4 SPAN		BRG. PIER 6		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 & PG3	312+06.86	742.76	312+25.46	742.78	312+44.07	742.80	312+62.67	742.82	312+81.07	742.84	312+99.46	742.85	313+17.86	742.84	313+36.25	742.82
PG4	312+01.41	742.86	312+20.01	742.88	312+38.62	742.90	312+57.22	742.92	312+75.62	742.93	312+94.01	742.95	313+12.41	742.95	313+30.80	742.93
C.J. 6	312+00.25	742.88	312+18.86	742.90	312+37.46	742.92	312+56.07	742.94	312+74.46	742.95	312+92.86	742.97	313+11.25	742.97	313+29.65	742.95
C.J. 7	311+97.73	742.93	312+16.34	742.94	312+34.94	742.96	312+53.55	742.98	312+71.94	743.00	312+90.34	743.02	313+08.73	743.02	313+27.13	743.00
C.J. 8	311+96.58	742.95	312+15.19	742.97	312+33.79	742.98	312+52.40	743.00	312+70.79	743.02	312+89.19	743.04	313+07.58	743.04	313+25.98	743.02
EX. G6	311+95.95	742.96	312+14.56	742.98	312+33.16	743.00	312+51.77	743.01	312+70.16	743.03	312+88.56	743.05	313+06.95	743.06	313+25.35	743.04
PROFILE GRADE	311+93.43	743.00	312+12.04	743.02	312+30.64	743.04	312+49.25	743.06	312+67.64	743.08	312+86.04	743.10	313+04.43	743.11	313+22.83	743.09
EX. G7	311+89.66	743.07	312+08.26	743.09	312+26.87	743.11	312+45.47	743.13	312+63.87	743.15	312+82.26	743.16	313+00.66	743.18	313+19.05	743.16
CL EASTBOUND LANES & EX. G8	311+83.37	743.19	312+01.97	743.20	312+20.58	743.22	312+39.18	743.24	312+57.58	743.26	312+75.97	743.28	312+94.37	743.30	313+12.76	743.29
C.J. 9	311+80.85	743.13	311+99.45	743.15	312+18.06	743.17	312+36.66	743.19	312+55.06	743.21	312+73.45	743.23	312+91.85	743.25	313+10.24	743.24
EX. G9	311+77.07	743.06	311+95.68	743.08	312+14.28	743.10	312+32.89	743.11	312+51.28	743.13	312+69.68	743.15	312+88.07	743.17	313+06.47	743.18
EX. G10	311+70.78	742.93	311+89.38	742.95	312+07.99	742.97	312+26.59	742.99	312+44.99	743.01	312+63.38	743.03	312+81.78	743.04	313+00.17	743.06
C.J. 10	311+70.15	742.92	311+88.75	742.94	312+07.36	742.96	312+25.96	742.98	312+44.36	742.99	312+62.75	743.01	312+81.15	743.03	312+99.54	743.05
C.J. 11	311+68.47	742.89	311+87.08	742.91	312+05.68	742.92	312+24.29	742.94	312+42.68	742.96	312+61.08	742.98	312+79.47	743.00	312+97.87	743.02
C.J. 12	311+65.32	742.82	311+83.93	742.84	312+02.53	742.86	312+21.14	742.88	312+39.53	742.90	312+57.93	742.92	312+76.32	742.93	312+94.72	742.96
PG5	311+63.65	742.79	311+82.25	742.81	312+00.86	742.83	312+19.46	742.85	312+37.86	742.86	312+56.25	742.88	312+74.65	742.90	312+93.04	742.92
RIGHT TOE OF PARAPET & PG6	311+56.51	742.65	311+75.12	742.67	311+93.72	742.68	312+12.33	742.70	312+30.72	742.72	312+49.12	742.74	312+67.51	742.76	312+85.91	742.78

FINAL DECK SURFACE ELEVATIONS

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

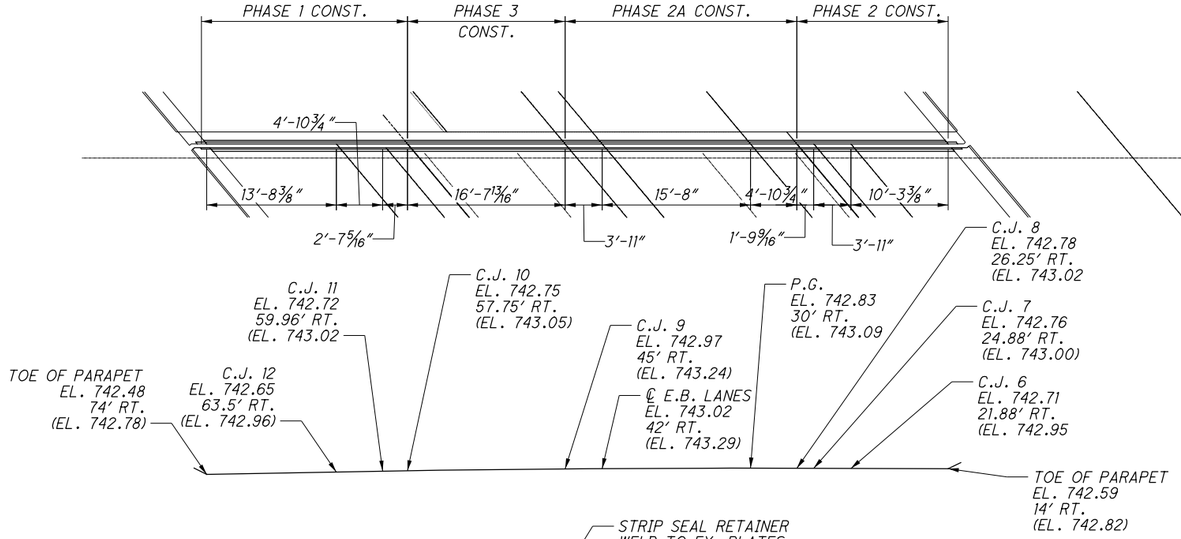
RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

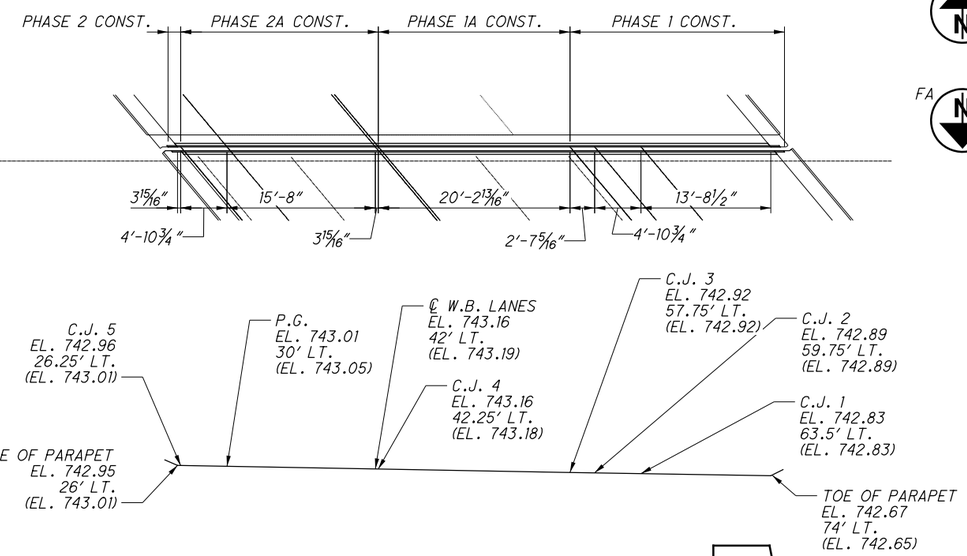
DESIGNED	DRAWN	REVIEWED	DATE
JLM	JLM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JGM	—	2501988/2502011	

FINAL DECK ELEVATIONS
BRIDGE NO. FRA-33-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111

11/8/2017 1:10:01 PM kevinj
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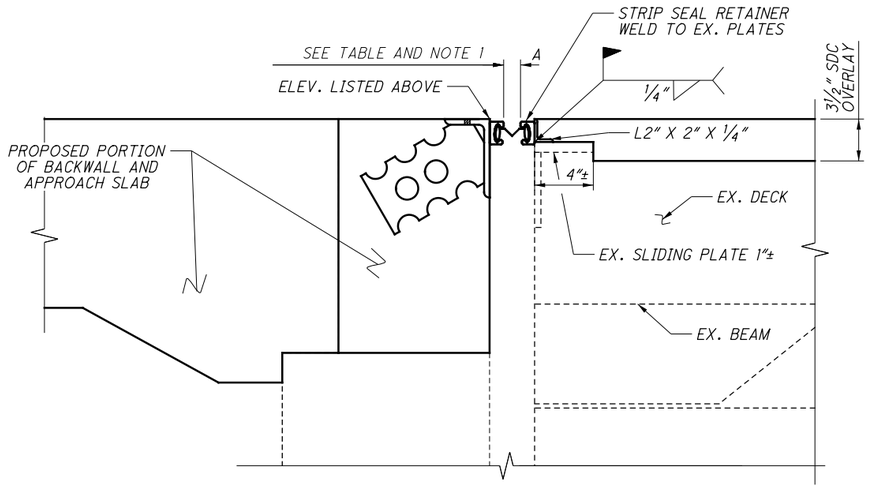




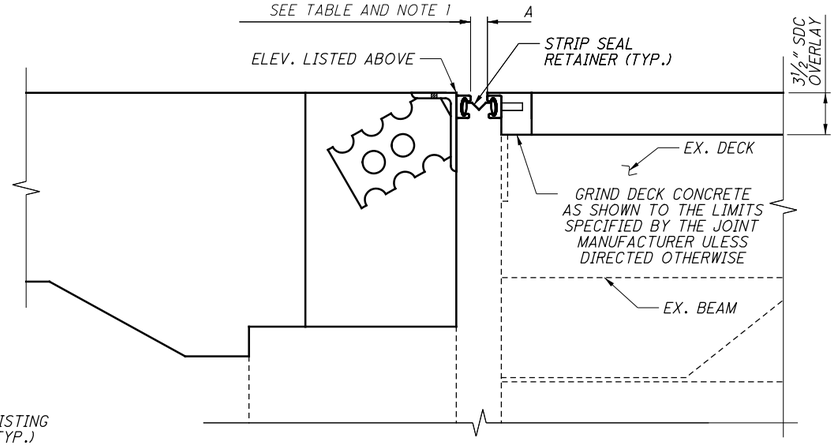
RA N

FA N

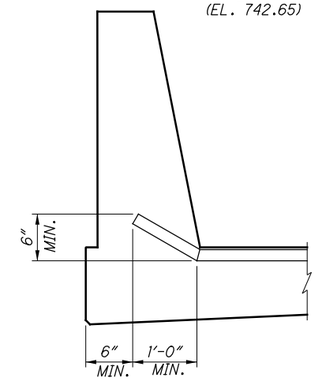
REAR EXPANSION JOINT ARMOR PLAN AND PROFILE
(FORWARD EXPANSION JOINT ARMOR OPPOSITE HAND)



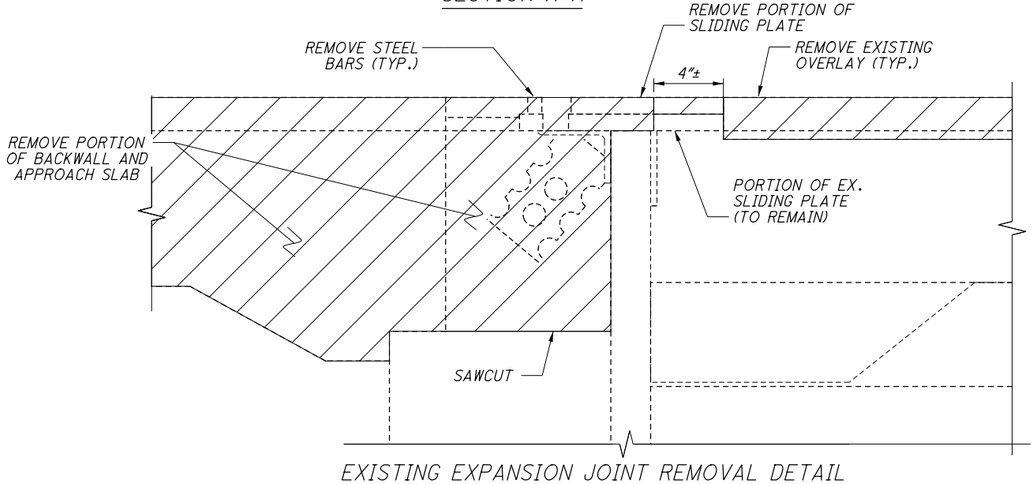
SECTION A-A



ALTERNATIVE SECTION A-A

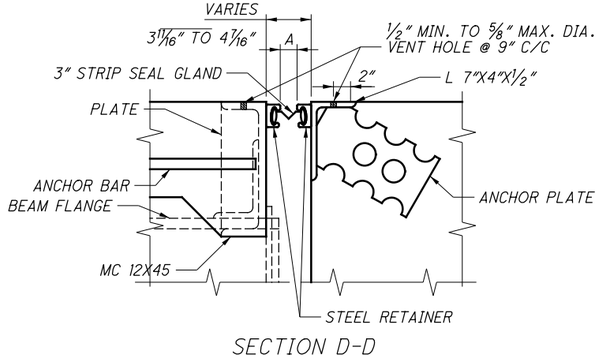


DETAIL AT PARAPET



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	2½"
40	2⁵⁄₁₆"
50	2³⁄₁₆"
60	2"
70	1¹³⁄₁₆"
80	1⅝"
90	1⁷⁄₁₆"

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

3. REFER TO EXJ-6-17 FOR ADDITIONAL DETAILS.

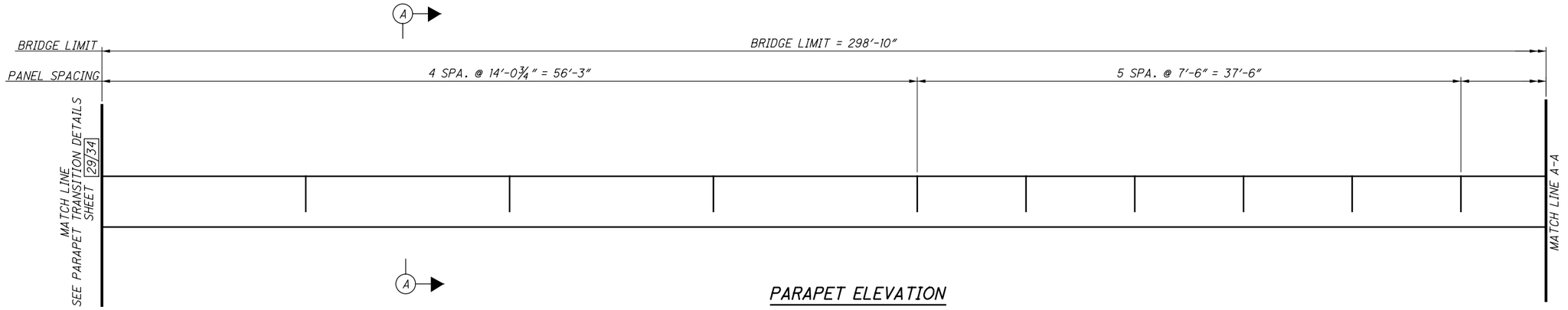
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
MMS	MMS	NCK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JGM		2501988/2502011	

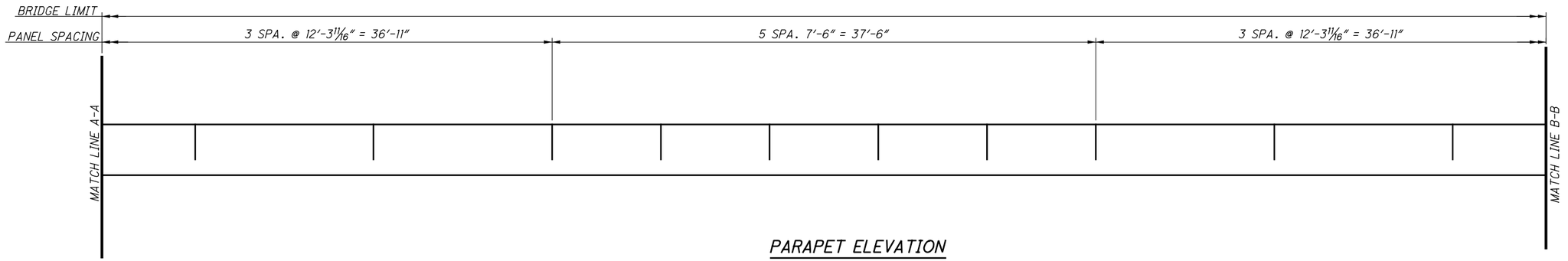
EXPANSION JOINT DETAILS
BRIDGE NO. FRA-33-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111

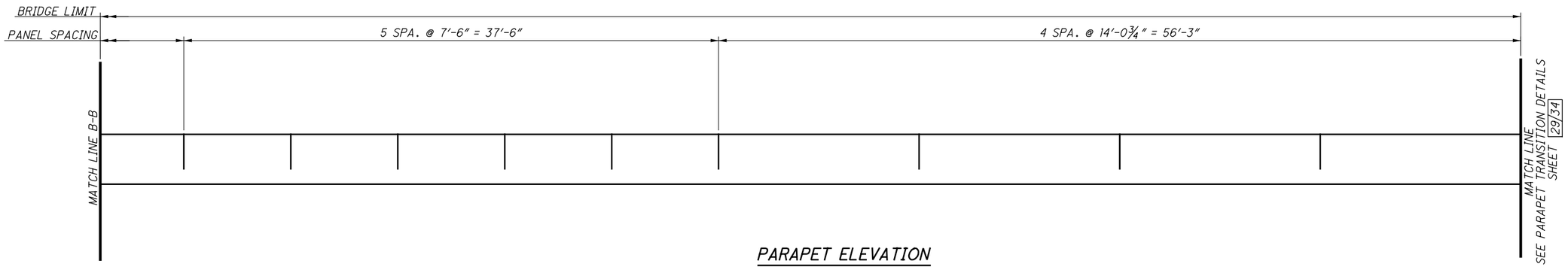
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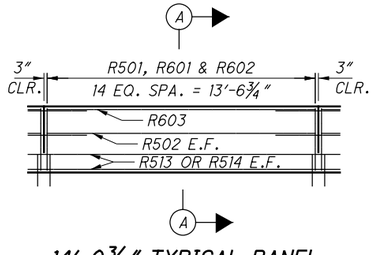
PARAPET ELEVATION



PARAPET ELEVATION

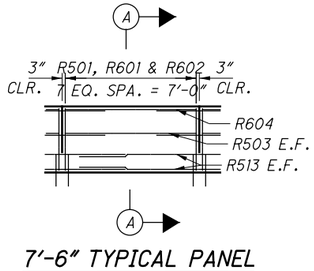


PARAPET ELEVATION



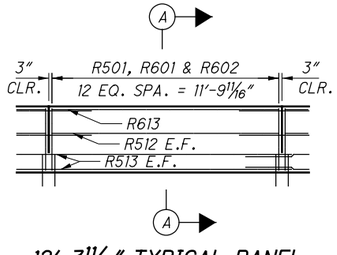
14'-0¾" TYPICAL PANEL

(TYP. OF 8)



7'-6" TYPICAL PANEL

(TYP. OF 15)



12'-3¹¹⁄₁₆" TYPICAL PANEL

(TYP. OF 6)

NOTE:
1. SEE SHEET 29/34 FOR SECTION A-A

RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501988/2502011	

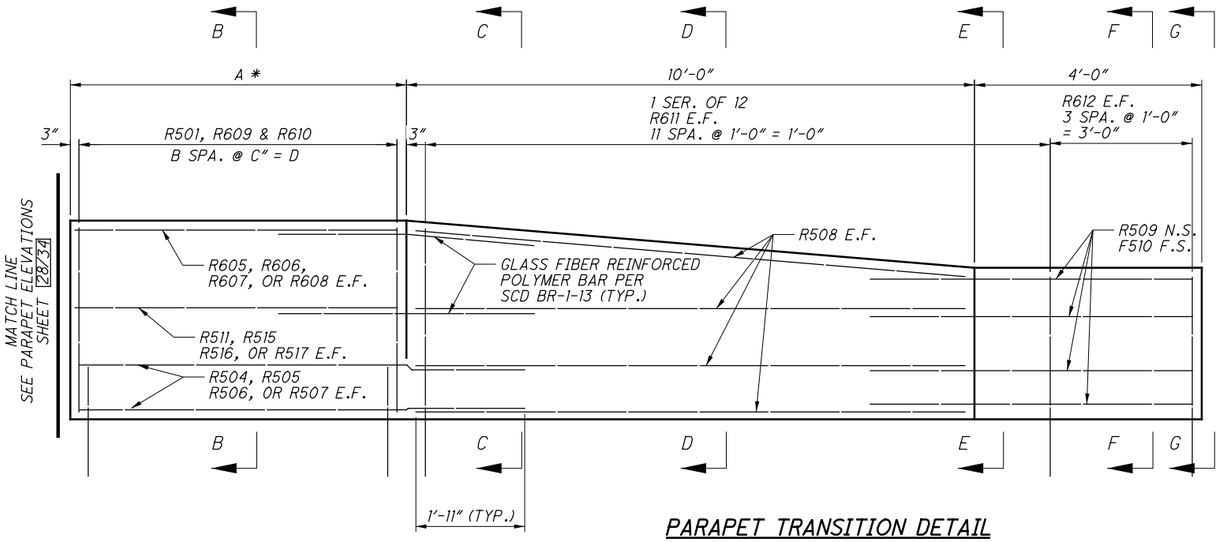
PARAPET & TRANSITION DETAILS
BRIDGE NO. FRA-33-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111

28/34

281/287

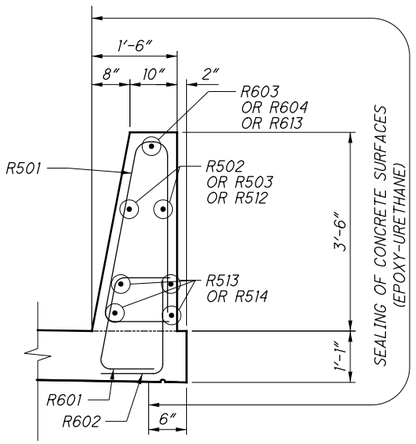
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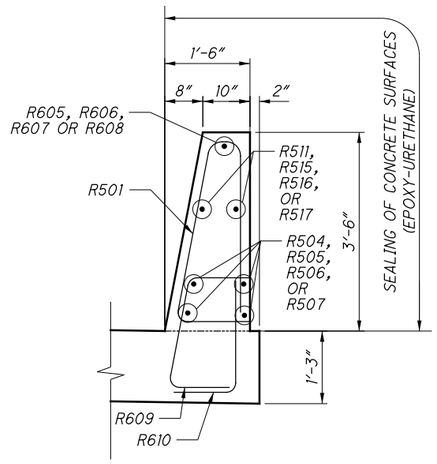
BARS	LOCATION	A*	B	C	D	NO. OF PANELS
R504, R511, R605	LEFT BRIDGE, RA, LEFT SIDE	1'-0"	1	6"	6"	1
R505, R515, R606	LEFT BRIDGE, FA, LEFT SIDE	2'-3"	2	10½"	1'-9"	1
R505, R515, R606	LEFT BRIDGE, RA, RIGHT SIDE	2'-3"	2	10½"	1'-9"	1
R504, R511, R605	LEFT BRIDGE, FA, RIGHT SIDE	1'-0"	1	6"	6"	1
R507, R517, R609	RIGHT BRIDGE, RA, LEFT SIDE	1'-7½"	2	6¼"	1'-0½"	1
R505, R515, R606	RIGHT BRIDGE, FA, LEFT SIDE	2'-3"	2	10½"	1'-9"	1
R505, R515, R606	RIGHT BRIDGE, RA, RIGHT SIDE	2'-3"	2	10½"	1'-9"	1
R506, R516, R607	RIGHT BRIDGE, FA, RIGHT SIDE	26'-7⅜16"	14	11¹³⁄₁₆"	12'-9⅜16"	2

PARAPET TRANSITION DETAIL

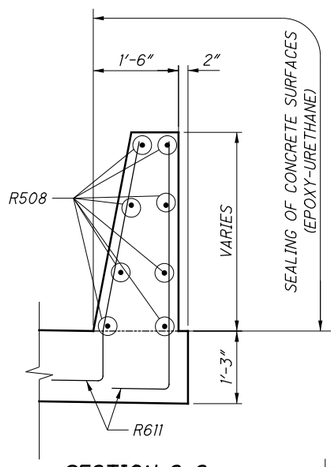
(NO 14'-0" LONG PARAPET TRANSITION ON RIGHT SIDE)



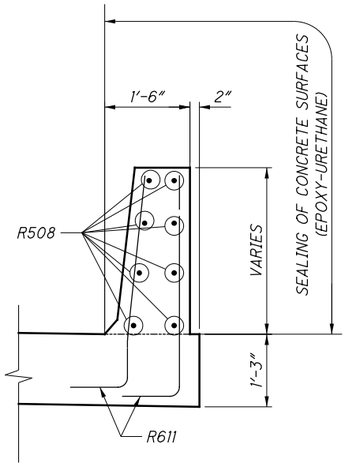
SECTION A-A



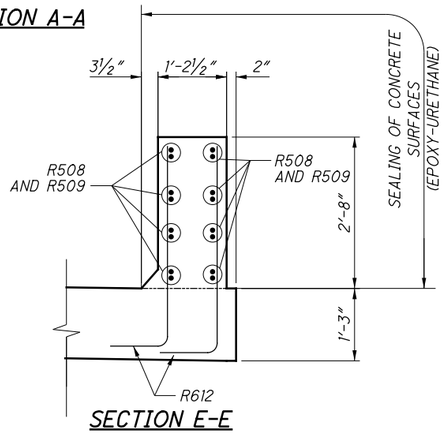
SECTION B-B



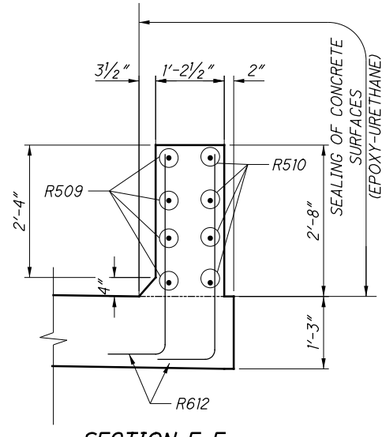
SECTION C-C



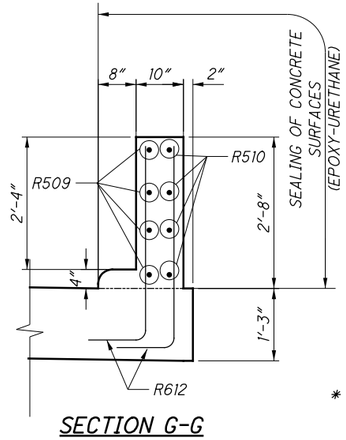
SECTION D-D



SECTION E-E



SECTION F-F



SECTION G-G

LEGEND
* - MEASURED ALONG TOE OF PARAPET

NOTES:
1.) SEE SHEET 28/34 FOR PARAPET ELEVATIONS.

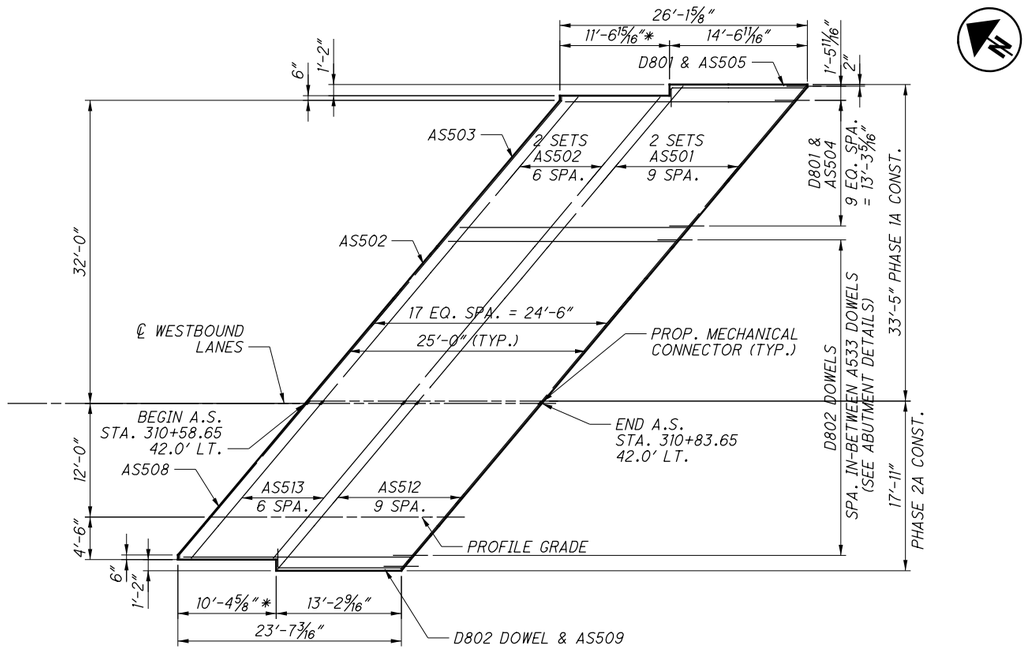
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501988/2502011	

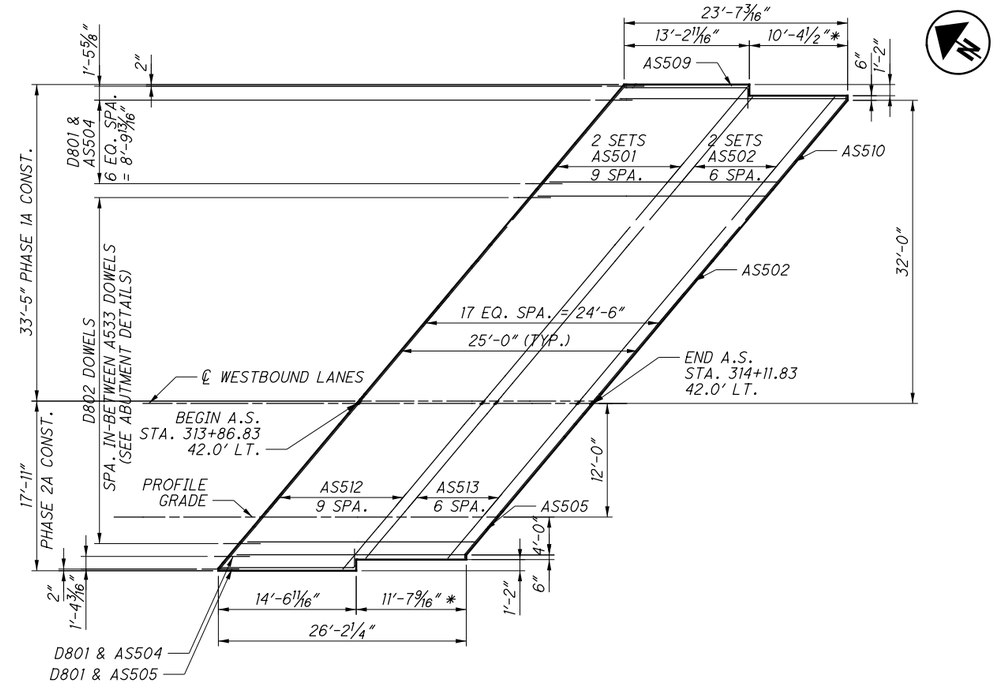
PARAPET & TRANSITION DETAILS
BRIDGE NO. FRA-33-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111

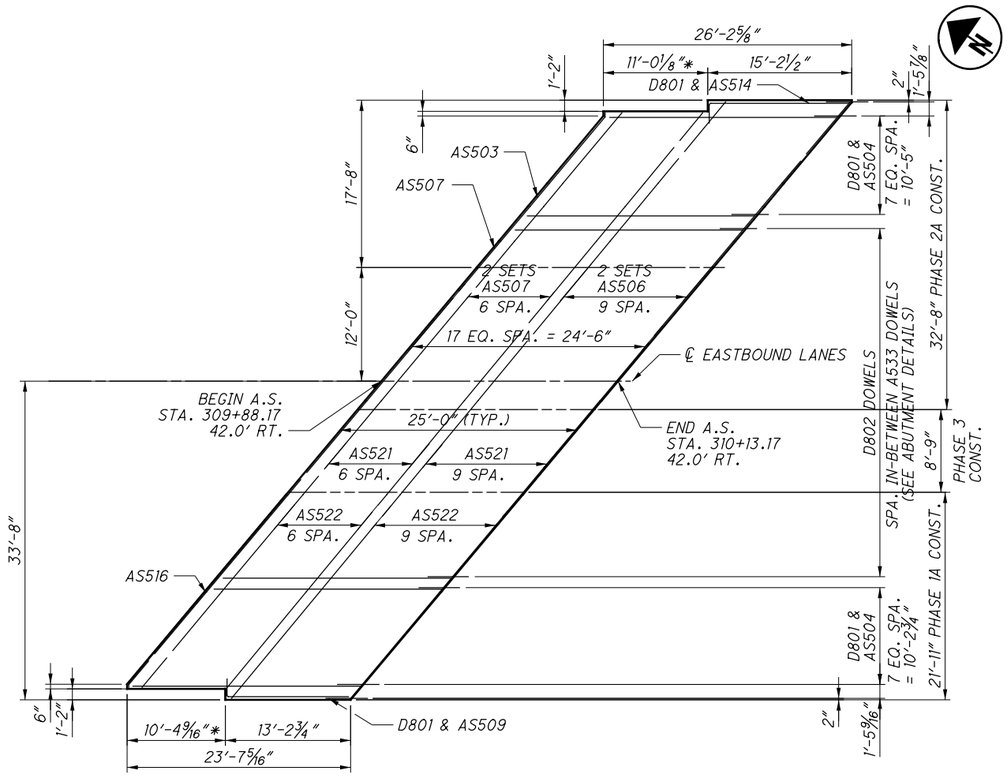
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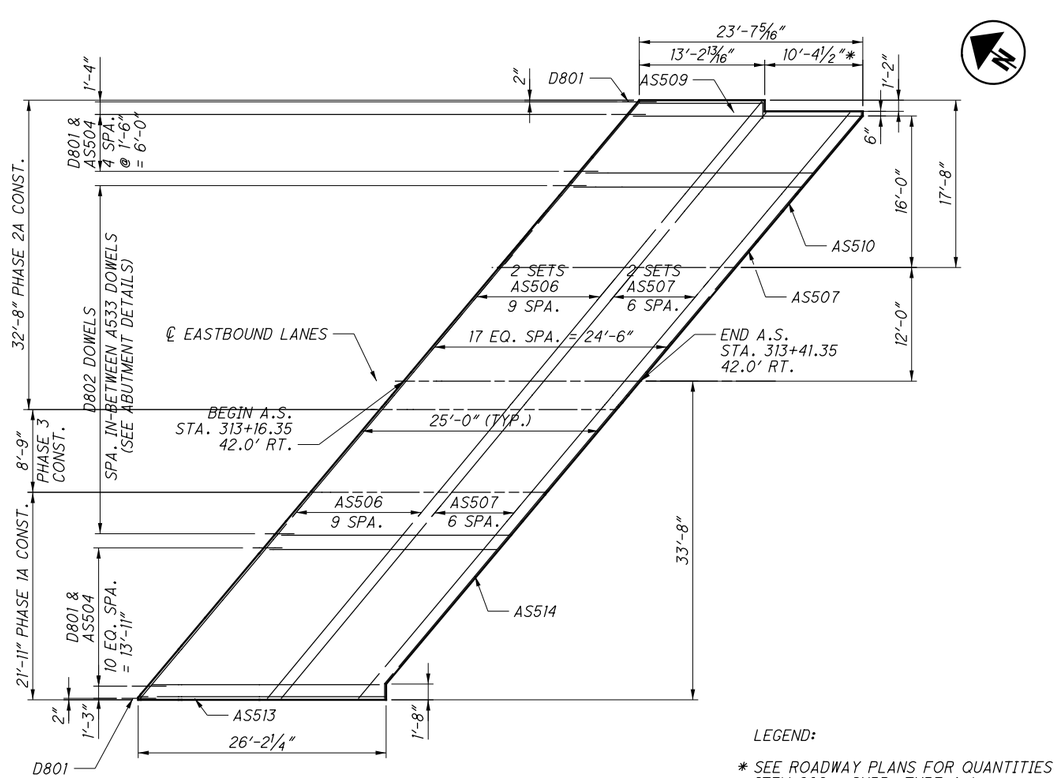
LEFT REAR APPROACH SLAB - TOP REINFORCING



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) 823-4949

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501988/2502011	

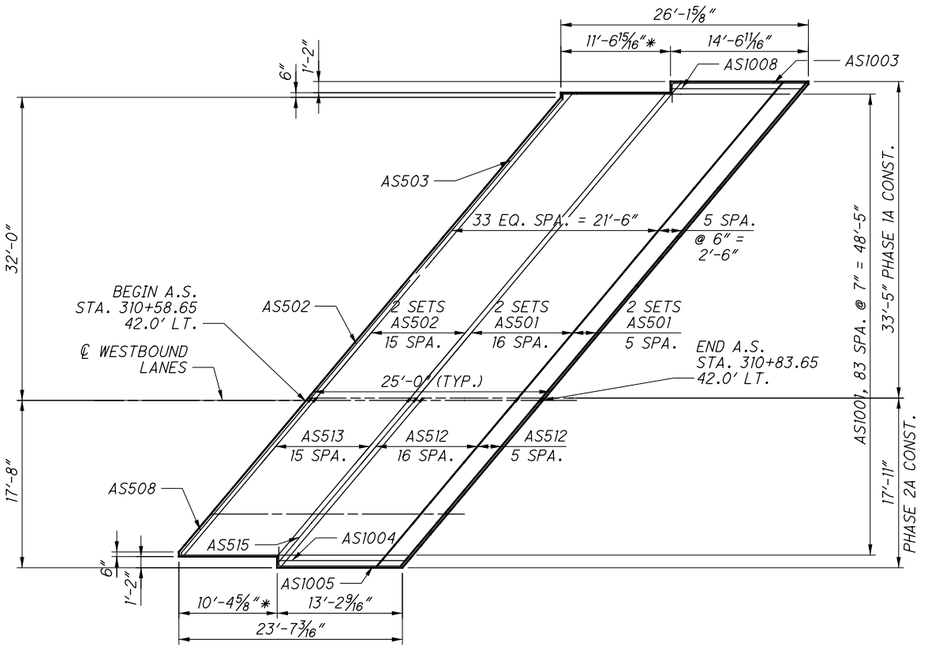
APPROACH SLAB DETAILS - TOP REINFORCING

BRIDGE NO. FRA-033-2509 L/R
OVER BIG WALNUT CREEK

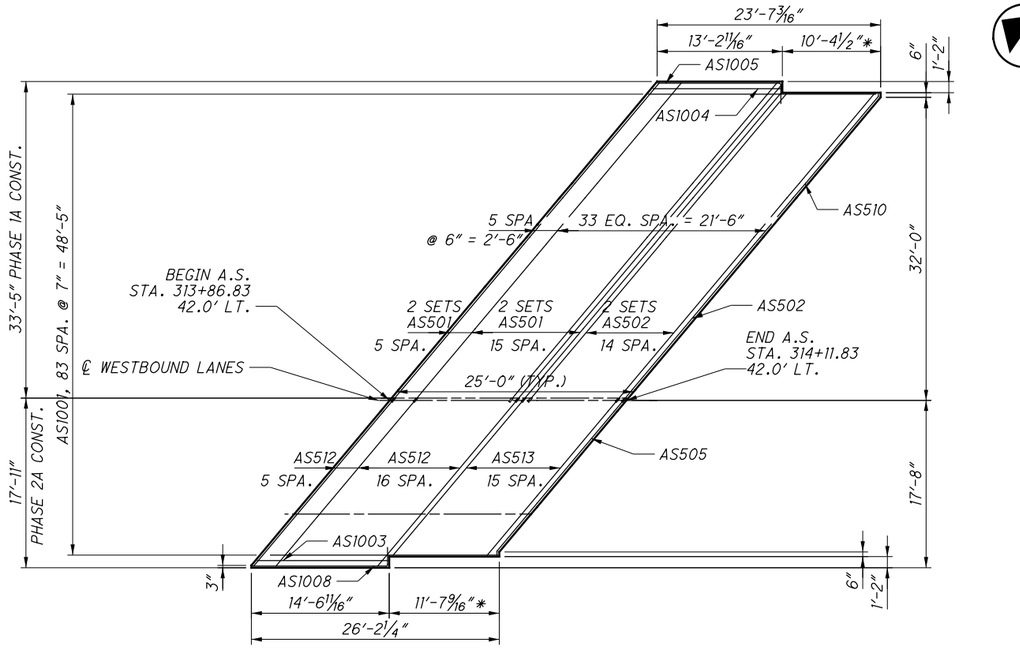
FRA-33-24.26
PID No. 98111

30/34
283/287

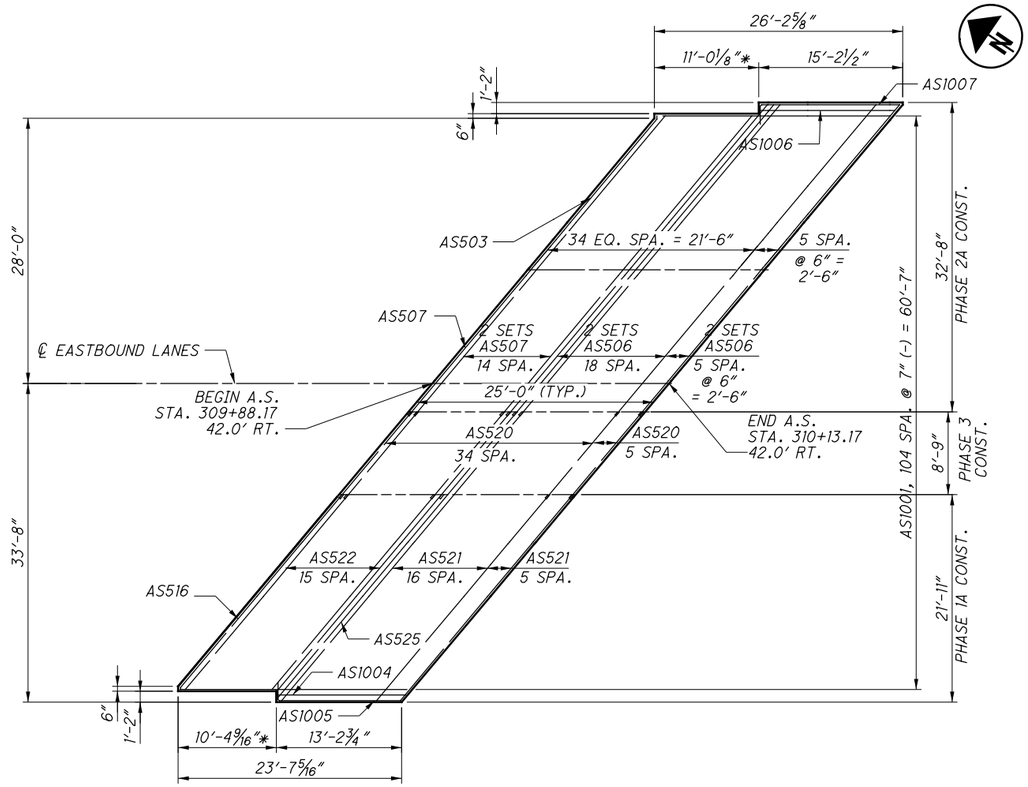
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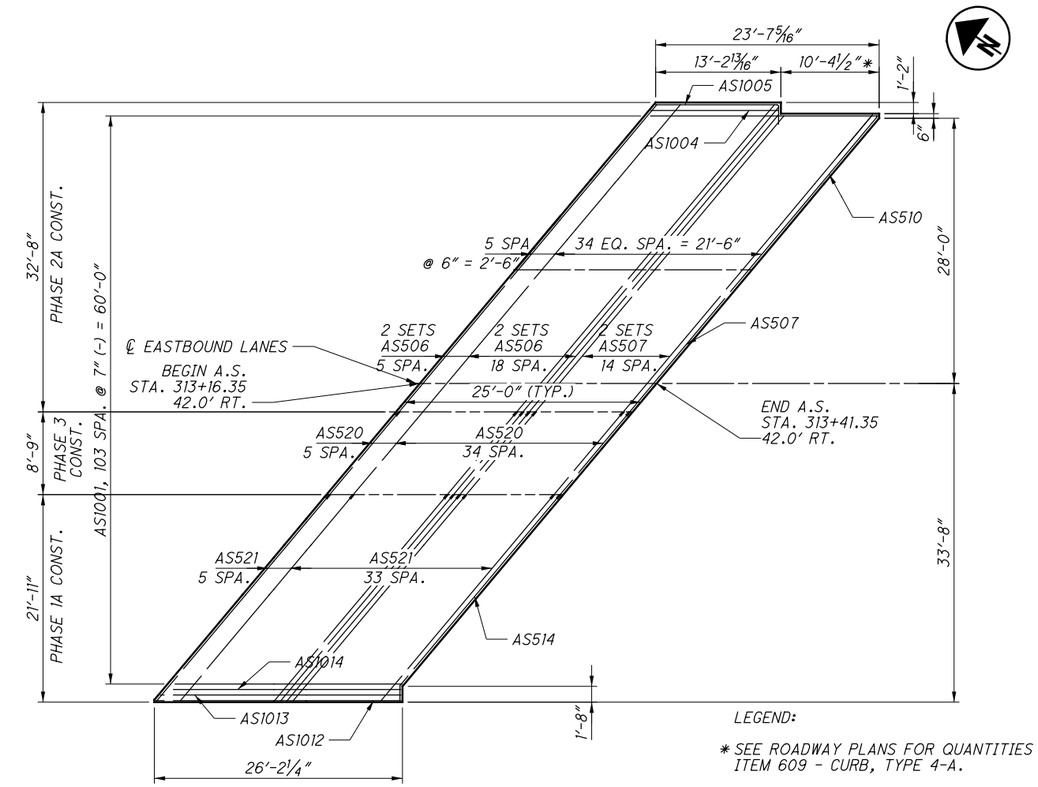
LEFT REAR APPROACH SLAB - BOTTOM REINFORCING



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.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501988/2502011	

APPROACH SLAB DETAILS - BOTTOM REINFORCING

BRIDGE NO. FRA-033-2509 L/R
OVER BIG WALNUT CREEK

FRA-33-24.26
PID No. 98111

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MARK	NUMBER					LENGTH	WEIGHT LEFTT 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
ABUTMENTS														
A501*	24	60	48	56	188	3'-0"	225	363	ST					
A502	19	32	17	32	100	8'-4"	313	556	2	1'-6"	5'-7"	1'-6"		
A503	10	10	10	10	40	22'-0"	459	459	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	44	78	44	78	244	6'-5"	589	1045	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"	19	19	ST					
A512			2		2	14'-8"	31		19	2'-5"	11'-7"	4'-1"		
A513		10		10	20	16'-9"		349	ST					
A514		10			10	35'-11"		375	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 5	2 SER OF 5	23'-10" TO 33'-10"		301	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					
A533*	64	70	68	70	272	2'-10"	390	414	ST					
A534	32	35	34	35	136	3'-4"	229	243	2					
A535**		1	1	1	3	9'-4"	10	19	ST					
A536**	1		1		2	20'-3"	42		ST					
A537**	1		1		2	20'-9"	43		ST					
A538**	1				1	4'-8"	5		ST					
A539**	1	1		1	3	1'-9"	2	4	ST					
A540**		1		1	2	5'-3"		11	ST					
A541**		1		1	2	11'-5"		24	ST					
A542**		1		1	2	24'-6"		51	ST					
A543				2	2	11'-7"		24	19	2'-5"	8'-1"	4'-3"		
A544				2	2	16'-5"		34	19	2'-5"	13'-0"	5'-3"		
A601	19	32	17	32	100	13'-0"	703	1250	2	5'-1"	5'-5"	2'-10"		
A602*	10	20	10	20	60	3'-0"	90	180	ST					
A603	16	27	11	25	79	7'-2"	290	559	2	1'-6"	4'-5"	1'-6"		
A604	16	27	11	26	80	8'-5"	341	670	2	3'-8"	1'-5"	3'-8"		
A605	16	27	11	25	79	10'-1"	409	787	2	4'-6"	1'-5"	4'-6"		

NOTE:
FOR NOTES, LEGEND AND BENDING DIAGRAMS, SEE NEXT SHEET.

RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED JGM | DRAWN JGM | REVIEWED SSK | DATE 11/07/17
CHECKED NCK | REVISED | 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

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MARK	NUMBER					LENGTH	WEIGHT LEFTT 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
ABUTMENTS														
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" 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	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" TO 9'-7"	84	84	2	1'-8" TO 4'-3"	1'-5"	1'-8" TO 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" 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	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						

NOTE:
FOR NOTES, LEGEND AND BENDING DIAGRAMS, SEE NEXT SHEET.

RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JGM	JGM	SSK	11/07/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		2501988/2502011	

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MARK	NUMBER P1 LEFT 2501988	P2 RIGHT 2502011	P3 LEFT 2501988	P4 RIGHT 2502011	P5 LEFT 2501988	P6 RIGHT 2502011	TOTAL	LENGTH	WEIGHT LEFT 2501988	WEIGHT RIGHT 2502011	TYPE	DIMENSIONS A	B	C	R	INC
PIERS																
P501*	16	32	16	32	16	32	144	3'-0"	150	300	ST					
P502	4	4	4	4	4	4	24	22'-6"	282	282	ST					
P503		4		4		4	12	17'-3"		216	ST					
P504	32	55	32	55	32	55	261	6'-8"	667	1146	2	2'-0"	2'-11"	2'-0"		
P505	28	28	28	28	28	28	168	21'-3"	1862	1862	ST					
P506	0	28		28		28	84	15'-11"		1395	ST					
P507*	28	56	28	56	28	56	252	2'-11"	256	512	19	2'-0"	6"	10"		
P508	14	28	14	28	14	28	126	11'-7"	507	1015	24	2'-11"	3'-6"			1'-5 1/2"
P509	32		32		32		261	12'-5"	1244	2137	2	2'-0"	8'-8"	2'-0"		
P601*	12	24	12	24	12	24	108	3'-0"	162	324	ST					
P701	7	7	7	7	7	7	42	22'-6"	966	966	ST					
P702		7		7		7	21	17'-3"		740	ST					
P703	32	55	32	55	32	55	261	10'-2"	1994	3427	17	8'-8"				
P901	62	108	62	108	62	108	510	10'-2"	6425	11192	1	2'-0"	8'-5"			
P902	64		64		64		192	18'-7"	12129		ST					
P903		110		110		110	330	18'-5"		20667	ST					
								TOTAL	26643	46181						

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.

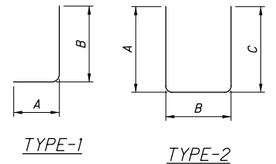
3. AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. IF A DOWEL BAR SPLICE TYPE OF CONNECTOR IS FURNISHED, THE MINIMUM DOWEL BAR LENGTH TO BE INCLUDED WITH THE CONNECTOR SHALL BE ONE LAP 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:

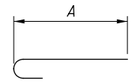
* - INDICATES DOWEL BAR.

** - 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.

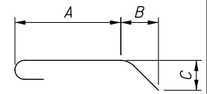
BENDING DIAGRAMS



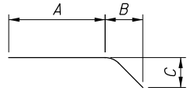
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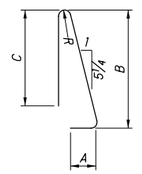
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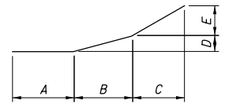
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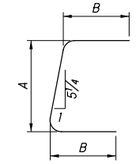
TYPE-19



TYPE-23



TYPE-25



TYPE-28

MARK	TOTAL LEFT 2501988	TOTAL RIGHT 2502011	LENGTH	WEIGHT LEFT 2501988	WEIGHT RIGHT 2502011	TYPE	DIMENSIONS A	B	INC
SUPERSTRUCTURE									
S601	425	425	15-8"	10003	10003	ST.			
S602**		430	12'-4"		7963	ST.			
S603**	443		1'-9"	1164		ST.			
S604	340	540	30'-0"	15320	24332	ST.			
S605**	2	2	23'-2"	70	70	ST.			
S606	45	75	30'-0"	2028	3380	ST.			
S607**	NOT	USED	17'-7"			ST.			
S608**		1 SER OF 12	3'-4" TO 12'-0"		138	ST.			
S609	34	54	27'-6"	1404	2230	ST.			
S610**	1 SER OF 15	1 SER OF 15	6'-4" TO 15'-8"	248	248	ST.			
S611	6	6	2'-3"	20	20	ST.			
S612	7		2'-0"	21		ST.			
S613		3	1'-6"		7	ST.			
S614**	438	450	5'-0"	3289	3380	ST.			
S615**		428	4'-3"		2732	ST.			
S616**	1 SER OF 19	1 SER OF 19	3'-2" TO 17'-5"	294	294	ST.			
S617*		1 SER OF 14	3'-2" TO 13'-5"		175	ST.			
	1	1	3'-2"						
S618*	SER OF 4	SER OF 4	TO 5'-6"	26	26	ST.			
S619*		1 SER OF 3	2'-4" TO 3'-11"		14	ST.			
S620**		2	17'-10"		54	ST.			
S621*	1	2	5'-4"	8	16	ST.			
S622*	1	2	4'-10"	7	15	ST.			

MARK	TOTAL LEFT 2501988	TOTAL RIGHT 2502011	LENGTH	WEIGHT LEFT 2501988	WEIGHT RIGHT 2502011	TYPE	DIMENSIONS A	B	INC
SUPERSTRUCTURE									
S701	425	425	15'-8"	13613	13613	ST.			
S702**		430	12'-4"		10837	ST.			
S703**	443		1'-9"	1585		ST.			
S704**		1 SER OF 12	3'-4" TO 12'-0"		188	ST.			
S705**	NOT	USED	17'-7"			ST.			
S706**	2	2	23'-2"	95	95	ST.			
S707**	1 SER OF 15	1 SER OF 15	6'-4" TO 15'-8"	337	337	ST.			
S708	6	6	2'-3"	28	28	ST.			
S709	7		2'-0"	29		ST.			
S710		3	1'-6"		9	ST.			
S711**	440	452	5'-9"	5171	5312	ST.			
S712**		428	4'-3"		3718	ST.			
S713**	1 SER OF 19	1 SER OF 19	3'-2" TO 17'-5"	400	400	ST.			
S714**		1 SER OF 14	3'-2" TO 13'-5"		238	ST.			
S715**	1 SER OF 4	1 SER OF 4	3'-2" TO 5'-6"	35	35	ST.			
S716**		1 SER OF 3	2'-4" TO 3'-11"		19	ST.			
S717**		2	17'-10"		73	ST.			
S718*	1	2	5'-4"	8	16	ST.			
S719*	1	2	4'-10"	7	15	ST.			
			SUBTOTAL	55212	90030				

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33 / 34

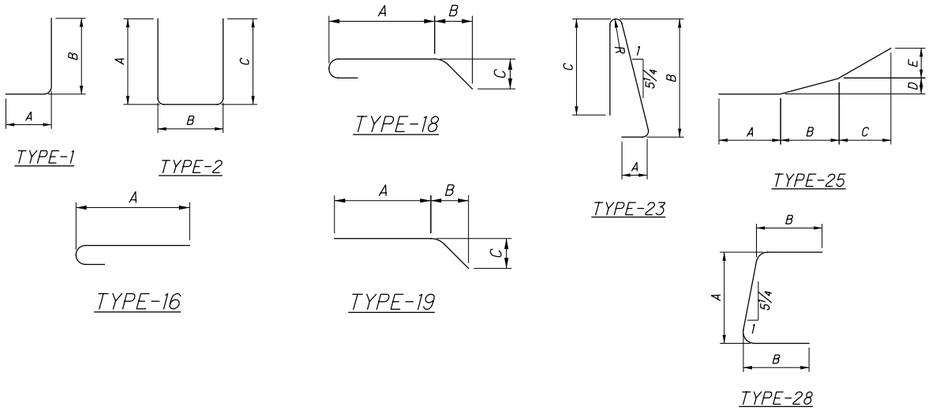
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MARK	TOTAL LEFT 2501988	TOTAL RIGHT 2502011	LENGTH	WEIGHT LEFT 2501988	WEIGHT RIGHT 2502011	TYPE	DIMENSIONS						
							A	B	C	D	E	R	INC
PARAPET													
R501	612	613	7'-4"	4679	4687	23	11"	3'-3"	3'-0"			2 3/4"	
R502	32	32	13'-7"	453	453	ST							
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"	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								

MARK	NUMBER LEFT 2501988	NUMBER RIGHT 2502011	LENGTH	WEIGHT LEFT 250198	WEIGHT RIGHT 2502011	TYPE	DIMENSIONS	
							A	B
APPROACH SLABS - INFO ONLY								
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			

BENDING DIAGRAMS



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.

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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
	TOTAL	168	293

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_{60} 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.

W— 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	-
P PEAT	PEAT	-	1
	TOTAL	116	7

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
309+50	314+50	10	11	-	-	FRA-33-2509L/R	2501953
314+50	328+00	12	12				2501988
328+00	336+92.56	13	13				2502011

CROSS SECTIONS, SHEETS 14 - 16.

NOISE WALL 2, SHEETS 17 - 18.

BORING LOGS, SHEETS 19 - 44.

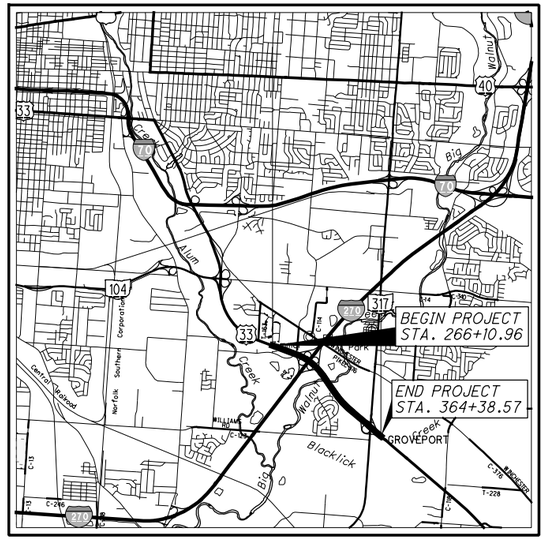
PROJECT DESCRIPTION

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

0 1 2 3 4

N

PARTICLE SIZE DEFINITIONS

12"	3"	2.0 mm	0.42 mm	0.074 mm	0.005 mm
BOULDERS |	COBBLES |	GRAVEL |	COARSE SAND |	FINE SAND |	SILT | CLAY
		No. 10 SIEVE	No. 40 SIEVE	No. 200 SIEVE	

D_{50} VALUES			
BORING NO.	SAMPLE NO.	ELEVATION	D_{50} 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

RECON. - BKS 01/20/16

DRILLING - CAD 02/08/16 - 03/09/16
MAW 02/16/16 - 03/14/16
SRB 02/29/16 - 03/08/16
NJA 03/09/16 - 03/10/16

DRAWN - RRM 08/22/17

REVIEWED - BRT 08/22/17

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-017-015 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-020-015, 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

SOIL PROFILE

FRA-33-24.26

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SUMMARY OF SOIL TEST DATA
℄ SR 33

EXPLORATION NO., STATION & OFFSET	FROM - TO	SAMPLE ID	N60	% REC	HP tsf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO_4
B-019-0-15	02.00 - 03.50	SS-1	13	67	-	73	11	5	8	3	NP	NP	NP	4	A-1-a (0) *	440
STA. 317+20.00, 59.0' LT.	03.50 - 05.00	SS-2	11	83	-	FILL: MED DE BR GRAVEL AND SAND, TR SILT, TR CLAY								9	A-1-a (V)	
LATITUDE = 39.897052	06.00 - 07.50	SS-3	20	83	3.75	30	20	13	16	21	38	18	20	14	A-6b (3)	
LONGITUDE = -82.892606	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	2	2	8	52	36	43	24	19	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	02.00 - 03.50	SS-1	14	39	-	FILL: MED DE BROWN GRAVEL WITH SAND, SILT AND CLAY								9	A-2-6 (V) *	260
STA. 321+04.01, 50.0' LT.	04.25 - 06.00	SS-2	15	78	-	42	19	12	6	21	33	20	13	15	A-2-6 (0)	
LATITUDE = 39.896170	07.00 - 08.50	SS-3	26	100	-	FILL: MED DE BROWN GRAVEL WITH SAND, SILT AND CLAY								14	A-2-6 (V)	
LONGITUDE = -82.891855	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	01.50 - 03.00	SS-1	19	78	-	FILL: MED DE BR GRAVEL WITH SAND, SILT AND CLAY								10	A-2-6 (V)	187
STA. 325+20.00, 67.0' RT.	03.50 - 05.00	SS-2	12	44	-	62	10	6	11	11	34	18	16	8	A-2-6 (0)	
LATITUDE = 39.895280	06.00 - 07.50	SS-3	27	100	-	FILL: MED DE BR GRAVEL WITH SAND, SILT AND CLAY								18	A-2-6 (V)	
LONGITUDE = -82.890944	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	01.50 - 03.00	SS-1	14	78	-	FILL: MED DE BR GR GRAVEL WITH SAND AND SILT, TR CL								12	A-2-4 (V)	267
STA. 329+20.00, 67.0' LT.	03.50 - 04.50	SS-2A	14	100	-	44	20	11	11	14	27	17	10	11	A-2-4 (0)	
LATITUDE = 39.894449	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)	
LONGITUDE = -82.890039	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	01.00 - 02.50	SS-1	27	39	-	FILL: MED DE BR GRAVEL WITH SAND, SILT AND CLAY								18	A-2-6 (V) *	
STA. 331+20.00, 67.0' LT.	03.50 - 05.00	SS-2	19	100	-	46	20	9	15	10	28	16	12	10	A-2-6 (0)	
LATITUDE = 39.894052	06.00 - 07.50	SS-3	31	44	-	FILL: DENSE BR GRAVEL WITH SAND, SILT AND CLAY								16	A-2-6 (V)	
LONGITUDE = -82.889559	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	01.00 - 02.50	SS-1	7	100	1.25	0	2	41	32	25	24	15	9	18	A-4a (4)	
STA. 331+20.00, 118.0' LT.	02.50 - 04.00	SS-2	9	89	0.50	MED ST BR MOT W GRAY SANDY SILT, SOME CLAY								20	A-4a (V)	
LATITUDE = 39.894149	04.00 - 06.00	ST-3	-	67	-	BROWN SILTY CLAY, "AND" C-F SAND, TR F GRAVEL								24	A-6b (4)	
LONGITUDE = -82.889428	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	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)	
STA. 331+72.22, 126.1' RT.	02.50 - 04.50	ST-S	-	100	0.50	0	1	2	52	45	51	23	28	36	A-7-6 (17)	
LATITUDE = 39.893579	04.50 - 06.00	SS-3	0	100	0.00	1	6	16	53	24	40	21	19	80	A-6b (12)	
LONGITUDE = -82.889922	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								14	A-1-b (V)	
	11.00 - 12.50	SS-7	33	100	-	SAME AS SS-6								14	A-1-b (V)	
	13.50 - 15.00	SS-8	43	0	-	NO RECOVERY								-	-	
	15.00 - 15.50	SS-8A	14	100	-	MED DE GY FINE SAND, "AND" COARSE SAND, TR SI, TR CL								17	A-3 (V)	
	16.00 - 17.50	SS-9	27	78	-	0	44	46	6	4	NP	NP	NP	27	A-3 (0)	
	18.50 - 20.00	SS-10	39	89	-	DENSE GY FINE SAND "AND" COARSE SAND, TR SI, TR CL								23	A-3 (V)	

SUMMARY OF SOIL TEST DATA
℄ SR 33

EXPLORATION NO., STATION & OFFSET	FROM - TO	SAMPLE ID	N60	% REC	HP tsf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO4
B-037-0-15	01.50 - 03.00	SS-1	6	28	-	60	20	9	10	1	NP	NP	NP	9	A-1-a (0)	
STA. 333+20.00, 67.0' RT.	03.50 - 05.00	SS-2	14	83	4.5+	FILL: HARD BR SILT AND CLAY, SM C-F SA, TR F GR								18	A-6a (V)	240
LATITUDE = 39.893668	06.00 - 07.50	SS-3	26	100	4.5+	8	5	16	47	24	29	18	11	16	A-6a (8)	
LONGITUDE = -82.889061	08.50 - 09.25	SS-4A	19	100	4.5+	FILL: HARD BR SILT AND CLAY, SM C-F SA, TR F GR								19	A-6a (V)	
	09.25 - 10.00	SS-4B	19	100	-	96	1	1	2	0	26	18	8	8	A-2-4 (0)	
	10.00 - 11.50	SS-5	49	89	-	P FILL: V DE BR GY GRAVEL WITH SAND AND SILT								8	A-2-4 (V)	
	11.50 - 12.25	SS-6A	24	77	-	17	12	16	34	21	33	16	17	13	A-6b (7)	
	12.25 - 13.00	SS-6B	7	77	-	P FILL: V DE BR GY GRAVEL WITH SAND, SILT AND CLAY								9	A-2-6 (V)	
	13.00 - 14.50	SS-7	18	28	-	P FILL: STIFF GY MOT W BR SILTY CLAY "AND" C-F SA								24	A-6b (V)	
	14.50 - 16.00	SS-8	12	39	1.75	SAME AS SS-7								11	A-6b (V)	
	16.00 - 17.50	SS-9	9	100	0.50	0	1	35	40	24	33	17	16	34	A-6b (8)	
	17.50 - 19.00	SS-10	19	78	-	MED DE GRAY GRAVEL WITH SAND, LIT SILT, TR CLAY								15	A-1-b (V)	
	19.00 - 20.50	SS-11	12	33	-	SAME AS SS-10								18	A-1-b (V)	
	21.00 - 22.50	SS-12	33	83	-	27	37	18	13	5	NP	NP	NP	15	A-1-b (0)	
	23.50 - 25.00	SS-13	31	89	-	DE GY GRAVEL WITH SAND, LITTLE SILT, TRACE CLAY								15	A-1-b (V)	
	28.50 - 30.00	SS-14	49	83	-	45	24	14	13	4	20	15	5	11	A-1-b (0)	
	33.50 - 35.00	SS-15	91	100	-	VERY DE GY GRAVEL WITH SAND, LITTLE SILT, TR CLAY								9	A-1-b (V)	
	38.50 - 40.00	SS-16	41	67	-	DENSE GRAY GRAVEL WITH SAND, SILT AND CLAY								13	A-2-6 (V)	
B-038-0-15	01.00 - 02.50	SS-1	14	100	3.00	5	4	14	42	35	38	20	18	23	A-6b (11)	
STA. 333+20.00, 118.0' RT.	02.50 - 04.00	SS-2	14	78	2.00	VERY STIFF BR SILTY CLAY, LIT C-F SAND, TR F GRAVEL								25	A-6b (V)	
LATITUDE = 39.893768	04.00 - 05.50	SS-3	6	100	0.75	MEDIUM STIFF BR SILTY CLAY, LIT C-F SA, TR F GRAVEL								25	A-6b (V)	
LONGITUDE = -82.888935	05.50 - 07.50	ST-4	-	88	0.50	0	2	30	35	33	37	15	22	28	A-6b (11)	
	07.50 - 09.00	SS-5	3	100	0.50	1	3	36	37	23	34	18	16	53	A-6b (7)	
	09.00 - 09.50	SS-6A	5	100	-	SOFT BR GY SILTY CLAY, "AND" C-F SAND, TR F GRAVEL								29	A-6b (V)	
	09.50 - 10.50	SS-6B	5	17	-	LOOSE GRAY GRAVEL WITH SAND, TRACE SILT								17	A-1-b (V)	
	11.00 - 12.50	SS-7	17	100	-	MEDIUM DENSE GRAY GRAVEL WITH SAND, TRACE SILT								17	A-1-b (V)	
	13.50 - 15.00	SS-8	17	100	-	32	36	17	10	5	NP	NP	NP	17	A-1-b (0)	
	16.00 - 17.50	SS-9	27	100	-	MEDIUM DENSE GRAY GRAVEL WITH SAND, TRACE SILT								17	A-1-b (V)	
	18.50 - 20.00	SS-10	29	100	-	SAME AS SS-9								11	A-1-b (V)	
B-039-0-15	01.50 - 03.00	SS-1	14	72	2.00	33	15	12	17	23	30	16	14	13	A-6a (2) *	
STA. 333+80.00, 59.0' RT.	03.50 - 05.00	SS-2	17	33	-	FILL: VERY STIFF BR SILT AND CLAY, SM C-F SA, SM F GR								12	A-6a (V)	
LATITUDE = 39.893304	06.00 - 07.50	SS-3	17	100	3.00	4	7	15	27	47	79	24	55	19	A-7-6 (20)	
LONGITUDE = -82.889217	08.50 - 10.00	SS-4	44	33	2.75	FILL: V ST BROWN SILT AND CLAY, SM C-F SAND, TR F GR								15	A-6a (V)	
	10.00 - 11.50	SS-5	46	44	3.50	SAME AS SS-4								9	A-6a (V)	
	11.50 - 13.00	SS-6	17	83	3.50	8	14	13	30	35	30	18	12	17	A-6a (7)	
	13.00 - 14.50	SS-7	12	94	4.00	VERY STIFF DK BR CLAY, SM C-F SA, SM F GR, LIT SILT								21	A-7-6 (V)	
	14.50 - 16.00	SS-8	9	39	2.00	22	16	12	18	32	54	16	38	19	A-7-6 (11)	
	16.00 - 17.50	SS-9	11	61	1.50	STIFF DK BR CLAY, SM C-F SAND, SM F GR, LIT SILT								24	A-7-6 (V)	
	17.50 - 19.00	SS-10	49	72	-	59	17	7	10	7	31	23	8	13	A-2-4 (0)	
	19.00 - 20.50	SS-11	41	11	-	DENSE GRAY FINE SAND, LIT C-F GRAVEL, LITTLE SILT								26	A-3 (V)	
	20.50 - 22.00	SS-12	35	83	-	30	23	29	10	8	NP	NP	NP	15	A-1-b (0)	
	23.50 - 25.00	SS-13	54	78	-	VE DENSE GRAY GRAVEL WITH SAND, TR SILT, TR CLAY								12	A-1-b (V)	
	28.50 - 30.00	SS-14	101	89	-	51	20	13	10	6	NP	NP	NP	11	A-1-b (0)	
	33.50 - 35.00	SS-15	97	78	-	VE DENSE GRAY GRAVEL WITH SAND, TR SILT, TR CLAY								12	A-1-b (V)	
	38.50 - 40.00	SS-16	94	83	-	SAME AS SS-15								10	A-1-b (V)	
B-040-0-15	01.00 - 02.50	SS-1	9	89	1.50	9	11	13	40	27	29	18	11	20	A-6a (7)	
STA. 333+80.00, 128.0' RT.	25.00 - 04.00	SS-2	17	44	2.75	V ST BR SILT AND CLAY, SOME C-F SA, TR F GRAVEL								18	A-6a (V)	
LATITUDE = 39.893166	04.00 - 05.50	SS-3	10	67	-	35	18	12	20	15	32	19	13	18	A-2-6 (1)	
LONGITUDE = -82.889386	05.50 - 07.00	SS-4	10	78	-	LOOSE BROWN GRAVEL WITH SAND, SILT AND CLAY								18	A-2-6 (V)	
	07.00 - 08.50	SS-5	3	56	-	12	33	21	16	18	31	16	15	23	A-2-6 (1)	
	08.50 - 10.00	SS-6	9	100	-	LO GRAY COARSE AND FINE SAND, TR SI, TR CL, TR F GR								26	A-3a (V)	
	11.00 - 12.50	SS-7	50/1"	0	-	NO RECOVERY								-	-	
	13.50 - 14.40	SS-8	85	0	-	NO RECOVERY								-	-	
	14.50 - 16.00	SS-8A	46	89	-	DENSE GRAY GRAVEL WITH SAND AND SILT, TR CLAY								8	A-2-4 (V)	
	16.00 - 17.50	SS-9	54	0	-	NO RECOVERY								-	-	
	17.50 - 18.00	SS-9A	24	100	-	MEDIUM DENSE GY GRAVEL WITH SAND, TR SILT, TR CLAY								14	A-1-b (V)	
	18.50 - 20.00	SS-10	24	100	-	30	43	14	9	4	NP	NP	NP	14	A-1-b (0)	
B-041-0-15	01.00 - 02.50	SS-1	10	50	3.00	14	12	16	35	23	29	17	12	18	A-6a (5) *	
STA. 335+20.00, 67.0' LT.	03.50 - 05.00	SS-2	10	72	4.00	FILL: V ST DK BR SILTY CLAY, SM C-F SAND, LIT F GR								20	A-6b (V)	
LATITUDE = 39.893298	06.00 - 07.50	SS-3	23	28	2.25	16	13	14	31	26	34	17	17	15	A-6b (7)	
LONGITUDE = -82.888546	08.50 - 10.00	SS-4	19	100	4.00	V ST BR MOT GY SILT AND CLAY, LIT F-C SA, LIT F GR								16	A-6a (V)	
	10.00 - 11.50	SS-5	17	89	1.75	18	10	10	36	26	30	19	11	18	A-6a (6)	
	11.50 - 13.00	SS-6	9	67	-	SOFT BR MOT W GY CLAY, SM SILT, SM C-F SA, SM F GR								18	A-7-6 (V)	
	13.00 - 14.50	SS-7	8	44	0.75	MED ST BR MOT W GY CLAY, SM SILT, SM C-F SA, SM F GR								25	A-7-6 (V)	
	14.50 - 16.00	SS-8	4	94	0.75	27	15	8	23	27	41	21	20	25	A-7-6 (7)	
	16.00 - 17.50	SS-9	19	94	-	MED DE BROWN GRAVEL WITH SAND, TR SILT, TR CLAY								19	A-1-b (V)	
	17.50 - 19.00	SS-10	14	61	-	37	33	12	10	8	23	17	6	18	A-1-b (0)	
	19.00 - 20.50	SS-11	19	100	-	MED DE BROWN GRAVEL WITH SAND, TR SILT, TR CLAY								19	A-1-b (V)	
	21.00 - 22.50	SS-12	21	72	-	MED DE BROWN GRAVEL, LIT C-F SA, TR SILT, TR CLAY								13	A-1-a (V)	
	23.50 - 25.00	SS-13	23	61	-	84	8	4	2	2	NP	NP	NP	14	A-1-a (0)	
	28.50 - 30.00	SS-14	51	56	-	V DE GR BR GRAVEL, SM C-F SAND, TR SILT, TR CLAY								9	A-1-a (V)	
	33.50 - 35.00	SS-15	50	100	-	DE GRAY GRAVEL WITH SAND, TR CLAY, TR SILT								10	A-1-b (V)	
	38.50 - 40.00	SS-16	37	89	-	38	34	14	6	8	20	16	4	14	A-1-b (0)	
B-042-0-15	01.10 - 02.60	SS-1	15	78	4.25	21	19	15	21	24	44	20	24	18	A-7-6 (6) *	293
STA. 335+80.00, 59.0' RT.	03.50 - 05.00	SS-2	11	78	3.75	FILL: V ST BR SILT AND CLAY, SM C-F SAND, LIT F GR								15	A-6a (V) *	
LATITUDE = 39.892930	06.00 - 07.50	SS-3	17	4	3.25	17	4	16	41	22	30	16	14	16	A-6a (7)	
LONGITUDE = -82.888685	08.50 - 10.00	SS-4	11	72	1.00	STIFF BROWN SILTY CLAY, SM C-F SAND, TR F GRAVEL								21	A-6b (V)	
	10.00 - 11.50	SS-5	25	78	-	42	24	12	15	7	25	19	6	7	A-1-b (0)	
	11.50 - 13.00	SS-6	9	89	-	LOOSE GY BR GRAVEL WITH SAND AND SILT, TR CLAY								10	A-2-4 (V)	
	13.00 - 14.50	SS-7	9	72	-	SAME AS SS-6								12	A-2-4 (V)	
	14.50 - 16.00	SS-8	9	56	-	28	27	13	22	10	28	20	8	16	A-2-4 (0)	
	16.00 - 17.50	SS-9	9	50	-	LOOSE GY BR GRAVEL WITH SAND AND SILT, TR CLAY								13	A-2-4 (V)	
	17.50 - 19.00	SS-10	15	67	-	SAME AS SS-9								15	A-2-4 (V)	
	19.00 - 20.50	SS-11	31	100	-	36	26	16	17	5	NP	NP	NP	14	A-1-b (0)	
	23.50 - 25.00	SS-12	34	100	-	DE BR GY GRAVEL WITH SAND, TR SILT, TR CLAY								10	A-1-b (V)	
	28.50 - 30.00	SS-13	48	100	-	40	23	24	10	3	NP	NP	NP	16	A-1-b (0)	
	33.50 - 35.00	SS-14	49	64	-	SAME AS SS-13								-	A-1-b (V)	
	38.50 - 38.50	SS-15	50/0"	100	-	SAME AS SS-14								10	A-1-b (V)	
	40.00 - 40.20	SS-16	50/2"	100	-	20	30	37	10	3	NP	NP	NP	17	A-1-b (0)	

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	00.40 - 03.00	0	1	18	42	39	33	20	13	22	A-6a
306 + 00	03.00 - 10.00	73	12	4	8	3	NP	NP	NP	12	A-1-a
CENTERLINE	10.00 - 17.00	50	43	4	- 3 -		NP	NP	NP	13	A-1-a
H-029-0-61	00.40 - 03.00	0	9	30	39	22	NP	NP	NP	24	A-4a
308 + 00	03.00 - 05.00	53	11	16	12	8	NP	NP	NP	10	A-1-b
CENTERLINE											
H-030-0-61	00.40 - 06.00	0	3	9	48	40	64	32	32	19	A-7-6
313+50	06.00 - 12.00	82	10	4	- 4 -		NP	NP	NP	12	A-1-a
CENTERLINE	12.00 - 18.00	75	21	3	- 1 -		NP	NP	NP	12	A-1-a
H-031-0-61	00.40 - 06.00	0	3	10	39	48	38	25	13	23	A-6a
317 + 00	06.00 - 10.00	71	15	4	6	4	NP	NP	NP	15	A-1-a
CENTERLINE	10.00 - 15.00	63	30	4	- 3 -		NP	NP	NP	13	A-1-a
	15.00 - 20.00	63	31	4	- 2 -		NP	NP	NP	11	A-1-a
H-032-0-61	00.50 - 05.00	0	2	9	31	58	-	-	-	27	A-7-6
319 + 80	05.00 - 15.00	65	18	9	- 8 -		NP	NP	NP	15	A-1-a
CENTERLINE											
H-033-0-61	00.50 - 04.00	0	3	9	35	53	41	23	18	27	A-7-6
324 + 00	04.00 - 10.00	61	16	11	6	6	NP	NP	NP	19	A-1-a
CENTERLINE	10.00 - 15.00	51	28	10	6	5	NP	NP	NP	15	A-1-a
H-034-0-61	00.50 - 03.50	0	11	43	2	44	23	16	7	17	A-4a
328 + 00	03.50 - 07.00	78	7	6	5	4	NP	NP	NP	19	A-1-a
CENTERLINE	07.00 - 12.00	67	22	5	- 6 -		NP	NP	NP	16	A-1-a
	12.00 - 15.00	33	36	13	10	8	NP	NP	NP	17	A-1-b
H-035-0-61	00.50 - 01.00	0	1	7	41	51	52	28	24	36	A-7-6
332 + 00	01.00 - 02.50	0	0	27	42	31	26	16	10	24	A-4a
CENTERLINE	02.50 - 10.00	81	6	5	5	3	NP	NP	NP	18	A-1-a
H-035-1-61	00.50 - 04.00	0	2	4	44	50	36	20	16	26	A-6a
332 + 00	04.00 - 08.00	0	0	29	38	33	23	17	6	25	A-4a
100' LT	08.00 - 10.00	74	11	6	5	4	NP	NP	NP	14	A-1-a
H-035-2-61	00.50 - 05.00	0	0	4	53	43	40	22	18	41	A-6a
332 + 00	05.00 - 10.00	73	15	4	- 8 -		NP	NP	NP	14	A-1-a
100' RT											
H-036-0-61	00.50 - 02.50	0	1	4	38	57	57	42	15	58	A-7-5
332 + 90	02.50 - 04.50	0	1	1	34	64	52	23	29	52	A-7-6
CENTERLINE	04.50 - 10.00	(0	1	4	38	5	NP	NP	NP	77	A-7-5
H-037-1-61	00.50 - 04.00	0	2	14	42	42	32	19	13	24	A-6a
333 + 00	04.00 - 05.50	0	1	30	34	35	24	14	10	29	A-4a
100' LT	05.50 - 10.00	56	24	11	5	4	NP	NP	NP	-	A-1-a
H-037-2-61	00.50 - 04.00	70	14	4	7	5	23	19	4	9	A-1-a
333 + 00	04.00 - 10.00	88	5	2	- 5 -		NP	NP	NP	17	A-1-a
100' RT											
H-038-0-61	00.50 - 01.50	0	1	2	37	60	57	37	20	58	A-7-5
333 + 54	01.50 - 05.00	0	0	3	59	38	50	27	23	62	A-7-6
CENTERLINE	05.00 - 07.00	81	10	4	- 5 -		NP	NP	NP	20	A-1-a
H-038-1-61	00.50 - 01.50	63	18	6	8	5	NP	NP	NP	12	A-1-a
333 + 54	01.50 - 05.50	0	2	17	41	40	53	29	24	69	A-7-6
40' LT.	05.50 - 10.00	80	6	5	4	5	NP	NP	NP	19	A-1-a
H-038-2-61	00.50 - 01.50	0	7	7	50	36	NP	NP	NP	42	A-4a
333 + 50	01.50 - 04.00	10	6	6	30	48	43	29	14	60	A-7-6
38' RT.	04.00 - 10.00	66	18	4	5	7	33	20	13	16	A-2-6
H-039-1-61	00.00 - 03.00	0	0	25	39	36	29	15	14	26	A-6a
334 + 00	03.00 - 04.50	0	1	32	54	13	23	15	8	33	A-4a
100' LT	04.50 - 10.00	38	32	19	5	6	NP	NP	NP	24	A-1-a
H-039-2-61	00.00 - 04.00	40	22	9	11	18	26	16	10	17	A-2-6
334 + 00	04.00 - 10.00	31	33	13	13	10	NP	NP	NP	19	A-1-b
100' RT											
H-040-0-61	00.50 - 03.00	19	25	8	25	23	33	21	12	20	A-6a
334 + 50	03.00 - 08.00	41	14	10	20	15	27	19	8	23	A-2-4
CENTERLINE	08.00 - 11.00	58	10	8	14	10	25	20	5	21	A-1-b
	11.00 - 12.00	13	34	38	9	6	NP	NP	NP	19	A-3a
H-040-1-61	00.30 - 03.00	0	0	28	36	37	29	18	11	32	A-6a
334 + 50	03.00 - 04.50	0	1	33	37	29	27	19	6	26	A-4a
150' LT	04.50 - 10.00	45	36	10	- 9 -		NP	NP	NP	16	A-1-a
H-040-2-61	00.00 - 04.50	GRAY SEDIMENTARY PEAT					102	47	55	76	VISUAL
334 + 50	04.50 - 10.00	41	32	9	10	8	NP	NP	NP	20	A-1-a
100' LT											
H-040-3-61	00.00 - 03.50	45	24	6	12	13	27	19	8	21	A-2-4
334 + 50	03.50 - 10.00	17	41	13	13	16	22	17	5	12	A-3a
100' RT											

6350 Presidential Gateway
Columbus, Ohio 43231
Telephone: (614) 823-4949
Fax Number: (614) 823-4990

UNCONFINED COMPRESSION

ASTM D2166

PROJECT: FRA-33-24.26
JOB No.: W-14-166

BORING: B-017-0-15
STATION / OFFSET: 314+22.63 / 51.9' Lt.
SAMPLE No. / DEPTH: ST-7 / 16.9 ft
DATE OF TESTING: 02/25/2016
TESTED BY: C.S.

Soil Description: Brownish gray CLAY, "and" silt, little fine sand.
Soil Classification: ODOT A-7-6

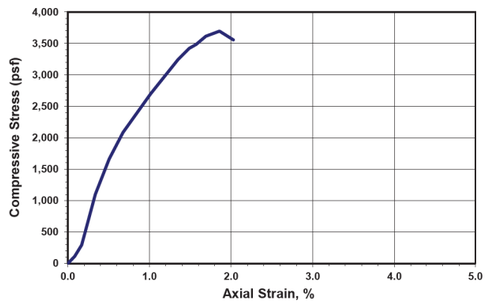
Physical Characteristics	L.L.	P.L.	P.I.	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	45	24	21	0	0	12	47	41

DIAMETER, D_0	2.852 in	72.4 mm	STRAIN RATE	1.00	%/min
AREA, A_0	6.388 in^2	41.2 cm^2	WET SOIL + PAN MASS	1288.6	g
HEIGHT, L_0	5.920 in	150.38 mm	PAN MASS	107.8	g
VOLUME, V_0	37.821 in^3	619.78 cm^3	DRY SOIL + PAN MASS	1056.7	g
MACH. RATE	0.059	in/min	WET DENSITY	118.94	lb/ft^3
WATER CONT.	24.44	%	DRY DENSITY	95.58	lb/ft^3
UNCONFINED COMPRESSION STRESS, q_u	**3,694**	**psf**		1.85	tsf
AXIAL STRAIN @ FAILURE				1.86	%
HAND PENETROMETER				2.00	tsf

Failure Sketch



Unconfined Compression Test



6350 Presidential Gateway
Columbus, Ohio 43231
Telephone: (614) 823-4949
Fax Number: (614) 823-4990

UNCONFINED COMPRESSION

ASTM D2166

PROJECT: FRA-33-24.26
JOB No.: W-14-166

BORING: B-035-0-15
STATION / OFFSET: 331+80.00 / 59.0' Rt.
SAMPLE No. / DEPTH: ST-11 / 20.1 ft
DATE OF TESTING: 02/22/2016
TESTED BY: JJH

Soil Description: Dark gray CLAY, "and" silt, little coarse to fine sand, trace fine gravel, wet.
Soil Classification: ODOT A-7-6

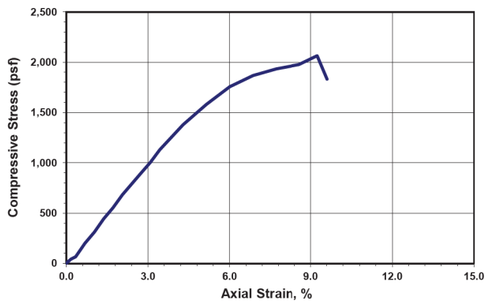
Physical Characteristics	L.L.	P.L.	P.I.	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	55	29	26	5	5	12	53	25

DIAMETER, D_0	2.853 in	72.5 mm	STRAIN RATE	1.00	%/min
AREA, A_0	6.393 in^2	41.2 cm^2	WET SOIL + PAN MASS	1070.7	g
HEIGHT, L_0	5.830 in	148.07 mm	PAN MASS	126.8	g
VOLUME, V_0	37.268 in^3	610.71 cm^3	DRY SOIL + PAN MASS	689.8	g
MACH. RATE	0.058	in/min	WET DENSITY	96.48	lb/ft^3
WATER CONT.	67.66	%	DRY DENSITY	57.55	lb/ft^3
UNCONFINED COMPRESSION STRESS, q_u	**2,065**	**psf**		1.03	tsf
AXIAL STRAIN @ FAILURE				9.25	%
HAND PENETROMETER				1.25	tsf

Failure Sketch



Unconfined Compression Test



DRAWN RRM
CHECKED BRT

SOIL PROFILE
LABORATORY TEST DATA

FRA-33-24.26

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6350 Presidential Gateway
Columbus, Ohio 43231
Telephone: (614) 823-4949
Fax Number: (614) 823-4990

UNCONFINED COMPRESSION

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

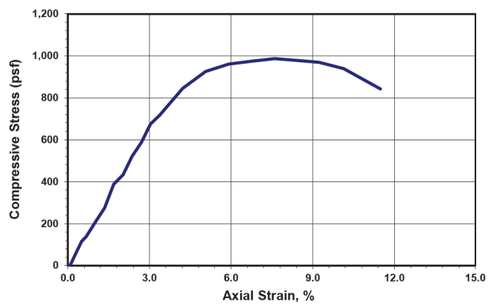
Physical Characteristics	L.L.	P.L.	P.I.	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	51	23	28	0	1	2	52	45

DIAMETER, D_0	2.810 in	71.4 mm	STRAIN RATE	1.00	%/min
AREA, A_0	6.203 in^2	40.0 cm^2	WET SOIL + PAN MASS	1178.9	g
HEIGHT, L_0	5.922 in	150.41 mm	PAN MASS	104.0	g
VOLUME, V_0	36.732 in^3	601.94 cm^3	DRY SOIL + PAN MASS	860.0	g
MACH. RATE	0.059	in/min	WET DENSITY	111.48	lb/ft^3
WATER CONT.	42.18	%	DRY DENSITY	78.40	lb/ft^3
UNCONFINED COMPRESSION STRESS, q_u	**987**	**psf**		0.49	tsf
AXIAL STRAIN @ FAILURE				7.60	%
HAND PENETROMETER				0.50	tsf

Failure Sketch



Unconfined Compression Test



6350 Presidential Gateway
Columbus, Ohio 43231
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UNCONFINED COMPRESSION

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

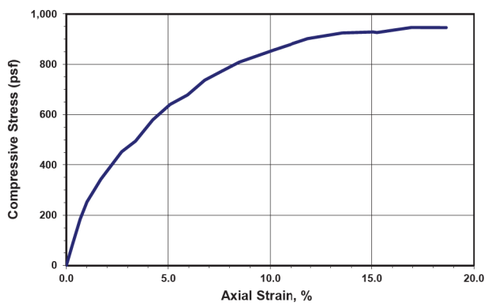
Physical Characteristics	L.L.	P.L.	P.I.	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	37	15	22	0	2	30	35	33

DIAMETER, D_0	2.808 in	71.3 mm	STRAIN RATE	1.00	%/min
AREA, A_0	6.194 in^2	40.0 cm^2	WET SOIL + PAN MASS	1280.1	g
HEIGHT, L_0	5.902 in	149.92 mm	PAN MASS	104.8	g
VOLUME, V_0	36.56 in^3	599.12 cm^3	DRY SOIL + PAN MASS	1039.7	g
MACH. RATE	0.059	in/min	WET DENSITY	122.46	lb/ft^3
WATER CONT.	25.71	%	DRY DENSITY	97.41	lb/ft^3
UNCONFINED COMPRESSION STRESS, q_u	**946**	**psf**		0.47	tsf
AXIAL STRAIN @ FAILURE				16.94	%
HAND PENETROMETER				0.50	tsf

Failure Sketch



Unconfined Compression Test

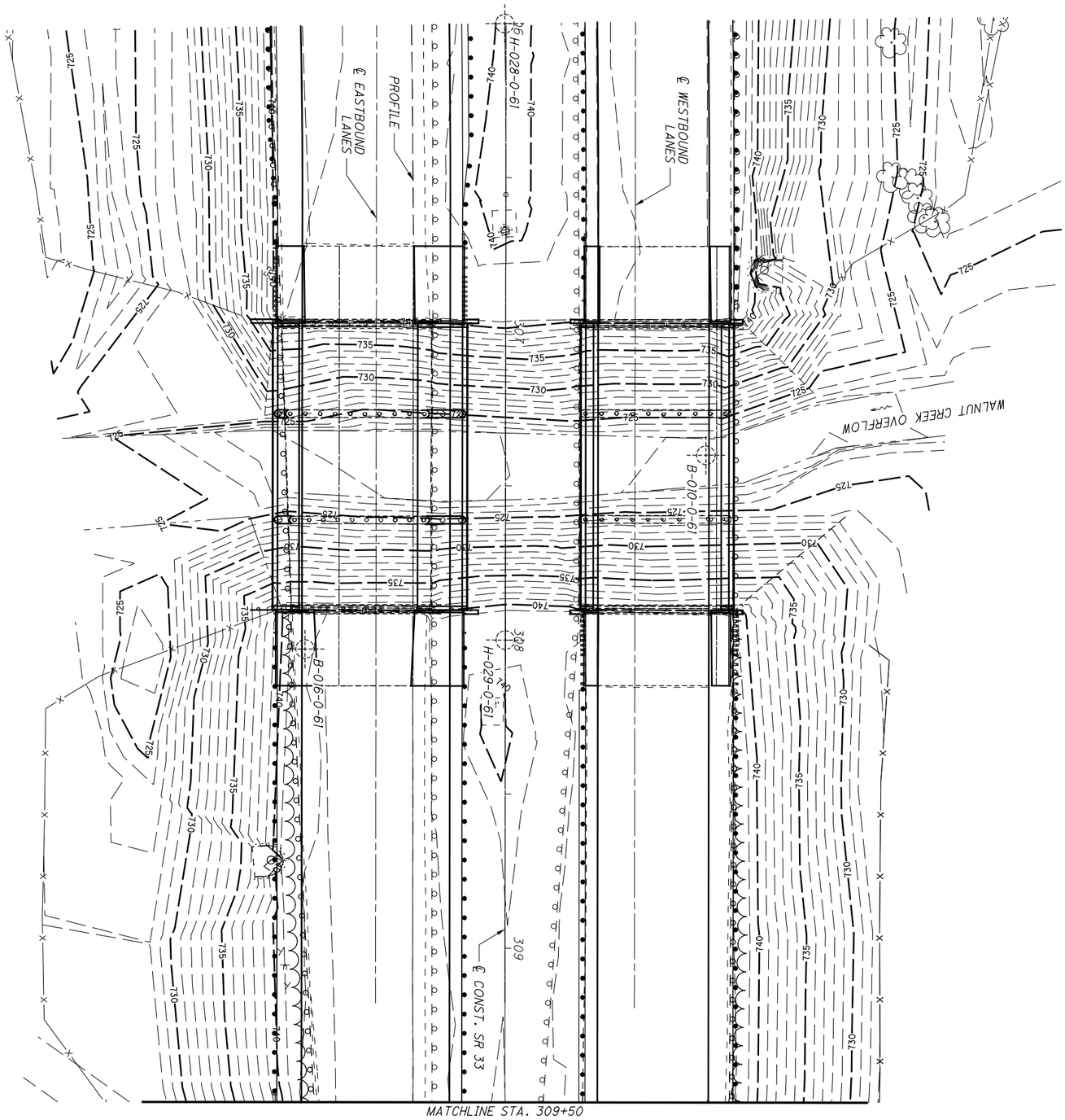


DRAWN RRM
CHECKED BRT

SOIL PROFILE & LABORATORY TEST DATA

FRA-33-24.26

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STRUCTURE FOUNDATION EXPLORATION

BRIDGE NO. FRA-33-2503L/R OVER WALNUT CREEK OVERFLOW

DRAWN RRM
CHECKED BRT

0 10 20 40
HORIZONTAL SCALE IN FEET

741.92 741.91 741.90 741.88 741.97 742.06 742.06 742.18 742.28 742.35 742.39 742.43 742.55 742.70 742.83

END A.S. STA. 306+97.25

91'-0"±

28'-7 9/16"± 34'-5 3/16"± 27'-11 1/4"±

BEGIN A.S. STA. 307+90.31

740 730 720 710 700 690 680 670 660 650 640

H-028-0-61
℄
TOPSOIL = 0.4'

22	
12	
13	
WC	

NORMAL WATER EL. 723.0

B-010-0-61
65.0' LT.

20/20	13
50*	
10/12	15
16/40	15
13/24	26
35*	11
37*	14
25/26	16
15/45	9
21/54	17
14/30	23
17/36	18
21/34	22
10/15	27
18/27	13
19/28	9
N	WC

* INDICATES SPLIT SPOON REFUSAL

B-016-0-61
65.0' RT.

13/21	19
30/15	15
17/14	
6/9	19
12/16	13
13/16	20
13/17	10
21/25	13
17/32	11
21/42	12
50*	13
9/10	
18/28	22
23/27	20
10/20	19
25/33	11
N	WC

H-029-0-61
℄
TOPSOIL = 0.4'

720 710

24	
10	
WC	

741.79 741.78 741.85 741.93 742.16 742.26 742.42 742.71

306+00 307+00 308+00 309+00

EASTBOUND PROFILE (RIGHT BRIDGE SHOWN)

HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN RRM
CHECKED BRT

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. FRA-33-2503L/R OVER WALNUT CREEK OVERFLOW

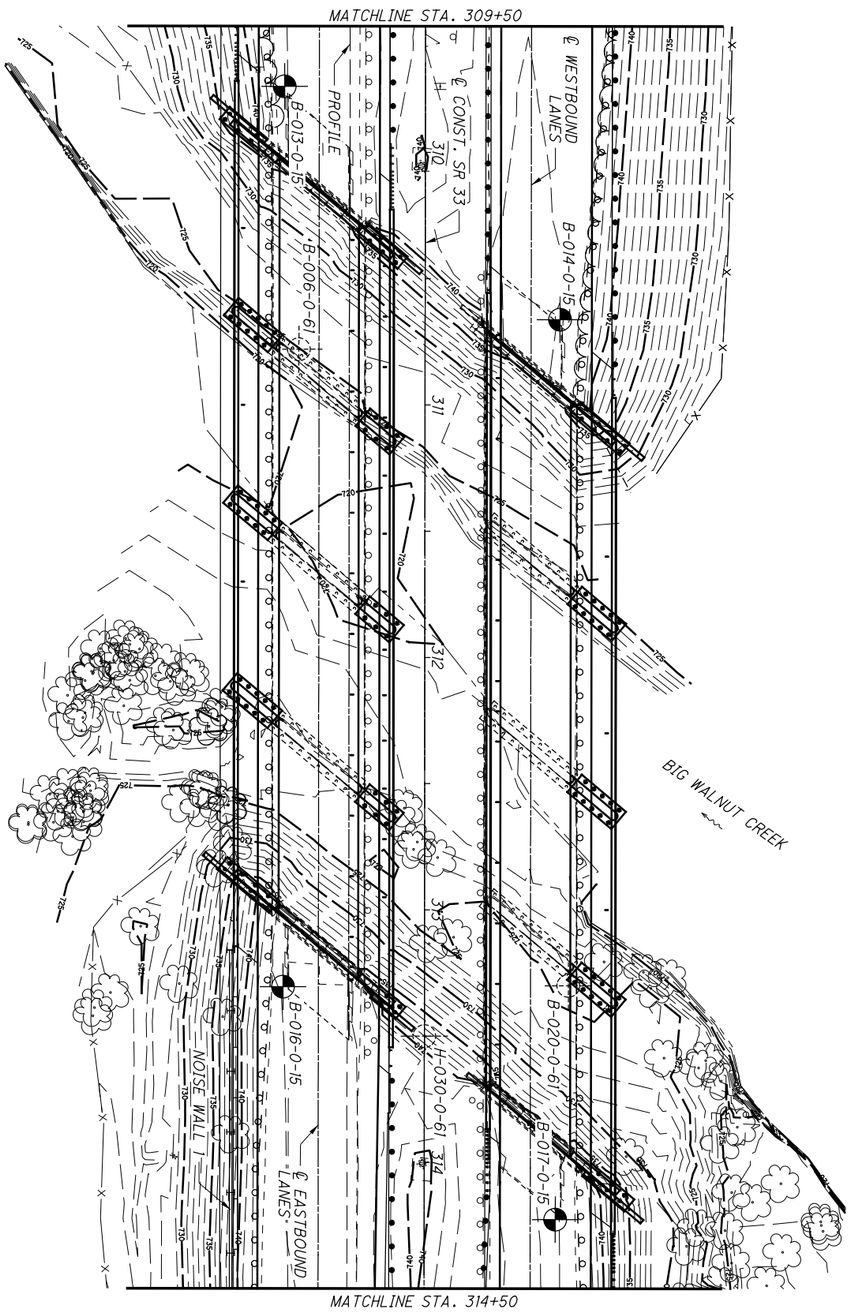
FRA-33-24.26

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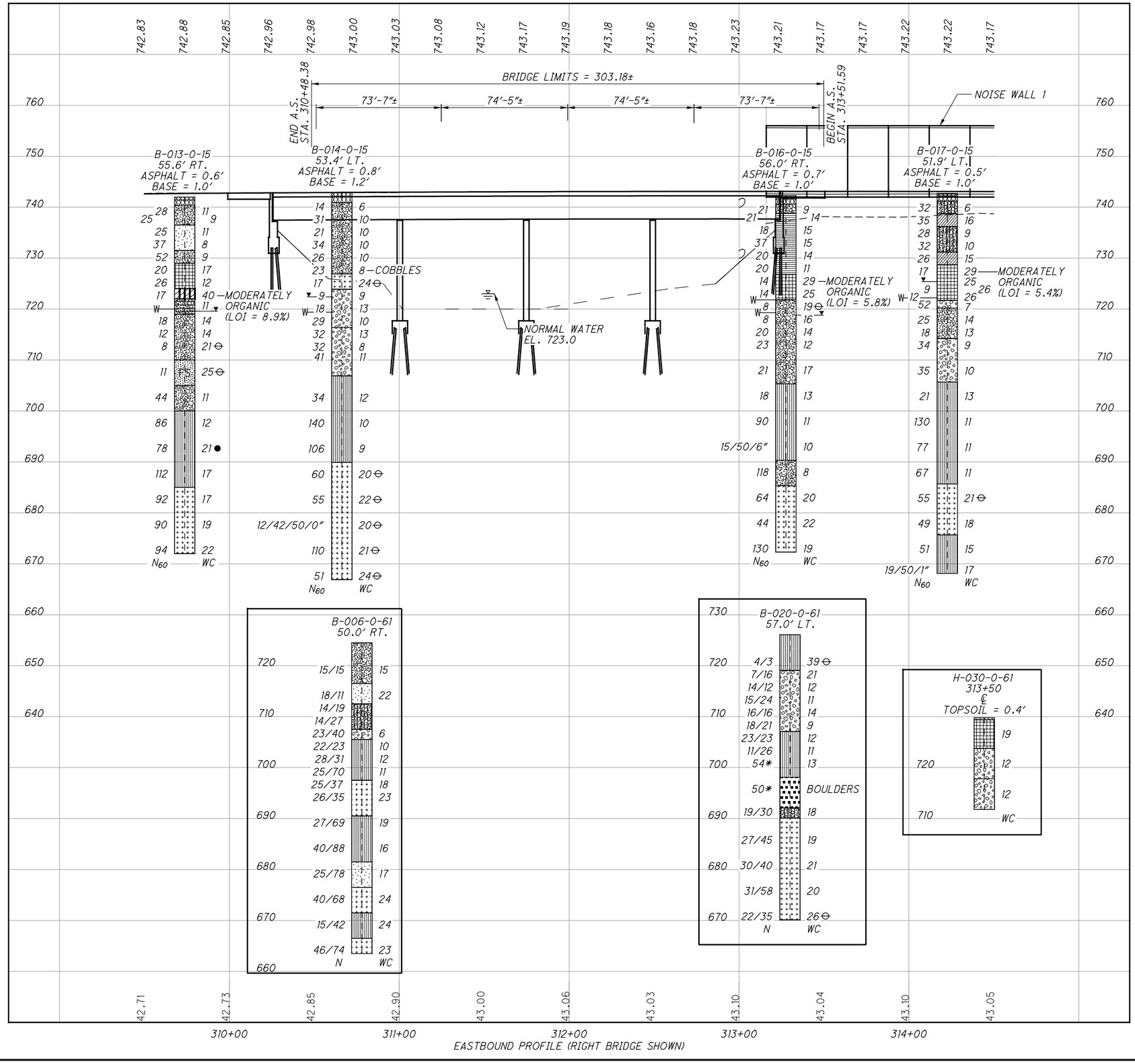
	10/44	FRA-33-24.26	STRUCTURE FOUNDATION EXPLORATION BRIDGE NO. FRA-33-2509L/R OVER BIG WALNUT CREEK	DRAWN RRM CHECKED BRT	0 15 30 60 HORIZONTAL SCALE IN FEET

STRUCTURE FOUNDATION EXPLORATION

BRIDGE NO. FRA-33-2503L/R OVER WALNUT CREEK OVERFLOW

HORIZONTAL SCALE IN FEET: 0, 15, 30, 60

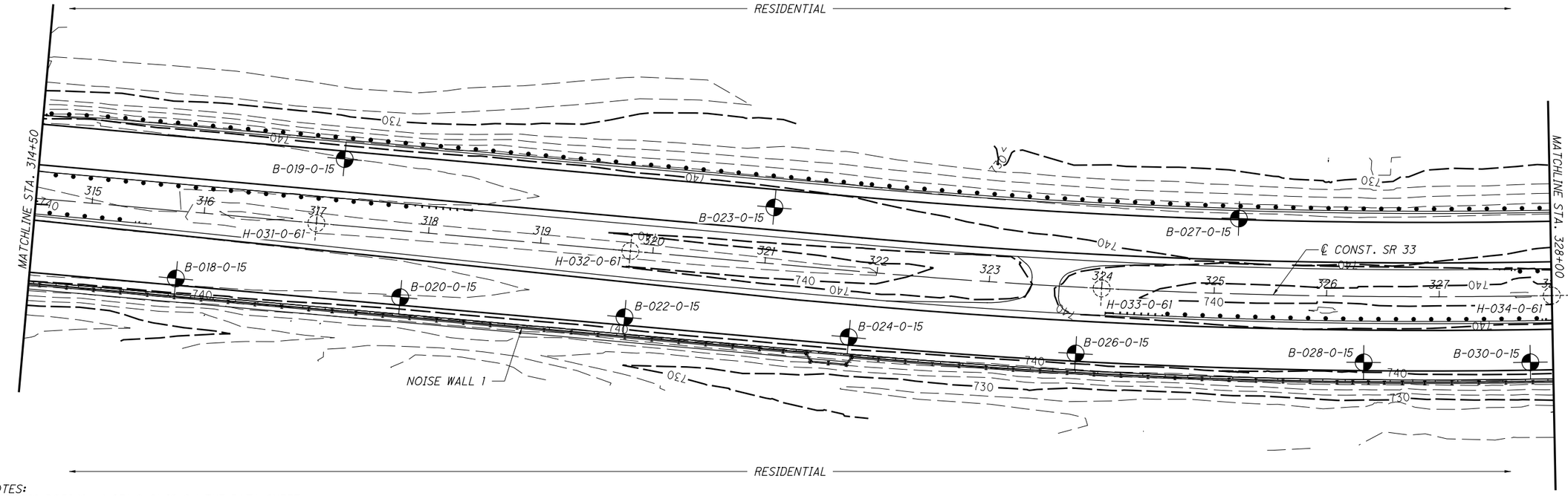
DRAWN RRM | CHECKED BRT



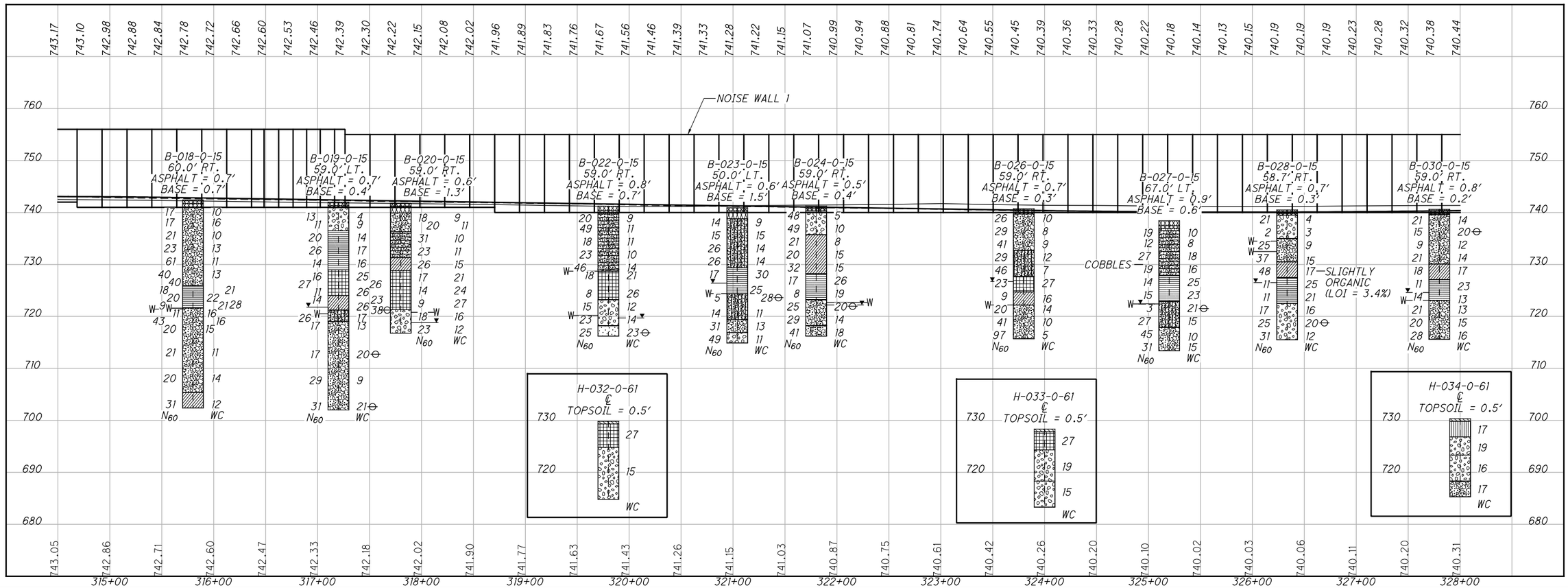
FRA-33-24.26

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NOTES:
HISTORIC BORING H-031-0-61 IS ON THE DATA SHEET.



PROFILE
STA. 328+00 SR 33
STA. 314+50 TO STA.

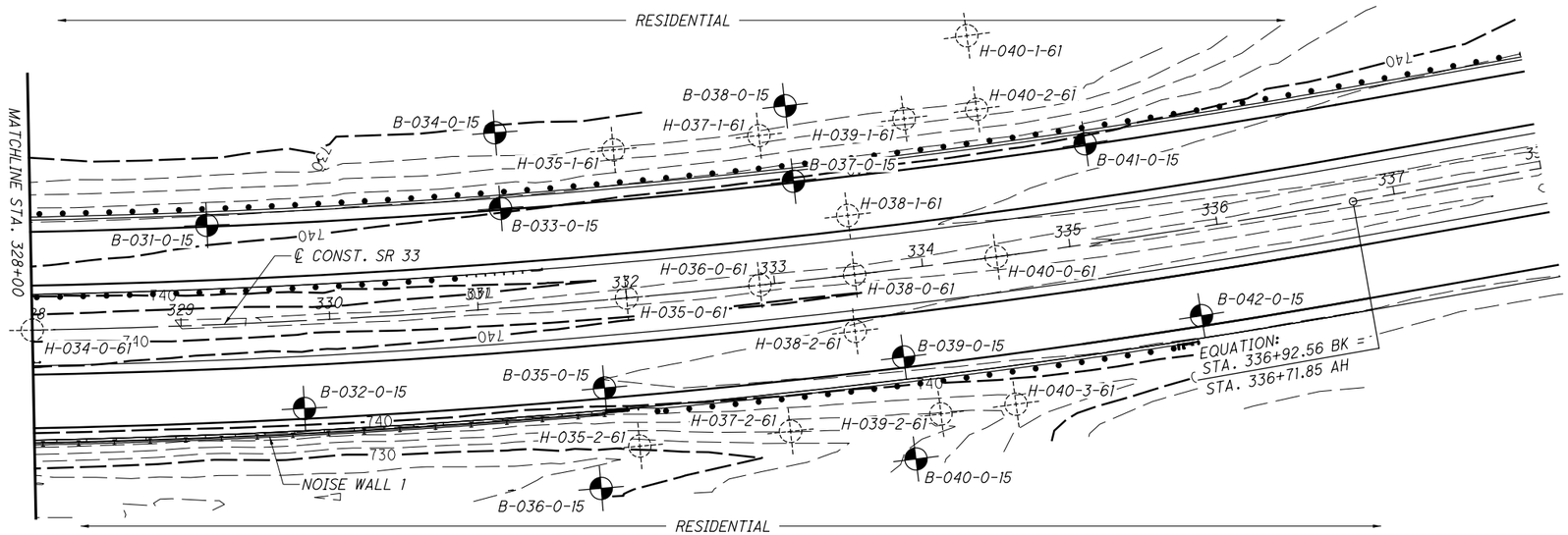
FRA-33-24.26

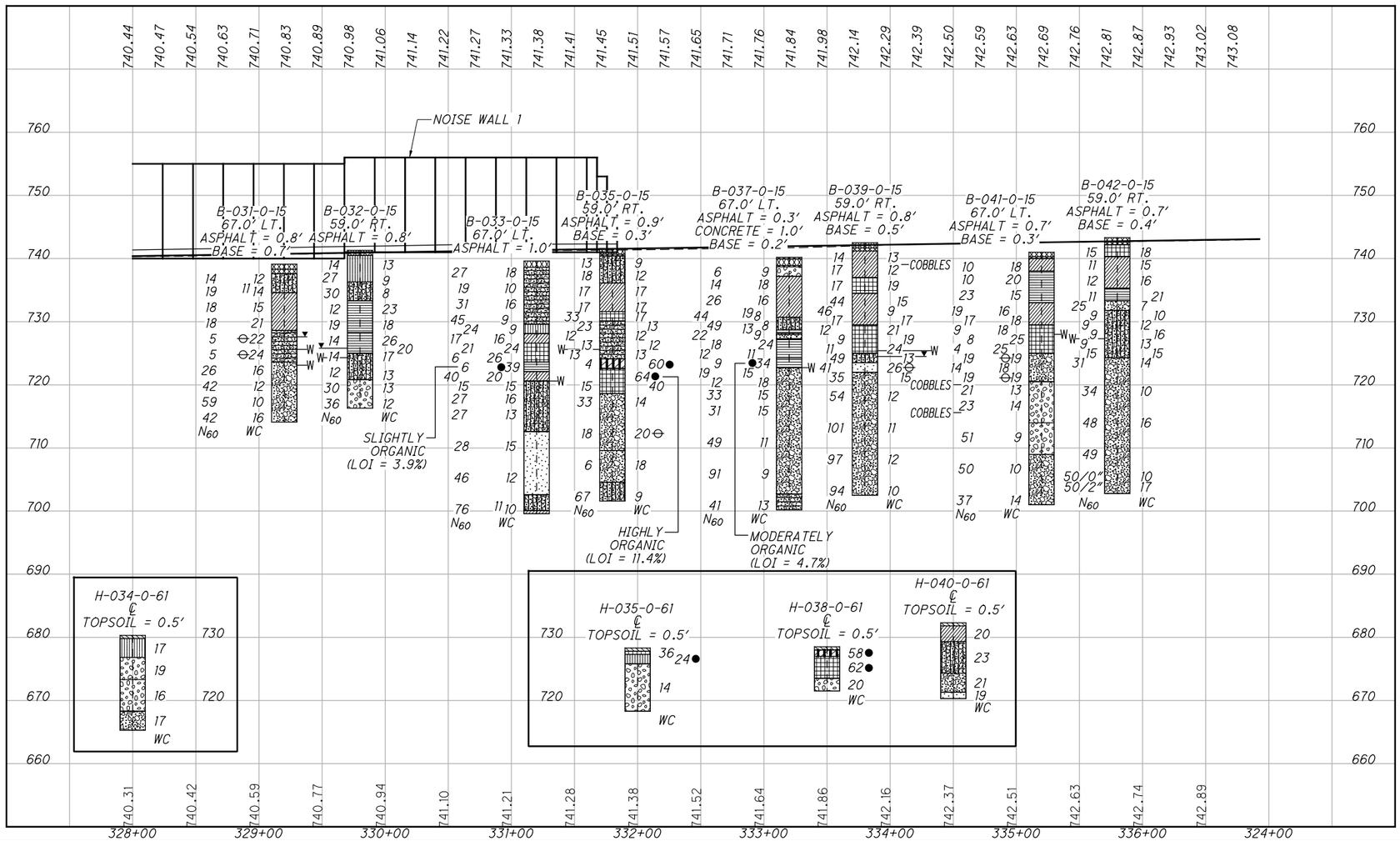
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DRAWN RRM
CHECKED BRT

HORIZONTAL SCALE IN FEET
0 25 50 100

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SOIL PROFILE
STA. 328+00 TO STA. 314+50 TO SR 33

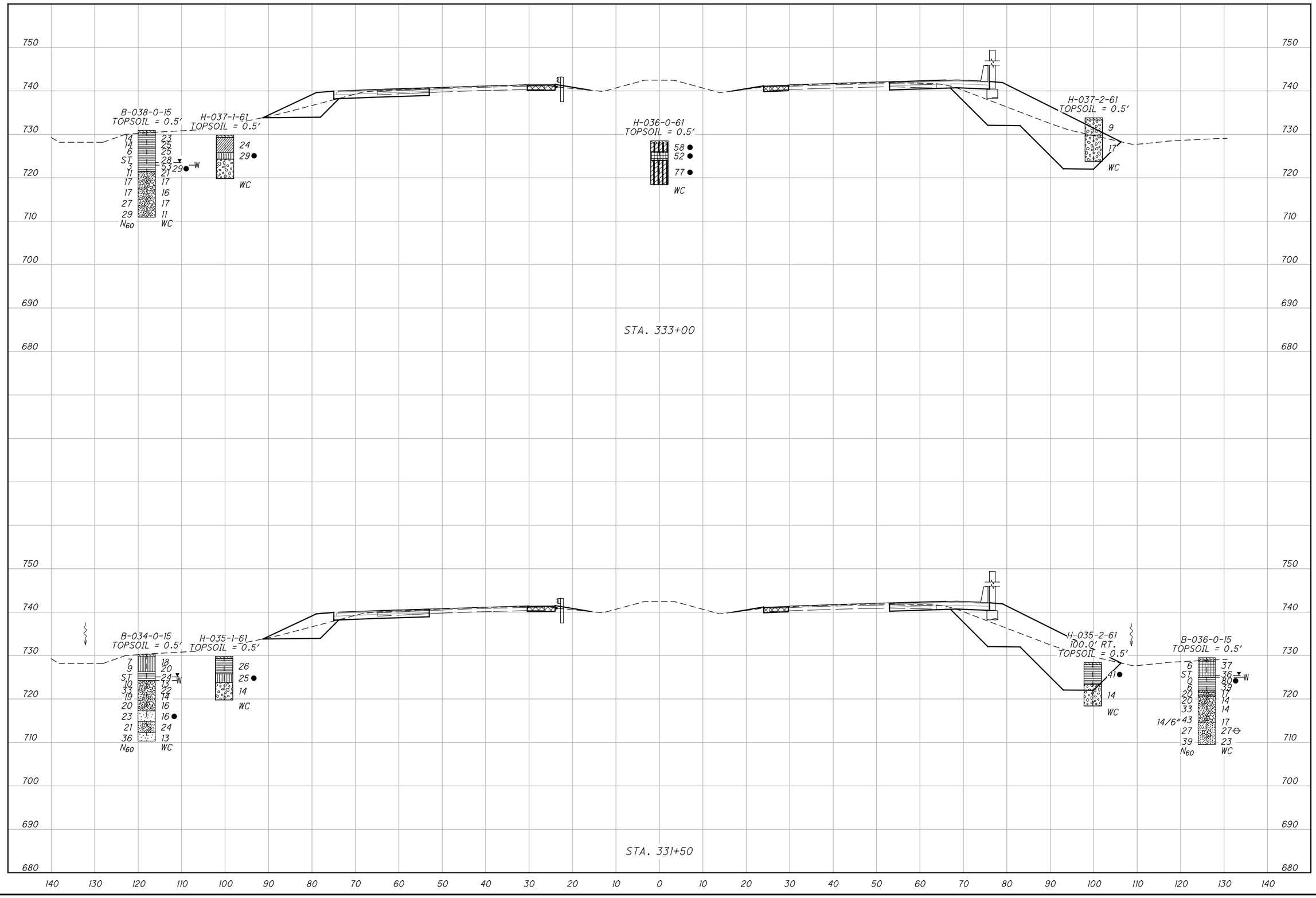
HORIZONTAL SCALE IN FEET
0 25 50 100

DRAWN RRM
CHECKED BRT

FRA-33-24.26

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HORIZONTAL SCALE IN FEET
0 5 10 20

DRAWN RRM
CHECKED BRT

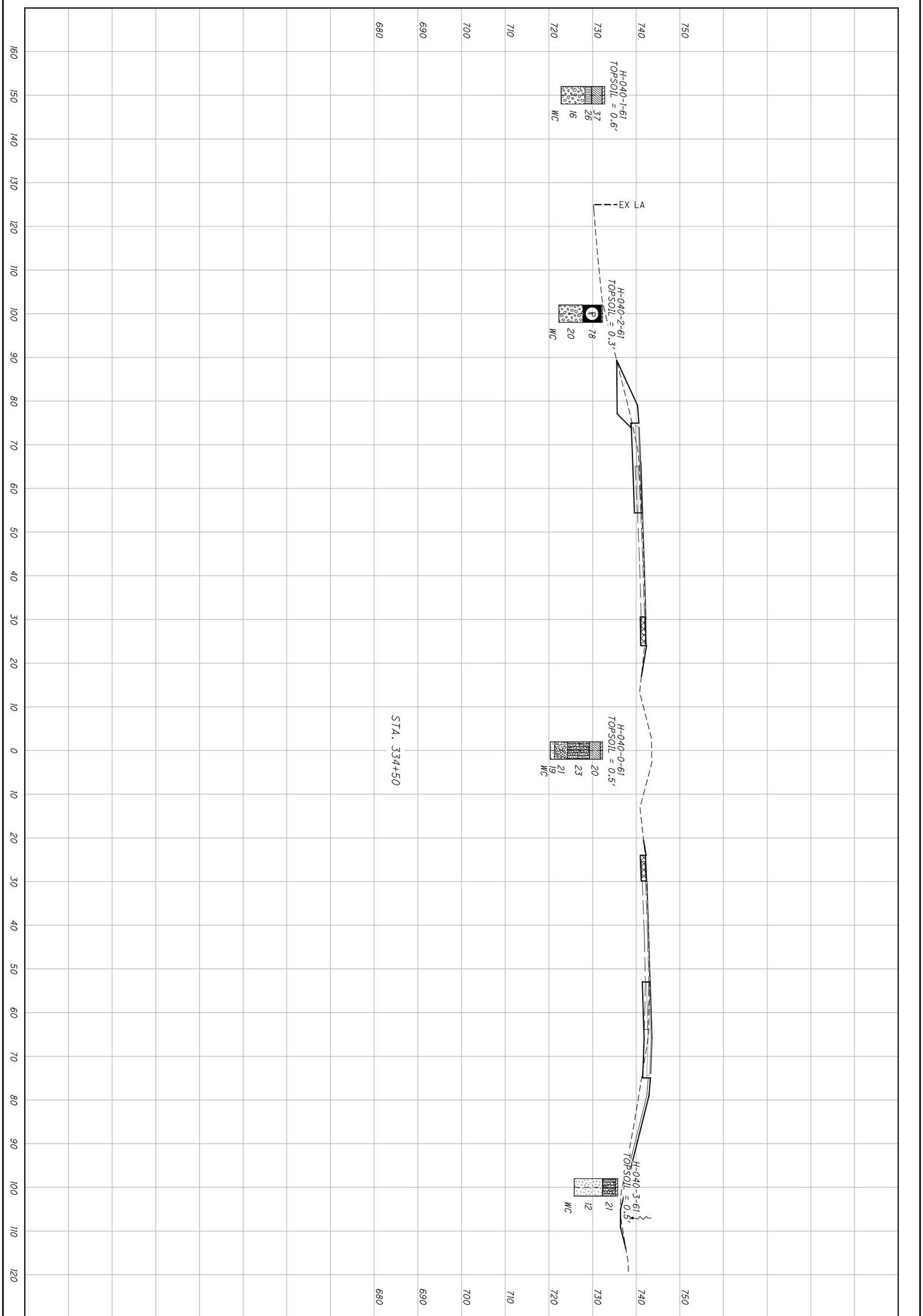
STRUCTURE FOUNDATION EXPLORATION
CROSS SECTION STA. 333+50 & STA. 334+00

FRA-33-24.26

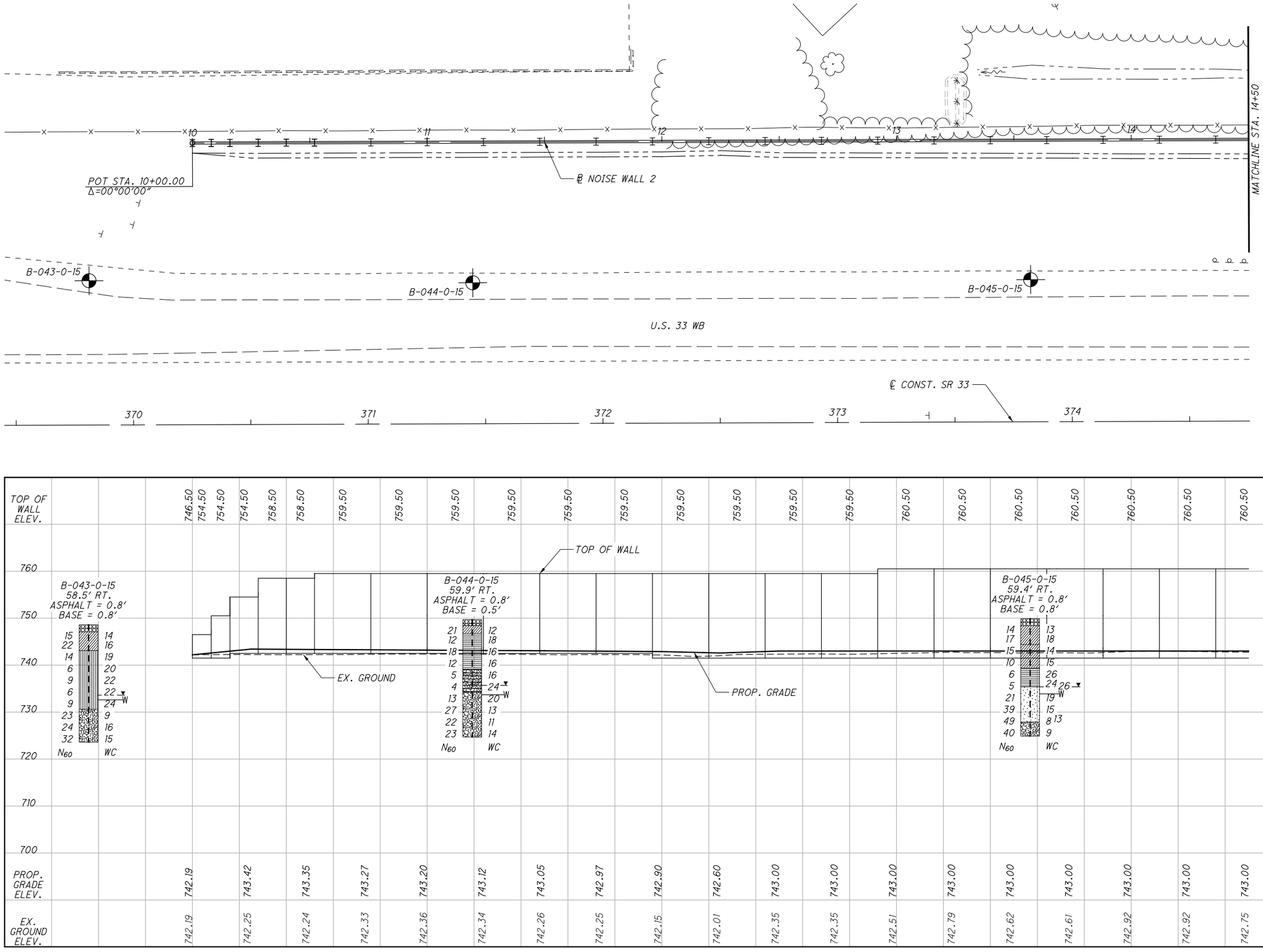
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	16/44	FRA-33-24.26	STRUCTURE FOUNDATION EXPLORATION CROSS SECTION STA. 334+50	DRAWN RRM CHECKED BRT 0 5 10 20 HORIZONTAL SCALE IN FEET



HORIZONTAL SCALE IN FEET
0 10 20 40

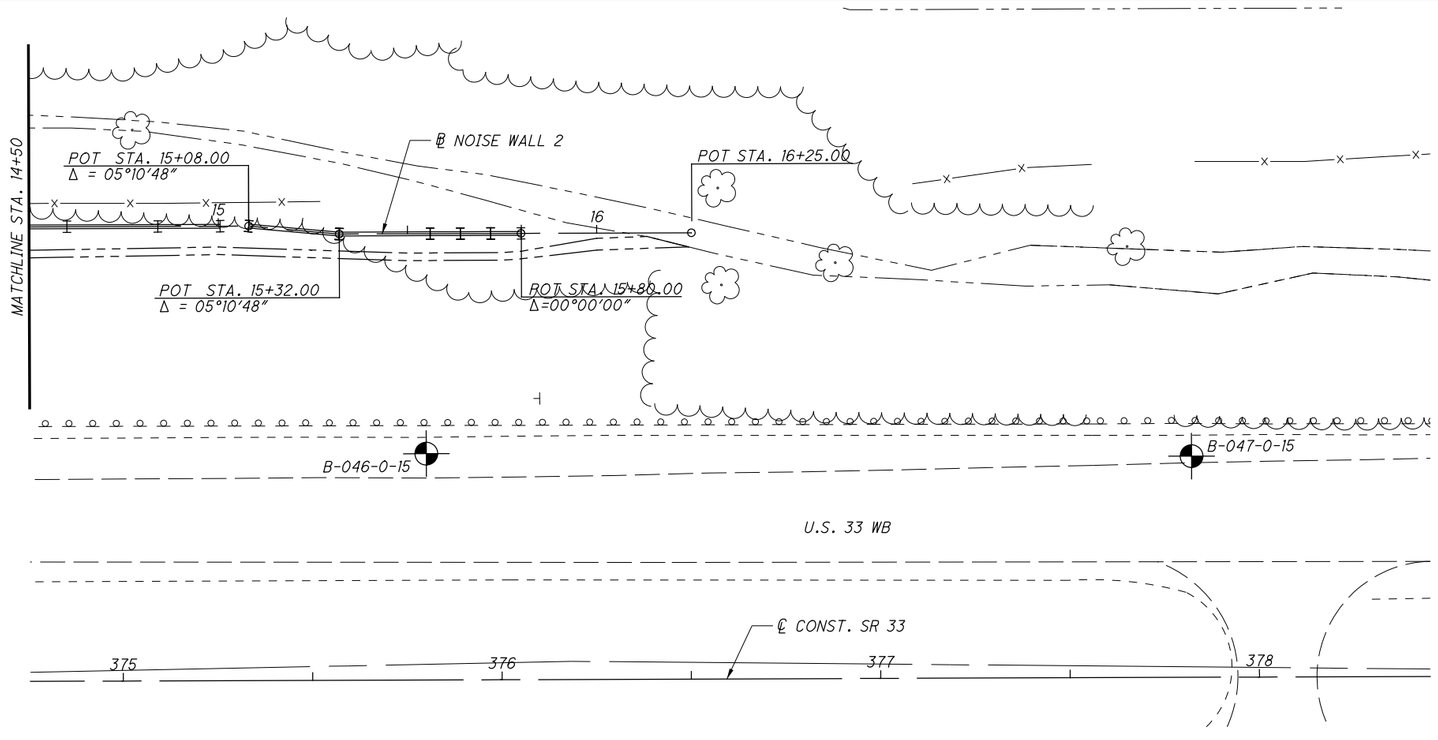
DRAWN RRM
CHECKED BRT

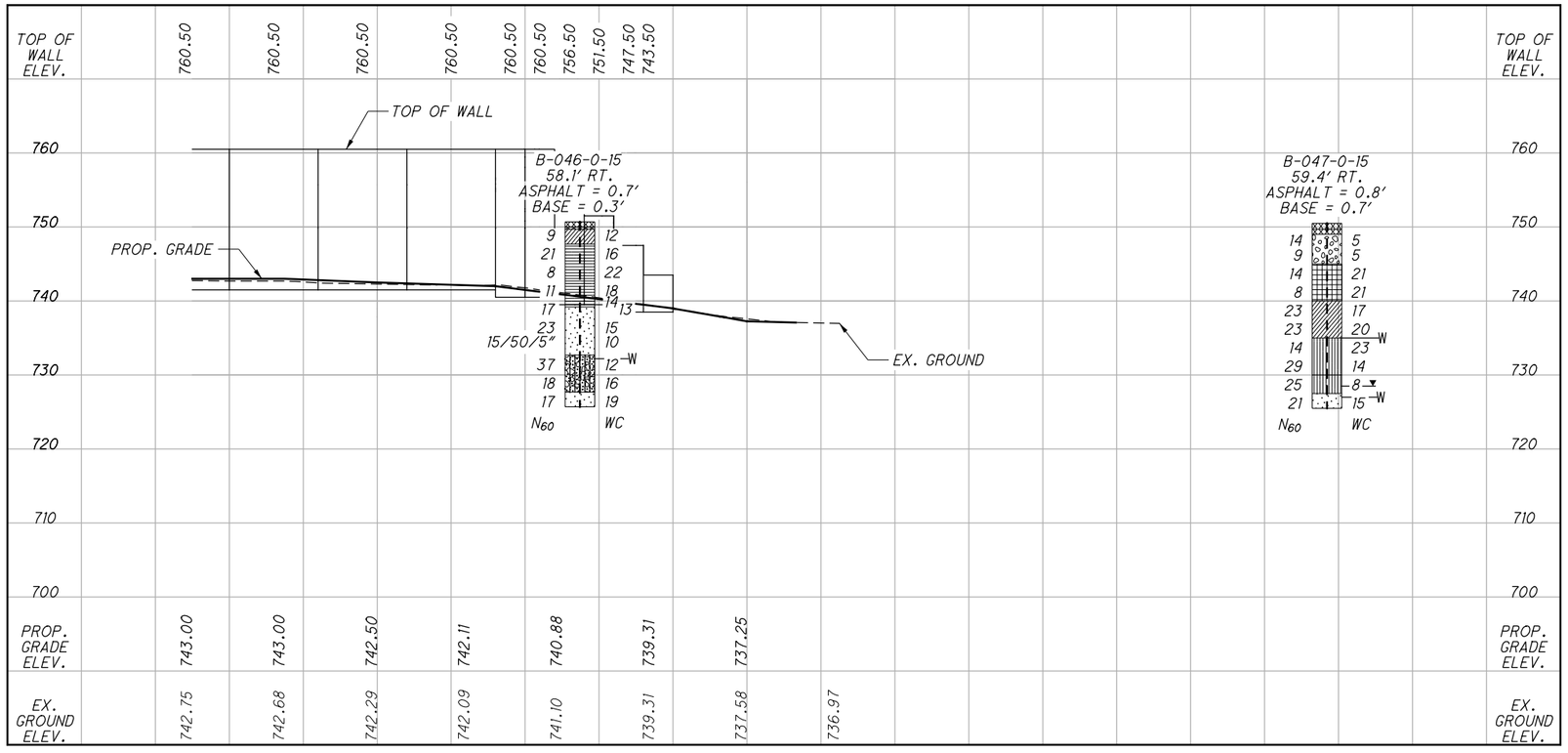
STRUCTURE FOUNDATION EXPLORATION
NOISE WALL 2 STA. 10+00 TO STA. 14+50

FRA-33-24.26

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PROFILE ALONG NOISE WALL 2

HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN RRM
CHECKED BRT

STRUCTURE FOUNDATION EXPLORATION
NOISE WALL 2 STA. 14+50 TO STA. 16+25

FRA-33-24.26

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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 B-013-0-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RII / N.A.	HAMMER: CME AUTOMATIC	ALIGNMENT: CL CONST. US-33	
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 1 OF 2
START: 2/18/16 END: 2/19/16	SAMPLING METHOD: SPT	ENERGY RATIO (%): 92	LAT / LONG: 39.898560000, -82.894452000	

MATERIAL DESCRIPTION AND NOTES	ELEV. 742.0	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
0.6' - ASPHALT (7.0")	741.4																	
1.0' - AGGREGATE BASE (12.0")	740.4																	
FILL: MEDIUM DENSE, BROWN **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, DAMP.			4 8 10	28	89	SS-1	-	31	28	16	16	9	21	17	4	11	A-1-b (0)	
			4 6 10	25	100	SS-2	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
FILL: MEDIUM DENSE TO DENSE, BROWN **COARSE AND FINE SAND**, SOME FINE GRAVEL, LITTLE SILT, LITTLE CLAY, DAMP.	736.5		5 6 10	25	100	SS-3	-	23	26	23	16	12	20	16	4	11	A-3a (0)	
			6 10 14	37	44	SS-4	-	-	-	-	-	-	-	-	-	8	A-3a (V)	
FILL: VERY DENSE, BROWN **GRAVEL AND SAND**, TRACE SILT, TRACE CLAY, DAMP.	731.5		13 16 18	52	100	SS-5	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
VERY STIFF, BROWN **CLAY**, SOME FINE GRAVEL, SOME COARSE TO FINE SAND, LITTLE SILT, DAMP.	729.0		6 6 7	20	100	SS-6	-	33	20	10	17	20	42	18	24	17	A-7-6 (4)	
			5 7 10	26	72	SS-7	-	-	-	-	-	-	-	-	-	12	A-7-6 (V)	
VERY STIFF, DARK GRAY **ELASTIC CLAY**, "AND" SILT, LITTLE COARSE TO FINE SAND, HIGHLY ORGANIC, MOIST. -SS-8: LOI = 8.9% - WOOD FIBERS PRESENT IN SS-8	724.0		4 3 8	17	100	SS-8	2.50	0	5	13	48	34	50	35	15	40	A-7-5 (12)	
BROWN, **GRAVEL WITH SAND, SILT, AND CLAY**, MOIST.	722.0				50	ST-9	-	53	20	8	12	7	29	17	12	11	A-2-6 (0)	
LOOSE TO MEDIUM DENSE, BROWN **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, MOIST TO WET.	719.0		5 5 7	18	78	SS-10	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
			2 5 3	12	39	SS-11	-	42	11	29	13	5	NP	NP	NP	14	A-1-b (0)	
			1 2 3	8	100	SS-12	-	-	-	-	-	-	-	-	-	21	A-1-b (V)	
MEDIUM DENSE, BROWN **FINE SAND**, SOME COARSE SAND, TRACE FINE GRAVEL, TRACE SILT, TRACE CLAY, WET.	710.0		2 3 4	11	100	SS-13	-	6	22	66	3	3	NP	NP	NP	25	A-3 (0)	
DENSE, BROWN **GRAVEL AND SAND**, LITTLE COARSE TO FINE SAND, TRACE CLAY, MOIST.	705.0		5 11 18	44	100	SS-14	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
VERY STIFF TO HARD, GRAY **SANDY SILT**, SOME CLAY, LITTLE FINE GRAVEL, DAMP TO MOIST.	700.0		9 21 35	86	100	SS-15	4.5+	13	14	17	33	23	22	13	9	12	A-4a (4)	
			10 20 31	78	100	SS-16	2.50	-	-	-	-	-	-	-	-	21	A-4a (V)	
			15 29 44	112	100	SS-17	2.50	-	-	-	-	-	-	-	-	17	A-4a (V)	
VERY DENSE, GRAY **SILT**, LITTLE COARSE TO FINE SAND, LITTLE CLAY, MOIST.	685.0		16 30 30	92	100	SS-18	-	0	1	15	72	12	NP	NP	NP	17	A-4b (8)	

2016 STD ODOT BORING LOG SPL 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: 309+73.69 / 55.6 RT	START: 2/18/16	END: 2/19/16	PG 2 OF 2	B-013-0-15

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
VERY DENSE, GRAY **SILT**, LITTLE COARSE TO FINE SAND, LITTLE CLAY, MOIST. *(continued)*	682.0	61																
		62																
		63																
		64	17 26 33	90	100	SS-19	-	-	-	-	-	-	-	-	-	19	A-4b (V)	
		65																
		66																
		67																
		68																
		69	13 28 33	94	100	SS-20	-	-	-	-	-	-	-	-	-	22	A-4b (V)	
	672.0	EOB 70																

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 22.0' AND AT COMPLETION @ 22.4'

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 - 4/21/16 07:32 - U:\GI\PROJECTS\2014\W-14-166.GPJ

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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 B-014-0-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RII / J.A	HAMMER: CME AUTOMATIC	ALIGNMENT: CL CONST. US-33	
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 1 OF 2
START: 2/17/16 END: 2/18/16	SAMPLING METHOD: SPT	ENERGY RATIO (%): 92	LAT / LONG: 39.898521000, -82.893945000	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
0.8' - ASPHALT (9.0")	742.9																	
1.2' - AGGREGATE BASE (15.0")	742.1																	
	740.9																	
FILL: MEDIUM DENSE TO DENSE, BROWN TO BROWNISH GRAY **GRAVEL AND SAND**, TRACE TO LITTLE SILT, TRACE CLAY, MOIST.			7 5 4	14	89	SS-1	-	-	-	-	-	-	-	-	-	6	A-1-b (V)	
			4 10 10	31	100	SS-2	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
			5 6 8	21	89	SS-3	-	46	35	5	9	5	NP	NP	NP	10	A-1-b (0)	
			11 12 10	34	100	SS-4	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
-STONE FRAGMENTS PRESENT IN SS-5			7 11 6	26	100	SS-5	-	48	28	5	14	5	NP	NP	NP	10	A-1-b (0)	
-COBBLES PRESENT @ 16.0'	726.9		4 10 5	23	83	SS-6	-	-	-	-	-	-	-	-	-	8	A-1-b (V)	
MEDIUM DENSE, GRAY **SILT**, SOME COARSE TO FINE SAND, LITTLE CLAY, WET.			3 4 7	17	100	SS-7	-	0	2	22	61	15	NP	NP	NP	24	A-4b (8)	
-ORGANICS PRESENT IN SS-7	723.9																	
LOOSE TO MEDIUM DENSE, BROWNISH GRAY TO GRAY **GRAVEL**, "AND" COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, MOIST.		▼	2 4 2	9	94	SS-8	-	-	-	-	-	-	-	-	-	9	A-1-a (V)	
			4 6 6	18	0	SS-9	-	-	-	-	-	-	-	-	-	-		
		W	5	-	100	3S-9A	-	-	-	-	-	-	-	-	-	13	A-1-a (V)	
			9 10 9	29	100	SS-10	-	57	37	2	3	1	NP	NP	NP	10	A-1-a (0)	
	716.4																	
DENSE, BROWNISH GRAY TO GRAY **GRAVEL**, LITTLE COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, MOIST.			10 15 6	32	67	SS-11	-	-	-	-	-	-	-	-	-	13	A-1-a (V)	
			36 13 8	32	33	SS-12	-	76	15	2	3	4	NP	NP	NP	8	A-1-a (0)	
-HEAVING SANDS ENCOUNTERED @ 34.5' -INTRODUCED MUD @ 34.5'			8 15 12	41	83	SS-13	-	-	-	-	-	-	-	-	-	11	A-1-a (V)	
	706.9																	
HARD, GRAY **SANDY SILT**, SOME CLAY, LITTLE FINE GRAVEL, DAMP.			9 10 12	34	61	SS-14	4.50	-	-	-	-	-	-	-	-	12	A-4a (V)	
			17 41 50	140	100	SS-15	4.50	13	16	16	26	29	21	14	7	10	A-4a (4)	
			10 29 40	106	100	SS-16	4.50	-	-	-	-	-	-	-	-	9	A-4a (V)	
	689.9																	
VERY DENSE, GRAY **SILT**, LITTLE TO SOME CLAY, TRACE TO SOME COARSE TO FINE SAND, WET.			10 17 22	60	100	SS-17	-	-	-	-	-	-	-	-	-	20	A-4b (V)	
			9															

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT GDT - 4/21/16 07:32 - U:\GIS\PROJECTS\2014\W-14-166.GPJ

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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.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
VERY DENSE, GRAY **SILT**, LITTLE TO SOME CLAY, TRACE TO SOME COARSE TO FINE SAND, WET. *(continued)*	682.9	61	17 19	55	100	SS-18	-	0	0	23	61	16	NP	NP	NP	22	A-4b (8)	
		62																
		63																
		64																
		65	12 42 50/0"	-	100	SS-19	-	-	-	-	-	-	-	-	-	20	A-4b (V)	
		66																
		67																
		68																
		69																
		70	13 36 36	110	100	SS-20	-	0	1	0	73	26	NP	NP	NP	21	A-4b (8)	
		71																
		72																
		73																
		74																
		75	7 15 18	51	100	SS-21	-	-	-	-	-	-	-	-	-	24	A-4b (V)	
	666.9	EOB 76																

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

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22/44	FRA-33-24.26	STRUCTURE FOUNDATION EXPLORATION BRIDGE NO. FRA-33-2509L/R OVER BIG WALNUT CREEK BORING LOG B-014-0-15	DRAWN RRM 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 B-016-0-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RII / N.A.	HAMMER: CME AUTOMATIC	ALIGNMENT: CL CONST. US-33	
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 1 OF 2
START: 2/19/16 END: 2/20/16	SAMPLING METHOD: SPT	ENERGY RATIO (%): 92	LAT / LONG: 39.897958000, -82.893363000	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
0.7' - ASPHALT (8.0")	742.3																	
1.0' - AGGREGATE BASE (12.0")	741.6																	
FILL: MEDIUM DENSE, BROWN **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, MOIST. -STONE FRAGMENTS PRESENT IN SS-1	740.6		12 6 8	21	61	SS-1	-	42	24	10	14	10	22	17	5	9	A-1-b (0)	
FILL: VERY STIFF TO HARD, BROWN **SILTY CLAY**, SOME FINE GRAVEL, SOME COARSE TO FINE SAND, DAMP.	738.8		4 6 8	21	100	SS-2	4.5+	31	11	12	21	25	33	17	16	14	A-6b (4)	
			8 7 5	18	94	SS-3	3.00	-	-	-	-	-	-	-	-	15	A-6b (V)	
-STONE FRAGMENTS PRESENT THROUGHOUT			8 13 11	37	100	SS-4	3.25	-	-	-	-	-	-	-	-	15	A-6b (V)	
			6 7 6	20	50	SS-5	3.00	-	-	-	-	-	-	-	-	14	A-6b (V)	
			5 6 7	20	100	SS-6	2.50	-	-	-	-	-	-	-	-	11	A-6b (V)	
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	726.8		3 4 5	14	100	SS-7	2.25	0	1	5	54	40	46	24	22	29	A-7-6 (14)	
-ROOT FIBERS PRESENT IN SS-8			3 4 5	14	100	SS-8	1.75	-	-	-	-	-	-	-	-	25	A-7-6 (V)	
LOOSE TO MEDIUM DENSE, BROWNISH GRAY TO BROWN **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, MOIST TO WET.	721.8	W	2 2 3	8	61	SS-9	-	-	-	-	-	-	-	-	-	19	A-1-b (V)	
		W	2 2 3	8	67	SS-10	-	53	15	9	16	7	25	20	5	16	A-1-b (0)	
			4 5 8	20	100	SS-11	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
			5 7 8	23	100	SS-12	-	54	23	7	10	6	NP	NP	NP	12	A-1-b (0)	
			4 6 8	21	100	SS-13	-	-	-	-	-	-	-	-	-	17	A-1-b (V)	
VERY STIFF, GRAY **SANDY SILT**, SOME CLAY, LITTLE FINE GRAVEL, DAMP.	705.3		5 5 7	18	44	SS-14	3.50	11	13	18	35	23	21	15	6	13	A-4a (5)	
HARD, GRAY **SANDY SILT**, SOME CLAY, LITTLE FINE GRAVEL, DAMP.	700.3		11 29 30	90	100	SS-15	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)	
			15 50/6"	-	100	SS-16	4.00	-	-	-	-	-	-	-	-	10	A-4a (V)	
VERY DENSE, GRAY **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, MOIST.	690.3		39 40 37	118	67	SS-17	-	41	27	13	12	7	NP	NP	NP	8	A-1-b (0)	
DENSE TO VERY DENSE, GRAY **SILT**, LITTLE FINE SAND, TRACE CLAY, MOIST.	685.3		9 17 25	64	100	SS-18	-	-	-	-	-	-	-	-	-	20	A-4b (V)	

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STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. FRA-33-2509L/R OVER BIG WALNUT CREEK
BORING LOG B-016-0-15

DRAWN RRM
CHECKED BRT

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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

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
DENSE TO VERY DENSE, GRAY **SILT**, LITTLE FINE SAND, TRACE CLAY, MOIST. *(continued)*	682.3	61																
		62																
		63																
		64	11 13 16	44	100	SS-19	-	0	0	13	77	10	NP	NP	NP	22	A-4b (8)	
		65																
		66																
		67																
		68																
		69	27 38 47	130	100	SS-20	-	-	-	-	-	-	-	-	-	19	A-4b (V)	
	672.3	EOB 70																

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:\GI\PROJECTS\2014\W-14-166.GPJ

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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 B-017-0-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RII / N.A.	HAMMER: CME AUTOMATIC	ALIGNMENT: CL CONST. US-33	
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 1 OF 2
START: 2/16/16 END: 2/16/16	SAMPLING METHOD: SPT	ENERGY RATIO (%): 92	LAT / LONG: 39.897713000, -82.893228000	

MATERIAL DESCRIPTION AND NOTES	ELEV. 742.7	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
0.5' - ASPHALT (6.0")	742.2																	
1.0' - AGGREGATE BASE (12.0")	741.2																	
FILL: DENSE, BROWN **GRAVEL WITH SAND AND SILT**, TRACE CLAY, DAMP. -STONE FRAGMENTS PRESENT IN SS-1	738.7		5 6 15	32	61	SS-1	-	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.	736.2		5 10 13	35	56	SS-2	2.50	-	-	-	-	-	-	-	-	16	A-6a (V)	
FILL: MEDIUM DENSE TO DENSE, BROWN **GRAVEL WITH SAND AND SILT**, TRACE CLAY, DAMP.	731.2		7 10 8	28	100	SS-3	-	49	20	9	12	10	28	19	9	9	A-2-4 (0)	
			7 7 14	32	44	SS-4	-	-	-	-	-	-	-	-	-	10	A-2-4 (V)	
FILL: HARD, BROWNISH GRAY **SILT AND CLAY**, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP. -ROCK FRAGMENTS PRESENT IN SS-5	728.7		4 8 9	26	100	SS-5	4.5+	-	-	-	-	-	-	-	-	15	A-6a (V)	
STIFF, BROWNISH GRAY TO BROWN **CLAY**, "AND" SILT, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST. -SS-6: LOI = 5.4% -WOOD FRAGMENTS PRESENT IN SS-6 -QU @ 16.9' = 1.85 tsf			4 5 6	17	100	SS-6	2.00	-	-	-	-	-	-	-	-	29	A-7-6 (V)	
					100	ST-7	2.00	0	0	12	47	41	45	24	21	25	A-7-6 (13)	
			2 3 3	9	100	SS-8	2.00	-	-	-	-	-	-	-	-	26	A-7-6 (V)	
	721.7	W	3 3 5	12	100	SS-9	2.00	1	2	10	44	43	44	22	22	26	A-7-6 (14)	
VERY DENSE, BROWN **LIMESTONE FRAGMENTS**	720.2		10 19 15	52	6	SS-10	-	-	-	-	-	-	-	-	-	-		
MEDIUM DENSE, BROWN **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, MOIST.			22	-	100	3S-10A	-	-	-	-	-	-	-	-	-	7	A-1-b (V)	
			13 8 8	25	100	SS-11	-	46	27	9	11	7	26	22	4	14	A-1-b (0)	
	714.2		4 6 6	18	72	SS-12	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
DENSE, BROWN **GRAVEL**, SOME COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, MOIST.			8 10 12	34	100	SS-13	-	-	-	-	-	-	-	-	-	9	A-1-a (V)	
			8 10 13	35	100	SS-14	-	59	23	9	5	4	NP	NP	NP	10	A-1-a (0)	
	705.7																	
VERY STIFF, GRAY **SANDY SILT**, SOME CLAY, LITTLE FINE GRAVEL, DAMP.			5 6 8	21	100	SS-15	4.00	-	-	-	-	-	-	-	-	13	A-4a (V)	
	700.7																	
HARD, GRAY **SANDY SILT**, SOME CLAY, LITTLE FINE GRAVEL, DAMP.			28 35 50	130	94	SS-16	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)	
			15 19 31	77	100	SS-17	4.5+	13	11	17	32	27	23	15	8	11	A-4a (5)	
			15 17 27	67	100	SS-18	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)	
	685.7																	
DENSE TO VERY DENSE, GRAY **SILT**, LITTLE CLAY, TRACE COARSE TO FINE SAND, MOIST TO WET.			10 12	55	100	SS-19	-	0	1	8	80	11	NP	NP	NP	21	A-4b (8)	

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 4/21/16 07:32 - U:\GI\PROJECTS\2014\W-14-166.GPJ

25/44	FRA-33-24.26	STRUCTURE FOUNDATION EXPLORATION BRIDGE NO. FRA-33-2509L/R OVER BIG WALNUT CREEK BORING LOG B-017-0-15	DRAWN RRM CHECKED BRT

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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

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
DENSE TO VERY DENSE, GRAY **SILT**, LITTLE CLAY, TRACE COARSE TO FINE SAND, MOIST TO WET. *(continued)*	682.7	61	24															
		62																
		63																
		64																
		65	11 15 17	49	100	SS-20	-	-	-	-	-	-	-	-	-	18	A-4b (V)	
	675.7	66																
VERY DENSE, GRAY **SANDY SILT**, LITTLE CLAY, TRACE FINE GRAVEL, MOIST.		67																
		68																
		69																
		70	13 17 16	51	72	SS-21	-	5	12	41	30	12	NP	NP	NP	15	A-4a (1)	
		71																
		72																
		73																
	668.1	74																
EOB			19 50/1"	-	100	SS-22	-	-	-	-	-	-	-	-	-	17	A-4a (V)	

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

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT GDT - 4/21/16 07:32 - U:\GI\PROJECTS\2014\W-14-166.GPJ

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PROJECT: FRA-33-24.26 | DRILLING FIRM / OPERATOR: RII / S.B. | DRILL RIG: CME 55 (SN 386345) | STATION / OFFSET: 315+80.00 / 60.0' RT | EXPLORATION ID: B-018-0-15

TYPE: ROADWAY | SAMPLING FIRM / LOGGER: RII / N.A. | HAMMER: CME AUTOMATIC | ALIGNMENT: CL CONST. US-33

PID: 98111 BR ID: N/A | DRILLING METHOD: 3.25" - HSA | CALIBRATION DATE: 10/20/14 | ELEVATION: 742.4 (MSL) EOB: 40.0 ft. | PAGE: 1 OF 1

START: 2/29/16 END: 2/29/16 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 92 | LAT / LONG: 39.897183000, -82.893238000

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.7' - ASPHALT (8.0")	742.4																	
0.7' - AGGREGATE BASE (8.0")	741.7																	
MEDIUM DENSE, DARK BROWNISH GRAY **GRAVEL WITH SAND, SILT, AND CLAY**, MOIST. -SS-1: SULFATE CONTENT = 167 PPM	741.0		3 4 7	17	67	SS-1	-	81	7	4	3	5	26	13	13	10	A-2-6 (0)	
STIFF, DARK BROWNISH GRAY **SILT AND CLAY**, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, MOIST.	739.4		7 6 5	17	39	SS-2	-	20	13	13	28	26	32	18	14	16	A-6a (5)	
FILL: MEDIUM DENSE TO DENSE, DARK BROWNISH GRAY **GRAVEL WITH SAND, SILT, AND CLAY**, DAMP TO MOIST.	736.9		7 8 6	21	100	SS-3	-	58	13	8	9	12	28	15	13	10	A-2-6 (0)	
			6 7 8	23	33	SS-4	-	-	-	-	-	-	-	-	-	13	A-2-6 (V)	
-LIMESTONE FRAGMENTS PRESENT IN SS-5			4 17 23	61	100	SS-5	-	-	-	-	-	-	-	-	-	11	A-2-6 (V)	
			7 12 14	40	100	SS-6	-	44	12	11	16	17	32	15	17	13	A-2-6 (1)	
	725.9		15 13 13	40	0	SS-7	-	-	-	-	-	-	-	-	-	-		
STIFF TO VERY STIFF, DARK BROWN **SILTY CLAY**, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			7 5 7	18	78	SS-8	4.00	-	-	-	-	-	-	-	-	21	A-6b (V)	
			5 6 7	20	100	SS-9	1.75	-	-	-	-	-	-	-	-	22	A-6b (V)	
	721.6		2 3 3	9	100	SS-10A	1.50	1	3	30	31	35	33	17	16	28	A-6b (9)	
						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			4 3 4	11	100	SS-11	-	49	17	14	12	8	NP	NP	NP	16	A-1-b (0)	
			7 15 13	43	83	SS-12	-	-	-	-	-	-	-	-	-	16	A-1-b (V)	
			4 7 6	20	100	SS-13	-	48	17	13	12	10	24	18	6	15	A-1-b (0)	
			8 6 8	21	100	SS-14	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
			4 6 7	20	100	SS-15	-	31	46	16	3	4	NP	NP	NP	14	A-1-b (0)	
	705.4																	
HARD, GRAY **SILT AND CLAY**, LITTLE COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.			8 8 12	31	100	SS-16	4.00	-	-	-	-	-	-	-	-	12	A-6a (V)	
	702.4	EOB																

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

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 4/24/17 11:27 - U:\GI8\PROJECTS\2014\W-14-166.GPJ

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: CME 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. 741.8	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
0.6' - ASPHALT (7.5")	741.2																	
1.3' - AGGREGATE BASE (15.0")	739.9																	
FILL: MEDIUM DENSE, BROWN **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, DAMP.			6 8 4	18	67	SS-1	-	47	21	10	14	8	21	16	5	9	A-1-b (0)	
			2 6 7	20	78	SS-2	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
	736.3																	
FILL: MEDIUM DENSE TO DENSE, BROWN **GRAVEL WITH SAND, SILT, AND CLAY**, DAMP.			10 10 10	31	100	SS-3	-	-	-	-	-	-	-	-	-	10	A-2-6 (V)	
			6 7 8	23	100	SS-4	-	34	17	15	18	16	29	16	13	11	A-2-6 (1)	
	731.3																	
POSSIBLE FILL: VERY STIFF, BROWN **SILT AND CLAY**, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.			8 8 9	26	100	SS-5	4.00	-	-	-	-	-	-	-	-	15	A-6a (V)	
	728.8																	
STIFF TO VERY STIFF, BROWN AND GRAY **CLAY**, "AND" SILT, TRACE FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.			4 5 6	17	100	SS-6	4.5+	-	-	-	-	-	-	-	-	21	A-7-6 (V)	
			3 3 6	14	100	SS-7	3.00	1	0	7	42	50	42	20	22	24	A-7-6 (13)	
-SHELLS PRESENT IN SS-8			2 3 3	9	100	SS-8	1.50	-	-	-	-	-	-	-	-	27	A-7-6 (V)	
	721.3																	
MEDIUM DENSE, BROWN **GRAVEL**, SOME COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, WET.		W	3 5 7	18	100	SS-9	-	67	13	8	8	4	NP	NP	NP	16	A-1-a (0)	
		▼	5 6 9	23	83	SS-10	-	-	-	-	-	-	-	-	-	12	A-1-a (V)	
	716.8	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

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 4/24/17 11:27 - U:\GI8\PROJECTS\2014\W-14-166.GPJ

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: CME AUTOMATIC
CALIBRATION DATE: 10/20/14
ENERGY RATIO (%): 92

STATION / OFFSET: 319+80.00 / 59.0' RT
ALIGNMENT: CL CONST. US-33
ELEVATION: 741.2 (MSL) EOB: 25.0 ft.
LAT / LONG: 39.896280000, -82.892426000

EXPLORATION ID B-022-0-15
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 741.2	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.8' - ASPHALT (9.0")	740.4																	
0.7' - AGGREGATE BASE (9.0")	739.7																	
MEDIUM DENSE, BROWN **GRAVEL AND SAND**, LITTLE CLAY, TRACE SILT, DAMP. -COAL FRAGMENTS PRESENT IN SS-1 -SS-1: SULFATE CONTENT = 213 PPM	738.2		5 6 7	20	72	SS-1	-	37	29	10	9	15	NP	NP	NP	9	A-1-b (0)	
FILL: MEDIUM DENSE TO DENSE, BROWN **GRAVEL WITH SAND, SILT, AND CLAY**, MOIST.			6 15 17	49	100	SS-2	-	44	23	9	10	14	28	17	11	11	A-2-6 (0)	
			11 5 7	18	39	SS-3	-	-	-	-	-	-	-	-	-	11	A-2-6 (V)	
			3 6 9	23	61	SS-4	-	-	-	-	-	-	-	-	-	10	A-2-6 (V)	
	728.7		13 15 15	46	100	SS-5	-	33	17	15	15	20	30	17	13	14	A-2-6 (1)	
STIFF TO VERY STIFF, BROWN TO BROWNISH GRAY **CLAY**, "AND" SILT, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			4 5 7	18	100	SS-6	4.00	-	-	-	-	-	-	-	-	21	A-7-6 (V)	
	723.2	W	2 2 3	8	100	SS-7	1.50	1	6	7	49	37	44	19	25	26	A-7-6 (15)	
MEDIUM DENSE, BROWN **GRAVEL**, SOME COARSE TO FINE SAND, LITTLE SILT, MOIST TO WET.			1 4 6	15	50	SS-8	-	-	-	-	-	-	-	-	-	12	A-1-a (V)	
		W	3 6 9	23	83	SS-9	-	52	27	8	13	0	26	20	6	14	A-1-a (0)	
	718.2																	
MEDIUM DENSE, BROWNISH GRAY **COARSE AND FINE SAND**, TRACE SILT, WET.	716.2		3 8 8	25	100	SS-10	-	-	-	-	-	-	-	-	-	23	A-3a (V)	
		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

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 4/24/17 11:27 - U:\GI8\PROJECTS\2014\W-14-166.GPJ

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. FRA-33-2509L/R OVER BIG WALNUT CREEK
BORING LOG B-022-0-15

DRAWN RRM
CHECKED BRT

G:\projects\2014\W-14-166 FRA-33-24.26\98111\geotechnical\sheets\ODOT P&P\98111ZL016.dgn 7/14/2017 4:17:15 PM rachelm

PROJECT: FRA-33-24.26	DRILLING FIRM / OPERATOR: RII / S.B.	DRILL RIG: CME 55 (SN 386345)	STATION / OFFSET: 321+80.00 / 59.0' RT	EXPLORATION ID B-024-0-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RII / N.A.	HAMMER: CME AUTOMATIC	ALIGNMENT: CL CONST. US-33	
PID: 98111 BR ID: N/A	DRILLING METHOD: 3.25" - HSA	CALIBRATION DATE: 10/20/14	ELEVATION: 741.2 (MSL) EOB: 25.0 ft.	PAGE 1 OF 1
START: 3/1/16 END: 3/1/16	SAMPLING METHOD: SPT	ENERGY RATIO (%): 92	LAT / LONG: 39.895828000, -82.892021000	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.5' - ASPHALT (6.0")	741.2																	
0.4' - AGGREGATE BASE (5.0")	740.7																	
FILL: DENSE, BROWN TO BROWNISH GRAY **GRAVEL**, SOME COARSE TO FINE SANS, TRACE SILT, TRACE CLAY, MOIST TO WET.	740.3	1	7 15 16	48	72	SS-1	-	69	16	6	6	3	NP	NP	NP	5	A-1-a (0)	
-BRICK FRAGMENTS PRESENT IN SS-2		2																
		3																
		4	3 16 16	49	44	SS-2	-	-	-	-	-	-	-	-	-	10	A-1-a (V)	
	735.7	5																
FILL: VERY STIFF TO HARD, BROWN TO BROWNISH GRAY **SILT AND CLAY**, SOME COARSE TO FINE SAND, SOME FINE GRAVEL, DAMP.		6																
		7	8 9 5	21	89	SS-3	4.5+	-	-	-	-	-	-	-	-	8	A-6a (V)	
		8																
		9	3 6 7	20	100	SS-4	3.50	26	15	13	25	21	32	17	15	15	A-6a (4)	
		10																
		11	7 11 10	32	100	SS-5	4.5+	-	-	-	-	-	-	-	-	15	A-6a (V)	
	728.2	12																
STIFF TO VERY STIFF, GRAY TO BROWNISH GRAY **SILTY CLAY**, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		13																
		14	3 5 6	17	100	SS-6	3.00	-	-	-	-	-	-	-	-	26	A-6b (V)	
		15																
		16																
		17	2 3 2	8	100	SS-7	1.50	2	2	9	48	39	39	19	20	19	A-6b (12)	
	723.2	18																
MEDIUM DENSE, GRAY **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, WET.		19	4 6 10	25	100	SS-8	-	-	-	-	-	-	-	-	-	20	A-1-b (V)	
		20																
		21																
		22	5 8 11	29	100	SS-9	-	35	33	13	14	5	NP	NP	NP	14	A-1-b (0)	
	718.2	23																
DENSE, GRAY **FINE SAND**, TRACE SILT, MOIST.		24	7 11 16	41	100	SS-10	-	-	-	-	-	-	-	-	-	18	A-3 (V)	
-STONE FRAGMENTS PRESENT IN SS-10	716.2	25 EOB																

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

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 4/24/17 11:27 - U:\GI8\PROJECTS\2014\W-14-166.GPJ

PROJECT: FRA-33-24.26	DRILLING FIRM / OPERATOR: RII / S.B.	DRILL RIG: CME 55 (SN 386345)	STATION / OFFSET: 323+80.00 / 59.0' RT	EXPLORATION ID B-026-0-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RII / N.A.	HAMMER: CME AUTOMATIC	ALIGNMENT: CL CONST. US-33	
PID: 98111 BR ID: N/A	DRILLING METHOD: 3.25" - HSA	CALIBRATION DATE: 10/20/14	ELEVATION: 740.7 (MSL) EOB: 25.0 ft.	PAGE 1 OF 1
START: 3/2/16 END: 3/2/16	SAMPLING METHOD: SPT	ENERGY RATIO (%): 92	LAT / LONG: 39.895377000, -82.891603000	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.7' - ASPHALT (8.0")	740.7																	
0.3' - AGGREGATE BASE (3.0")	740.0																	
FILL: MEDIUM DENSE, BROWN **GRAVEL WITH SAND AND SILT**, LITTLE CLAY, DAMP.	739.8	1	10 9 8	26	61	SS-1	-	38	24	11	16	11	NP	NP	NP	10	A-2-4 (0)	
-SS-1: SULFATE CONTENT = 213 PPM	737.7	2																
FILL: MEDIUM DENSE TO DENSE, BROWN **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, DAMP.		3																
		4	5 8 11	29	39	SS-2	-	53	21	8	11	7	NP	NP	NP	8	A-1-b (0)	
		5																
		6																
		7	9 16 11	41	100	SS-3	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
	732.7	8																
FILL: MEDIUM DENSE TO DENSE, BROWN **GRAVEL WITH SAND AND SILT**, LITTLE CLAY, DAMP.		9	6 9 10	29	67	SS-4	-	45	16	9	15	15	NP	NP	NP	12	A-2-4 (0)	
		10																
-SANDSTONE FRAGMENTS PRESENT IN SS-5		11	10 12 18	46	33	SS-5	-	-	-	-	-	-	-	-	-	7	A-2-4 (V)	
	727.7	12																
VERY STIFF, BROWN **CLAY**, AND FINE GRAVEL, SOME SILT, TRACE COARSE TO FINE SAND, DAMP.		13																
		14	6 7 8	23	100	SS-6	3.00	36	3	3	38	20	42	26	16	27	A-7-6 (7)	
	724.7	15																
MEDIUM STIFF TO STIFF, DARK GRAY **SILT AND CLAY**, LITTLE FINE GRAVEL, TRACE COARSE TO FINE SAND, DAMP.		16																
		17	2 3 3	9	0	SS-7	-	-	-	-	-	-	-	-	-	-		
	722.2	18	10	-	100	SS-7A	0.75	-	-	-	-	-	-	-	-	16	A-6a (V)	
MEDIUM DENSE TO VERY DENSE, GRAY **GRAVEL AND SAND**, LITTLE SILT, TRACE FINE GRAVEL, MOIST TO WET.		19	3 5 8	20	39	SS-8	-	62	15	6	11	6	NP	NP	NP	14	A-1-b (0)	
		20																
- HEAVING SANDS ENCOUNTERED @ 21.0'		21																
		22	1 6 21	41	100	SS-9	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
		23																
		24	8 28 35	97	100	SS-10	-	-	-	-	-	-	-	-	-	5	A-1-b (V)	
	715.7	25	EOB															

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

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 4/24/17 11:27 - U:\GI8\PROJECTS\2014\W-14-166.GPJ

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: CME AUTOMATIC
CALIBRATION DATE: 10/20/14
ENERGY RATIO (%): 92

STATION / OFFSET: 326+33.47 / 58.7' RT
ALIGNMENT: CL CONST. US-33
ELEVATION: 740.5 (MSL) EOB: 25.0 ft.
LAT / LONG: 39.894822000, -82.891042000

EXPLORATION ID B-028-0-15
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
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 7 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																
		3																
		4	1 WOH 1	2	6	SS-2	-	-	-	-	-	-	-	-	-	3	A-1-a (V)	
	735.0	5																
FILL: MEDIUM DENSE TO DENSE, BROWN **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, MOIST.		6	6 10 6	25	44	SS-3	-	45	25	8	13	9	NP	NP	NP	9	A-1-b (0)	
		7																
		8																
		9	6 11 13	37	0	SS-4	-	-	-	-	-	-	-	-	-	-		
	730.5	10	18	-	100	SS-4A	3.00	-	-	-	-	-	-	-	-	15	A-6a (V)	
VERY STIFF, BROWN **SILT AND CLAY**, SOME COARSE TO FINE SAND, SOME FINE GRAVEL, DAMP TO MOIST.		11	5 13 18	48	78	SS-5	2.50	22	18	11	31	18	35	23	12	17	A-6a (3)	
-ORGANICS PRESENT IN SS-5		12																
-SS-5: LOI = 3.4%	727.5	13																
STIFF, BROWN **SILTY CLAY**, TRACE TO LITTLE COARSE TO FINE SAND, MOIST.		14	2 3 4	11	100	SS-6	2.00	-	-	-	-	-	-	-	-	25	A-6b (V)	
		15																
		16																
		17	2 3 4	11	61	SS-7	-	-	-	-	-	-	-	-	-	21	A-6b (V)	
	722.5	18																
MEDIUM DENSE TO DENSE, BROWN **GRAVEL**, LITTLE COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, WET.		19	1 4 7	17	56	SS-8	-	82	11	2	3	2	NP	NP	NP	16	A-1-a (0)	
		20																
- HEAVING SAND ENCOUNTERED @ 21.0'		21																
		22	7 7 9	25	50	SS-9	-	-	-	-	-	-	-	-	-	20	A-1-a (V)	
		23																
		24	5 9 11	31	56	SS-10	-	-	-	-	-	-	-	-	-	12	A-1-a (V)	
	715.5	EOB 25																

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

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 4/24/17 11:27 - U:\GI8\PROJECTS\2014\W-14-166.GPJ

PROJECT: FRA-33-24.26	DRILLING FIRM / OPERATOR: RII / S.B.	DRILL RIG: CME 55 (SN 386345)	STATION / OFFSET: 327+80.00 / 59.0' RT	EXPLORATION ID B-030-0-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RII / N.A.	HAMMER: CME AUTOMATIC	ALIGNMENT: CL CONST. US-33	
PID: 98111 BR ID: N/A	DRILLING METHOD: 3.25" - HSA	CALIBRATION DATE: 10/20/14	ELEVATION: 740.6 (MSL) EOB: 25.0 ft.	PAGE 1 OF 1
START: 3/3/16 END: 3/3/16	SAMPLING METHOD: SPT	ENERGY RATIO (%): 92	LAT / LONG: 39.894509000, -82.890705000	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.8' - ASPHALT (9.0")	740.6																	
0.2' - AGGREGATE BASE (2.0")	739.8																	
FILL: LOOSE TO MEDIUM DENSE, BROWN **GRAVEL AND SAND**, TRACE SILT, TRACE CLAY, MOIST TO WET,	739.6	1																
		2	5 6 8	21	100	SS-1	-	48	26	8	10	8	NP	NP	NP	14	A-1-b (0)	
		3																
		4	5 5 5	15	100	SS-2	-	49	34	4	9	4	NP	NP	NP	20	A-1-b (0)	
		5																
-SS-3: SULFATE CONTENT = 287 PPM		6																
		7	2 2 4	9	33	SS-3	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
		8																
		9	6 6 8	21	94	SS-4	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
	730.1	10																
STIFF TO VERY STIFF, BROWN **SILT AND CLAY**, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		11																
		12	4 4 8	18	100	SS-5	1.50	6	15	19	38	22	27	16	11	17	A-6a (5)	
- ORGANICS PRESENT IN SS-5		13																
	727.1	14																
STIFF, BROWN **SILTY CLAY**, TRACE FINE SAND, DAMP.		15	2 3 4	11	0	SS-6	-	-	-	-	-	-	-	-	-	-		
			9	-	100	SS-6A	1.50	-	-	-	-	-	-	-	-	23	A-6b (V)	
		16																
		17	3 2 7	14	0	SS-7	-	-	-	-	-	-	-	-	-	-		
	723.1		W															
MEDIUM DENSE, BROWN **GRAVEL WITH SAND**, TRACE SILT, TRACE CLAY, WET.		18	14	-	100	SS-7A	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
		19	4 6 8	21	61	SS-8	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
		20																
- HEAVING SANDS ENCOUNTERED @ 21.0'		21																
		22	4 6 7	20	89	SS-9	-	32	59	6	1	2	NP	NP	NP	15	A-1-b (0)	
		23																
		24	4 8 10	28	78	SS-10	-	-	-	-	-	-	-	-	-	16	A-1-b (V)	
	715.6		EOB															
		25																

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 17.5' AND AT COMPLETION @ 16.0'; CAVE-IN DEPTH @ 22.0'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 4/24/17 11:27 - U:\GI8\PROJECTS\2014\W-14-166.GPJ

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. FRA-33-2509L/R OVER BIG WALNUT CREEK
BORING LOG B-030-0-15

DRAWN RRM
CHECKED BRT

PROJECT: FRA-33-24.26
TYPE: ROADWAY
PID: 98111 BR ID: N/A
START: 3/7/16 END: 3/7/16

DRILLING FIRM / OPERATOR: RII / C.D.
SAMPLING FIRM / LOGGER: RII / N.A.
DRILLING METHOD: 3.25" - HSA
SAMPLING METHOD: SPT

DRILL RIG: MOBILE B-53 (SN 624400)
HAMMER: AUTOMATIC
CALIBRATION DATE: 5/13/15
ENERGY RATIO (%): 77.1

STATION / OFFSET: 329+80.00 / 59.0' RT
ALIGNMENT: CL CONST. US-33
ELEVATION: 741.3 (MSL) EOB: 25.0 ft.
LAT / LONG: 39.894094000, -82.890228000

EXPLORATION ID B-032-0-15
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 741.3	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.8' - ASPHALT (9.0")	740.5																	
FILL: STIFF TO VERY STIFF, BROWN **SANDY SILT**, SOME CLAY, SOME FINE GRAVEL, MOIST.			3 4 7	14	33	SS-1	2.00	-	-	-	-	-	-	-	-	13	A-4a (V)	
	736.3		3 9 12	27	0	SS-2	-	-	-	-	-	-	-	-	-	-		
FILL: MEDIUM DENSE, BROWN **GRAVEL WITH SAND AND SILT**, LITTLE CLAY, MOIST.			16	-	100	SS-2A	-	-	-	-	-	-	-	-	-	9	A-2-4 (V)	
	733.3		7 11 12	30	53	SS-3	2.50	47	22	8	14	9	23	16	7	8	A-2-4 (0)	
FILL: STIFF TO VERY STIFF, BROWN AND GRAY **SILTY CLAY**, SOME COARSE TO FINE SAND, SOME FINE GRAVEL, MOIST.			2 6 3	12	72	SS-4	3.00	-	-	-	-	-	-	-	-	23	A-6b (V)	
- TRACE TWIGS AND ORGANICS IN SS-5			4 6 9	19	72	SS-5	4.00	21	11	15	27	26	37	17	20	18	A-6b (7)	
	728.3																	
STIFF TO VERY STIFF, BROWN AND GRAY **SILTY CLAY**, SOME COARSE TO FINE SAND, SOME FINE GRAVEL, MOIST.			3 5 6	14	81	SS-6	3.50	-	-	-	-	-	-	-	-	26	A-6b (V)	
	725.0					SS-7A	2.00	-	-	-	-	-	-	-	-	20	A-6b (V)	
MEDIUM DENSE, GRAY **GRAVEL WITH SAND AND SILT**, LITTLE CLAY, WET.		W	2 4 7	14	78	SS-7B	-	24	15	31	19	11	NP	NP	NP	17	A-2-4 (0)	
	720.8		3 4 5	12	0	SS-8	-	-	-	-	-	-	-	-	-	-		
			11	-	100	SS-8A	-	-	-	-	-	-	-	-	-	13	A-2-4 (V)	
DENSE, BROWNISH GRAY **GRAVEL**, SOME COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, WET.			5 11 12	30	78	SS-9	-	51	22	13	9	5	NP	NP	NP	13	A-1-a (0)	
	716.3	EOB	6 18 10	36	61	SS-10	-	-	-	-	-	-	-	-	-	12	A-1-a (V)	

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

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 4/24/17 11:27 - U:\GI8\PROJECTS\2014\W-14-166.GPJ

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PROJECT: FRA-33-24.26	DRILLING FIRM / OPERATOR: RII / C.D.	DRILL RIG: MOBILE B-53 (SN 624400)	STATION / OFFSET: 331+80.00 / 59.0' RT	EXPLORATION ID B-035-0-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RII / N.M.	HAMMER: AUTOMATIC	ALIGNMENT: CL CONST. US-33	
PID: 98111 BR ID: N/A	DRILLING METHOD: 3.25" - HSA	CALIBRATION DATE: 5/13/15	ELEVATION: 741.6 (MSL) EOB: 40.0 ft.	PAGE 1 OF 1
START: 3/7/16 END: 3/7/16	SAMPLING METHOD: SPT	ENERGY RATIO (%): 77.1	LAT / LONG: 39.893692000, -82.889731000	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.9' - ASPHALT (10.0")	741.6																	
0.3' - AGGREGATE BASE (3.0")	740.7																	
FILL: MEDIUM DENSE, BROWN **GRAVEL WITH SAND AND SILT**, TRACE CLAY, DAMP.	740.5	1	6 4 6	13	50	SS-1	-	91	4	2	2	1	25	18	7	9	A-2-4 (0)	
FILL: MEDIUM DENSE, BROWN **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, MOIST. -SS-2: SULFATE CONTENT = 107 PPM - COBBLES PRESENT @ 3.5'	738.6	2 3 4 5	4 5 9	18	83	SS-2	-	43	21	11	17	8	NP	NP	NP	12	A-1-b (0)	
FILL: VERY STIFF TO HARD, BROWN MOTTLED WITH GRAY AND OLIVE BROWN **SILT AND CLAY**, SOME FINE TO COARSE SAND, LITTLE FINE GRAVEL, MOIST.	736.1	6 7 8	4 5 8	17	89	SS-3	4.5+	11	10	17	37	25	31	17	14	17	A-6a (7)	
		9	3 5 8	17	89	SS-4	3.75	-	-	-	-	-	-	-	-	17	A-6a (V)	
FILL: HARD, DARK BROWN **CLAY**, SOME SILT, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	731.6	10 11	7 12 14	33	78	SS-5	4.5+	1	3	15	56	25	45	17	28	17	A-7-6 (16)	
FILL: MEDIUM DENSE, BROWN **GRAVEL WITH SAND, SILT, AND CLAY**, DAMP TO MOIST.	730.1	12	4 9 9	23	72	SS-6	-	-	-	-	-	-	-	-	-	13	A-2-6 (V)	
		13 14	6 5 4	12	78	SS-7	-	-	-	-	-	-	-	-	-	12	A-2-6 (V)	
		15 W	7 4 6	13	44	SS-8	-	39	20	10	20	11	28	17	11	12	A-2-6 (0)	
	724.1	16 17	3 5 5	13	6	SS-9	-	-	-	-	-	-	-	-	-	13	A-2-6 (V)	
MEDIUM STIFF TO STIFF, DARK GRAY MOTTLED WITH GRAY AND BLACK **ELASTIC CLAY**, "AND" SILT, TRACE TO LITTLE COARSE TO FINE SAND, TRACE TO LITTLE FINE GRAVEL, WET. - TRACE ORGANICS PRESENT THROUGHOUT - CONSOLIDATION TEST PERFORMED @ 20.0'		18	1 1 2	4	100	SS-10	0.75	0	1	7	57	35	62	34	28	60	A-7-5 (19)	
	721.5	19 20			88	ST-11A	1.25	13	7	5	50	25	53	38	15	58	A-7-5 (13)	
						ST-11B	1.25	5	5	12	60	18	55	29	26	64	A-7-6 (17)	
MEDIUM STIFF TO STIFF, DARK GRAY TO BLACK **CLAY**, "AND" SILT, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, HIGHLY ORGANIC, WET. - ST-11B: LOI = 11.4%; LL (OVEN DRIED) = 51% - QU @ 20.1' = 1.03 TSF - A-4a SEAMS PRESENT @ 22.0'		21 22	4 5 7	15	56	SS-12	-	-	-	-	-	-	-	-	-	40	A-7-6 (V)	
	718.6	23																
MEDIUM DENSE TO DENSE, GRAY **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, WET.		24 25	4 14 12	33	72	SS-13	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
- HEAVING SANDS ENCOUNTERED @ 28.5'		26 27 28 29	2 5 9	18	100	SS-14	-	12	39	28	15	6	20	16	4	20	A-1-b (0)	
	709.6	30 31 32 33																
LOOSE, GRAY **GRAVEL AND SAND**, TRACE SILT, TRACE CLAY, WET. - HEAVING SANDS ENCOUNTERED @ 33.5'		34 35	2 1 4	6	100	SS-15	-	25	49	18	7	1	NP	NP	NP	18	A-1-b (0)	
	704.6	36 37 38																
VERY DENSE, GRAY **GRAVEL WITH SAND AND SILT**, TRACE CLAY, WET.	701.6	39 EOB 40	15 21 31	67	100	SS-16	-	-	-	-	-	-	-	-	-	9	A-2-4 (V)	

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 16.0'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS

2016 STD ODOT BORING LOG SPL_S (11X17) - OH DOT.GDT - 4/24/17 11:27 - U:\GI8\PROJECTS\2014\W-14-166.GPJ

PROJECT: FRA-33-24.26	DRILLING FIRM / OPERATOR: RII / C.D.	DRILL RIG: MOBILE B-53 (SN 624400)	STATION / OFFSET: 369+81.24 / 61.5' LT	EXPLORATION ID B-043-0-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RII / D.T.	HAMMER: AUTOMATIC	ALIGNMENT: CL CONST. US-33	
PID: 98111 BR ID: N/A	DRILLING METHOD: 4.5" - CFA	CALIBRATION DATE: 5/13/15	ELEVATION: 748.6 (MSL) EOB: 25.0 ft.	PAGE 1 OF 1
START: 2/18/16 END: 2/18/16	SAMPLING METHOD: SPT	ENERGY RATIO (%): 77.1	COORD: 39.887101000, -82.879106000	

MATERIAL DESCRIPTION AND NOTES	ELEV. 748.6	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.75' - ASPHALT (9.0")	747.9																	
0.75' - AGGREGATE BASE (9.0")	747.1																	
FILL: STIFF TO VERY STIFF, BROWN **SILT AND CLAY**, LITTLE TO SOME COARSE TO FINE SAND, TRACE TO LITTLE FINE GRAVEL, DAMP.		1																
		2	4 5 7	15	78	SS-1	4.00	-	-	-	-	-	-	-	-	14	A-6a (V)	
		3																
		4	6 7 10	22	100	SS-2	3.00	-	-	-	-	-	-	-	-	16	A-6a (V)	
	743.1	5																
MEDIUM STIFF TO STIFF, BROWN TO MOTTLED BROWN AND GRAY **SANDY SILT**, SOME CLAY, TRACE FINE GRAVEL, DAMP.		6																
		7	4 5 6	14	100	SS-3	3.00	-	-	-	-	-	-	-	-	19	A-4a (V)	
		8																
		9	3 2 3	6	78	SS-4	1.25	3	14	17	37	29	31	21	10	20	A-4a (6)	
		10																
		11																
		12	4 4 3	9	89	SS-5	1.50	-	-	-	-	-	-	-	-	22	A-4a (V)	
		13																
		14	2 2 3	6	100	SS-6	-	-	-	-	-	-	-	-	-	22	A-4a (V)	
		15 ▼																
		W																
-HEAVING SANDS ENCOUNTERED @ 16.0'		16																
		17	3 4 3	9	100	SS-7	-	-	-	-	-	-	-	-	-	24	A-4a (V)	
	730.6	18																
MEDIUM DENSE TO DENSE, BROWN **GRAVEL AND SAND**, TRACE SILT, TRACE CLAY, DAMP TO WET.		19																
		20	8 10 8	23	78	SS-8	-	48	28	12	8	4	NP	NP	NP	9	A-1-b (0)	
		21																
		22	10 11 8	24	100	SS-9	-	-	-	-	-	-	-	-	-	16	A-1-b (V)	
		23																
		24	8 12 13	32	100	SS-10	-	-	-	-	-	-	-	-	-	15	A-1-b (V)	
	723.6	EOB 25																

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

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 7/14/17 11:52 - U:\GI8\PROJECTS\2014\W-14-166.GPJ

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	SAMPLING FIRM / LOGGER: RII / D.T.	HAMMER: AUTOMATIC	ALIGNMENT: CL CONST. US-33	
PID: 98111 BR ID: N/A	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/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.8' - ASPHALT (9.0")	749.7 / 748.9																	
0.5' - AGGREGATE BASE (7.0")	748.4																	
FILL: VERY STIFF, BROWN **SILT AND CLAY**, LITTLE COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.	746.7	1–3	2 8 8	21	78	SS-1	2.50	-	-	-	-	-	-	-	-	12	A-6a (V)	
STIFF TO VERY STIFF, BROWN **SILTY CLAY**, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.		4–5	2 4 5	12	89	SS-2	2.50	9	12	20	28	31	34	18	16	18	A-6b (7)	
		6–7	3 7 7	18	100	SS-3	2.75	-	-	-	-	-	-	-	-	16	A-6b (V)	
		9–10	5 4 5	12	89	SS-4	3.00	-	-	-	-	-	-	-	-	16	A-6b (V)	
VERY LOOSE TO LOOSE, BROWN **CLAYEY SAND**, LITTLE SILT, TRACE FINE GRAVEL, MOIST TO WET.	739.2	11–12	2 2 2	5	89	SS-5	-	7	35	25	14	19	31	17	14	16	A-2-6 (1)	
		14–15	1 1 2	4	100	SS-6	-	-	-	-	-	-	-	-	-	24	A-2-6 (V)	
MEDIUM DENSE, BROWN **GRAVEL AND SAND**, TRACE SILT, TRACE CLAY, MOIST TO WET.	734.2	16–17	3 3 7	13	100	SS-7	-	-	-	-	-	-	-	-	-	20	A-1-b (V)	
-HEAVING SANDS ENCOUNTERED @ 20.0'		19–20	7 9 12	27	100	SS-8	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
		21–22	7 8 9	22	78	SS-9	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
	724.7	24–25 EOB	9 8 10	23	67	SS-10	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	

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

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 7/14/17 11:52 - U:\GI8\PROJECTS\2014\W-14-166.GPJ

PROJECT: FRA-33-24.26	DRILLING FIRM / OPERATOR: RII / C.D.	DRILL RIG: MOBILE B-53 (SN 624400)	STATION / OFFSET: 373+82.43 / 60.5' LT	EXPLORATION ID B-045-0-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RII / J.K.	HAMMER: AUTOMATIC	ALIGNMENT: CL CONST. US-33	
PID: 98111 BR ID: N/A	DRILLING METHOD: 4.5" - CFA	CALIBRATION DATE: 5/13/15	ELEVATION: 749.9 (MSL) EOB: 25.0 ft.	PAGE 1 OF 1
START: 2/11/16 END: 2/11/16	SAMPLING METHOD: SPT	ENERGY RATIO (%): 77.1	COORD: 39.886388000, -82.878018000	

MATERIAL DESCRIPTION AND NOTES	ELEV. 749.9	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.75' - ASPHALT (9.0")	749.2																	
0.75' - AGGREGATE BASE (9.0")	748.4																	
FILL: STIFF TO VERY STIFF, BROWNISH GRAY TO BROWN **SILT AND CLAY**, "AND" COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.			3 5 6	14	50	SS-1	3.50	-	-	-	-	-	-	-	-	13	A-6a (V)	
			2 5 8	17	67	SS-2	4.00	-	-	-	-	-	-	-	-	18	A-6a (V)	
	744.4																	
STIFF TO VERY STIFF, BROWN **SILT AND CLAY**, "AND" COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.			4 6 6	15	83	SS-3	3.00	13	24	20	22	21	32	19	13	14	A-6a (2)	
			3 4 4	10	67	SS-4	3.50	-	-	-	-	-	-	-	-	15	A-6a (V)	
	739.4																	
MEDIUM STIFF, BROWN **SILTY CLAY**, LITTLE COARSE TO FINE SAND, DAMP.			2 2 3	6	78	SS-5	1.00	-	-	-	-	-	-	-	-	26	A-6b (V)	
	735.4	▼	2 2 2	5	100	SS-6A	1.00	-	-	-	-	-	-	-	-	24	A-6b (V)	
						SS-6B	-	-	-	-	-	-	-	-	-	26	A-3a (V)	
MEDIUM DENSE TO DENSE, BROWN TO BROWNISH GRAY **COARSE AND FINE SAND**, LITTLE SILT, TRACE CLAY, TRACE FINE GRAVEL, MOIST TO WET.		W	4 7 9	21	100	SS-7	-	4	39	38	13	6	NP	NP	NP	19	A-3a (0)	
			10 13 17	39	100	SS-8	-	-	-	-	-	-	-	-	-	15	A-3a (V)	
	727.9		7 21 17	49	94	SS-9A	-	-	-	-	-	-	-	-	-	13	A-3a (V)	
						SS-9B	-	-	-	-	-	-	-	-	-	8	A-1-b (V)	
DENSE, GRAY **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, MOIST TO WET. -COBBLES PRESENT @ 23.0'	724.9	EOB	15 16 15	40	100	SS-10	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	

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

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 7/14/17 11:52 - U:\GI8\PROJECTS\2014\W-14-166.GPJ

PROJECT: FRA-33-24.26	DRILLING FIRM / OPERATOR: RII / S.B.	DRILL RIG: CME 55 (SN 386345)	STATION / OFFSET: 375+80.20 / 59.8' LT	EXPLORATION ID B-046-0-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RII / N.M.	HAMMER: CME AUTOMATIC	ALIGNMENT: CL CONST. US-33	
PID: 98111 BR ID: N/A	DRILLING METHOD: 3.25" - HSA	CALIBRATION DATE: 10/20/14	ELEVATION: 750.7 (MSL) EOB: 25.0 ft.	PAGE 1 OF 1
START: 3/8/16 END: 3/8/16	SAMPLING METHOD: SPT	ENERGY RATIO (%): 92	COORD: 39.886035000, -82.877483000	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.7' - ASPHALT (8.0")	750.0																	
0.3' - AGGREGATE BASE (3.0")	749.7																	
FILL: STIFF TO VERY STIFF, MOTTLED BROWN AND GRAY **SILT AND CLAY**, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, MOIST.	747.7		1 2 4	9	56	SS-1	4.5+	-	-	-	-	-	-	-	-	12	A-6b (V)	
FILL: STIFF TO HARD, MOTTLED BROWN AND GRAY TO BROWN **SILTY CLAY**, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.			3 6 8	21	100	SS-2	4.5+	8	8	16	37	31	40	18	22	16	A-6b (11)	
	742.7		2 2 3	8	78	SS-3	2.25	-	-	-	-	-	-	-	-	22	A-6b (V)	
STIFF TO HARD, MOTTLED BROWN AND GRAY TO BROWN **SILTY CLAY**, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.			2 3 4	11	83	SS-4	2.75	-	-	-	-	-	-	-	-	18	A-6b (V)	
	739.2		5 5 6	17	94	SS-5A	4.5+	-	-	-	-	-	-	-	-	14	A-6b (V)	
MEDIUM DENSE, BROWN **COARSE AND FINE SAND**, LITTLE FINE GRAVEL, LITTLE SILT, LITTLE CLAY, DAMP.						SS-5B	4.25	17	24	28	20	11	22	17	5	13	A-3a (0)	
			5 7 8	23	67	SS-6	-	-	-	-	-	-	-	-	-	15	A-3a (V)	
- COBBLES @ 16.0'	732.7		15 50/5"	-	36	SS-7	-	-	-	-	-	-	-	-	-	10	A-3a (V)	
MEDIUM DENSE TO DENSE, BROWNISH GRAY **GRAVEL WITH SAND AND SILT**, TRACE CLAY, MOIST TO WET.		W	5 11 13	37	78	SS-8	-	-	-	-	-	-	-	-	-	12	A-2-4 (V)	
- HEAVING SAND @ 21.0'	727.7		3 6 6	18	100	SS-9	-	-	-	-	-	-	-	-	-	16	A-2-4 (V)	
MEDIUM DENSE, GRAY **COARSE AND FINE SAND**, LITTLE FINE GRAVEL, LITTLE SILT, TRACE CLAY, WET.	725.7		3 5 6	17	94	SS-10	-	-	-	-	-	-	-	-	-	19	A-3a (V)	
		EOB																

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 18.5'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 7/14/17 11:52 - U:\GI8\PROJECTS\2014\W-14-166.GPJ

PROJECT: FRA-33-24.26	DRILLING FIRM / OPERATOR: RII / C.D.	DRILL RIG: CME 55 (SN 386345)	STATION / OFFSET: 377+82.26 / 58.4' LT	EXPLORATION ID B-047-0-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RII / N.A.	HAMMER: CME AUTOMATIC	ALIGNMENT: CL CONST. US-33	
PID: 98111 BR ID: N/A	DRILLING METHOD: 3.25" - HSA	CALIBRATION DATE: 10/20/14	ELEVATION: 750.5 (MSL) EOB: 25.0 ft.	PAGE 1 OF 1
START: 3/9/16 END: 3/9/16	SAMPLING METHOD: SPT	ENERGY RATIO (%): 92	COORD: 39.885673000, -82.876937000	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.8' - ASPHALT (9.0")	750.5																	
0.7' - AGGREGATE BASE (8.0")	749.7																	
FILL: LOOSE TO MEDIUM DENSE, BROWN **GRAVEL**, LITTLE COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, DAMP.	749.0	1																
		2	4 4 5	14	89	SS-1	-	-	-	-	-	-	-	-	-	5	A-1-a (V)	
		3																
		4	4 3 3	9	78	SS-2	-	79	12	4	4	1	NP	NP	NP	5	A-1-a (0)	
	745.0	5																
FILL: MEDIUM STIFF TO STIFF, MOTTLED BROWN AND GRAY **CLAY**, "AND" SILT, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.		6																
		7	3 4 5	14	78	SS-3	2.00	-	-	-	-	-	-	-	-	21	A-7-6 (V)	
		8																
		9	7 2 3	8	83	SS-4	1.00	5	7	12	40	36	42	18	24	21	A-7-6 (14)	
	740.0	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		11																
		12	6 7 8	23	100	SS-5	4.5+	-	-	-	-	-	-	-	-	17	A-6a (V)	
		13																
- TRACE ORGANICS PRESENT THROUGHOUT		14	6 7 8	23	100	SS-6	3.50	-	-	-	-	-	-	-	-	20	A-6a (V)	
	735.0	15	W															
MEDIUM DENSE, MOTTLED BROWN AND GRAY **SANDY SILT**, SOME FINE GRAVEL, LITTLE CLAY, MOIST.		16																
		17	3 4 5	14	100	SS-7	-	-	-	-	-	-	-	-	-	23	A-4a (V)	
		18																
		19	3 8 11	29	100	SS-8	-	-	-	-	-	-	-	-	-	14	A-4a (V)	
	730.0	20																
STIFF, MOTTLED GRAY AND OLIVE GRAY **SANDY SILT**, LITTLE CLAY, TRACE FINE GRAVEL, DAMP.		21																
		22	4 7 9	25	100	SS-9	0.50	-	-	-	-	-	-	-	-	8	A-4a (V)	
	727.5	23	W															
MEDIUM DENSE, GRAY **COARSE AND FINE SAND**, SOME FINE GRAVEL, LITTLE SILT, WET.		24																
		25	5 7 7	21	100	SS-10	-	-	-	-	-	-	-	-	-	15	A-3a (V)	
	725.5	EOB																

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

2016 STD ODOT BORING LOG SPL S (11X17) - OH DOT.GDT - 7/14/17 11:52 - U:\GI8\PROJECTS\2014\W-14-166.GPJ

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B-006-0-61

State of Ohio
Department of Highways
Testing Laboratory

LOG OF BORING

Date Started 6-24-61 Sampler: Type SS Dia. 1 3/8" Water Elev: Immediate
Date Completed 7-6-61 Casing: Length 55' Dia. 3 1/2" After Hours

Project Identification: FRANKLIN
FRA-33-22.95
FRA-33
OVER BIG WALNUT CREEK

Boring No. B-6 Station & Offset 310+78, 50' RT (REAR PIER) Surface Elev. 725.2

Elev.	Depth	Std. Pen. (N)	Description	Field No.	Lab Nos.	Physical Characteristics % Agg.	% C.S.	% F.S.	% Silt	% Clay	LL.	PI.	W.C.	SHTL Class.
725.2	0													
	2													
	4													
720.2	6	15/15	Brownish-Gray Silty Gravel w/Stone Fragments	1	17551	70	8	6	12	4	NP	NP	15	
	8													
715.2	10	18/11	Gray Silty Sand	2	17552	6	1	66	27		NP	NP	22	
712.7	12													
	14	14/19	Gray Silty Gravelly Sand (Wash Sample)	3			V	I	S	U	A	L		
710.2	16	14/27	Gray Silty Gravelly Sand (Wash Sample)	4			V	I	S	U	A	L		
707.7	18	23/40	Gray Gravel w/Stone Fragments	5	17553	91	5	3	1		NP	NP	6	
705.2	20	22/23	Gray Gravelly Sandy Silt w/Stone Fragments	6	17554	22	11	14	34	19	NP	NP	10	
702.7	22													
	24	28/31	Gray Sandy Gravelly Silt w/Stone Fragments	7	17555	37	9	11	23	20	NP	NP	12	
700.2	26	25/70	Gray Gravelly Sandy Silt w/Stone Fragments	8	17556	22	10	15	33	20	NP	NP	11	
697.7	28	25/37	Gray Silt	9	17557	0	1	1	66	32	NP	NP	18	
695.2	30	26/35	Gray Silt	10	17558	0	1	3	79	17	NP	NP	23	
	32													
	34													
690.2	36	27/69	Gray Sandy Silt	11	17559	0	2	45	45	8	NP	NP	19	

Particle Sizes: Agg. + > 2.00mm, Coarse Sand = 2.00 - 0.42mm, Fine Sand = 0.42 - 0.074mm, Silt = 0.074 - 0.005mm, Clay = < 0.005 mm

SHEET 6 of 19 Sheets

B-006-0-61

Boring No. B-6 Station & Offset 310+78, 50'RT Surface Elev. 725.2 Project: FRA-33

Elev.	Depth	Std. Pen. (N)	Description	Field No.	Lab. Nos.	Physical Characteristics % Agg.	% C.S.	% F.S.	% Silt	% Clay	LL.	PI.	W.C.	SHTL Class.
	38													
685.2	40	40/68	Gray Sandy Silt	12	17560	0	1	50	38	11	NP	NP	16	
	42													
680.2	44													
	46	25/78	Gray Silty Sand	13	17561	0	1	70	29		NP	NP	17	
	48													
675.2	50	40/68	Gray Silt	14	17562	0	1	14	77	8	NP	NP	24	
	52													
670.2	54													
	56	15/42	Gray Clayey Silt	15	17563	0	0	1	47	52	31	10	24	
	58													
665.2	60													
664.2		46/74	Gray Silt	16	17564	0	1	2	53	44	NP	NP	23	
	62		BOTTOM OF BORING											
	64													
	66													
	68													
	70													
	72													
	74													
	76													
	78													
	80													

SHEET 7 of 19 Sheets

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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 7-14-61 Casing: Length 60' Dia. 3 1/2" After Hours

Project Identification: FRANKLIN
FRA-33-22.95
FRA-33-2539
OVER BIG WALNUT CREEK OVERFLOW

Boring No. B10 Station & Offset 307+40. 65'LT.(REAR PIER) Surface Elev. 721.5

Elev.	Depth	Std. Pen. (N)	Description	Field No.	Lab Nos. So.	Physical Characteristics % Agg	% C.S	% F.S	% Silt	% Clay	LL.	PI	W.C.	SHTL Class.
721.5	0													
	2													
	4													
716.5	6	20/20	Brown Sandy Gravel w/Stone Fragments	1	19044	75	20	3	-2-		NP	NP	13	
714.0	8	50*	Dark-Gray Gravelly Sand											
711.5	10	10/12	Dark-Gray Gravelly Sand	2	19045	46	36	12	-6-		NP	NP	15	
709.0	12	16/40	Dark-Gray Silty Gravelly Sand	3	19046	18	50	19	-13-		NP	NP	15	
706.5	14	13/24	Dark-Gray Silty Sand (Heaved 2' in casing)	4	19047	0	46	37	-17-		NP	NP	26	
704.0	16	35/*	Dark-Gray Silty Sandy Gravel w/Stone Fragts	5	19048	51	27	11	-11-		NP	NP	11	
701.5	18	32/*	Dark-Gray Silty Sandy Gravel w/Stone Fragts	6	19049	68	15	6	6	5	NP	NP	14	
699.0	20	25/26	Dark-Gray Gravelly Sandy Silt w/St. Fragts.	7	19050	20	12	16	31	21	20	5	16	
696.5	22	15/45	Dark-Gray Sandy Silt	8	19051	11	15	25	34	15	NP	NP	9	
	24													
	26													
691.5	28	21/54	Dark-Gray Silty Sand	9	19052	8	9	55	21	7	NP	NP	17	
	30													
	32													
686.5	34	14/30	Dark-Gray Silt	10	19053	0	0	1	84	15	NP	NP	23	
	36													

Particle Sizes: Agg. = >2.00mm, Coarse Sand = 2.00 - 0.42mm, Fine Sand = 0.42 - 0.074mm, Silt = 0.074 - 0.005mm, Clay = < 0.005mm
*REFUSAL

SHEET 1 OF 2 SHEETS

B-010-0-61

Boring No. B10 Station & Offset 307+40. 65' LT. Surface Elev. 721.5 Project: FRA-33-2539

Elev.	Depth	Std. Pen. (N)	Description	Field No.	Lab Nos. So.	Physical Characteristics % Agg	% C.S	% F.S	% Silt	% Clay	LL.	PI.	W.C	SHTL Class.
	38													
681.5	40	17/36	Dark-Gray Silt	11	19054	0	0	1	79	20	NP	NP	18	
	42													
676.5	44													
	46	21/34	Dark-Gray Silt	12	19055	0	0	1	84	15	NP	NP	22	
	48													
671.5	50													
	52	10/15	Gray Silt	13	19056	0	0	1	86	13	NP	NP	27	
	54													
666.5	56	18/27	Dark-Gray Silty Sandy Gravel	14	19057	42	26	13	14	5	NP	NP	13	
	58													
661.5	60													
660.5		19/28	Dark-Gray Silty Sandy Gravel	15	19058	48	20	12	14	6	NP	NP	9	
	62		BOTTOM OF BOTTOM											
	64													
	66													
	68													
	70													
	72													
	74													
	76													
	78													
	80													

SHEET 2 OF 2 SHEETS

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B-016-0-61

State of Ohio
Department of Highways
Testing Laboratory

LOG OF BORING

Date Started 7-7-61 Sampler Type SS Dia. 1 3/8" Water Elev: Immediate
Date Completed 7-11-61 Casing: Length 65' Dia 3 1/2" After Hours

Project Identification: FRANKLIN
FRA-33-22.25
FRA-33-2539
OVER BIG WALNUT CREEK OVERFLOW

Boring No. B16 Station & Offset 308+03. 65' RT.(FORWARD ABUT.) Surface Elev. 725.2

Elev	Depth	Std. Pen. (N)	Description	Field No.	Lab Nos. So.	Physical Characteristics % Agg.	% C.S	% F.S	% Silt	% Clay	LL.	PI.	W.C.	SHTL Class.
725.2	0													
	2													
720.2	4													
	6	13/21	Brown Silty Sandy Gravel	1	18524		V	I	S	U	A	L		
717.7	8	30/15	Brown Silty Sandy Gravel	2	18525		V	I	S	U	A	L	15	
715.2	10	17/14	Brown Gravelly Sand	3			V	I	S	U	A	L		
712.7	12													
	14	6/9	Brown Sand	4	18526	13	37	41	-9-		NP	NP	19	
710.2	16	12/16	Gray Silty Sandy Gravel	5	18527	54	22	13	8	3	NP	NP	13	
707.7	18	13/16	Gray Sandy Gravel	6	18528	49	39	11	-1-		NP	NP	20	
705.2	20	13/17	Brown & Gray Sandy Gravel	7	18529	72	22	4	-2-		NP	NP	10	
702.7	22													
	24	21/25	Gray Gravelly Sandy Silt	8	18530	18	12	15	32	23	19	5	13	
700.2	26	17/32	Gray Sandy Gravelly Silt	9	18531	32	9	12	28	19	17	4	11	
	28													
695.2	30	21/42	Gray Gravelly Sand	10	18532	42	41	12	-5-		NP	NP	12	
	32													
	34													
690.2	36	50/*	Brown & Gray Gravelly Sand (Heaved 3' in casing)	11	18533	39	45	10	-6-		NP	NP	13	

Particle Sizes: Agg. = >2.00mm, Coarse Sand= 2.00 - 0.42mm, Fine Sand=0.42-0.074mm, Silt=0.074-0.005mm, Clay = <0.005 mm
*REFUSAL

SHEET 8 of 26 Sheets

B-016-0-61

Boring No B16 Station & Offset 308+03. 65' RT. Surface Elev 725.2 Project: FRA-33-2539

Elev	Depth	Std. Pen. (N)	Description	Field No.	Lab Nos. So.	Physical Characteristics % Agg.	% C.S	% F.S	% Silt	% Clay	LL.	PI.	W.C	SHTL Class.
	38													
685.2	40	9/10	Gray Gravelly Sand (Wash sample)	12			V	I	S	U	A	L		
	42													
680.2	44													
	46	18/28	Gray Sandy Silt	13	18534	0	2	22	61	15	NP	NP	22	
	48													
675.2	50	23/27	Gray Silt	14	18535	0	1	2	82	15	NP	NP	20	
	52													
670.2	54													
	56	10/20	Gray Sandy Silt	15	18536	11	1	21	57	10	NP	NP	19	
	58													
665.2	60													
664.2		25/33	Gray Silty Sand	16	18537	15	42	20	14	9	NP	NP	11	
	62		BOTTOM OF BORING											
	64													
	66													
	68													
	70													
	72													
	74													
	76													
	78													
	80													

SHEET 9 of 26 Sheets

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B-020-0-61

State of Ohio
Department of Highways
Testing Laboratory

LOG OF BORING

Date Started 2-21-61 Sampler: Type SS Dia. 1 3/8" Water Elev: Immediate
Date Completed 2-21-61 Casing: Length Dia. After Hours

Project Identification: FRANKLIN - FRA-33-22.95 FRA-33- OVER BIG WALNUT CREEK

Boring No. B-20 Station & Offset 313+30, 57'LT (FORWARD PIER) Surface Elev. 726.8

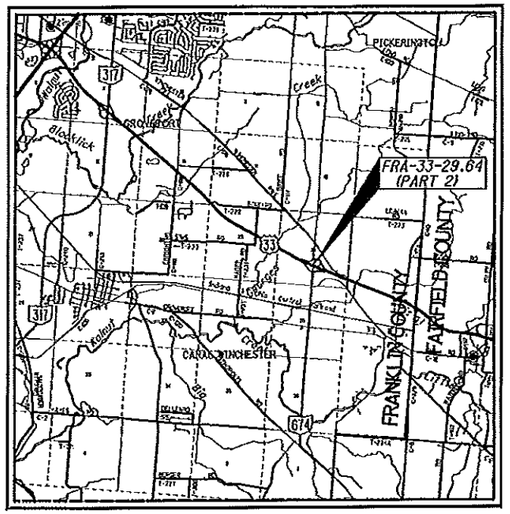
Elev.	Depth	Std. Pen. (N)	Description	Field No.	Lab. Nos.	Physical Characteristics % Agg.	% C.S.	% F.S.	% Silt	% Clay	LL.	PI.	W.C.	SHTL Class.
726.8	0													
	2													
721.8	4													
	6	4/3	Gray Sandy Gravelly Silt	1	98686	35	7	13	27	18	NP	NP	39	
719.3	8	7/16	Brown Silty Sandy Gravel 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	14	16/16	Gray Sandy Gravel and Limestone Fragments	5	98690	70	20	5	-5-		NP	NP	14	
709.3	16	18/21	Gray Sandy Gravel and Limestone Fragments	6	98691	77	13	5	-5-		NP	NP	9	
706.8	18	23/23	Gray Sandy Silt	7	98692	11	12	17	35	25	22	5	12	
704.3	20	11/26	Gray Sandy Silt	8	98693	14	12	15	35	24	20	3	11	
701.8	22	54/*	Gray Sandy Silt	9	98694	10	5	22	47	16	NP	NP	13	
	24													
696.8	26	50*	No Sample Recovered - Boulders											
	28													
691.8	30	19/30	Gray Silty Sand w/Little Stone Fragments	10	98695	17	1	48	28	6	NP	NP	18	
	32													
	34													
	36													

Particle Size: Agg. #200mm, Coarse Sand 2.00-0.42mm, Fine Sand-0.42-0.074mm, Silt-0.074-0.005mm, Clay <0.005mm

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. Nos.	Physical Characteristics % Agg.	% C.S.	% F.S.	% Silt	% Clay	LL.	PI.	W.C.	SHTL Class.
	38													
686.8	40	27/45	Gray Sandy Silt	11	98696	0	1	29	61	9	NP	NP	19	
	42													
681.8	44													
	46	30/40	Gray Silt	12	98697	0	0	9	83	8	NP	NP	21	
676.8	48													
	50	31/58	Gray Silt	13	98698	0	1	6	84	9	NP	NP	20	
671.8	52													
670.8	54	22/35	Gray Silt	14	98699	0	0	0	83	17	NP	NP	26	
	56		BOTTOM OF BORING											
	58													
	60													
	62													
	64													
	66													
	68													
	70													
	72													
	74													
	76													
	78													
	80													



LOCATION MAP

LATITUDE: 39° 51' 30" LONGITUDE: 82° 49' 40"

SCALE IN MILES
0 1 2 3 4

N

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.

OHIO Utilities Protection SERVICE — Call Before You Dig 1-800-362-2764
(Non-members must be called directly)

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

PLAN PREPARED BY:

ODOT IN HOUSE DESIGN

ENGINEERS SEAL:

STATE OF OHIO
JEFFREY R. HPP JR.
E-78642
REGISTERED
PROFESSIONAL ENGINEER

SIGNED:
DATE: DECEMBER 14, 2017

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

FRA-33-29.64

PART 2

MADISON TOWNSHIP

FRANKLIN COUNTY

FOR PART 1, SEE FRA-33-24.26

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.

STANDARD CONSTRUCTION DRAWINGS					SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
SEE PART 1					SEE PART 1	

APPROVED [signature] DISTRICT DEPUTY DIRECTOR
DATE 12/14/17

APPROVED [signature] DIRECTOR, DEPARTMENT OF TRANSPORTATION
DATE 12/11-18/

FEDERAL PROJECT NO. E140609
PID NO. 98111
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
FRA-33-29.64 P2
1-23

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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

COLUMBIA GAS OF OHIO
1600 DUBLIN ROAD EAST
COLUMBUS, OH 43215
NICK HOVIS
O. 614.481.1052
M. 614.273.4076
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

SOUTH CENTRAL POWER
2780 COONPATH ROAD
LANCASTER, OH 43130
PHIL STRINGER
O. 740.689.6237
M. 614.563.9597
STRINGER@SOUTHCENTRALPOWER.COM

AT&T - OHIO
111 NORTH 4TH STREET
ROOM 802
COLUMBUS, OH 43215
MR. GARY VAN ALMSICK
O. 614.223.7276
FAX 614.223.5579
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 –LANE LINE, 6"
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 – LANE LINE, 6"	0.11	MILE
ITEM 646 – TRANSVERSE/ DIAGONAL	50	FT

CALCULATED MJR CHECKED JPH

GENERAL NOTES

FRA-33-29.64 P2

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i:\Project Data\098III_FRA-33-29.97\Design\MOT\Sheets\98III_MN001.dgn MOT NOTES - SHEET I 3/27/2018 7:18:46 AM mrotar

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.

Notification Time Frame Table

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.

NOTICE OF CLOSURE SIGN TIME TABLE

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

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 (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.

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).

CALCULATED MJR CHECKED JPH

MAINTENANCE OF TRAFFIC GENERAL NOTES

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MAINTENANCE OF TRAFFIC GENERAL NOTES

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 OMUTCD 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 THAT 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	
FRA-33						
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	
FRA-33						
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 ENTRACE 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.)					

CALCULATED MJR CHECKED JPH

GENERAL NOTES OF TRAFFIC MAINTENANCE

FRA-33-29.64 P2

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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 MOTRIST 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 REPLACMENT OF PAVEMENT MARKINGS ALONG GENDER ROAD MAINLINE.

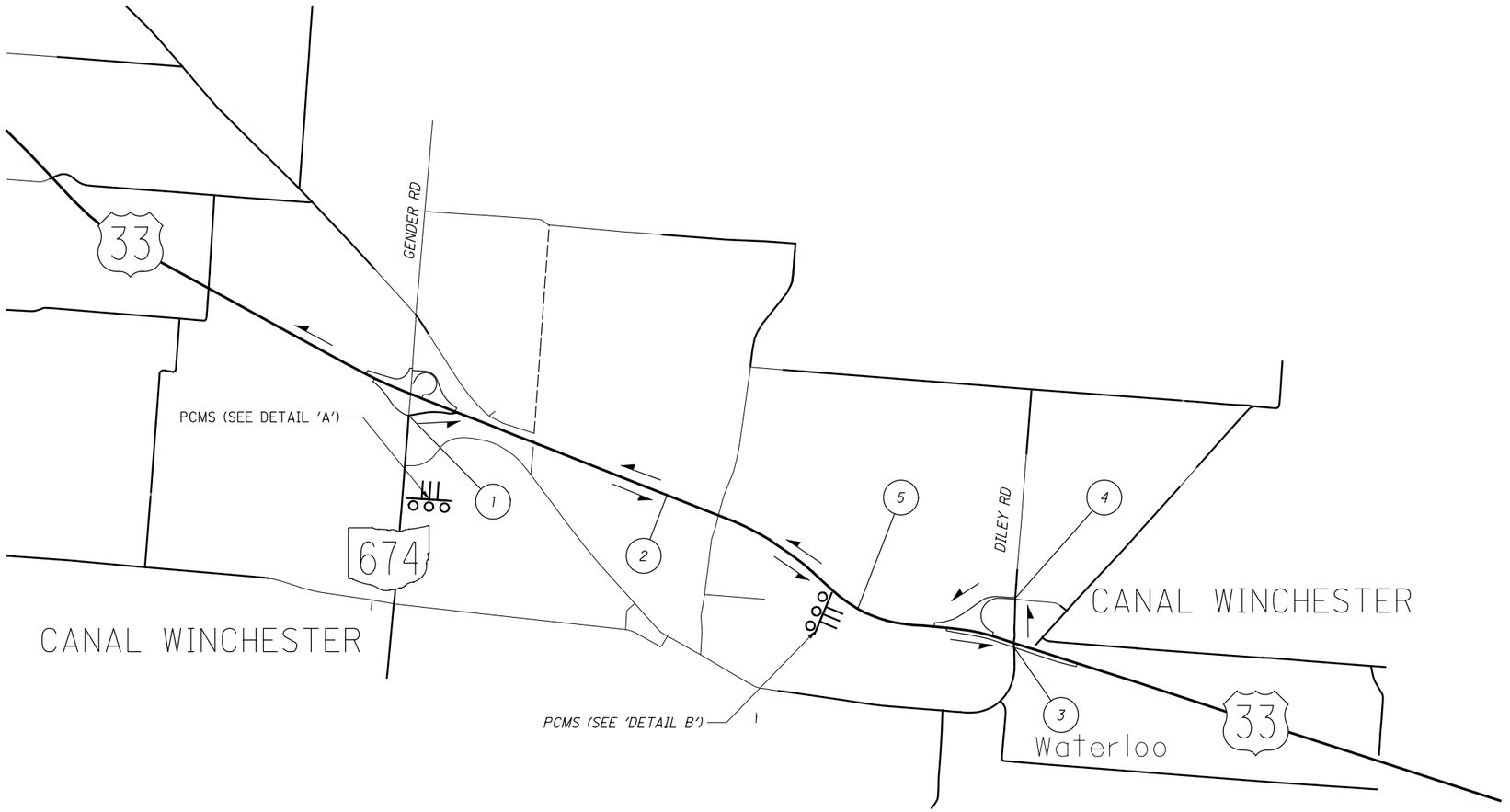
UTILIZE NIGHTLY SHORT DURATION RAMP CLOSURE OF RAMP E FOR REPLACMENT OF PAVEMENT MARKINGS AT OR NEAR RAMP E.

CALCULATED MJR | CHECKED JPH

MAINTENANCE OF TRAFFIC GENERAL NOTES

FRA-33-29.64 P2

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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	

PCMS

DETAIL A

	D	E	T	O	U	R	
E	X	I	T		R	T	

PCMS

DETAIL B

	U	S	E		3	3	E
	F	O	L	L	O	W	
	D	E	T	O	U	R	

PCMS

DETAIL A

PCMS

DETAIL B

N

0 750 1500 3000
HORIZONTAL SCALE IN FEET

CALCULATED MJR
CHECKED JPH

MAINTEANCE OF TRAFFIC
RAMP E - DETOUR MAP

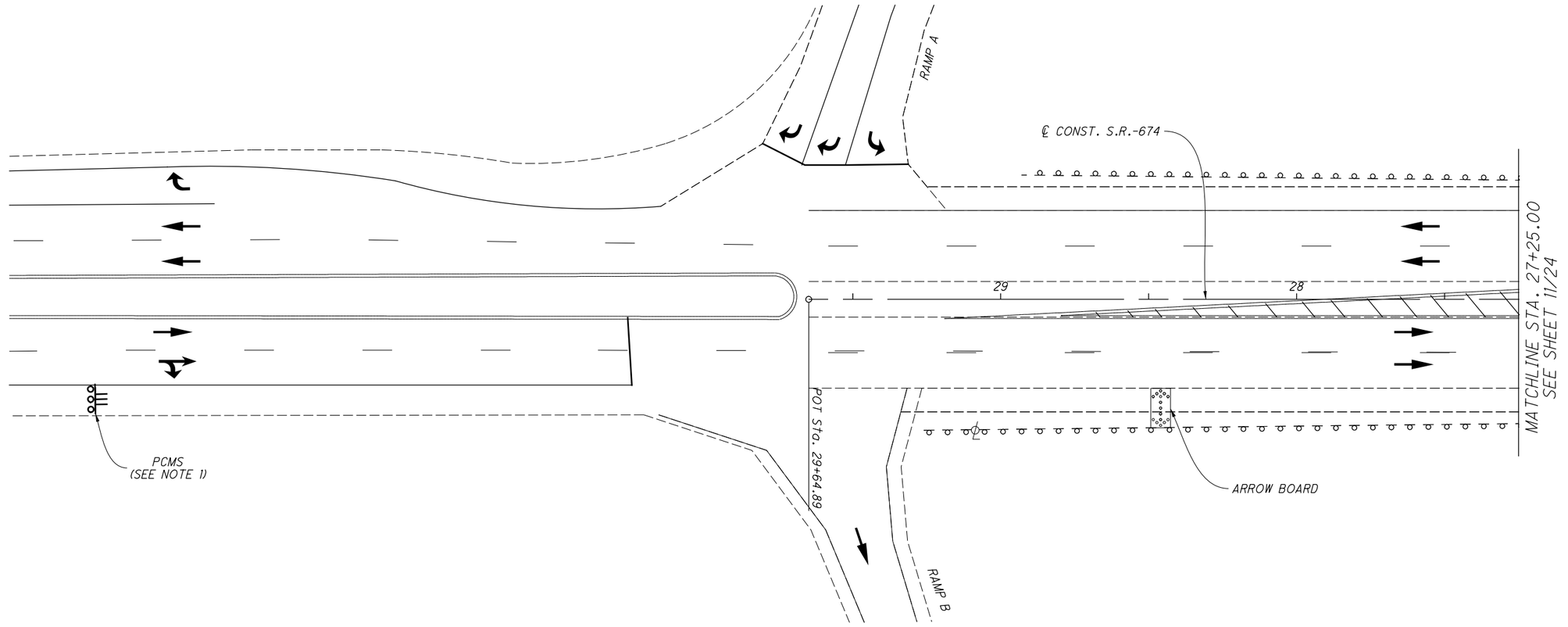
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23

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REF NO.	ALIGNMENT	STATION		SHEET	614	614	614	614	614	622	622
					WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	BARRIER REFLECTOR, TYPE 1, ONE WAY	OBJECT MARKER, ONE WAY	WORK ZONE LANE 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
		FROM	TO		EACH	EACH	EACH	MILE	MILE	FT	FT
LL-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

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ROAD WORK AHEAD

US 33W EXIT OPEN

PCMS
(RAMP E OPEN)

US 33W RAMP CLOSED

USE 33E FOLLOW DETOUR

PCMS
(RAMP E CLOSED)

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.

LEGEND

- PORTABLE BARRIER
- DRUMS
- IMPACT ATTENUATOR
- WORK AREA
- DIRECTION OF TRAVEL
- CL-X — WORK ZONE CENTER LINE, CLASS III, 6", 642 PAINT
- EL-X — WORK ZONE EDGE LINE, CLASS III, 4", 642 PAINT
- PB-X — PORTABLE CONCRETE BARRIER, 32", UNANCHORED

N

0 10 20 40
HORIZONTAL SCALE IN FEET

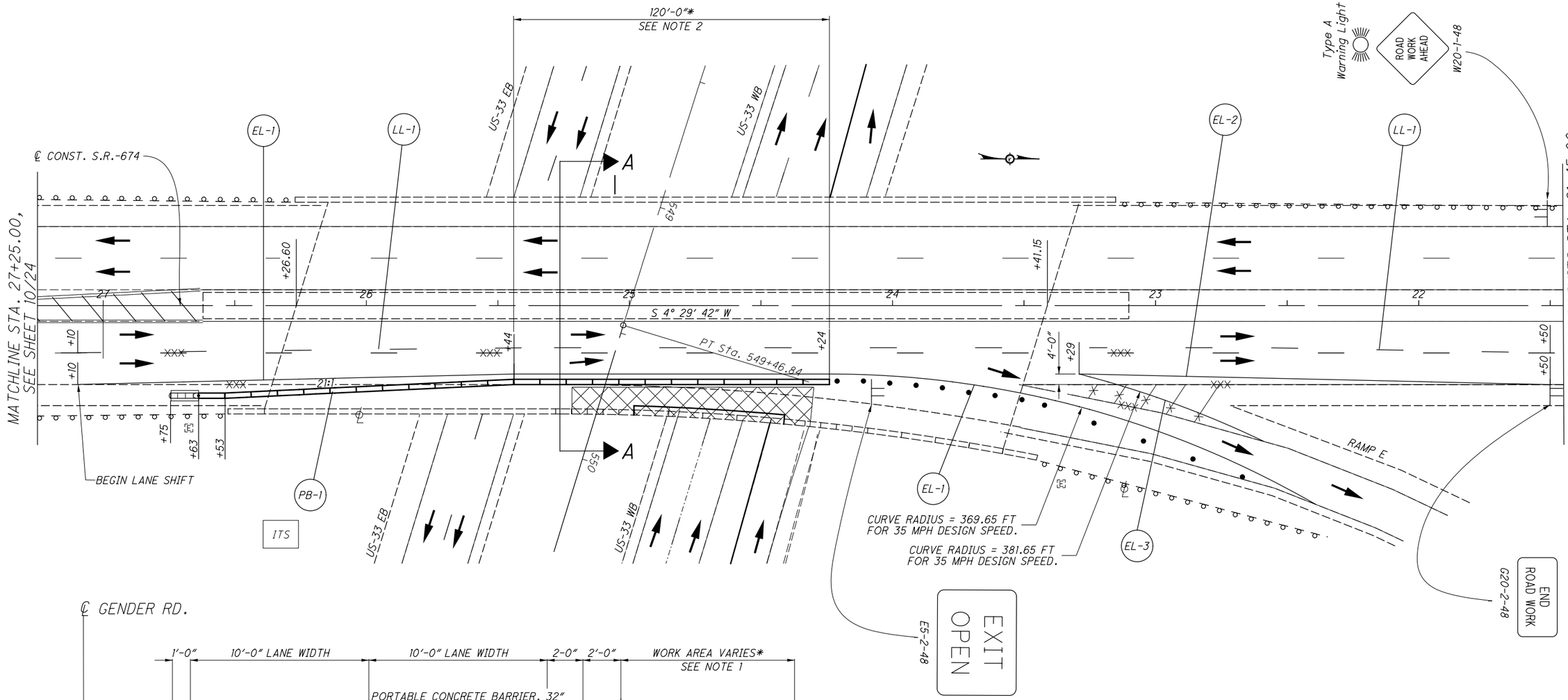
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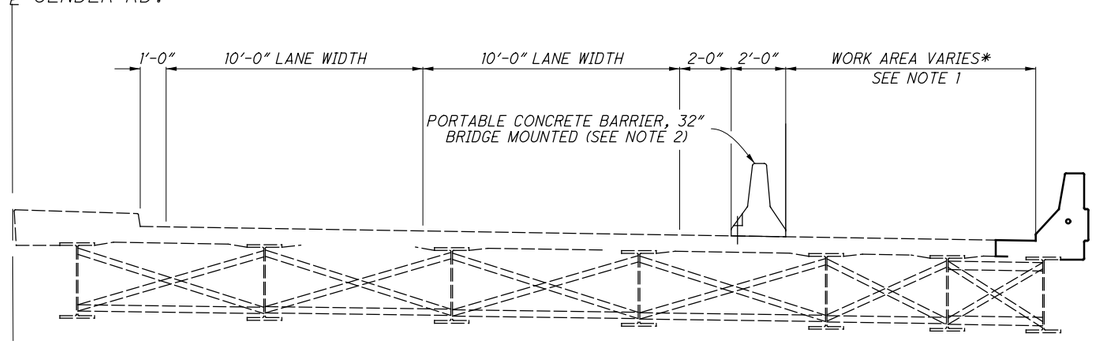
MAINTENANCE OF TRAFFIC - DECK REMOVAL
GENDER ROAD STA. 21+80 TO STA. 29+64.89

FRA-33-29.64 P2

10
23

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SECTION A

* STA. 24+24, 15 FT
STA. 25+44, 9 FT
STA. 26+53, 4 FT

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.

LEGEND

- PORTABLE BARRIER
- DRUMS
- IMPACT ATTENUATOR
- WORK AREA
- DIRECTION OF TRAVEL
- CL-X — WORK ZONE CENTER LINE, CLASS III, 6", 642 PAINT
- EL-X — WORK ZONE EDGE LINE, CLASS III, 4", 642 PAINT
- LL-X — WORK ZONE LANE LINE, CLASS III, 6", 642 PAINT
- PB-X — PORTABLE CONCRETE BARRIER, 32", UNANCHORED

HORIZONTAL SCALE IN FEET
0 10 20 40

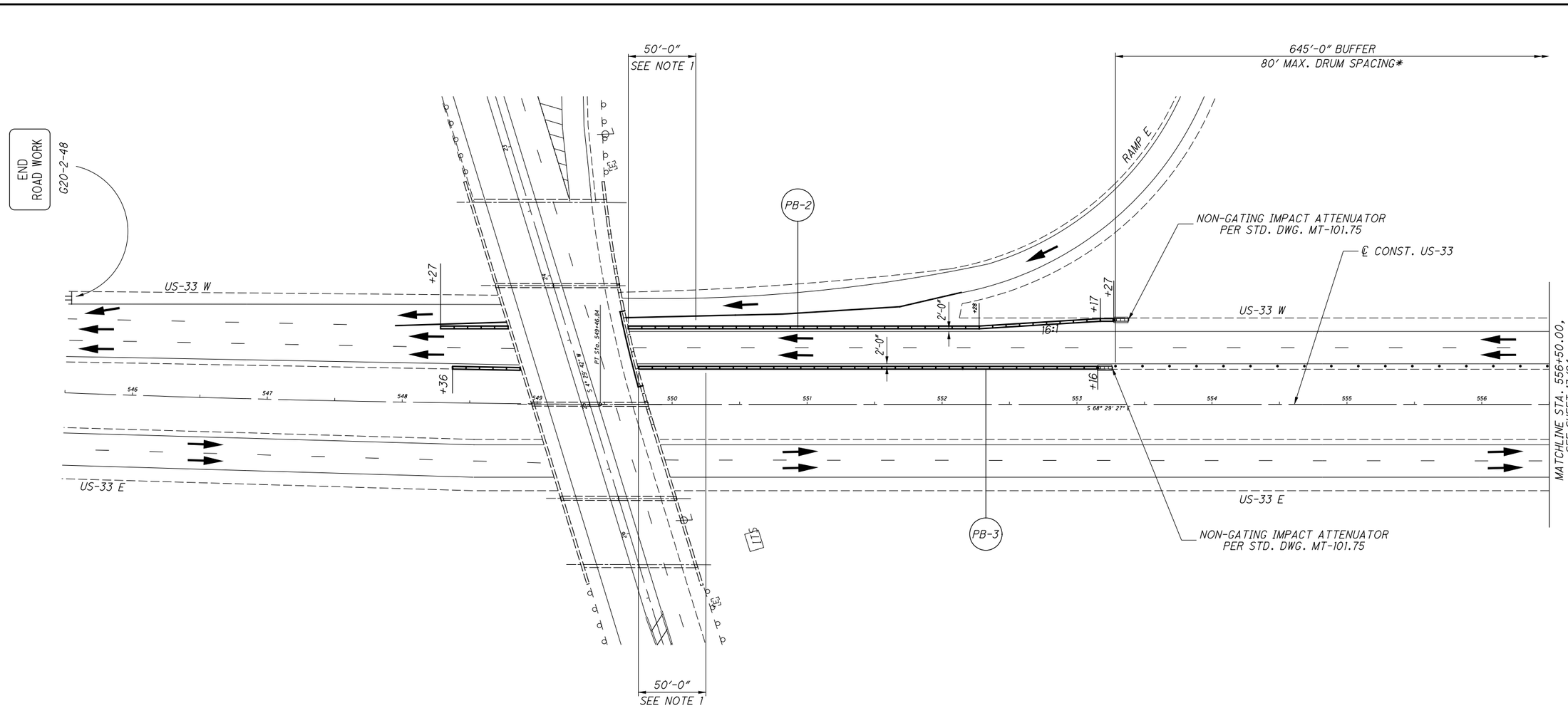
CALCULATED MJR
CHECKED JPH

MAINTENANCE OF TRAFFIC - DECK REMOVAL
GENDER ROAD STA. 21+45 TO STA. 27+25

FRA-33-29.64 P2

11
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* MEASURED ALONG ROADWAY CENTERLINE

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.

LEGEND

- PORTABLE BARRIER
- PB-X — PORTABLE CONCRETE BARRIER, 32", UNANCHORED
- DRUMS
- IMPACT ATTENUATOR
- WORK AREA
- DIRECTION OF TRAVEL

N

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED MJR
CHECKED JPH

MAINTEANCE OF TRAFFIC
US-33 W STA. 545+50 TO STA. 556+50

FRA-33-29.64 P2

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645'-0" BUFFER
80' MAX. DRUM SPACING*

100'-0" *
SHOULDER TAPER
(APPROX. 22:1 TAPER)
20' MAX. DRUM
SPACING.

RAMP F

Type A
Warning Light

SHOULDER
WORK
AHEAD

W21-H5-48

NEXT
0.50 MILES

W7-3aP-36

℄ CONST. US-33

US-33 W

POT Sta. 572+47.78

MATCHLINE STA. 556+50.00,
SEE SHEET 12/24

573 574 575 576 577 578 579 580 581 582 583

US-33 E

RAMP B

END
ROAD WORK

C20-2-36

EXIT
OPEN

E5-2-48

Type A
Warning Light

ROAD
WORK
AHEAD

W20-1-48

4000FT

W16-2aP-30

℄ CONST. US-33

US-33 W

MATCHLINE STA. 583+50.00, SEE BELOW

584 585 586 587 588 589 590 591 592 593 594 59

US-33 E

MATCHLINE STA. 583+50.00, SEE ABOVE

US-33 W

US-33 E

LEGEND

DRUMS

DIRECTION OF TRAVEL

NOTES

1. WORK TO INSTALL TEMPORARY TRAFFIC CONTROL TO BE PAID UNDER ITEM 614 MAINTENANCE OF TRAFFIC LUMP SUM.

* MEASURED ALONG ROADWAY CENTERLINE

N

0 20 40 80
HORIZONTAL
SCALE IN FEET

CALCULATED MJR
CHECKED JPH

MAINTENANCE OF TRAFFIC
US-33 W STA. 556+50 TO STA. 595+00

FRA-33-29.64 P2

13
23

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SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
2	4	9	17										04/NHS/BR						
																		EROSION CONTROL	
													500	832	30000	500	EACH	EROSION CONTROL	
																		LIGHTING	
750													750	625	23000	750	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	
58													58	625	25400	58	FT	CONDUIT, 2", 725.04	
LS													LS	625	98200	LS		LIGHTING, MISC.:MAINTAIN EXISTING LIGHTING CIRCUIT	2
																		TRAFFIC CONTROL	
0.16													0.16	646	10000	0.16	MILE	EDGE LINE, 4"	
0.11													0.11	646	10110	0.11	MILE	LANE LINE, 6"	
50													50	646	10600	50	FT	TRANSVERSE/DIAGONAL LINE	
																		STRUCTURE REPAIR (FRA-33-29.64)	
			14										14	202	11301	14	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (CONCRETE DECK AND PARAPET)	16
			13,744										13,744	202	11401	13,744	LB	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (STRUCTURAL STEEL MEMBERS)	16
			2,325										2,325	509	10000	2,325	LB	EPOXY COATED REINFORCING STEEL	
			14										14	511	34410	14	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	
			51										51	512	10050	51	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
			2,306										2,306	513	10201	2,306	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	16
			11,590										11,590	513	10240	11,590	LB	STRUCTURAL STEEL MEMBERS, LEVEL 2	
			676										676	514	80020	676	SF	SHOP PAINTING AND FIELD TOUCH-UP OF STRUCTURAL STEEL	
													LS	516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	16
			LS										LS	849	10000	LS		DAMAGE ASSESSMENT	
			LS										LS	849	10500	LS		SURFACE PREPARATION	
			2										2	849	10600	2	HOUR	REPAIRING DAMAGED MEMBERS BY GRINDING	
			LS										LS	849	10700	LS		STRAIGHTENING DAMAGED MEMBERS	
																		MAINTENANCE OF TRAFFIC	
	100												100	614	11110	100	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		3											3	614	12338	3	EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	
	LS												LS	614	12420	LS		DETOUR SIGNING	
		28											28	614	13310	28	EACH	BARRIER REFLECTOR, TYPE 1, ONE WAY	
		28											28	614	13350	28	EACH	OBJECT MARKER, ONE WAY	
	4												4	614	18601	4	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	4
		0.11											0.11	614	20560	0.11	MILE	WORK ZONE LANE LINE, CLASS III, 6", 642 PAINT	
		0.16											0.16	614	22350	0.16	MILE	WORK ZONE EDGE LINE, CLASS III, 4", 642 PAINT	
		900											900	622	41000	900	FT	PORTABLE BARRIER, 32"	
		320											320	622	41021	320	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED, AS PER PLAN	2
																		INCIDENTALS	
													LS	614	11000	LS		MAINTAINING TRAFFIC	
													LS	624	10000	LS		MOBILIZATION	

CALCULATED MJR
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GENERAL SUMMARY

FRA-33-29.64 P2

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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

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THESE STRUCTURES 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, 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 REMOAL 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 DEPARTEMENT 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

AT THE CONTRACTOR'S DISCRETION, SHOP APPLICATION OF PRIME COAT AND FIELD APPLICATION OF THE TWO REMAINING COATS IS PERMITTED. CONSIDER THE COST FOR THIS WORK TO BE INCLUDED IN THIS ITEM.

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 BEAM

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

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 6

DESIGNED	DRAWN	REVIEWED	DATE
JPH	JPH	KRF	12/12/2017

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MJR		2517361

BRIDGE NOTES
BRIDGE NO. FRA-33-2964
UNDER SR 664/GENDER ROAD

FRA-33-29.64 P2
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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	HOUR	REPAIRING DAMAGED MEMBERS BY GRINDING			2		2/9
849	10700		LS	STRAIGHTENING DAMAGED MEMBERS					2/9

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 6

REVIEWED KDF DATE 12/12/2017
STRUCTURE FILE NUMBER 2517361

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DESIGNED JPH CHECKED MJR

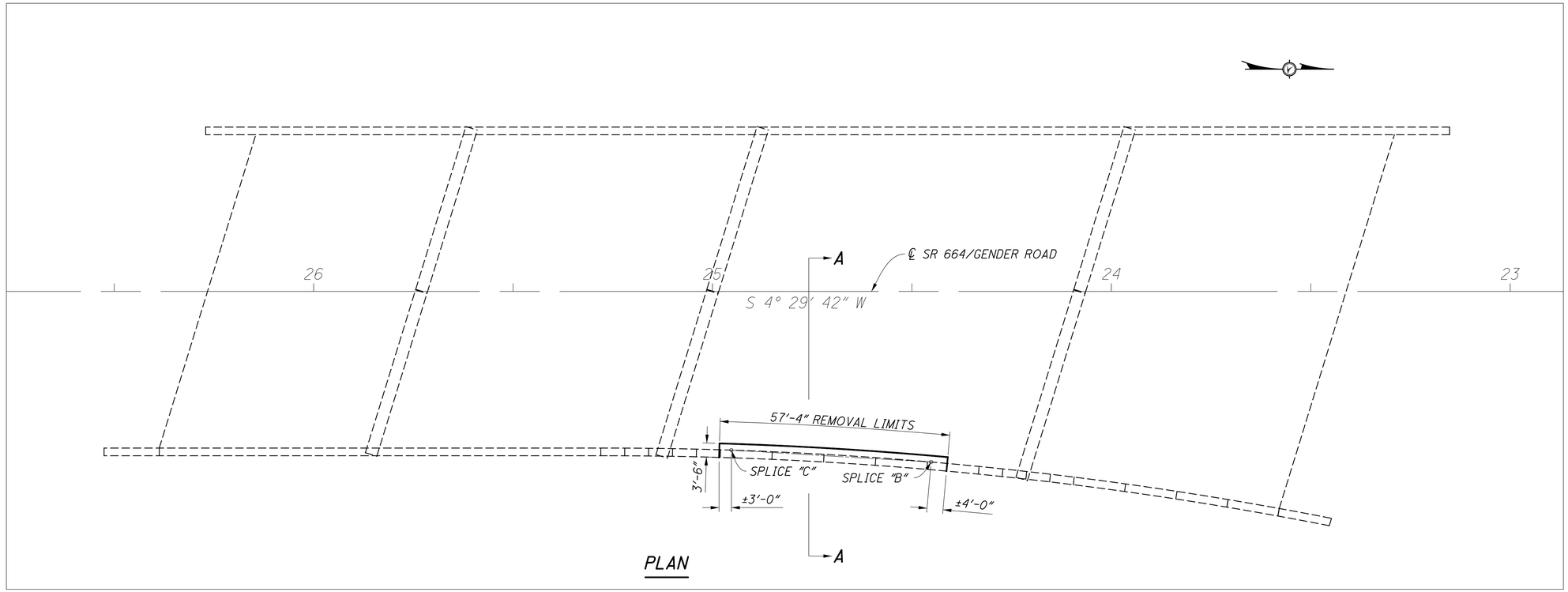
ESTIMATED QUANTITIES
BRIDGE NO. FRA-33-2964
UNDER GENDER ROAD

FRA-33-29.64 P2
PID No. 98111

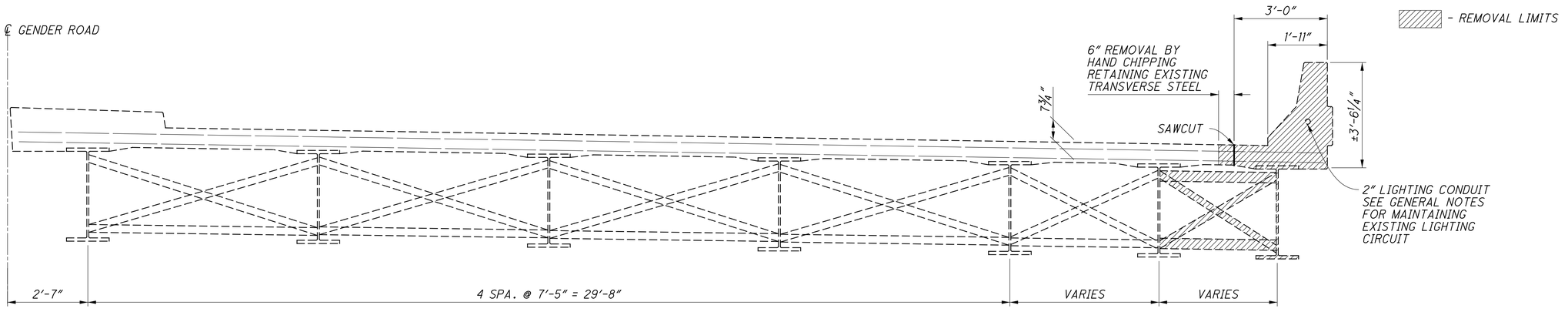
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PLAN



SECTION A-A

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 6

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JPH	JPH	KRF	12/12/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJR		2517361	

SUPERSTRUCTURE REMOVAL DETAILS

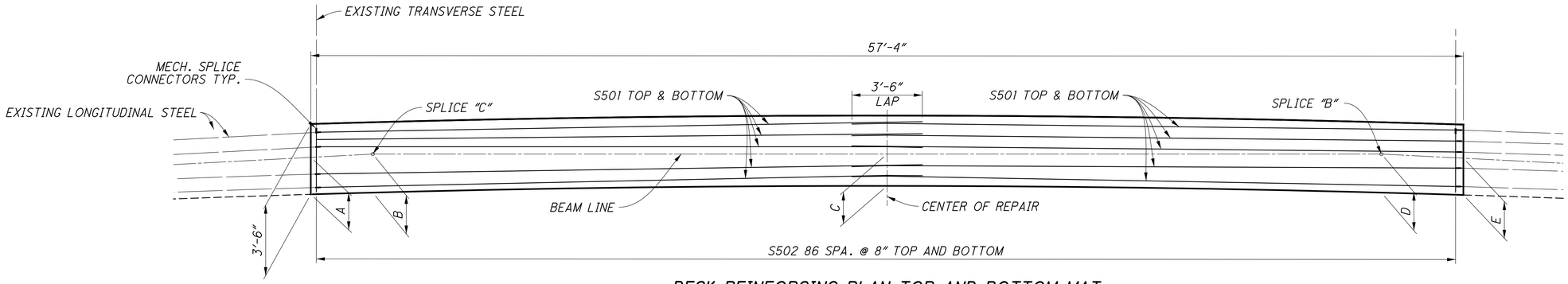
BRIDGE NO. FRA-33-2964
UNDER SR 664/GENDER ROAD

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DECK REINFORCING PLAN TOP AND BOTTOM MAT

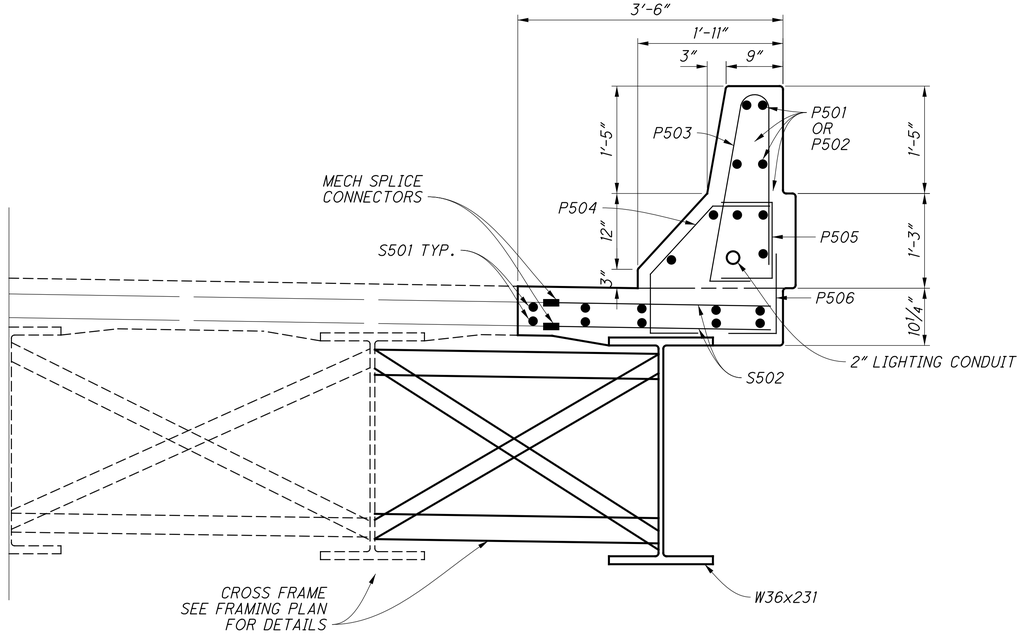
DIMENSIONS

A = ±1'-10 1/8"
B = 1'-11"
C = 1'-7"
D = 1'-11"
E = ±1'-9 15/16"

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

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 6

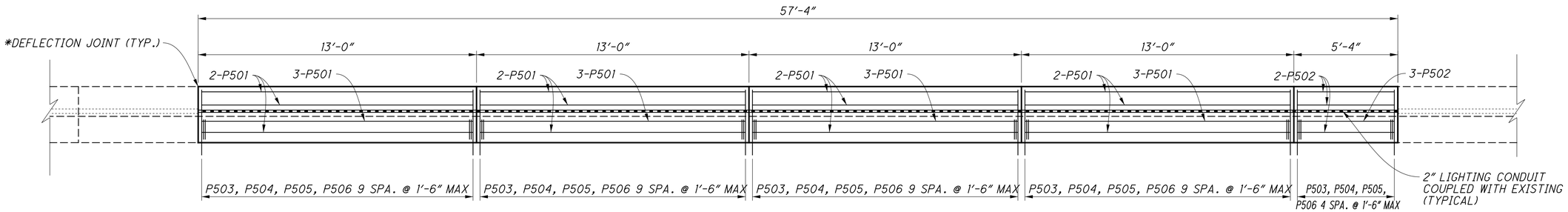
REVIEWED KRF DATE 12/12/2017 STRUCTURE FILE NUMBER 2517361
DRAWN JPH REVISED
DESIGNED JPH CHECKED MJR

SUPERSTRUCTURE DETAILS
BRIDGE NO. FRA-33-2964
UNDER SR 664/GENDER ROAD

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PARAPET ELEVATION DETAILS

* - SAWCUT DEFLECTION JOINTS MINIMUM OF 1¼" 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 C920, TYPE S. LEAVE THE BOTTOM ½" 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.

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 6

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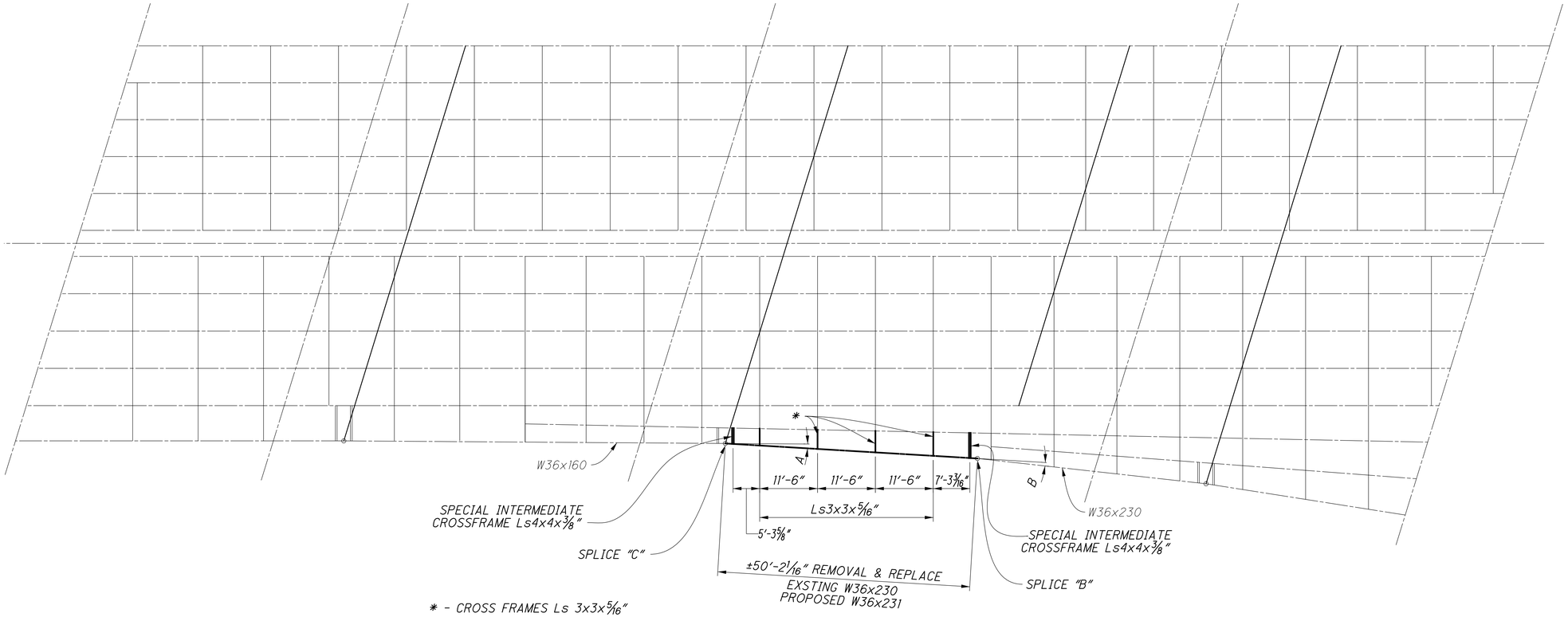
PARAPET DETAILS
BRIDGE NO. FRA-33-2964
UNDER SR 664/GENDER ROAD

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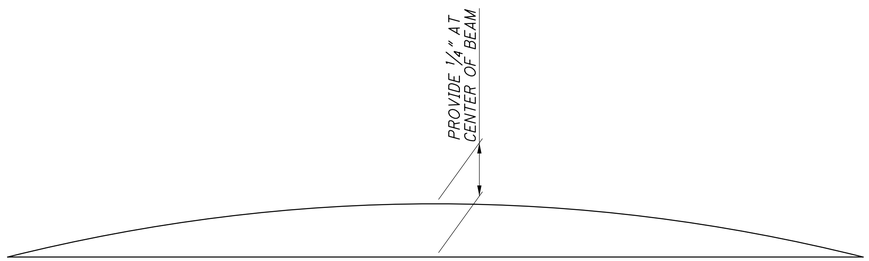


* - CROSS FRAMES Ls 3x3x5/16"

FRAMING PLAN

DEFLECTIONS

A = 3°-01'-13"
B = 2°-54'-19"



CAMBER INFORMATION FOR PROPOSED BEAM

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REVIEWED KRF
DATE 12/12/2017
CHECKED MJR
REVISED
STRUCTURE FILE NUMBER 2517361

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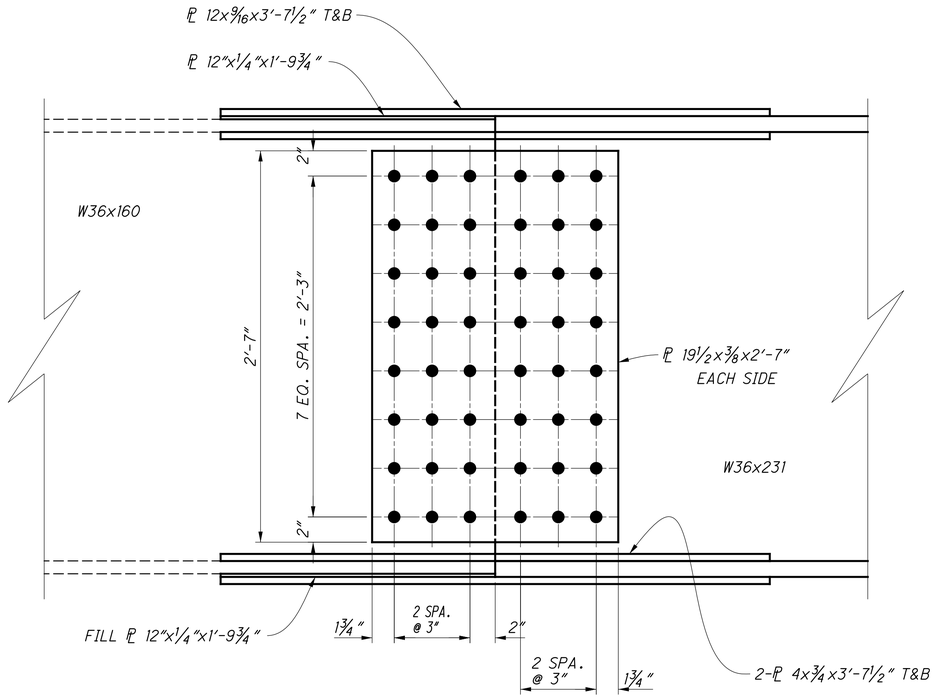
FRAMING PLAN
BRIDGE NO. FRA-33-2964
UNDER SR 664/GENDER ROAD

FRA-33-29.64 P2
PID No. 98111

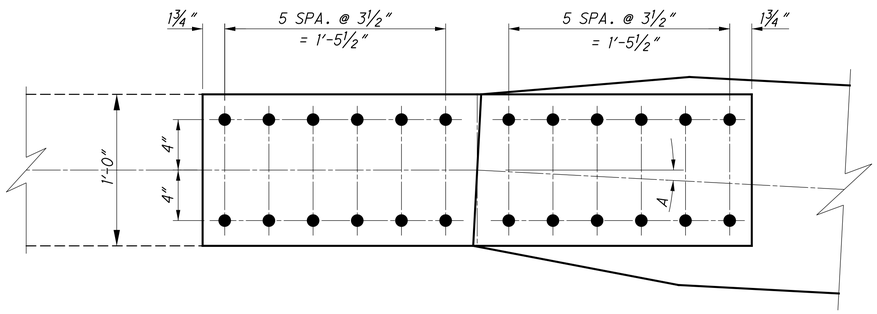
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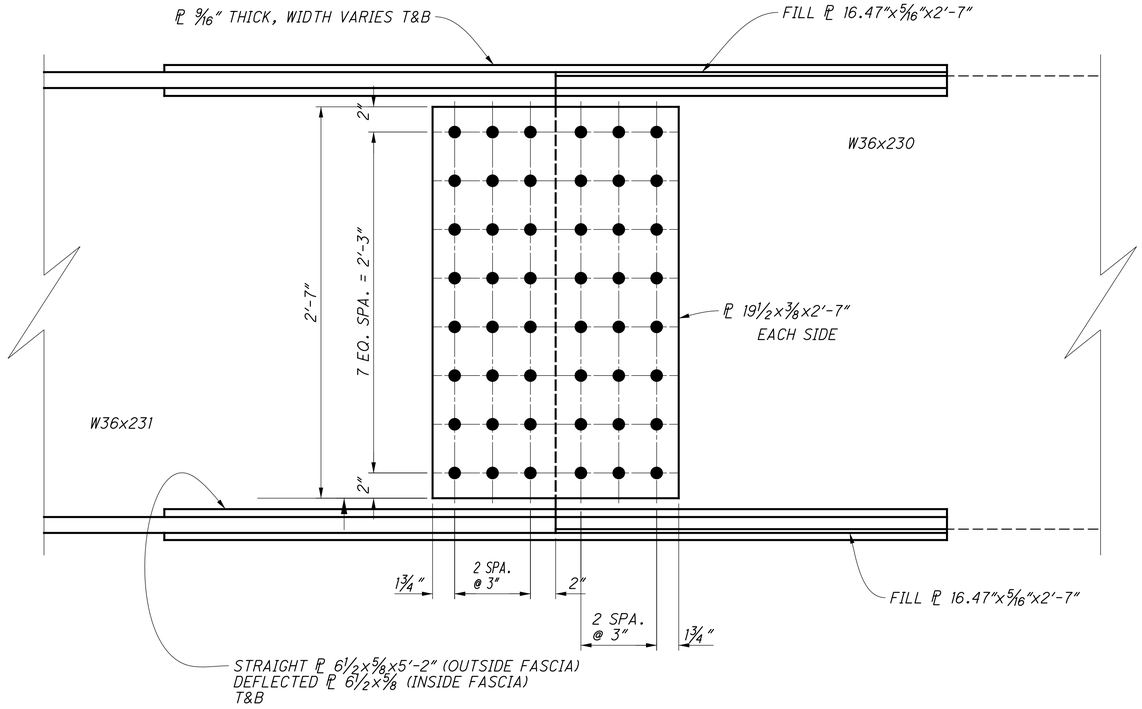
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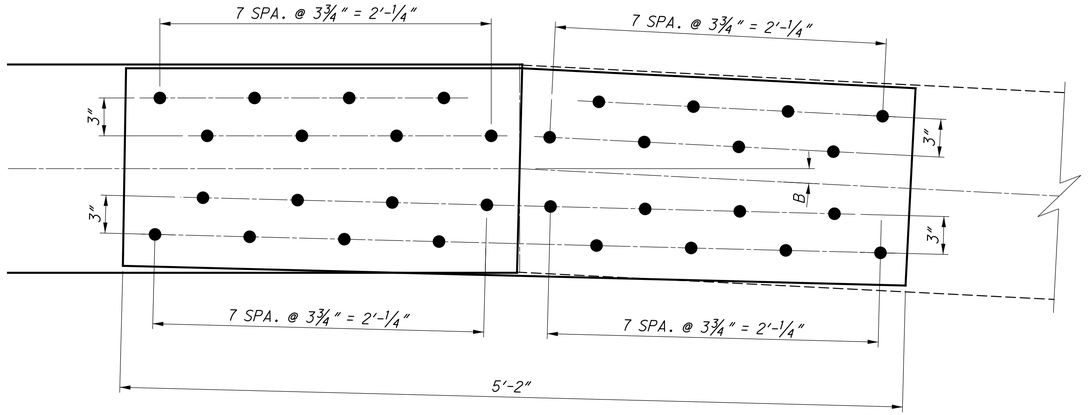
SPLICE "C"



SPLICE "C"



SPLICE "B"



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

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 6

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JPH	JPH	KRF	12/12/2017
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MJR		2517361	

SPLICE DETAILS
BRIDGE NO. FRA-33-2964
UNDER SR 664/GENDER ROAD

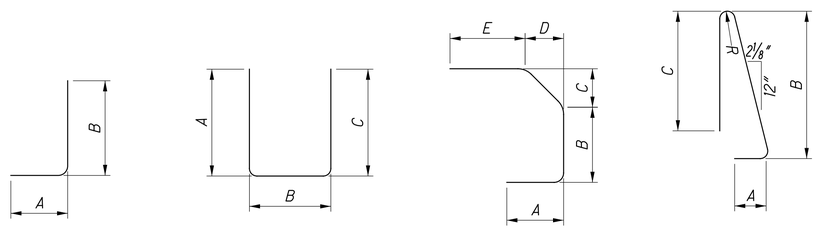
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PID No. 98111

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE											
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"					
		GRAND TOTAL	2325								



TYPE-1 TYPE-2 TYPE-14 TYPE-22

DESIGN AGENCY
OHIO DEPARTMENT OF TRANPORTATION DISTRICT 6

REVIEWED KRF DATE 12/12/2017
STRUCTURE FILE NUMBER 2517361

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REINFORCING STEEL LIST
BRIDGE NO. FRA-33-2964
UNDER SR 664/GENDER ROAD

FRA-33-29.64 P2
PID No. 98111

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