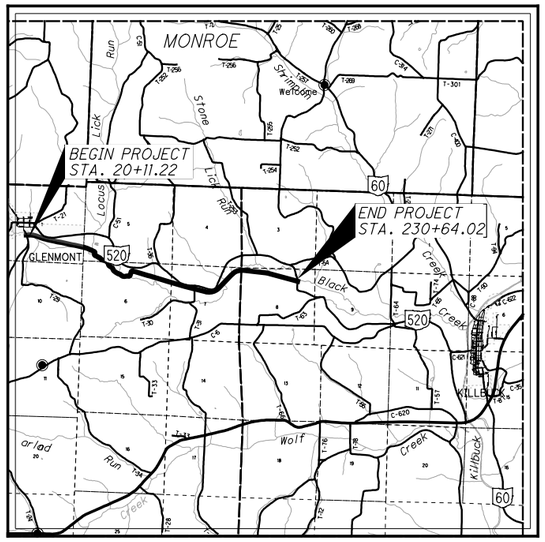

LOCATION MAP

LATITUDE: 40°30'35" LONGITUDE: 82°3'45"

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

CURRENT ADT	N/A
DESIGN YEAR ADT	N/A
DESIGN HOURLY VOLUME	N/A
DESIGN SPEED	20 MPH
LEGAL SPEED	N/A
DESIGN FUNCTIONAL CLASSIFICATION:	
NHS PROJECT	N/A

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES

Contact Two Working Days Before You Dig

OHIO811.org Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
ONE EASTON OVAL
SUITE 400
COLUMBUS, OH 43219
T 614-476-6000
F 614-476-6225

ENGINEERS SEAL:

BRIDGE 002 / RETAINING WALLS

STATE OF OHIO 8/28/23 THOMAS M. LESS PE.78901 REGISTERED PROFESSIONAL ENGINEER

ENGINEERS SEAL:

BRIDGES 001, 003, 006

STATE OF OHIO 8/30/23 James G. Roberts 52927 REGISTERED PROFESSIONAL ENGINEER

ENGINEERS SEAL:

TRAIL / CULVERTS

STATE OF OHIO 8/28/23 MATTHEW G. SCHUSTER E-75485 REGISTERED PROFESSIONAL ENGINEER

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

HOLMES COUNTY PARK DISTRICT

HOLMES-COUNTY TRAIL PHASE 5C1

GLENMONT TO S.R. 520

VILLAGE OF GLENMONT

KILLBUCK TOWNSHIP

RICHLAND TOWNSHIP

HOLMES COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

CONSTRUCTION OF 3.99 MILES OF PAVED SHARED USE PATH ON ABANDONED RAILROAD BED INCLUDING BRIDGE REHABILITATION AND RECONSTRUCTION, CULVERT REPLACEMENT, RETAINING WALL CONSTRUCTION, AND SAFETY RAIL.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	14.3 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.1 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	14.4 ACRES

2019 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.

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 BY IRENE BURGETT

APPROVED Irene Burgett

DATE 8-17-23 HOLMES COUNTY PARK DISTRICT CHAIR

STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-3.1	1/17/20	DS-1-92	7/15/22	HW-1.1	7/20/18			800-2023	7/21/23	WATERWAY PERMIT
		RB-1-55	7/19/13	HW-2.1	7/15/22			832	7/21/23	
DM-1.1	7/17/20			HW-2.2	7/20/18			838	1/15/21	
DM-1.2	7/16/21	MT-97.10	4/19/19					846	4/17/15	
DM-4.2	7/20/12	MT-101.90	7/17/20					870	7/21/23	
DM-4.3	1/15/16	MT-105.10	1/17/20					902	7/19/19	
DM-4.4	1/15/16									
		TC-41.20	10/18/13							
BP-4.1	7/19/13	TC-41.30	4/21/23							
		TC-42.20	10/18/13							
MGS-1.1	7/16/21	TC-52.10	10/18/13							
MGS-2.1	1/19/18	TC-52.20	1/15/21							
MGS-4.2	7/19/13	TC-61.30	7/19/19							
MGS-4.3	1/18/13									
RM-5.2	7/21/23									

FEDERAL PROJECT NO. E100610

PID NO. 86052

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

HOL-COUNTY TRAIL PHASE 5C1

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HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED MS
CHECKED CAG

SCHEMATIC PLAN

HOL-COUNTY TRAIL
PHASE 5C1

2
127

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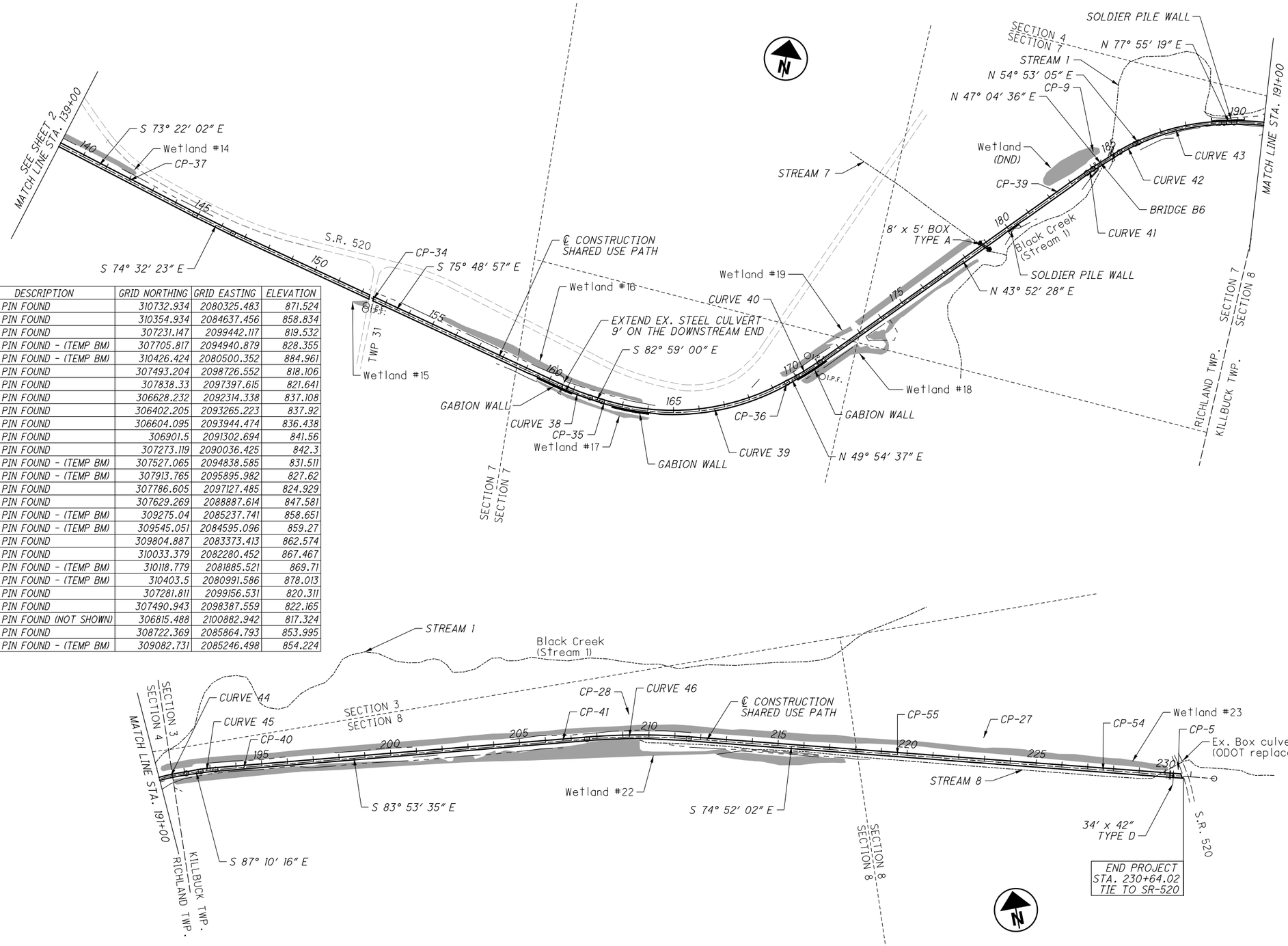
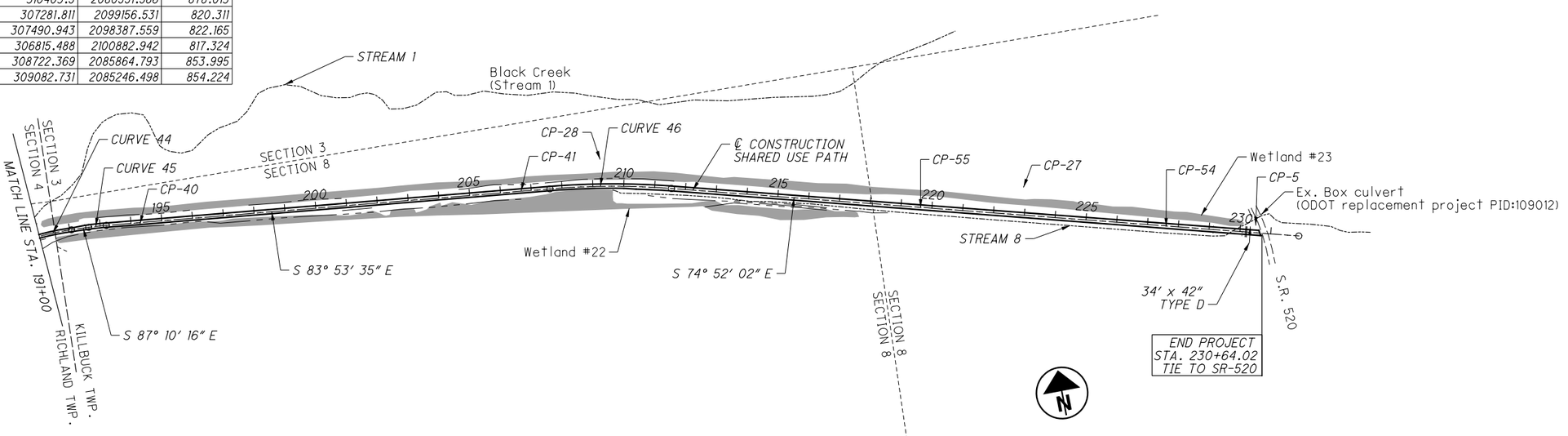


REFERENCE	DESCRIPTION	GRID NORTHING	GRID EASTING	ELEVATION
CP- 1	IRON PIN FOUND	310732.934	2080325.483	871.524
CP- 4	IRON PIN FOUND	310354.934	2084637.456	858.834
CP- 5	IRON PIN FOUND	307231.147	2099442.117	819.532
CP- 9	IRON PIN FOUND - (TEMP BM)	307705.817	2094940.879	828.355
CP- 17	IRON PIN FOUND - (TEMP BM)	310426.424	2080500.352	884.961
CP- 27	IRON PIN FOUND	307493.204	2098726.552	818.106
CP- 28	IRON PIN FOUND	307838.33	2097397.615	821.641
CP- 34	IRON PIN FOUND	306628.232	2092314.338	837.108
CP- 35	IRON PIN FOUND	306402.205	2093265.223	837.92
CP- 36	IRON PIN FOUND	306604.095	2093944.474	836.438
CP- 37	IRON PIN FOUND	306901.5	2091302.694	841.56
CP- 38	IRON PIN FOUND	307273.119	2090036.425	842.3
CP- 39	IRON PIN FOUND - (TEMP BM)	307527.065	2094838.585	831.511
CP- 40	IRON PIN FOUND - (TEMP BM)	307913.765	2095895.982	827.62
CP- 41	IRON PIN FOUND	307786.605	2097127.485	824.929
CP- 42	IRON PIN FOUND	307629.269	2088887.614	847.581
CP- 47	IRON PIN FOUND - (TEMP BM)	309275.04	2085237.741	858.651
CP- 48	IRON PIN FOUND - (TEMP BM)	309545.051	2084595.096	859.27
CP- 49	IRON PIN FOUND	309804.887	2083373.413	862.574
CP- 50	IRON PIN FOUND	310033.379	2082280.452	867.467
CP- 51	IRON PIN FOUND - (TEMP BM)	310118.779	2081885.521	869.71
CP- 52	IRON PIN FOUND - (TEMP BM)	310403.5	2080991.586	878.013
CP- 54	IRON PIN FOUND	307281.811	2099156.531	820.311
CP- 55	IRON PIN FOUND	307490.943	2098387.559	822.165
CP- 56	IRON PIN FOUND (NOT SHOWN)	306815.488	2100882.942	817.324
CP- 84	IRON PIN FOUND	308722.369	2085864.793	853.995
CP- 85	IRON PIN FOUND - (TEMP BM)	309082.731	2085246.498	854.224



FOR CURVE DATA, SEE SHEET 4

CALCULATED MS
CHECKED CAG

SCHEMATIC PLAN

HOL-COUNTY TRAIL
PHASE 5C1

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CURVE 1
PC Sta. 20+89.29
PI Sta. 21+15.57
PT Sta. 21+41.84
Δ = 3° 00′ 39″ (RT)
Dc = 5° 43′ 46″
R = 1,000.00′
T = 26.28′
L = 52.55′
E = 0.35′
C = 52.55′
C.B. = S 89° 15′ 10″ E

CURVE 2
PC Sta. 22+53.14
PI Sta. 22+89.70
PT Sta. 23+26.22
Δ = 4° 11′ 14″ (RT)
Dc = 5° 43′ 46″
R = 1,000.00′
T = 36.56′
L = 73.08′
E = 0.67′
C = 73.07′
C.B. = S 85° 39′ 13″ E

CURVE 3
PC Sta. 24+58.15
PI Sta. 24+67.71
PT Sta. 24+77.25
Δ = 5° 28′ 19″ (RT)
Dc = 28° 38′ 52″
R = 200.00′
T = 9.56′
L = 19.10′
E = 0.23′
C = 19.09′
C.B. = S 80° 49′ 26″ E

CURVE 4
PC Sta. 26+10.18
PI Sta. 26+41.48
PT Sta. 26+72.69
Δ = 7° 09′ 46″ (RT)
Dc = 11° 27′ 33″
R = 500.00′
T = 31.29′
L = 62.51′
E = 0.98′
C = 62.47′
C.B. = S 74° 30′ 23″ E

CURVE 5
PC Sta. 32+75.42
PI Sta. 33+87.93
PT Sta. 35+00.28
Δ = 5° 09′ 12″ (LT)
Dc = 2° 17′ 31″
R = 2,500.00′
T = 112.50′
L = 224.86′
E = 2.53′
C = 224.78′
C.B. = S 74° 31′ 09″ E

CURVE 6
PC Sta. 42+68.28
PI Sta. 43+17.67
PT Sta. 43+67.04
Δ = 2° 15′ 49″ (LT)
Dc = 2° 17′ 31″
R = 2,500.00′
T = 49.39′
L = 98.77′
E = 0.49′
C = 98.76′
C.B. = S 78° 57′ 19″ E

CURVE 7
PC Sta. 44+04.79
PI Sta. 44+51.01
PT Sta. 44+97.21
Δ = 2° 07′ 06″ (RT)
Dc = 2° 17′ 31″
R = 2,500.00′
T = 46.22′
L = 92.42′
E = 0.43′
C = 92.42′
C.B. = S 79° 01′ 41″ E

CURVE 8
PC Sta. 60+29.62
PI Sta. 62+69.34
PT Sta. 65+07.59
Δ = 10° 57′ 16″ (RT)
Dc = 2° 17′ 31″
R = 2,500.00′
T = 239.72′
L = 477.97′
E = 11.47′
C = 477.25′
C.B. = S 72° 22′ 03″ E

CURVE 9
PC Sta. 66+59.12
PI Sta. 67+41.98
PT Sta. 68+24.76
Δ = 4° 44′ 43″ (RT)
Dc = 2° 51′ 53″
R = 2,000.00′
T = 82.87′
L = 165.64′
E = 1.72′
C = 165.59′
C.B. = S 64° 31′ 04″ E

CURVE 10
PC Sta. 69+31.44
PI Sta. 70+21.44
PT Sta. 70+72.81
Δ = 90° 00′ 03″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 90.00′
L = 141.37′
E = 37.28′
C = 127.28′
C.B. = S 17° 08′ 41″ E

CURVE 11
PC Sta. 71+17.72
PI Sta. 72+17.36
PT Sta. 72+68.23
Δ = 95° 49′ 15″ (LT)
Dc = 63° 39′ 43″
R = 90.00′
T = 99.64′
L = 150.51′
E = 44.27′
C = 133.58′
C.B. = S 20° 03′ 16″ E

CURVE 12
PC Sta. 74+33.07
PI Sta. 74+44.19
PT Sta. 74+55.20
Δ = 14° 05′ 25″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 11.12′
L = 22.13′
E = 0.68′
C = 22.08′
C.B. = S 60° 55′ 11″ E

CURVE 13
PC Sta. 75+21.90
PI Sta. 75+34.75
PT Sta. 75+47.43
Δ = 16° 15′ 17″ (LT)
Dc = 63° 39′ 43″
R = 90.00′
T = 12.85′
L = 25.53′
E = 0.91′
C = 25.45′
C.B. = S 62° 00′ 07″ E

CURVE 14
PC Sta. 76+17.03
PI Sta. 76+44.76
PT Sta. 76+70.83
Δ = 34° 15′ 09″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 27.73′
L = 53.80′
E = 4.18′
C = 53.01′
C.B. = S 53° 00′ 11″ E

CURVE 15
PC Sta. 77+22.45
PI Sta. 77+45.80
PT Sta. 77+68.14
Δ = 29° 05′ 21″ (LT)
Dc = 63° 39′ 43″
R = 90.00′
T = 23.35′
L = 45.69′
E = 2.98′
C = 45.20′
C.B. = S 50° 25′ 17″ E

CURVE 16
PC Sta. 78+09.28
PI Sta. 78+13.10
PT Sta. 78+16.92
Δ = 4° 51′ 36″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 3.82′
L = 7.63′
E = 0.08′
C = 7.63′
C.B. = S 62° 32′ 10″ E

CURVE 17
PC Sta. 78+84.66
PI Sta. 79+09.92
PT Sta. 79+33.91
Δ = 31° 20′ 53″ (LT)
Dc = 63° 39′ 43″
R = 90.00′
T = 25.25′
L = 49.24′
E = 3.48′
C = 48.63′
C.B. = S 75° 46′ 48″ E

CURVE 18
PC Sta. 79+65.99
PI Sta. 79+91.04
PT Sta. 80+14.86
Δ = 31° 06′ 41″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 25.05′
L = 48.87′
E = 3.42′
C = 48.27′
C.B. = S 75° 53′ 54″ E

CURVE 19
PC Sta. 81+79.07
PI Sta. 81+92.51
PT Sta. 82+05.76
Δ = 16° 59′ 28″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 13.44′
L = 26.69′
E = 1.00′
C = 26.59′
C.B. = S 51° 50′ 49″ E

CURVE 20
PC Sta. 83+32.52
PI Sta. 83+36.13
PT Sta. 83+39.73
Δ = 4° 35′ 23″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 3.61′
L = 7.21′
E = 0.07′
C = 7.21′
C.B. = S 41° 03′ 23″ E

CURVE 21
PC Sta. 83+84.98
PI Sta. 84+16.62
PT Sta. 84+45.83
Δ = 38° 44′ 13″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 31.64′
L = 60.85′
E = 5.40′
C = 59.70′
C.B. = S 19° 23′ 36″ E

CURVE 22
PC Sta. 84+79.99
PI Sta. 85+30.02
PT Sta. 85+71.31
Δ = 58° 08′ 13″ (LT)
Dc = 63° 39′ 43″
R = 90.00′
T = 50.03′
L = 91.32′
E = 12.97′
C = 87.45′
C.B. = S 29° 05′ 36″ E

CURVE 23
PC Sta. 87+62.09
PI Sta. 87+76.04
PT Sta. 87+89.76
Δ = 17° 36′ 54″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 13.94′
L = 27.67′
E = 1.07′
C = 27.56′
C.B. = S 49° 21′ 15″ E

CURVE 24
PC Sta. 88+55.86
PI Sta. 88+70.00
PT Sta. 88+83.92
Δ = 17° 51′ 30″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 14.14′
L = 28.05′
E = 1.10′
C = 27.94′
C.B. = S 31° 37′ 03″ E

CURVE 25
PC Sta. 89+53.52
PI Sta. 90+34.71
PT Sta. 91+11.85
Δ = 31° 16′ 57″ (LT)
Dc = 19° 45′ 26″
R = 290.00′
T = 81.19′
L = 158.34′
E = 11.15′
C = 156.38′
C.B. = S 38° 19′ 47″ E

CURVE 26
PC Sta. 91+66.91
PI Sta. 91+87.95
PT Sta. 92+08.96
Δ = 4° 49′ 07″ (LT)
Dc = 11° 27′ 33″
R = 500.00′
T = 21.04′
L = 42.05′
E = 0.44′
C = 42.04′
C.B. = S 56° 22′ 49″ E

CURVE 27
PC Sta. 94+14.82
PI Sta. 94+39.10
PT Sta. 94+62.24
Δ = 30° 11′ 08″ (LT)
Dc = 63° 39′ 43″
R = 90.00′
T = 24.27′
L = 47.42′
E = 3.22′
C = 46.87′
C.B. = S 73° 52′ 57″ E

CURVE 28
PC Sta. 94+81.09
P.I. Sta. 95+05.65
PT Sta. 95+29.05
Δ = 30° 31′ 35″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 24.56′
L = 47.95′
E = 3.29′
C = 47.39′
C.B. = S 73° 42′ 43″ E

CURVE 29
PC Sta. 95+75.30
PI Sta. 95+93.49
PT Sta. 96+11.19
Δ = 22° 50′ 53″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 18.19′
L = 35.89′
E = 1.82′
C = 35.65′
C.B. = S 47° 01′ 29″ E

CURVE 30
PC Sta. 96+30.39
PI Sta. 96+49.70
PT Sta. 96+68.43
Δ = 24° 13′ 11″ (LT)
Dc = 63° 39′ 43″
R = 90.00′
T = 19.31′
L = 38.04′
E = 2.05′
C = 37.76′
C.B. = S 47° 42′ 39″ E

CURVE 31
PC Sta. 97+66.48
PI Sta. 97+79.25
PT Sta. 97+91.86
Δ = 16° 09′ 09″ (LT)
Dc = 63° 39′ 43″
R = 90.00′
T = 12.77′
L = 25.37′
E = 0.90′
C = 25.29′
C.B. = S 67° 53′ 49″ E

CURVE 32
PC Sta. 98+80.21
PI Sta. 99+01.46
PT Sta. 99+21.94
Δ = 26° 34′ 13″ (LT)
Dc = 63° 39′ 43″
R = 90.00′
T = 21.25′
L = 41.74′
E = 2.47′
C = 41.36′
C.B. = S 89° 15′ 30″ E

CURVE 33
PC Sta. 100+24.63
PI Sta. 100+51.70
PT Sta. 100+78.45
Δ = 15° 25′ 11″ (RT)
Dc = 28° 38′ 52″
R = 200.00′
T = 27.08′
L = 53.83′
E = 1.82′
C = 53.66′
C.B. = N 85° 10′ 00″ E

CURVE 34
PC Sta. 102+25.79
PI Sta. 102+96.30
PT Sta. 103+45.42
Δ = 76° 09′ 34″ (LT)
Dc = 63° 39′ 43″
R = 90.00′
T = 70.52′
L = 119.63′
E = 24.34′
C = 111.02′
C.B. = N 54° 47′ 48″ E

CURVE 35
PC Sta. 106+03.79
PI Sta. 106+93.90
PT Sta. 107+45.27
Δ = 90° 03′ 52″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 90.10′
L = 141.47′
E = 37.35′
C = 127.35′
C.B. = N 61° 44′ 57″ E

CURVE 36
PC Sta. 124+08.44
PI Sta. 124+21.07
PT Sta. 124+33.70
Δ = 2° 53′ 42″ (LT)
Dc = 11° 27′ 33″
R = 500.00′
T = 12.63′
L = 25.26′
E = 0.16′
C = 25.26′
C.B. = S 74° 00′ 42″ E

CURVE 37
PC Sta. 124+75.58
PI Sta. 124+90.84
PT Sta. 125+06.10
Δ = 3° 29′ 51″ (RT)
Dc = 11° 27′ 33″
R = 500.00′
T = 15.27′
L = 30.52′
E = 0.23′
C = 30.52′
C.B. = S 73° 42′ 38″ E

CURVE 38
PC Sta. 160+45.74
PI Sta. 161+08.37
PT Sta. 161+70.83
Δ = 7° 10′ 03″ (LT)
Dc = 5° 43′ 46″
R = 1,000.00′
T = 62.63′
L = 125.10′
E = 1.96′
C = 125.01′
C.B. = S 79° 23′ 59″ E

CURVE 39
PC Sta. 162+19.09
PI Sta. 166+11.41
PT Sta. 169+59.03
Δ = 47° 06′ 23″ (LT)
Dc = 6° 21′ 58″
R = 900.00′
T = 392.33′
L = 739.95′
E = 81.79′
C = 719.28′
C.B. = N 73° 27′ 48″ E

CURVE 40
PC Sta. 170+03.04
PI Sta. 170+55.76
PT Sta. 171+08.38
Δ = 6° 02′ 09″ (LT)
Dc = 5° 43′ 46″
R = 1,000.00′
T = 52.72′
L = 105.34′
E = 1.39′
C = 105.29′
C.B. = N 46° 53′ 32″ E

CURVE 41
PC Sta. 183+73.39
PI Sta. 183+87.37
PT Sta. 184+01.34
Δ = 3° 12′ 08″ (RT)
Dc = 11° 27′ 33″
R = 500.00′
T = 13.98′
L = 27.95′
E = 0.20′
C = 27.94′
C.B. = N 45° 28′ 32″ E

CURVE 42
PC Sta. 185+23.20
PI Sta. 185+57.32
PT Sta. 185+91.34
Δ = 7° 48′ 29″ (RT)
Dc = 11° 27′ 33″
R = 500.00′
T = 34.12′
L = 68.14′
E = 1.16′
C = 68.08′
C.B. = N 50° 58′ 50″ E

CURVE 43
PC Sta. 186+05.20
PI Sta. 187+78.42
PT Sta. 189+46.96
Δ = 23° 02′ 14″ (RT)
Dc = 6° 44′ 26″
R = 850.00′
T = 173.22′
L = 341.76′
E = 17.47′
C = 339.47′
C.B. = N 66° 24′ 12″ E

CURVE 44
PC Sta. 189+85.41
PI Sta. 190+96.61
PT Sta. 192+06.56
Δ = 14° 54′ 25″ (RT)
Dc = 6° 44′ 26″
R = 850.00′
T = 111.20′
L = 221.15′
E = 7.24′
C = 220.53′
C.B. = N 85° 22′ 31″ E

CURVE 45
PC Sta. 192+62.54
PI Sta. 192+91.16
PT Sta. 193+19.75
Δ = 3° 16′ 41″ (RT)
Dc = 5° 43′ 46″
R = 1,000.00′
T = 28.61′
L = 57.21′
E = 0.41′
C = 57.21′
C.B. = S 85° 31′ 56″ E

CURVE 46
PC Sta. 207+60.78
PI Sta. 209+58.11
PT Sta. 211+54.61
Δ = 9° 01′ 33″ (RT)
Dc = 2° 17′ 31″
R = 2,500.00′
T = 197.32′
L = 393.83′
E = 7.78′
C = 393.42′
C.B. = S 79° 22′ 49″ E

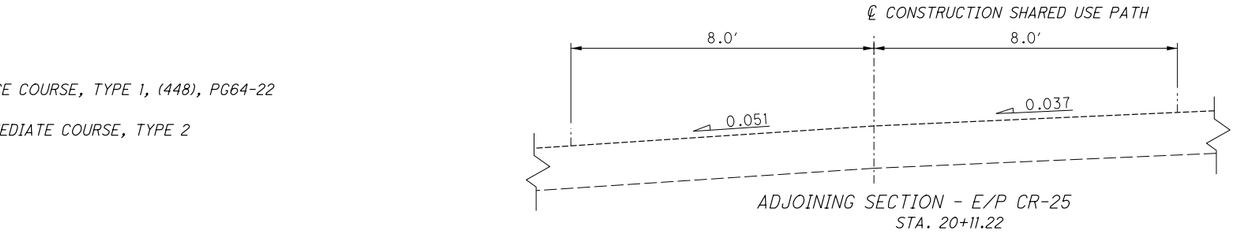
CALCULATED MS
CHECKED CAG

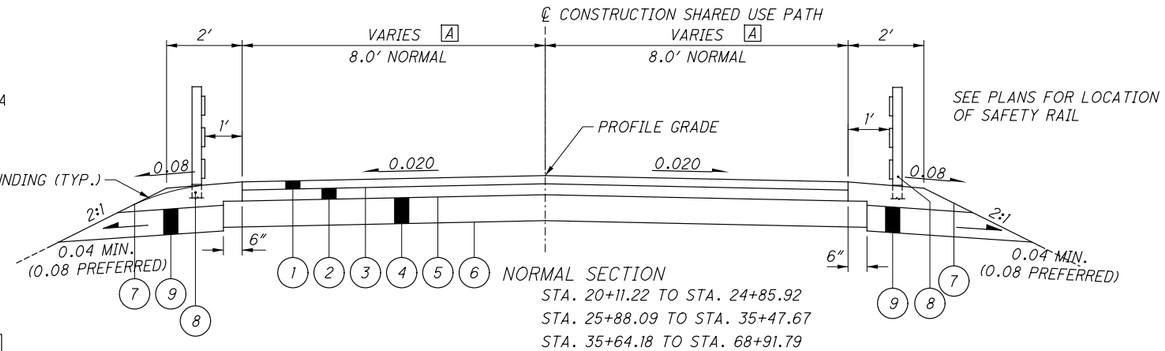
SCHEMATIC PLAN

HOL-COUNTY TRAIL
PHASE 5C1

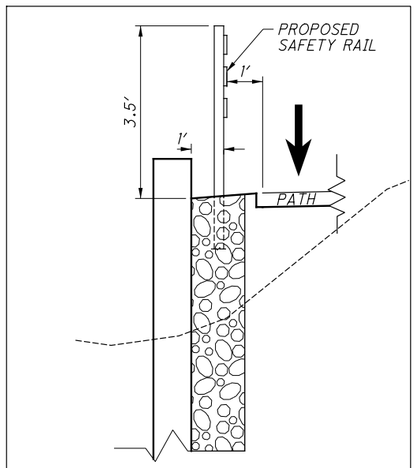
LEGEND

1. ITEM 441 - 1 ½" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, (448), PG64-22
2. ITEM 441 - 1 ¾" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2
3. ITEM 407 - TACK COAT, 0.08 GAL/SQ YD
4. ITEM 304 - 6" AGGREGATE BASE
5. ITEM 408 - PRIME COAT, 0.4 GAL/SQ YD
6. ITEM 204 - SUBGRADE COMPACTION
   ITEM 204 - PROOF ROLLING
7. ITEM 659 - SEEDING AND MULCHING, CLASS 4A
8. ITEM 607 - FENCE, MISC.: WOOD FENCE (SAFETY RAIL PER SCD RM-5.2)
9. ITEM 605 - AGGREGATE DRAINS

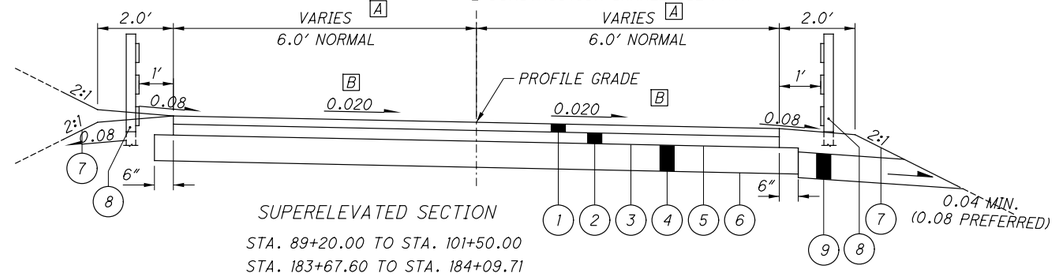




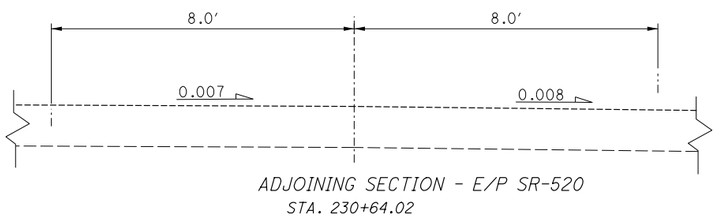
SOLDIER PILE AND LAGGING (NTS)



STATION	SIDE	SEE SHEET
179+95 - 180+43	RT	69
189+00 TO 190+25	LT	75

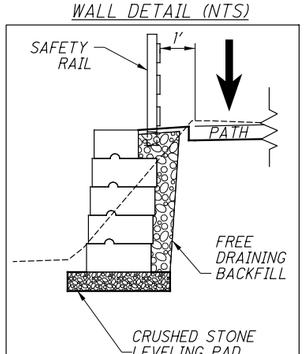


NOTE: WALL DETAILS SHOWN ON THIS SHEET ARE ONLY USED TO SHOW LOCATION OF THE VARIOUS WALL TYPES AND ARE NOT REPRESENTATIVE OF THE ACTUAL WALL INSTALLATIONS, SEE THE RETAINING WALL SHEETS FOR DETAILS.



DRIVEWAY BUILDUP CONSISTS OF 8 INCHES OF ITEM 452, NON-REINFORCED PORTLAND CEMENT CONCRETE ON TOP OF 6 INCHES OF ITEM 304- AGGREGATE BASE. ADDITIONAL AGGREGATE NEEDED TO EXTEND THE DRIVE FOR PROFILE-CORRECTION SHALL BE A THICKNESS OF 8 INCHES. QUANTITIES ARE PROVIDED IN THE OFFICE CALCS SHOWN ON THE GENERAL SUMMARY AND INCLUDED WITH THESE PLANS.

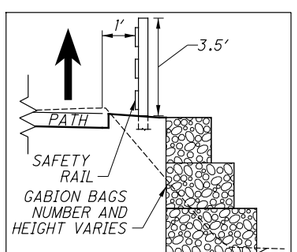
PREFABRICATED MODULAR BLOCK WALL DETAIL (NTS)



SIDE	STATION
LT	20+30.0 - 20+87.5

SEE SHEET 87

GABION WALLS (NTS)



STATION	SIDE
82+45 TO 83+45	
159+54 TO 161+00	RT
162+62 TO 164+05	
170+00 TO 171+30	

SEE SHEET 71

LANE WIDTH TRANSITIONS AT 20:1 TAPER RATE

A

FROM 8.0' @ STA. 24+00 TO 6.5'@ STA. 24+30 LT. & RT.
FROM 6.5' @ STA. 26+80 TO 8.0' @ STA. 27+10 LT. & RT.

FROM 8.0' @ STA. 34+80 TO 7.0' @ STA. 35+00 LT. & RT.
FROM 7.0' @ STA. 36+00 TO 8.0' @ STA. 36+20 LT. & RT.

FROM 8.0' @ STA. 82+05 TO 6.0' @ STA. 82+45 RT.
FROM 6.0' @ STA. 83+45 TO 8.0' @ STA. 83+85 RT.

FROM 8.0' @ STA. 89+00 TO 6.0' @ STA. 89+40 LT. & RT.
FROM 6.0' @ STA. 101+50 TO 8.0' @ STA. 101+90 LT. & RT.

FROM 8.0' @ STA. 125+35 TO 6.0' @ STA. 125+75 RT.
FROM 6.0' @ STA. 126+75 TO 8.0' @ STA. 127+15 RT.

FROM 8.0' @ STA. 159+10 TO 6.0' @ STA. 159+50 RT.
FROM 6.0' @ STA. 164+10 TO 8.0' @ STA. 164+50 RT.

FROM 8.0' @ STA. 169+60 TO 6.0' @ STA. 170+00 LT. & RT.
FROM 6.0' @ STA. 177+50 TO 8.0' @ STA. 177+90 LT. & RT.

FROM 8.0' @ STA. 179+55 TO 6.0' @ STA. 179+95 RT.
FROM 6.0' @ STA. 180+40 TO 8.0' @ STA. 180+80 RT.

FROM 8.0' @ STA. 183+00 TO 6.0'* @ STA. 183+40 LT. & RT.
FROM 6.0' @ STA. 192+10 TO 8.0' @ STA. 192+50 LT.

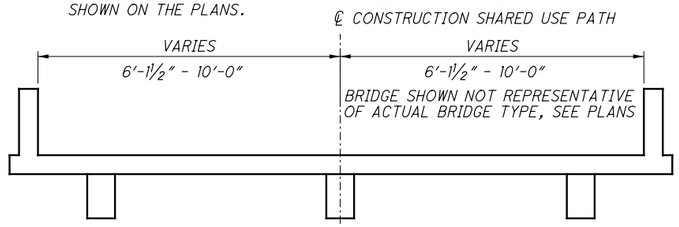
FROM 6.0' @ STA. 210+00 TO 8.0' @ STA. 210+40 RT.

* BRIDGE B6 HAS 6.125' LANES. CONTRACTOR TO FEATHER IN THE 6.0' WIDE PATH AT EACH END.

OBSTRUCTION AVOIDANCE SECTION AT CR-25 USING 10:1 TAPER RATE:

FROM 6.3' @ STA. 20+07.1 TO 4.0'@ STA. 20+30 LT.
FROM 4.0' @ STA. 20+50 TO 8.0' @ STA. 20+90 LT.

BRIDGE RAIL MAY BE AT GREATER/LESSER OFFSET THAN THE SAFETY RAIL ON THE PATH. CONTRACTOR TO TAPER THE RAIL AT 20:1 TRANSITION RATE UNLESS OTHERWISE SHOWN ON THE PLANS.



BRIDGE CROSSINGS: (SEE BRIDGE PLANS FOR DETAILS)

B1 - STA. 24+85.92 TO STA. 25+88.09
B2 - STA. 35+47.67 TO STA. 35+64.18
B3 - STA. 68+91.79 TO STA. 69+41.37
B6 - STA. 184+09.71 TO STA. 184+95.68

B SUPERELEVATION TRANSITIONS

FROM -0.051 @ STA. 20+11.22 (@ CR-25) TO -0.02 @ STA. 20+31.06 LT.
FROM 0.037 @ STA. 20+11.22 (@ CR-25) TO -0.02 @ STA. 20+57.01 RT.

FROM -0.02 @ STA. 37+60.16 TO 0.02 @ STA. 37+92.56 LT. (@ DRIVE)
FROM 0.02 @ STA. 38+07.28 (@ DRIVE) TO -0.02 @ STA. 38+39.68 LT.

FROM -0.02 @ STA. 89+20.00 TO 0.02 @ STA. 89+52.40 LT.
FROM 0.02 @ STA. 102+00.00 TO -0.02 @ STA. 102+32.40 LT.

FROM -0.02 @ STA. 152+15.17 TO 0.00 @ STA. 152+31.37 LT./RT. (@ TR-31)
FROM 0.00 @ STA. 152+51.77 (@ TR-31) TO -0.02 @ STA. 152+67.87 LT./RT.

FROM -0.02 @ STA. 183+67.60 TO 0.02 @ STA. 184+00.00 LT.
FROM 0.02 @ STA. 195+00.00 TO -0.02 @ STA. 195+32.40 LT.

FROM -0.02 @ STA. 230+50.97 TO 0.00 @ STA. 230+64.02 LT./RT. (@ SR-520)

TYPICAL SECTIONS

HOL-COUNTY TRAIL
PHASE 5C1

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
850 TECH CENTER DRIVE
GAHANNA, OH 43230
PHONE: (866)-237-5028

ASPIRE ENERGY OF OHIO
300 TRACY BRIDGE ROAD
ORRVILLE, OH 44667
PHONE: 330-682-7726

COLUMBIA GAS OF OHIO
2429 NORTH LINDEN AVENUE
ZANESVILLE, OH 43701
PHONE: (740)-255-1318

VILLIAGE OF KILLBUCK
1099 N. MAIN STREET
KILLBUCK, OH 44637
PHONE: (330)-276-1935

HOLMES COUNTY ENGINEERS OFFICE
7191 S.R. 39 P.O. BOX 29
MILLERSBURG, OH 44654
PHONE: (330)-674-1856
FAX: (330)-674-7918
EMAIL: engineer@co.holmes.oh.us
ATTN: CHRISTOPHER YOUNG, P.E., P.S.

CENTURYLINK/LUMEN
2025 AKRON ROAD
WOOSTER, OH 44691
JEFFREY SCHOONOVER
PHONE: 740-263-2819
jeffrey.l.schoonover@lumen.com

SURVEYING PARAMETERS

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

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

PROJECT CONTROL

POSITIONING METHOD:	GNSS
MONUMENT TYPE:	TYPE B

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM:	NAVD88
GEOID:	GEOID09

HORIZONTAL POSITIONING

REFERENCE FRAME:	NAD83 (CORS96)
ELLIPSOID:	GRS80
MAP PROJECTION:	LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM:	OHIO STATE PLANE, NORTH ZONE
COMBINED SCALE FACTOR:	1.00000000
ORIGIN OF COORDINATE SYSTEM:	N/A

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

UNITS ARE IN U.S. SURVEY FEET.

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.

MAINTENANCE OF TRAFFIC

WHEN CONDUCTING WORK AT THE BEGINNING OF THE PROJECT (CR-25), THE TR-31 CROSSING AND THE TIE-IN AT THE END OF THE PROJECT (SR-520), THE CONTRACTOR SHALL ENSURE THAT EXISTING TRAFFIC IS MAINTAINED ACCORDING TO SCD MT-97.10.

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.

ENDANGERED BAT HABITAT REMOVAL

THE 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 PURPOSES OF THIS NOTE, A TREE IS DEFINIED 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.

DRINKING WATER

THE PROJECT IS LOCATED WITHIN A DRINKING WATER PROTECTION AREA. USE PROPER CONTAINMENT AND DIKING IN REFUELING AREAS. DO NOT STORE FUELS, TOXIC/HAZARDOUS MATERIALS, AND CHEMICALS NEAR DRAINAGE WAYS, DITCHES OR STREAMS. MAINTAIN A SPILL KIT ON-SITE THROUGHOUT CONSTRUCTION ACTIVITIES. IMMEDIATELY MITIGATE ANY EVENT, SUCH AS SPILLS OR EVENTS TO THE KILLBUCK WASTEWATER TREATMENT PLANT AT (330) 276-2745. IF THE SPILL IS A REPORTABLE AMOUNT, (PER OHIO EPA's RELEASE REPORTING REQUIREMENTS), CONTACT RICHLAND TOWNSHIP FIRE DEPARTMENT (330) 377-5301 OR THE OHIO EPA's SPILLS HOTLINE 1-800-282-9378 FOR CLEAN-UP OF THE SPILL.

MUSSELS

IF THE CONTRACTOR OBSERVES MUSSELS IN BLACK CREEK DURING CONSTRUCTION, CONSTRUCTION SHALL CEASE AT THE LOCATION WHERE MUSSELS WERE OBSERVED UNTIL A MUSSEL RELOCATION IS COMPLETED BY THE PROJECT SPONSOR.

EASTERN PRAIRIE FRINGED ORCHID

THE EASTERN PRAIRIE FRINGED ORCHID WAS NOT OBSERVED DURING THE PROJECT'S ECOLOGICAL SURVEY, HOWEVER SUITABLE HABITAT WAS FOUND WITHIN THE WORK LIMITS. IF THE CONTRACTOR ENCOUNTERS THIS SPECIES WITHIN THE CONSTRUCTION LIMITS DURING CONSTRUCTION, OPERATIONS SHALL CEASE AND THE ENGINEER WILL NOTIFY THE ODOT, DISTRICT 11 ENVIRONMENTAL COORDINATOR (DEC). THE DEC WILL IMMEDIATELY NOTIFY THE USFWS IN THE COLUMBUS FIELD OFFICE.

BRIDGE ASBESTOS

AN ASBESTOS SURVEY FOR A BRIDGE/STREAM CROSSINGS (PID 86052) AT BRIDGE B1, BRIDGE B2, BRIDGE B3, 24" CULVERT NEAR 117+02, CUSTOM 2-SIDED CONC BOX AND CATTLE CROSSING NEAR 124+60, TWIN 66" CMP AT STA. 178+89, AND BRIDGE B6 SCHEDULED FOR REHABILITATION OR DEMOLITION WORK WAS CONDUCTED BY A LICENSED ASBESTOS HAZARD EVALUATION SPECIALIST. A COPY OF THE ASBESTOS INSPECTION REPORT FOR THE STRUCTURE IS INCLUDED IN THE PLAN PACKAGEFOR THIS PROJECT. THE ASBESTOS INSPECTION REPORT DID NOT IDENTIFY THE PRESENCE OF ANY ASBESTOS CONTAINING MATERIALS.

DISPOSE ASBESTOS CONTAINING MATERIALS IN A LANDFILL LICENSED BY THE OHIO DEPARTMENT OF HEALTH AND PERMITTED BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY - DIVISION OF AIR POLLUTION CONTROL TO ACCEPT ASBESTOS CONTAINING MATERIAL. THE REMOVAL AND DISPOSAL OF ALL ASBESTOS CONTAINING MATERIAL MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE (OAC) REGULATIONS AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARD FOR ASBESTOS.

ELECTRONIC SUBMISSION

SUBMIT A COMPLETED ELECTRONIC NOTIFICATION OF DEMOLITION AND RENOVATION FORM (NDRF), APPLICABLE FEES, AND THE ASBESTOS INSPECTION REPORT OF THE OEPA AT LEASE 10 DAYS PRIOR TO ANY DEMOLITION ACTIVITY, RENOVATION ACTIVITY, OR BOTH. SUBMIT THE NDRF AND PAYMENT ALONG WITH THE ASBESTOS INSPECTION REPORT USING THE OEPA E-BUSINESS CENTER. SUBMIT ONE ELECTRONIC PDF COPY AND ONE HARD COPY OF THE NDRF TO THE ENGINEER. THE ENGINEER WILL PROVIDE ONE COPY TO THE DISTRICT ENVIRONMENTAL STAFF.

HARD COPY SUBMISSION

THE CONTRACTOR MAY SUBMIT A HARD COPY OF THE COMPLETED NDRF AND PAYMENT ALONG WITH THE ASBESTOS INPECTION REPORT. FOLLOW THE MAILING INSTRUCTIONS ON THE NDRF. CHECK WITH LOCAL HEALTH DEPARTMENT (OEPA NORTHEAST DISTRICT OFFICE, 2110 EAST AURORA ROAD, TWINSBURG, OHIO 44087) TO DETERMINE IF THEY REQUIRE A HARD COPY SUBMITTAL.

SUBMIT THE COMPLETED NDRF TO OEPA AT LEAST 10 DAYS PRIOR TO DEMOLITION ACTIVITY, RENOVATION ACTIVITY, OR BOTH. RETAIN TWO HARD COPIES OF THE NDRF AND SUBMIT ON COPY TO THE ENGINEER AND EMAIL ONE COPY TO THE ODOT DISTRICT ENVIRONMENTAL COORDINATOR AT: THOMAS.STRATTON@OHIO.GOV.

SUBMIT ALL DOCUMENTATION RELATED TO THE SURVEY, ABATEMENT, TRANSPORT, AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS TO THE ENGINEER WITHIN TWO WEEKS OF COMPLETION. THE ENGINEER WILL PROVIDE A COPY OF THE DOCUMENTATION TO THE DISTRICT ENVIRONMENTAL STAFF. PAYMENT FOR THIS WORK SHALL BE MADE AT THE BID PRICE OF LUMP SUM.

SUBMIT ALL DOCUMENTATION RELATED TO THE SURVEY, ABATEMENT, TRANSPORT, AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS TO THE ENGINEER WITHIN TWO WEEKS OF COMPLETION. THE ENGINEER WILL PROVIDE A COPY OF THE DOCUMENTATION TO THE DISTRICT ENVIRONMENTAL STAFF.

PAYMENT FOR THIS WORK SHALL BE MADE AT THE BID PRICE OF LUMP SUM.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

690E98400 ITEM SPECIAL - MISC.: WORK INVOLVING ASBESTOS CONTAINING MATERIALS - LUMP SUM

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY HOLMES COUNTY PARKS, REPRESENTATIVES OF HOLMES COUNTY PARKS AND THE CONTRACTOR, ALONG WITH STATE AND LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHCIH 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 HOLMES COUNTY PARKS.

ALL NEW CONDUITS 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 HOLMES COUNTY PARKS.

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

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

POST CONTRUCTION STORM WATER TREATMENT

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

VEGETATED FILTER STRIP

THIS PLAN UTILIZES VEGETATED FILTER STRIP(S) FOR POST CONSTRUCTION STORM WATER TREATMENT. PLACE EITHER ITEM 660 SODDING OR ITEM 659 SEEDING AND MULCHING WITH A 4-INCH LIFT OF TOPSOIL AND ITEM 670, SLOPE EROSION PROTECTION TO ALL DISTURBED AREAS DESIGNATED AS VEGETATED FILTER STRIPS, THE EDGE OF SHOULDER, AND THE FORESLOPE AS SPECIFIED IN THE PLANS.

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 SECTION 203.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS). NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF SECTION 203.05.

IN-STREAM WORK RESTRICTIONS

DO NOT WORK BELOW THE ORDINARY HIGH WATER (OHWM) MARK OF BLACK CREEK, OR INSTALL, MODIFY, OR REMOVE ANY EXISTING IN-STREAM FILLS DURING THE ODNR IN-STREAM WORK RESTRICTION PERIOD OF 04/15 - 06/30.

CALCULATED MS
CHECKED CAG

GENERAL NOTES

HOL-COUNTY TRAIL
PHASE 5C1

ITEM 204 SUBGRADE COMPACTION AND PROOF ROLLING

IT IS ESTIMATED THAT 10% OF THE PROJECT AREA MAY CONTAIN UNSTABLE SUBGRADE. DUE TO THE HIGH VARIABILITY IN THE SUBGRADE, ANY SUBGRADE REPLACEMENT WILL BE AS DIRECTED BY THE ENGINEER.

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

1. SHAPE THE SUBGRADE WITHIN 0.2 OF THE PLAN SUBGRADE ELEVATION.
2. COMPACT THE SUBGRADE ELEVATION ACCORDING TO 204.03.
3. PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO 204.06. THE ENGINEER WILL IDENTIFY THE LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.
4. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZED BY REPLACING WITH GRANULAR MATERIAL, TYPE C AND GEOTEXTILE FABRIC. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND EDGE OF THE PAVEMENT SURFACE.
5. PROOF ROLL THE STABILIZED AREAS ACCORDING TO 204.06 TO VERIFY STABILITY.
6. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE FOLLOWING ITEMS AND QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO ADDRESS ANY ENCOUNTERED UNSTABLE SOILS.

ITEM 204 EXCAVATION OF SUBGRADE	1,396 CY
ITEM 204 GRANULAR MATERIAL, TYPE C	1,396 CY
ITEM 204 GEOTEXTILE FABRIC	4,190 SY

CHANNEL EMBANKMENTS

FILL AND SLOPE PORTIONS OF THE EXISTING CHANNEL TO DRAIN AS SHOWN IN THESE PLANS. IN CHANNEL EMBANKMENT AREAS WHICH WILL NOT SUPPORT ANY PORTION OF THE NEW ROAD BED OR STRUCTURAL EMBANKMENTS, THE CONTRACTOR MAY UTILIZE EMBANKMENT METHODS MEETING THE FOLLOWING REQUIREMENTS:

CLEAR ALL WEEDS AND BRUSH IN AREAS WHERE CHANNEL EMBANKMENTS ARE TO BE PLACED. THE REQUIREMENTS FOR MOISTURE, DENSITY CONTROL, BENCHING AND SUITABLE MATERIALS IS WAIVED. PLACE THE MATERIAL IN 8-INCH LOOSE LIFTS. THE ENGINEER MAY INCREASE THE LIFT THICKNESS IN ORDER TO BRIDGE THE SOFT OR WET FOUNDATIONS DEPENDING ON THE STABILITY OF THE FOUNDATION. THE ENGINEER MAY INCREASE THE LIFT THICKNESS UP TO 24 INCHES TO OBTAIN STABILITY AT THE TOP OF THE LIFT.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 203, EMBANKMENT.

SEEDING AND MULCHING

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

659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	3685 CU. YD.
659, SEEDING AND MULCHING, CLASS 4A (CARRIED ON CROSS SECTION SUMMARY TABLE)	
659, REPAIR SEEDING AND MULCHING	1660 SQ. YD.
659, INTER-SEEDING	1660 SQ. YD.
659, COMMERCIAL FERTILIZER	4.84 TON
659, LIME	6.86 ACRES
659, WATER	180 M. GAL.

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

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING. SEE OFFICE CALCULATIONS FOR ADDITIONAL INFORMATION.

ITEM 204 - PROOF ROLLING 19 HOURS.

ITEM 607 - FENCE MISC.: WOOD FENCE (SAFETY RAIL PER SCD RM-5.2)

THIS WORK CONSISTS OF FURNISHING AND ERECTING FENCE PER RM-5.2. CONSTRUCT FENCE IN A MANNER THAT PROVIDES A RIGID, TAUT FENCE CLOSELY CONFORMING TO THE SURFACE OF THE GROUND. EXTRA CARE SHALL BE TAKEN WHEN SPACING POSTS AROUND CULVERTS AND OTHER UNDERGROUND UTILITIES. COSTS OF MOUNTING A POST TO A ITEM 611 CONDUIT IS INCIDENTAL TO ITEM 607 - FENCE, MISC.: WOOD FENCE.

SAFETY FENCING IS PAID FOR AT THE UNIT PRICE BID FOR ITEM 607 - FENCE, MISC.: WOOD FENCE. THIS PRICE INCLUDES THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE FENCING.

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK CONSISTS OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. DISPOSE OF ALL MATERIAL PER 105.16 AND 105.17. CLEAN OUT TO THE APPROVAL OF THE ENGINEER.

CLEANOUT OF THE PIPE IS PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL, PIPE CLEANOUT. THIS PRICE INCLUDES THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

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

ITEM SPECIAL, PIPE CLEANOUT, 24" AND UNDER:	
SIZE UNKOWN - STA. 37+53.85	55 FT.
12" - STA. 46+75.31	90 FT.
24" - STA. 135+70.51	46 FT.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

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

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

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

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

EARTHWORK

EARTHWORK QUANTITIES WERE CALCULATED BASED ON TIGHTER INTERVALS THAN CROSS SECTION SHOWN IN PLANS. TOTALS WERE SUMMED UP BY STATIONS SHOWN ON SHEETS AND SUMMARIZED BELOW:

SHEET NO.	TYPE	ITEM 659 - SEEDING & MULCHING, CLASS 4A (SY)	ITEM 203 - EXCAVATION (CY)	ITEM 203 - EMBANKMENT (CY)
32	SHEET TOTALS	659	285	139
33	SHEET TOTALS	1,498	621	281
33	SPECIAL BENCHING		120	120
34	SHEET TOTALS	1,152	185	262
35	SHEET TOTALS	3,331	675	369
36	SHEET TOTALS	728	314	113
37	SHEET TOTALS	930	103	585
38	SHEET TOTALS	1,032	245	166
38	SPECIAL BENCHING		63	63
39	SHEET TOTALS	460	68	131
40	SHEET TOTALS	668	48	683
41	SHEET TOTALS	567	95	592
42	SHEET TOTALS	643	97	1,453
43	SHEET TOTALS	585	328	52
44	SHEET TOTALS	627	251	162
45	SHEET TOTALS	2,682	621	359
46	SHEET TOTALS	1,242	283	350
47-48	SPECIAL BENCHING		174	174
47	SHEET TOTALS	4,125	773	1,100
48	SHEET TOTALS	2,317	1,026	423
49	SHEET TOTALS	465	255	72
50	SHEET TOTALS	1,405	712	231
51	SHEET TOTALS	906	337	74
52	SHEET TOTALS	990	505	98
53	SHEET TOTALS	1,567	561	235
54	SHEET TOTALS	2,127	875	423
55	SHEET TOTALS	1,751	488	445
56	SHEET TOTALS	713	177	244
57	SHEET TOTALS	24	18	0
TOTALS TO GEN. SUM.		33,194	10,303	9,399

SIGN PLACEMENT

SIGN PLACEMENT ON THE SHARED-USE PATH SHALL FOLLOW THE GENERAL GUIDANCE OF STANDARD CONSTRUCTION DRAWING (SCD) TC-42.20 EXCEPT AS FOLLOWS:

LATERAL SIGN CLEARANCE SHALL BE A MINIMUM OF THREE (3) FEET AND A MAXIMUM OF SIX (6) FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF THE PATH. THERE SHALL BE TWO (2) FEET OF CLEAR SPACE BETWEEN EDGE OF PAVED TRAIL AND INNER EDGE OF ANY PROPOSED SIGN.

MOUNTING HEIGHT FOR GROUND-MOUNTED SIGNS SHALL BE A MINIMUM OF FOUR (4) FEET AND A MAXIMUM OF FIVE (5) FEET MEASURED FROM THE BOTTOM EDGE OF THE SIGN TO THE NEAR EDGE OF THE PATH SURFACE.

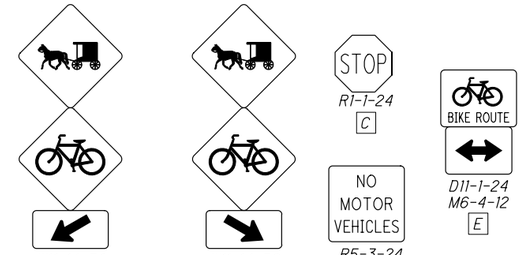
CLEARING AND GRUBBING

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 UNDER THE LUMP SUM BID FOR ITEM 201 CLEARING AND GRUBBING.

FENCE LENGTHS

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

SIGN LEGEND



REF NO.	SHEET NO.	STATION	SIGN CODE	SIGN SIZE	SIDE	630 GROUND MOUNTED SOPPORT, NO. 3 POST FT	630 GROUND MOUNTED SOPPORT, NO. 4 POST FT	630 SIGN POST REFLECTOR EA	630 SIGN, FLAT SHEET SF
S-1	15	CR-25	W11-14-30 W11-1-30 W16-7PL-24	30X30 30X30 24X12	EAST		14.5		14.50
S-2	15	CR-25	W11-14-30 W11-1-30 W16-7PR-24	30X30 30X30 24X12	WEST		14.5		14.50
			D11-1-24 M6-4-12	24X18 24X12		11			5.00
S-3	15	20+18	R1-1-24	24x24	LT	11		1	4.00
S-4	15	20+25	R1-1-24 R5-3-24	24x24 24x24	RT	11		1	8.00
			D11-1-24 M6-4-12	24X18 24X12		11			5.00
S-5	25	152+23	W11-14-30 W11-1-30 W16-7PR-24	30X30 30X30 24X12	LT		14.5		14.50
			D11-1-24 M6-4-12	24X18 24X12		11			5.00
			R5-3-24	24x24		11			4.00
S-6	25	152+26	R1-1-24	24x24	RT	10		1	4.00
S-7	25	152+57	R1-1-24	24x24	LT	10		1	4.00
S-8	25	152+59	W11-14-30 W11-1-30 W16-7PL-24	30X30 30X30 24X12	LT		14.5		14.50
			D11-1-24 M6-4-12	24X18 24X12		11			5.00
			R5-3-24	24x24		11			4.00
S-9	31	230+55	W11-14-30 W11-1-30 W16-7PR-24	30X30 30X30 24X12	LT		14.5		14.50
			D11-1-24 M6-4-12	24X18 24X12		11			5.00
			R5-3-24	24x24		11			4.00
S-10	31	230+61	R1-1-24	24x24	RT	10		1	4.00
S-11	31	SR-520	W11-14-30 W11-1-30 W16-7PL-24	30X30 30X30 24X12	LT		14.5		14.50
			D11-1-24 M6-4-12	24X18 24X12		11			5.00
			R5-3-24	24x24		11			4.00
TOTALS TO GEN. SUM.						162	87	5	157.00

CALCULATED MS CHECKED CAG

GENERAL NOTES

HOL-COUNTY TRAIL
PHASE 5C1

SHEET NUM.													PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	6	7	12	13	14	68	77	83	91	103	111	118	01/ENH/28							
																			ROADWAY	
		LS											LS		201	11000	LS		CLEARING AND GRUBBING	
				1									1		202	11004	1	EACH	STRUCTURE REMOVED	
				7									7		202	20010	7	EACH	HEADWALL REMOVED	
				82									82		202	32000	82	FT	CURB REMOVED	
				57									57		202	35100	57	FT	PIPE REMOVED, 24" AND UNDER	
				81									81		202	35200	81	FT	PIPE REMOVED, OVER 24"	
			74										74		202	38000	74	FT	GUARDRAIL REMOVED	
		191											191		SPECIAL	20270110	191	FT	PIPE CLEANOUT, 24" AND UNDER	7
				401									401		202	75000	401	FT	FENCE REMOVED	
				1									1		202	75250	1	EACH	GATE REMOVED	
		10,303					58	55					10,416		203	10000	10,416	CY	EXCAVATION	
		9,079					18	7		23			9,127		203	20000	9,127	CY	EMBANKMENT	
41,937													41,937		204	10000	41,937	SY	SUBGRADE COMPACTION	
		1,396											1,396		204	13000	1,396	CY	EXCAVATION OF SUBGRADE	
		1,396											1,396		204	30020	1,396	CY	GRANULAR MATERIAL, TYPE C	
		19											19		204	45000	19	HOUR	PROOF ROLLING	
		4,190											4,190		204	50000	4,190	SY	GEOTEXTILE FABRIC	
			25										25		606	15050	25	FT	GUARDRAIL, TYPE MGS	
			1										1		606	20050	1	EACH	ROUNDED END SECTION	
			1										1		606	26550	1	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
			11,076										11,076		607	98000	11,076	FT	FENCE, MISC.:WOOD FENCE	7
																			EROSION CONTROL	
								188					188		601	21060	188	SY	TIED CONCRETE BLOCK MAT WITH TYPE 2 UNDERLAYMENT	
				84									84		601	28100	84	CY	DUMPED ROCK FILL	
				89		69							158		601	32100	158	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
				19			57		69	17	46	49	257		601	32200	257	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
		2											2		659	00100	2	EACH	SOIL ANALYSIS TEST	
		3,685			440								4,125		659	00300	4,125	CY	TOPSOIL	
		33,194											33,194		659	00550	33,194	SY	SEEDING AND MULCHING, CLASS 4A	
		1,660											1,660		659	14000	1,660	SY	REPAIR SEEDING AND MULCHING	
		1,660											1,660		659	15000	1,660	SY	INTER-SEEDING	
		4.84											4.84		659	20000	4.84	TON	COMMERCIAL FERTILIZER	
		6.86											6.86		659	31000	6.86	ACRE	LIME	
		180											180		659	35000	180	MGAL	WATER	
					3,956								3,956		670	00500	3,956	SY	SLOPE EROSION PROTECTION	
LS													LS		832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
LS													LS		832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
LS													LS		832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
276,000													276,000		832	30000	276,000	EACH	EROSION CONTROL	
																			ENVIRONMENTAL / REMEDIATION ALTERNATES	
	LS												LS		SPECIAL	69098400	LS		MISC.: WORK INVOLVING ASBESTOS CONTAINING MATERIALS	6
																			DRAINAGE	
				17									17		602	20000	17	CY	CONCRETE MASONRY	
3,474													3,474		605	31100	3,474	FT	AGGREGATE DRAINS	
				85									85		611	06400	85	FT	15" CONDUIT, TYPE D	
				41									41		611	10900	41	FT	24" CONDUIT, TYPE D	
				21									21		611	10900	21	FT	24" CONDUIT, TYPE D. 706.02	
				94									94		611	19900	94	FT	42" CONDUIT, TYPE D	
				65									65		611	21400	65	FT	48" CONDUIT, TYPE D	
				9									9		611	21400	9	FT	48" CONDUIT, TYPE D, 707.04	
						24							24		611	94801	24	FT	8' X 4' CONDUIT, TYPE A, 706.05, AS PER PLAN	68
						30							30		611	94901	30	FT	8' X 5' CONDUIT, TYPE A, 706.05, AS PER PLAN	68
						60							60		613	41201	60	CY	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN	68

CALCULATED CAG
CHECKED MS

GENERAL SUMMARY

HOL-COUNTY TRAIL
PHASE 5C1

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	7	12	13	71	77	83	87	91	103	111	118	01/ENH/28							
																		PAVEMENT	
6,311										27		6,338		304	20000	6,338	CY	AGGREGATE BASE	
2,801								2	2	1	1	2,807		407	10000	2,807	GAL	TACK COAT	
14,003												14,003		408	10000	14,003	GAL	PRIME COAT	
1,459								5	2	4	4	1,474		441	50000	1,474	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
1,702								10	4	6	11	1,733		441	50300	1,733	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
399												399		452	12010	399	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
																		TRAFFIC CONTROL	
		2										2		626	00112	2	EACH	BARRIER REFLECTOR, TYPE 3 (BI-DIRECTIONAL)	
	162											162		630	03100	162	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
	87											87		630	04100	87	FT	GROUND MOUNTED SUPPORT, NO. 4 POST	
	5											5		630	08600	5	EACH	SIGN POST REFLECTOR	
	157											157		630	80100	157	SF	SIGN, FLAT SHEET	
			3.99									3.99		642	00300	3.99	MILE	CENTER LINE, TYPE 1	
			64									64		642	00500	64	FT	STOP LINE, TYPE 1	
																		RETAINING WALLS (2-5)	
				427								427		613	41201	427	CY	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN	71
				423								423		838	20700	423	CY	GABIONS	
																		RETAINING WALLS (6)	
					275							275		507	00400	275	FT	STEEL PILES, MISC.: SOLDIER PILES, W21X83	76
					2,666							2,666		509	10000	2,666	LB	EPOXY COATED REINFORCING STEEL	
					21							21		511	46013	21	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN	76
					28							28		512	10050	28	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
					4							4		512	33001	4	SY	TYPE 2 WATERPROOFING, AS PER PLAN	76
					180							180		513	20000	180	EACH	WELDED STUD SHEAR CONNECTORS	
					63							63		518	20000	63	SY	PREFABRICATED GEOCOMPOSITE DRAIN	
					1							1		518	21100	1	CY	POROUS BACKFILL	
					48							48		518	40000	48	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
					25							25		518	40010	25	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
					210							210		524	94603	210	FT	DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN	76
					404							404		SPECIAL	53051020	404	SF	RETAINING WALL, TIMBER LAGGING	76
																		RETAINING WALLS (7)	
						569						569		507	00400	569	FT	STEEL PILES, MISC.:SOLDIER PILES, W14X90	82
						4,837						4,837		509	10000	4,837	LB	EPOXY COATED REINFORCING STEEL	
						40						40		511	46013	40	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN	82
						84						84		512	10050	84	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
						12						12		512	33001	12	SY	TYPE 2 WATERPROOFING, AS PER PLAN	82
						320						320		513	20000	320	EACH	WELDED STUD SHEAR CONNECTORS	
						9						9		516	13600	9	SF	1" PREFORMED EXPANSION JOINT FILLER	
						119						119		518	20000	119	SY	PREFABRICATED GEOCOMPOSITE DRAIN	
						10						10		518	21100	10	CY	POROUS BACKFILL	
						125						125		518	40000	125	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
						19						19		518	40010	19	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
						388						388		524	94603	388	FT	DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN	82
						61						61		524	94605	61	FT	DRILLED SHAFTS, 30" DIAMETER INTO BEDROCK, AS PER PLAN	82
						905						905		SPECIAL	53051020	905	SF	RETAINING WALL, TIMBER LAGGING	82
																		RETAINING WALLS (8)	
							30					30		512	10100	30	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
							41					41		613	41201	41	CY	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN	87
							432					432		870	10001	432	SF	PREFABRICATED MODULAR RETAINING WALL, AS PER PLAN	87
							27					27		870	11000	27	CY	WALL EXCAVATION	
							58					58		870	12000	58	FT	6" DRAINAGE PIPE, PERFORATED	
							2					2		870	14000	2	DAY	ON-SITE ASSISTANCE	

CALCULATED CAG
CHECKED MS

GENERAL SUMMARY

HOL-COUNTY TRAIL
PHASE 5C1

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
									68	91	103	01/ENH/28							
																		STRUCTURE 20 FOOT SPAN AND UNDER (CULVERT HEADWALLS)	
									6,362			6,362		509	10000	6,362	LB	EPOXY COATED REINFORCING STEEL	
									16			16		511	46010	16	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
									40			40		511	46510	40	CY	CLASS QC1 CONCRETE, FOOTING	
									1.2			1.2		511	46610	1.2	CY	CLASS QC1 CONCRETE, HEADWALL	
									99			99		512	10100	99	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
									128			128		512	33000	128	SY	TYPE 2 WATERPROOFING	
									60			60		516	13600	60	SF	1" PREFORMED EXPANSION JOINT FILLER	
									30			30		518	21200	30	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
																		STRUCTURE OVER 20 FOOT SPAN (BRIDGE 1)	
										LS		LS		202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	90
										LS		LS		503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
										39		39		503	21100	39	CY	UNCLASSIFIED EXCAVATION	
										4,835		4,835		509	10000	4,835	LB	EPOXY COATED REINFORCING STEEL	
										50		50		509	20001	50	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	90
										142		142		510	10000	142	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
										79		79		511	45710	79	CY	CLASS QC1 CONCRETE, ABUTMENT	
										202		202		512	10100	202	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
										148		148		512	33011	148	SY	TYPE 3 WATERPROOFING, AS PER PLAN	95
										388		388		513	10200	388	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF	
										287		287		516	25000	287	SF	NYLON REINFORCED NEOPRENE SHEETING	
										2		2		516	46200	2	EACH	BEARING DEVICE, ROCKER	
										2		2		516	46700	2	EACH	RESET BEARING	
										LS		LS		516	47000	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE	
										200		200		517	74001	200	FT	RAILING, TIMBER, AS PER PLAN	90
										54		54		518	21200	54	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
										205		205		SPECIAL	51822300	205	FT	STEEL DRIP STRIP	
										81		81		518	40000	81	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
										27		27		518	40012	27	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE	
										40		40		519	11101	40	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	90
										11		11		SPECIAL	53010700	11	MFBM	STRUCTURES, TIMBER DECKING	100
										40		40		607	98000	40	FT	FENCE, MISC.:WOOD FENCE	7
										9		9		SPECIAL	69012050	9	SY	REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS	90
										14		14		846	00110	14	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	
																		STRUCTURE 20 FOOT SPAN AND UNDER (BRIDGE 2)	
											LS	LS		202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	103
											LS	LS		503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
											33	33		503	21100	33	CY	UNCLASSIFIED EXCAVATION	
											441	441		509	10000	441	LB	EPOXY COATED REINFORCING STEEL	
											90	90		510	10000	90	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
											5	5		511	45710	5	CY	CLASS QC1 CONCRETE, ABUTMENT	
											47	47		512	10100	47	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
											37	37		512	33010	37	SY	TYPE 3 WATERPROOFING	
											3,870	3,870		513	10201	3,870	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	103
											1,584	1,584		513	10260	1,584	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3	
											20	20		516	12200	20	FT	STRUCTURAL STEEL EXPANSION JOINT	
											LS	LS		516	47000	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE	
											50	50		517	74001	50	FT	RAILING, TIMBER, AS PER PLAN	103
											11	11		518	21200	11	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
											48	48		SPECIAL	51822300	48	FT	STEEL DRIP STRIP	
											35	35		519	11101	35	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	103
											3	3		SPECIAL	53010700	3	MFBM	STRUCTURES, TIMBER DECKING	108
											60	60		607	98000	60	FT	FENCE, MISC.:WOOD FENCE	7
											14	14		SPECIAL	69012050	14	SY	REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS	103
											19	19		846	00110	19	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	

CALCULATED CAG
CHECKED MS

GENERAL SUMMARY

HOL-COUNTY TRAIL
PHASE 5C1

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
									6	111	118	01/ENH/28							
																		STRUCTURE OVER 20 FOOT SPAN (BRIDGE 3)	
										LS		LS		503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
										61		61		503	21100	61	CY	UNCLASSIFIED EXCAVATION	
										378		378		509	10000	378	LB	EPOXY COATED REINFORCING STEEL	
										50		50		509	20001	50	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	110
										64		64		510	10000	64	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
										4		4		511	34410	4	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	
										5		5		512	10100	5	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
										154		154		512	33010	154	SY	TYPE 3 WATERPROOFING	
										106		106		517	74001	106	FT	RAILING, TIMBER, AS PER PLAN	110
										33		33		518	21200	33	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
										102		102		518	40000	102	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
										17		17		518	40012	17	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE	
										96		96		519	11101	96	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	110
										35		35		607	98000	35	FT	FENCE, MISC.:WOOD FENCE	7
																		STRUCTURE OVER 20 FOOT SPAN (BRIDGE 6)	
											LS	LS		202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	117
											LS	LS		503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
											14	14		503	21100	14	CY	UNCLASSIFIED EXCAVATION	
											1,329	1,329		509	10000	1,329	LB	EPOXY COATED REINFORCING STEEL	
											50	50		509	20001	50	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	117
											84	84		510	10000	84	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
											14	14		511	45710	14	CY	CLASS QC1 CONCRETE, ABUTMENT	
											40	40		512	10100	40	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
											117	117		512	33011	117	SY	TYPE 3 WATERPROOFING, AS PER PLAN	122
											366	366		513	10200	366	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF	
											177	177		516	25000	177	SF	NYLON REINFORCED NEOPRENE SHEETING	
											164	164		517	74001	164	FT	RAILING, TIMBER, AS PER PLAN	117
											24	24		518	21200	24	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
											172	172		SPECIAL	51822300	172	FT	STEEL DRIP STRIP	
											58	58		518	40000	58	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
											22	22		518	40012	22	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE	
											9	9		SPECIAL	53010700	9	MFBM	STRUCTURES, TIMBER DECKING	117
											50	50		607	98000	50	FT	FENCE, MISC.:WOOD FENCE	7
											9	9		SPECIAL	69012050	9	SY	REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS	117
											14	14		846	00110	14	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	
																		INCIDENTALS	
									LS			LS		614	11000	LS		MAINTAINING TRAFFIC	
												7		619	16010	7	MNTH	FIELD OFFICE, TYPE B	
												LS		624	10000	LS		MOBILIZATION	
												LS		623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	

CALCULATED CAG
CHECKED MS

GENERAL SUMMARY

HOL-COUNTY TRAIL
PHASE 5C1

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G:\DE\Clients\OH_Holmes County Parks\080723_HOLMES_TRAIL_5C\86052_HOLMES_TRAIL_5C\Design\Roadway\Sheets\86052_GG004.dgn Sheet 8/1/2023 12:29:06 PM Sechrist

REF NO.	SHEET NO.	STATION TO STATION			SIDE			202 GUARDRAIL REMOVED								606 GUARDRAIL, TYPE MGS	606 ROUNDED END SECTION		606 ANCHOR ASSEMBLY, MGS TYPE T	626 BARRIER REFLECTOR, TYPE 3(BI-DIRECTIONAL)				607 FENCE, MISC.:WOOD FENCE (SAFETY RAIL PER SCD RM-5.2)		
								FT								FT	EACH		EACH	EACH				FT		
F-1	15	20+20.00	TO	21+10.00	LT																			90.00		
F-2	15	20+90.00		24+75.00	RT																			385.00		
F-3	15	24+00.00		24+75.00	LT																			75.00		
F-4	15	25+95.00		26+60.00	LT																			65.00		
F-5	15-16	25+95.00		33+00.00	RT																			705.00		
F-6	15	27+50.00		29+60.00	LT																			210.00		
F-7	16	32+50.00		33+10.00	LT																			60.00		
F-8	16	34+80.00		35+43.00	LT																			63.00		
F-9	18	66+90.00		68+82.00	RT																			192.00		
F-10	18-19	69+41.00		70+50.00	RT																			109.00		
F-11	18-19	69+41.00		70+28.00	LT																			87.00		
F-12	19	73+90.00		75+50.00	RT																			160.00		
F-13	19-20	81+95.00		83+65.00	RT																			170.00		
F-14	20	86+40.00		94+50.00	RT																			810.00		
F-15	20	87+50.00		89+10.00	LT																			160.00		
F-16	21	95+15.00		96+00.00	RT																			85.00		
F-17	21	95+15.00		96+10.00	LT																			95.00		
F-18	21	96+90.00		100+50.00	RT																			360.00		
F-19	22	113+40.00		114+50.00	RT																			110.00		
F-20	22	117+15.00		119+25.00	RT																			210.00		
F-21	23	124+15.00		126+50.00	RT																			235.00		
F-22	23	124+25.00		125+10.00	LT																			85.00		
F-23	23	125+50.00		126+60.00	LT																			110.00		
F-24	23-24	130+00.00		134+10.00	LT																			410.00		
F-25	23-24	131+90.00		134+00.00	RT																			210.00		
F-26	24	134+90.00		136+50.00	RT																			160.00		
F-27	24-25	135+50.00		147+10.00	LT																			1160.00		
F-28	24	140+90.00		144+50.00	RT																			360.00		
F-29	26	158+40.00		166+00.00	RT																			760.00		
F-30	26	159+50.00		161+10.00	LT																			160.00		
F-31	26	162+00.00		163+60.00	LT																			160.00		
F-32	26-27	167+90.00		172+50.00	RT																			460.00		
F-33	27	170+00.00		172+10.00	LT																			210.00		
F-34	27	173+40.00		177+50.00	RT																			410.00		
F-35	27	178+40.00		179+25.00	RT																			85.00		
F-36	27	178+60.00		179+15.00	LT																			55.00		
F-37	27	179+70.00		181+40.00	RT																			170.00		
F-38	28	183+40.00		184+00.00	RT																			60.00		
F-39	28	185+05.00		185+35.00	LT																			30.00		
F-40	28	185+05.00		185+25.00	RT																			20.00		
F-41	28	186+50.00		192+60.00	LT																			610.00		
F-42	28-29	193+45.00		195+55.00	RT																			210.00		
F-43	30-31	217+90.00		225+00.00	RT																			710.00		
F-44	31	230+00.00		230+35.00	LT																			35.00		
GR-1	15	19+98.57		20+19.47	LT			42								25	1		1	2							
GR-2	23	124+51.49		124+67.18	LT			16																			
GR-3	23	124+51.54		124+67.41	RT			16																			
TOTALS CARRIED TO GENERAL SUMMARY								74								25	1		1	2				11076		

CALCULATED CAG
CHECKED MS

SUBSUMMARY

HOL-COUNTY TRAIL
PHASE 5C1

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REF NO.	SHEET NO.	STATION TO STATION			202 STRUCTURE REMOVED	202 CURB REMOVED	202 HEADWALL REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"	202 FENCE REMOVED	202 GATE REMOVED	601 DUMPED ROCK FILL	601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	602 CONCRETE MASONRY	611 15" CONDUIT, TYPE D	611 24" CONDUIT, TYPE D	611 24" CONDUIT, TYPE D, 706.02	611 42" CONDUIT, TYPE D	611 48" CONDUIT, TYPE D	611 48" CONDUIT, TYPE D, 707.04			613 LOW STRENGTH MORTAR BACKFILL, AS PER PLAN	642 CENTER LINE, TYPE 1	642 STOP LINE, TYPE 1
			TO		EACH	FT	EACH	FT	FT	FT	EACH	CY	CY	CY	CY	FT	FT	FT	FT	FT	FT			CY	MILE	FT
TC-1	15	20+21.50																							16
TC-2	15-25	20+21.50		152+34.00																					2.51	
TC-3	25	152+34.00																							16
TC-4	25	152+53.00																							16
TC-5	25-31	152+53.00		230+63.00																					1.48	
TC-6	31	230+63.00																								16
R-1	15-16	31+23.00		32+68.00						145																
R-2	16	38+60.00		39+42.00		82																				
R-3	21	106+39.00		106+60.00						42																
R-4	23	121+51.00		121+68.00						61																
R-5	23	124+60.00			1																					
R-6	23	128+43.00		128+96.00						153	1															
R-7	24	135+53.00					1	2																		
R-8	24	135+88.00					1	2																		
R-9	26	160+55.00					1		3																	
R-10	27	178+79.00		179+00.00			4		78																	
R-11	31	229+13.50						26																		
R-12	31	230+07.00						27																		
D-1	58	70+16.26												2.2	0.6	54										
D-2	59	74+00.00												1.3	0.6	31										
D-3	60	88+29.15												7.1	9.9						65					
D-4	61	95+57.23											20.0		1.1				60							
D-6	62	106+69.00													0.9			41								
D-8	64	135+70.51												2.2	0.9				21							
D-9	65	160+55.44													1.1							9				
D-11	67	230+20.00											6.5		1.9					34						
E-0	16	34+25.00		35+37.60								84														
E-1	19	73+00.00												1.8												
E-2	20	88+58.00												1.5												
E-3	21	95+29.05												1.4												
E-4	21	106+53.00												1.4												
TOTALS CARRIED TO GENERAL SUMMARY					1	82	7	57	81	401	1	84	27	19	17	85	41	21	94	65	9				3.99	64

CALCULATED CAG
CHECKED MS

SUBSUMMARY

HOL-COUNTY TRAIL
PHASE 5C1

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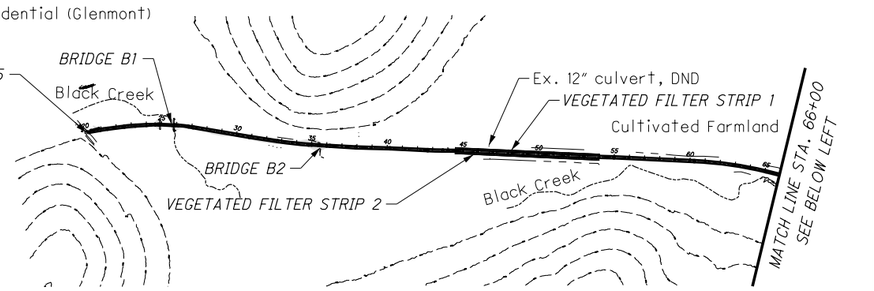
PROJECT DATA			
TOTAL AREA (RIGHT OF WAY)	45.50 Ac.	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.30
PROJECTED EARTH DISTURBED AREAS	14.32 Ac.	RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE	0.40
ESTIMATED CONTRACTOR EARTH DISTURBED AREAS	0.125 Ac.	POST CONSTRUCTION BMP:	VEGETATED FILTER STRIPS
NOTICE OF INTENT EARTH DISTURBED AREAS	15.0 Ac.	IMMEDIATE RECEIVING WATERS	BLACK CREEK
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	0.00 Ac.	SUBSEQUENT RECEIVING WATERS	KILLBUCK CREEK
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE	7.30 Ac.		

USGS Map(s): Glenmont, Ohio
SE/4 Loudonville 15' Quadrangle
1962

Killbuck, Ohio
N4022.5 - W8152.5/7.5
1962
AMS 4664 IV NW - Series V852

LATITUDE: 40°30'33"
LONGITUDE: -82°03'36"

(to the approximate center of the project

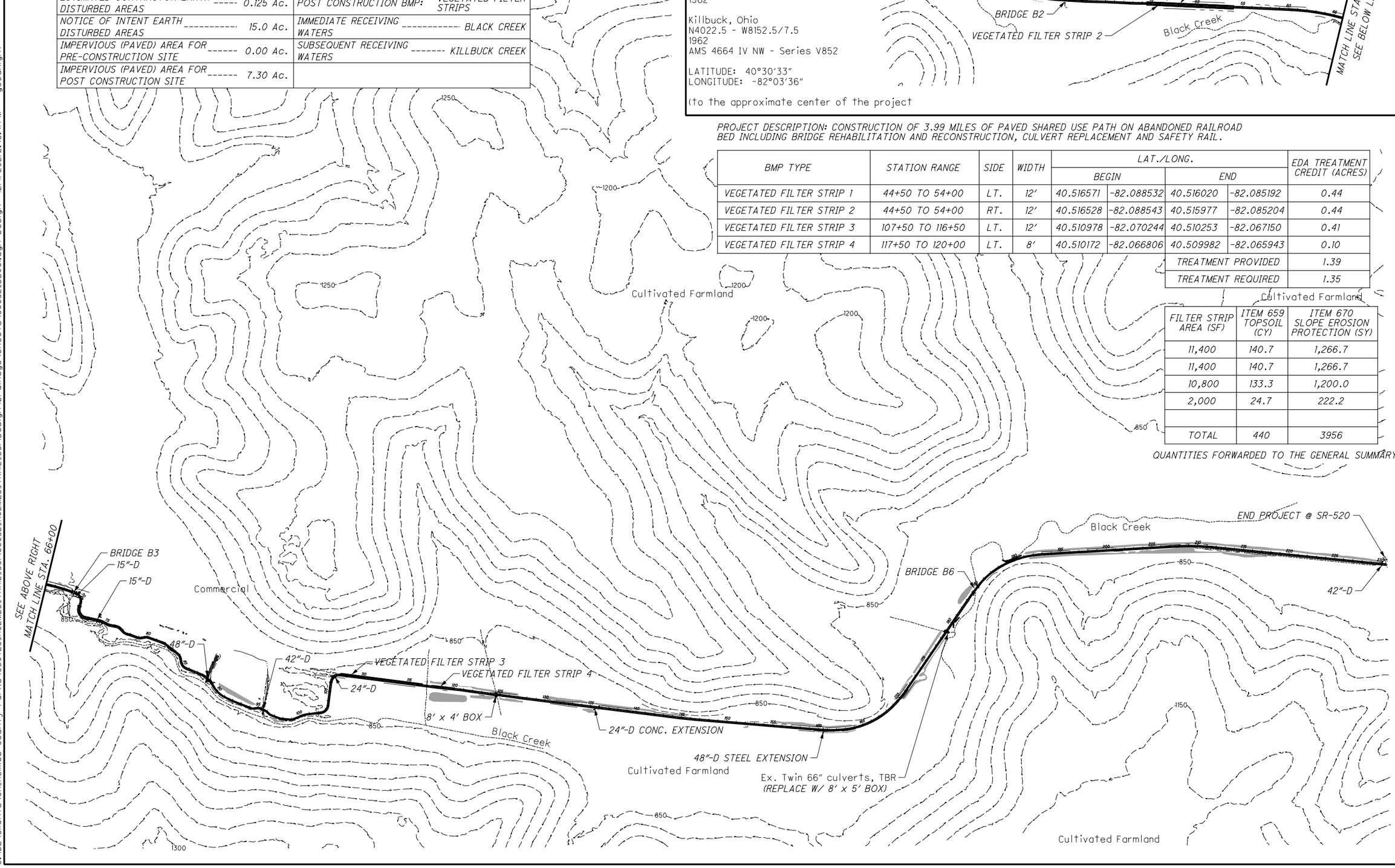


PROJECT DESCRIPTION: CONSTRUCTION OF 3.99 MILES OF PAVED SHARED USE PATH ON ABANDONED RAILROAD BED INCLUDING BRIDGE REHABILITATION AND RECONSTRUCTION, CULVERT REPLACEMENT AND SAFETY RAIL.

BMP TYPE	STATION RANGE	SIDE	WIDTH	LAT./LONG. BEGIN		LAT./LONG. END		EDA TREATMENT CREDIT (ACRES)
VEGETATED FILTER STRIP 1	44+50 TO 54+00	LT.	12'	40.516571	-82.088532	40.516020	-82.085192	0.44
VEGETATED FILTER STRIP 2	44+50 TO 54+00	RT.	12'	40.516528	-82.088543	40.515977	-82.085204	0.44
VEGETATED FILTER STRIP 3	107+50 TO 116+50	LT.	12'	40.510978	-82.070244	40.510253	-82.067150	0.41
VEGETATED FILTER STRIP 4	117+50 TO 120+00	LT.	8'	40.510172	-82.066806	40.509982	-82.065943	0.10
						TREATMENT PROVIDED		1.39
						TREATMENT REQUIRED		1.35

FILTER STRIP AREA (SF)	ITEM 659 TOPSOIL (CY)	ITEM 670 SLOPE EROSION PROTECTION (SY)
11,400	140.7	1,266.7
11,400	140.7	1,266.7
10,800	133.3	1,200.0
2,000	24.7	222.2
TOTAL	440	3956

QUANTITIES FORWARDED TO THE GENERAL SUMMARY



HORIZONTAL SCALE IN FEET: 0, 250, 500, 1000

CALCULATED: MS
CHECKED: AKB

PROJECT SITE PLAN

HOL-COUNTY TRAIL
PHASE 5C1

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* - BEGIN PREFABRICATED MODULAR BLOCK WALL @ STA. 20+30.00, 10.28 LT.
END PREFABRICATED MODULAR BLOCK WALL @ STA. 20+87.50, 14.04 LT.

THE VILLAGE COUNCIL OF GLENMONT AND RICHLAND TOWNSHIP TRUSTEES
O.R. 0183, PG. 0569
PAR. 22-60004.000

JASON ST. JOHN
SAUNDRA K. ST. JOHN
O.R. 0272, PG. 0198
PAR. 22-00009.000

RUSSELL K. AND GERALDEAN L. LINT
O.R. 234, PG. 947
PAR. 22-00057.002

TOM WILSON
TED WILSON
O.R. 0268, PG. 3826
PAR. 22-00076.002

STEPHEN J. AND MELODIE L. LEID
O.R. 0203, PG. 3290
PAR. 22-00076.001

THOMAS J. ALEXANDER
IRENE P. ALEXANDER
O.R. 0164, PG. 0110
PAR. 22-00076.000

THE BOARD OF COMMISSIONERS OF THE HOLMES COUNTY PARK DISTRICT
O.R. 191, PG. 1347
P.B. 15, PG. 158
PAR. 22-00186.000

LLOYD E. SCHLAUCH AND
LINDA SUE SCHLAUCH
O.R. 0269, PG. 0054
PAR. 21-00181.000

TRENT PLATT
O.R. 203, PG. 2922
PAR. 21-00195.000

Black Creek

STREAM 1

CENTERLINE BLACK CREEK

MGS GUARDRAIL

EX. BUILDING, (DND)

BEGIN SAFETY RAIL +20, 8.0' LT.

N 89° 14' 30" E

TYPE T ANCH. ASSY.

POT Sta. 20+00.00

GR-1

S-2

Ex. CB

18" RCP

END OF EX. TRAIL

+07.05

ITEM 642 - STOP LINE

+16.52

E100610

BEGIN PROJECT STA. 20+11.22

S-3

S-4

S-1

EX. RES. AGG. DRIVE, (DND)

PC Sta. 20+89.29

PT Sta. 21+41.84

BEGIN SAFETY RAIL +90, 11.0' RT.

F-1

END SAFETY RAIL +10.0, 11' LT.

TC-1

F-2

CONSTRUCTION LIMITS

PC Sta. 22+53.14

PT Sta. 23+26.22

EX. FIELD DRIVE, TO BE CLOSED

S 83° 33' 36" E

F-3

BEGIN SAFETY RAIL +00, 9.0' LT.

CONSTRUCTION LIMITS

PC Sta. 24+58.15

BRIDGE B1

H-001-1-18

TC-2

S 87° 44' 50" E

S 78° 05' 17" E

PT Sta. 24+17.25

F-4

BEGIN SAFETY RAIL +50, 9.0' LT.

END SAFETY RAIL +60.0, 9.5' LT.

CONSTRUCTION LIMITS

PC Sta. 26+01.18

PT Sta. 26+72.69

ITEM 642 - CENTER LINE MARKING

F-5

CONSTRUCTION LIMITS

Wetland #1

Ex. Tele. FO, DND

F-6

END SAFETY RAIL +60.0, 11.0' LT.

S 70° 55' 30" E

℄ CONSTRUCTION SHARED USE PATH

STA. 30+25.00 LT
10' X 10' CONCRETE PAD FOR PATH ACCESS

PI Sta. 30+87.01
Det: 1° 01' 03" LT
No Curve
eMax = Normal Crown

℄ R/W S.R. 520

R-1

MATCH LINE STA. 32+50, SEE SHEET 16

Wetland (DND)

BEGIN FENCE REMOVAL STA. 31+23 RT.

S 71° 56' 33" E

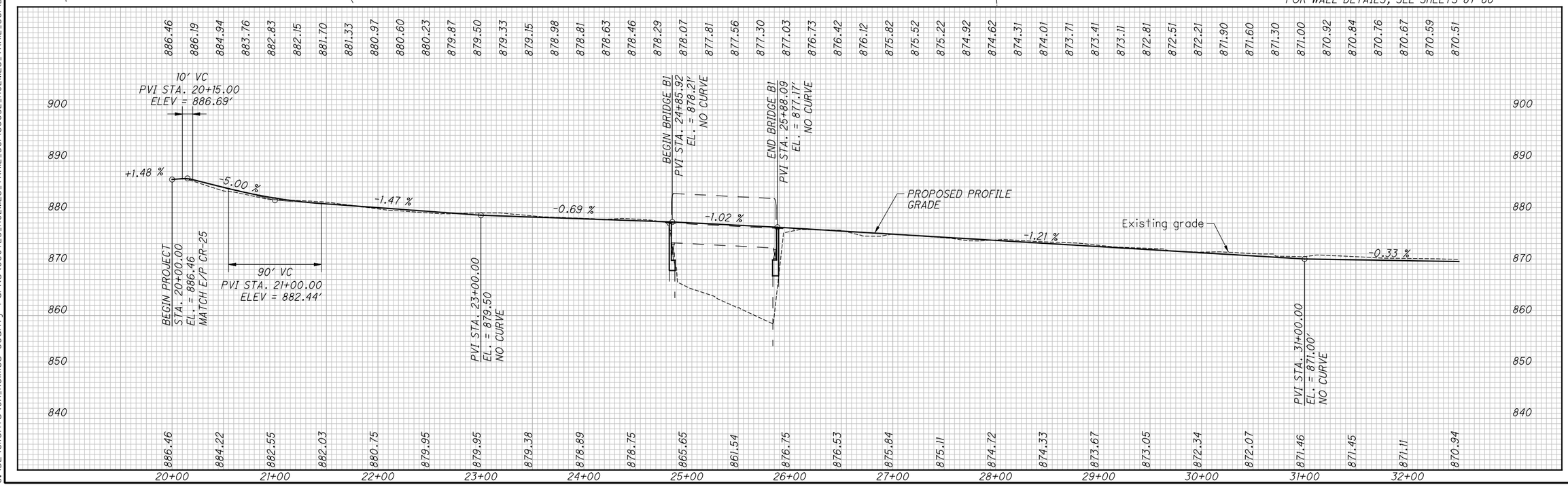
P.I. Sta. 21+15.57
Δ = 3° 00' 39" (RT)
Dc = 5° 43' 46"
R = 1,000.00'
T = 26.28'
L = 52.55'
E = 0.35'
C = 52.55'
C.B. = S 89° 15' 10" E

P.I. Sta. 22+89.70
Δ = 4° 11' 14" (RT)
Dc = 5° 43' 46"
R = 1,000.00'
T = 36.56'
L = 73.08'
E = 0.67'
C = 73.07'
C.B. = S 85° 39' 13" E

P.I. Sta. 24+67.71
Δ = 5° 28' 19" (RT)
Dc = 28° 38' 52"
R = 200.00'
T = 9.56'
L = 19.10'
E = 0.23'
C = 19.09'
C.B. = S 80° 49' 26" E

P.I. Sta. 26+41.48
Δ = 7° 09' 46" (RT)
Dc = 11° 27' 33"
R = 500.00'
T = 31.29'
L = 62.51'
E = 0.98'
C = 62.47'
C.B. = S 74° 30' 23" E

FOR SIGN LEGEND, SEE SHEET 7
FOR BRIDGE DETAILS, SEE SHEETS 89-101
FOR WALL DETAILS, SEE SHEETS 87-88



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MS CHECKED CAG

PLAN AND PROFILE STA. 20+00 TO STA. 32+50

HOL-COUNTY TRAIL
PHASE 5C1

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THOMAS J. ALEXANDER
IRENE P. ALEXANDER
O.R. 0164, PG. 0110
PAR. 22-00076.000

LESTER W. GRAY
ROBIN L. GRAY
O.R. 0270, PG. 3882
PAR. 22-00184.000

LLOYD E. SCHLAUCH AND
LINDA SUE SCHLAUCH
O.R. 0269, PG. 0054
PAR. 21-00181.000

LESTER W. GRAY
ROBIN L. GRAY
O.R. 0270, PG. 3882
PAR. 22-00667.002

THE BOARD OF COMMISSIONERS OF THE
HOLMES COUNTY PARK DISTRICT
O.R. 191, PG.1347
P.B. 15, PG. 158
9.61 AC.
PAR. 22-00186.000

MATCH LINE STA. 32+50, SEE SHEET 15

MATCH LINE STA. 45+00, SEE SHEET 17

PC Sta. 32+75.42

PT Sta. 35+00.28

PI Sta. 37+92.99
Def: 1° 47' 23" LT
No Curve
eMax = Normal Crown

PI Sta. 40+17.84
Def: 1° 03' 43" LT
No Curve
eMax = Normal Crown

PC Sta. 42+68.28

PT Sta. 43+67.04

PC Sta. 44+04.79

PT Sta. 44+97.21

+44 ℄ RES. DR.
12" CONCRETE

+00 ℄ RES. DR.
12" CONCRETE

BEGIN VEGETATED
FILTER STRIP No. 1
STA. 44+50, 20' LT.

BEGIN VEGETATED
FILTER STRIP No. 2
STA. 44+50, 20' RT.

Ex. Retaining wall, DND

BEGIN SAFETY RAIL
+50, 10.0' LT.

BEGIN SAFETY RAIL
+80.0, 9.0' LT.

END SAFETY RAIL
+10.0, 11.0' LT.

END SAFETY RAIL
+00.0, 9.0' RT.

END FENCE REMOVAL
STA. 32+68 RT.

S 71° 56' 33" E

BRIDGE B2

Ex. Abutments, TBR

Ex. HW

+87.85

15" CMP

℄ R/W S.R. 520

Ex. Aggregate drive

Ex. Catch basin,
Remove debris

Ex. curb, TBR

+08.08

+07.29

+97.90

S 77° 05' 45" E

S 78° 53' 08" E

S 77° 49' 25" E

S 80° 05' 14" E

Ex. Tele. FO, DND

CONSTRUCTION LIMITS

℄ CONSTRUCTION
SHARED USE PATH

+16.16

+05.57

+05.21

+20.31

Ex. Aggregate drive

STREAM 2

EX. STORM CONDUIT, SIZE,
LENGTH, SLOPE AND SKEW
UNKNOWN, CLEANOUT WITHIN
CONSTRUCTION LIMITS.

Ex. Telecom, DND

ITEM 642 - CENTER
LINE MARKING

NOTE: ALL DRIVE CROSSINGS TO BE 6" CONCRETE
AND EXTENDED 10' BEYOND EDGE OF THE TRAIL.

Ex. Single
story residence

F-5 F-7 E-0 F-8 TC-2 R-1 R-2

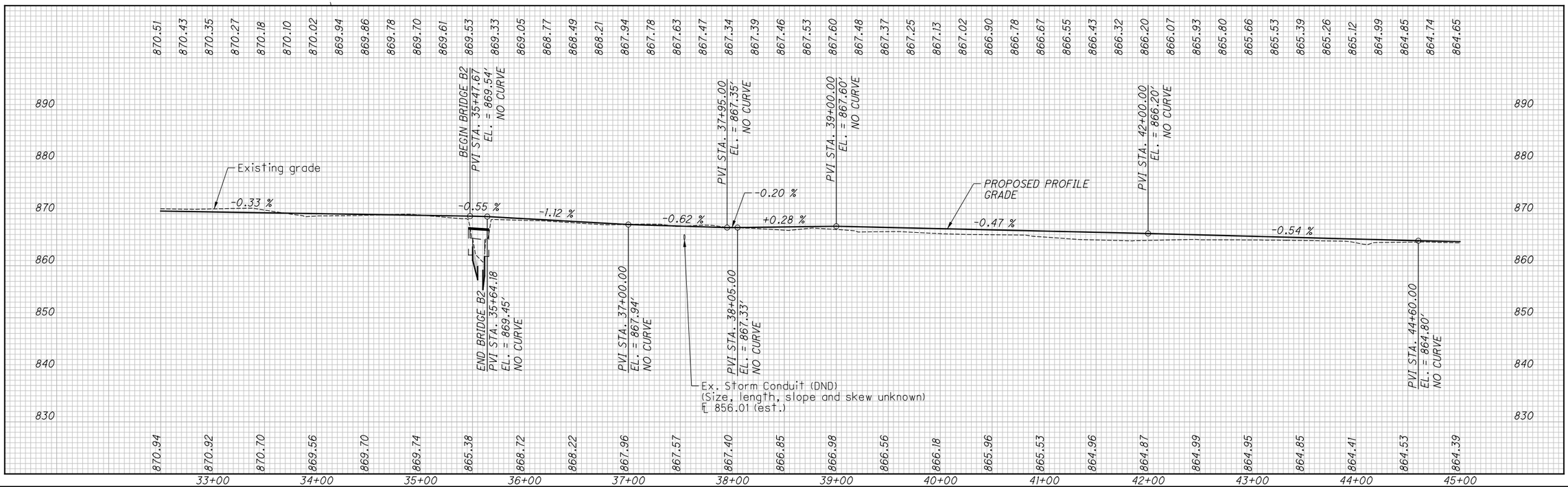
SECTION 1
SECTION 1

P.I. Sta. 33+87.93
Δ = 5° 09' 12" (LT)
Dc = 2° 17' 31"
R = 2,500.00'
T = 112.50'
L = 224.86'
E = 2.53'
C = 224.78'
C.B. = S 74° 31' 09" E

P.I. Sta. 43+17.67
Δ = 2° 15' 49" (LT)
Dc = 2° 17' 31"
R = 2,500.00'
T = 49.39'
L = 98.77'
E = 0.49'
C = 98.76'
C.B. = S 78° 57' 19" E

P.I. Sta. 44+51.01
Δ = 2° 07' 06" (RT)
Dc = 2° 17' 31"
R = 2,500.00'
T = 46.22'
L = 92.42'
E = 0.43'
C = 92.42'
C.B. = S 79° 01' 41" E

FOR BRIDGE DETAILS, SEE SHEETS 102-108



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MS
CHECKED CAG

PLAN AND PROFILE
STA. 32+50 TO STA. 45+00

HOL-COUNTY TRAIL
PHASE 5C1

16
127

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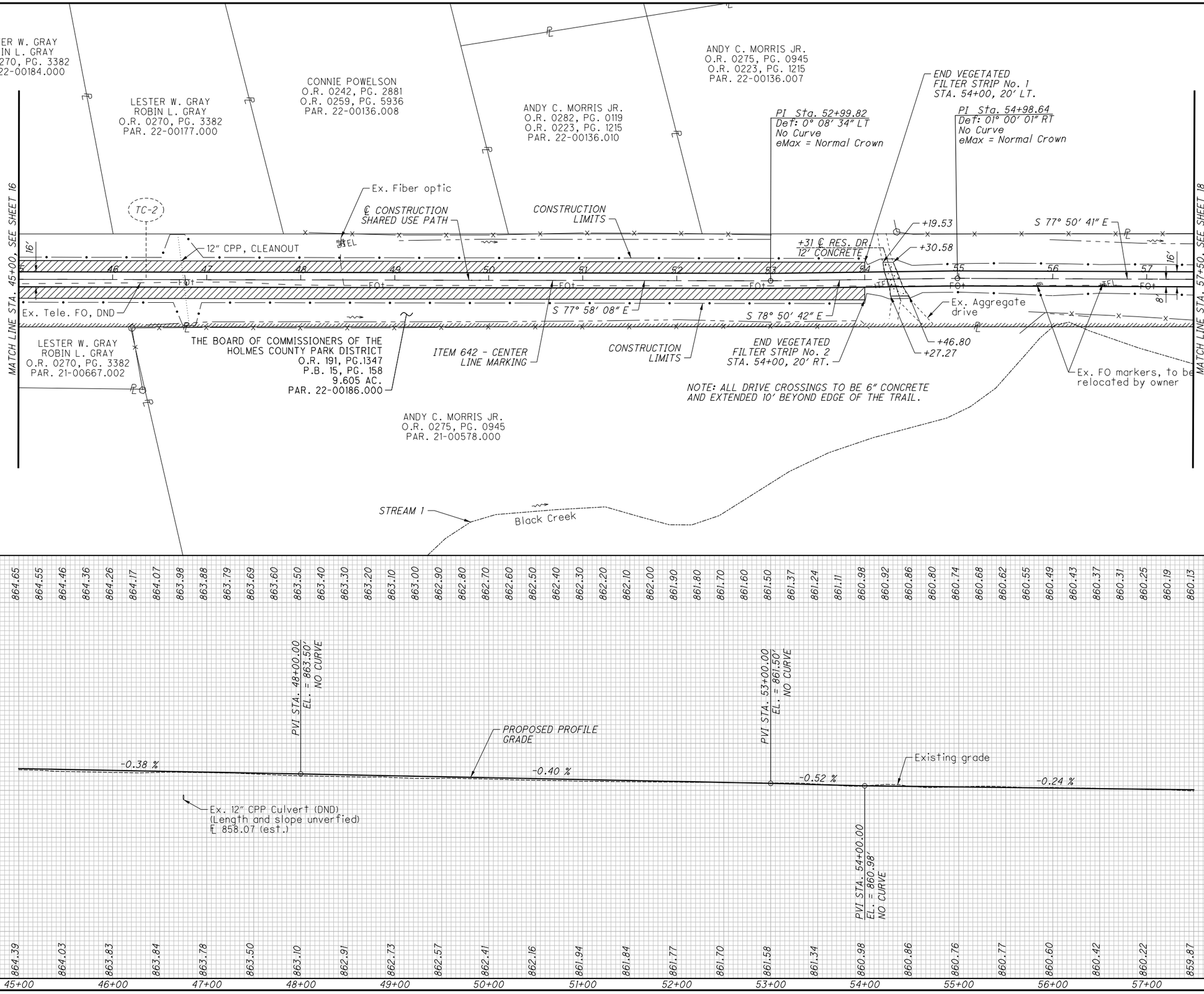

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MS
CHECKED CAG

PLAN AND PROFILE
STA. 45+00 TO STA. 57+50

HOL-COUNTY TRAIL
PHASE 5C1

17
127

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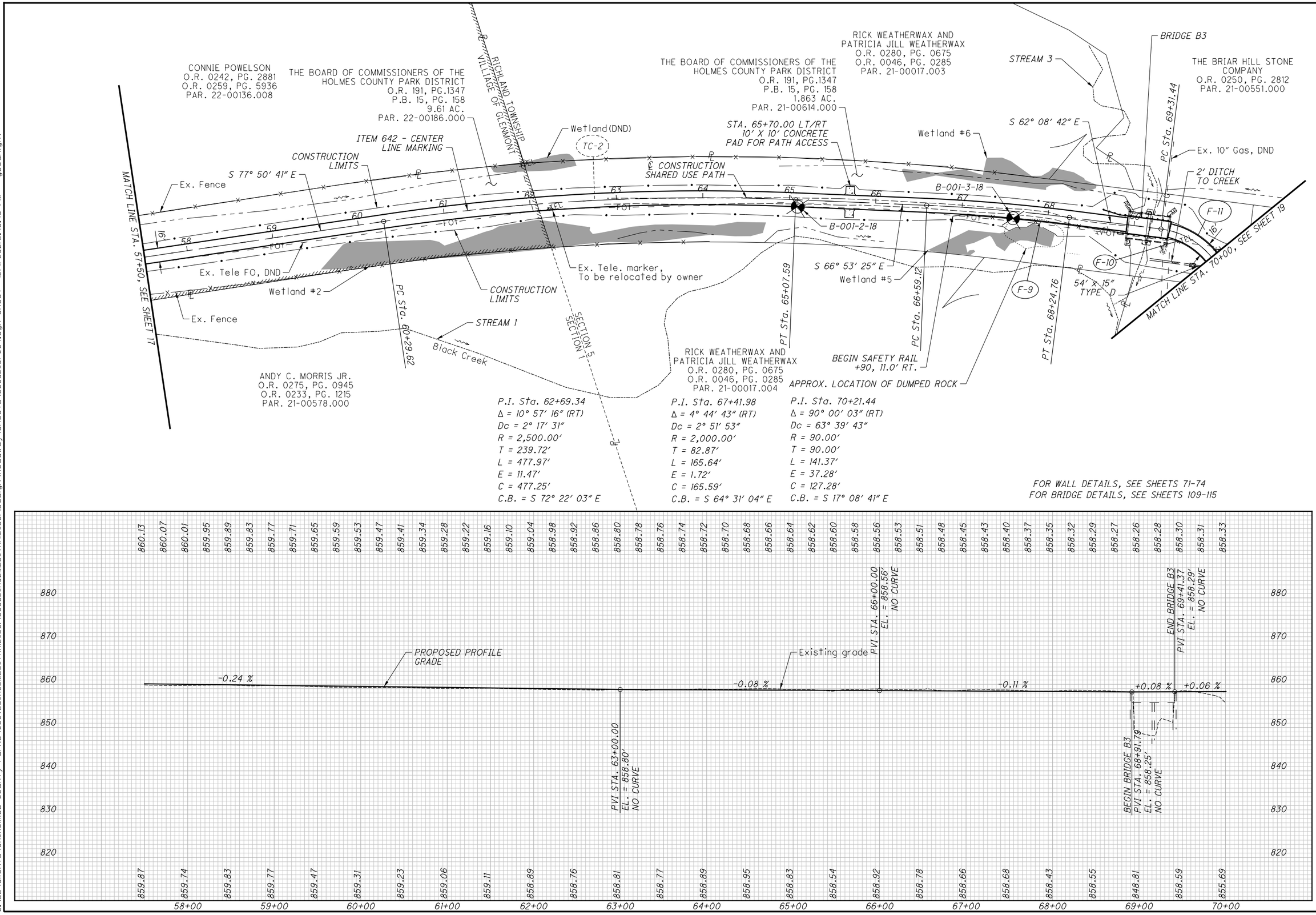

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N

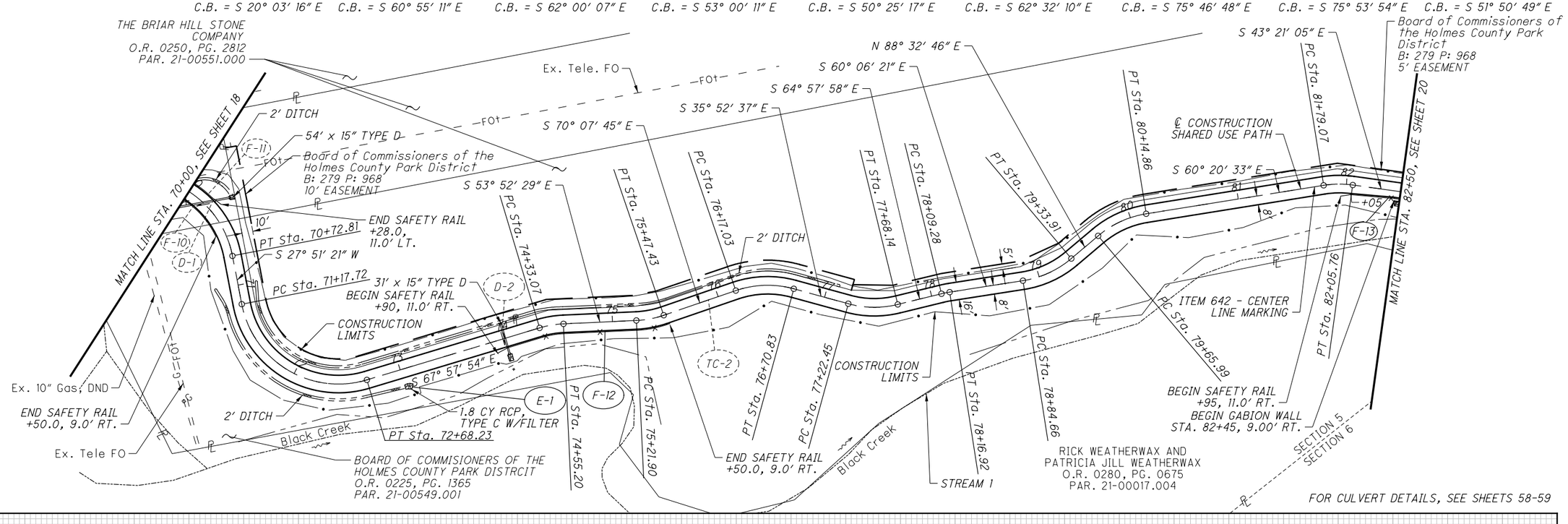
0 25 50 100
HORIZONTAL SCALE IN FEET

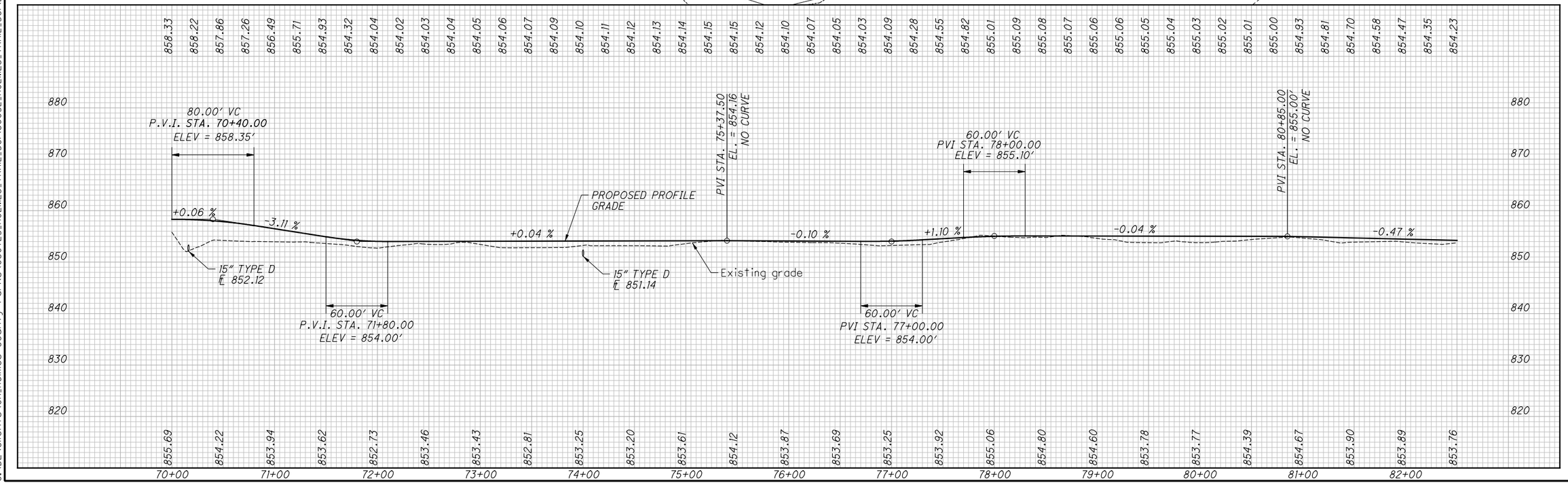
CALCULATED MS
CHECKED CAG

PLAN AND PROFILE
STA. 57+50 TO STA. 70+00

HOL-COUNTY TRAIL
PHASE 5C1

P.I. Sta. 72+17.36	P.I. Sta. 74+44.19	P.I. Sta. 75+34.75	P.I. Sta. 76+44.76	P.I. Sta. 77+45.80	P.I. Sta. 78+13.10	P.I. Sta. 79+09.92	P.I. Sta. 79+91.04	P.I. Sta. 81+92.51
Δ = 95° 49′ 15″ (LT)	Δ = 14° 05′ 25″ (RT)	Δ = 16° 15′ 17″ (LT)	Δ = 34° 15′ 09″ (RT)	Δ = 29° 05′ 21″ (LT)	Δ = 4° 51′ 36″ (RT)	Δ = 31° 20′ 53″ (LT)	Δ = 31° 06′ 41″ (RT)	Δ = 16° 59′ 28″ (RT)
Dc = 63° 39′ 43″	Dc = 63° 39′ 43″	Dc = 63° 39′ 43″	Dc = 63° 39′ 43″	Dc = 63° 39′ 43″	Dc = 63° 39′ 43″	Dc = 63° 39′ 43″	Dc = 63° 39′ 43″	Dc = 63° 39′ 43″
R = 90.00′	R = 90.00′	R = 90.00′	R = 90.00′	R = 90.00′	R = 90.00′	R = 90.00′	R = 90.00′	R = 90.00′
T = 99.64′	T = 11.12′	T = 12.85′	T = 27.73′	T = 23.35′	T = 3.82′	T = 25.25′	T = 25.05′	T = 13.44′
L = 150.51′	L = 22.13′	L = 25.53′	L = 53.80′	L = 45.69′	L = 7.63′	L = 49.24′	L = 48.87′	L = 26.69′
E = 44.27′	E = 0.68′	E = 0.91′	E = 4.18′	E = 2.98′	E = 0.08′	E = 3.48′	E = 3.42′	E = 1.00′
C = 133.58′	C = 22.08′	C = 25.45′	C = 53.01′	C = 45.20′	C = 7.63′	C = 48.63′	C = 48.27′	C = 26.59′
C.B. = S 20° 03′ 16″ E	C.B. = S 60° 55′ 11″ E	C.B. = S 62° 00′ 07″ E	C.B. = S 53° 00′ 11″ E	C.B. = S 50° 25′ 17″ E	C.B. = S 62° 32′ 10″ E	C.B. = S 75° 46′ 48″ E	C.B. = S 75° 53′ 54″ E	C.B. = S 51° 50′ 49″ E





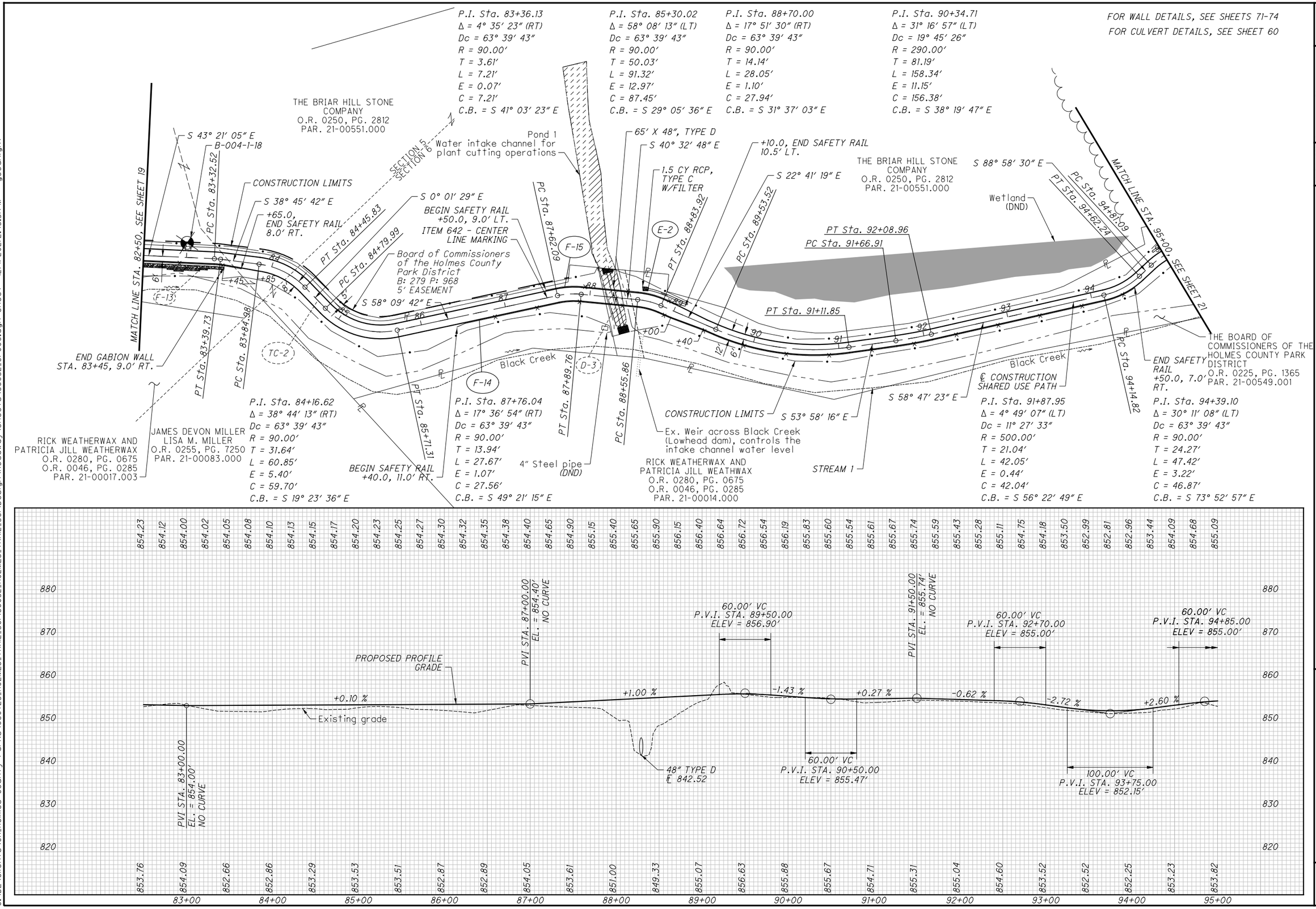
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MS
CHECKED CAG

PLAN AND PROFILE
STA. 70+00 TO STA. 82+50

HOL-COUNTY TRAIL
PHASE 5C1

19
127


P.I. Sta. 83+36.13
Δ = 4° 35′ 23″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 3.61′
L = 7.21′
E = 0.07′
C = 7.21′
C.B. = S 41° 03′ 23″ E
P.I. Sta. 85+30.02
Δ = 58° 08′ 13″ (LT)
Dc = 63° 39′ 43″
R = 90.00′
T = 50.03′
L = 91.32′
E = 12.97′
C = 87.45′
C.B. = S 29° 05′ 36″ E
P.I. Sta. 88+70.00
Δ = 17° 51′ 30″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 14.14′
L = 28.05′
E = 1.10′
C = 27.94′
C.B. = S 31° 37′ 03″ E
P.I. Sta. 90+34.71
Δ = 31° 16′ 57″ (LT)
Dc = 19° 45′ 26″
R = 290.00′
T = 81.19′
L = 158.34′
E = 11.15′
C = 156.38′
C.B. = S 38° 19′ 47″ E
FOR WALL DETAILS, SEE SHEETS 71-74
FOR CULVERT DETAILS, SEE SHEET 60
THE BRIAR HILL STONE COMPANY
O.R. 0250, PG. 2812
PAR. 21-00551.000
Pond 1
Water intake channel for plant cutting operations
65′ X 48″, TYPE D
S 40° 32′ 48″ E
1.5 CY RCP, TYPE C W/FILTER
+10.0, END SAFETY RAIL 10.5′ LT.
S 22° 41′ 19″ E
THE BRIAR HILL STONE COMPANY
O.R. 0250, PG. 2812
PAR. 21-00551.000
S 88° 58′ 30″ E
MATCH LINE STA. 95+00, SEE SHEET 21
S 43° 21′ 05″ E
B-004-1-18
PC Sta. 83+32.52
CONSTRUCTION LIMITS
S 38° 45′ 42″ E
+65.0, END SAFETY RAIL 8.0′ RT.
PT Sta. 84+45.83
PC Sta. 84+79.99
S 0° 01′ 29″ E
BEGIN SAFETY RAIL +50.0, 9.0′ LT.
ITEM 642 - CENTER LINE MARKING
Board of Commissioners of the Holmes County Park District
B: 279 P: 968
5′ EASEMENT
S 58° 09′ 42″ E
PC Sta. 87+62.09
PT Sta. 88+83.92
PC Sta. 89+53.52
PT Sta. 92+08.96
PC Sta. 91+66.91
PT Sta. 91+11.85
Wetland (DND)
PT Sta. 94+62.24
PC Sta. 94+81.09
MATCH LINE STA. 82+50, SEE SHEET 19
END GABION WALL STA. 83+45, 9.0′ RT.
PT Sta. 83+39.73
PC Sta. 83+84.98
TC-2
F-13
F-14
F-15
E-2
D-3
Black Creek
P.I. Sta. 84+16.62
Δ = 38° 44′ 13″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 31.64′
L = 60.85′
E = 5.40′
C = 59.70′
C.B. = S 19° 23′ 36″ E
P.I. Sta. 87+76.04
Δ = 17° 36′ 54″ (RT)
Dc = 63° 39′ 43″
R = 90.00′
T = 13.94′
L = 27.67′
E = 1.07′
C = 27.56′
C.B. = S 49° 21′ 15″ E
PT Sta. 87+89.76
PC Sta. 88+55.86
4″ Steel pipe (DND)
CONSTRUCTION LIMITS
Ex. Weir across Black Creek (Lowhead dam), controls the intake channel water level
S 53° 58′ 16″ E
S 58° 47′ 23″ E
STREAM 1
RICK WEATHERWAX AND PATRICIA JILL WEATHWAX
O.R. 0280, PG. 0675
O.R. 0046, PG. 0285
PAR. 21-00014.000
RICK WEATHERWAX AND PATRICIA JILL WEATHERWAX
O.R. 0280, PG. 0675
O.R. 0046, PG. 0285
PAR. 21-00017.003
JAMES DEVON MILLER
LISA M. MILLER
O.R. 0255, PG. 7250
PAR. 21-00083.000
BEGIN SAFETY RAIL +40.0, 11.0′ RT.
PT Sta. 85+71.31
℄ CONSTRUCTION SHARED USE PATH
P.I. Sta. 91+87.95
Δ = 4° 49′ 07″ (LT)
Dc = 11° 27′ 33″
R = 500.00′
T = 21.04′
L = 42.05′
E = 0.44′
C = 42.04′
C.B. = S 56° 22′ 49″ E
PC Sta. 94+14.82
END SAFETY RAIL +50.0, 7.0′ RT.
P.I. Sta. 94+39.10
Δ = 30° 11′ 08″ (LT)
Dc = 63° 39′ 43″
R = 90.00′
T = 24.27′
L = 47.42′
E = 3.22′
C = 46.87′
C.B. = S 73° 52′ 57″ E
THE BOARD OF COMMISSIONERS OF THE HOLMES COUNTY PARK DISTRICT
O.R. 0225, PG. 1365
PAR. 21-00549.001
PROPOSED PROFILE GRADE
Existing grade
PVI STA. 83+00.00
EL. = 854.00′
NO CURVE
PVI STA. 87+00.00
EL. = 854.40′
NO CURVE
PVI STA. 91+50.00
EL. = 855.74′
NO CURVE
+0.10 %
+1.00 %
-1.43 %
+0.27 %
-0.62 %
-2.72 %
+2.60 %
60.00′ VC
P.V.I. STA. 89+50.00
ELEV = 856.90′
60.00′ VC
P.V.I. STA. 90+50.00
ELEV = 855.47′
60.00′ VC
P.V.I. STA. 92+70.00
ELEV = 855.00′
100.00′ VC
P.V.I. STA. 93+75.00
ELEV = 852.15′
60.00′ VC
P.V.I. STA. 94+85.00
ELEV = 855.00′
48″ TYPE D
℄ 842.52
853.76 854.09 852.66 852.86 853.29 853.53 853.51 852.87 852.89 854.05 853.61 851.00 849.33 855.07 856.63 855.88 855.67 854.71 855.31 855.04 854.60 853.52 852.52 852.25 853.23 853.82
854.23 854.12 854.00 854.02 854.05 854.08 854.10 854.13 854.15 854.17 854.20 854.23 854.25 854.27 854.30 854.32 854.35 854.38 854.40 854.65 854.90 855.15 855.40 855.65 855.90 856.15 856.40 856.64 856.72 856.54 856.19 855.83 855.60 855.54 855.61 855.67 855.74 855.59 855.43 855.28 855.11 854.75 854.18 853.50 852.99 852.81 852.96 853.44 854.09 854.68 855.09
880 870 860 850 840 830 820
83+00 84+00 85+00 86+00 87+00 88+00 89+00 90+00 91+00 92+00 93+00 94+00 95+00
HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED MS
CHECKED CAG
PLAN AND PROFILE
STA. 82+50 TO STA. 95+00
HOL-COUNTY TRAIL
PHASE 5C1
20
127
G:\DE\Clients\OH_Holmes County Parks\080723_HOLMES_TRAIL_5C1\86052_HOLMES_TRAIL_5C1\Design\Roadway\Sheets\86052_GP006.dgn Sheet 12/1/2021 2:45:51 PM goodnight

FOR CULVERT DETAILS, SEE SHEETS 61-62

STREAM 4
BEGIN SAFETY RAIL +15, 9.0' LT. & RT.
1.4 CY RCP, TYPE C, W/FILTER
MATCH LINE STA. 95+00, SEE SHEET 20
Board of Commissioners of the Holmes County Park District B: 279 P: 968 10' EASEMENT
PT Sta. 95+29.05
PC Sta. 95+75.30
E-3
F-17
END SAFETY RAIL +10.0, 9.0' LT.
F-16
PT Sta. 96+11.19
PC Sta. 96+30.39
BEGIN SAFETY RAIL +90, 9.0' RT.
S 59° 49' 14" E
TC-2
S 58° 26' 56" E
D-4
60' x 42" TYPE D
PT Sta. 97+91.86
F-18
CONSTRUCTION LIMITS
PT Sta. 96+68.48
Black Creek
END SAFETY RAIL +00.0, 7.0' RT.
Wetland #8
PC Sta. 97+66.48
S 75° 58' 23" E
PC Sta. 98+80.21
RICK WEATHERWAX AND PATRICIA JILL WEATHWAX
O.R. 0280, PG. 0675
O.R. 0046, PG. 0285
PAR. 21-00014.000
CONSTRUCTION LIMITS
END SAFETY RAIL +50.0, 7.0' RT.
PT Sta. 100+78.45
STREAM 1
PT Sta. 99+21.94
PC Sta. 100+24.63
N 77° 27' 24" E
THE BOARD OF COMMISSIONERS OF THE HOLMES COUNTY PARK DISTRICT
O.R. 0225, PG. 1365
PAR. 21-00549.001
S 87° 07' 25" E
PC Sta. 102+25.79
PT Sta. 103+45.42
Board of Commissioners of the Holmes County Park District
B: 279 P: 968
5' EASEMENT

P.I. Sta. 95+93.49
Δ = 22° 50' 53" (RT)
Dc = 63° 39' 43"
R = 90.00'
T = 18.19'
L = 35.89'
E = 1.82'
C = 35.65'
C.B. = S 47° 01' 29" E

P.I. Sta. 96+49.70
Δ = 24° 13' 11" (LT)
Dc = 63° 39' 43"
R = 90.00'
T = 19.31'
L = 38.04'
E = 2.05'
C = 37.76'
C.B. = S 47° 42' 39" E

P.I. Sta. 97+79.25
Δ = 16° 09' 09" (LT)
Dc = 63° 39' 43"
R = 90.00'
T = 12.77'
L = 25.37'
E = 0.90'
C = 25.29'
C.B. = S 67° 53' 49" E

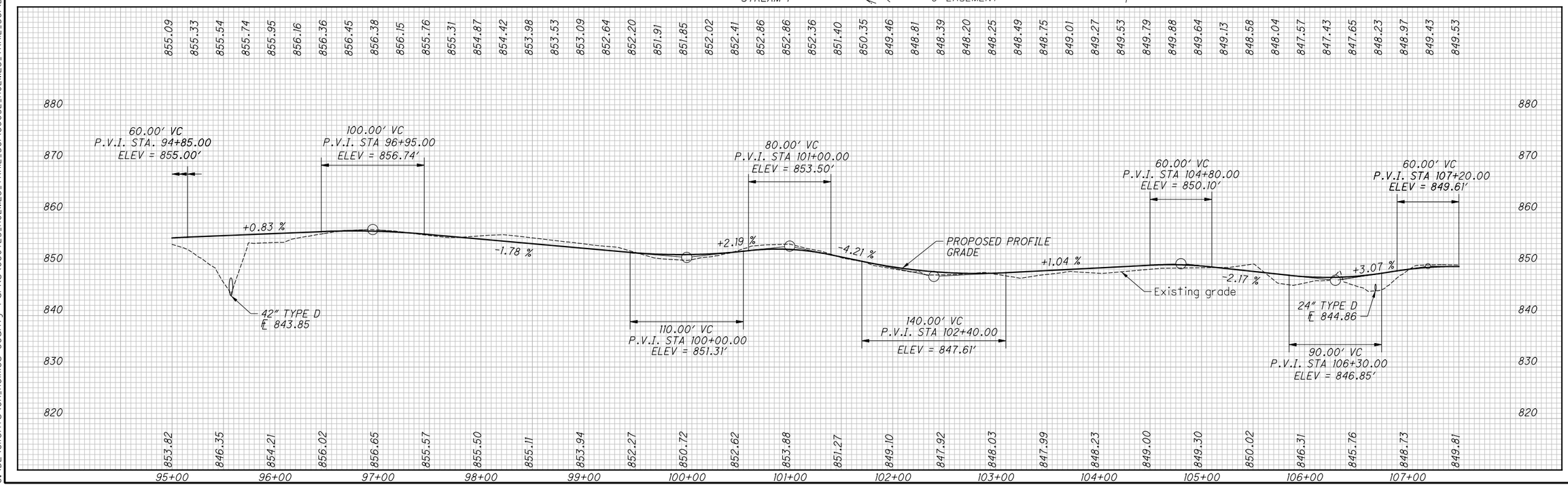
P.I. Sta. 99+01.46
Δ = 26° 34' 13" (LT)
Dc = 63° 39' 43"
R = 90.00'
T = 21.25'
L = 41.74'
E = 2.47'
C = 41.36'
C.B. = S 89° 15' 30" E

THE BRIAR HILL STONE COMPANY
O.R. 0250, PG. 2812
PAR. 21-00551.000
Ex. Telecom, DND
Wetland #8A
Wetland (DND)
PC Sta. 106+03.79
THE BRIAR HILL STONE COMPANY
O.R. 0250, PG. 2812
PAR. 21-00551.000
1.4 CY RCP, TYPE C, W/FILTER
2' DITCH
SECTION 6
SECTION 7
41' x 24" TYPE D
THE BOARD OF COMMISSIONERS OF THE HOLMES COUNTY PARK DISTRICT
O.R. 0191, PG. 1347
PAR. 21-00616.001
D-6
E-4
R-3
EX. FENCE (TBR ACROSS PATH)
℄ CONSTRUCTION SHARED USE PATH
N 16° 43' 01" E
PT Sta. 107+45.27
MATCH LINE STA. 107+50, SEE SHEET 22
THE BRIAR HILL STONE COMPANY
O.R. 0250, PG. 2812
PAR. 21-00554.000

P.I. Sta. 100+51.70
Δ = 15° 25' 11" (RT)
Dc = 28° 38' 52"
R = 200.00'
T = 27.08'
L = 53.83'
E = 1.82'
C = 53.66'
C.B. = N 85° 10' 00" E

P.I. Sta. 102+96.30
Δ = 76° 09' 34" (LT)
Dc = 63° 39' 43"
R = 90.00'
T = 70.52'
L = 119.63'
E = 24.34'
C = 111.02'
C.B. = N 54° 47' 48" E

P.I. Sta. 106+93.90
Δ = 90° 03' 52" (RT)
Dc = 63° 39' 43"
R = 90.00'
T = 90.10'
L = 141.47'
E = 37.35'
C = 127.35'
C.B. = N 61° 44' 57" E



HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED MS
CHECKED CAG

PLAN AND PROFILE
STA. 95+00 TO STA. 107+50

HOL-COUNTY TRAIL
PHASE 5C1

21
127

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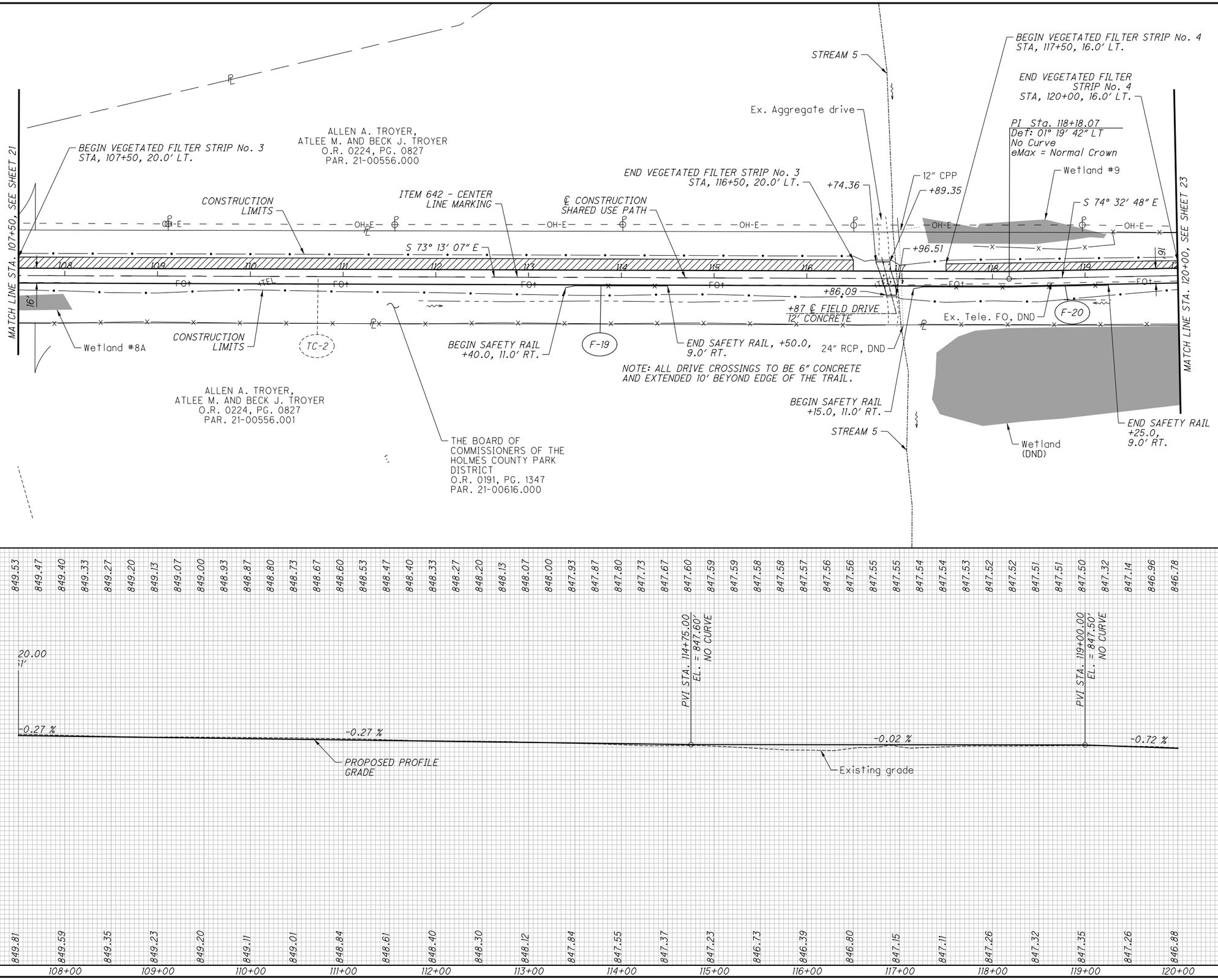

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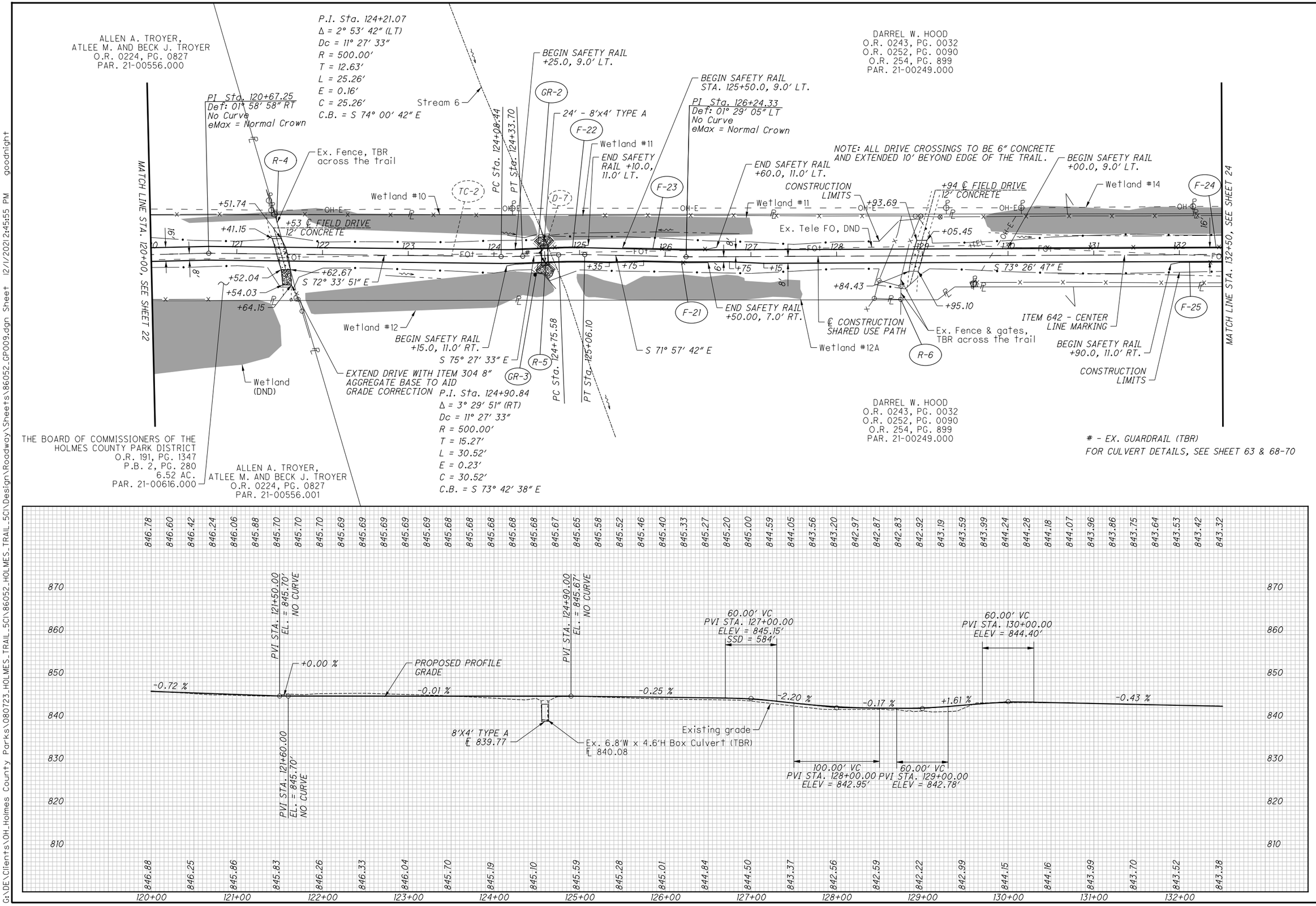
HORIZONTAL SCALE IN FEET
0 25 50 100

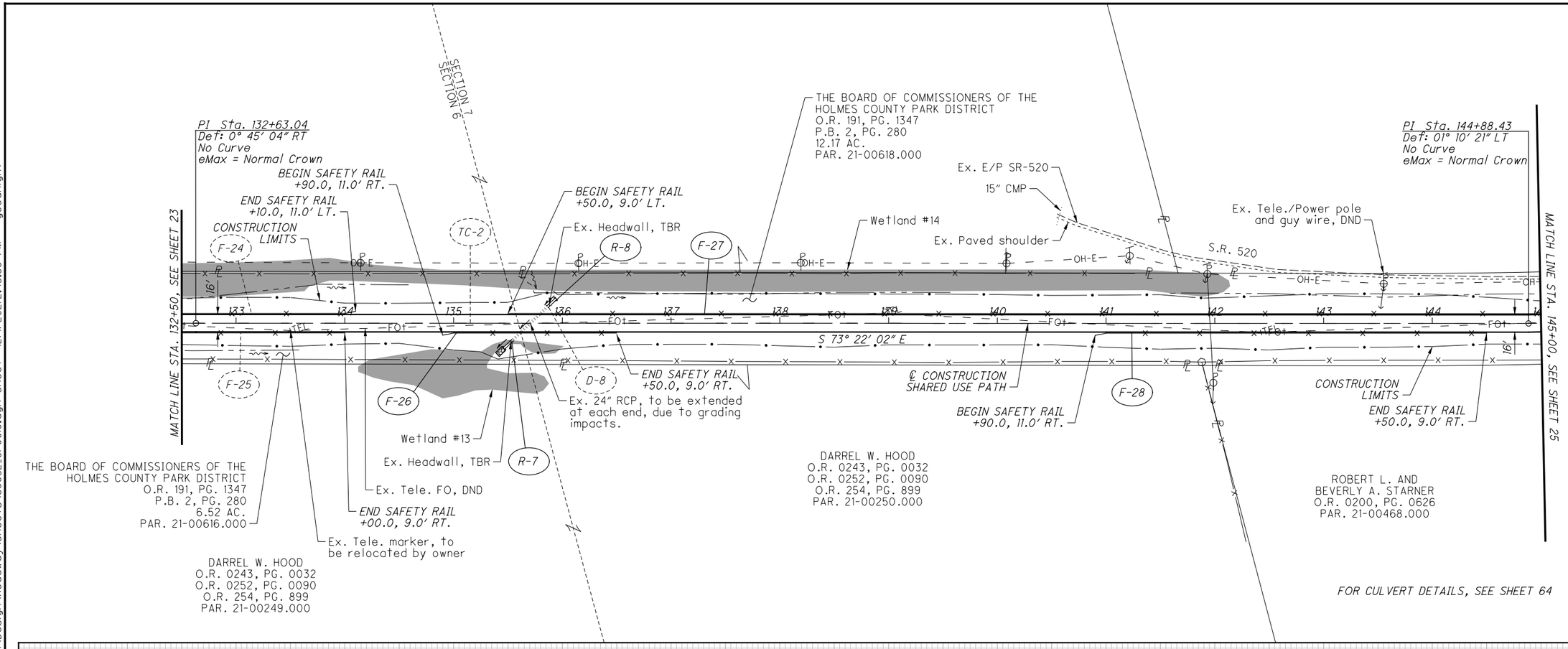
CALCULATED MS
CHECKED CAG

PLAN AND PROFILE
STA. 107+50 TO STA. 120+00

HOL-COUNTY TRAIL
PHASE 5C1

22
127


ALLEN A. TROYER,
ATLEE M. AND BECK J. TROYER
O.R. 0224, PG. 0827
PAR. 21-00556.000
P.I. Sta. 124+21.07
Δ = 2° 53′ 42″ (LT)
Dc = 11° 27′ 33″
R = 500.00′
T = 12.63′
L = 25.26′
E = 0.16′
C = 25.26′
C.B. = S 74° 00′ 42″ E
PI Sta. 120+67.25
Def: 01° 58′ 58″ RT
No Curve
eMax = Normal Crown
Stream 6
BEGIN SAFETY RAIL
+25.0, 9.0′ LT.
GR-2
24′ - 8′x4′ TYPE A
F-22
Wetland #11
END SAFETY
RAIL +10.0,
11.0′ LT.
PC Sta. 124+08.44
PT Sta. 124+33.70
BEGIN SAFETY RAIL
STA. 125+50.0, 9.0′ LT.
PI Sta. 126+24.33
Def: 01° 29′ 05″ LT
No Curve
eMax = Normal Crown
DARREL W. HOOD
O.R. 0243, PG. 0032
O.R. 0252, PG. 0090
O.R. 254, PG. 899
PAR. 21-00249.000
NOTE: ALL DRIVE CROSSINGS TO BE 6″ CONCRETE
AND EXTENDED 10′ BEYOND EDGE OF THE TRAIL.
BEGIN SAFETY RAIL
+00.0, 9.0′ LT.
MATCH LINE STA. 120+00, SEE SHEET 22
R-4
Ex. Fence, TBR
across the trail
Wetland #10
TC-2
D-7
F-23
END SAFETY RAIL
+60.0, 11.0′ LT.
CONSTRUCTION
LIMITS
+93.69
℄ FIELD DRIVE
12′ CONCRETE
Wetland #14
F-24
+51.74
+53 ℄ FIELD DRIVE
12′ CONCRETE
+41.15
Ex. Tele FO, DND
+05.45
+62.67
S 72° 33′ 51″ E
+52.04
+54.03
+64.15
+35
+15
+75
S 73° 26′ 47″ E
+84.43
+95.10
Wetland #12
BEGIN SAFETY RAIL
+15.0, 11.0′ RT.
S 75° 27′ 33″ E
R-5
GR-3
PC Sta. 124+75.58
PT Sta. 125+06.10
S 71° 57′ 42″ E
F-21
END SAFETY RAIL
+50.00, 7.0′ RT.
℄ CONSTRUCTION
SHARED USE PATH
Wetland #12A
Ex. Fence & gates,
TBR across the trail
R-6
ITEM 642 - CENTER
LINE MARKING
BEGIN SAFETY RAIL
+90.0, 11.0′ RT.
F-25
CONSTRUCTION
LIMITS
MATCH LINE STA. 132+50, SEE SHEET 24
Wetland
(DND)
EXTEND DRIVE WITH ITEM 304 8″
AGGREGATE BASE TO AID
GRADE CORRECTION
P.I. Sta. 124+90.84
Δ = 3° 29′ 51″ (RT)
Dc = 11° 27′ 33″
R = 500.00′
T = 15.27′
L = 30.52′
E = 0.23′
C = 30.52′
C.B. = S 73° 42′ 38″ E
THE BOARD OF COMMISSIONERS OF THE
HOLMES COUNTY PARK DISTRICT
O.R. 191, PG. 1347
P.B. 2, PG. 280
6.52 AC.
PAR. 21-00616.000
ALLEN A. TROYER,
ATLEE M. AND BECK J. TROYER
O.R. 0224, PG. 0827
PAR. 21-00556.001
DARREL W. HOOD
O.R. 0243, PG. 0032
O.R. 0252, PG. 0090
O.R. 254, PG. 899
PAR. 21-00249.000
- EX. GUARDRAIL (TBR)
FOR CULVERT DETAILS, SEE SHEET 63 & 68-70
PVI STA. 121+50.00
EL. = 845.70′
NO CURVE
+0.00 %
PROPOSED PROFILE
GRADE
-0.72 %
-0.01 %
PVI STA. 124+90.00
EL. = 845.67′
NO CURVE
-0.25 %
60.00′ VC
PVI STA. 127+00.00
ELEV = 845.15′
SSD = 584′
-2.20 %
-0.17 %
+1.61 %
60.00′ VC
PVI STA. 130+00.00
ELEV = 844.40′
-0.43 %
8′X4′ TYPE A
℄ 839.77
Ex. 6.8′W x 4.6′H Box Culvert (TBR)
℄ 840.08
Existing grade
PVI STA. 121+60.00
EL. = 845.70′
NO CURVE
100.00′ VC
PVI STA. 128+00.00
ELEV = 842.95′
60.00′ VC
PVI STA. 129+00.00
ELEV = 842.78′
846.78 846.60 846.42 846.24 846.06 845.88 845.70 845.70 845.70 845.69 845.69 845.69 845.69 845.68 845.68 845.68 845.68 845.67 845.65 845.58 845.52 845.46 845.40 845.33 845.27 845.20 845.00 844.59 844.05 843.56 843.20 842.97 842.87 842.83 842.92 843.19 843.59 843.99 844.24 844.28 844.18 844.07 843.96 843.86 843.75 843.64 843.53 843.42 843.32
846.88 846.25 845.86 845.83 846.26 846.33 846.04 845.70 845.19 845.10 845.59 845.28 845.01 844.84 844.50 843.37 842.56 842.59 842.22 842.99 844.15 844.16 843.99 843.70 843.52 843.38
870 860 850 840 830 820 810
120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00 131+00 132+00
HORIZONTAL
SCALE IN FEET
0 25 50 100
CALCULATED MS
CHECKED CAG
PLAN AND PROFILE
STA. 120+00 TO STA. 132+50
HOL-COUNTY TRAIL
PHASE 5C1
23
127
G:\DE\Clients\OH_Holmes County Parks\080723_HOLMES_TRAIL_5C\86052_HOLMES_TRAIL_5C\Design\Roadway\Sheets\86052_GP009.dgn Sheet 12/1/2021 2:45:55 PM goodnight



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MS
CHECKED CAG

PLAN AND PROFILE
STA. 132+50 TO STA. 145+00

HOL-COUNTY TRAIL
PHASE 5C1

24
127

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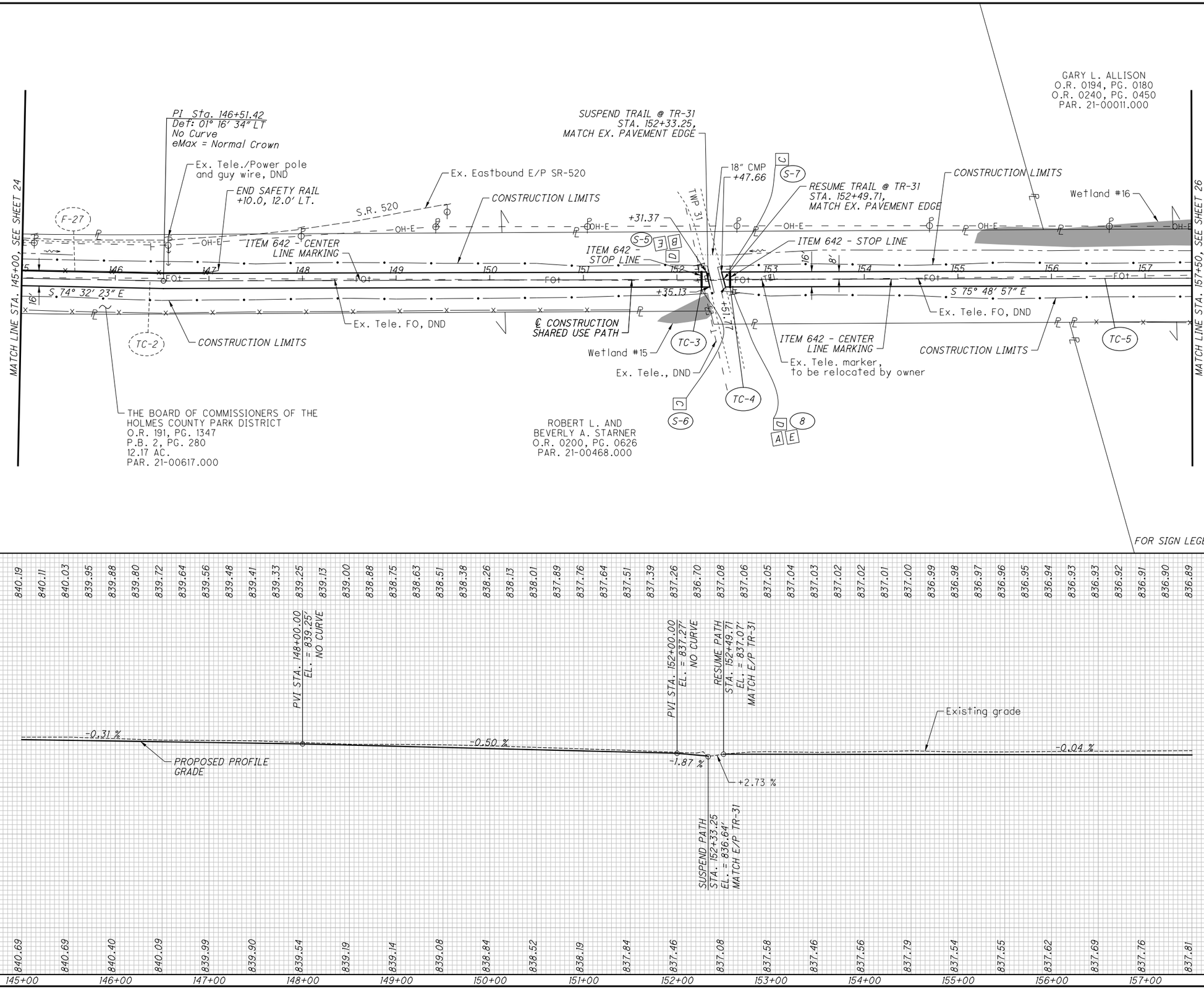

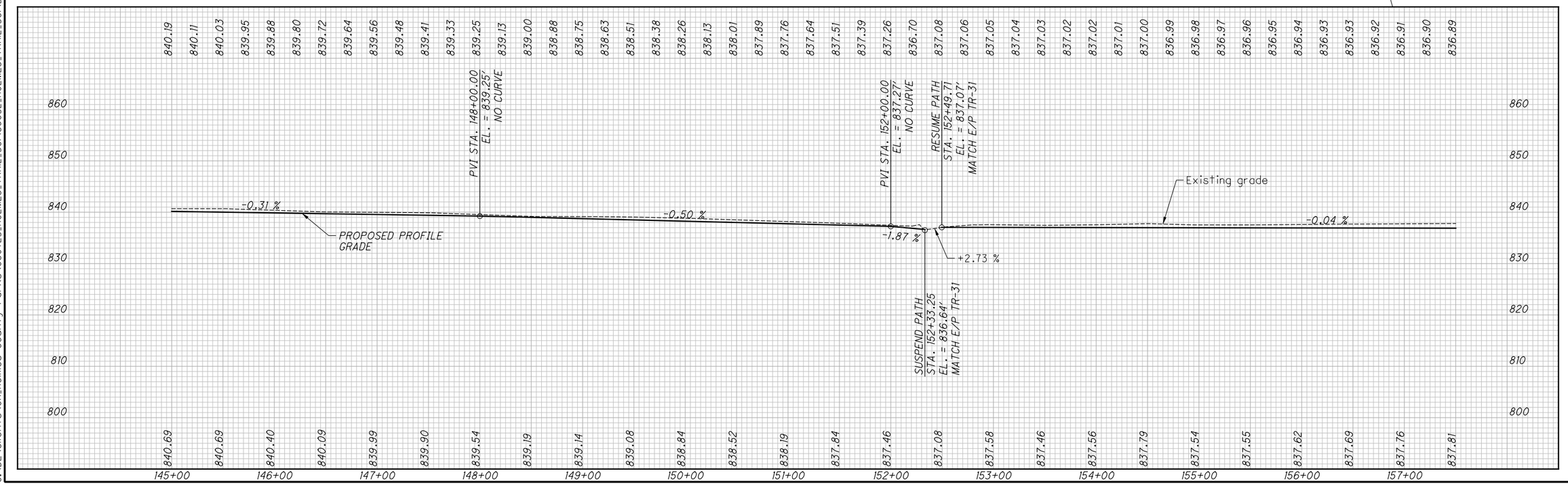

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MS
CHECKED CAG

PLAN AND PROFILE
STA. 145+00 TO STA. 157+50

HOL-COUNTY TRAIL
PHASE 5C1

25
127

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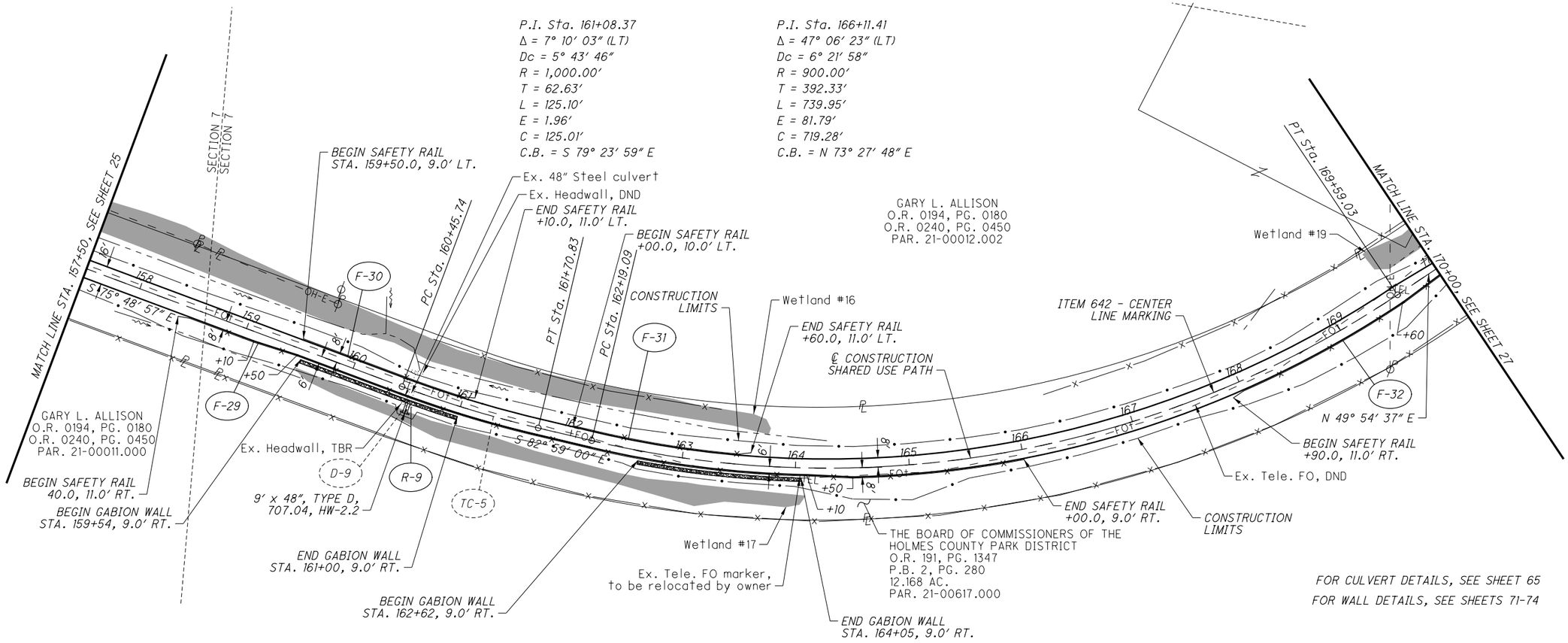


N

0 25 50 100
HORIZONTAL
SCALE IN FEET

CALCULATED MS
CHECKED CAG

PLAN AND PROFILE
STA. 157+50 TO STA. 170+00

HOL-COUNTY TRAIL
PHASE 5C1

26
127

P.I. Sta. 170+55.76
Δ = 6° 02′ 09″ (LT)
Dc = 5° 43′ 46″
R = 1,000.00′
T = 52.72′
L = 105.34′
E = 1.39′
C = 105.29′
C.B. = N 46° 53′ 32″ E

PC Sta. 170+03.04

BEGIN SAFETY RAIL +00.0, 7.0′ LT.

MATCH LINE STA. 170+00, SEE SHEET 26

GARY L. ALLISON
D.B. 194, PG. 180
D.B. 240, PG. 450
PAR. 21-00012.002

BEGIN GABION WALL STA. 170+00, 9.0′ RT.

Wetland #19

F-33

F-32

PT Sta. 171+08.38

END GABION WALL STA. 171+30, 9.0′ RT.

END SAFETY RAIL +50.0, 7.0′ RT.

+91.89

+96 ℄ FIELD DRIVE 12″ CONCRETE

GARY L. ALLISON
D.B. 194, PG. 180
D.B. 240, PG. 450
PAR. 21-00010.000

GARY L. ALLISON
D.B. 194, PG. 180
D.B. 240, PG. 450
PAR. 21-00019.000

END SAFETY RAIL +10.0, 9.0′ LT.

Ex. Aggregate drive

+91.50

+00.62

+01.85

F-34

TC-5

BEGIN SAFETY RAIL +40.0, 9.0′ RT.

CONSTRUCTION LIMITS

Wetland #18

THE BOARD OF COMMISSIONERS OF THE HOLMES COUNTY PARK DISTRICT
O.R. 191, PG. 1347
P.B. 2, PG. 280
12.17 AC.
PAR. 21-00617.000

Ex. Tele. FO, DND

Wetland #20

Ex. Tele. FO marker, to be relocated by owner

CONSTRUCTION LIMITS

N 43° 52′ 28″ E

END SAFETY RAIL +50.0, 7.0′ RT.

STREAM 1

Black Creek

BEGIN SAFETY RAIL +40.0, 11.0′ RT.

Ex. HEADWALLS, TBR

END SAFETY RAIL +25.0′ 11.0′ RT.

EXTEND DRIVE WITH ITEM 304 8″ AGGREGATE BASE TO AID GRADE CORRECTION

GARY L. ALLISON
D.B. 194, PG. 180
D.B. 240, PG. 450
PAR. 21-00018.000

STREAM 7

GARY L. ALLISON
D.B. 194, PG. 180
D.B. 240, PG. 450
PAR. 21-00018.000

BEGIN SAFETY RAIL STA. +60.0, 11.0′ LT.

F-36

R-10

Twin 66″ circular CMPs
Bottoms corroded, TBR

END SAFETY RAIL +15.0′ 11.0′ LT.

ITEM 642 - CENTER LINE MARKING

Wetland (DND)

+20.43

+31.87

+38.16

+49.10

D-10

F-35

F-37

END SAFETY RAIL +40.0, 9.0′ RT.

END RETAINING WALL STA. 180+43, 9.0′ RT.

B-013-1-18

BEGIN RETAINING WALL STA. 179+95, 9.0′ RT.

BEGIN SAFETY RAIL +70.0, 10.3′ RT.

+35 ℄ FIELD DRIVE 12″ CONCRETE

+58.01

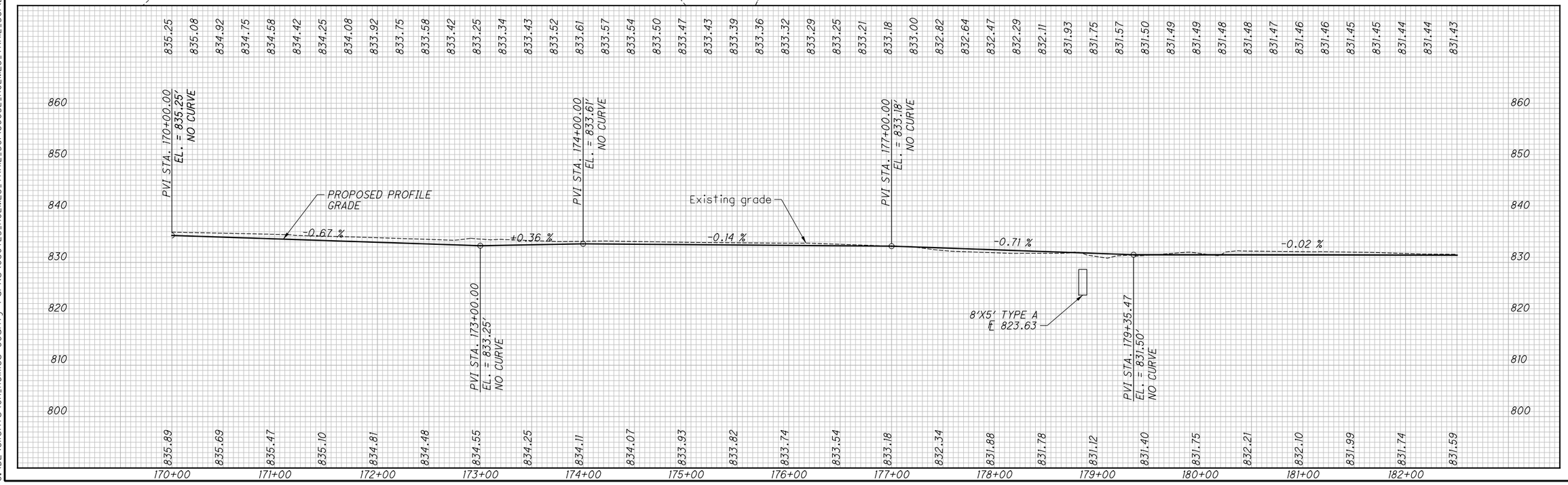
+47.06

MATCH LINE STA. 182+50, SEE SHEET 28

NOTE: ALL DRIVE CROSSINGS TO BE 6″ CONCRETE AND EXTENDED 10′ BEYOND EDGE OF THE TRAIL.

FOR CULVERT DETAILS, SEE SHEET 66 AND 68-70

FOR WALL DETAILS, SEE SHEETS 75-80



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MS
CHECKED CAG

PLAN AND PROFILE
STA. 170+00 TO STA. 182+50

HOL-COUNTY TRAIL
PHASE 5C1

27
127

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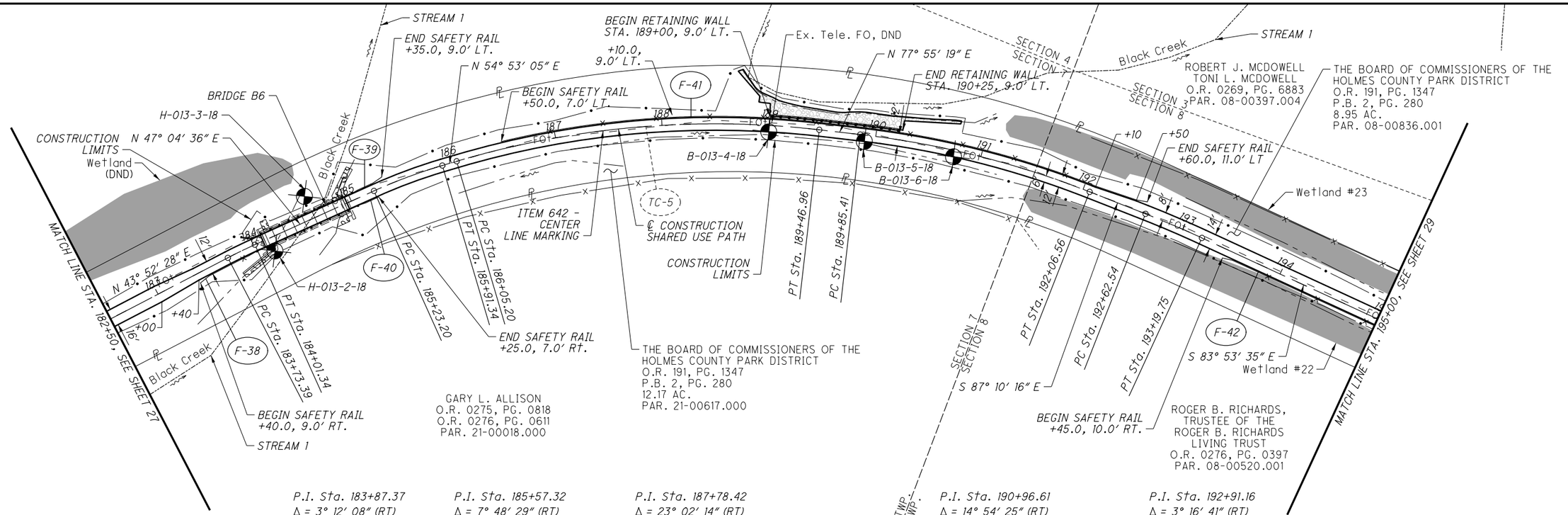


P.I. Sta. 183+87.37
Δ = 3° 12' 08" (RT)
Dc = 11° 27' 33"
R = 500.00'
T = 13.98'
L = 27.95'
E = 0.20'
C = 27.94'
C.B. = N 45° 28' 32" E

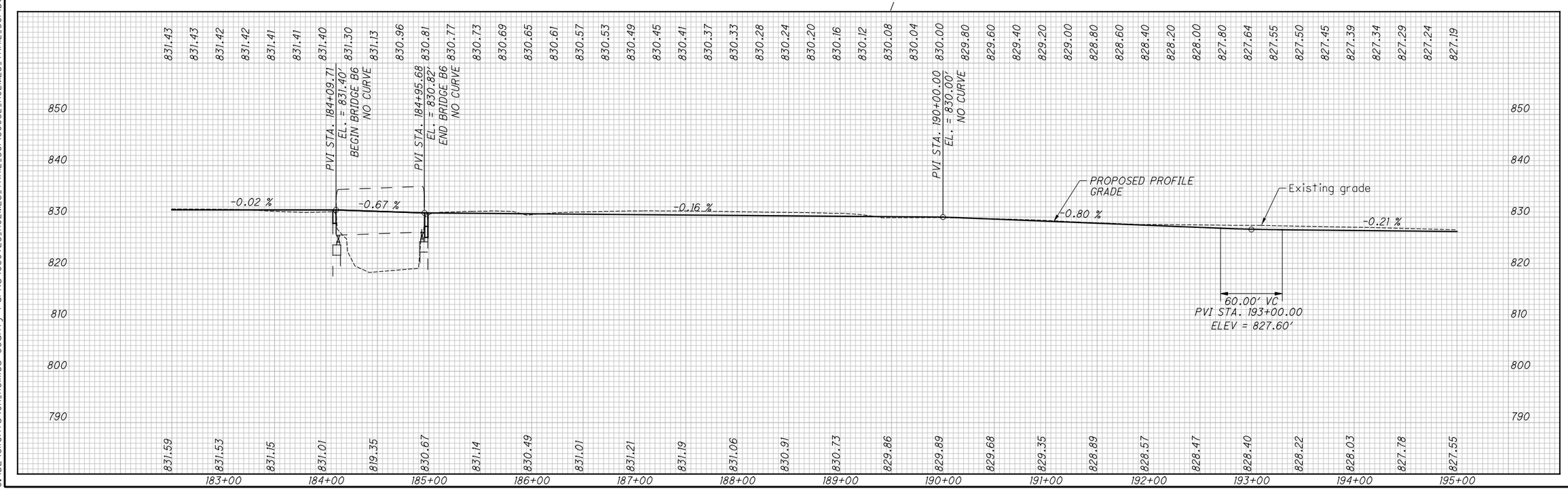
P.I. Sta. 185+57.32
Δ = 7° 48' 29" (RT)
Dc = 11° 27' 33"
R = 500.00'
T = 34.12'
L = 68.14'
E = 1.16'
C = 68.08'
C.B. = N 50° 58' 50" E

P.I. Sta. 187+78.42
Δ = 23° 02' 14" (RT)
Dc = 6° 44' 26"
R = 850.00'
T = 173.22'
L = 341.76'
E = 17.47'
C = 339.47'
C.B. = N 66° 24' 12" E

P.I. Sta. 190+96.61
Δ = 14° 54' 25" (RT)
Dc = 6° 44' 26"
R = 850.00'
T = 111.20'
L = 221.15'
E = 7.24'
C = 220.53'
C.B. = N 85° 22' 31" E

P.I. Sta. 192+91.16
Δ = 3° 16' 41" (RT)
Dc = 5° 43' 46"
R = 1,000.00'
T = 28.61'
L = 57.21'
E = 0.41'
C = 57.21'
C.B. = S 85° 31'

FOR WALL DETAILS, SEE SHEETS 81-86
FOR BRIDGE DETAILS, SEE SHEETS 116-127

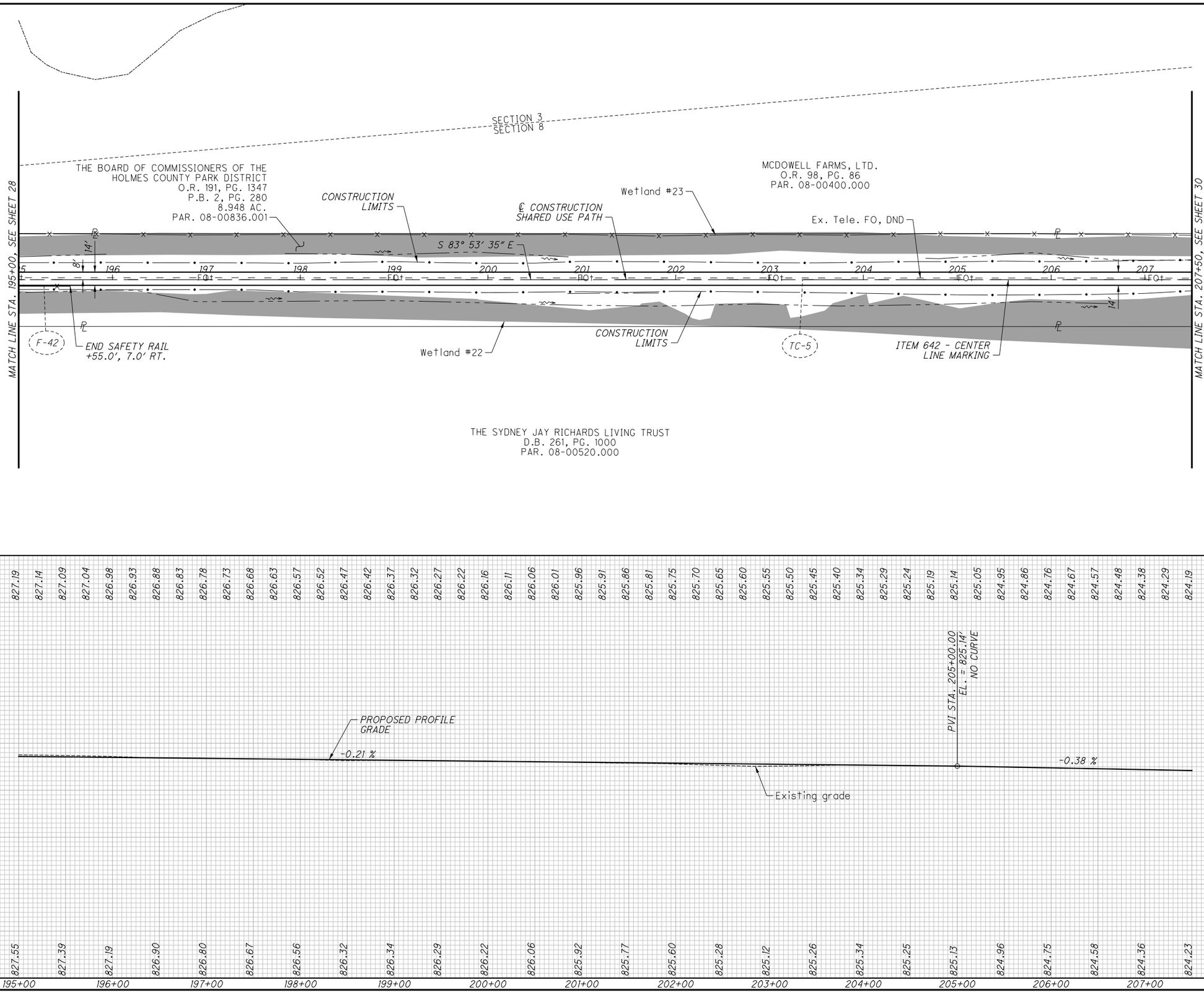


HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED MS
CHECKED CAG

PLAN AND PROFILE
STA. 182+50 TO STA. 195+00

HOL-COUNTY TRAIL
PHASE 5C1

28
127



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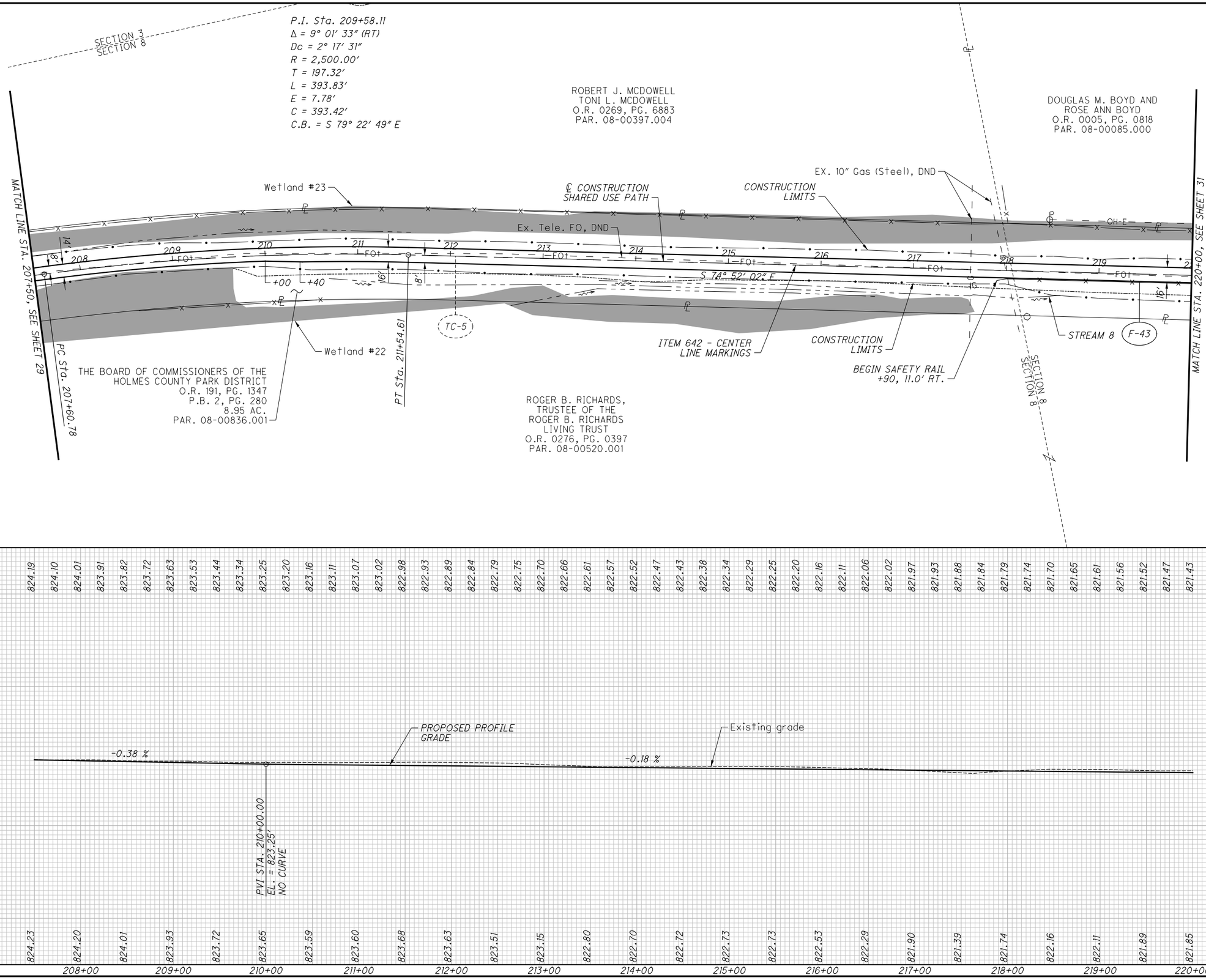
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MS
CHECKED CAG

PLAN AND PROFILE
STA. 195+00 TO STA. 207+50

HOL-COUNTY TRAIL
PHASE 5C1



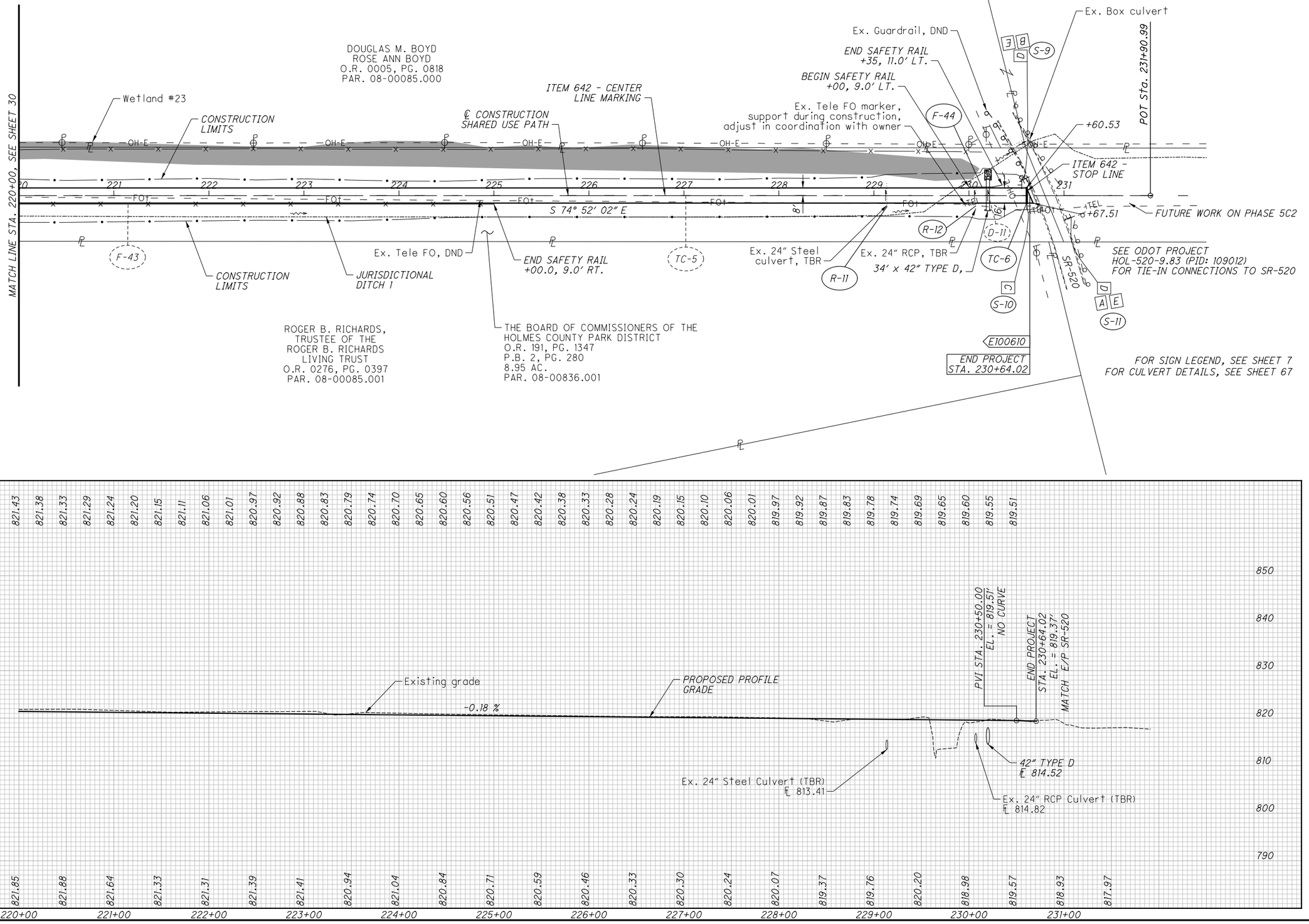
N

0 25 50 100
HORIZONTAL
SCALE IN FEET

CALCULATED MS
CHECKED CAG

PLAN AND PROFILE
STA. 207+50 TO STA. 220+00

HOL-COUNTY TRAIL
PHASE 5C1



0 25 50 100 HORIZONTAL SCALE IN FEET

CALCULATED MS CHECKED CAG

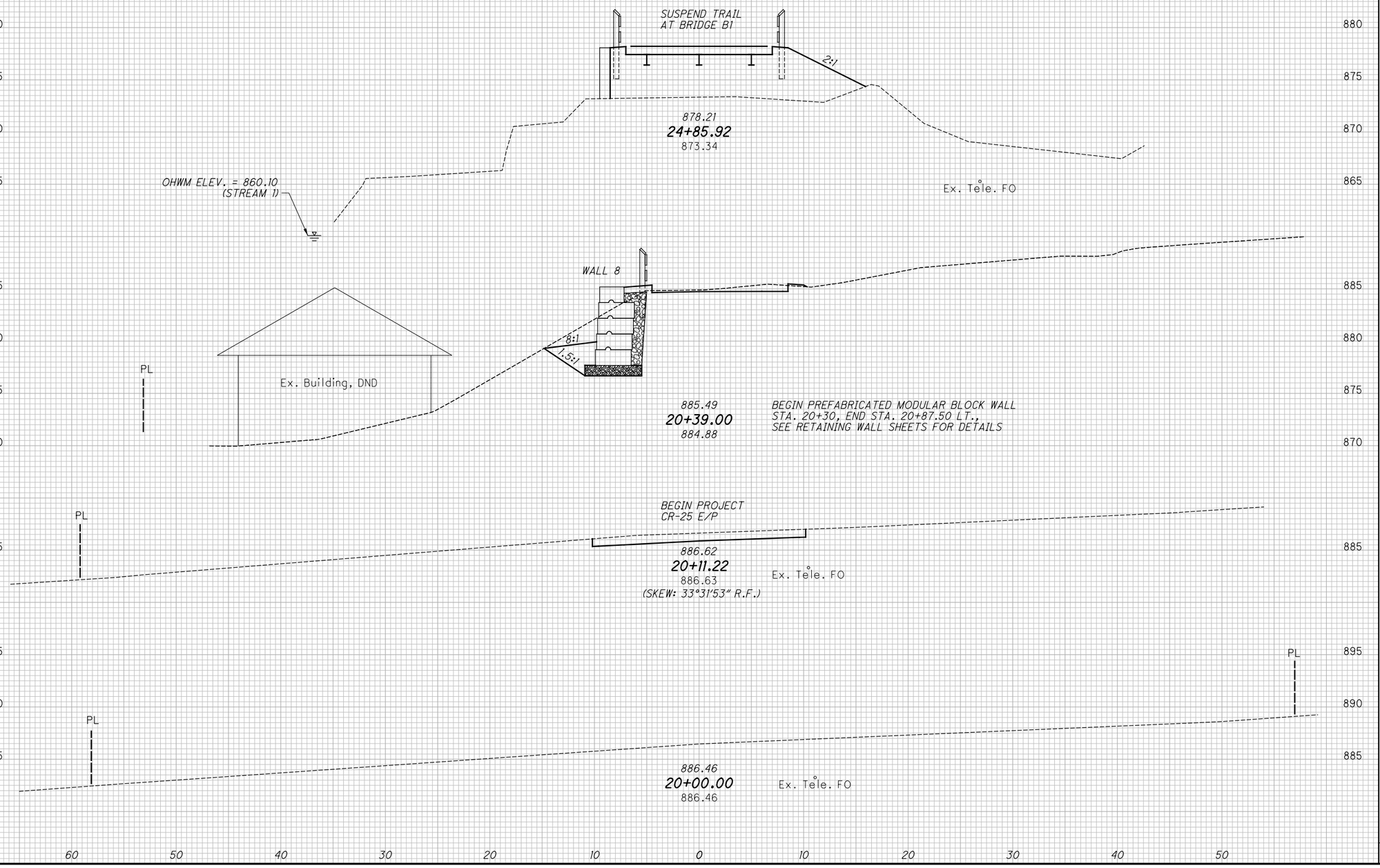
PLAN AND PROFILE
STA. 220+00 TO STA. 231+90.99

HOL-COUNTY TRAIL
PHASE 5C1

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MS
CHECKED CAG



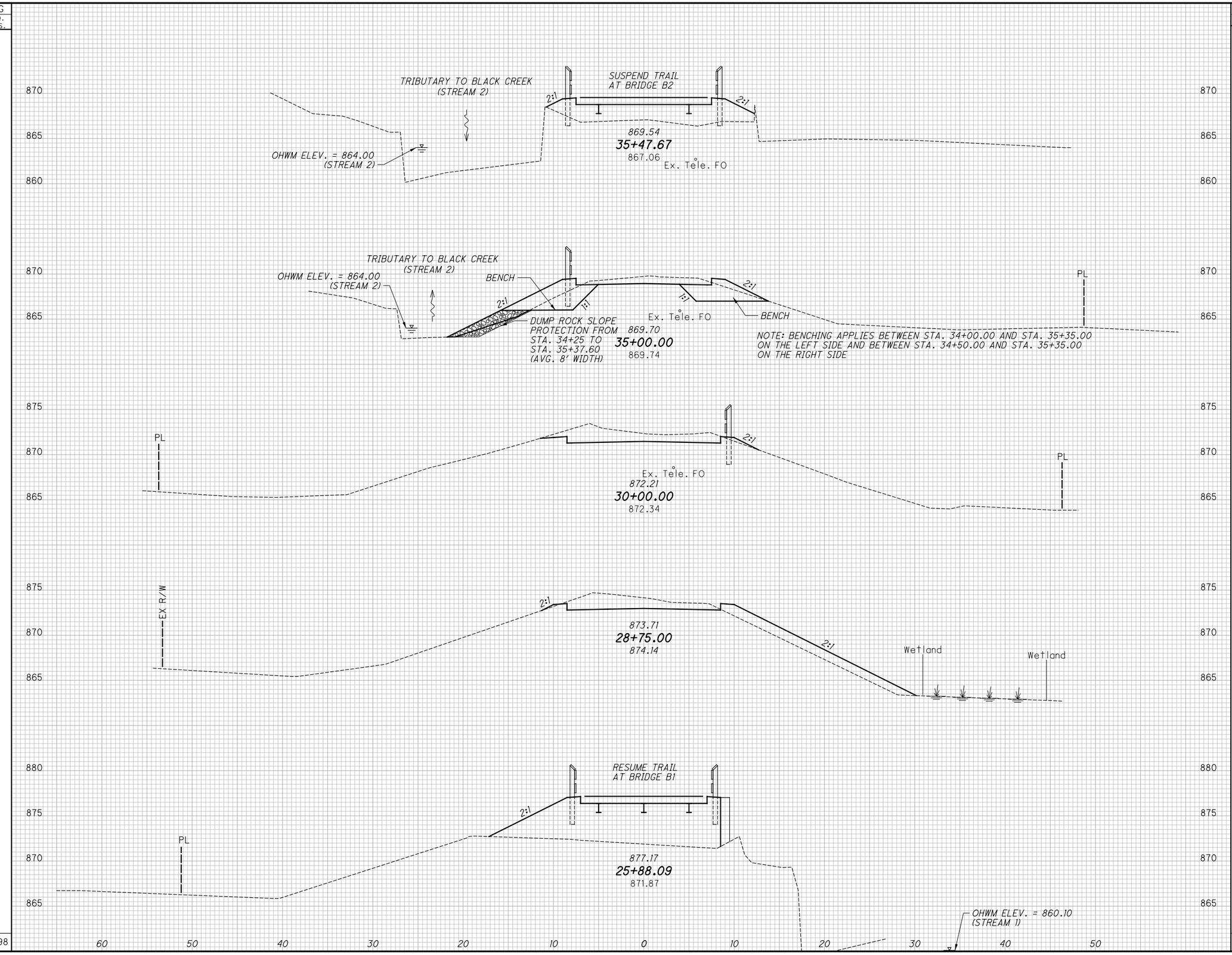
CROSS SECTIONS
STA. 20+00.00 TO STA. 24+85.92

HOL-COUNTY TRAIL
PHASE 5C1

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MS | CHECKED CAG



CROSS SECTIONS
STA. 25+88.09 TO STA. 35+47.67

HOL-COUNTY TRAIL
PHASE 5C1

1498

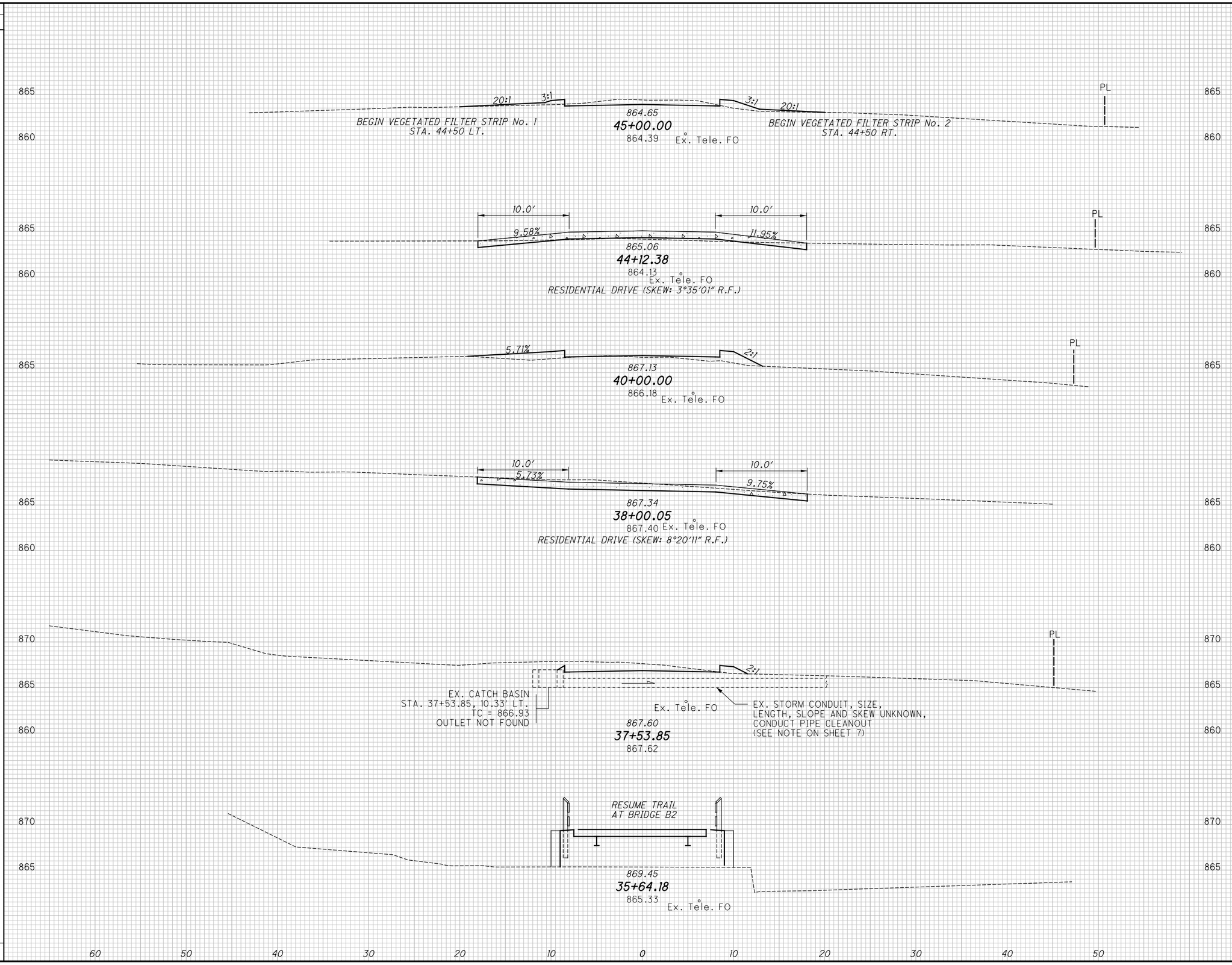
621 281

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED MS
CHECKED CAG

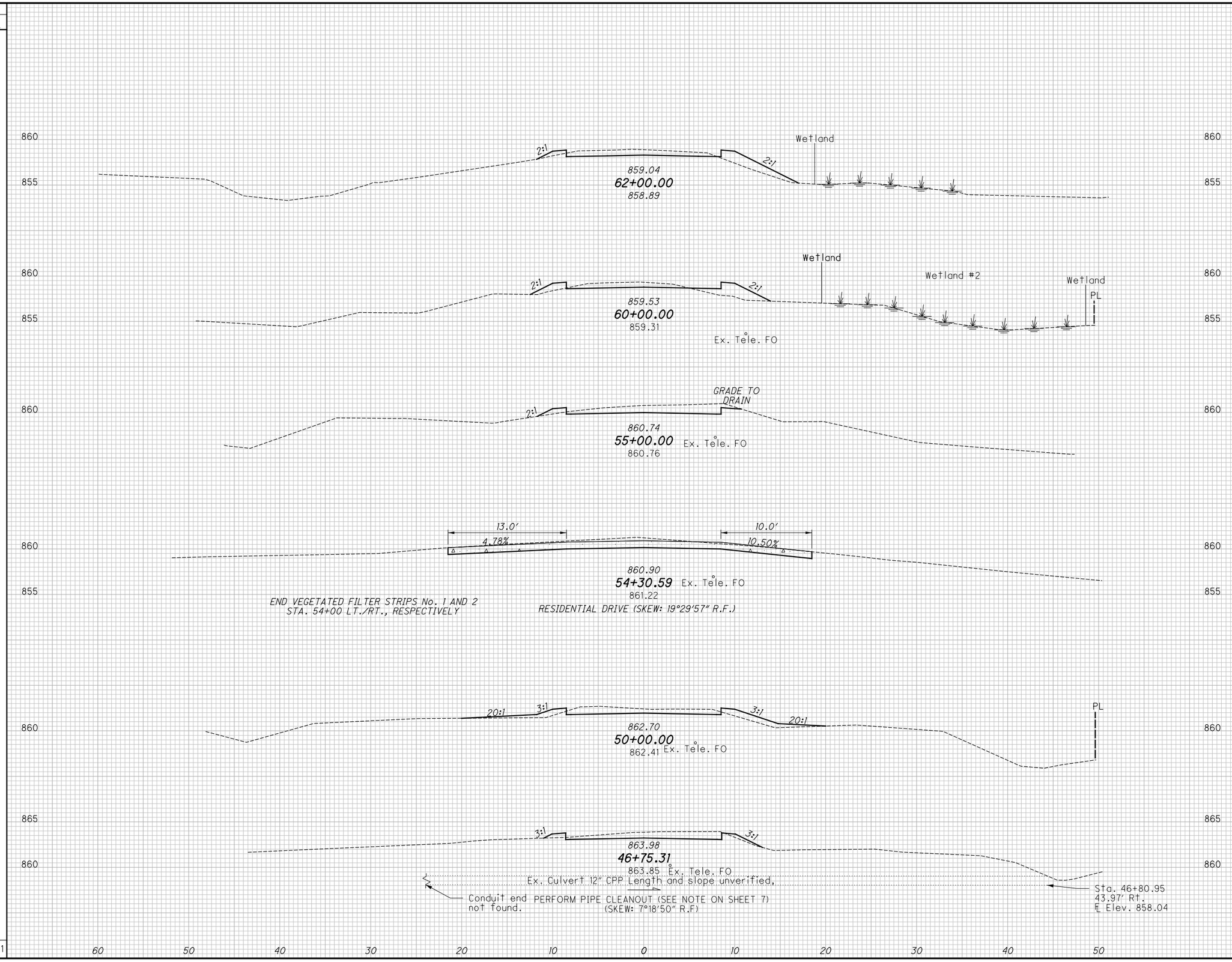


CROSS SECTIONS
STA. 35+64.18 TO STA. 45+00.00

HOL-COUNTY TRAIL
PHASE 5C1

1152 185 262

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MS
CHECKED CAG

CROSS SECTIONS
STA. 46+75.31 TO STA. 62+00.00

HOL-COUNTY TRAIL
PHASE 5C1

3331

675 369

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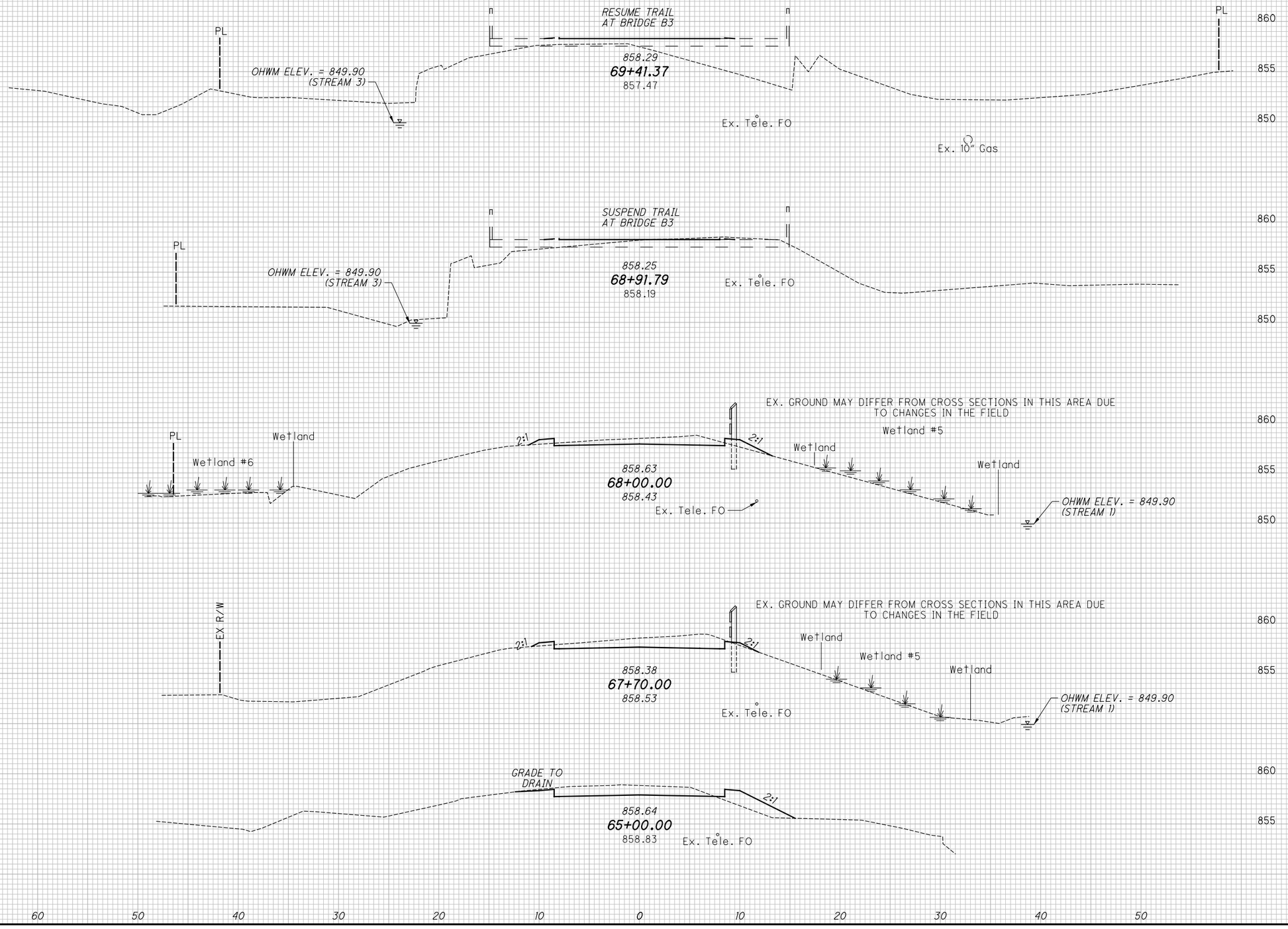
SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MS
CHECKED CAG



CROSS SECTIONS
STA. 65+00.00 TO STA. 69+41.37

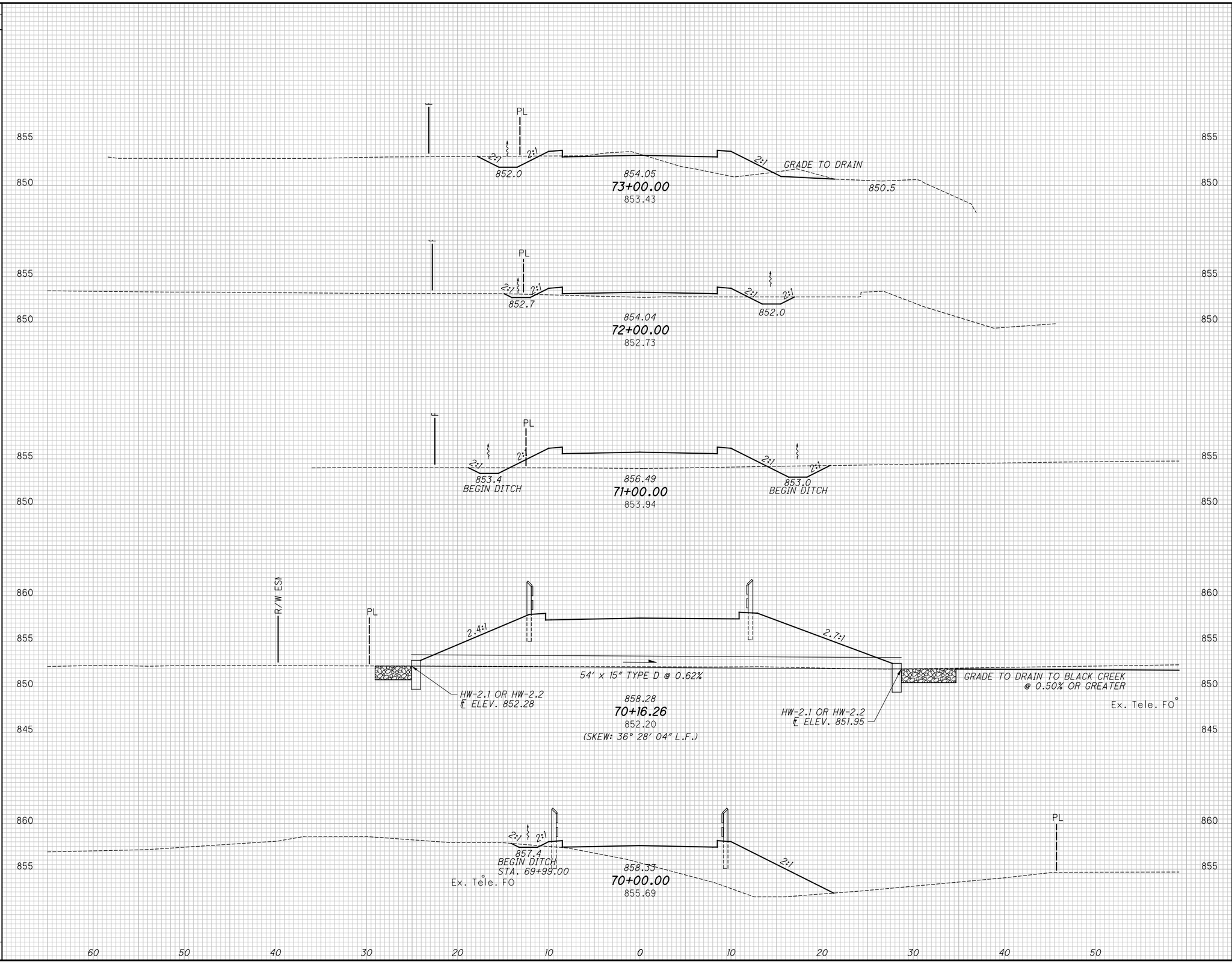
HOL-COUNTY TRAIL
PHASE 5C1

728 314 113

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MS
CHECKED CAG



CROSS SECTIONS
STA. 70+00.00 TO STA. 73+00.00

HOL-COUNTY TRAIL
PHASE 5C1

37
127

930

103 585

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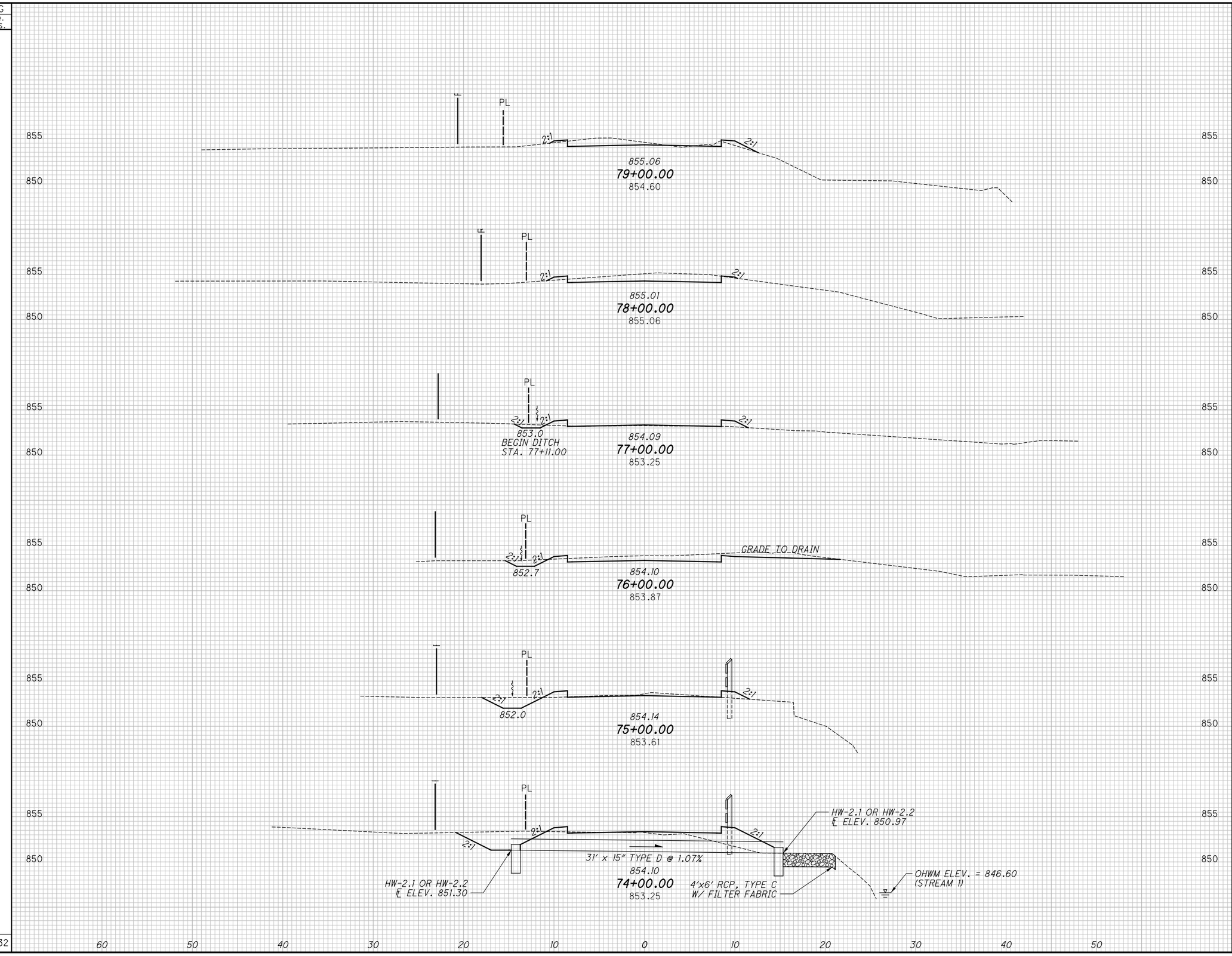
SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MS
CHECKED CAG



CROSS SECTIONS
STA. 74+00.00 TO STA. 79+00.00

HOL-COUNTY TRAIL
PHASE 5C1

1032

245 166

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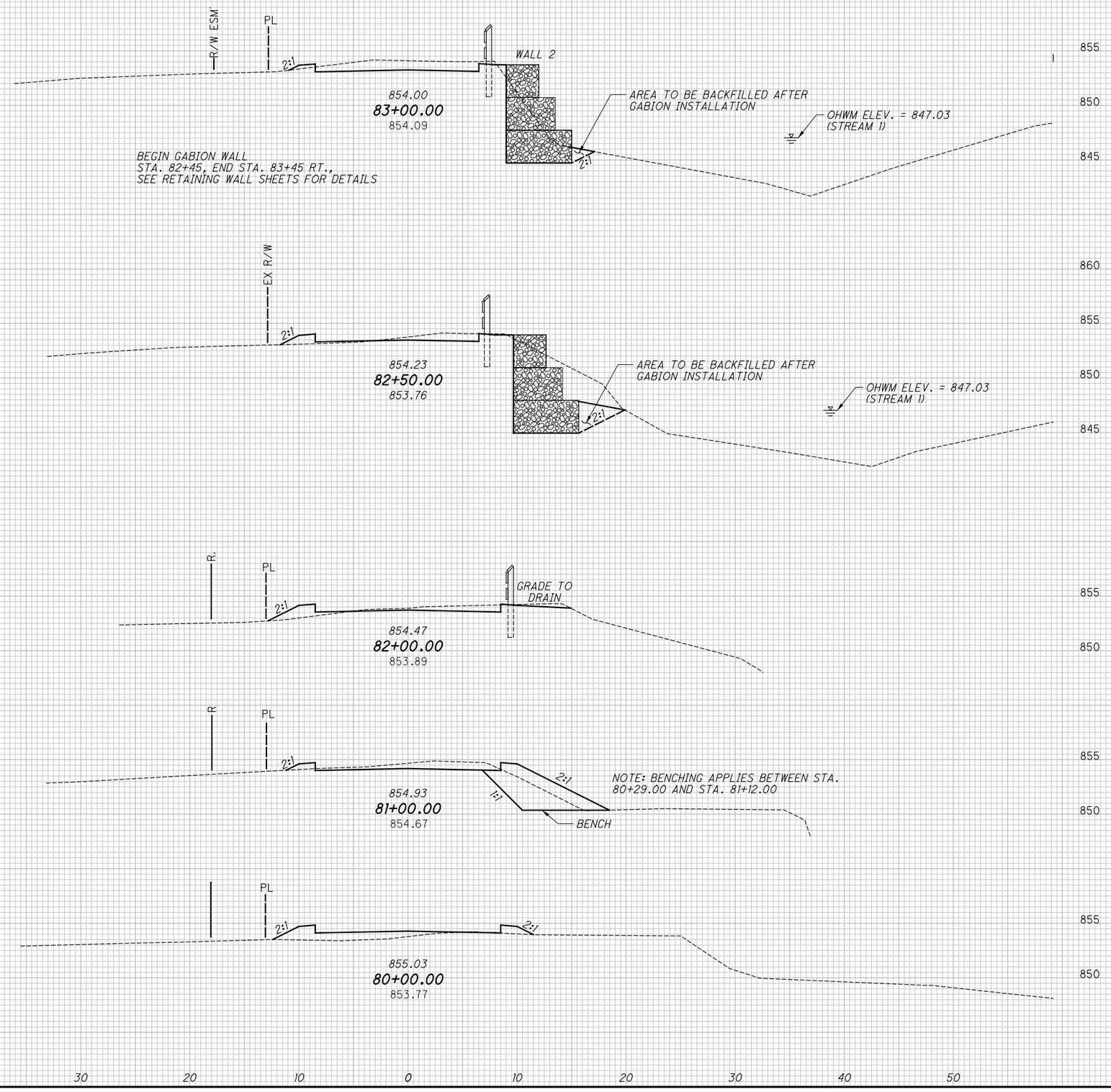
SEEDING	
END WIDTH	SQ. YDS.
460	

END AREA	
CUT	FILL

VOLUME	
CUT	FILL
68	131

CALCULATED MS

CHECKED CAG



CROSS SECTIONS

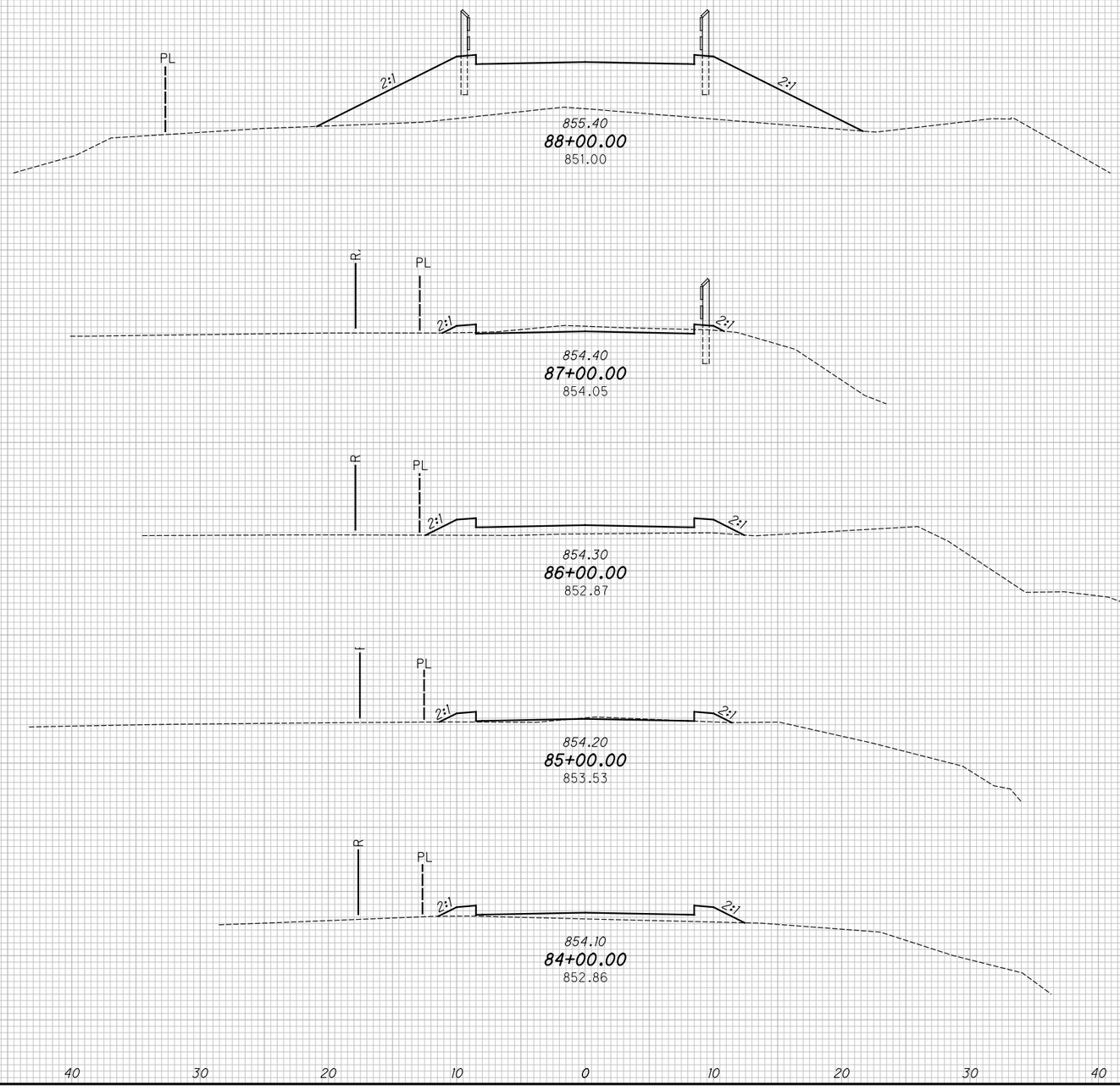
STA. 80+00.00 TO STA. 83+00.00

HOL-COUNTY TRAIL
PHASE 5C1

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MS
CHECKED CAG



CROSS SECTIONS
STA. 84+00.00 TO STA. 88+00.00

HOL-COUNTY TRAIL
PHASE 5C1

668

48 683

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED MS

CHECKED CAG

855
850

854.18
93+00.00
853.52

2:1

855
850

855.43
92+00.00
855.04

2:1

855
850

855.61
91+00.00
854.71

2:1

855
850

856.19
90+00.00
855.88

2:1 2:1

860
855

PL

854.7
BEGIN DITCH
STA. 89+12.00

856.40
89+00.00
855.07

2:1 2:1 2:1

855
850
845
840

855.69
88+29.15
842.45
(SKEW: 20° 11' 07" R.F.)

2.1:1 2.1:1

PL

OHWM

65' x 48" TYPE D @ ZERO SLOPE
(EQUALIZING PIPE PROVIDING CONTINUITY FOR THE BRIARHILL PLANT WATER INTAKE)

℄ ELEV. 842.52

OHWM = 845.42
SET BY LOWHEAD DAM
ACROSS BLACK CREEK

℄ ELEV. 842.52

60 50 40 30 20 10 0 10 20 30 40 50

567

95 592

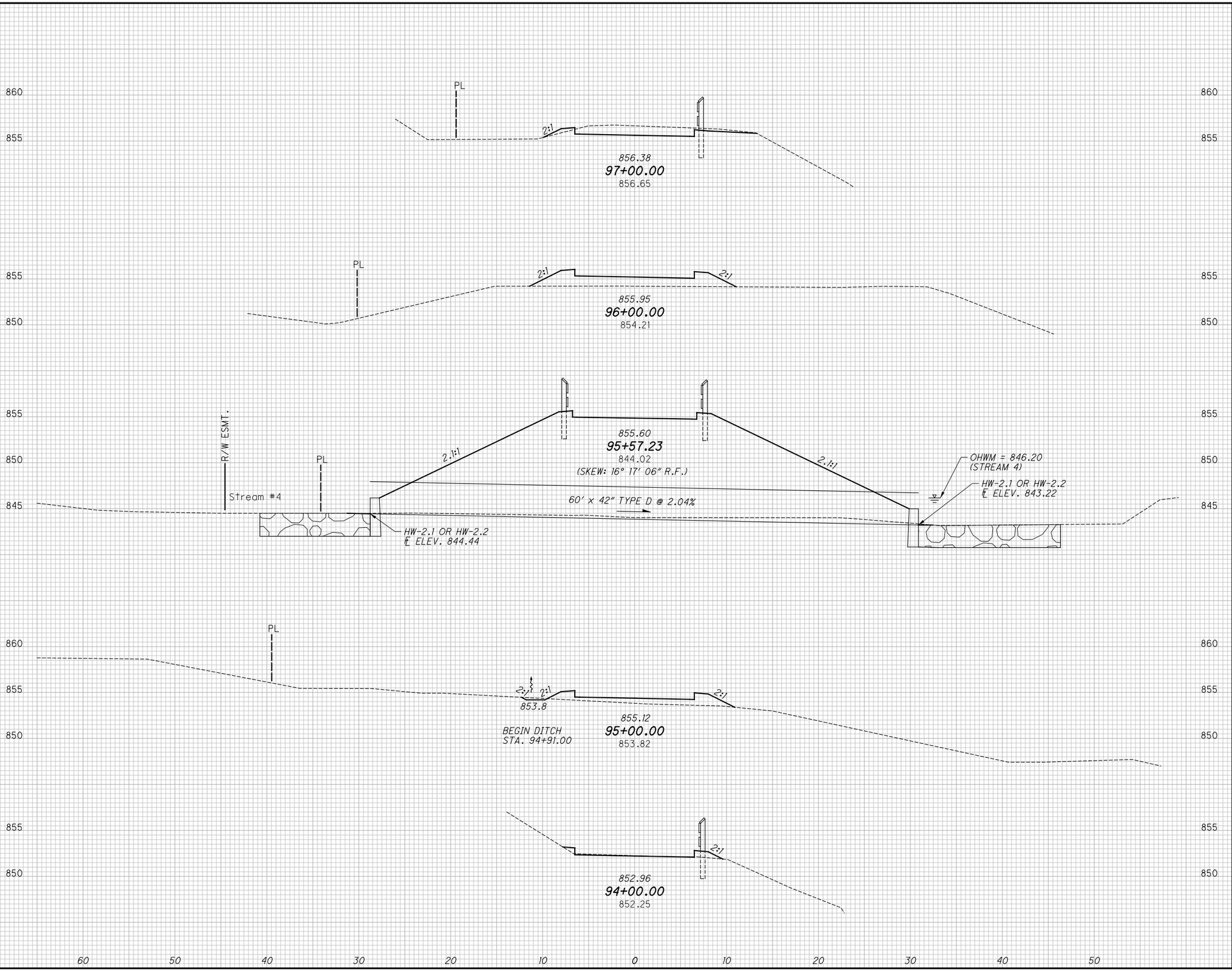
CROSS SECTIONS
STA. 88+29.15 TO STA. 93+00.00

HOL-COUNTY TRAIL
PHASE 5C1

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MS
CHECKED CAG



CROSS SECTIONS
STA. 94+00.00 TO STA. 97+00.00

HOL-COUNTY TRAIL
PHASE 5C1

643 | 97 | 1453

SEEDING	
END WIDTH	SQ. YDS.
585	

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		328	52

CALCULATED MS

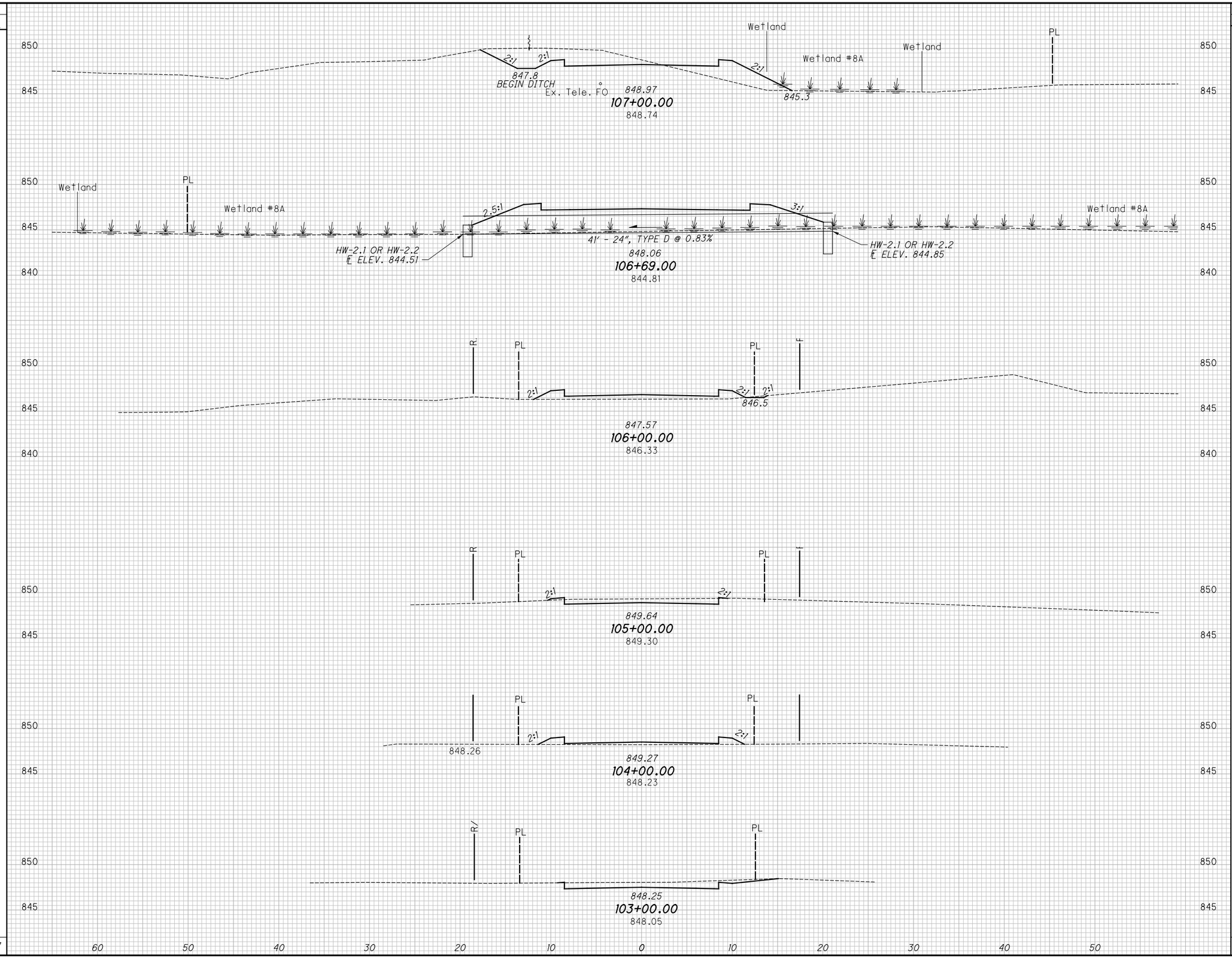
CHECKED CAG

CROSS SECTIONS

STA. 98+00.00 TO STA. 102+00.00

HOL-COUNTY TRAIL PHASE 5C1

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED	CHECKED
MS	CAG

CROSS SECTIONS

STA. 103+00.00 TO STA. 107+00.00

HOL-COUNTY TRAIL PHASE 5C1

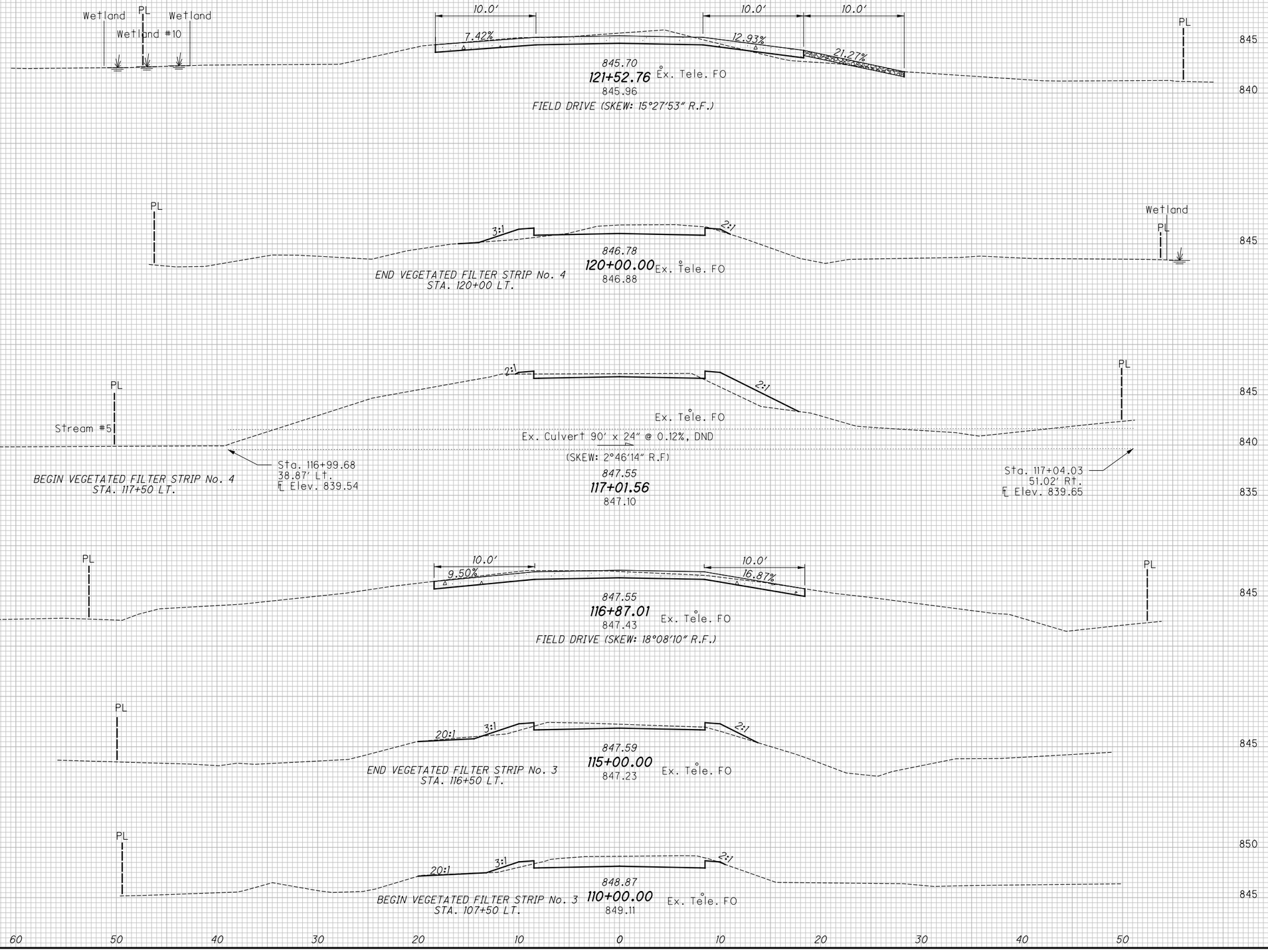
627

251 162

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		621	359

CALCULATED MS | CHECKED CAG



CROSS SECTIONS
STA. 110+00.00 TO STA. 121+52.76

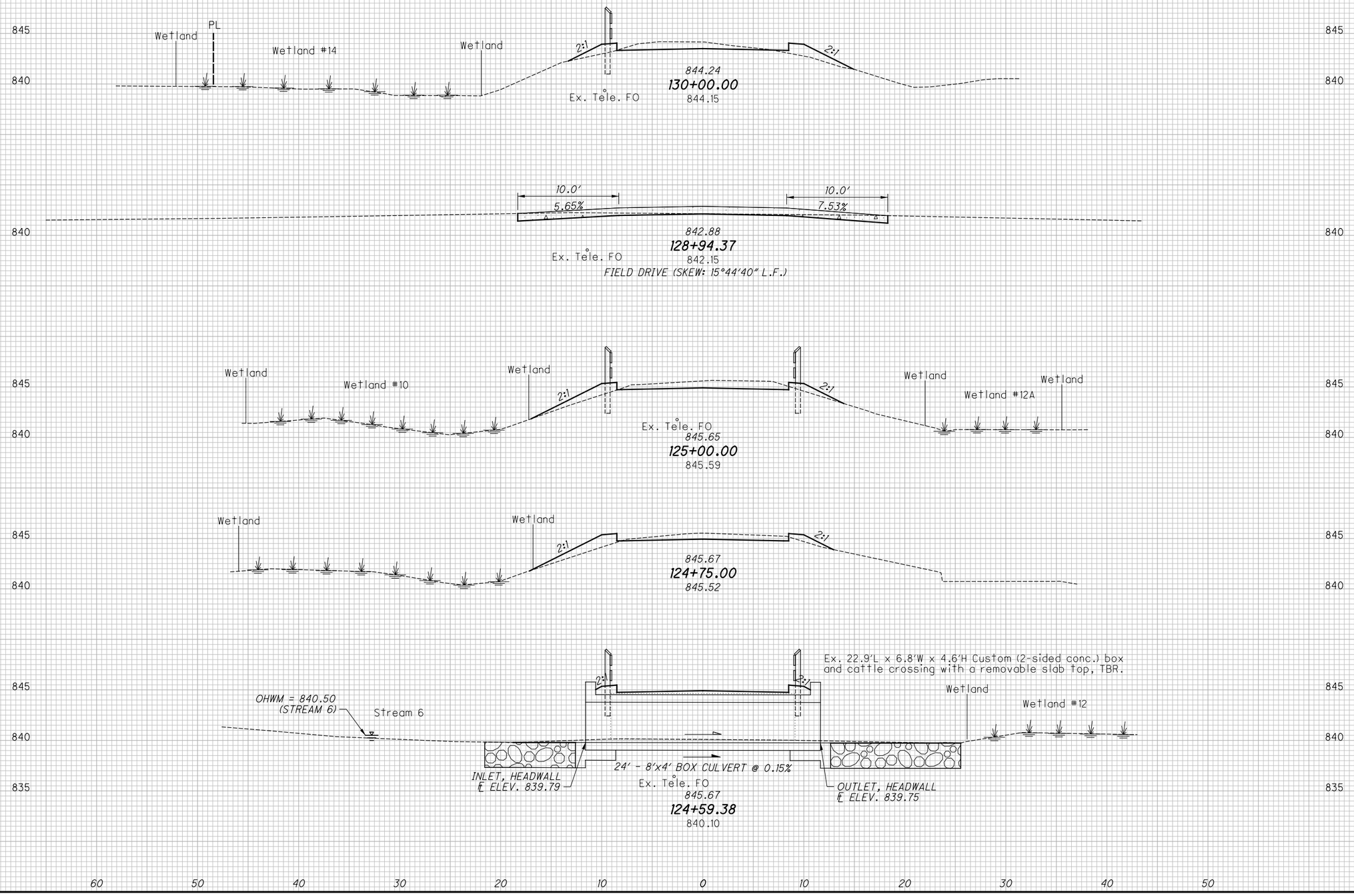
HOL-COUNTY TRAIL
PHASE 5C1

2682

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MS | CHECKED CAG



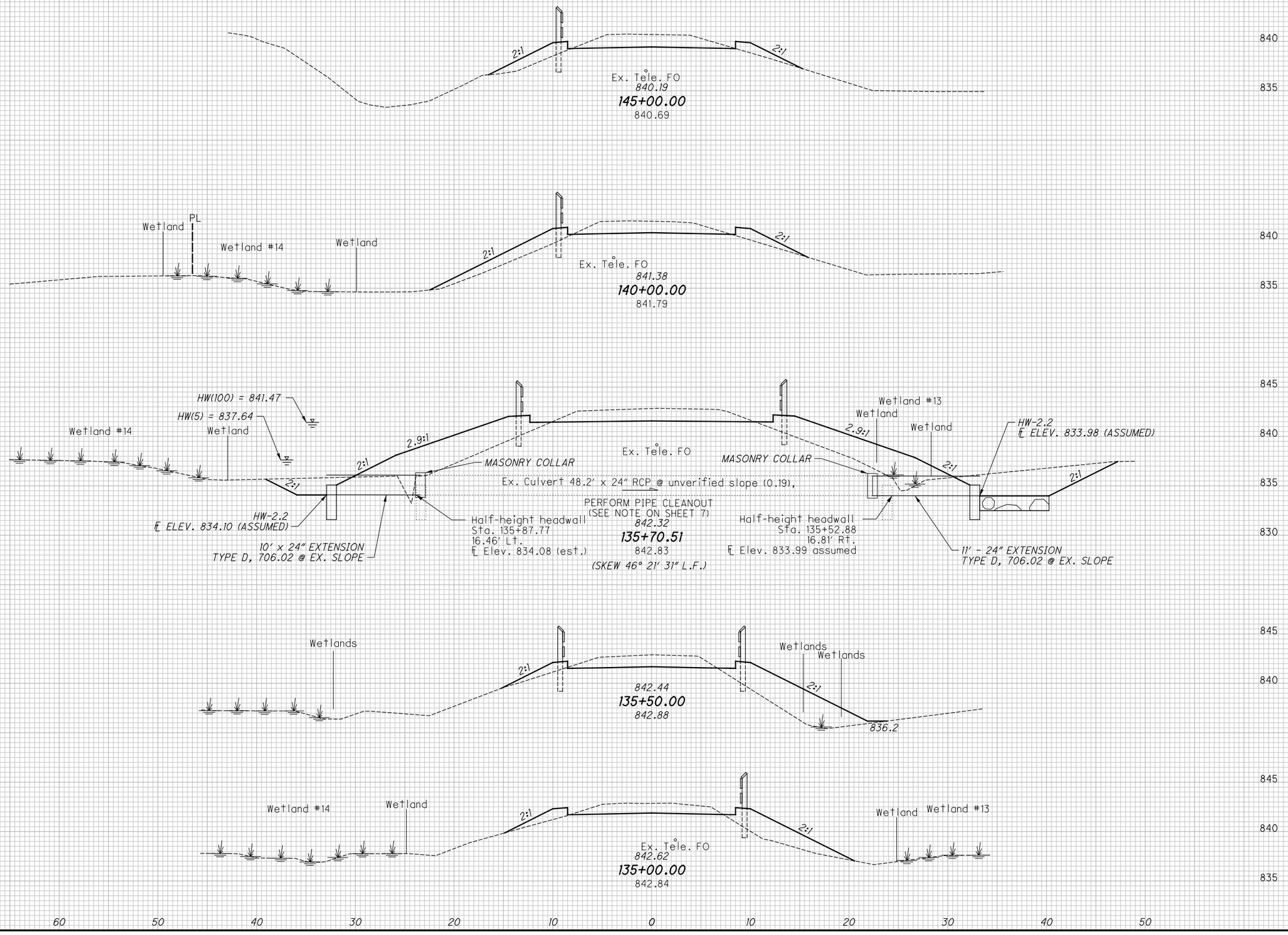
CROSS SECTIONS
STA. 124+59.38 TO STA. 130+00.00

HOL-COUNTY TRAIL
PHASE 5C1

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MS
CHECKED CAG



CROSS SECTIONS
STA. 135+00.00 TO STA. 145+00.00

HOL-COUNTY TRAIL
PHASE 5C1

47
127

4125

773 1100

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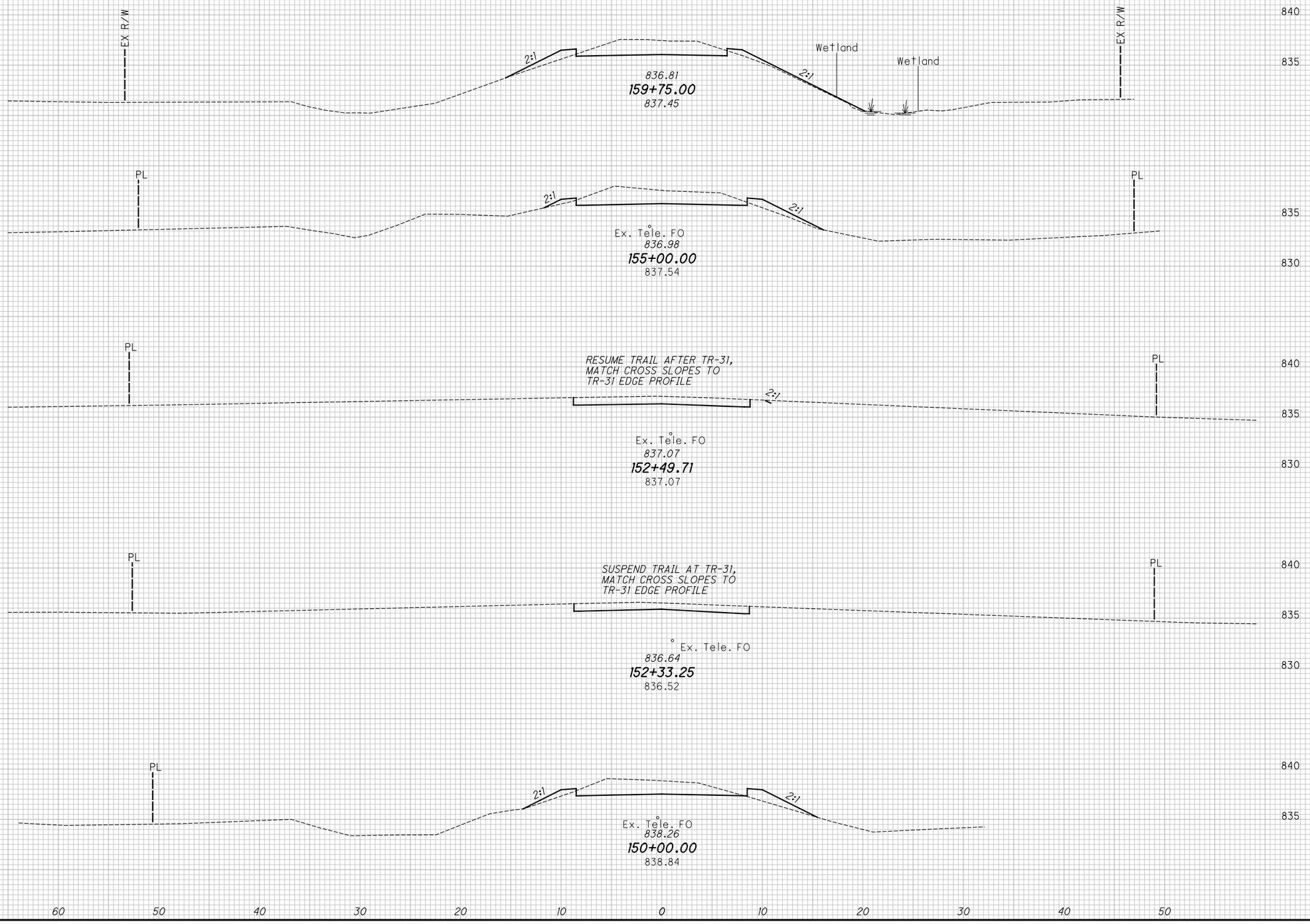
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED MS

CHECKED CAG



CROSS SECTIONS

STA. 150+00.00 TO STA. 159+75.00

HOL-COUNTY TRAIL PHASE 5C1

2317	1026	423

48
127

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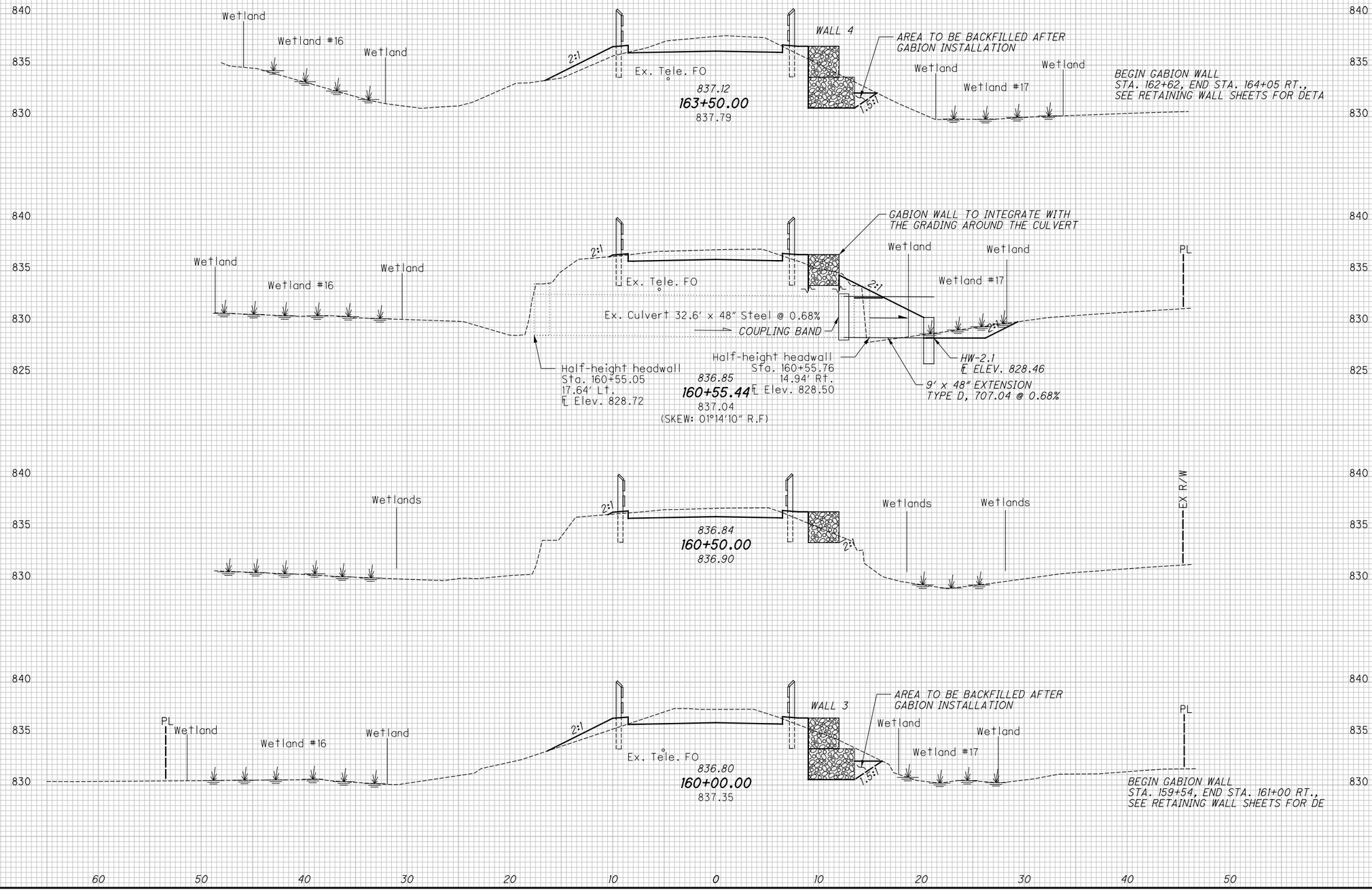
SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MS
CHECKED CAG



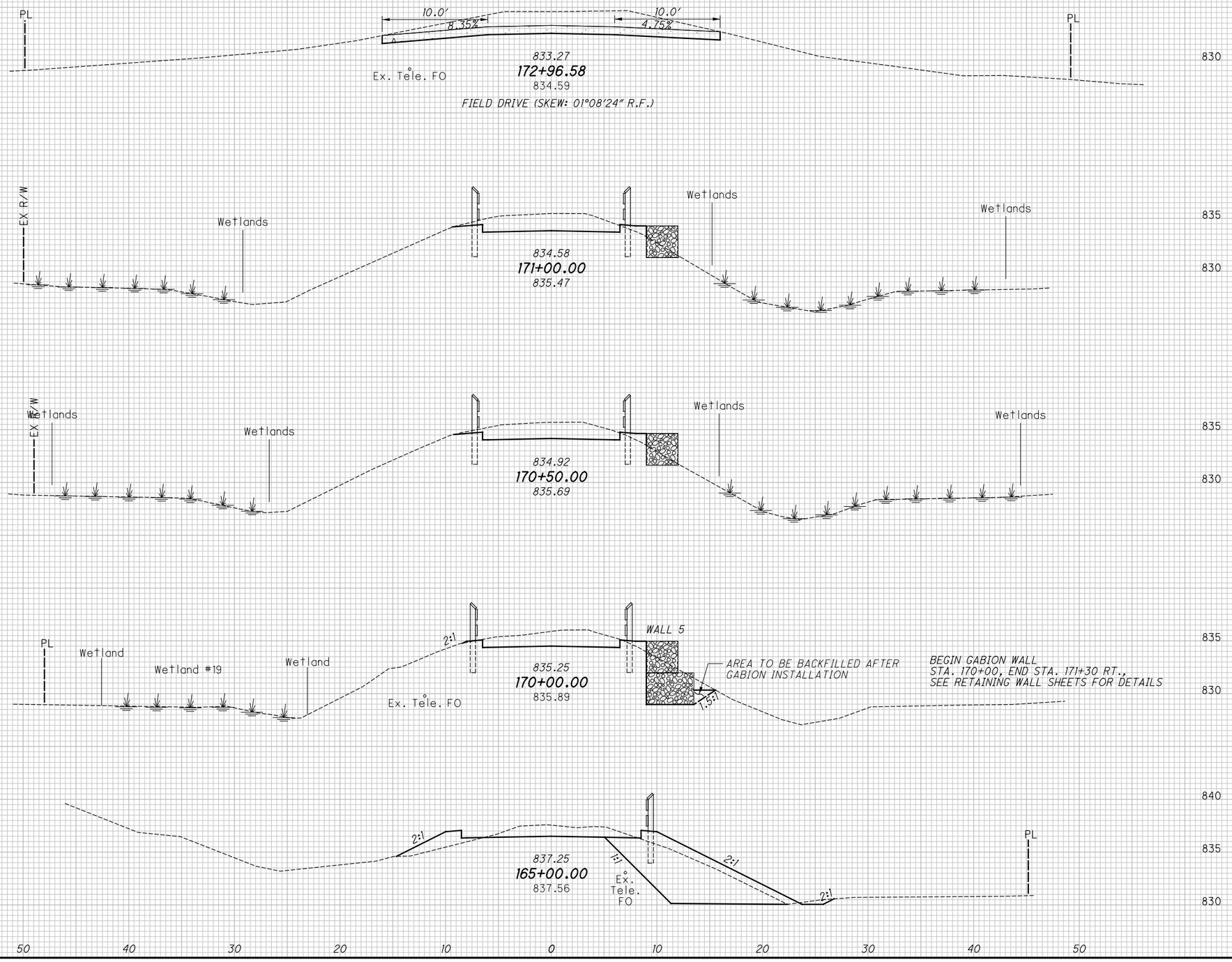
CROSS SECTIONS
STA. 160+00.00 TO STA. 163+50.00

HOL-COUNTY TRAIL
PHASE 5C1

465

255 72

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MS
CHECKED CAG

CROSS SECTIONS
STA. 165+00.00 TO STA. 172+96.58

HOL-COUNTY TRAIL
PHASE 5C1

1405	712	231

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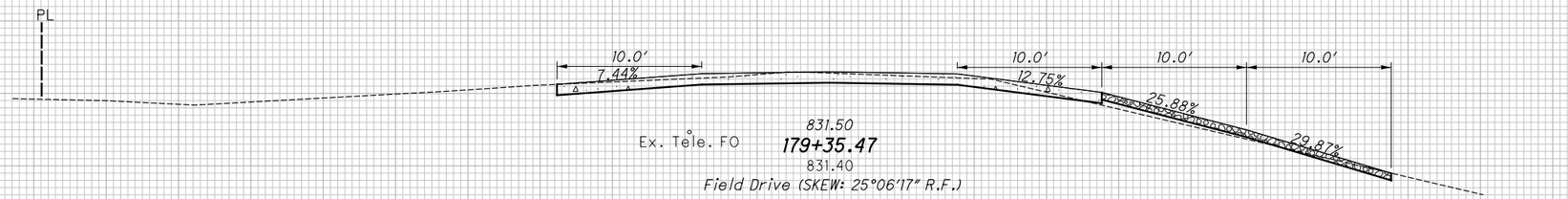
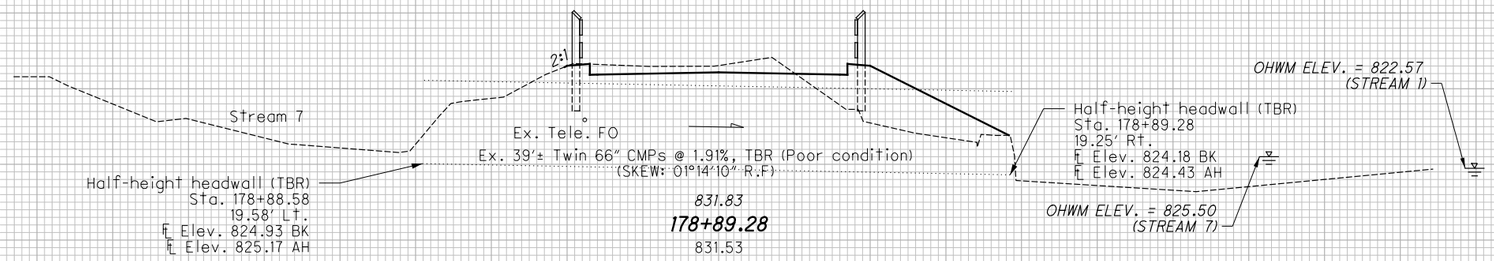
SEEDING	
END WIDTH	SQ. YDS.

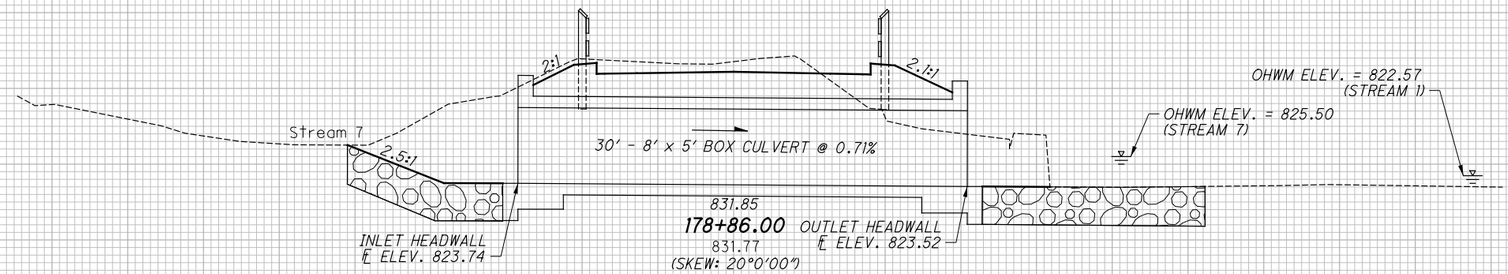
END AREA	
CUT	FILL

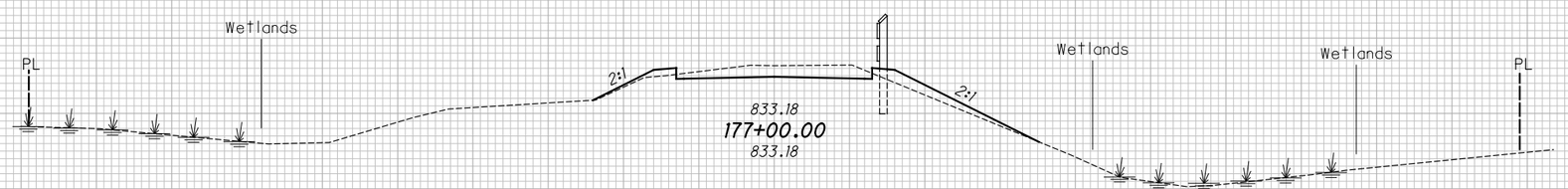
VOLUME	
CUT	FILL

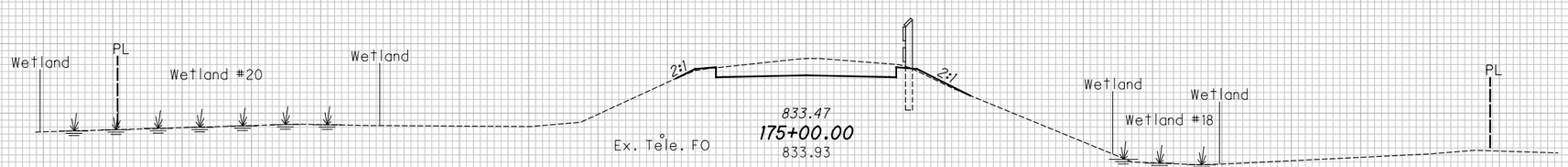
CALCULATED MS
CHECKED CAG











60 50 40 30 20 10 0 10 20 30 40 50

906

337 74

CROSS SECTIONS
STA. 175+00.00 TO STA. 179+35.47

HOL-COUNTY TRAIL
PHASE 5C1

51
127

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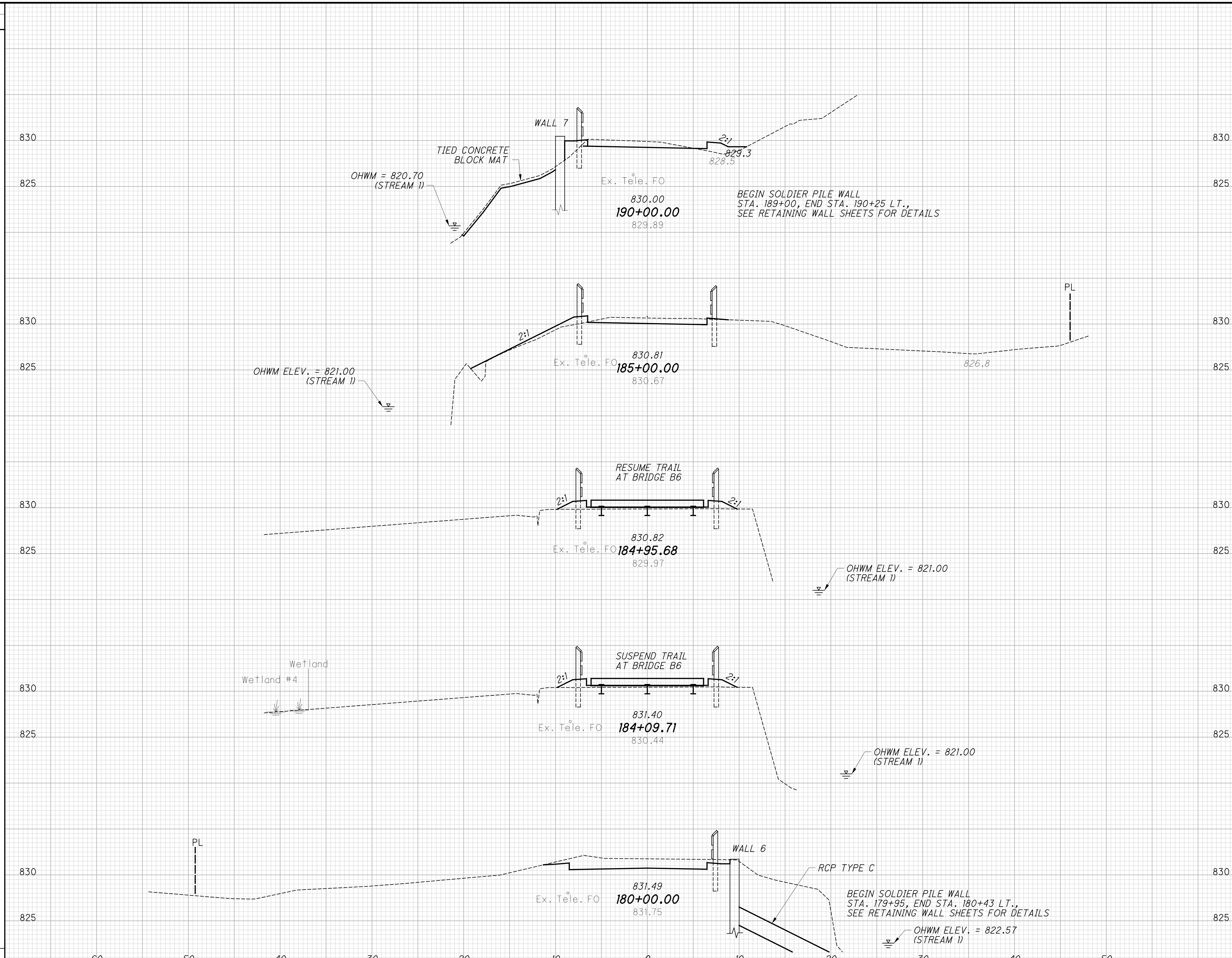
SEEDING	
END WIDTH	SQ. YDS.
	990



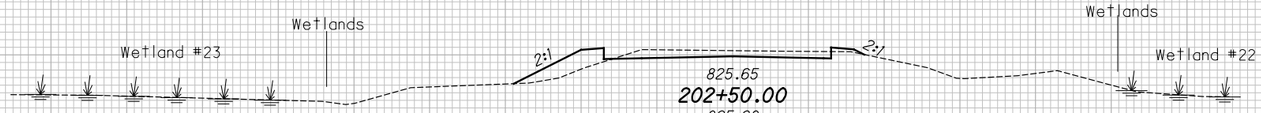
END AREA		VOLUME	
CUT	FILL	CUT	FILL
		505	98

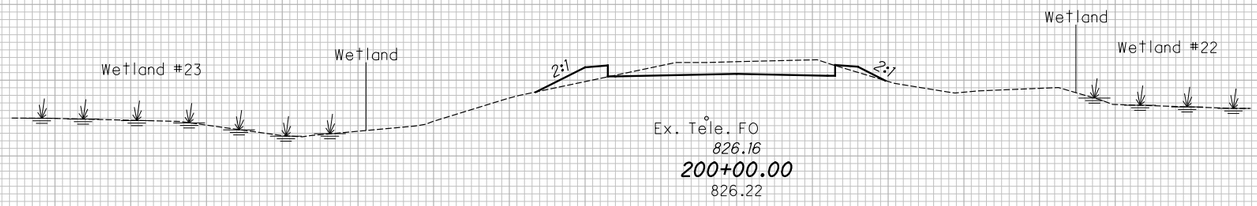
CALCULATED MS
CHECKED CAG

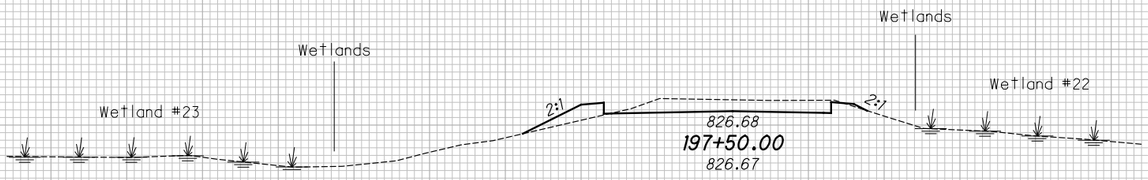
CROSS SECTIONS
STA. 180+00.00 TO STA. 190+00.00

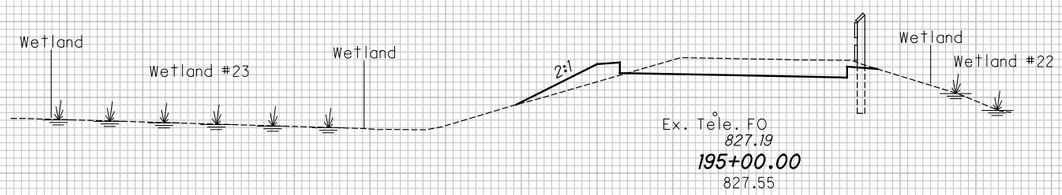
HOL-COUNTY TRAIL PHASE 5C1

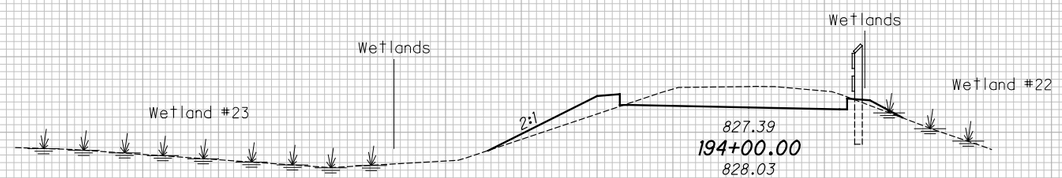
SEEDING	
END WIDTH	SQ. YDS.

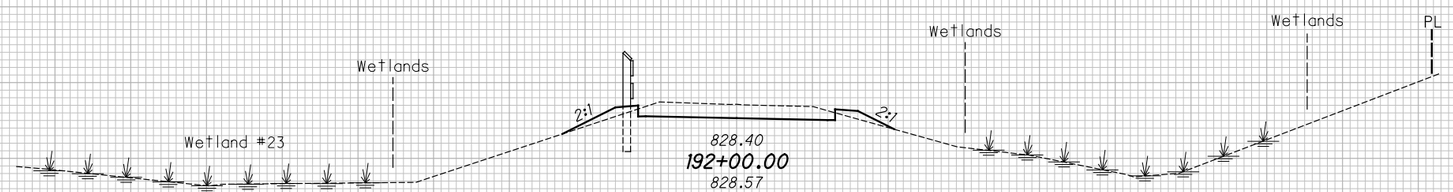












60 50 40 30 20 10 0 10 20 30 40 50

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MS
CHECKED CAG

CROSS SECTIONS
STA. 192+00.00 TO STA. 202+50.00

HOL-COUNTY TRAIL
PHASE 5C1

53
127

1567 561 235

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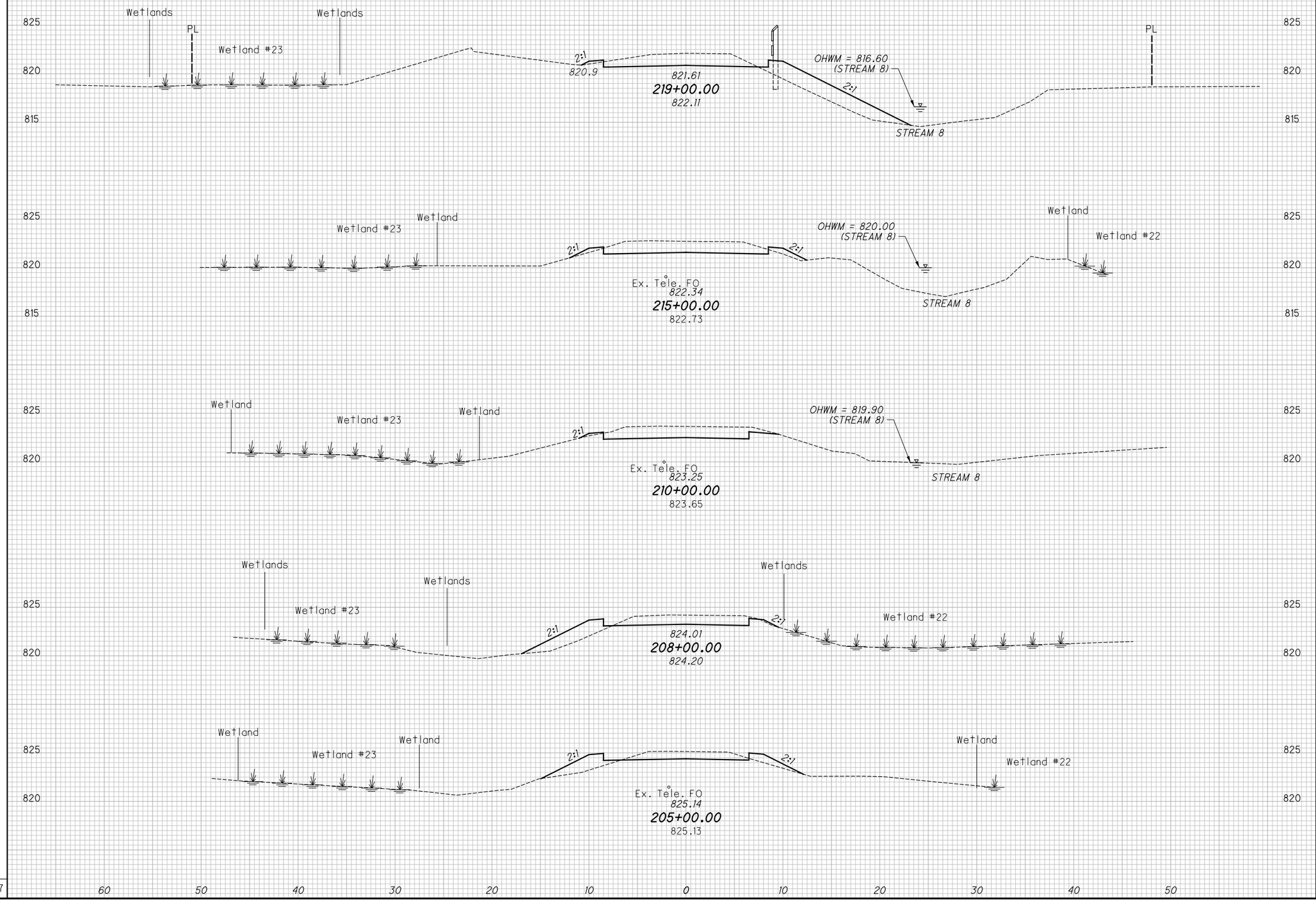
SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MS
CHECKED CAG



CROSS SECTIONS
STA. 205+00.00 TO STA. 219+00.00

HOL-COUNTY TRAIL
PHASE 5C1

2127

875 423

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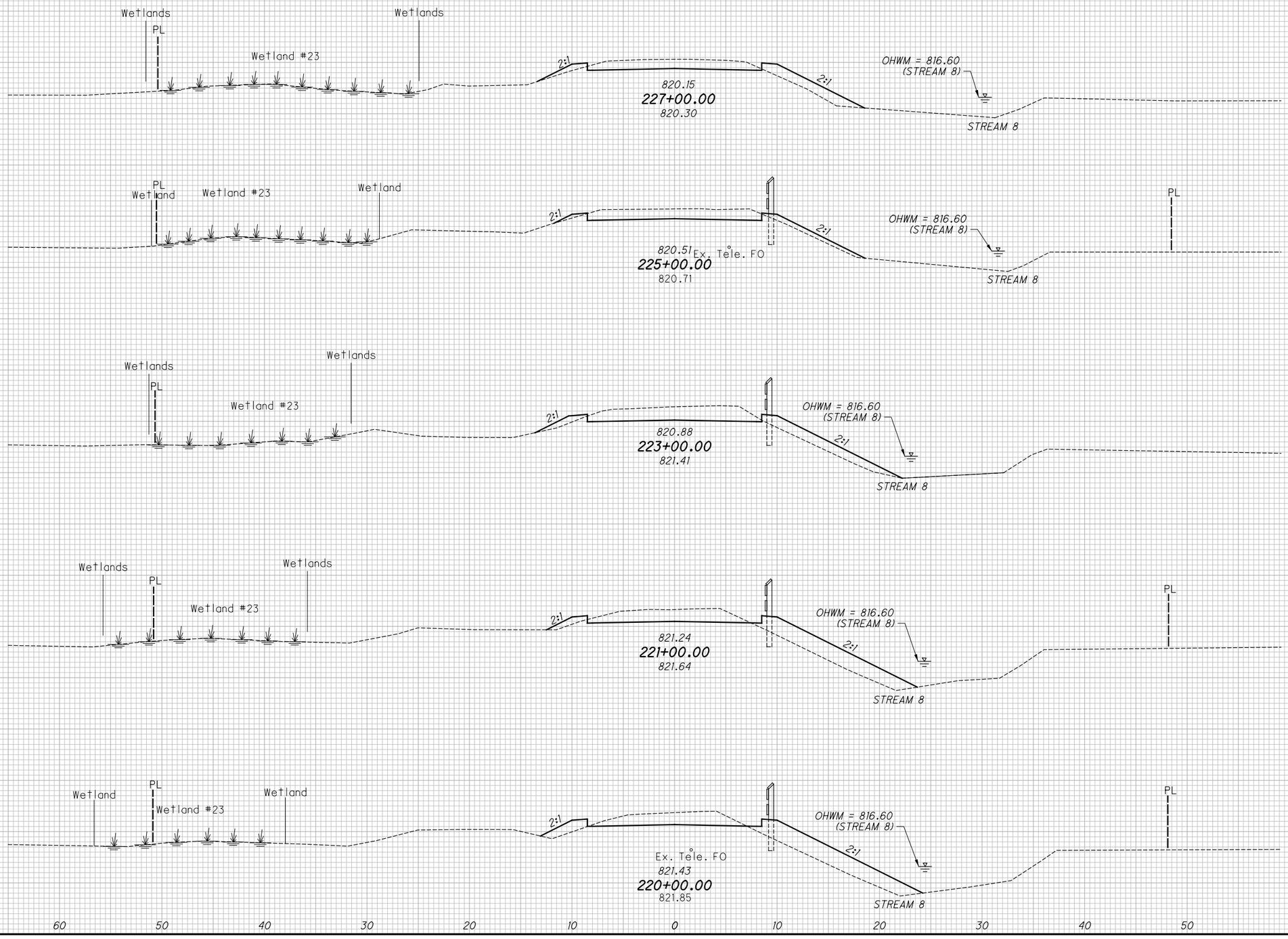
SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL
1751		488	445

CALCULATED MS
CHECKED CAG

CROSS SECTIONS
STA. 220+00.00 TO STA. 227+00.00

HOL-COUNTY TRAIL
PHASE 5C1

55
127

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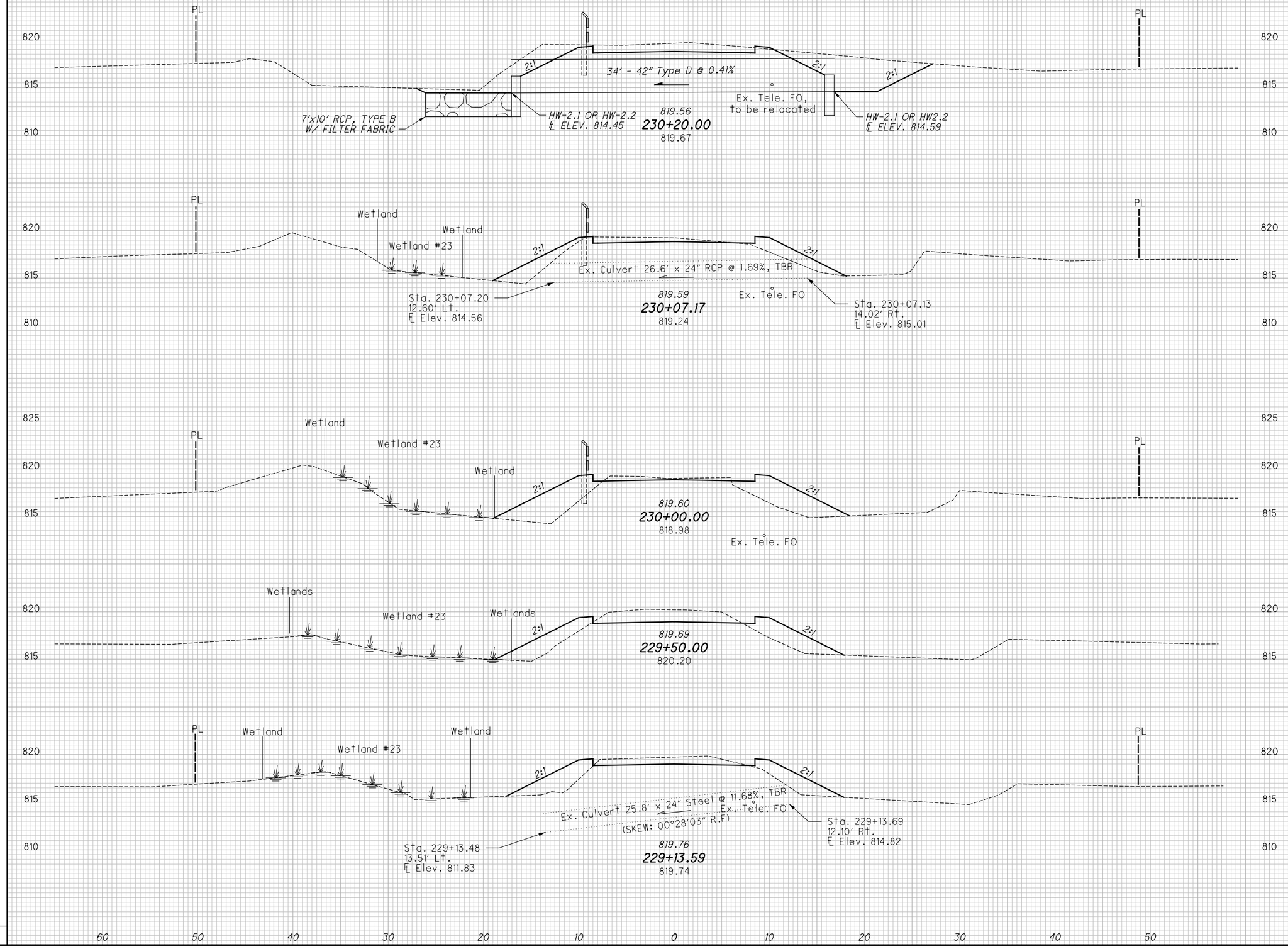
SEEDING	
END WIDTH	SQ. YDS.
	713



END AREA		VOLUME	
CUT	FILL	CUT	FILL
	177	244	

CALCULATED MS
CHECKED CAG

CROSS SECTIONS

STA. 229+13.59 TO STA. 230+20.00

HOL-COUNTY TRAIL
PHASE 5C1

56
127

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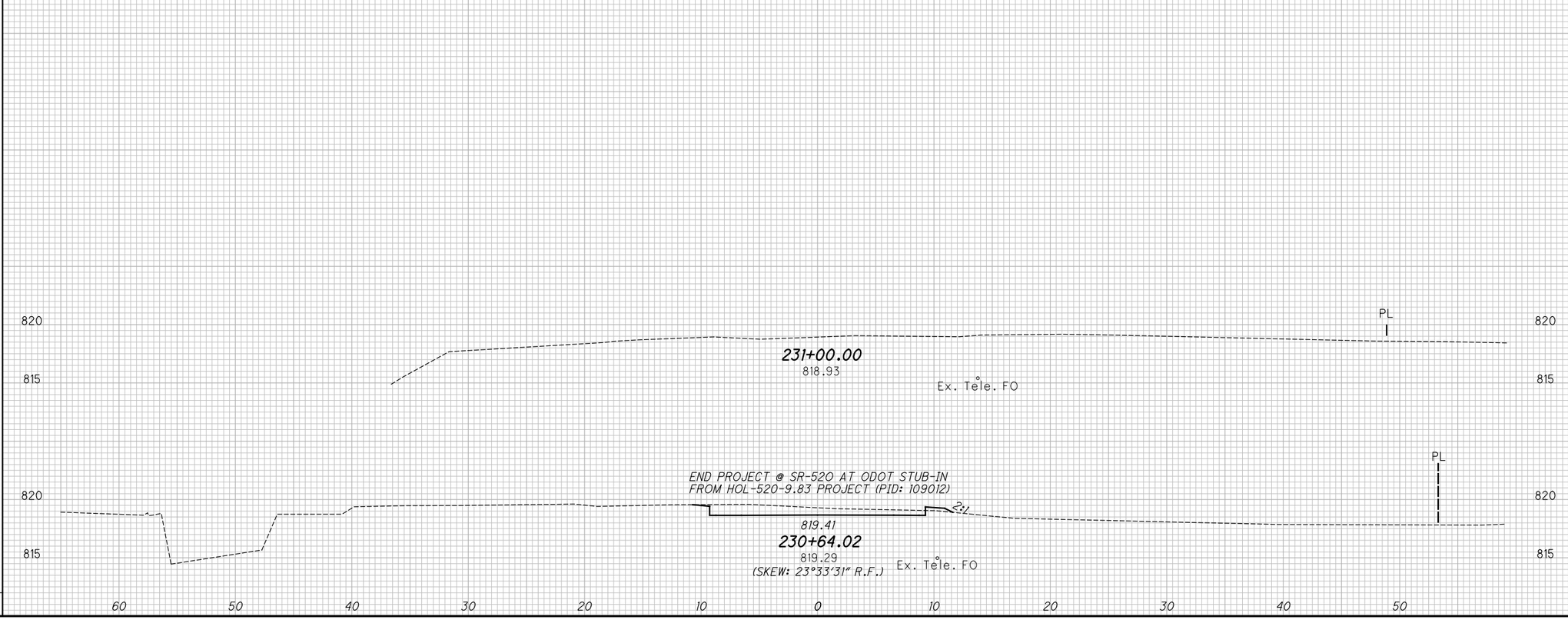
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED	CHECKED
MS	CAG



CROSS SECTIONS

STA. 230+64.02 TO STA. 231+00.00

HOL-COUNTY TRAIL
PHASE 5C1

24	
18	0

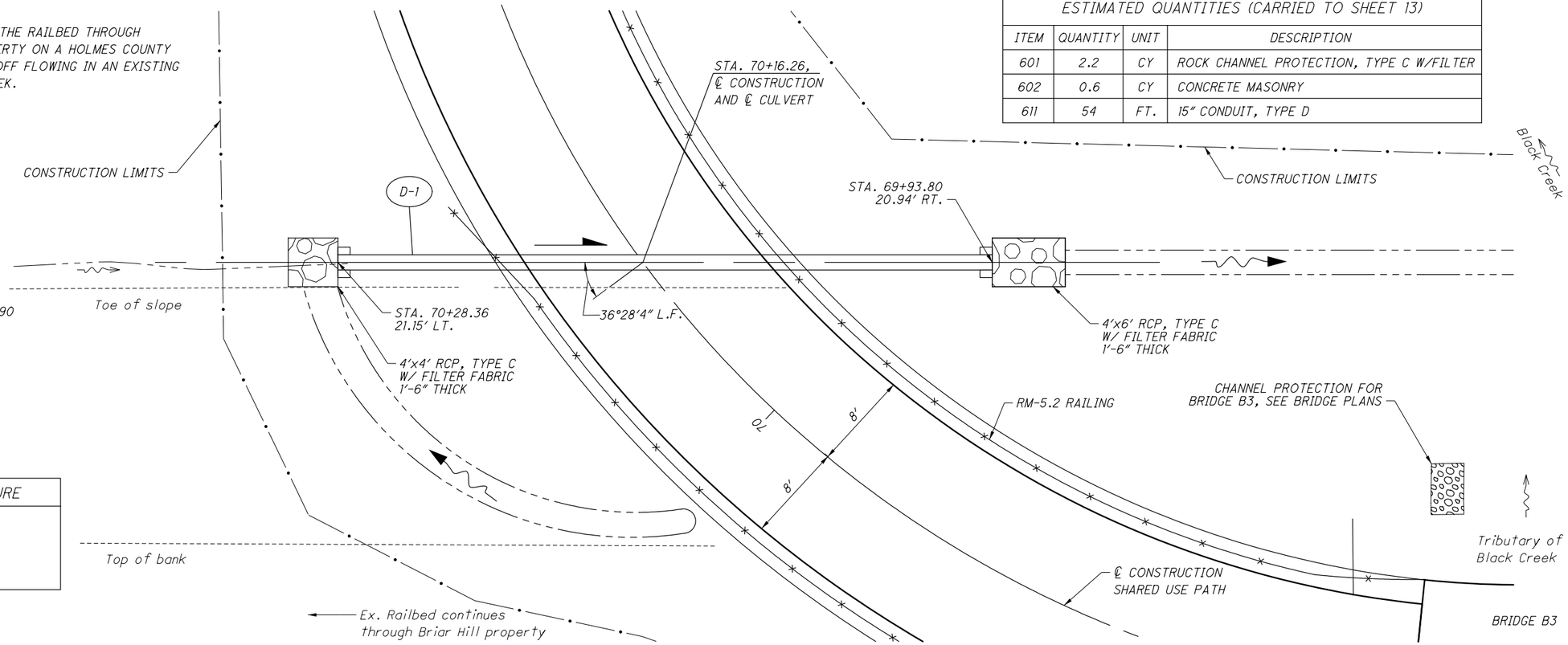
THE SHARED USE PATH DEVIATES FROM THE RAILBED THROUGH THE BRIAR HILL STONE COMPANY PROPERTY ON A HOLMES COUNTY EASEMENT. THE CULVERT ALLOWS RUNOFF FLOWING IN AN EXISTING SWALE TO CONTINUE ON TO BLACK CREEK.

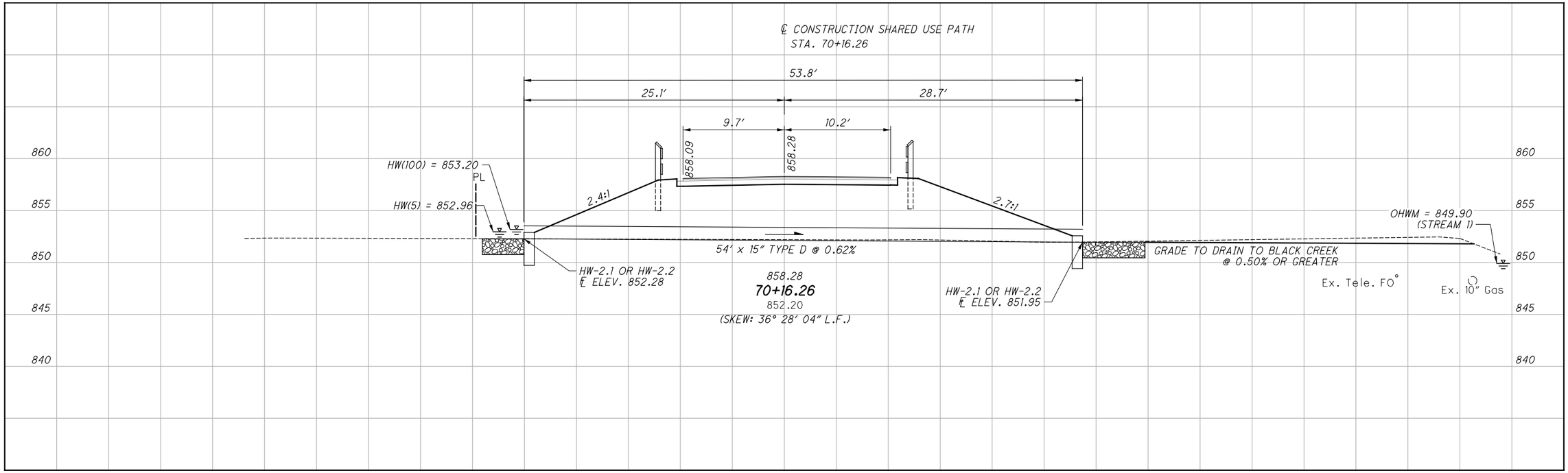
ESTIMATED QUANTITIES (CARRIED TO SHEET 13)			
ITEM	QUANTITY	UNIT	DESCRIPTION
601	2.2	CY	ROCK CHANNEL PROTECTION, TYPE C W/FILTER
602	0.6	CY	CONCRETE MASONRY
611	54	FT.	15" CONDUIT, TYPE D

HYDRAULIC DATA

DRAINAGE AREA = 2.43 ACRES
Q_s = 1.53 CFS
V_s = 3.83 FPS
Q_{100} = 2.56 CFS
V_{100} = 4.38 FPS
ORDINARY HIGH WATER MARK: 849.90
DESIGN SERVICE LIFE: 75 YRS
pH = 6.7
ABRASION LEVEL: 1

PROPOSED STRUCTURE
TYPE: 15" CONDUIT, TYPE D
SKEW: 36°28' 04" L.F.
ALIGNMENT: CURVE
CFN: NONE





HORIZONTAL SCALE IN FEET
0 5 10

CALCULATED MS
CHECKED TML

CULVERT DETAIL STA. 70+16.26

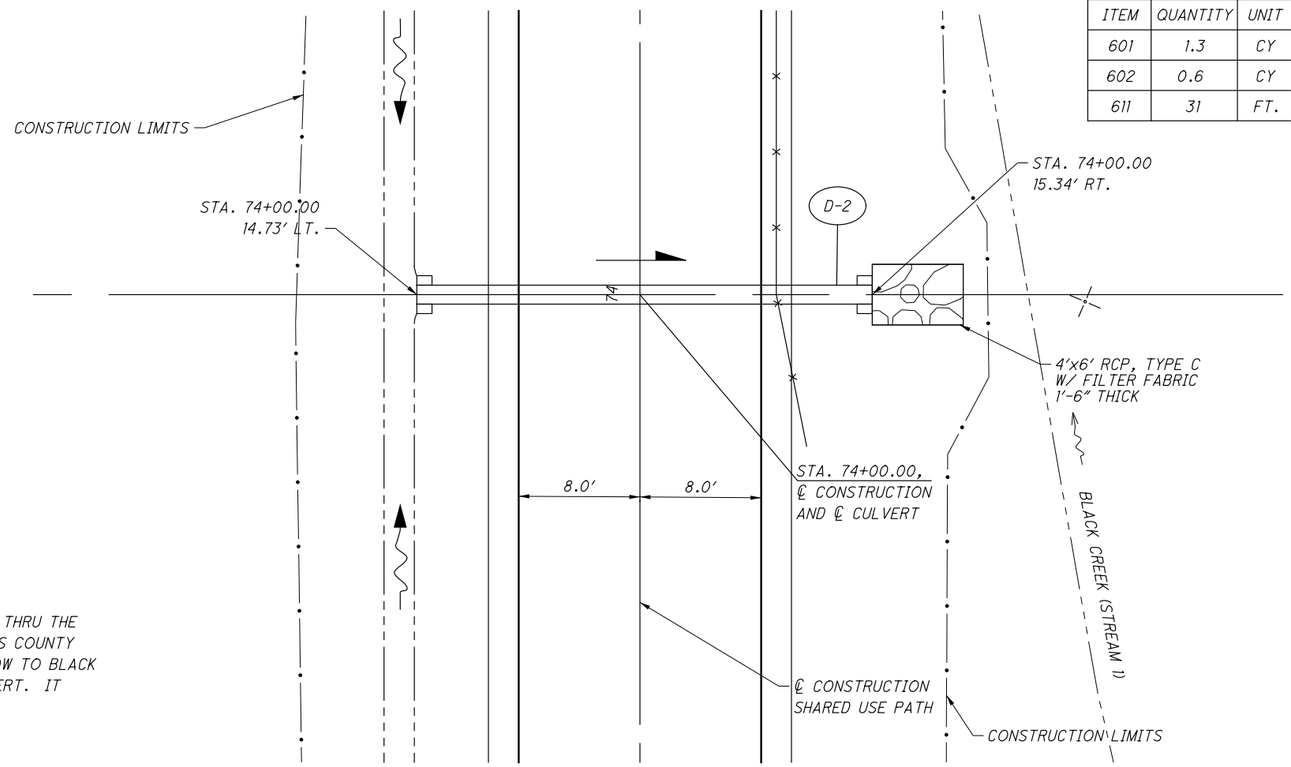
HOL-COUNTY TRAIL
PHASE 5C1

HYDRAULIC DATA

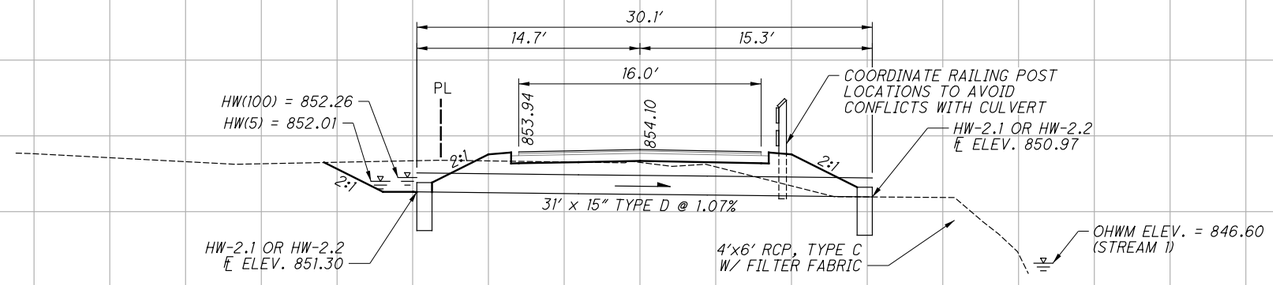
DRAINAGE AREA = 2.10 ACRES
Q_s = 1.64 CFS
V_s = 4.81 FPS
Q_{100} = 2.74 CFS
V_{100} = 5.54 FPS
ORDINARY HIGH WATER MARK: 846.60
DESIGN SERVICE LIFE: 75 YRS
pH = 6.7
ABRASION LEVEL: 1

PROPOSED STRUCTURE
TYPE: 15" CONDUIT, TYPE D
SKEW: NONE
ALIGNMENT: TANGENT
CFN: NONE

THE SHARED USE PATH DEVIATES FROM THE RAILBED THRU THE BRIAR HILL STONE COMPANY PROPERTY ON A HOLMES COUNTY EASEMENT. THE PATH CUTS OFF NORMAL SHEET FLOW TO BLACK CREEK, NECESSITATING THE DITCHES AND THIS CULVERT. IT DRAINS DIRECTLY TO BLACK CREEK.



ESTIMATED QUANTITIES (CARRIED TO SHEET 13)			
ITEM	QUANTITY	UNIT	DESCRIPTION
601	1.3	CY	ROCK CHANNEL PROTECTION, TYPE C W/FILTER
602	0.6	CY	CONCRETE MASONRY
611	31	FT.	15" CONDUIT, TYPE D



HORIZONTAL SCALE IN FEET
0 5 10

CALCULATED MS
CHECKED TML

CULVERT DETAIL
STA. 74+00.00

HOL-COUNTY TRAIL
PHASE 5C1

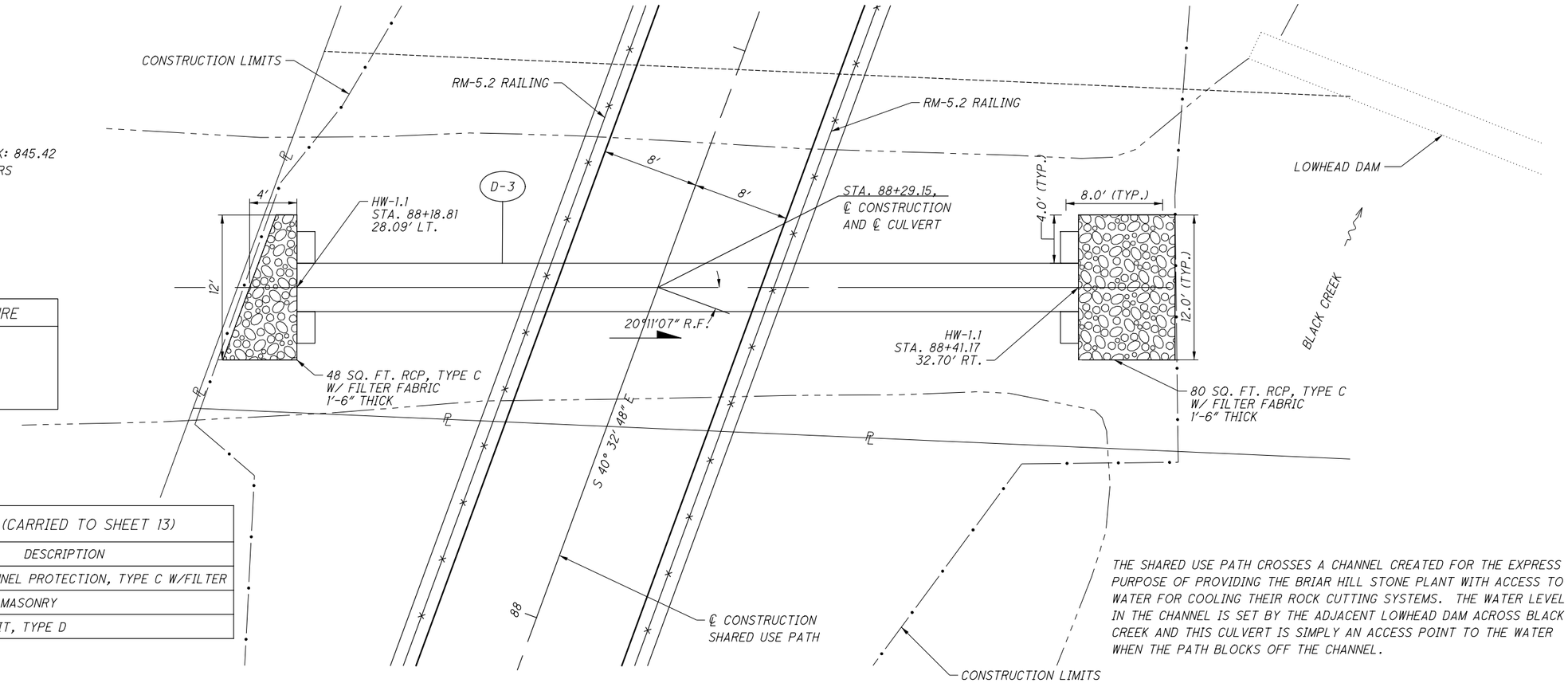
HYDRAULIC DATA

DRAINAGE AREA = N/A

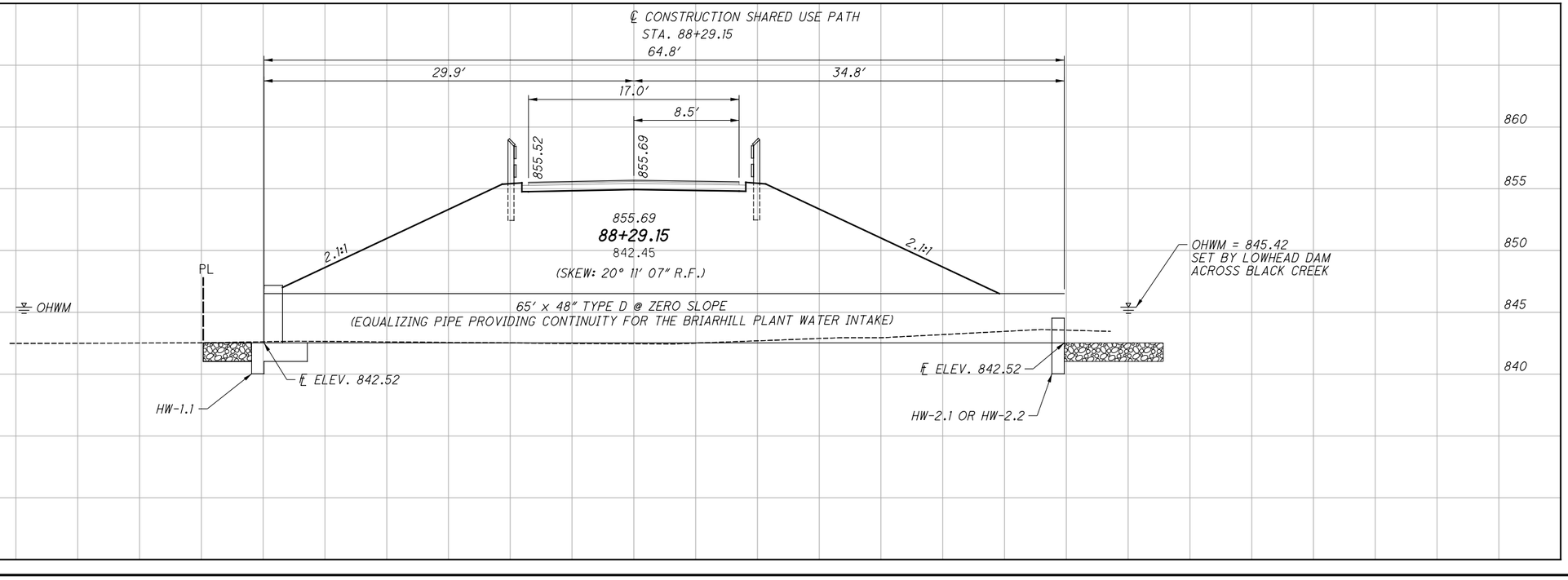
ORDINARY HIGH WATER MARK: 845.42
DESIGN SERVICE LIFE: 75 YRS
pH = 6.7
ABRASION LEVEL: 1

PROPOSED STRUCTURE
TYPE: 48" CONDUIT, TYPE D
SKEW: 20°11' 07" R.F.
ALIGNMENT: TANGENT
CFN: NONE

ESTIMATED QUANTITIES (CARRIED TO SHEET 13)			
ITEM	QUANTITY	UNIT	DESCRIPTION
601	7.1	CY	ROCK CHANNEL PROTECTION, TYPE C W/FILTER
602	9.9	CY	CONCRETE MASONRY
611	65	FT.	48" CONDUIT, TYPE D



THE SHARED USE PATH CROSSES A CHANNEL CREATED FOR THE EXPRESS PURPOSE OF PROVIDING THE BRIAR HILL STONE PLANT WITH ACCESS TO WATER FOR COOLING THEIR ROCK CUTTING SYSTEMS. THE WATER LEVEL IN THE CHANNEL IS SET BY THE ADJACENT LOWHEAD DAM ACROSS BLACK CREEK AND THIS CULVERT IS SIMPLY AN ACCESS POINT TO THE WATER WHEN THE PATH BLOCKS OFF THE CHANNEL.



HORIZONTAL SCALE IN FEET
0 5 10

CALCULATED MS
CHECKED TML

CULVERT DETAIL STA. 88+29.15

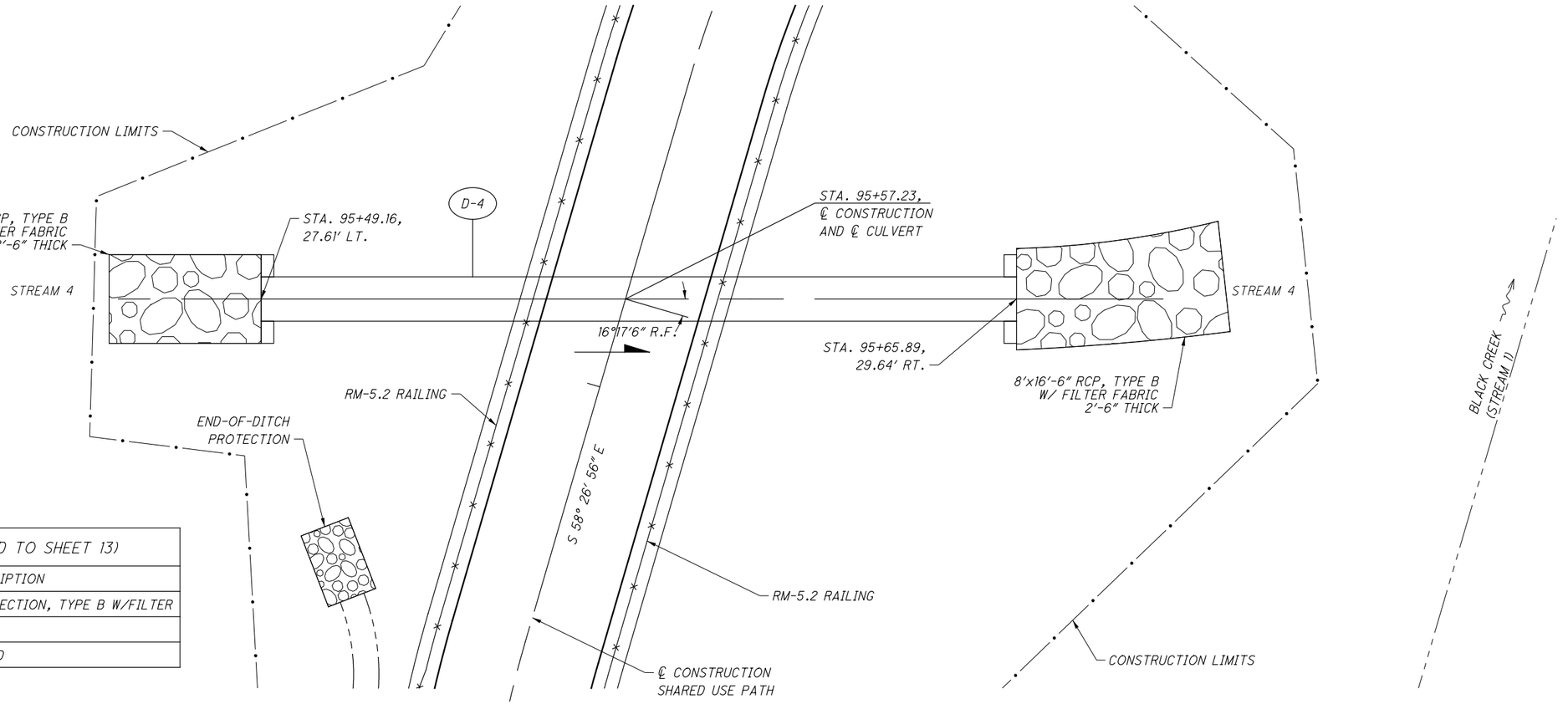
HOL-COUNTY TRAIL
PHASE 5C1

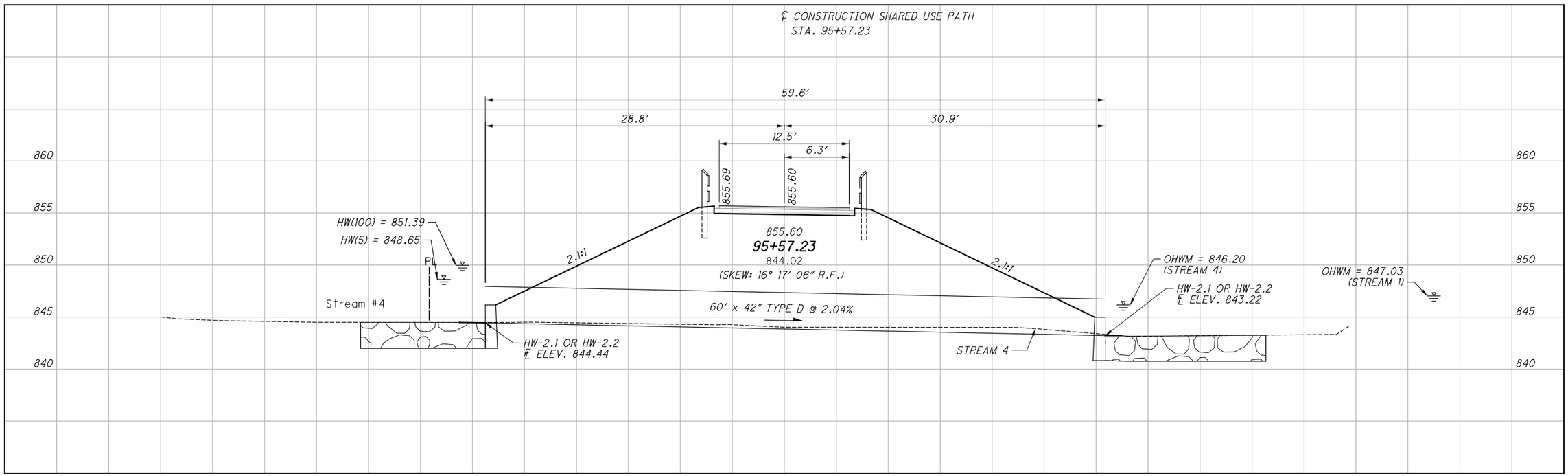
HYDRAULIC DATA

DRAINAGE AREA = 64.78 ACRES
Q_s = 72.54 CFS
V_s = 15.90 FPS
Q_{100} = 116.20 CFS
V_{100} = 17.75 FPS
ORDINARY HIGH WATER MARK: 846.20
DESIGN SERVICE LIFE: 75 YRS
pH = 6.7
ABRASION LEVEL: 1

PROPOSED STRUCTURE
TYPE: 42" CONDUIT, TYPE D
SKEW: 16°17' 06" R.F.
ALIGNMENT: TANGENT
CFN: NONE

ESTIMATED QUANTITIES (CARRIED TO SHEET 13)			
ITEM	QUANTITY	UNIT	DESCRIPTION
601	20	CY	ROCK CHANNEL PROTECTION, TYPE B W/FILTER
602	1.1	CY	CONCRETE MASONRY
611	60	FT.	42" CONDUIT, TYPE D





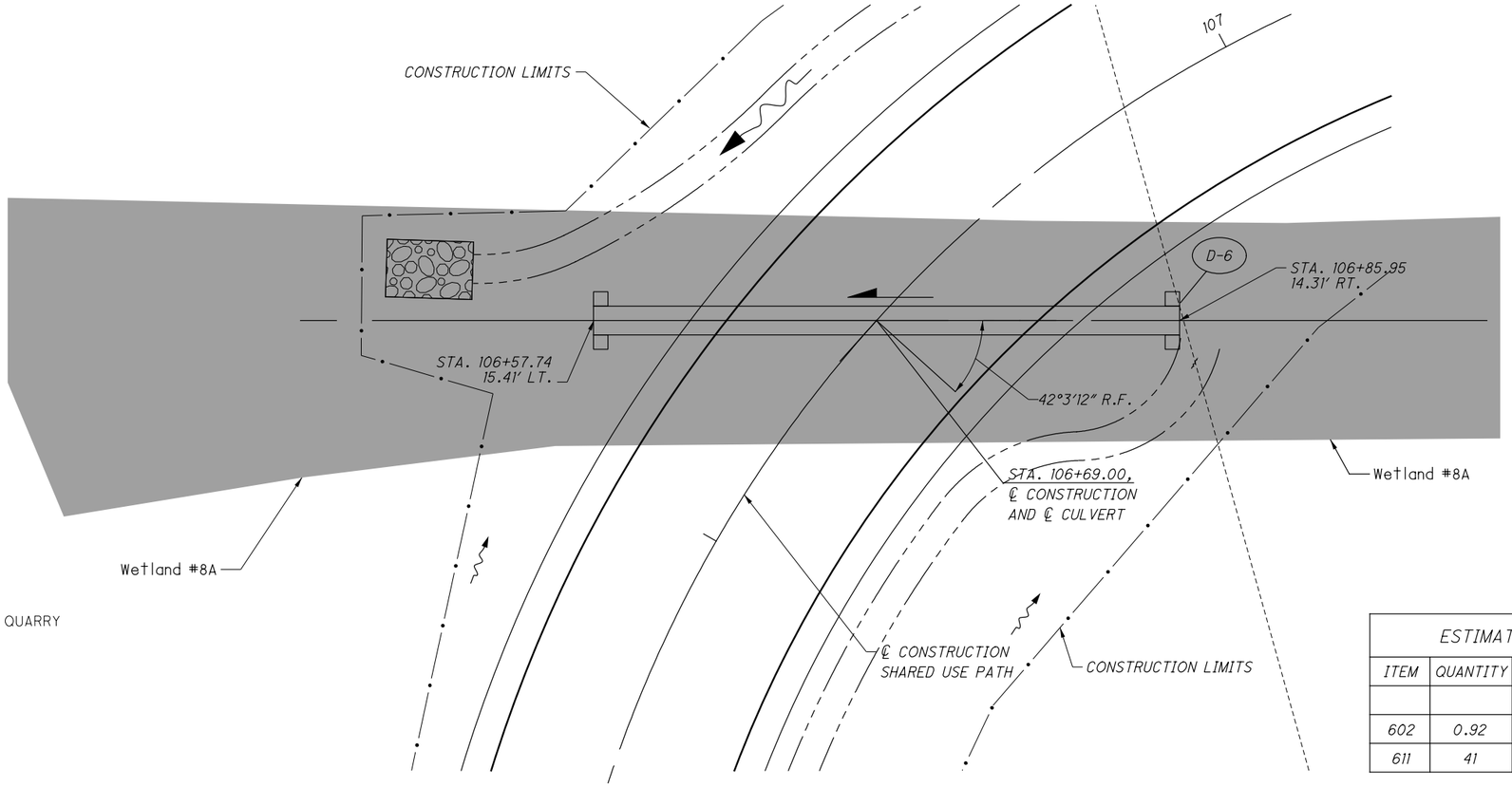
HORIZONTAL SCALE IN FEET
0 5 10

CALCULATED MS
CHECKED TML

CULVERT DETAIL STA. 95+57.23

HOL-COUNTY TRAIL
PHASE 5C1

61
127



HYDRAULIC DATA

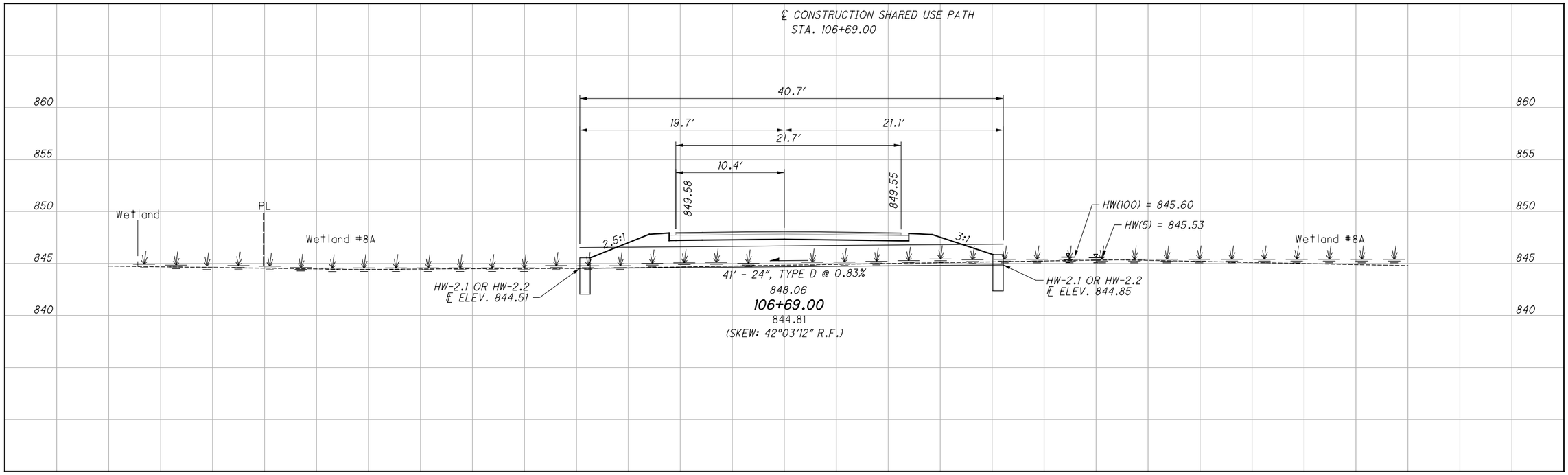
DRAINAGE AREA = 0.17 ACRES
Q_5 = 0.34 CFS
V_5 = 3.35 FPS
Q_{100} = 0.51 CFS
V_{100} = 3.80 FPS
ORDINARY HIGH WATER MARK: N/A
DESIGN SERVICE LIFE: 75 YRS
pH = 6.7
ABRASION LEVEL: 1

PROPOSED STRUCTURE

TYPE: 24" CONDUIT, TYPE D
SKEW: 42° 03' 12" R.F
ALIGNMENT: CURVE
CFN: NONE

ESTIMATED QUANTITIES (CARRIED TO SHEET 13)

ITEM	QUANTITY	UNIT	DESCRIPTION
602	0.92	CY	CONCRETE MASONRY
611	41	FT.	24" CONDUIT, TYPE D



HORIZONTAL SCALE IN FEET
0 5 10
CALCULATED MS
CHECKED TML

CULVERT DETAIL STA. 106+69.00

HOL-COUNTY TRAIL
PHASE 5C1

62
127

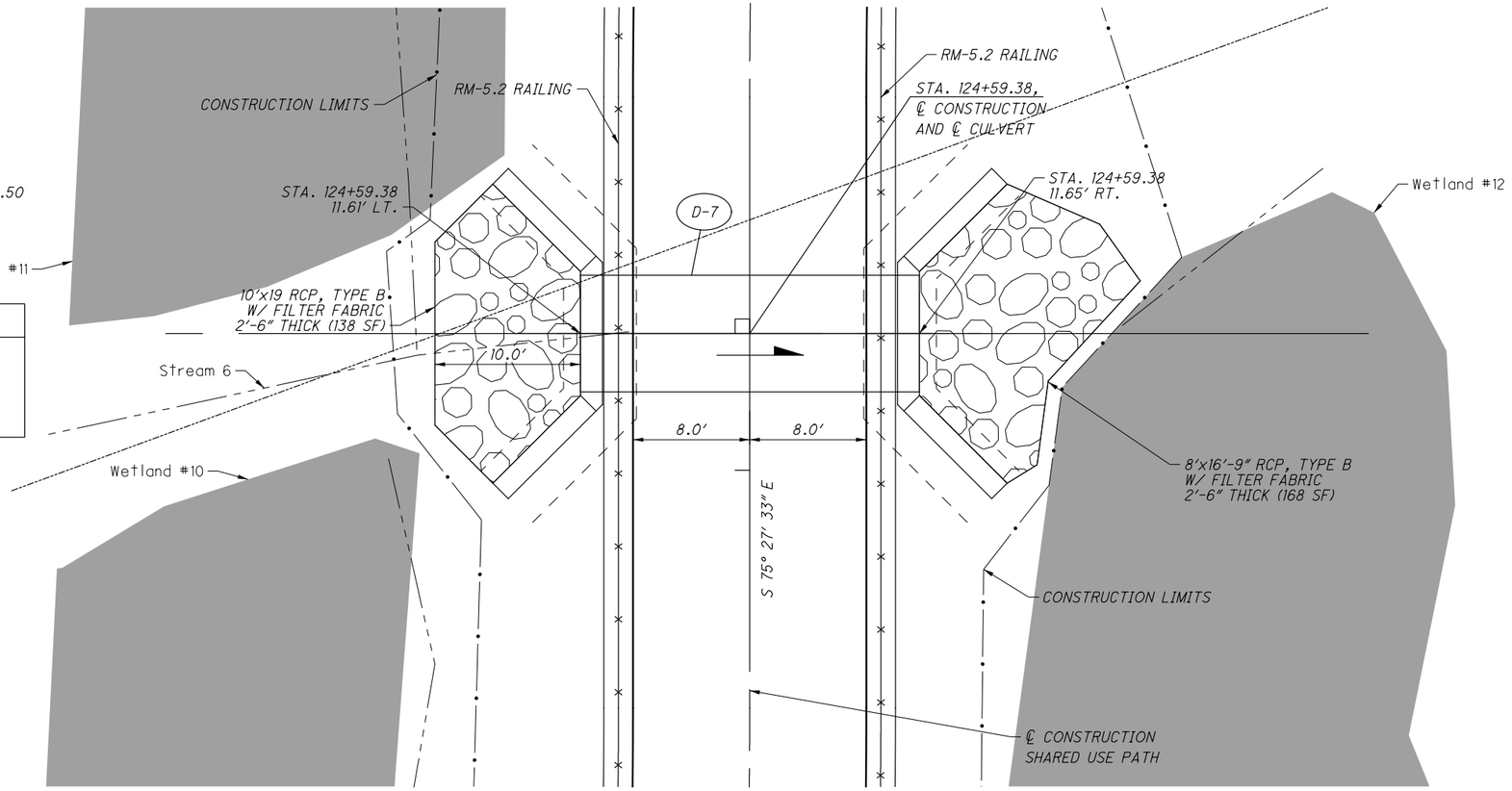
G:\DE\Clients\OH_Holmes County Parks\080723_HOLMES_TRAIL_5C1\86052_HOLMES_TRAIL_5C1\Design\Drainage\Sheets\86052_DC005B.dgn Sheet 12/1/2021 2:46:38 PM goodnight

HYDRAULIC DATA

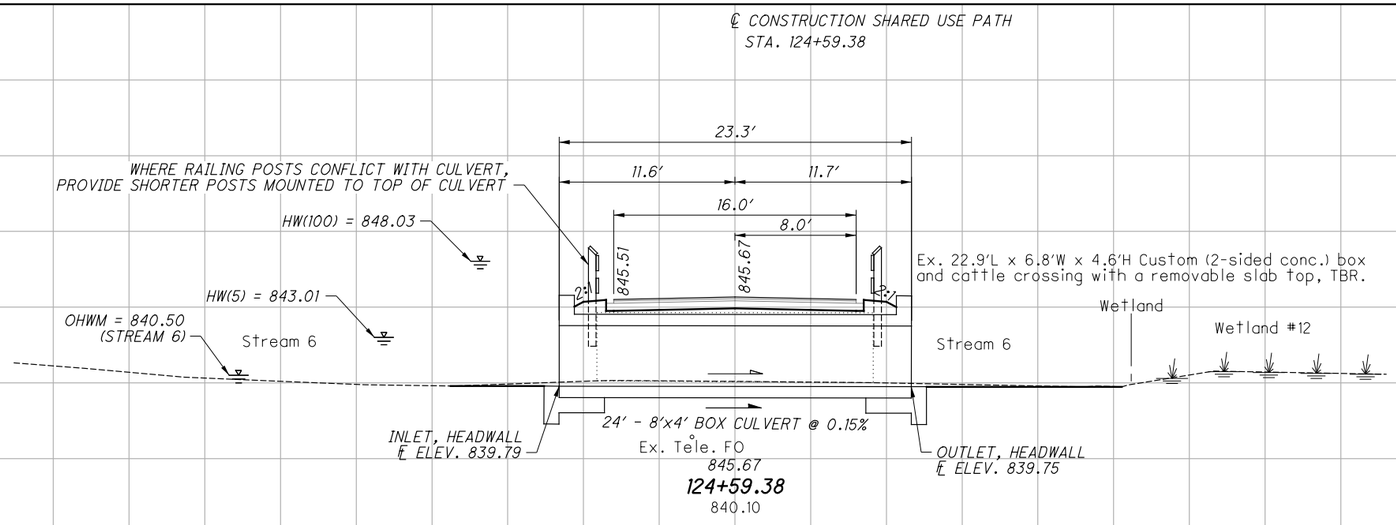
DRAINAGE AREA = 169.98 ACRES
Q_s = 65.67 CFS
V_s = 5.90 FPS
Q_{100} = 116.23 CFS
V_{100} = 6.82 FPS
ORDINARY HIGH WATER MARK: 840.50
DESIGN SERVICE LIFE: 75 YRS
pH = 6.7
ABRASION LEVEL: 1

PROPOSED STRUCTURE

TYPE: 8' X 4' BOX CULVERT
SKEW: NONE
ALIGNMENT: TANGENT
CFN: NONE



SEE SHEETS 69 - 70 FOR TYPICAL HEADWALL DETAILS AND QUANTITIES.



HORIZONTAL SCALE IN FEET
0 5 10

CALCULATED MS
CHECKED TML

CULVERT DETAIL
STA. 124+59.38

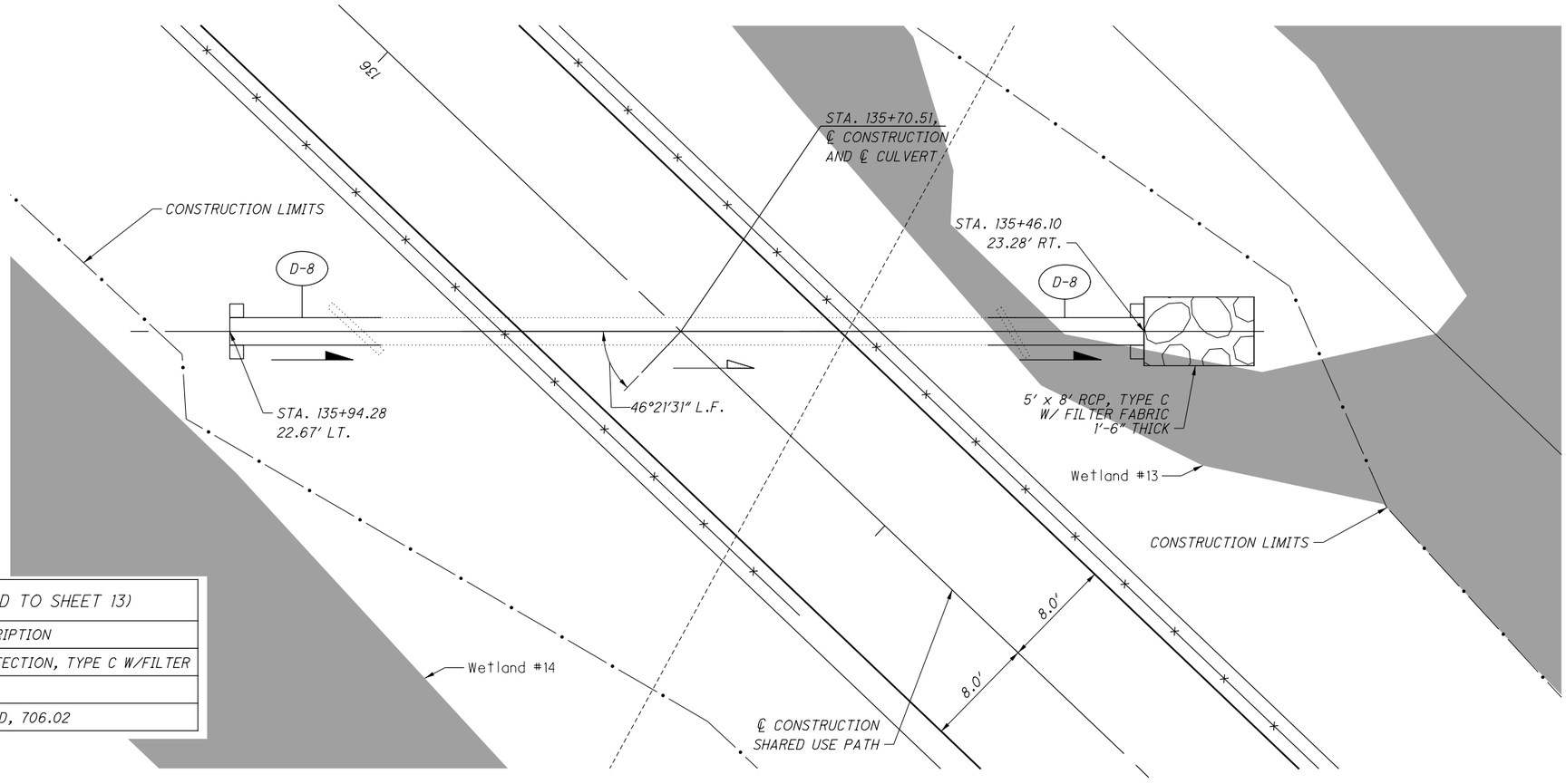
HOL-COUNTY TRAIL
PHASE 5C1

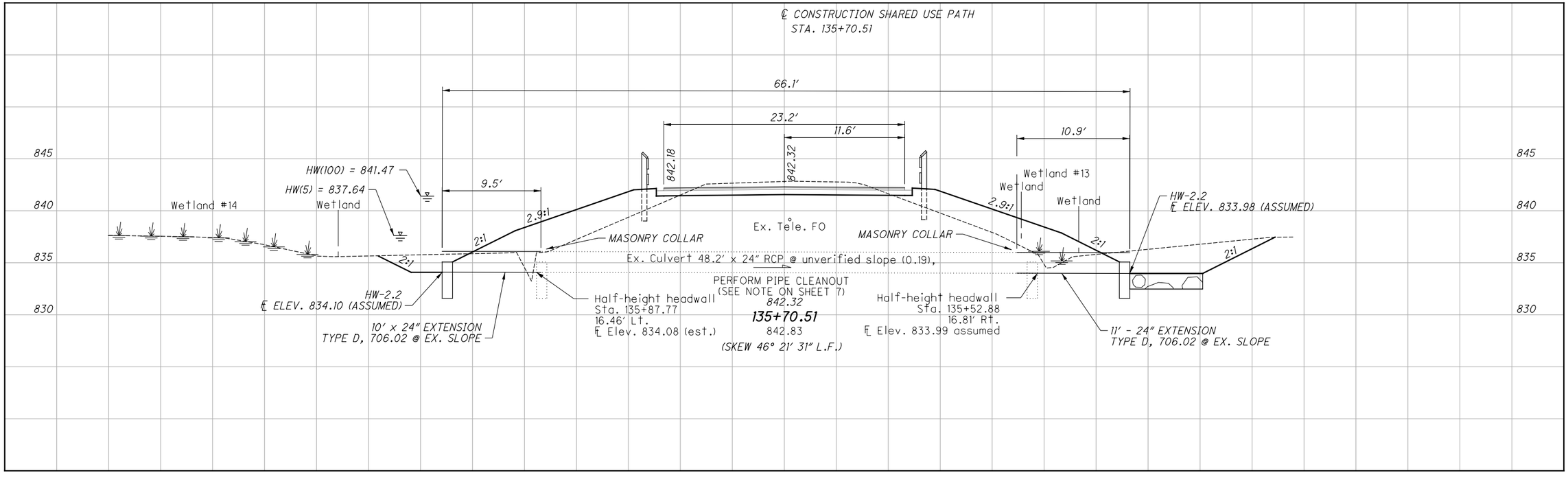
HYDRAULIC DATA

DRAINAGE AREA = 69.98 ACRES
Q_s = 24.47 CFS
V_s = 8.41 FPS
Q_{100} = 42.97 CFS
V_{100} = 13.73 FPS
ORDINARY HIGH WATER MARK: N/A
DESIGN SERVICE LIFE: 75 YRS
pH = 6.7
ABRASION LEVEL: 1

PROPOSED STRUCTURE
TYPE: 24" REINFORCED CONCRETE PIPE
SKEW: 46° 21' 31" L.F.
ALIGNMENT: TANGENT
CFN: NONE

ESTIMATED QUANTITIES (CARRIED TO SHEET 13)			
ITEM	QUANTITY	UNIT	DESCRIPTION
601	2.2	CY	ROCK CHANNEL PROTECTION, TYPE C W/FILTER
602	0.9	CY	CONCRETE MASONRY
611	21	FT.	24" CONDUIT, TYPE D, 706.02





HORIZONTAL SCALE IN FEET
0 5 10

CALCULATED MS
CHECKED TML

CULVERT DETAIL
STA. 135+70.51

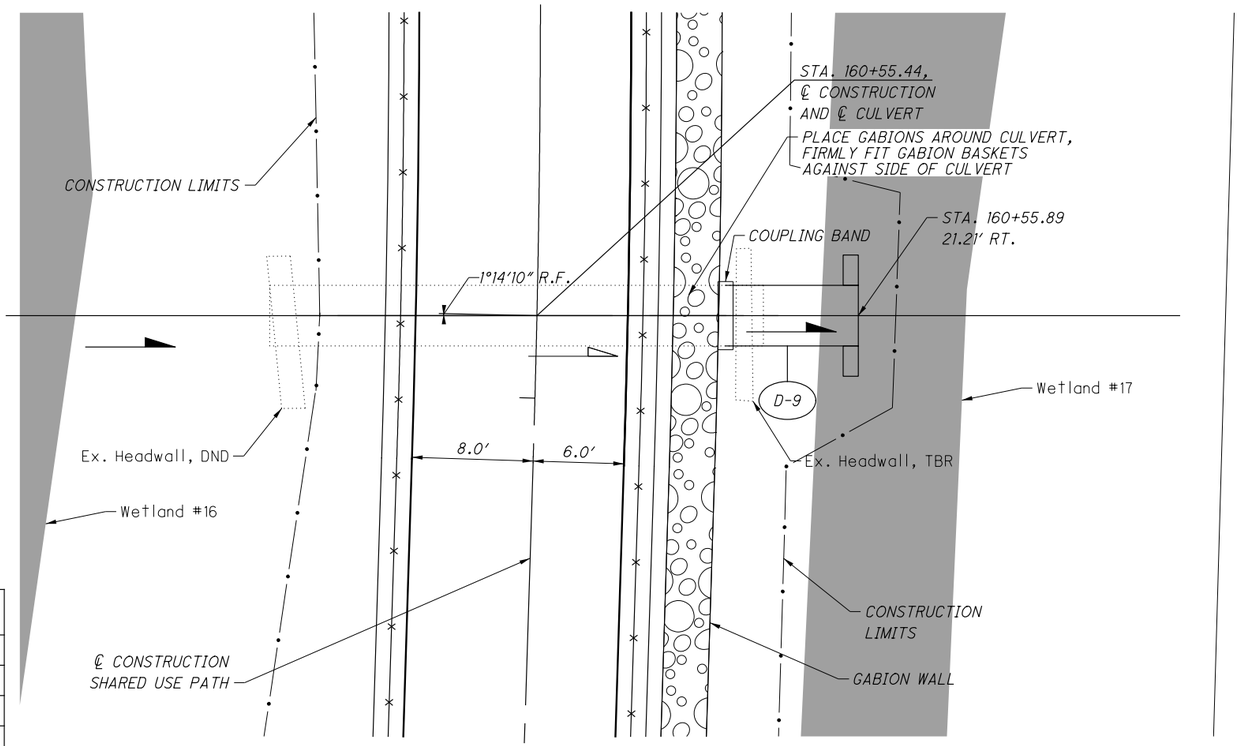
HOL-COUNTY TRAIL
PHASE 5C1

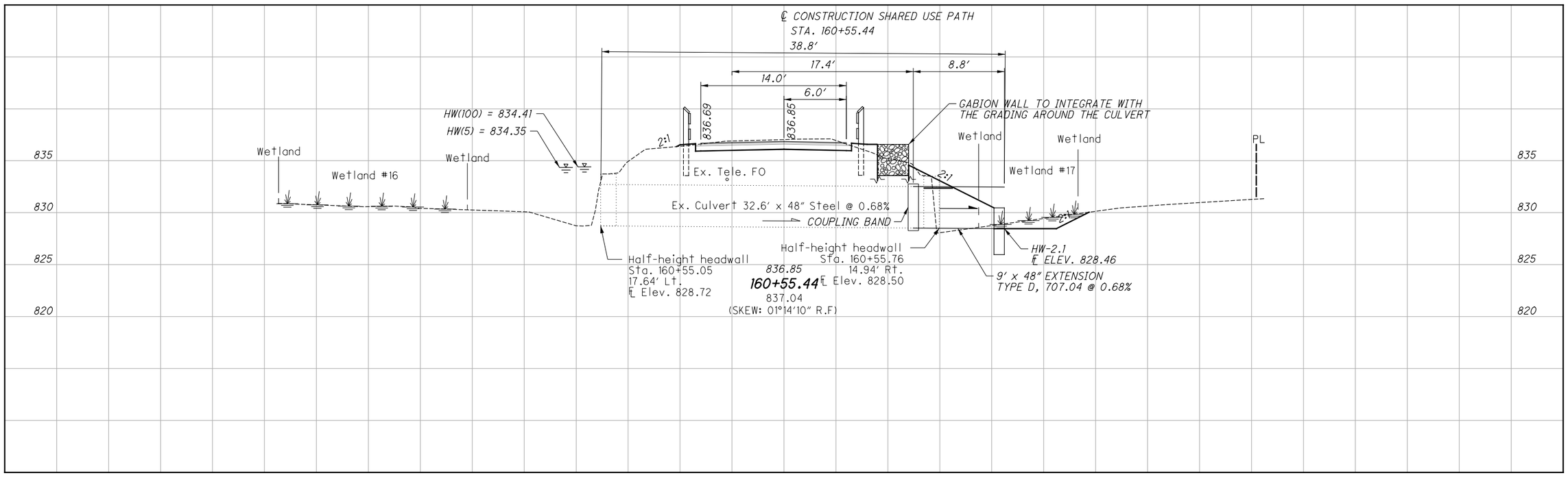
HYDRAULIC DATA

DRAINAGE AREA = 39.39 ACRES
Q_s = 13.66 CFS
V_s = 1.09 FPS
Q_{100} = 23.86 CFS
V_{100} = 1.90 FPS
ORDINARY HIGH WATER MARK: N/A
DESIGN SERVICE LIFE: 75 YRS
pH = 6.7
ABRASION LEVEL: 1

PROPOSED STRUCTURE
TYPE: 48" STEEL PIPE
SKEW: 01° 14' 10" R.F.
ALIGNMENT: CURVE
CFN: NONE

ESTIMATED QUANTITIES (CARRIED TO SHEET 13)			
ITEM	QUANTITY	UNIT	DESCRIPTION
602	1.1	CY	CONCRETE MASONRY
611	9	FT.	48" CONDUIT, TYPE D, 707.04





HORIZONTAL SCALE IN FEET
0 5 10
CALCULATED MS
CHECKED TML

CULVERT DETAIL
STA. 160+55.44

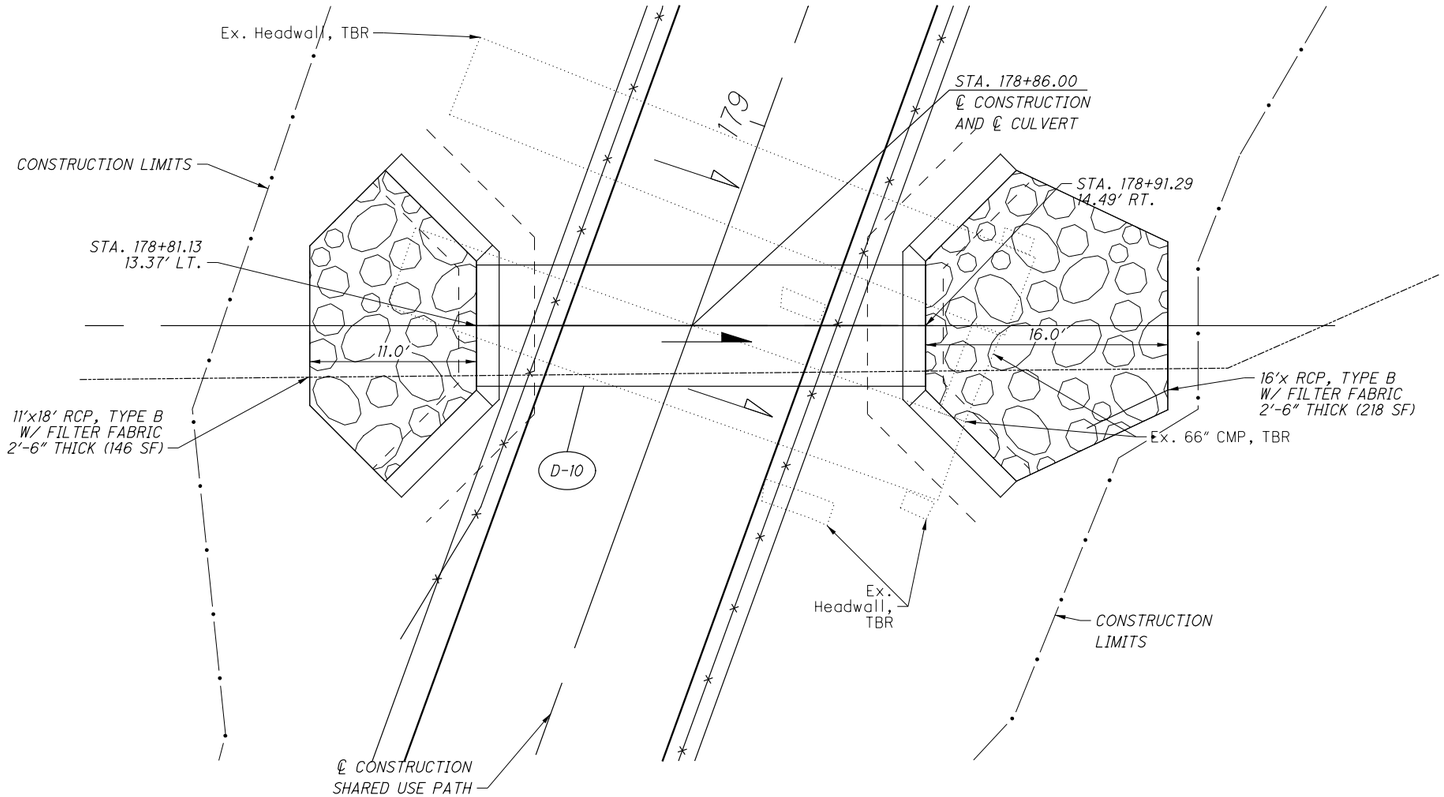
HOL-COUNTY TRAIL
PHASE 5C1

65
127

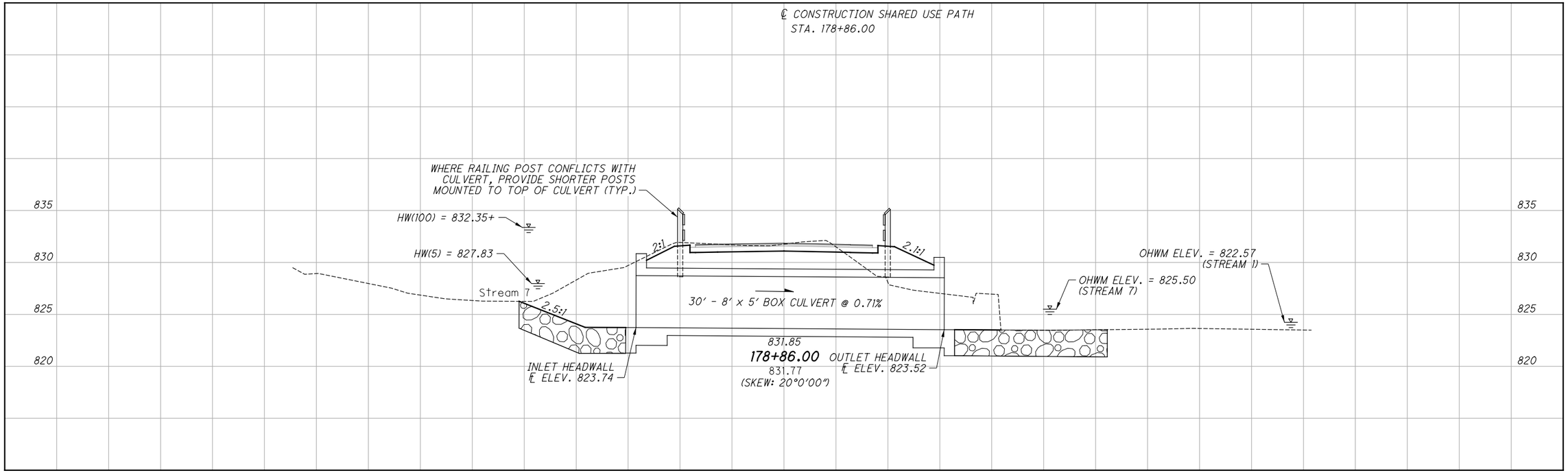
HYDRAULIC DATA

DRAINAGE AREA = 39.39 ACRES
Q_s = 171.46 CFS
V_s = 8.42 FPS
Q_{100} = 397.06 CFS
V_{100} = 10.69 FPS
ORDINARY HIGH WATER MARK: 825.50
DESIGN SERVICE LIFE: 75 YRS
pH = 6.7
ABRASION LEVEL: 1

PROPOSED STRUCTURE
TYPE: 30' - 8' x 5' BOX CULVERT
SKEW: 20° 00' 00" R.F.
ALIGNMENT: CURVE
CFN: NONE



SEE SHEETS 69 - 70 FOR TYPICAL HEADWALL DETAILS AND QUANTITIES.



HORIZONTAL SCALE IN FEET
0 5 10

CALCULATED MS
CHECKED TML

CULVERT DETAIL
STA. 178+86.00

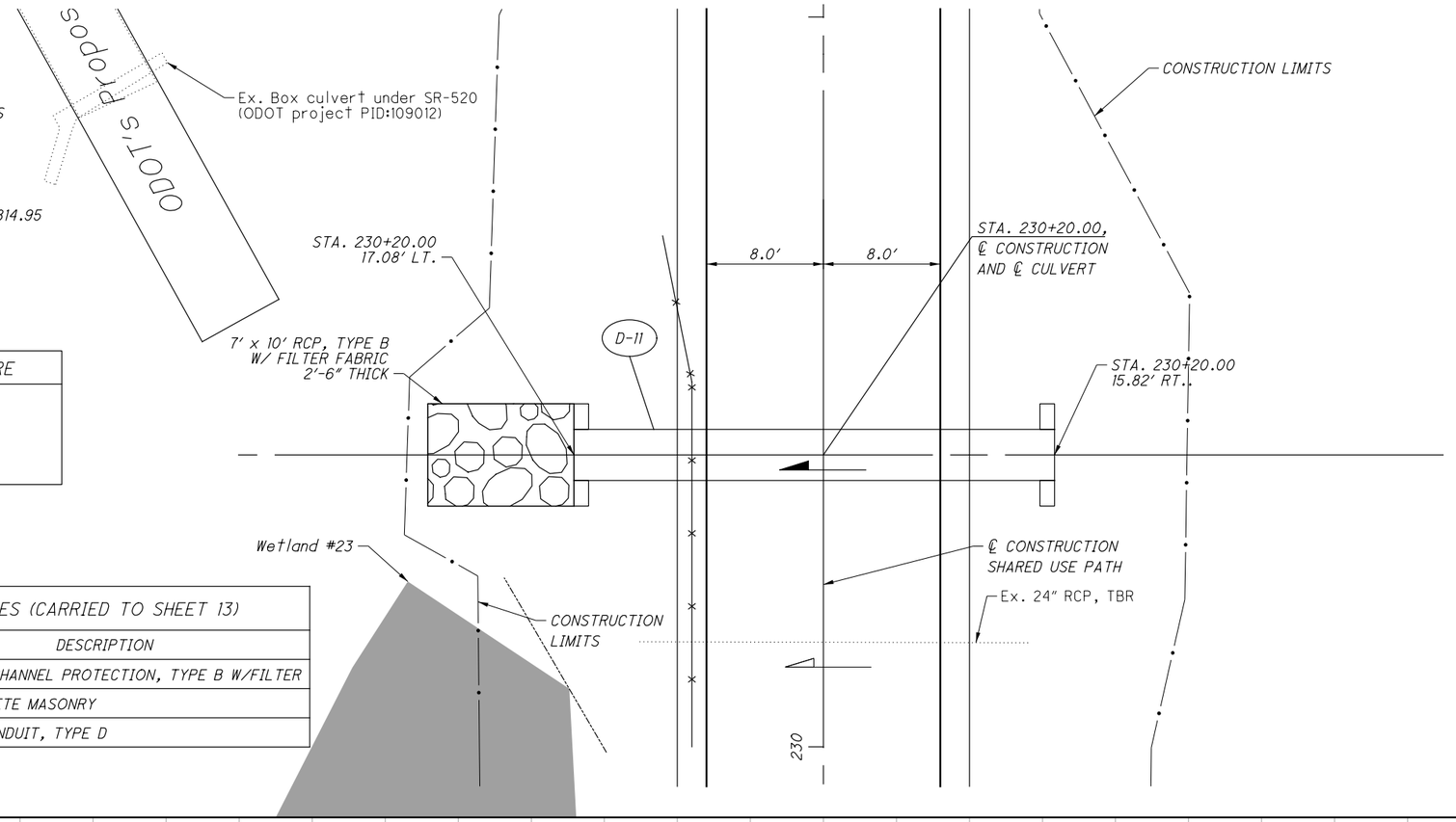
HOL-COUNTY TRAIL
PHASE 5C1

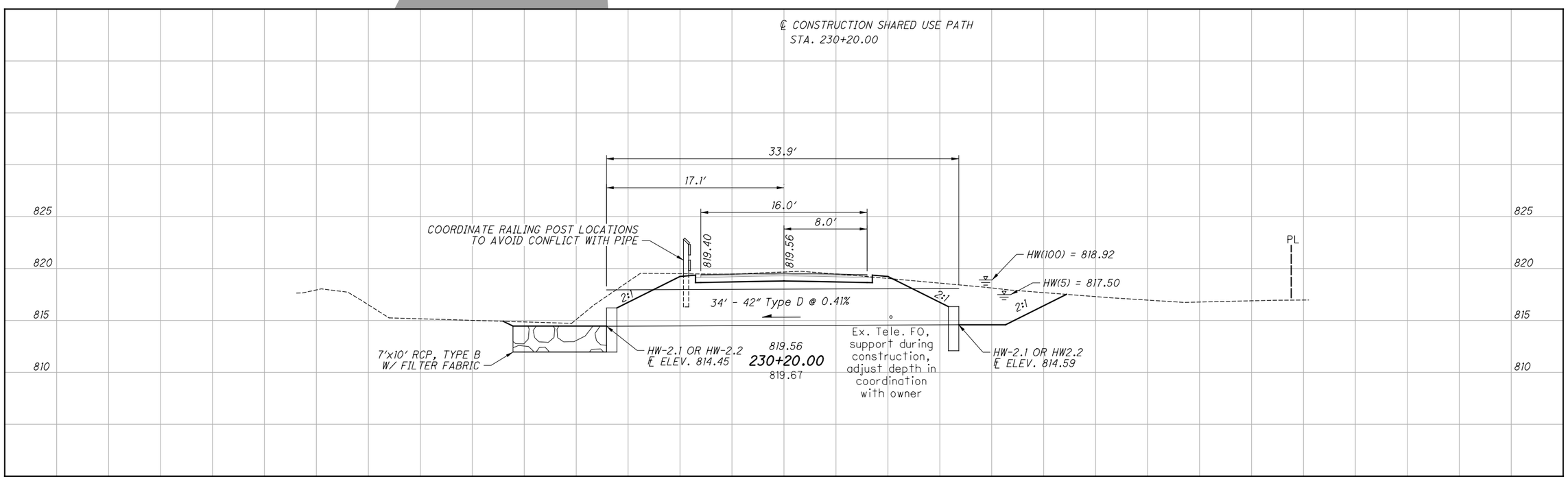
HYDRAULIC DATA

DRAINAGE AREA = 169.19 ACRES
Q_5 = 41.72 CFS
V_5 = 7.29 FPS
Q_{100} = 74.83 CFS
V_{100} = 9.37 FPS
ORDINARY HIGH WATER MARK: 814.95
DESIGN SERVICE LIFE: 75 YRS
pH = 6.7
ABRASION LEVEL: 1

PROPOSED STRUCTURE
TYPE: 42" CONDUIT, TYPE D
SKEW: NONE
ALIGNMENT: CURVE
CFN: NONE

ESTIMATED QUANTITIES (CARRIED TO SHEET 13)			
ITEM	QUANTITY	UNIT	DESCRIPTION
601	6.5	CY	ROCK CHANNEL PROTECTION, TYPE B W/FILTER
602	1.9	CY	CONCRETE MASONRY
611	34	FT.	42" CONDUIT, TYPE D





HORIZONTAL SCALE IN FEET
0 5 10

CALCULATED MS
CHECKED TML

CULVERT DETAIL
STA. 230+20.00

HOL-COUNTY TRAIL
PHASE 5C1

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA:
THE FOLLOWING DESIGN DATA IS ASSUMED:

DESIGN DATA FOR CULVERT AS PER ASTM C 1577

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (FOOTING, WINGWALL AND FORESLOPE WALL)

PRE-CAST BOX CULVERT CONCRETE - COMPRESSIVE STRENGTH 5000 PSI

REINFORCING STEEL- ASTM A615, A616, OR A617 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI (EPOXY COATED)

CULVERT DESIGN LOADING - HL-93

SOIL PARAMETERS:
ϕ, EFF = 26 DEGREES
COHESION = 0
DESNITY = 120 PSF

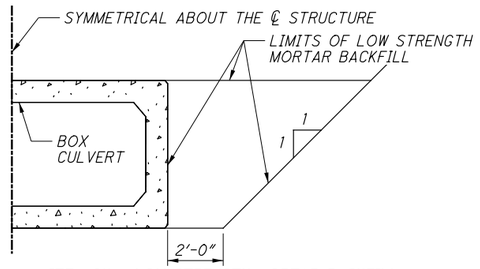
FOUNDATION MATERIAL:
FOR ITEM 706.05, 706.051, 706.052 AND 706.053 WITH A CAST-IN-PLACE WINGWALL OR HEADWALL, A PRECAST ALTERNATIVE MAY BE FURNISHED PER 602.03. THE PRECAST ALTERNATIVE WILL MEET THE CAST-IN-PLACE STRUCTURAL DESIGN LOADINGS, DESIGN HEIGHT, AND DESIGN LENGTH DIMENSIONS.

FULL COMPENSATION FOR THE PRECAST WINGWALL OR HEADWALL IS THE NUMBER OF CUBIC YARDS OF ITEM 511 AND POUNDS OF ITEM 509 FOR THE CORRESPONDING CAST-IN-PLACE STRUCTURE.

FOUNDATION BEARING PRESSURE:
FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 0.97 KSF AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 1.35 KSF. THE FACTORED BEARING RESISTANCE IS 1.71 KSF.

FOUNDATION MATERIAL:
AFTER EXCAVATION AND PRIOR TO THE CONSTRUCTION OF THE FOOTING, THE BOTTOM SURFACE OF THE EXCAVATION SHALL BE INSPECTED BY THE ENGINEER OR AN EXPERIENCED INDEPENDENT TECHNICIAN WHO HAS COMPLETED THE ODOT SOIL AND ROCK CLASSIFICATION COURSE OR THE NHI COURSE 132079 SUBSURFACE INVESTIGATION QUALIFICATION. IF ANY AREAS OF THE SOIL ARE DETERMINED BY THE ENGINEER OR TECHNICIAN TO BE UNSUITABLE, THEN THE EXCAVATION SHALL BE UNDERCUT IN 1 FOOT INCREMENTS UNTIL SUITABLE MATERIALS ARE ENCOUNTERED OR TO A MAXIMUM DEPTH OF 3 FEET AND FILLED WITH LOW STRENGTH MORTAR BACKFILL PER ODOT ITEM 613 UP TO THE LEVEL OF THE PROPOSED BOTTOM OF WALL ELEVATION. IF UNSUITABLE MATERIALS ARE STILL PRESENT AFTER A 3 FOOT UNDERCUT, THE ENGINEER SHALL BE CONTACTED BEFORE WORK PROCEEDS. THE QUANTITY PROVIDED IN THE PLANS SHALL INCLUDE ALL COSTS ASSOCIATED WITH THE UNDERCUTTING AND LSM FILLING, INCLUDING ALL LABOR, EQUIPMENT, AND MATERIALS. THIS ITEM SHALL ONLY BE USED IF DIRECTED BY THE ENGINEER AND SHALL BE PAID FOR UNDER ITEM 613: LOW STRENGTH MORTAR BACKFILL, AS PER PLAN.

ITEM 611 - 8' X 4' CONDUIT, TYPE A, 706.05, AS PER PLAN:
ITEM 611 - 8' X 5' CONDUIT, TYPE A, 706.05, AS PER PLAN:
CONSTRUCT THE PROPOSED 8' X 4' OR 8' X 5' BOX CULVERT AS PER ITEM 611. ALL REQUIREMENTS OF 706.05 AND ASTM C 1577 SHALL BE MET. THE 30 DAY WAITING PERIOD PER CMS 611.12 SHALL BE WAIVED. IN LIEU OF THE BACKFILL REQUIREMENTS OF CMS 611.06, PROVIDE LOW STRENGTH MORTAR BECKFILL TO THE LIMITS AS DETAILED ON THIS SHEET.



ITEM 611 - LOW STRENGTH MORTAR BACKFILL

TO BE PLACED FROM END TO END OF POROUS BACKFILL.

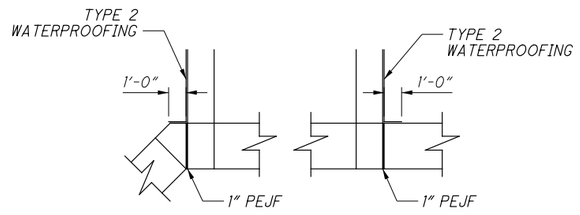
POROUS BACKFILL WITH GEOTEXTILE FABRIC:
PLACE 1'-6" THICK POROUS BACKFILL BEHIND THE WINGWALLS ONLY AND EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. PLACE GEOTEXTILE FABRIC BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURNS TO 6" ABOVE THE TOP ELEVATION OF THE WEEPHOLE.

PLACE WEEPHOLES 6" TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE WITH A MAXIMUM SPACING OF 10'-0". PROVIDE A MINIMUM OF ONE WEEPHOLE PER WINGWALL.

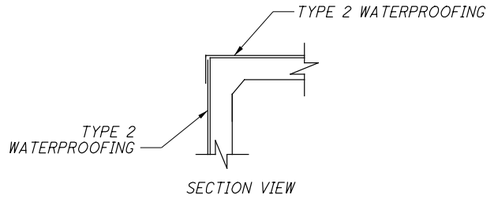
PREFORMED EXPANSION JOINT FILLER:
PLACE PREFORMED EXPANSION JOINT FILLER (PEJF) CONFORMING TO CMS 705.03, I INCH THICK, ABOVE THE FOOTING BETWEEN THE SIDES OF THE BOX CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION IS INCLUDED WITH ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER.

WATERPROOFING:
TYPE 2 WATERPROOFING, PER CMS 512.08 AND 711.25, EXTENDS VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH WILL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING IS AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

IF PAVEMENT IS NOT PLACED DIRECTLY ON TOP OF THE CULVERT, APPLY TYPE 2 WATERPROOFING, PER CMS 512.08 AND 711.25 TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS. IT EXTENDS ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH WILL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING IS AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.



PLAN VIEW



SECTION VIEW

WATERPROOFING DETAILS

BASIS OF PAYMENT:
ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE WINGWALLS ARE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE.

ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE FOOTING ARE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, FOOTING.

ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE FORESLOPE WALLS ARE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, HEADWALL.

PAYMENT FOR REINFORCING STEEL IS INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL.

FULL HEIGHT CULVERT ESTIMATED QUANTITIES

CALC BY: PES DATE: 11/18/2021
CHECK BY: TML DATE: 11/19/2021

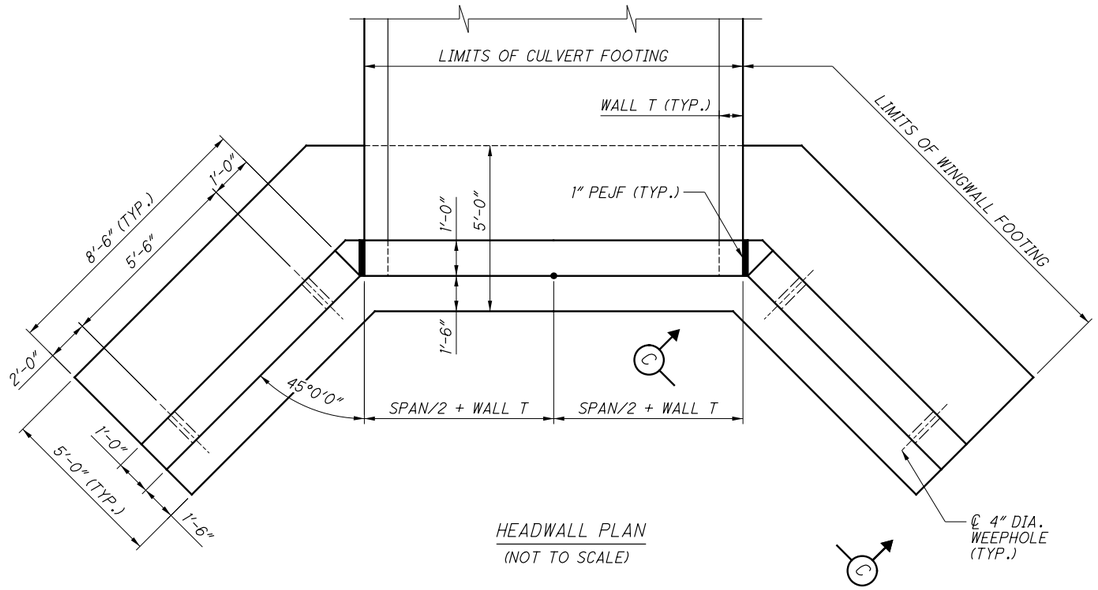
ITEM	EXT	QUANTITY			UNIT	DESCRIPTION
		CULVERT D-7	CULVERT D-10	TOTAL		
509	10000	3196	3166	6362	LB	EPOXY COATED REINFORCING STEEL
511	46010	8	8	16	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING
511	46510	20	20	40	CY	CLASS QC1 CONCRETE, FOOTING
511	46610	0.7	0.4	1.20	CY	CLASS QC1 CONCRETE, HEADWALL
512	10100	49	50	99	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	33000	54	74	128	SY	TYPE 2 WATERPROOFING
516	13600	30	30	60	SF	1" PREFORMED EXPANSION JOINT FILLER
518	21200	15	15	30	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC
601	32100	31	38	69	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER
611	94801	24	0	24	FT	8' X 4' CONDUIT, TYPE A, 706.05, AS PER PLAN
611	94901	0	30	30	FT	8' X 5' CONDUIT, TYPE A, 706.05, AS PER PLAN
613	41201	30	30	60	CY	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN

NOTE: QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

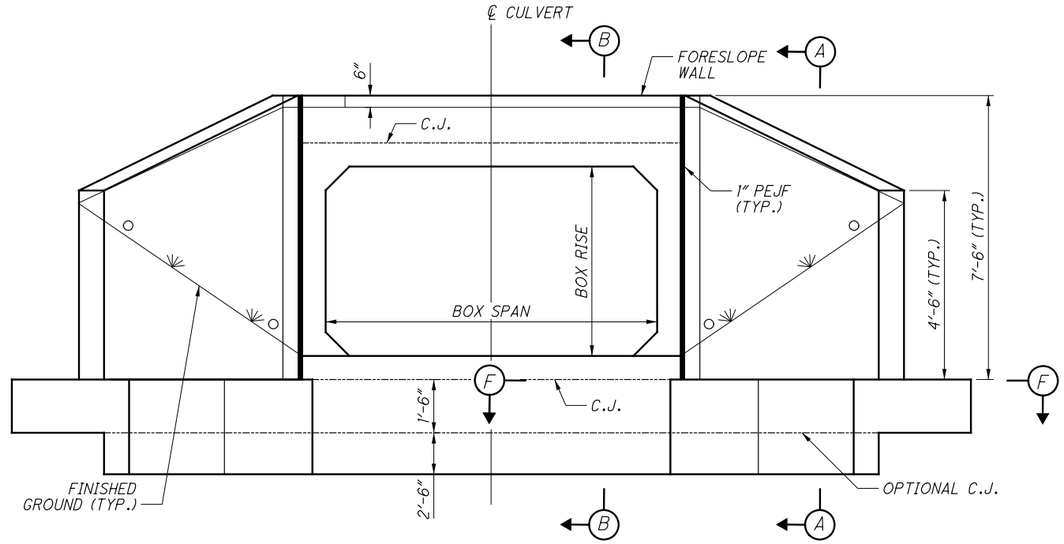
ONE CAPITAL OVAL
SUITE 200
COLUMBUS, OH 43219
T 614-475-8900
F 614-475-8225

CALCULATED PES
CHECKED TML

CULVERT HEADWALL GENERAL NOTES
CULVERT STA. 124+59.38 & STA. 178+89.28
HOL-COUNTY TRAIL PHASE 5C1



HEADWALL PLAN
(NOT TO SCALE)



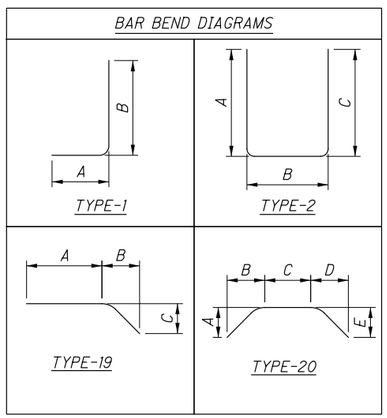
HEADWALL ELEVATION
(NOT TO SCALE)

HEADWALL

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	CULV. 1	CULV. 2	TOTAL		(LBS)		A	B	C	D	E	R	INC.
H501	76	76	152	4'-6"	714	ST.							
H502	12	12	24	4'-3"	107	ST.							
H503	16	16	32	3'-6"	117	ST.							
H504	46	46	92	7'-11"	760	2	3'-7"	1'-0"	3'-7"				
H505	8	8	16	8'-10"	148	ST.							
H506	14	14	28	3'-5"	100	1	1'-10"	1'-8"					
H507	18	0	18	3'-0"	57	2	1'-2"	8"	1'-5"				
H508	18	0	18	2'-9"	52	2	1'-2"	8"	1'-2"				
H509	28	28	56	4'-5"	258	1	10"	3'-8"					
	8	8	16	4'-2"									
H510	SER. OF	SER. OF	SER. OF	TO	564	ST.							7"
	6	6	6	7'-1"									
H511	2	2	4	7'-1"	30	ST.							
H512	32	32	64	8'-0"	535	ST.							
H513	8	8	16	5'-10"	98	ST.							
H514	8	8	16	3'-5"	58	ST.							
H515	8	8	16	1'-0"	17	ST.							
H516	8	8	16	11'-3"	188	19	9'-0"	1'-6"	1'-8"				
H517	20	20	40	2'-10"	119	19	2'-6"	3"	3"				
H518	20	20	40	3'-1"	129	19	2'-9"	3"	3"				
H519	0	18	18	2'-7"	49	2	10"	8"	1'-4"				
H520	0	18	18	2'-1"	40	2	10"	8"	10"				
	8	8	16	7'-8"									
H601	SER. OF	SER. OF	SER. OF	TO	1027	ST.							5 1/4"
	5	5	5	9'-5"									
H602	8	8	16	8'-0"	193	ST.							
	4	4	8	12'-7"					9'-4"				
H603	SER. OF	SER. OF	SER. OF	TO	847	20	1'-2"	1'-2"	TO	1'-2"	1'-2"		9"
	5	5	5	15'-7"					12'-4"				
H604	2	2	4	12'-7"	76	20	1'-2"	1'-2"	9'-4"	1'-2"	1'-2"		
H605	2	2	4	13'-1"	79	20	1'-2"	1'-2"	9'-10"	1'-2"	1'-2"		
TOTAL (CARRIED TO SHEET 68)					6362								

CULV. 1 REFERS TO THE CULVERT LOCATED AT STA. 124+59.38.
CULV. 2 REFERS TO THE CULVERT LOCATED AT STA. 178+89.28.

BAR BEND DIAGRAMS



NOTES

1. REFER TO ODOT DESIGN DATA SHEET HWDD-1 FOR ADDITIONAL DETAILS NOT SHOWN.
2. SEE SHEET 63 FOR CULVERT STA. 124+59.38.
3. SEE SHEET 66 FOR CULVERT STA. 178+89.28.
4. SEE SHEET 70 FOR SECTIONS A-A, B-B, C-C, AND F-F.

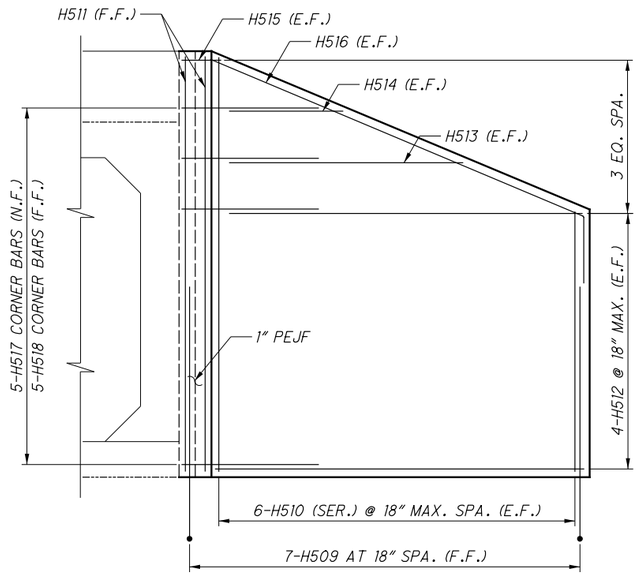
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED PES
CHECKED TML

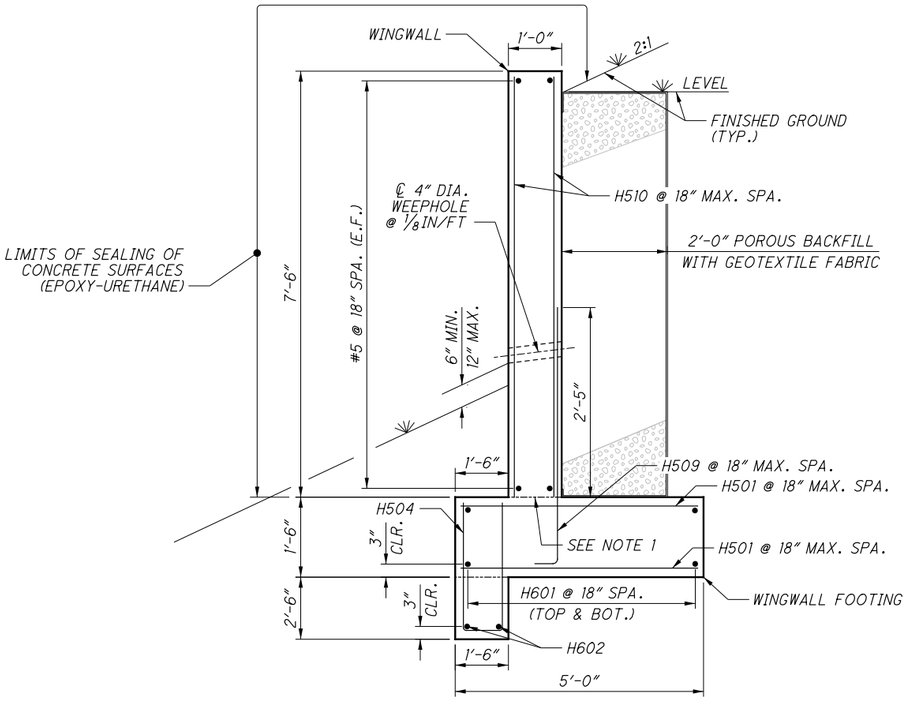
TYPICAL CULVERT HEADWALL DETAILS
CULVERT STA. 124+59.38 & STA. 178+89.28

HOL-COUNTY TRAIL
PHASE 5C1

69
127

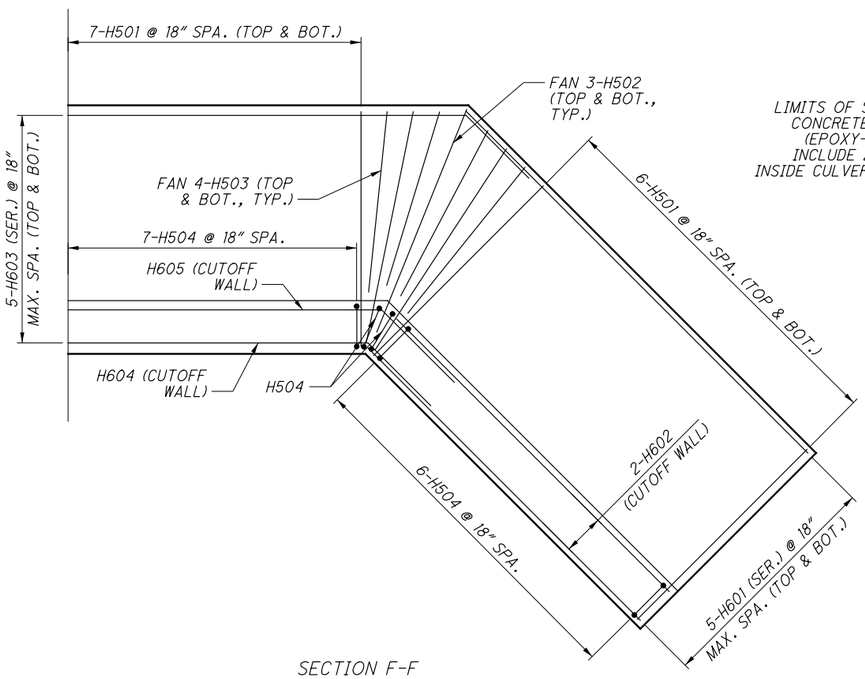


VIEW C-C

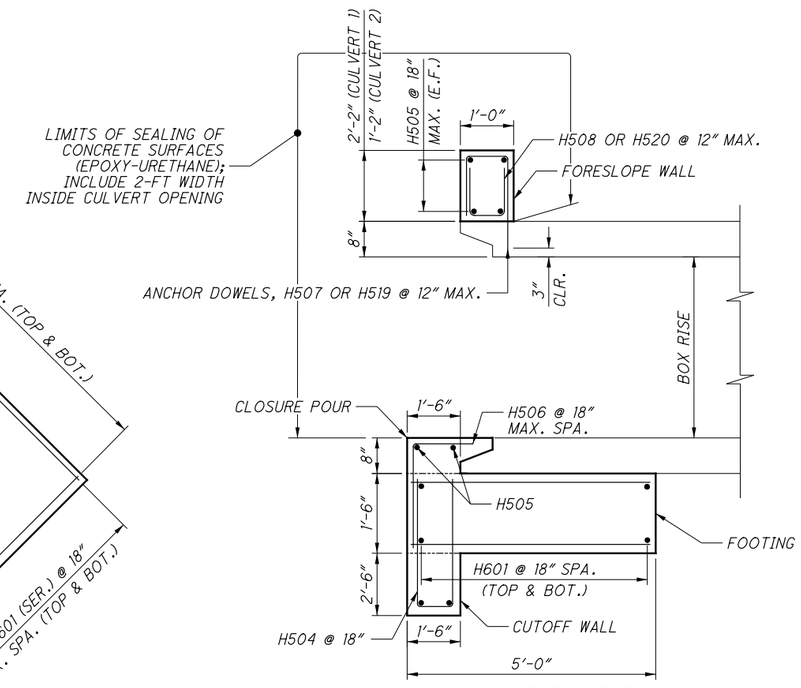


SECTION A-A

(NOT TO SCALE)



SECTION F-F



SECTION B-B

(CULVERT INLET BEVEL SHOWN)

(NOT TO SCALE)

NOTES

1. THE INTERFACE BETWEEN THE TOP OF FOOTING AND BASE OF WINGWALL IS INTENTIONALLY ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 1/4" BY MEANS OF A SERRATED TROWEL.
2. REFER TO ODOT DESIGN DATA SHEET HWDD-1 FOR ADDITIONAL DETAILS NOT SHOWN.
3. SEE SHEET 69 FOR LOCATIONS OF SECTIONS A-A, B-B, C-C, AND F-F.

HOL-COUNTY TRAIL
PHASE 5C1

TYPICAL CULVERT HEADWALL DETAILS
CULVERT STA. 124+59.38 & STA. 178+89.28

CALCULATED PES
CHECKED TML

0 10 20 40
HORIZONTAL SCALE IN FEET

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

SUPPLEMENTAL SPECIFICATIONS:
838 GABIONS, 1/15/21

DESIGN DATA:
GEOTECHNICAL INFORMATION:

SOIL:
EFFECTIVE FRICTION ANGLE = 30 DEGREES
COHESION = 0 PSF
DENSITY = 125 PCF
COEFFICIENT OF FRICTION = 0.35 (ASSUMED)

GABIONS:
ROCK DENSITY = 160 PCF
VOID RATIO = 30%

LOADING:
90 PSF LIVE LOAD SURCHARGE

WALL 1: NOT USED, WALL WAS REMOVED DURING DESIGN PROCESS.

WALL 2:
FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 1.34 KSF AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 1.87 KSF. THE FACTORED BEARING RESISTANCE IS 2.00 KSF.

WALL 3:
FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 1.13 KSF AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 1.59 KSF. THE FACTORED BEARING RESISTANCE IS 2.00 KSF.

WALL 4:
FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 0.91 KSF AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 1.34 KSF. THE FACTORED BEARING RESISTANCE IS 2.00 KSF.

WALL 5:
FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 0.91 KSF AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 1.34 KSF. THE FACTORED BEARING RESISTANCE IS 2.00 KSF.

FOUNDATION MATERIAL:
AFTER EXCAVATION AND PRIOR TO THE CONSTRUCTION OF THE MODULAR BLOCK WALL, THE BOTTOM SURFACE OF THE EXCAVATION SHALL BE INSPECTED BY THE ENGINEER OR AN EXPERIENCED INDEPENDENT TECHNICIAN WHO HAS COMPLETED THE ODOT SOIL AND ROCK CLASSIFICATION COURSE OR THE NHI COURSE 132079 SUBSURFACE INVESTIGATION QUALIFICATION. IF ANY AREAS OF THE SOIL ARE DETERMINED BY THE ENGINEER OR TECHNICIAN TO BE UNSUITABLE, THEN THE EXCAVATION SHALL BE UNDERCUT IN 1 FOOT INCREMENTS UNTIL SUITABLE MATERIALS ARE ENCOUNTERED OR TO A MAXIMUM DEPTH OF 3 FEET AND FILLED WITH LOW STRENGTH MORTAR BACKFILL PER ODOT ITEM 613 UP TO THE LEVEL OF THE PROPOSED BOTTOM OF WALL ELEVATION. IF UNSUITABLE MATERIALS ARE STILL PRESENT AFTER A 3 FOOT UNDERCUT, THE ENGINEER SHALL BE CONTACTED BEFORE WORK PROCEEDS.

CONTRACTOR SHALL AVOID IMPACTS TO WETLANDS. IF UNDERCUTTING THIS MAY REQUIRE THE INSTALLATION OF TEMPORARY SHORING. ANY COSTS FOR SHORING REQUIRED TO COMPLETE THIS WORK SHALL BE INCIDENTAL TO ITEM 613: LOW STRENGTH MORTAR BACKFILL, AS PER PLAN.

A QUANTITY OF 480 CY FOR WALLS 2 - 5 IS PROVIDED IN THE PLANS WHICH SHALL INCLUDE ALL COSTS ASSOCIATED WITH THE UNDERCUTTING AND LSM FILLING, WETLAND AVOIDANCE, AND INSTALLATION INCLUDING ALL LABOR, EQUIPMENT, AND MATERIALS. THIS ITEM SHALL ONLY BE USED IF DIRECTED BY THE ENGINEER AND SHALL BE PAID FOR UNDER ITEM 613: LOW STRENGTH MORTAR BACKFILL, AS PER PLAN.

WALL 2 ESTIMATED QUANTITIES — CALC BY: LB — CHECK BY: TML — DATE: 2/27/2021 — DATE: 3/3/2021

ITEM	EXT	QUANTITY	UNIT	DESCRIPTION	SHEET
613	41201	93	CY	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN	1/4
838	20700	123	CY	GABIONS	

WALL 3 ESTIMATED QUANTITIES — CALC BY: LB — CHECK BY: TML — DATE: 2/27/2021 — DATE: 3/3/2021

ITEM	EXT	QUANTITY	UNIT	DESCRIPTION	SHEET
613	41201	114	CY	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN	1/4
838	20700	98	CY	GABIONS	

WALL 4 ESTIMATED QUANTITIES — CALC BY: LB — CHECK BY: TML — DATE: 2/27/2021 — DATE: 3/3/2021

ITEM	EXT	QUANTITY	UNIT	DESCRIPTION	SHEET
613	41201	111	CY	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN	1/4
838	20700	93	CY	GABIONS	

WALL 5 ESTIMATED QUANTITIES — CALC BY: LB — CHECK BY: TML — DATE: 2/27/2021 — DATE: 3/3/2021

ITEM	EXT	QUANTITY	UNIT	DESCRIPTION	SHEET
613	41201	109	CY	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN	1/4
838	20700	109	CY	GABIONS	

ALL QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY

ABBREVIATIONS:

APPROX.	- APPROXIMATE
℄	- BASELINE
BOT.	- BOTTOM
B/	- BOTTOM OF
℄	- CENTERLINE
C/C	- CENTER-TO-CENTER
CJ	- CONTRACTION JOINT
C.J.	- CONSTRUCTION JOINT
CONC.	- CONCRETE
CONST.	- CONSTRUCTION
DIA.	- DIAMETER
ELEV.	- ELEVATION
E.F.	- EACH FACE
EX.	- EXISTING
INC.	- INCREMENT
MAX.	- MAXIMUM
MIN.	- MINIMUM
NO.	- NUMBER
PROP.	- PROPOSED
SER.	- SERIES
SPA.	- SPACES
STA.	- STATION
TBR	- TO BE REMOVED
T/	-TOP OF
TYP.	- TYPICAL
W/	- WITH

DESIGN AGENCY
ONE EASTON OVAL
SUITE 180
COLUMBUS, OH 43219
T 614-476-6000
F 614-476-6225
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE

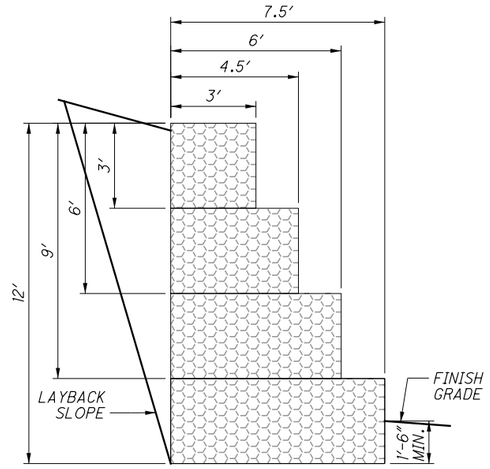
DESIGNED RG | DRAWN LB | REVIEWED RKM | DATE 09/2021 | STRUCTURE FILE NUMBER 00000 | CHECKED TML | REVISED

WALL 1-5 GENERAL NOTES AND ESTIMATED QUANTITIES

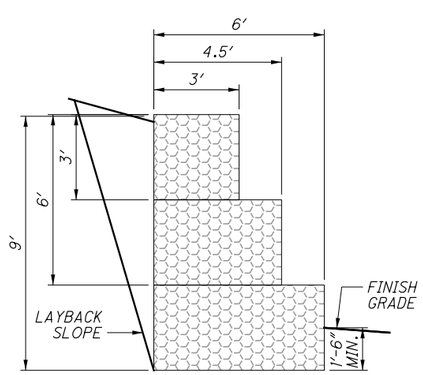
HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL

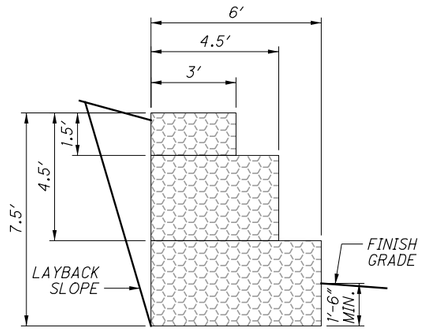
PHASE 5C.1



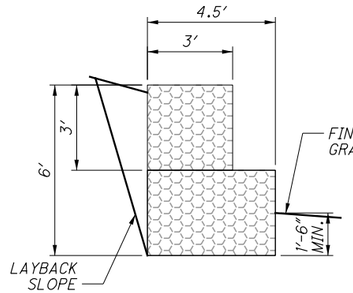
12-0 WALL TYPICAL SECTION



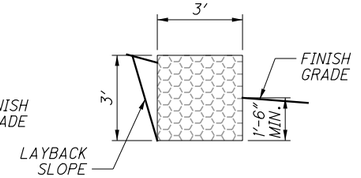
9-0 WALL TYPICAL SECTION



7-6 WALL TYPICAL SECTION

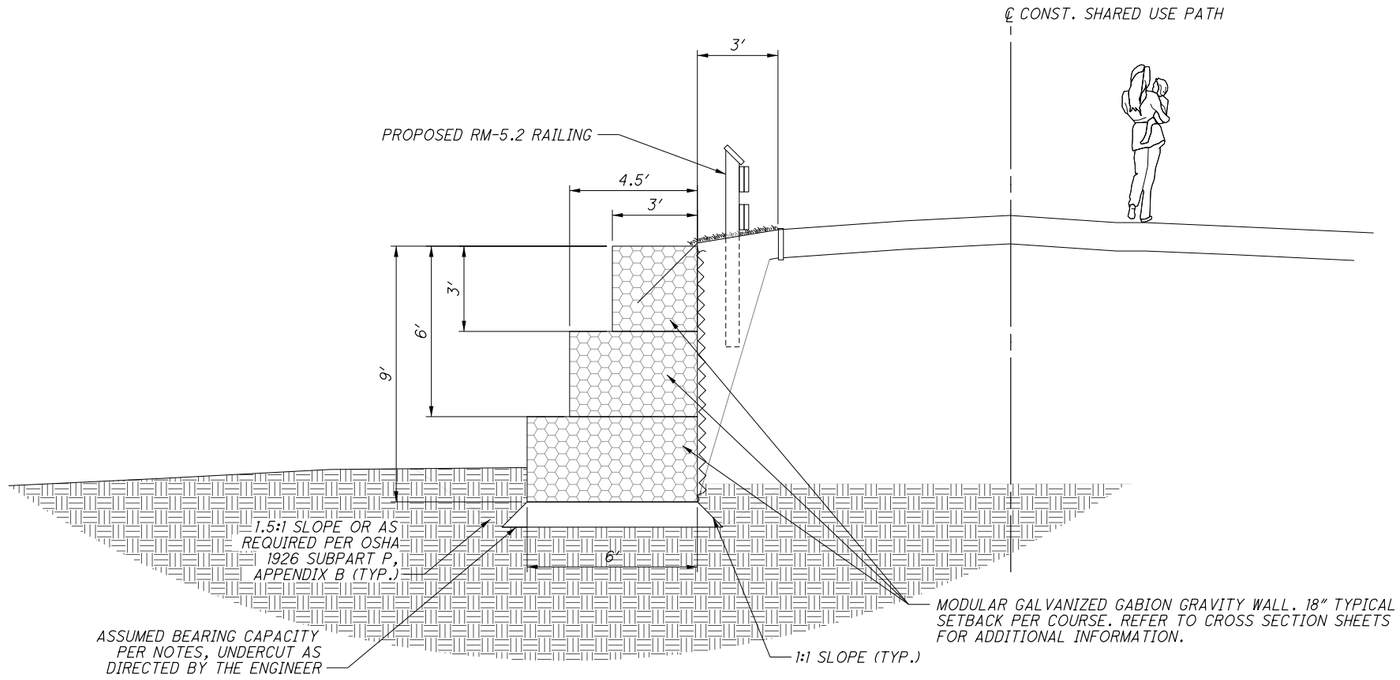


6-0 WALL TYPICAL SECTION



3-0 WALL TYPICAL SECTION

WALL 2 (9'-0" RIGHT)					WALL 3 (9'-0" RIGHT)					WALL 4 (9'-0" RIGHT)					WALL 5 (9'-0" RIGHT)				
ID	START		END		ID	START		END		ID	START		END		ID	START		END	
	STATION	ELEVATION	STATION	ELEVATION		STATION	ELEVATION	STATION	ELEVATION		STATION	ELEVATION	STATION	ELEVATION		STATION	ELEVATION	STATION	ELEVATION
3-0	82+45	850.60	82+46	850.60	3-0	159+54	833.04	160+00	833.04	3-0	162+62	833.26	162+90	833.26	6-0	170+00	828.31	171+30	828.27
6-0	82+46	847.59	82+62	847.59	6-0	160+00	830.02	160+50	830.06	6-0	162+90	830.28	163+80	830.36					
9-0	82+62	844.52	82+86	844.52	9-0	160+50	827.06	160+60	827.06	3-0	163+80	833.36	164+05	833.36					
12-0	82+86	841.41	82+97	841.41	6-0	160+60	830.07	160+85	830.07										
9-0	82+97	844.35	83+16	844.35	3-0	160+85	833.10	161+00	833.10										
6-0	83+16	847.25	83+35	847.25															
3-0	83+35	847.95	83+45	847.95															



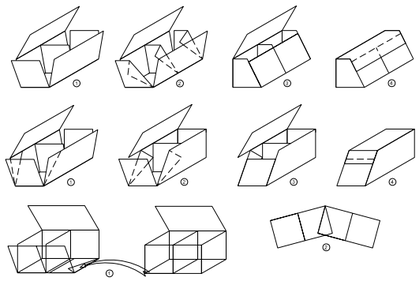
GABION WALL AND REVETMENT MAT TYPICAL SECTION

DESIGN AGENCY
ONE EASTON OVAL
SUITE 400
COLUMBUS, OH 43219
T 614-476-6000
F 614-476-6225
WOOLPERT

DESIGNED	DRAWN	REVIEWED	DATE
RG	LB	RKM	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TML		00000	

WALLS 1-5 TYPICAL SECTONS
HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL
PHASE 5C.1



FOLDING PROCESS

EDGES ARE JOINED TOGETHER, USING THE APPROPRIATE LACING TECHNIQUES.
MANUAL: CONTINUOUS WIRE LOOPED TIGHTLY AROUND EVERY OTHER MESH OPENING, ALTERNATING SINGLE AND DOUBLE LOOPS (FIG. 5).
MECHANICAL: USING A PNEUMATIC OR HAND POWER TOOL, EMPLOYING STAINLESS STEEL "C" SHAPED FASTENERS. FOR CONTINUITY AND STRENGTH, THE RECOMMENDED SPACING IS 8 TO 12 CM, MAX 150MM (FIG 4).

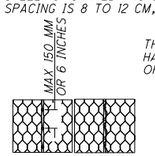


FIG. 4

THE STAINLESS STEEL FASTENER HAS A DIAMETER OF 50 MM OPEN AND 20 MM CLOSED.

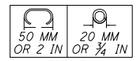
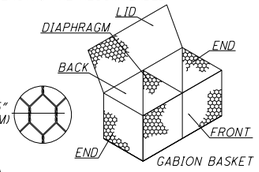
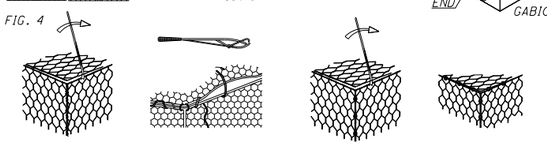


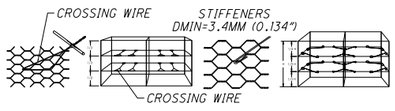
FIG. 5





CLOSING PROCESS

REINFORCING DETAIL



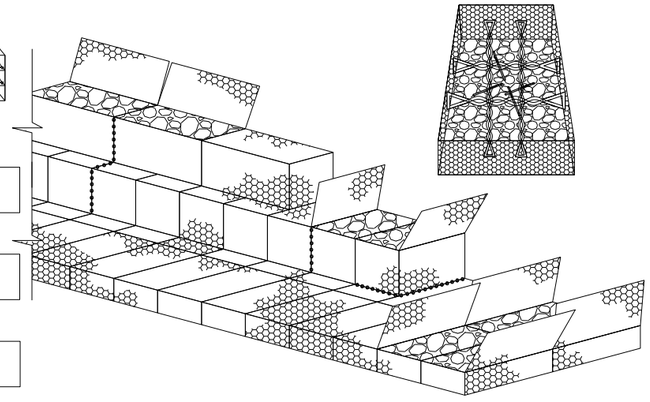
FILLING SEQUENCE

PHASE 1

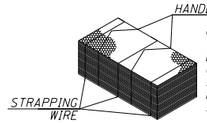
PHASE 2

PHASE 3

REINFORCING VIEW



REINFORCING PROCESSES



GABIONS ARE DELIVERED TO THE JOB SITE IN BUNDLES. THEY ARE COMPRESSED AND STRAPPED IN THE FACTORY FOR EASIER SHIPPING AND HANDLING.

FIG. 1

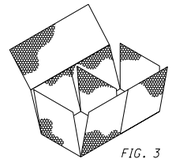


FIG. 3

2. PULL UP THE SIDES AND THE DIAPHRAGMS TO FORM AN OPEN BOX. BE SURE THE TOP OF THE FACE AND THE SIDE ARE AT THE SAME LEVEL.

3. FOLD BY HAND THE END OF THE REINFORCING WIRE OF THE MAIN UNIT AND THE DIAPHRAGMS ALLOWING THE GABION TO STAND BY ITSELF.

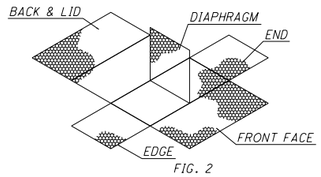


FIG. 2

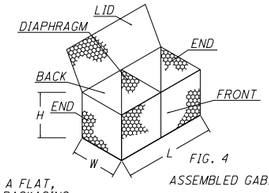
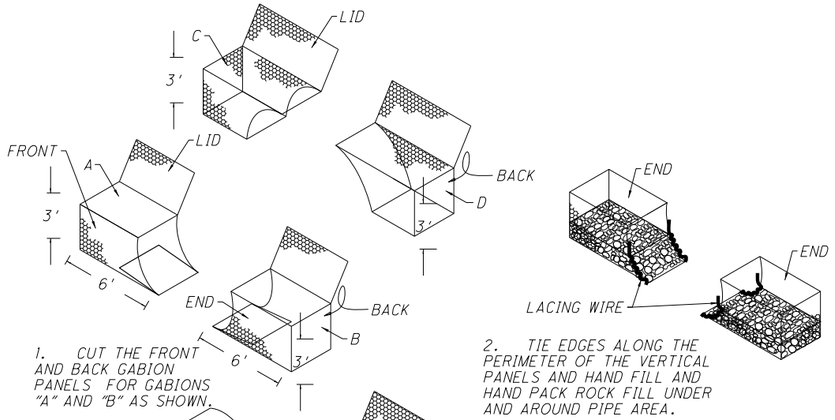


FIG. 4

ASSEMBLED GABION BASKET

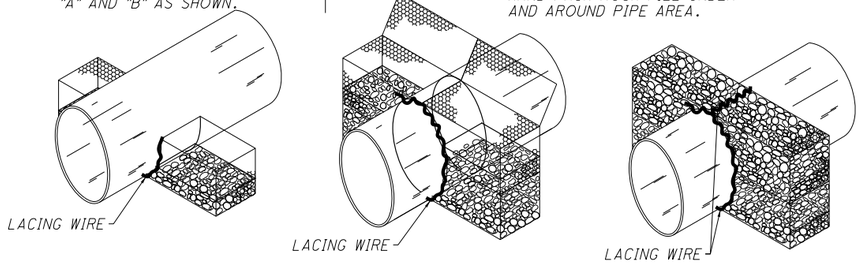
1. OPEN AND UNFOLD THE GABIONS ONE BY ONE ON A FLAT, HARD SURFACE. ELIMINATE ALL FOLDS DUE TO THE PACKAGING.

UNPACKING & ASSEMBLY PROCESS



1. CUT THE FRONT AND BACK GABION PANELS FOR GABIONS "A" AND "B" AS SHOWN.

2. TIE EDGES ALONG THE PERIMETER OF THE VERTICAL PANELS AND HAND FILL AND HAND PACK ROCK FILL UNDER AND AROUND PIPE AREA.



3. PLACE THE PIPE AND LIFT END PANELS GABIONS "A" AND "B" AROUND THE PIPE AND TIE THEM TOGETHER.

4. PLACE THE GABIONS "C" AND "D" ON TOP OF GABIONS "A" AND "B" AROUND THE PIPE. PERFORM LACING OPERATION OR USE SPENAX RINGS TO TIE GABIONS "C" AND "D" TO GABIONS "A" AND "B". HAND PACK ROCK FILL ON TOP AND AROUND THE PIPE AREA.

5. COMPLETE FILLING AND CLOSE LIDS FOR GABIONS "C" AND "D".

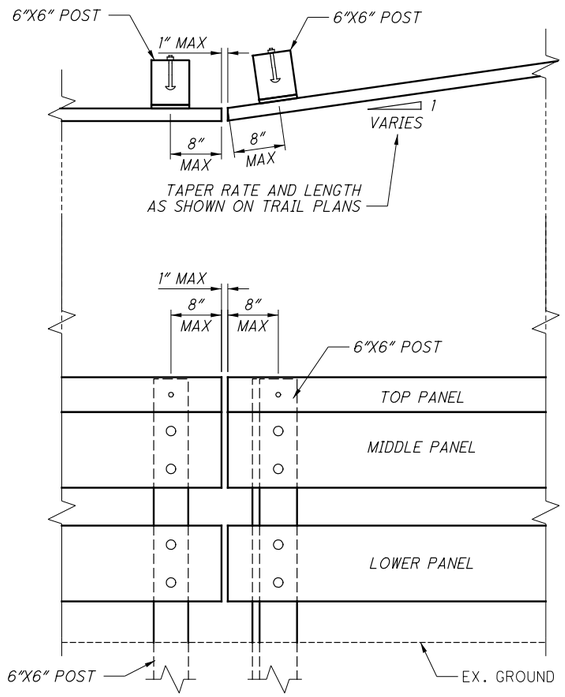
FILLING PROCEURE AROUND PIPE

DESIGN AGENCY
ONE EASTON OVAL
SUITE 400
COLUMBUS, OH 43219
T 614-476-6000
F 614-476-6225
WOOLPERT

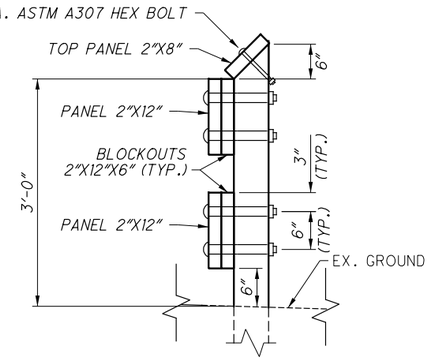
DESIGNED	DRAWN	REVIEWED	DATE
RG	LB	RKM	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TML		00000	

WALLS 1-5 TYPICAL DETAILS
HOLMES COUNTY TRAIL - PHASE 5C

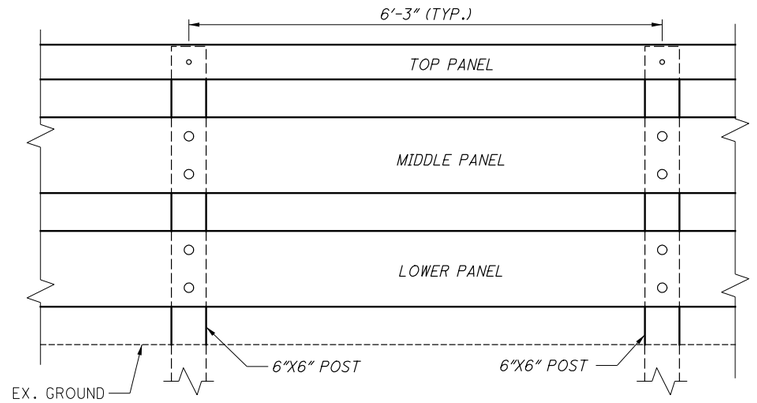
HOL CO TRAIL
PHASE 5C.1



POST & PANEL INSTALLATION DETAILS AT TAPERS



GROUND MOUNTED 6"X6" POST DETAIL



POST INSTALLATION DETAIL

NOTES

1. REFER TO ODOT STANDARD DRAWING RM-5.2 FOR ADDITIONAL DETAILS NOT SHOWN.
2. THE LONGEST PANEL LENGTH SHALL NOT EXCEED 14'-6" AND NO TWO PANELS SHALL TERMINATE AT THE SAME POST UNLESS IT IS AT A LOCATION WHERE THE RAILING IS DEFLECTING.
3. ALL BOLTS AND ANY OTHER STEEL COMPONENTS USED IN THE CONSTRUCTION OF THE FINAL RAILING SHALL BE GALVANIZED.

DESIGN AGENCY
ONE EASTON OVAL
SUITE 400
COLUMBUS, OH 43219
T 614-476-6000
F 614-476-6225
WOOLPERT

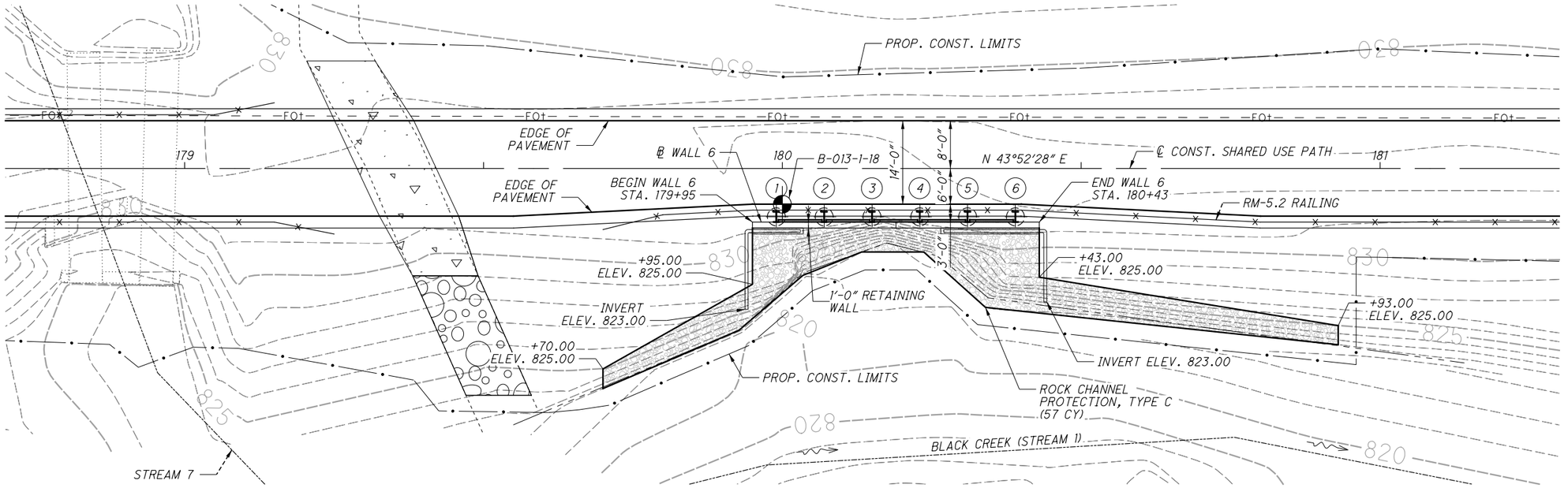
DESIGNED	DRAWN	REVIEWED	DATE
LB	LB	RKM	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TML		00000	

TIMBER RAILING DETAILS
HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL
PHASE 5C.1

4 / 4

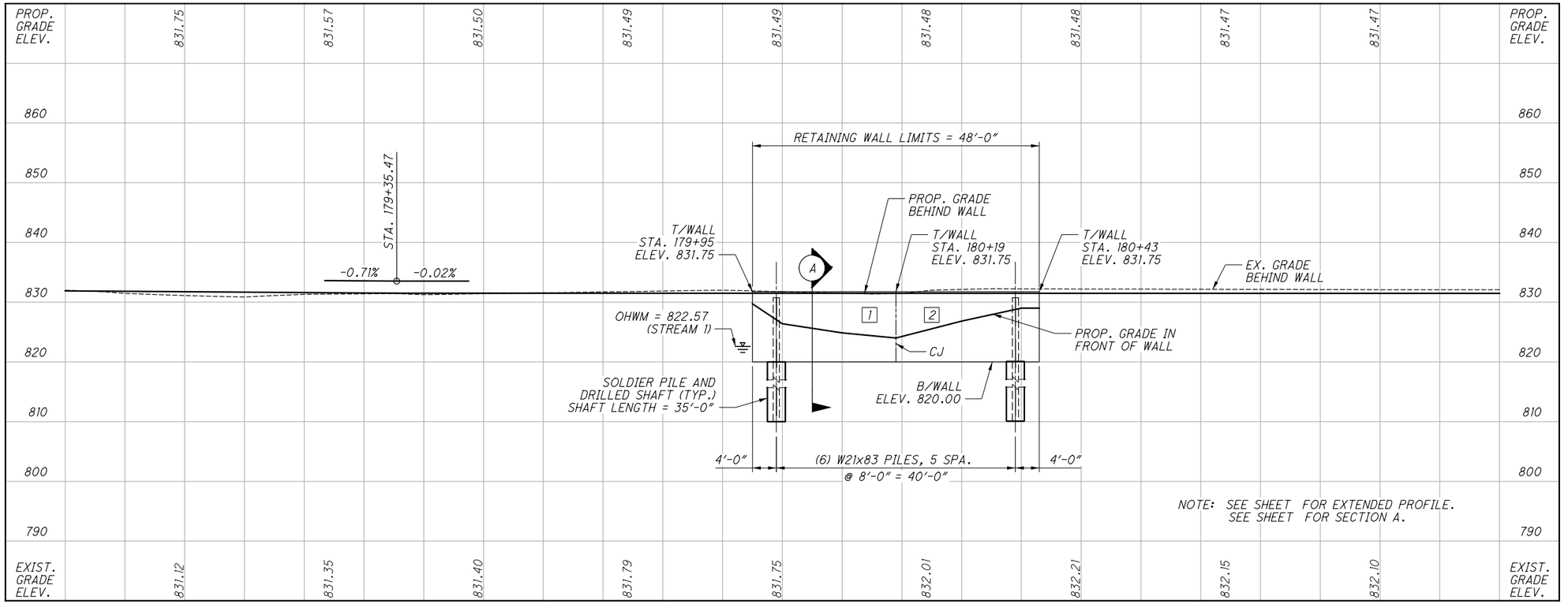
74
127



PLAN

(#) SOLDIER PILE NUMBER

[#] CIP FACING PANEL NUMBER



PROFILE

(ALONG ℄ SOLDIER PILE WALL)

DESIGN AGENCY
ONE EASTON OVAL
SUITE 400
COLUMBUS, OH 43219
T 614-476-6000
F 614-476-6225
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE

DESIGNED	DRAWN	REVIEWED	DATE
JYM	JYM	RKM	09/2021
CHECKED	REVISED		STRUCTURE FILE NUMBER
TML			0

WALL 6 PLAN AND PROFILE

HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL
PHASE 5C.1

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA:
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (FACING)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(DRILLED SHAFTS)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL FOR SOLDIER PILES
- ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI
2" CONCRETE COVER

ITEM 507, STEEL PILES, MISC.: SOLDIER PILES, W21x83:
THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50. DO NOT FIELD WELD OR SPLICE STEEL SOLDIER PILES.

THE COUNTY WILL MEASURE SOLDIER PILES ALONG THE AXIS OF THE SOLDIER PILE FROM THE TOP OF WALL ELEVATION TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER. THE COUNTY WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT FOR ITEM 507, STEEL PILES, MISC.: SOLDIER PILES, W21x83.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, RETAINING WALL NOT INCLUDING FOOTING, AS PER PLAN
PRECAST PANELS MAY BE USED IN LIEU OF CAST IN PLACE PANELS SHOWN. IF PRECAST PANELS ARE TO BE USED SUBMIT ANY CHANGES IN DETAILS ASSOCIATED FOR APPROVAL PRIOR TO CONSTRUCTION AS PART OF THE PRECAST PANEL SHOP DRAWINGS PER C&MS 501.04.

ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)
SEAL THE RETAINING WALL WITH NON-EPOXY SEALER PER C&MS 512. THE COLOR SHALL BE FEDERAL COLOR NO. 17778.

ITEM 512 - TYPE 2 WATERPROOFING, AS PER PLAN
TYPE 2 WATERPROOFING SHALL BE PLACED ON TOP OF THE PREFABRICATED GEOCOMPOSITE DRAIN (PGD), AWAY FROM THE WOOD LAGGING. WATERPROOFING SHALL BE 3 FEET WIDE FULL HEIGHT CENTERED AT ALL CONCRETE PANEL JOINTS.

ITEM 513 - WELDED STUD SHEAR CONNECTORS:
WELD HEADED STEEL STUDS TO THE FLANGES OF THE SOLDIER PILE IN ORDER TO CONNECT THE CONCRETE WALL FACING TO THE SOLDIER PILE. ATTACH HEADED STUDS ACCORDING TO C&MS 513.22 AND AS SHOWN IN THE PLANS. THE CONTRACTOR MAY ATTACH THE STUDS EITHER BEFORE PLACING THE SOLDIER PILE IN THE DRILLED HOLE OR AFTER EXCAVATING IN FRONT OF THE WALL. PROTECT THE HEADED STUDS FROM DAMAGE UNTIL THE CONCRETE WALL FACING IS POURED. REPAIR OR REPLACE DAMAGED HEADED STUDS AT NO EXPENSE TO THE COUNTY.

ITEM 518 - PREFABRICATED GEOCOMPOSITE DRAIN:
PLACE PREFABRICATED GEOCOMPOSITE DRAIN (PGD) STRIPS AGAINST THE TIMBER LAGGING BETWEEN THE SOLDIER PILES, FROM EDGE OF SOLDIER PILE TO EDGE OF SOLDIER PILE TO PROVIDE CONTINUOUS COVERAGE OVER THE FACE OF THE WALL.

ITEM 524, DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN:
THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SOLDIER PILE AND LAGGING WALLS. THE DRILLED SHAFTS ARE REINFORCED WITH SOLDIER PILES INSTEAD OF REINFORCING STEEL CAGES. THE SOLDIER PILES EXTEND ABOVE THE TOP OF THE DRILLED SHAFT. FURNISH AND INSTALL THE DRILLED SHAFTS IN ACCORDANCE WITH C&MS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFT WITHIN 3 INCHES OF THE PLAN LOCATION. PLACE THE SOLDIER PILE WITHIN THE HOLE SO IT IS VERTICAL AND NOT INCLINED MORE THAN 1 INCH BETWEEN TOP TO BOTTOM. PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF THE ROW OF DRILLED SHAFTS. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. SUPPORT THE SOLDIER PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC1 CONCRETE ACCORDING TO C&MS 511. PLACE CONCRETE TO THE ELEVATION FOR THE TOP OF THE DRILLED SHAFT. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF WATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

ITEM 524, DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN (CONT'D):

CHECK THE POSITION, THE VERTICAL ALIGNMENT AND ORIENTATION OF THE SOLDIER PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES. IF SHOWN ON THE PLANS, FILL THE HOLE ABOVE THE BOTTOM OF THE LAGGING TO THE EXISTING GROUND SURFACE WITH ITEM C&MS 613 LOW STRENGTH MORTAR BACKFILL (LSM).

REMOVE CONCRETE AND LSM AS NECESSARY FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE THE LAGGING. PLACE LAGGING SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST 2 INCHES AT BOTH ENDS OF THE LAGGING. WAIT AT LEAST 12 HOURS AFTER PLACING CONCRETE BEFORE PLACING LAGGING.

SEQUENCE OF INSTALLATION: THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAN A 48 HOUR CURE. INSTALLING THE SHAFTS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THIS CRITERIA IS PERMISSIBLE.

PROTECTION OF UNATTENDED OPEN SHAFTS: CARE SHALL BE EXERCISED AS TO COVER UNATTENDED OPEN SHAFTS. TEMPORARY COVERS SHALL BE OF ADEQUATE STRENGTH TO PREVENT A PERSON OR ANIMAL FROM FALLING IN. NO DRILLED SHAFT EXCAVATION SHALL BE LEFT UN-POURED OVERNIGHT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS USED TO CONSTRUCT THE DRILLED SHAFTS AND PLACE LAGGING. ANY TEMPORARY GRADING, EXCAVATION, EMBANKMENT, AGGREGATE, DRAINAGE, SHEETING, ETC. NEEDED TO COMPLETE THE WORK SHALL BE INCLUDED IN THE BID PRICE FOR THE DRILLED SHAFTS. THE COST OF ANY EXCAVATION AND SUBSEQUENT REPLACEMENT OF EMBANKMENT (PER ITEM 203 EMBANKMENT) SHALL BE INCLUDED IN THE VARIOUS BID ITEMS FOR THE DRILLED SHAFTS AND LAGGING, UNLESS SEPARATELY ITEMIZED. NO SEPARATE PAYMENT WILL BE MADE.

METHOD OF MEASUREMENT: THE COUNTY WILL MEASURE DRILLED SHAFTS ALONG THE AXIS OF THE DRILLED SHAFT FROM THE FROM THE REQUIRED BOTTOM ELEVATION OF THE SHAFT TO THE PROPOSED BOTTOM OF WALL ELEVATION, AS DETERMINED BY THE ENGINEER.

PAYMENT IS FULL COMPENSATION FOR CONSTRUCTING THE DRILLED SHAFTS, INCLUDING FURNISHING AND PLACING CONCRETE AND LSM, REMOVAL OF CONCRETE OR LSM FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE LAGGING.

ITEM 530: SPECIAL - RETAINING WALL, TIMBER LAGGING:
THIS WORK CONSISTS OF FURNISHING AND PLACING TIMBER LAGGING BETWEEN THE SOLDIER PILES AS TEMPORARY SUPPORT FOR THE RETAINED SOIL. FURNISH TIMBER LAGGING CONSISTING OF CONSTRUCTION GRADE, UNTREATED HARDWOOD WITH A MINIMUM THICKNESS OF 4 INCHES. TO PERMIT DRAINAGE, PROVIDE 1/4 TO 1/2-INCH SPACES BETWEEN LAGGING BOARDS USING 3/8-INCH THICK SPACER BLOCKS OR OTHER MEANS ACCEPTABLE TO THE ENGINEER. PLACE THE LAGGING BOARDS BETWEEN THE FLANGES OF THE SOLDIER PILES AND BEARING AGAINST THE FLANGES ON THE EXPOSED SIDE OF THE WALL SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST 2 INCHES AT BOTH ENDS OF THE LAGGING BOARDS. EXCAVATION FOR PLACEMENT OF THE LAGGING SHALL BE PERFORMED IN SUCH A MANNER THAT THE LAGGING IS TIGHT AGAINST THE EXCAVATION CUT FACE. ANY VOIDS BEHIND THE LAGGING SHALL BE BACKFILLED WITH SUITABLE COMPACTED MATERIAL AS DIRECTED BY THE ENGINEER. THE COST OF ANY SUCH BACKFILLING REQUIRED, INCLUDING MATERIAL, PLACEMENT AND COMPACTION, SHALL BE INCIDENTAL TO THE COST OF THE LAGGING.

THE COUNTY WILL PAY FOR TIMBER LAGGING AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR ITEM 530: SPECIAL, RETAINING WALL, TIMBER LAGGING.

ABBREVIATIONS:

APPROX.	- APPROXIMATE
℄	- BASELINE
BOT.	- BOTTOM
B/	- BOTTOM OF
℄	- CENTERLINE
C/C	- CENTER-TO-CENTER
CIP	- CAST-IN-PLACE
CJ	- CONTRACTION JOINT
C.J.	- CONSTRUCTION JOINT
CONC.	- CONCRETE
CONST.	- CONSTRUCTION
DIA.	- DIAMETER
ELEV.	- ELEVATION
E.F.	- EACH FACE
EJ	- EXPANSION JOINT
EX.	- EXISTING
INC.	- INCREMENT
MAX.	- MAXIMUM
MIN.	- MINIMUM
NO.	- NUMBER
NPCPP	- NON-PERFORATED CORRUGATED PLASTIC PIPE
PCPP	- PERFORATED CORRUGATED PLASTIC PIPE
PEJF	- PREFORMED EXPANSION JOINT FILLER
PROP.	- PROPOSED
SER.	- SERIES
SPA.	- SPACES
STA.	- STATION
TBR	- TO BE REMOVED
T/	-TOP OF
TYP.	- TYPICAL
W/	- WITH

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DESIGNED	DRAWN	REVIEWED	DATE
JYM	JYM	RKM	09/2021
CHECKED	REVISED		STRUCTURE FILE NUMBER
TML			0

WALL 6 GENERAL NOTES
HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL
PHASE 5C.1

WALL 6 ESTIMATED QUANTITIES				CALC BY: JYM CHECK BY: TML	DATE: 8/20/2021 DATE: 9/1/2021
ITEM	EXT	QUANTITY	UNIT	DESCRIPTION	SHEET
203	10000	58	CY	EXCAVATION	
203	20000	18	CY	EMBANKMENT	
507	00400	275	FT	STEEL PILES, MISC.: SOLDIER PILES, W21x83	2/6
509	10000	2,666	LB	EPOXY COATED REINFORCING STEEL	
511	46013	21	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING WALL NOT INCLUDING FOOTING, AS PER PLAN	2/6
512	10050	28	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
512	33001	4	SY	TYPE 2 WATERPROOFING, AS PER PLAN	2/6
513	20000	180	EACH	WELDED SHEAR STUD CONNECTOR	
518	20000	63	SY	PREFABRICATED GEOCOMPOSITE DRAIN	
518	21100	1	CY	POROUS BACKFILL	
518	40000	48	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
518	40010	25	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
524	94603	210	FT	DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN	2/6
530	51020	404	SF	SPECIAL - RETAINING WALL, TIMBER LAGGING	2/6
601	32200	57	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	2/6

NOTE: ITEMS 203 AND 601 HAVE BEEN CARRIED TO THE ROADWAY AND DRAINAGE QUANTITIES (RESPECTIVELY) OF THE GENERAL SUMMARY AND COST ESTIMATE PER L&D VOL. 3, SECTION 1307. ALL OTHER QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY AS STRUCTURES QUANTITIES.

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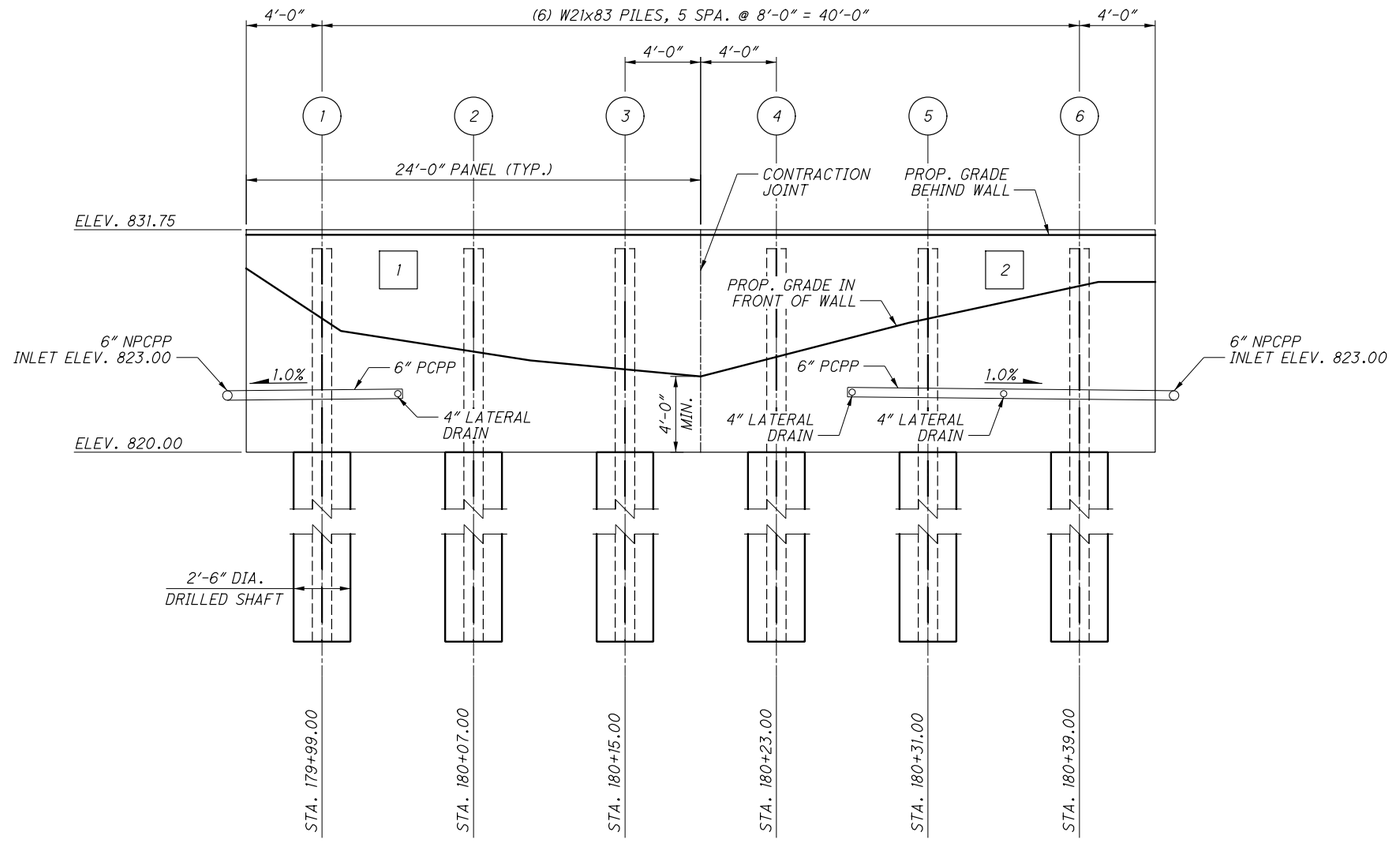
WALL 6 ESTIMATED QUANTITIES
HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL
PHASE 5C.1



WALL 6 PANEL ELEVATION

LEGEND:

(#) SOLDIER PILE NUMBER

[#] CIP FACING PANEL NUMBER

NOTES:

1. SEE SHEET FOR SOLDIER PILE AND WALL DETAILS.
2. 4" LATERAL DRAIN OUTLET SPACED AT 8-FT ON-CENTER BETWEEN PILES.
3. 6" PCPP SHALL BE SURROUNDED BY 1'-0" X 1'-0" POROUS BACKFILL WITH GEOTEXTILE FABRIC.

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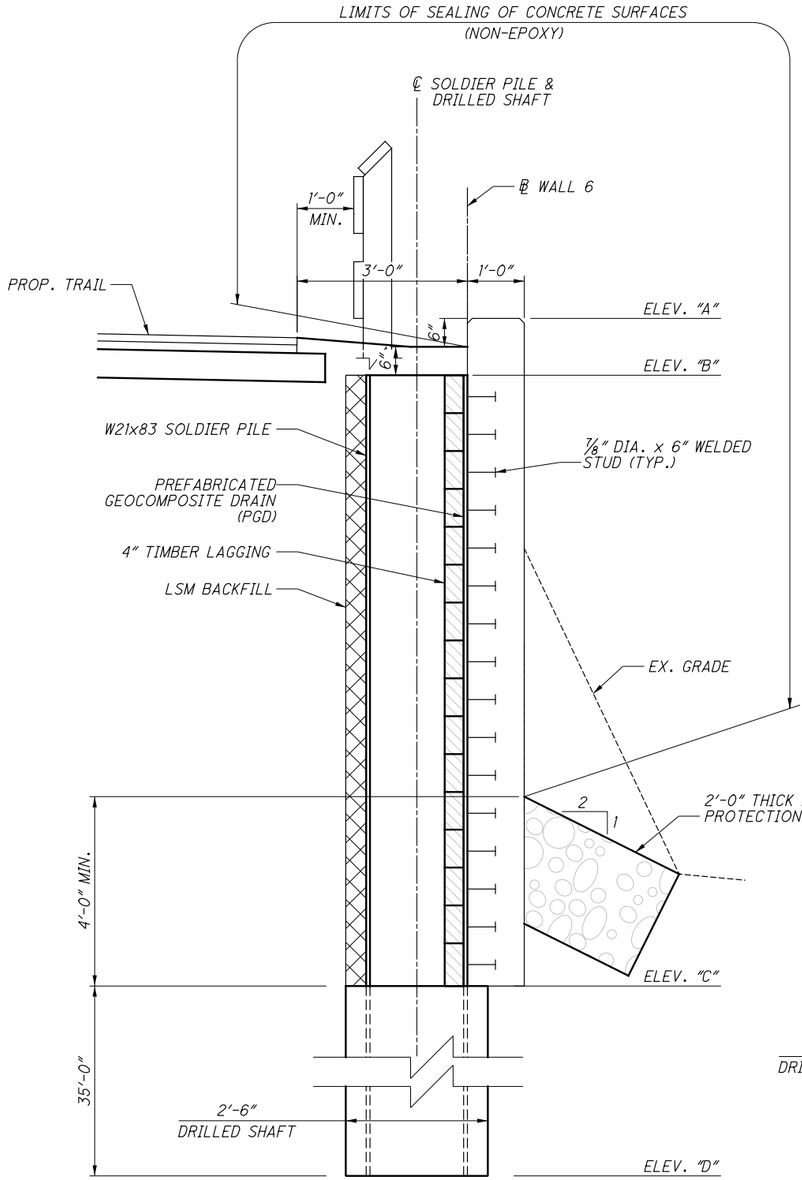
TML		0	

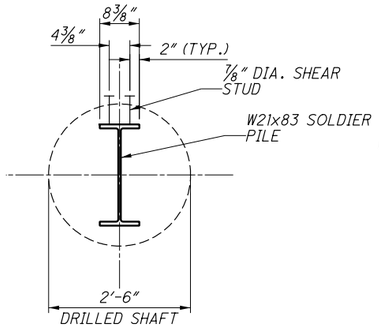
WALL 6 SOLDIER PILE AND PANEL LAYOUT

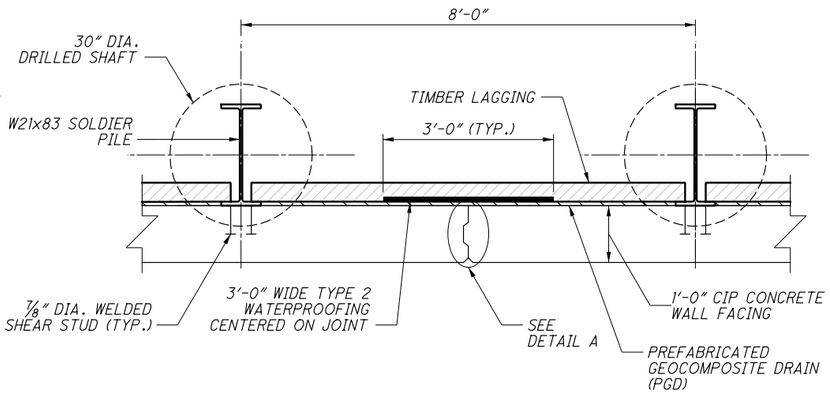
HOLMES COUNTY TRAIL - PHASE 5C

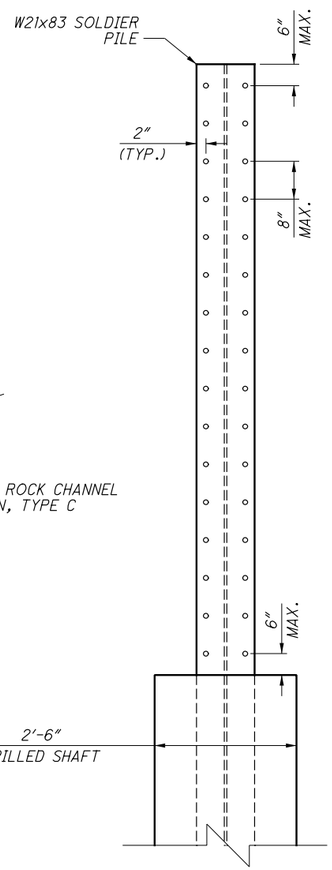
HOL CO TRAIL
PHASE 5C.1



WALL SECTION A-A

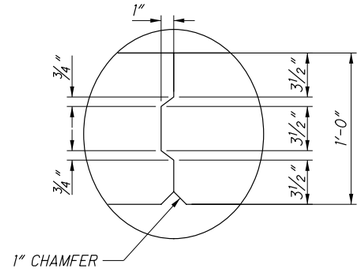




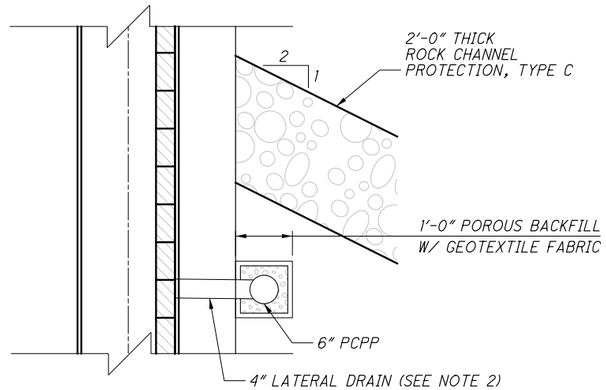


STUD DETAILS

CONTRACTION JOINT DETAILS



DETAIL A



DETAIL B

(STA. 180+19 TO STA. 180+03 AND
STA. 180+27 TO STA. 180+43)

LEGEND:

LOW STRENGTH MORTAR (LSM) TO BE INCLUDED WITH ITEM 524: DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN

NOTES:

1. SEE SHEET FOR GENERAL NOTES.
2. SEE SHEET FOR WALL 6 SOLDIER PILE AND PANEL LAYOUT AND LATERAL DRAIN LOCATIONS.
3. SEE SHEET FOR SOLDIER PILE AND PANEL DETAIL TABLE.
4. EXTEND ROCK CHANNEL PROTECTION TO ELEVATION 822.00 ALONG ENTIRE LENGTH OF WALL.

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WALL 6 SECTION DETAILS
HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL
PHASE 5C.1

5 / 6

79
127

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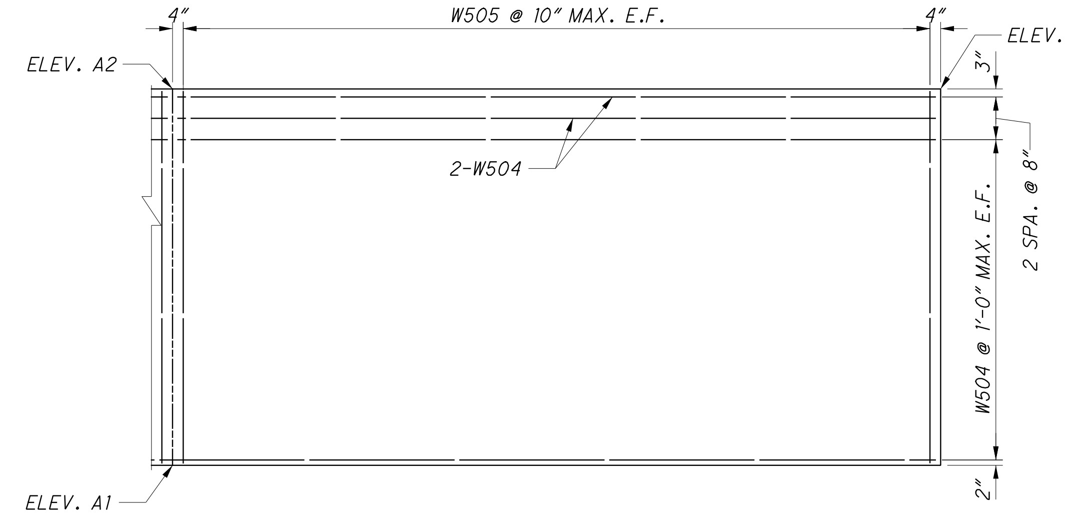
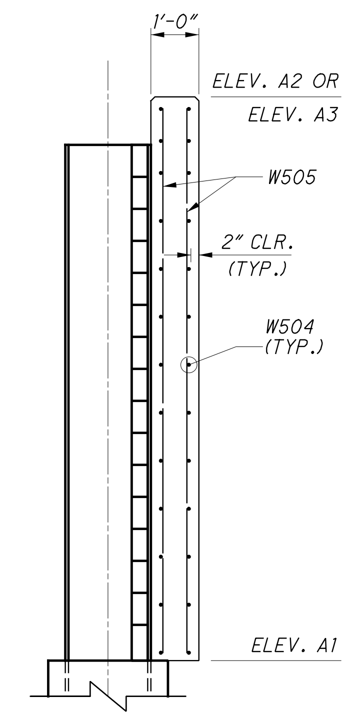
WALL 6 SOLDIER PILE DETAIL TABLE										
SOLDIER PILE NUMBER	PILE SIZE	PILE STATION	PILE C-C SPACING (FT)	TOP OF WALL ELEV. "A"	TOP OF PILE ELEV. "B"	TOP OF CONC. ENCASEMENT ELEV. "C"	LENGTH OF CONC. ENCASEMENT	EST. PILE TIP ELEV. "D"	DRILLED SHAFT MIN. EMBEDMENT "R"	EST. PILE LENGTH
1	W21x83	179+99.00	--	831.75	830.75	820.00	34.25	785.75	34.25	45'-0"
2	W21x83	180+07.00	8.0	831.75	830.75	820.00	34.25	785.75	34.25	45'-0"
3	W21x83	180+15.00	8.0	831.75	830.75	820.00	34.25	785.75	34.25	45'-0"
4	W21x83	180+23.00	8.0	831.75	830.75	820.00	34.25	785.75	34.25	45'-0"
5	W21x83	180+31.00	8.0	831.75	830.75	820.00	34.25	785.75	34.25	45'-0"
6	W21x83	180+39.00	8.0	831.75	830.75	820.00	34.25	785.75	34.25	45'-0"



WALL 6 PANEL DETAIL TABLE						
PANEL NUMBER	PANEL LENGTH (FEET)	ELEV. A1	BEGIN PANEL STATION	ELEV. A2	END PANEL STATION	ELEV. A3
1	24.00	820.00	179+95.00	831.75	180+19.00	831.75
2	24.00	820.00	180+19.00	831.75	180+43.00	831.75



WALL 6 REINFORCING												
MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
			(LBS)		A	B	C	D	E	R	INC.
W504	52	23'-8"	1284	ST.							
W505	116	11'-5"	1382	ST.							
TOTAL			2666								

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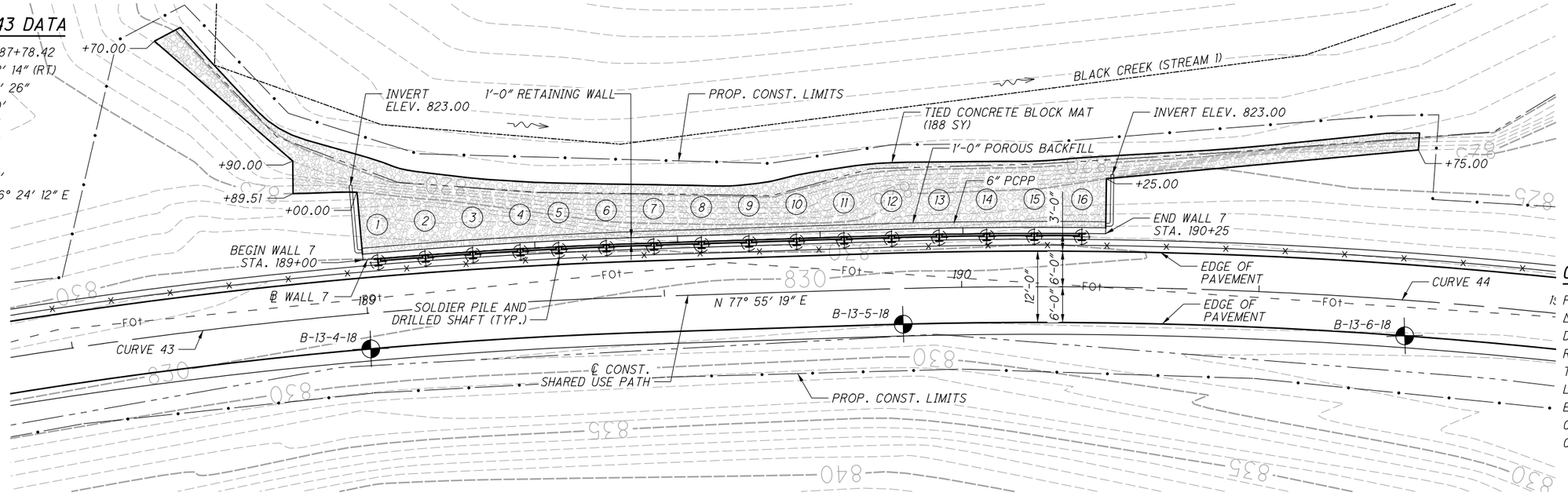
WALL 6 SOLDIER PILE AND PANEL DETAIL TABLE
HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL
PHASE 5C.1

6 / 6

CURVE 43 DATA

P.I. Sta. 187+78.42
Δ = 23° 02′ 14″ (RT)
Dc = 6° 44′ 26″
R = 850.00′
T = 173.22′
L = 341.76′
E = 17.47′
C = 339.47′
C.B. = N 66° 24′ 12″ E

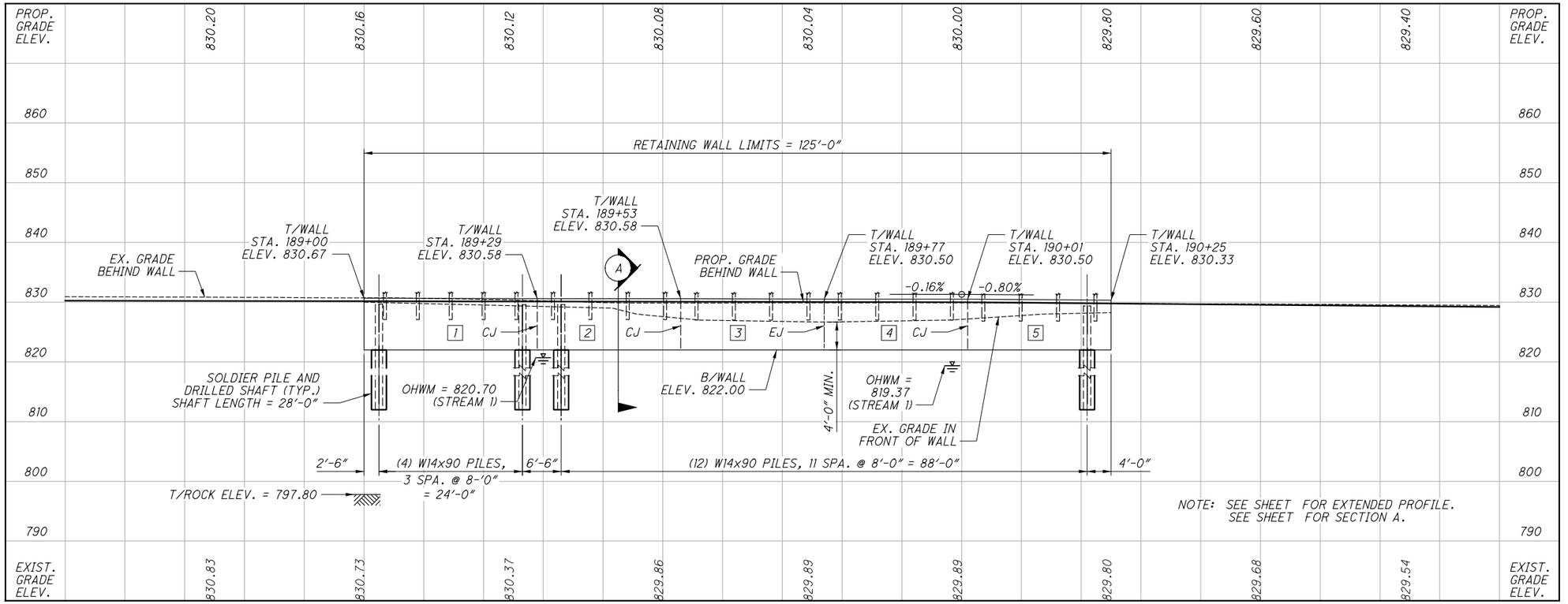


CURVE 44 DATA

P.I. Sta. 190+96.61
Δ = 14° 54′ 25″ (RT)
Dc = 6° 44′ 26″
R = 850.00′
T = 111.20′
L = 221.15′
E = 7.24′
C = 220.53′
C.B. = N 85° 22′ 31″ E

PLAN

(#) SOLDIER PILE NUMBER [#] CIP FACING PANEL NUMBER



189 PROFILE 190

(ALONG ℄ SOLDIER PILE WALL)

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WALL 7 PLAN AND PROFILE
HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL
PHASE 5C.1

1 / 6

81 / 127

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DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA:
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (FACING)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(DRILLED SHAFTS)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL FOR SOLDIER PILES
- ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI
2" CONCRETE COVER

ITEM 507, STEEL PILES, MISC.: SOLDIER PILES, W14x90:
THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50. DO NOT FIELD WELD OR SPLICE STEEL SOLDIER PILES.

THE COUNTY WILL MEASURE SOLDIER PILES ALONG THE AXIS OF THE SOLDIER PILE FROM THE TOP OF WALL ELEVATION TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER. THE COUNTY WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT FOR ITEM 507, STEEL PILES, MISC.: SOLDIER PILES, W14x90.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, RETAINING WALL NOT INCLUDING FOOTING, AS PER PLAN
PRECAST PANELS MAY BE USED IN LIEU OF CAST IN PLACE PANELS SHOWN. IF PRECAST PANELS ARE TO BE USED SUBMIT ANY CHANGES IN DETAILS ASSOCIATED FOR APPROVAL PRIOR TO CONSTRUCTION AS PART OF THE PRECAST PANEL SHOP DRAWINGS PER C&MS 501.04.

ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)
SEAL THE RETAINING WALL WITH NON-EPOXY SEALER PER C&MS 512. THE COLOR SHALL BE FEDERAL COLOR NO. 17778.

ITEM 512 - TYPE 2 WATERPROOFING, AS PER PLAN
TYPE 2 WATERPROOFING SHALL BE PLACED ON TOP OF THE PREFABRICATED GEOCOMPOSITE DRAIN (PGD), AWAY FROM THE WOOD LAGGING. WATERPROOFING SHALL BE 3 FEET WIDE FULL HEIGHT CENTERED AT ALL CONCRETE PANEL JOINTS.

ITEM 513 - WELDED STUD SHEAR CONNECTORS:
WELD HEADED STEEL STUDS TO THE FLANGES OF THE SOLDIER PILE IN ORDER TO CONNECT THE CONCRETE WALL FACING TO THE SOLDIER PILE. ATTACH HEADED STUDS ACCORDING TO C&MS 513.22 AND AS SHOWN IN THE PLANS. THE CONTRACTOR MAY ATTACH THE STUDS EITHER BEFORE PLACING THE SOLDIER PILE IN THE DRILLED HOLE OR AFTER EXCAVATING IN FRONT OF THE WALL. PROTECT THE HEADED STUDS FROM DAMAGE UNTIL THE CONCRETE WALL FACING IS POURED. REPAIR OR REPLACE DAMAGED HEADED STUDS AT NO EXPENSE TO THE COUNTY.

ITEM 518 - PREFABRICATED GEOCOMPOSITE DRAIN:
PLACE PREFABRICATED GEOCOMPOSITE DRAIN (PGD) STRIPS AGAINST THE TIMBER LAGGING BETWEEN THE SOLDIER PILES, FROM EDGE OF SOLDIER PILE TO EDGE OF SOLDIER PILE TO PROVIDE CONTINUOUS COVERAGE OVER THE FACE OF THE WALL.

ITEM 524, DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN:

ITEM 524, DRILLED SHAFTS, 30" DIAMETER, INTO BEDROCK, AS PER PLAN:
THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SOLDIER PILE AND LAGGING WALLS. THE DRILLED SHAFTS ARE REINFORCED WITH SOLDIER PILES INSTEAD OF REINFORCING STEEL CAGES. THE SOLDIER PILES EXTEND ABOVE THE TOP OF THE DRILLED SHAFT. FURNISH AND INSTALL THE DRILLED SHAFTS IN ACCORDANCE WITH C&MS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFT WITHIN 3 INCHES OF THE PLAN LOCATION. PLACE THE SOLDIER PILE WITHIN THE HOLE SO IT IS VERTICAL AND NOT INCLINED MORE THAN 1 INCH BETWEEN TOP TO BOTTOM. PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF THE ROW OF DRILLED SHAFTS. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. SUPPORT THE SOLDIER PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC1 CONCRETE ACCORDING TO C&MS 511. PLACE CONCRETE TO THE ELEVATION FOR THE TOP OF THE DRILLED SHAFT. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF WATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

ITEM 524, DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN (CONT'D):

ITEM 524, DRILLED SHAFTS, 30" DIAMETER, INTO BEDROCK, AS PER PLAN (CONT'D):
CHECK THE POSITION, THE VERTICAL ALIGNMENT AND ORIENTATION OF THE SOLDIER PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES. IF SHOWN ON THE PLANS, FILL THE HOLE ABOVE THE BOTTOM OF THE LAGGING TO THE EXISTING GROUND SURFACE WITH ITEM C&MS 613 LOW STRENGTH MORTAR BACKFILL (LSM).

REMOVE CONCRETE AND LSM AS NECESSARY FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE THE LAGGING. PLACE LAGGING SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST 2 INCHES AT BOTH ENDS OF THE LAGGING. WAIT AT LEAST 12 HOURS AFTER PLACING CONCRETE BEFORE PLACING LAGGING.

SEQUENCE OF INSTALLATION: THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAN A 48 HOUR CURE. INSTALLING THE SHAFTS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THIS CRITERIA IS PERMISSIBLE.

PROTECTION OF UNATTENDED OPEN SHAFTS: CARE SHALL BE EXERCISED AS TO COVER UNATTENDED OPEN SHAFTS. TEMPORARY COVERS SHALL BE OF ADEQUATE STRENGTH TO PREVENT A PERSON OR ANIMAL FROM FALLING IN. NO DRILLED SHAFT EXCAVATION SHALL BE LEFT UN-POURED OVERNIGHT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS USED TO CONSTRUCT THE DRILLED SHAFTS AND PLACE LAGGING. ANY TEMPORARY GRADING, EXCAVATION, EMBANKMENT, AGGREGATE, DRAINAGE, SHEETING, ETC. NEEDED TO COMPLETE THE WORK SHALL BE INCLUDED IN THE BID PRICE FOR THE DRILLED SHAFTS. THE COST OF ANY EXCAVATION AND SUBSEQUENT REPLACEMENT OF EMBANKMENT (PER ITEM 203 EMBANKMENT) SHALL BE INCLUDED IN THE VARIOUS BID ITEMS FOR THE DRILLED SHAFTS AND LAGGING, UNLESS SEPARATELY ITEMIZED. NO SEPARATE PAYMENT WILL BE MADE.

METHOD OF MEASUREMENT: THE COUNTY WILL MEASURE DRILLED SHAFTS ALONG THE AXIS OF THE DRILLED SHAFT FROM THE FROM THE REQUIRED BOTTOM ELEVATION OF THE SHAFT TO THE PROPOSED BOTTOM OF WALL ELEVATION, AS DETERMINED BY THE ENGINEER.

PAYMENT IS FULL COMPENSATION FOR CONSTRUCTING THE DRILLED SHAFTS, INCLUDING FURNISHING AND PLACING CONCRETE AND LSM, REMOVAL OF CONCRETE OR LSM FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE LAGGING.

ITEM 530: SPECIAL - RETAINING WALL, TIMBER LAGGING
THIS WORK CONSISTS OF FURNISHING AND PLACING TIMBER LAGGING BETWEEN THE SOLDIER PILES AS TEMPORARY SUPPORT FOR THE RETAINED SOIL. FURNISH TIMBER LAGGING CONSISTING OF CONSTRUCTION GRADE, UNTREATED HARDWOOD WITH A MINIMUM THICKNESS OF 4 INCHES. TO PERMIT DRAINAGE, PROVIDE 1/4 TO 1/2-INCH SPACES BETWEEN LAGGING BOARDS USING 3/8-INCH THICK SPACER BLOCKS OR OTHER MEANS ACCEPTABLE TO THE ENGINEER. PLACE THE LAGGING BOARDS BETWEEN THE FLANGES OF THE SOLDIER PILES AND BEARING AGAINST THE FLANGES ON THE EXPOSED SIDE OF THE WALL SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST 2 INCHES AT BOTH ENDS OF THE LAGGING BOARDS. EXCAVATION FOR PLACEMENT OF THE LAGGING SHALL BE PERFORMED IN SUCH A MANNER THAT THE LAGGING IS TIGHT AGAINST THE EXCAVATION CUT FACE. ANY VOIDS BEHIND THE LAGGING SHALL BE BACKFILLED WITH SUITABLE COMPACTED MATERIAL AS DIRECTED BY THE ENGINEER. THE COST OF ANY SUCH BACKFILLING REQUIRED, INCLUDING MATERIAL, PLACEMENT AND COMPACTION, SHALL BE INCIDENTAL TO THE COST OF THE LAGGING.

THE COUNTY WILL PAY FOR TIMBER LAGGING AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR ITEM 530: SPECIAL, RETAINING WALL, TIMBER LAGGING.

ABBREVIATIONS:

APPROX.	- APPROXIMATE
℄	- BASELINE
BOT.	- BOTTOM
B/	- BOTTOM OF
℄	- CENTERLINE
C/C	- CENTER-TO-CENTER
CIP	- CAST-IN-PLACE
CJ	- CONTRACTION JOINT
C.J.	- CONSTRUCTION JOINT
CONC.	- CONCRETE
CONST.	- CONSTRUCTION
DIA.	- DIAMETER
ELEV.	- ELEVATION
E.F.	- EACH FACE
EJ	- EXPANSION JOINT
EX.	- EXISTING
INC.	- INCREMENT
MAX.	- MAXIMUM
MIN.	- MINIMUM
NO.	- NUMBER
NPCPP	- NON-PERFORATED CORRUGATED PLASTIC PIPE
PCPP	- PERFORATED CORRUGATED PLASTIC PIPE
PEJF	- PREFORMED EXPANSION JOINT FILLER
PROP.	- PROPOSED
SER.	- SERIES
SPA.	- SPACES
STA.	- STATION
TBR	- TO BE REMOVED
T/	-TOP OF
TYP.	- TYPICAL
W/	- WITH

DESIGN AGENCY
ONE EASTON OVAL
SUITE 180
COLUMBUS, OH 43219
T 614-476-6000
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WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE

DESIGNED	DRAWN	REVIEWED	DATE
JYM	JYM	RKM	09/2021
CHECKED	REVISED		STRUCTURE FILE NUMBER
TML			0

WALL 7 GENERAL NOTES
HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL
PHASE 5C.1

WALL 7 ESTIMATED QUANTITIES				CALC BY: JYM CHECK BY: TML	DATE: 8/20/2021 DATE: 9/1/2021
ITEM	EXT	QUANTITY	UNIT	DESCRIPTION	SHEET
203	10000	55	CY	EXCAVATION	
203	20000	7	CY	EMBANKMENT	
507	00400	569	FT	STEEL PILES, MISC.: SOLDIER PILES, W14x90	2/6
509	10000	4,837	LB	EPOXY COATED REINFORCING STEEL	
511	46013	40	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING WALL NOT INCLUDING FOOTING, AS PER PLAN	2/6
512	10050	84	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
512	33001	12	SY	TYPE 2 WATERPROOFING, AS PER PLAN	2/6
513	20000	320	EACH	WELDED SHEAR STUD CONNECTOR	
516	13600	9	SF	1" PREFORMED EXPANSION JOINT FILLER	
518	20000	119	SY	PREFABRICATED GEOCOMPOSITE DRAIN	
518	21100	10	CY	POROUS BACKFILL	
518	40000	125	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
518	40010	19	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
524	94603	388	FT	DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN	2/6
524	94605	61	FT	DRILLED SHAFTS, 30" DIAMETER, INTO BEDROCK, AS PER PLAN	2/6
530	51020	905	SF	SPECIAL - RETAINING WALL, TIMBER LAGGING	2/6
601	21060	188	SY	TIED CONCRETE BLOCK MAT WITH TYPE 2 UNDERLAYMENT	

NOTE: ITEMS 203 AND 601 HAVE BEEN CARRIED TO THE ROADWAY AND DRAINAGE QUANTITIES (RESPECTIVELY) OF THE GENERAL SUMMARY AND COST ESTIMATE PER L&D VOL. 3, SECTION 1307. ALL OTHER QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY AS STRUCTURES QUANTITIES.

DESIGN AGENCY
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
TML		0	

WALL 7 ESTIMATED QUANTITIES
HOLMES COUNTY TRAIL - PHASE 5C

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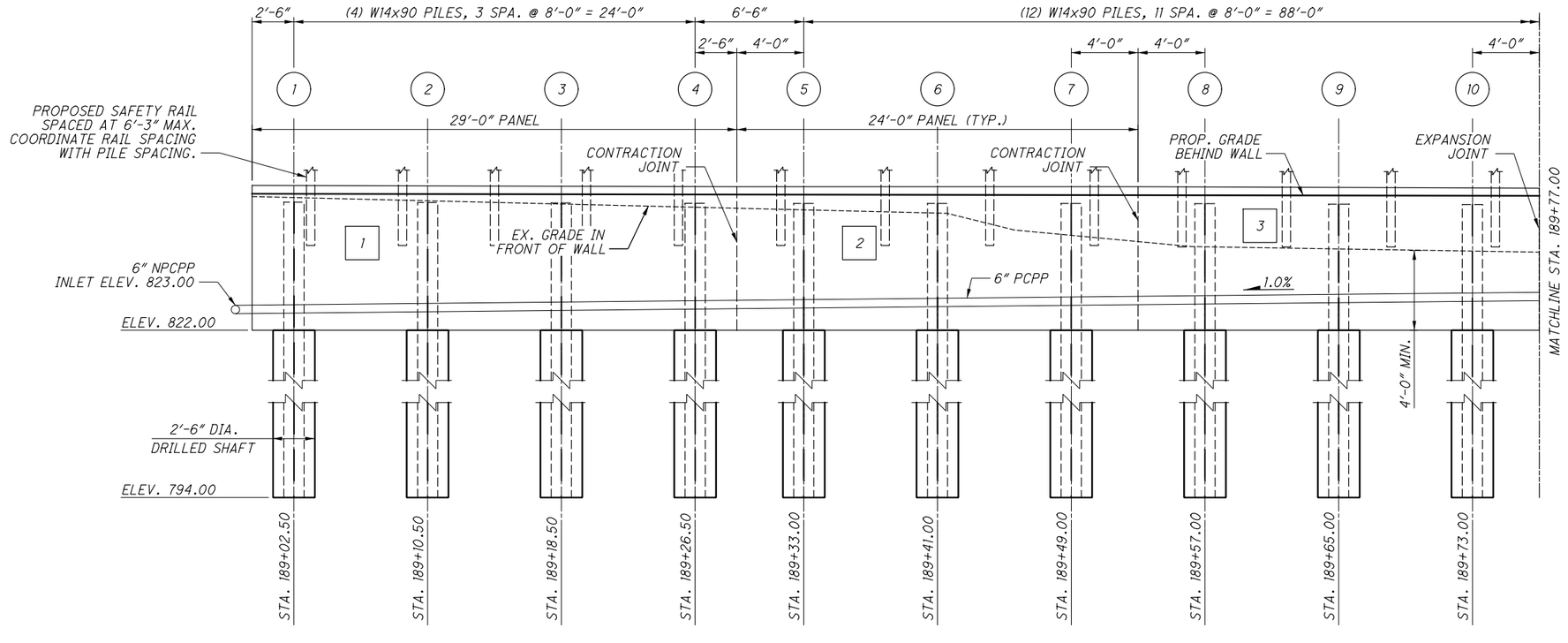

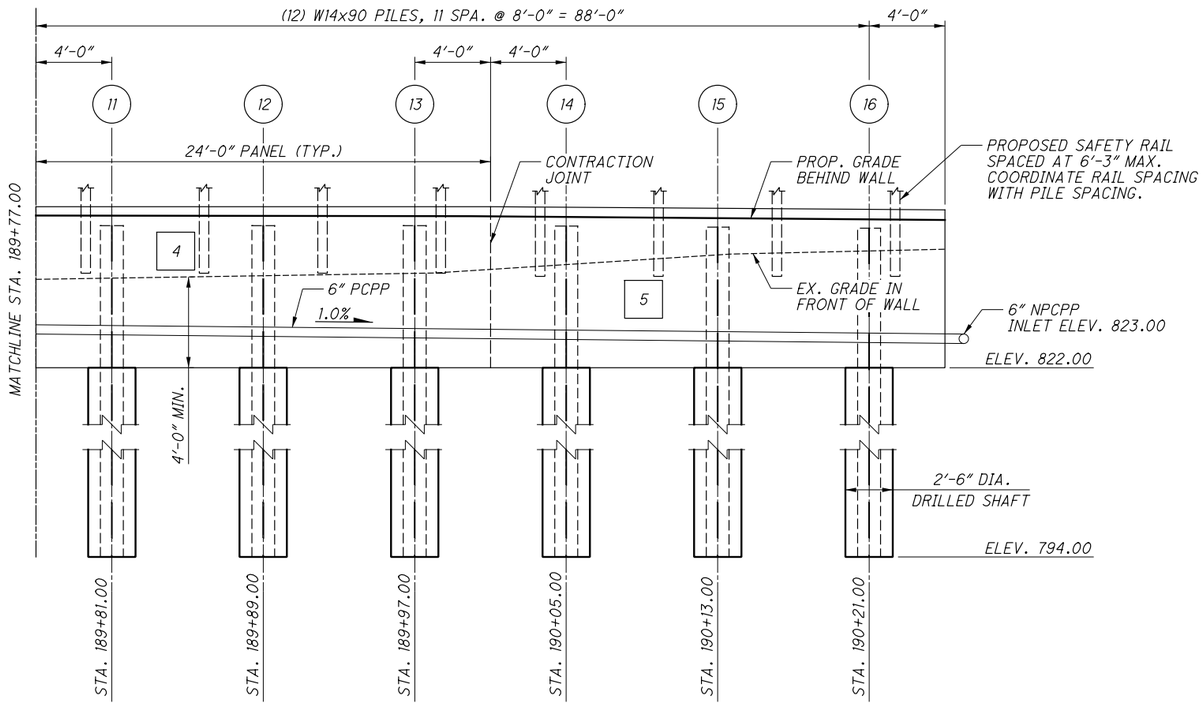

WALL 7 PANEL ELEVATION

LEGEND:

(#) SOLDIER PILE NUMBER

[#] CIP FACING PANEL NUMBER

NOTES:

1. SEE SHEET FOR SOLDIER PILE AND WALL DETAILS.
2. 4" DRAIN OUTLET SPACED AT 8-FT ON-CENTER BETWEEN PILES.

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WALL 7 SOLDIER PILE AND PANEL LAYOUT
HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL
PHASE 5C.1

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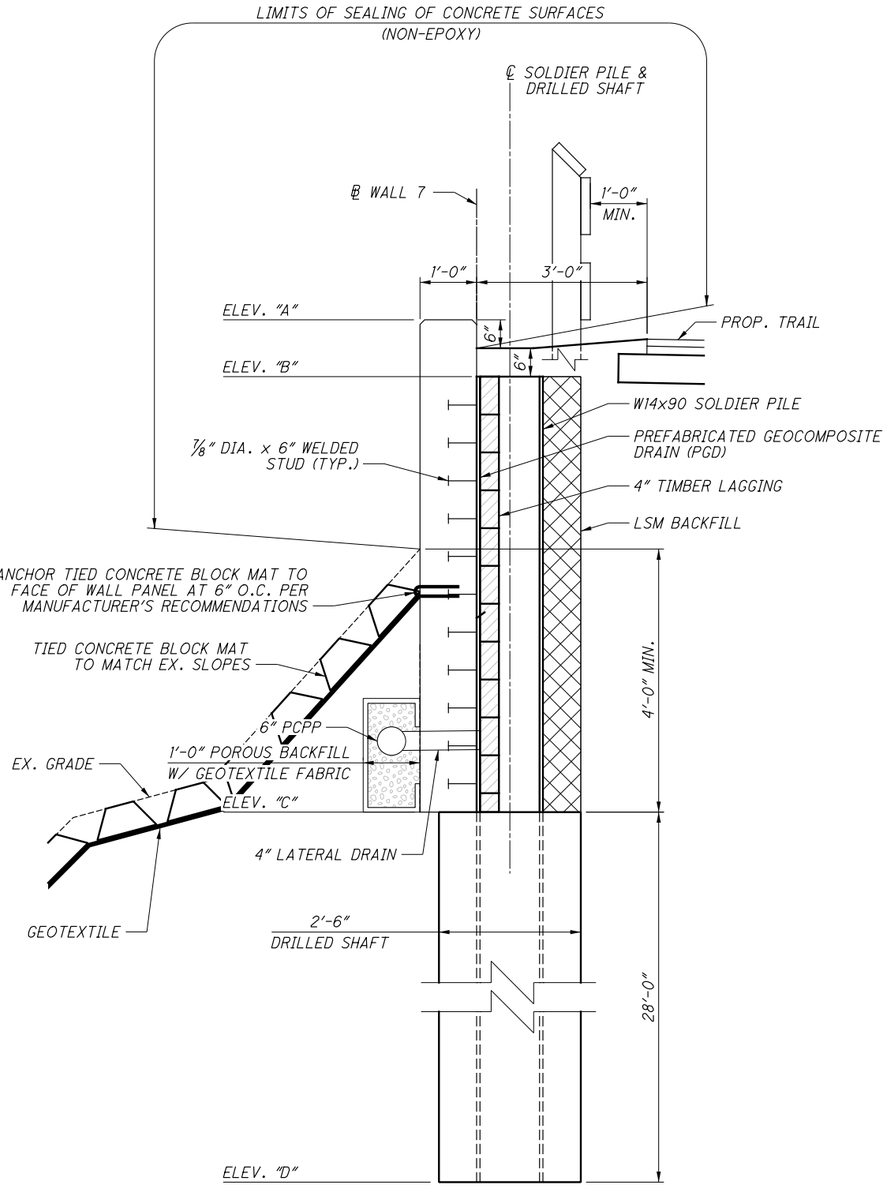
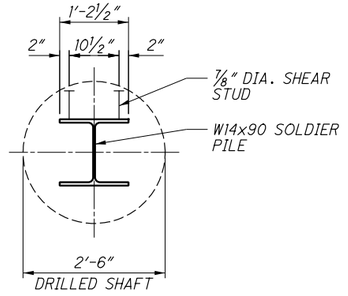
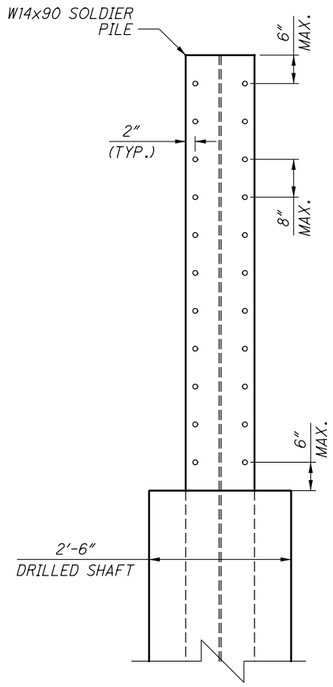
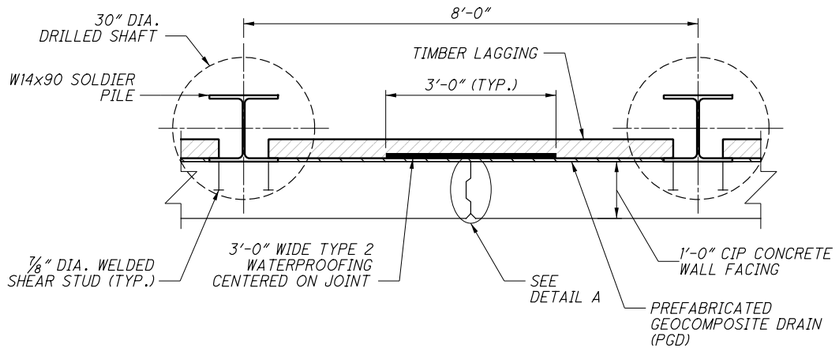


WALL SECTION

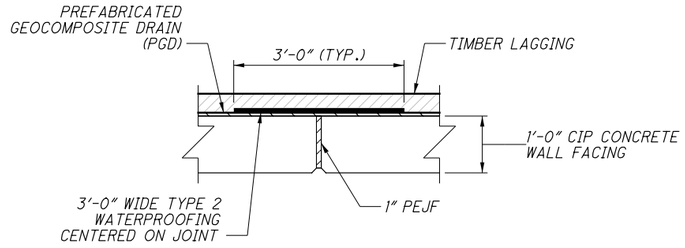




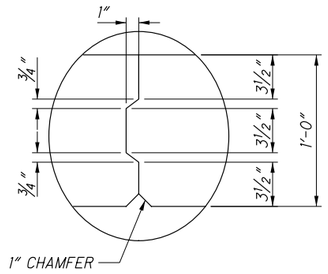
STUD DETAILS



CONTRACTION JOINT DETAILS



EXPANSION JOINT DETAILS



DETAIL A

LEGEND:

LOW STRENGTH MORTAR (LSM) TO BE INCLUDED WITH ITEM 524: DRILLED SHAFTS, 30" DIAMETER, ABOVE BEDROCK, AS PER PLAN

NOTES:

1. SEE SHEET FOR GENERAL NOTES.
2. SEE SHEET FOR WALL 7 SOLDIER PILE AND PANEL LAYOUT.
3. SEE SHEET FOR SOLDIER PILE AND PANEL DETAIL TABLE.
4. 4" DRAIN OUTLET SPACED AT 8-FT ON-CONTER BETWEEN PILES.
5. EXTEND ROCK CHANNEL PROTECTION TO ELEVATION 819.00 ALONG ENTIRE LENGTH OF WALL.

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WALL 7 SECTION DETAILS
HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL
PHASE 5C.1

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85
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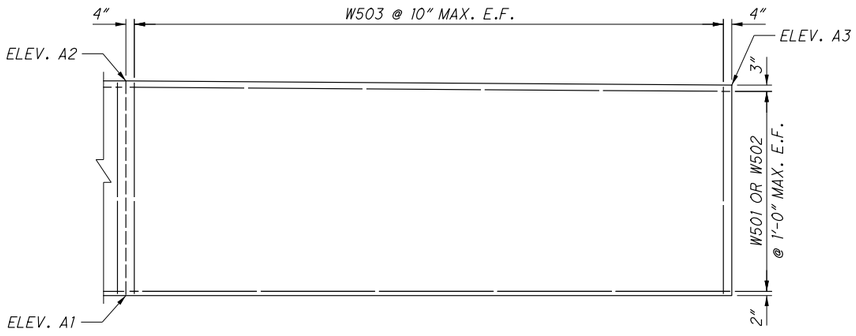
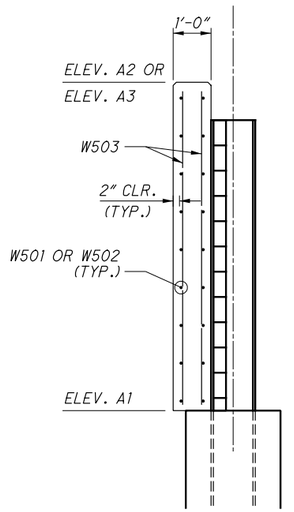
WALL 7 SOLDIER PILE DETAIL TABLE										
SOLDIER PILE NUMBER	PILE SIZE	PILE STATION	PILE C-C SPACING (FT)	TOP OF WALL ELEV. "A"	TOP OF PILE ELEV. "B"	TOP OF CONC. ENCASEMENT ELEV. "C"	LENGTH OF CONC. ENCASEMENT	EST. PILE TIP ELEV. "D"	DRILLED SHAFT MIN. EMBEDMENT "R"	EST. PILE LENGTH
1	W14x90	189+02.50	--	830.66	829.66	822.00	27.00	795.00	27.00	34'-8"
2	W14x90	189+10.50	8.0	830.64	829.64	822.00	27.00	795.00	27.00	34'-8"
3	W14x90	189+18.50	8.0	830.61	829.61	822.00	27.00	795.00	27.00	34'-8"
4	W14x90	189+26.50	8.0	830.59	829.59	822.00	27.00	795.00	27.00	34'-8"
5	W14x90	189+33.00	6.5	830.58	829.58	822.00	27.00	795.00	27.00	34'-7"
6	W14x90	189+41.00	8.0	830.58	829.58	822.00	27.00	795.00	27.00	34'-7"
7	W14x90	189+49.00	8.0	830.58	829.58	822.00	27.00	795.00	27.00	34'-7"
8	W14x90	189+57.00	8.0	830.57	829.57	822.00	27.00	795.00	27.00	34'-7"
9	W14x90	189+65.00	8.0	830.54	829.54	822.00	27.00	795.00	27.00	34'-7"
10	W14x90	189+73.00	8.0	830.51	829.51	822.00	27.00	795.00	27.00	34'-7"
11	W14x90	189+81.00	8.0	830.50	829.50	822.00	27.00	795.00	27.00	34'-6"
12	W14x90	189+89.00	8.0	830.50	829.50	822.00	27.00	795.00	27.00	34'-6"
13	W14x90	189+97.00	8.0	830.50	829.50	822.00	27.00	795.00	27.00	34'-6"
14	W14x90	190+05.00	8.0	830.47	829.47	822.00	27.00	795.00	27.00	34'-6"
15	W14x90	190+13.00	8.0	830.42	829.42	822.00	27.00	795.00	27.00	34'-5"
16	W14x90	190+21.00	8.0	830.36	829.36	822.00	27.00	795.00	27.00	34'-5"



WALL 7 PANEL DETAIL TABLE						
PANEL NUMBER	PANEL LENGTH (FEET)	ELEV. A1	BEGIN PANEL STATION	ELEV. A2	END PANEL STATION	ELEV. A3
1	29.00	822.00	189+00.00	830.67	189+29.00	830.58
2	24.00	822.00	189+29.00	830.58	189+53.00	830.58
3	24.00	822.00	189+53.00	830.58	189+77.00	830.50
4	24.00	822.00	189+77.00	830.50	190+01.00	830.50
5	24.00	822.00	190+01.00	830.50	190+25.00	830.33

WALL 7 REINFORCING											
MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC.
W501	18	28'-8"	539	ST.							
W502	72	23'-8"	1778	ST.							
W503	302	8'-0"	2520	ST.							
TOTAL	4837										



TYPICAL WALL REINFORCING DETAILS

NOTES:

1. INSTALL PILES TO PILE TIP ELEVATION PROVIDED WHETHER OR NOT ROCK IS ENCOUNTERED.

DESIGN AGENCY
ONE EASTON OVAL
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DESIGNED	DRAWN	REVIEWED	DATE
JYM	JYM	RKM	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TML		0	

WALL 7 SOLDIER PILE AND PANEL DETAIL TABLE
HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL
PHASE 5C.1

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

SUPPLEMENTAL SPECIFICATIONS:
870 PREFABRICATED MODULAR RETAINING WALL, 4/16/2021

DESIGN DATA:
GEOTECHNICAL INFORMATION:

SOIL:
EFFECTIVE FRICTION ANGLE = 32 DEGREES
COHESION = 0 PSF
DENSITY = 120 PCF

MODULAR BLOCKS:
28" BLOCK DENSITY = 120 PCF
41" BLOCK DENSITY = 123 PCF

LOADING:
90 PSF LIVE LOAD SURCHARGE

WALL 8:
FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 0.75 KSF AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 1.14 KSF. THE FACTORED BEARING RESISTANCE IS 1.50 KSF.

FOUNDATION MATERIAL:
AFTER EXCAVATION AND PRIOR TO THE CONSTRUCTION OF THE MODULAR BLOCK WALL, THE BOTTOM SURFACE OF THE EXCAVATION SHALL BE INSPECTED BY THE ENGINEER OR AN EXPERIENCED INDEPENDENT TECHNICIAN WHO HAS COMPLETED THE ODOT SOIL AND ROCK CLASSIFICATION COURSE OR THE NHI COURSE 132079 SUBSURFACE INVESTIGATION QUALIFICATION. IF ANY AREAS OF THE SOIL ARE DETERMINED BY THE ENGINEER OR TECHNICIAN TO BE UNSUITABLE, THEN THE EXCAVATION SHALL BE UNDERCUT IN 1 FOOT INCREMENTS UNTIL SUITABLE MATERIALS ARE ENCOUNTERED OR TO A MAXIMUM DEPTH OF 3 FEET AND FILLED WITH LOW STRENGTH MORTAR BACKFILL PER ODOT ITEM 613 UP TO THE LEVEL OF THE PROPOSED BOTTOM OF WALL ELEVATION. IF UNSUITABLE MATERIALS ARE STILL PRESENT AFTER A 3 FOOT UNDERCUT, THE ENGINEER SHALL BE CONTACTED BEFORE WORK PROCEEDS. A CONTINGENCY QUANTITY OF 41 CY FOR WALL 8 IS PROVIDED IN THE PLANS WHICH SHALL INCLUDE ALL COSTS ASSOCIATED WITH THE UNDERCUTTING AND LSM FILLING, INCLUDING ALL LABOR, EQUIPMENT, AND MATERIALS. THIS ITEM SHALL ONLY BE USED IF DIRECTED BY THE ENGINEER AND SHALL BE PAID FOR UNDER ITEM 613: LOW STRENGTH MORTAR BACKFILL, AS PER PLAN.

ITEM 870: PREFABRICATED MODULAR RETAINING WALL, AS PER PLAN
THE PREFABRICATED MODULAR RETAINING WALL SHALL BE ONE OF THE FOLLOWING OR AN APPROVED EQUAL:

ODOT APPROVED PRODUCT:
GRAVIX WALL SYSTEM
EARTHWALL PRODUCTS, LLC
1741 DIXIE AVE SE
SMYRNA, GA 30080

THE FOLLOWING PRODUCTS ARE NOT ON THE ODOT APPROVED LIST, AND WILL REQUIRE WRITTEN AUTHORIZATION FOR THEIR USE.

REDI-ROCK GRAVITY WALLS
REDI-ROCK STRUCTURES OF OKI
1050 ROUND BOTTOM ROAD
MILFORD, OH 45150

RECON GRAVITY RETAINING WALL SYSTEM
READING ROCK
4600 DEVITT DRIVE
CINCINNATI, OH 45246

PROVIDE ENGINEERING DESIGNS AND SHOP DRAWINGS PER SS 870.04.

MODULAR BLOCK UNITS AND SIZES SHOWN ARE ONE POSSIBLE SOLUTION AND THE BASIS FOR THE BEARING PRESSURES AND GLOBAL STABILITY ANALYSES USED IN THESE PLANS. ALTERNATE SHAPES AND SIZES ARE ACCEPTABLE BUT WILL REQUIRE SLIDING AND GLOBAL STABILITY ANALYSIS IN ADDITION TO THE DESIGN AND SHOP DRAWING REQUIREMENTS OF 870.04.

THE PRECAST MODULAR BLOCK UNIT FACE TEXTURE SHALL BE SELECTED BY THE OWNER FROM THE AVAILABLE RANGE OF TEXTURES AVAILABLE FROM THE PRECAST MODULAR BLOCK MANUFACTURER. EACH TEXTURED BLOCK FACING UNIT SHALL BE A MINIMUM OF 5.76 SQUARE FEET WITH A UNIQUE TEXTURE PATTERN THAT REPEATS WITH A MAXIMUM FREQUENCY OF ONCE IN ANY 15 SQUARE FEET OF WALL FACE.

WALL 8 ESTIMATED QUANTITIES

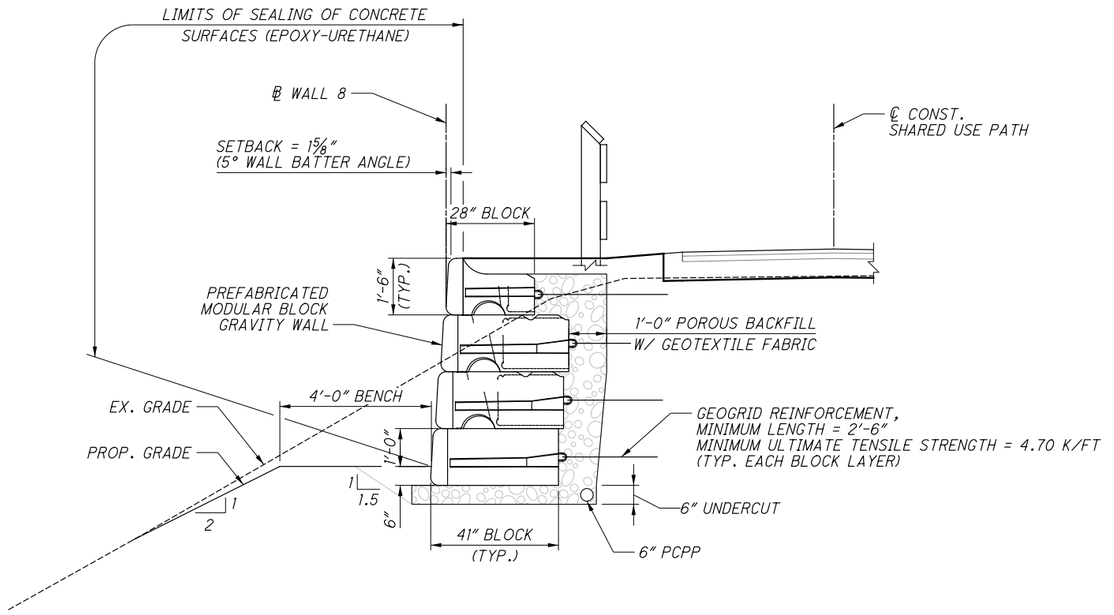
CALC BY: JYM DATE: 8/27/2021
CHECK BY: TML DATE: 8/28/2021

ITEM	EXT	QUANTITY	UNIT	DESCRIPTION	SHEET
512	10100	30	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
613	41201	41	CY	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN	1/2
870	10001	432	SF	PREFABRICATED MODULAR RETAINING WALL, AS PER PLAN	1/2
870	11000	27	CY	WALL EXCAVATION	
870	12000	58	FT	6" DRAINAGE PIPE, PERFORATED	
870	14000	2	DAY	ON-SITE ASSISTANCE	

ALL QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY

ABBREVIATIONS:

℄	- BASELINE
B/	- BOTTOM OF
℄	- CENTERLINE
CONST.	- CONSTRUCTION
ELEV.	- ELEVATION
EX.	- EXISTING
PCPP	- PERFORATED CORRUGATED PLASTIC PIPE
PROP.	- PROPOSED
STA.	- STATION
T/	-TOP OF
TYP.	- TYPICAL
W/	- WITH



WALL SECTION

DESIGN AGENCY
ONE EASTON OVAL
SUITE 180
COLUMBUS, OH 43219
T 614-476-6000
F 614-476-6225
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE

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JYM	JYM	RKM	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TML		0	

WALL 8 GENERAL NOTES
HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL
PHASE 5C.1

1 / 2

87
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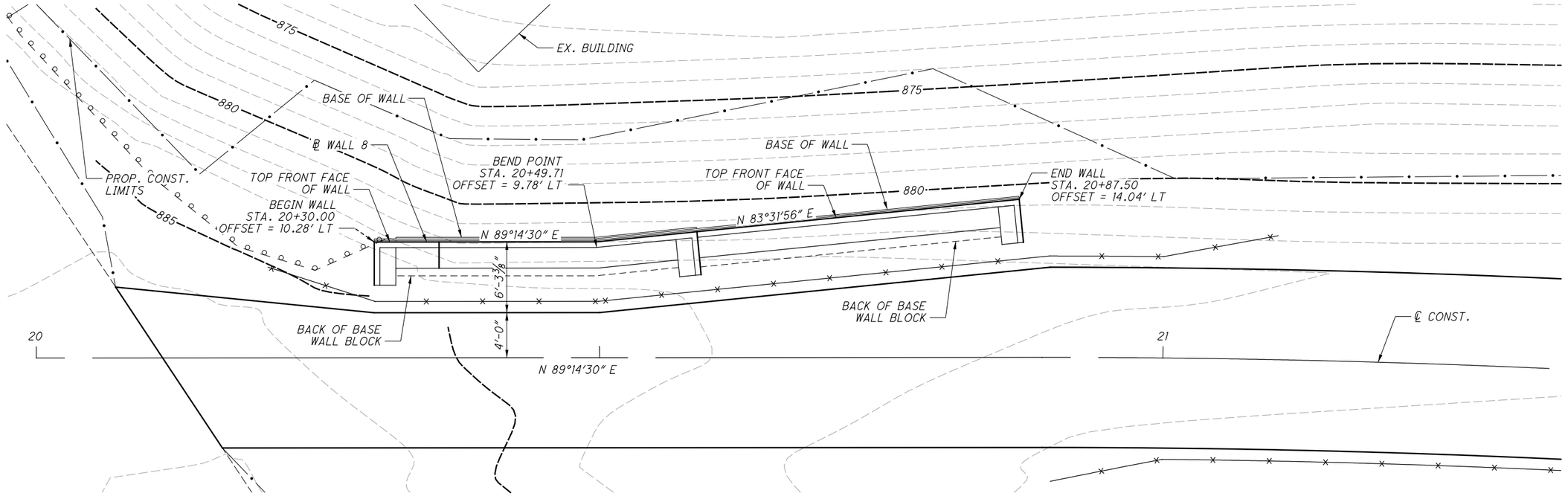
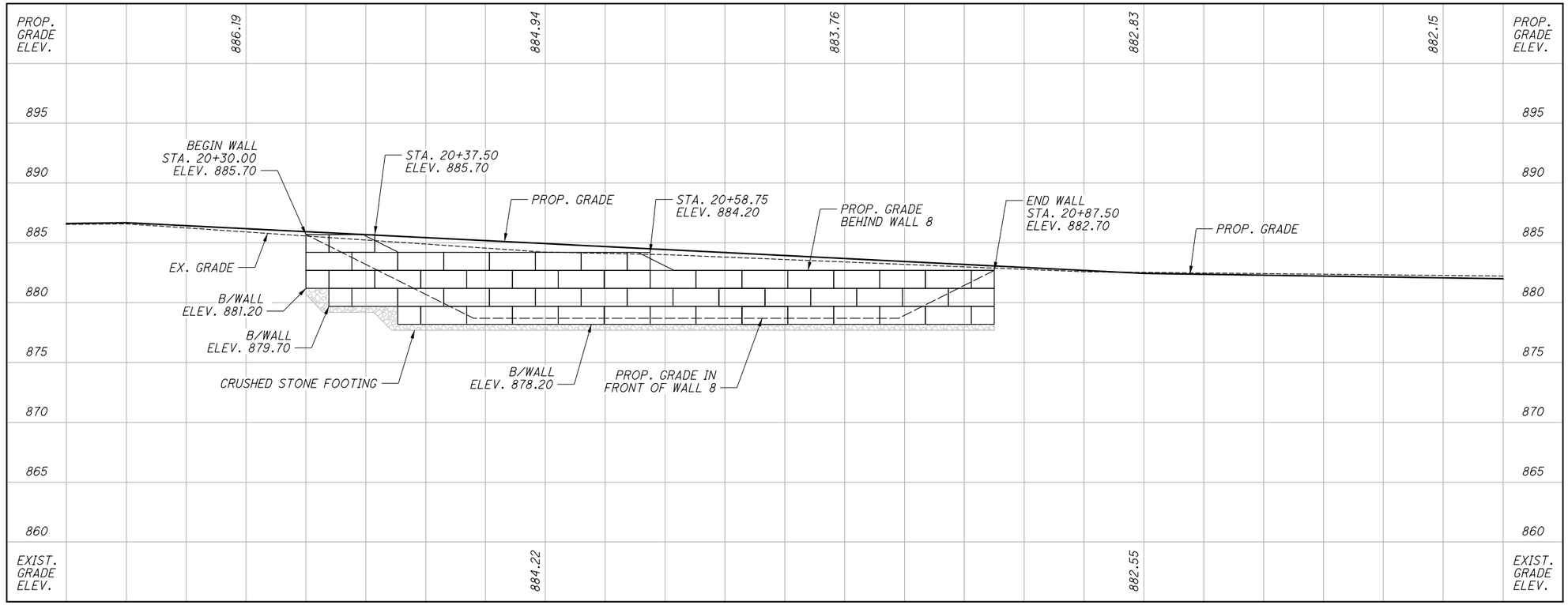


PLAN



PROFILE

(ALONG ℄ PROPOSED TRAIL)

DESIGN AGENCY
ONE EASTON OVAL
SUITE 400
COLUMBUS, OH 43219
T 614-476-6000
F 614-476-6225
WOLPERT
DESIGN | GEOTECHNICAL | INFRASTRUCTURE

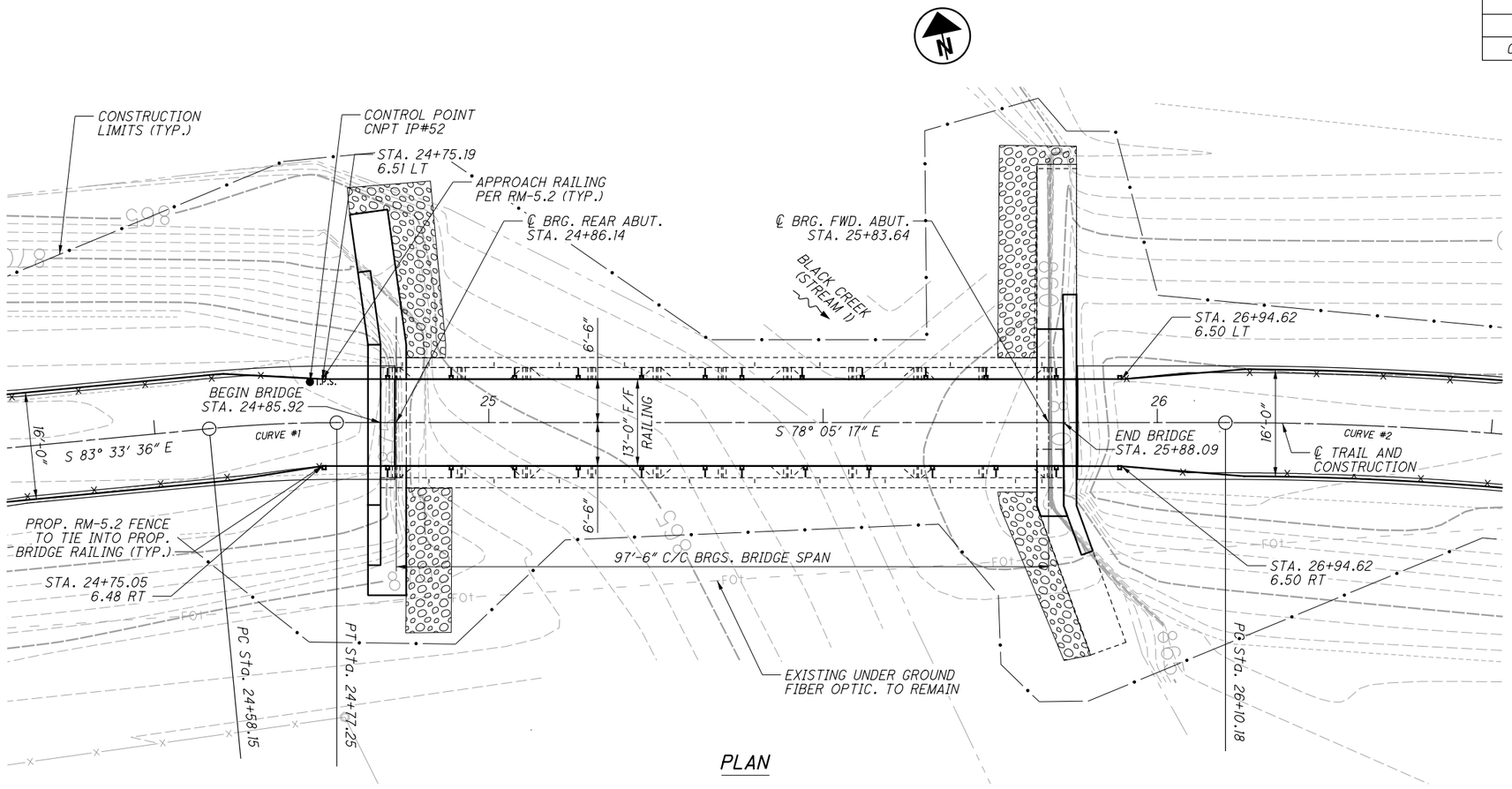
DESIGNED	DRAWN	REVIEWED	DATE
JYM	JYM	RKM	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TML		0	

WALL 8 PLAN AND PROFILE

HOLMES COUNTY TRAIL - PHASE 5C

HOL CO TRAIL
PHASE 5C.1

BENCHMARK DATA				
NAME	STATION	ELEVATION	NORTHING	EASTING
CNPT IP#52	24+73.37	878.013	310403.5	2080991.586



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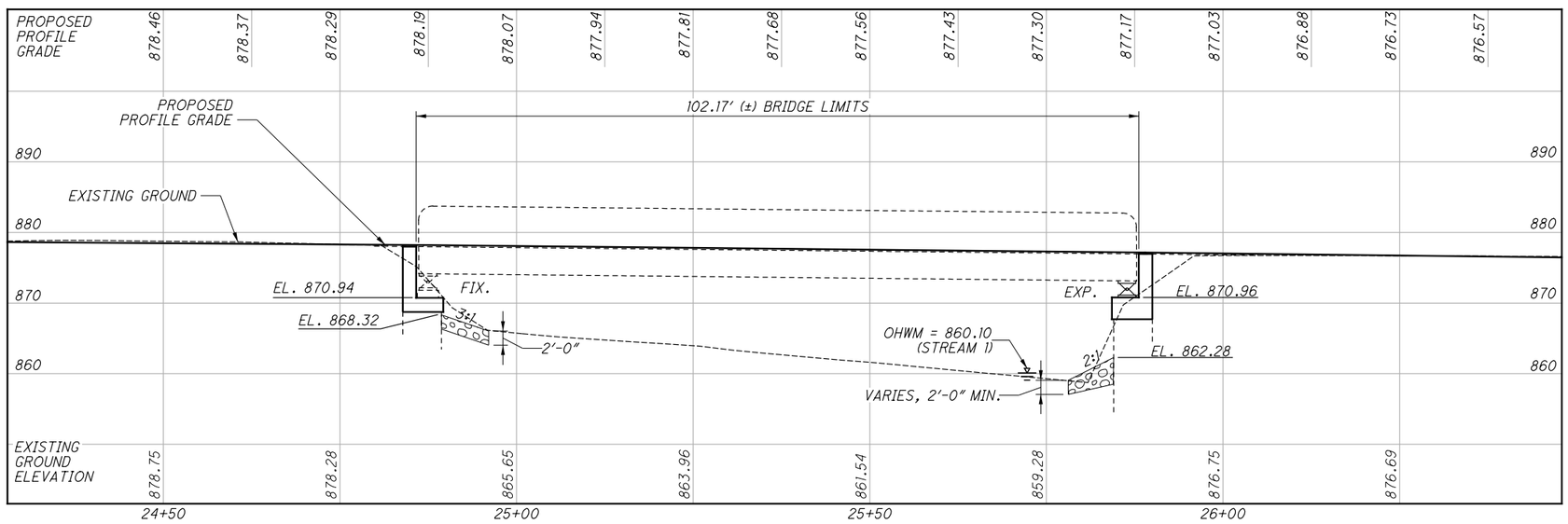

PROFILE ALONG ℄ TRAIL AND CONSTRUCTION

NOTES

1. ALL ELEVATIONS BASED ON NAVD88 DATUM
2. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

CURVE DATA

CURVE #1	CURVE #2
P.I. Sta. 24+67.71	P.I. Sta. 26+41.48
Δ = 5° 28′ 19″ (RT)	Δ = 7° 09′ 46″ (RT)
Dc = 28° 38′ 52″	Dc = 11° 27′ 33″
R = 200.00′	R = 500.00′
T = 9.56′	T = 31.29′
L = 19.10′	L = 62.51′
E = 0.23′	E = 0.98′
C = 19.09′	C = 62.47′
C.B. = S 80° 49′ 26″ E	C.B. = S 74° 30′ 23″ E

LEGEND

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC, 2′-0″ THICKNESS

HYDRAULIC DATA

DRAINAGE AREA = 18.1 SQ. MILES
Q (25) = 3510 CFS
Q (100) = 5120 CFS

EXISTING STRUCTURE

TYPE: STEEL THROUGH GIRDER ON CONCRETE WALL ABUTMENTS
SPANS: SINGLE SPAN 97′-6″± C/C BEARINGS
ROADWAY: NONE
LOADING: UNKNOWN
SKEW: NONE
ALIGNMENT: TANGENT
CROWN: N/A
COORDINATES: LATITUDE 40°31′04.53″
LONGITUDE 82°05′43.34″

PROPOSED STRUCTURE

PROPOSED WORK: CONSTRUCT NEW NAIL-LAMINATE TIMBER DECK WITH TIMBER RAILINGS AND REHABILITATE ABUTMENTS.
TYPE: STEEL THROUGH GIRDER ON CONCRETE WALL ABUTMENTS
SPANS: 97′-6″± C/C BEARINGS
ROADWAY: 13′-0″ F/F RAILING
LOADING: H15-44 AND 90 PSF PEDESTRIAN LOADING
SKEW: NONE
ALIGNMENT: TANGENT
CROWN: 0.02 FT/FT
COORDINATES: LATITUDE 40°31′04.53″
LONGITUDE 82°05′43.34″

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DESIGNED	DRAWN	REVIEWED	DATE
EJK	EJK	RBP	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JMF	XXX	0	

SITE PLAN
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 001 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD DRAWING(S):

RB-1-55 REVISED 07-19-2013
RM-5.2 DATED 01-18-2019
DS-1-92 REVISED 07-15-2022

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800 DATED 07-21-2023
846 DATED 04-17-2015

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LFRD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020, AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING

DESIGN LOADING:
H15-44 TRUCK LOAD AND PEDESTRIAN 90 PSF LOAD

DESIGN DATA

CONCRETE CLASS QC1
-COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL
-MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL
-ASTM A709 GRADE 36, GALVANIZED PER CMS 711.02

TIMBER
-NO. 2 GRADE SOUTHERN PINE (DECK AND RAILING)

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05.

REMOVE CONCRETE 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 THE REBUILT STRUCTURE.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (CONT.)

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH 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 519 - PATCHING CONCRETE STRUCTURES, 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.

ITEM 517, RAILING, TIMBER, AS PER PLAN

PAYMENT FOR THIS ITEM 517, RAILING, TIMBER, AS PER PLAN SHALL INCLUDE TIMBER RAILS AND POSTS, RAILING DIAPHRAGM CHANNELS, ANGLES, AND ALL CONNECTION ELEMENTS INCLUDING BOLTS, NUTS, AND WASHERS.

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

ITEM 690 - SPECIAL, REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS

THIS ITEM SHALL BE USED TO REINFORCE THE TRANSVERSE JOINT BETWEEN THE BRIDGE ABUTMENT AND APPROACH ASPHALT. PLACE REINFORCING JOINT MESH AS SHOWN, 3'-0" WIDE. THE MESH DOES NOT NEED TO BE CENTERED AND SHALL NOT EXTEND INTO THE POLYMER MODIFIED EXPANSION JOINT. BOND THE AREA OF THE JOINT MESH TO THE TOP OF THE BRIDGE ABUTMENT CONCRETE USING AN EPOXY ADHESIVE. COORDINATE WITH JOINT MESH MANUFACTURER TO DETERMINE A COMPLIANT EPOXY WITH NO DELETERIOUS EFFECTS ON THE MESH. THE TOP SURFACE OF CONCRETE SHALL BE CLEANED TO PROVIDE ADEQUATE SUBSTRATE FOR BONDING. AFTER CURING OF THE EPOXY APPLY A TACK COAT TO MAXIMIZE BOND BETWEEN THE JOINT MESH AND ASPHALT. PLACE ASPHALT AS SHOWN ON TRAIL PLANS. WHERE THE JOINT MESH IS PLACED AT MID-THICKNESS OF THE ASPHALT SECTION PAVE TO THE NEAREST LIFT THICKNESS BEFORE INSTALLING THE JOINT MESH, THEN CONTINUE WITH ASPHALT PAVING. THE REINFORCED JOINT MESH MATERIAL SHALL BE GLASGRID 8512 OR MACGRID AR 20.7. THE REINFORCED JOINT MESH AND A TACK COAT SHALL BE PLACED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

PAYMENT FOR THE REINFORCED JOINT MESH, EPOXY CONCRETE ADHESIVE, TACK COAT, AND ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO COMPLETE THE WORK SHALL BE PAID FOR AS A PRICE PER SQUARE YARD UNDER ITEM 690 SPECIAL - REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS.

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 C&MS, 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.

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.

PLAN ABBREVIATIONS

ABUT.	= ABUTMENT
BRG.	= BEARING
c/c	= CENTER TO CENTER
CLR.	= CLEAR COVER
CONST.	= CONSTRUCTION
C.J.	= CONSTRUCTION JOINT
E.F.	= EACH FACE
EL.	= ELEVATION
F/F	= FACE TO FACE
F.A.	= FORWARD ABUTMENT
F.F.	= FAR FACE
℄	= FLOW LINE
FWD.	= FORWARD
M.N.S.	= MAGNETIC NAIL SET
N.F.	= NEAR FACE
N.P.C.P.P.	= NON-PERFORATED CORRUGATED PLASTIC PIPE
P.C.P.P.	= PERFORATED CORRUGATED PLASTIC PIPE
PEJF	= PREFORMED EXPANSION JOINT FILLER
P.G.	= PROFILE GRADE
R.A.	= REAR ABUTMENT
SCD	= STANDARD CONSTRUCTION DRAWING
STA.	= STATION
TYP.	= TYPICAL

DESIGN AGENCY
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Environment / Energy / Infrastructure

DESIGNED	DRAWN	REVIEWED	DATE
KAF	EJK	RBP	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JMF	XXX	0	

GENERAL NOTES
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 001 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

ESTIMATED QUANTITIES

CALC. BY: JRS DATE: 02/22/21
CHKD. BY: KAF DATE: 05/14/21

ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	REAR ABUTMENT	FORWARD ABUTMENT	SUPER-STRUCTURE	GENERAL	REF. SHEET NUMBER
202	11201	1	LS	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN				1	2/13
407	10000	2	GAL	TACK COAT				2	
441	50000	5	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22			5		
441	50300	10	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)			10		
503	11100	1	LS	COFFERDAMS AND EXCAVATION BRACING				1	
503	21100	39	CY	UNCLASSIFIED EXCAVATION	21	18			
509	10000	4,835	LB	EPOXY COATED REINFORCING STEEL	3,054	1,770			
509	20001	50	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				50	2/13
510	10000	142	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	88	54			
511	45710	79	CY	CLASS QC1 CONCRETE, ABUTMENT	44	35			
512	10100	202	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	112	90			
512	33011	148	SY	TYPE 3 WATERPROOFING, AS PER PLAN				148	7/13
513	10200	388	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF	194	194			
516	25000	287	SF	NYLON REINFORCED NEOPRENE SHEETING				287	
516	46200	2	EACH	BEARING DEVICE, ROCKER		2			
516	46700	2	EACH	RESET BEARING	2				
516	47000	1	LS	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE			1		
517	74001	200	FT	RAILING, TIMBER, AS PER PLAN			200		2/13, 12/13
518	21200	54	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	27	27			
518	22300	205	FT	SPECIAL - STEEL DRIP STRIP			205		
518	40000	81	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	44	37			
518	40012	27	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE	10	17			
519	11101	40	SF	PATCHING CONCRETE STRUCTURES, AS PER PLAN	20	20			2/13
530	10700	11	MFBM	SPECIAL - STRUCTURES, TIMBER DECKING			11		12/13
601	32200	69	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER				69	
607	98000	40	FT	FENCE, MISC.: WOOD FENCE			40		
690	12050	9	SY	SPECIAL - REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS	4.5	4.5			2/13
846	00110	14	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM				14	

NOTE: ITEMS 203, 407, 441, AND 601 HAVE BEEN CARRIED TO THE ROADWAY AND DRAINAGE QUANTITIES (RESPECTIVELY) OF THE GENERAL SUMMARY AND COST ESTIMATE PER L&D VOL. 3, SECTION 1307. ALL OTHER QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY AS STRUCTURES QUANTITIES.

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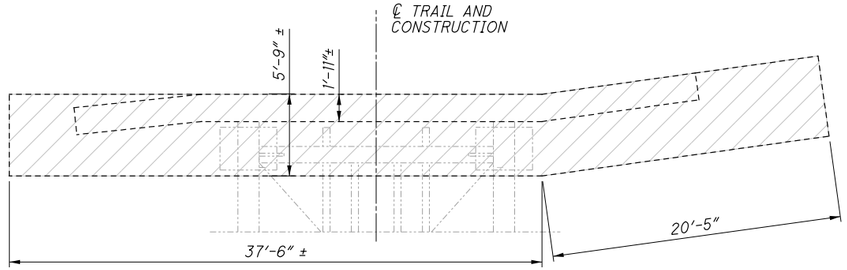
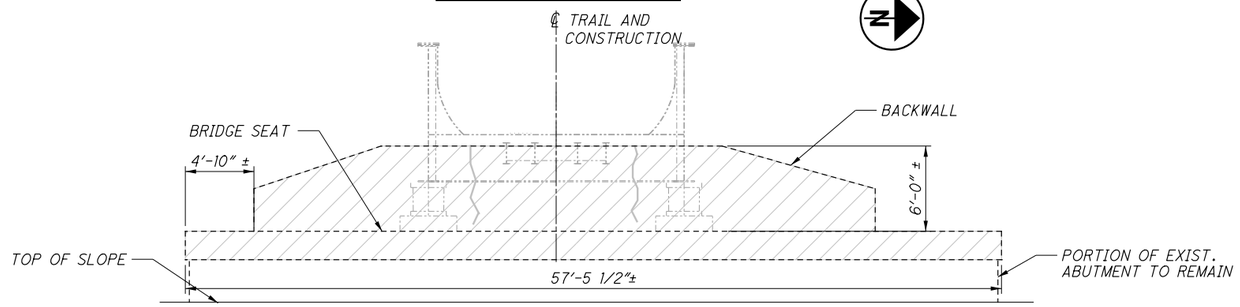
DESIGNED KAF | DRAWN JRS | REVIEWED RBP | DATE 09/2021
CHECKED BWR | REVISED XXX | STRUCTURE FILE NUMBER 0

ESTIMATED QUANTITIES
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 001 - TRAIL OVER BLACK CREEK

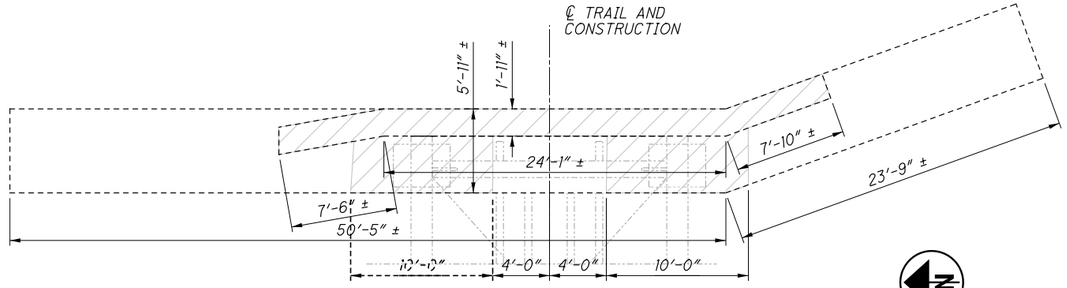
HOL-CO-TRAIL-5C1
PID No. 86052



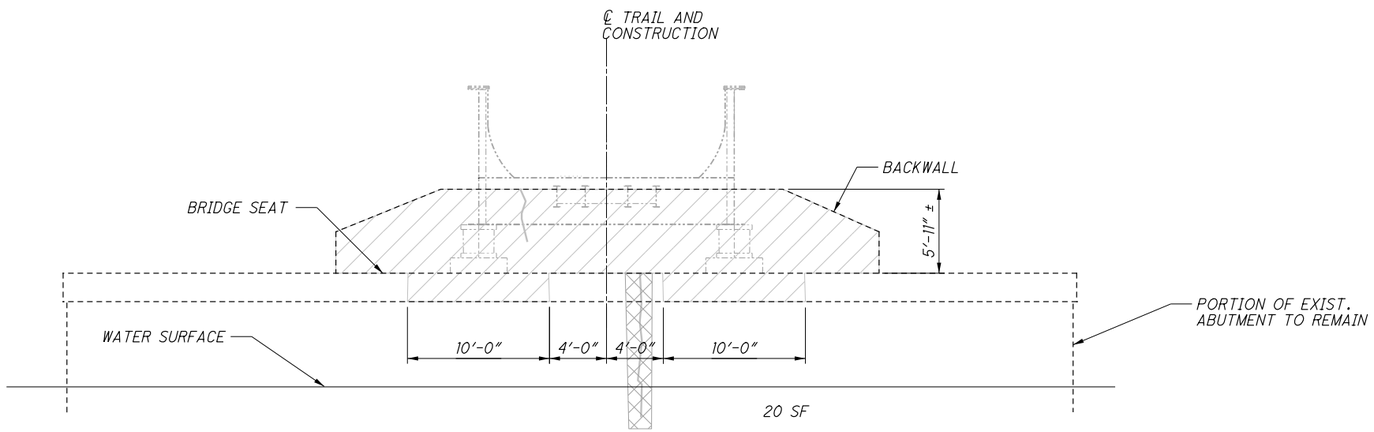
REAR ABUTMENT PLAN



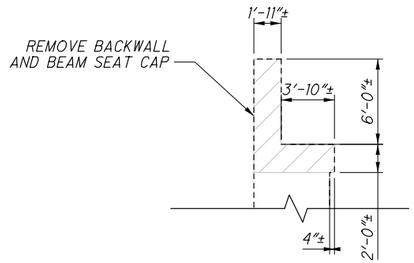
REAR ABUTMENT ELEVATION



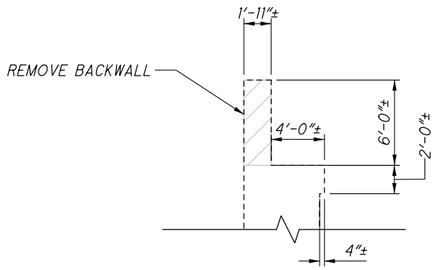
FORWARD ABUTMENT PLAN



FORWARD ABUTMENT ELEVATION



REMOVAL SECTION - INCLUDING BEAM SEAT



BACKWALL REMOVAL SECTION

LEGEND

REMOVAL OF CONCRETE PER ITEM 202- PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

PATCH CONCRETE PER ITEM 519- PATCHING CONCRETE STRUCTURE, AS PER PLAN

NOTES

1. CONTRACTOR TO DESIGN TEMPORARY SUPPORT FOR SUPERSTRUCTURE. TEMPORARY SUPPORT SHALL PROVIDE 3" VERTICAL JACKING OF THE SUPERSTRUCTURE FOR REMOVAL OF THE EXISTING BEARINGS. REAR BEARINGS TO BE REMOVED WITH CARE FOR THEIR REUSE. FORWARD ABUTMENT BEARINGS TO BE REMOVED FOR REPLACEMENT. PAYMENT FOR ALL WORK, MATERIALS AND LABOR ASSOCIATED IN THE TEMPORARY SUPPORT AND JACKING OF THE SUPERSTRUCTURE WILL BE PAID UNDER THE UNIT PRICE BID FOR ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE.

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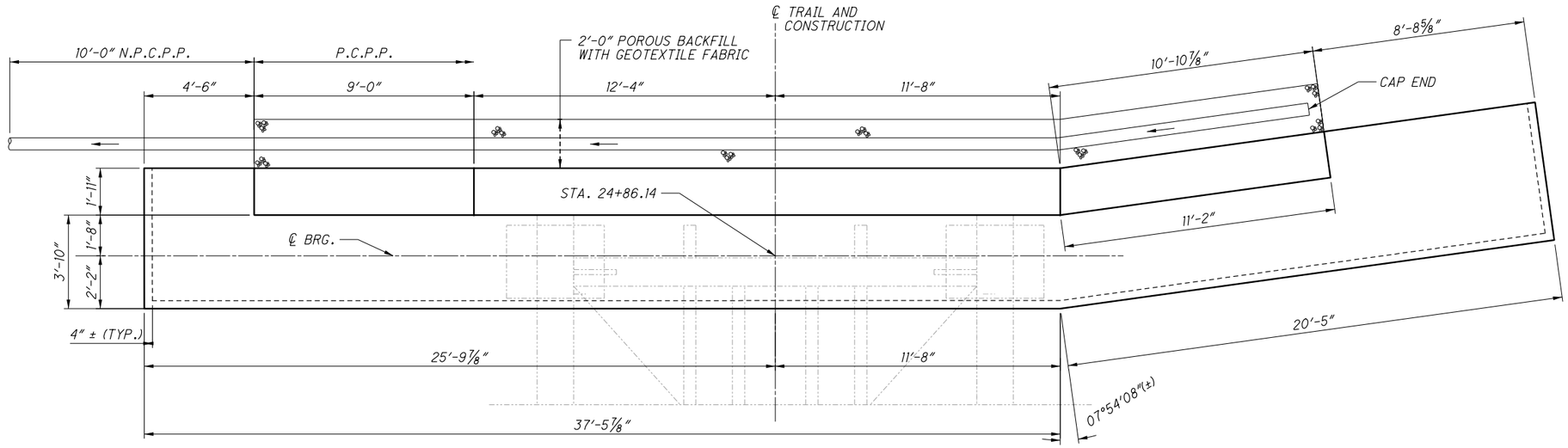
DESIGNED	DRAWN	REVIEWED	DATE
KAF	EJK	RBP	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
IMF	XXX	0	

ABUTMENT REMOVAL DETAILS

HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 001 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

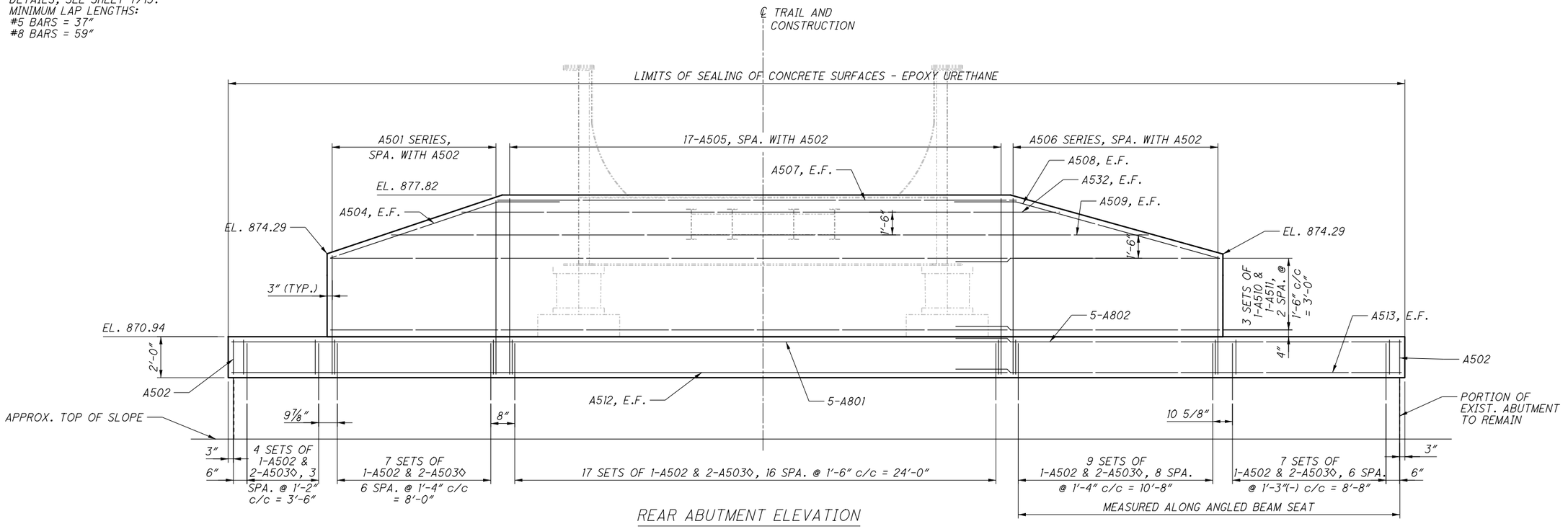


REAR ABUTMENT PLAN

NOTES:
1. DOWEL INTO EXISTING CONCRETE SHOWN A MINIMUM OF 1'-0", AS PER CMS 510, AND AS REQUIRED BY THE GROUT MANUFACTURER FOR THE GIVEN BAR DIAMETER.
2. PROVIDE THE REQUIRED CONCRETE COVER/EDGE DISTANCE AS REQUIRED BY THE GROUT MANUFACTURER FOR GIVEN BAR DIAMETER
3. FOR ABUTMENT SECTIONS AND ADDITIONAL ABUTMENT DETAILS, SEE SHEET 7/13.
4. MINIMUM LAP LENGTHS:
   #5 BARS = 37"
   #8 BARS = 59"

LEGEND

◇ DOWEL BAR INTO EXISTING CONCRETE A MINIMUM DEPTH 1'-0"



REAR ABUTMENT ELEVATION

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DESIGNED	DRAWN	REVIEWED	DATE
KAF	IMF	RBP	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JRS	XXX	0	

REAR ABUTMENT REPAIR DETAILS
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 001 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

5 / 13

93
127

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NOTES

1. DOWEL INTO EXISTING CONCRETE SHOWN A MINIMUM OF 1'-0", AS PER CMS 510, AND AS REQUIRED BY THE GROUT MANUFACTURER FOR THE GIVEN BAR DIAMETER.
2. PROVIDE THE REQUIRED CONCRETE COVER/EDGE DISTANCE AS REQUIRED BY THE GROUT MANUFACTURER FOR GIVEN BAR DIAMETER
3. FOR ABUTMENT SECTIONS AND ADDITIONAL ABUTMENT DETAILS, SEE SHEET 7/13.
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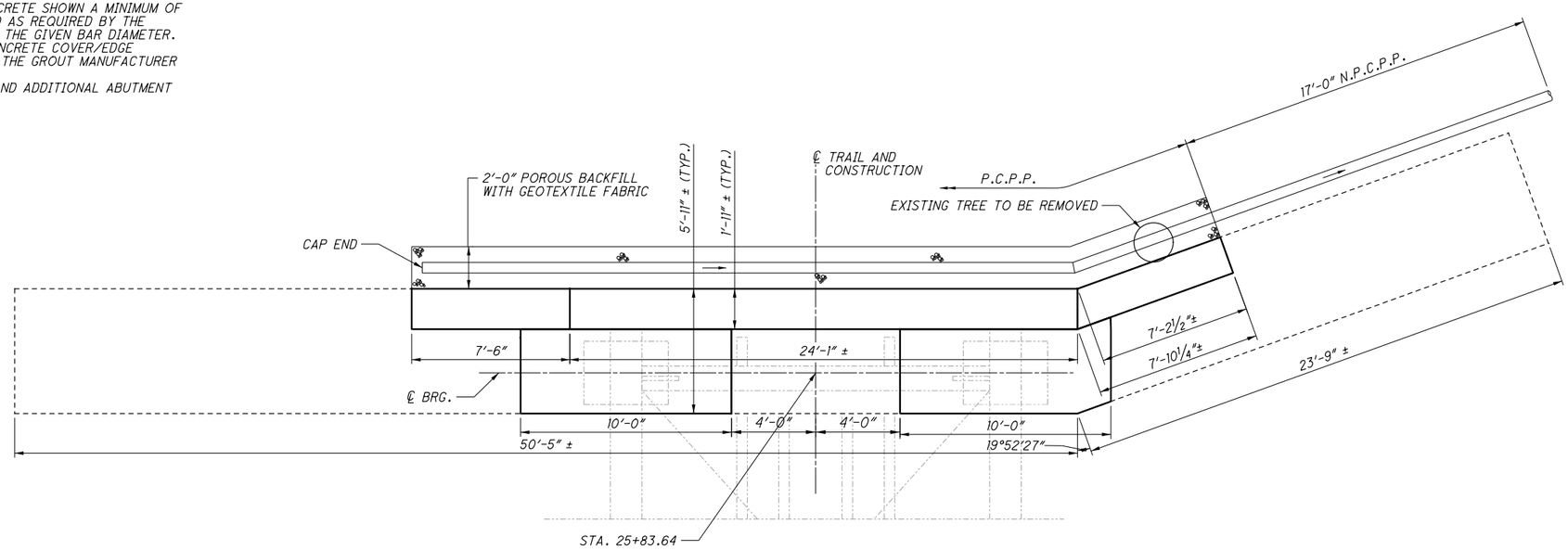


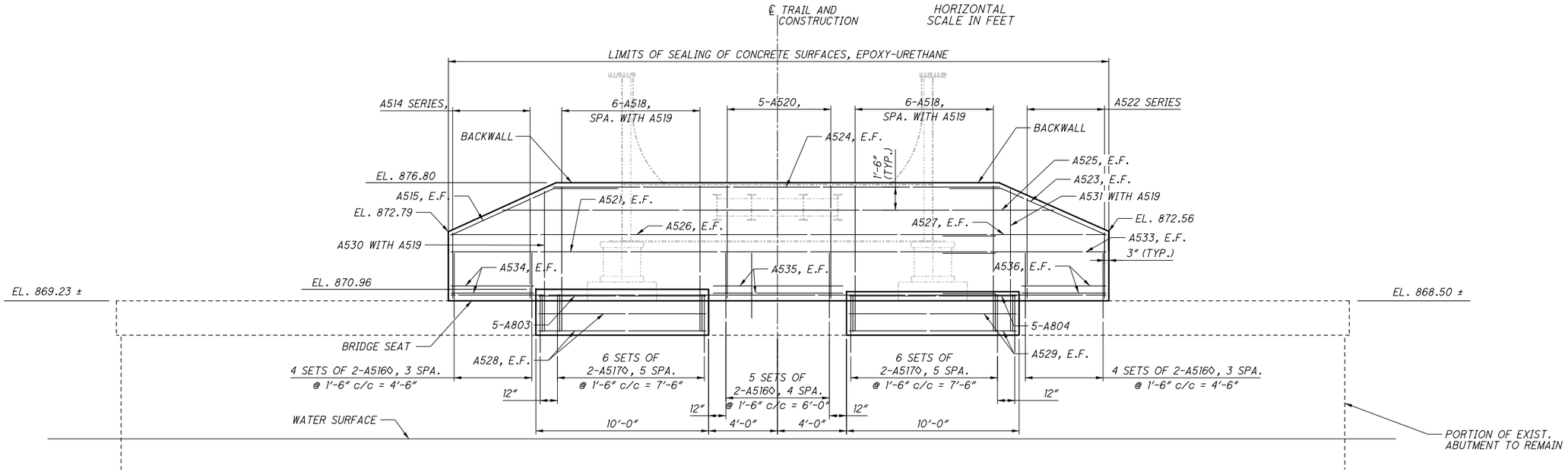
FORWARD ABUTMENT PLAN

LEGEND

◊ DOWEL BAR INTO EXISTING CONCRETE A MINIMUM DEPTH 1'-0"

0 3 2.5 6

HORIZONTAL SCALE IN FEET



FORWARD ABUTMENT ELEVATION

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
IMF	XXX	0	

FORWARD ABUTMENT REPAIR DETAILS
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 001 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

6 / 13

94 / 127

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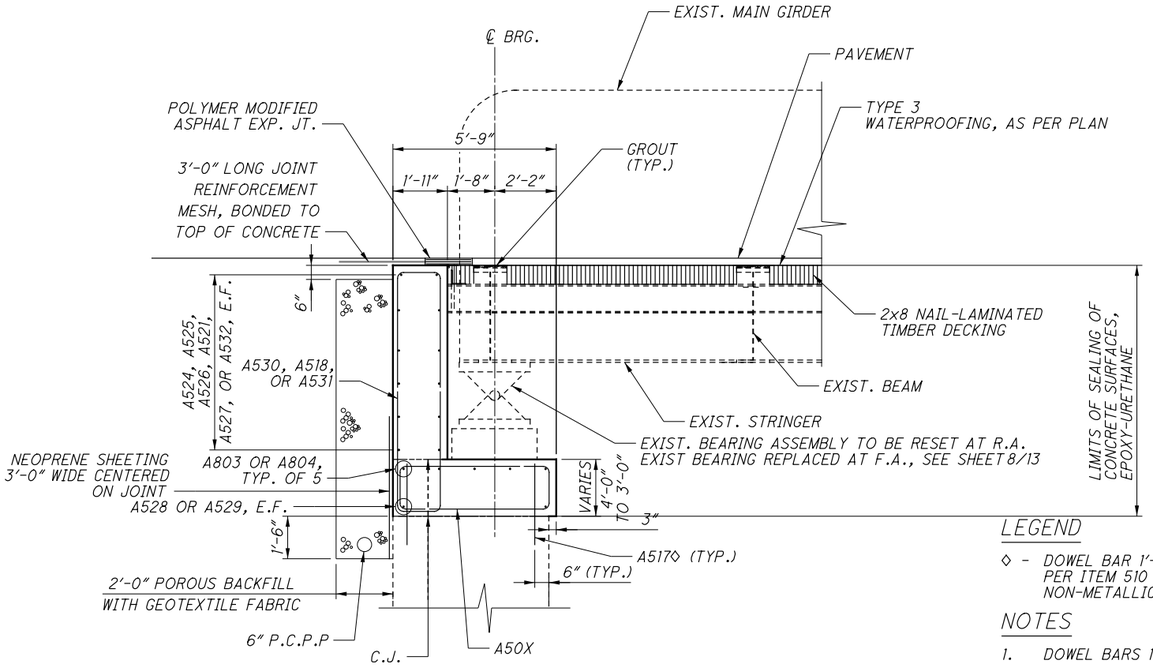
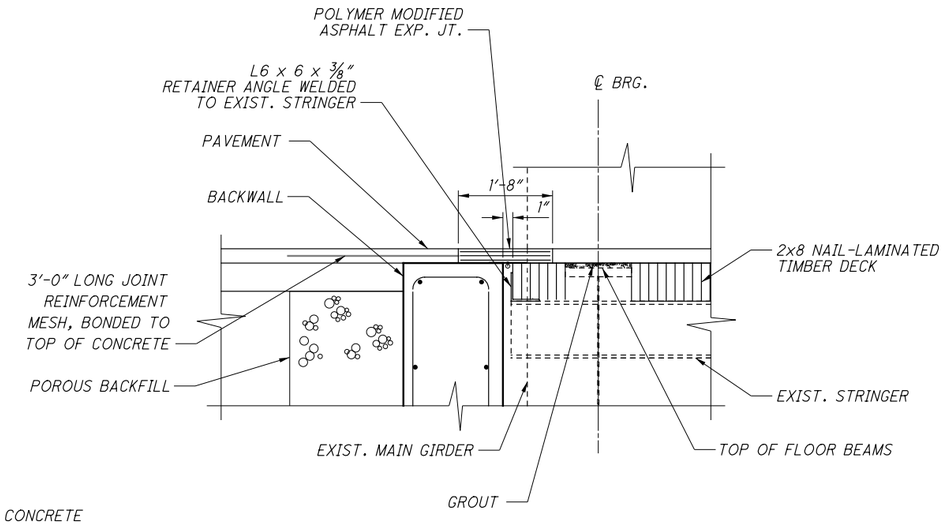


TYPICAL ABUTMENT REPAIRED SECTION



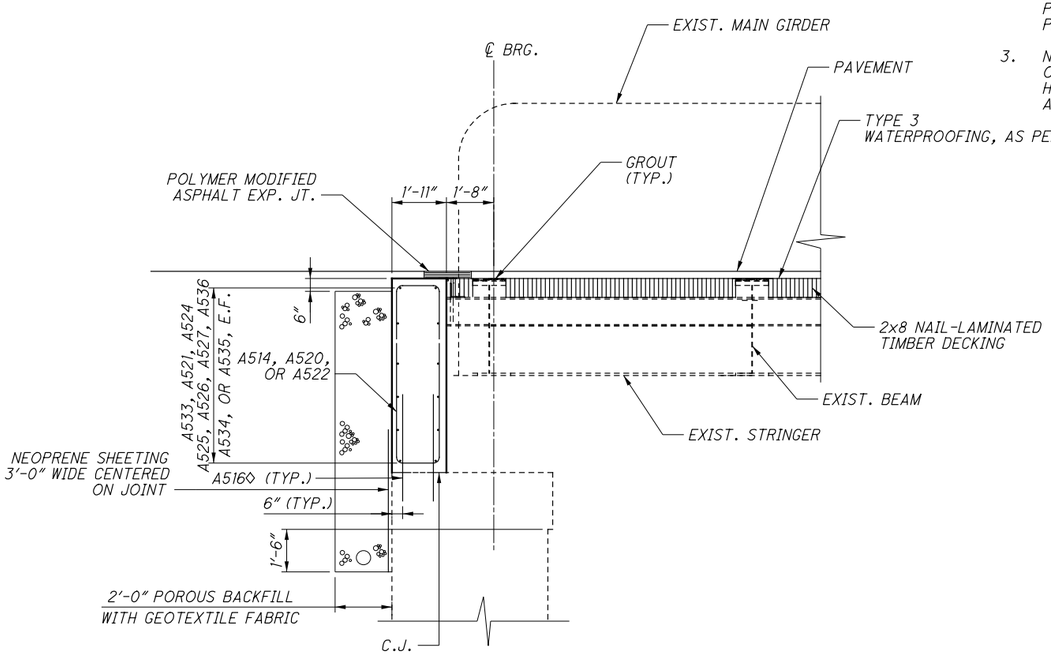
TYPICAL JOINT SECTION

LEGEND

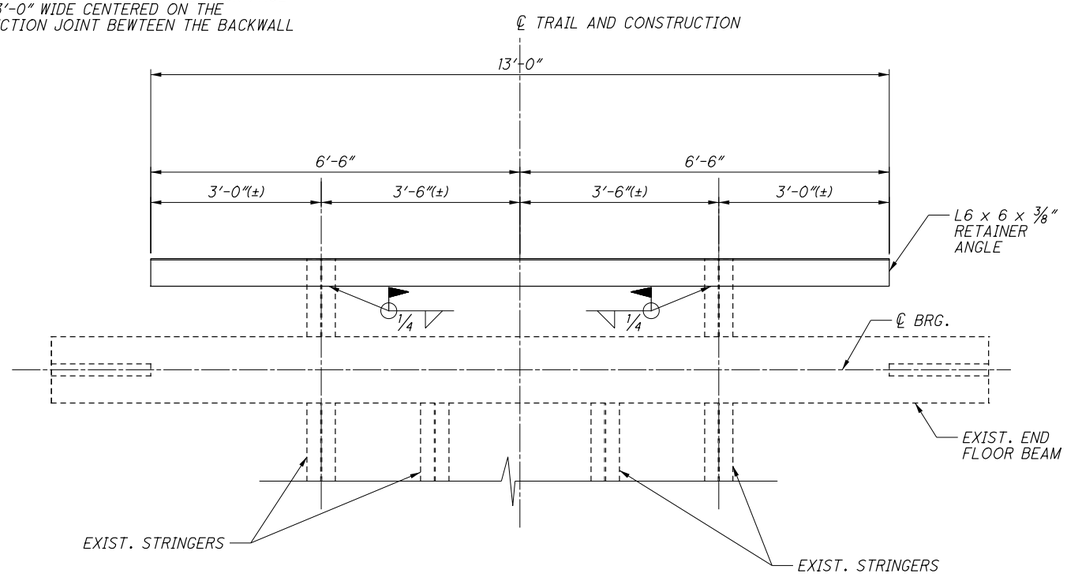
◊ - DOWEL BAR 1'-0" MIN. INTO EXISTING CONCRETE PER ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT

NOTES

1. DOWEL BARS 1'-0" MINIMUM INTO EXISTING CONCRETE.
2. FILL VOID BETWEEN DECK TIMBERS AND ABOVE TOP OF EXISTING FLOORBEAMS, WITH GROUT CONFORMING TO CMS 510 NON-SHRINK NON-METALLIC GROUT. STRIKE OFF GROUT AT THE TOP OF THE DECK TIMBERS TO PROVIDE A SMOOTH SURFACE FOR INSTALLING THE TYPE 3 WATERPROOFING. INCLUDE ALL WORK, MATERIALS, AND INCIDENTALS FOR PAYMENT WITH ITEM 512 - TYPE 3 WATERPROOFING, AS PER PLAN.
3. NEOPRENE SHEETING SHALL EXTEND ALONG THE BACK FACE OF THE ABUTMENTS, 3'-0" WIDE CENTERED ON THE HORIZONTAL CONSTRUCTION JOINT BEWTEEN THE BACKWALL AND BREAST WALL.



TYPICAL BACKWALL REPAIRED SECTION



PARTIAL PLAN

SHOWING RETAINER ANGLE PLACEMENT, TYP. AT BOTH ABUTMENTS

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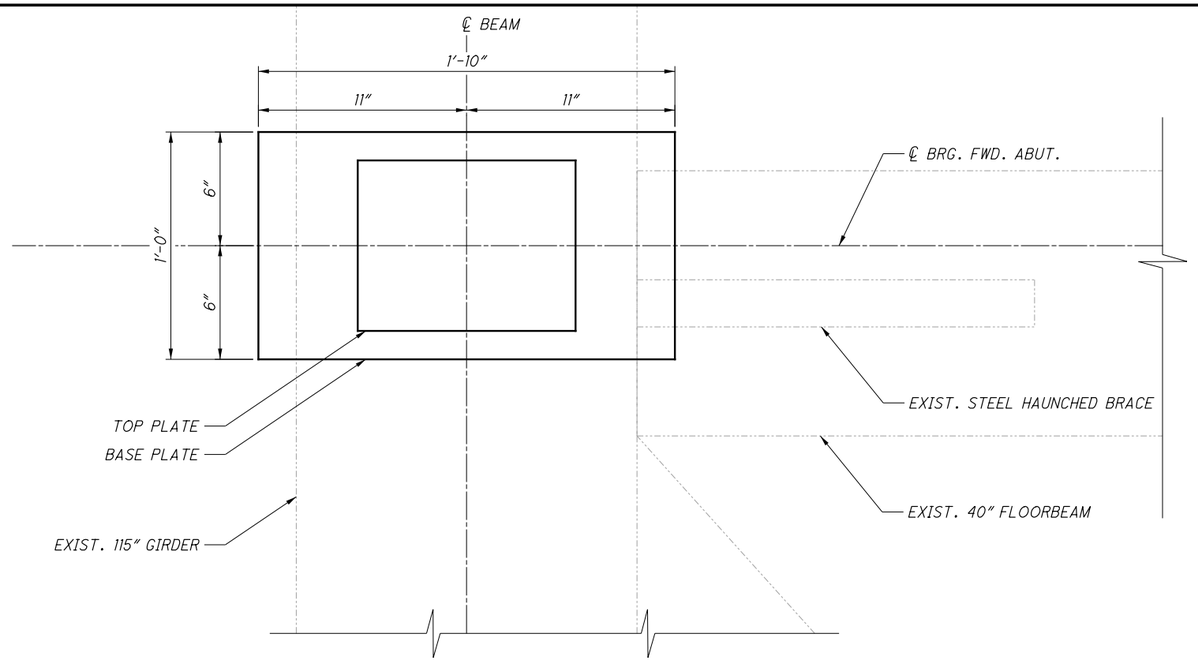
ABUTMENT REPAIR DETAILS
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 001 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052



BEARING PARTIAL PLAN VIEW

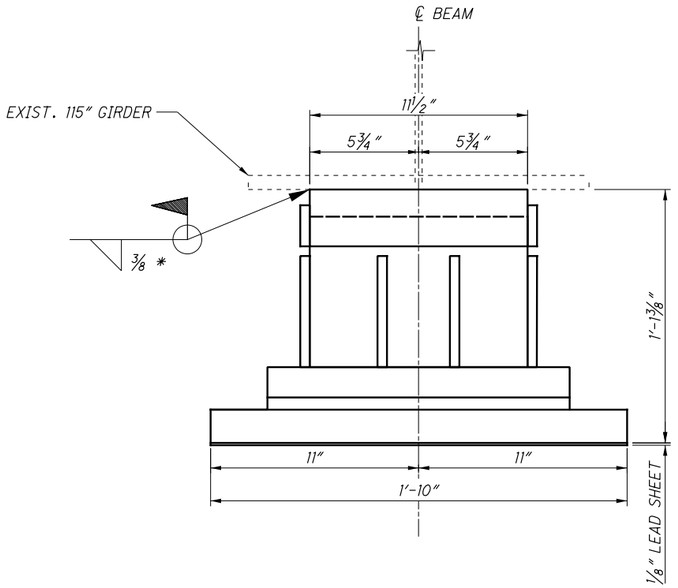
NOTES

1. BEARING DESIGN LOADS:

DEAD LOADS:	59.7 KIPS
LIVE LOADS:	29.6 KIPS
TOTAL DESIGN LOADS:	89.3 KIPS

2. ROCKER BEARINGS SHALL CONFORM TO THE STANDARD DRAWING RB-1-55, AND BE FABRICATED WITH ASTM A36 STEEL GALVANIZED.

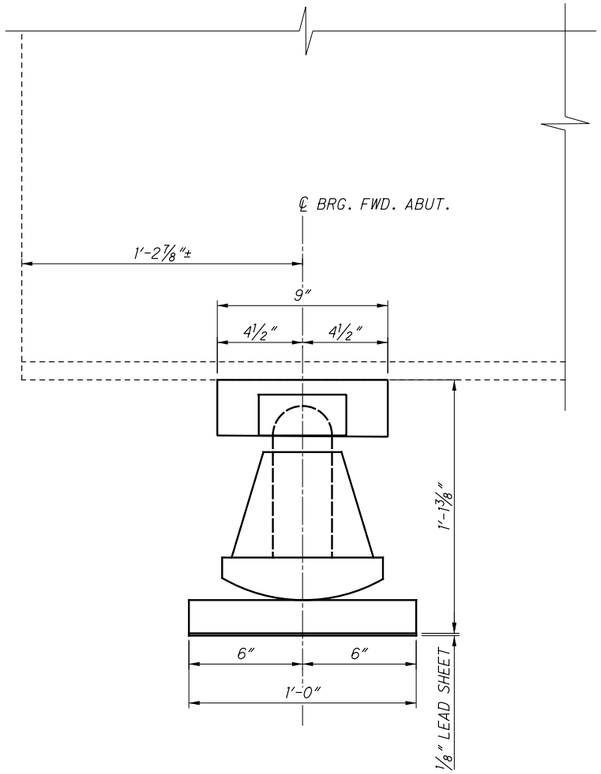
3. BASIS OF PAYMENT: THE UNIT PRICE BID SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE STEEL ROCKER BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516 - BEARING DEVICE, ROCKER (R-150).



BEARING ELEVATION VIEW

R-150 STEEL BEARING, 2 REQUIRED

* AREA TO BE WELDED SHOULD NOT BE GALVANIZED. ONCE WELDING IS COMPLETE, COVER ALL EXPOSED STEEL WITH COLD GALVANIZED.



BEARING SECTION VIEW

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BEARING DETAILS
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 001 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

8 / 13

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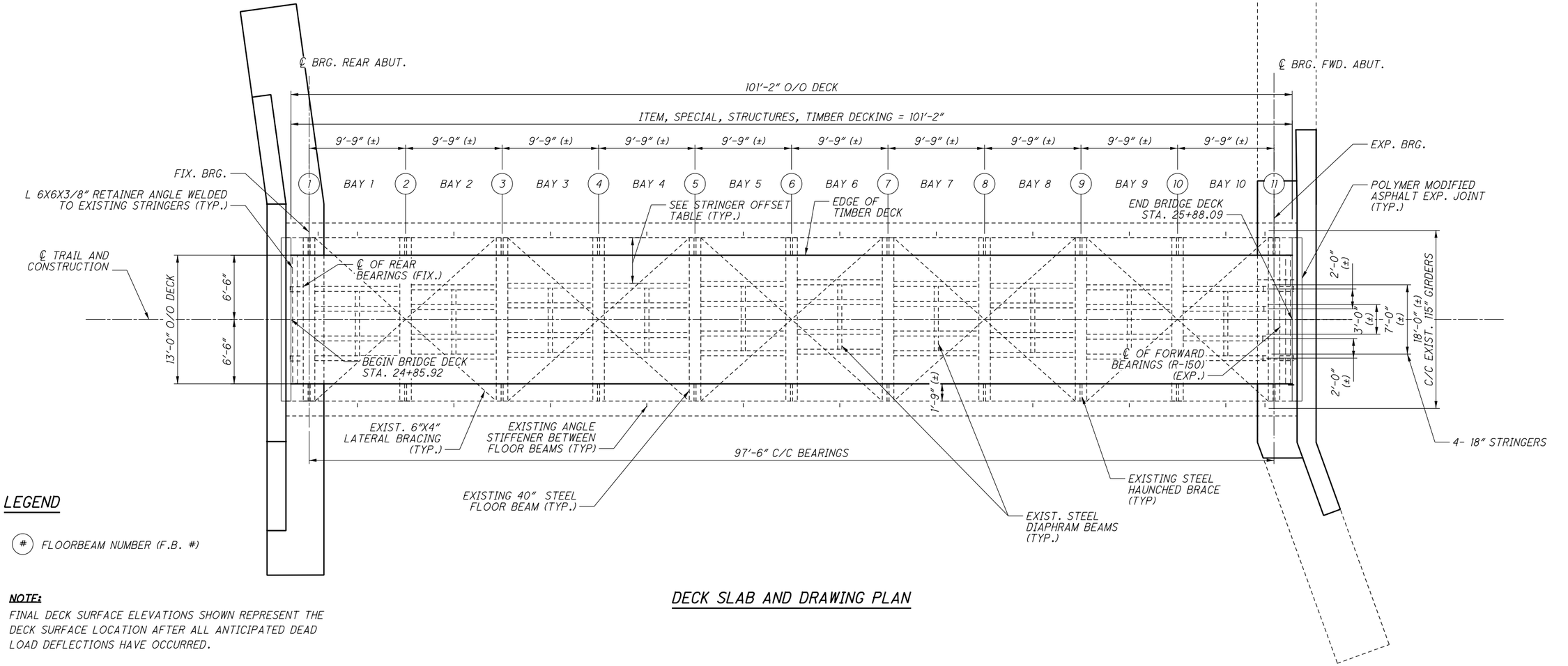

LEGEND

(#) FLOORBEAM NUMBER (F.B. #)

NOTE:

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

DECK SLAB AND DRAWING PLAN

STRINGER OFFSET

LOCATION	BAY 1	BAY 2	BAY 3	BAY 4	BAY 5	BAY 6	BAY 7	BAY 8	BAY 9	BAY 10
NORTH GIRDER	5'-8"±	5'-6"±	5'-4"±	5'-4"±	5'-5"±	5'-0"±	5'-2"±	5'-5"±	5'-6"±	5'-8"±

DECK ELEVATIONS

LOCATION		R.A.	F.B. 1	F.B. 2	F.B. 3	F.B. 4	F.B. 5	F.B. 6	F.B. 7	F.B. 8	F.B. 9	F.B. 10	F.B. 11	F.A.
LEFT EDGE OF DECK	STATION	24+85.50	24+86.16	24+95.91	25+05.66	25+15.41	25+25.16	25+34.91	25+44.66	25+54.41	25+64.16	25+73.91	25+83.66	25+84.33
	OFFSET	-6.50	-6.50	-6.50	-6.50	-6.50	-6.50	-6.50	-6.50	-6.50	-6.50	-6.50	-6.50	-6.50
	FINAL ELEVATION	878.09	878.08	877.99	877.89	877.79	877.69	877.59	877.49	877.39	877.29	877.19	877.09	877.08
PROFILE GRADE	STATION	24+85.50	24+86.16	24+95.91	25+05.66	25+15.41	25+25.16	25+34.91	25+44.66	25+54.41	25+64.16	25+73.91	25+83.66	25+84.33
	OFFSET	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	FINAL ELEVATION	878.22	878.21	878.12	878.02	877.92	877.82	877.72	877.62	877.52	877.42	877.32	877.22	877.21
RIGHT EDGE OF DECK	STATION	24+85.50	24+86.16	24+95.91	25+05.66	25+15.41	25+25.16	25+34.91	25+44.66	25+54.41	25+64.16	25+73.91	25+83.66	25+84.33
	OFFSET	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
	FINAL ELEVATION	878.09	878.08	877.99	877.89	877.79	877.69	877.59	877.49	877.39	877.29	877.19	877.09	877.08

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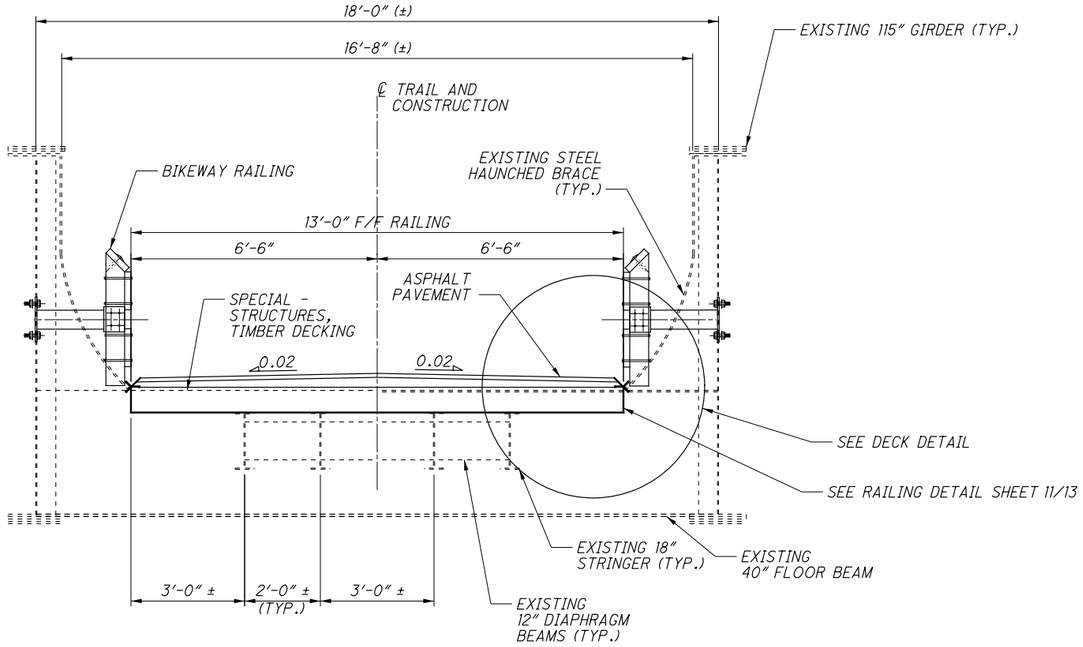
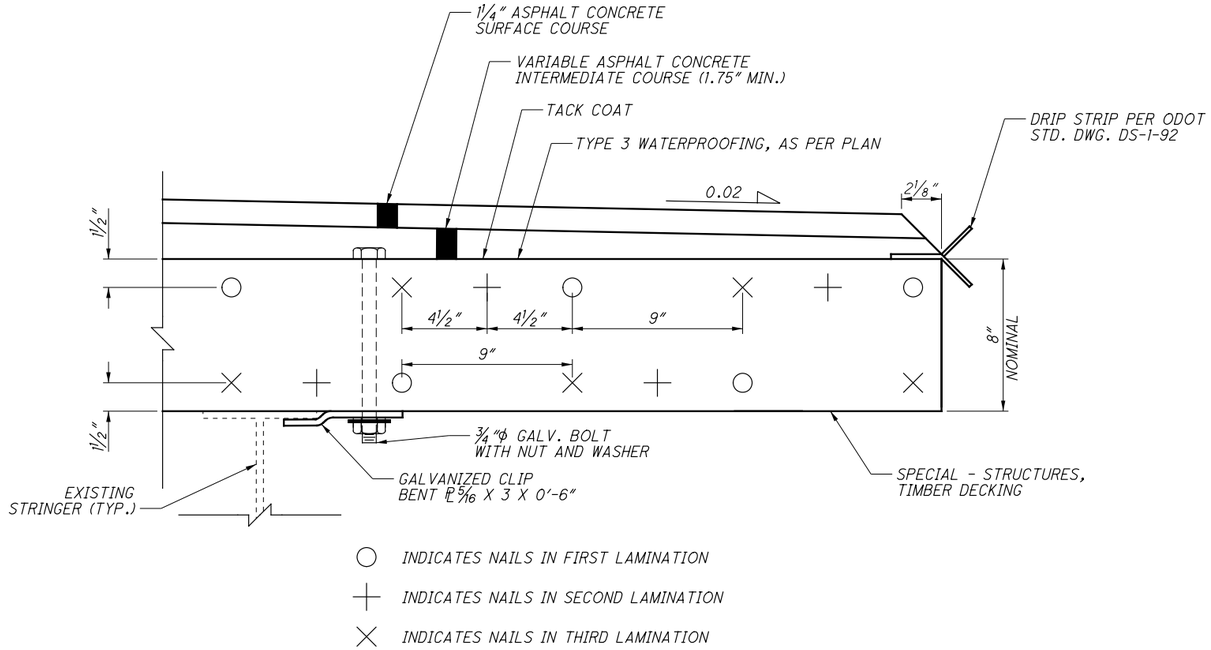
DECK AND FRAMING PLAN
HOLMES COUNTY - TRAIL PHASE 5C1
BRIDGE 001 - TRAIL OVER BLACK CREEK

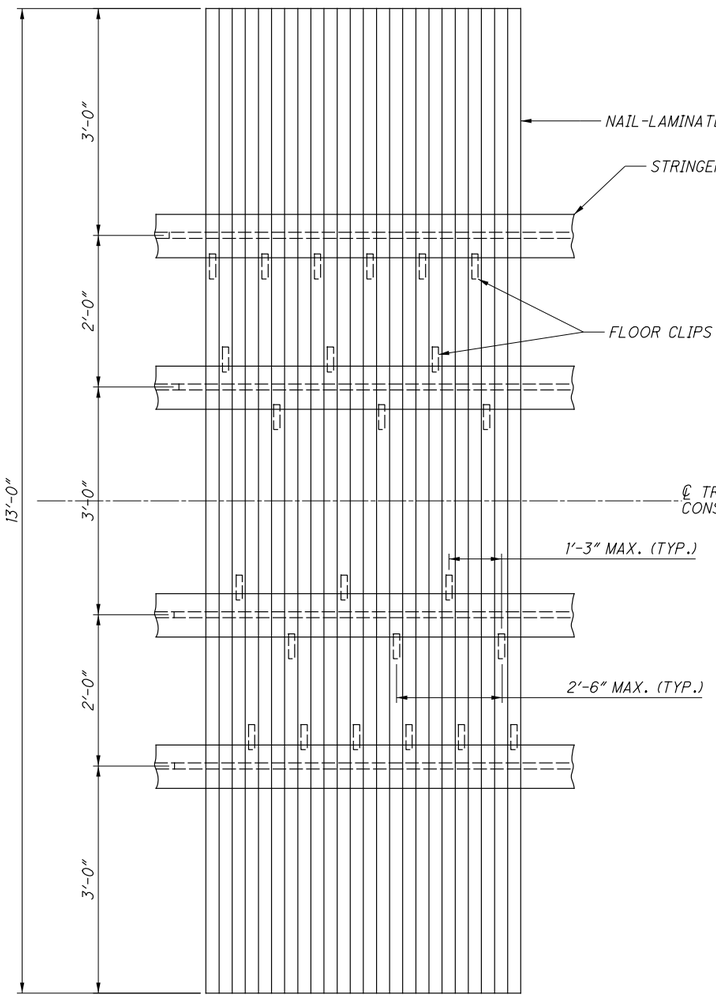
HOL-CO-TRAIL-5C1
PID No. 86052



TRANVERSE SECTION



DECK DETAIL



FLOOR CLIP LAYOUT

NOTES

1. FOR ADDITIONAL RAILING AND POST DETAILS, SEE SHEET 12/13
2. FOR DECK PLAN, SEE SHEET 9/13

NAIL SPECIFICATIONS

NAILS SHALL BE USED FOR CONNECTION TO MAIN STRUCTURAL TIMBER MEMBERS. THE LENGTH OF NAIL USED SHALL BE SUFFICIENT TO PROVIDE A MINIMUM OF 1½" PENETRATION INTO STRUCTURAL TIMBER/ MEMBER.

NAILS SHALL BE STAINLESS STEEL OR ZINC COATED STEEL. PRE-DRILLING OF LUMBER AND/OR STRUCTURAL TIMBER MAY BE REQUIRED TO AVOID SPLITTING OF THE WOOD.

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TRANSVERSE SECTION
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 001 - TRAIL BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

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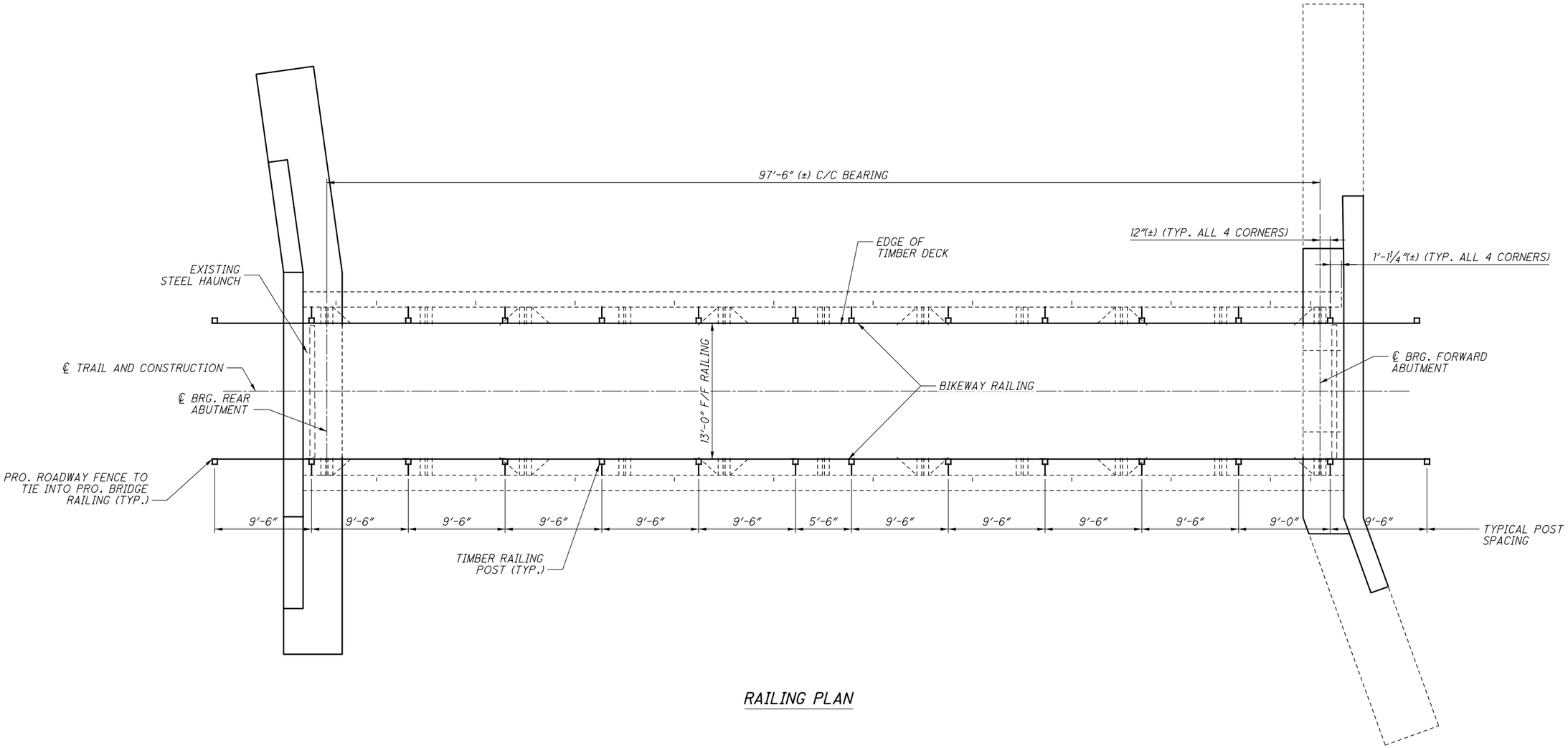

RAILING PLAN

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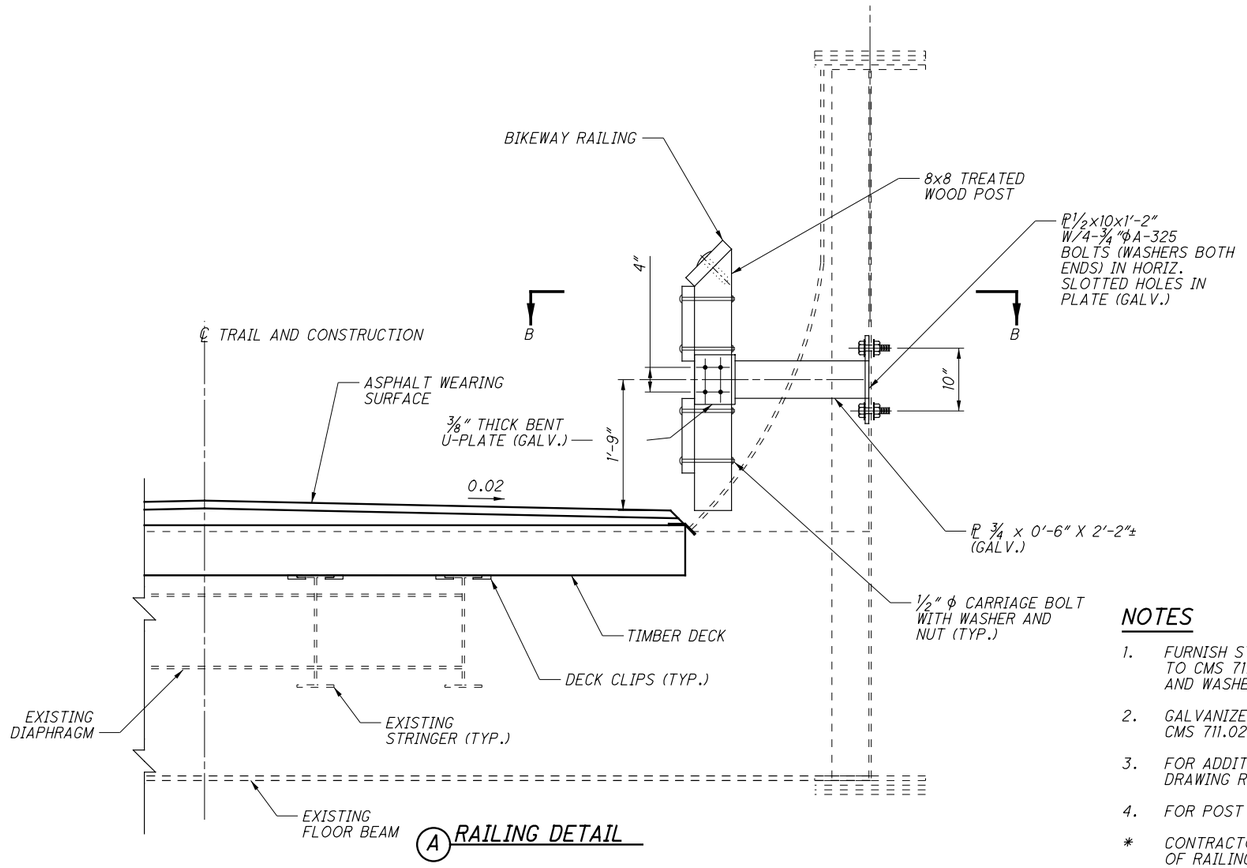
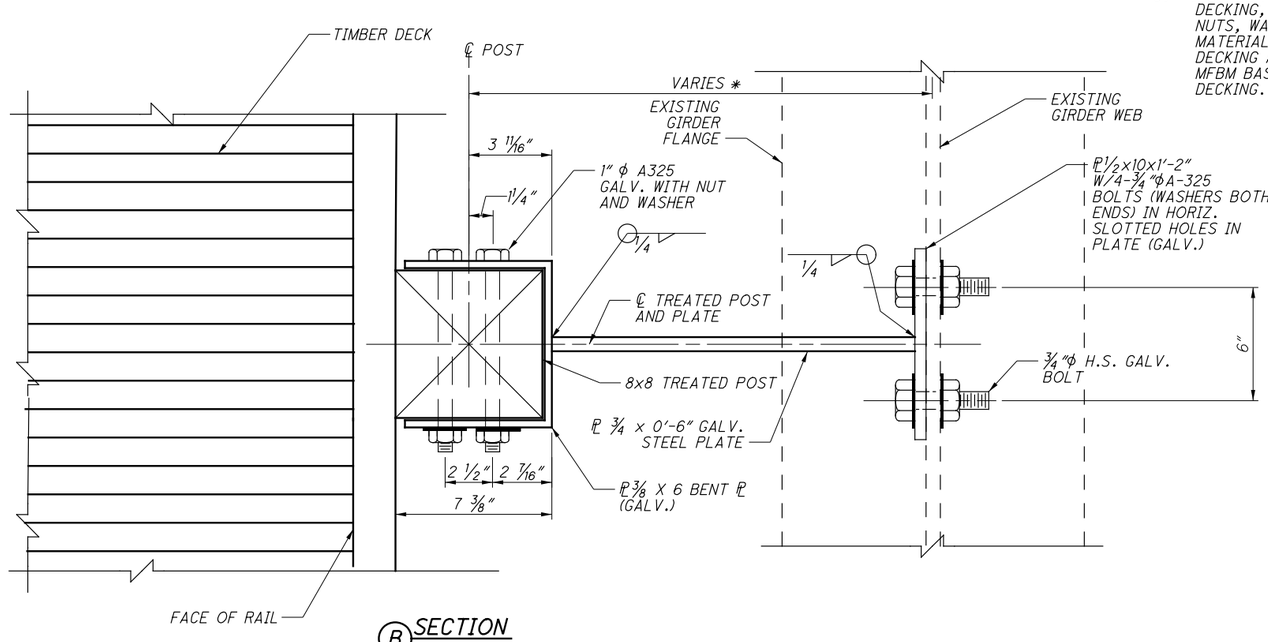
RAILING PLAN
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 001 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052



A RAILING DETAIL



B SECTION

NOTES

1. FURNISH STEEL PLATE AND BAR MATERIAL ACCORDING TO CMS 711, GRADE 36. THREADED RODS, BOLTS, NUTS, AND WASHERS SHALL CONFORM TO ASTM A325.
2. GALVANIZE ALL STEEL, HARDWARE AND ACCESSORIES PER CMS 711.02.
3. FOR ADDITIONAL BIKEWAY RAILING NOT SHOWN, SEE STANDARD DRAWING RM-5.2.
4. FOR POST LOCATIONS, SEE DECK PLAN ON SHEET 11/13

* CONTRACTOR SHALL FIELD VERIFY DIMENSION BEFORE FABRICATION OF RAILING BRACKETS

5. INSTALL NAIL LAMINATED TIMBER DECKING AS SHOWN. PAYMENT FOR DECKING, INCLUDING THE TIMBER, NAILS AND FASTENERS, BOLTS, NUTS, WASHERS, CLIP CONNECTORS, AND ANY OTHER INCIDENTALS, MATERIALS, EQUIPMENT, AND LABOR REQUIRED TO INSTALL THE DECKING AND COMPLETE THE WORK SHALL BE PAID FOR ON THE MFBM BASIS FOR ITEM 530 SPECIAL - STRUCTURES, TIMBER DECKING.

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RAILING DETAILS
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 001 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

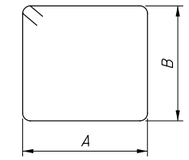
12 / 13

100 / 127

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
REAR ABUTMENT											
	1	13'-3"				4'-11"					
A501	SERIES OF	TO	125	3	1'-5"	TO					0'-7"
	7	20'-2"				8'-5"					
A502	46	14'-0"	672	3	5'-3"	1'-6"					
A503	88	2'-9"	253	STR							
A504	2	12'-5"	26	19	9'-6"	2'-10"	1'-2"				
A505	17	20'-1"	357	3	1'-5"	8'-4"					
	1	13'-3"				4'-11"					
A506	SERIES OF	TO	158	3	1'-5"	TO					0'-5"
	9	19'-11"				8'-3"					
A507	2	24'-0"	51	STR							
A508	2	14'-1"	30	19	11'-2"	2'-11"	0'-11"				
A509	2	39'-8"	83	19	29'-2"	10'-6"	1'-5"				
A510	6	32'-10"	206	STR							
A511	6	13'-8"	86	19	10'-8"	0'-5"	3'-1"				
A512	2	37'-3"	78	STR							
A513	2	23'-2"	49	19	20'-2"	0'-5"	3'-1"				
A532	2	26'-9"	56	19	25'-4"	0'-2"	1'-7"				
A801	5	37'-3"	498	STR							
A802	5	24'-10"	332	19	20'-2"	0'-8"	4'-10"				
		SUB-TOTAL	3060								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
FORWARD ABUTMENT											
	1	10'-0"				3'-4"					
A514	SERIES OF	TO	54	3	1'-5"	TO					0'-10"
	4	15'-0"				5'-10"					
A515	2	11'-2"	24	19	8'-2"	2'-9"	1'-6"				
A516	26	4'-1"	111	STR							
A517	28	4'-9"	139	STR							
A518	12	22'-1"	277	3	1'-5"	9'-4"					
A519	14	18'-1"	265	3	5'-3"	3'-6"					
A520	5	18'-2"	95	3	1'-5"	7'-5"					
A521	2	31'-4"	66	STR							
	1	10'-5"				3'-6"					
A522	SERIES OF	TO	55	3	1'-5"	TO					0'-10"
	4	15'-5"				6'-0"					
A523	2	9'-11"	21	19	7'-0"	2'-8"	1'-6"				
A524	2	24'-1"	51	STR							
A525	2	29'-7"	62	19	26'-7"	2'-11"	1'-1"				
A526	2	29'-7"	62	STR							
A527	2	8'-5"	18	19	5'-5"	2'-11"	1'-1"				
A528	4	9'-6"	40	STR							
A529	4	9'-6"	40	19	7'-10"	1'-8"	0'-7"				
A530	1	20'-7"	22	3	1'-5"	8'-7"					
A531	1	21'-1"	22	3	1'-5"	8'-10"					
A533	2	10'-1"	21	19	7'-1"	2'-11"	1'-1"				
A534	4	5'-3"	22	STR							
A535	4	8'-0"	34	STR							
A536	4	5'-0"	21	STR							
A803	5	9'-6"	127	STR							
A804	5	9'-5"	126	19	7'-10"	1'-8"	0'-7"				
		SUB-TOTAL	1775								
		TOTAL	4835								

REINFORCING STEEL BAR BEND DIAGRAMS



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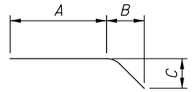

TYPE-19

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. THE BAR SIZE NUMBER IS SPECIFIED IN THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT AFTER THE LETTERS INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A NO. 5 BAR IN THE ABUTMENT. A LEGEND OF THE DESCRIPTORS IS BELOW:
   A= ABUTMENT
3. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED.
4. "ST." INDICATES A STRAIGHT BAR.

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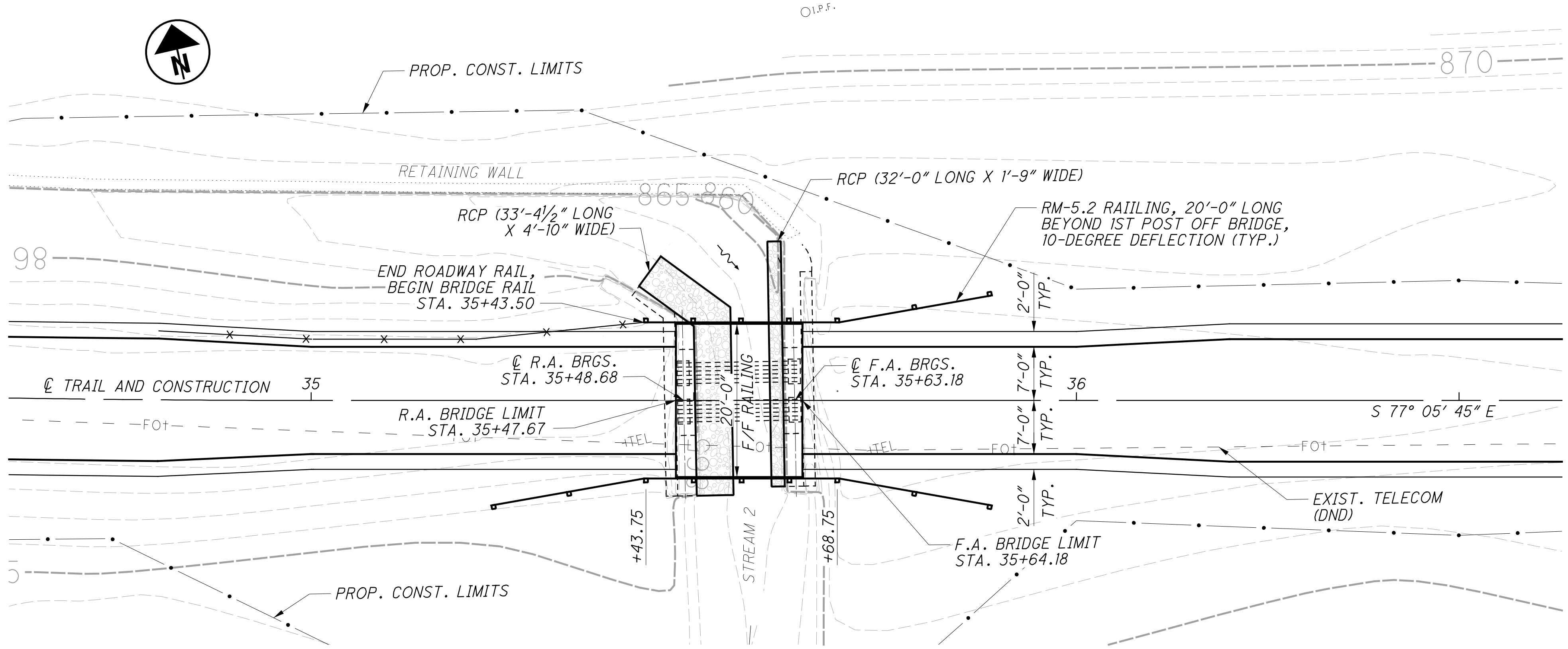
CHECKED BWR | REVISED XXX | STRUCTURE FILE NUMBER 0

REINFORCING STEEL LIST
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 001 - TRAIL OVER BLACK CREEK

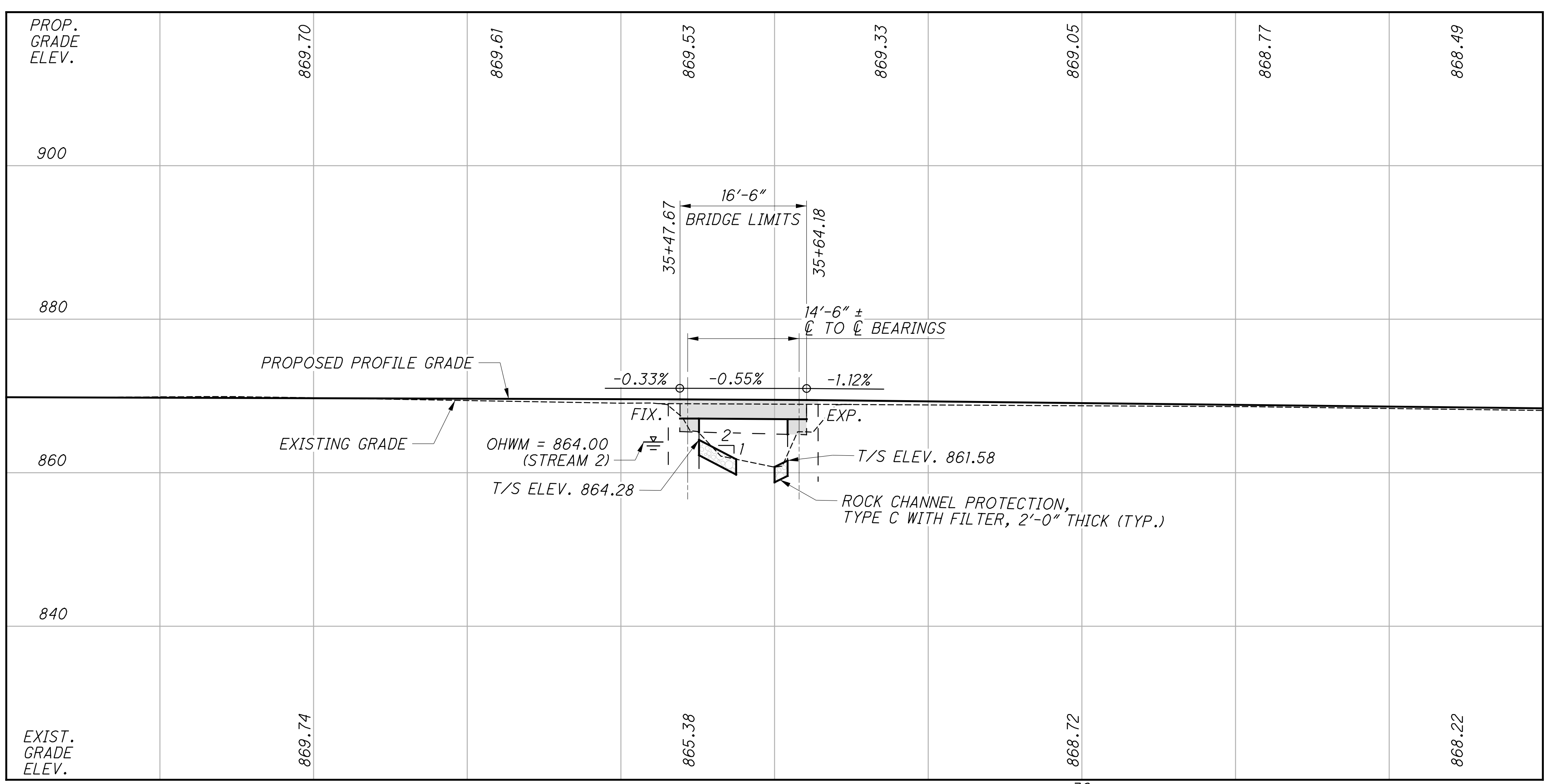
HOL-CO-TRAIL-5C1
PID No. 86052

13 / 13

101 / 127



PLAN



PROFILE ALONG ℄ TRAIL AND CONSTRUCTION

BENCHMARK DATA

IPS #51 STA. 34+11.71, ELEV. 869.71, OFFSET 1.36' RIGHT
IPS #50 STA. 38+15.86, ELEV. 867.47, OFFSET 4.45' LEFT

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 3/108

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

LEGEND

- ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (2'-0" THICK)

HYDRAULICS

NO HYDRAULIC ANALYSES HAVE BEEN PERFORMED.

EXISTING STRUCTURE

TYPE: TIMBER DECK ON STEEL BEAMS ON CONCRETE BEAM SEATS OVER ASHLAR STONE WALL ABUTMENTS

SPANS: ONE SPAN 14'-6½"± C/C BEARINGS

ROADWAY: NONE

F/F RAILING: 14'-0" AVAILABLE

APPROACH SLABS: NONE

ALIGNMENT: TANGENT

CROWN: N/A

COORDINATES: LATITUDE 40°31'01"
LONGITUDE 82°05'30"

DISPOSITION: REPLACE EXISTING TIMBER DECK AND PORTIONS OF ABUTMENTS, RELOCATE EXISTING BEAMS AND PLACE TWO NEW BEAMS.

LOADING: UNKNOWN

SKEW: NONE

PROPOSED STRUCTURE

TYPE: NAIL LAMINATED TIMBER DECK ON STEEL BEAMS ON CONCRETE BEAM SEATS OVER ASHLAR STONE WALL ABUTMENTS

SPANS: ONE SPAN 14'-6"± C/C BEARINGS

ROADWAY: 20'-0" F/F RAILING

APPROACH SLABS: NONE

ALIGNMENT: TANGENT

CROWN: 0.02 FT/FT

COORDINATES: LATITUDE 40°31'01.40" N
LONGITUDE 82°05'30.02" W

LOADING: H15-44 AND 90 PSF PEDESTRIAN

SKEW: NONE

WEARING SURFACE: ASPHALT CONCRETE (3" MIN.)

WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
ONE EASTON OVAL
SUITE 400
COLUMBUS, OH 43219
T 614-476-6000
F 614-476-6225

REVIEWED RKM	DATE 09/2021
STRUCTURE FILE NUMBER 0	
DRAWN KWA	REVISED
DESIGNED TML	CHECKED CML

HOLMES COUNTY
STA. 34+47.67
STA. 35+64.18

SITE PLAN
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE NO. 002 - TRAIL OVER TRIBUTARY TO BLACK CREEK

HOL CO TRAIL 5C1
PID No. 86052

1/7

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

DS-1-92 REVISED 7/15/2022
RM-5.2 DATED 1/18/2019

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

846 DATED 4/17/2015

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020, DATED 01/15/2021.

DESIGN LOADING:

H-15-44
90 PSF PEDESTRIAN
AASHTO PEDESTRIAN/BICYCLE RAILING LOAD

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI, GALVANIZED PER CMS 711.02

STRUCTURAL TIMBER - SOUTHERN YELLOW PINE, GRADE NO. 2 OR BETTER

TIMBER DECKING	
VALUE	LRFD (PSI)
Fb' =	2,567
Ft' =	1,400
Fv' =	302
Fc' =	1,989
Fc⊥' =	9021

RAILING POST	
VALUE	LRFD (PSI)
Fb' =	1,982
Ft' =	1,555
Fv' =	277
Fc' =	1,104
Fc⊥' =	401

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

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 C&MS 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.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:

THE WORK CONSISTS OF THE REMOVAL OF PORTIONS OF THE EXISTING BRIDGE STRUCTURE FOR BRIDGE NO. 002. REMOVE EXISTING DECKING, EXISTING STEEL BOX BEARINGS, AND SPALLED CONCRETE AT EACH END OF EXISTING ABUTMENT BEAM SEATS, AS WELL AS ANY OTHER ITEMS INDICATED IN THE PLANS AND GENERAL NOTES THAT ARE NOT SEPARATELY LISTED FOR PAYMENT.

THE CONTRACTOR SHALL REVIEW THE STRUCTURE WHEN PREPARING HIS BID. THE CONTRACTOR SHALL REVIEW THE CONDITION OF THE STRUCTURE TO DETERMINE WHAT DEBRIS WILL FALL FROM THE STRUCTURE DURING REMOVAL AND SHALL DETERMINE THE CORRESPONDING COST TO CLEAN UP ANY AND ALL DEBRIS WHICH FALLS FROM THE STRUCTURE DURING ALL REMOVAL OPERATIONS. THE COST TO CLEAR AND CLEAN UP ALL DEBRIS DURING REMOVAL SHALL BE INCLUDED WITH THE BID FOR THIS ITEM OF WORK. NO ADDITIONAL COST WILL BE RECOGNIZED TO CLEAN DEBRIS RESULTING FROM THE STRUCTURE REMOVAL OPERATION.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THIS WORK SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR ITEM 202: PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

ITEM 512, SEALING OF CONCRETE SURFACES (NON-EPOXY):

ABUTMENT CONCRETE SHALL BE SEALED WITH A NON-EPOXY SYSTEM PER C&MS 512 AND AS NOTED IN THE PLANS. THE COLOR SHALL BE FEDERAL COLOR STANDARD NO. FS-595B-17778, LIGHT NEUTRAL.

ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN:

ALL REQUIREMENTS OF C&MS 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PRE-QUALIFIED AS SPECIFIED IN S1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE IN ACCORDANCE WITH C&MS 501.06, TO THE ENGINEER. PROVIDE THE ENGINEER AS BUILT DRAWINGS ACCORDING TO C&MS 513.06, EXCEPT C&MS 501.04 DOES NOT APPLY. UPON RECEIPT OF THE ENGINEER'S ACCEPTANCE, SUPPLY A COPY OF THE DRAWINGS, ACCORDING TO S1002, TO THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES.

THE FOLLOWING MEMBERS ARE INCLUDED IN THIS ITEM: CHANNELS, STIFFENERS, BEARING PLATE, AND END ANGLE.

PAYMENT FOR ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN SHALL INCLUDE CLEANING/PREP OF STEEL AS NEEDED, HIGH STRENGTH ANCHOR BOLTS, AND WELDED STEEL END ANGLE.

ITEM 517, RAILING, TIMBER, AS PER PLAN:

PAYMENT FOR ITEM 517, RAILING, TIMBER, AS PER PLAN SHALL INCLUDE TIMBER RAILS AND POSTS, RAILING DIAPHRAGM CHANNELS, ANGLES, AND ALL CONNECTION ELEMENTS INCLUDING BOLTS, NUTS, AND WASHERS.

ITEM 690 - SPECIAL, REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS

THIS ITEM SHALL BE USED TO REINFORCE THE TRANSVERSE JOINT BETWEEN THE BRIDGE ABUTMENT AND APPROACH ASPHALT. PLACE REINFORCING JOINT MESH AS SHOWN, 3'-0" WIDE. THE MESH DOES NOT NEED TO BE CENTERED AND SHALL NOT EXTEN INTO THE POLYMER MODIFIED EXPANSION JOINT. BOND THE AREA OF THE JOINT MESH TO THE TOP OF THE BRIDGE ABUTMENT CONCRETE USING AN EPOXY ADHESIVE. COORDINATE WITH JOINT MESH MANUFACTURER TO DETERMINE A COMPLIANT EPOXY WITH NO DELETERIOUS EFFECTS ON THE MESH. THE TOP SURFACE OF CONCRETE SHALL BE CLEANED TO PROVIDE ADEQUATE SUBSTRATE FOR BONDING. AFTER CURING OF THE EPOXY APPLY A TACK COAT TO MAXIMIZE BOND BETWEEN THE JOINT MESH AND ASPHALT. PLACE ASPHALT AS SHOWN ON THE TRAIL PLANS WHERE THE JOIONT MESH IS PLACED AT MID-THICKNESS OF THE ASPHALT SECTION. PAVE TO THE NEAREST LIFT THICKNESS BEFORING INSTALLING THE JOINT MESH. THEN CONTINUE WITH ASPHALT PAVING.

THE REINFORCED JOINT MESH MATERIAL SHALL BE GLASGRID 8512 OR MACGRID AR 20.7. THE REINFORCED JOINT MESH AND A TACK COAT SHALL BE PLACED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

PAYMENT FOR THE REINFORCED JOINT MESH, EPOXY CONCRETE ADHESIVE, TACK COAT, AND ALL LABOR EQUIPMENT, AND MATERIALS REQUIRED TO COMPLETE THE WORK SHALL BE PAID FOR AS A PRICE PER SQUARE YARD UNDER ITEM 690 SPECIAL - REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS.

ITEM 519, PATCHING CONRETE STRUCTURES, AS PER PLAN:

PRIOR TO THE SURFACE CLEANING SPECIFIED IN C&MS 519.04 AND WITHIN 24 HOURS OF PLACING PARCHING 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.

ABBREVIATIONS:

BRG(S).	- BEARING(S)
℄	- CENTERLINE
C.J.	- CONSTRUCTION JOINT
CONST.	- CONSTRUCTION
DIA.	- DIAMETER
DND	- DO NOT DISTURB
EA.	- EACH
ELEV.	- ELEVATION
EX.	- EXISTING
F.A.	- FORWARD ABUTMENT
F/F	- FACE TO FACE
ℙ	- PLATE
PROP.	- PROPOSED
R.A.	- REAR ABUTMENT
R/W	- RIGHT OF WAY
SPA.	- SPACES
STA.	- STATION
TBR	- TO BE REMOVED
TYP.	- TYPICAL

ESTIMATED QUANTITIES

CALC BY: JYM DATE: 2/28/2021
CHECK BY: TML DATE: 3/3/2021

ITEM	EXT	QUANTITY	UNIT	DESCRIPTION	SHEET
202	11201	1	LS	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	2/7
203	20000	23	CY	EMBANKMENT	
407	10000	2	GAL	TACK COAT	
441	50000	2	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
441	50300	4	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
503	11100	1	LS	COFFERDAMS AND EXCAVATION BRACING	
503	21100	33	CY	UNCLASSIFIED EXCAVATION	
509	10000	441	LB	EPOXY COATED REINFORCING STEEL	
510	10000	90	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	45710	5	CY	CLASS QC1 CONCRETE, ABUTMENT	
512	10100	47	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	33010	37	SY	TYPE 3 WATERPROOFING	
513	10201	3,870	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	2/7
513	10260	1,584	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3	
516	12200	20	FT	STRUCTURAL STEEL EXPANSION JOINT	
516	47000	1	LS	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE	
517	74001	50	FT	RAILING, TIMBER, AS PER PLAN	2/7, 6/7
518	21200	11	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
518	22300	48	FT	SPECIAL - STEEL DRIP STRIP	
519	11101	35	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	2/7
530	10700	3	MFBM	SPECIAL - STRUCTURES, TIMBER DECKING	7/7
601	32200	17	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
607	98000	60	FT	FENCE, MISC.: WOOD FENCE	
690	12050	14	SY	SPECIAL - REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS	2/7
846	110	19	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	

NOTE: ITEMS 203, 407, 441, AND 601 HAVE BEEN CARRIED TO THE ROADWAY AND DRAINAGE QUANTITIES (RESPECTIVELY) OF THE GENERAL SUMMARY AND COST ESTIMATE PER L&D VOL. 3, SECTION 1307. ALL OTHER QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY AS STRUCTURES QUANTITIES.

ONE EASTON OVAL
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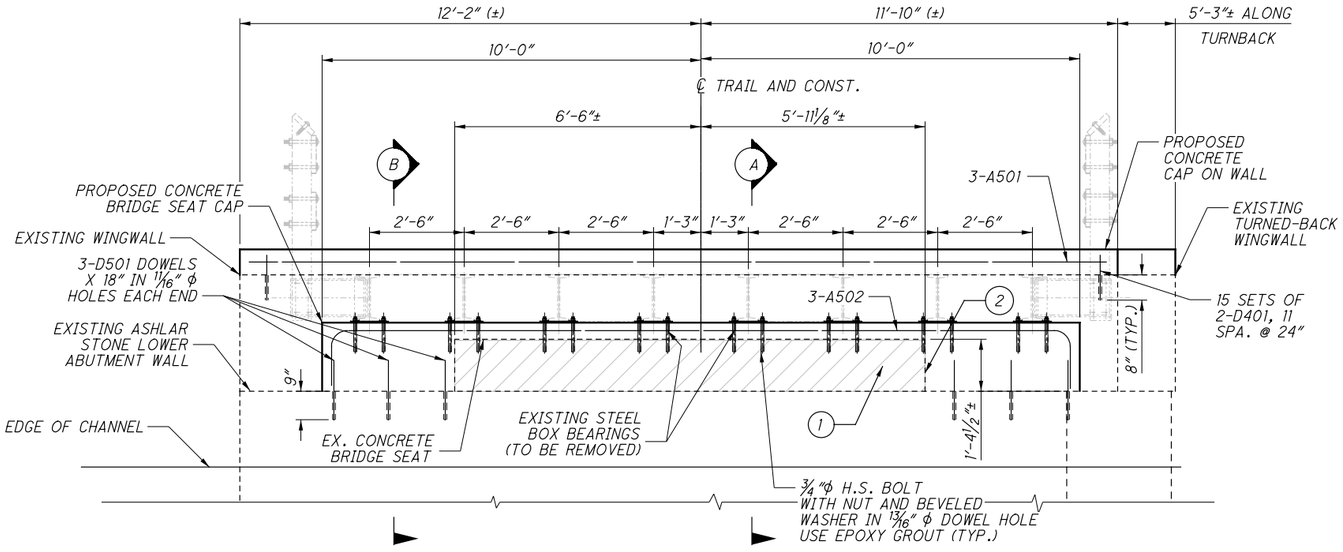
WOOLPERT
DESIGN | ENVIRONMENTAL | INFRASTRUCTURE

DESIGNED	DRAWN	REVIEWED	DATE
PES	PES	RKM	09/2021
CHECKED	REVISED		STRUCTURE FILE NUMBER
TML			0

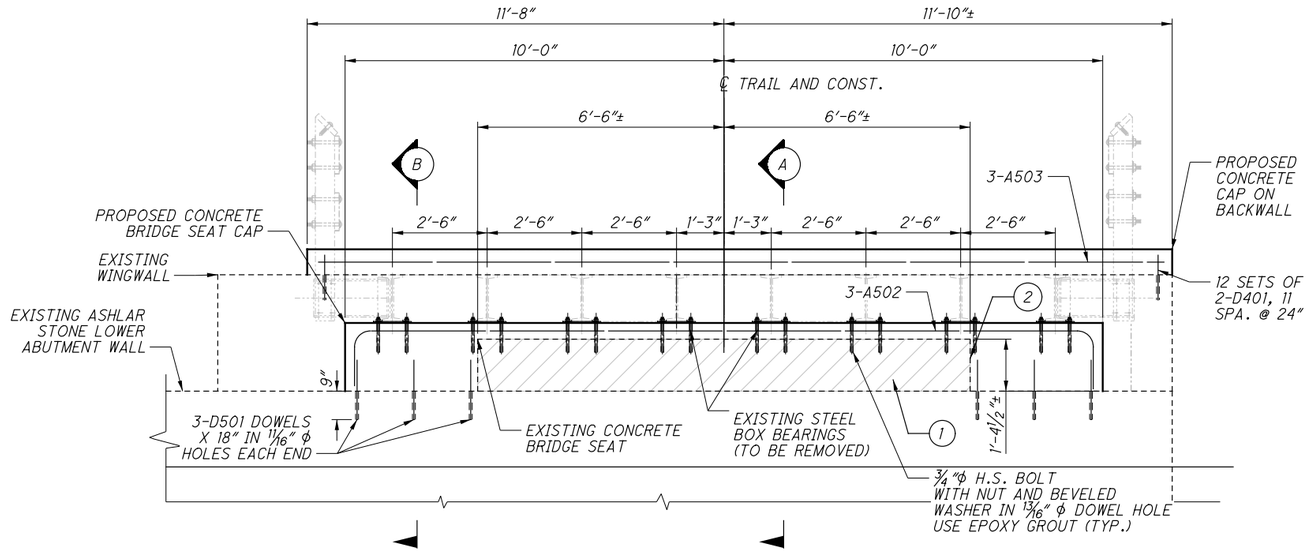
STRUCTURE GENERAL NOTES

HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE NO. 002 - TRAIL OVER TRIBUTARY TO BLACK CREEK

HOL CO TRAIL 5C1
PID No. 86052



REAR ABUTMENT ELEVATION

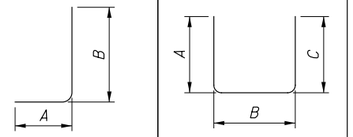


FORWARD ABUTMENT ELEVATION

REINFORCING STEEL LIST

MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS A	B	C
A501	3	23'-6"	74	ST.			
A502	6	22'-3"	140	2	1'-6"	19'-6"	1'-6"
A503	3	22'-1"	70	ST.			
D401	54	2'-6"	91	1	1'-3"	1'-4"	
D501	36	1'-9"	66	ST.			
TOTAL			441				

BAR BEND DIAGRAMS



LEGEND:

① PATCH FRONT FACE OF BRIDGE SEAT.

② REMOVE SPALLED CONCRETE ON BOTH ENDS OF BRIDGE SEAT PRIOR TO CONSTRUCTION OF NEW CAP.

EX. BRIDGE SEAT, PATCH PER ITEM 519, ASSUME 100% OF AREA TO BE PATCHED

NOTES:

1. SEE SHEET 4/7 FOR SECTION A AND SECTION B.

2. SEE SHEET 6/7 FOR TRANSVERSE SECTION.

3. REINFORCING NOTES:

THE BAR SIZE NUMBER IS SPECIFIED IN THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT AFTER THE LETTERS INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A NO. 5 BAR IN THE ABUTMENT. A LEGEND OF THE DESCRIPTORS IS BELOW:

A= ABUTMENT D=DOWEL

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED.

"ST." INDICATES A STRAIGHT BAR.

ONE EASTON OVAL
SUITE 400
COLUMBUS, OH 43219
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DESIGNED TML | DRAWN KWA | REVIEWED RKM | DATE 09/2021
CHECKED CML | REVISED | STRUCTURE FILE NUMBER 0

ABUTMENT DETAILS
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE NO. 002 - TRAIL OVER TRIBUTARY TO BLACK CREEK

HOL CO TRAIL 5C1
PID No. 86052

3 / 7

104
127

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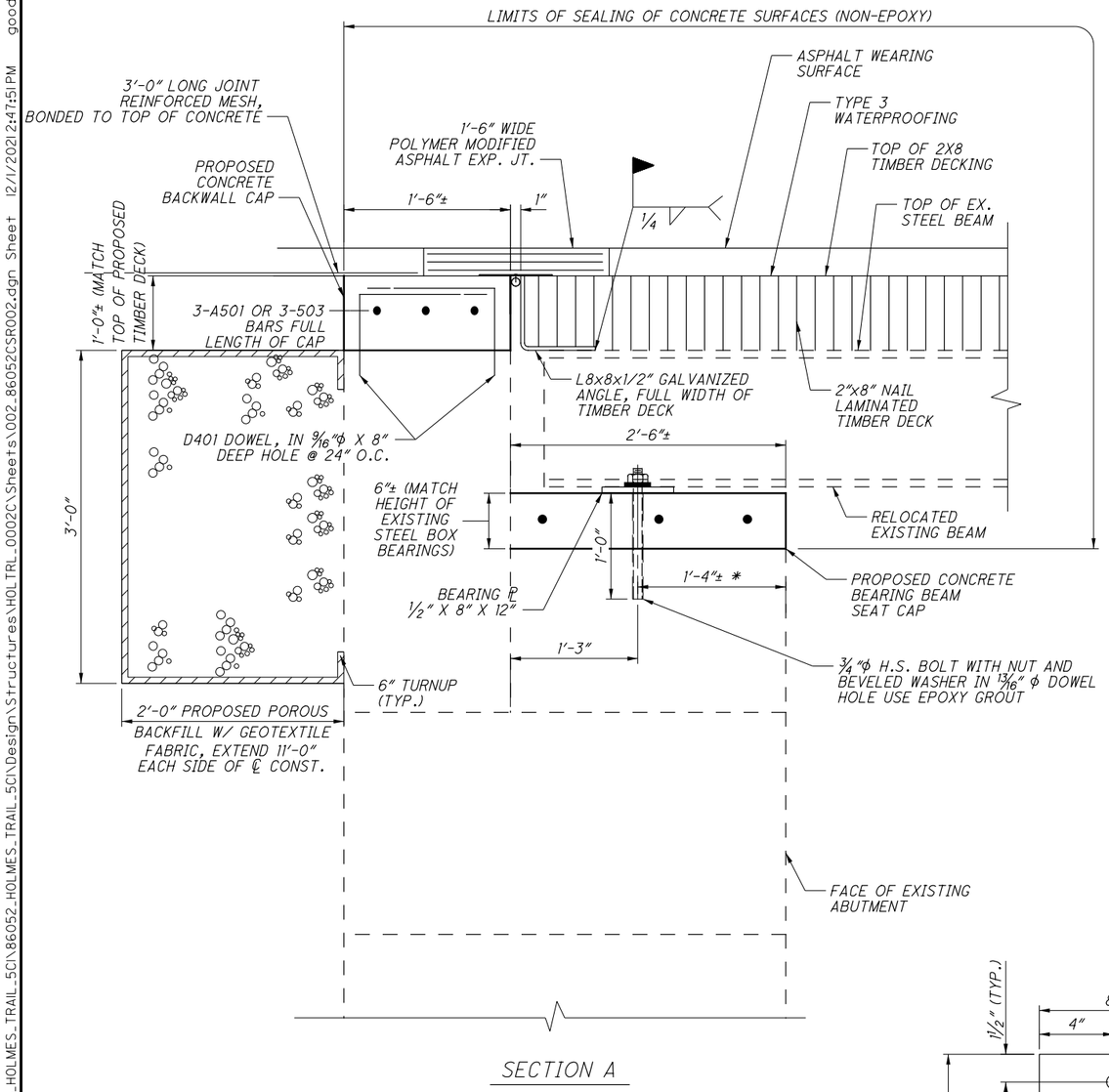
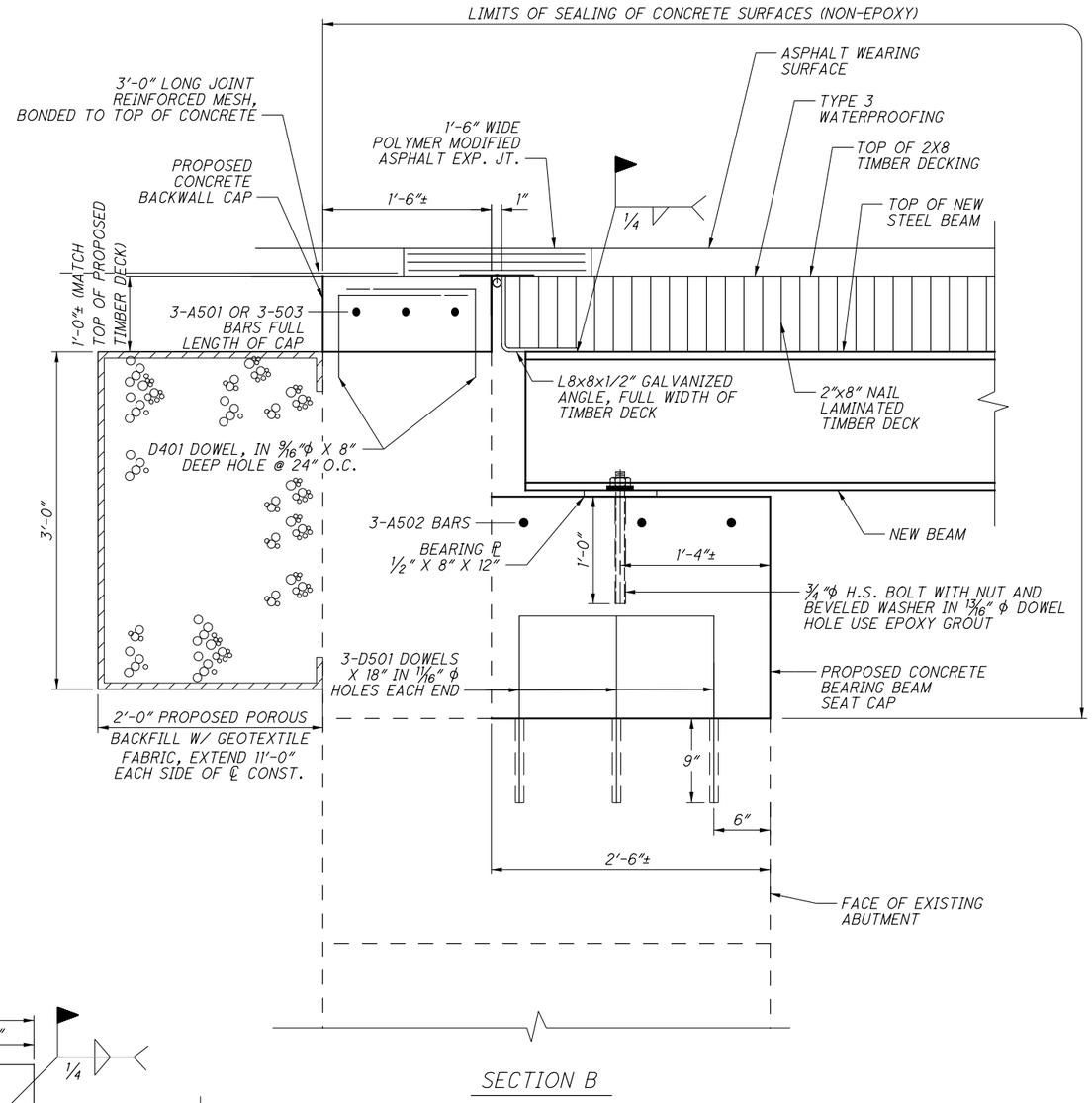
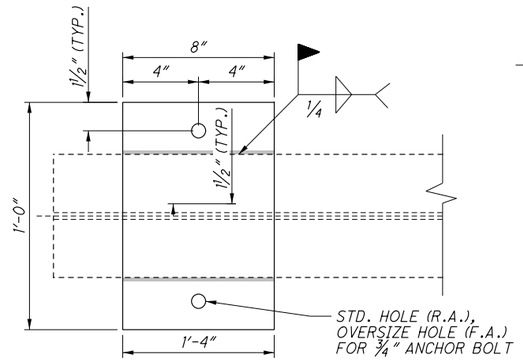
$DATE$ $TIME$
C:\Clients\OH_Holmes County Parks\080723_HOLMES_TRAIL_5C1\86052_HOLMES_TRAIL_5C1\Design\Structures\HOLTRL_0002C\Sheets\002_86052CSR001.dgn Sheet 12/1/2021 2:47:49 PM goodnight



SECTION A



SECTION B



BEARING PLATE DETAIL

NOTES

1. SEE SHEET FOR ABUTMENT ELEVATIONS AND LOCATIONS OF SECTION A AND SECTION B.

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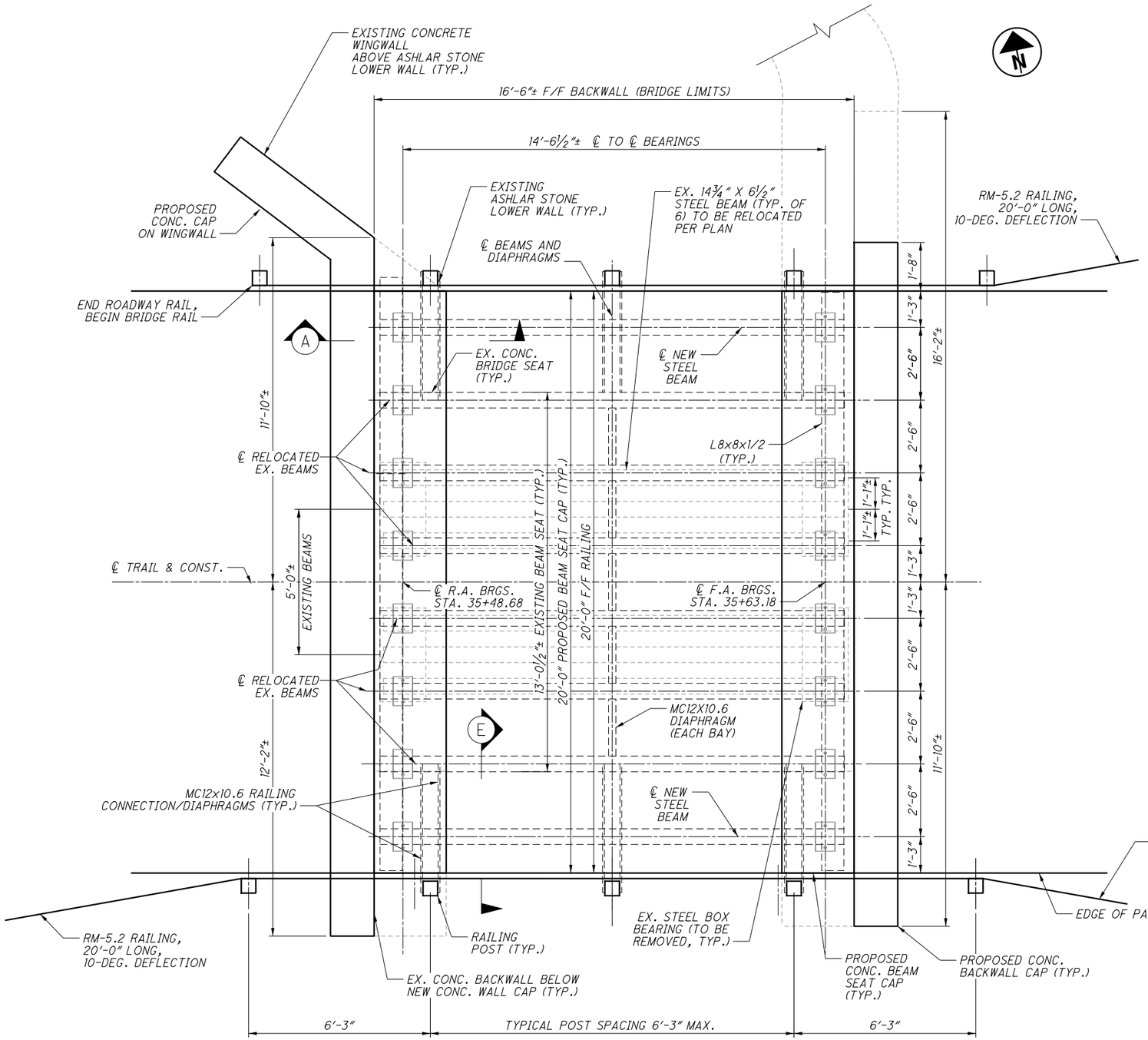
CML			0

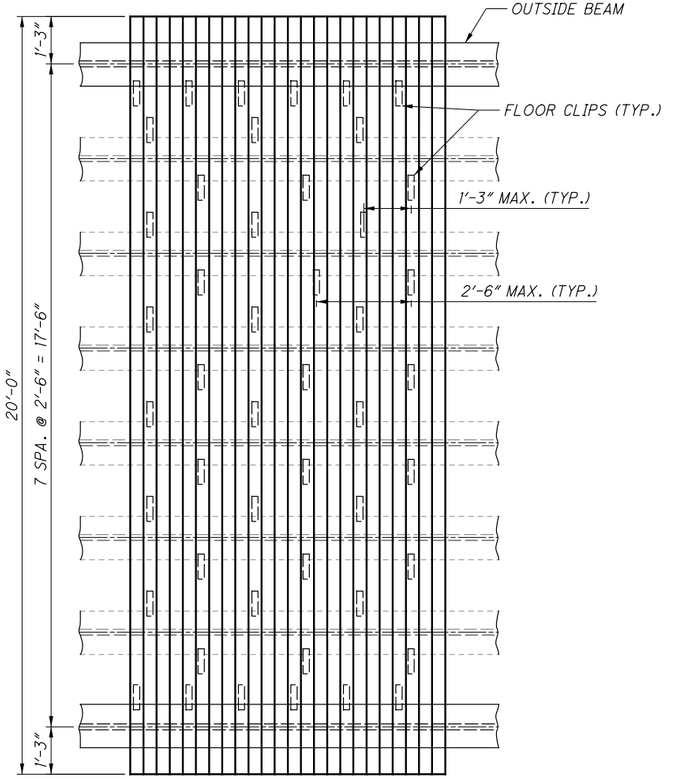
ABUTMENT SECTIONS

HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE NO. 002 - TRAIL OVER TRIBUTARY TO BLACK CREEK

HOL CO TRAIL 5C1
PID No. 86052



GENERAL PLAN



FLOOR CLIP LAYOUT

NOTES:

1. SEE SHEET 3/7 FOR ABUTMENT ELEVATIONS AND CAPPING DETAILS.
2. SEE SHEET 4/7 FOR SECTION A.
3. SEE SHEET 6/7 FOR TRANSVERSE SECTION AND SECTION E.

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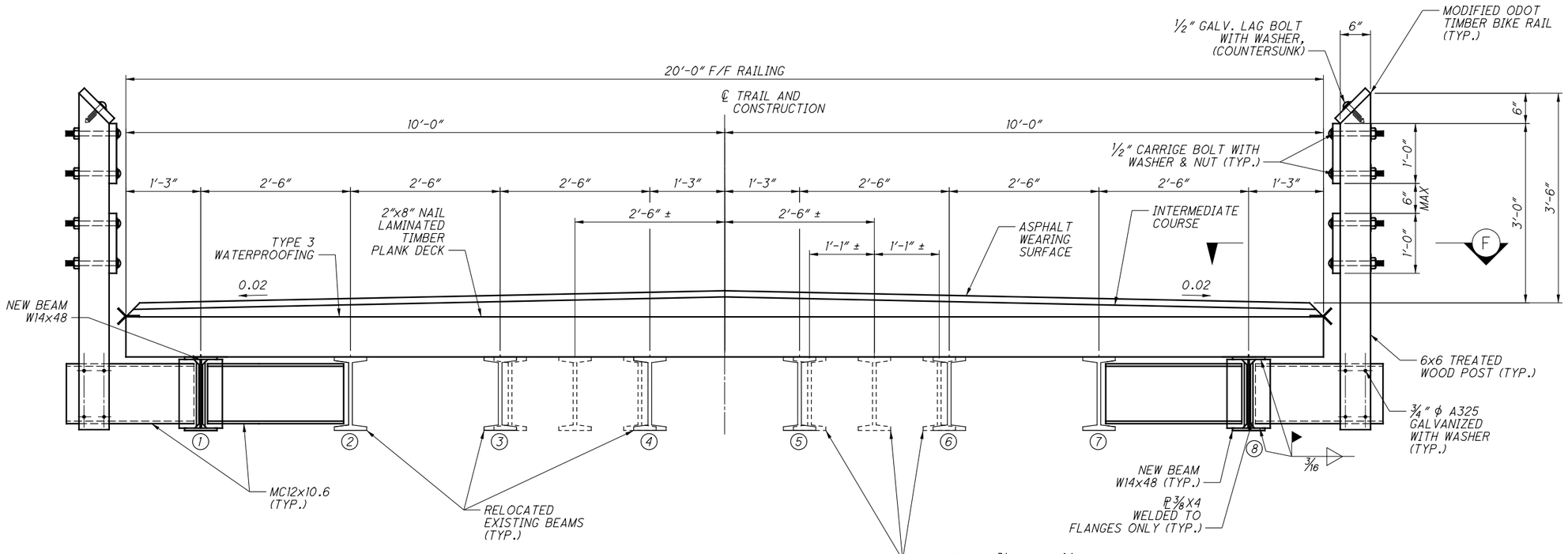
CML		0	

DECK AND FRAMING PLAN
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE NO. 002 - TRAIL OVER TRIBUTARY TO BLACK CREEK

HOL CO TRAIL 5C1
PID No. 86052

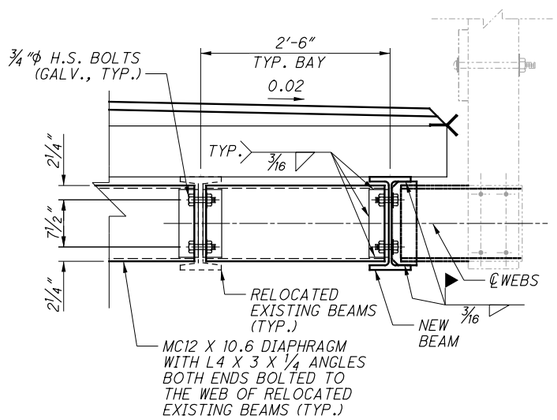
5 / 7

106
127

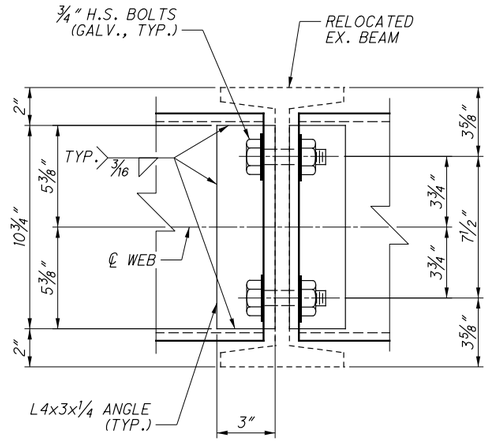


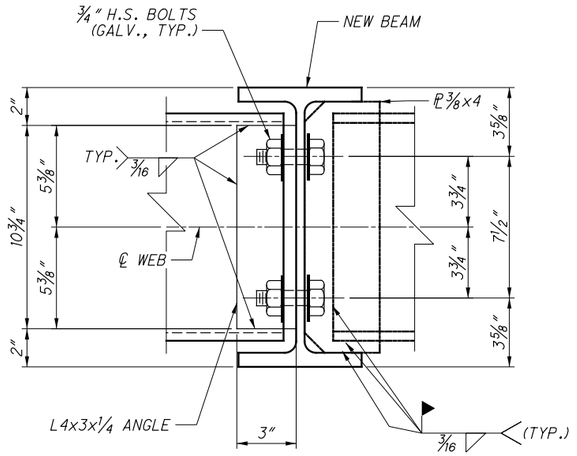
TRANSVERSE SECTION

FINAL DECK ELEVATIONS						
LOCATION		BEGIN BRIDGE	CL R.A. BRGS	1/2 SPAN	CL F.A. BRGS	END BRIDGE
LEFT EDGE OF DECK	STATION	35+47.67	35+48.68	35+55.93	35+63.18	35+64.18
	FINAL DECK ELEVATION	869.34	869.33	869.29	869.26	869.25
CENTERLINE TRAIL	STATION	35+47.67	35+48.68	35+55.93	35+63.18	35+64.18
	FINAL DECK ELEVATION	869.54	869.53	869.49	869.46	869.45
RIGHT EDGE OF DECK	STATION	35+47.67	35+48.68	35+55.93	35+63.18	35+64.18
	FINAL DECK ELEVATION	869.34	869.33	869.29	869.26	869.25

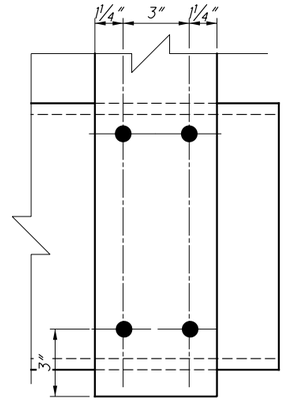


SECTION E





CONNECTION DETAILS



BOLT DETAILS

LEGEND

(1) BEAM NUMBER

NOTES

1. SEE SHEET 5/7 FOR LOCATION OF SECTION E.
2. SEE SHEET 7/7 FOR SECTION F.

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DESIGNED	DRAWN	REVIEWED	DATE
TML	KWA	RKM	09/2021
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CML		0	

TRANSVERSE SECTION
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE NO. 002 - TRAIL OVER TRIBUTARY TO BLACK CREEK

HOL CO TRAIL 5C1
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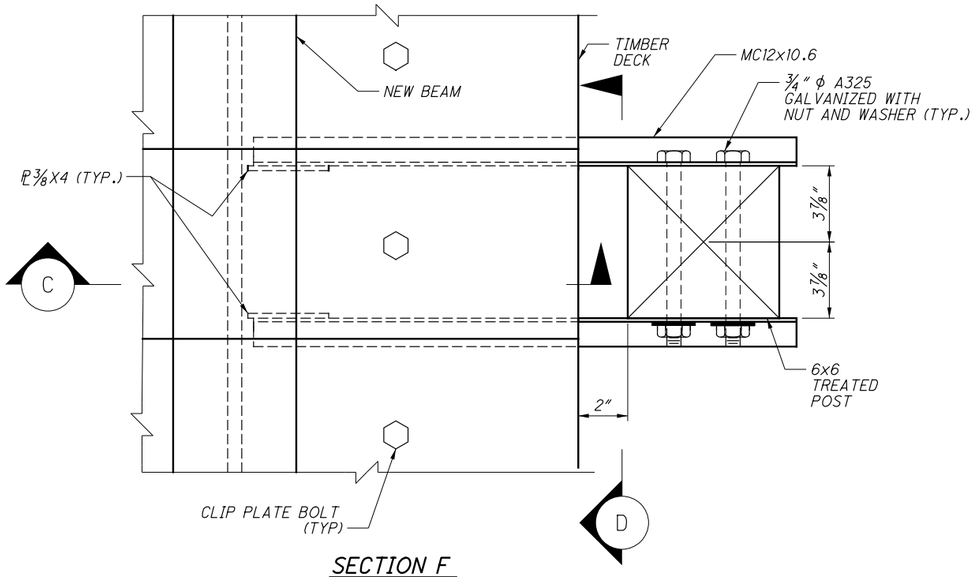
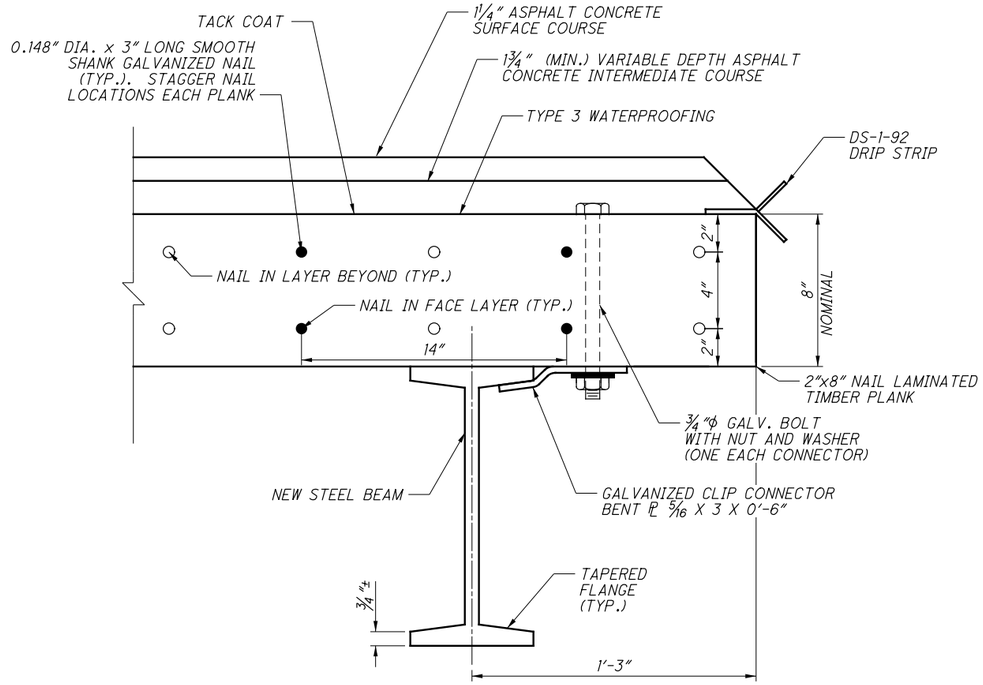
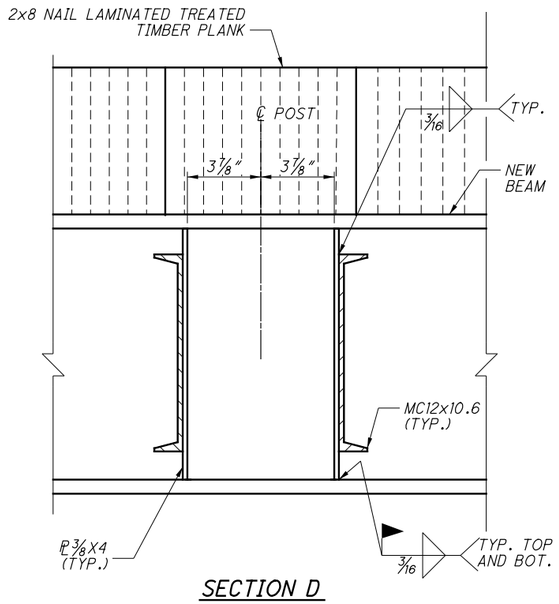


SECTION F



SECTION C



SECTION D

NOTES:

1. SEE SHEET FOR TRANSVERSE SECTION AND LOCATION OF SECTION F.
2. INSTALL NAIL LAMINATED TIMBER DECKING AS SHOWN. PAYMENT FOR DECKING, INCLUDING THE TIMBER, NAILS AND FASTENERS, BOLTS, NUTS, WASHERS, CLIP CONNECTORS, AND ANY OTHER INCIDENTALS, MATERIALS, EQUIPMENT, AND LABOR REQUIRED TO INSTALL THE DECKING AND COMPLETE THE WORK SHALL BE PAID FOR ON THE MFBM BASIS FOR ITEM 530 SPECIAL - STRUCTURES, TIMBER DECKING.

ONE EASTON OVAL
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DESIGN ENGINEERING INFRASTRUCTURE

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
CML		0	

STRUCTURAL DETAILS
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE NO. 002 - TRAIL OVER TRIBUTARY TO BLACK CREEK

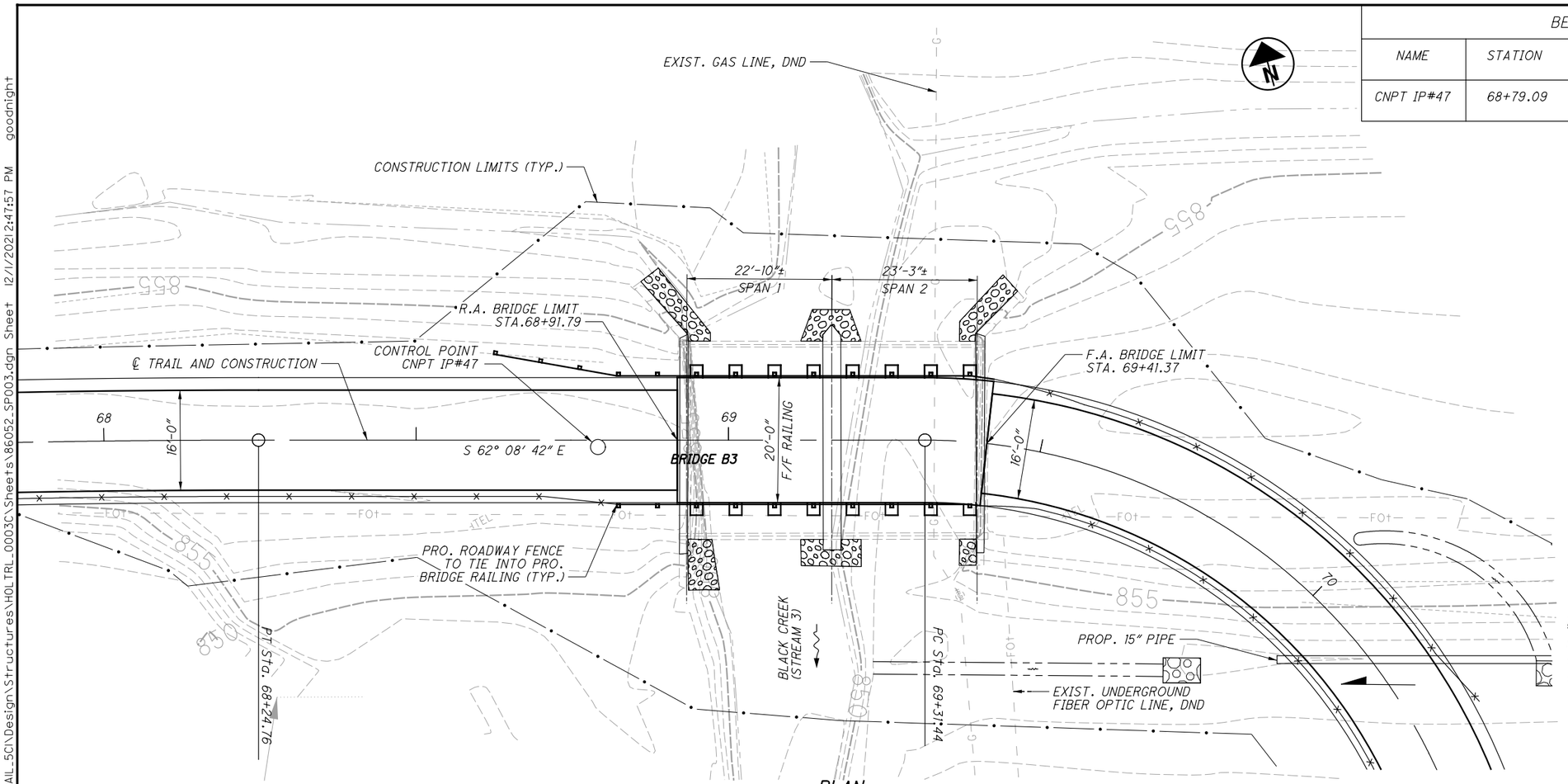
HOL CO TRAIL 5C1
PID No. 86052

7 / 7

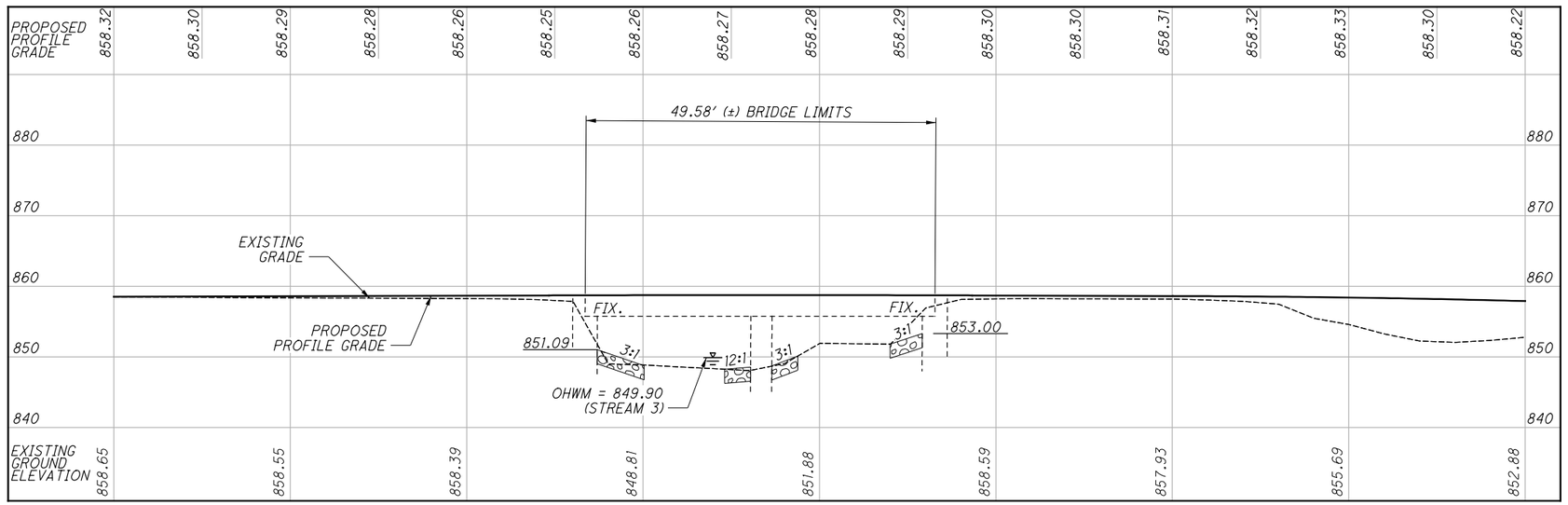
108
127

$FILE$
$FILE$ $DATE$ $TIME$
$FILE$ 12/1/2021 2:47:55 PM goodnight

BENCHMARK DATA				
NAME	STATION	ELEVATION	NORTHING	EASTING
CNPT IP#47	68+79.09	858.651	309275.040	2085237.741



PLAN



PROFILE ALONG ℄ TRAIL AND CONSTRUCTION

EARTHWORK

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

CURVE DATA

CURVE #1	CURVE #2
P.I. Sta. 67+41.98	P.I. Sta. 70+21.44
P.C. Sta. 66+59.12	P.T. Sta. 70+72.81
Δ = 4° 44' 43" (RT)	Δ = 90° 00' 03" (RT)
Dc = 2° 51' 53"	Dc = 63° 39' 43"
R = 2,000.00'	R = 90.00'
T = 82.87'	T = 90.00'
L = 165.64'	L = 141.37'
E = 1.72'	E = 37.28'
C = 165.59'	C = 127.28'
C.B. = S 64° 31' 04" E	C.B. = S 17° 08' 41" E

LEGEND

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FILTER, 2'-0" THICKNESS

HYDRAULIC DATA

DRAINAGE AREA = 20.5 SQ. MILES
Q (25) = 3720 CFS
Q (100) = 5400 CFS

EXISTING STRUCTURE

PROPOSED WORK: INSTALL WATERPROOFING MEMBRANE AND DRAINAGE MATERIALS ON EXISTING DECK AND CONSTRUCT ASPHALT TRAIL ON TOP WITH BICYCLE RAILING.

TYPE: REINFORCED CONCRETE PLANK SLABS ON CONCRETE WALL PIER AND ABUTMENTS

SPANS: TWO SPANS 22'-10"± AND 23'-3"± C/C BEARINGS

ROADWAY: NONE EXISTING; 20'-0" F/F RAILING PROPOSED

LOADING: HI15-44 AND 90 PSF

F/F RAILING: 29'-2"±

APPROACH SLABS: NONE

ALIGNMENT: TANGENT

CROWN: N/A EX.; 0.02 FT/FT PR.

WEARING SURFACE: ASPHALT

COORDINATES: LATITUDE 40°30'53.21"
LONGITUDE 82°04'48.39"

SKEW: NONE

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DESIGNED	DRAWN	REVIEWED	DATE
EJK	EJK	RBP	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
IMF	XXX	0	

SITE PLAN
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 003 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD DRAWING(S):

RM-5.2 DATED (REVISED) 01-18-2019

AND TO FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800 DATED 07-21-2023

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LFRD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020, AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING

DESIGN LOADING: H15-44 AND 90 PSF PEDESTRIAN LOADING

DESIGN DATA

CONCRETE CLASS QC2
-COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

REINFORCING STEEL
-MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL
-ASTM A709 GRADE 36, GALVANIZED PER CMS 711.02

TIMBER
-NO. 2 GRADE SOUTHERN PINE (RAILING)

ITEM 519, PATCHING CONCRETE STRUCTURES, 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.

ITEM 517, RAILING, TIMBER, AS PER PLAN

PAYMENT FOR THIS ITEM 517, RAILING, TIMBER, AS PER PLAN SHALL INCLUDE TIMBER RAILS AND POSTS, RAILING DIAPHRAGM CHANNELS, ANGLES, AND ALL CONNECTION ELEMENTS INCLUDING BOLTS, NUTS, AND WASHERS.

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

SUGGESTED CONSTRUCTION SEQUENCE

1. INSTALL COFFERDAMS AS NEEDED.
2. REPAIR EXISTING SUBSTRUCTURE AND UNDERSIDE OF SUPERSTRUCTURE.
3. REMOVE EXISTING FILL OVER STRUCTURE, USING CAUTION NOT TO DAMAGE THE EXISTING DECK PLANKS THAT MAKE UP THE BRIDGE DECK.
4. CLEAN AND SOUND THE BRIDGE DECK, MARKING AREAS FOR PATCH AND REPAIR.
5. CONSTRUCT REINFORCED CONCRETE POST BASES.
6. INSTALL TYPE 3 WATERPROOFING AND PERFORATED PLASTIC PIPE ON BRIDGE DECK.
7. PLACE POROUS BACKFILL ON BRIDGE DECK.
8. CONSTRUCT PAVEMENT.
9. APPLY CONCRETE SEALING.
10. CONSTRUCT BIKEWAY RAILING.

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 C&MS, 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.

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.

PLAN ABBREVIATIONS

ABUT.	=ABUTMENT
ADT	=AVERAGE DAILY TRAFFIC
ADTT	=AVERAGE DAILY TRUCK TRAFFIC
BRG.	=BEARING
C/C	=CENTER TO CENTER
CLR.	=CLEAR COVER
CONST.	=CONSTRUCTION
C.J.	=CONSTRUCTION JOINT
C.R.	=COUNTY ROAD
E.F.	=EACH FACE
EL.	=ELEVATION
F/F	=FACE TO FACE
F.F.	=FORWARD ABUTMENT
F.A.	=FAR FACE
℄	=FLOW LINE
FWD.	=FORWARD
M.N.S.	=MAGNETIC NAIL SET
N.F.	=NEAR FACE
PEJF	=PERFORMED EXPANSION JOINT FILLER
P.G.	=PROFILE GRADE
R.A.	=REAR ABUTMENT
SCD	=STANDARD CONSTRUCTION DRAWING
STA.	=STATION
T.R.	=TOWNSHIP ROAD
TYP.	=TYPICAL

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EJK	EJK	RBP	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JMF	XXX	0	

GENERAL NOTES

HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 003 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

ESTIMATED QUANTITIES

CALC. BY: KAF DATE: 5/17/21
CHKD. BY: BWR DATE: 5/17/21

ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	REAR ABUTMENT	FORWARD ABUTMENT	PIERS	SUPER-STRUCTURE	GENERAL	REF. SHEET NUMBER
304	20000	27	CY	AGGREGATE BASE					27	
407	10000	1	GAL	TACK COAT					1	
441	50000	4	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22					4	
441	50300	6	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)					6	
503	11100	1	LS	COFFERDAMS AND EXCAVATION BRACING					1	
503	21100	61	CY	UNCLASSIFIED EXCAVATION					61	
509	10000	378	LB	EPOXY COATED REINFORCING STEEL				378		
509	20001	50	LB	REINFORCING STEEL, REPLACMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				50		2/7
510	10000	64	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT				64		
511	34410	4	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE				4		
512	10100	5	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)				5		
512	33010	154	SY	TYPE 3 WATERPROOFING				154		
517	74001	106	FT	RAILING, TIMBER, AS PER PLAN				106		2/7, 5/7
518	21200	33	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC				33		
518	40000	102	FT	6" PERFORATED CORRUGATED PLASTIC PIPE				102		
518	40012	17	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE				17		
519	11101	96	SF	PATCHING CONCRETE STRUCTURES, AS PER PLAN				96		2/7
601	32200	46	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER					46	
607	98000	35	FT	FENCE, MISC.: WOOD FENCE					35	

NOTE: ITEMS 407, 441, AND 601 HAVE BEEN CARRIED TO THE ROADWAY AND DRAINAGE QUANTITIES (RESPECTIVELY) OF THE GENERAL SUMMARY AND COST ESTIMATE PER L&D VOL. 3, SECTION 1307. ALL OTHER QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY AS STRUCTURES QUANTITIES.

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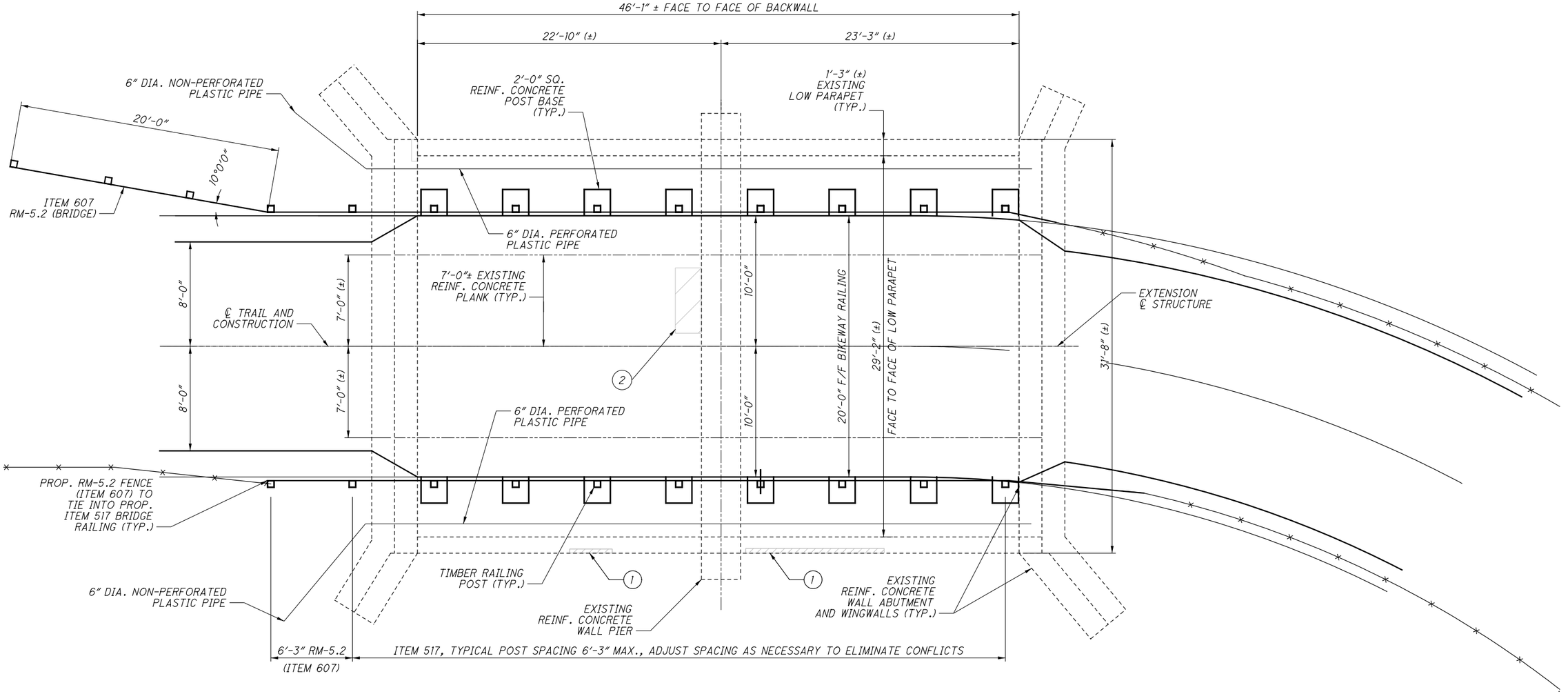
DESIGNED KAF | DRAWN JRS | REVIEWED RBP | DATE 09/2021
CHECKED BWR | REVISED XXX | STRUCTURE FILE NUMBER 0

ESTIMATED QUANTITIES
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 003 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052



DECK PLAN

PATCHING QUANTITIES		
LOCATION		AREA (SF)
DECK PLANKS	1	5
	2	10

NOTES

1. FOR POST BASE AND BIKEWAY RAILING DETAILS, SEE SHEET 5/7
2. PATCH CONCRETE ON EDGE OF BEAM.
   PATCH CONCRETE ON BOTTOM OF SLABS WHERE REBAR IS EXPOSED.

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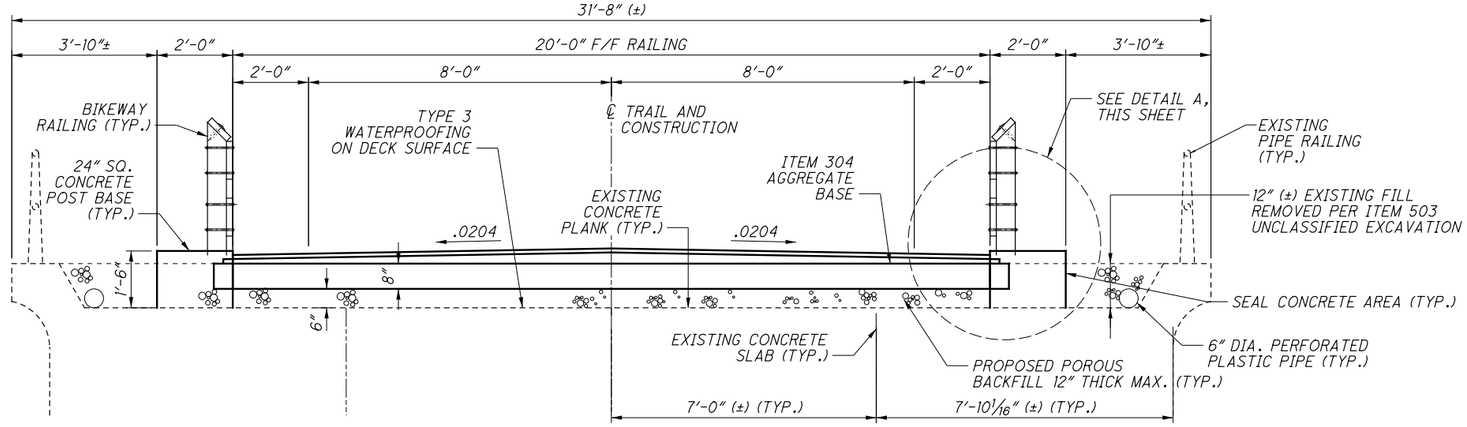
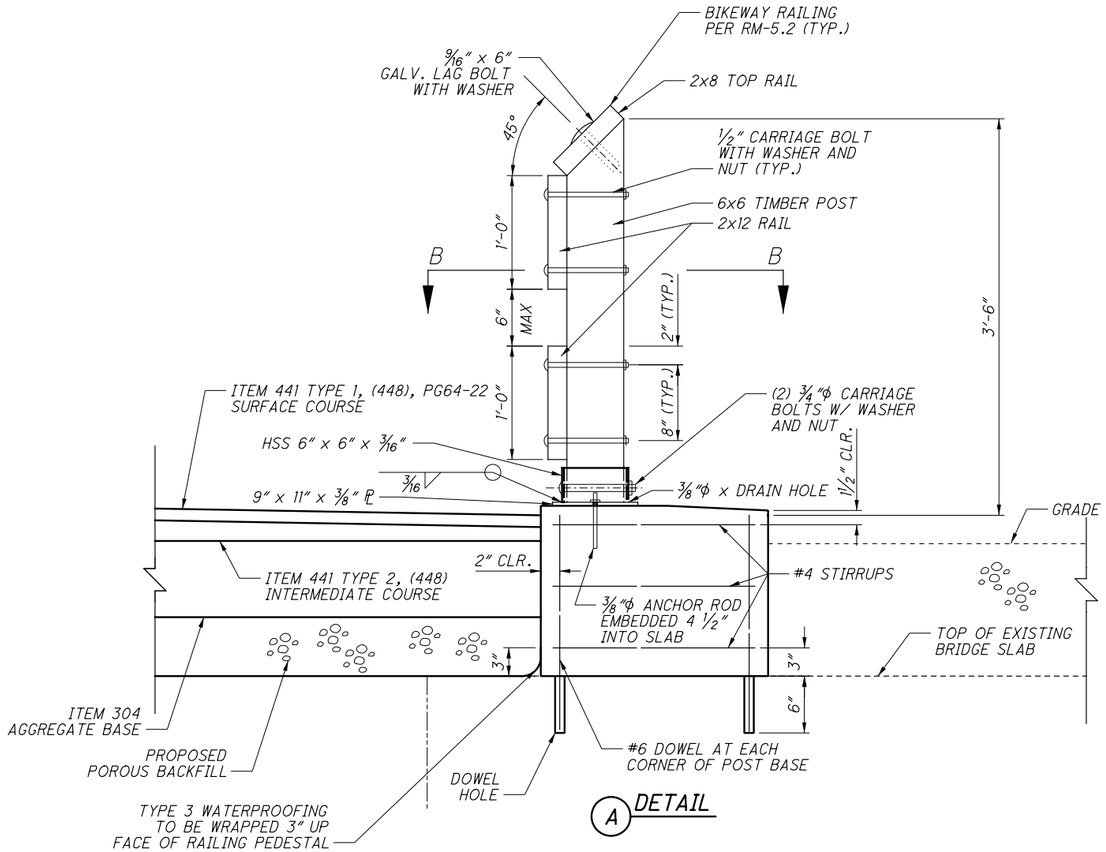
EJK	EJK	RBP	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JMF	XXX	0	

DECK PLAN
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 003 - TRAIL OVER BLACK CREEK

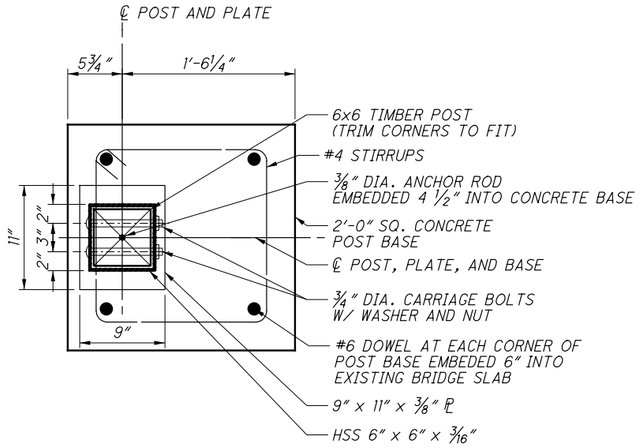
HOL-CO-TRAIL-5C1
PID No. 86052



TRANSVERSE SECTION



A DETAIL



B SECTION

NOTES

1. THOUGH NO LOCATIONS ARE IDENTIFIED IN THE PLANS, A CONTINGENCY QUANTITY OF 100 SF OF ITEM 519 - PATCHING OF CONCRETE STRUCTURE, AS PER PLAN HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR REPAIR OF THE TOP OF THE EXISTING BRIDGE DECK ONCE EXPOSED, TO BE USED AS DIRECTED BY THE ENGINEER.
2. FURNISH HSS STEEL SECTIONS AND STEEL PLATES ACCORDING TO CMS 707.10, GRADE 36. THREADED RODS, BOLTS, NUTS, AND WASHERS SHALL CONFORM TO ASTM A325.
3. GALVANIZE ALL STEEL, HARDWARE AND ACCESSORIES PER CMS 711.02.
4. FOR ADDITIONAL BIKEWAY RAILING DETAILS NOT SHOWN, SEE STANDARD DRAWING RM-5.2.
5. FOR PEDESTAL LOCATIONS, SEE DECK PLAN ON SHEET 4/7

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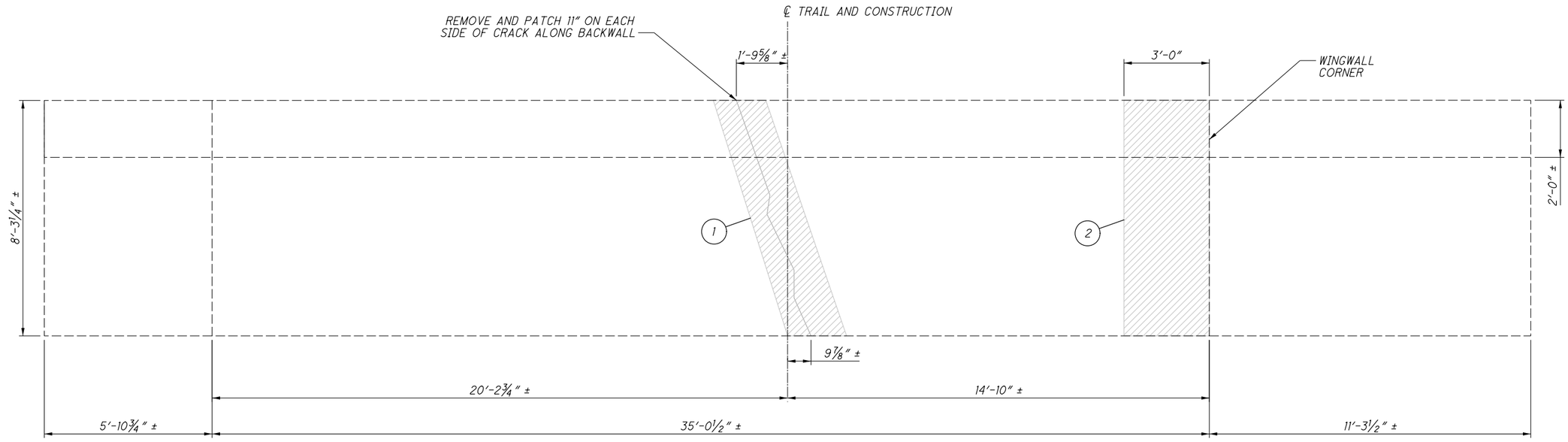
EJK	EJK	RBP	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
IMF	XXX	0	

STRUCTURAL DETAILS
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 003 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052



REAR ABUTMENT ELEVATION

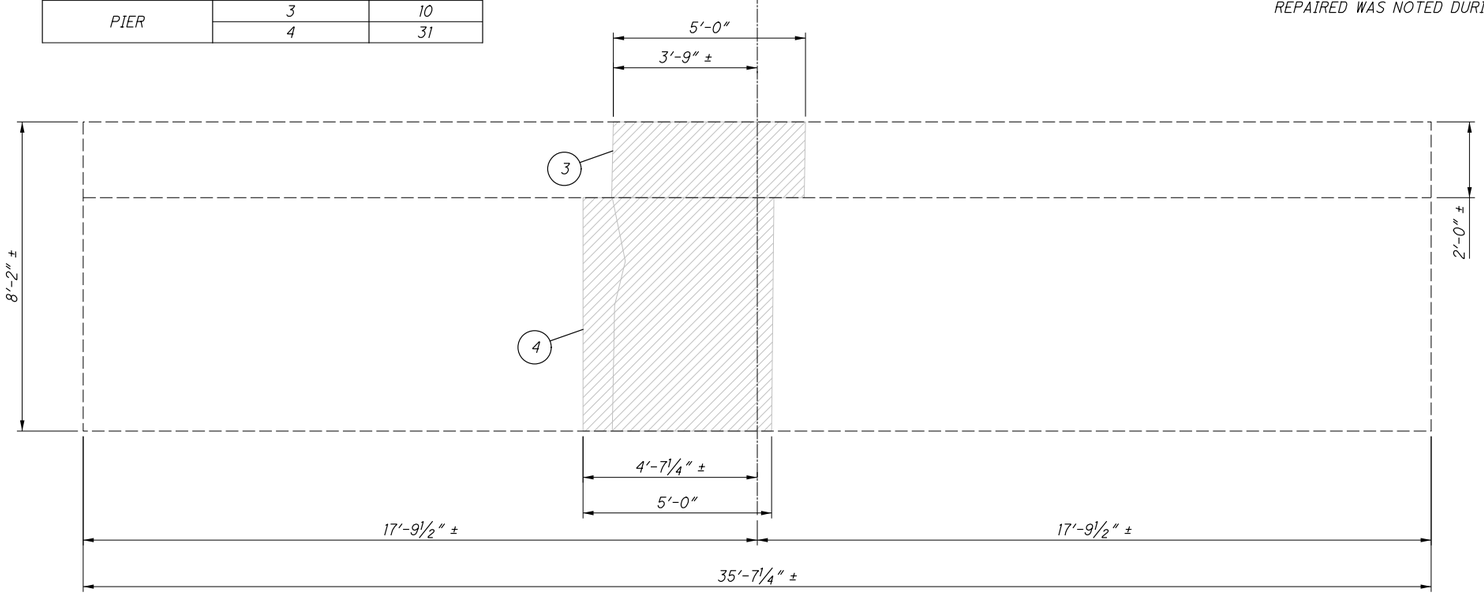
LEGEND

LIMITS OF CONCRETE REPAIR PER ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

PATCHING QUANTITIES		
LOCATION		AREA (SF)
REAR ABUTMENT	1	16
	2	25
PIER	3	10
	4	31

NOTES

1. EXTENT OF SUBSTRUCTURE DETERIORATION WAS DOCUMENTED IN THE FIELD IN JUNE 2020. A CONTINGENCY QUANTITY OF 20 PSF WAS INCLUDED IN THE ESTIMATED QUANTITIES FOR ADDITIONAL DETERIORATION TO BE USED AS DIRECTED BY THE ENGINEER.
2. NO DETERIORATION OF THE FORWARD ABUTMENT TO BE REPAIRED WAS NOTED DURING THE FIELD VISIT.



PIER ELEVATION

LOOKING WEST

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EJK	EJK	RBP	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JMF	XXX	0	

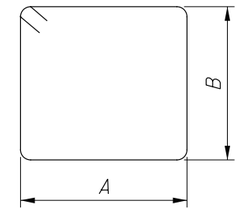
SUBSTRUCTURE REPAIR DETAILS

HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 003 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
RAILING POST SUPPORTS											
S401	48	6'-5"	206	3	1'-6"	1'-6"					
S601	64	1'-9"	169	STR							
		TOTAL	378								

REINFORCING STEEL BAR BEND DIAGRAM



TYPE-3

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. THE BAR SIZE NUMBER IS SPECIFIED IN THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT AFTER THE LETTERS INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR IN THE SUPERSTRUCTURE. A LEGEND OF THE DESCRIPTORS IS BELOW:
   S = SUPERSTRUCTURE
3. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED.
4. "ST." INDICATES A STRAIGHT BAR.

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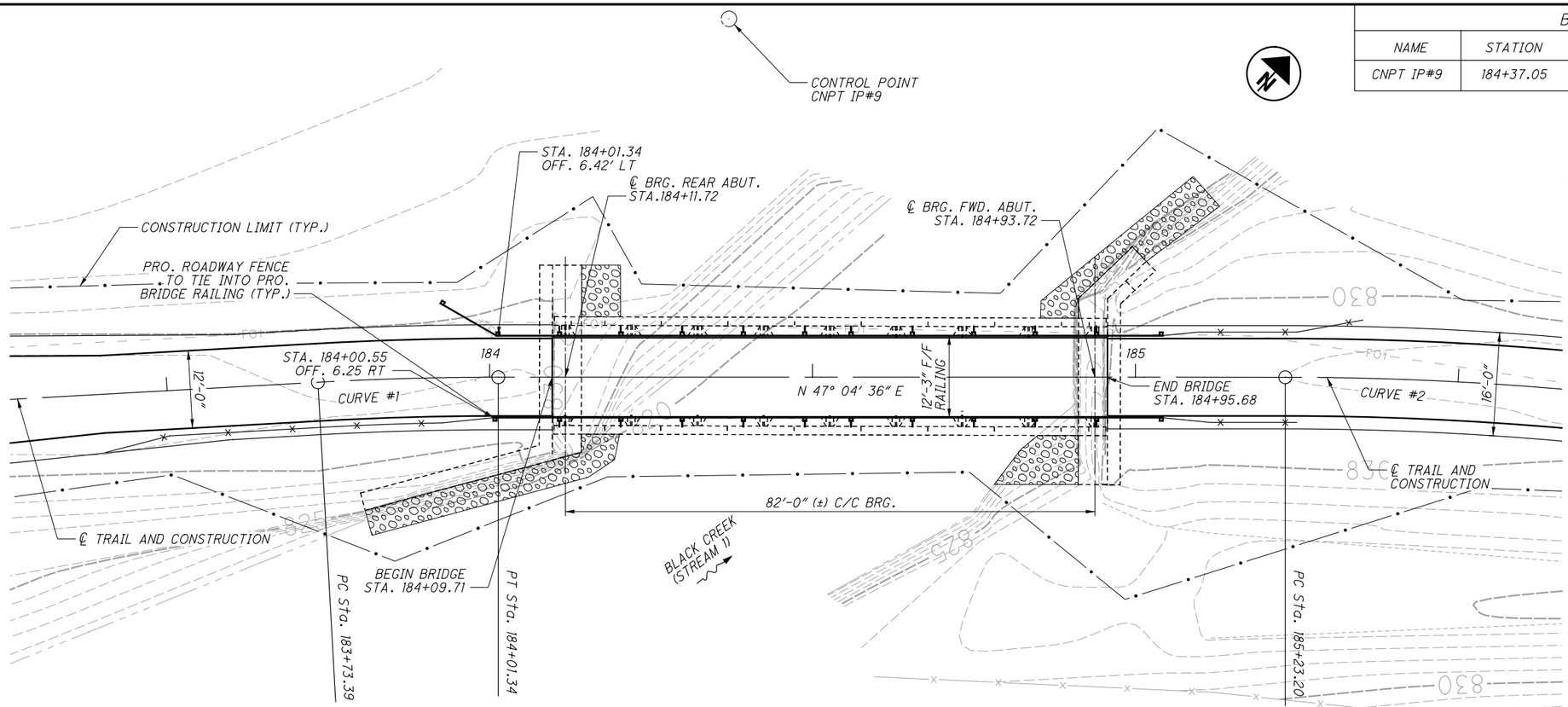
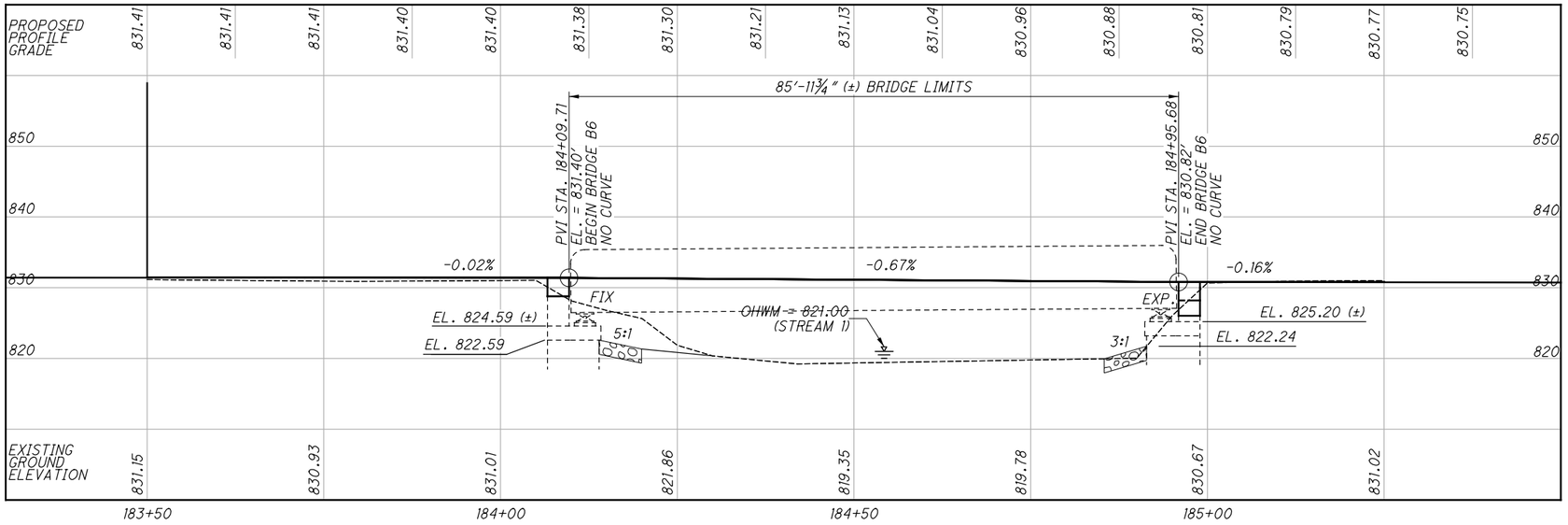
DESIGNED	DRAWN	REVIEWED	DATE
KAF	KAF	RBP	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BWR	XXX	0	

REINFORCING STEEL LIST
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 003 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052



PLAN VIEW



PROFILE ALONG ℄ TRAIL AND CONSTRUCTION

BENCHMARK DATA				
NAME	STATION	ELEVATION	NORTHING	EASTING
CNPT IP#9	184+37.05	828.355	307705.817	2094940.879

NOTES

1. ALL ELEVATIONS ARE BASED ON NAVD88 DATUM

EARTHWORK

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

CURVE DATA

CURVE #1	CURVE #2
P.I. Sta. 183+87.37	P.I. Sta. 185+57.32
Δ = 3° 12' 08" (RT)	P.T. Sta. 185+91.34
Dc = 11° 27' 33"	Δ = 7° 48' 29" (RT)
R = 500.00'	Dc = 11° 27' 33"
T = 13.98'	R = 500.00'
L = 27.95'	T = 34.12'
E = 0.20'	L = 68.14'
C = 27.94'	E = 1.16'
C.B. = N 45° 28' 32" E	C = 68.08'
	C.B. = N 50° 58' 50" E

LEGEND

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC, 2'-0" THICKNESS

HYDRAULIC DATA

DRAINAGE AREA = 27.5 SQ. MILES

EXISTING STRUCTURE

TYPE: STEEL THROUGH GIRDER ON CONCRETE OVER ASHLAR STONE ABUTMENTS

SPANS: SINGLE SPAN 82'-0"± C/C BEARINGS

ROADWAY: NONE EXISTING

APPROACH SLABS: NONE

ALIGNMENT: TANGENT

CROWN: N/A

COORDINATES: LATITUDE 40°30'36.67" LONGITUDE 82°02'42.78"

SKEW: NONE

PROPOSED STRUCTURE

PROPOSED WORK: CONSTRUCTED NEW NAIL-LAMINATE TIMBER DECK WITH TIMBER RAILINGS AND REHABILITATE ABUTMENTS

TYPE: STEEL THROUGH GIRDER ON CONCRETE OVER ASHLAR STONE ABUTMENTS

SPANS: 82'-0"± C/C BEARINGS

ROADWAY: 12'-3" F/F RAILING

LOADING: H15-44 AND 90 PSF PEDESTRIAN LOADING

SKEW: NONE

ALIGNMENT: TANGENT

WEARING SURFACE: ASPHALT CONCRETE

APPROACH SLAB: NONE

CROWN: 0.02 FT/FT

COORDINATES: LATITUDE 40°30'36.67" LONGITUDE 82°02'42.78"

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DESIGNED	DRAWN	REVIEWED	DATE
EJK	EJK	RBP	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
IMF	XXX	0	

HOLMES COUNTY
STA. 184+09.71
STA. 184+95.68

SITE PLAN

HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 006 - TRIAL OVER BLACK CREEK

HOL-CO-TRAIL-5C1

PID No. 86052

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD DRAWING(S):

RM-5.2 DATED 01-18-2019
DS-1-92 REVISED 07-15-2022

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800 DATED 07-21-2023
846 DATED 04-17-2015

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LFRD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020, AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING

DESIGN LOADING:
H15-44 TRUCK LOAD AND PEDESTRIAN 90 PSF LOAD

DESIGN DATA

CONCRETE CLASS QC1
-COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL
-MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL
-ASTM A709 GRADE 36, GALVANIZED PER CMS 711.02

TIMBER
-NO. 2 GRADE SOUTHERN PINE (DECK AND RAILING)

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH SUBSTRUCTURE STONE BLOCKS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05.

REMOVE WHOLE STONES TO THE EXTEND DETAILED IN THE PLANS. CONTRACTOR SHALL VERIFY THE PLAN DETAIL REPRESENTATION OF THE STONE COURSES AND INDIVIDUAL STONE DIMENSIONS IN THE FIELD. ALL STONES RETAINED FOR USE IN THE REBUILT STRUCTURE SHALL REMAIN UNMOVED IN THEIR CURRENT CONDITION AND CONFIGURATION. IF UNSTABLE OR CRACKED STONES ARE DISCOVERED BENEATH THE BRIDGE BEARINGS OR IF THE DIMENSIONS OF THE PLAN AREAS INCREASE BY MORE THAN ONE STONE IN ANY DIRECTION, DOCUMENT THE AREAS AND NOTIFY THE ENGINEER FOR EVALUATION TWO WEEKS PRIOR TO REMOVAL. THE ENGINEER WILL DETERMINE IF ADDITIONAL CONCRETE WILL REPLACE ADDITIONALLY REMOVED STONES.

CUT LINE CONSTRUCTION JOINT PREPARATION:
SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH 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 517, RAILING, TIMBER, AS PER PLAN

PAYMENT FOR THIS ITEM, RAILING, TIMBER, AS PER PLAN SHALL INCLUDE TIMBER RAILS AND POSTS, RAILING DIAPHRAGM CHANNELS, ANGLES, AND ALL CONNECTION ELEMENTS INCLUDING BLTS, NUTS, AND WASHERS.

ITEM 690 - SPECIAL, REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS

THIS ITEM SHALL BE USED TO REINFORCE THE TRANSVERSE JOINT BETWEEN THE BRIDGE ABUTMENT AND APPROACH ASPHALT. PLACE REINFORCING JOINT MESH AS SHOWN, 3'-0" WIDE. THE MESH DOES NOT NEED TO BE CENTERED AND SHALL NOT EXTEND INTO THE POLYMER MODIFIED EXPANSION JOINT. BOND THE AREA OF THE JOINT MESH TO THE TOP OF THE BRIDGE ABUTMENT CONCRETE USING AN EPOXY ADHESIVE. COORDINATE WITH JOINT MESH MANUFACTURER TO DETERMINE A COMPLIANT EPOXY WITH NO DELETERIOUS EFFECTS ON THE MESH. THE TOP SURFACE OF CONCRETE SHALL BE CLEANED TO PROVIDE ADEQUATE SUBSTRATE FOR BONDING. AFTER CURING OF THE EPOXY APPLY A TACK COAT TO MAXIMIZE BOND BETWEEN THE JOINT MESH AND ASPHALT. PLACE ASPHALT AS SHOWN ON TRAIL PLANS. WHERE THE JOINT MESH IS PLACED AT MID-THICKNESS OF THE ASPHALT SECTION PAVE TO THE NEAREST LIFT THICKNESS BEFORE INSTALLING THE JOINT MESH, THEN CONTINUE WITH ASPHALT PAVING. THE REINFORCED JOINT MESH MATERIAL SHALL BE GLASGRID 8512 OR MACGRID AR 20.7. THE REINFORCED JOINT MESH AND A TACK COAT SHALL BE PLACED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

PAYMENT FOR THE REINFORCED JOINT MESH, EPOXY CONCRETE ADHESIVE, TACK COAT, AND ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO COMPLETE THE WORK SHALL BE PAID FOR AS A PRICE PER SQUARE YARD UNDER ITEM 690 SPECIAL - REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS.

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

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 C&MS, 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.

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.

ITEM 530 SPECIAL - STRUCTURES, TIMBER DECKING

INSTALL NAIL LAMINATED TIMBER DECKING AS SHOWN. PAYMENT FOR DECKING, INCLUDING THE TIMBER, NAILS AND FASTENERS, BOLTS, NUTS, WASHERS, CLIP CONNECTORS, AND ANY OTHER INCIDENTALS, MATERIALS, EQUIPMENT, AND LABOR REQUIRED TO INSTALL THE DECKING AND COMPLETE THE WORK SHALL BE PAID FOR ON THE MFBM BASIS FOR ITEM 530 SPECIAL - STRUCTURES, TIMBER DECKING.

PLAN ABBREVIATIONS

ABUT.	= ABUTMENT
BRG.	= BEARING
c/c	= CENTER TO CENTER
CLR.	= CLEAR COVER
CONST.	= CONSTRUCTION
C.J.	= CONSTRUCTION JOINT
E.F.	= EACH FACE
EL.	= ELEVATION
F/F	= FACE TO FACE
F.A.	= FORWARD ABUTMENT
F.F.	= FAR FACE
℄	= FLOW LINE
FWD.	= FORWARD
M.N.S.	= MAGNETIC NAIL SET
N.F.	= NEAR FACE
PEJF	= PREFORMED EXPANSION JOINT FILLER
P.G.	= PROFILE GRADE
R.A.	= REAR ABUTMENT
SCD	= STANDARD CONSTRUCTION DRAWING
STA.	= STATION
TYP.	= TYPICAL

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GENERAL NOTES
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 006 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

ESTIMATED QUANTITIES

CALC. BY: KAF DATE: 5/17/21
CHKD. BY: BWR DATE: 5/17/21

ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	REAR ABUTMENT	FORWARD ABUTMENT	PIERS	SUPER-STRUCTURE	GENERAL	REF. SHEET NUMBER
202	11201	1	LS	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN					1	2/12
407	10000	1	GAL	TACK COAT					1	
441	50000	4	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22					4	
441	50300	11	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)					11	
503	11100	1	LS	COFFERDAMS AND EXCAVATION BRACING					1	
503	21100	14	CY	UNCLASSIFIED EXCAVATION	5	9				
509	10000	1,329	LB	EPOXY COATED REINFORCING STEEL	407	922				
509	20001	50	LB	REINFORCING STEEL, REPLACMENT OF EXISTING REINFORCING STEEL, AS PER PLAN					50	2/12
510	10000	84	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	32	52				
511	45710	14	CY	CLASS QC1 CONCRETE, ABUTMENT	4	10				
512	10100	40	SY	SEALING CONCRETE SURFACES (EPOXY-URETHANE)	8	32				
512	33011	117	SY	TYPE 3 WATERPROOFING, AS PER PLAN					117	7/12
513	10200	366	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF	183	183				
516	25000	177	SF	NYLON REINFORCED NEOPRENE SHEETING	66	111				
517	74001	164	FT	RAILING, TIMBER, AS PER PLAN				164		2/12, 11/12
518	21200	24	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	5	19				
518	22300	172	FT	SPECIAL - STEEL DRIP STRIP				172		
518	40000	58	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	22	36				
518	40012	22	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE	14	8				
530	10700	9	MFBM	SPECIAL - STRUCTURES, TIMBER DECKING				9		2/12
601	32200	49	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	24	25				
607	98000	50	FT	FENCE, MISC.: WOOD FENCE				50		
690	12050	9	SY	SPECIAL - REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS	4.5	4.5				2/12
846	00110	14	CF	SPECIAL - POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	7	7				2/12

NOTE: ITEMS 407, 441, AND 601 HAVE BEEN CARRIED TO THE ROADWAY AND DRAINAGE QUANTITIES (RESPECTIVELY) OF THE GENERAL SUMMARY AND COST ESTIMATE PER L&D VOL. 3, SECTION 1307. ALL OTHER QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY AS STRUCTURES QUANTITIES.

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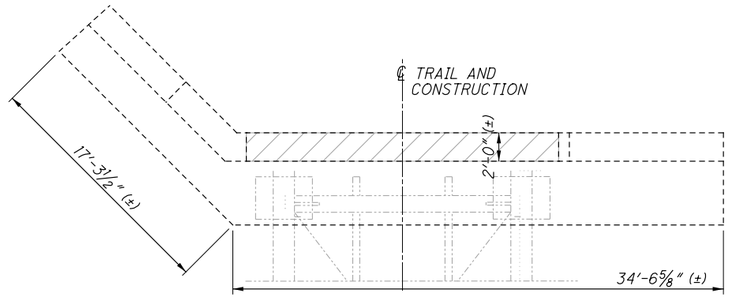
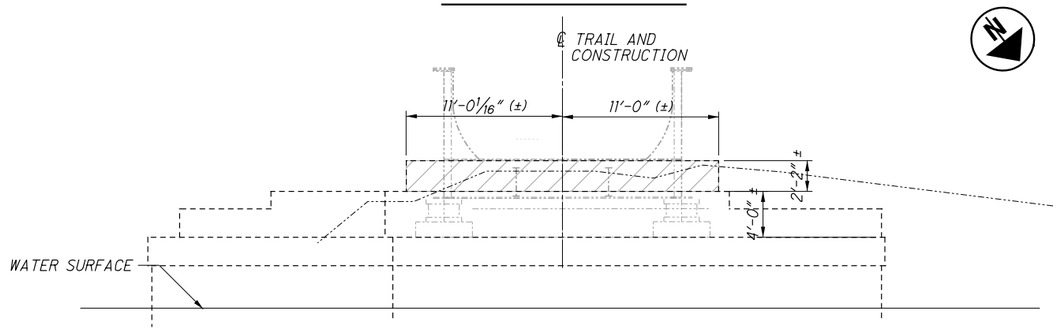
ESTIMATED QUANTITIES
HOLMES COUNTY - PHASE 5C1
BRIDGE 006 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052



REAR ABUTMENT PLAN



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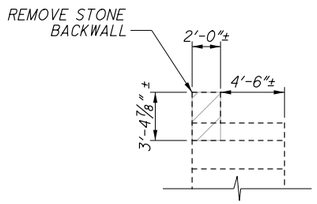

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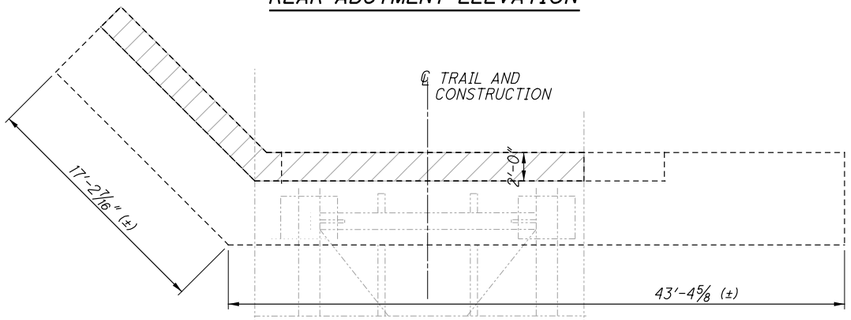
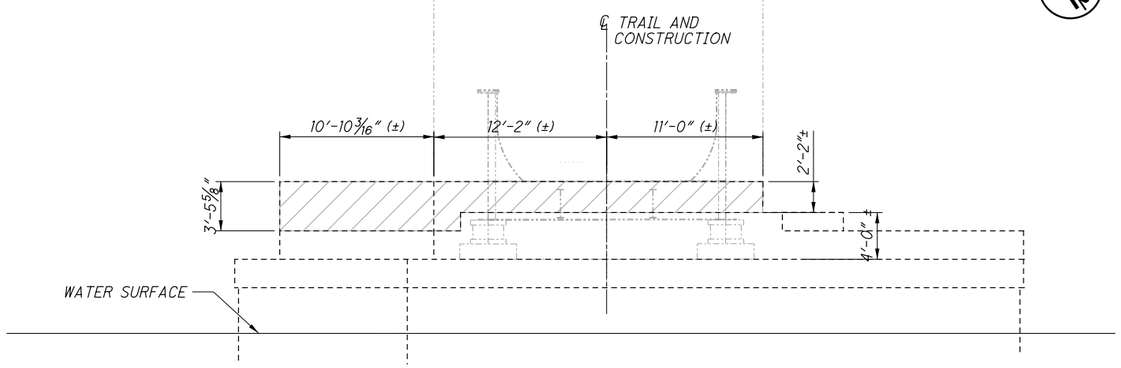


FORWARD ABUTMENT PLAN



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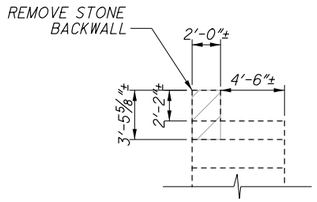

FORWARD ABUTMENT REMOVAL SECTION

LEGEND

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

NOTES

1. CONTRACTOR TO VERIFY DIMENSIONS FOR REMOVAL. THE DETAILED DIMENSIONS ON THIS SHEET ARE INTENDED TO CONFORM TO THE LIMITS OF WHOLE STONES ONLY. NO PARTIAL STONES SHALL BE REMOVED.
2. REMOVAL OF TREES SHALL BE PAID FOR UNDER ITEM 201 - CLEARING AND GRUBBING.
3. RESETTING THE ABUTMENT STONE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

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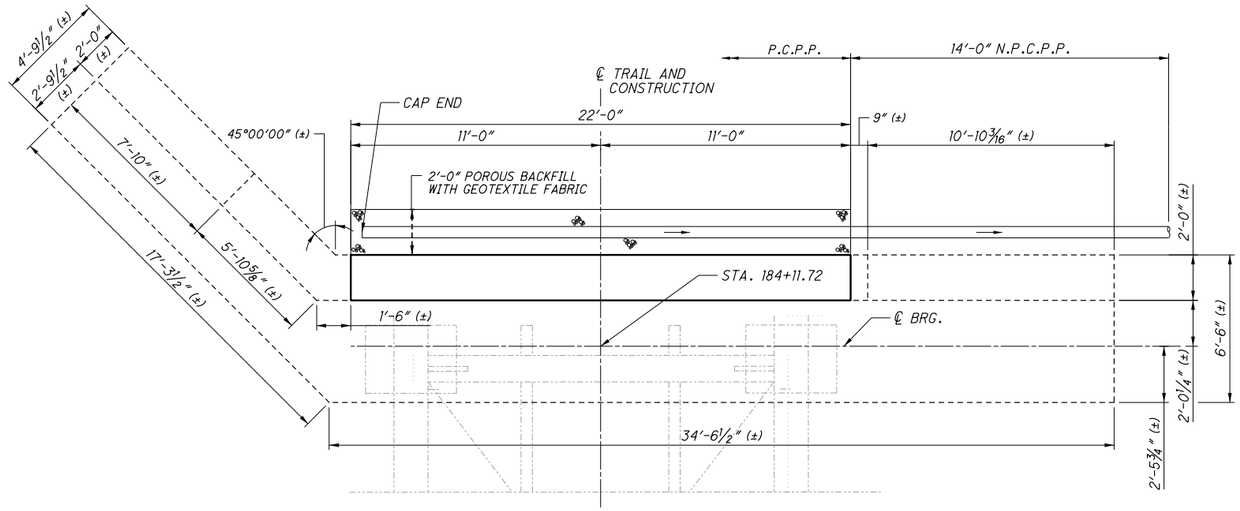
ABUTMENT REMOVAL DETAILS
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 006 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

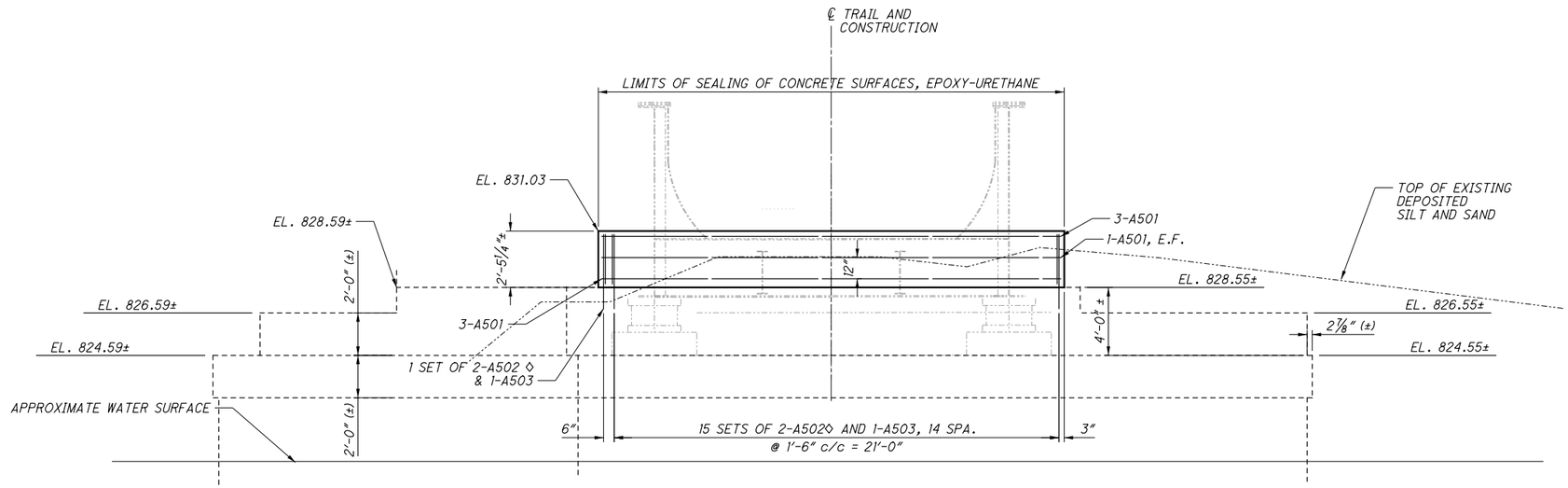


REAR ABUTMENT PLAN

LEGEND

◇ DOWEL BAR INTO EXISTING CONCRETE A MINIMUM DEPTH 1'-0"

NOTES:
1. DOWEL INTO EXISTING CONCRETE WHERE SHOWN A MINIMUM OF 1'-0" AS PER CMS 510, AND AS REQUIRED BY THE GROUT MANUFACTURER FOR THE GIVEN BAR DIAMETER. BAR LENGTHS AND ASSOCIATED WEIGHTS HAVE BEEN ESTIMATED ASSUMING 1'-0" EMBEDMENT.
2. PROVIDE THE REQUIRED CONCRETE COVER/EDGE DISTANCE AS REQUIRED BY THE GROUT MANUFACTURER FOR THE GIVEN BAR DIAMETER.
3. MINIMUM LAP LENGTHS:
   #5 BARS = 37"



REAR ABUTMENT ELEVATION

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REAR ABUTMENT PLAN AND ELEVATIONS
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 006 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

5 / 12

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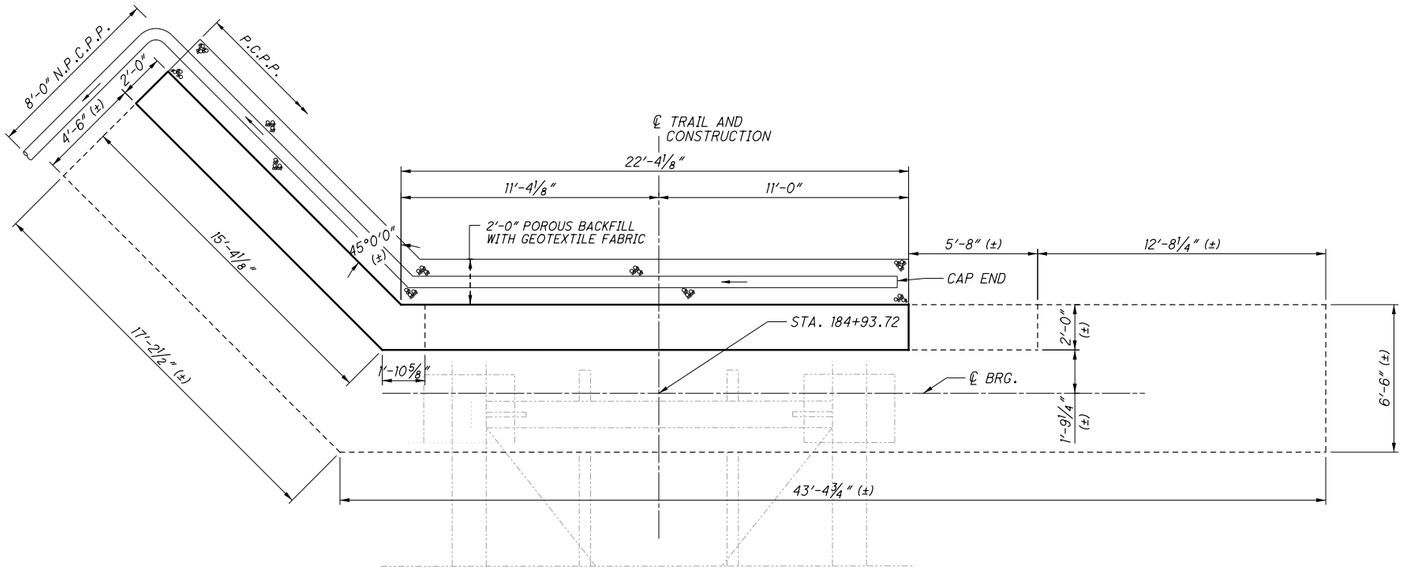

FORWARD ABUTMENT PLAN

LEGEND

◇ DOWEL BAR INTO EXISTING CONCRETE A MINIMUM DEPTH 1'-0"

NOTES:
1. DOWEL INTO EXISTING CONCRETE WHERE SHOWN A MINIMUM OF 1'-0" AS PER CMS 510, AND AS REQUIRED BY THE GROUT MANUFACTURER FOR THE GIVEN BAR DIAMETER. BAR LENGTHS AND ASSOCIATED WEIGHTS HAVE BEEN ESTIMATED ASSUMING 1'-0" EMBEDMENT.
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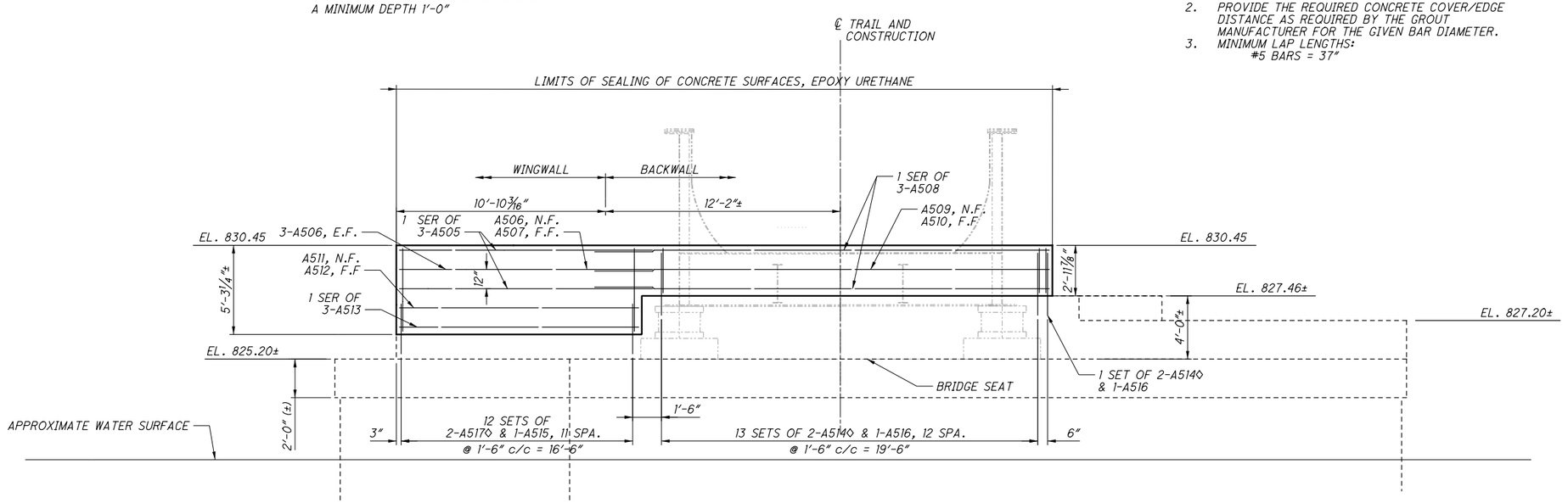

FORWARD ABUTMENT ELEVATION

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FORWARD ABUTMENT PLAN AND ELEVATIONS
HOLMES COUNTY TRIAL - PHASE 5C1
BRIDGE 006 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

6 / 12

121 / 127

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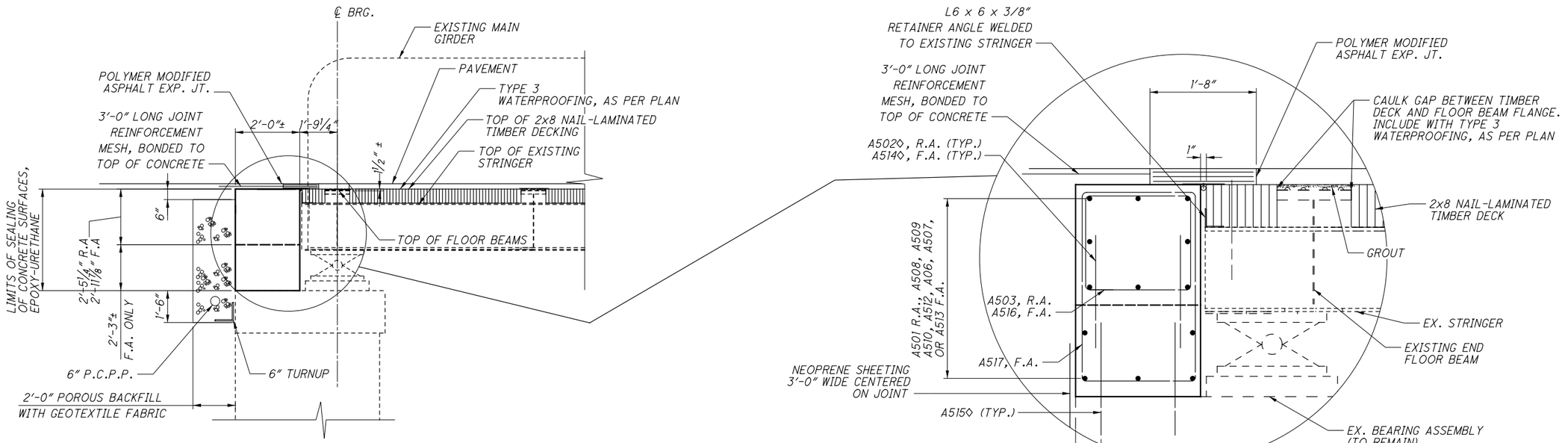
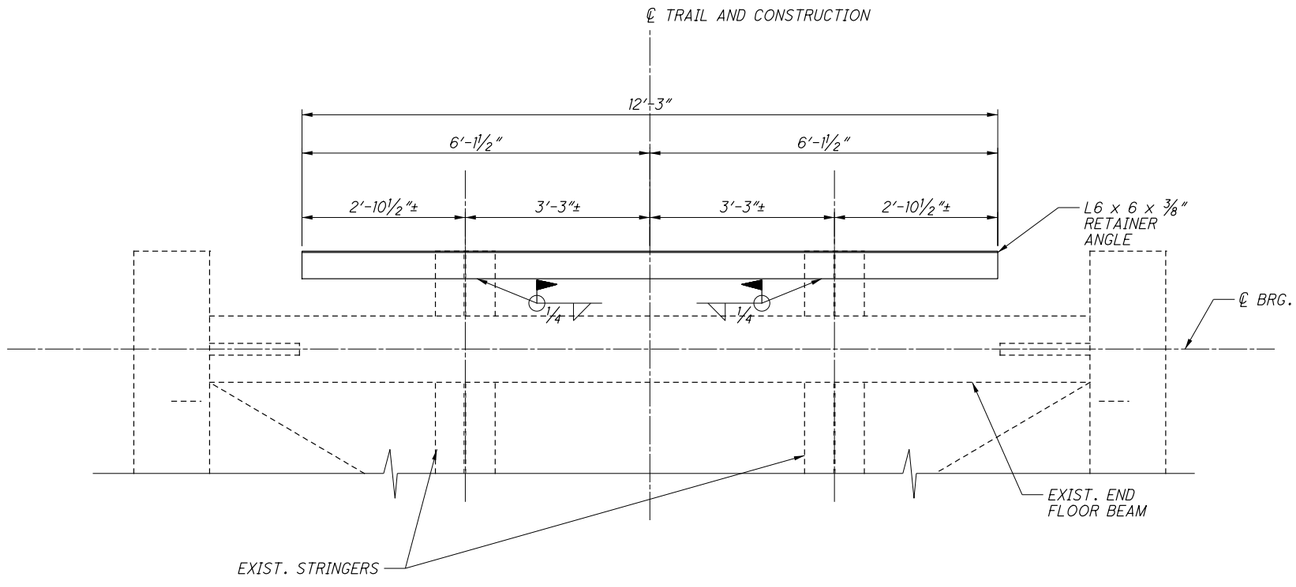


TYPICAL ABUTMENT SECTION



PARTIAL PLAN

SHOWING RETAINER ANGLE PLACEMENT, TYP. AT BOTH ABUTMENTS

LEGEND

◊ - DOWEL BAR PER ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT

NOTES

1. DOWEL BARS 1'-0" MINIMUM INTO EXISTING STONE.
2. FILL VOID BETWEEN DECK TIMBERS AND ABOVE TOP OF EXISTING FLOORBEAMS, WITH GROUT CONFORMING TO CMS 510 NON-SHRINK NON-METALLIC GROUT. STRIKE OFF GROUT AT THE TOP OF THE DECK TIMBERS TO PROVIDE A SMOOTH SURFACE FOR INSTALLING THE TYPE 3 WATERPROOFING. INCLUDE ALL WORK, MATERIALS, AND INCEDENTALS FOR PAYMENT WITH ITEM 512 - TYPE 3 WATERPROOFING, AS PER PLAN.

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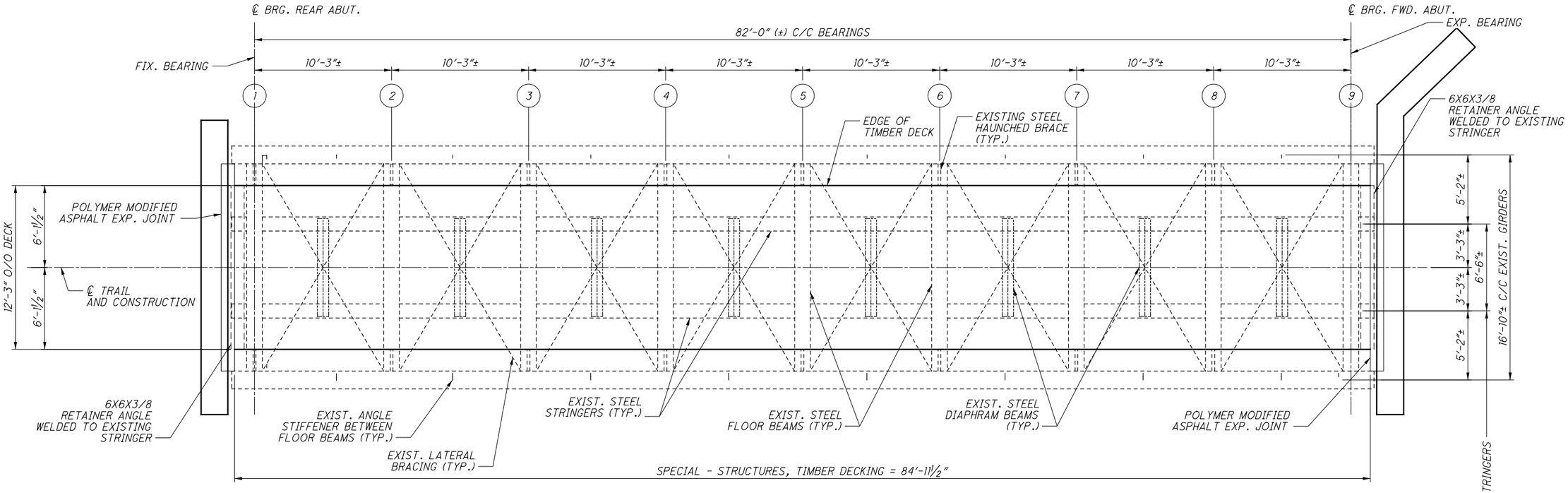
ABUTMENT REPAIR DETAILS
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 006 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052



LEGEND

(#) FLOORBEAM NUMBER (F.B. #)

DECK AND FRAMING PLAN

NOTE:
FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

DECK ELEVATIONS

LOCATION		R.A.	F.B. 1	F.B. 2	F.B. 3	F.B. 4	F.B. 5	F.B. 6	F.B. 7	F.B. 8	F.B. 9	F.A.
LEFT EDGE OF DECK	STATION	184+11.70	184+11.39	184+21.62	184+31.86	184+42.10	184+52.39	184+62.67	184+72.92	184+83.17	184+93.48	184+93.51
	OFFSET	-6.50	-6.50	-6.50	-6.50	-6.50	-6.50	-6.50	-6.50	-6.50	-6.50	-6.50
	FINAL ELEVATION	831.51	831.51	831.44	831.37	831.30	831.23	831.16	831.10	831.03	830.96	830.96
PROFILE GRADE	STATION	184+11.70	184+11.39	184+21.62	184+31.86	184+42.10	184+52.39	184+62.67	184+72.92	184+83.17	184+93.48	184+93.51
	OFFSET	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	FINAL ELEVATION	831.39	831.39	831.32	831.25	831.18	831.11	831.04	830.98	830.91	830.84	830.84
RIGHT EDGE OF DECK	STATION	184+11.70	184+11.39	184+21.62	184+31.86	184+42.10	184+52.39	184+62.67	184+72.92	184+83.17	184+93.48	184+93.51
	OFFSET	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
	FINAL ELEVATION	831.26	831.26	831.19	831.13	831.05	830.98	830.91	830.85	830.78	830.71	830.71

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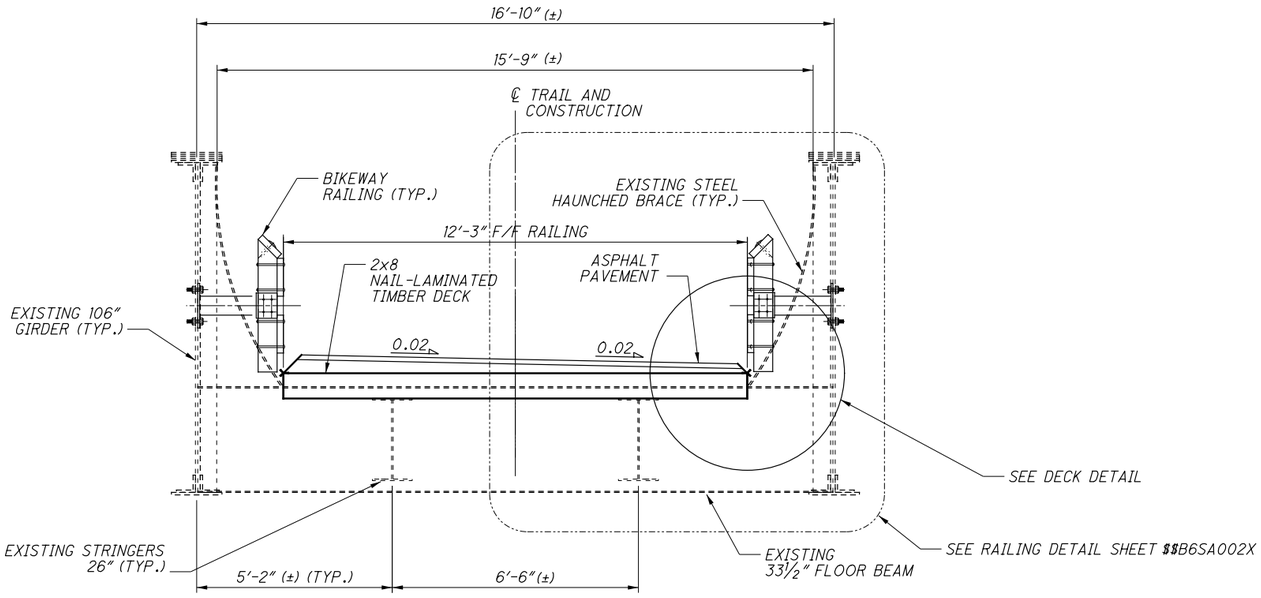
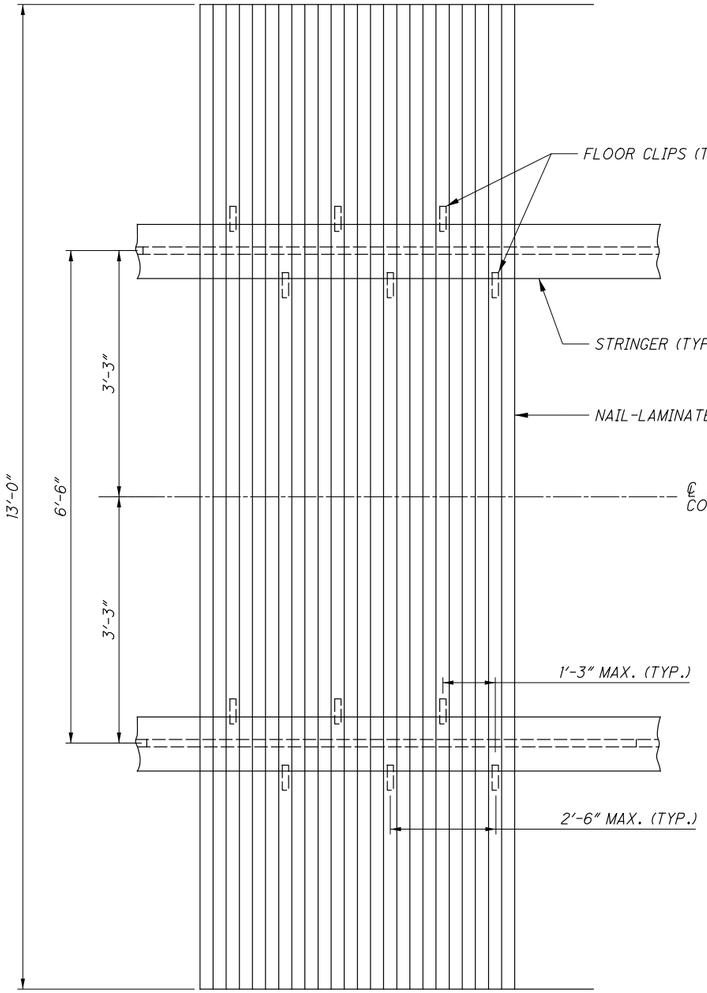
DECK AND FRAMING PLAN
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 006 - TRAIL OVER BLACK CREEK

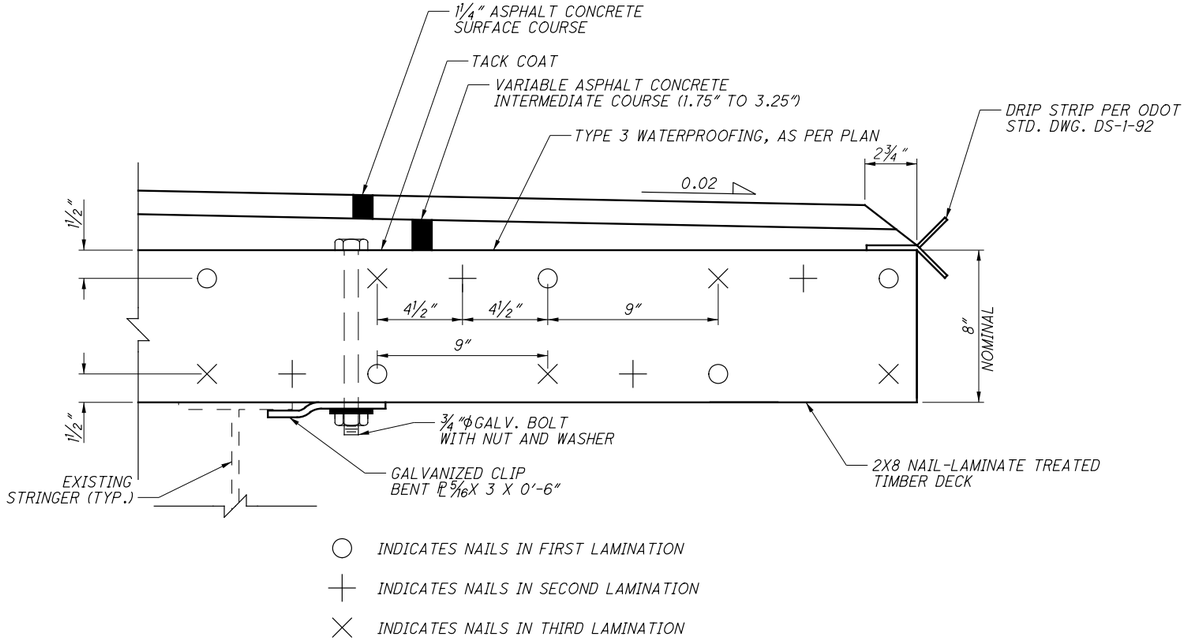
HOL-CO-TRAIL-5C1
PID No. 86052



TRANSVERSE SECTION



FLOOR CLIP LAYOUT



DECK DETAIL

NOTES

1. FOR ADDITIONAL RAILING AND POST DETAILS, SEE SHEET 11/12
2. FOR DECK PLAN, SEE SHEET 8/12

NAIL SPECIFICATIONS

NAILS SHALL BE USED FOR CONNECTION TO MAIN STRUCTURAL TIMBER MEMBERS. THE LENGTH OF NAIL USED SHALL BE SUFFICIENT TO PROVIDE A MINIMUM OF 1½″ PENETRATION INTO STRUCTURAL TIMBER/ MEMBER.

NAILS SHALL BE STAINLESS STEEL OR ZINC COATED STEEL. PRE-DRILLING OF LUMBER AND/OR STRUCTURAL TIMBER MAY BE REQUIRED TO AVOID SPLITTING OF THE WOOD.

DESIGN AGENCY
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EJK	EJK	RBP	09/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JMF	XXX	0	

TRANSVERSE SECTION
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 006 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

9 / 12

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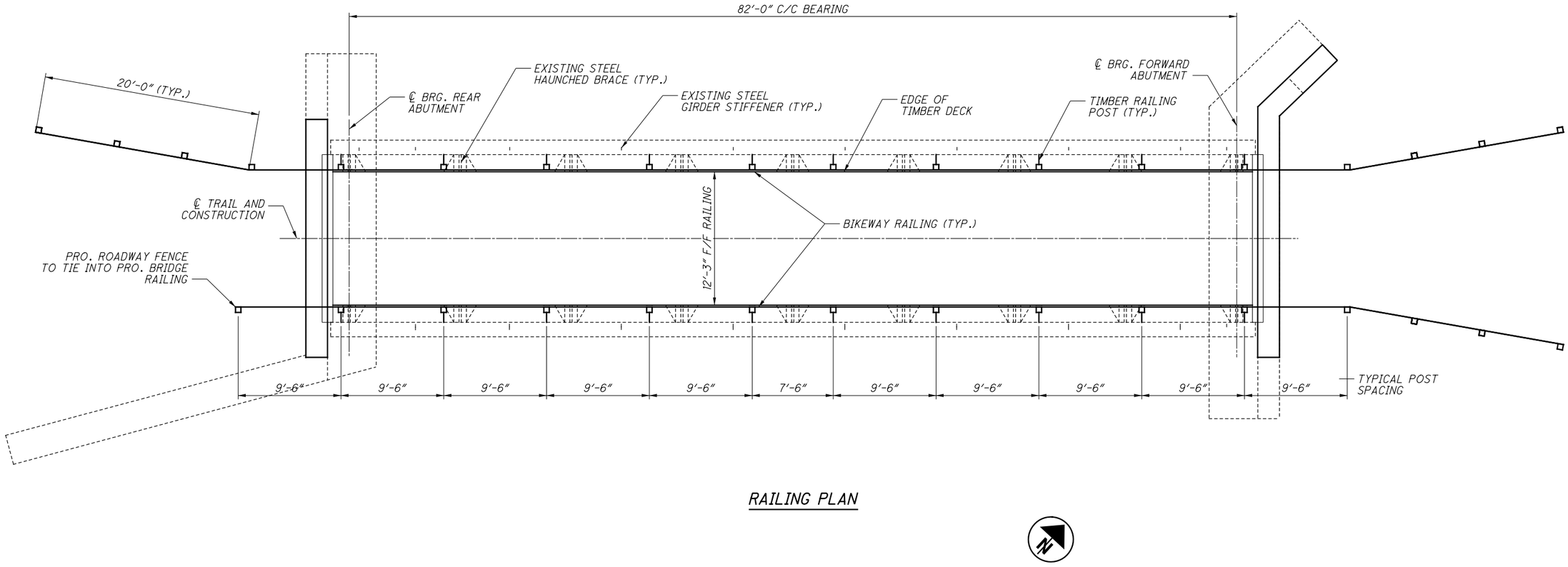

RAILING PLAN

NOTES

1. FOR ADDITIONAL RAILING AND POST DETAILS, STANDARD DRAWING RM-5.2 AND SHEET 11/12

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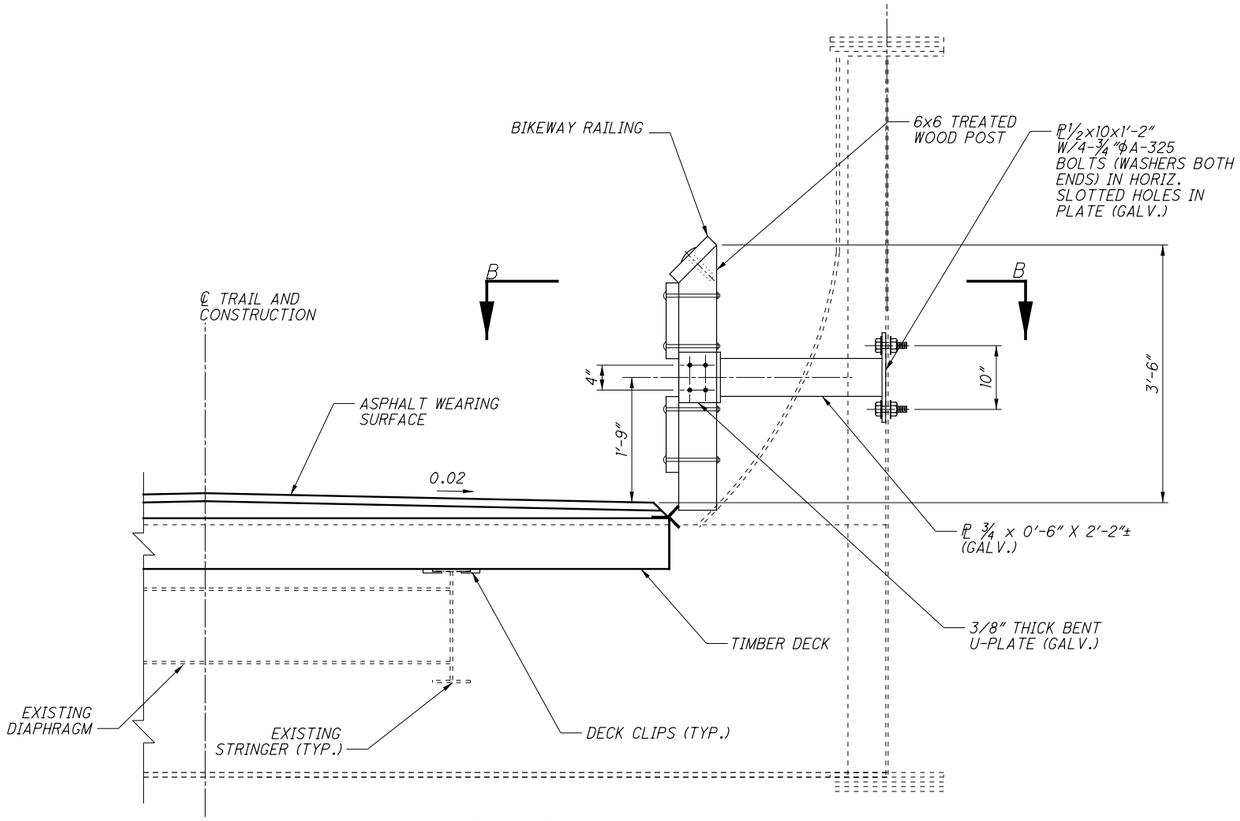
RAILING PLAN
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 006 - TRAIL OVER BLACK CREEK

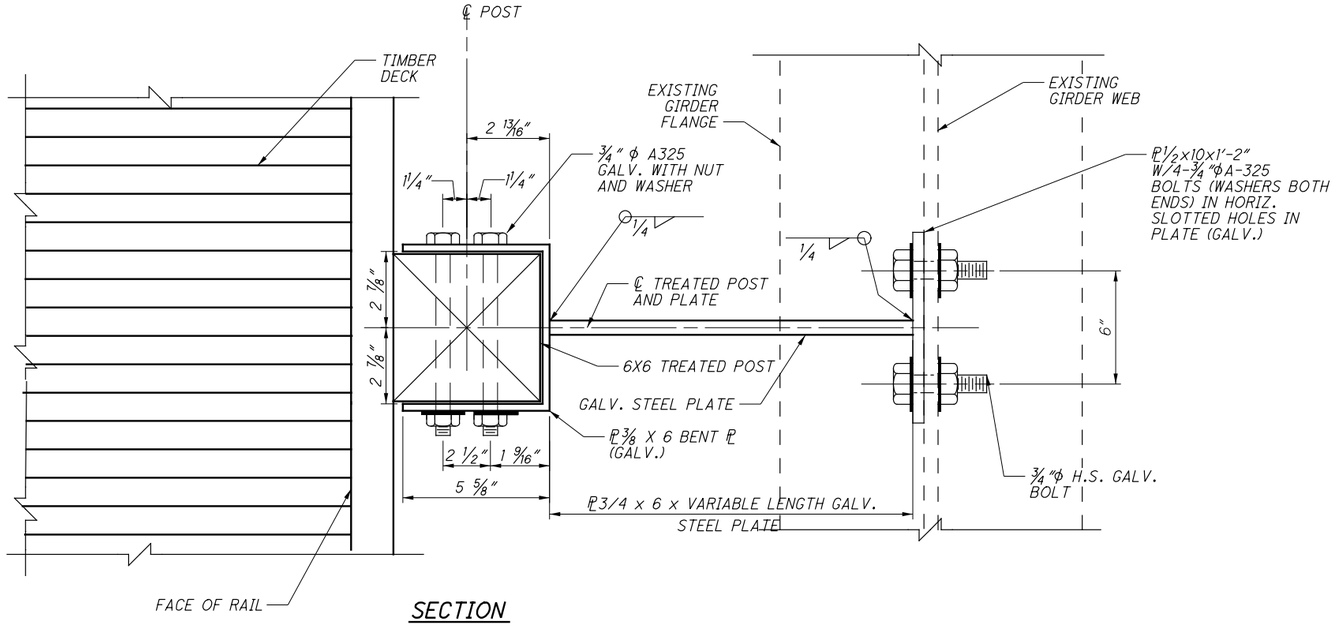
HOL-CO-TRAIL-5C1
PID No. 86052

NOTES

1. FURNISH STEEL PLATE AND BAR MATERIAL ACCORDING TO CMS 711, GRADE 36. THREADED RODS, BOLTS, NUTS, AND WASHERS SHALL CONFORM TO ASTM A325.
2. GALVANIZE ALL STEEL, HARDWARE AND ACCESSORIES PER CMS 711.02.
3. FOR ADDITIONAL BIKEWAY RAILING NOT SHOWN, SEE STANDARD DRAWING RM-5.2.
4. FOR POST LOCATIONS, SEE DECK PLAN ON SHEET 10/12



RAILING DETAIL



SECTION

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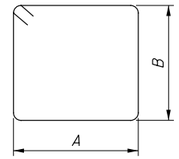
RAILING DETAILS
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 006 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

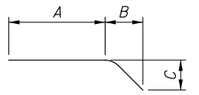
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
REAR ABUTMENT											
A501	8	21'-6"	180	STR							
A502	32	3'2"	106	STR							
A503	16	7'-6"	121	3	1'-6"	1'-11"					
		SUB-TOTAL	407								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
FORWARD ABUTMENT											
	2	17'-5"			14'-4"						
A505	SERIES OF	TO	112	19	TO	2'-3"	2'-3"				0'-4"
	3	18'-1"			15'-0"						
A506	1	18'-1"	19	19	15'-0"	2'-3"	2'-3"				
A507	1	17'-5"	19	19	14'-4"	2'-3"	2'-3"				
	2	22'-1"									
A508	SERIES OF	TO	142	STR							0'-5"
	3	22'-11"									
A509	1	22'-11"	24	STR							
A510	1	22'-1"	24	STR							
A511	1	16'-5"	18	19	15'-0"	1'-1"	1'-1"				
A512	1	15'-2"	16	19	14'-4"	0'-8"	0'-8"				
	1	15'-2"			14'-4"						
A513	SERIES OF	TO	50	19	TO	0'-8"	0'-8"				0'-4"
	3	15'-10"			15'-0"						
A514	28	3'-9"	110	STR							
A515	12	12'-11"	162	3	1'-6"	4'-9"					
A516	14	8'-5"	123	3	1'-6"	2'-6"					
A517	24	4'-1"	103	STR							
		SRB-TOTAL	922								
		TOTAL	1329								

REINFORCING STEEL BAR BEND DIAGRAMS



TYPE-3



TYPE-19

NOTES:

1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. THE BAR SIZE NUMBER IS SPECIFIED IN THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT AFTER THE LETTERS INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A NO. 5 BAR IN THE ABUTMENT. A LEGEND OF THE DESCRIPTORS IS BELOW:
   A= ABUTMENT
3. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED.
4. "ST." INDICATES A STRAIGHT BAR.

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REINFORCING STEEL LIST
HOLMES COUNTY TRAIL - PHASE 5C1
BRIDGE 006 - TRAIL OVER BLACK CREEK

HOL-CO-TRAIL-5C1
PID No. 86052

12 / 12

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