

COMMONWEALTH OF PENNSYLVANIA



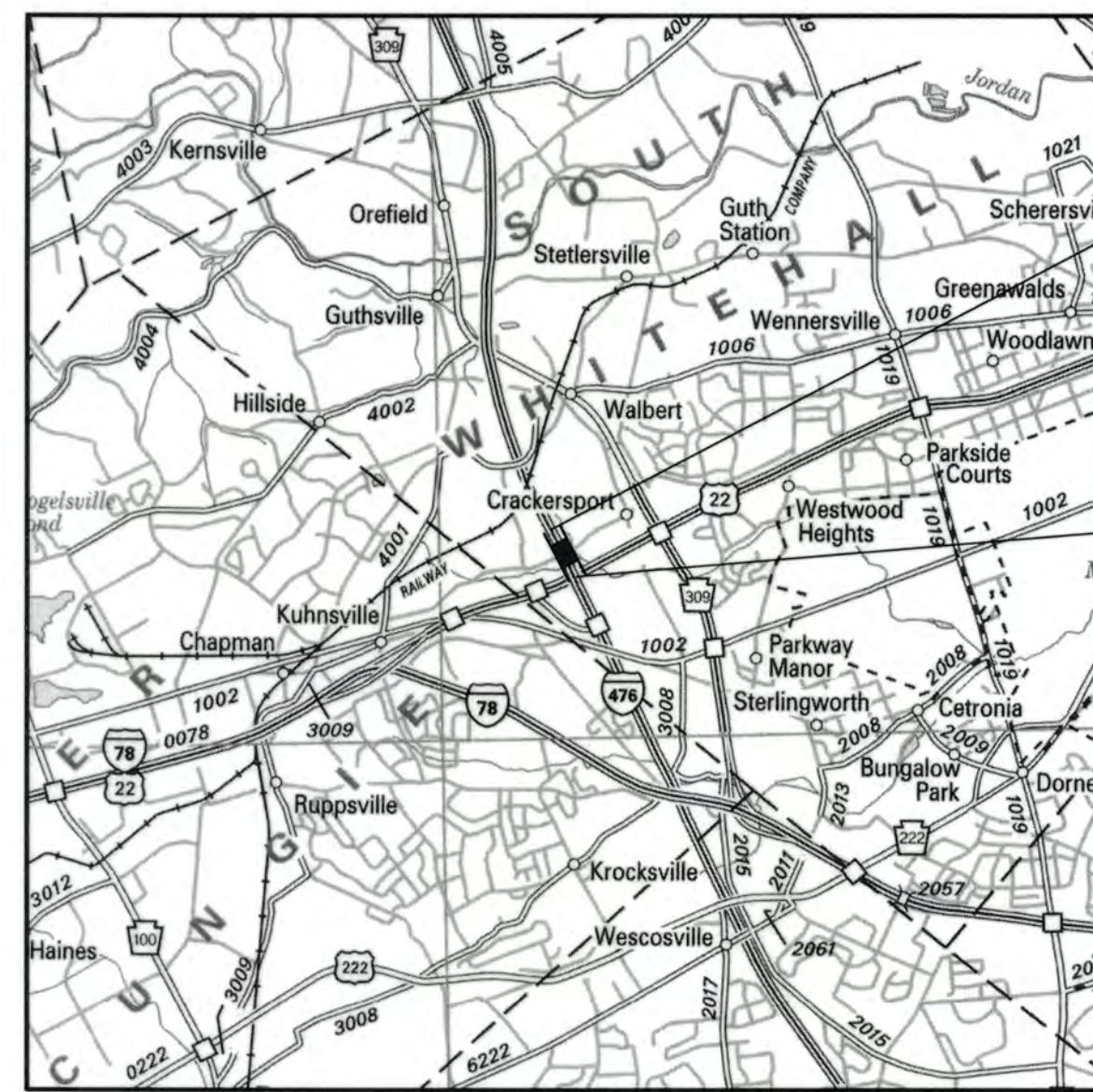
PENNSYLVANIA TURNPIKE COMMISSION

DRAWINGS FOR
CONTRACT NO. A-057.66S002-3-02
REPLACEMENT OF BRIDGE NB-355
AT
MILEPOST A-57.66
IN
LEHIGH COUNTY, PENNSYLVANIA



⑤ PROJECT LOCATION
 ⑤ DISTRICT

DISTRICT	COUNTY	TOWNSHIP / BOROUGH	SECTION	SHEETS
5	LEHIGH	SOUTH WHITEHALL TOWNSHIP		116



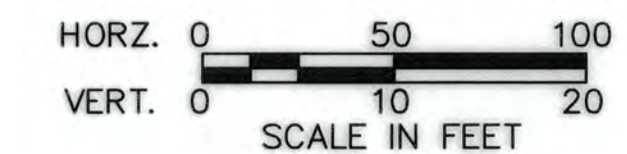
LIMIT OF WORK
 STA 660+00.00
 MILEPOST A-57.81
 I-476 (PA TURNPIKE)
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY

LIMIT OF WORK
 STA 645+00.00
 MILEPOST A-57.52
 I-476 (PA TURNPIKE)
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY



LEGEND

- INTERSTATE
- STATE ROUTE
- MUNICIPAL BOUNDARY
- PROJECT LOCATION



DESIGN DESIGNATION

FUNCTIONAL CLASSIFICATION - URBAN INTERSTATE
 DESIGN SPEED - 75 MPH
 PAVEMENT WIDTH - 24'-0" (2) 12'-0" LANES
 SHOULDER WIDTH - 10'-0"
 MEDIAN WIDTH - 4'-0"

TRAFFIC DATA

CURRENT A.D.T. - 30,959 (2017)
 DESIGN YEAR A.D.T. - 45,020 (2037)
 D - 50%
 T - 17%

WBS NO. A-057.66S002-3-02
NETWORK NUMBER: 7004121
FILE NAME: 0355RD01.dgn
DRAWING TYPE: 1A
STRUCTURE NUMBER: NB-355

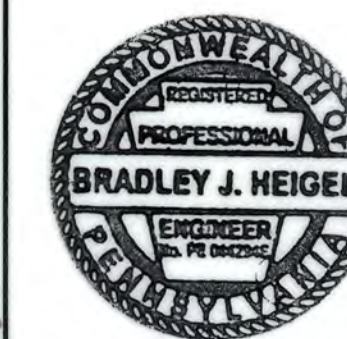


PREPARED BY:



HDR Engineering, Inc.
 11 STANWIX STREET, SUITE 800
 PITTSBURGH, PA 15222

Jason Eric Bomo August 24, 2016
 DATE
Jason Eric Bomo August 24, 2016
 DATE



CHIEF ENGINEER
 PENNSYLVANIA TURNPIKE
 COMMISSION

APPROVED:	<i>[Signature]</i> 9.23.16	DATE
CHIEF ENGINEER, PENNSYLVANIA TURNPIKE COMMISSION		
RECOMMENDED:	<i>[Signature]</i> 9/17/16	DATE
SECRETARY TREASURER, PENNSYLVANIA TURNPIKE COMMISSION		
	May 17, 2016	COMMISSION APPROVAL

LIST OF CONTRACT DRAWINGS

DESCRIPTION	SHEET
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FOR INFORMATION ONLY	
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GENERAL NOTES

CONSTRUCT PROJECT IN ACCORDANCE WITH THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, PUBLICATION 408/2011-9, EFFECTIVE OCTOBER 2, 2015, EXCEPT AS MODIFIED IN THE CONTRACT DOCUMENTS.

ALL DIMENSIONS ARE IN US SURVEY FEET UNLESS OTHERWISE NOTED.

REFER TO THE ROADWAY PLANS TO LOCATE THE RIGHT-OF-WAY LINE FOR TABULATION OF PROJECT COORDINATES AND PROJECT CONTROL INFORMATION.

REFER TO THE ROADWAY PLANS TO LOCATE THE RIGHT-OF-WAY LINE AND INSTALL ALL NEW RIGHT-OF-WAY FENCE, TYPE 2, 1'-0" INSIDE THE RIGHT-OF-WAY LINE.

THE LEGAL RIGHT-OF-WAY FOR INTERSTATE TRAFFIC ROUTE 476, KNOWN AS THE NORTHEASTERN EXTENSION OF PENNSYLVANIA TURNPIKE, ALSO PREVIOUSLY KNOWN AS PENNSYLVANIA ROUTE 9 IS VARIABLE WIDTH, ACQUIRED BY DEEDS AND/OR DECLARATIONS OF TAKING, BASED ON PLANS PROVIDED BY THE PENNSYLVANIA TURNPIKE COMMISSION BETWEEN STATION 648+00 TO STATION 658+00 AS SHOWN ON DISTRICT 14, LEHIGH COUNTY, SECTION 36-A, SHEET 13 OF 42, LAST REVISION SIGNED OCTOBER 14, 1958 AND SHEET 14 OF 42, LAST REVISION SIGNED APRIL 23, 1957.

THE LEGAL RIGHT-OF-WAY FOR TOWNSHIP ROUTE 555, KNOWN AS CRACKERSPORT ROAD IS SIXTY FEET WIDE (60') BASED FROM DEED INFORMATION AND ASSESSMENT MAP PLAT FOUND IN THE COURTHOUSE OF LEHIGH COUNTY.

THE VERTICAL CONTROL IS BASED ON NAVD 1988, DETERMINED VIA A GPS STATIC SESSION, BASED OFF OF PTC MONUMENT 'PTCA059.1' OBTAINED ON OCTOBER 09, 2014.

THE HORIZONTAL CONTROL IS BASED ON PENNSYLVANIA STATE PLANE COORDINATES, NAD83 (1992), SOUTH ZONE, DETERMINED VIA A GPS STATIC SESSION, BASED OFF OF PTC MONUMENT 'PTCA059.1' OBTAINED ON OCTOBER 09, 2014.

DO NOT INTERFERE WITH THE OPERATION OF ANY FIRE HYDRANT, FIRE CALL BOX OR POLICE CALL BOX.

THERE ARE NO NAVIGABLE STREAMS WITHIN THE PROJECT LIMITS.

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWINGS

PTS-100	2 SHEETS	JAN 2015
PTS-112	1 SHEET	JAN 2015
PTS-124	4 SHEETS	OCT 2011
PTS-125	1 SHEET	OCT 2011
PTS-130	5 SHEETS	OCT 2011
PTS-145	2 SHEETS	JAN 2015
PTS-180	2 SHEETS	OCT 2011
PTS-190	2 SHEETS	JAN 2015
PTS-192	1 SHEET	JAN 2015
PTS-700	2 SHEETS	OCT 2007
PTS-900	13 SHEETS	DEC 2015
PTS-960	5 SHEETS	MAR 2016
PTS-980	18 SHEETS	DEC 2015

UTILITY NOTES

EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST INFORMATION AVAILABLE AND ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CORRECTNESS OF THIS INFORMATION IS NOT GUARANTEED.

THE CONTRACTOR SHALL VERIFY THE INFORMATION AND SHALL TAKE ALL PRECAUTIONS TO FULLY PROTECT THE UTILITY AND SERVICE.

THREE WORKING DAYS PRIOR TO ANY EXCAVATION, POST DRIVING, OR DEMOLITION WORK IN THE VICINITY OF UNDERGROUND UTILITIES, THE CONTRACTOR MUST CONTACT PA ONE CALL AND COMPLY WITH THE PROVISIONS OF ACT 287 OF 1974 AS AMENDED BY ACT 187 OF 1996 (ONE CALL NO. 1-800-242-1776).

IT IS THE CONTRACTORS' RESPONSIBILITY TO IDENTIFY ALL OVERHEAD LINES, NOTIFY AND COMPLY WITH THE UTILITY COMPANY'S SAFETY CLEARANCE REQUIREMENTS WHEN WORKING IN THE AREA OF THEIR FACILITIES.

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS

BC-732M	4 SHEETS	OCT 26, 2010	RC-10M	1 SHEET	JUN 1, 2010
BC-734M	3 SHEETS	OCT 26, 2010	RC-11M	2 SHEETS	JUN 1, 2010
BC-735M	1 SHEET	OCT 26, 2010	RC-12M	2 SHEETS	JUN 1, 2010
BC-736M	3 SHEETS	MAY 18, 2012	RC-32M	1 SHEET	JUN 1, 2010
BC-739M	2 SHEETS	MAY 18, 2012	RC-40M	1 SHEET	JUN 1, 2010
BC-751M	7 SHEETS	NOV 21, 2014	RC-45M	20 SHEETS	JUN 1, 2010
BC-752M	2 SHEETS	NOV 21, 2014	RC-46M	45 SHEETS	JUN 1, 2010
BC-753M	2 SHEETS	NOV 26, 2013	RC-50M	16 SHEETS	JUN 1, 2010
BC-754M	2 SHEETS	OCT 26, 2010	RC-52M	8 SHEETS	JUN 1, 2010
BC-755M	4 SHEETS	NOV 26, 2013	RC-54M	7 SHEETS	JUN 1, 2010
BC-775M	3 SHEETS	NOV 26, 2013	RC-60M	3 SHEETS	JUN 1, 2010
BC-781M	1 SHEET	MAY 18, 2012	RC-70M	3 SHEETS	JUN 1, 2010
BC-788M	12 SHEETS	NOV 21, 2014	RC-72M	7 SHEETS	JUN 1, 2010
ITS-1201	23 SHEETS	MAR 1, 2013	RC-73M	4 SHEETS	JUN 1, 2010
			RC-77M	1 SHEET	JUN 1, 2010
			TC-8604	4 SHEETS	JUN 13, 2013

TABULATION OF OVERALL LENGTH

I-476 (PA TURNPIKE) TOTAL LENGTH OF WORK = 0.28 MILES
STA 645+00.00 TO STA 660+00.00 = 1,500.00 LF = 0.28 MILES

TABULATION OF CONSTRUCTION LENGTH

I-476 (PA TURNPIKE) TOTAL LENGTH OF CONSTRUCTION = 0.24 MILES
STA 646+25.00 TO STA 658+80.00 = 1,255.00 LF = 0.24 MILES

TABULATION OF EQUALITIES

STA 652+30.92 SURVEY & CONSTR @ I-476 (PA TURNPIKE) =
STA 5+00.00 SURVEY @ T-555

TABULATION OF MILEPOST EQUALITIES

STA 649+14.12 I-476 (PA TURNPIKE) = MP. A-57.60
STA 654+42.12 I-476 (PA TURNPIKE) = MP. A-57.70

PENNSYLVANIA TURNPIKE COMMISSION CONTACTS

FOR LOCATING EXISTING PENNSYLVANIA TURNPIKE UTILITIES AND CABLES, CONTACT THE APPROPRIATE DISTRICT FACILITY SUPERVISOR AND DISTRICT SUPERINTENDENT ALLOW FOR A THREE (3) DAY NOTICE.

DISTRICT 5 FACILITY SUPERVISOR DISTRICT 5 MAINTENANCE SUPERINTENDENT

JAMES D. LEIBY BRIAN TOSEKI
OFFICE: (570) 443-2030 OFFICE: (570) 443-2021

EARTHWORK SUMMARY ENTIRE PROJECT

THE INFORMATION ON ESTIMATED AMOUNTS OF EARTHWORK HAS BEEN USED IN THE PRELIMINARY ESTIMATE. DO NOT USE AS A WAIVER OF ANY PROVISIONS OF THE SPECIFICATIONS AND CONTRACTS.									
CUBIC YARDS OF EXCAVATION						CUBIC YARDS OF COMPLETED EMBANKMENT	CUBIC YARDS OF BORROW EXCAVATION	CUBIC YARDS OF SELECT BORROW EXCAVATION ROCK, TYPE B	CUBIC YARDS OF WASTE
CLASS 1 *	CLASS 1A	CLASS 1B	CLASS 2	CLASS 3 **	CLASS 4 ***				
2472	--	--	--	1061	56	338	--	3294	3251

* 3 CY INCIDENTAL TO PIPE INSTALLATION
** INCLUDED IN LUMP SUM STRUCTURE ITEM
*** 56 CY INCIDENTAL TO PIPE INSTALLATION
**** 8 CY INCIDENTAL TO PIPE INSTALLATION

ONE CALL SERIAL NUMBERS

COUNTY	SERIAL NO.	TOWNSHIP
LEHIGH COUNTY	20150571388	SOUTH WHITEHALL TOWNSHIP

FACILITY OWNERS (UTILITY LIST)

PPL ELECTRIC UTILITIES CORPORATION
2 NORTH NINTH STREET
ALLENTOWN, PA 18101-1179
ATTN.: CHARLOTTE KRUPA
(610) 774-6287

SYMBOL: E
FO
FOU

UGI UTILITIES, INC.
2121 CITY LINE ROAD
BETHLEHEM, PA 18017-2150
ATTN.: LUKE LICHTENWALNER
(610) 807-3107

SYMBOL: G

VERIZON PENNSYLVANIA, INC.
1050 VIRGINIA DRIVE
FORT WASHINGTON, PA 19034
ATTN.: VINCE PAWLICKI
(215) 591-6306

SYMBOL: T

SOUTH WHITEHALL TOWNSHIP
4444 WALBERT AVENUE
ALLENTOWN, PA 18104-1699
ATTN.: HOWARD KUTZLER
(610) 398-0401

SYMBOL: S
W

SERVICE ELECTRIC CABLE TV, INC.
2260 AVE A
BETHLEHEM, PA 18017
ATTN.: MIKE MILLHOUSE
(610) 868-0902

SYMBOL: CTV

XO COMMUNICATIONS
1220 BROADCASTING ROAD
WYOMISSING, PA 19610
ATTN.: SCOTT DREILING
(610) 288-5329

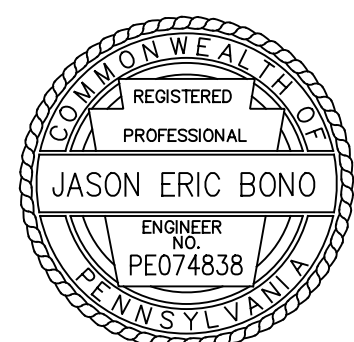
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DES: BEM DWG: JAE CKD: JEB

ADD1(A-057.66S002-3-02)270CT16



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PREPARED FOR:
THE PENNSYLVANIA
TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO. A-057.66S002-3-02
NETWORK NUMBER: 7004121
FILE NAME: 0355RDgn01.dgn
DRAWING TYPE: 1A
STRUCTURE NUMBER: NB-355
SCALE: NOT TO SCALE

BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	
DISTRICT: 5	COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP	

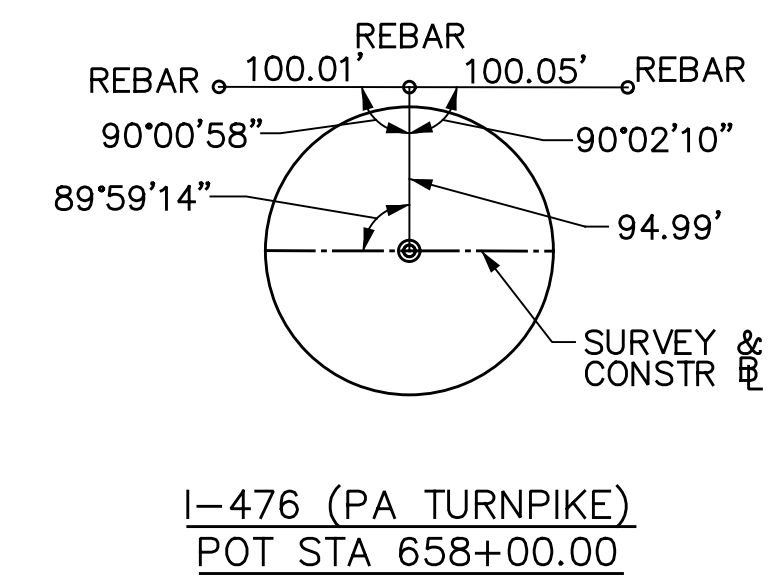
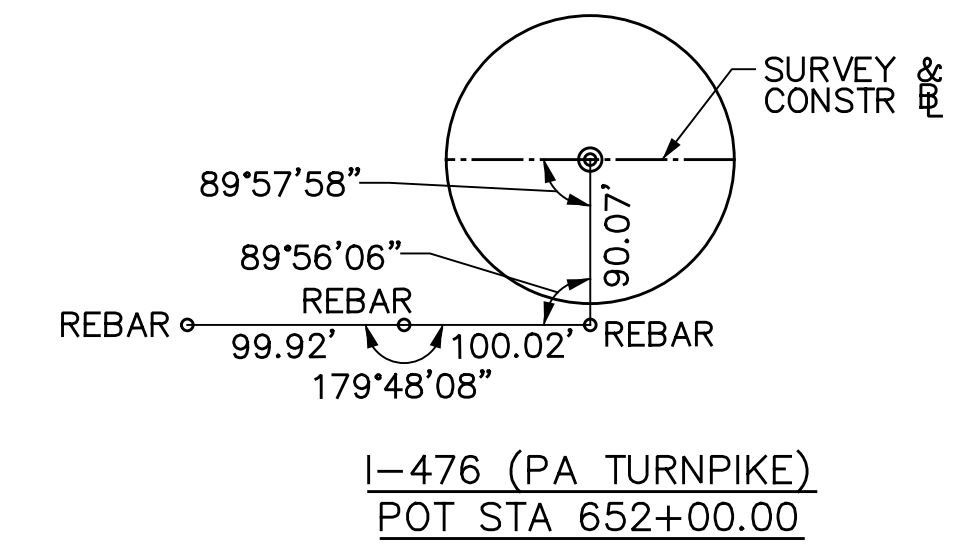
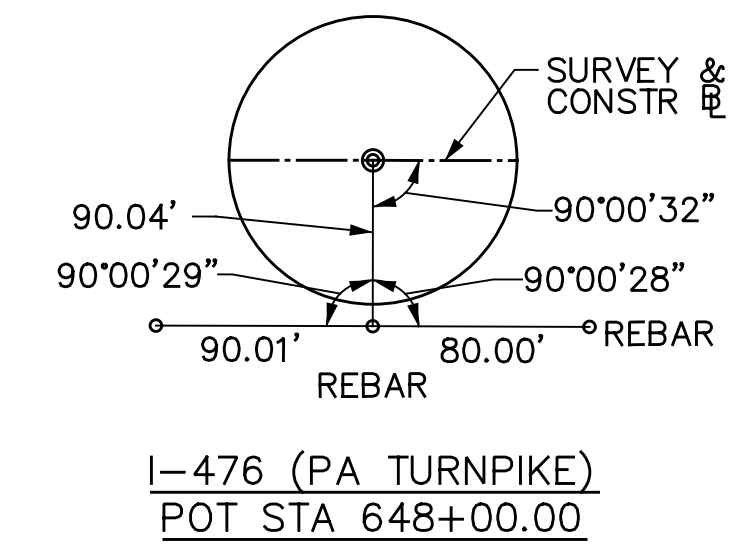
GENERAL NOTES / LIST OF CONTRACT DRAWINGS	
DRAWING: 1 OF 1	SHEET: 2 OF 116

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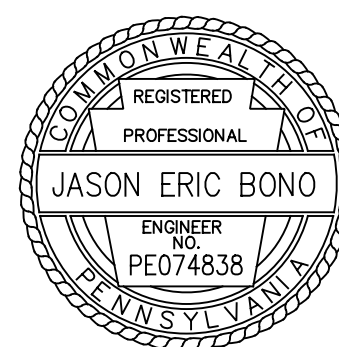
SUMMARY OF PROJECT COORDINATES

PENNSYLVANIA STATE PLANE COORDINATES, NAD 83 (1992), SOUTH ZONE					
ROUTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
SURVEY & CONSTR I-476 (PA TURNPIKE)	606+00.01	POT	464099.9927	2575827.0449	N25°55'00"W
	676+36.90	PC	470429.1838	2572751.4701	
	703+51.01	PI	472870.2778	2571565.1103	N00°43'49"E
	729+66.90	PT	475584.1666	2571599.7083	
SURVEY T-555	1+53.95	POT	468412.2280	2574116.2865	S64°51'10"W
	8+46.05	POT	468118.1237	2573489.7876	



SUMMARY OF SURVEY CONTROL POINTS

PENNSYLVANIA STATE PLANE COORDINATES, NAD 83 (1992), SOUTH ZONE						
POINT	STATION	OFFSET	COORDINATES		ELEVATION	DESCRIPTION
			NORTH	EAST		
CP #1	649+34.80	34.51' RT	468013.9153	2573963.5000	453.17'	MAGNAIL
CP #2	653+84.41	33.40' RT	468417.8296	2573765.9960	456.14'	MAGNAIL
CP #3	652+48.97	176.37' RT	468358.4953	2573953.7800	415.89'	REBAR
CP #4	652+12.08	108.82' LT	468200.6708	2573713.3912	419.59'	REBAR



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 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

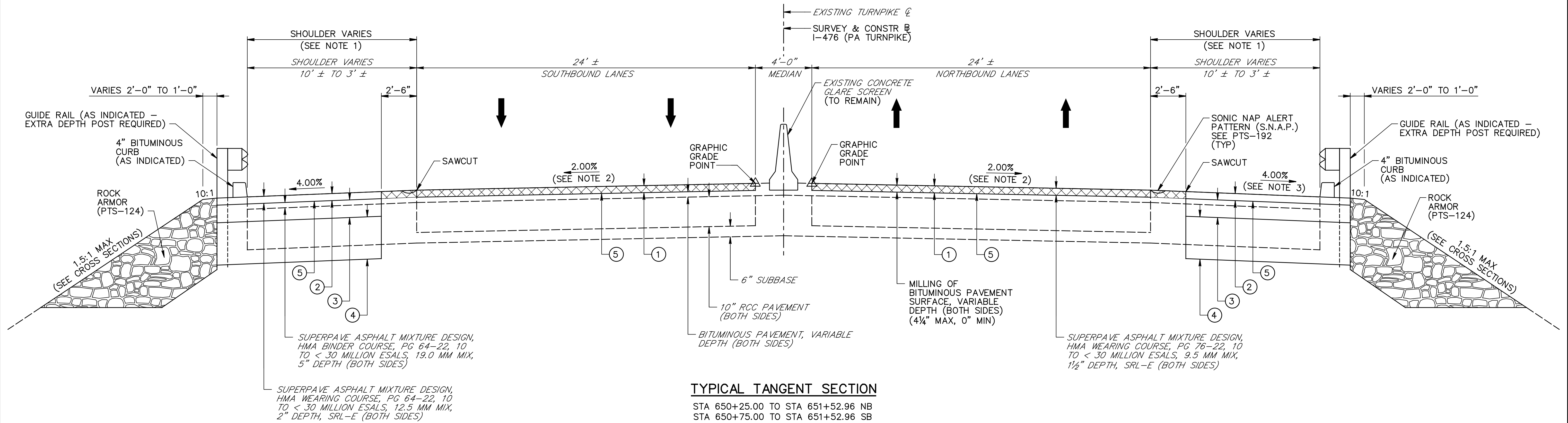
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NETWORK NUMBER: 7004121
FILE NAME: 0355RDpc01.dgn
DRAWING TYPE: 1A
STRUCTURE NUMBER: NB-355
SCALE: NOT TO SCALE

BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	
DISTRICT: 5	COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP	

PROJECT COORDINATES	
DRAWING: 1 OF 1	SHEET: 3 OF 116

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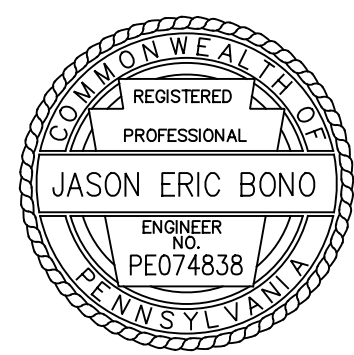


NOTES

- SHOULDER WIDTH VARIES AS FOLLOWS:
 - NORTHBOUND FROM EXISTING AT STA 650+25.00 TO 10'-0" AT STA 650+40.00 AND FROM 10'-0" AT STA 651+00.00 TO 10'-9" AT STA 651+30.00
 - SOUTHBOUND FROM EXISTING AT STA 650+75.00 TO 10'-9" AT STA 651+30.00
 - NORTHBOUND FROM 10'-0" AT STA 653+50.00 TO EXISTING AT STA 654+00.00
 - SOUTHBOUND FROM 10'-0" AT STA 654+75.00 TO EXISTING AT STA 655+00.00
- CROSS SLOPE VARIES AS FOLLOWS:
 - NORTHBOUND FROM EXISTING AT STA 650+25.00 TO 2.00% AT STA 650+40.00 AND FROM 2.00% AT STA 653+75.00 TO EXISTING AT STA 654+00.00.
 - SOUTHBOUND FROM EXISTING AT STA 650+75.00 TO 2.00% AT STA 651+00.00 AND FROM 2.00% AT STA 654+50.00 TO EXISTING AT STA 655+00.00.
- SHOULDER CROSS SLOPE VARIES AS FOLLOWS:
 - NORTHBOUND FROM EXISTING AT STA 650+25.00 TO 4.00% AT STA 650+40.00 AND FROM 4.00% AT STA 653+75.00 TO EXISTING AT STA 654+00.00.
 - SOUTHBOUND FROM EXISTING AT STA 650+75.00 TO 4.00% AT STA 651+00.00.

PAVEMENT LEGEND

- SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, PG 76-22, 10 TO < 30 MILLION ESALS, 12.5 MM MIX, 2" DEPTH, SRL-E
- SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, PG 64-22, 10 TO < 30 MILLION ESALS, 12.5 MM MIX, 2" DEPTH, SRL-E
- SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BINDER COURSE, PG 64-22, 10 TO < 30 MILLION ESALS, 19.0 MM MIX, 5" DEPTH
- SUBBASE 12" DEPTH (NO. 2A)
- BITUMINOUS TACK COAT



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WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 0355RD1s01.dgn
 DRAWING TYPE: 1A
 STRUCTURE NUMBER: NB-355

SCALE: NOT TO SCALE

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

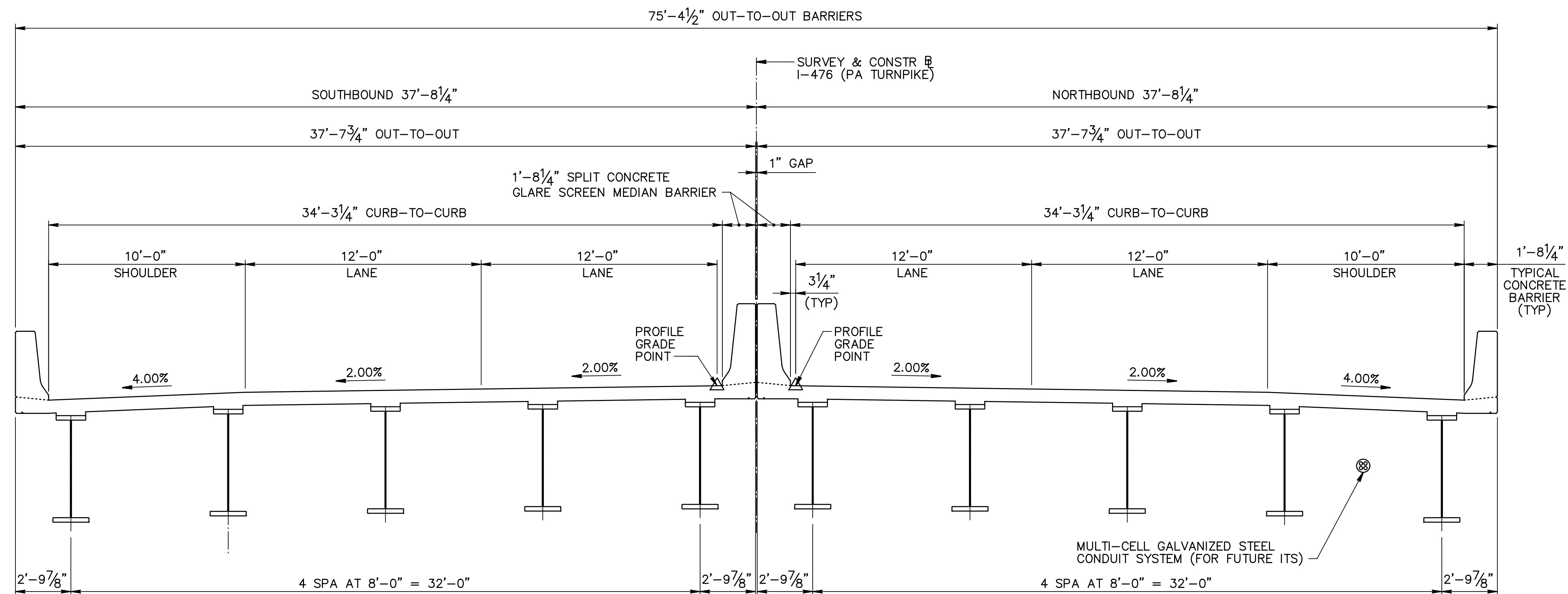
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 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

TYPICAL SECTIONS

DRAWING: 1 OF 2
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DES: BEM DWG: JAE CKD: JEB



TYPICAL BRIDGE SECTION
 STA 651+72.86 TO STA 652+89.86 NB & SB



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NETWORK NUMBER: 7004121

FILE NAME: 0355RD1s02.dgn

DRAWING TYPE: 1A

STRUCTURE NUMBER: NB-355

SCALE: NOT TO SCALE

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66

DISTRICT: 5 COUNTY: LEHIGH

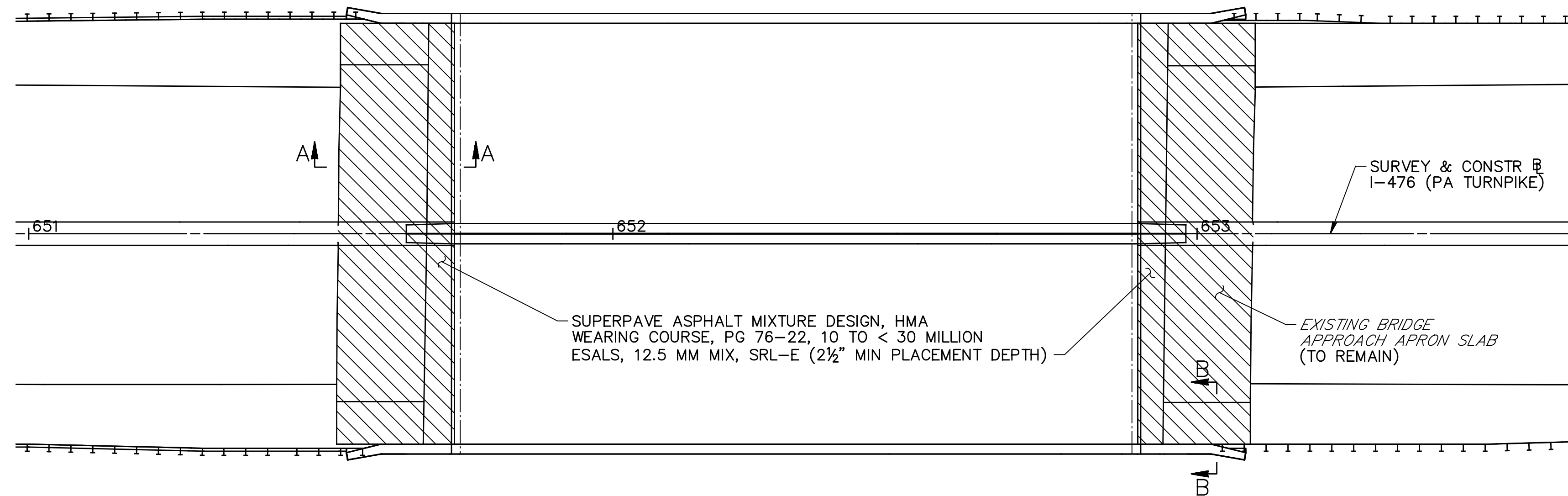
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

TYPICAL SECTIONS

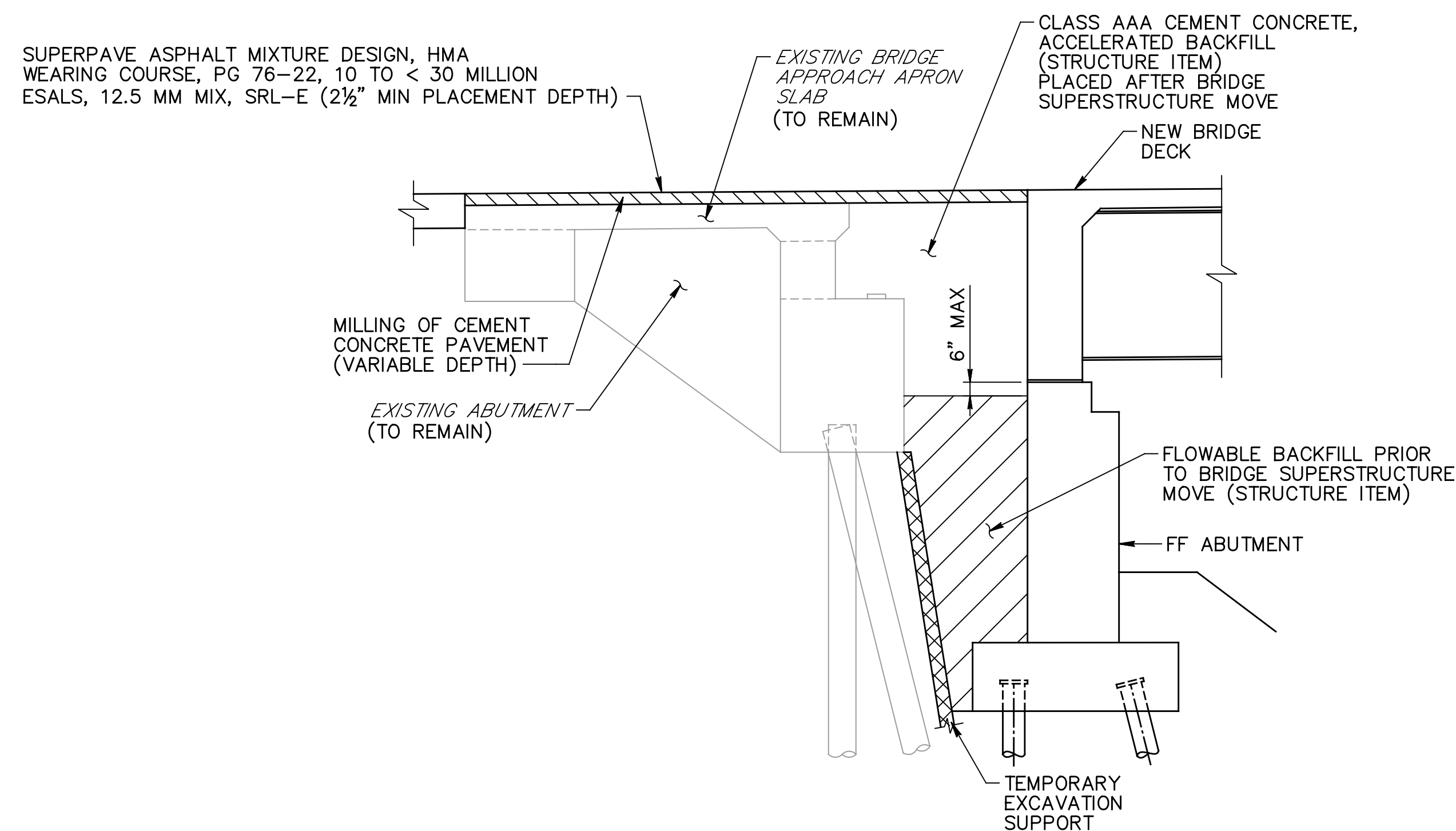
DRAWING: 2 OF 2
 SHEET: 5 OF 116

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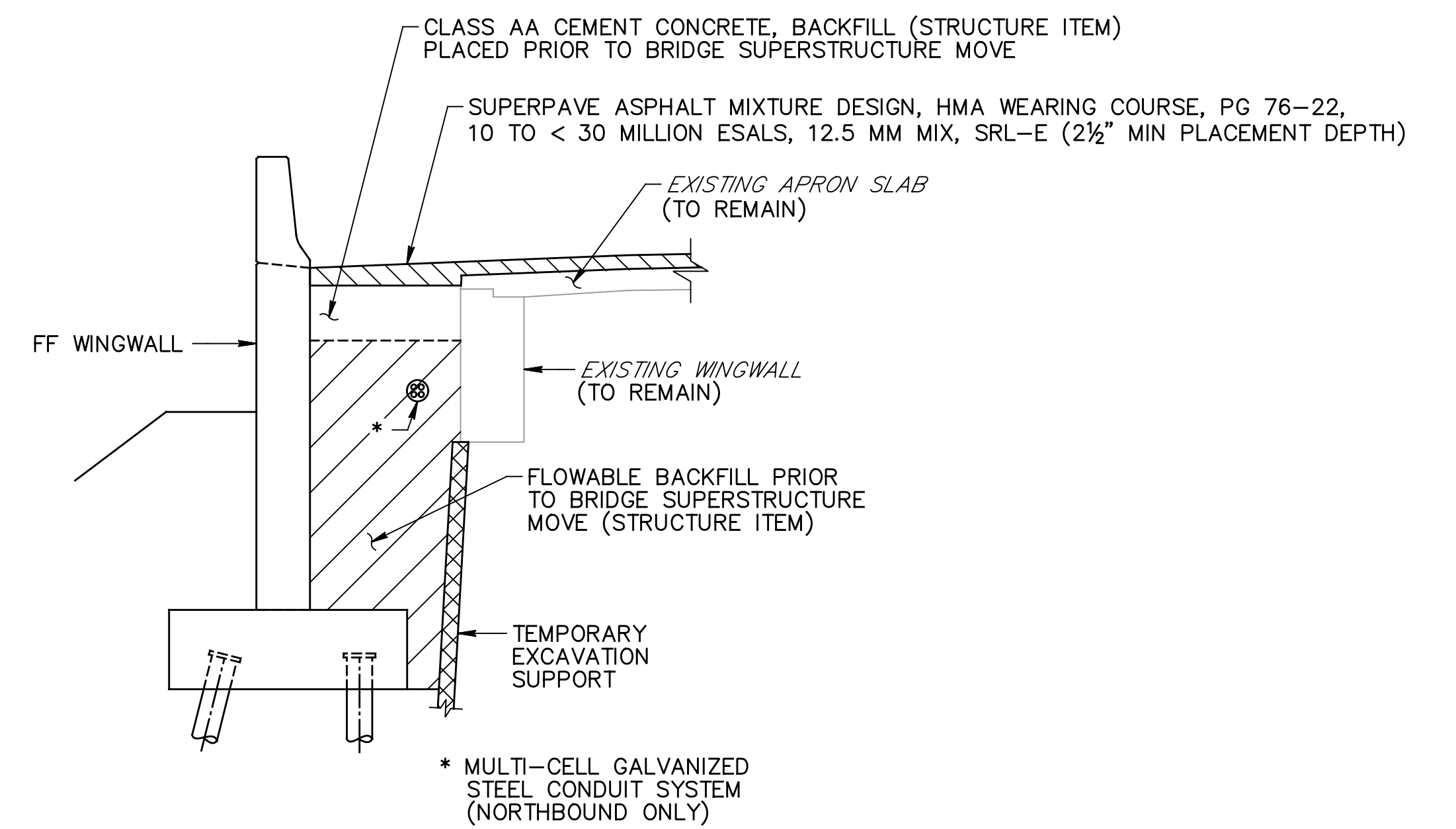
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PLAN VIEW
 15 0 15 FEET



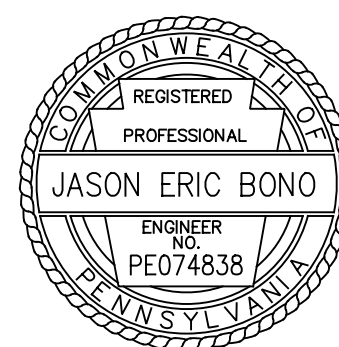
SECTION A-A
 (AFTER BRIDGE SUPERSTRUCTURE MOVE)
 2 0 2 4 FEET



SECTION B-B
 (AFTER BRIDGE SUPERSTRUCTURE MOVE)
 2 0 2 4 FEET

BITUMINOUS WEARING SURFACE DETAIL

STA 651+52.96 TO STA 651+72.86 NB & SB
 STA 652+89.86 TO STA 653+09.60 NB & SB



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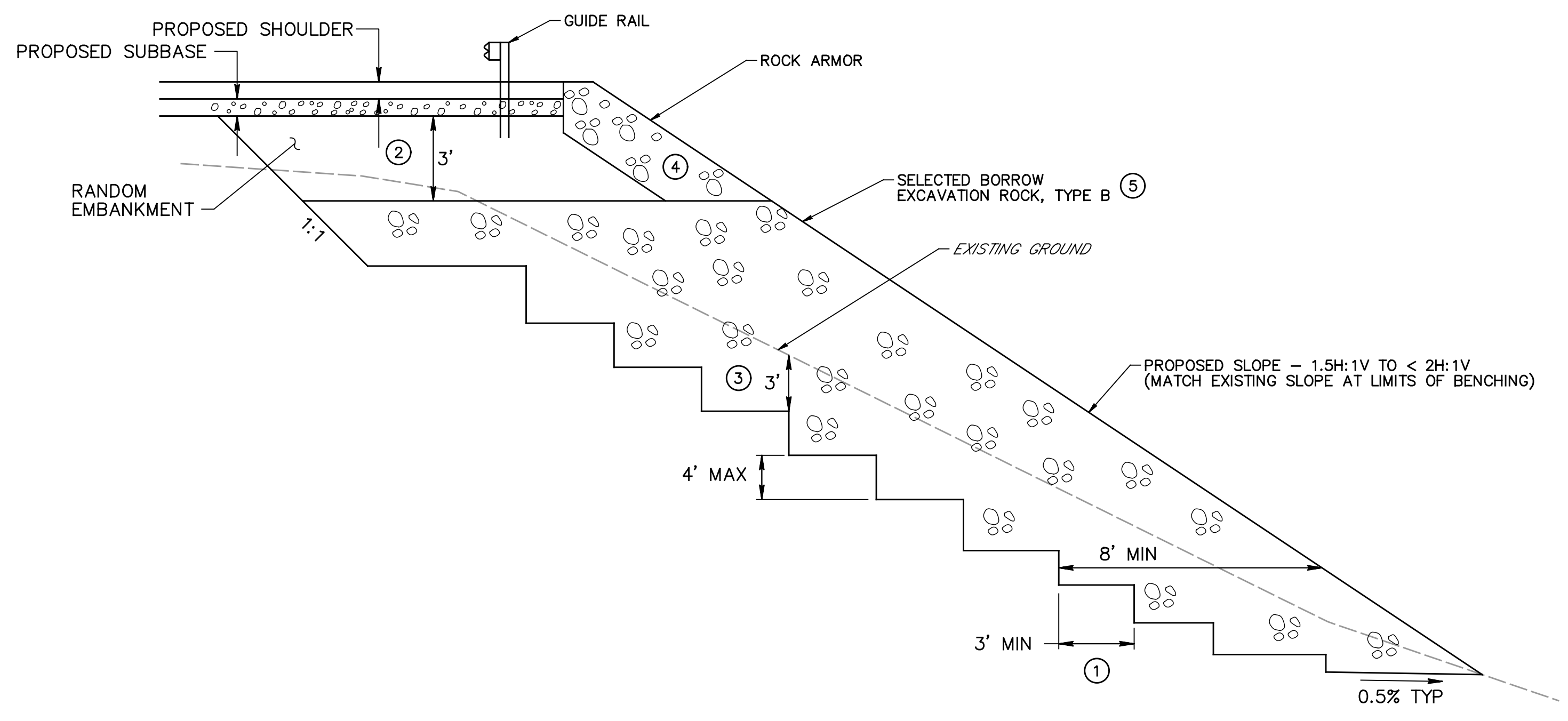


NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355RDdt01.dgn
 DRAWING TYPE: 1A
 STRUCTURE NUMBER: NB-355
 SCALE: AS NOTED

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

CONSTRUCTION DETAILS
 DRAWING: 1 OF 2
 SHEET: 6 OF 116



SLIVER ROCK EMBANKMENT (1.5H:1V TO < 2H:1V)

(FOR BENCHING WHICH INTERSECTS THE EXISTING SLOPE PRIOR TO REACHING THE TOE OF SLOPE)

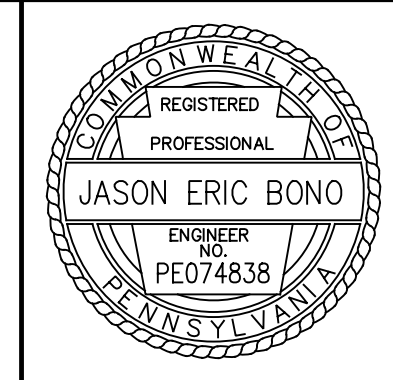
- STA 650+37.50 TO STA 652+00.00 NB
- STA 651+12.50 TO STA 651+75.00 SB
- STA 652+80.00 TO STA 653+87.50 NB
- STA 652+90.00 TO STA 654+12.50 SB

NOTES

1. IF DISTANCE BETWEEN NEW AND EXISTING EMBANKMENT SLOPE EXCEEDS 8 FEET THEN BONDING BENCHES SHOULD BE 3 FEET MAX. IN WIDTH.
2. PLACE THE TOP 3 FEET OF NEW EMBANKMENT IN LAYERS NOT EXCEEDING AN 8 INCH LIFT AT 100% COMPACTION ACCORDING TO SECTION 206.3 (B). DO NOT PLACE MATERIAL THAT WILL IMPEDE GUIDE RAIL INSTALLATION.
3. REMOVE AN ADDITIONAL 3 FEET OF EXISTING EMBANKMENT MATERIAL WHEN PERFORMING BONDING BENCH CONSTRUCTION. THIS REQUIREMENT MAY BE ELIMINATED, WITH THE APPROVAL OF THE COMMISSION'S GEOTECHNICAL REPRESENTATIVE, WHERE CONSTRAINTS EXIST. CONSTRUCT BONDING BENCHES CONCURRENTLY WITH THE PLACEMENT OF EMBANKMENT MATERIAL.
4. PLACE ROCK ARMOR ON ALL FILL SLOPES 2:1 OR STEEPER IN ACCORDANCE WITH PTS-124. EXTEND ROCK ARMOR TO THE TOP OF ROCK EMBANKMENT.
5. UNLESS OTHERWISE SHOWN ON THE CROSS SECTIONS.

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-01-2016 10:51:55 AM
 PATH: c:\pwworking\jbt\1189106 MODEL: Default
 FILE: 0355RDdt02.dgn

DES: BEM DWG: JAE CKD: JEB



PREPARED BY: **HDR**
 HDR Engineering, Inc.
 11 STANWIX STREET, SUITE 800
 PITTSBURGH, PA 15222
 PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355RDdt02.dgn
 DRAWING TYPE: 1A
 STRUCTURE NUMBER: NB-355
 SCALE: NOT TO SCALE

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

CONSTRUCTION DETAILS
 DRAWING: 2 OF 2
 SHEET: 7 OF 116

ITEM NO	QTY	UNIT	DESCRIPTION	REF	TAB ON SHEET
2108-0001	---	LS	CONSTRUCTION SCHEDULE	SP	NO TAB
2201-0001	---	LS	CLEARING AND GRUBBING	CS	NO TAB
2203-0001	2,472	CY	CLASS 1 EXCAVATION	CS	9
4203-0100	55	LF	CLEANING BEHIND EXISTING SINGLE FACE CONCRETE BARRIER MODIFIED	SP	9
2203-2101	---	LS	TEMPORARY SHORING	SP	STP
2205-0276	3,296	CY	SELECTED BORROW EXCAVATION ROCK, TYPE B	CS	9
2350-0121	263	TON	SUBBASE (NO. 2A)	CS	9
0409-0661	53	TON	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, PG 64-22, 10 TO < 30 MILLION ESALS, 12.5 MM MIX, SRL-E	408	9
0409-0761	218	TON	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, PG 76-22, 10 TO < 30 MILLION ESALS, 12.5 MM MIX, SRL-E	408	9
0409-6670	129	TON	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BINDER COURSE, PG 64-22, 10 TO < 30 MILLION ESALS, 19.0 MM MIX	408	9
0460-0001	1,844	SY	BITUMINOUS TACK COAT	408	9
2491-0070	1,418	SY	MILLING OF BITUMINOUS PAVEMENT SURFACE, VARIABLE DEPTH	CS	9
4591-0005	185	SY	MILLING OF CEMENT CONCRETE PAVEMENT SURFACE, VARIABLE DEPTH	SP	9
EITHER: 2601-0400	67	LF	18" THERMOPLASTIC PIPE, GROUP VI, 15'-2' FILL	CS P-1	10
OR: 2601-9653	67	LF	18" CORRUGATED GALVANIZED STEEL PIPE, TYPE I, POLYMER COATED, (2 2/3" X 1/2" CORRUGATIONS), 16 GAGE	CS P-1	10
2601-7014	19	LF	18" REINFORCED CONCRETE PIPE, TYPE A, 15' - 2' FILL	CS	10
2605-0010	2	EACH	TYPE M INLET, STANDARD BOX, HEIGHT $\leq 10'$, CONDITION 1BC	CS	10
0608-0001	---	LS	MOBILIZATION	408	NO TAB
2609-0003	---	LS	INSPECTOR'S FIELD OFFICE AND INSPECTION FACILITIES, TYPE B	CS	NO TAB
0620-0010	1	EACH	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITHOUT INLET PLACEMENT	408	13
0620-0011	1	EACH	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITH INLET PLACEMENT	408	13
2620-0402	2	EACH	TERMINAL SECTION, BRIDGE CONNECTION	CS	13
2620-0503	528	LF	REMOVE EXISTING GUIDE RAIL	CS	13
2620-1075	475	LF	TYPE 2-S GUIDE RAIL	CS	13

ITEM NO	QTY	UNIT	DESCRIPTION	REF	TAB ON SHEET
2620-1100	25	LF	TYPE 2-SC GUIDE RAIL	CS	13
2620-2000	44	EACH	DRILLED POST HOLES	CS	13
2620-2551	44	EACH	STEEL I-BEAM GUIDE RAIL POST, 8 FOOT LENGTH	CS	13
2624-0100	486	LF	RIGHT-OF-WAY FENCE, TYPE 2	CS	9
2624-0401	5	EACH	CORNER POSTS FOR TYPE 2 RIGHT-OF-WAY FENCE	CS	9
2627-0001	1,670	LF	TEMPORARY CONCRETE BARRIER	CS	14
2628-0001	1,090	LF	RESET TEMPORARY CONCRETE BARRIER	CS	14
2636-0001	208	LF	BITUMINOUS CONCRETE CURB	CS	9
2660-0031	570	EACH	SONIC NAP ALERT PATTERN (S.N.A.P.)	CS	15
0686-0010	---	LS	CONSTRUCTION SURVEYING, TYPE A	408	NO TAB
0686-0050	---	LS	CONSTRUCTION SURVEYING, TYPE D	408	NO TAB
2804-0014	20	LB	SEEDING - FORMULA E	CS	11-12
2805-0022	2	TON	MULCHING - STRAW	CS	11-12
2805-0080	1,905	SY	MULCH CONTROL NETTING	CS	11-12
2811-0002	543	LF	TEMPORARY PROTECTIVE FENCE	CS	11-12
2849-0001	4	EACH	ROCK CONSTRUCTION ENTRANCE	CS	11-12
2850-0022	24	SY	ROCK LINING, CLASS R-4	CS	10
2850-0040	472	LF	ROCK ARMOR	SP	9
2858-0010	2	EACH	SEDIMENT FILTER BAG	SP	11-12
2860-0003	6	EACH	INLET FILTER BAG FOR TYPE M OR TYPE S INLET	CS	11-12
2865-0005	5	EACH	ROCK FILTER OUTLETS	CS	11-12
4867-0001	1	EACH	CONCRETE WASHOUT FACILITY	SP	11-12
0867-0012	201	LF	COMPOST FILTER SOCK, 12" DIAMETER	408	11-12
0867-0018	45	LF	COMPOST FILTER SOCK, 18" DIAMETER	408	11-12
0867-0022	97	LF	COMPOST FILTER SOCK, 24" DIAMETER	408	11-12
0867-0032	733	LF	COMPOST FILTER SOCK, 32" DIAMETER	408	11-12
2901-0001	---	LS	MAINTENANCE AND PROTECTION OF TRAFFIC	SP	NO TAB
4901-0002	---	LS	WEEKEND CLOSURE	SP	NO TAB
4901-0003	---	PDA	UNFORESEEN TRAFFIC CONTROL DURING WEEKEND CLOSURE	SP	NO TAB
2901-0202	4	EACH	CONSTRUCTION LIGHTING	CS	14
2901-0203	4	EACH	ARROW PANEL	CS	14



ITEM NO	QTY	UNIT	DESCRIPTION	REF	TAB ON SHEET
2901-0500	24	EACH	PORTABLE CHANGEABLE MESSAGE SIGNS	CS	14
2901-0501	2	EACH	SHADOW VEHICLE WITH TRUCK MOUNTED ATTENUATOR (TMA)	CS	14
0910-0005	2	EACH	JUNCTION BOXES J.B.-12	408	15
2910-5005	59	LF	HDPE CONDUIT	SP	15
2910-6000	59	LF	TRENCH, MODIFIED	SP	15
2931-0001	16	SF	POST MOUNTED SIGNS, TYPE B	CS	15
2937-0099	4	EACH	FLEXIBLE DELINEATOR POST (ORANGE)	SP	15
2962-1000	6,380	LF	4" WHITE WATERBORNE PAVEMENT MARKINGS	CS	14
2962-1005	800	LF	4" YELLOW WATERBORNE PAVEMENT MARKINGS	CS	14
2963-0002	7,180	LF	PAVEMENT MARKING REMOVAL	CS	14-15
2964-0025	3,080	LF	6" WHITE HIGHLY REFLECTORIZED POLYUREA PAVEMENT MARKINGS	CS	14-15
2964-0026	800	LF	6" YELLOW HIGHLY REFLECTORIZED POLYUREA PAVEMENT MARKINGS	CS	15
1002-0053	126,444	LB	REINFORCEMENT BARS, EPOXY COATED	408	STP
4018-0050	---	LS	REMOVAL OF PORTION OF EXISTING BRIDGE	SP	STP
4030-0001	---	LS	BRIDGE STRUCTURE, NB-355	SP	STP
4000-0099	---	LS	MOBILIZATION AND DEMOBILIZATION FOR MICROPILES	SP	STP
4000-1101	7,497	LF	MICROPILES. 9.625" X 0.545"	SP	STP
4000-1102	2	EACH	MICROPILE STATIC PROOF LOAD TEST	SP	STP
4000-1103	2	EACH	MICROPILE STATIC VERIFICATION LOAD TEST	SP	STP

REF LEGEND

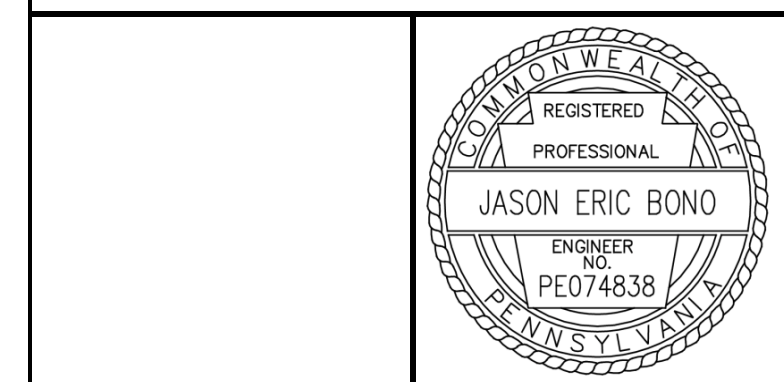
408 PER PUBLICATION 408/2011-9
CS PER COMMISSION SPEC
SP PER SPECIAL PROVISION
P_ PIPE DESIGN NO. _

ALSO PLAN LEGEND

STP TABULATION OF STRUCTURE ITEMS

	PREPARED BY: HDR ENGINEERING, INC. 11 STANWIX STREET, SUITE 800 PITTSBURGH, PA 15222		WBS NO. A-057.66S002-3-02	BRIDGE REPLACEMENT NB-355 ON CRACKERSPORT ROAD MP A-57.66	SUMMARY OF ITEMS
	PREPARED FOR: THE PENNSYLVANIA TURNPIKE COMMISSION		NETWORK NUMBER: 7004121 FILE NAME: NB-355.xls DRAWING TYPE: 1A STRUCTURE NUMBER:		
NO.	REVISIONS	DATE	APPR.	SCALE: NONE	DISTRICT: 5 COUNTY: LEHIGH TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP
				DRAWING: 1 OF 1 SHEET: 8 OF 116	

CLASS 1 EXCAVATION	CLEANING BEHIND EXISTING BARRIER-MODIFIED	SELECTED BORROW EXCAVATION ROCK, TYPE B	SUBBASE (NO. 2A)	SUPERPAVE ASPHALT MIXTURE DESIGN HMA WEARING COURSE, PG 6422, 10 TO < 30 MILLION ESALS, 12.5 MM MIX, SRLE	SUPERPAVE ASPHALT MIXTURE DESIGN HMA WEARING COURSE, PG 7622, 10 TO < 30 MILLION ESALS, 12.5 MM MIX, SRLE	SUPERPAVE ASPHALT MIXTURE DESIGN HMA WEARING COURSE, PG 6422, 10 TO < 30 MILLION ESALS, 19.0 MM MIX, BITUMINOUS TACK COAT	MILLING OF BITUMINOUS PAVEMENT SURFACE, VARIABLE DEPTH	MILLING OF CEMENT CONCRETE PAVEMENT SURFACE, VARIABLE DEPTH	RIGHT-OF-WAY FENCE, TYPE 2	CORNER POSTS FOR TYPE 2 RIGHT-OF-WAY FENCE	BITUMINOUS CONCRETE CURB	ROCK ARMOR	EMBANKMENT (FOR INFORMATION ONLY)	REMARKS	SIDE	STATION		
2203	4203	2205	2350	0409	0409	0409	0460	2491	4591	2624	2624	2636	2850					
0001	0100	0276	0121	0661	0761	6670	0001	0070	0005	0100	0401	0001	0040					
CY	LF	CY	TON	TON	TON	TON	SY	SY	SY	LF	EACH	LF	LF					
					45		373	373										
			70	14		34	113											
												129						
767		1,071											129					
					27		225	225										
			47	10		23	76											
													79					
279		520											79		56			
					12				47									
					12				46									
										218	2							
	55																	
										268	3							
501		723											82		58			
925		982											182		102			
					11				46									
					12				46									
					32		265	265										
			46	9		23	75											
					67		555	555										
			100	20		49	162											
2,472	55	3,296	263		53	218	129	1,844		1,418	185	486	5		208	472		
																330	GRAND TOTAL	



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
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SCALE: NONE

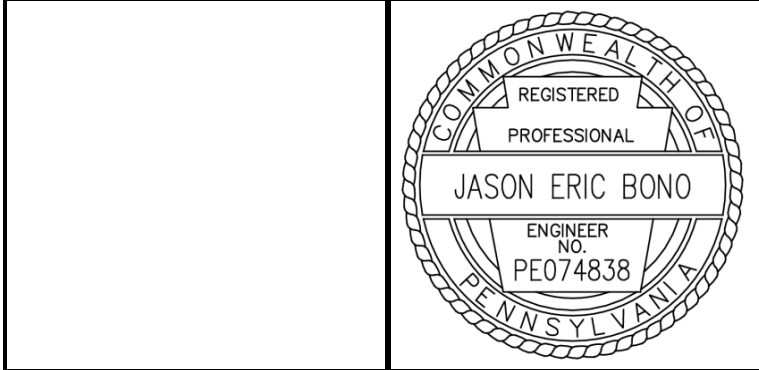
**BRIDGE REPLACEMENT
NB-355 ON CRACKERSPORT ROAD
MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

TABULATION OF ROADWAY ITEMS

DRAWING: 1 OF 1
SHEET: 9 OF 116

	PIPE DESIGN NO. 1	18" REINFORCED CONCRETE PIPE, TYPE A, 15'-2" FILL	TYPE M INLET, STANDARD BOX, HEIGHT $\leq 10'$, CONDITION 1BC	ROCK LINING, CLASS R-4														REMARKS	SIDE	STATION
	2601	2605	2850															ITEM NUMBER		
	7014	0010	0022															UNIT		
	LF	LF	EACH	SY																
	9	1																	NB	651+38.00
67	10	1																	SB	651+39.00
				12														ROCK PAD	NB	653+90.00 TO 654+00.00
				12														ROCK PAD	SB	654+90.00 TO 655+00.00
67	19	2	24																	GRAND TOTAL



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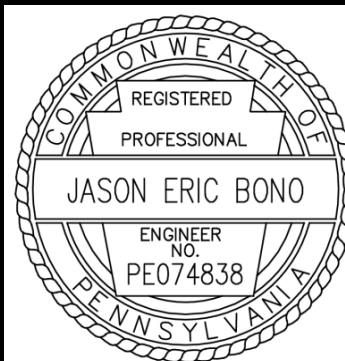
NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02
NETWORK NUMBER: 7004121
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**BRIDGE REPLACEMENT
NB-355 ON CRACKERSPORT ROAD
MP A-57.66**
DISTRICT: 5 COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

TABULATION OF DRAINAGE ITEMS
DRAWING: 1 OF 1
SHEET: 10 OF 116

																			REMARKS	SIDE	STATION				
SEEDING - FORMULA E	MULCHING - STRAW	MULCH CONTROL NETTING	TEMPORARY PROTECTIVE FENCE	ROCK CONSTRUCTION ENTRANCE	SEDIMENT FILTER BAG	INLET FILTER BAG FOR TYPE M OR TYPE S INLET	ROCK FILTER OUTLETS	CONCRETE WASHOUT FACILITY	COMPOST FILTER SOCK, 12" DIAMETER	COMPOST FILTER SOCK, 18" DIAMETER	COMPOST FILTER SOCK, 24" DIAMETER	COMPOST FILTER SOCK, 32" DIAMETER	ITEM NUMBER	UNIT	AS DIRECTED BY THE REPRESENTATIVE										
2804	2805	2805	2811		2849	2858	2860	2865		4867		0867		0867		0867		0867							
0014	0022	0080	0002		0001	0010	0003	0005		0001		0012		0018		0022		0032							
LB	TON	SY	LF		EACH	EACH	EACH	EACH		EACH		LF		LF		LF		LF							
20	2	1,905				2		5																	
					1							45									NB	650+20.00 TO 650+60.00			
																						NB	650+25.00 TO 650+75.00		
																97							NB	650+57.00 TO 651+50.00	
			146																				SB	650+65.00 TO 652+11.00	
												49											SB	650+68.00 TO 651+12.00	
					1																		SB	650+75.00 TO 651+25.00	
																			91				SB	651+10.00 TO 651+95.00	
																								NB	651+32.00 TO 652+04.00
							1																	NB	651+38.00
							1																	NB	651+38.00
							1																	SB	651+39.00
							1																	SB	651+39.00
																								NB/SB	651+89.00 TO 652+00.00
								2																SB	EXISTING INLET
										1														NB	652+48.00
			255																					SB	652+55.00 TO 655+10.00
																								NB/SB	652+64.00 TO 652+86.00
			142																					NB	652+68.00 TO 654+10.00
																								NB	652+75.00 TO 653+69.00
																								SB	652+79.00 TO 654+20.00
20	2	1,905	543		2	2	6	5		1		94				97		733				SUBTOTALS			



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121

FILE NAME: NB-355.xls

DRAWING TYPE: 1A

STRUCTURE NUMBER: NB-355

SCALE: NONE

**BRIDGE REPLACEMENT
NB-355 ON CRACKERSPORT ROAD
MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH

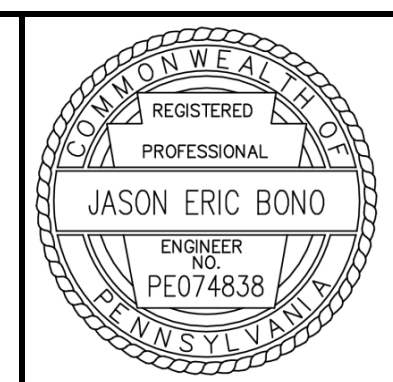
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

**TABLATION OF EROSION AND SEDIMENT
POLLUTION CONTROL ITEMS**

DRAWING: 1 OF 2

SHEET: 11 OF 116

SEEDING - FORMULA E	MULCHING - STRAW	MULCH CONTROL NETTING	TEMPORARY PROTECTIVE FENCE	ROCK CONSTRUCTION ENTRANCE	SEDIMENT FILTER BAG	INLET FILTER BAG FOR TYPE M OR TYPE S INLET	ROCK FILTER OUTLETS	CONCRETE WASHOUT FACILITY	COMPOST FILTER SOCK, 12" DIAMETER	COMPOST FILTER SOCK, 18" DIAMETER	COMPOST FILTER SOCK, 24" DIAMETER	COMPOST FILTER SOCK, 32" DIAMETER	REMARKS	SIDE	STATION
2804	2805	2805	2811	2849	2858	2860	2865	4867	0867	0867	0867	0867	ITEM NUMBER		
0014	0022	0080	0002	0001	0010	0003	0005	0001	0012	0018	0022	0032	UNIT		
LB	TON	SY	LF	EACH	EACH	EACH	EACH	EACH	LF	LF	LF	LF			
				1										NB	653+50.00 TO 654+00.00
										45				NB	653+68.00 TO 654+06.00
									107					SB	654+02.00 TO 655+04.00
				1										SB	654+50.00 TO 655+00.00
20	2	1,905	543	2	2	6	5	1	94		97	733	SUBTOTALS: DRAWING 1 OF 2		
				2					107	45			SUBTOTALS: DRAWING 2 OF 2		
20	2	1,905	543	4	2	6	5	1	201	45	97	733	GRAND TOTAL		



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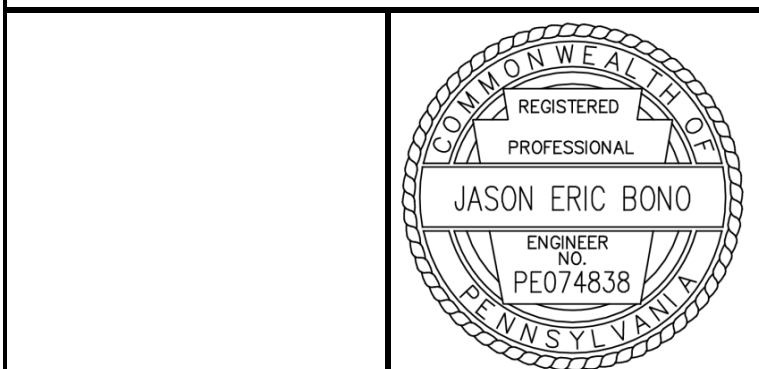
**BRIDGE REPLACEMENT
NB-355 ON CRACKERSPORT ROAD
MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

**TABULATION OF EROSION AND SEDIMENT
POLLUTION CONTROL ITEMS**

DRAWING: 2 OF 2
SHEET: 12 OF 116

TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITHOUT INLET PLACEMENT		TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITH INLET PLACEMENT		TERMINAL SECTION, BRIDGE CONNECTION		REMOVE EXISTING GUIDE RAIL		TYPE 2-S GUIDE RAIL		TYPE 2-SC GUIDE RAIL		DRILLED POST HOLES		STEEL I-BEAM GUIDE RAIL POST, 8 FOOT LENGTH		REMARKS	SIDE	STATION	
ITEM NUMBER	UNIT																		
0620		0620		2620		2620		2620		2620		2620							
0010		0011		0402		0503		1075		1100		2000		2551					
EACH		EACH		EACH		LF		LF		LF		EACH		EACH					
		1				139		112.5		12.5							NB	650+19.00 TO 651+58.00	
				1		87		87.5				14		14		EXTRA DEPTH POSTS FROM 650+70 TO 651+57	SB	650+70.00 TO 651+57.00	
				1		100		100				16		16		EXTRA DEPTH POSTS FROM 653+02 TO 654+02	NB	653+02.00 TO 654+02.00	
1						202		175		12.5		14		14		EXTRA DEPTH POSTS FROM 653+19 TO 653+94	SB	653+04.00 TO 655+06.00	
1		1		2		528		475		25		44		44				GRAND TOTAL	



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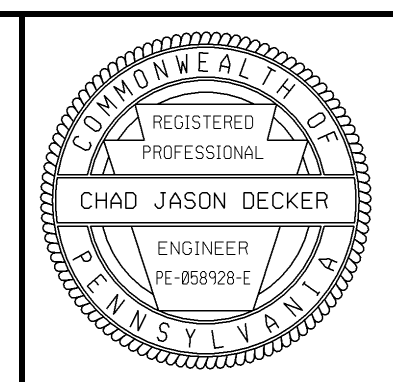
BRIDGE REPLACEMENT
NB-355 ON CRACKERSPORT ROAD
MP A-57.66

 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

TABULATION OF GUIDE RAIL AND BARRIER ITEMS

 DRAWING: 1 OF 1
 SHEET: 13 OF 116

TEMPORARY CONCRETE BARRIER	RESET TEMPORARY CONCRETE BARRIER	CONSTRUCTION LIGHTING	ARROW PANEL	PORTABLE CHANGEABLE MESSAGE SIGNS	SHADOW VEHICLE WITH TRUCK MOUNTED ATTENUATOR (TMA)	4" WHITE WATERBORNE PAVEMENT MARKINGS	4" YELLOW WATERBORNE PAVEMENT MARKINGS	PAVEMENT MARKING REMOVAL	6" WHITE HIGHLY REFLECTORIZED POLYUREA PAVEMENT MARKINGS	REMARKS	SIDE	STATION											
ITEM NUMBER	UNIT																						
2627		2628		2901		2901		2901		2962		2962		2963		2964							
0001		0001		0202		0203		0500		0501		1000		1005		0002		0025					
LF		LF		EACH		EACH		EACH		EACH		LF		LF		LF		LF					
												5,280								ADVANCE SIGN DETAIL A-A		AS DIRECTED BY THE REPRESENTATIVE	
				4		2		2		2											ROADWAY WORK		AS DIRECTED BY THE REPRESENTATIVE
						2		16						5,280		1,980					SEE WEEKEND CLOSURE PLAN		AS DIRECTED BY THE REPRESENTATIVE
								6														AS DIRECTED BY THE REPRESENTATIVE	
825																					STAGE 1	NB	646+25.00 TO 654+50.00
845																					STAGE 1	SB	650+35.00 TO 658+80.00
		525																			STAGE 2	NB	649+25.00 TO 654+50.00
												141											
												375		375									
		565																					
												159											
												425		425									
1,670		1,090		4		4		24		2		6,380		800		5,280		1,980					GRAND TOTAL



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PREPARED FOR:
THE PENNSYLVANIA
TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
FILE NAME: NB-355.xls
DRAWING TYPE: 1A
STRUCTURE NUMBER: NB-355

SCALE: NONE

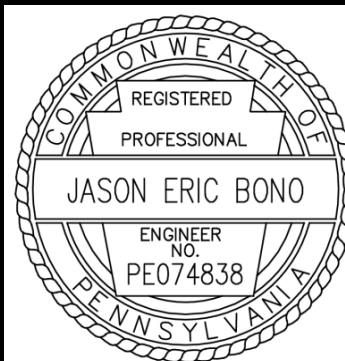
**BRIDGE REPLACEMENT
NB-355 ON CRACKERSPORT ROAD
MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

**TABULATION OF MAINTENANCE AND PROTECTION
OF TRAFFIC ITEMS**

DRAWING: 1 OF 1
SHEET: 14 OF 116

SONIC NAP ALERT PATTERN (S.N.A.P.)													JUNCTION BOXES J.B.-12		HDPE CONDUIT		TRENCH, MODIFIED		POST MOUNTED SIGNS, TYPE B		FLEXIBLE DELINEATOR POST (ORANGE)		PAVEMENT MARKING REMOVAL		6" WHITE HIGHLY REFLECTORIZED POLYUREA PAVEMENT MARKINGS		6" YELLOW HIGHLY REFLECTORIZED POLYUREA PAVEMENT MARKINGS		REMARKS	SIDE	STATION
2660	0910	2910	2910	2931	2937	2963	2964	2964	2964	2964	2964	2964	2964	2964	2964	2964	2964	ITEM NUMBER													
0031	0005	5005	6000	0001	0099	0002	0025	0026	0026	0026	0026	0026	0026	0026	0026	0026	0026	UNIT													
EACH	EACH	LF	LF	SF	EACH	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF														
				4														D10-2A	NB	649+14.00											
				4														D10-2A	SB	649+14.00											
						141	141											BROKEN WHITE LINES - REMOVE TEMPORARY PAVEMENT MARKINGS PRIOR TO PLACING PERMANENT PAVEMENT MARKINGS	NB	650+25.00 TO 654+00.00											
						750	375	375										EDGE LINES - REMOVE TEMPORARY PAVEMENT MARKINGS PRIOR TO PLACING PERMANENT PAVEMENT MARKINGS	NB	650+25.00 TO 654+00.00											
260																		NO SNAP ON STRUCTURE	NB	650+25.00 TO 654+00.00											
						159	159											BROKEN WHITE LINES - REMOVE TEMPORARY PAVEMENT MARKINGS PRIOR TO PLACING PERMANENT PAVEMENT MARKINGS	SB	650+75.00 TO 655+00.00											
						850	425	425										EDGE LINES - REMOVE TEMPORARY PAVEMENT MARKINGS PRIOR TO PLACING PERMANENT PAVEMENT MARKINGS	SB	650+75.00 TO 655+00.00											
310																		NO SNAP ON STRUCTURE	SB	650+75.00 TO 655+00.00											
	1				1														NB	651+37.00											
		32	32																NB	651+39.00 TO 651+67.00											
					1														NB	651+45.00											
		27	27																NB	652+95.00 TO 653+18.00											
					1														NB	653+11.00											
	1				1														NB	653+20.00											
						4												D10-2A	NB	654+42.00											
						4												D10-2A	SB	654+42.00											
570	2	59	59	16	4	1,900	1,100	800										GRAND TOTAL													



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**BRIDGE REPLACEMENT
 NB-355 ON CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

TABULATION OF SIGNING AND PAVEMENT MARKING ITEMS

DRAWING: 1 OF 1
 SHEET: 15 OF 116

TBM #1, ELEV 451.53
36.18' RT STA 647+18.63
CHISEL CUT ON THE SOUTHWEST
CORNER OF METAL SCUPPER INLET

TBM #2, ELEV 458.77
35.64' RT STA 657+17.38
CHISEL CUT ON THE SOUTHEAST
CORNER OF METAL SCUPPER INLET

PPL ELECTRIC UTILITIES CORPORATION MP A-57.66, STA 652+05 UNDERGROUND POWER LINE 15 KV IN 2 - 5" PLASTIC COND IN 3" CONC ENVELOPES THRU BRDG (CRACKERSPORT RD)	SOUTH WHITEHALL TOWNSHIP MP A-57.66, STA 652+30 UNDERGROUND WATER LINE UNDERGROUND 12" DIP WATER LINE
VERIZON PENNSYLVANIA, INC. MP A-57.66, STA 652+18 UNDERGROUND COMM LINE 3 - 4" PVC UNDERGROUND CONDUIT THRU BRDG (CRACKERSPORT RD)	SOUTH WHITEHALL TOWNSHIP MP A-57.66, STA 652+30 UNDERGROUND SEWER LINE 12" PVC SEWER LINE
SERVICE ELECTRIC CABLE TV, INC. MP A-57.66, STA 652+18 OVERHEAD CABLE TV LINE	UGI UTILITIES, INC. MP A-57.66, STA 652+41 UNDERGROUND GAS LINE
	PPL ELECTRIC UTILITIES CORP. MP A-57.66, STA 652+15 UNDERGROUND FIBER OPTIC COMM LINE
	XO COMMUNICATIONS MP A-57.66, STA 652+18 OVERHEAD FIBER OPTIC COMM LINE

LIMIT OF WORK
STA 645+00.00
MILEPOST A-57.52
I-476 (PA TURNPIKE)
SOUTH WHITEHALL TOWNSHIP
LEHIGH COUNTY

START WORK
STA 646+25.00
MILEPOST A-57.55
I-476 (PA TURNPIKE)

STA 650+75.00 SB
BEGIN SHOULDER RECONSTRUCTION
BEGIN 4" BITUMINOUS CURB
BEGIN MILL AND OVERLAY

STA 650+70, SB
BEGIN TYPE 2-S GUIDE RAIL WITH 8'-0" POSTS
CONNECT TO EXISTING GUIDE RAIL

STA 651+57, SB
END TYPE 2-S GUIDE RAIL WITH 8'-0" POSTS
TERMINAL SECTION, BRIDGE CONNECTION

STA 651+54.36 NB & SB
END BITUMINOUS WEARING SURFACE
BEGIN STRUCTURE

STA 652+89.86 NB & SB
END STRUCTURE
BEGIN BITUMINOUS WEARING SURFACE

STA 653+09.60 NB & SB
END BITUMINOUS WEARING SURFACE
BEGIN SHOULDER RECONSTRUCTION
BEGIN MILL AND OVERLAY

2

MTM REAL ESTATE COMPANY, LLC

1

XO COMMUNICATIONS
MP A-57.66, STA 652+18
OVERHEAD FIBER OPTIC COMM
LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

EXISTING EASEMENT

1 STORY METAL BUILDING TO BE REMOVED

CONC PAD PPL 60522-S46817

CONC ENDWALL

TO BE REMOVED

ROCK PAD (PTS-124)

STA 655+00.00 SB
END SHOULDER RECONSTRUCTION
END MILL AND OVERLAY

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

0.5 MILES TO LEHIGH VALLEY INTERCHANGE

18.3 MILES TO MAHONING VALLEY INTERCHANGE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

EXISTING EASEMENT

OCS TRANSPORT INCORPORATED PPL 60542-S46827

STA 651+52.96 NB & SB
END SHOULDER RECONSTRUCTION
END MILL AND OVERLAY
BEGIN BITUMINOUS WEARING SURFACE

STA 653+02, NB
BEGIN TYPE 2-S GUIDE RAIL WITH 8'-0" POSTS
TERMINAL SECTION, BRIDGE CONNECTION

STA 652+30.92 SURVEY & CONSTR B I-476 (PA TURNPIKE) = STA 5+00.00 SURVEY B T-555

STA 654+02, NB
END TYPE 2-S GUIDE RAIL WITH 8'-0" POSTS
CONNECT TO EXISTING GUIDE RAIL

STA 654+00.00 NB
END SHOULDER RECONSTRUCTION
END MILL AND OVERLAY

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

STOP WORK
STA 658+80.00
MILEPOST A-57.78
I-476 (PA TURNPIKE)

LIMIT OF WORK
STA 660+00.00
MILEPOST A-57.81
I-476 (PA TURNPIKE)
SOUTH WHITEHALL TOWNSHIP
LEHIGH COUNTY

3
ELLER OUTDOOR ADVERTISING - UNITED DIVISION, INC.

STA 650+25.00 NB
BEGIN SHOULDER RECONSTRUCTION
BEGIN 4" BITUMINOUS CURB
BEGIN MILL AND OVERLAY

STA 651+54.36, NB
END 4" BITUMINOUS CURB
PPL 60552-S46831 33

6
ERCOLE J. SPINOSA AND PATRICIA A. SPINOSA, HUSBAND AND WIFE

4
NEIL EICHELBERGER AND MARJORIE ANN EICHELBERGER

NOTES

- STA 650+19, NB
BEGIN TYPE 2-S GUIDE RAIL
CONNECT TO EXISTING GUIDE RAIL
- STA 651+32, NB
END TYPE 2-S GUIDE RAIL
BEGIN TYPE 2-SC GUIDE RAIL
- STA 651+44, NB
END TYPE 2-SC GUIDE RAIL
BEGIN TYPICAL AND ALTERNATE BRIDGE
BARRIER TRANSITION WITH INLET PLACEMENT
- STA 651+58, NB
END TYPICAL AND ALTERNATE BRIDGE
BARRIER TRANSITION WITH INLET PLACEMENT
- STA 653+04, SB
BEGIN TYPICAL AND ALTERNATE BRIDGE
BARRIER TRANSITION WITHOUT INLET PLACEMENT
- STA 653+19, SB
END TYPICAL AND ALTERNATE BRIDGE
BARRIER TRANSITION WITHOUT INLET PLACEMENT
BEGIN TYPE 2-SC GUIDE RAIL WITH 8'-0" POSTS
- STA 653+31, SB
END TYPE 2-SC GUIDE RAIL WITH 8'-0" POSTS
BEGIN TYPE 2-S GUIDE RAIL WITH 8'-0" POSTS
- STA 653+94, SB
END TYPE 2-S GUIDE RAIL WITH 8'-0" POSTS
BEGIN TYPE 2-S GUIDE RAIL
- STA 655+06, SB
END TYPE 2-S GUIDE RAIL
CONNECT TO EXISTING GUIDE RAIL
- STA 652+13, SB
BEGIN TYPICAL EXISTING SINGLE FACE
CONCRETE BARRIER MODIFIED

PROPOSED BRIDGE DATA

STRUCTURE NO. NB-355
STATION 652+31.36
MILEPOST A-57.66
HORIZONTAL CLEARANCE = 111'-4"
(FACE OF ABUTMENT TO FACE OF ABUTMENT)
SKEW ANGLE = 90°00'00"

EXISTING BRIDGE DATA

STRUCTURE NO. NB-355
STATION 652+30.92
MILEPOST A-57.66
HORIZONTAL CLEARANCE = 40'-0"
(FACE OF PIER TO FACE OF PIER)
SKEW ANGLE = 89°13'50"

FOR REFERENCE CIRCLES, SEE SHEET 3 FOR PROFILE, SEE SHEET 17

ADD1(A-057.66S002-3-02)270CT16

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FILE: 0355RDp101.dgn

DES: BEM DWG: JAE CKD: JEB



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PREPARED FOR:
THE PENNSYLVANIA
TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
FILE NAME: 0355RDp101.dgn
DRAWING TYPE: 1A
STRUCTURE NUMBER: NB-355

SCALE: 25 0 25 50 FEET

**BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

DRAWING: 1 OF 1
SHEET: 16 OF 116

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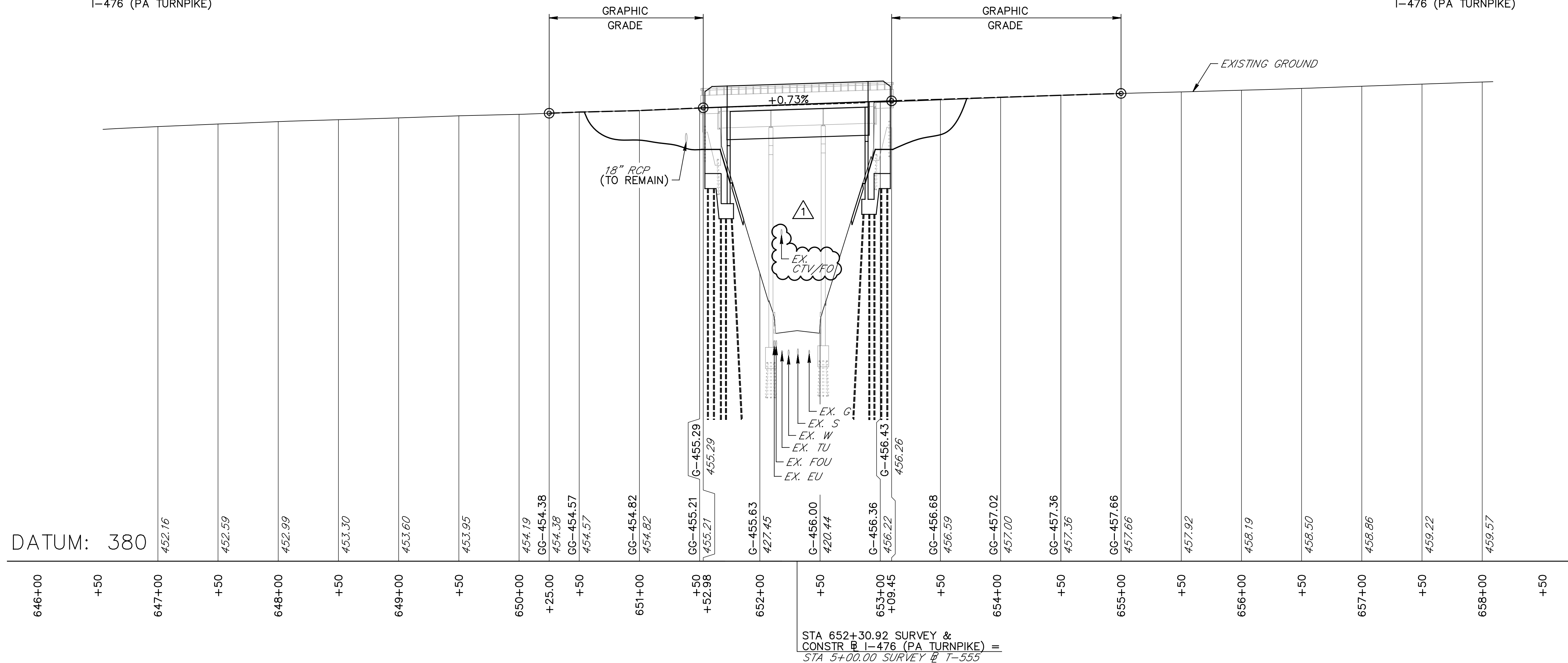
DES: BEM DWG: JAE CKD: JEB

← LIMIT OF WORK
 STA 645+00.00
 MILEPOST A-57.52
 I-476 (PA TURNPIKE)
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY

← START WORK
 STA 646+25.00
 MILEPOST A-57.55
 I-476 (PA TURNPIKE)

LIMIT OF WORK →
 STA 660+00.00
 MILEPOST A-57.81
 I-476 (PA TURNPIKE)
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY

STOP WORK →
 STA 658+80.00
 MILEPOST A-57.78
 I-476 (PA TURNPIKE)



STA 652+30.92 SURVEY &
 CONSTR # I-476 (PA TURNPIKE) =
 STA 5+00.00 SURVEY # T-555

SURVEY & CONSTR #
I-476 (PA TURNPIKE)

PROPOSED BRIDGE DATA

STRUCTURE NO. NB-355
 STATION 652+31.36
 MILEPOST A-57.66
 HORIZONTAL CLEARANCE = 111'-0"
 SKEW ANGLE = 90°00'00"

EXISTING BRIDGE DATA

STRUCTURE NO. NB-355
 STATION 652+30.92
 MILEPOST A-57.66
 HORIZONTAL CLEARANCE = 40'-0"
 SKEW ANGLE = 89°13'50"

NOTE:

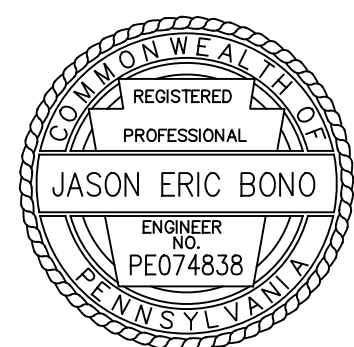
GRAPHIC GRADE ELEVATIONS REPRESENT THE GRAPHIC GRADE FOR I-476 NB. SEE CROSS SECTIONS FOR I-476 SB GRAPHIC GRADE ELEVATIONS.

HORIZONTAL: 25 0 25 50 FEET

VERTICAL: 5 0 5 10 FEET

ADD1(A-057.66S002-3-02)27OCT16

FOR PLAN, SEE SHEET 16



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 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 0355RDpr01.dgn
 DRAWING TYPE: 1A
 STRUCTURE NUMBER: NB-355

SCALE: AS NOTED

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

ROADWAY PROFILE

DRAWING: 1 OF 1
 SHEET: 17 OF 116

GENERAL NOTES FOR MAINTENANCE AND PROTECTION OF TRAFFIC

1. THIS WORK CONSISTS OF THE MAINTENANCE OF TRAFFIC AND THE PROTECTION OF THE TRAVELING PUBLIC APPROACHING THE CONSTRUCTION AREA AND WITHIN THE LIMITS OF CONSTRUCTION.
2. THE CONTRACTOR IS CAUTIONED THAT OTHER COMMISSION CONTRACTOR(S) AND/OR COMMISSION MAINTENANCE PERSONNEL MAY BE WORKING ADJACENT TO THE WORK ZONE(S) DURING PORTIONS OF THIS CONTRACT PERIOD. THE REPRESENTATIVE WILL SPECIFY THE WORKING SEQUENCE OF THE CONTRACTS IN ORDER TO FACILITATE COORDINATED TRAFFIC CONTROL OPERATION.
3. THE R22-1, W21-19 AND W21-20 SIGNS, THE WHITE TYPE B HIGH-INTENSITY FLASHING LIGHT AND THE SPEED DISPLAY SIGN HAVE BEEN CREATED BY PENNDOT IN RESPONSE TO THE REQUIREMENTS OF ACT 229. THESE SIGNS AND DEVICES, AS WELL AS THE ASSOCIATED GUIDELINES, CAN BE FOUND IN THE 67 PA CODE, CHAPTER 212, OFFICIAL TRAFFIC CONTROL DEVICES. REVIEW, FAMILIARIZE, AND APPLY THESE GUIDELINES AND ALL ITS SUPPLEMENTS AS REQUIRED BY ACT 229.
4. FURNISH, ERECT, PLACE AND MAINTAIN TRAFFIC CONTROL SIGNS AND DEVICES AND MAINTAIN TRAFFIC ACCORDING TO THE CONTRACT DOCUMENTS.
5. REMOVE ALL TRAFFIC CONTROL SIGNS AND DEVICES IMMEDIATELY UPON THE COMPLETION OF THE WORK UNLESS OTHERWISE SPECIFIED IN THE SPECIAL PROVISIONS.
6. PLACE ALL TRAFFIC CONTROL DEVICES AND HAVE THEM INSPECTED BY THE REPRESENTATIVE BEFORE WORK BEGINS.
7. MEDIAN AREAS 10 FEET OR LESS, USE RECTANGULAR CONSTRUCTION SIGNS.
8. MEDIAN AREAS GREATER THAN 10 FEET, USE DIAMOND CONSTRUCTION SIGNS.
9. COVER OR REMOVE FROM THE SITE ALL SIGNS NOT IN USE. REMOVE FROM THE TURNPIKE RIGHT-OF-WAY CONSTRUCTION SIGNS NOT NEEDED OR USED FOR A PERIOD OF TWO (2) OR MORE WEEKS.
10. MAINTAIN A MINIMUM SPACING OF 200 FEET BETWEEN ALL REGULATORY, WARNING AND DESTINATION SIGNS.
11. PROVIDE AT MINIMUM A 40 FOOT AREA BEYOND THE EDGE OF THE TRAVEL LANE FREE OF OBSTACLES AND DROP-OFFS GREATER THAN 2 INCHES IN DEPTH IN WORK ZONE(S) DURING NON-WORKING HOURS OR SEPARATE WORK ZONE(S) FROM MOTORISTS WITH TEMPORARY CONCRETE BARRIER. SEPARATION OF WORK ZONES IS INCIDENTAL TO THE MPT.
12. DETAILS FOR THE SIGNS AND DEVICES CAN BE FOUND IN PTC PTS-900, PENNDOT PUBLICATION 236, PENNDOT PUBLICATION 212 AND ARE TO BE MANUFACTURED BY A DEPARTMENT OF TRANSPORTATION APPROVED MANUFACTURER AS LISTED IN PENNDOT PUBLICATION 35.
13. USE PENNDOT APPROVED TYPE XI REFLECTORIZED MATERIAL FOR SIGNS. DO NOT USE METAL OR WOOD SIGNS IN MEDIAN.
14. THESE PLANS ARE NOT INTENDED TO RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR THE PROTECTION OF THE PUBLIC AND THE CONSTRUCTION PERSONNEL. THE STANDARDS PRESCRIBED ARE MINIMUM AND ADDITIONAL PROTECTION MAY BE NEEDED IF PROBLEMS ARE ENCOUNTERED DURING THE TERM OF THE CONTRACT. THE CONTRACTOR WILL BE EXPECTED TO CONSTANTLY REVIEW THESE PLAN FOR ADEQUACY AND TO RECOMMEND CHANGES FOR THE REPRESENTATIVE'S APPROVAL WHEN INADEQUACIES ARE DISCOVERED.
15. HAVE A SUFFICIENT AMOUNT OF THE FOLLOWING SIGNS AVAILABLE IN CASE THEIR USE BECOMES NECESSARY; ADDITIONAL W-14-7 "WATCH FOR STOPPED VEHICLES", W3-4 "BE PREPARED TO STOP", W8-11 "UNEVEN LANES", R4-104 "TRUCKS BUSES...", R3-9DP "END", AND MPT-35 "AHEAD". IT IS NOT INTENDED THAT THESE SIGNS BE PART OF THE NORMAL TRAFFIC CONTROL OR A SUPPLEMENT THERETO.
16. COMPUTE THE MINIMUM DESIRABLE TAPER LENGTH FOR REDUCTION IN LANES USING THE FOLLOWING FORMULA:

$$L = S \times W$$

WHERE L = MINIMUM DESIRABLE TAPER LENGTH IN FEET
 W = WIDTH OF OFFSET IN FEET
 S = NORMAL SPEED LIMIT IN MILES PER HOUR
17. SIGNS AND DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
18. CHANNELIZING DEVICES MAY BE TEMPORARILY RELOCATED, AS APPROVED BY THE REPRESENTATIVE, TO ALLOW FOR WORK TO BE PERFORMED. THE CHANNELIZING DEVICES MUST REMAIN BETWEEN TRAFFIC AND THE WORK ZONE.
19. CONCRETE BARRIER DETAILS ARE TO BE ACCORDING TO PENNSYLVANIA DEPARTMENT OF TRANSPORTATION STANDARDS FOR ROADWAY CONSTRUCTION. RC-57M, RC-59M, AND PTC STANDARDS FOR ROADWAY CONSTRUCTION.
20. ESTABLISH WORK ZONE SPEED LIMIT OF 55 MPH IN ALL CONSTRUCTION WORK ZONES.

 ESTABLISH WORK ZONE SPEED LIMIT BY INSTALLING 55 MPH LIMIT SIGNS IN MEDIAN AND SHOULDER 1/2 MILE IN ADVANCE OF CONSTRUCTION AREA ACCESS OPENINGS AS SHOWN ON PTS-900, SHEET 4 OF 13.

 55 MPH IS ONLY PERMITTED DURING ALLOWABLE WORKING HOURS AND WHEN WORK IS OCCURRING.

 COVER OR REMOVE WORK ZONE SPEED LIMIT SIGNS WHEN ALL NORMAL LANES AND ALL NORMAL MEDIAN AND SHOULDER ARE AVAILABLE AND ARE AT THE SAME ELEVATION FOR THE AFFECTED DIRECTION(S). COVER OR REMOVE WORK ZONE SPEED LIMIT SIGNS WHEN TEMPORARY CONCRETE BARRIER CLOSES THE MEDIAN OR SHOULDER.
21. CHANNELIZING DEVICES ARE TO BE PENNDOT APPROVED VERTICAL PANELS WITH SELF-BALLASTED BASES UNLESS OTHERWISE SPECIFIED. THE ENTIRE FACE OF THE VERTICAL PANEL VISIBLE TO TRAFFIC IS TO BE REFLECTORIZED. REMOVE CHANNELIZING DEVICES FROM ROADWAY DURING NON-WORKING HOURS.
22. WHENEVER THE ROADWAY IS OPENED TO TRAFFIC PRIOR TO THE COMPLETION OF THE OVERLAY APPLICATION, AS MAY BE ALLOWED OR DIRECTED BY THE REPRESENTATIVE, ACCOMPLISH PROPER TRANSITION BETWEEN THE SURFACE DIFFERENTIALS BEFORE THE TRAFFIC IS ROUTED ONTO THE UNCOMPLETED LANE.

 IF BOTH LANES IN ONE DIRECTION ARE OPEN TO TRAFFIC AND A DIFFERENTIAL BETWEEN RIGHT AND LEFT LANE PAVEMENT EXIST, INSTALL A W8-11 (UNEVEN LANES) SIGN ON THE LEFT SHOULDER AND THE RIGHT SHOULDER 1500 FEET IN ADVANCE OF WHERE THE PAVEMENT DIFFERENTIAL BEGINS. LOCATE W8-11 SIGNS ON THE RIGHT SHOULDER AT 1/2 MILE INTERVALS THROUGHOUT THE AREA WHERE THE PAVEMENT DIFFERENTIAL EXISTS, AS DIRECTED BY THE REPRESENTATIVE.

 IF THE RIGHT LANE IS OPEN TO TRAFFIC AND A DIFFERENTIAL BETWEEN THE RIGHT LANE AND SHOULDER PAVEMENT EXISTS, INSTALL A W8-9 (LOW SHOULDER) SIGN ON THE RIGHT SHOULDER 1500 FEET IN ADVANCE OF WHERE THE PAVEMENT DIFFERENTIAL BEGINS. LOCATE W8-9 SIGNS ON THE RIGHT SHOULDER AT 1/2 MILE INTERVALS THROUGHOUT THE AREA WHERE THE PAVEMENT DIFFERENTIAL EXISTS, AS DIRECTED BY THE REPRESENTATIVE. IN ADDITION, LOCATE W8-9 SIGNS ON THE ACCELERATION RAMPS OF INTERCHANGES AND SERVICE PLAZAS WHERE THE PAVEMENT DIFFERENTIAL EXISTS, AS DIRECTED BY THE REPRESENTATIVE.

GENERAL NOTES FOR MAINTENANCE AND PROTECTION OF TRAFFIC

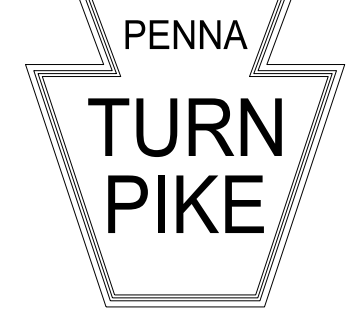
- IF THE MEDIAN SHOULDER WIDTH IS A MINIMUM OF 12 FEET AND IF THE LEFT LANE IS OPEN TO TRAFFIC AND A DIFFERENTIAL BETWEEN THE LEFT LANE AND MEDIAN PAVEMENT EXISTS, INSTALL A W8-9 (LOW SHOULDER) SIGN ON THE LEFT SHOULDER 1500 FEET IN ADVANCE OF WHERE THE PAVEMENT DIFFERENTIAL BEGINS. LOCATE W8-9 SIGNS ON THE LEFT SHOULDER AT 1/2 MILE INTERVALS THROUGHOUT THE AREA WHERE THE PAVEMENT DIFFERENTIAL EXISTS, AS DIRECTED BY THE REPRESENTATIVE. IN ADDITION, LOCATE W8-9 SIGNS ON THE ACCELERATION RAMPS OF INTERCHANGES AND SERVICE PLAZAS WHERE THE PAVEMENT DIFFERENTIAL EXISTS, AS DIRECTED BY THE REPRESENTATIVE.
23. PROVIDE A PORTABLE CHANGEABLE MESSAGE SIGN ON THE RIGHT SHOULDER APPROXIMATELY 1 MILE IN ADVANCE OF THE PAVEMENT DIFFERENTIAL. MESSAGE AS DIRECTED BY THE REPRESENTATIVE.
24. INSTALL, RESET, RELOCATE, AND REMOVE ANY PERMANENT AND/OR TEMPORARY CONCRETE BARRIER SO THAT NO BLUNT END OF THE BARRIER IS EXPOSED TO ONCOMING TRAFFIC.
25. ENSURE THAT ALL EQUIPMENT APPROACHES, ENTER, AND DEPARTS FROM WORKING AREAS IN THE DIRECTION OF AND WITH THE NORMAL ADJACENT TRAFFIC FLOW.
26. VEHICLES, EQUIPMENT AND MATERIAL ARE NOT TO BE LOCATED IN THE BUFFER ZONE.
27. POST THE G20-2 (END ROAD WORK) SIGN AND THE NORMAL SPEED LIMIT FOR THE AREA (55MPH, 65 MPH OR 70 MPH) AT THE END OF THE WORK ZONE. IF THE WORK ZONE IS FOLLOWED BY ANOTHER WORK ZONE WITHIN 3 MILES, THEN THE G20-2 SIGN IS NOT TO BE USED AND THE R2-1 SIGN AT THE END OF THE FIRST WORK ZONE IS TO BE 55 MPH.
28. TYPE B LIGHT IS TO BE MOUNTED ON THE SIDE CLOSEST TO TRAFFIC AS SHOWN ON PTS-980. SHEET 17 OF 17.
29. EXISTING R2-2-2, "WORK ZONE SPEED LIMIT 55 MPH", SIGNS MAY ONLY BE USED FOR THE REMAINDER OF THEIR SERVICEABLE LIFE.
30. COVER EXISTING SIGNS AND TRAFFIC CONTROL SIGNS THAT CONFLICT WITH TCP OR THAT DO NOT APPLY TO EXISTING CONDITIONS. COVER WITH BLACK VINYL COATED POLYESTER MATERIAL HAVING A MINIMUM WEIGHT OF 18 OZ. PER SQUARE YARD AND A MINIMUM THICKNESS OF 20 MILS. BURLAP OR SIMILAR MESH MATERIALS ARE UNACCEPTABLE. COVER THE ENTIRE SIGN INCLUDING ANY SUPPLEMENTAL PLAQUES. STABILIZE AND FASTEN THIS MATERIAL TO THE SIGN WITH EITHER PLASTIC OR WOOD TO PREVENT AND MOVEMENT. DO NOT APPLY TAPE TO THE FACE OF THE SIGN. DO NOT DEFACE OR DAMAGE THE SIGN FACE USING THIS PROCEDURE. MAINTAIN SIGN COVER RETAINERS IN GOOD CONDITION. REMOVE SIGNS NOT REQUIRED R NOT USED FOR A PERIOD OF TWO WEEKS. STORE SIGNS OFF THE TURNPIKE RIGHT-OF-WAY UNTIL REQUIRED ON THE PROJECT.

DRAWING INDEX

DESCRIPTION	DRAWING
GENERAL NOTES AND INDEX OF DRAWINGS	1
TABULATION OF QUANTITIES	2
CRACKERSPORT ROAD DETOUR PLAN	3
I-476 WEEKEND CLOSURE DETOUR PLAN	4-11

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PREPARED BY: DAWOOD ENGINEERING 2020 GOOD HOPE ROAD ENOLA, PA 17025		PREPARED FOR: THE PENNSYLVANIA TURNPIKE COMMISSION	NO.	REVISIONS	DATE	APPR.	WBS NO. A-057.66S002-3-02	BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL PLAN GENERAL NOTES AND INDEX OF DRAWINGS
							NETWORK NUMBER: 7004121		
							DRAWING TYPE: 4A		
							STRUCTURE NUMBER: NB-355		
							SCALE: NO SCALE	DISTRICT: 5	COUNTY: LEHIGH, NORTHAMPTON, MONROE AND CARBON
								TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP	DRAWING: 1 OF 11 SHEET: 18 OF 116

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 FILENAME: 0355.ctb
 WORKSPACE: 2/10/11

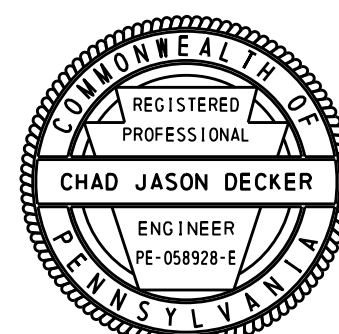
TABULATION OF QUANTITIES MAINTENANCE AND PROTECTION OF TRAFFIC CRACKERSPORT ROAD DETOUR (FOR INFORMATION ONLY)			
SIGN DESIGNATION	SIZE	DESCRIPTION	QUANTITY
M4-8A	24"x18"	END DETOUR SIGN	2
M4-9L	30"x24"	DETOUR SIGN, LEFT	6-7
M4-9R	30"x24"	DETOUR SIGN, RIGHT	8-9
M4-9S	30"x24"	DETOUR SIGN, STRAIGHT	11
M4-9SL	30"x24"	LEFT ADVANCE DETOUR SIGN	4
M4-9SR	30"x24"	RIGHT ADVANCE DETOUR SIGN	6
M4-10L	48"x18"	DETOUR ARROW LEFT SIGN	+2
M4-10R	48"x18"	DETOUR ARROW RIGHT SIGN	+2
R11-2	48"x30"	ROAD CLOSED SIGN	4
R11-3A	60"x30"	ROAD CLOSED - LOCAL TRAFFIC SIGN	-2-4
SP-1	36"x18"	CRACKERSPORT RD (BLACK ON FLUORESCENT ORANGE) SIGN	42-45
W20-1	36"x36"	ROAD WORK	4
W20-2	36"x36"	ADVANCE DETOUR SIGN	4
W20-3	36"x36"	ROAD CLOSED	1
W23-101	96"x48"	THIS ROAD TO BE CLOSED FOR CONSTRUCTION	2
W30-1-1	20"x6"	500 FT (PANEL)	2
W30-1-2	20"x6"	1000 FT (PANEL)	4
W30-1-3	20"x6"	1500 FT (PANEL)	2
W30-1-6	20"x6"	AHEAD (PANEL)	2
--	--	TYPE B FLASHING LIGHT (YELLOW)	***
--	--	TEMPORARY SIGN POST	***
--	--	TYPE III BARRICADES	***

NOTE:
 THE SIZES SHOWN ARE MINIMUM REQUIREMENTS.
 *** PROVIDE SUFFICIENT QUANTITIES

TABULATION OF QUANTITIES MAINTENANCE AND PROTECTION OF TRAFFIC I-476 WEEKEND DETOUR (FOR INFORMATION ONLY)			
SIGN DESIGNATION	SIZE	DESCRIPTION	QUANTITY
G20-5AP	48"x36"	WORK ZONE PLAQUE	12
M1-1	45"x36"	INTERSTATE 476	87
M1-4	45"x36"	US 209	25-23
M3-1-1	30"x15"	NORTH	39
M3-3-1	30"x15"	SOUTH	55
M4-5	30"x15"	TO	24-22
M4-8	30"x15"	DETOUR	106-104
M4-8-2	24"x24"	TRUCK DETOUR	6
M4-8A	36"x30"	END DETOUR SIGN	4
M4-10R	48"x18"	DETOUR ARROW RIGHT SIGN	7
M5-1L	21"x15"	ADVANCE 45° LEFT TURN	1
M5-1R	21"x15"	ADVANCE 45° RIGHT TURN	1
M5-2L	30"x18"	ADVANCE 45° LEFT TURN	1
M5-2R	30"x18"	ADVANCE 45° RIGHT TURN	11
M5-4	36"x24"	LEFT LANE	2
M5-6	36"x24"	RIGHT LANE	3
M6-1	21"x15"	DIRECTIONAL ARROW	2
M6-2L	30"x18"	45° LEFT TURN	1
M6-2R	30"x18"	45° RIGHT TURN	11
M6-3	30"x18"	STRAIGHT THROUGH	74-72
M6-3	21"x15"	STRAIGHT THROUGH	2
MPT-33	96"x48"	CAUTION NEW TRAFFIC PATTERNS NEXT XX MILES	2
R2-1	48"x60"	SPEED LIMIT	12
R4-9	48"x60"	STAY IN LANE	2
R11-2	48"x30"	ROAD CLOSED SIGN	12
W3-5	48"x48"	SPEED REDUCTION	2
W4-2L	48"x48"	PAVEMENT WIDTH TRANSITION - LEFT LANE ENDS	4
W16-103P	36"x24"	DISTANCE AHEAD PLAQUE	4
W20-1	48"x48"	ROAD WORK	4
W20-2	48"x48"	ADVANCE DETOUR SIGN	18
W20-5L	48"x48"	LEFT LANE CLOSED	8
W23-101	96"x48"	I-476 SOUTH TO BE CLOSED FOR CONSTRUCTION	3
W23-101	96"x48"	I-476 NORTH TO BE CLOSED FOR CONSTRUCTION	1
W30-1-2	30"x10"	1000 FT (PANEL)	9
W30-1-3	30"x10"	1500 FT (PANEL)	9
W30-1-5	30"x10"	1 MILE (PANEL)	4
W30-1-6	30"x10"	2500 FT (PANEL)	4
W30-1-7	30"x10"	2 MILES (PANEL)	4
--	--	ARROW PANEL	***
--	--	CHANGEABLE MESSAGE SIGN (CMS)	***
--	--	TYPE B FLASHING LIGHT (YELLOW)	***
--	--	TEMPORARY SIGN POST	***
--	--	TYPE III BARRICADES	***

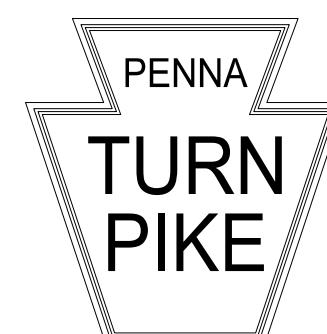
NOTE:
 THE SIZES SHOWN ARE MINIMUM REQUIREMENTS.
 *** PROVIDE SUFFICIENT QUANTITIES

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 PLOTTED: 11/7/2011 10:09:46 AM



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 2020 GOOD HOPE ROAD
 ENOLA, PA 17025

 PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
 A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355TCdp19.dgn
 DRAWING TYPE: 4A
 STRUCTURE NUMBER: NB-355

 SCALE: NO SCALE

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

 DISTRICT: 5 COUNTY: LEHIGH, NORTHAMPTON, MONROE AND CARBON
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

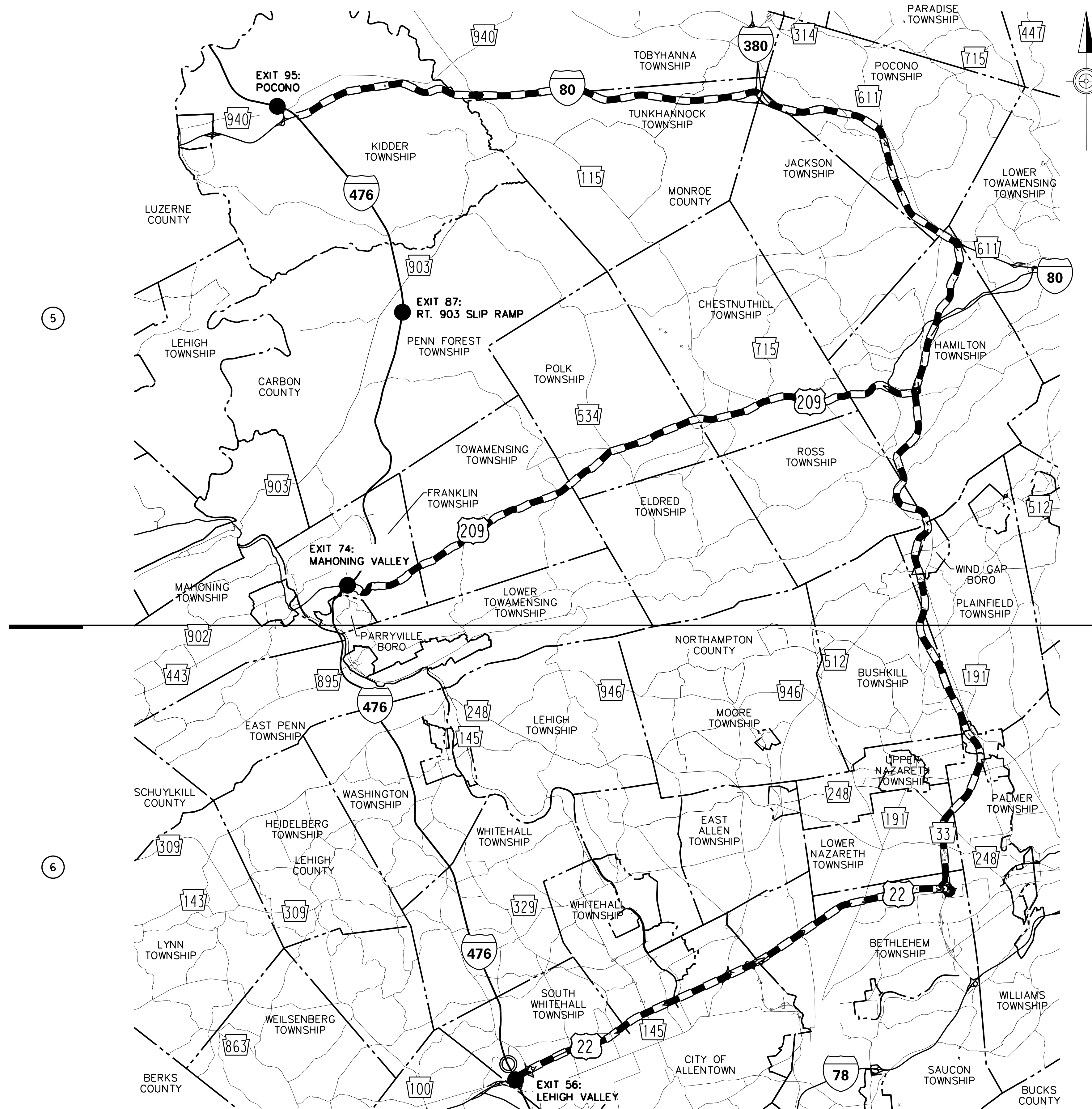
**MAINTENANCE AND PROTECTION OF TRAFFIC
 CRACKERSPORT ROAD & I-476 WEEKEND
 DETOUR PLAN**

 DRAWING: 2 OF 11
 SHEET: 19 OF 116

ADD2(A-057.66S002-3-02)07NOV16

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 WORKSPACE: 2\408-DI

OPERATOR: cmyers
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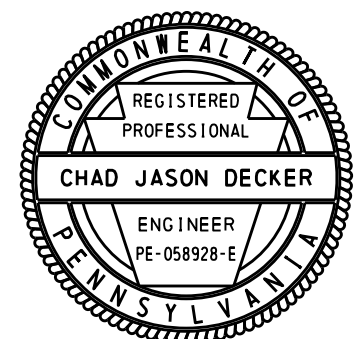


LEGEND

- PROJECT AREA
- PLAN
- DETOUR ROUTE
- INTERSTATE/US ROUTE
- STATE ROAD - 3 DIGIT SR
- STATE ROAD - 4 DIGIT SR
- COUNTY / MUNICIPAL BOUNDARY

**DETOUR PLAN
I-476**

SCALE 0 2 4 MILES



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 0355TCDp21.dgn
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SCALE: AS SHOWN

**BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66**

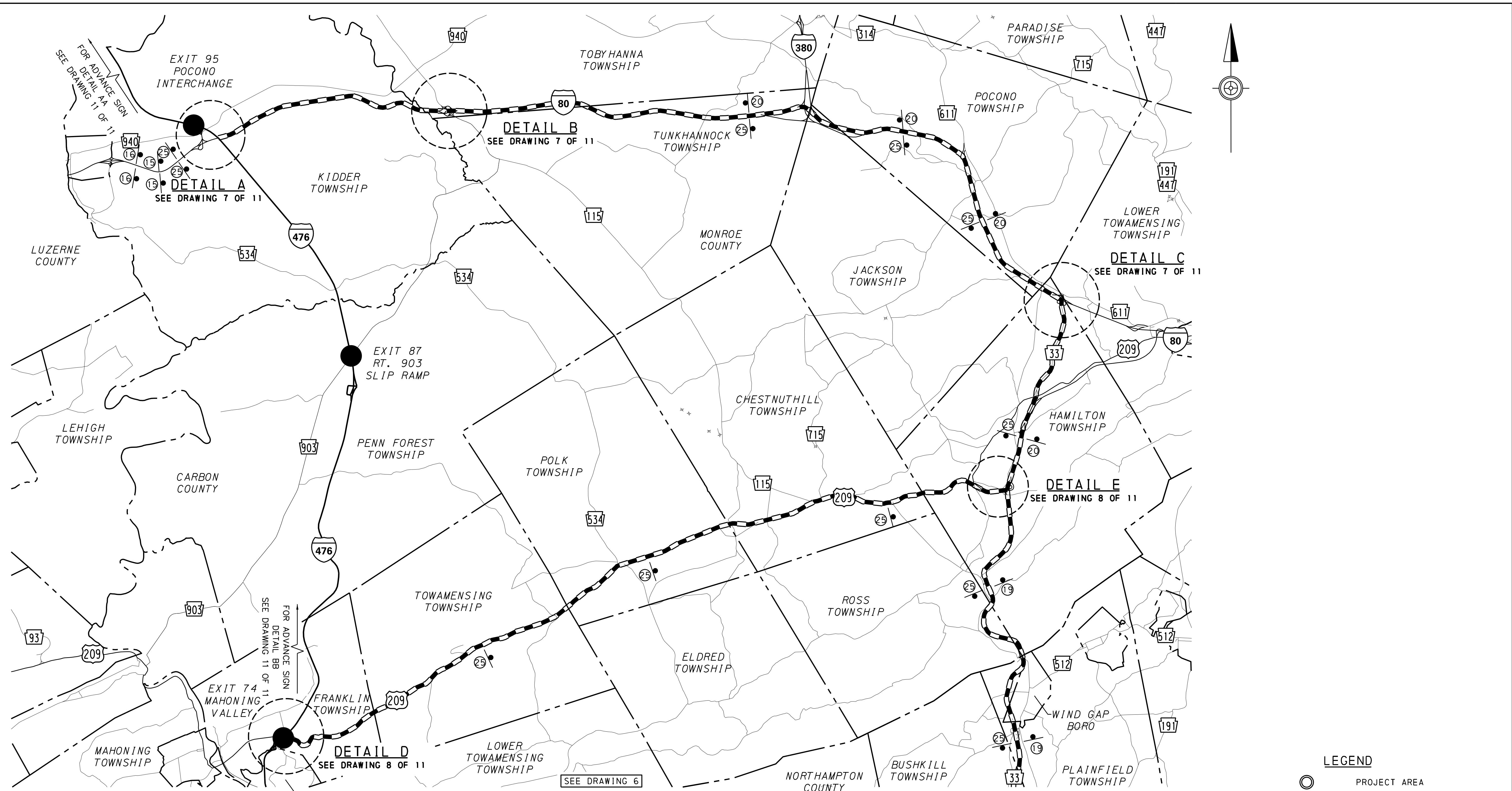
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 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

**MAINTENANCE AND PROTECTION OF TRAFFIC
I-476 WEEKEND DETOUR PLAN**

DRAWING: 4 OF 11
 SHEET: 21 OF 116

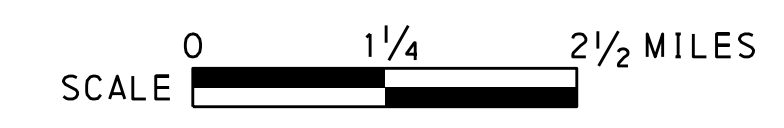
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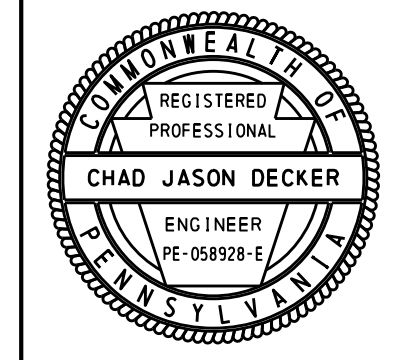
**DETOUR PLAN
I-476**

DETOUR LENGTH = 67 MILES



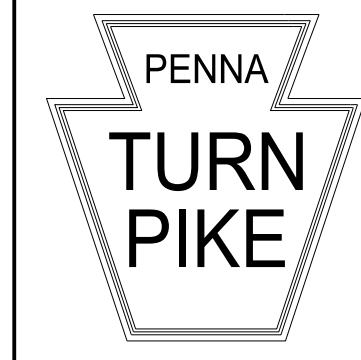
LEGEND

- PROJECT AREA
- SIGN LOCATION (POST)
- DETOUR ROUTE
- INTERSTATE/US ROUTE
- STATE ROAD - 3 DIGIT SR
- STATE ROAD - 4 DIGIT SR
- COUNTY / MUNICIPAL BOUNDARY



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NO.	REVISIONS	DATE	APPR.

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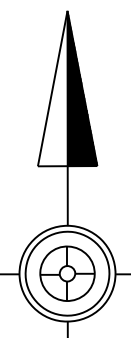
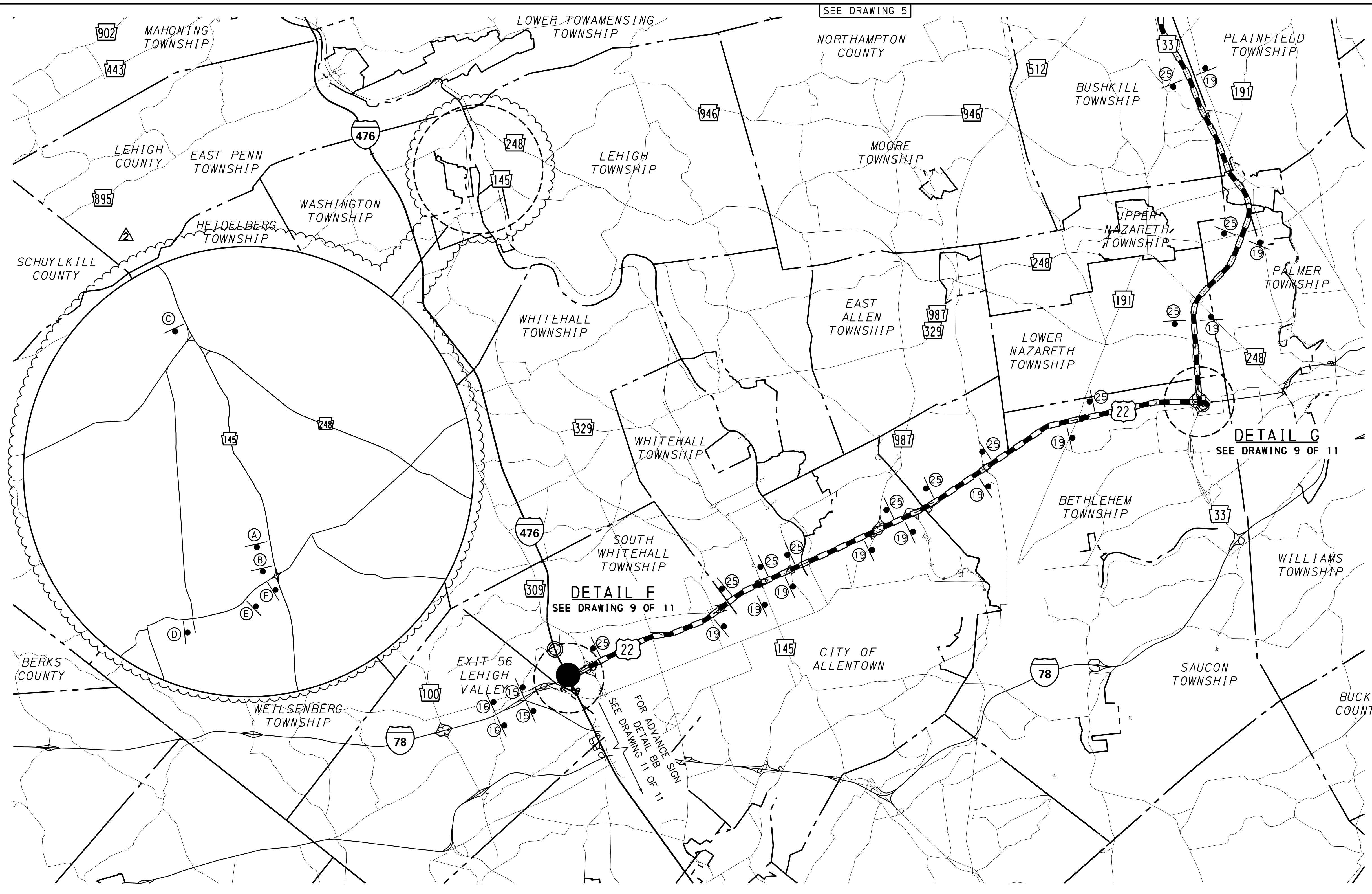
**BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH, NORTHAMPTON, MONROE AND CARBON
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

**MAINTENANCE AND PROTECTION OF TRAFFIC
I-476 WEEKEND DETOUR PLAN**

DRAWING: 5 OF 11
 SHEET: 22 OF 116

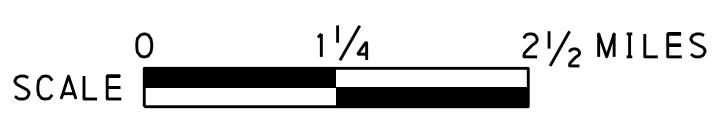
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 OPERATOR: cmyers
 PLOTTED: 11/17/2016 10:09:50 AM
 WORKSPACE: 230408-DI



TRUCK DETOUR SOUTH [Right Arrow]	M4-8-2 24"X24" M3-3-1 30"X15" M5-1R 21"X15"	(A)
TRUCK DETOUR SOUTH [Right Arrow]	M4-8-2 24"X24" M3-3-1 30"X15" M6-1 21"X15"	(B)
TRUCK DETOUR SOUTH [Up Arrow]	M4-8-2 24"X24" M3-3-1 30"X15" M6-3 21"X15"	(C)
TRUCK DETOUR NORTH [Up Arrow]	M4-8-2 24"X24" M3-1-1 30"X15" M6-3 21"X15"	(D)
TRUCK DETOUR NORTH [Left Arrow]	M4-8-2 24"X24" M3-1-1 30"X15" M5-1L 21"X15"	(E)
TRUCK DETOUR NORTH [Left Arrow]	M4-8-2 24"X24" M3-1-1 30"X15" M6-1 21"X15"	(F)

**DETOUR PLAN
I-476**

DETOUR LENGTH = 67 MILES



LEGEND

- PROJECT AREA
- SIGN LOCATION (POST)
- DETOUR ROUTE
- INTERSTATE/US ROUTE
- STATE ROAD - 3 DIGIT SR
- STATE ROAD - 4 DIGIT SR
- COUNTY / MUNICIPAL BOUNDARY

ADD2(A-057.66S002-3-02)07NOV16

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 ENOLA, PA 17025

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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
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 DRAWING TYPE: 4A
 STRUCTURE NUMBER: NB-355

SCALE: AS SHOWN

**BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66**

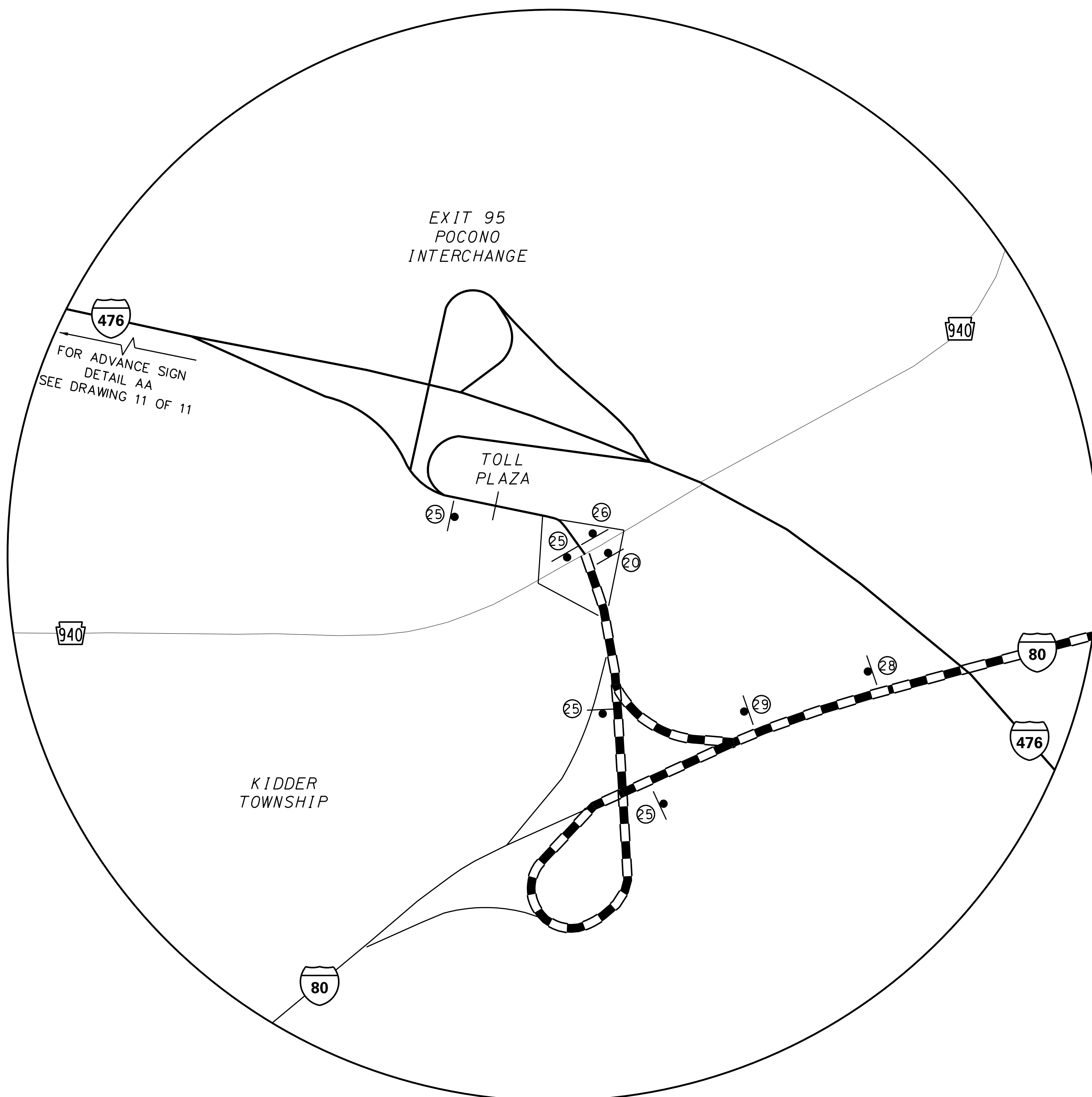
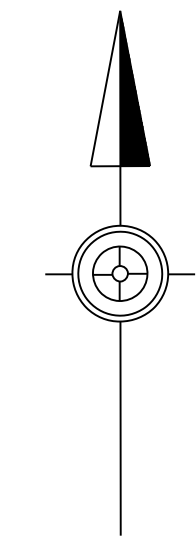
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 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

**MAINTENANCE AND PROTECTION OF TRAFFIC
I-476 WEEKEND DETOUR PLAN**

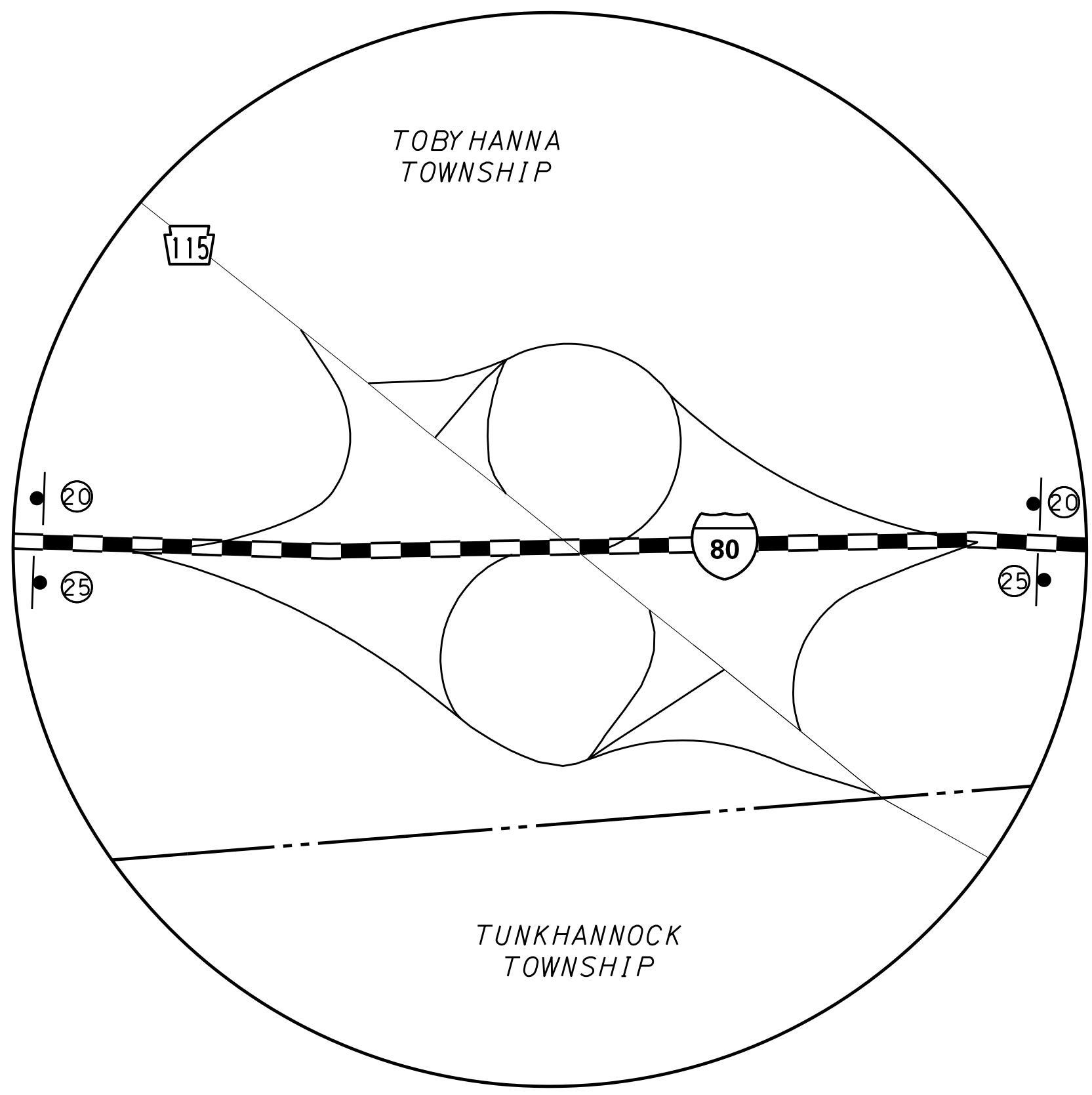
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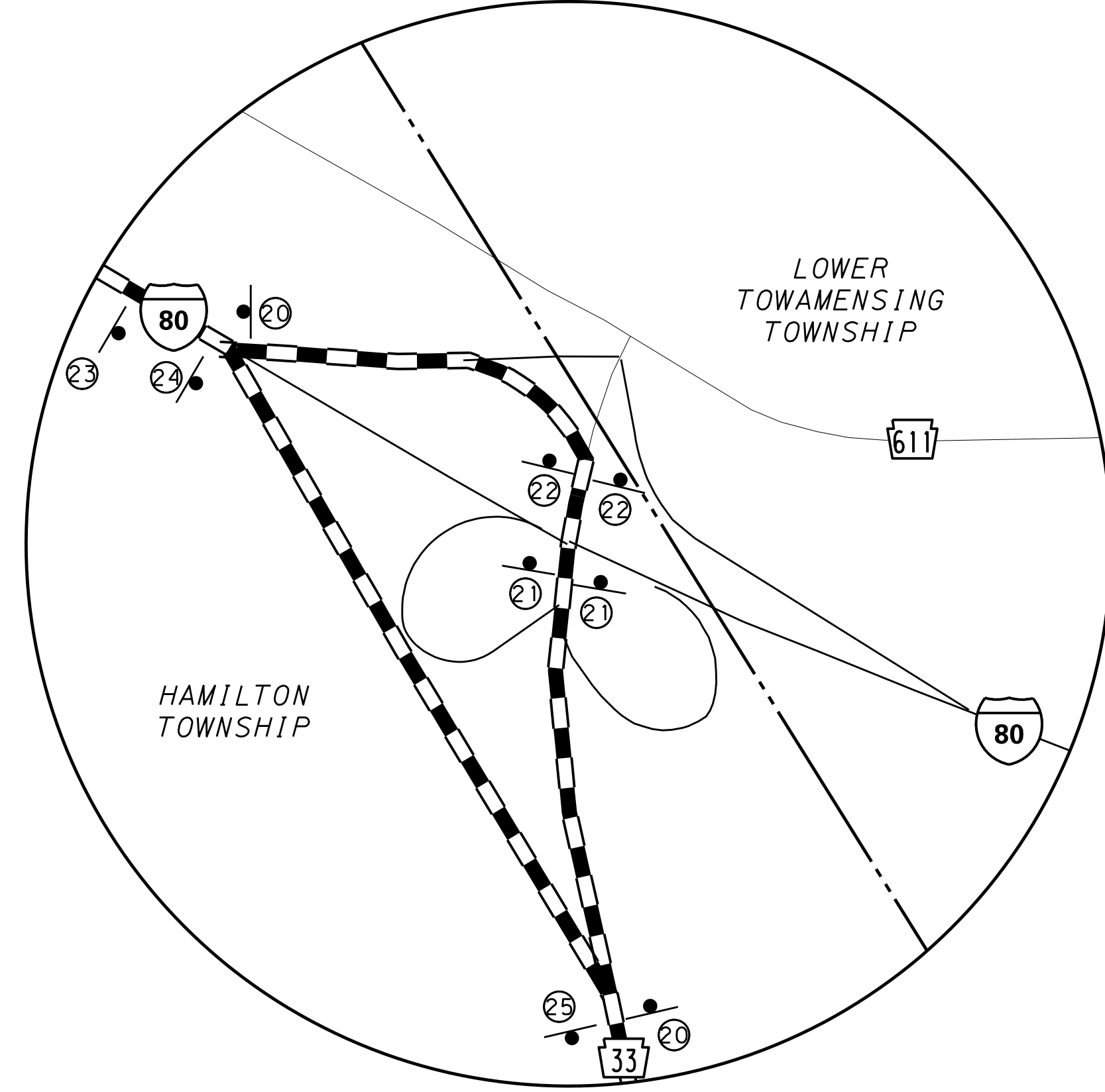
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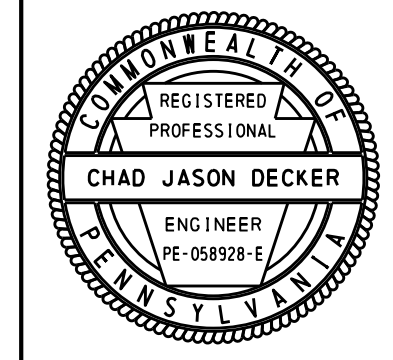
DETAIL B
NOT TO SCALE



DETAIL C
NOT TO SCALE

LEGEND

- ① SIGN LOCATION (POST)
- DETOUR ROUTE
- INTERSTATE/US ROUTE
- STATE ROAD - 3 DIGIT SR
- STATE ROAD - 4 DIGIT SR
- COUNTY / MUNICIPAL BOUNDARY
- ** EXTEND TYPE III BARRICADE ACROSS ENTIRE ROADWAY



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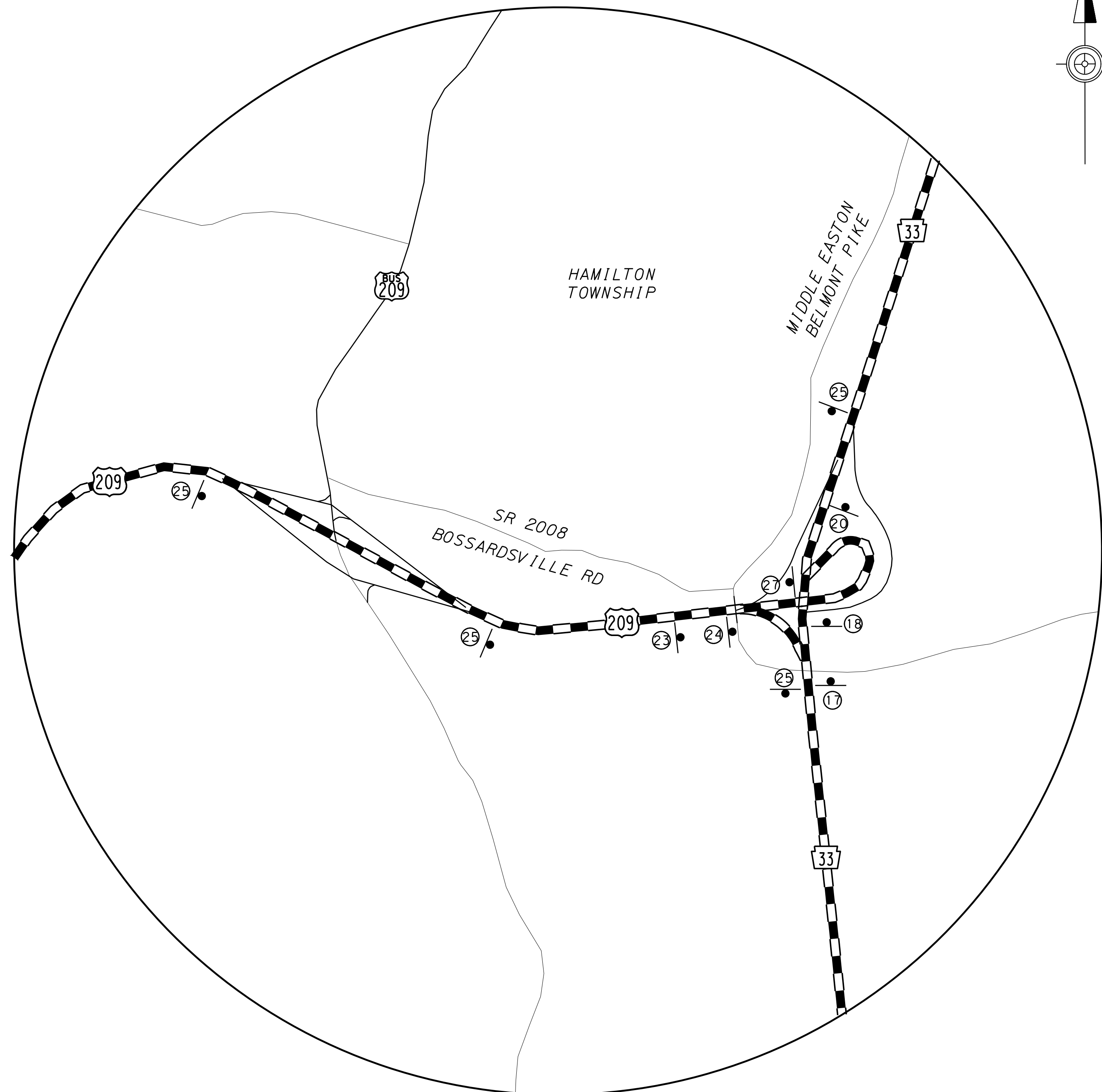
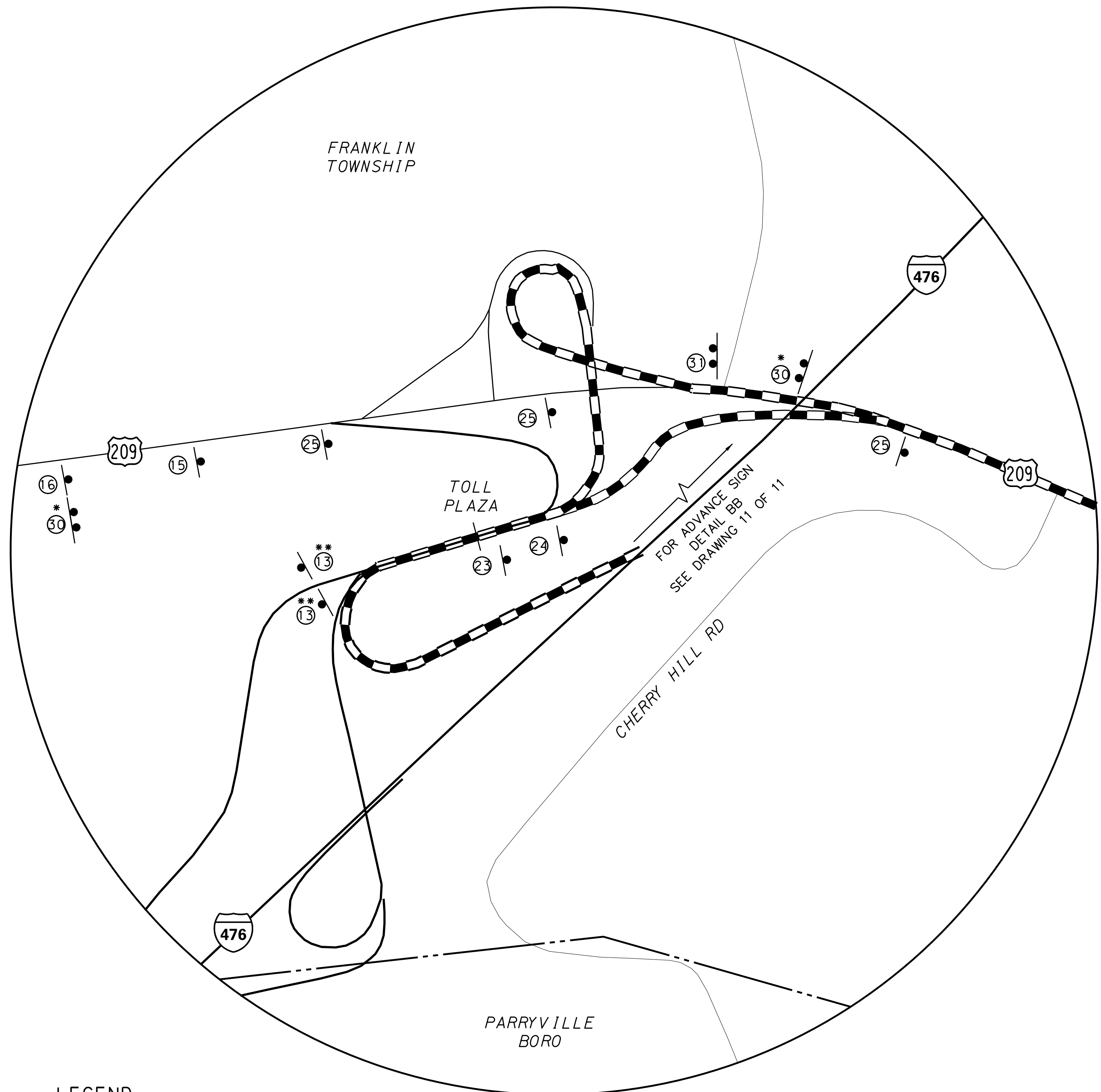
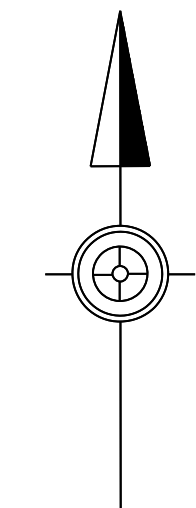
NO.	REVISIONS	DATE	APPR.

WBS NO. A-057.66S002-3-02
NETWORK NUMBER: 7004121
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STRUCTURE NUMBER: NB-355
SCALE: NO SCALE

BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	
DISTRICT: 5	COUNTY: LEHIGH, NORTHAMPTON, MONROE AND CARBON
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP	

MAINTENANCE AND PROTECTION OF TRAFFIC I-476 WEEKEND DETOUR PLAN	
DRAWING: 7 OF 11	SHEET: 24 OF 116

PLOT DRIVER: p:\057\66S002\3-02\05766S002-3-02.dwg
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LEGEND

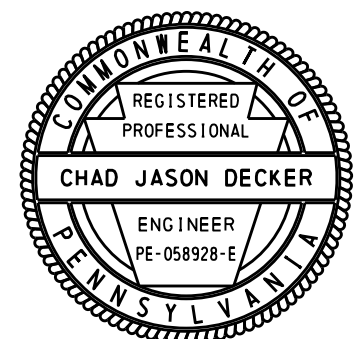
- ① SIGN LOCATION (POST)
- DETOUR ROUTE
- INTERSTATE/US ROUTE
- STATE ROAD - 3 DIGIT SR
- STATE ROAD - 4 DIGIT SR
- - - COUNTY / MUNICIPAL BOUNDARY
- ** EXTEND TYPE III BARRICADE ACROSS ENTIRE ROADWAY

DETAIL D
NOT TO SCALE

*PLACE W23-101 SIGN TWO WEEKS PRIOR TO START OF DETOUR

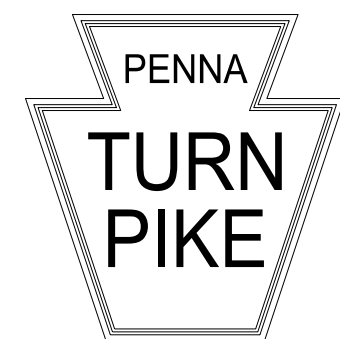
DETAIL E
NOT TO SCALE

OPERATOR: cmeyers
 PLOTTED: 9/27/2016 5:29:56 PM
 FILE: p:\057\66S002\3-02\05766S002-3-02.dwg



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 ENOLA, PA 17025

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NO.	REVISIONS	DATE	APPR.

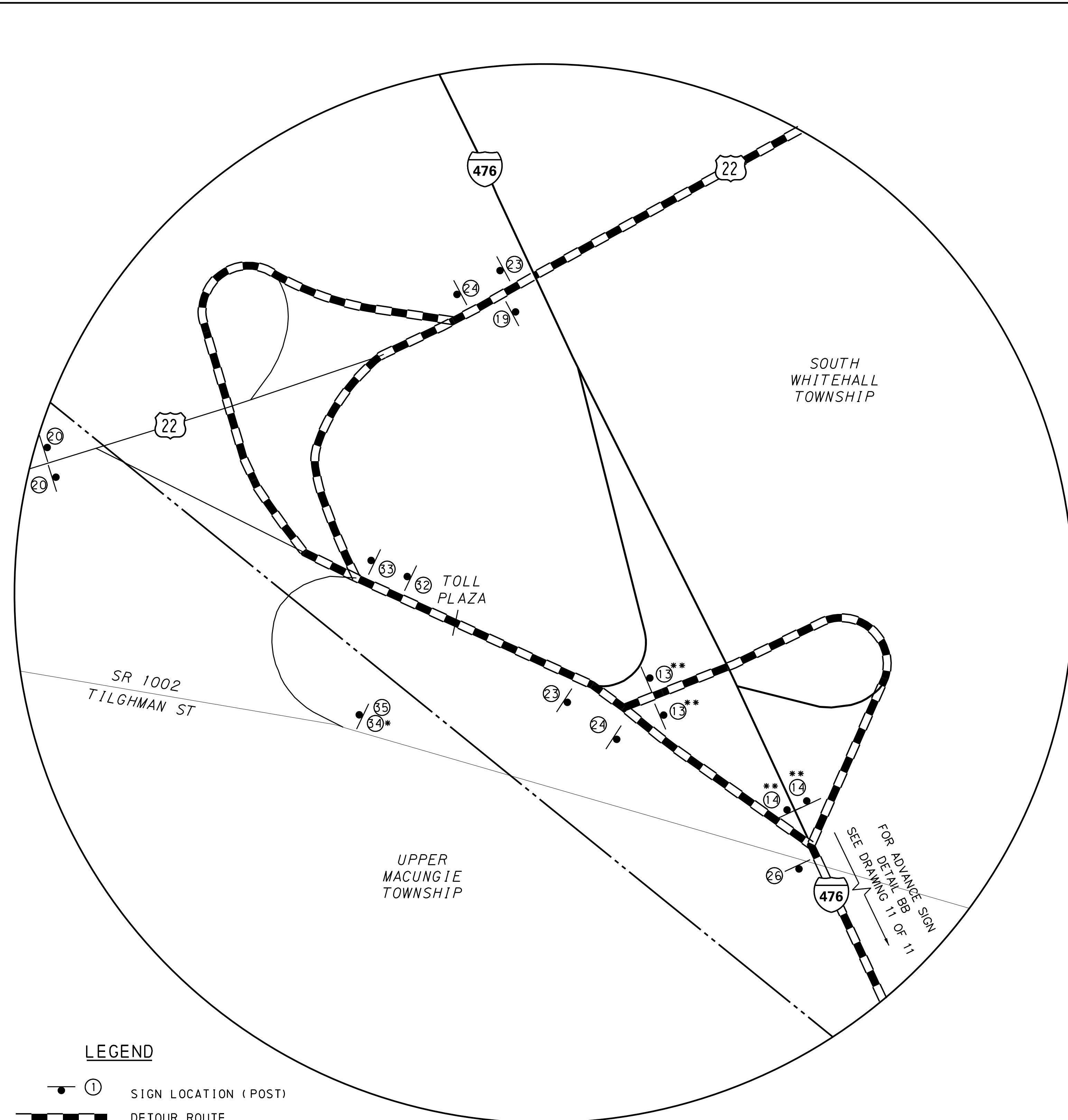
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SCALE: NO SCALE

BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	
DISTRICT: 5	COUNTY: LEHIGH, NORTHAMPTON, MONROE AND CARBON
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP	

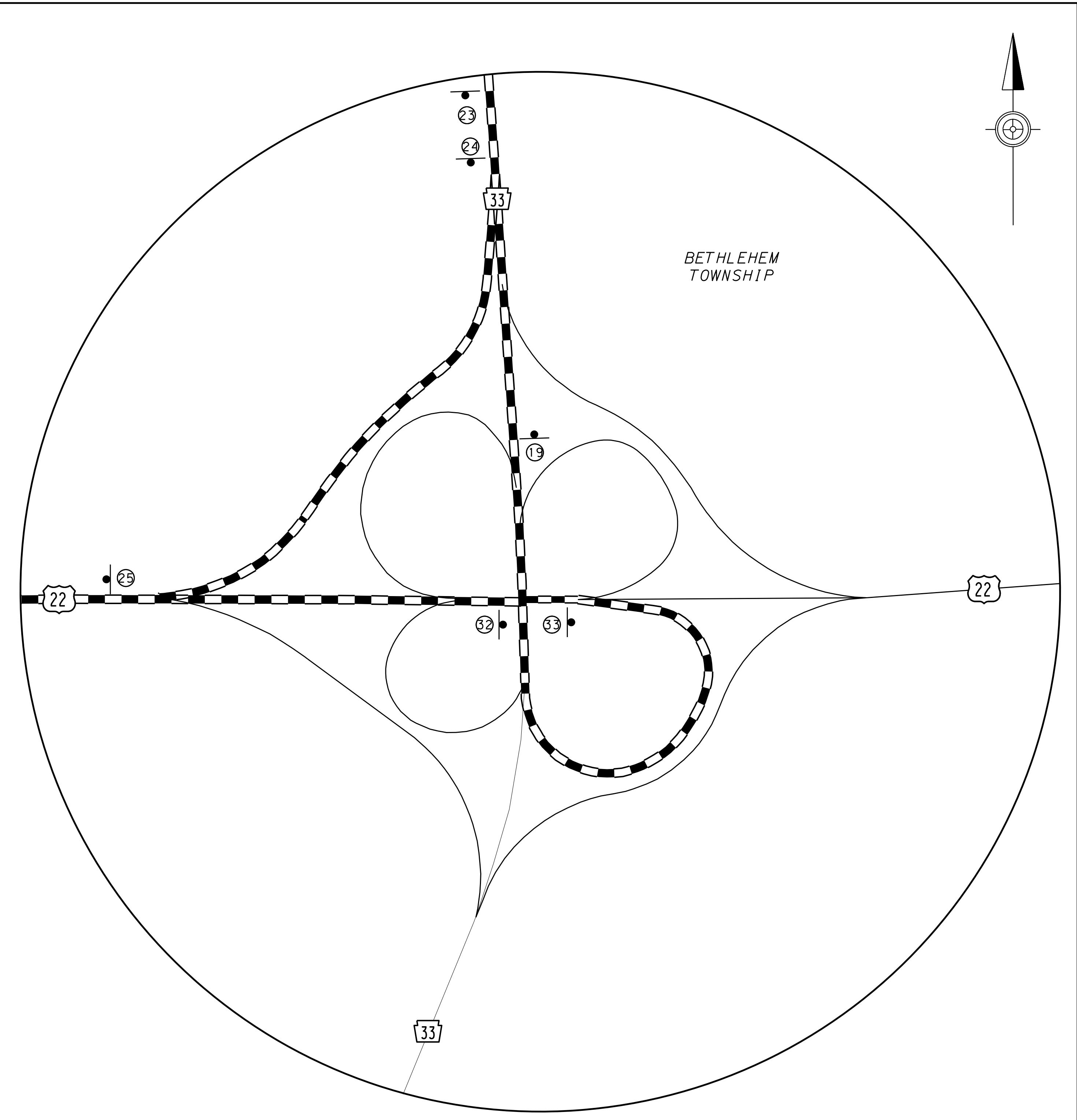
MAINTENANCE AND PROTECTION OF TRAFFIC I-476 WEEKEND DETOUR PLAN	
DRAWING: 8 OF 11	SHEET: 25 OF 116

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OPERATOR: cmeyers
 PLOTTED: 9/27/2016 5:29:57 PM



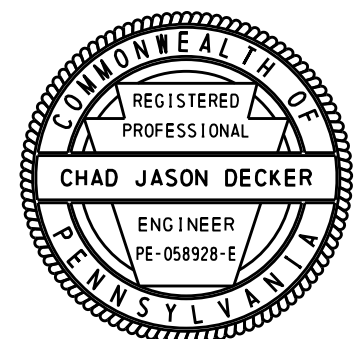
DETAIL F
 NOT TO SCALE
 PLACE W23-101 SIGN TWO WEEKS
 PRIOR TO START OF DETOUR



DETAIL G
 NOT TO SCALE

LEGEND

- ① SIGN LOCATION (POST)
- ▬ DETOUR ROUTE
- ▬ INTERSTATE/US ROUTE
- ▬ STATE ROAD - 3 DIGIT SR
- ▬ STATE ROAD - 4 DIGIT SR
- - - COUNTY / MUNICIPAL BOUNDARY
- ** EXTEND TYPE III BARRICADE ACROSS ENTIRE ROADWAY



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NO.	REVISIONS	DATE	APPR.

WBS NO. A-057.66S002-3-02
NETWORK NUMBER: 7004121
FILE NAME: 0355Tcdp26.dgn
DRAWING TYPE: 4A
STRUCTURE NUMBER: NB-355
SCALE: NO SCALE

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH, NORTHAMPTON, MONROE AND CARBON
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

**MAINTENANCE AND PROTECTION OF TRAFFIC
 I-476 WEEKEND DETOUR PLAN**

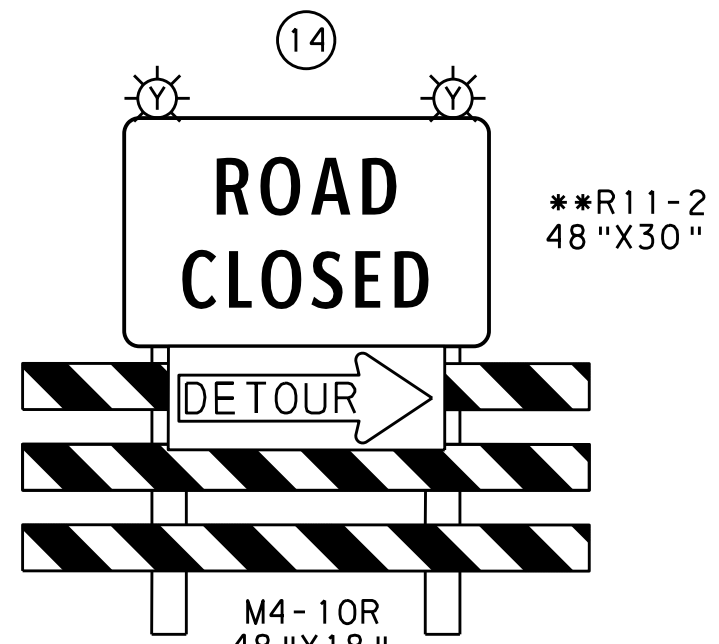
DRAWING: 9 OF 11
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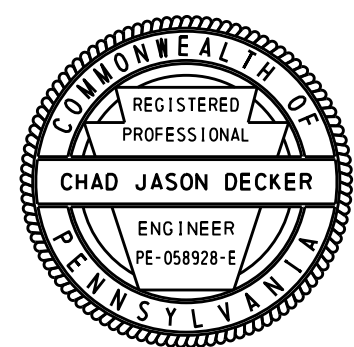
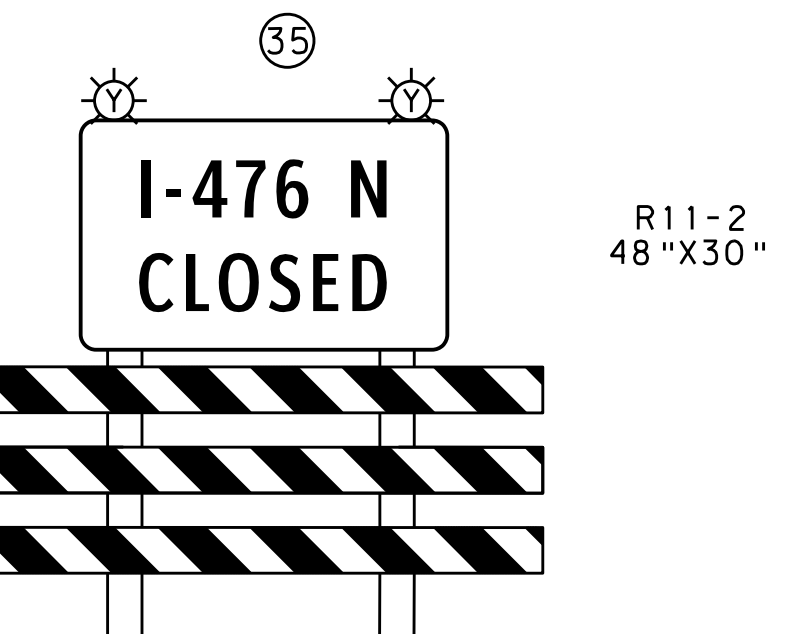
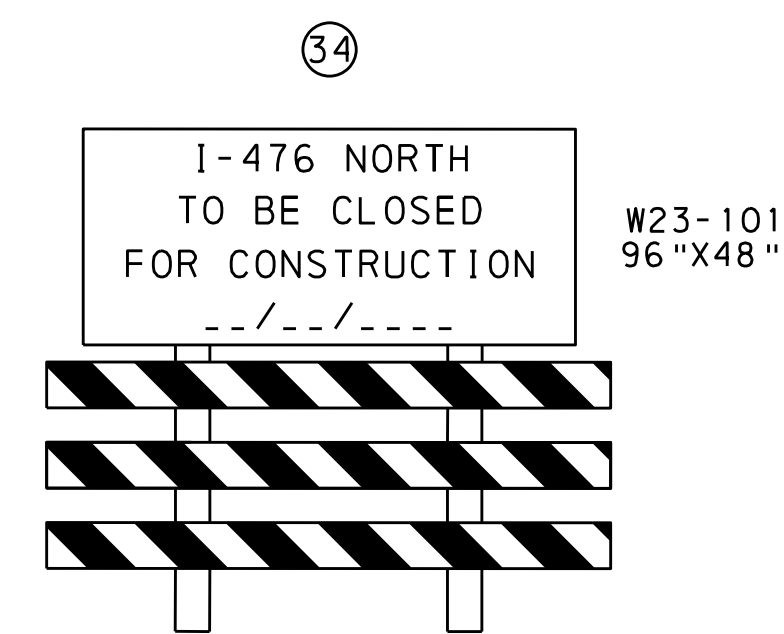
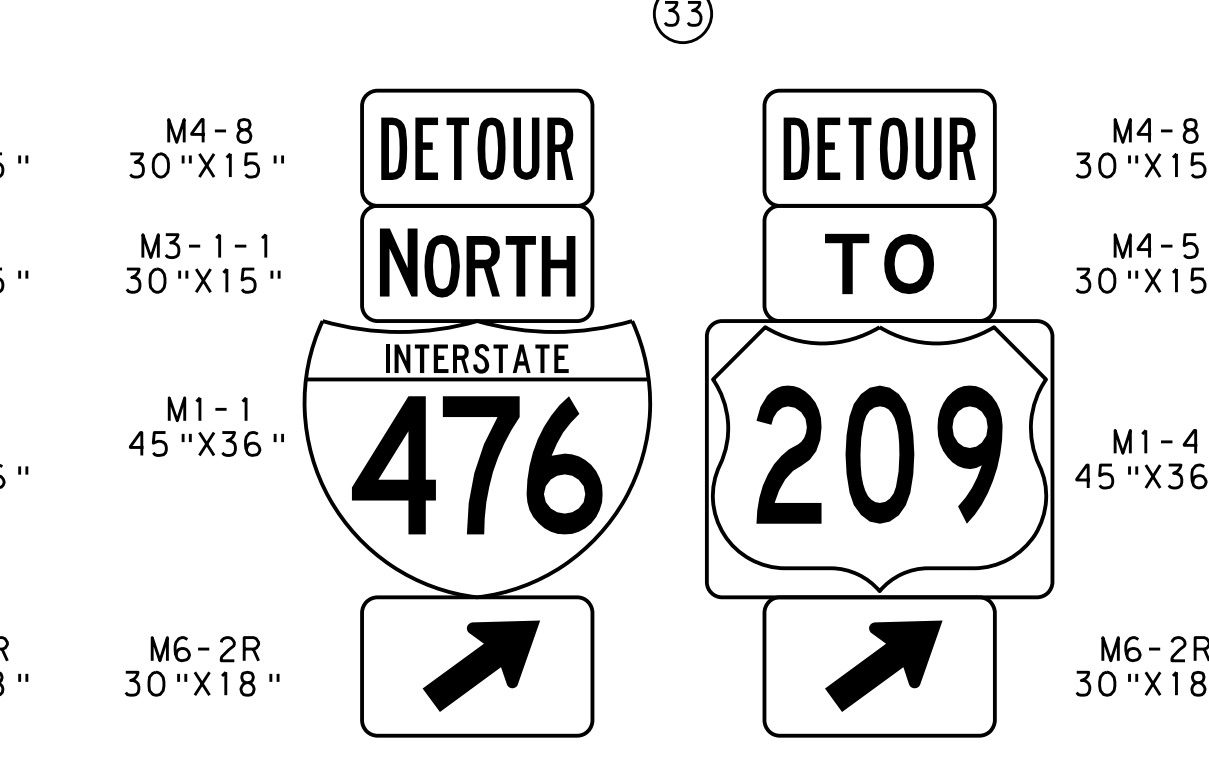
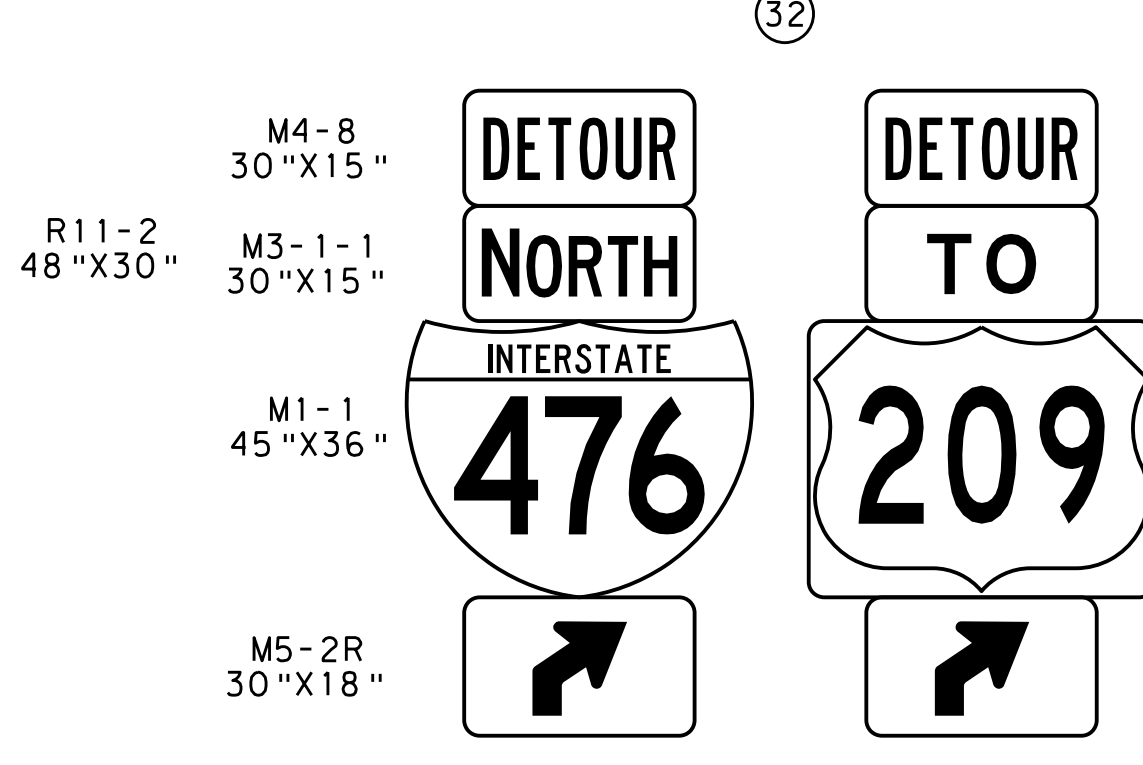
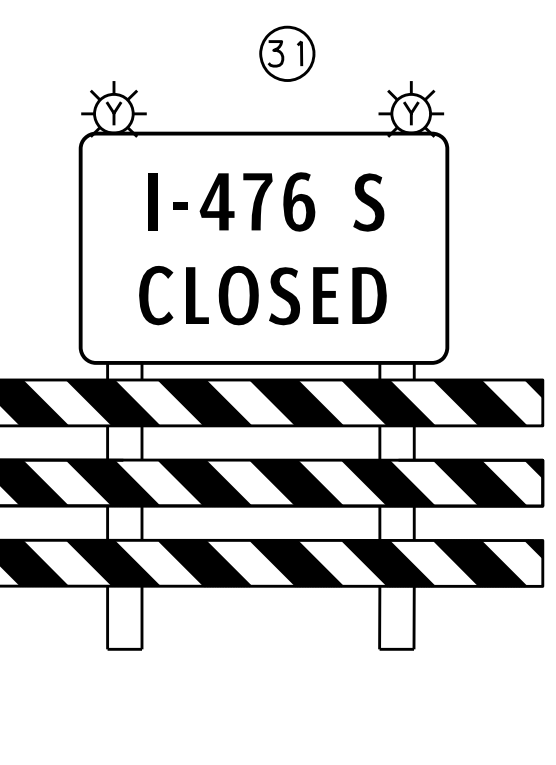
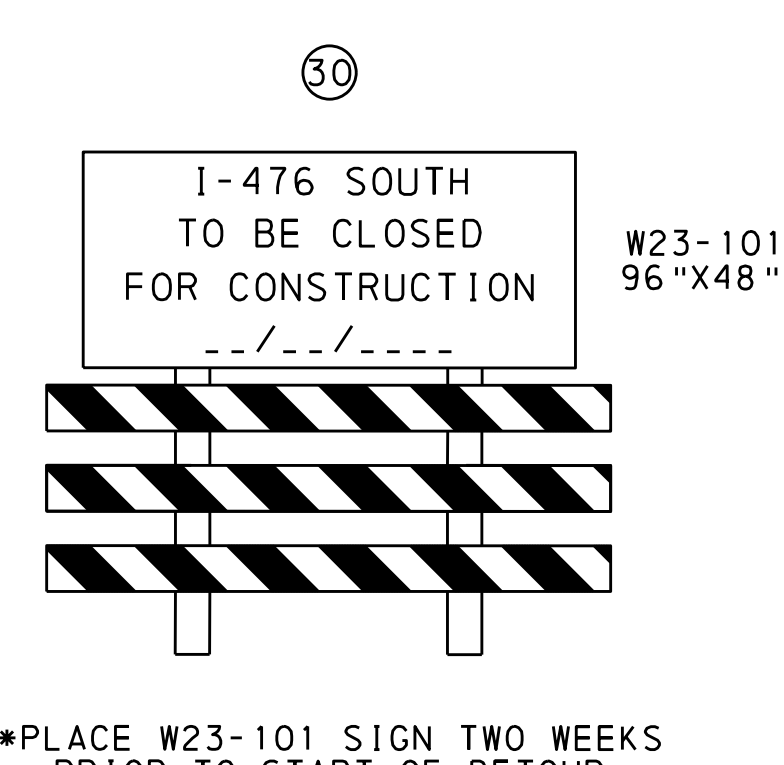
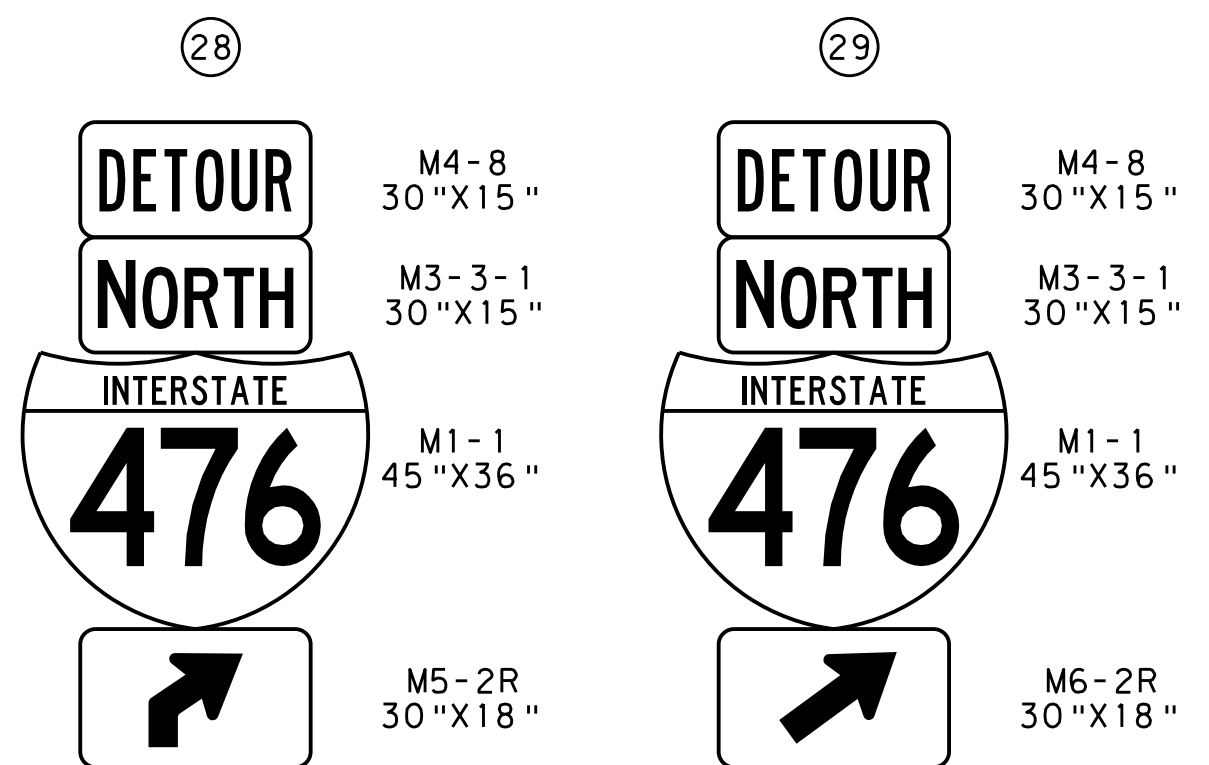
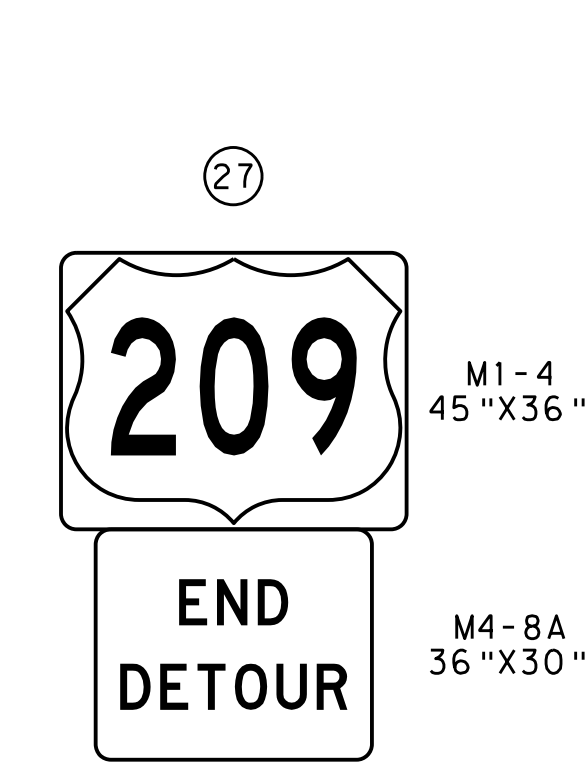
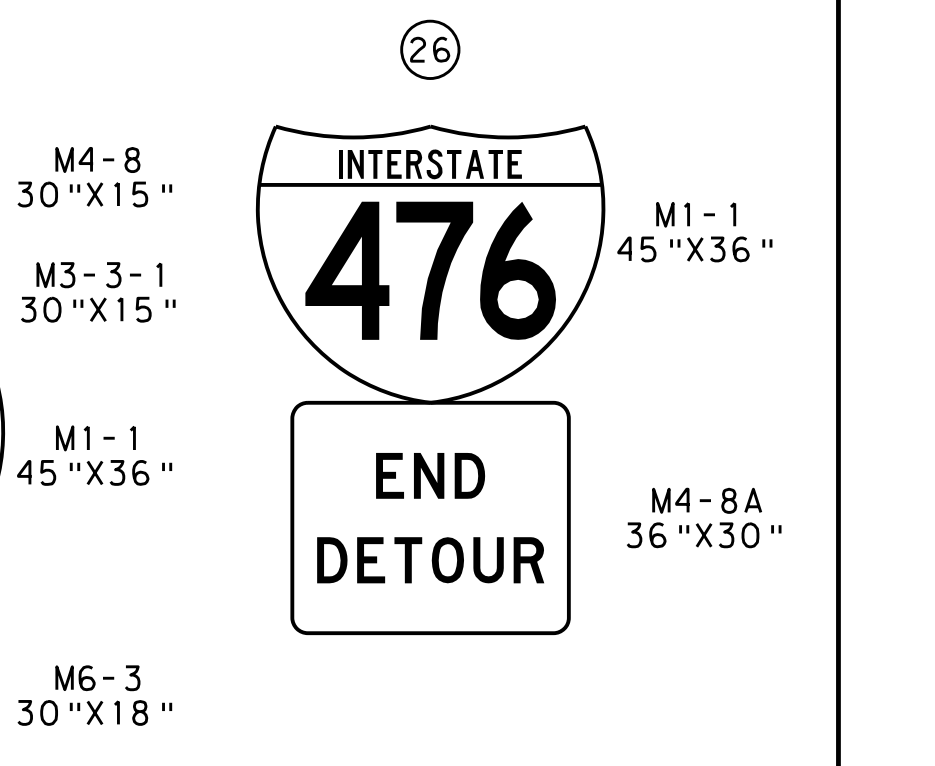
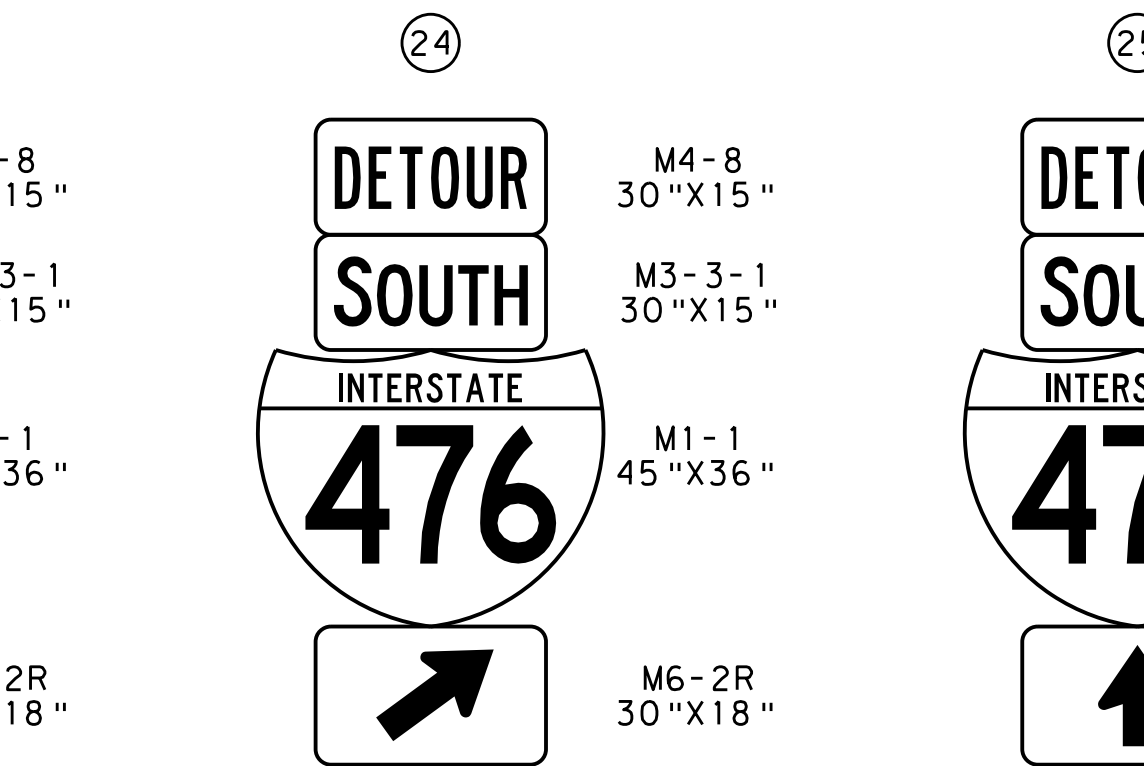
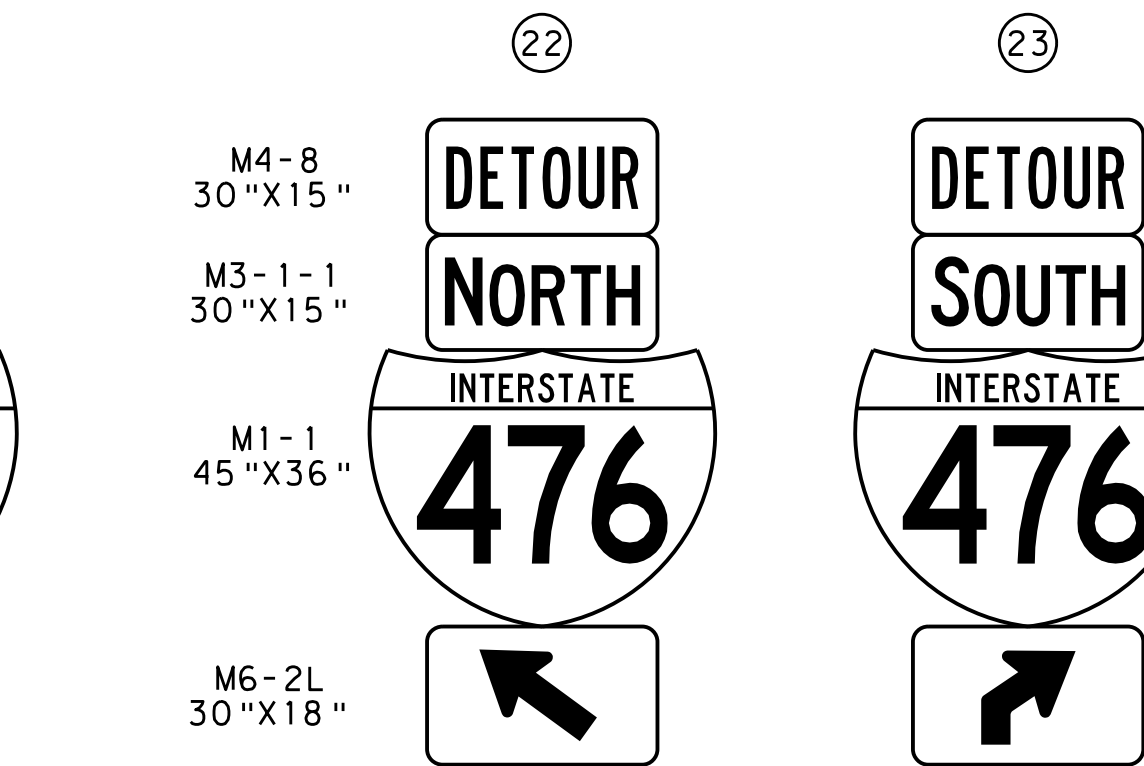
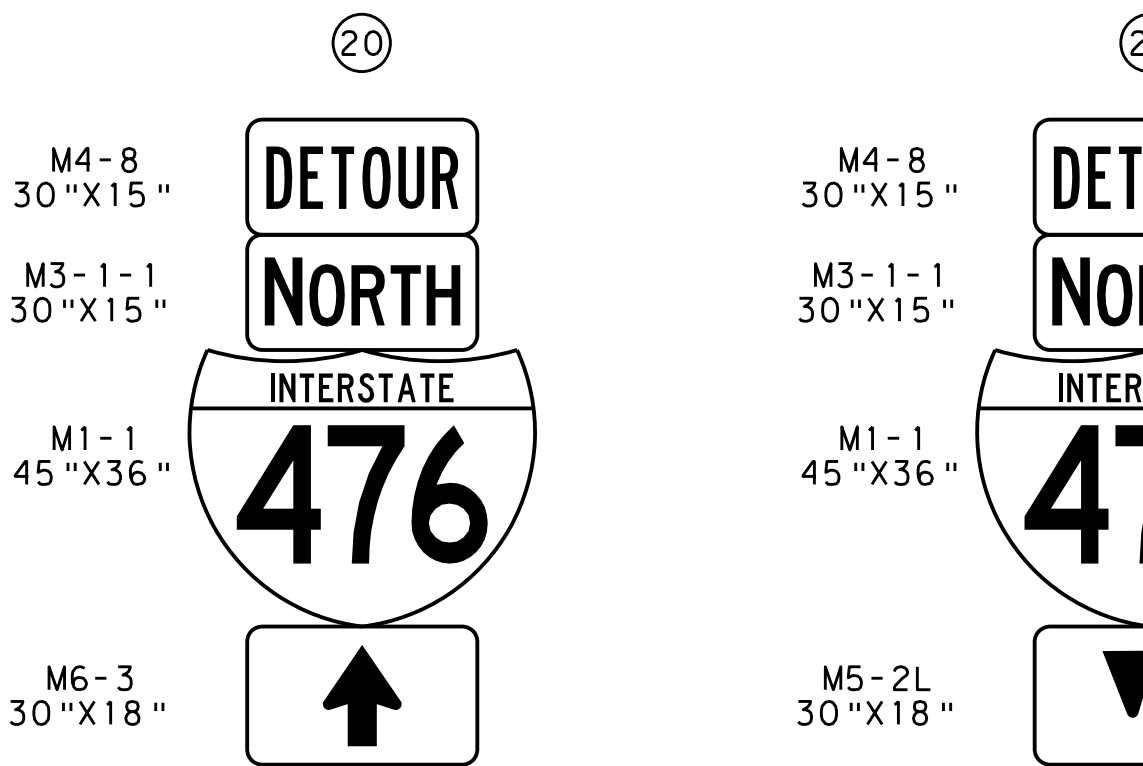
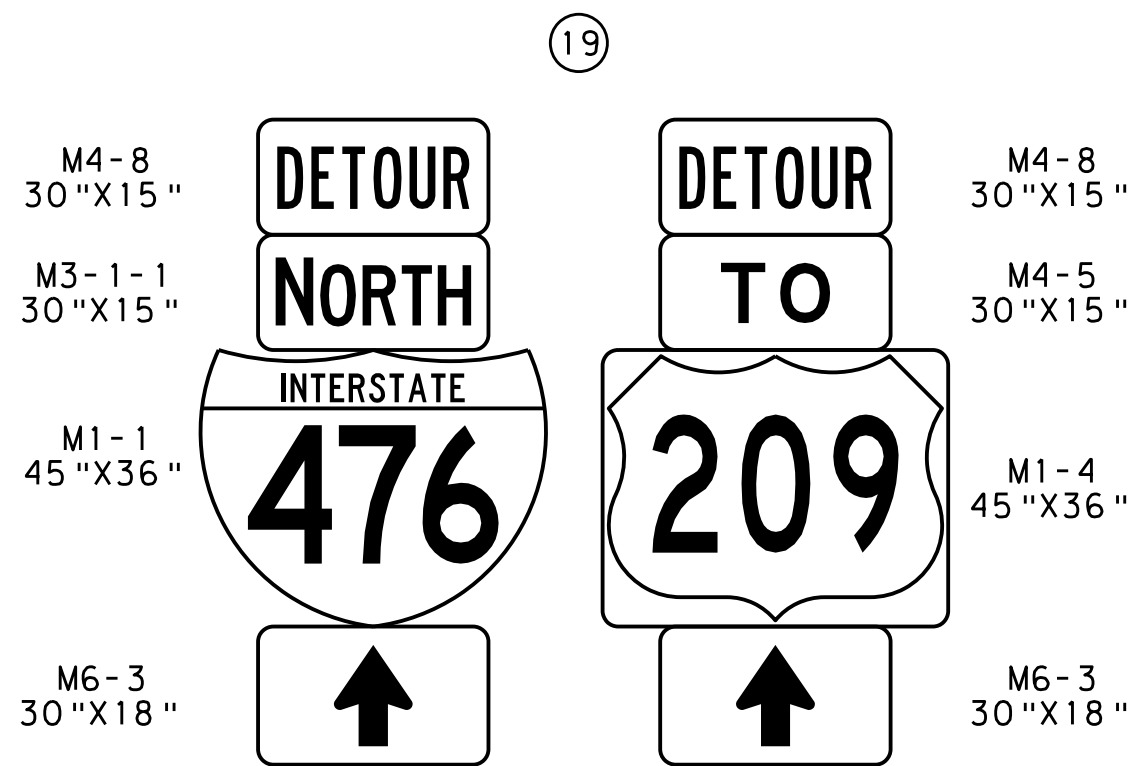
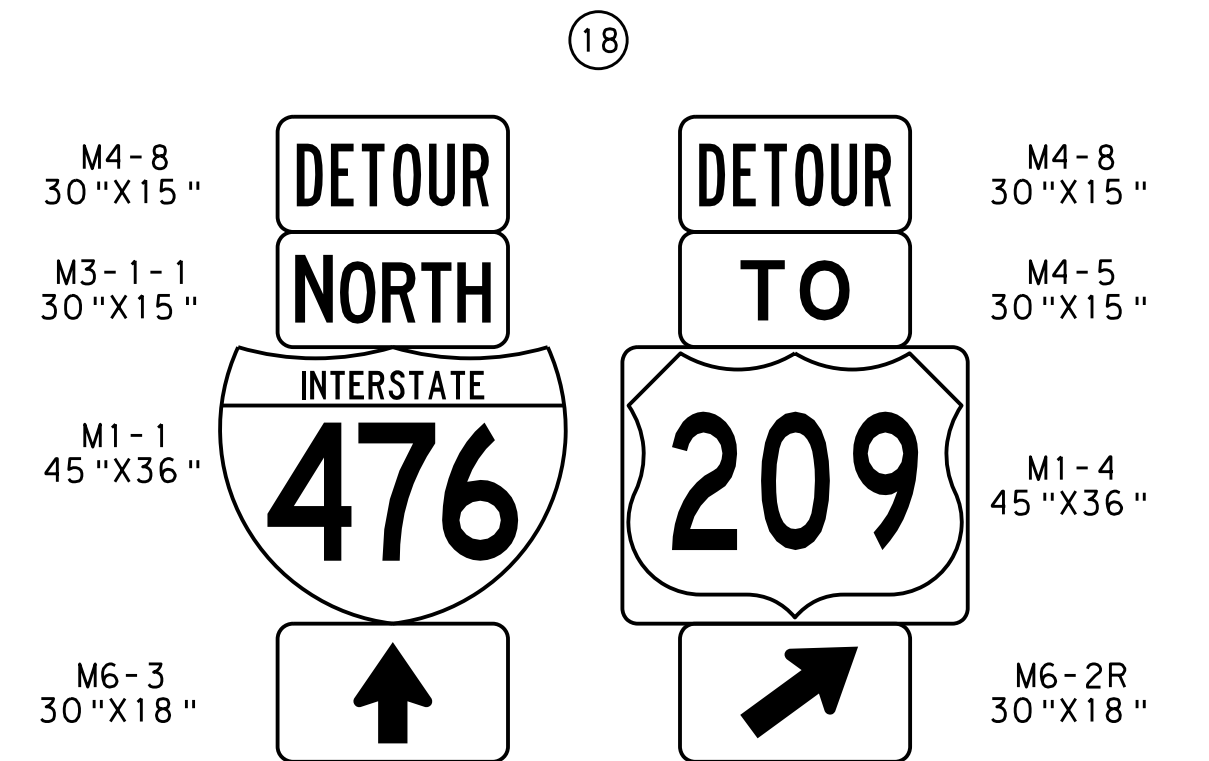
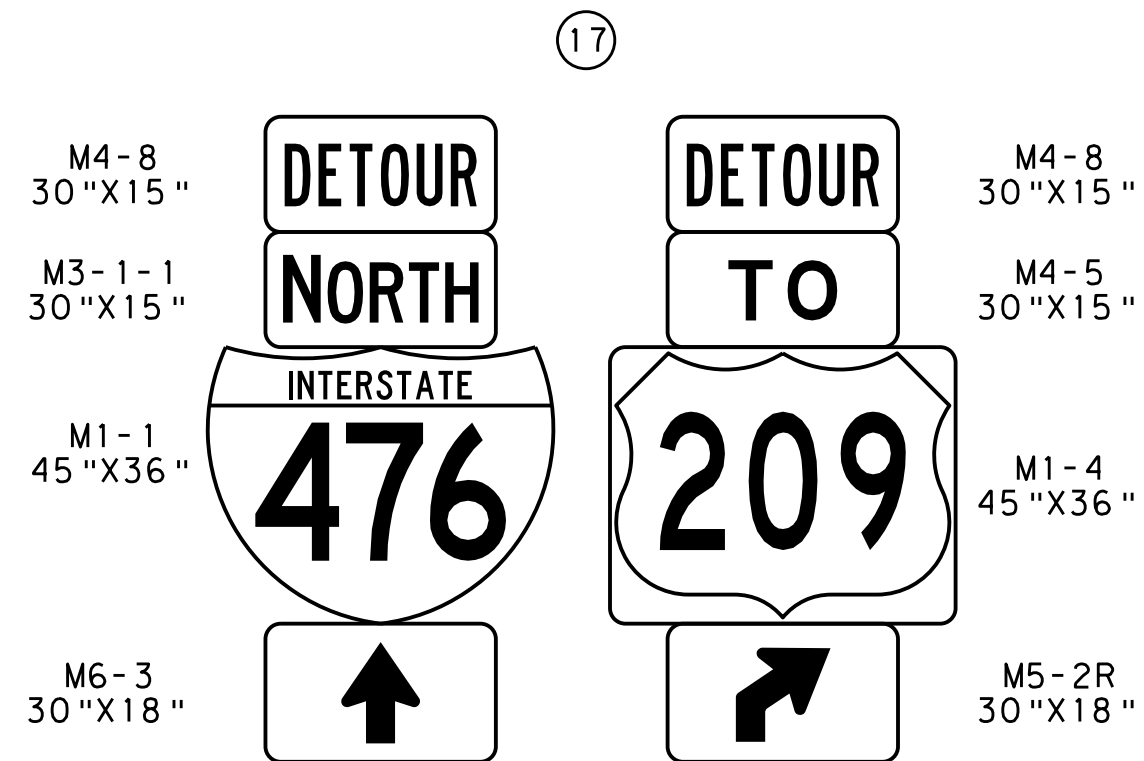
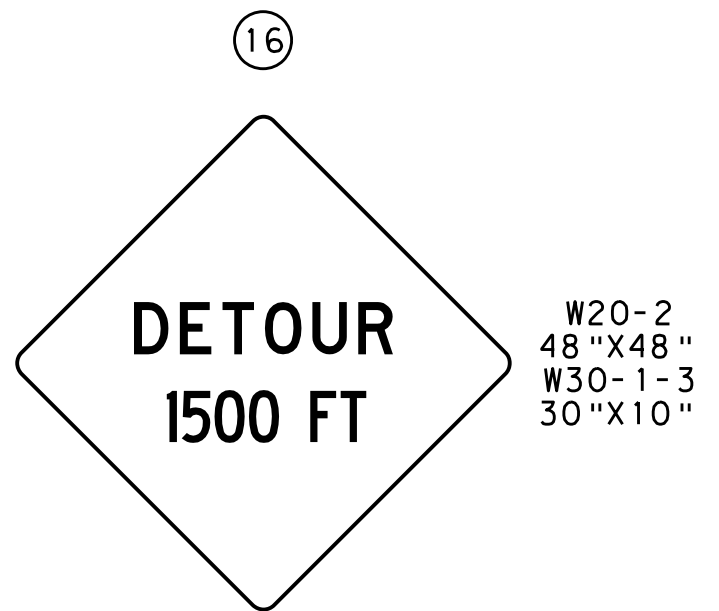
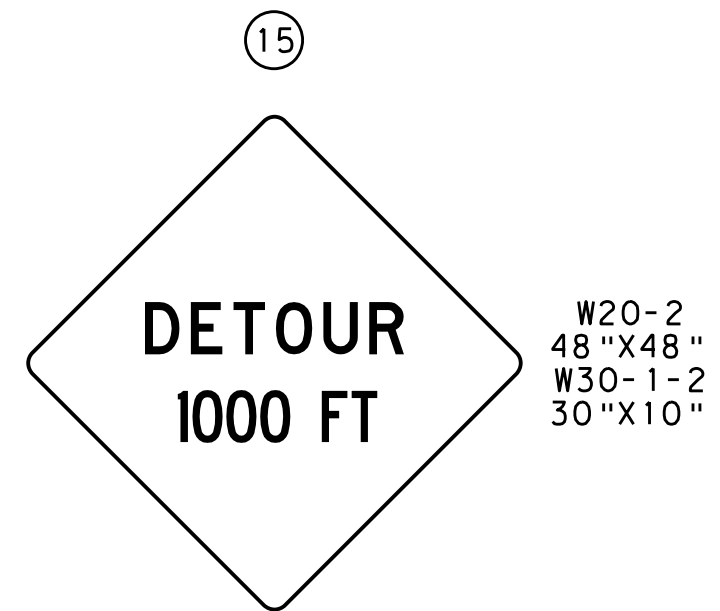
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**EXTEND TYPE III BARRICADES ACROSS ENTIRE ROADWAY

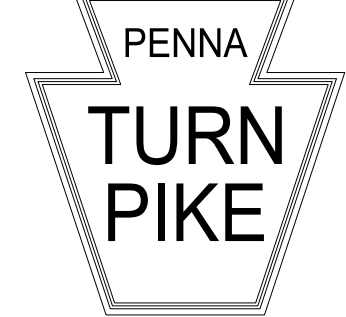


**EXTEND TYPE III BARRICADES ACROSS ENTIRE ROADWAY



PREPARED BY:
 DAWOOD ENGINEERING
 2020 GOOD HOPE ROAD
 ENOLA, PA 17025

PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION

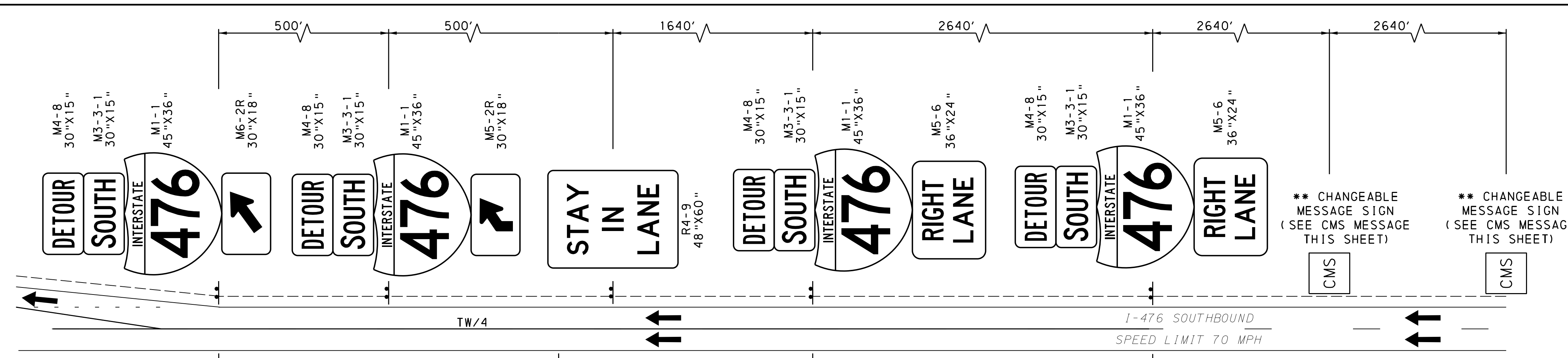


NO.	REVISIONS	DATE	APPR.	SCALE:	NO SCALE

WBS NO. A-057.66S002-3-02		BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66		MAINTENANCE AND PROTECTION OF TRAFFIC I-476 WEEKEND DETOUR PLAN	
NETWORK NUMBER: 7004121 FILE NAME: 0355TCdp27.dgn DRAWING TYPE: 4A STRUCTURE NUMBER: NB-355		DISTRICT: 5 COUNTY: LEHIGH, NORTHAMPTON, MONROE AND CARBON TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP		DRAWING: 10 OF 11 SHEET: 27 OF 116	

PLOT DRIVER: pda120nl.pdf-projects\p1rctfg
FILE: 0355Tc28.dgn
WORKSPACE: 2/10/06-DI

OPERATOR: cmeyers
FILE: 0355Tc28.dgn
PLOTTED: 11/17/2016 10:09:55 AM

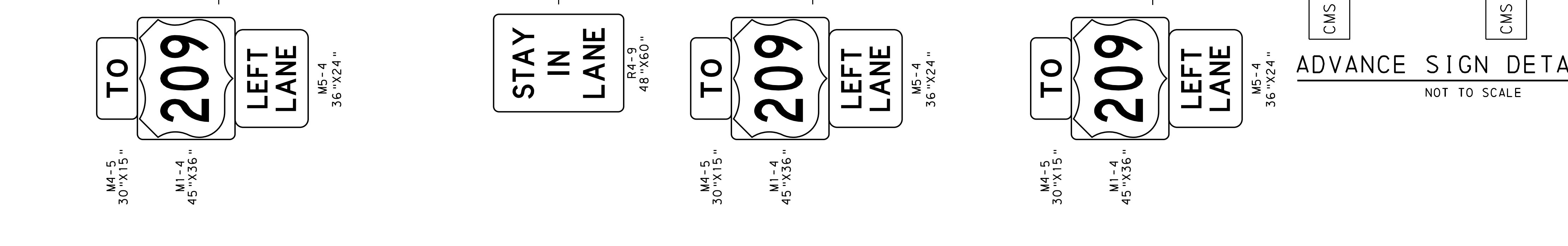


ADVANCE SIGN DETAIL AA - CMS MESSAGE DETAIL

TURNPIKE CLOSED AT EXIT 74 CMS MESSAGE 1 ** FOLLOW DETOUR CMS MESSAGE 3 DURING CONSTRUCTION

X/XX/XX TO X/XX/XX CMS MESSAGE 2 ** BEFORE CONSTRUCTION

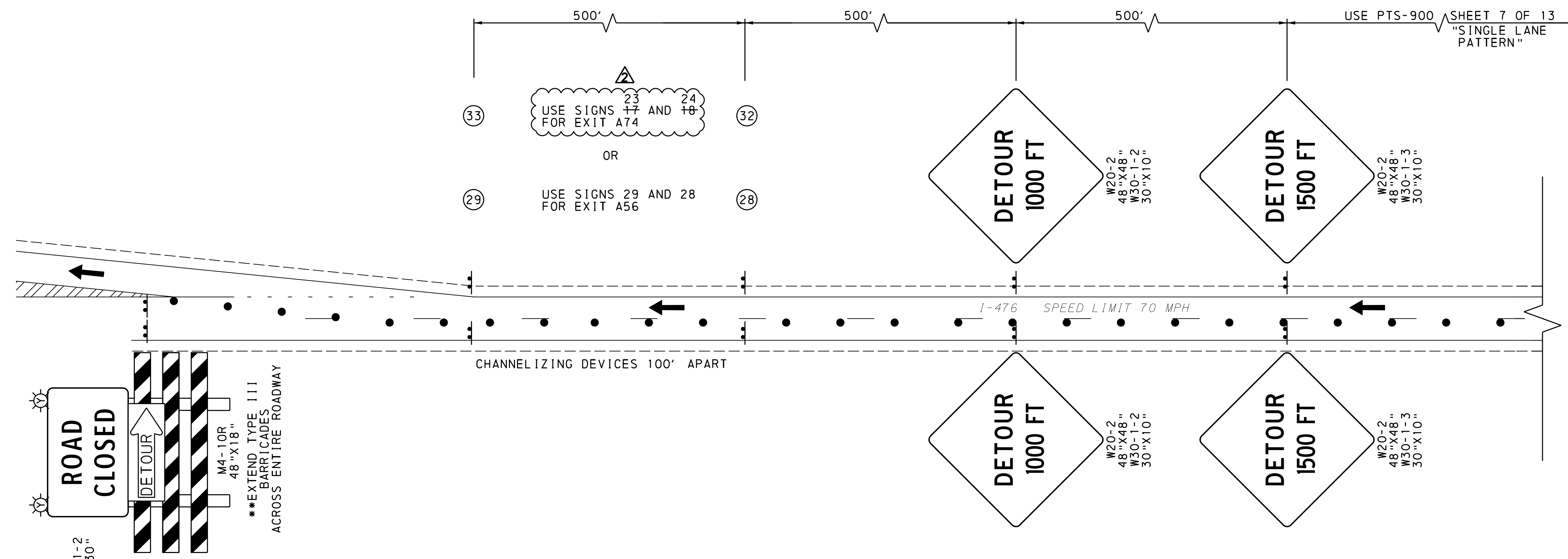
** PLACE CMS TWO WEEKS PRIOR TO START OF WORK



LEGEND

- GROUND MOUNTED SIGN
- CHANNELIZING DEVICE
- TW/4" TEMPORARY WHITE LINE PAINT/WIDTH
- ← TRAFFIC FLOW ARROW
- (23) SIGN NUMBER ON DRAWING 10 OF 11

ADVANCE SIGN DETAIL AA NOT TO SCALE



USE PTS-900 SHEET 7 OF 13 "SINGLE LANE PATTERN"

** CHANGEABLE MESSAGE SIGN (SEE CMS MESSAGE THIS SHEET)

** CHANGEABLE MESSAGE SIGN (SEE CMS MESSAGE THIS SHEET)

ADVANCE SIGN DETAIL BB - CMS MESSAGE DETAIL

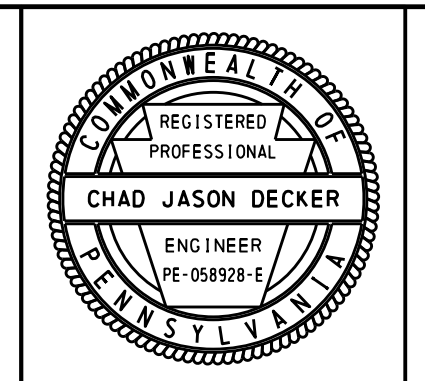
TURNPIKE CLOSED AT EXIT ** CMS MESSAGE 1 ** FOLLOW DETOUR CMS MESSAGE 3 DURING CONSTRUCTION

** = A74 OR A56

X/XX/XX TO X/XX/XX CMS MESSAGE 2 ** BEFORE CONSTRUCTION

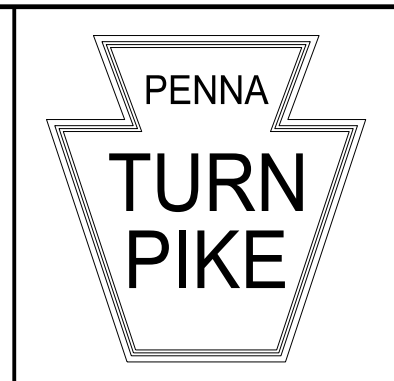
** PLACE CMS TWO WEEKS PRIOR TO START OF WORK ADD2(A-057.66S002-3-02)07NOV16

ADVANCE SIGN DETAIL BB NOT TO SCALE



PREPARED BY:
DAWOOD ENGINEERING
2020 GOOD HOPE ROAD
ENOLA, PA 17025

PREPARED FOR:
THE PENNSYLVANIA
TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121

FILE NAME: 0355Tc28.dgn

DRAWING TYPE: 4A

STRUCTURE NUMBER: NB-355

SCALE: NO SCALE

**BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66**

**MAINTENANCE AND PROTECTION OF TRAFFIC
I-476 WEEKEND DETOUR PLAN**

DISTRICT: 5 COUNTY: LEHIGH, NORTHAMPTON, MONROE AND CARBON DRAWING: 11 OF 11

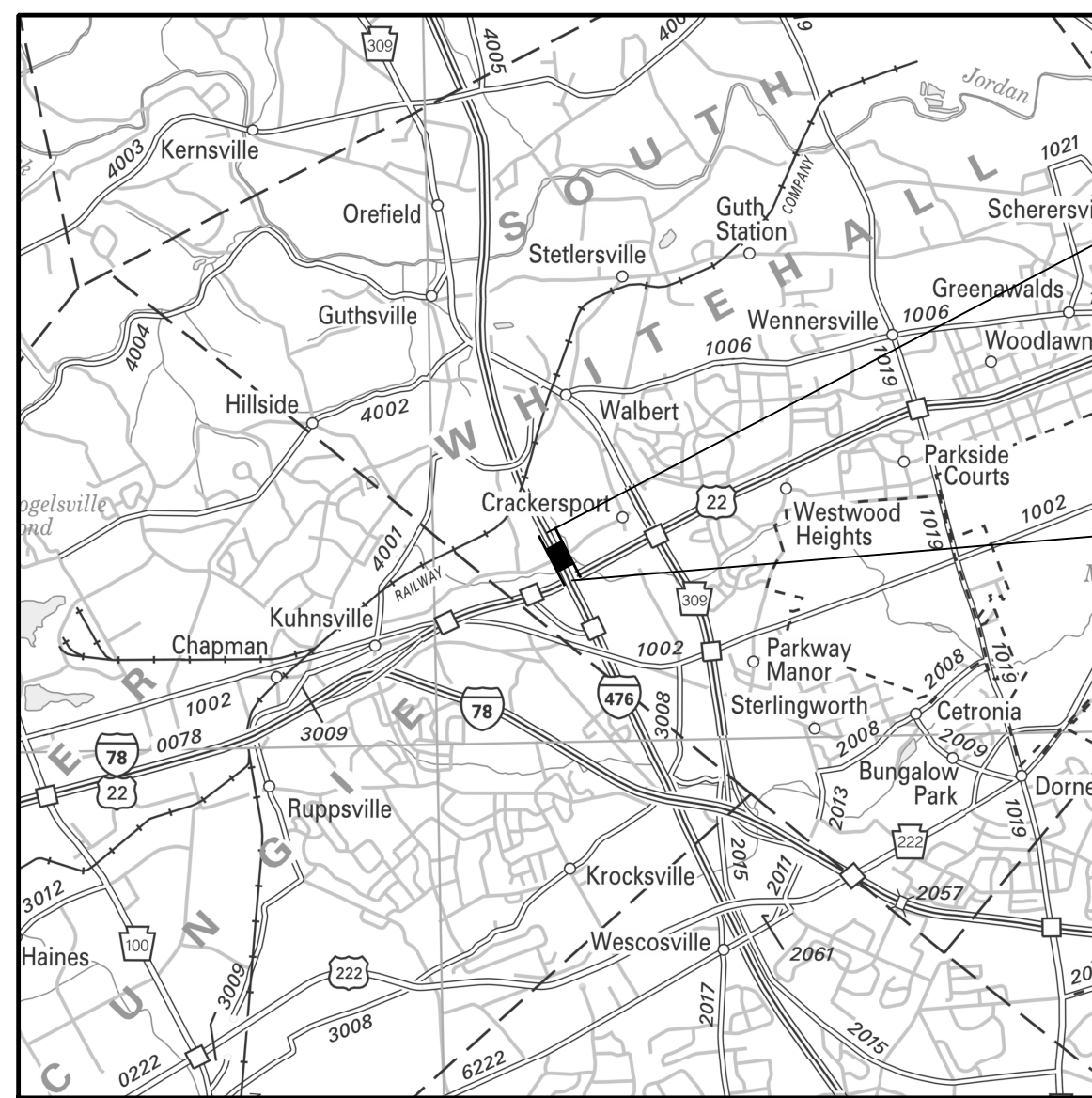
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP SHEET: 28 OF 116

GENERAL NOTES

1. INSTALL THESE PAVEMENT MARKINGS IN ACCORDANCE WITH THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION REGULATIONS GOVERNING THE DESIGN, LOCATION AND OPERATION OF ALL OFFICIAL TRAFFIC SIGNS, SIGNALS, DELINEATORS AND MARKERS (PUBLICATIONS 68 AND 111), AND THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
2. MATERIALS AND WORKMANSHIP ARE TO BE IN ACCORDANCE WITH PUBLICATION 408/2011-9, EFFECTIVE OCTOBER 2, 2015, EXCEPT AS MODIFIED IN THE CONTRACT DOCUMENTS.
3. WORK IS TO BE DONE IN ACCORDANCE WITH:
 - A. PA CODE TITLE 67, CHAPTER 212, "OFFICIAL TRAFFIC-CONTROL DEVICES".
 - B. PENNDOT PUBLICATION 111M, "TRAFFIC CONTROL PAVEMENT MARKING AND SIGNING STANDARDS".
 - C. PENNDOT PUBLICATION 35 (BULLETIN 15) "APPROVED CONSTRUCTION MATERIALS".
 - D. FEDERAL HIGHWAY ADMINISTRATION, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 - E. FEDERAL HIGHWAY ADMINISTRATION, TRAFFIC CONTROL DEVICES HANDBOOK.
 - F. PENNSYLVANIA TURNPIKE COMMISSION STANDARDS FOR ROADWAY CONSTRUCTION.
4. FOR NAMES, ADDRESSES AND LOCATIONS OF EXISTING UTILITY FACILITIES, SEE ROADWAY CONSTRUCTION PLANS.
5. USE EXTREME CAUTION WHEN WORKING NEAR UTILITY LINES. WHENEVER AN EXISTING UTILITY IS SHOWN ON THE DRAWINGS TO BE LOCATED IN THE IMMEDIATE VICINITY OF PROPOSED CONSTRUCTION, ITS LOCATION IS APPROXIMATED AND THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANY AND REQUEST THAT THEY FIELD LOCATE THEIR FACILITY.

PAVEMENT MARKING NOTES

1. INSTALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE DETAILS IN THESE DRAWINGS, PTS-980, AND THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" OR AS DIRECTED BY THE PENNSYLVANIA TURNPIKE REPRESENTATIVE.
2. APPLY ALL PAVEMENT MARKINGS AT THE WIDTH INDICATED.
3. ONE WAY MARKERS TO BE THE SAME COLOR AS PAVEMENT MARKING.
4. EXACT LOCATIONS OF THE MARKERS SHALL BE APPROVED BY THE PENNSYLVANIA TURNPIKE REPRESENTATIVE PRIOR TO INSTALLATION.
5. FOR PLACEMENT AND DETAILS OF SONIC NAP ALERT PATTERN (S.N.A.P.), SEE STANDARD DRAWING PTS-192.



LIMIT OF WORK
 STA 660+00.00
 MILEPOST A-57.81
 I-476 (PA TURNPIKE)
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY

LIMIT OF WORK
 STA 645+00.00
 MILEPOST A-57.52
 I-476 (PA TURNPIKE)
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY

LOCATION MAP



LEGEND

- INTERSTATE
- STATE ROUTE
- MUNICIPAL BOUNDARY
- PROJECT LOCATION

SHEET INDEX BLOCK

DESCRIPTION	DRAWING
GENERAL NOTES AND LOCATION MAP	1
PLAN SHEET	2

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DES: BEM DWG: BEM CKD: JEB



PREPARED BY:
HDR
 HDR Engineering, Inc.
 11 STANWIX STREET, SUITE 800
 PITTSBURGH, PA 15222

PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 0355SPMgn01.dgn
 DRAWING TYPE: 1A
 STRUCTURE NUMBER: NB-355

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

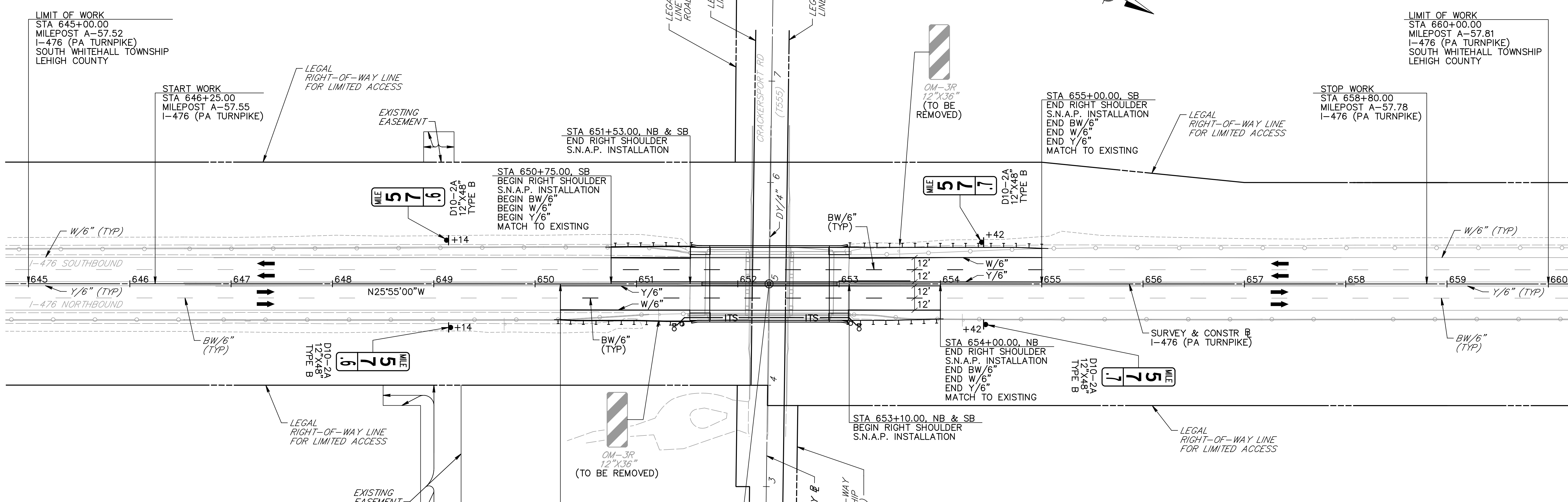
**SIGNING AND PAVEMENT MARKING PLAN
 GENERAL NOTES AND LOCATION MAP**

DISTRICT: 5	COUNTY: LEHIGH	DRAWING: 1 OF 2
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP		SHEET: 29 OF 116

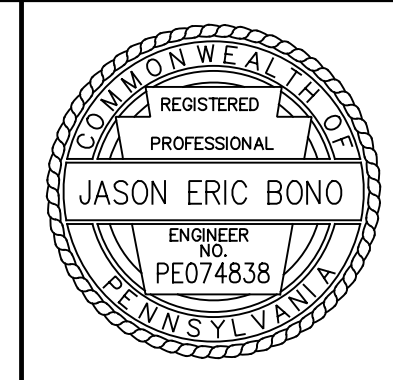
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DES: BEM DWG: BEM CKD: JEB



- LEGEND**
- BW/6" BROKEN WHITE PAVEMENT MARKING / WIDTH
 - W/6" SOLID WHITE PAVEMENT MARKING / WIDTH
 - Y/6" SOLID YELLOW PAVEMENT MARKING / WIDTH
 - PROPOSED SINGLE POST SIGN
 - FLEXIBLE DELINEATOR POST (ORANGE)
 - TRAFFIC FLOW
 - BW/6" EXISTING BROKEN WHITE PAVEMENT MARKING / WIDTH
 - W/6" EXISTING SOLID WHITE PAVEMENT MARKING / WIDTH
 - Y/6" EXISTING SOLID YELLOW PAVEMENT MARKING / WIDTH
 - DY/4" EXISTING DOUBLE YELLOW PAVEMENT MARKING / WIDTH
 - EXISTING SINGLE POST SIGN



PREPARED BY:
HDR
 HDR Engineering, Inc.
 11 STANWIX STREET, SUITE 800
 PITTSBURGH, PA 15222

PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 0355SPMpl01.dgn
 DRAWING TYPE: 1A
 STRUCTURE NUMBER: NB-355

SCALE: 25 0 25 50 FEET

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

**SIGNING AND PAVEMENT MARKING PLAN
 PLAN SHEET**

DRAWING: 2 OF 2
 SHEET: 30 OF 116

GENERAL NOTES

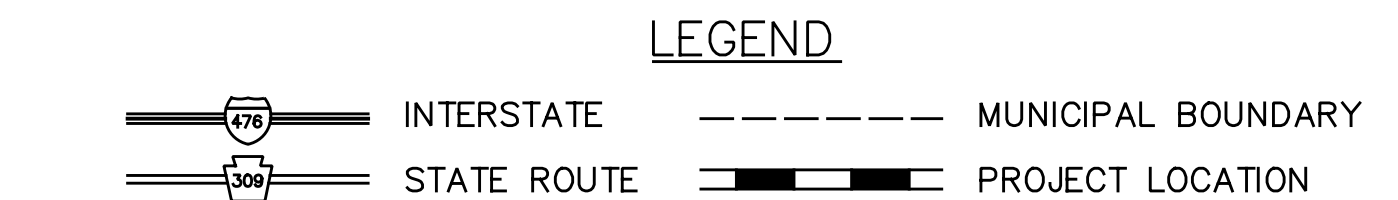
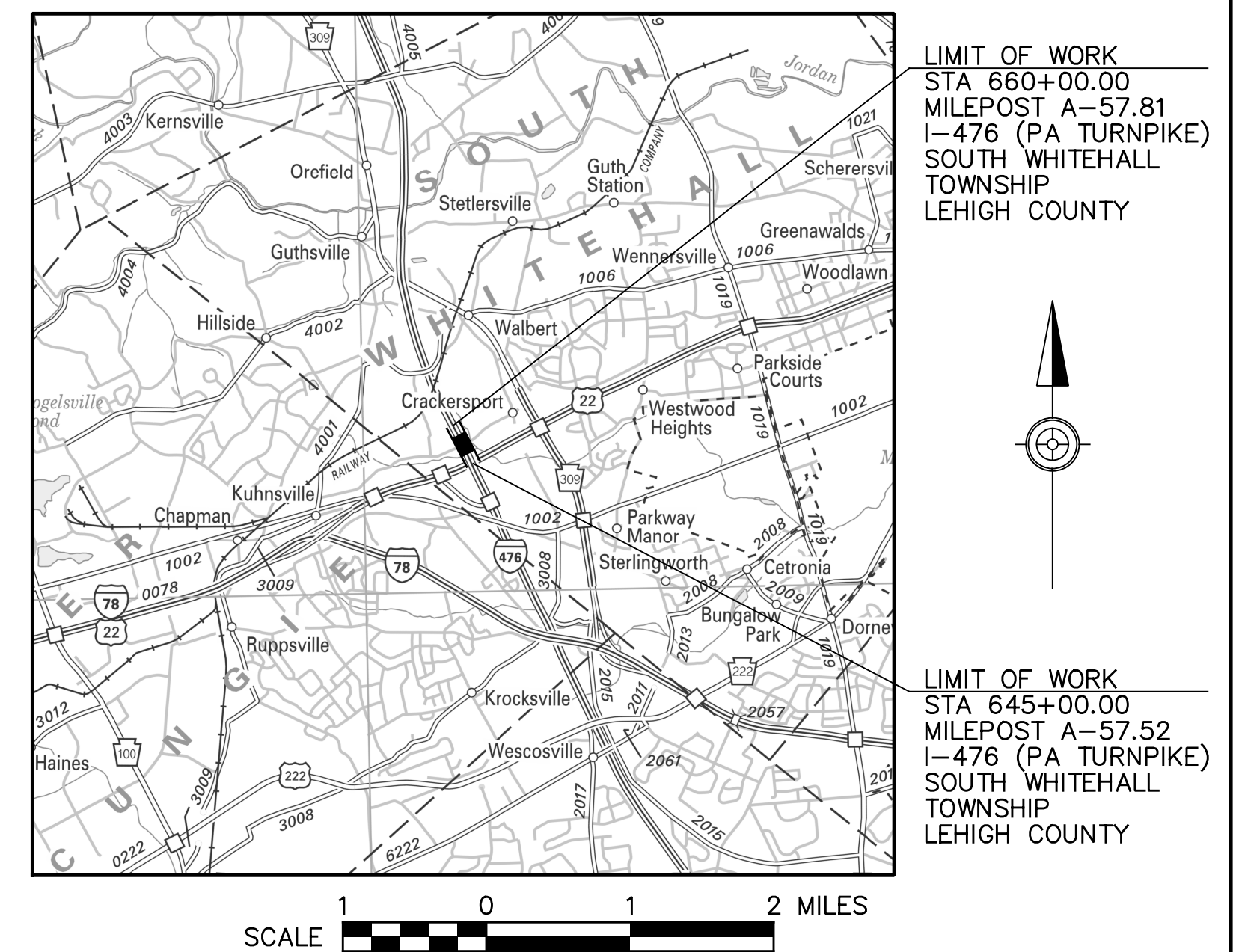
- ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
- AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THE SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.
- AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
- CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPs SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
- AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
- TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAP(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
- IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
- ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET. SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
- ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. THE OPERATOR WILL MAINTAIN AND MAKE AVAILABLE TO LEHIGH COUNTY CONSERVATION DISTRICT COMPLETE WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
- A LOG SHOWING DATES THAT E&S BMPs WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
- SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEEPED INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
- ALL SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
- AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES - 6 TO 12 INCHES ON COMPACTED SOILS - PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
- ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
- FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.

GENERAL NOTES CONTINUED

- FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
- ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDING AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.
- IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR OTHER PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.
- PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
- EROSION AND SEDIMENT BMPs MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPs. E&S BMPs SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
- UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPs.
- AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPs MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPs. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPs SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
- UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.
- FAILURE TO CORRECTLY INSTALL E&S BMPs, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPs MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES, UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.
- IN THE EVENT OF SINKHOLE DISCOVERY, A PROFESSIONAL GEOLOGIST OR ENGINEER WILL BE CONTACTED CONCERNING MITIGATION. ADDITIONALLY, THE LEHIGH COUNTY CONSERVATION DISTRICT WILL BE MADE AWARE OF THE SINKHOLE DISCOVERY IMMEDIATELY.
- THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
- THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
- AT STREAM CROSSINGS, 50' BUFFER AREAS SHOULD BE MAINTAINED. ON BUFFERS, CLEARING, SOD DISTURBANCES, EXCAVATION, AND EQUIPMENT TRAFFIC SHOULD BE MINIMIZED. ACTIVITIES SUCH AS STACKING LOGS, BURNING CLEARED BRUSH, DISCHARGING RAINWATER FROM TRENCHES, WELDING PIPE SECTIONS, REFUELING AND MAINTAINING EQUIPMENT SHOULD BE ACCOMPLISHED OUTSIDE OF BUFFERS.
- ALL WETLANDS MUST BE DELINEATED AND PROTECTED WITH ORANGE SAFETY FENCE PRIOR TO ANY EARTHMOVING ACTIVITY.
- STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
- CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.
- IF FUEL OR OTHER DANGEROUS CHEMICALS ARE STORED ONSITE THEN A PREPAREDNESS, PREVENTION, AND CONTINGENCY (PPC) PLAN MUST BE DEVELOPED AND KEPT ONSITE AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.
- ANTICIPATED PROJECT WASTES WILL CONSIST OF GENERAL CONSTRUCTION MATERIALS SUCH AS LARGE BLOCKS OF STRUCTURAL CONCRETE WITH REINFORCED STEEL, PIECES OF METAL AND CONCRETE PIPE, BROKEN ASPHALT PAVEMENT, COMPOST FILTER SOCKS, CUT TREES AND SHRUBS, AND OTHER MISCELLANEOUS DEBRIS.
- AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL PROVIDE NOTICE IN WRITING TO THE LEHIGH COUNTY CONSERVATION DISTRICT THAT EARTH DISTURBANCE ACTIVITIES WILL BE COMMENCING. THE LEHIGH COUNTY CONSERVATION DISTRICT SHALL BE CONTACTED AT THE FOLLOWING ADDRESS:


LEHIGH COUNTY CONSERVATION DISTRICT
LEHIGH COUNTY AGRICULTURAL CENTER
4184 DORNEY PARK ROAD, SUITE 105
ALLENTOWN, PA 18104
PHONE: 1-610-391-9583
FAX: 1-610-391-1131

LOCATION MAP



LIMITS OF DISTURBANCE

LIMIT OF DISTURBANCE ASSOCIATED WITH ROADWAY MAINTENANCE = 1.25 ACRES

Pennsylvania One Call System, Inc.
 1-800-242-1776
 SERIAL NO. (SOUTH WHITEHALL TWP): 20150571388

THREE WORKING DAYS PRIOR TO EXCAVATION THE CONTRACTOR MUST CONTACT THE PA ONE CALL SYSTEM, INC. AT 1-800-242-1776.

PLAN PREPARER CONTACT INFORMATION

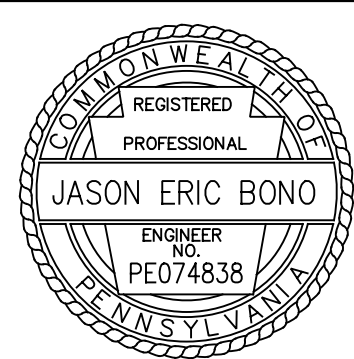
BRADLEY E. MCCULLOUGH, P.E.
 HDR ENGINEERING, INC.
 4900 RITTER ROAD, SUITE 240
 MECHANICSBURG, PA 17055-4807
 PHONE: 1-717-516-3149

SHEET INDEX BLOCK

DESCRIPTION	DRAWING
GENERAL NOTES AND LOCATION MAP	1
SEQUENCE OF CONSTRUCTION AND BMP INSPECTION, MAINTENANCE AND REPAIR SCHEDULE	2
SEEDING AND SOIL SUPPLEMENTS APPLICATION RATES, SOIL TYPES LEGEND AND SOIL LIMITATIONS/RESOLUTIONS	3
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DES: BEM DWG: BEM OKD: JEB



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 PITTSBURGH, PA 15222
 PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

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STRUCTURE NUMBER: NB-355
SCALE: NOT TO SCALE

BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	
DISTRICT: 5	COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP	

EROSION AND SEDIMENTATION POLLUTION CONTROL PLAN	
DRAWING: 1 OF 7	SHEET: 31 OF 116

SEQUENCE OF CONSTRUCTION

SITE PREPARATION:

1. ESTABLISH AREAS OF THE SITE TO BE DISTURBED, LIMITS OF DISTURBANCE, TREES/VEGETATION, WETLANDS, AND OTHER WATERS OF THE COMMONWEALTH TO BE SAVED SHALL BE FIELD MARKED WITH ORANGE PROTECTIVE FENCE PRIOR TO EARTH DISTURBANCE.
2. CLOSE CRACKERSPORT ROAD (T-555) AND IMPLEMENT THE DETOUR PLAN AS SHOWN ON THE TRAFFIC CONTROL PLAN.
3. CONSTRUCT THE STABILIZED ROCK CONSTRUCTION ENTRANCES AS INDICATED ON THE PLAN.
4. INSTALL INLET FILTER BAGS ON EXISTING INLETS AS INDICATED ON THE PLAN.
5. INSTALL THE COMPOST FILTER SOCKS AS INDICATED ON THE PLAN.
6. CLEAR AND GRUB AREAS OF PROPOSED CUT AND FILL.

STAGE 1:

1. IMPLEMENT THE PROPOSED TRAFFIC CONTROL BY RESTRICTING TRAFFIC IN THE NORTHBOUND AND SOUTHBOUND DIRECTIONS TO ONE LANE IN EACH DIRECTION DURING WORK HOURS.
2. BEGIN ROUGH GRADING. REMOVE EXISTING GUIDE RAIL AND EXISTING CURB FROM STATION 653+09 TO STATION 654+00, NB AND STATION 653+10 TO STATION 655+00, SB. ONCE ROUGH GRADING IS COMPLETE, INSTALL PROPOSED ROCK PADS FROM STATION 653+90 TO STATION 654+00, NB AND STATION 654+90 TO STATION 655+00, SB AS INDICATED ON THE PLAN.
3. PERFORM THE NORTHBOUND SHOULDER RECONSTRUCTION/WIDENING FROM STATION 650+25 TO STATION 651+53, NB AND FROM STATION 653+09 TO STATION 654+00, NB. PERFORM THE SOUTHBOUND SHOULDER RECONSTRUCTION/WIDENING FROM STATION 650+75 TO STATION 651+53, SB AND FROM STATION 653+10 TO STATION 655+00, SB AS INDICATED ON THE PLAN.

STAGE 2:

1. IMPLEMENT THE PROPOSED TRAFFIC CONTROL BY CLOSING I-476 TRAFFIC IN BOTH DIRECTIONS AND REROUTE TRAFFIC TO PROPOSED DETOUR ROUTES.
2. DEMOLISH EXISTING STRUCTURES AND INSTALL PROPOSED PRE-CAST STRUCTURES.
3. MILL AND OVERLAY APPROACH ROADWAY PAVEMENT AS INDICATED ON THE PLAN.
4. REMOVE THE I-476 DETOUR AND OPEN ROADWAY TO TRAFFIC.

STAGE 3:

1. IMPLEMENT THE PROPOSED TRAFFIC CONTROL BY RESTRICTING TRAFFIC IN THE NORTHBOUND AND SOUTHBOUND DIRECTIONS TO ONE LANE IN EACH DIRECTION DURING WORK HOURS.
2. INSTALL PROPOSED GUIDE RAIL AS INDICATED ON THE PLAN.
3. COMPLETE SLOPE REMEDIATIONS. STABILIZE GRADED AREAS WITH SLOPES STEEPER THAN 2H:1V WITH RIPRAP LINING.
4. REMOVE THE CRACKERSPORT ROAD (T-555) DETOUR AND SHIFT TURNPIKE TRAFFIC TO ITS FINAL CONDITION.
5. THE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES MUST REMAIN IN PLACE UNTIL THE SITE HAS ACHIEVED PERMANENT STABILIZATION. PERMANENT STABILIZATION HAS BEEN ACHIEVED WHEN A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
6. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL OF THE E&S BMPS.
7. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVALS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
8. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.

ALTERNATE EROSION SEDIMENT POLLUTION CONTROL PLAN

COMPLY WITH THESE REQUIREMENTS WHEN SUBMITTING AN ALTERNATE PLAN FOR ACCOMPLISHING EQUAL OR BETTER TEMPORARY AND PERMANENT EROSION AND SEDIMENT POLLUTION CONTROL. DO NOT START WORK UNTIL THE ALTERNATE EROSION AND SEDIMENT POLLUTION CONTROL PLAN (E&SPC) PLAN, SCHEDULES, AND OPERATION METHODS HAVE BEEN APPROVED BY THE LOCAL CONSERVATION DISTRICT AND THE REGIONAL OFFICE OF THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (PADEP).

1. APPLY FOR ANY EROSION CONTROL PLAN APPROVALS, PERMIT MODIFICATIONS NOT INCLUDED IN THE PROPOSAL DOCUMENTS THAT ARE REQUIRED BECAUSE OF THE NATURE OF THE CONTEMPLATED CONSTRUCTION PROCEDURES.
2. PREPARE AND FURNISH, WITH THE APPLICATIONS, PLANS AND DOCUMENTS THAT ARE REQUIRED BY THE LOCAL CONSERVATION DISTRICT AND THE REGIONAL OFFICE OF PADEP AND OBTAIN APPROVAL FOR ANY OFFSITE MATERIAL WASTE. THE CONTRACTOR MUST SCHEDULE ACCORDINGLY TO ENSURE ADEQUATE TIME FOR REVIEW AND APPROVAL OF THE REVISION.
3. OBTAIN THE APPROVAL OF LOCAL CONSERVATION DISTRICT AND THE PERMIT(S) FROM THE REGIONAL OFFICE OF PADEP PRIOR TO BEGINNING ANY WORK WHEN A PERMIT(S) IS REQUIRED.
4. ACQUIRE AREAS OUTSIDE THE RIGHT-OF-WAY THAT ARE NECESSARY FOR EROSION AND SEDIMENT POLLUTION CONTROL. PROCEED WITH THE AGREEMENT PROCEDURE DESCRIBED IN PENNDOT PUBLICATION 408, SECTION 105.14 (BORROW AREAS AND WASTE AREAS).

CLEAN FILL/ENVIRONMENTAL DUE DILIGENCE NOTES

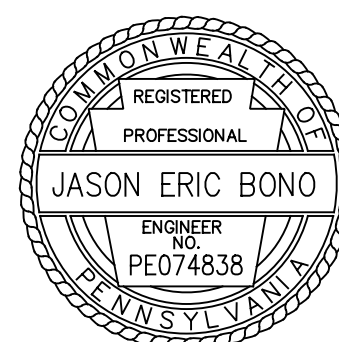
1. CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALTS OR ASPHALT THAT BEEN PROCESSED FOR REUSE.)
2. ENVIRONMENTAL DUE DILIGENCE MUST BE PERFORMED TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF A REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF CLEAN FILL."

BMP INSPECTION, MAINTENANCE AND REPAIR SCHEDULE

BMP	INSPECTION	MAINTENANCE	REPAIR
COMPOST FILTER SOCK	WEEKLY AND AFTER RUNOFF EVENTS	REMOVE SEDIMENT WHEN IT REACHES 1/2 OF THE FILTER SOCK HEIGHT	IMMEDIATELY REPLACE WITH ROCK FILTER OUTLET OR NEW FILTER SOCK IF DAMAGED OR OVERTOPPED
CONCRETE WASHOUT FACILITY	DAILY	REMOVE ACCUMULATED MATERIALS AT 75% CAPACITY	IMMEDIATELY REPLACE OR REPAIR IF DAMAGED OR LEAKING
FILTER BAG INLET PROTECTION	WEEKLY AND AFTER RUNOFF EVENTS	REMOVE ACCUMULATED SEDIMENT AT 1/2 CAPACITY OF BAG	IMMEDIATELY REPLACE WITH A NEW BAG IF DAMAGED
ROCK CONSTRUCTION ENTRANCE	DAILY	REMOVE SEDIMENT FROM RCE AND ROADWAY AND REDISTRIBUTE ON SITE	MAINTAIN DESIGNATED RCE THICKNESS AND DIMENSIONS BY ADDING ROCK
ROCK FILTER OUTLET	WEEKLY AND AFTER RUNOFF EVENTS	REMOVE SEDIMENT WHEN IT REACHES 1/3 OF THE OUTLET	RESTORE OR REPLACE FILTER OUTLET IF DAMAGED OR OVERTOPPED
SEDIMENT FILTER BAG	DAILY AND PRIOR TO THE START OF PUMPING	N/A	REPLACE BAG AT 1/2 FULL OR WHEN FLOW RATE IS REDUCED

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DES: BEM DWG: BEM CKD: JEB



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 STRUCTURE NUMBER: NB-355
 SCALE: NOT TO SCALE

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

**EROSION AND SEDIMENTATION
 POLLUTION CONTROL PLAN**
 DRAWING: 2 OF 7
 SHEET: 32 OF 116

SEEDING RECOMMENDATIONS

IN ACCORDANCE WITH PENNSYLVANIA TURNPIKE COMMISSION SPECIFICATIONS, SECTION 804 (SEEDING AND SOIL SUPPLEMENTS) AND SECTION 805 (MULCHING), SUMMARIZED AS FOLLOWS:

STANDARD SEEDING FORMULAS

FORMULA AND SPECIES	% BY WEIGHT	MINIMUM %		MAX % WEED SEED	SEEDING RATE LBS/1000 SY
		PURITY	GERMINATION		
FORMULA E MIXTURE: - ANNUAL RYEGRASS (LOLIUM MULTIFLORUM)	100	95	90	0.10	10.0 TOTAL 10.0

NOTES: 1. INSTALL SEEDING - FORMULA E ON ALL DISTURBED AREAS WHERE ADDITIONAL GRADING, TOPSOILING, ETC. WILL NOT OCCUR FOR FOUR (4) DAYS OR MORE.

TEMPORARY SEEDING APPLICATION RATES

(TEMPORARY) SEEDING, FORMULA E	SPECIES:	100% ANNUAL RYEGRASS
APPLICATION RATE: (LB/1000 SY)		10.0
FERTILIZER TYPE: (X-X-X)		- - -
FERTILIZER APPLICATION RATE: (LB/1000 SY)		- - -
LIMING RATE: (LB/1000 SY)		- - -
MULCH TYPE:		STRAW
MULCHING RATE: (LB/1000 SY)		1200
ANCHOR MATERIAL:		MODIFIED STRAW MULCH TACKIFIER
ANCHORING METHOD:		MECHANICAL BLOWER
RATE OF ANCHOR MATERIAL APPL:		MANUFACTURER'S RECOMMENDED RATE
SEEDING SEASON DATES:		3/15 TO 10/15

SEEDING SCHEDULE

SPREAD SEEDS WHERE INDICATED AND AT THE RATES SPECIFIED, OR AS OTHERWISE INDICATED. SPREAD SEEDS WITHIN THE FOLLOWING DATES, OR AS OTHERWISE INDICATED OR DIRECTED.

-FORMULA E MARCH 15 TO OCTOBER 15

WHERE PROJECT CONDITIONS WARRANT, SEEDING DATES MAY BE EXTENDED. IF EXTENDED, EITHER APPLY FULL TREATMENT OR APPLY ONLY 50% OF THE PERMANENT SEEDING AND SOIL SUPPLEMENTS AND APPLY THE REMAINING 50% WITHIN THE NEXT SEEDING DATES AS DIRECTED IN WRITING BY THE REPRESENTATIVE.

IMR INSTRUCTIONS

INSPECTION: WEEKLY AND AFTER EACH RUNOFF EVENT.

MAINTENANCE: N/A

REPAIR: IF WASHOUTS OCCUR, EVALUATE IF CONCENTRATED FLOW IS LIKEY TO HAPPEN AGAIN. IF SO, RE-SEED AND STABILIZE WITH AN APPROPRIATE ROLLED EROSION CONTROL PRODUCT. IF CONCENTRATED FLOW IS NOT LIKELY TO HAPPEN AGAIN, RESEED AND APPLY MULCH.

SOIL TYPES LEGEND

BdB BEDFORD SILT LOAM, 3 TO 8 PERCENT SLOPES (HSG = C)	RyC2 RYDER SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED (HSG = C)
MkA MELVIN SILT LOAM, LOCAL ALLUVIUM, 0 TO 3 PERCENT SLOPES (HSG = D)	WcB2 WASHINGTON GRAVELLY LOAM, COARSE VARIANT, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED (HSG = C)
RyB2 RYDER SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED (HSG = C)	WcC2 WASHINGTON GRAVELLY LOAM, COARSE VARIANT, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED (HSG = C)

SOIL LIMITATIONS AND RESOLUTIONS

SOIL LIMITATIONS:

SOIL TYPE	SUITABILITY OF SOIL FOR:		SUITABILITY AS SOURCE OF:	
	ROAD SUBGRADE	ROAD FILL	TOPSOIL	SAND, GRAVEL, AND STONE
BdB	FAIR	FAIR	GOOD	UNSUITABLE
MkA	POOR	POOR	GOOD	UNSUITABLE
RyB2	POOR TO FAIR	POOR TO FAIR	GOOD	UNSUITABLE
RyC2	POOR TO FAIR	POOR TO FAIR	GOOD	UNSUITABLE
WcB2	GOOD	GOOD	GOOD	FAIR
WcC2	GOOD	GOOD	GOOD	FAIR

RESOLUTIONS:

IF EXISTING SOILS ARE RATED AS POOR OR UNSUITABLE FOR THE USE OF ROAD SUBGRADE OR ROADFILL, THE RESOLUTION IS TO USE SUITABLE SOILS FROM OTHER LOCATIONS WITHIN THE PROJECT LIMITS OR IMPORT SOILS AS NECESSARY IF SUITABLE SOILS ARE UNAVAILABLE. THIS RESOLUTION IS ALSO PRACTICAL FOR EXISTING SOILS THAT ARE RATED POOR OR UNSUITABLE AS A SOURCE OF TOPSOIL AND SAND, GRAVEL, AND STONE. ALSO, IF EXISTING SOILS ARE FOUND TO BE SUSCEPTIBLE TO EROSION, APPLY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES AS NECESSARY.

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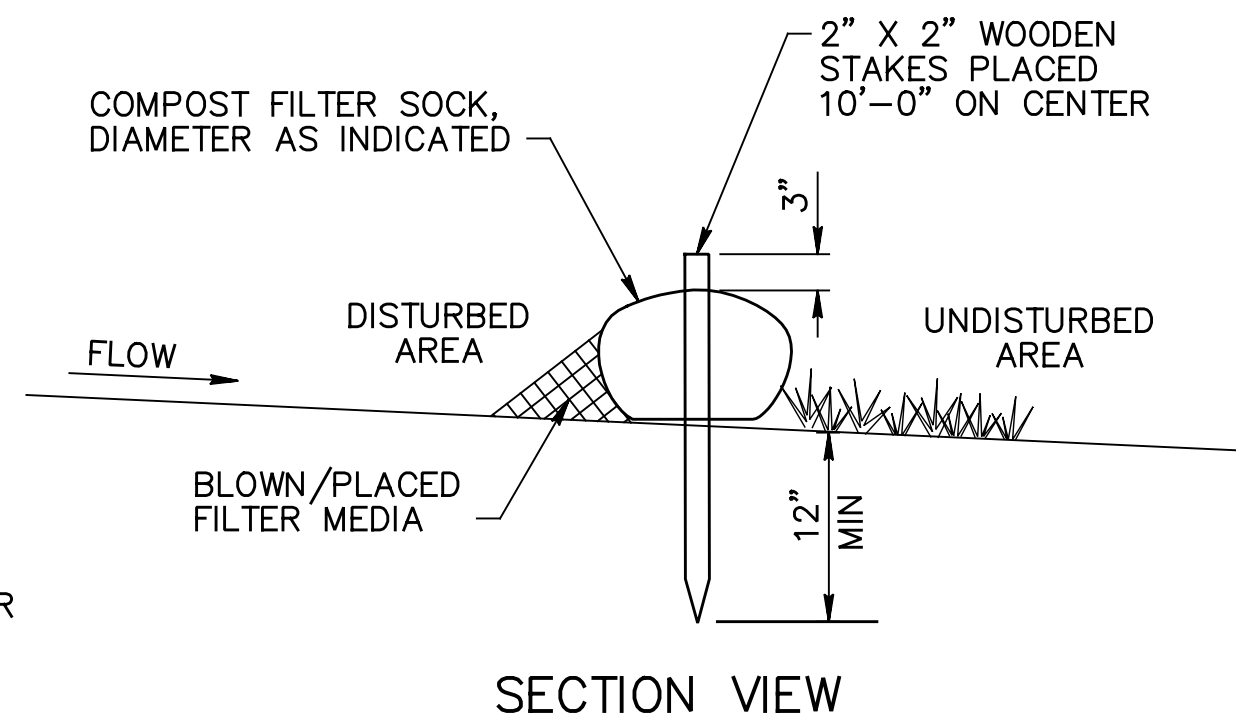
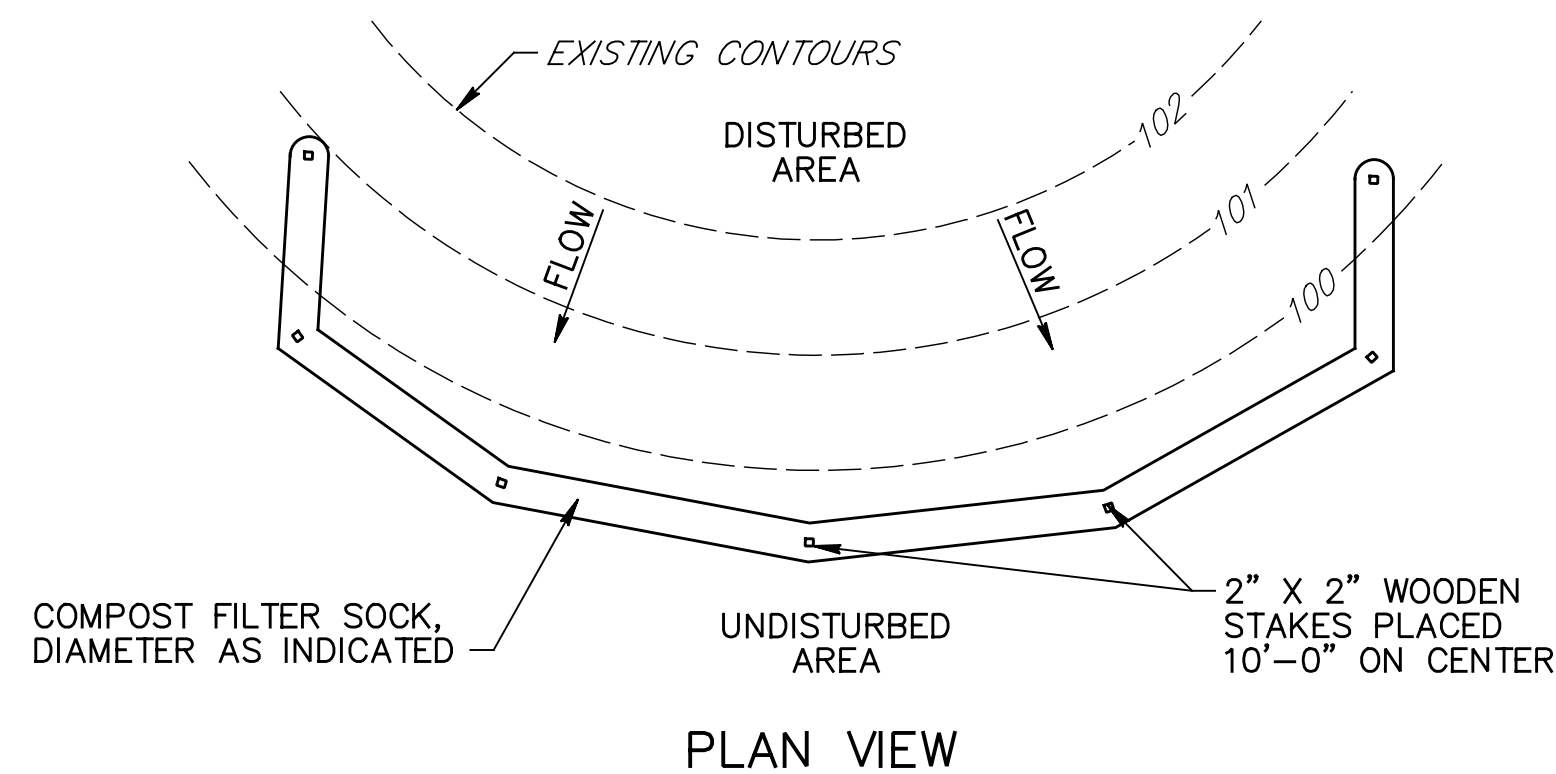


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TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP	

EROSION AND SEDIMENTATION POLLUTION CONTROL PLAN	
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COMPOST FILTER SOCK
NOT TO SCALE

NOTES:

1. SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2.
2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8'-0" UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.
3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
5. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
6. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

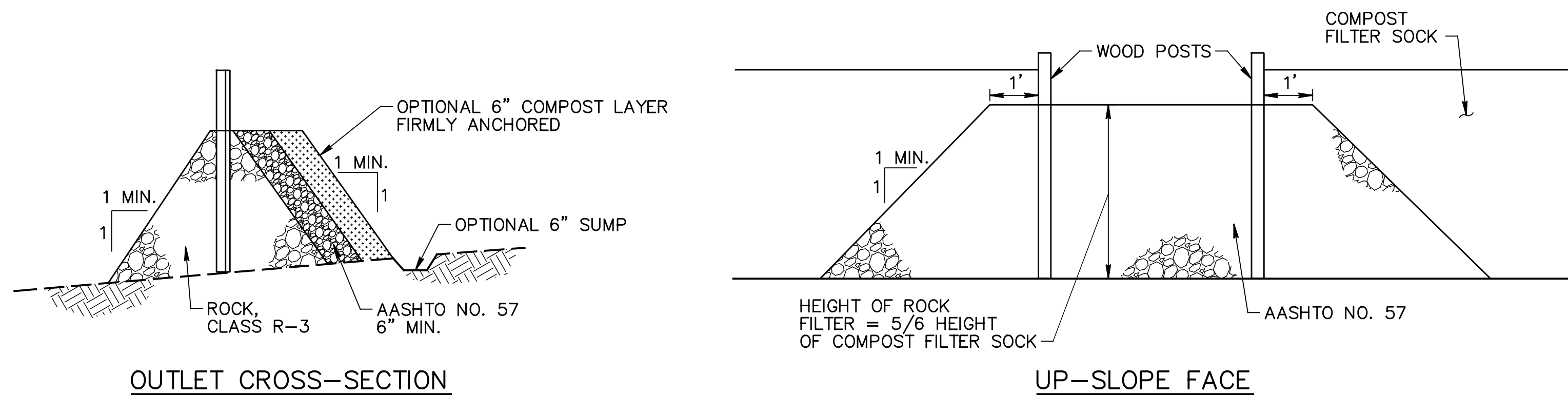
MATERIAL TYPE	3 mil HDPE	5 mil HDPE *	5 mil HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPF)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPF)
MATERIAL CHARACTERISTICS	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	BIO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE
SOCK DIAMETERS	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH		26 psi	26 psi	44 psi	202 psi
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	23% AT 1000 HR	23% AT 1000 HR		100% AT 1000 HR	100% AT 1000 HR
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS

TWO-PLY SYSTEMS

INNER CONTAINMENT NETTING	HDPE BIAXIAL NET CONTINUOUSLY WOUND FUSION-WELDED JUNCTURES 3/4" X 3/4" MAXIMUM APERTURE SIZE
OUTER FILTRATION MESH	COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER AND NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH) 3/16" MAXIMUM APERTURE SIZE

SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MONTHS OR LESS

* 5 mil HDPE (PHOTODEGRADABLE) FILTER SOCKS SHALL BE USED ON SITE WHENEVER POSSIBLE.



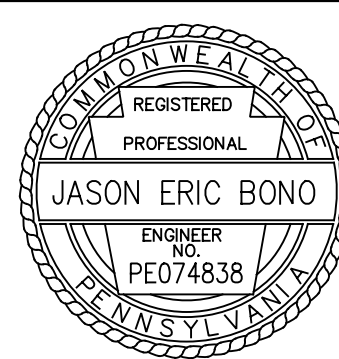
ROCK FILTER OUTLET
NOT TO SCALE

NOTES:

1. A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A COMPOST FILTER SOCK HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.
2. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

ORGANIC MATTER CONTENT	25% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.5
MOISTURE CONTENT	30% - 60%
PARTICLE SIZE	30% - 50% PASS THROUGH 3/8" SIEVE
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM

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 DES: BEM DWG: BEM CKD: JEB



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NO.	REVISIONS	DATE	APPR.

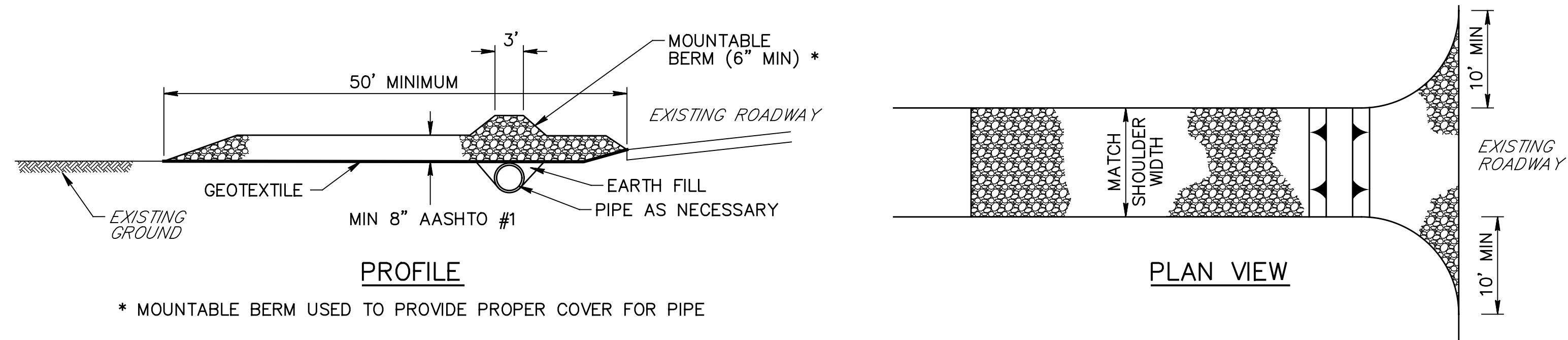
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**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

**EROSION AND SEDIMENTATION
 POLLUTION CONTROL PLAN**

DRAWING: 4 OF 7
 SHEET: 34 OF 116



* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

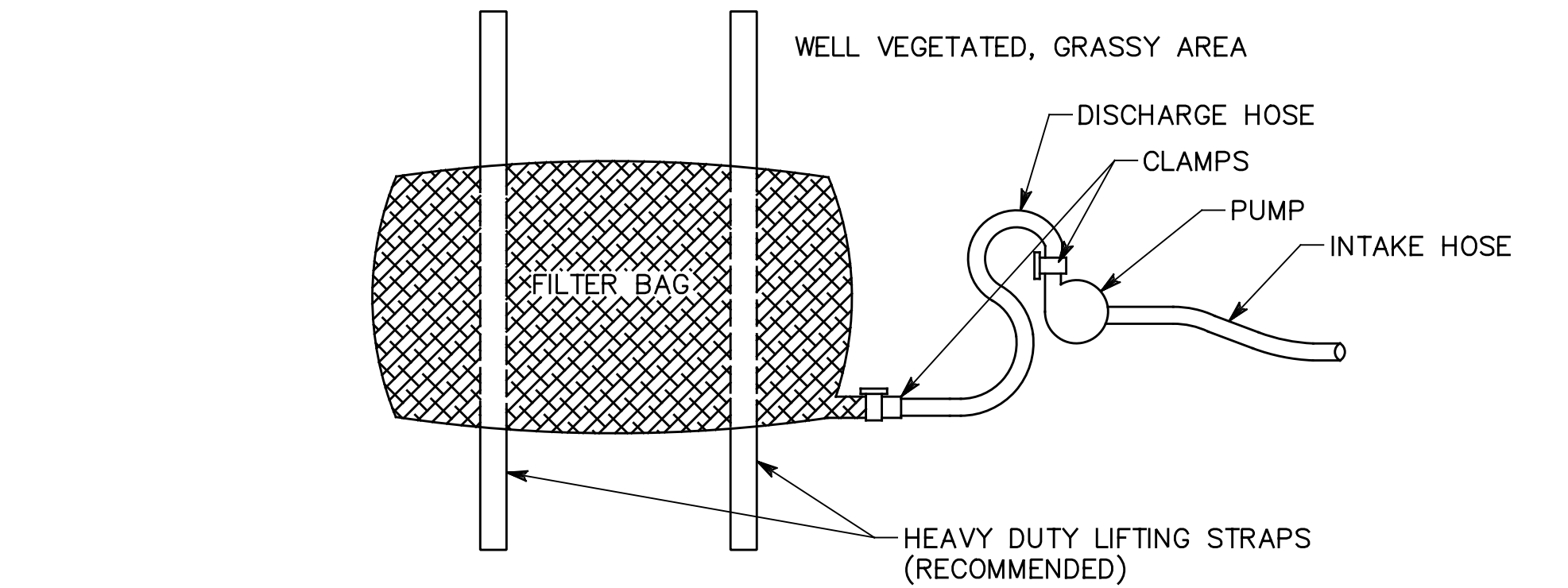
ROCK CONSTRUCTION ENTRANCE

NOT TO SCALE

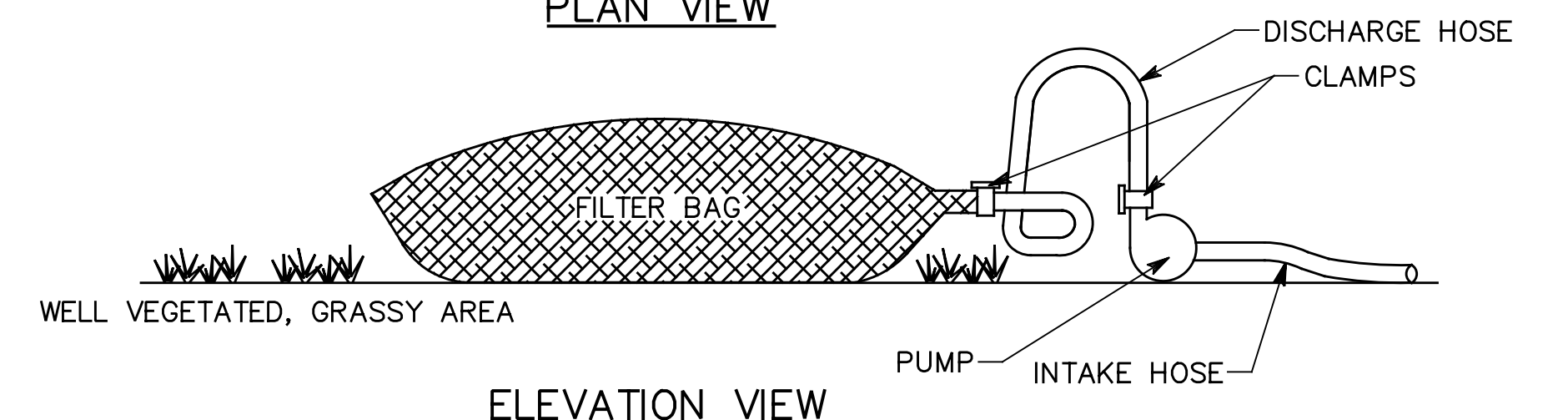
NOTES:

1. REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
2. RUNOFF SHALL BE DIVERTED FROM THE ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
3. MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.



PLAN VIEW



ELEVATION VIEW

SEDIMENT FILTER BAG

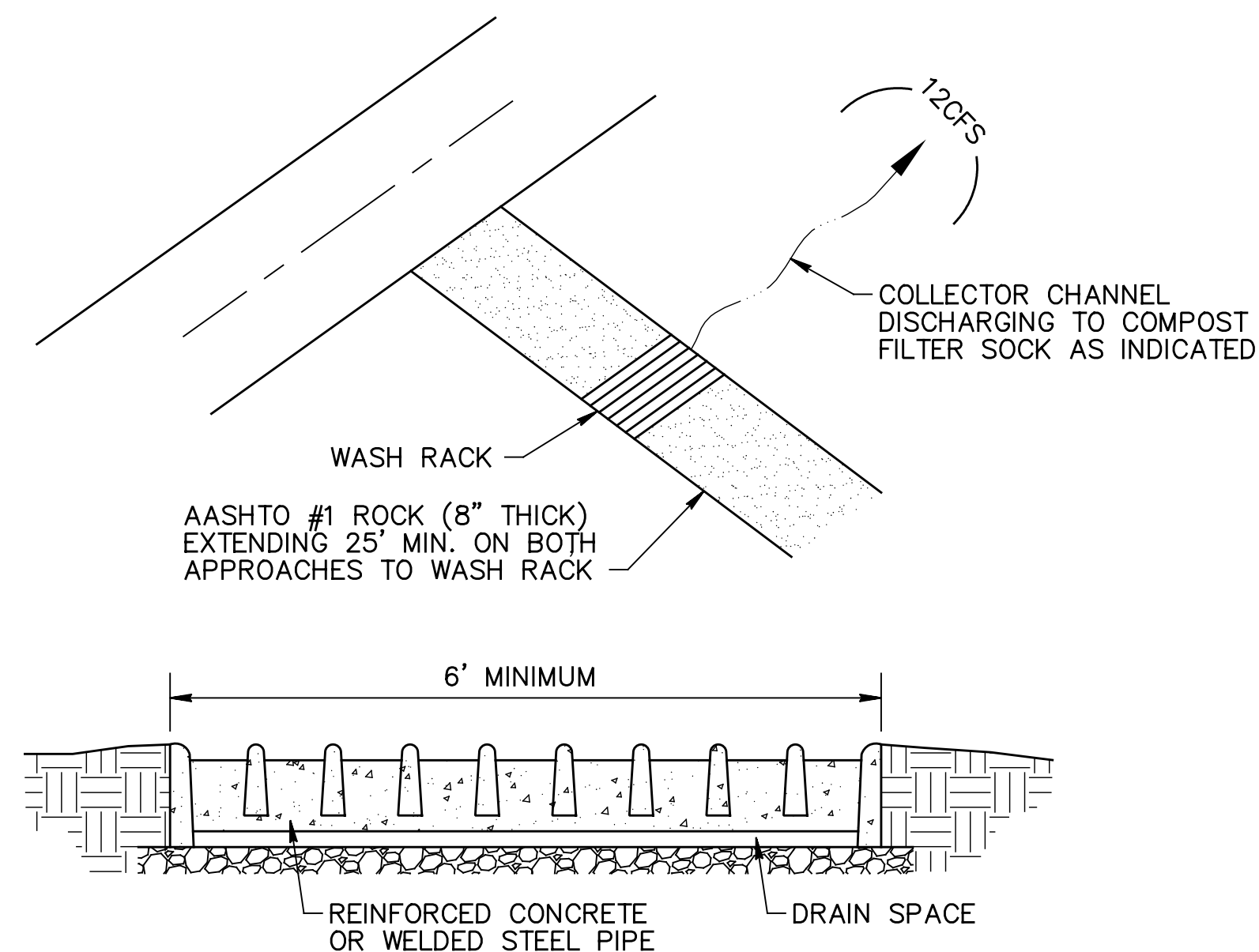
NOT TO SCALE

NOTES:

1. LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

2. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.
3. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.
4. NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.
5. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.
6. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.
7. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.



ROCK CONSTRUCTION ENTRANCE WITH WASH RACK

NOT TO SCALE

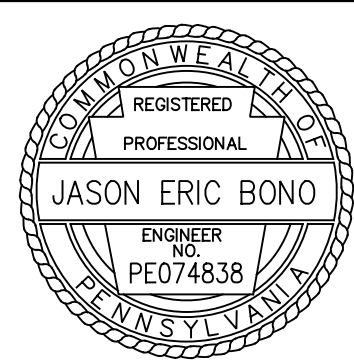
NOTES:

1. WASH RACK SHALL BE 20 FEET (MIN.) WIDE OR TOTAL WIDTH OF ACCESS.
2. WASH RACK SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE ANTICIPATED CONSTRUCTION VEHICULAR TRAFFIC.
3. A WATER SUPPLY SHALL BE MADE AVAILABLE TO WASH THE WHEELS OF ALL VEHICLES EXITING THE SITE.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

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DES: BEM DWG: BEM CKD: JEB



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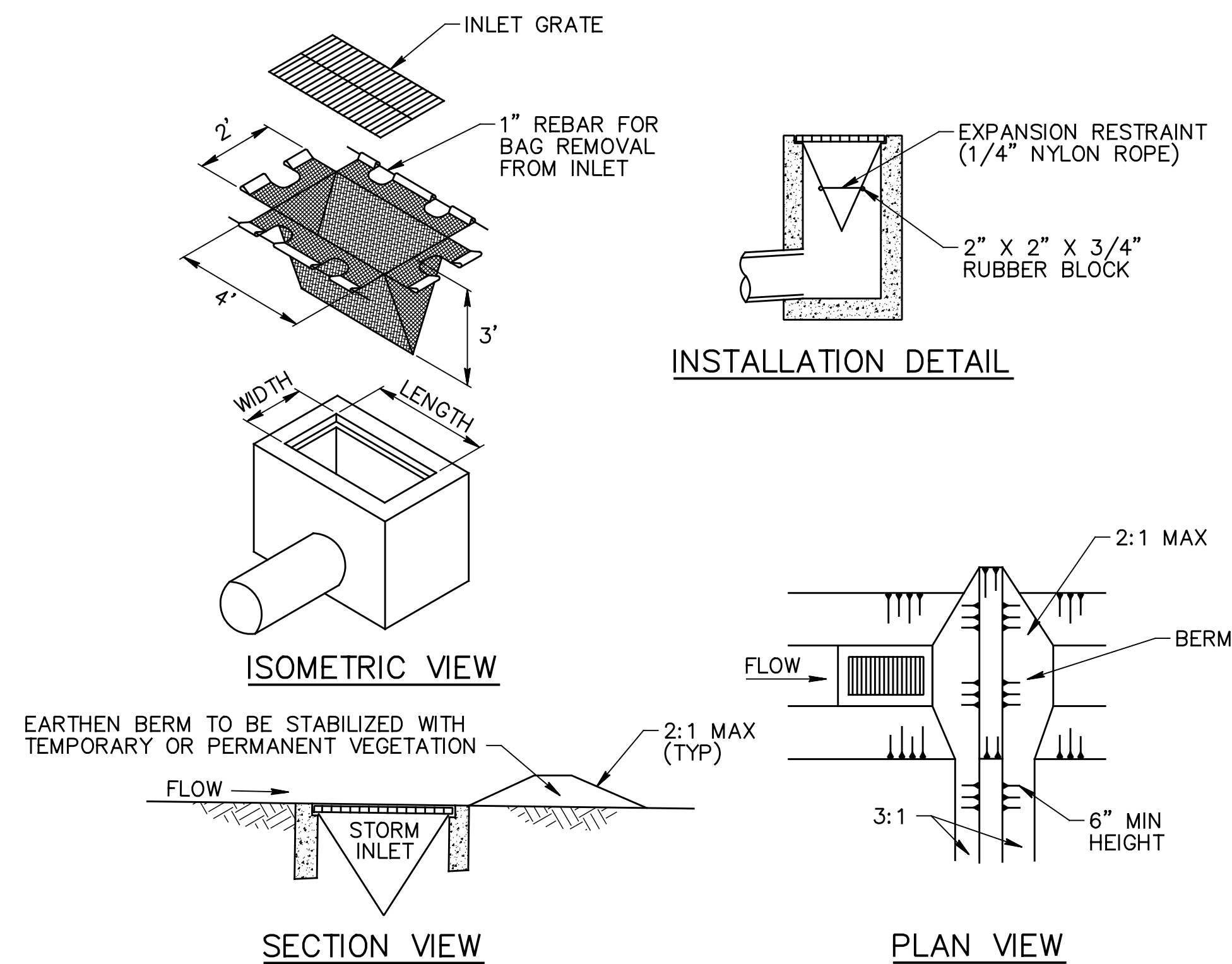
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**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

**EROSION AND SEDIMENTATION
 POLLUTION CONTROL PLAN**
 DRAWING: 5 OF 7
 SHEET: 35 OF 116

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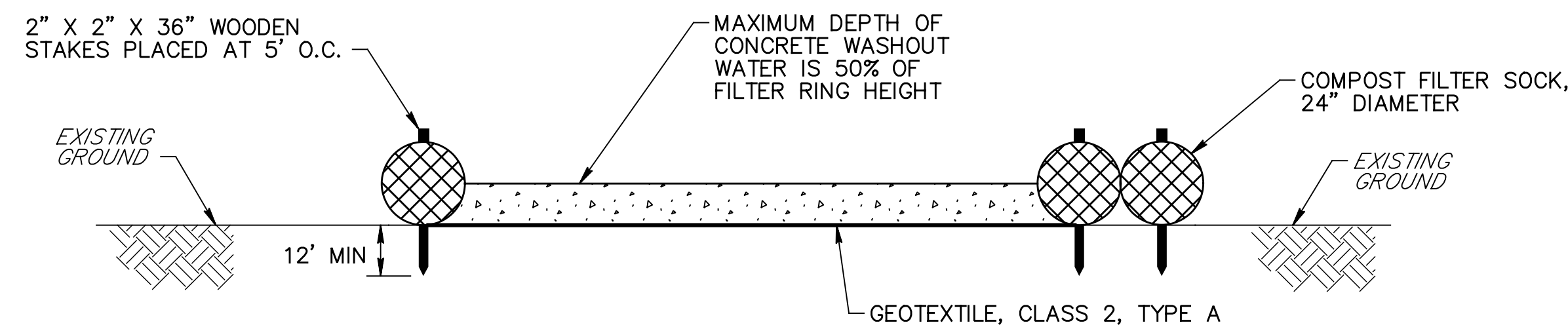


FILTER BAG INLET PROTECTION – TYPE M INLET

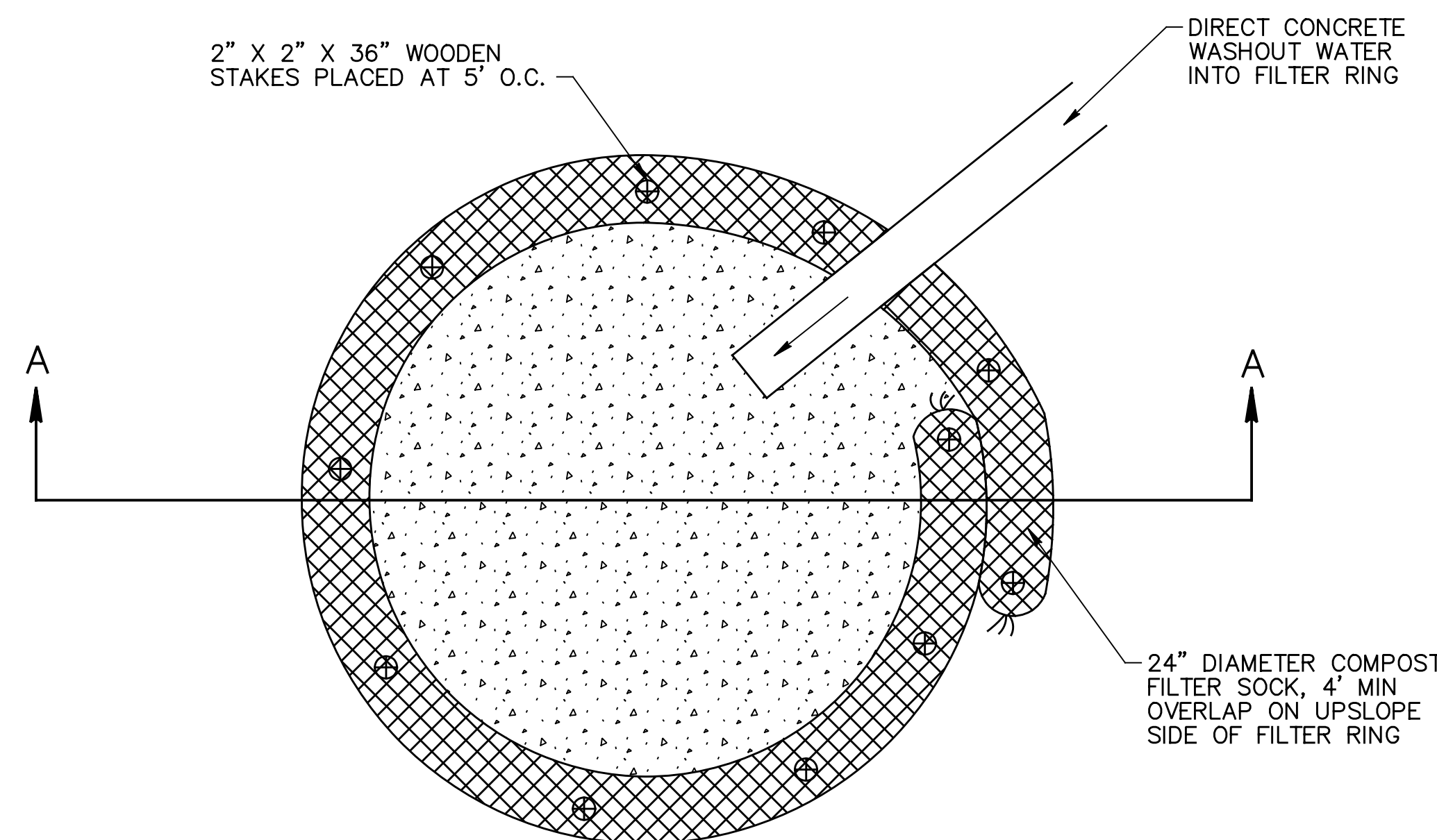
NOT TO SCALE

NOTES:

1. MAXIMUM DRAINAGE AREA = 1/2 ACRE.
2. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.
3. ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR TO REMAIN PERMANENTLY.
4. AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.
5. INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.
6. DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.
7. CONCRETE TOP UNITS FOR NEWLY INSTALLED INLETS SHALL BE SET ON FULL BEDS OF NON-SHRINK GROUT TO PREVENT BYPASS OF THE INLET FILTER BAG.



SECTION A-A



CONCRETE WASHOUT FACILITY

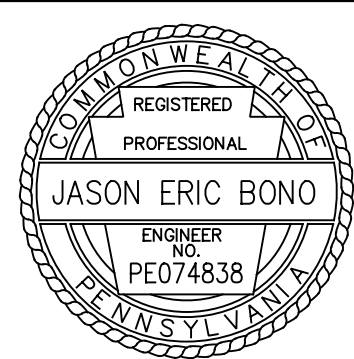
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NOTES:

1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
2. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCK IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.
3. WASHOUT FACILITIES SHOULD NOT BE PLACED WITHIN 50 FEET OF STORM DRAINS, OPEN DITCHES, OR SURFACE WATERS.
4. WHERE POSSIBLE, WASHOUT FACILITIES SHOULD BE LOCATED ON SLOPES NOT EXCEEDING A 2% GRADE.
5. A SUITABLE IMPERVIOUS GEOMEMBRANCE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.
6. ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. ACCUMULATED MATERIALS SHOULD BE REMOVED WHEN THEY REACH 75% CAPACITY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY. PLASTIC LINERS SHOULD BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.

INSTALLATION NOTES:

1. PLACE GEOTEXTILE, CLASS 2, TYPE A BENEATH THE AREA OF WASHOUT.
2. STAKE COMPOST FILTER SOCKS IN A MANNER RECOMMENDED BY THE MANUFACTURER AROUND THE PERIMETER OF THE GEOTEXTILE SO AS TO FORM A RING WITH THE ENDS OF THE SOCK LOCATED AT THE UPSLOPE CORNER.
3. ENSURE COMPOST FILTER SOCKS MAINTAIN CONTINUOUS CONTACT WITH GEOTEXTILE AT ALL LOCATIONS.
4. COMPOST FILTER SOCKS MAY BE STAKED SO AS TO FORM A TRIANGULAR CROSS SECTION.



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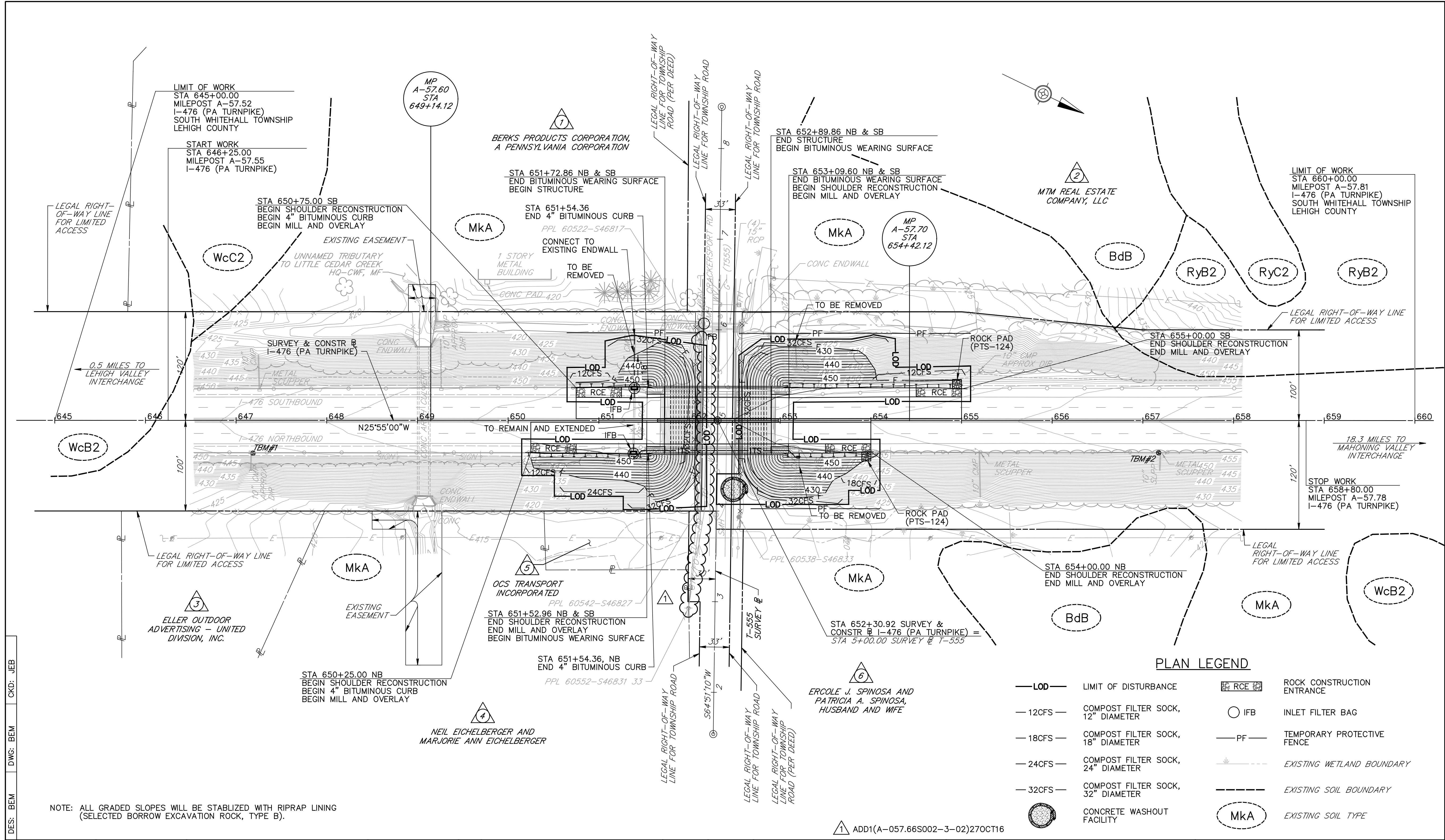
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BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	
DISTRICT: 5	COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP	

EROSION AND SEDIMENTATION POLLUTION CONTROL PLAN	
DRAWING: 6 OF 7	SHEET: 36 OF 116

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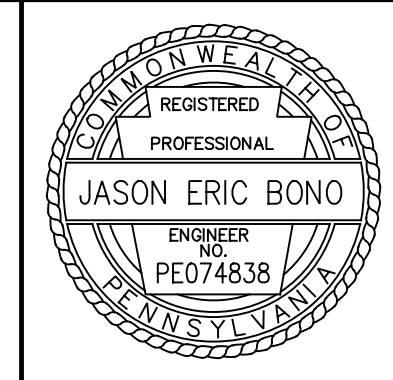
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NOTE: ALL GRADED SLOPES WILL BE STABILIZED WITH RIPRAP LINING (SELECTED BORROW EXCAVATION ROCK, TYPE B).

PLAN LEGEND

- LOD — LIMIT OF DISTURBANCE
- 12CFS — COMPOST FILTER SOCK, 12" DIAMETER
- 18CFS — COMPOST FILTER SOCK, 18" DIAMETER
- 24CFS — COMPOST FILTER SOCK, 24" DIAMETER
- 32CFS — COMPOST FILTER SOCK, 32" DIAMETER
- RCE — ROCK CONSTRUCTION ENTRANCE
- IFB — INLET FILTER BAG
- PF — TEMPORARY PROTECTIVE FENCE
- — — — — EXISTING WETLAND BOUNDARY
- — — — — EXISTING SOIL BOUNDARY
- Mka — EXISTING SOIL TYPE



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A-057.66S002-3-02

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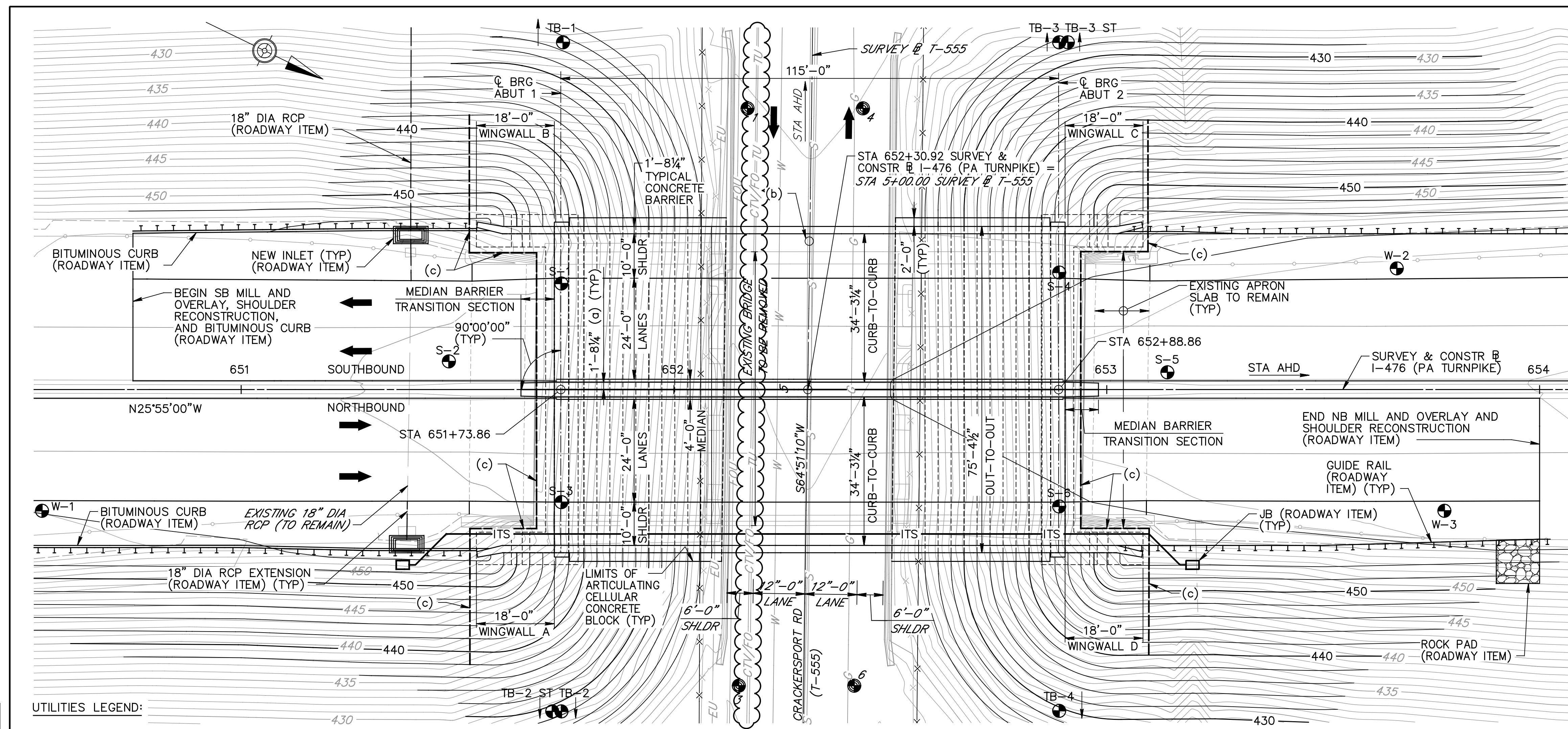
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**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

**EROSION AND SEDIMENTATION
 POLLUTION CONTROL PLAN**

DRAWING: 7 OF 7
 SHEET: 37 OF 116

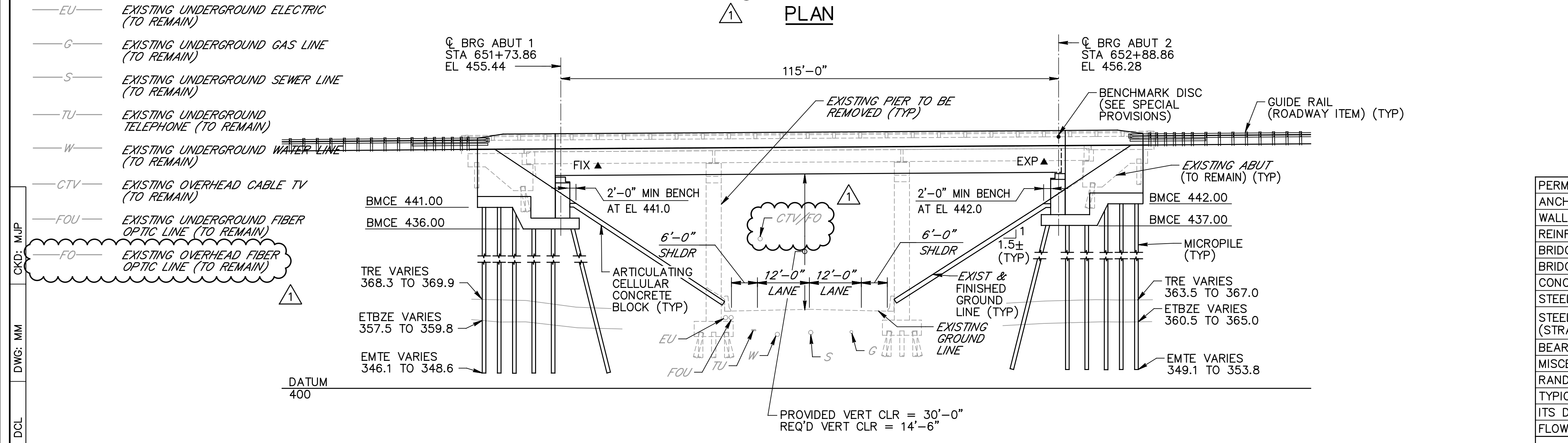
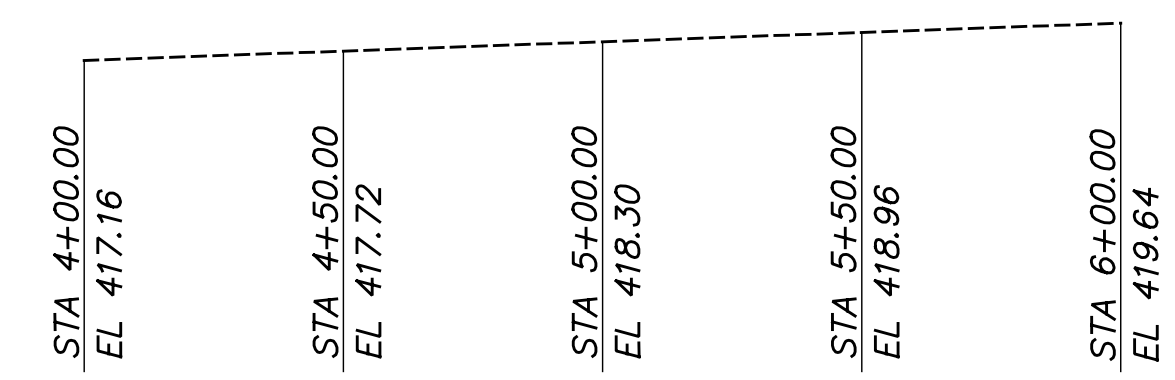


- LEGEND:**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - ➔ DIRECTION OF TRAFFIC
 - TEST BORING LOCATION (HDR, 2015)
 - TEST BORING LOCATION (PTC, 1954)
 - ▲ LAMINATED NEOPRENE BEARINGS
 - ITS MULTI-CELL GALVANIZED STEEL CONDUIT SYSTEM
 - BMCE PROPOSED BOTTOM OF MICROPILE CAP ELEVATION
 - EMTE ESTIMATED MICROPILE TIP ELEVATION
 - ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION (TOP OF COMPETENT ROCK)
 - TRE TOP OF ROCK ELEVATION
 - (a) SPLIT CONCRETE GLARE SCREEN MEDIAN BARRIER
 - (b) POINT OF MINIMUM VERTICAL CLEARANCE
 - (c) TEMPORARY EXCAVATION SUPPORT. ACTUAL LENGTH AND LOCATION MAY VARY

**VERTICAL PROFILE
I-476 (PENNSYLVANIA TURNPIKE)**



**VERTICAL PROFILE
CRACKERSPORT RD (T-555)**
(EXISTING)
GRAPHIC GRADE



- NOTES:**
1. FOR GENERAL NOTES, SEE SHEET 39.
 2. FOR INDEX OF DRAWINGS, SEE SHEET 40.
 3. FOR TYPICAL SECTION AND LOAD RATING TABLE, SEE SHEET 41.
 4. FOR CONSTRUCTION STAGING, SEE SHEETS 46 AND 47.
 5. FOR BORING LOCATIONS, SEE SHEET 91.

DESCRIPTION	DWG. NO.	APP. DATE
PERMANENT METAL DECK FORMS	BC-732M	10/26/10
ANCHOR SYSTEMS	BC-734M	10/26/10
WALL CONSTRUCTION & EXP. JOINT DETAILS	BC-735M	10/26/10
REINFORCEMENT BAR FABRICATION DETAILS	BC-736M	5/18/12
BRIDGE BARRIER TO GUIDE RAIL TRANSITION	BC-739M	5/18/12
BRIDGE DRAINAGE	BC-751M	11/21/14
CONCRETE DECK SLAB DETAILS	BC-752M	11/21/14
STEEL GIRDER DETAILS	BC-753M	11/26/13
STEEL DIAPHRAGMS FOR STEEL BEAM/GIRDER STRUCTURES (STRAIGHT GIRDERS ONLY)	BC-754M	10/26/10
BEARINGS	BC-755M	11/26/13
MISCELLANEOUS PRESTRESS DETAILS	BC-775M	11/26/13
RANDOM STONE SLOPE WALL	BC-781M	5/18/12
TYPICAL WATERPROOFING AND EXPANSION DETAILS	BC-788M	11/21/14
ITS DEVICES - GENERAL	ITS-1201	3/13
FLOWABLE BACKFILL AT STRUCTURES	PTS-700	10/07

SUPPLEMENTAL DRAWINGS

UTILITIES LEGEND:

- EU — EXISTING UNDERGROUND ELECTRIC (TO REMAIN)
- G — EXISTING UNDERGROUND GAS LINE (TO REMAIN)
- S — EXISTING UNDERGROUND SEWER LINE (TO REMAIN)
- TU — EXISTING UNDERGROUND TELEPHONE (TO REMAIN)
- W — EXISTING UNDERGROUND WATER LINE (TO REMAIN)
- CTV — EXISTING OVERHEAD CABLE TV (TO REMAIN)
- FOU — EXISTING UNDERGROUND FIBER OPTIC LINE (TO REMAIN)
- FO — EXISTING OVERHEAD FIBER OPTIC LINE (TO REMAIN)

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 FILE: 03555TPl01.dgn
 PLOT DATE: 10-26-2016 1:47:54 PM
 MODEL SHEET

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NETWORK NUMBER: 7004121
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SCALE: 15 0 15 FEET

**BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

DRAWING: 1 OF 69
 SHEET: 38 OF 116

GENERAL NOTES

DESIGN SPECIFICATIONS

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 5TH EDITION, 2010, AND AS SUPPLEMENTED BY DESIGN MANUAL, PART 4, MAY 2012.

LIVE LOAD DISTRIBUTION TO GIRDERS IS BASED UPON DM-4 DISTRIBUTION FACTOR METHOD.

DESIGN IS IN ACCORDANCE WITH THE LRFD METHOD.

DESIGN LIVE LOADS

PHL-93 OR P-82 (204 kip PERMIT LOAD)

FATIGUE DESIGN IS BASED ON THE FOLLOWING ONE DIRECTIONAL TRAFFIC VOLUMES:

ADTT = 3807 (2036)

DEAD LOADS

INCLUDE A SURFACE AREA DENSITY OF 0.030 KSF FOR FUTURE WEARING SURFACE ON THE DECK SLAB.

INCLUDE A SURFACE AREA DENSITY OF 0.015 KSF FOR PERMANENT METAL DECK FORMS, WHICH TAKES INTO ACCOUNT THE WEIGHT OF THE FORM PLUS THE WEIGHT OF THE CONCRETE IN THE VALLEYS OF THE FORMS.

INCLUDE 0.020 K/FT FOR UTILITIES (MULTI-CELL GALVANIZED STEEL CONDUIT SYSTEM)

GENERAL

PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH SPECIFICATIONS, PUBLICATION 408/2011-9, AASHTO/AWS D1.5M/D1.5:2008 BRIDGE WELDING CODE, AND THE CONTRACT SPECIAL PROVISIONS. (USE AASHTO/AWS D1.1/D1.1M:2008 FOR WELDING NOT COVERED IN AASHTO/AWS D1.5M/D1.5:2008).

PROVIDE STRUCTURAL STEEL CONFORMING TO AASHTO M 270, GRADE 50 (ASTM A709, GRADE 50) DESIGNATION, EXCEPT WHEN NOTED OTHERWISE.

PROVIDE 2" CONCRETE COVER ON REINFORCEMENT BARS, EXCEPT AS NOTED.

USE CLASS AAAP CEMENT CONCRETE IN DECK SLAB AND END DIAPHRAGMS.

USE CLASS AA CEMENT CONCRETE IN BARRIERS AND CURBS.

USE CLASS A TYPE II, SULFATE RESISTANT CEMENT CONCRETE IN PILE CAPS, ABUTMENTS, AND WINGWALLS.

USE CLASS AAA CEMENT CONCRETE, ACCELERATED FOR CLOSURE POURS IN WINGWALLS AND BARRIERS AND THE NEW APPROACH SPLIT CONCRETE GLARE SCREEN MEDIAN BARRIERS.

FOR STRUCTURE BACKFILL USE FLOWABLE BACKFILL, TYPE C PLACED TO THE LIMITS SHOWN. USE CLASS AAA CEMENT CONCRETE, ACCELERATED BACKFILL AS INDICATED.

A HIGHER CLASS CONCRETE MAY BE SUBSTITUTED FOR A LOWER CLASS CONCRETE AT NO ADDITIONAL COST TO THE COMMISSION, IF APPROVED BY THE COMMISSION.

PROVIDE GRADE 60 REINFORCING STEEL BARS THAT MEET THE REQUIREMENTS OF ASTM A615, A996, OR A706. DO NOT WELD GRADE 60 REINFORCING STEEL BARS UNLESS SPECIFIED. GRADE 40 REINFORCING STEEL BARS MAY BE SUBSTITUTED WITH A PROPORTIONAL INCREASE IN CROSS-SECTIONAL AREA, IF APPROVED BY THE COMMISSION. DO NOT USE RAIL STEEL A996 REINFORCEMENT BARS IN BRIDGE ABUTMENTS, FOOTINGS, BARRIERS OR WHERE BENDING OR WELDING OF THE REINFORCEMENT BARS IS INDICATED.

USE EPOXY-COATED REINFORCEMENT BARS IN DECK SLAB, BARRIERS, DIAPHRAGMS, ABUTMENTS, AND WINGWALLS. EPOXY COAT OTHER SUBSTRUCTURE REINFORCEMENT AS INDICATED.

GALVANIZED REINFORCING STEEL BARS MAY BE SUBSTITUTED FOR EPOXY-COATED REINFORCING STEEL BARS AT NO ADDITIONAL COST TO THE COMMISSION.

RAKE-FINISH ALL HORIZONTAL CONSTRUCTION JOINTS, EXCEPT AS INDICATED.

SITE CLASS IS NOT CLASS E.

VERIFY ALL DIMENSIONS AND GEOMETRY OF THE EXISTING STRUCTURE IN THE FIELD AS NECESSARY FOR PROPER FIT OF THE PROPOSED CONSTRUCTION.

CONSTRUCT DECK SLAB TRANSVERSE CONSTRUCTION JOINTS PARALLEL TO BRIDGE CENTERLINE OF BEARINGS.

CHAMFER EXPOSED CONCRETE EDGES 1 IN BY 1 IN, EXCEPT AS NOTED.

ALL DIMENSIONS SHOWN ARE HORIZONTAL, EXCEPT AS NOTED.

USE EITHER PERMANENT METAL FORMS OR REMOVABLE FORMS TO CONSTRUCT THE DECK SLAB. USE REMOVABLE FORMS TO CONSTRUCT THE OVERHANGS OUTSIDE THE EXTERIOR GIRDER.

DECK SLAB THICKNESS INCLUDES A 1/2" INTEGRAL WEARING SURFACE.

SUBSTRUCTURE DIMENSIONS SHOWN ARE FOR A NORMAL TEMPERATURE OF 68° F.

PROVIDE MINIMUM EMBEDMENT AND SPLICE LENGTHS IN ACCORDANCE WITH STANDARD DRAWING BC-736M, UNLESS OTHERWISE INDICATED.

GENERAL NOTES (CONTINUED)

PREPARE BEARING AREAS AS SPECIFIED IN SECTION 1001.3(k)9.

BRIDGE IS NOT WEIGHT RESTRICTED. SEE SECTION 105.17 FOR CONSTRUCTION LOADING LIMITS.

COAT THE TOP AND INSIDE FACE (FACING TRAFFIC) OF BOTH BRIDGE DECK BARRIERS AND WINGWALL BARRIERS USING A PURE WHITE ANTI-GRAFFITI COATING WITH A HIGH GLOSS FINISH. DO NOT COAT THE TOP SURFACE OF THE BRIDGE DECK.

COAT ALL EXPOSED ABUTMENT AND WINGWALL SURFACES, INCLUDING THE VERTICAL OUTSIDE FACE OF THE OUTSIDE SUPERSTRUCTURE BARRIERS AND WINGWALL BARRIERS USING ANTI-GRAFFITI COATING COLOR OF BEIGE, FEDERAL STANDARD 595B COLOR NO. 27778. DO NOT COAT THE DIAPHRAGMS OR THE HORIZONTAL BEARING SEAT AREAS OF THE ABUTMENTS. EXTEND THE ANTI-GRAFFITI COATING TO TWO FEET BELOW FINAL GRADE.

UTILITY NOTES

COORDINATE, LOCATE, AND CONDUCT ALL WORK RELATED TO PUBLIC AND PRIVATE UTILITIES IN ACCORDANCE WITH SECTIONS 105.06 AND 107.12.

STEEL GIRDERS NOTES

IF GIRDERS CANNOT BE SHIPPED IN THE LENGTHS SHOWN ON THE PLANS, FIELD SPLICE(S) WILL BE PERMITTED AT THE REQUEST OF THE CONTRACTOR, BUT NO COMPENSATION WILL BE ALLOWED FOR THE SPLICES.

DO NOT USE FORM SUPPORT SYSTEMS THAT WILL CAUSE UNACCEPTABLE OVERSTRESS OR DEFORMATION TO PERMANENT BRIDGE MEMBERS.

ALL FASTENERS ARE 3/8" DIA ASTM A325 MECHANICALLY GALVANIZED HS BOLTS, EXCEPT AS NOTED.

DO NOT MAKE WELDS BY MANUAL SHIELDED METAL ARC PROCESS FOR PRIMARY GIRDER WELDS, SUCH AS FLANGE-TO-WEB WELDS OR FOR SHOP SPLICES OF WEBS AND FLANGES.

THREADED STUDS FOR THE SUPPORT OF THE OVERHANG DECK FORMING BRACKET IS PERMITTED PROVIDED THE THREADED STUD IS ATTACHED WITH THE SAME WELDING PROCESSING AS THE SHEAR STUDS.

WELDING OF REINFORCEMENT BARS DURING FABRICATION OR CONSTRUCTION IS NOT PERMITTED UNLESS SPECIFIED.

PROVIDE WELDED STUD SHEAR CONNECTORS MANUFACTURED FROM STEEL CONFORMING TO ASTM A108.

SET ANCHOR BOLTS IN PREFORMED HOLES. DO NOT DRILL UNLESS SPECIFICALLY INDICATED ON PLANS. FILL THE PREFORMED HOLES WITH NON-SHRINK GROUT.

PAINT STRUCTURAL STEEL IN ACCORDANCE WITH SECTION 1060. PROVIDE FINISH COAT COLOR OF GREEN, FEDERAL STANDARD 595B COLOR 34138.

STABILITY OF PARTIAL GIRDERS AND COMPLETE GIRDERS IS TO BE MAINTAINED BY THE CONTRACTOR DURING ERECTION, UNTIL ALL GIRDERS AND DIAPHRAGMS ARE IN-PLACE AND ALL BOLTS ARE PROPERLY INSTALLED. ERECTION LOADS AND CONSTRUCTION LIVE LOAD EFFECTS ARE TO BE EVALUATED BY THE CONTRACTOR FOR STABILITY, STRESSES AND DEFLECTIONS ON THE STEEL MEMBERS DURING ANY STAGE OF ERECTION.

GIRDER WEBS SHALL BE PLUMB UNDER THE FULL DEAD LOAD EXISTING AT THE END OF CONSTRUCTION.

SUPPORT DECK SLAB OVERHANG FORMS FROM THE BOTTOM FLANGE OF THE FASCIA GIRDER, UNLESS THE GIRDER WEB IS ADEQUATELY SUPPORTED TO PREVENT BUCKLING DUE TO LOADS FROM WEB-BEARING FORM SUPPORTS. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE SATISFACTORY COMPLETION OF THE BRIDGE.

WELDING NOTES

WELDING SPECIFICATIONS: AASHTO/AWS/D1.5-2008 BRIDGE WELDING CODE AND THE CONTRACT SPECIAL PROVISIONS. DO NOT FIELD-WELD ON ANY PART OF THE BRIDGE, EXCEPT WHERE SHOWN ON THE DRAWINGS, WITHOUT PRIOR APPROVAL OF THE ENGINEER.

MAKE TACK WELDS WITH THE SAME TYPE OF ELECTRODE AND INCORPORATE IN THE FINAL WELD. NO OTHER TACK WELDING WILL BE PERMITTED.

DO NOT WELD WHEN SURFACES TO BE WELDED ARE MOIST OR EXPOSED TO RAIN, SNOW, OR WIND, OR WHEN WELDERS ARE EXPOSED TO INCLEMENT CONDITIONS THAT WILL ADVERSELY AFFECT THE QUALITY OF THE WORK.

DO NOT WELD OR BURN WHEN THE TEMPERATURE IS BELOW 0°F. PREHEAT AND MAINTAIN THE TEMPERATURE OF THE METAL TO AT LEAST 70°F WHEN THE TEMPERATURE OF THE METAL IS BETWEEN 0°F AND 32°F DURING WELDING OR BURNING.

PREHEAT THE STEEL TO THE SPECIFIED MINIMUM TEMPERATURE FOR A DISTANCE EQUAL TO THE THICKNESS OF THE PART BEING WELDED, BUT NOT LESS THAN 3 INCHES IN ALL DIRECTIONS FROM THE POINT OF WELDING.

REMOVE BY APPLICATION OF HEAT ANY MOISTURE PRESENT AT POINT OF WELD. PROVIDE WINDBREAKS FOR PROTECTION FROM DIRECTION WIND.

PRIOR TO PLACING THE WELD, THOROUGHLY CLEAN ALL SURFACES TO RECEIVE WELDS OF ALL FOREIGN MATTER, INCLUDING PAINT FILM, FOR A DISTANCE OF 2-INCHES FROM EACH SIDE OF THE OUTSIDE LINES OF THE WELD.

TEST COMPLETED WELDS USING VISUAL AND NONDESTRUCTIVE METHODS IN ACCORDANCE WITH AASHTO/AWS D1.5 BRIDGE WELDING CODE CHAPTER 6.

EXISTING STRUCTURE PLANS

DO NOT CONSIDER ANY OF THE DATA ON THE EXISTING STRUCTURE SUPPLIED IN THE ORIGINAL DESIGN DRAWINGS OR MADE AVAILABLE TO YOU BY THE COMMISSION OR ITS AUTHORIZED AGENTS AS POSITIVE REPRESENTATIONS OF ANY OF THE CONDITIONS THAT YOU WILL ENCOUNTER IN THE FIELD.

THE INFORMATION SHOWN ON THE PLANS FOR THE EXISTING BRIDGE IS NOT PART OF THE PLANS, PROPOSAL, OR CONTRACT AND IS NOT TO BE CONSIDERED A BASIS FOR COMPUTATION OF THE UNIT PRICES USED FOR BIDDING PURPOSES. THERE IS NO EXPRESSED OR IMPLIED AGREEMENT THAT INFORMATION IS CORRECTLY SHOWN. THE BIDDER IS NOT TO RELY ON THIS INFORMATION, BUT IS TO ASSUME THE POSSIBILITY THAT CONDITIONS AFFECTING THE COST AND/OR QUANTITIES OF WORK TO BE PERFORMED MAY DIFFER FROM THOSE INDICATED.

FOUNDATION NOTES

CONSTRUCT EMBANKMENT ADJACENT TO ABUTMENTS AS INDICATED ON THE PLANS AND IN ACCORDANCE WITH PTC STANDARD DRAWING PTS-701. IN ADDITION, ADHERE TO THE REQUIREMENTS OF SECTION 206.

FOOTINGS MAY BE ORDERED TO BE AT ANY ELEVATION OR ANY DIMENSIONS NECESSARY TO PROVIDE A PROPER FOUNDATION.

BLASTING FOR EXCAVATION OF FOUNDATIONS IS NOT PERMITTED.

THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF ALL EMBANKMENTS AND EXCAVATED SLOPES. DIVERT ALL SURFACE RUNOFF AWAY FROM EMBANKMENTS IN THE CONSTRUCTION AND EXCAVATIONS IN ACCORDANCE WITH SECTION 206, AND PTS-100 REQUIREMENTS AS APPROPRIATE.

DESIGN AND CONSTRUCT TEMPORARY SHORING/EXCAVATIONS IN ACCORDANCE WITH PUBLICATION 408 AND CONTRACT SPECIAL PROVISION ITEM 2203-2101 TEMPORARY SHORING.

SOIL IS CORROSIVE. EPOXY-COATED REINFORCEMENT AND TYPE II SULFATE-RESISTANT CEMENT CONCRETE SHALL BE PROVIDED IN SUBSTRUCTURE UNITS (ABUTMENTS, WINGWALLS, AND PILE CAPS). AIR-ENTRAINED CONCRETE WITH A MAXIMUM WATER/CEMENT RATIO OF 0.45 SHOULD BE USED TO PROVIDE A DENSE IMPERVIOUS MIXTURE. ADDITIVES CONTAINING CHLORIDES SHALL NOT BE USED IN THE SUBSTRUCTURE CONCRETE.

ALL EXCAVATIONS MUST BE INSPECTED BY THE PTC'S REPRESENTATIVE PRIOR TO PLACING THE FOUNDATIONS AND PLACEMENT OF ANY BACKFILL MATERIAL.

PROVIDE A MINIMUM SOIL COVER OF 1.0 FT ABOVE THE TOP OF ALL FOUNDATIONS, INCLUDING PILE CAPS.

FOUND ALL FOUNDATIONS ON WELL-COMPACTED MATERIAL.

PLACE FLOWABLE BACKFILL IN ACCORDANCE WITH CS-220, PTS-700 AND PUBLICATION 408 WITH MODIFICATIONS FOR ACCELERATED BRIDGE CONSTRUCTION.

INSTALL FOUNDATION DRAINS IN ACCORDANCE WITH STANDARD DRAWING PTS-700, AND AS SHOWN ON THE PLANS TO PREVENT HYDROSTATIC BUILDUP BEHIND THE ABUTMENTS.

NOTES:

1. FOR MICROPILE NOTES, SEE SHEET 40.

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 MODEL: Sheet

DES: DCL DWG: DMW CKD: MJP



PREPARED BY:

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 PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO. A-057.66S002-3-02
NETWORK NUMBER: 7004121
FILE NAME: 0355Tgn01.dgn
DRAWING TYPE: 2G
STRUCTURE NUMBER: NB-355
SCALE: NO SCALE

BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	
DISTRICT: 5	COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP	

GENERAL NOTES - 1	
DRAWING: 2 OF 69	SHEET: 39 OF 116

GENERAL NOTES (CONTINUED)

MICROPILES

PLACE EMBANKMENT TO PROPOSED BOTTOM OF MICROPILE CAP ELEVATION PRIOR TO MICROPILE INSTALLATION.

TENSION IN MICROPILES HAS NOT BEEN PERMITTED AT THE SERVICE LIMIT STATE.

1/8" LOSS ON THE OUTSIDE PERIMETER OF MICROPILE CASING WAS CONSIDERED IN DESIGN FOR STRUCTURAL CAPACITY.

~~PROVIDE NEW DOMESTIC STEEL CASING WITH A MINIMUM YIELD STRENGTH OF 80 KSI MEETING ASTM A252 GRADE 3. DOMESTIC N80 PRIME OR NEW MILL SECONDARY STEEL CASING WITH A MINIMUM YIELD STRENGTH OF 80 KSI IS ACCEPTABLE, PROVIDED IT MEETS OR EXCEEDS THE REQUIREMENTS OF ASTM A252 GRADE 3 AND IS ACCOMPANIED BY COUPON TESTING AND PEDIGREE CERTIFICATION REQUIRED BY THE COMMISSION.~~

PROVIDE NEW DOMESTIC STEEL CASING WITH A MINIMUM YIELD STRENGTH OF 80 KSI MEETING ASTM A252 GRADE 3. DOMESTIC N80 PRIME OR NEW MILL SECONDARY STEEL CASING WITH A MINIMUM YIELD STRENGTH OF 80 KSI IS ACCEPTABLE, PROVIDED IT MEETS OR EXCEEDS THE REQUIREMENTS OF ASTM A252 GRADE 3 AND IS ACCOMPANIED BY TESTING AND CERTIFICATION REQUIRED BY SECTION 106.01.



PROVIDE A 9 3/8" (MINIMUM) OUTSIDE DIAMETER STEEL CASING WITH A 0.545" WALL THICKNESS.

PROVIDE STRUCTURAL STEEL FOR BEARING PLATES CONFORMING TO AASHTO M270, GRADE 36 OR GRADE 50 (ASTM A709, GRADE 36 OR GRADE 50) AS NOTED.

PROVIDE GRADE 75 REINFORCING STEEL BARS FOR CORE REINFORCEMENT MEETING THE REQUIREMENTS OF ASTM A615 FOR PRODUCTION PILES. PROVIDE ASTM A108 HEX NUTS AND ASTM F436 WASHERS.

PROVIDE GRADE 150 REINFORCING STEEL BARS FOR CORE REINFORCEMENT MEETING THE REQUIREMENTS OF ASTM A722 FOR VERIFICATION TEST PILES.

USE NEAT CEMENT GROUT WITH $f'_c = 4$ KSI FOR MICROPILES.

EACH DESIGN BOND ZONE MUST BE A MINIMUM OF:

10.5' IN LENGTH (EXCLUDING 1.0' PLUNGE LENGTH) OR AS DETERMINED BASED ON LOAD TEST DATA.

NO ONE SOIL SEAM (WITHIN BOND ZONE) IN EXCESS OF 5' WILL BE ACCEPTABLE.

NO BOND ZONE SHALL BE TERMINATED WITHOUT 2.0' (MIN) OF COMPETENT ROCK AT THE BOTTOM OF THE BOND ZONE.

EACH DESIGN BOND ZONE MUST BE EXTENDED AS NECESSARY TO A LENGTH THAT INCLUDES AN ACCUMULATION OF:

10.5' OF COMPETENT ROCK (EXCLUDING 1.0' PLUNGE LENGTH) FOR ABUTMENT 1 AND 2 AND ASSOCIATED WINGWALLS OR AS DETERMINED BASED ON LOAD TEST DATA.

USE A 8 1/2" (MINIMUM) DIAMETER BOND ZONE.

ESTIMATED TOP OF ROCK (TRE), ESTIMATED TOP OF BOND ZONE (ETBZE) AND ESTIMATED MICROPILE TIP ELEVATIONS (EMTE) ARE AS FOLLOWS.

ABUTMENT 1, WINGWALL A, AND WINGWALL B:

EMTE VARIES FROM 346.1 TO 348.6
ETBZE VARIES FROM 357.5 TO 359.8
TRE VARIES FROM 368.3 TO 369.9

ABUTMENT 2, WINGWALL C, AND WINGWALL D:

EMTE VARIES FROM 349.1 TO 353.8
ETBZE VARIES FROM 360.5 TO 365.0
TRE VARIES FROM 363.5 TO 367.0

THE MICROPILE CONTRACTOR SHALL PREPARE AND COMPLETE A MICROPILE INSTALLATION RECORD FOR EACH MICROPILE EXCAVATED AND CONSTRUCTED. THIS RECORD SHALL PROVIDE ALL EXCAVATION AND INSTALLATION DATA AND WILL BECOME THE AS-BUILT RECORD FOR THE MICROPILE.

FOR OTHER MICROPILE DESIGN, CONSTRUCTION AND TESTING REQUIREMENTS, SEE SPECIAL PROVISIONS.

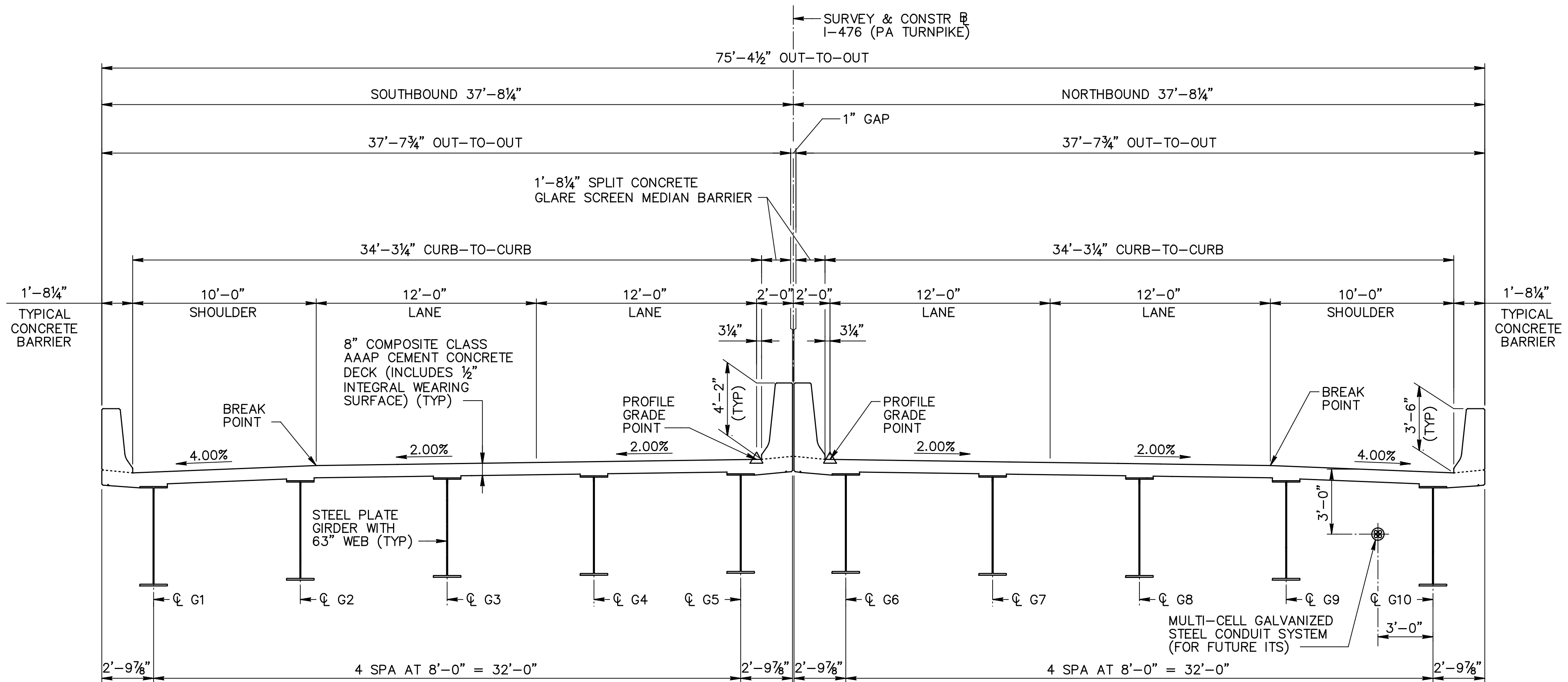
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2	GENERAL NOTES - 1
3	GENERAL NOTES - 2 AND INDEX OF DRAWINGS
4	TYPICAL SECTION AND LOAD RATING TABLE
5	STAKE-OUT PLAN
6	QUANTITIES - 1
7	QUANTITIES - 2
8	CONSTRUCTION SITE PLAN AND SEQUENCE
9	CONSTRUCTION STAGING - 1
10	CONSTRUCTION STAGING - 2
11	ABUTMENT 1 - PLAN
12	ABUTMENT 1 - PILE LAYOUT PLAN
13	ABUTMENT 1 - ESTIMATED PILE QUANTITIES
14	ABUTMENT 1 - REINFORCEMENT PLAN
15	ABUTMENT 1 - ELEVATION
16	ABUTMENT 1 - SECTIONS AND DETAILS
17	ABUTMENT 1 - WINGWALL ELEVATIONS
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20	ABUTMENT 2 - PLAN
21	ABUTMENT 2 - PILE LAYOUT PLAN
22	ABUTMENT 2 - ESTIMATED PILE QUANTITIES
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24	ABUTMENT 2 - ELEVATION
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62	STRUCTURE BORING TB-2
63	STRUCTURE BORING TB-2 ST
64	STRUCTURE BORING TB-3
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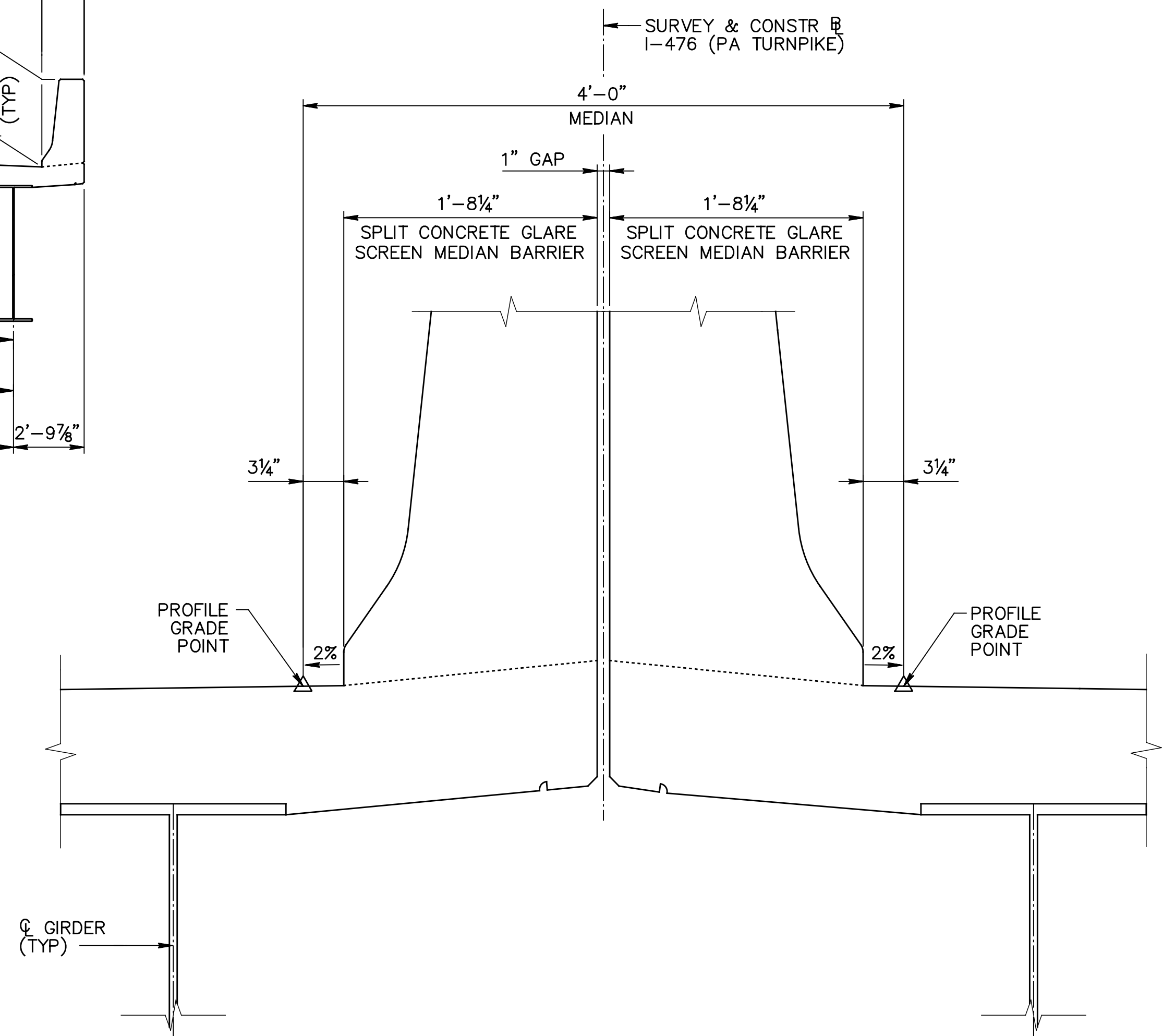
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 MODEL SHEET

DES: DCL DWG: DWW CKD: MJP

	PREPARED BY: HDR Engineering, Inc. 11 STANWIX STREET, SUITE 800 PITTSBURGH, PA 15222	WBS NO. A-057.66S002-3-02	BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	GENERAL NOTES - 2 AND INDEX OF DRAWINGS
	PREPARED FOR: THE PENNSYLVANIA TURNPIKE COMMISSION	NETWORK NUMBER: 7004121 FILE NAME: 03555Tgn02.dgn DRAWING TYPE: 2G STRUCTURE NUMBER: NB-355		
	NO. REVISIONS DATE APPR.	SCALE: NO SCALE		
	DISTRICT: 5 COUNTY: LEHIGH TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP			



PROPOSED TYPICAL SECTION



SPLIT CONCRETE GLARE SCREEN MEDIAN BARRIER

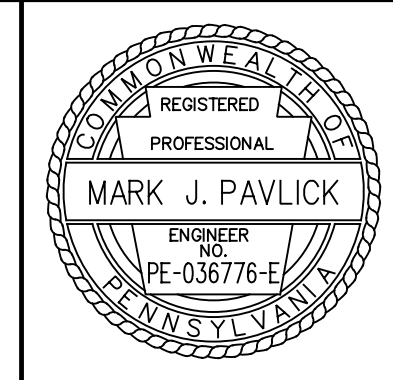


NOTES:
1. FOR GENERAL NOTES, SEE SHEET 39.

BRIDGE LOAD RATING WITH FUTURE WEARING SURFACE							
ADTT (2016) = 2613; ADTT (2036) = 3807							
63" COMPOSITE WELDED STEEL PLATE GIRDERS							
INVENTORY RATING	DISTRIBUTION FACTOR	H20	HS20	ML-80	TK527	PHL-93	P-82
		LOCATION (FT)	0.00	0.00	0.00	0.00	0.00
GIRDER	G4/G7	G4/G7	G4/G7	G4/G7	G4/G7	G4/G7	---
LIMIT STATE	STR-I	STR-I	STR-I	STR-I	STR-I	STR-I	---
ULTIMATE CAPACITY	373 K	373 K	373 K	373 K	373 K	373 K	---
RATING FACTOR	2.03 (S)	1.92 (S)	1.79 (S)	1.69 (S)	1.36 (S)	---	---
OPERATING RATING	DISTRIBUTION FACTOR	H20	HS20	ML-80	TK527	PHL-93	P-82
		LOCATION (FT)	0.00	0.00	0.00	0.00	0.00
GIRDER	G4/G7	G4/G7	G4/G7	G4/G7	G4/G7	G4/G7	G4/G7
LIMIT STATE	STR-II	STR-II	STR-II	STR-II	STR-II	STR-IA	STR-II
ULTIMATE CAPACITY	373 K	373 K	373 K	373 K	373 K	373 K	373 K
RATING FACTOR	2.63 (S)	2.50 (S)	2.32 (S)	2.19 (S)	1.76 (S)	1.12 (S)	---
BRIDGE LOAD RATING WITHOUT FUTURE WEARING SURFACE							
ADTT (2016) = 2613; ADTT (2036) = 3807							
63" COMPOSITE WELDED STEEL PLATE GIRDERS							
INVENTORY RATING	DISTRIBUTION FACTOR	H20	HS20	ML-80	TK527	PHL-93	P-82
		LOCATION (FT)	0.00	0.00	0.00	0.00	0.00
GIRDER	G4/G7	G4/G7	G4/G7	G4/G7	G4/G7	G4/G7	---
LIMIT STATE	STR-I	STR-I	STR-I	STR-I	STR-I	STR-I	---
ULTIMATE CAPACITY	373 K	373 K	373 K	373 K	373 K	373 K	---
RATING FACTOR	2.18 (S)	2.07 (S)	1.92 (S)	1.82 (S)	1.46 (S)	---	---
OPERATING RATING	DISTRIBUTION FACTOR	H20	HS20	ML-80	TK527	PHL-93	P-82
		LOCATION (FT)	0.00	0.00	0.00	0.00	0.00
GIRDER	G4/G7	G4/G7	G4/G7	G4/G7	G4/G7	G4/G7	G4/G7
LIMIT STATE	STR-II	STR-II	STR-II	STR-II	STR-II	STR-IA	STR-II
ULTIMATE CAPACITY	373 K	373 K	373 K	373 K	373 K	373 K	373 K
RATING FACTOR	2.82 (S)	2.68 (S)	2.49 (S)	2.36 (S)	1.89 (S)	1.20 (S)	---

- RATING NOTES
- INTERIOR GIRDER CONTROLS:
MAX FACTORED FLEXURAL RESISTANCE = 10,889 KIP-FT
LOCATION = 0.50L
MAX FACTORED SHEAR RESISTANCE = 373 KIPS
LOCATION = 0.0L
 - DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN METHOD (LRFD) USING DISTRIBUTION FACTOR FROM 2012 EDITION OF PENNDOT DESIGN MANUAL, PART 4.
 - "M" DENOTES FLEXURE GOVERNS, "S" DENOTES SHEAR GOVERNS.
 - GIVEN DISTRIBUTION FACTOR IS THE VEHICULAR DISTRIBUTION FACTOR USED TO PRODUCE THE GIVEN RATING.
 - P-82 RATINGS ARE BASED ON MULTIPLE LANE DISTRIBUTION FACTORS.

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PREPARED FOR:
THE PENNSYLVANIA
TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
FILE NAME: 0355ST1s01.dgn
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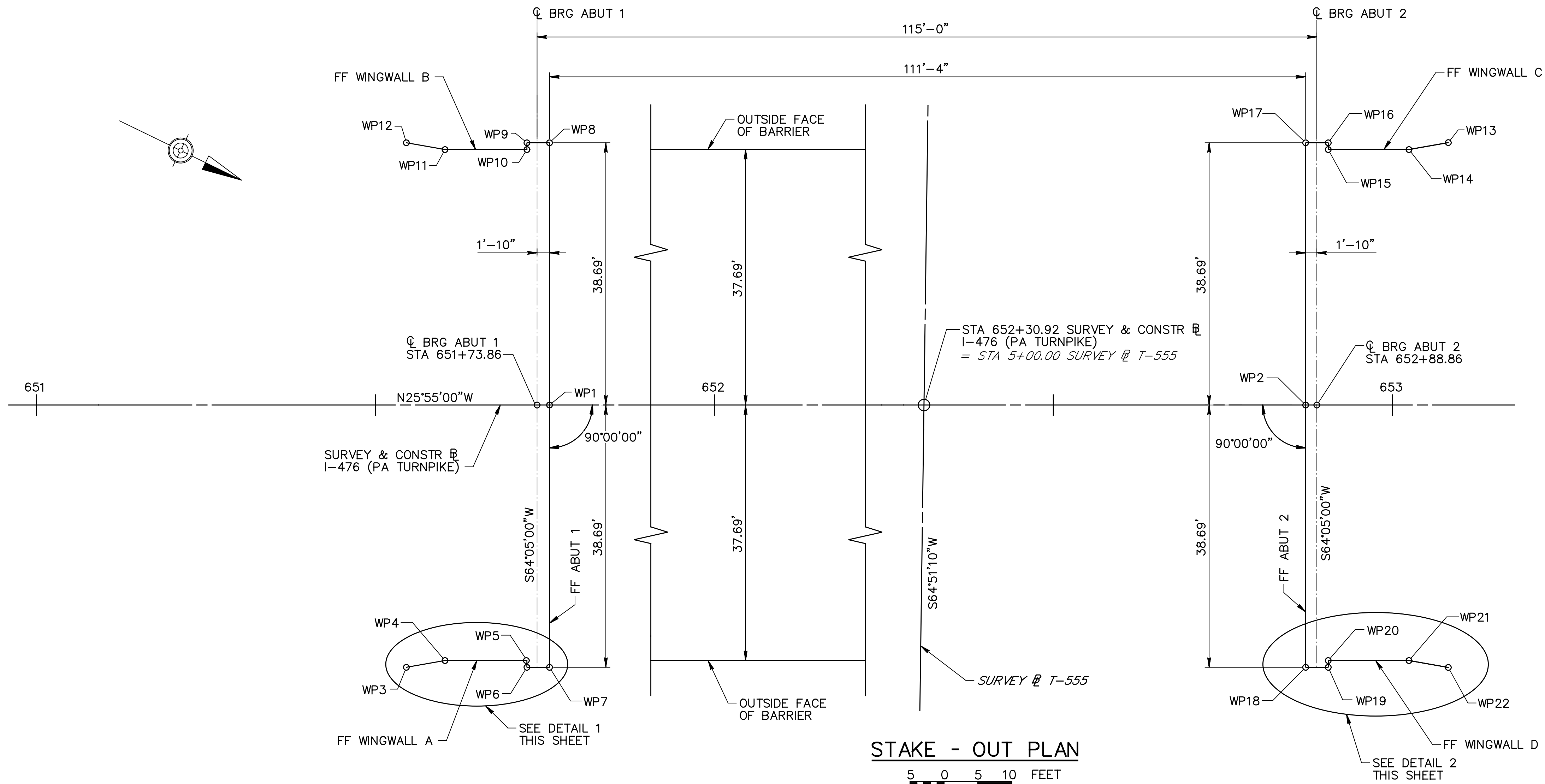
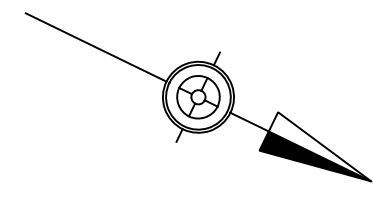
SCALE:

**BRIDGE REPLACEMENT
NB-355 OVER CRACKSPORT ROAD
MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

TYPICAL SECTION AND LOAD RATING TABLE

DRAWING: 4 OF 69
SHEET: 41 OF 116

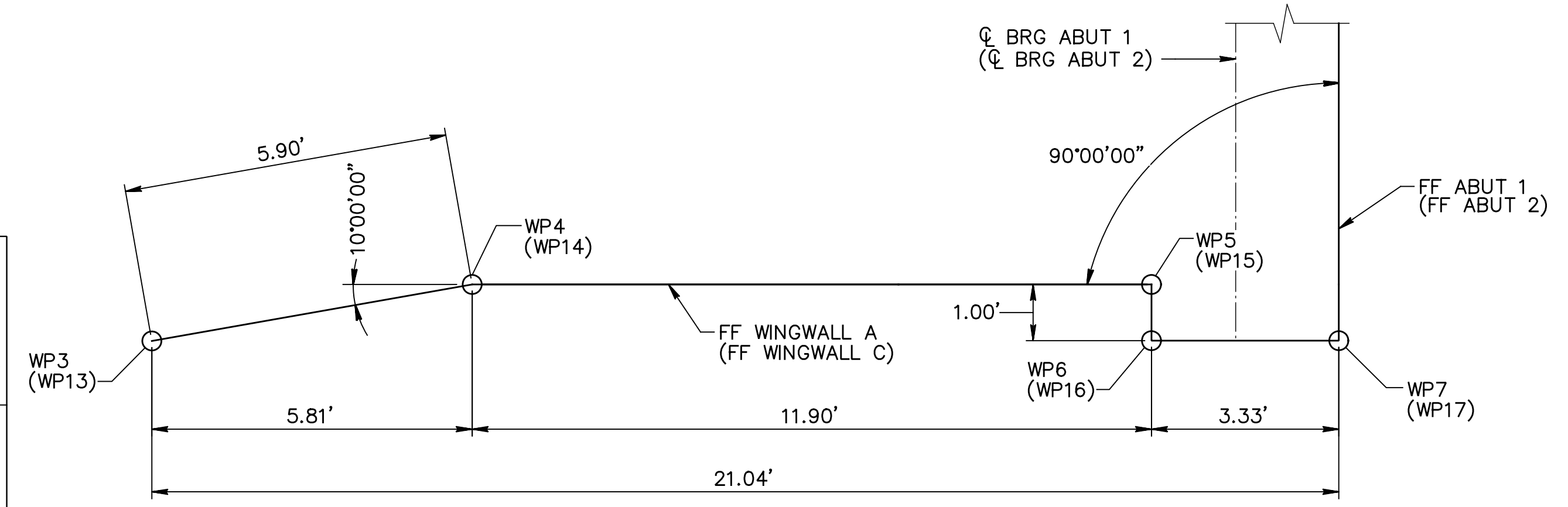
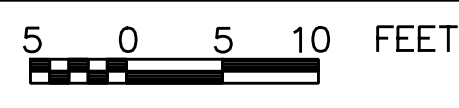


PENNSYLVANIA STATE PLANE COORDINATES, NAD83 (1992), SOUTH ZONE

WORK POINTS				
WP	STATION	OFFSET	NORTHING *	EASTING *
WP1	651+75.69	0.00	468215.5032	2573827.1747
WP2	652+87.03	0.00	468315.6397	2573778.5149
WP3	651+54.65	38.71	468213.4984	2573871.1891
WP4	651+60.17	37.69	468218.0100	2573867.8581
WP5	651+72.36	37.69	468228.9770	2573862.5288
WP6	651+72.36	38.69	468229.4141	2573863.4283
WP7	651+75.69	38.69	468232.4122	2573861.9714
WP8	651+75.69	-38.69	468198.5943	2573792.3780
WP9	651+72.36	-38.69	468195.5962	2573793.8349
WP10	651+72.36	-37.69	468196.0333	2573794.7343
WP11	651+60.17	-37.69	468185.0663	2573800.0635
WP12	651+54.65	-38.71	468179.6594	2573801.5522
WP13	653+08.07	-38.71	468317.6445	2573734.5004
WP14	653+02.55	-37.69	468313.1330	2573737.8315
WP15	652+90.36	-37.69	468302.1659	2573743.1607
WP16	652+90.36	-38.69	468301.7289	2573742.2613
WP17	652+87.03	-38.69	468298.7308	2573743.7182
WP18	652+87.03	38.69	468332.5487	2573813.3116
WP19	652+90.36	38.69	468335.5468	2573811.8547
WP20	652+90.36	37.69	468335.1097	2573810.9553
WP21	653+02.55	37.69	468346.0767	2573805.6260
WP22	653+08.07	38.71	468351.4835	2573804.1374

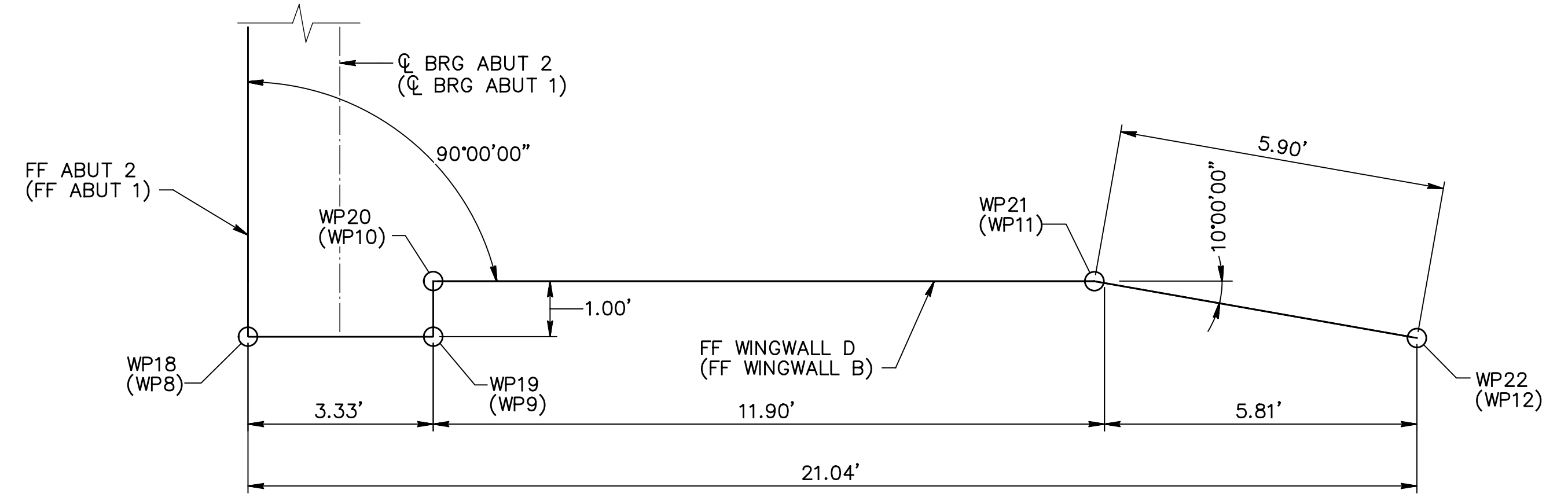
* FOUR PLACE COORDINATES ARE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO DECIMAL POINTS.

STAKE - OUT PLAN



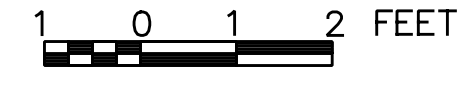
DETAIL 1

(WINGWALL A SHOWN, WINGWALL C SIMILAR)



DETAIL 2

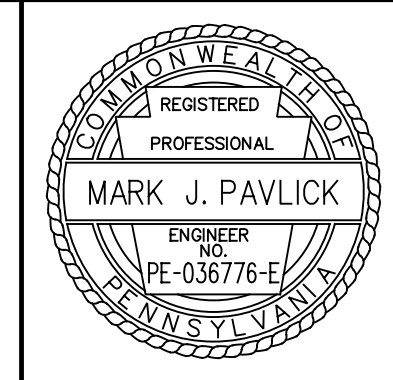
(WINGWALL D SHOWN, WINGWALL B SIMILAR)



NOTES:

1. FOR GENERAL NOTES, SEE SHEET 39.

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 PATH: c:\pwworking\ptc\plotters\13795991 MODEL SHEET FILE
 FILE: 03555Tstkoutpln.dgn
 DES: DCL DWG: MM CKD: SJV



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WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 03555Tstkoutpln.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355
 SCALE: AS SHOWN

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**



DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

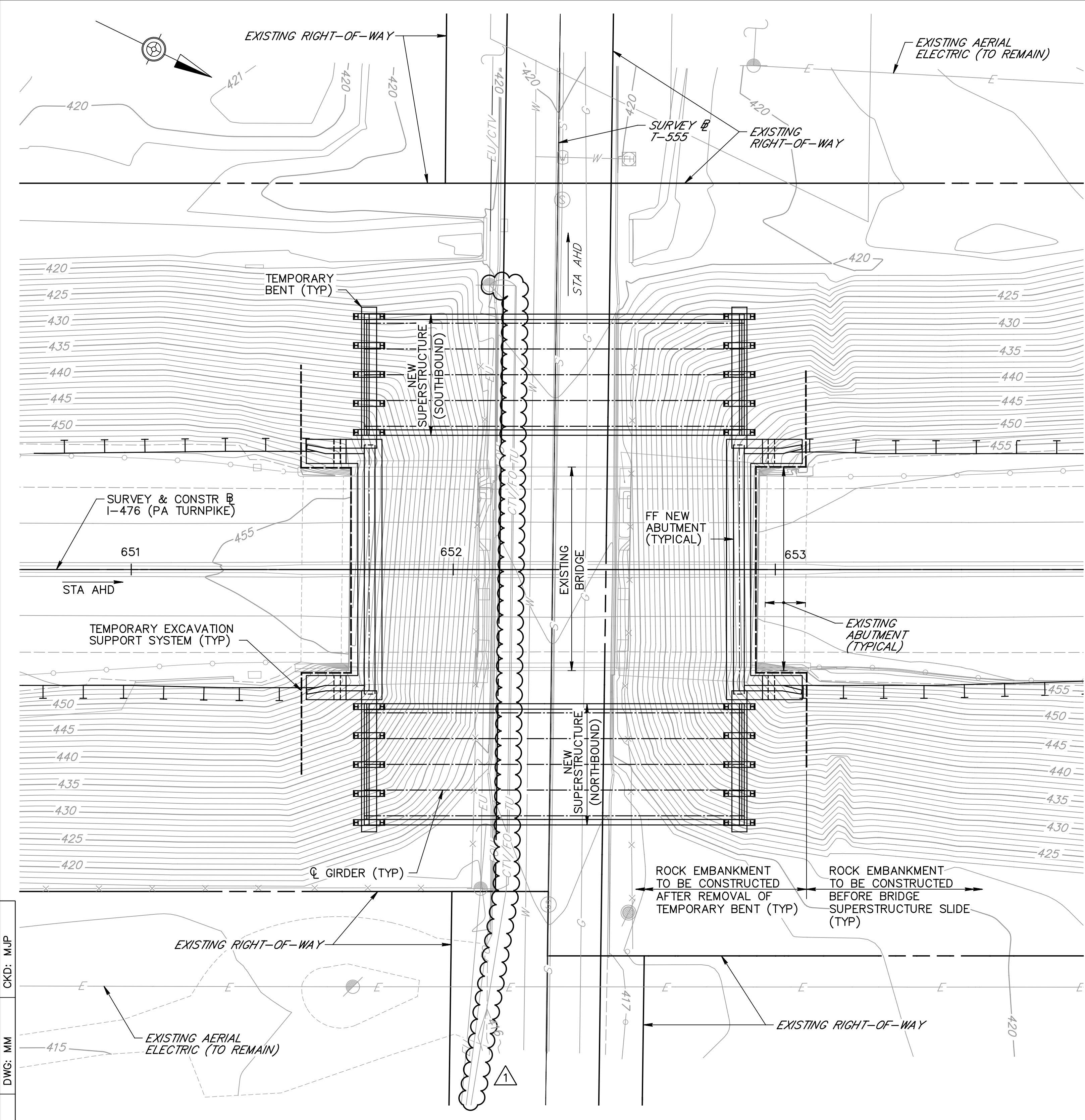
STAKE-OUT PLAN

DRAWING: 5 OF 69
 SHEET: 42 OF 116

TABULATION OF STRUCTURE BID ITEMS AND APPROXIMATE QUANTITIES						
QUANTITY	ITEM NUMBER UNIT	(INFORM) QUANTITY	DESCRIPTION	ABUTMENT 1	ABUTMENT 2	SUPER STRUCTURE
LS	4030 0001 LS		BRIDGE STRUCTURE, NB-355			
		(NOTE 1)				
		1,061	CLASS 3 EXCAVATION	561	500	
	CY					
		523	CLASS A TYPE II, SULFATE RESISTANT CEMENT CONCRETE	263	260	
	CY		(NOTE 2)			
		135	CLASS AA CEMENT CONCRETE	26	26	83
	CY					
		339	CLASS AAAP CEMENT CONCRETE			339
	CY					
		276	CLASS AAA CEMENT CONCRETE, ACCELERATED	138	138	
	CY		(NOTE 2)			
		44	SELECTED BORROW EXCAVATION, COARSE AGGREGATE, NO. 57	22	22	
	CY					
		437	FLOWABLE BACKFILL, TYPE C	220	217	
	CY					
		402	GEOCOMPOSITE DRAIN	202	200	
	SY		(NOTE 2)			
		290	6" STRUCTURE FOUNDATION DRAIN	145	145	
	LF					
		131	MEMBRANE WATERPROOFING	65	66	
	SY					
		315,520	FABRICATED STRUCTURAL STEEL			315,520
	LB		(NOTE 3)			
		3,210	SHEAR CONNECTORS			3,210
	EACH					
		3,778	ANTI GRAFFITI COATING (WHITE)	723	723	2,332
	SF		(NOTE 2)			
		4,213	ANTI GRAFFITI COATING (BEIGE)	1,443	1,455	1,315
	SF		(NOTE 2)			
		20	LAMINATED NEOPRENE BEARING PAD	10	10	
	EACH					
		2	HORIZONTAL SLIDE AND TEMPORARY SHORING			2
	EACH		(NOTE 2)			
		160	MULTI-CELL GALVANIZED STEEL CONDUIT SYSTEM			160
	LF		(NOTE 2)			
		780	ARTICULATING CELLULAR CONCRETE BLOCK	390	390	
	SY		(NOTE 2)			
LS	2203 2101 LS		TEMPORARY SHORING			
		(NOTE 2)				
126,444	1002 0053 LB		REINFORCEMENT BARS, EPOXY COATED	24,238	24,056	78,150
LS	4018 0050 LS		REMOVAL OF PORTION OF EXISTING BRIDGE			
		(NOTE 2)				
LS	4000 0099 LS		MOBILIZATION AND DEMOBILIZATION FOR MICROPILES			
		(NOTE 2)				
7,497	4000 1101 LF		MICROPILES. 9.625" X 0.545"	3,822	3,675	
		(NOTE 2)				
2	4000 1102 EACH		MICROPILE STATIC PROOF LOAD TEST	1	1	
		(NOTE 2)				

- NOTES:
- ITEMS IN BRIDGE STRUCTURE LUMP SUM ITEM 4030-0001 ARE GIVEN FOR INFORMATION ONLY.
 - SEE SPECIAL PROVISIONS.
 - INCLUDES 1131 LBS FOR ANCHOR BOLTS.

	PREPARED BY: HDR ENGINEERING, INC. 11 STANWIX STREET, SUITE 800 PITTSBURGH, PA 15222					WBS NO. A-057.66S002-3-02	BRIDGE REPLACEMENT NB-355 ON CRACKERSPORT ROAD MP A-57.66	QUANTITIES
					NETWORK NUMBER: 7004121 FILE NAME: NB-355.xls DRAWING TYPE: 2G STRUCTURE NUMBER: NB-355			
					SCALE: NONE			
					DISTRICT: 5 COUNTY: LEHIGH TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP			
	PREPARED FOR: THE PENNSYLVANIA TURNPIKE COMMISSION		NO.	REVISIONS	DATE	APPR.		DRAWING: 1 OF 2 SHEET: 43 OF 116



USER: JENGLE
 PLOT DRIVER: PTC_PDF_Screening.plt
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 PATH: c:\pwworking\h1\1379599
 FILE: 03555Tconpln&sls.dgn
 MODEL SHEET FILE
 DES: DCL
 DWG: MM
 CKD: MJP

- CONCEPTUAL BRIDGE CONSTRUCTION SEQUENCE:**
- STAGE 1: CONSTRUCT NORTHBOUND AND SOUTHBOUND SUPERSTRUCTURES AND WIDEN THE ROADWAY EMBANKMENTS.
- ORDER REQUIRED MATERIALS.
 - RELOCATE UTILITIES (BY OTHERS).
 - EXCAVATE AS REQUIRED FOR THE EMBANKMENT WIDENING.
 - INSTALL TEMPORARY EXCAVATION SUPPORT AND EXCAVATE AS REQUIRED FOR FOUNDATION CONSTRUCTION.
 - INSTALL MICROPILES.
 - INSTALL FORMWORK, PLACE REINFORCEMENT, AND PLACE CONCRETE FOR THE ABUTMENT PILE CAPS.
 - INSTALL FORMWORK, PLACE REINFORCEMENT, AND PLACE CONCRETE FOR THE ABUTMENTS, WINGWALLS, AND BARRIERS. PROVIDE PREFORMED HOLES IN THE BRIDGE SEAT FOR ANCHOR BOLTS. NOTE THAT MULTIPLE CONCRETE PLACEMENTS ARE REQUIRED.
 - INSTALL STRUCTURE FOUNDATION DRAIN AND PORTIONS OF THE ABUTMENT WATERPROOFING SYSTEM.
 - BACKFILL THE ABUTMENTS AND WINGWALLS BELOW THE BRIDGE SEAT WITH FLOWABLE BACKFILL.
 - PLACE THE PORTIONS OF THE MULTI-CELL GALVANIZED STEEL CONDUIT SYSTEM BEYOND THE REAR FACE OF THE ABUTMENTS.
 - BACKFILL THE WINGWALLS ABOVE THE BRIDGE SEAT WITH FLOWABLE BACKFILL AND CLASS AA CEMENT CONCRETE AS INDICATED.
 - REMOVE PORTION OF TEMPORARY EXCAVATION SUPPORT AT THE ENDS OF THE WINGWALLS THAT INTERFERES WITH CONSTRUCTION OF THE SHOULDER.
 - PLACE TYPE B ROCK ON THE EMBANKMENTS OUTSIDE THE LIMITS OF THE TEMPORARY CONSTRUCTION AREAS FOR THE BRIDGE SUPERSTRUCTURES.
 - RECONSTRUCT THE SHOULDERS INCLUDING INLET REPLACEMENT AND REMOVAL AS INDICATED.
 - INSTALL NEW GUIDE RAIL IN THE APPROACH ROADWAY TO THE EXTENT POSSIBLE. INSTALLATION IS COMPLETED IN STEP 7 OF STAGE 3.
 - CONSTRUCT TEMPORARY FALSEWORK FOR THE BRIDGE SUPERSTRUCTURES.
 - ERECT STEEL GIRDERS ON THE TEMPORARY FALSEWORK.
 - INSTALL THE MULTI-CELL GALVANIZED STEEL CONDUIT SYSTEM ON THE NORTHBOUND SUPERSTRUCTURE.
 - INSTALL PERMANENT METAL DECK FORMS, OVERHANG SUPPORTS, AND SHEAR CONNECTORS FOR THE BRIDGE DECKS.
 - PLACE REINFORCEMENT AND CONCRETE FOR THE BRIDGE DECKS. NOTE THAT MULTIPLE CONCRETE PLACEMENTS ARE REQUIRED.
 - INSTALL FORMWORK, PLACE REINFORCEMENT, AND PLACE CONCRETE FOR THE FULL-DEPTH END DIAPHRAGMS.
 - PLACE REINFORCEMENT AND CONCRETE FOR THE BARRIERS.
 - INSTALL COMPONENTS AND EQUIPMENT REQUIRED FOR SLIDE-IN CONSTRUCTION.

- CONCEPTUAL BRIDGE CONSTRUCTION SEQUENCE (CONTINUED):**
- STAGE 2: INSTALL THE BRIDGE SUPERSTRUCTURES.
- IMPLEMENT TRAFFIC DETOUR.
 - REMOVE THE EXISTING SUPERSTRUCTURE AND PIER CAPS.
 - SLIDE THE NORTHBOUND AND SOUTHBOUND BRIDGE SUPERSTRUCTURES TO THEIR PERMANENT LOCATIONS.
 - JACK THE BRIDGE SUPERSTRUCTURES AND INSTALL PERMANENT BEARINGS, ANCHOR BOLTS, PCP, AND CLOSED CELL NEOPRENE SPONGE.
 - INSTALL REMAINING PORTIONS OF THE WATERPROOFING SYSTEM ON THE REAR FACE OF THE ABUTMENTS AND END DIAPHRAGMS.
 - INSTALL FORMWORK, PLACE REINFORCEMENT, AND PLACE CONCRETE FOR THE CLOSURE POURS IN THE WINGWALLS AND BARRIERS AS INDICATED.
 - CONNECT THE REMAINING SECTION OF THE MULTI-CELL GALVANIZED STEEL CONDUIT SYSTEM EXTENDING THROUGH THE END DIAPHRAGM (NORTHBOUND ONLY).
 - INSTALL REINFORCEMENT FOR THE CONCRETE BACKFILL AT THE MEDIAN AS INDICATED.
 - BACKFILL THE ABUTMENTS AND WINGWALLS WITH CLASS AAA CEMENT CONCRETE, ACCELERATED BACKFILL AS INDICATED.
 - PLACE REINFORCEMENT AND CLASS AAA CEMENT CONCRETE, ACCELERATED FOR THE CAST-IN-PLACE BARRIER SECTIONS AT THE MEDIAN.
 - MILL THE EXISTING APRON SLABS AND APPROACH ROADWAY AS REQUIRED.
 - PLACE BITUMINOUS WEARING SURFACE ON THE EXISTING APRON SLABS AND APPROACH ROADWAY AS INDICATED.
 - PLACE TEMPORARY PAVEMENT MARKINGS.
 - RETURN TRAFFIC TO NORMAL CONDITIONS.
- STAGE 3: COMPLETE REMAINING CONSTRUCTION TASKS.
- REMOVE THE REMAINING PORTIONS OF THE EXISTING PIERS.
 - REMOVE DEBRIS FROM EXISTING STRUCTURE DEMOLITION.
 - RESET BARRIER SECTIONS ALONG CRACKERSPORT ROAD AS INDICATED IN THE ROADWAY PLANS.
 - REMOVE TEMPORARY FALSEWORK FOR THE BRIDGE SUPERSTRUCTURES.
 - PLACE ARTICULATED CELLULAR CONCRETE BLOCK AS INDICATED.
 - PLACE TYPE B ROCK ON THE EMBANKMENTS IN THE LIMITS OF THE TEMPORARY CONSTRUCTION AREAS FOR THE BRIDGE SUPERSTRUCTURES.
 - INSTALL REMAINING PORTIONS OF THE APPROACH ROADWAY GUIDE RAIL AND CONNECT GUIDE RAIL TO THE WINGWALL BARRIERS.
 - RESET UTILITIES (BY OTHERS).

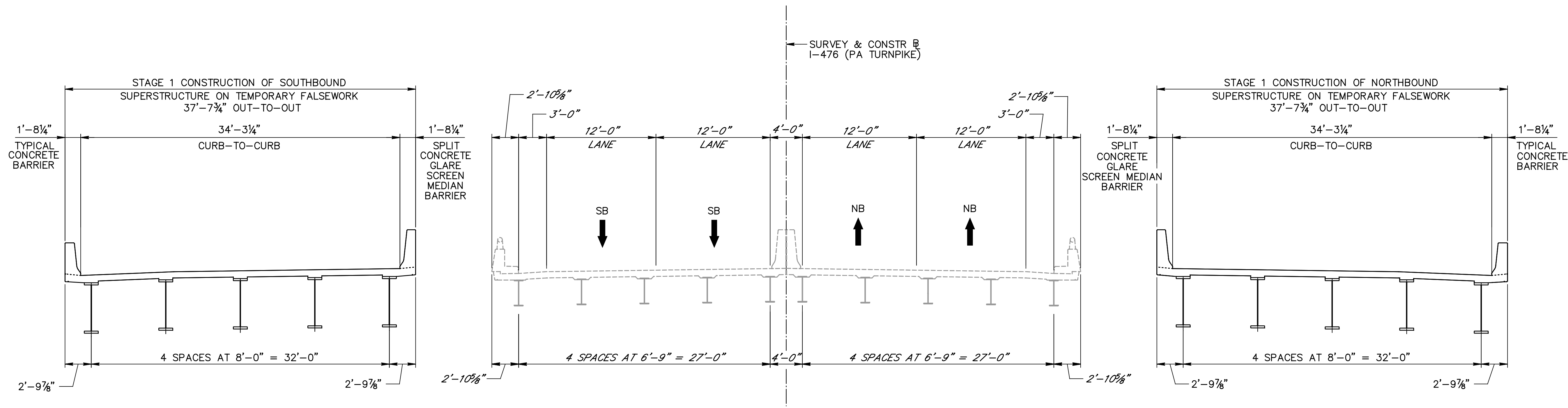
- UTILITIES LEGEND:**
- EU— EXISTING UNDERGROUND ELECTRIC (TO REMAIN)
 - G— EXISTING UNDERGROUND GAS LINE (TO REMAIN)
 - S— EXISTING UNDERGROUND SEWER LINE (TO REMAIN)
 - TU— EXISTING UNDERGROUND TELEPHONE (TO REMAIN)
 - W— EXISTING UNDERGROUND WATER LINE (TO REMAIN)
 - CTV— EXISTING OVERHEAD CABLE TV (TO REMAIN)
 - FOU— EXISTING UNDERGROUND FIBER OPTIC LINE (TO REMAIN)
 - FO— EXISTING OVERHEAD FIBER OPTIC LINE (TO REMAIN)

- NOTES:**
- EXISTING SITE INFORMATION SHOWN ONLY. FOR PROPOSED FINAL CONDITION, SEE GENERAL PLAN AND ELEVATION, SHEET 38.
 - FOR GENERAL NOTES, SEE SHEET 39.
 - THE BRIDGE CONSTRUCTION SEQUENCE SHOWN IS CONCEPTUAL AND IS PROVIDED FOR INFORMATION ONLY. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE CONSTRUCTION SEQUENCE AND SUBMITTING IT FOR REVIEW AND ACCEPTANCE IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

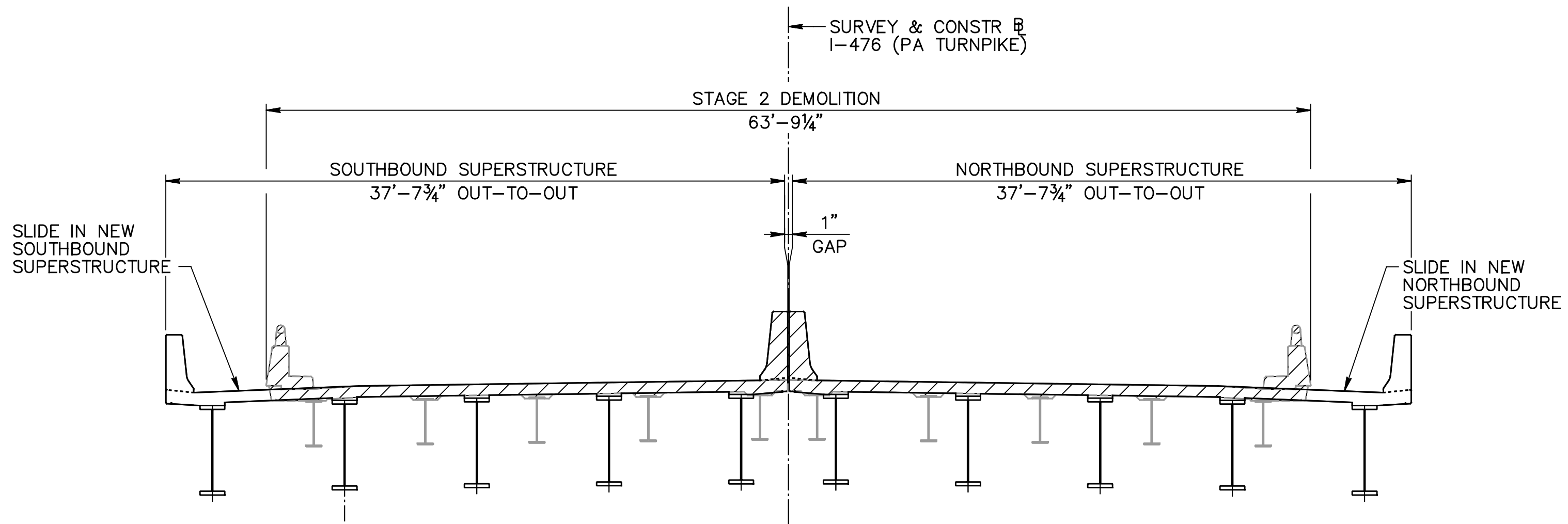
CONSTRUCTION SITE PLAN

ADD1(A-057.66S002-3-02)270CT16

	PREPARED BY: 		WBS NO. A-057.66S002-3-02	BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	CONSTRUCTION SITE PLAN AND SEQUENCE
	PREPARED FOR: THE PENNSYLVANIA TURNPIKE COMMISSION		NETWORK NUMBER: 7004121 FILE NAME: 03555Tconpln&sls.dgn DRAWING TYPE: 2G STRUCTURE NUMBER: NB-355		
SCALE: 10 0 10 20 FEET			DRAWING: 8 OF 69 SHEET: 45 OF 116		



STAGE 1

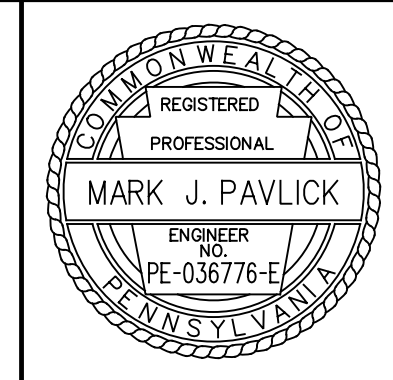


STAGE 2

- NOTES:
1. FOR GENERAL NOTES, SEE SHEET 39.
 2. FOR CONSTRUCTION SITE PLAN AND SEQUENCE, SEE SHEET 45.
 3. WORK THIS SHEET WITH SHEET 47.

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.pltsg PLOT DATE: 09-02-2016 3:27:19 PM
 PATH: c:\pwworking\bit\1379599\ FILE: 0355STts02.dgn MODEL SHEET

DES: DCL DWG: DWJ CKD: MJP



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121

FILE NAME: 0355STts02.dgn

DRAWING TYPE: 2G

STRUCTURE NUMBER: NB-355

SCALE: 6 0 6 FEET

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66

DISTRICT: 5 COUNTY: LEHIGH

TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

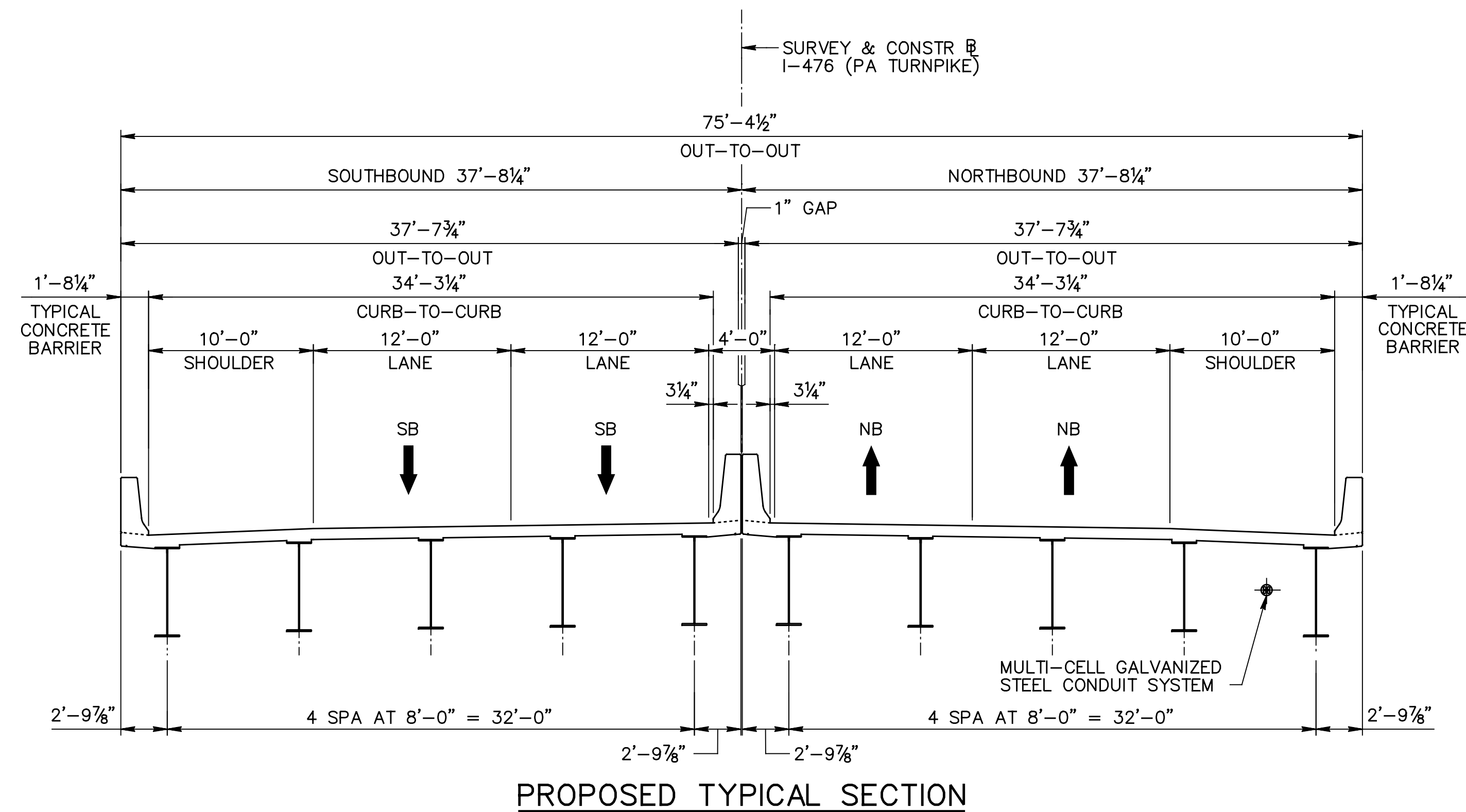
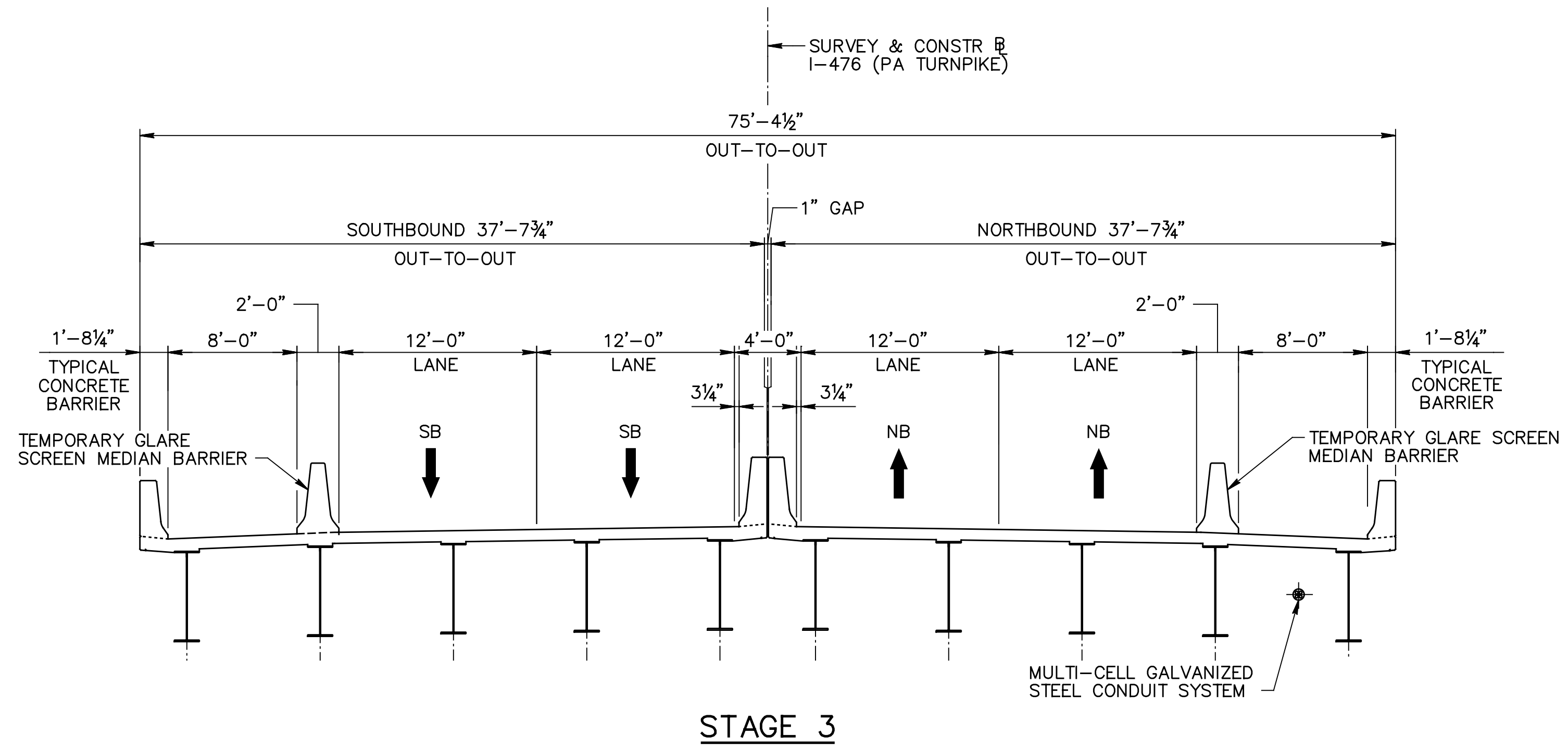
CONSTRUCTION STAGING - 1

DRAWING: 9 OF 69

SHEET: 46 OF 116

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:27:40 PM
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 MODEL SHEET

DES: DCL DWG: DMW CKD: MJP



NOTES:

1. FOR GENERAL NOTES, SEE SHEET 39.
2. FOR CONSTRUCTION SITE PLAN AND SEQUENCE, SEE SHEET 45.
3. WORK THIS SHEET WITH SHEET 46.



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
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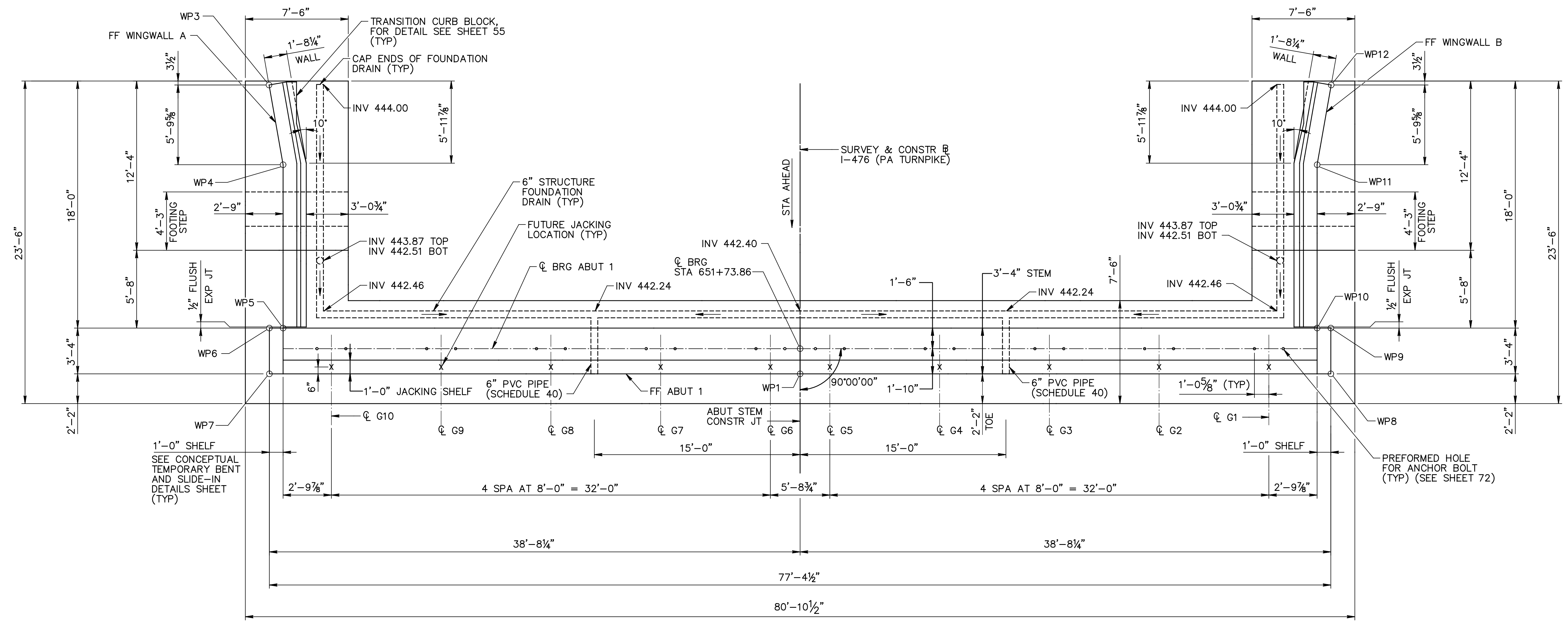
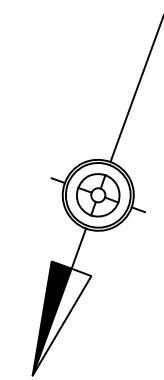
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**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

CONSTRUCTION STAGING - 2

DRAWING: 10 OF 69
 SHEET: 47 OF 116



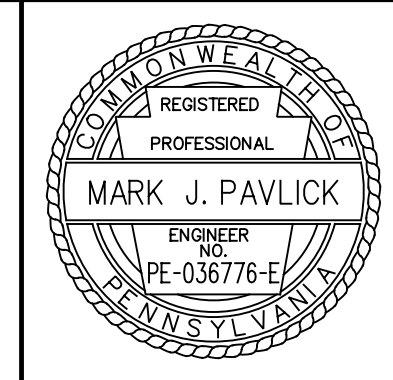
PLAN - ABUTMENT 1

LEGEND :
 —▶ DIRECTION OF SLOPED PIPE (1/8" PER FOOT)

- NOTES:**
- FOR GENERAL NOTES, SEE SHEET 39.
 - WORK THIS SHEET WITH SHEETS 49 TO 55 AND 66 .
 - FOR STAKE-OUT PLAN, SEE SHEET 42 .

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.pltsg PLOT DATE: 09-02-2016 3:28:00 PM
 PATH: c:\pwworking\ptc\1379599\ FILE: 03555Tab1pln.dgn
 MODEL SHEET FILE

DES: DCL DWG: MM CKD: NL



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A-057.66S002-3-02

NETWORK NUMBER: 7004121
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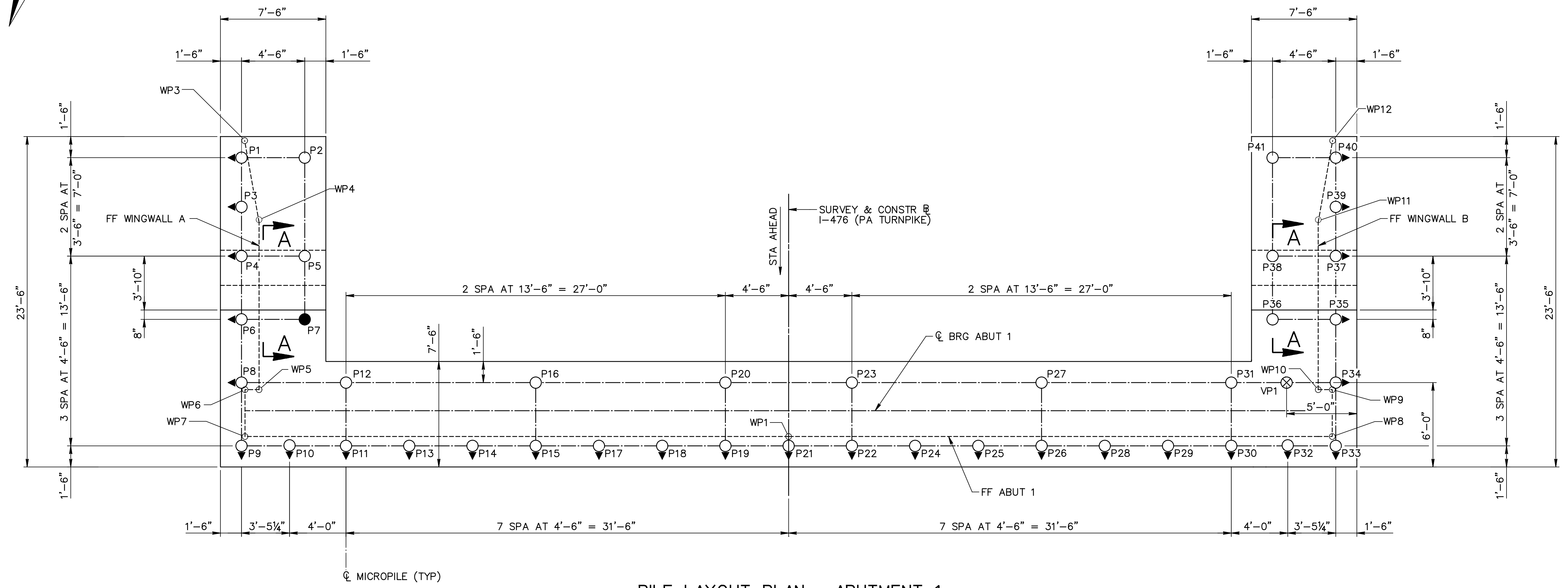
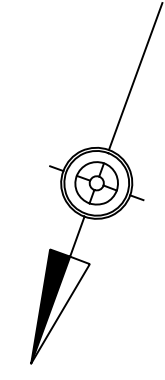
SCALE: 2 0 2 4 FEET

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

ABUTMENT 1 - PLAN

DRAWING: 11 OF 69
 SHEET: 48 OF 116

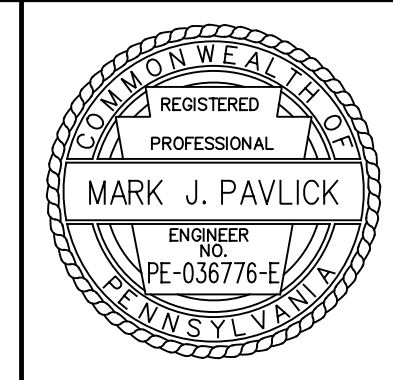


PILE LAYOUT PLAN - ABUTMENT 1

- LEGEND**
- DENOTES MICROPILE.
 - ◐ DENOTES MICROPILE BATTERED 3H:12V IN DIRECTION OF ARROWHEAD.
 - ⊗ DENOTES VERIFICATION LOAD TEST LOCATION.
 - DENOTES PROOF LOAD TEST LOCATION.
 - P# DENOTES PILE NUMBER

- NOTES:**
1. FOR GENERAL NOTES, SEE SHEET 39.
 2. WORK THIS SHEET WITH SHEETS 48, 50 TO 55 AND 66.
 3. FOR SECTION A-A, SEE SHEET 53.
 4. FOR ESTIMATED PILE QUANTITIES, SEE SHEET 50.
 5. FOR MICROPILE NOTES, SEE SHEET 40.

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.pltscg PLOT DATE: 09-02-2016 3:28:23 PM
 PATH: c:\pwworking\ptl\1379599\ FILE: 0355Stabtpilpln.dgn
 MODEL SHEET FILE
 DES: DCL DWG: MM CKD: NL



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WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 0355Stabtpilpln.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355

SCALE: 2 0 2 4 FEET

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

ABUTMENT 1 - PILE LAYOUT PLAN

DRAWING: 12 OF 69
 SHEET: 49 OF 116

SUBSTRUCTURE UNIT	MICROPILE NUMBER	STATION	OFFSET	BMCE	PILE TYPE	TRE	ETBZE	EMTE	CASING LENGTH	TOTAL PILE LENGTH	DESIGN BOND ZONE LENGTH
WINGWALL A	P1	651+55.86	38.94 RT	441.0	B	368.3	357.8	346.6	87.8	98.3	10.5
	P2	651+55.86	34.44 RT	441.0	V	368.4	357.7	346.2	85.3	95.8	10.5
	P3	651+59.36	38.94 RT	441.0	B	368.3	357.8	346.6	87.8	98.3	10.5
	P4	651+62.86	38.94 RT	441.0	B	368.3	357.8	346.6	87.8	98.3	10.5
	P5	651+62.86	34.44 RT	441.0	V	368.4	357.7	346.2	85.3	95.8	10.5
ABUTMENT 1	P6	651+67.36	38.94 RT	436.0	B	368.3	357.8	346.6	82.7	93.2	10.5
	P7	651+67.36	34.44 RT	436.0	V	368.4	357.7	346.2	80.3	90.8	10.5
	P8	651+71.86	38.94 RT	436.0	B	368.3	357.8	346.6	82.7	93.2	10.5
	P9	651+76.36	38.94 RT	436.0	B	368.3	357.8	346.6	82.7	93.2	10.5
	P10	651+76.36	35.50 RT	436.0	B	368.4	357.7	346.6	82.8	93.3	10.5
	P11	651+76.36	31.50 RT	436.0	B	368.4	357.6	346.5	82.8	93.3	10.5
	P12	651+71.86	31.50 RT	436.0	V	368.4	357.6	346.1	80.4	90.9	10.5
	P13	651+76.36	27.00 RT	436.0	B	368.5	357.5	346.4	82.9	93.4	10.5
	P14	651+76.36	22.50 RT	436.0	B	368.6	357.5	346.4	82.9	93.4	10.5
	P15	651+76.36	18.00 RT	436.0	B	368.7	357.6	346.4	82.9	93.4	10.5
	P16	651+71.86	18.00 RT	436.0	V	368.7	357.6	346.1	80.4	90.9	10.5
	P17	651+76.36	13.50 RT	436.0	B	368.8	357.6	346.5	82.8	93.3	10.5
	P18	651+76.36	9.00 RT	436.0	B	368.9	357.7	346.5	82.8	93.3	10.5
	P19	651+76.36	4.50 RT	436.0	B	369.0	357.7	346.6	82.7	93.2	10.5
	P20	651+71.86	4.50 RT	436.0	V	369.0	357.7	346.2	80.3	90.8	10.5
	P21	651+76.36	0.00	436.0	B	369.1	357.8	346.6	82.7	93.2	10.5
	P22	651+76.36	4.50 LT	436.0	B	369.2	357.9	346.7	82.6	93.1	10.5
	P23	651+71.86	4.50 LT	436.0	V	369.2	357.9	346.4	80.1	90.6	10.5
	P24	651+76.36	9.00 LT	436.0	B	369.3	357.9	346.8	82.6	93.1	10.5
	P25	651+76.36	13.50 LT	436.0	B	369.4	358.0	346.8	82.5	93.0	10.5
	P26	651+76.36	18.00 LT	436.0	B	369.5	358.0	346.9	82.4	92.9	10.5
	P27	651+71.86	18.00 LT	436.0	V	369.5	358.0	346.5	80.0	90.5	10.5
	P28	651+76.36	22.50 LT	436.0	B	369.6	358.1	346.9	82.4	92.9	10.5
	P29	651+76.36	27.00 LT	436.0	B	369.7	358.4	347.2	82.1	92.6	10.5
	P30	651+76.36	31.50 LT	436.0	B	369.8	358.9	347.8	81.5	92.0	10.5
	P31	651+71.86	31.50 LT	436.0	V	369.8	358.9	347.4	79.1	89.6	10.5
	P32	651+76.36	35.50 LT	436.0	B	369.9	359.4	348.2	81.0	91.5	10.5
	P33	651+76.36	38.94 LT	436.0	B	369.9	359.8	348.6	80.6	91.1	10.5
	P34	651+71.86	38.94 LT	436.0	B	369.9	359.8	348.6	80.6	91.1	10.5
	P35	651+67.36	38.94 LT	436.0	B	369.9	359.8	348.6	80.6	91.1	10.5
	P36	651+67.36	34.44 LT	436.0	V	369.8	359.2	347.7	78.8	89.3	10.5
WINGWALL B	P37	651+62.86	38.94 LT	441.0	B	369.9	359.8	348.6	85.8	96.3	10.5
	P38	651+62.86	34.44 LT	441.0	V	369.8	359.2	347.7	83.8	94.3	10.5
	P39	651+59.36	38.94 LT	441.0	B	369.9	359.8	348.6	85.8	96.3	10.5
	P40	651+55.86	38.94 LT	441.0	B	369.9	359.8	348.6	85.8	96.3	10.5
	P41	651+55.86	34.44 LT	441.0	V	369.8	359.2	347.7	83.8	94.3	10.5

NOTES:

ALL DIMENSIONS ARE IN FEET.

THE PROVIDED TRE AND ETBZE WERE DEVELOPED BASED ON LINER INTERPOLATION BETWEEN APPLICABLE BORINGS. THE ACTUAL TRE AND ETBZE FOR EACH MICROPILE MAY VARY AND SHALL BE DETERMINED DURING INSTALLATION.

EMTE, CASING LENGTH, AND TOTAL PILE LENGTH ARE BASED ON THE DESIGN BOND ZONE LENGTH OF 10.5 FEET, WHICH IS BASED ON A PRESUMPTIVE DESIGN BOND STRESS VALUE OF 150 PSI. IF THE ACTUAL BOND STRESS DETERMINED THROUGH FIELD LOAD TESTING IS LESS THAN 150 PSI, THE BOND LENGTH SHALL BE RECALCULATED. SUBMIT THE REVISIONS TO THE REPRESENTATIVE FOR APPROVAL.

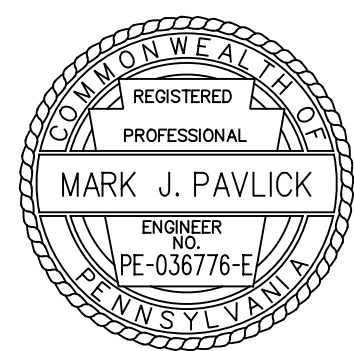
ESTIMATED CASING LENGTH AND TOTAL MICROPILE LENGTH ACCOUNT FOR THE EFFECTS OFF THE PILE BATTER.

LEGEND:

- BMCE BOTTOM OF MICROPILE CAP ELEVATION
- TRE TOP OF ROCK ELEVATION
- ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
- EMTE ESTIMATED MICROPILE TIP ELEVATION
- V VERTICAL PILE
- B BATTERED PILE

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:28:40 PM
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 MODEL SHEET FILE

DES: DCL DWG: MM CKD: NL



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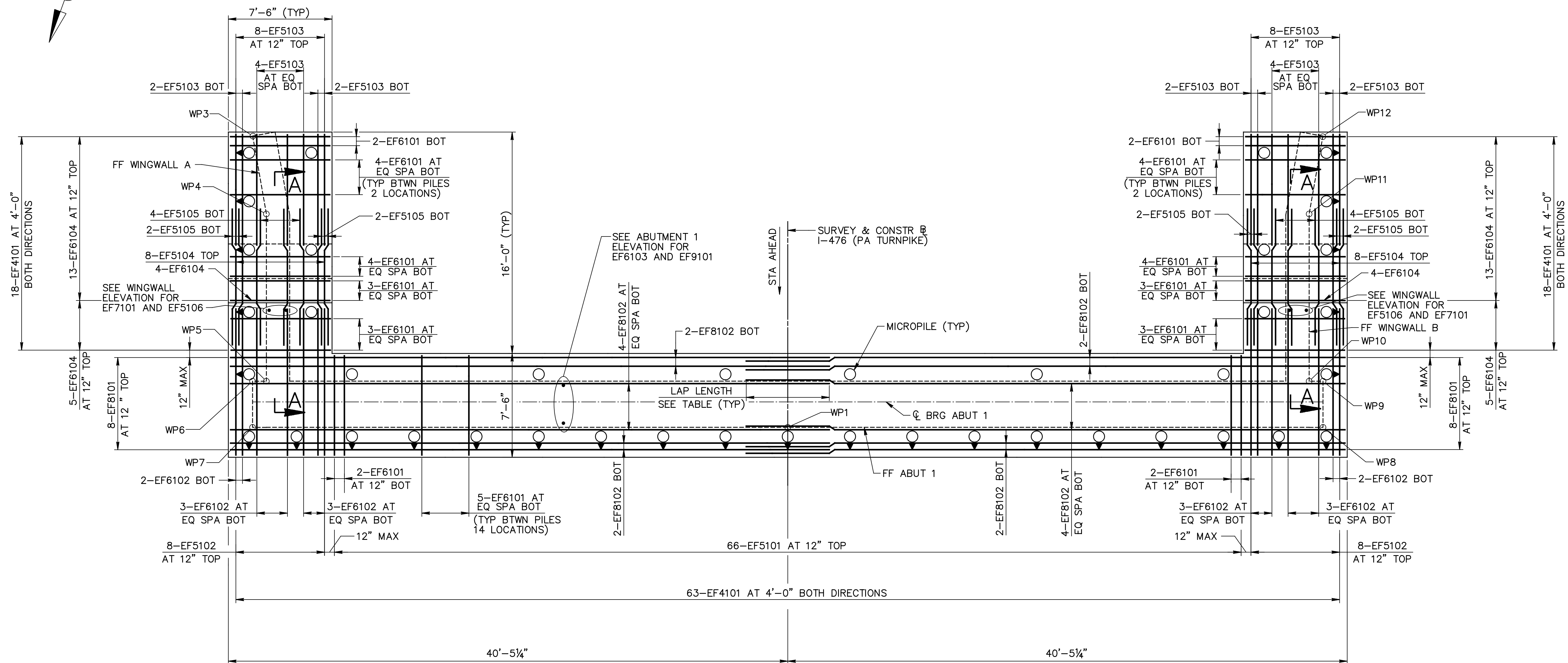
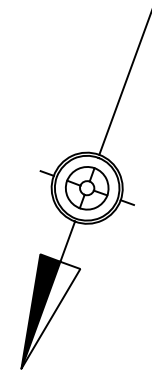
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NO.	REVISIONS	DATE	APPR.	SCALE:
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WBS NO. A-057.66S002-3-02
NETWORK NUMBER: 7004121
FILE NAME: 0355Stab1testplquan.dgn
DRAWING TYPE: 2G
STRUCTURE NUMBER: NB-355
DISTRICT: 5 COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	ABUTMENT 1 - ESTIMATED PILE QUANTITIES	
	DRAWING: 13 OF 69	SHEET: 50 OF 116



REINFORCEMENT PLAN - ABUTMENT 1

LAP LENGTHS	
#5 TOP	3'-7"
#5 BOT	2'-7"
#8 TOP	8'-2"
#8 BOT	5'-10"

- NOTES:
1. FOR GENERAL NOTES, SEE SHEET 39.
 2. WORK THIS SHEET WITH SHEETS 48 TO 50, 52 TO 55, AND 66.
 3. FOR SECTION A-A, SEE SHEET 53.
 4. FOR REINFORCEMENT SCHEDULE, SEE SHEET 56.
 5. ALL BAR SPACINGS SHOWN ARE MAXIMUMS.

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:28:56 PM
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 MODEL SHEET FILE

DES: DCL DWG: MM CKD: NL



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 0355Stabftpln.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355

SCALE: 2 0 2 4 FEET

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

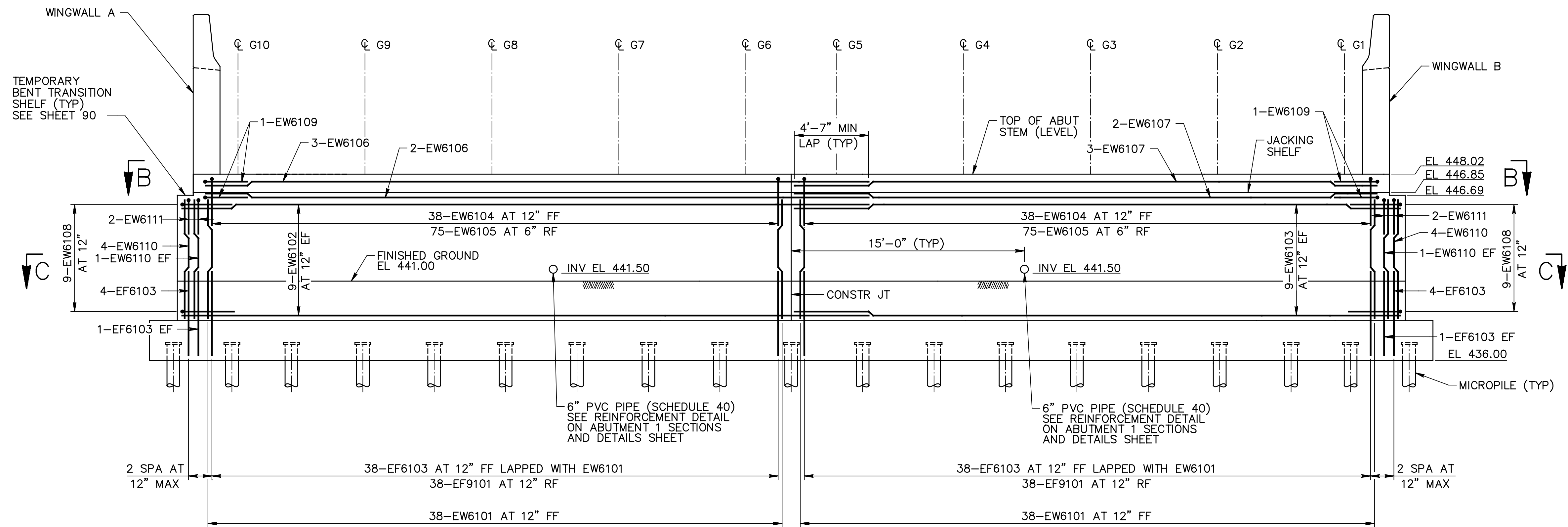
DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

ABUTMENT 1 - REINFORCEMENT PLAN

DRAWING: 14 OF 69
 SHEET: 51 OF 116

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.pltsg PLOT DATE: 09-02-2016 3:29:17 PM
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 MODEL SHEET FILE

DES: DCL DWG: ARG CKD: NL



ELEVATION - ABUTMENT 1

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 39.
2. WORK THIS SHEET WITH SHEETS 48 TO 51, 53 TO 55, AND 66.
3. FOR VIEW B-B AND SECTION C-C, SEE SHEET 53.
4. FOR REINFORCEMENT SCHEDULE, SEE SHEET 56.
5. ALL BAR SPACINGS SHOWN ARE MAXIMUMS.



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NO.	REVISIONS	DATE	APPR.

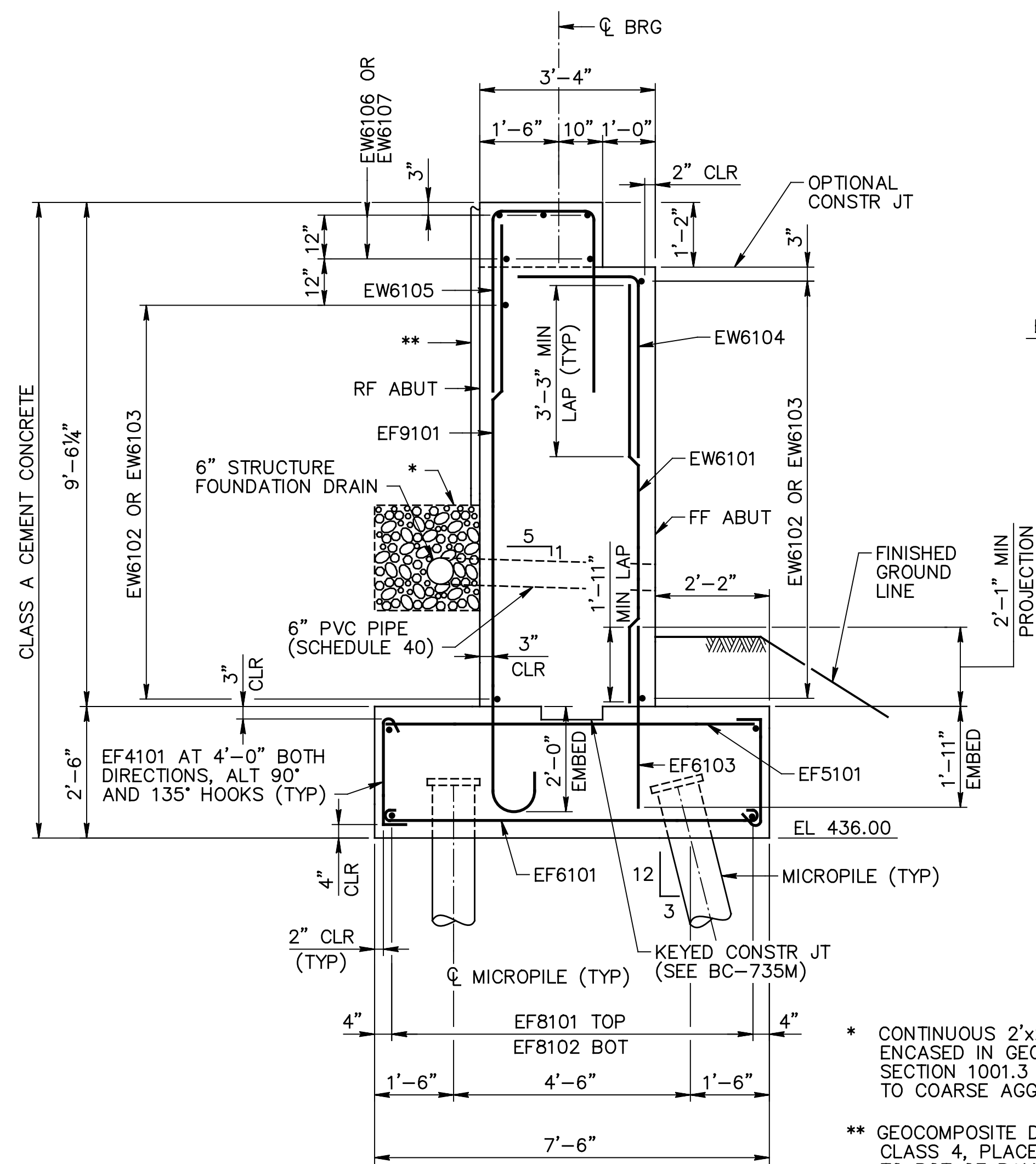
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 NETWORK NUMBER: 7004121
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 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355
 SCALE: 2 0 2 4 FEET

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

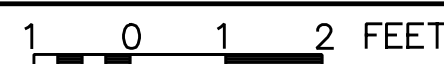
ABUTMENT 1 - ELEVATION
 DRAWING: 15 OF 69
 SHEET: 52 OF 116

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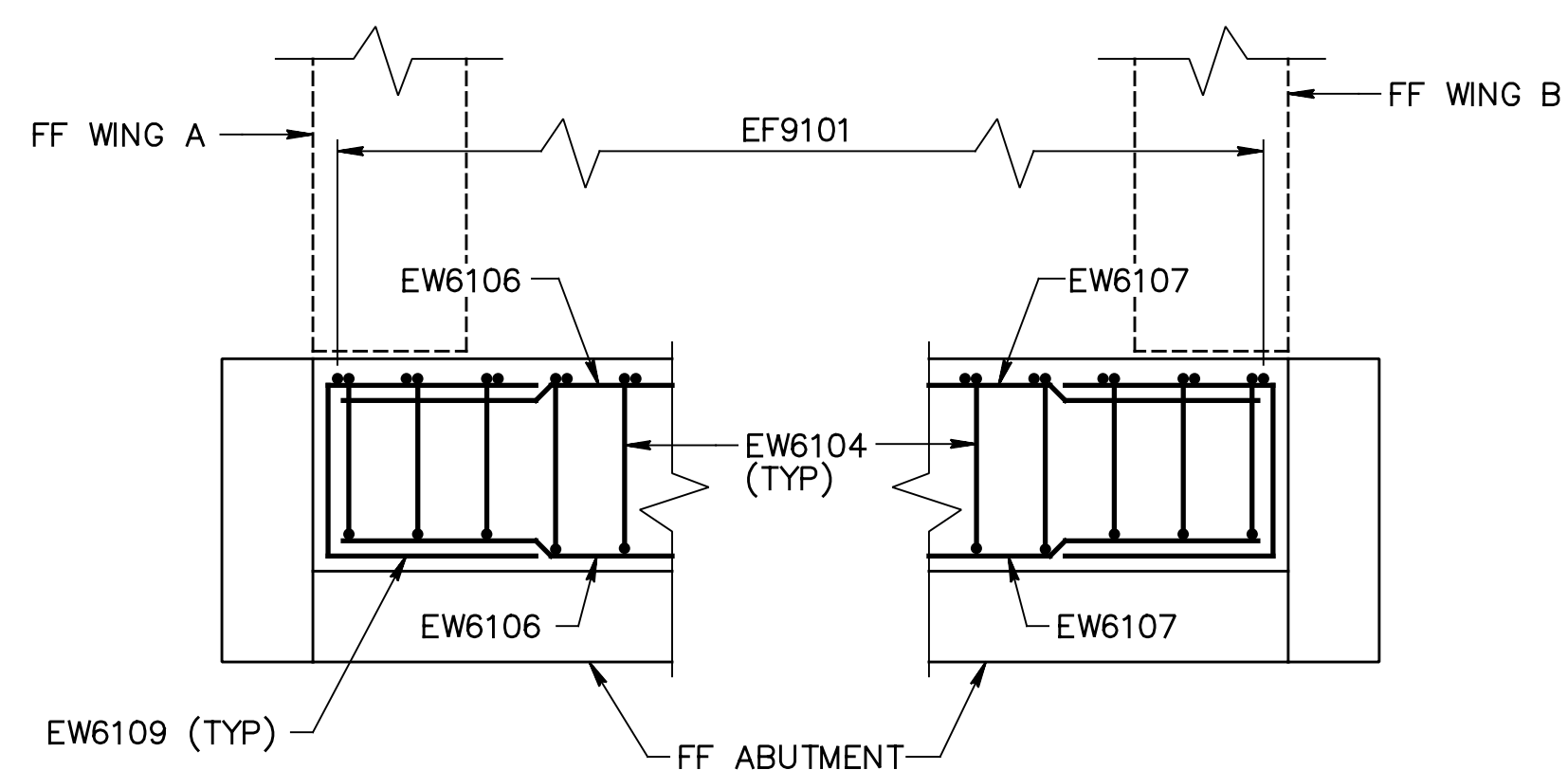
DES: DCL DWG: MM CKD: NL



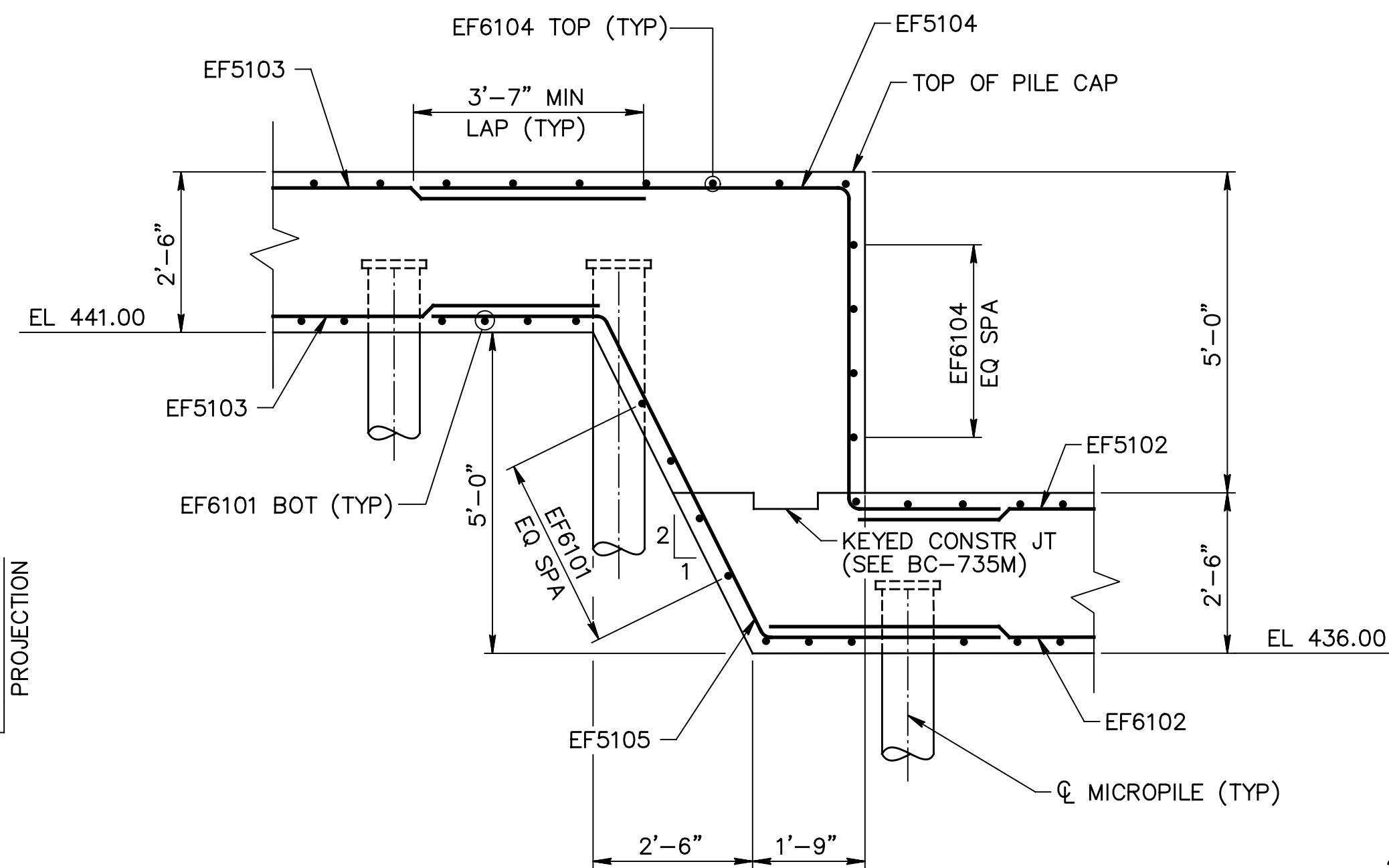
TYPICAL ABUTMENT SECTION



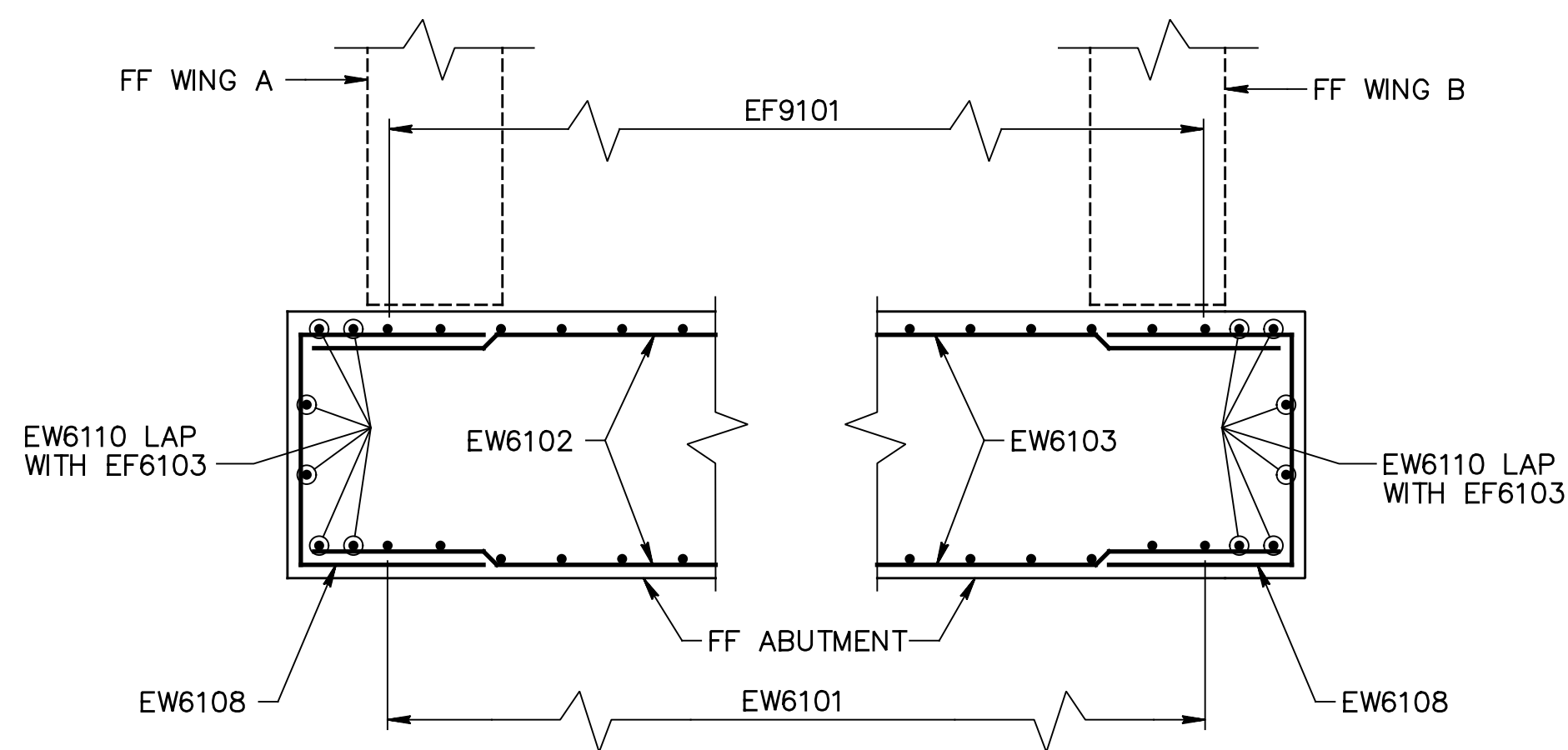
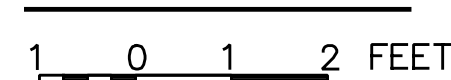
- * CONTINUOUS 2'x2' NO. 57 AGGREGATE, ENCASED IN GEOTEXTILE, CLASS 1, SEE SECTION 1001.3 (d). (GEOTEXTILE INCIDENTAL TO COARSE AGGREGATE)
- ** GEOCOMPOSITE DRAIN AND GEOTEXTILE, CLASS 4, PLACE FROM TOP OF FOOTING TO TO BOT OF PAVEMENT AND PROVIDE 100% COVERAGE ALONG REAR FACE OF ABUTMENT, DIAPHRAGM, AND WINGWALLS



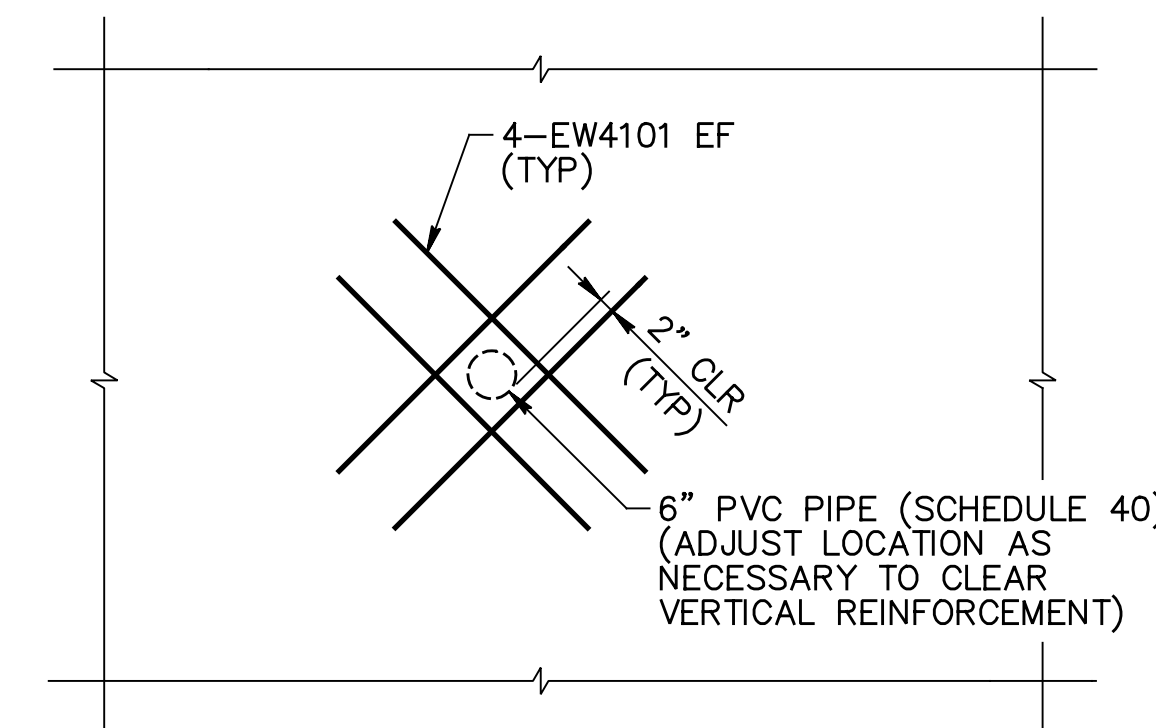
VIEW B-B



SECTION A-A



SECTION C-C



FOUNDATION DRAIN REINFORCEMENT DETAIL



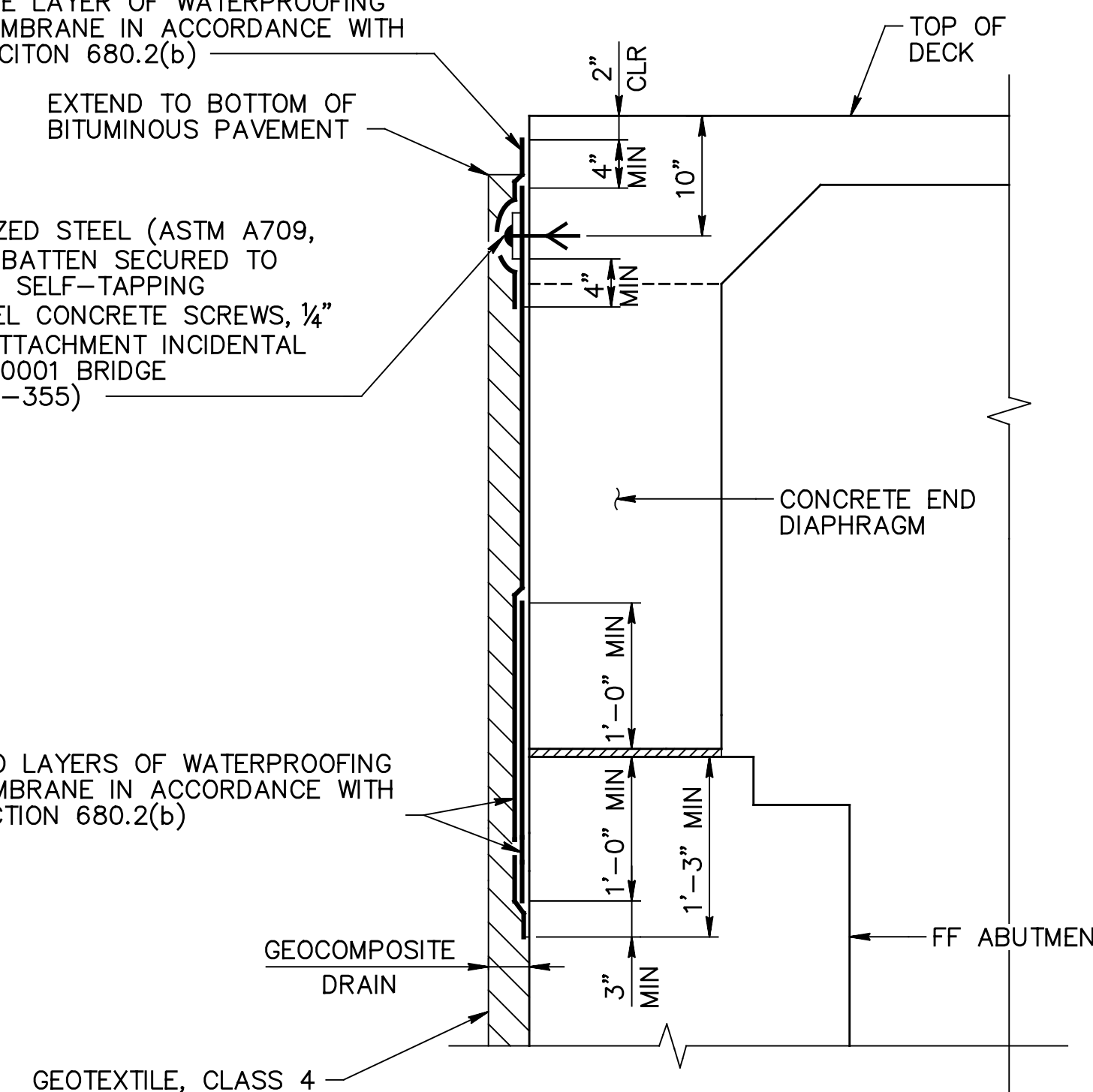
ONE LAYER OF WATERPROOFING MEMBRANE IN ACCORDANCE WITH SECTION 680.2(b)

EXTEND TO BOTTOM OF BITUMINOUS PAVEMENT

2"x1/4" GALVANIZED STEEL (ASTM A709, GR 36 OR 50) BATTEN SECURED TO CONCRETE WITH SELF-TAPPING STAINLESS STEEL CONCRETE SCREWS, 1/4" AT 18" MAX (ATTACHMENT INCIDENTAL TO ITEM 4030-0001 BRIDGE STRUCTURE, NB-355)

TWO LAYERS OF WATERPROOFING MEMBRANE IN ACCORDANCE WITH SECTION 680.2(b)

GEOTEXTILE, CLASS 4

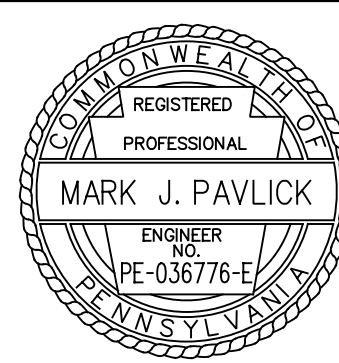


WATERPROOFING DETAIL AT ABUTMENTS

NO SCALE

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 39.
2. WORK THIS SHEET WITH SHEETS 48 TO 52, 54, 55 AND 66.
3. FOR REINFORCEMENT SCHEDULE, SEE SHEET 56.
4. FOR ADDITIONAL WATERPROOFING DETAILS, REFER TO BC-788M.



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PREPARED FOR:
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NO.	REVISIONS	DATE	APPR.	SCALE: AS SHOWN

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121

FILE NAME: 03555Tab1sectdet.dgn

DRAWING TYPE: 2G

STRUCTURE NUMBER: NB-355

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH

TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

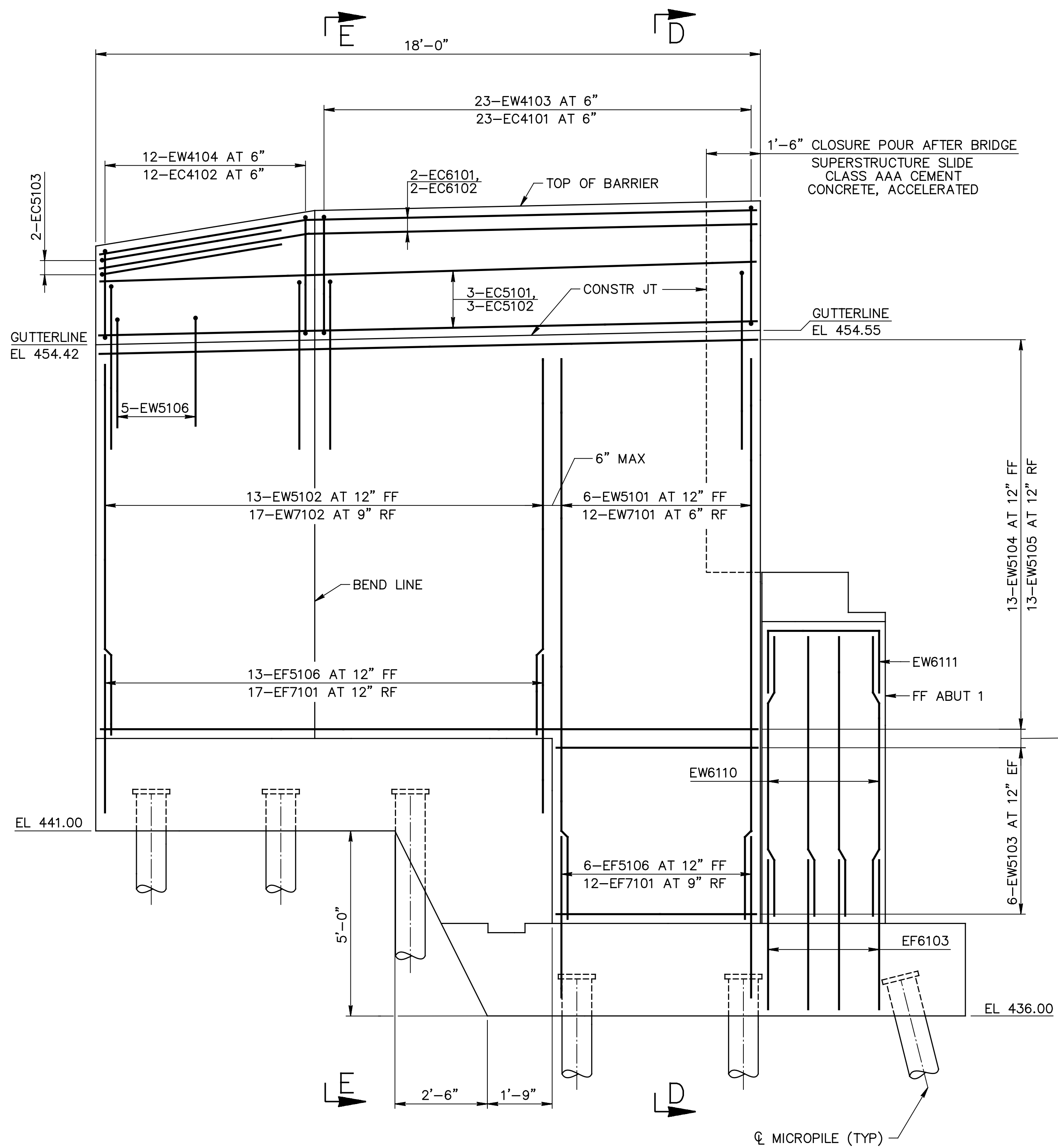
ABUTMENT 1 - SECTIONS AND DETAILS

DRAWING: 16 OF 69

SHEET: 53 OF 116

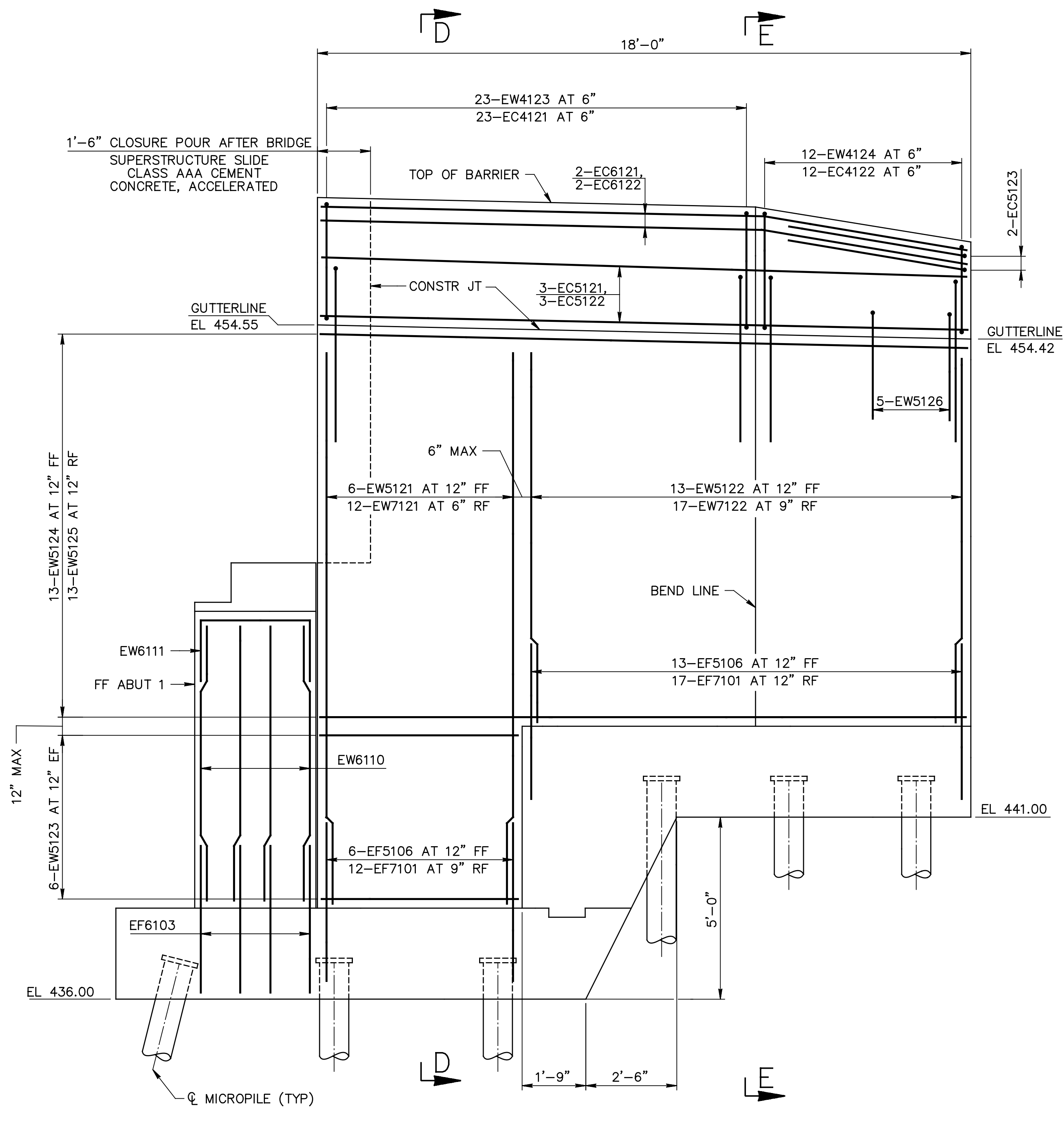
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DES: DCL DWG: MM CKD: NL



WINGWALL A ELEVATION

PILE CAP REINFORCEMENT NOT SHOWN FOR CLARITY

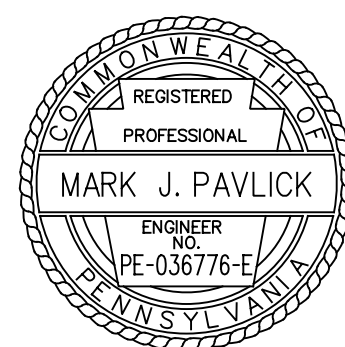


WINGWALL B ELEVATION

PILE CAP REINFORCEMENT NOT SHOWN FOR CLARITY

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 39.
2. WORK THIS SHEET WITH SHEETS 48 TO 53, 55, AND 66.
3. FOR SECTION D-D AND E-E, SEE SHEET 55.
4. FOR REINFORCEMENT SCHEDULE, SEE SHEET 56.
5. ALL BAR SPACINGS SHOWN ARE MAXIMUMS.



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NO.	REVISIONS	DATE	APPR.

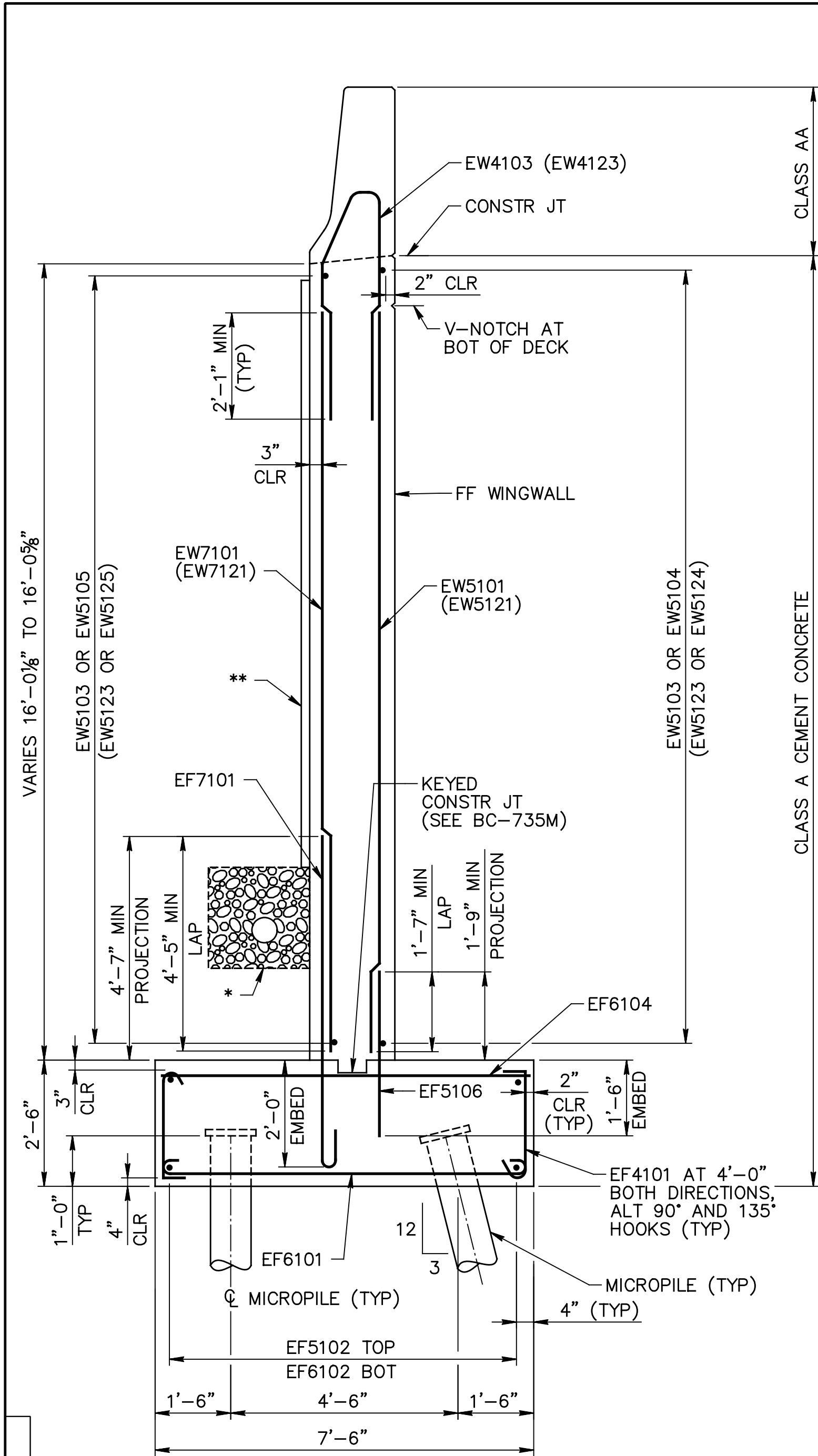
WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
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 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355
 SCALE: 1 0 1 2 FEET

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

ABUTMENT 1 - WINGWALL ELEVATIONS
 DRAWING: 17 OF 69
 SHEET: 54 OF 116

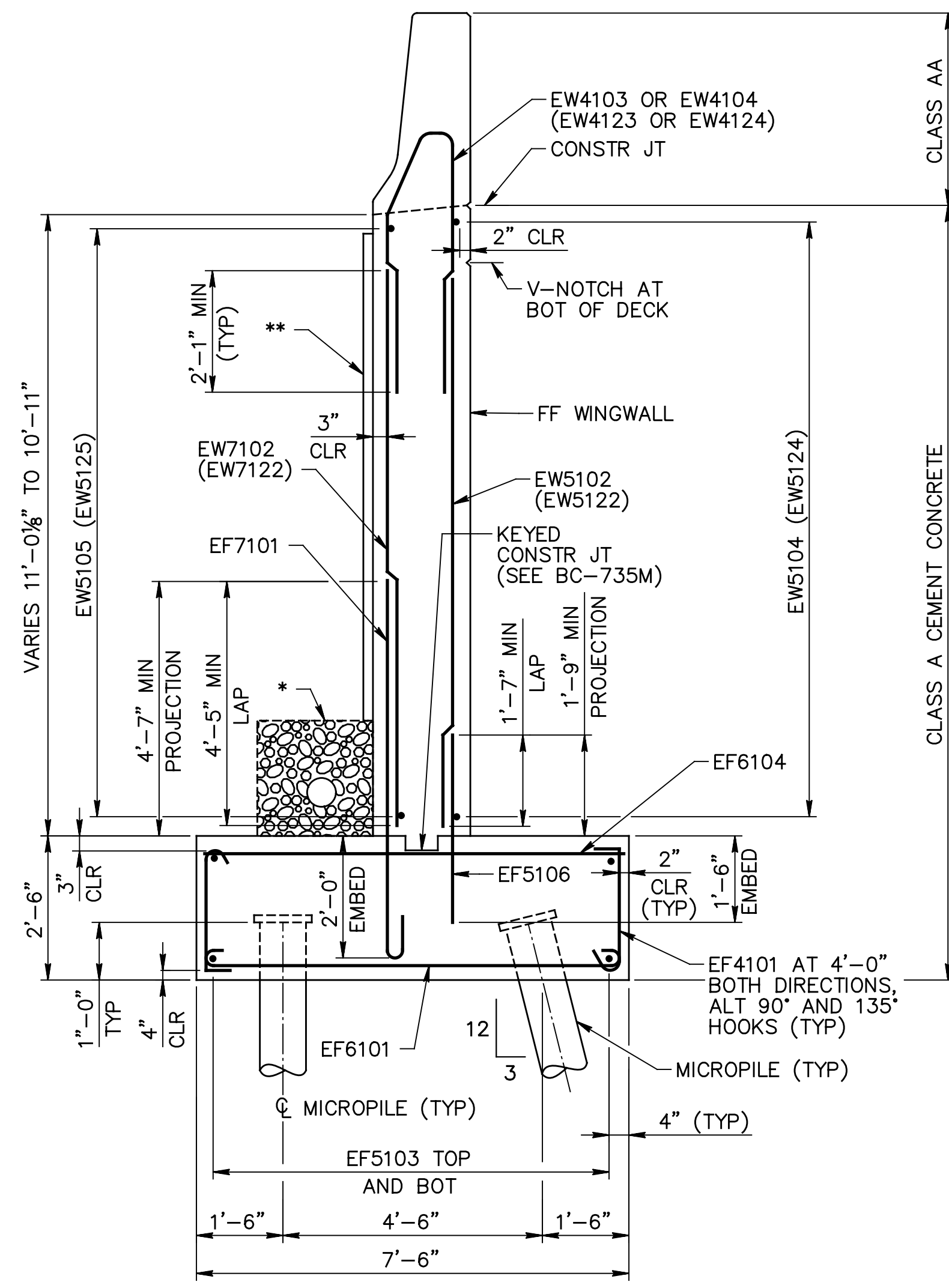
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 MODEL SHEET FILE

DES: DCL DWG: MM CKD: NL



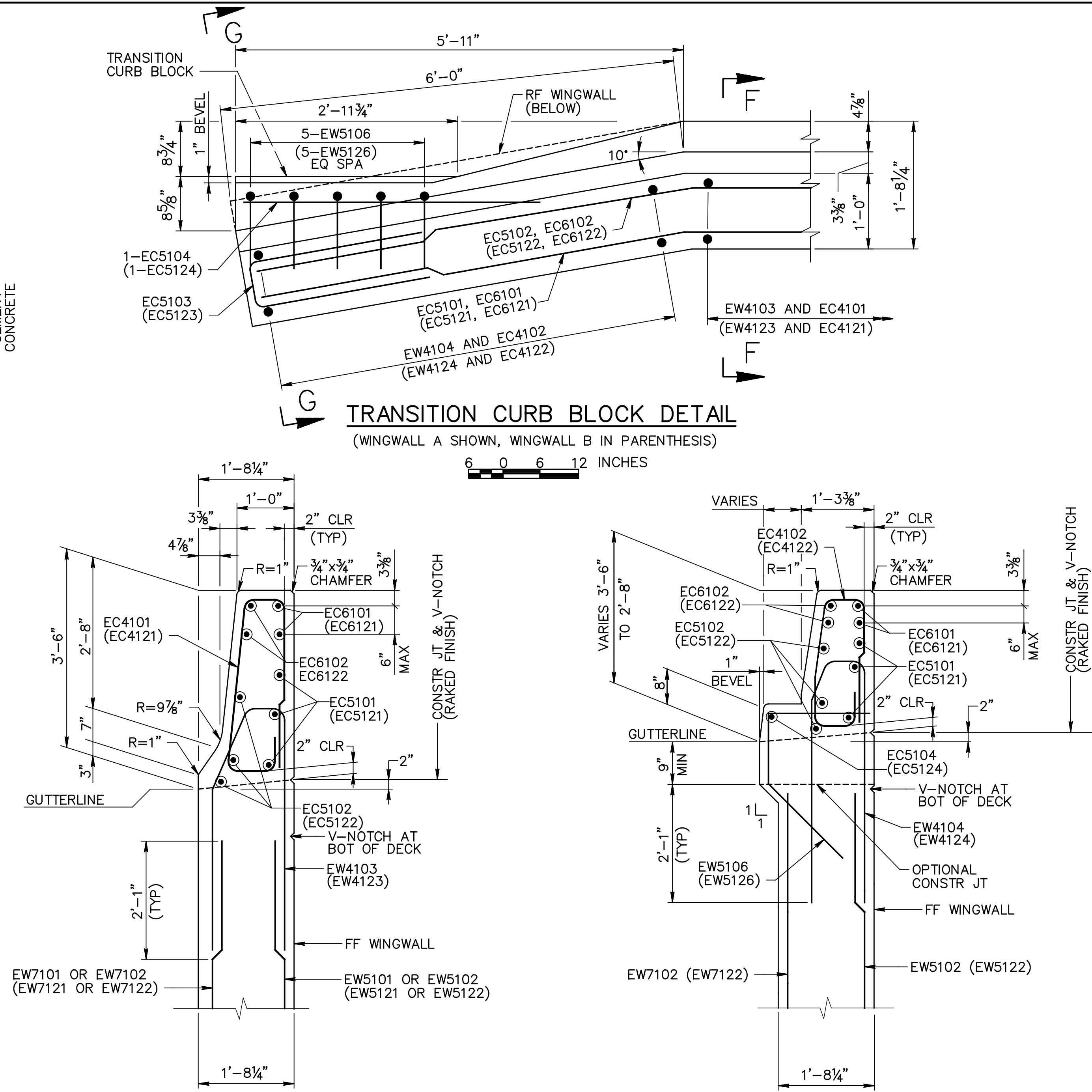
SECTION D-D

(WINGWALL A SHOWN, WINGWALL B IN PARENTHESIS)
 (BARRIER REINFORCEMENT NOT SHOWN FOR CLARITY)



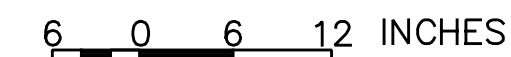
SECTION E-E

(WINGWALL A SHOWN, WINGWALL B IN PARENTHESIS)
 (BARRIER REINFORCEMENT NOT SHOWN FOR CLARITY)



TRANSITION CURB BLOCK DETAIL

(WINGWALL A SHOWN, WINGWALL B IN PARENTHESIS)



SECTION F-F

(WINGWALL A SHOWN, WINGWALL B IN PARENTHESIS)
 (WINGWALL REINFORCEMENT NOT SHOWN FOR CLARITY)



SECTION G-G

(WINGWALL A SHOWN, WINGWALL B IN PARENTHESIS)
 (WINGWALL REINFORCEMENT NOT SHOWN FOR CLARITY)



* CONTINUOUS 2'x2' NO. 57 AGGREGATE, ENCASED IN GEOTEXTILE, CLASS 1, SEE SECTION 1001.3 (d). (GEOTEXTILE INCIDENTAL TO COARSE AGGREGATE)

** GEOCOMPOSITE DRAIN AND GEOTEXTILE, CLASS 4, PLACE FROM TOP OF FOOTING TO BOT OF PAVEMENT AND PROVIDE 100% COVERAGE ALONG REAR FACE OF ABUTMENT, DIAPHRAGM, AND WINGWALLS

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 39.
2. WORK THIS SHEET WITH SHEETS 48 TO 54, AND 66.
3. FOR REINFORCEMENT SCHEDULE, SEE SHEET 56.



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 03555Tab1wngwsec.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355

SCALE: AS SHOWN

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

ABUTMENT 1 - WINGWALL SECTIONS AND DETAILS

DRAWING: 18 OF 69
 SHEET: 55 OF 116

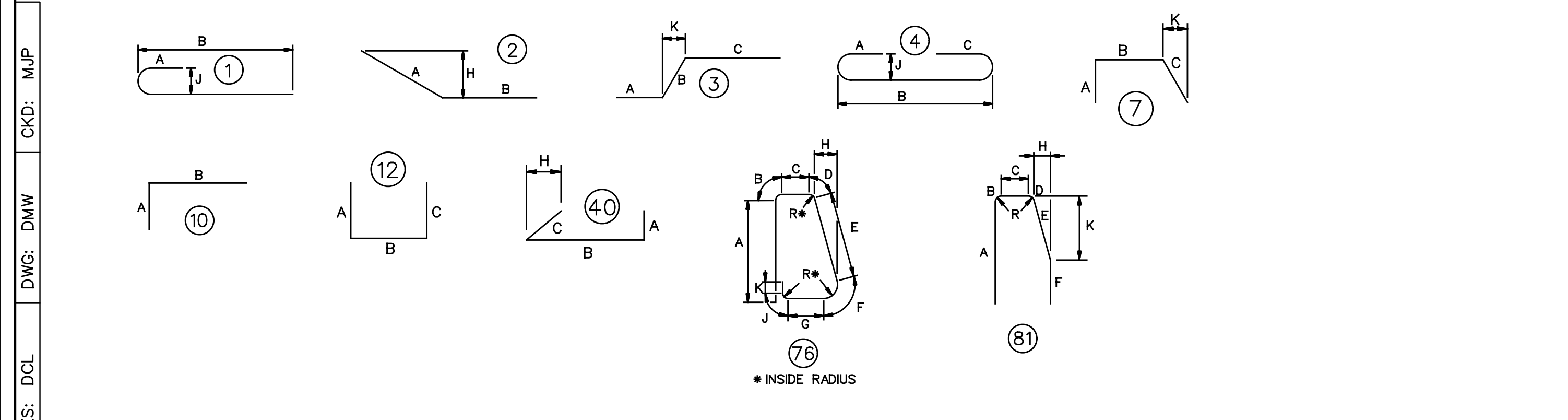
REINFORCEMENT BAR SCHEDULE

MARK	SIZE	LENGTH	NO.	TYPE	A	B	C	D	E	F	G	H	J	K	R	REMARKS
ABUTMENT 1																
EF4101	4	2'-8	99	40	4 1/2"	1'-11	4 1/2"									
EF5101	5	7'-0	66	STR												
EF5102	5	11'-0	16	STR												
EF5103	5	10'-2	32	STR												
EF5104	5	14'-2	16	3	3'-7	5'-0	5'-7							0"		
EF5105	5	10'-9	16	3	2'-7	5'-7	2'-7							2'-6		
EF5106	5	3'-3	38	STR												
EF6101	6	8'-4	114	4	8"	7'-0	8"							6"		
EF6102	6	13'-2	16	1	8"	12'-6								6"		
EF6103	6	4'-0	88	STR												
EF6104	6	7'-0	44	STR												
EF7101	7	7'-4 1/2	58	1	10"	6'-6 1/2								7"		
EF8101	8	44'-5	16	STR												
EF8102	8	43'-3	16	STR												
EF9101	9	12'-6	76	1	1'-3	11'-3								11 3/4"		
EW4101	4	3'-6	16	STR												
EW4103	4	9'-7 3/4	23	81	4'-3	4"	4"	2 3/4"	1'-5	3'-1		7/2"		1'-3 1/4	2"	
EW4104	4	VARIABLES 9'-6 3/4 TO 9'-7 3/4	12	81	4'-3	4"	4"	2 3/4"	VARIABLES 6" TO 1'-5	VARIABLES 3'-11 TO 3'-1		VARIABLES 2" TO 7 1/2"		VARIABLES 1'-3 1/4 TO 1'-3 1/4	2"	VARIABLES E 1"; VARY F 7/8"; VARY K 7/8"; VARY H 1/2"
EW4123	4	9'-7 3/4	23	81	4'-3	4"	4"	2 3/4"	1'-5	3'-1		7/2"		1'-3 1/4	2"	
EW4124	4	VARIABLES 9'-6 3/4 TO 9'-7 3/4	12	81	4'-3	4"	4"	2 3/4"	VARIABLES 6" TO 1'-5	VARIABLES 3'-11 TO 3'-1		VARIABLES 2" TO 7 1/2"		VARIABLES 1'-3 1/4 TO 1'-3 1/4	2"	VARIABLES E 1"; VARY F 7/8"; VARY K 7/8"; VARY H 1/2"
EW5101	5	14'-11	6	STR												
EW5102	5	9'-10	13	STR												
EW5103	5	5'-4	12	STR												
EW5104	5	17'-6	13	2	5'-9	11'-9						1'-0				
EW5105	5	17'-8	13	2	5'-11	11'-9						1'-0 3/8				
EW5106	5	3'-3	5	7	1'-1	1'-0	1'-2							9 7/8"		
EW5121	5	14'-11	6	STR												
EW5122	5	9'-10	13	STR												
EW5123	5	5'-4	12	STR												
EW5124	5	17'-6	13	2	5'-9	11'-9						1'-0				
EW5125	5	17'-8	13	2	5'-11	11'-9						1'-0 3/8				
EW5126	5	3'-3	5	7	1'-1	1'-0	1'-2							9 7/8"		
EW6101	6	8'-0	76	STR												
EW6102	6	43'-3	18	STR												
EW6103	6	38'-4	18	STR												
EW6104	6	8'-5	76	12	3'-3	1'-11	3'-3									
EW6105	6	6'-0	150	10	2'-9	3'-3										
EW6106	6	42'-3	5	STR												

REINFORCEMENT BAR SCHEDULE

MARK	SIZE	LENGTH	NO.	TYPE	A	B	C	D	E	F	G	H	J	K	R	REMARKS
ABUTMENT 1 (CONTINUED)																
EW6107	6	37'-4	5	STR												
EW6108	6	9'-3 3/4	18	12	3'-3	2'-9 3/4	3'-3									
EW6109	6	8'-3 3/4	4	12	3'-3	1'-9 3/4	3'-3									
EW6110	6	7'-11	12	STR												
EW6111	6	9'-4 1/4	4	12	3'-3	2'-10 1/4	3'-3									
EW7101	7	14'-11	17	STR												
EW7102	7	9'-10	12	STR												
EW7121	7	14'-11	17	STR												
EW7122	7	9'-10	12	STR												
EC4101	4	8'-0 1/8	23	76	2'-9 1/2	4"	3 3/8"	3 5/8"	2'-7 3/4	4 1/8"	6 3/4"	3 3/8"	4"	5"	2"	
EC4102	4	VARIABLES 6'-3 1/8 TO 7'-10 1/4	12	76	VARIABLES 1'-11 1/2 TO 2'-8 5/8	4"	3 3/8"	3 5/8"	VARIABLES 1'-10 TO 2'-6 1/8	4 1/8"	VARIABLES 5 1/2" TO 6 5/8"	VARIABLES 2 3/4" TO 3 3/8"	4"	5"	2"	VARIABLES A 3/4"; VARY E 3/4"; VARY G 1/8"; VARY H 1/16"
EC4121	4	8'-0 1/8	23	76	2'-9 1/2	4"	3 3/8"	3 5/8"	2'-7 3/4	4 1/8"	6 3/4"	3 3/8"	4"	5"	2"	
EC4122	4	VARIABLES 6'-3 1/8 TO 7'-10 1/4	12	76	VARIABLES 1'-11 1/2 TO 2'-8 5/8	4"	3 3/8"	3 5/8"	VARIABLES 1'-10 TO 2'-6 1/8	4 1/8"	VARIABLES 5 1/2" TO 6 5/8"	VARIABLES 2 3/4" TO 3 3/8"	4"	5"	2"	VARIABLES A 3/4"; VARY E 3/4"; VARY G 1/8"; VARY H 1/16"
EC5101	5	17'-4	3	2	5'-8	11'-8										1'-0
EC5102	5	17'-6	3	2	5'-10	11'-8										1'-4 1/2
EC5103	5	5'-7	2	12	2'-6	7"	2'-6									
EC5104	5	3'-1	1	STR												
EC5121	5	17'-4	3	2	5'-8	11'-8										1'-0
EC5122	5	17'-6	3	2	5'-10	11'-8										1'-4 1/2
EC5123	5	5'-7	2	12	2'-6	7"	2'-6									
EC5124	5	3'-1	1	STR												
EC6101	6	17'-4	2	2	5'-8	11'-8										1'-0
EC6102	6	17'-6	2	2	5'-9	11'-9										1'-0
EC6121	6	17'-4	2	2	5'-8	11'-8										1'-0
EC6122	6	17'-6	2	2	5'-9	11'-9										1'-0

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:30:37 PM
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 MODEL SHEET FILE



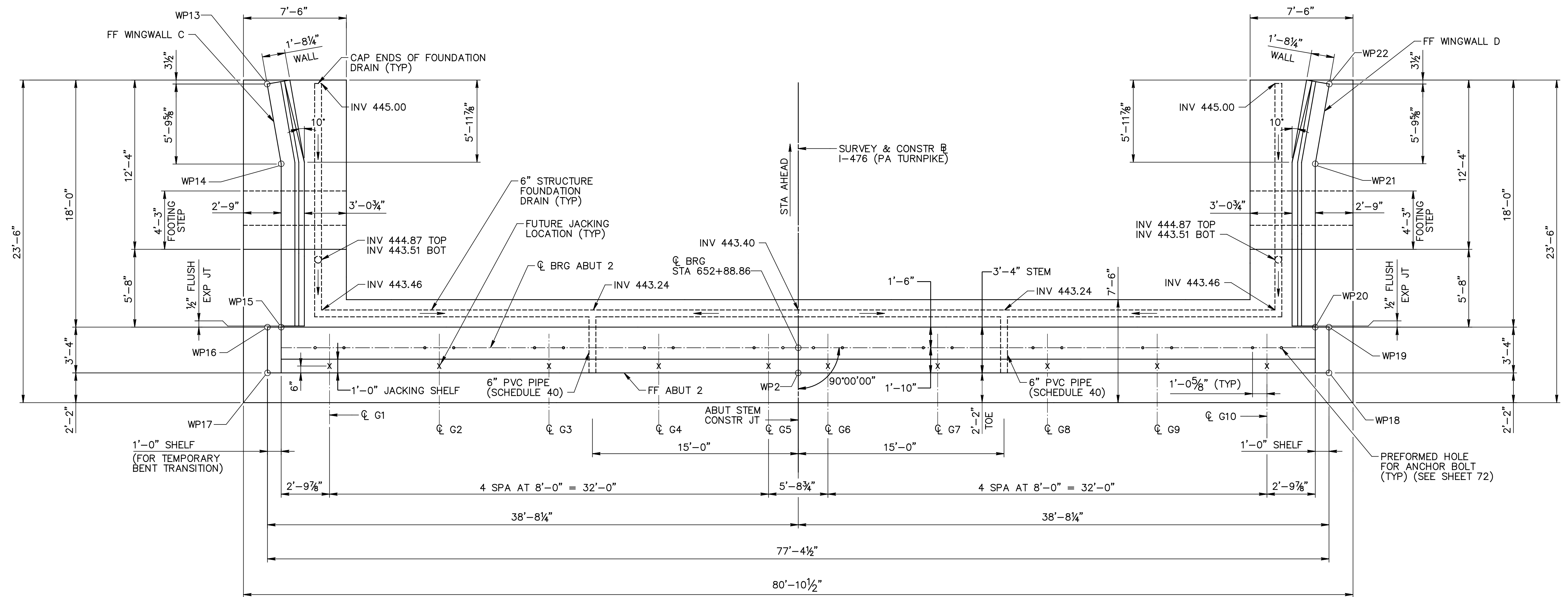
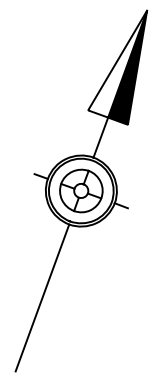
REINFORCEMENT BARS NOTES:

- "E" IN BAR MARK INDICATES EPOXY COATED BARS.
- ALL DIMENSIONS ARE OUT-TO-OUT OF BAR EXCEPT "A" AND "C" ON STANDARD 135° AND 180° HOOKS, AND "R" WHICH IS SHOWN TO THE INSIDE OF THE BAR.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.

NOTES:

- FOR GENERAL NOTES, SEE SHEET 39.

	PREPARED BY: HDR Engineering, Inc. 11 STANWIX STREET, SUITE 800 PITTSBURGH, PA 15222		WBS NO. A-057.66S002-3-02	BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	ABUTMENT 1 - REINFORCEMENT BAR SCHEDULE
	PREPARED FOR: THE PENNSYLVANIA TURNPIKE COMMISSION		NETWORK NUMBER: 7004121 FILE NAME: 03555Tbarsched.dgn DRAWING TYPE: 2G STRUCTURE NUMBER: NB-355		
NO.	REVISIONS	DATE	APPR.	SCALE: NO SCALE	DRAWING: 19 OF 69 SHEET: 56 OF 116



PLAN - ABUTMENT 2

LEGEND :

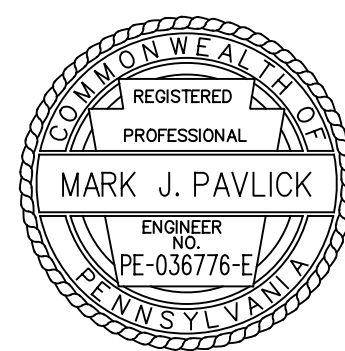
→ DIRECTION OF SLOPED PIPE (1/8" PER FOOT)

NOTES:

- FOR GENERAL NOTES, SEE SHEET 39.
- WORK THIS SHEET WITH SHEETS 58 TO 64 AND 66.
- FOR STAKE-OUT PLAN, SEE SHEET 42.

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:30:56 PM
 PATH: c:\pwworking\bit\1379599\ FILE: 0355Stabpin2.dgn
 MODEL SHEET FILE

DES: DCL DWG: MM CKD: DGS



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HDR
 HDR Engineering, Inc.
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 PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

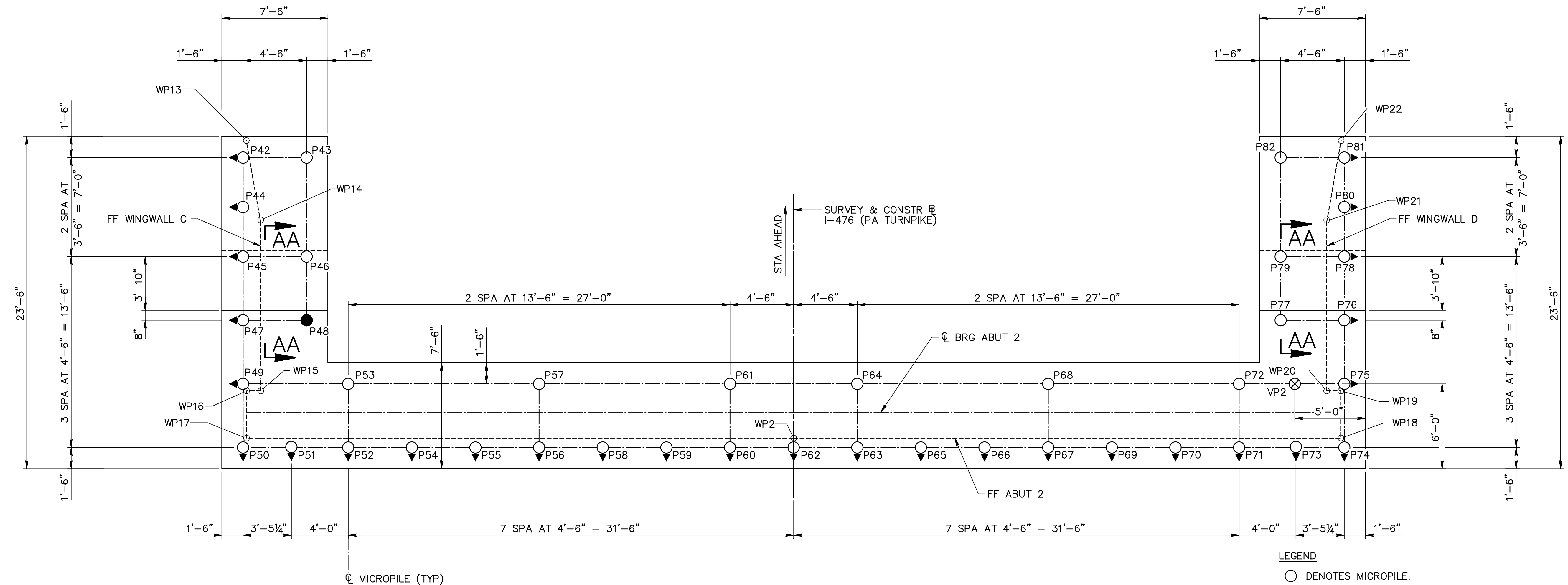
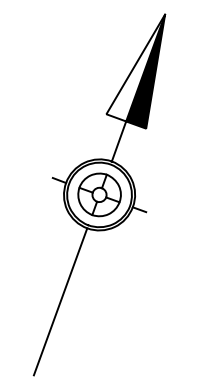
WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355Stabpin2.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355
 SCALE: 2 0 2 4 FEET

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

ABUTMENT 2 - PLAN

DRAWING: 20 OF 69
 SHEET: 57 OF 116

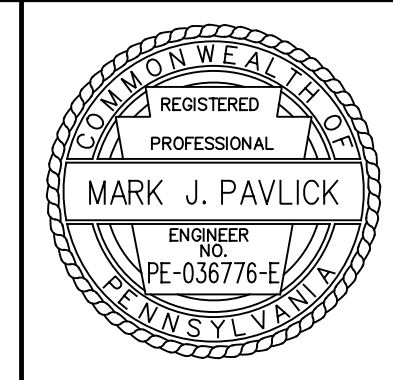


PILE LAYOUT PLAN - ABUTMENT 2

- LEGEND**
- DENOTES MICROPILE.
 - ◐ DENOTES MICROPILE BATTERED 3H:12V IN DIRECTION OF ARROWHEAD.
 - ⊗ DENOTES VERIFICATION LOAD TEST LOCATION.
 - DENOTES PROOF LOAD TEST LOCATION.
 - P# DENOTES PILE NUMBER

- NOTES:**
1. FOR GENERAL NOTES, SEE SHEET 39.
 2. WORK THIS SHEET WITH SHEETS 57, AND 59 TO 66.
 3. FOR SECTION AA-AA, SEE SHEET 62.
 4. FOR ESTIMATED PILE QUANTITIES TABLES, SEE SHEET 59.
 5. FOR MICROPILE NOTES, SEE SHEET 40.

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.pltscg 3:31:15 PM
 PATH: c:\pwworking\ptl\1379599\ FILE: 0355Stabtpiln2.dgn
 DES: DCL DWG: MM CKD: DGS



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355Stabtpiln2.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355
 SCALE: 2 0 2 4 FEET

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66

ABUTMENT 2 - PILE LAYOUT PLAN

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:31:33 PM
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 MODEL SHEET FILE

DES: DCL DWG: MM CKD: NL

SUBSTRUCTURE UNIT	MICROPILE NUMBER	STATION	OFFSET	BMCE	PILE TYPE	TRE	ETBZE	EMTE	CASING LENGTH	TOTAL PILE LENGTH	DESIGN BOND ZONE LENGTH
WINGWALL C	P42	653+06.86	38.94 LT	442.0	B	363.5	360.5	349.4	86.1	96.6	10.5
	P43	653+06.86	34.44 LT	442.0	V	363.5	360.6	349.1	83.4	93.9	10.5
	P44	653+03.36	38.94 LT	442.0	B	363.5	360.5	349.4	86.1	96.6	10.5
	P45	652+99.86	38.94 LT	442.0	B	363.5	360.5	349.4	86.1	96.6	10.5
	P46	652+99.86	34.44 LT	442.0	V	363.5	360.6	349.1	83.4	93.9	10.5
	P47	652+95.36	38.94 LT	437.0	B	363.5	360.5	349.4	80.9	91.4	10.5
ABUTMENT 2	P48	652+95.36	34.44 LT	437.0	V	363.5	360.6	349.1	78.4	88.9	10.5
	P49	652+90.86	38.94 LT	437.0	B	363.5	360.5	349.4	80.9	91.4	10.5
	P50	652+86.36	38.94 LT	437.0	B	363.5	360.5	349.4	80.9	91.4	10.5
	P51	652+86.36	35.50 LT	437.0	B	363.5	360.6	349.4	80.8	91.3	10.5
	P52	652+86.36	31.50 LT	437.0	B	363.5	360.7	349.5	80.7	91.2	10.5
	P53	652+90.86	31.50 LT	437.0	V	363.5	360.7	349.2	78.3	88.8	10.5
	P54	652+86.36	27.00 LT	437.0	B	363.5	360.8	349.6	80.6	91.1	10.5
	P55	652+86.36	22.50 LT	437.0	B	363.8	361.2	350.0	80.2	90.7	10.5
	P56	652+86.36	18.00 LT	437.0	B	364.1	361.5	350.3	79.9	90.4	10.5
	P57	652+90.86	18.00 LT	437.0	V	364.1	361.5	350.0	77.5	88.0	10.5
	P58	652+86.36	13.50 LT	437.0	B	364.4	361.9	350.7	79.5	90.0	10.5
	P59	652+86.36	9.00 LT	437.0	B	364.7	362.2	351.0	79.2	89.7	10.5
	P60	652+86.36	4.50 LT	437.0	B	365.0	362.6	351.4	78.8	89.3	10.5
	P61	652+90.86	4.50 LT	437.0	V	365.0	362.6	351.1	76.5	87.0	10.5
	P62	652+86.36	0.00	437.0	B	365.3	362.9	351.7	78.4	88.9	10.5
	P63	652+86.36	4.50 RT	437.0	B	365.5	363.3	352.1	78.1	88.6	10.5
	P64	652+90.86	4.50 RT	437.0	V	365.5	363.3	351.8	75.8	86.3	10.5
	P65	652+86.36	9.00 RT	437.0	B	365.8	363.6	352.4	77.7	88.2	10.5
	P66	652+86.36	13.50 RT	437.0	B	366.1	364.0	352.8	77.4	87.9	10.5
	P67	652+86.36	18.00 RT	437.0	B	366.4	364.3	353.1	77.0	87.5	10.5
	P68	652+90.86	18.00 RT	437.0	V	366.4	364.3	352.8	74.7	85.2	10.5
	P69	652+86.36	22.50 RT	437.0	B	366.7	364.7	353.5	76.6	87.1	10.5
	P70	652+86.36	27.00 RT	437.0	B	367.0	365.0	353.8	76.3	86.8	10.5
	P71	652+86.36	31.50 RT	437.0	B	367.0	364.9	353.8	76.4	86.9	10.5
	P72	652+90.86	31.50 RT	437.0	V	367.0	364.9	353.4	74.1	84.6	10.5
	P73	652+86.36	35.50 RT	437.0	B	367.0	364.8	353.7	76.5	87.0	10.5
	P74	652+86.36	38.94 RT	437.0	B	367.0	364.8	353.6	76.5	87.0	10.5
	P75	652+90.86	38.94 RT	437.0	B	367.0	364.8	353.6	76.5	87.0	10.5
	P76	652+95.36	38.94 RT	437.0	B	367.0	364.8	353.6	76.5	87.0	10.5
	P77	652+95.36	34.44 RT	437.0	V	367.0	364.9	353.4	74.1	84.6	10.5
	P78	652+99.86	38.94 RT	442.0	B	367.0	364.8	353.6	81.7	92.2	10.5
	P79	652+99.86	34.44 RT	442.0	V	367.0	364.9	353.4	79.1	89.6	10.5
WINGWALL D	P80	653+03.36	38.94 RT	442.0	B	367.0	364.8	353.6	81.7	92.2	10.5
	P81	653+06.86	38.94 RT	442.0	B	367.0	364.8	353.6	81.7	92.2	10.5
	P82	653+06.86	34.44 RT	442.0	V	367.0	364.9	353.4	79.1	89.6	10.5

NOTES:

ALL DIMENSIONS ARE IN FEET.

THE PROVIDED TRE AND ETBZE WERE DEVELOPED BASED ON LINER INTERPOLATION BETWEEN APPLICABLE BORINGS. THE ACTUAL TRE AND ETBZE FOR EACH MICROPILE MAY VARY AND SHALL BE DETERMINED DURING INSTALLATION.

EMTE, CASING LENGTH, AND TOTAL PILE LENGTH ARE BASED ON THE DESIGN BOND ZONE LENGTH OF 10.5 FEET, WHICH IS BASED ON A PRESUMPTIVE DESIGN BOND STRESS VALUE OF 150 PSI. IF THE ACTUAL BOND STRESS DETERMINED THROUGH FIELD LOAD TESTING IS LESS THAN 150 PSI, THE BOND LENGTH SHALL BE RECALCULATED. SUBMIT THE REVISIONS TO THE REPRESENTATIVE FOR APPROVAL.

ESTIMATED CASING LENGTH AND TOTAL MICROPILE LENGTH ACCOUNT FOR THE EFFECTS OFF THE PILE BATTER.

LEGEND:

- BMCE BOTTOM OF MICROPILE CAP ELEVATION
- TRE TOP OF ROCK ELEVATION
- ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
- EMTE ESTIMATED MICROPILE TIP ELEVATION
- V VERTICAL PILE
- B BATTERED PILE



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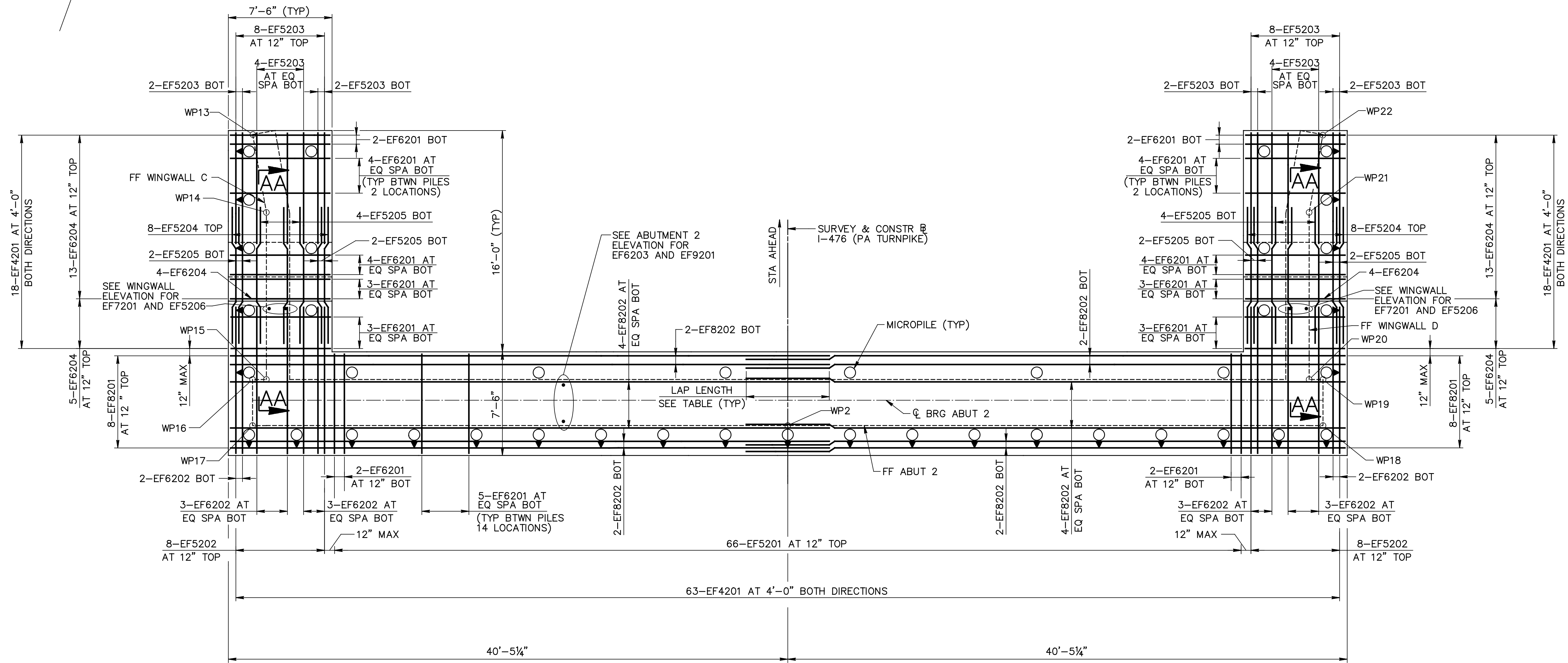
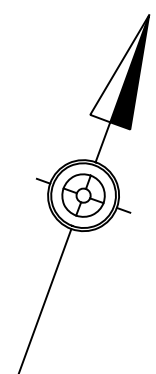
PREPARED FOR:
 THE PENNSYLVANIA
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NO.	REVISIONS	DATE	APPR.

WBS NO. A-057.66S002-3-02
NETWORK NUMBER: 7004121
FILE NAME: 03555Tabt2estplquan.dgn
DRAWING TYPE: 2G
STRUCTURE NUMBER: NB-355
SCALE:

BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66		ABUTMENT 2 - ESTIMATED PILE QUANTITIES	
DISTRICT: 5	COUNTY: LEHIGH	DRAWING: 22	OF 69
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP		SHEET: 59	OF 116



REINFORCEMENT PLAN - ABUTMENT 2

LAP LENGTHS	
#5 TOP	3'-7"
#5 BOT	2'-7"
#8 TOP	8'-2"
#8 BOT	5'-10"

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 39.
2. WORK THIS SHEET WITH SHEETS 57 TO 59, AND 61 TO 66.
3. FOR SECTION AA-AA, SEE SHEET 62.
4. FOR REINFORCEMENT SCHEDULE, SEE SHEET 65.
5. ALL BAR SPACINGS SHOWN ARE MAXIMUMS.

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 MODEL SHEET FILE

DES: DCL DWG: MM CKD: DGS



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355Stabftpln2.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355
 SCALE: 2 0 2 4 FEET

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

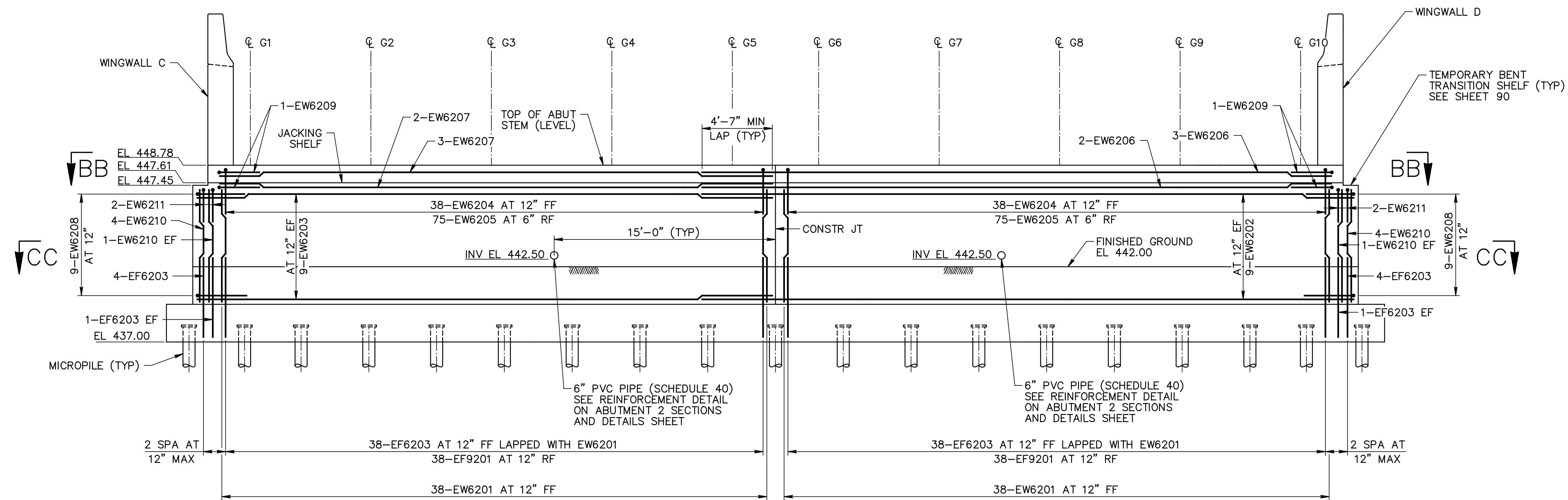
DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

ABUTMENT 2 - REINFORCEMENT PLAN

DRAWING: 23 OF 69
 SHEET: 60 OF 116

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.pltsg PLOT DATE: 09-02-2016 3:32:16 PM
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 MODEL SHEET FILE

DES: DCL DWG: MM CKD: DGS



ELEVATION - ABUTMENT 2

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 39.
2. WORK THIS SHEET WITH SHEETS 57 TO 60, AND 62 TO 66.
3. FOR VIEW BB-BB AND SECTION CC-CC, SEE SHEET 62.
4. FOR REINFORCEMENT SCHEDULE, SEE SHEET 65.
5. ALL BAR SPACINGS SHOWN ARE MAXIMUMS.



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 0355Stab2 elev2.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355

SCALE: 2 0 2 4 FEET

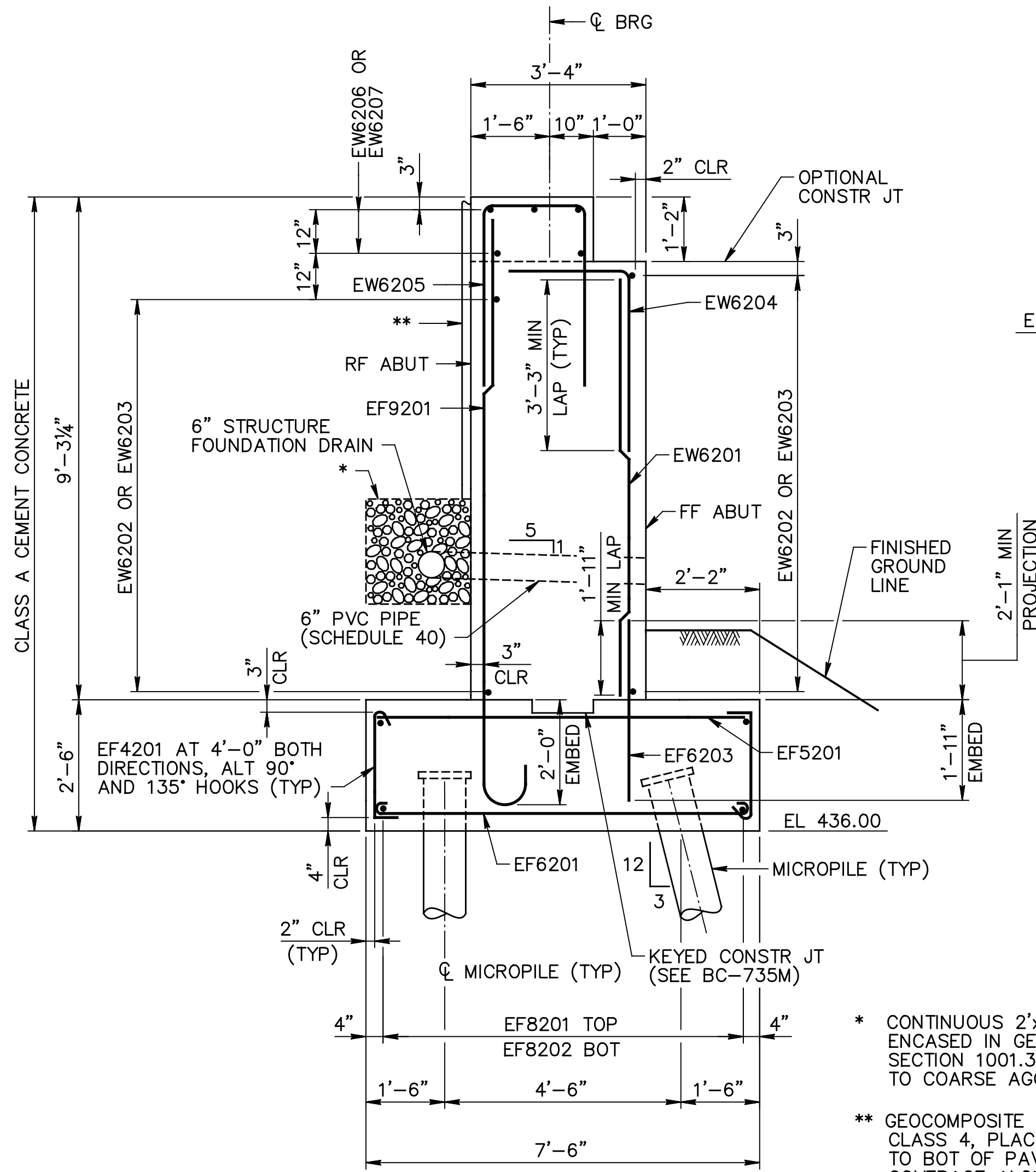
**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

ABUTMENT 2 - ELEVATION

DRAWING: 24 OF 69
 SHEET: 61 OF 116

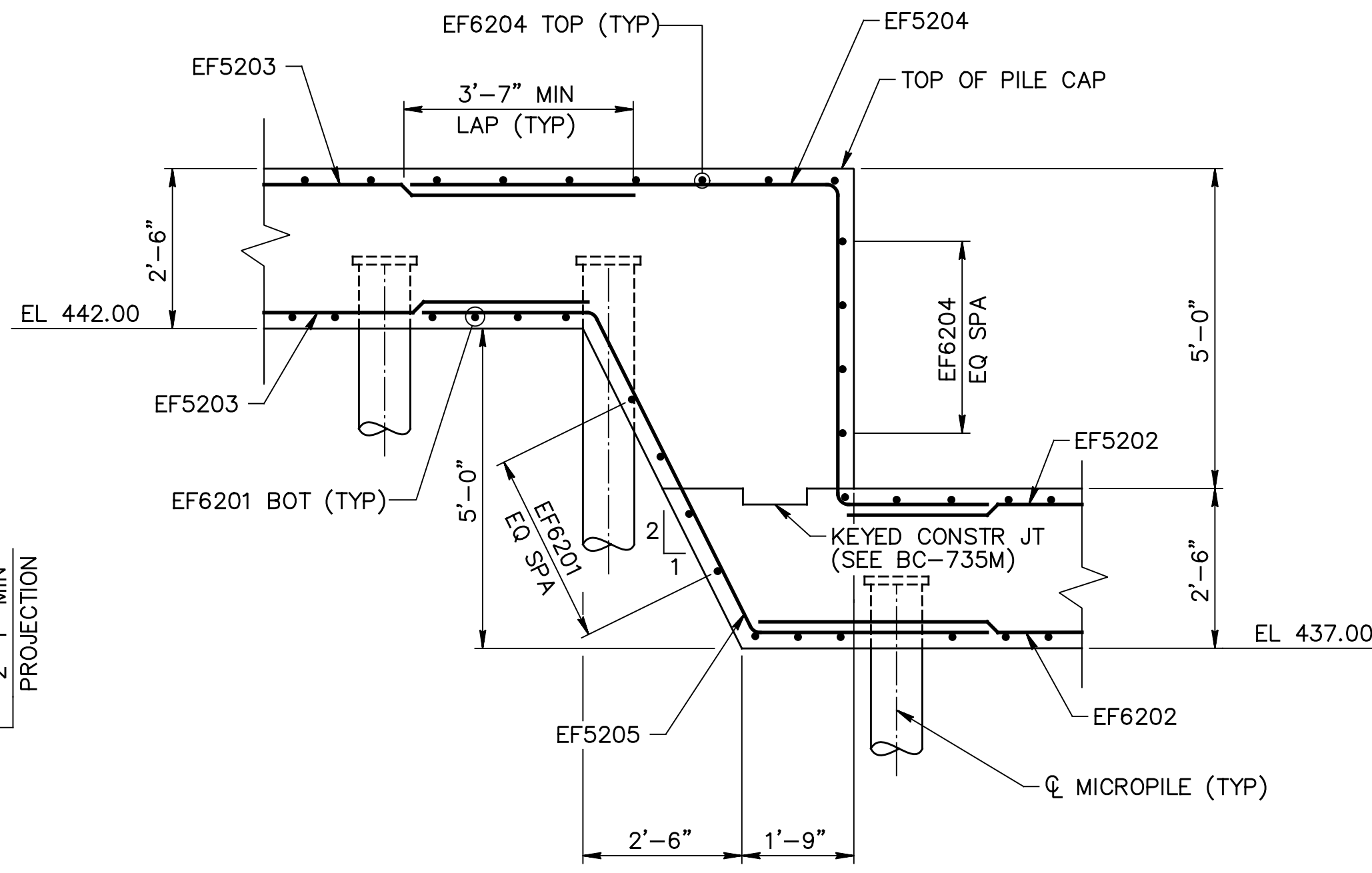
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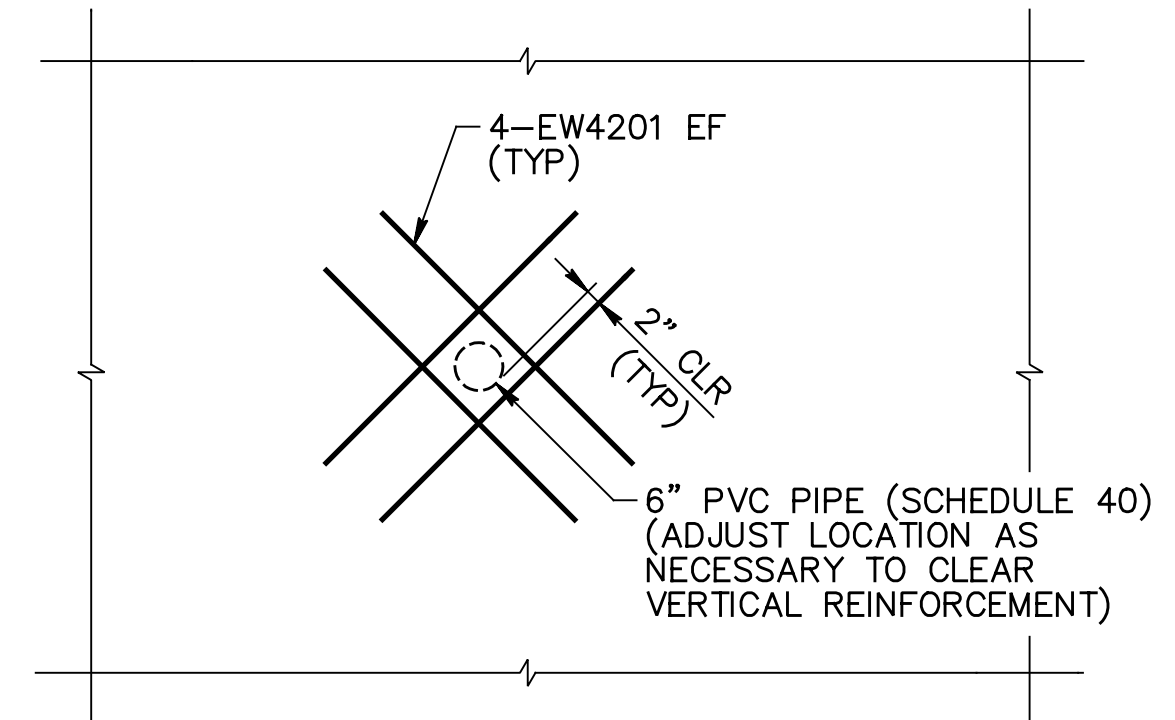
TYPICAL ABUTMENT SECTION



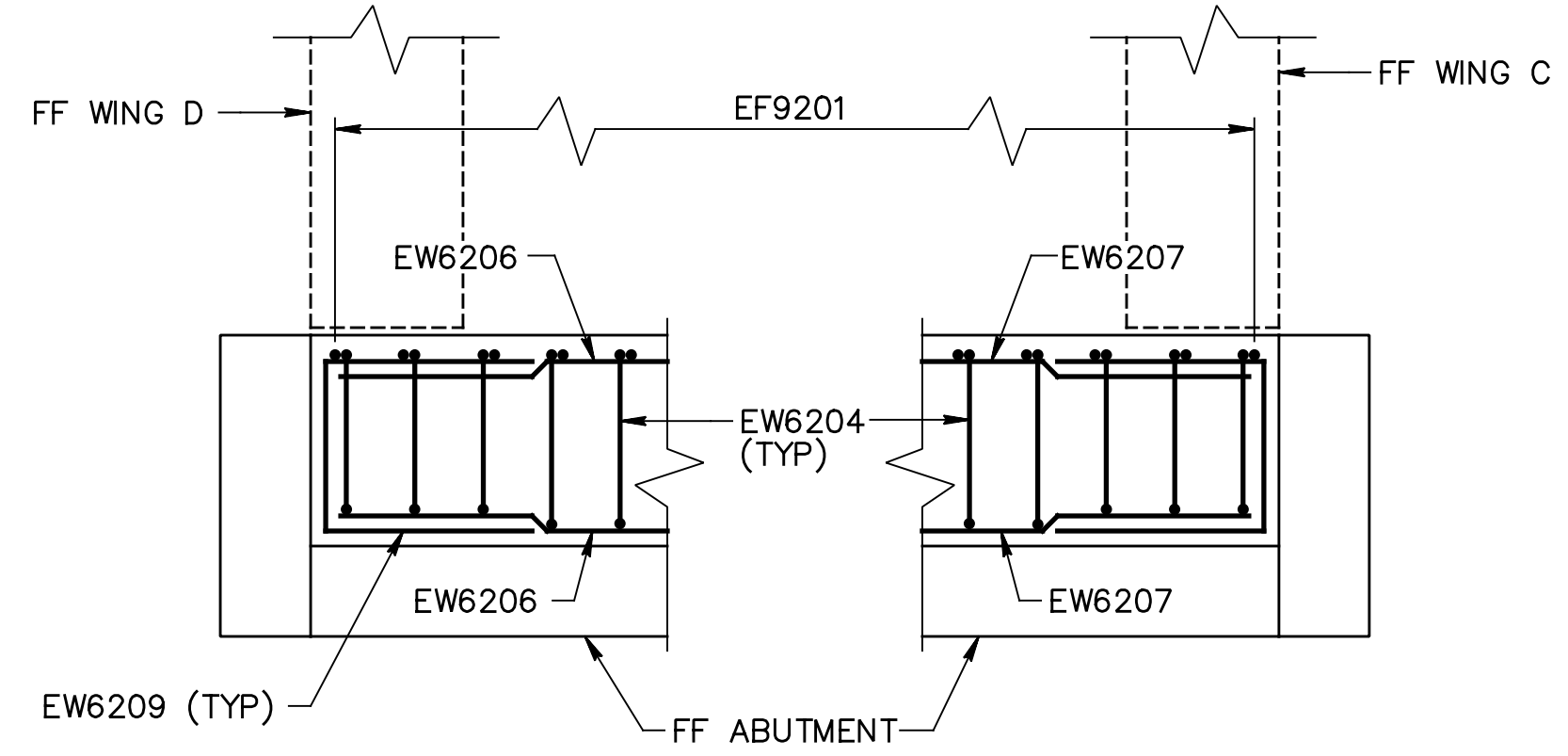
* CONTINUOUS 2'x2' NO. 57 AGGREGATE, ENCASED IN GEOTEXTILE, CLASS 1, SEE SECTION 1001.3 (d). (GEOTEXTILE INCIDENTAL TO COARSE AGGREGATE)
 ** GEOCOMPOSITE DRAIN AND GEOTEXTILE, CLASS 4, PLACE FROM TOP OF FOOTING TO BOT OF PAVEMENT AND PROVIDE 100% COVERAGE ALONG REAR FACE OF ABUTMENT, DIAPHRAGM, AND WINGWALLS



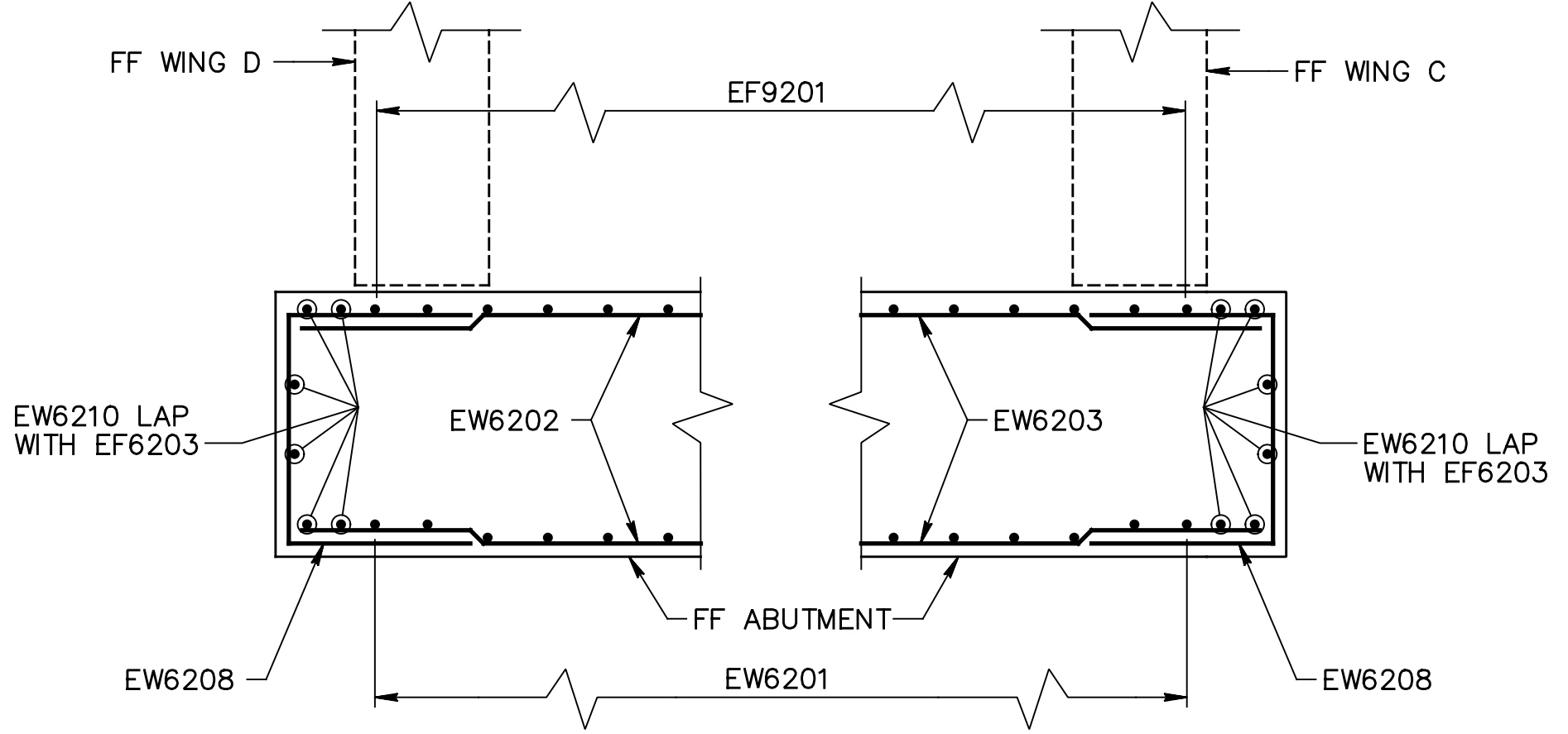
SECTION AA-AA



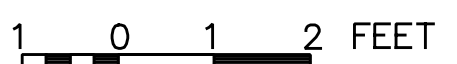
FOUNDATION DRAIN REINFORCEMENT DETAIL



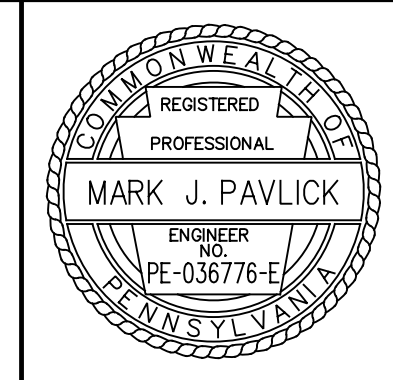
VIEW BB-BB



SECTION CC-CC



- NOTES:
- FOR GENERAL NOTES, SEE SHEET 39.
 - WORK THIS SHEET WITH SHEETS 57 TO 61, 63, 64, AND 66.
 - FOR REINFORCEMENT SCHEDULE, SEE SHEET 65.
 - FOR WATERPROOFING DETAIL AT ABUTMENT, SEE SHEET 53.
 - FOR ADDITIONAL WATERPROOFING DETAILS, REFER TO BC-788M.



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NO.	REVISIONS	DATE	APPR.	SCALE: AS SHOWN

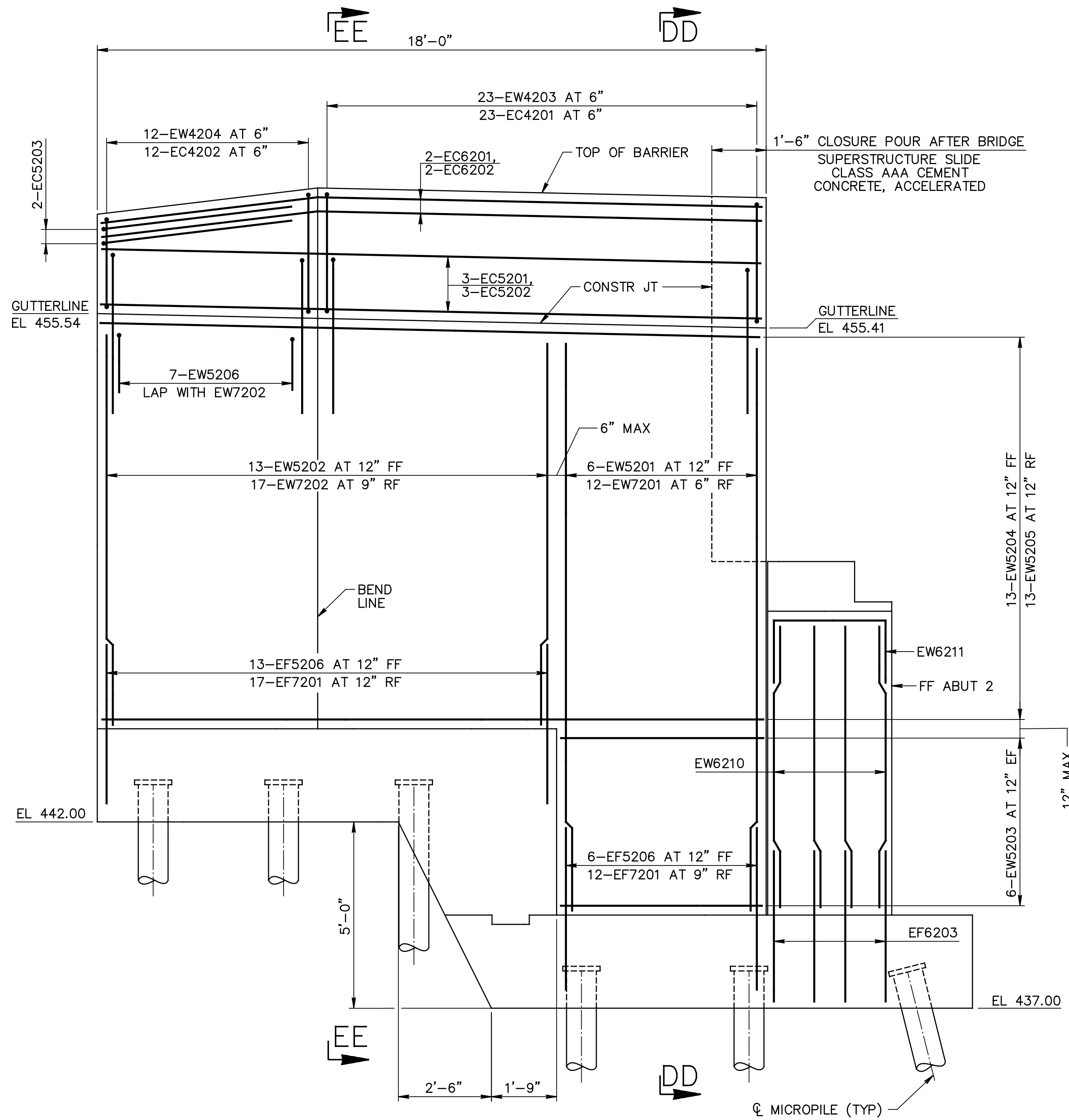
WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355Tabt2secdet.dgn
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 STRUCTURE NUMBER: NB-355

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66

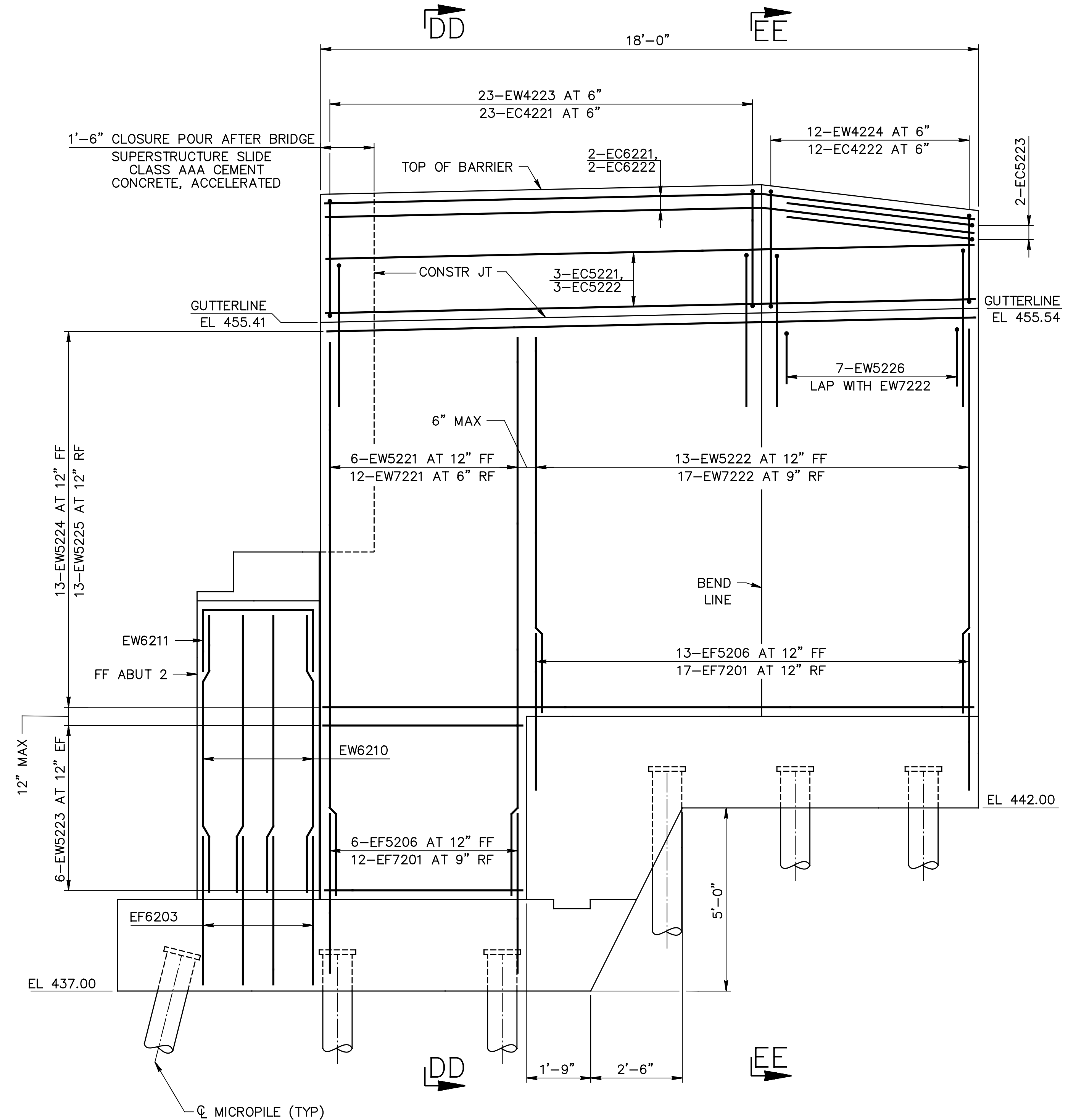
DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

ABUTMENT 2 - SECTIONS AND DETAILS

DRAWING: 25 OF 69
 SHEET: 62 OF 116



WINGWALL C ELEVATION
PILE CAP REINFORCEMENT NOT SHOWN FOR CLARITY

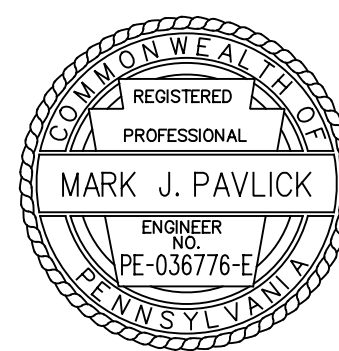


WINGWALL D ELEVATION
PILE CAP REINFORCEMENT NOT SHOWN FOR CLARITY

- NOTES:**
- FOR GENERAL NOTES, SEE SHEET 39.
 - WORK THIS SHEET WITH SHEETS 57 TO 62, 64, AND 66.
 - FOR SECTION DD-DD AND EE-EE, SEE SHEET 64.
 - FOR REINFORCEMENT SCHEDULE, SEE SHEET 65.
 - ALL BAR SPACINGS SHOWN ARE MAXIMUMS.

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:32:54 PM
 PATH: c:\pwworking\bit\1379599\ FILE: 0355Stab2wngwelev.dgn
 MODEL SHEET FILE

DES: DCL DWG: MM CKD: DGS



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 PITTSBURGH, PA 15222

PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 0355Stab2wngwelev.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355

SCALE: 1 0 1 2 FEET

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66

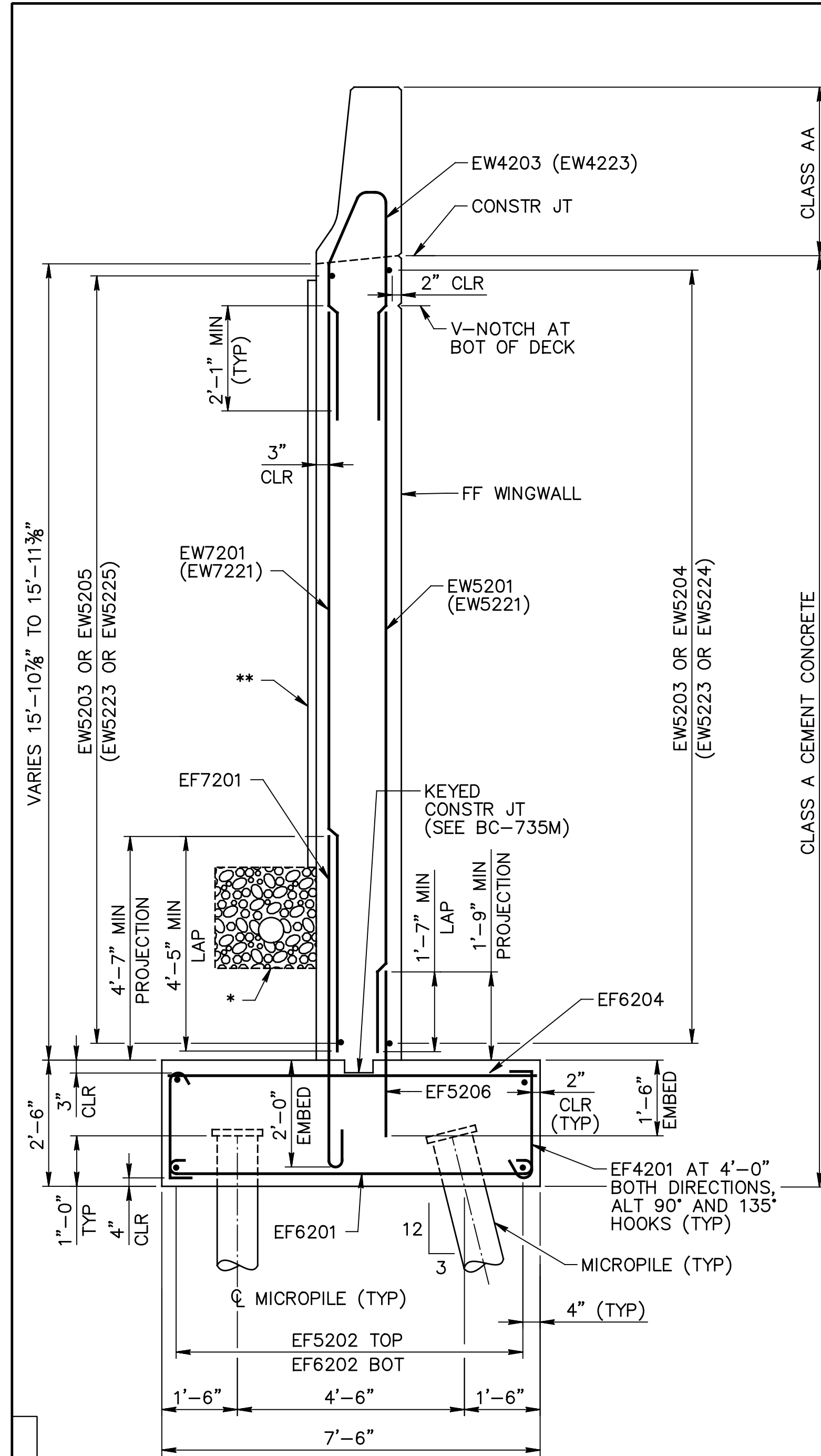
DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

ABUTMENT 2 - WINGWALL ELEVATIONS

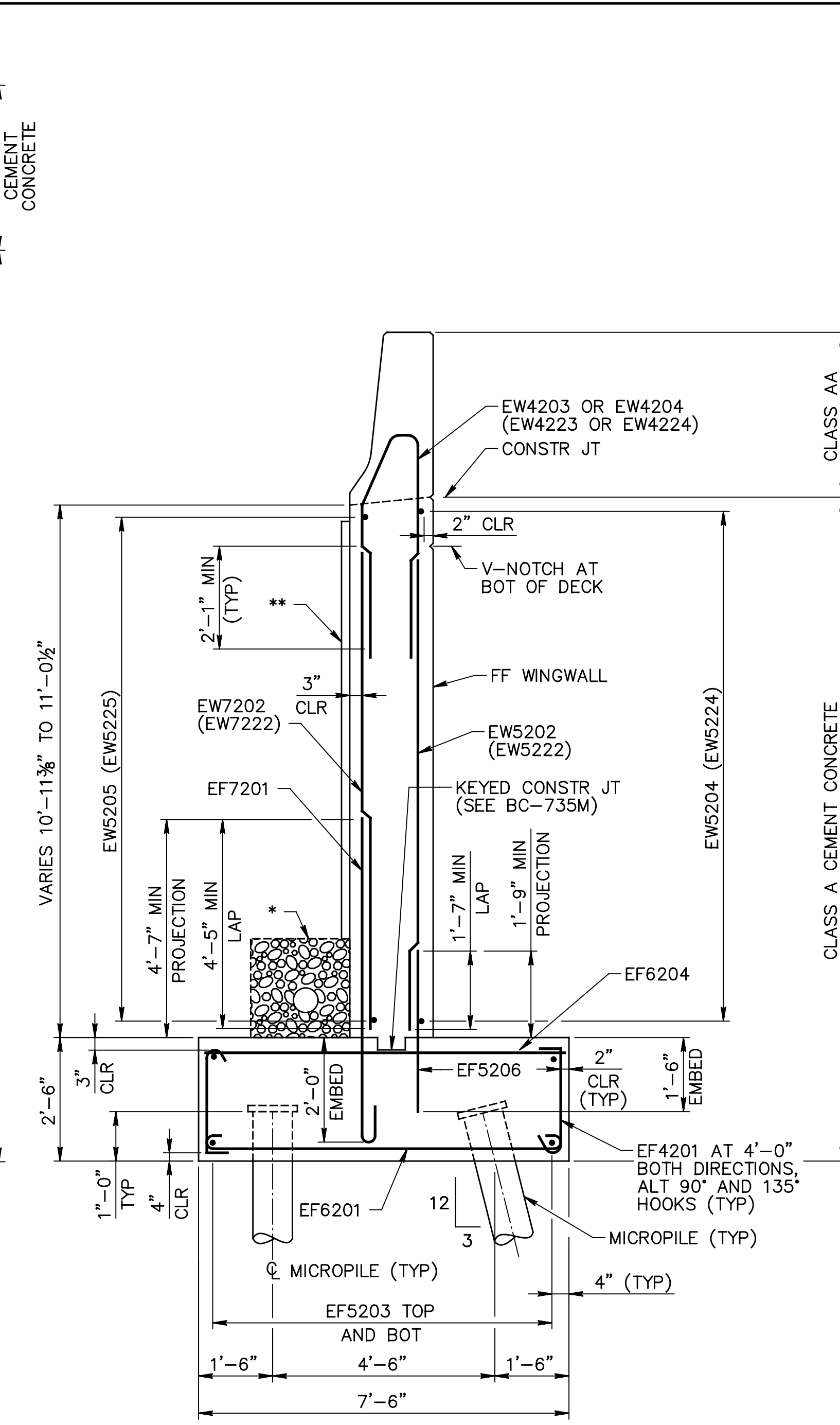
DRAWING: 26 OF 69
 SHEET: 63 OF 116

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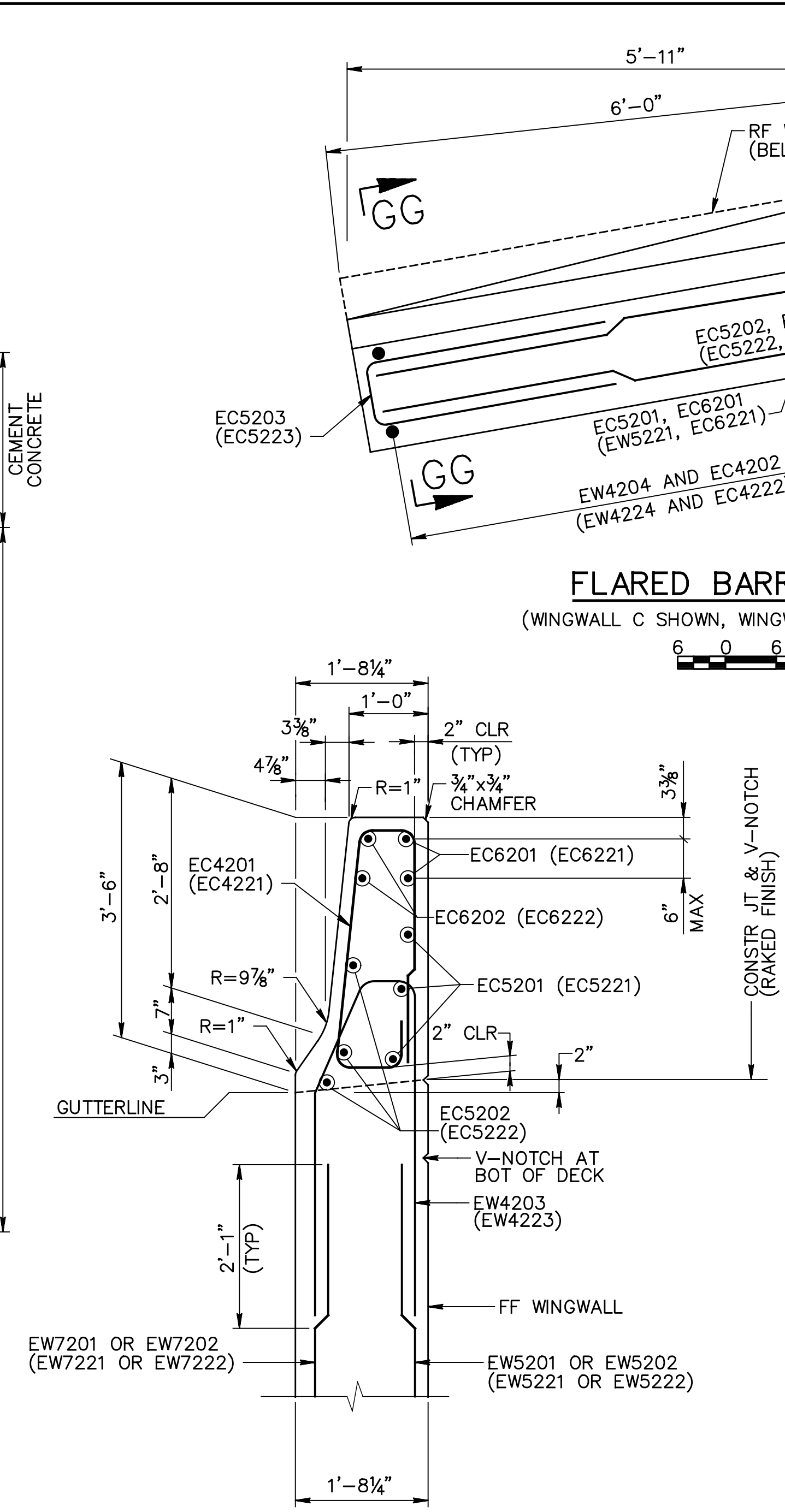
DES: DCL DWG: MM CKD: DGS



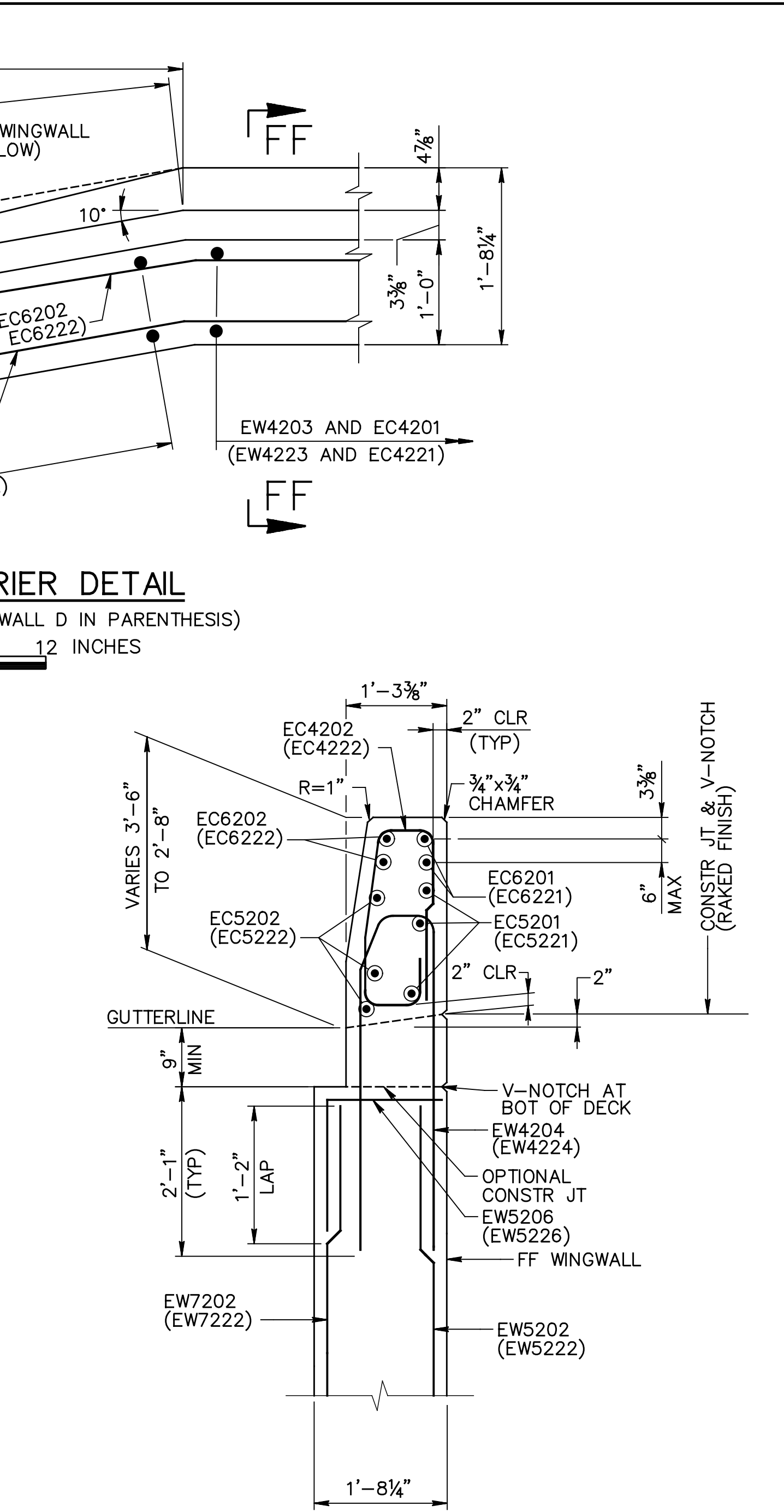
SECTION DD-DD
 (WINGWALL C SHOWN, WINGWALL D IN PARENTHESIS)
 (BARRIER REINFORCEMENT NOT SHOWN FOR CLARITY)
 1 0 1 2 FEET



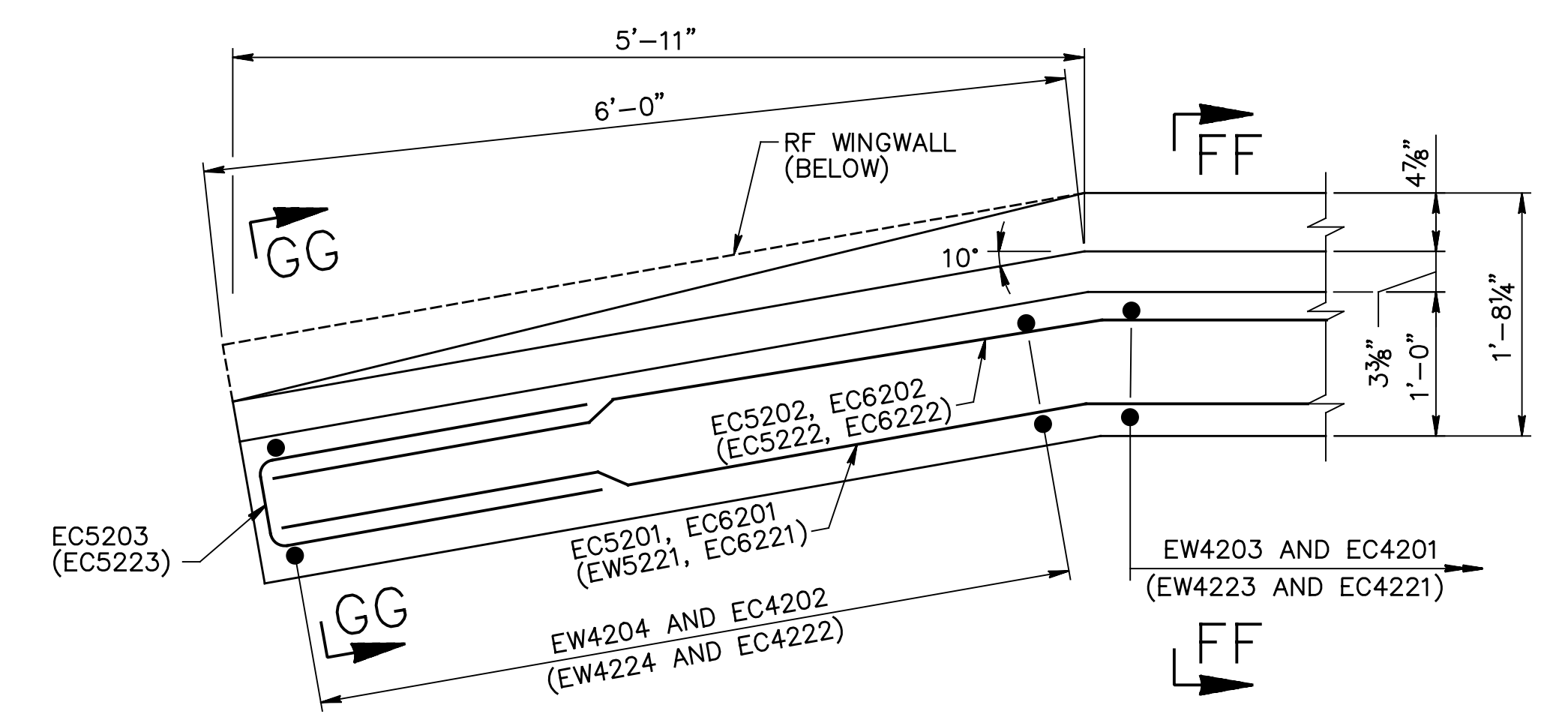
SECTION EE-EE
 (WINGWALL C SHOWN, WINGWALL D IN PARENTHESIS)
 (BARRIER REINFORCEMENT NOT SHOWN FOR CLARITY)
 1 0 1 2 FEET



SECTION FF-FF
 (WINGWALL C SHOWN, WINGWALL D IN PARENTHESIS)
 (WINGWALL REINFORCEMENT NOT SHOWN FOR CLARITY)
 12 0 12 INCHES



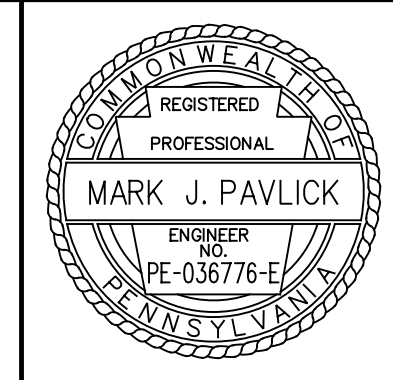
SECTION GG-GG
 (WINGWALL C SHOWN, WINGWALL D IN PARENTHESIS)
 (WINGWALL REINFORCEMENT NOT SHOWN FOR CLARITY)
 12 0 12 INCHES



FLARED BARRIER DETAIL
 (WINGWALL C SHOWN, WINGWALL D IN PARENTHESIS)
 6 0 6 12 INCHES

- * CONTINUOUS 2'x2' NO. 57 AGGREGATE, ENCASED IN GEOTEXTILE, CLASS 1, SEE SECTION 1001.3 (d). (GEOTEXTILE INCIDENTAL TO COARSE AGGREGATE)
- ** GEOCOMPOSITE DRAIN AND GEOTEXTILE, CLASS 4, PLACE FROM TOP OF FOOTING TO BOT OF PAVEMENT AND PROVIDE 100% COVERAGE ALONG REAR FACE OF ABUTMENT, DIAPHRAGM, AND WINGWALLS

- NOTES:**
1. FOR GENERAL NOTES, SEE SHEET 39.
 2. WORK THIS SHEET WITH SHEETS 57 TO 63, AND 66.
 3. FOR REINFORCEMENT SCHEDULE, SEE SHEET 65.



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 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 03555Tab2wngwsec.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355

SCALE: AS SHOWN

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

ABUTMENT 2 - WINGWALL SECTIONS AND DETAILS

DRAWING: 27 OF 69
 SHEET: 64 OF 116

REINFORCEMENT BAR SCHEDULE

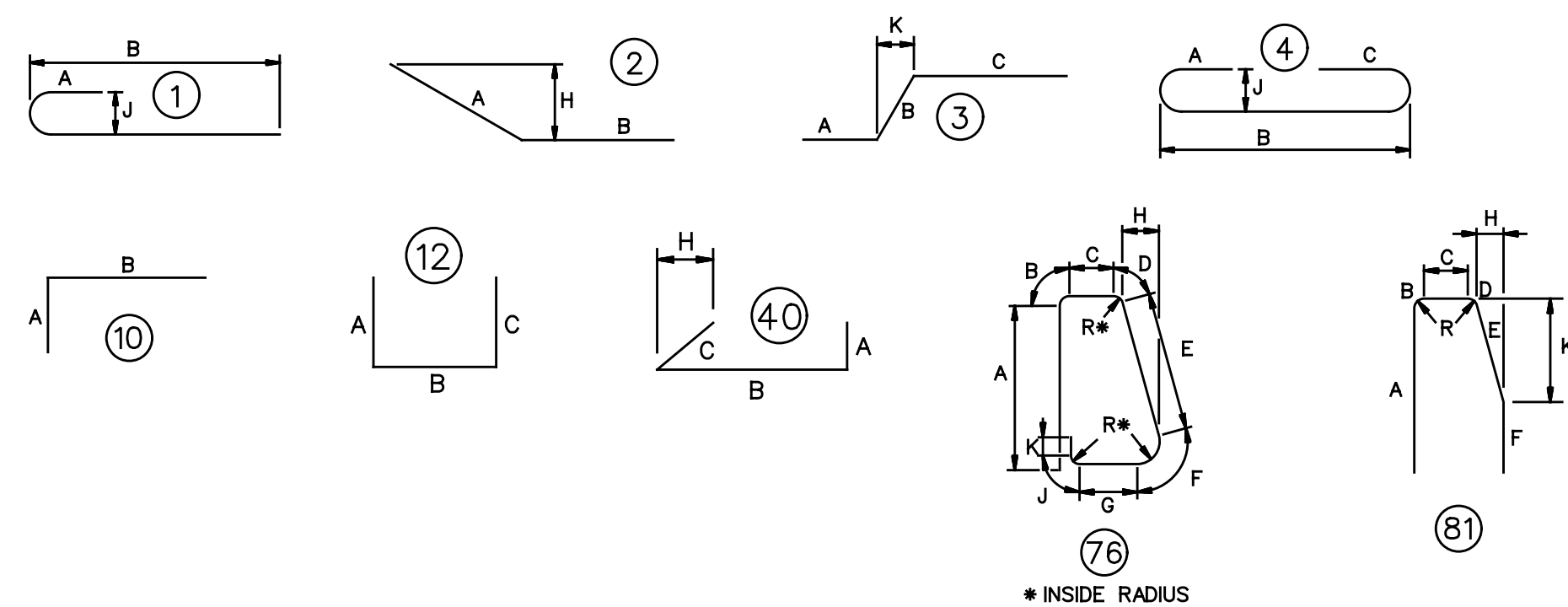
MARK	SIZE	LENGTH	NO.	TYPE	A	B	C	D	E	F	G	H	J	K	R	REMARKS
ABUTMENT 2																
EF4201	4	2'-8	99	40	4 1/2"	1'-11	4 1/2"									3"
EF5201	5	7'-0	66	STR												
EF5202	5	11'-0	16	STR												
EF5203	5	10'-2	32	STR												
EF5204	5	14'-2	16	3	3'-7	5'-0	5'-7							0"		
EF5205	5	10'-9	16	3	2'-7	5'-7	2'-7							2'-6		
EF5206	5	3'-3	38	STR												
EF6201	6	8'-4	114	4	8"	7'-0	8"							6"		
EF6202	6	13'-2	16	1	8"	12'-6								6"		
EF6203	6	4'-0	88	STR												
EF6204	6	7'-0	44	STR												
EF7201	7	7'-4 1/2	58	1	10"	6'-6 1/2								7"		
EF8201	8	44'-5	16	STR												
EF8202	8	43'-3	16	STR												
EF9201	9	12'-4 1/4	76	1	1'-3	11'-1 1/4								11 3/4"		
EW4201	4	3'-6	16	STR												
EW4203	4	9'-7 3/4	23	81	4'-3	4"	4"	2 3/4"	1'-5	3'-1		7 1/2"		1'-3 1/4	2"	
EW4204	4	VARIES 9'-6 3/4 TO 9'-7 3/4	12	81	4'-3	4"	4"	2 3/4"	VARY 6" TO 1'-5	VARY 3'-11 TO 3'-1		VARY 2" TO 7 1/2"		VARY 5 5/8" TO 1'-3 1/4	2"	VARY E 1"; VARY F 1/8"; VARY K 1/8"; VARY H 1/2"
EW4223	4	9'-7 3/4	23	81	4'-3	4"	4"	2 3/4"	1'-5	3'-1		7 1/2"		1'-3 1/4	2"	
EW4224	4	VARIES 9'-6 3/4 TO 9'-7 3/4	12	81	4'-3	4"	4"	2 3/4"	VARY 6" TO 1'-5	VARY 3'-11 TO 3'-1		VARY 2" TO 7 1/2"		VARY 5 5/8" TO 1'-3 1/4	2"	VARY E 1"; VARY F 1/8"; VARY K 1/8"; VARY H 1/2"
EW5201	5	14'-11	6	STR												
EW5202	5	9'-10	13	STR												
EW5203	5	5'-4	12	STR												
EW5204	5	17'-6	13	2	5'-9	11'-9						1'-0				
EW5205	5	17'-8	13	2	5'-11	11'-9						1'-0 3/8				
EW5206	5	2'-4 1/4	7	10	1'-2	1'-2 1/4										
EW5221	5	14'-11	6	STR												
EW5222	5	9'-10	13	STR												
EW5223	5	5'-4	12	STR												
EW5224	5	17'-6	13	2	5'-9	11'-9						1'-0				
EW5225	5	17'-8	13	2	5'-11	11'-9						1'-0 3/8				
EW5226	5	2'-4 1/4	7	10	1'-2	1'-2 1/4										
EW6201	6	7'-9	76	STR												
EW6202	6	43'-3	18	STR												
EW6203	6	38'-4	18	STR												
EW6204	6	8'-5	76	12	3'-3	1'-11	3'-3									
EW6205	6	6'-0	150	10	2'-9	3'-3										
EW6206	6	42'-3	5	STR												

REINFORCEMENT BAR SCHEDULE

MARK	SIZE	LENGTH	NO.	TYPE	A	B	C	D	E	F	G	H	J	K	R	REMARKS
ABUTMENT 2 (CONTINUED)																
EW6207	6	37'-4	5	STR												
EW6208	6	9'-3 3/4	18	12	3'-3	2'-9 3/4	3'-3									
EW6209	6	8'-3 3/4	4	12	3'-3	1'-9 3/4	3'-3									
EW6210	6	7'-7 1/4	12	STR												
EW6211	6	9'-4 1/4	4	12	3'-3	2'-10 1/4	3'-3									
EW7201	7	14'-11	12	STR												
EW7202	7	9'-10	17	STR												
EW7221	7	14'-11	12	STR												
EW7222	7	9'-10	17	STR												
EC4201	4	8'-0 1/8	23	76	2'-9 1/2	4"	3 3/8"	3 5/8"	2'-7 3/4	4 1/8"	6 3/4"	3 3/8"	4"	5"	2"	
EC4202	4	VARIES 6'-3 1/8 TO 7'-10 1/4	12	76	VARY 1'-11 1/2 TO 2'-8 5/8	4"	3 3/8"	3 5/8"	VARY 1'-10 TO 2'-6 1/8	4 1/8"	VARY 5 1/2" TO 6 5/8"	VARY 2 3/4" TO 3 3/8"	4"	5"	2"	VARY A 3/4"; VARY E 3/4"; VARY G 1/8"; VARY H 1/16"
EC4221	4	8'-0 1/8	23	76	2'-9 1/2	4"	3 3/8"	3 5/8"	2'-7 3/4	4 1/8"	6 3/4"	3 3/8"	4"	5"	2"	
EC4222	4	VARIES 6'-3 1/8 TO 7'-10 1/4	12	76	VARY 1'-11 1/2 TO 2'-8 5/8	4"	3 3/8"	3 5/8"	VARY 1'-10 TO 2'-6 1/8	4 1/8"	VARY 5 1/2" TO 6 5/8"	VARY 2 3/4" TO 3 3/8"	4"	5"	2"	VARY A 3/4"; VARY E 3/4"; VARY G 1/8"; VARY H 1/16"
EC5201	5	17'-4	3	2	5'-8	11'-8										1'-0
EC5202	5	17'-6	3	2	5'-10	11'-8										1'-4 1/2
EC5203	5	5'-7	2	12	2'-6	7"			2'-6							
EC5221	5	17'-4	3	2	5'-8	11'-8										1'-0
EC5222	5	17'-6	3	2	5'-10	11'-8										1'-4 1/2
EC5223	5	5'-7	2	12	2'-6	7"			2'-6							
EC6201	6	17'-4	2	2	5'-8	11'-8										1'-0
EC6202	6	17'-6	2	2	5'-9	11'-9										1'-0
EC6221	6	17'-4	2	2	5'-8	11'-8										1'-0
EC6222	6	17'-6	2	2	5'-9	11'-9										1'-0

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 MODEL SHEET FILE

DES: DCL
 DWG: DMW
 CKD: DGS



REINFORCEMENT BARS NOTES:

- "E" IN BAR MARK INDICATES EPOXY COATED BARS.
- ALL DIMENSIONS ARE OUT-TO-OUT OF BAR EXCEPT "A" AND "C" ON STANDARD 135° AND 180° HOOKS, AND "R" WHICH IS SHOWN TO THE INSIDE OF THE BAR.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.

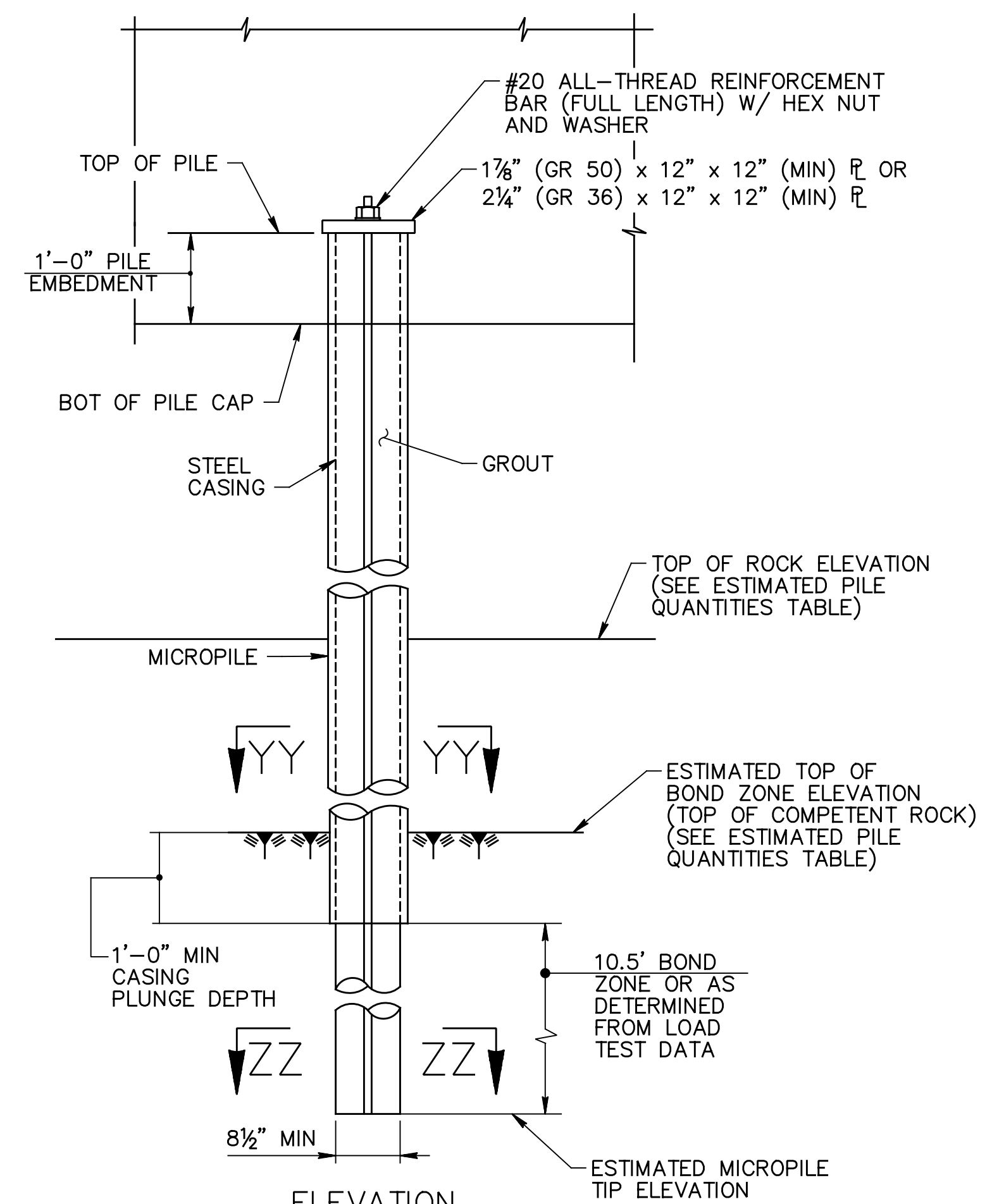
NOTES:

- FOR GENERAL NOTES, SEE SHEET 39.

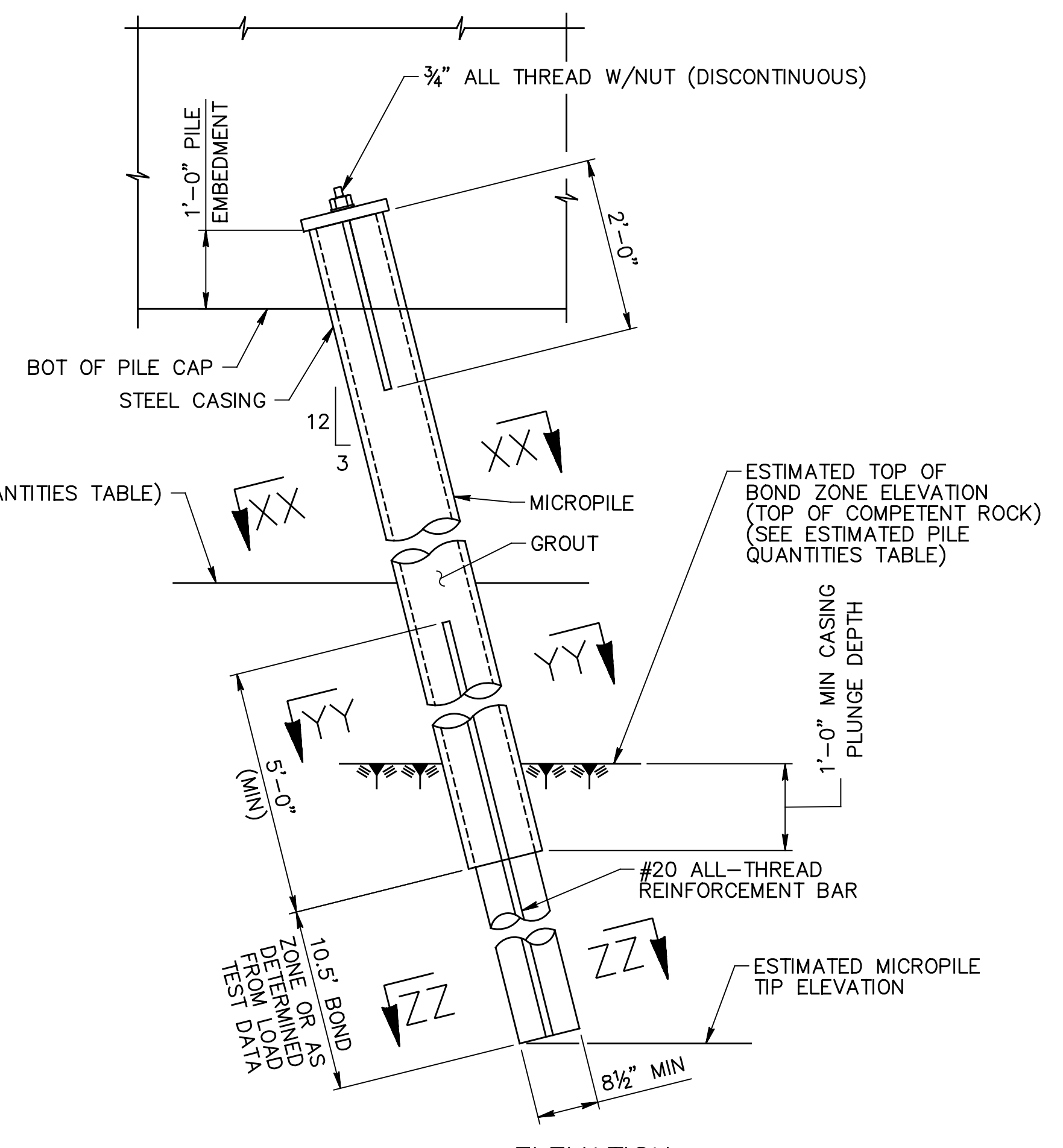
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	PREPARED FOR: THE PENNSYLVANIA TURNPIKE COMMISSION		NETWORK NUMBER: 7004121		
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			SCALE: NO SCALE		
	DISTRICT: 5 COUNTY: LEHIGH		TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP	DRAWING: 28 OF 69 SHEET: 65 OF 116	

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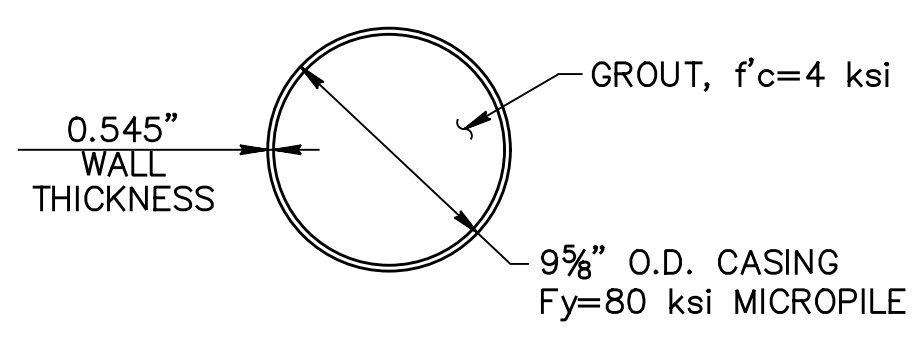


ELEVATION
VERTICAL MICROPILE DETAIL

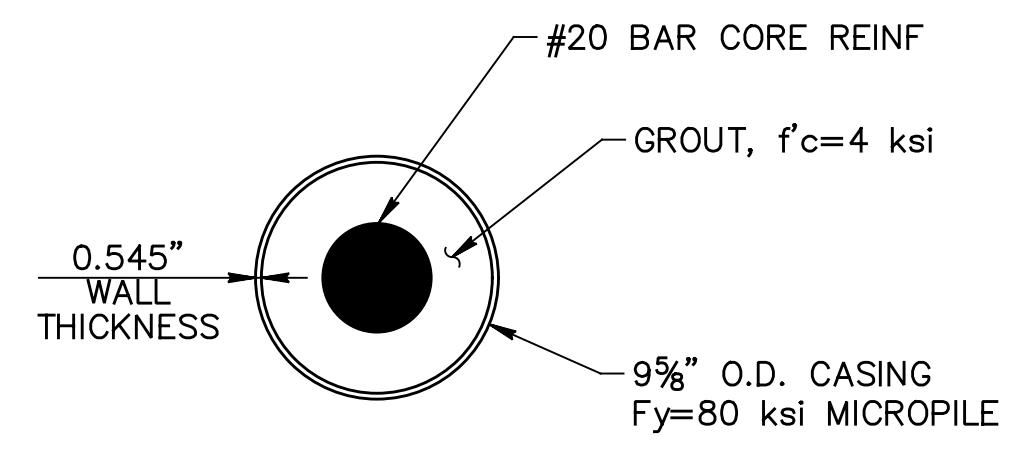


ELEVATION
BATTERED MICROPILE DETAIL

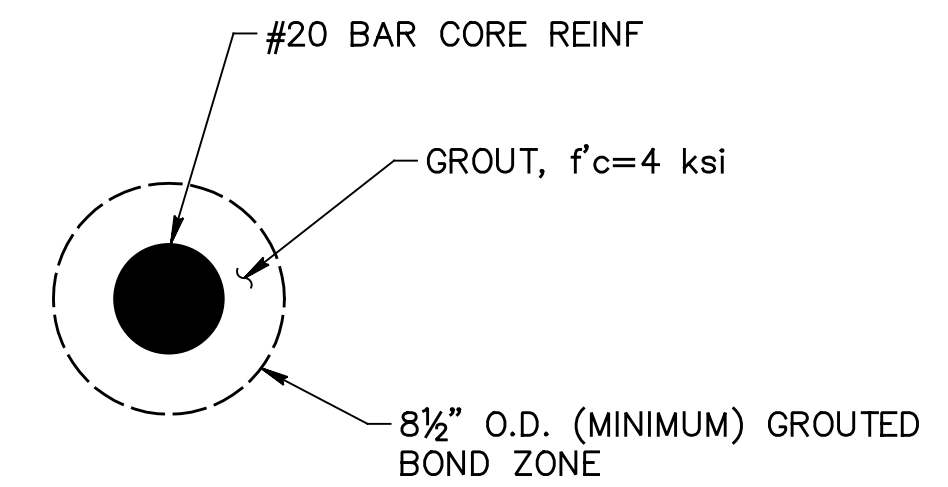
SEE VERTICAL MICROPILE DETAILS FOR INFORMATION NOT SHOWN



SECTION XX-XX
 NOT TO SCALE



SECTION YY-YY
 NOT TO SCALE



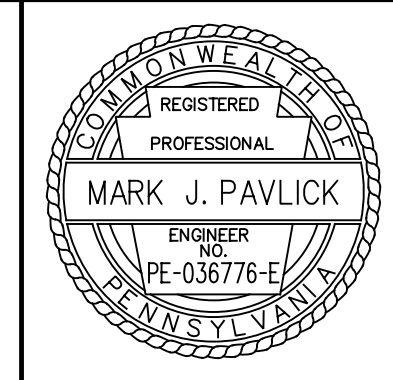
SECTION ZZ-ZZ
 NOT TO SCALE

FOUNDATION PARAMETERS (KIPS)		
STATIC LOADS: (KIPS)		
AXIAL PILE COMPRESSION RESISTANCE =	300 KIPS	STRENGTH I
MAXIMUM DESIGN AXIAL PILE LOAD =	287 KIPS	
PILE UPLIFT RESISTANCE =	-130 KIPS	STRENGTH I
MINIMUM DESIGN AXIAL PILE LOAD =	-89 KIPS	
PILE LATERAL RESISTANCE † =	0	
MAXIMUM DESIGN LATERAL PILE LOAD =	N/A	
MAXIMUM SERVICE AXIAL PILE LOAD =	195 KIPS	SERV-1

† LATERAL CAPACITY OF MICROPILES NEGLECTED. BATTERED MICROPILES USED TO PROVIDE LATERAL RESISTANCE.

NOTES:

- FOR GENERAL NOTES, SEE SHEET 39.
- FOR ABUTMENT 1 PILE LAYOUT PLAN, SEE SHEET 49.
- FOR ABUTMENT 2 PILE LAYOUT PLAN, SEE SHEET 58.
- FOR ESTIMATED PILE QUANTITIES TABLE, SEE SHEET 50 AND 59.
- FOR MICROPILE NOTES, SEE SHEET 40.



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121

FILE NAME: 03555Tmicropildet.dgn

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STRUCTURE NUMBER: NB-355

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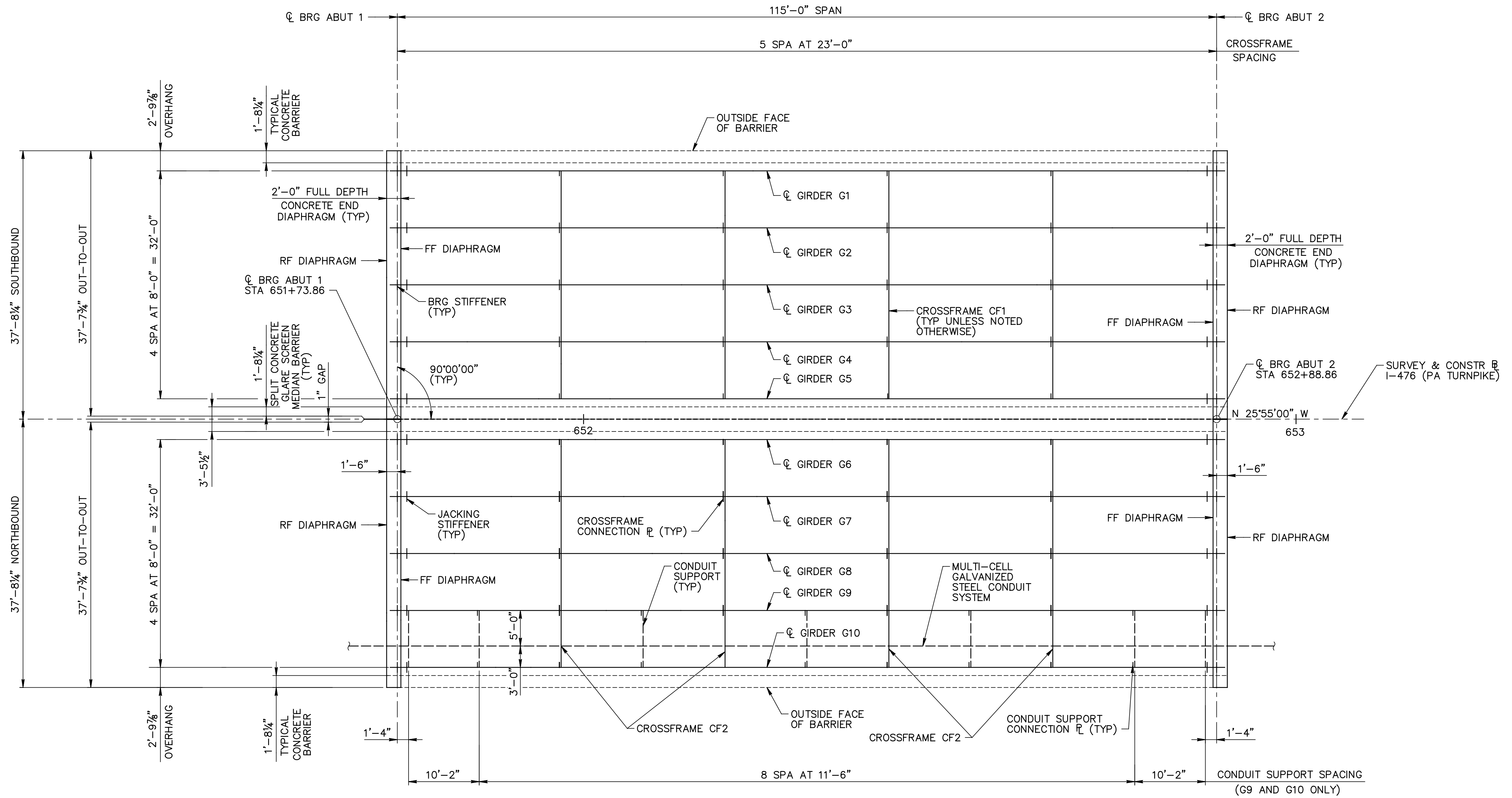
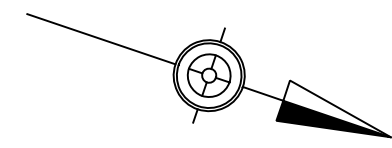
BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66

DISTRICT: 5 COUNTY: LEHIGH

TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

ABUTMENT MICROPILE DETAILS

DRAWING: 29 OF 69
 SHEET: 66 OF 116

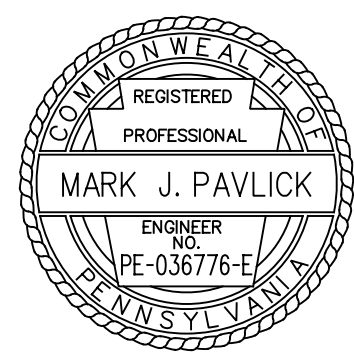


FRAMING PLAN

- NOTES:
1. FOR GENERAL NOTES, SEE SHEET 39.
 2. FOR END DIAPHRAGM DETAILS, SEE SHEET 75.
 3. FOR BEARING DETAILS, SEE SHEETS 72 AND 73.
 4. WORK THIS SHEET WITH SHEETS 68 TO 71.

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DES: DCL DWG: MM CKD: NL



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A-057.66S002-3-02

NETWORK NUMBER: 7004121
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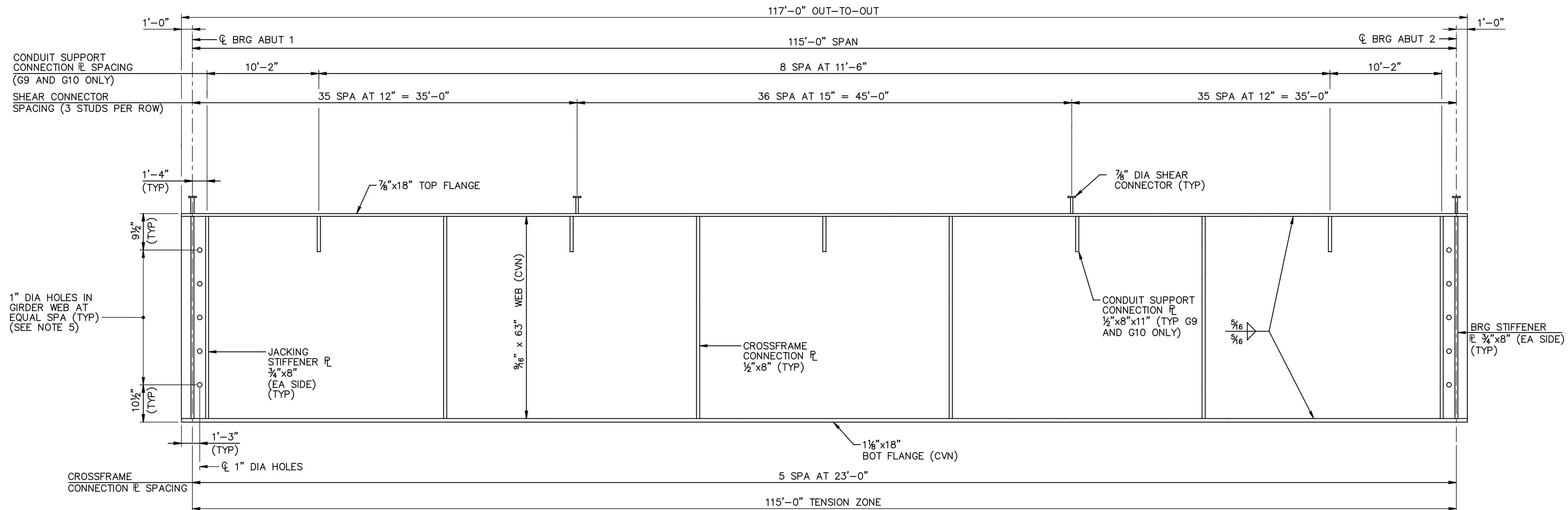
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**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

FRAMING PLAN

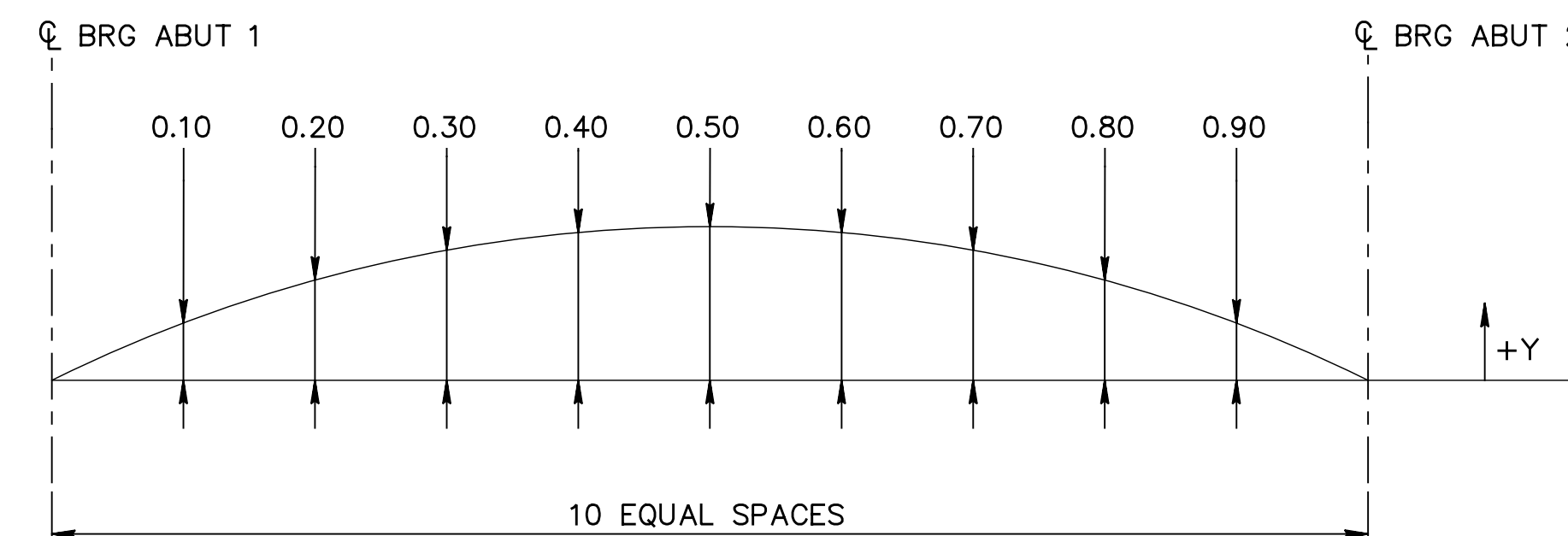
DRAWING: 30 OF 69
 SHEET: 67 OF 116



TYPICAL GIRDER ELEVATION

CAMBER ORDINATES - "Y" IN INCHES

GIRDER	CAMBER	CL BRG ABUT 1	CAMBER ORDINATES - "Y" IN INCHES										CL BRG ABUT 2
			0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90		
G1 AND G10	A	0.00	0.24	0.45	0.61	0.72	0.75	0.72	0.61	0.45	0.24	0.00	
	B	0.00	0.74	1.39	1.91	2.24	2.35	2.24	1.91	1.39	0.74	0.00	
	C	0.00	0.18	0.34	0.47	0.55	0.58	0.55	0.47	0.34	0.18	0.00	
	D	0.00	1.16	2.18	2.99	3.51	3.68	3.51	2.99	2.18	1.16	0.00	
G2 AND G9	A	0.00	0.23	0.44	0.60	0.71	0.74	0.71	0.60	0.44	0.23	0.00	
	B	0.00	0.84	1.59	2.17	2.54	2.67	2.54	2.17	1.59	0.84	0.00	
	C	0.00	0.17	0.33	0.45	0.53	0.56	0.53	0.45	0.33	0.17	0.00	
	D	0.00	1.24	2.36	3.22	3.78	3.97	3.78	3.22	2.36	1.24	0.00	
G3 AND G8	A	0.00	0.23	0.44	0.60	0.71	0.74	0.71	0.60	0.44	0.23	0.00	
	B	0.00	0.83	1.56	2.14	2.51	2.63	2.51	2.14	1.56	0.83	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	1.06	2.00	2.74	3.22	3.37	3.22	2.74	2.00	1.06	0.00	
G4 AND G7	A	0.00	0.23	0.44	0.60	0.71	0.74	0.71	0.60	0.44	0.23	0.00	
	B	0.00	0.83	1.56	2.14	2.51	2.63	2.51	2.14	1.56	0.83	0.00	
	C	0.00	0.20	0.38	0.52	0.61	0.64	0.61	0.52	0.38	0.20	0.00	
	D	0.00	1.26	2.38	3.26	3.83	4.01	3.83	3.26	2.38	1.26	0.00	
G5 AND G6	A	0.00	0.24	0.45	0.61	0.72	0.75	0.72	0.61	0.45	0.24	0.00	
	B	0.00	0.74	1.39	1.90	2.23	2.34	2.23	1.90	1.39	0.74	0.00	
	C	0.00	0.21	0.40	0.54	0.64	0.67	0.64	0.54	0.40	0.21	0.00	
	D	0.00	1.19	2.24	3.05	3.59	3.76	3.59	3.05	2.24	1.19	0.00	



GIRDER CAMBER DIAGRAM

CAMBER ORDINATES LEGEND

- A = CAMBER DUE TO DEAD LOAD OF STEEL
- B = CAMBER DUE TO DECK CONCRETE AND FORMS
- C = CAMBER DUE TO SUPERIMPOSED DEAD LOAD OF CONCRETE BARRIER
- D = TOTAL CAMBER (A+B+C)

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 39.
2. WORK THIS SHEET WITH SHEETS 67 AND 69 TO 71.
3. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEETS 74 TO 76.
4. REFER TO BC-753M FOR ADDITIONAL DETAILS NOT SHOWN.
5. ADJUST SPACING OF 1" DIA HOLES IN GIRDER WEBS AS REQUIRED FOR DIAPHRAGM REINFORCEMENT TO CLEAR THE CONDUIT PIPE SLEEVE BETWEEN G9 AND G10.

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 MODEL SHEET FILE

DES: DCL DWG: MM CKD: NL



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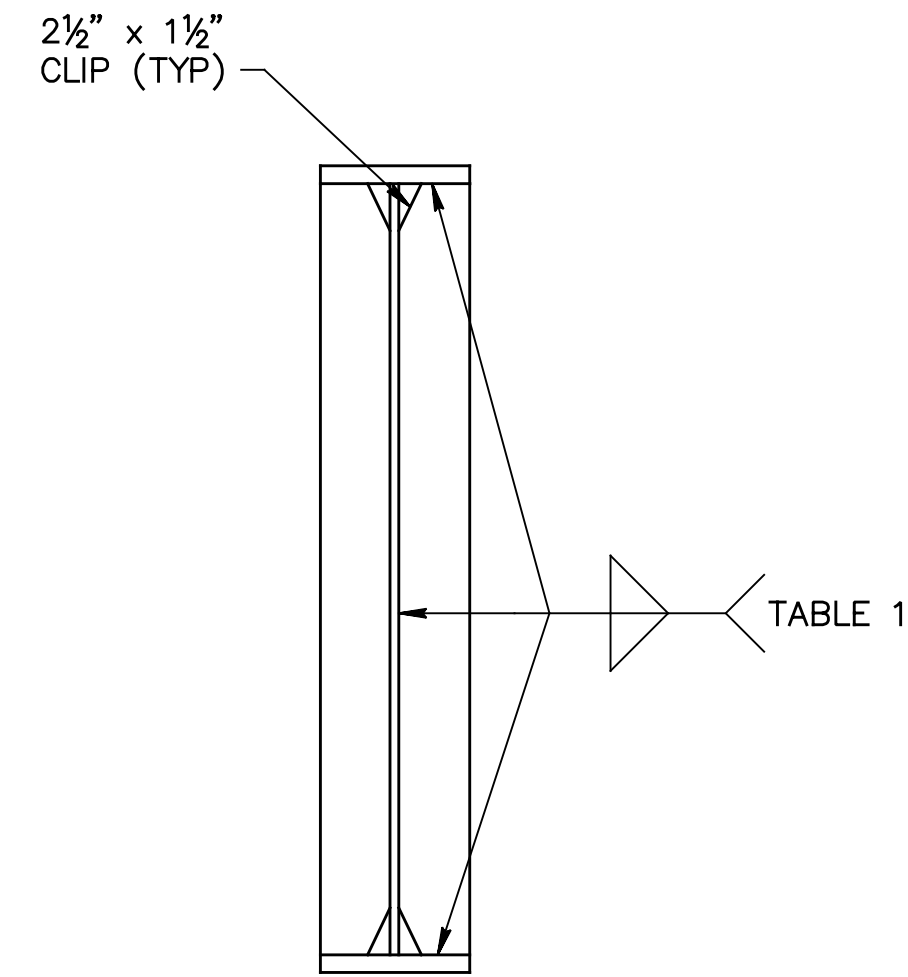


NO.	REVISIONS	DATE	APPR.

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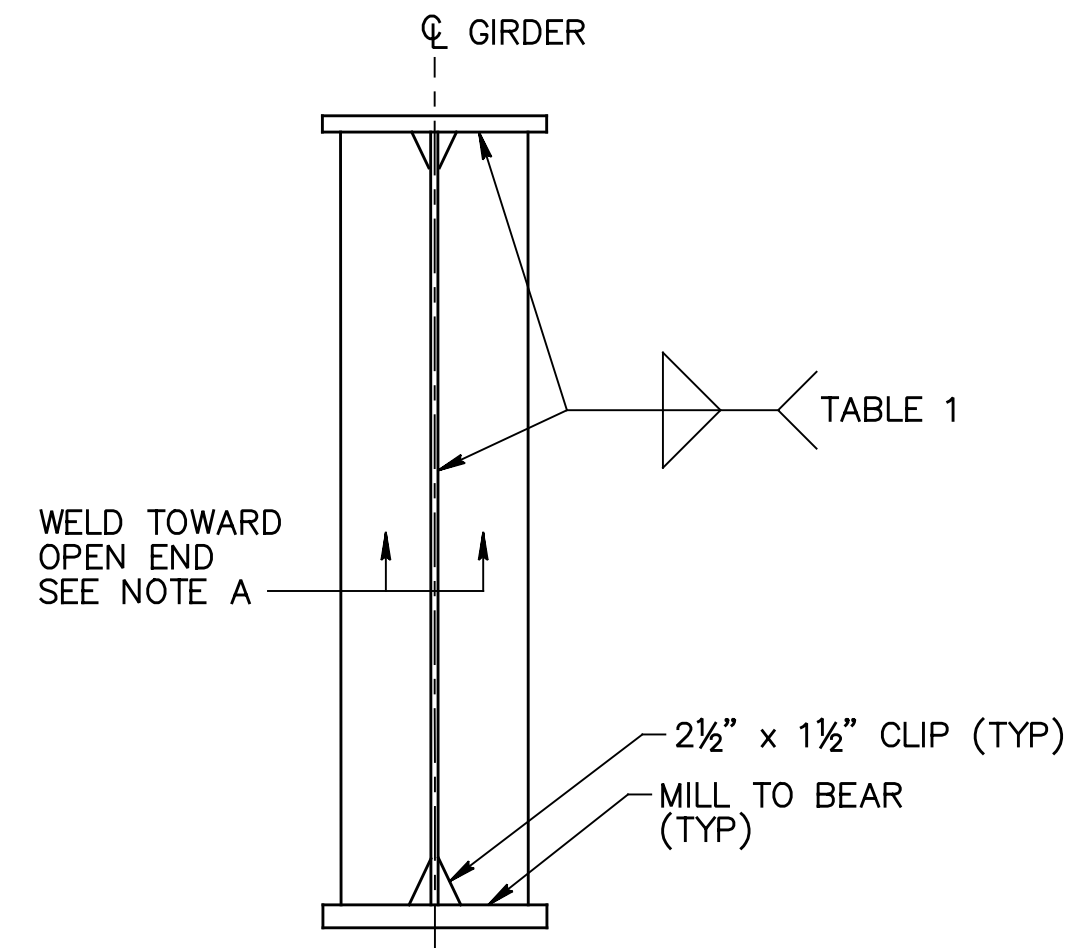
**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

GIRDER ELEVATION AND CAMBER DIAGRAM
 DRAWING: 31 OF 69
 SHEET: 68 OF 116

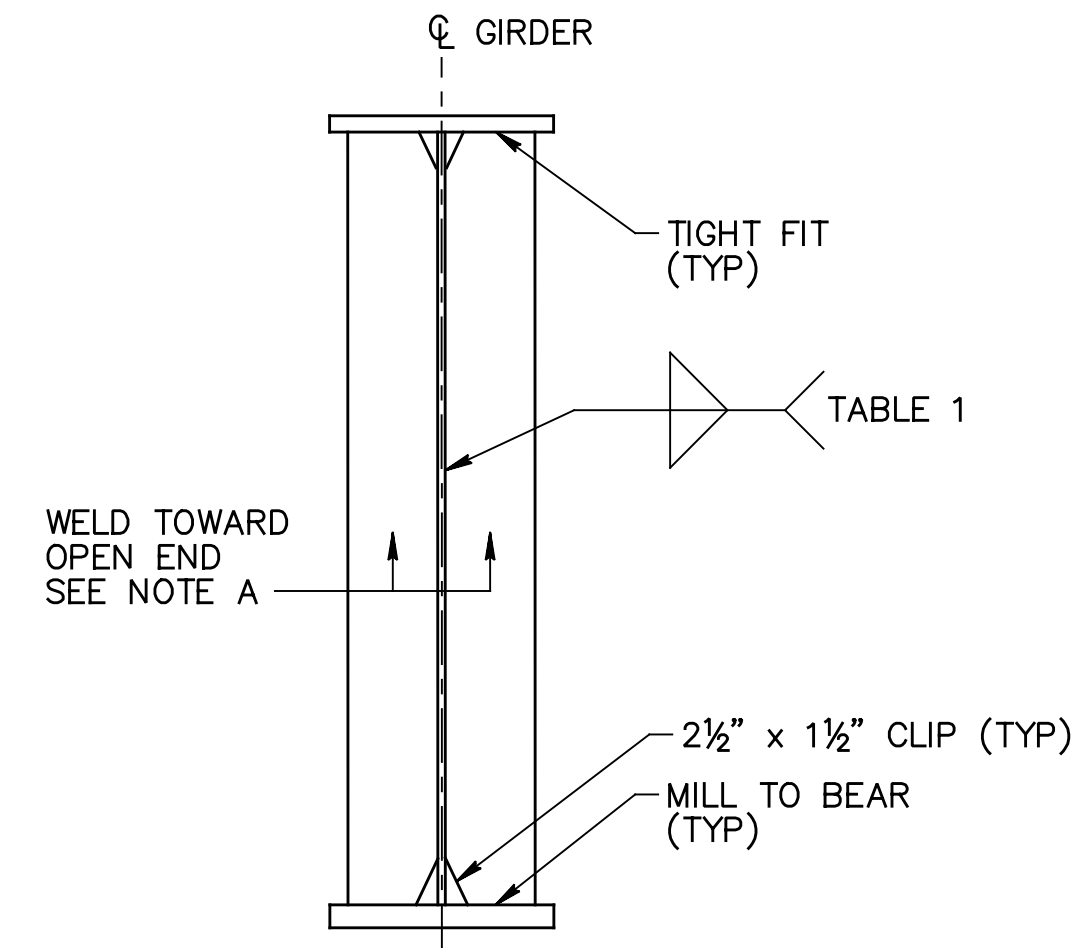


**CROSSFRAME CONNECTION
PLATE DETAIL**
NO SCALE

NOTE: CONNECTION PLATES REQUIRED ONLY ON INSIDE FACE OF FASCIA GIRDERS.



BEARING STIFFENER DETAIL
NO SCALE



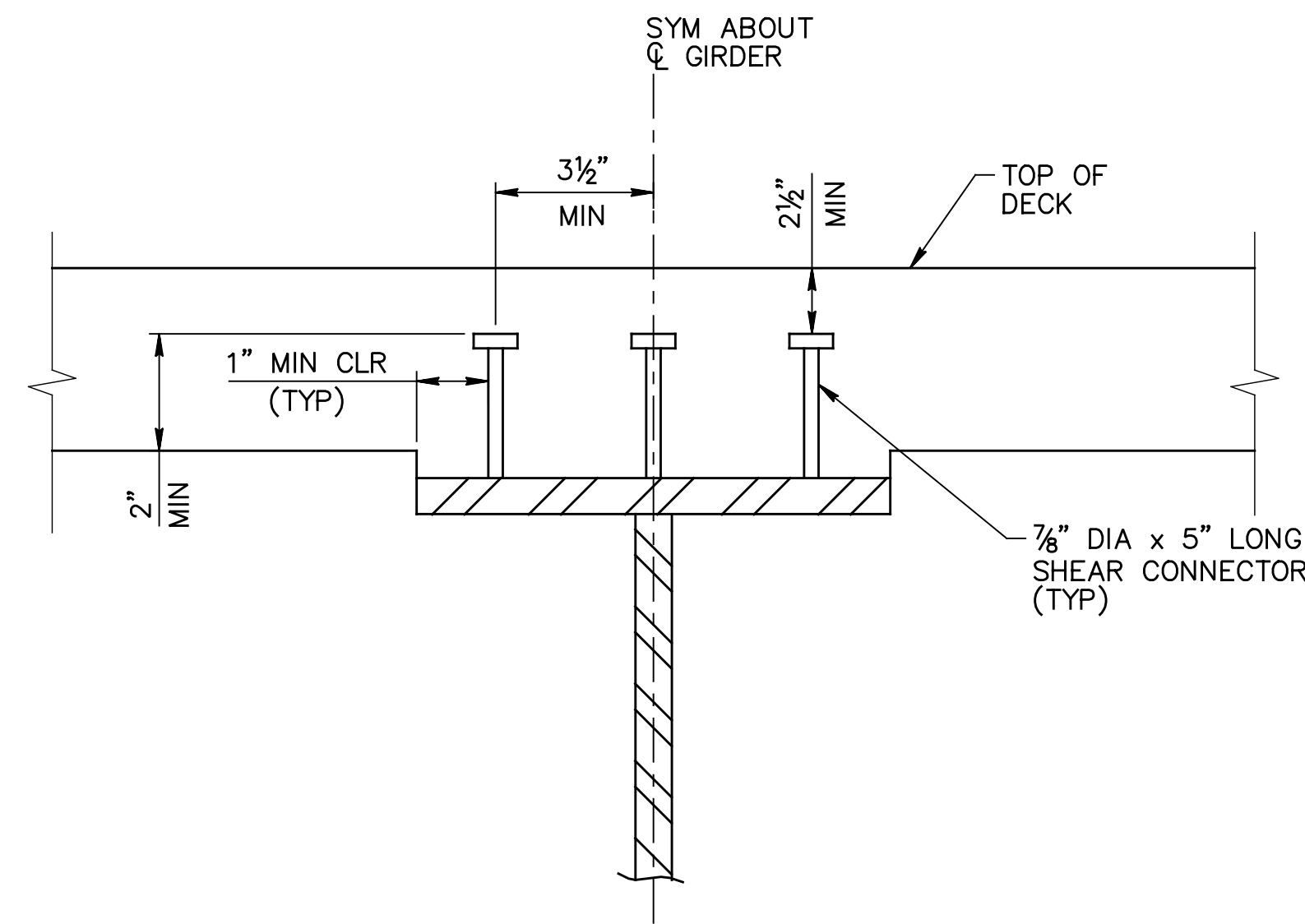
JACKING STIFFENER DETAIL
NO SCALE

TABLE 1	
MATERIAL THICKNESS OF THICKER PART JOINED	MINIMUM FILLET WELD SIZE
3/4" OR LESS	1/4"
OVER 3/4"	5/16"

NOTE:
FOR MATERIAL LESS THAN 1/4" THICK, THE MAXIMUM WELD SIZE IS THE THICKNESS OF THE MATERIAL.
FOR MATERIAL GREATER THAN OR EQUAL TO 1/4" THICK, THE MAXIMUM WELD SIZE IS 1/16" LESS THAN THE THICKNESS OF THE MATERIAL.

GIRDER DETAIL NOTES:

- A. DIRECTION OF WELDS IS NOT APPLICABLE IF STIFFENERS ARE FITTED WITH TACK WELDS.
- B. BEARING AREAS: PROVIDE BOTTOM FLANGE IN A TRUE HORIZONTAL PLANE IN TRANSVERSE DIRECTION AND IN A TRUE PLANE LONGITUDINALLY OVER DIMENSION "L", WHERE L = WIDTH OF SOLE PLATE + 6" AHEAD AND BACK, WHERE APPLICABLE. PROVIDE THE SOLE PLATE WITH SAME FLATNESS REQUIREMENTS. EACH BEARING MUST BE STRESSED UNIFORMLY AFTER ALL DEAD LOAD IS PLACED. MAKE NECESSARY SHOP AND/OR FIELD ADJUSTMENTS TO PROVIDE UNIFORM BEARING STRESS UNDER ALL DEAD LOADS.
- C. ALL BEARING STIFFENERS AND GIRDER ENDS ARE TO BE VERTICAL UNDER FULL DEAD LOAD.
- D. CONNECTION PLATES MAY BE EITHER VERTICAL OR NORMAL TO THE TOP FLANGE.



SHEAR CONNECTOR DETAIL
NO SCALE

NOTES:

- 1. FOR GENERAL NOTES, SEE SHEET 39.
- 2. WORK THIS SHEET WITH SHEETS 67, 68, 70 AND 71.
- 3. REFER TO BC-753M FOR ADDITIONAL DETAILS NOT SHOWN.

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 MODEL SHEET FILE

DES: DCL DWG: MM CKD: NL



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 PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

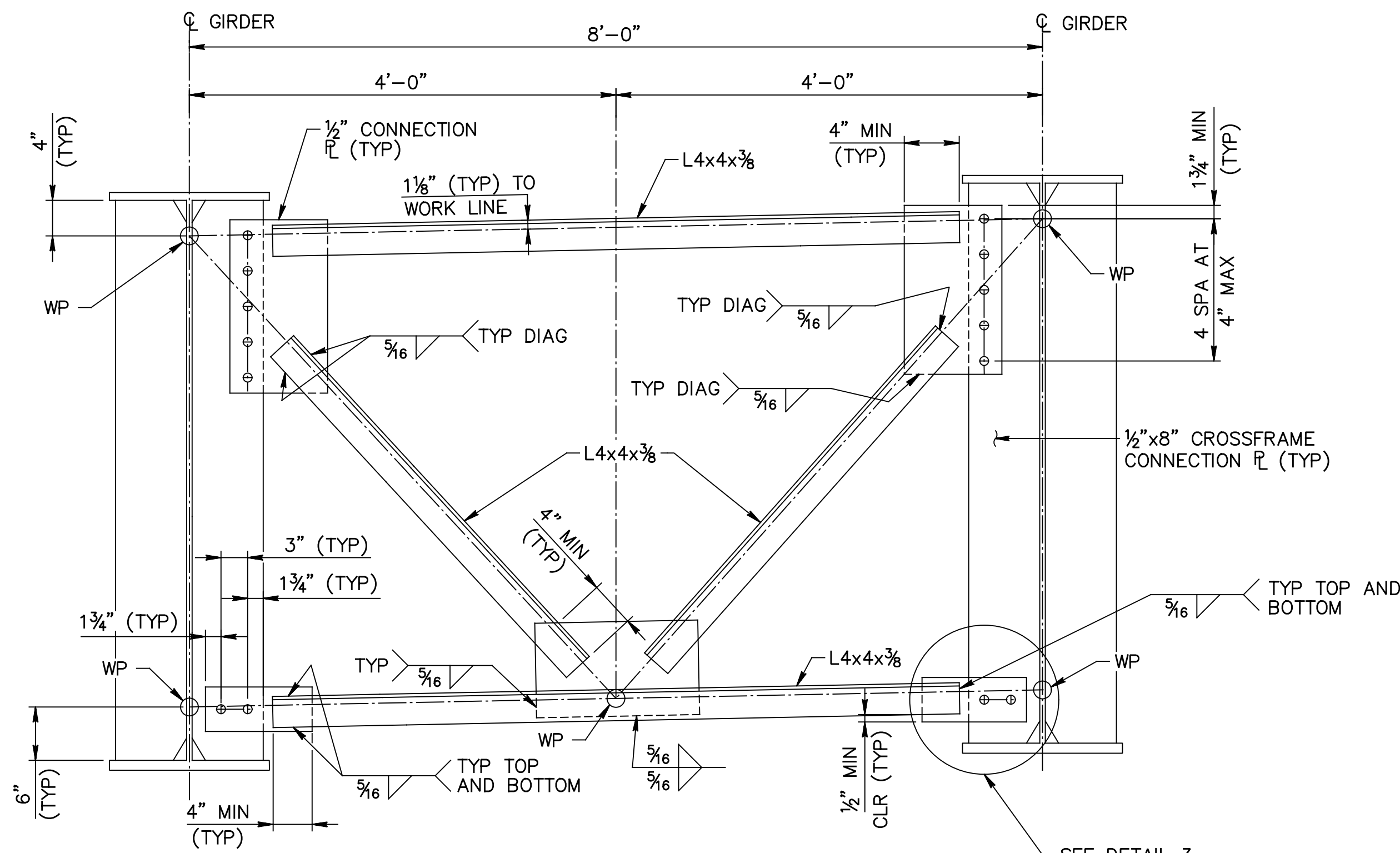
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NETWORK NUMBER: 7004121
FILE NAME: 03555Tgdrdet.dgn
DRAWING TYPE: 2G
STRUCTURE NUMBER: NB-355
SCALE: AS SHOWN

BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	
DISTRICT: 5	COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP	

GIRDER DETAILS	
DRAWING: 32 OF 69	SHEET: 69 OF 116

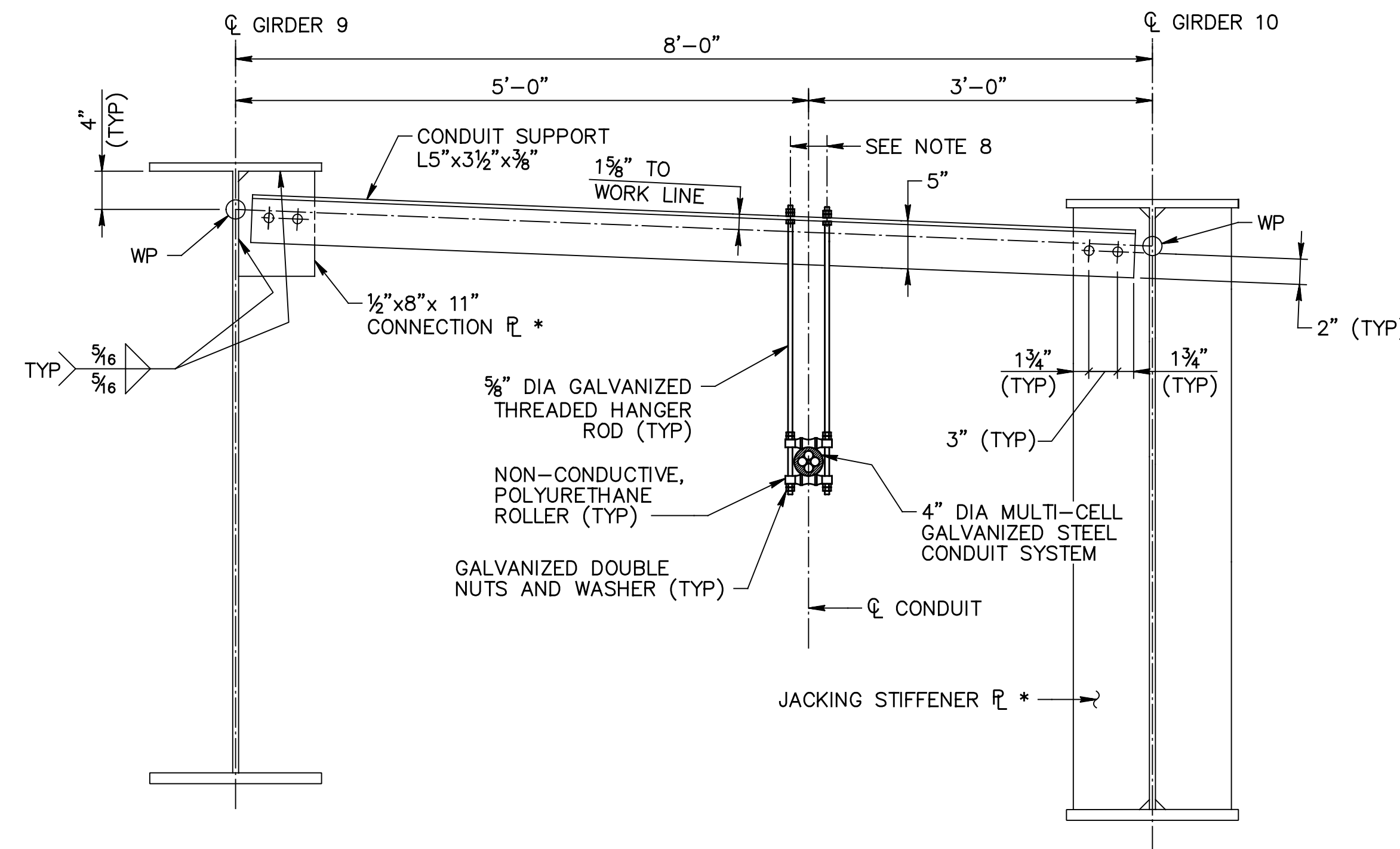
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 MODEL SHEET FILE

DES: DCL DWG: MM CKD: SJV



CROSSFRAME CF1

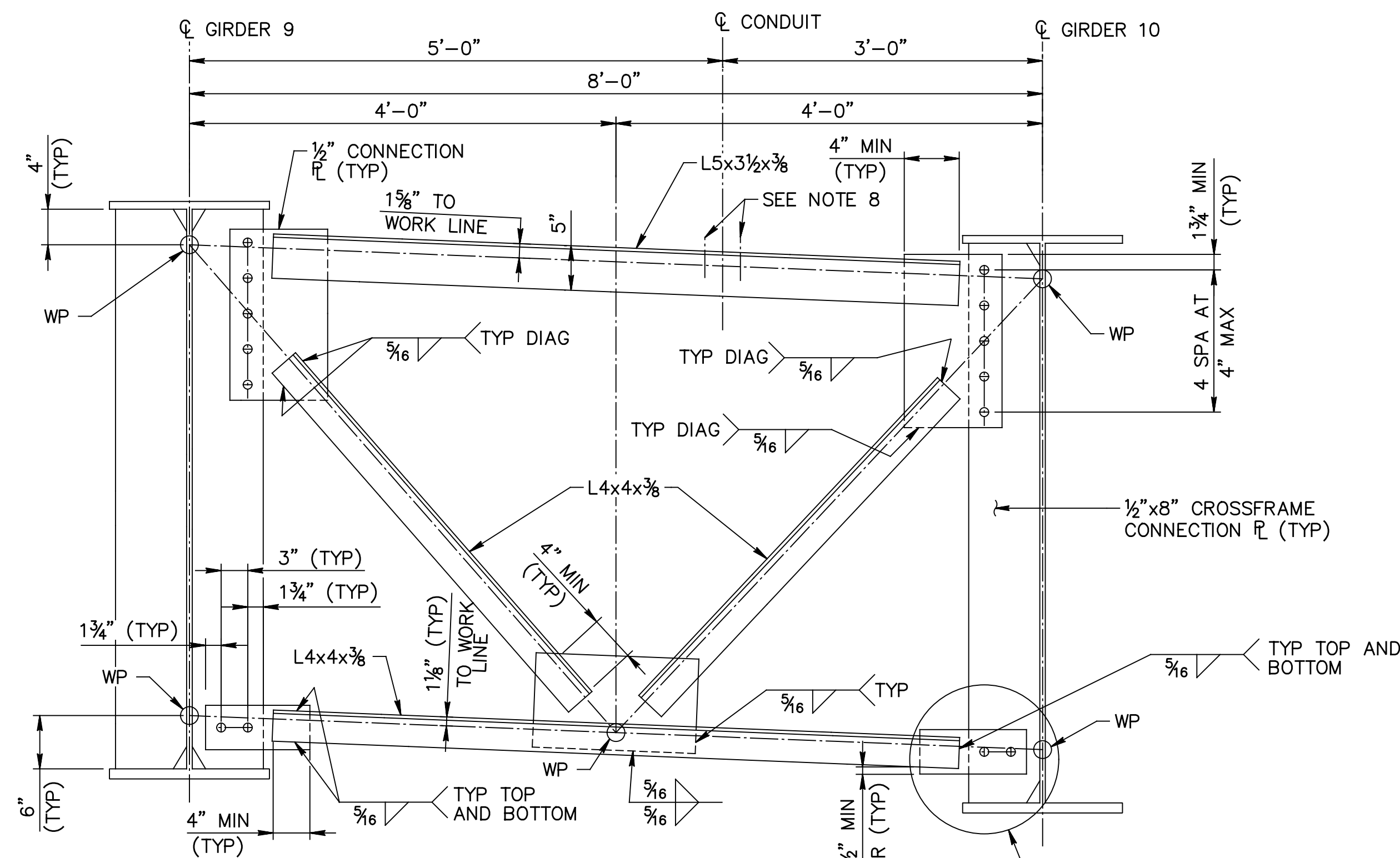
6 0 6 12 INCHES



CONDUIT SUPPORT BRACKET

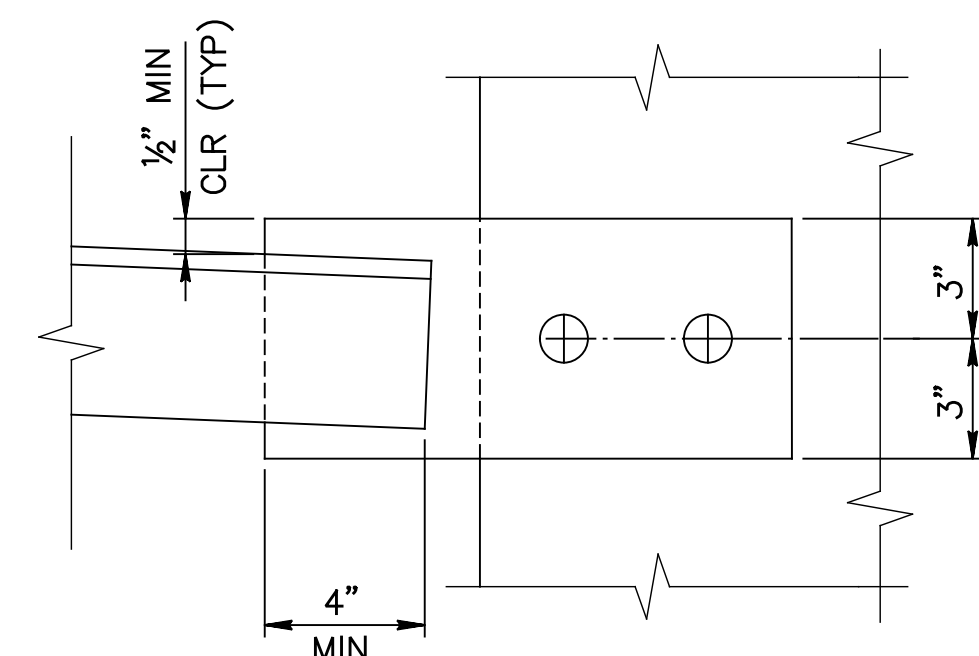
6 0 6 12 INCHES

* FOR CONNECTION \square AND JACKING STIFFENER \square LOCATIONS, SEE FRAMING PLAN AND GIRDER ELEVATION



CROSSFRAME CF2

6 0 6 12 INCHES

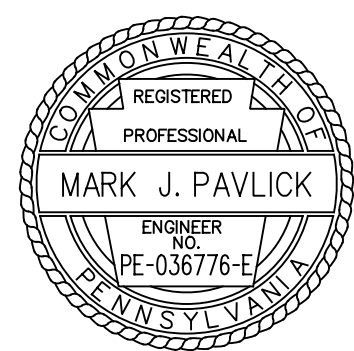


DETAIL 3

NO SCALE

NOTES:

- FOR GENERAL NOTES, SEE SHEET 39.
- WORK THIS SHEET WITH SHEETS 67 TO 69 AND 71.
- ALL MATERIAL TO BE AASHTO M270, GRADE 50 (ASTM A709 GRADE 50) UNLESS NOTED.
- ALL BOLTS TO HAVE THREADS EXCLUDED FROM SHEAR PLANE.
- FOR ADDITIONAL DETAILS NOT SHOWN, SEE BC-753M.
- NO PART OF THE THREADED ROD OR PIPE ROLLER SHALL PROJECT BELOW THE PLANE OF THE BOTTOM OF GIRDERS.
- PROVIDE 3/4" DIA HOLES IN TOP STRUTS OF CROSSFRAMES AND CONDUIT SUPPORT BRACKET BETWEEN GIRDERS G9 AND G10 FOR CONNECTION OF CONDUIT HANGERS.
- FOR ADDITIONAL MULTI-CELL GALVANIZED STEEL CONDUIT SYSTEM DETAILS AND SUPPORT DETAILS, SEE SHEET 86 AND STANDARD DRAWING ITS-1201.



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 03555Tcf1.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355
 SCALE: AS NOTED

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

CROSSFRAME DETAILS
 DRAWING: 33 OF 69
 SHEET: 70 OF 116

UNFACTORED SHEARS AT ζ BRG (KIPS)								
GIRDER	DC1	DC2	FWS	DC1+DC2+FWS	PHL-93 (LL+1)		P-82 (LL+1)	
					POS	NEG	POS	NEG
G1	64	19	12	95	88	-88	138	-138
G2	70	19	12	101	102	-102	159	-159
G3	69	0	12	81	102	-102	159	-159
G4	69	22	12	103	102	-102	159	-159
G5	63	22	12	97	88	-88	138	-138
G6	63	22	12	97	88	-88	138	-138
G7	69	22	12	103	102	-102	159	-159
G8	69	0	12	81	102	-102	159	-159
G9	70	19	12	101	102	-102	159	-159
G10	64	19	12	95	88	-88	138	-138

UNFACTORED MOMENTS AT MIDSPAN (KIP-FT)								
GIRDER	DC1	DC2	FWS	DC1+DC2+FWS	PHL-93 (LL+1)		P-82 (LL+1)	
					POS	NEG	POS	NEG
G1	1828	537	341	2706	2430	0	3464	0
G2	2011	537	341	2889	2434	0	3469	0
G3	1990	0	341	2331	2434	0	3469	0
G4	1988	620	341	2949	2434	0	3469	0
G5	1823	620	341	2784	2430	0	3464	0
G6	1823	620	341	2784	2430	0	3464	0
G7	1988	620	341	2949	2434	0	3469	0
G8	1990	0	341	2331	2434	0	3469	0
G9	2011	537	341	2889	2434	0	3469	0
G10	1828	537	341	2706	2430	0	3464	0

LEGEND:

- DC1 - DEAD LOAD 1 INCLUDES THE WEIGHT OF THE STRUCTURAL STEEL, CONCRETE DECK INCLUDING CONCRETE IN VALLEYS OF PERMANENT METAL DECK FORMS, AND PERMANENT METAL DECK FORMS
- DC2 - DEAD LOAD 2 INCLUDES THE WEIGHT OF THE CONCRETE BARRIERS
- FWS - FUTURE WEARING SURFACE WITH A SURFACE DENSITY OF 0.030 KSF

GIRDER SECTION PROPERTIES			
GIRDER		G1, G5, G6 AND G10	G2, G3, G4, G7, G8, G9
NON-COMPOSITE SECTION PROPERTIES	GIRDER AREA (IN ²)	71.44	71.44
	MOMENT OF INERTIA, I (IN ⁴)	48307	48307
	SECTION MODULUS - TOP OF BEAM (IN ³)	1403	1403
	SECTION MODULUS - BOTTOM OF BEAM (IN ³)	1580	1580
	DISTANCE TO NEUTRAL AXIS - BOTTOM OF BEAM (IN)	30.58	30.58
COMPOSITE SECTION PROPERTIES (3n) POSITIVE FLEXURE	MOMENT OF INERTIA, I (IN ⁴)	75877	79233
	SECTION MODULUS - TOP OF BEAM (IN ³)	3115	3425
	SECTION MODULUS - BOTTOM OF BEAM (IN ³)	1867	1892
	DISTANCE TO NEUTRAL AXIS - BOTTOM OF BEAM (IN)	40.64	41.87
COMPOSITE SECTION PROPERTIES (n) POSITIVE FLEXURE	MOMENT OF INERTIA, I (IN ⁴)	102582	106760
	SECTION MODULUS - TOP OF BEAM (IN ³)	7002	8124
	SECTION MODULUS - BOTTOM OF BEAM (IN ³)	2037	2059
	DISTANCE TO NEUTRAL AXIS - BOTTOM OF BEAM (IN)	50.35	51.86

GIRDER REACTION TABLE (KIPS)						
LOCATION	GIRDER	DC1	DC2	FWS	PHL-93 (LL+1)	TOTAL
ABUTMENT 1 AND ABUTMENT 2	G1	83	19	12	88	202
	G2	92	19	12	102	225
	G3	91	0	12	102	205
	G4	91	22	12	102	227
	G5	83	22	12	88	205
	G6	83	22	12	88	205
	G7	91	22	12	102	227
	G8	91	0	12	102	205
	G9	92	19	12	102	225
	G10	83	19	12	88	202

NOTE: THE WEIGHT OF THE FULL-DEPTH CONCRETE END DIAPHRAGM IS INCLUDED IN DC1.

NOTES FOR FUTURE BEARING REPLACEMENT: (NOT IN THIS CONTRACT)

SUBMIT THE PROPOSED JACKING AND BEARING REPLACEMENT PROCEDURE TO THE COMMISSION FOR REVIEW AND APPROVAL PRIOR TO THE COMMENCEMENT OF ANY JACKING OPERATIONS.

COORDINATE WITH UTILITY COMPANIES AS NECESSARY.

JACK THE SUPERSTRUCTURE ONLY AT LOCATIONS SHOWN ON THE DRAWINGS. THE JACKING CONTRACTOR IS RESPONSIBLE FOR DESIGNING THE JACKS AND THE JACKING PROCEDURES, INCLUDING, BUT NOT LIMITED TO, CHECKING CONCRETE BEARING STRESSES, STABILITY, AND DETAIL STRESSES. PROVIDE JACKS WITH A MINIMUM SAFE JACKING CAPACITY OF 125 PERCENT OF THE LOAD TO BE JACKED. FOR LOADS, SEE GIRDER REACTION TABLE.

JACK AT ALL POINTS ACROSS THE STRUCTURE WIDTH INDICATED ON THE DRAWINGS SIMULTANEOUSLY AND WITH THE SAME DISPLACEMENT AND RATE OF DISPLACEMENT. PROVIDE HYDRAULIC REGULATING DEVICES AS REQUIRED.

CENTER THE JACKS ON THE CENTERLINE OF THE GIRDER WEBS AND THE JACKING STIFFENER PLATES AS SHOWN ON THE DRAWINGS OR AS DETAILED IN THE JACKING PROCEDURE SUBMITTED TO THE COMMISSION.

ACCOUNT FOR ANY THERMAL MOVEMENT AND ANY HORIZONTAL FORCE THAT MAY BE ENCOUNTERED DURING THE PERIOD WHEN THE SUPERSTRUCTURE IS BEING JACKED OR IS SHORED ON TEMPORARY SUPPORTS.

TRAFFIC IS PERMITTED ON THE BRIDGE DURING JACKING. ACCOUNT FOR THE EFFECTS OF VIBRATIONS DUE TO TRAFFIC ON THE BRIDGE AND ALSO NEAR THE SUBSTRUCTURE UNIT ON WHICH JACKING IS TAKING PLACE OR WHILE THE SUPERSTRUCTURE IS SHORED ON TEMPORARY SUPPORTS.

DO NOT DAMAGE THE SUPERSTRUCTURE OR SUBSTRUCTURE WHEN JACKING AND REPLACING THE BEARINGS.

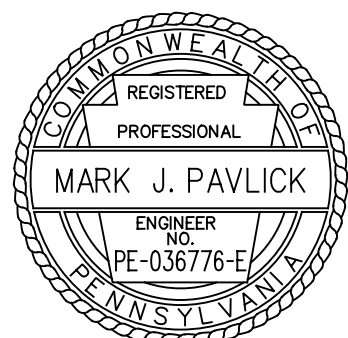


THE MAXIMUM ALLOWABLE JACKING DISPLACEMENT OF THE SUPERSTRUCTURE IS ONE INCH (1") VERTICAL.

NOTES:

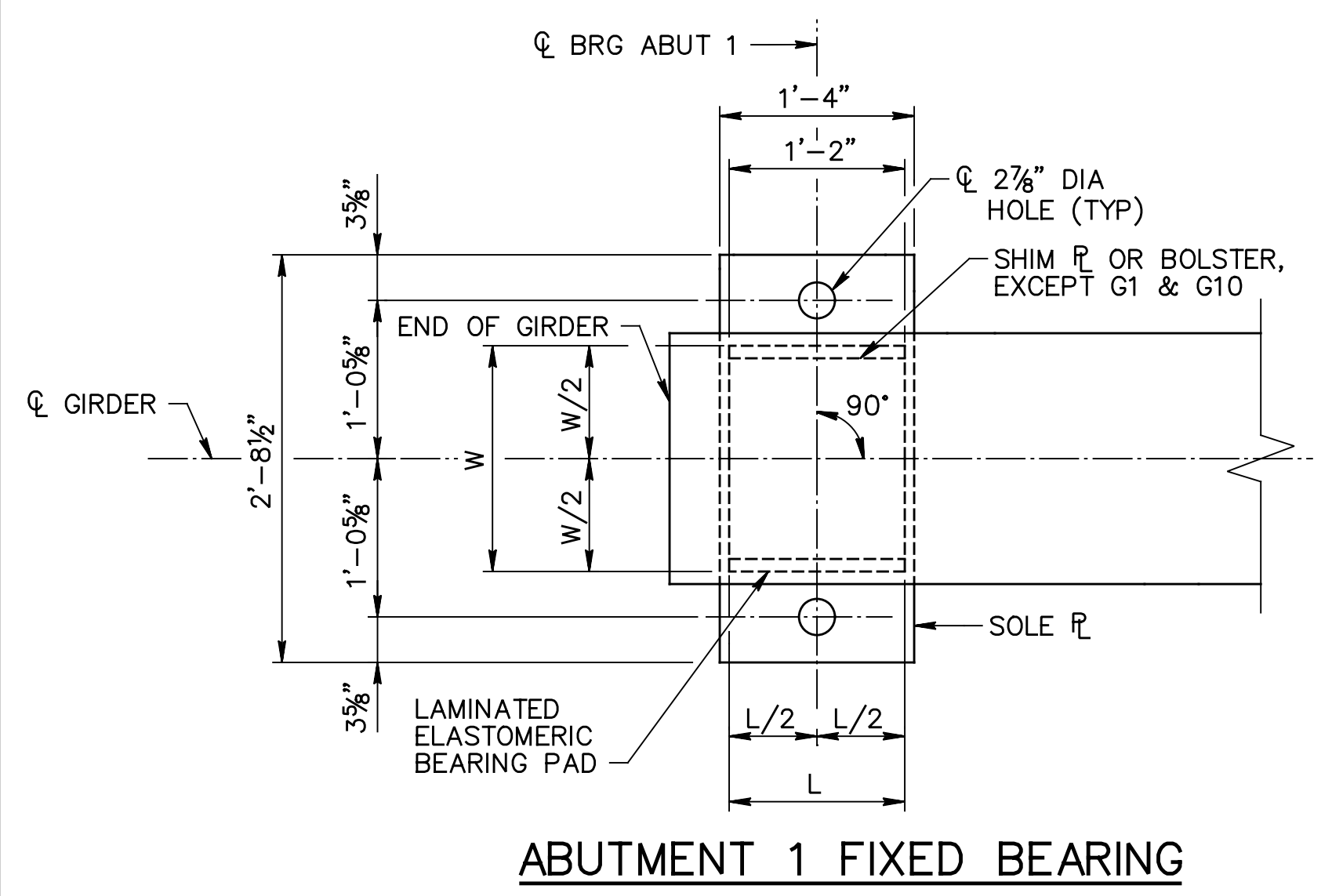
- FOR GENERAL NOTES, SEE SHEET 39.
- FOR GIRDER ELEVATION, SEE SHEET 68.
- FOR FRAMING PLAN, SEE SHEET 67.
- ALL MOMENTS ARE IN KIP-FT.
- ALL SHEARS ARE IN KIPS.
- ALL LOADS SHOWN ARE UNFACTORED.

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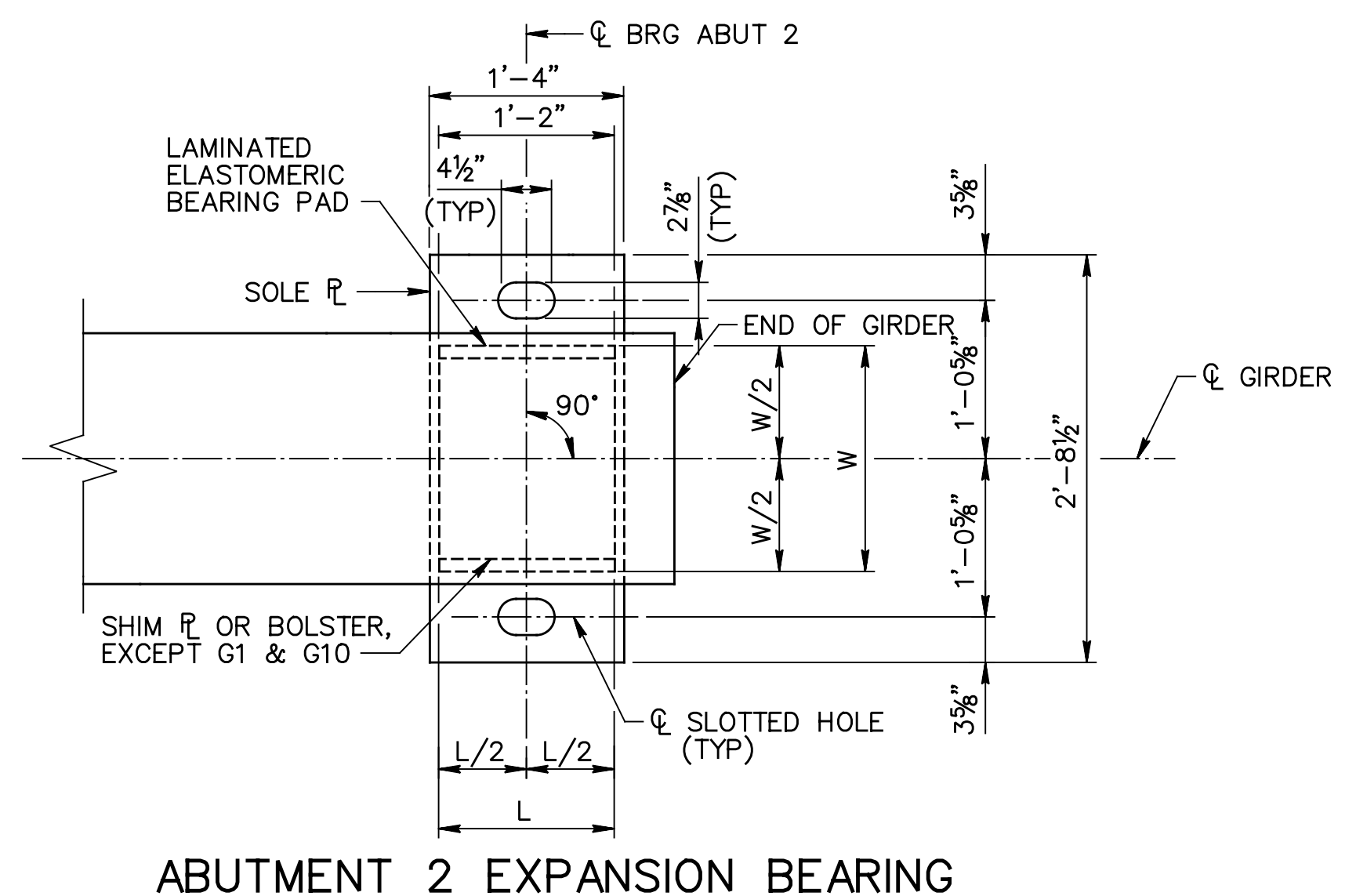
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	PREPARED BY:  HDR Engineering, Inc. 11 STANWIX STREET, SUITE 800 PITTSBURGH, PA 15222		WBS NO. A-057.66S002-3-02	BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	GIRDER SHEARS, MOMENTS, SECTION PROPERTIES AND JACKING LOADS
	PREPARED FOR: THE PENNSYLVANIA TURNPIKE COMMISSION		NETWORK NUMBER: 7004121 FILE NAME: 0355STshmtomtbls.dgn DRAWING TYPE: 2G STRUCTURE NUMBER: NB-355		
NO. REVISIONS DATE APPR.			SCALE: NO SCALE		

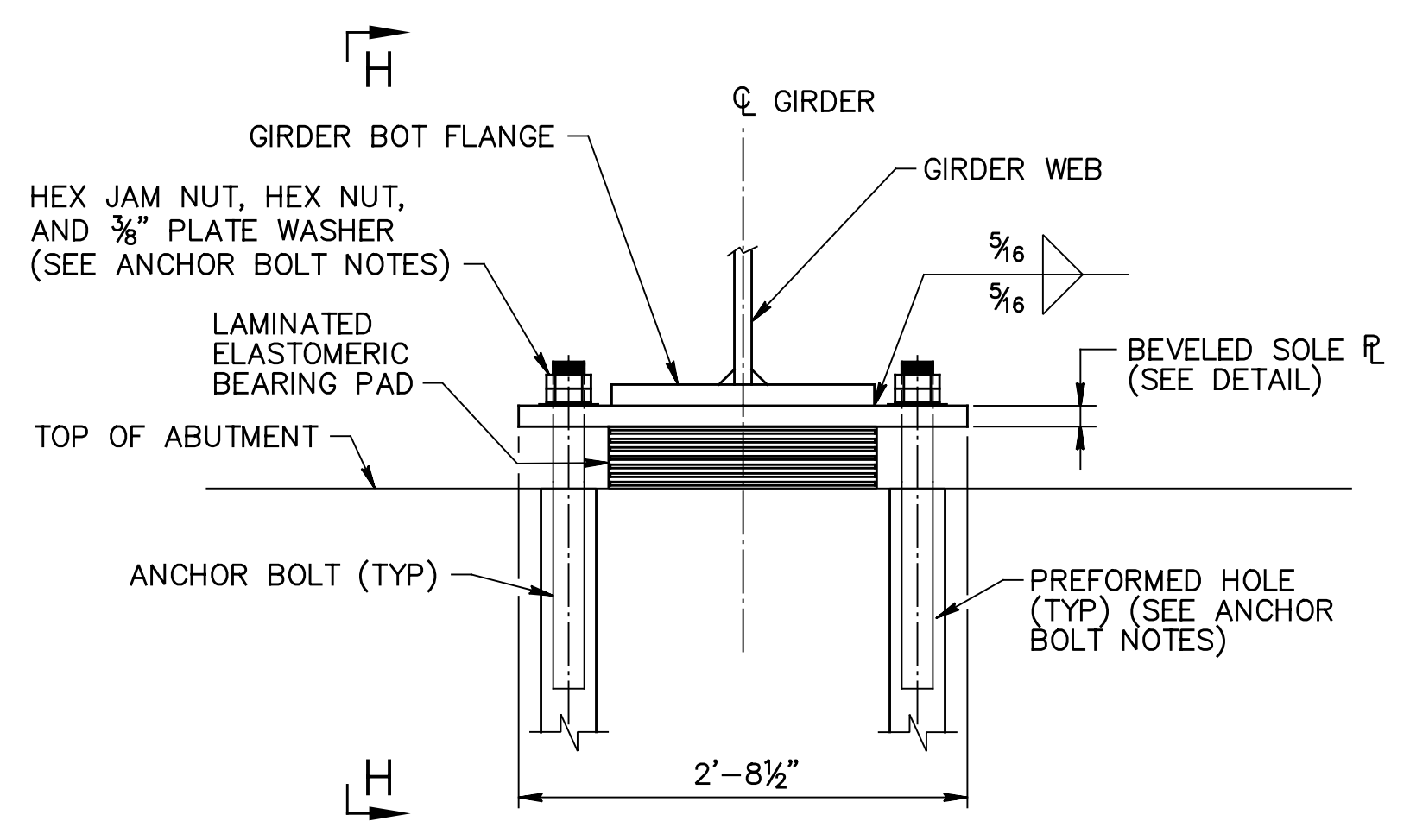
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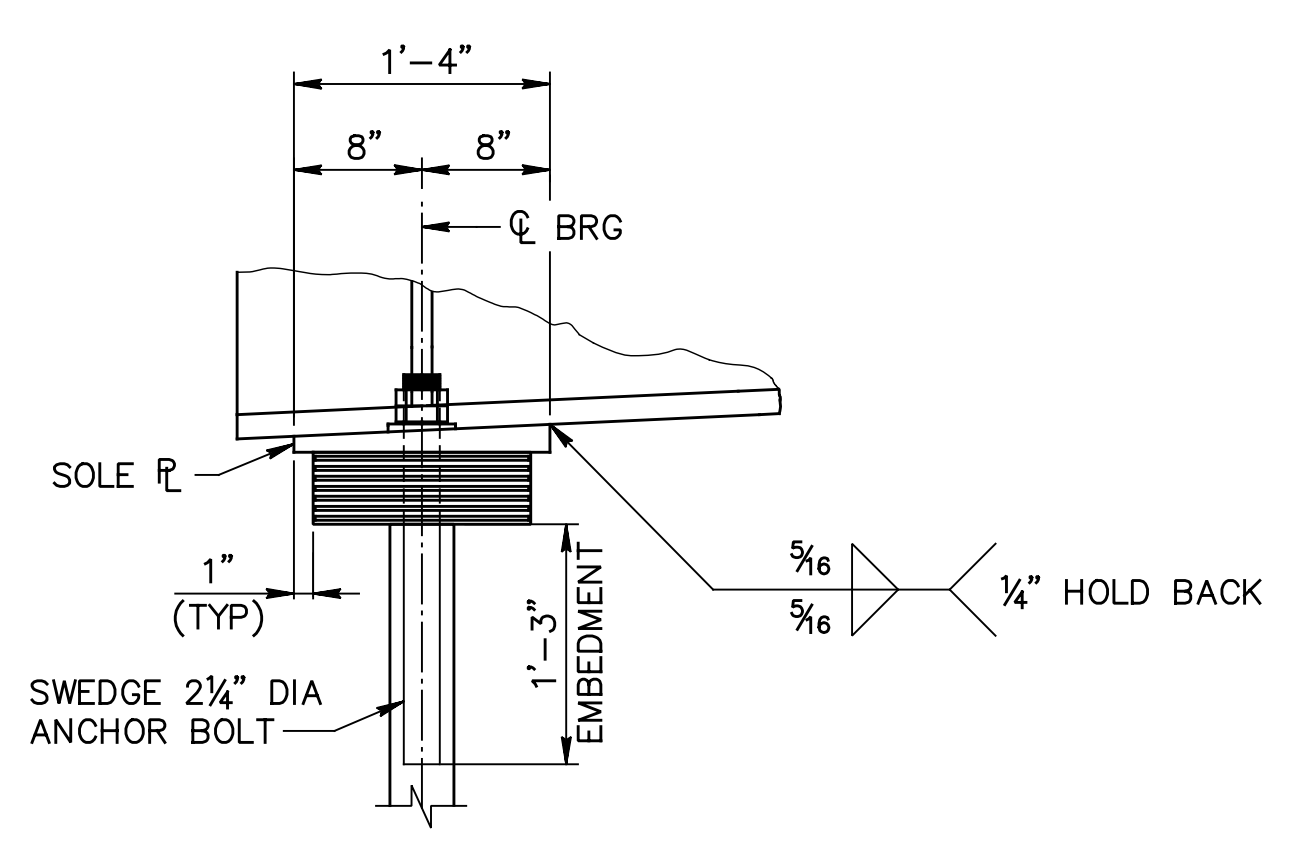
ABUTMENT 1 FIXED BEARING



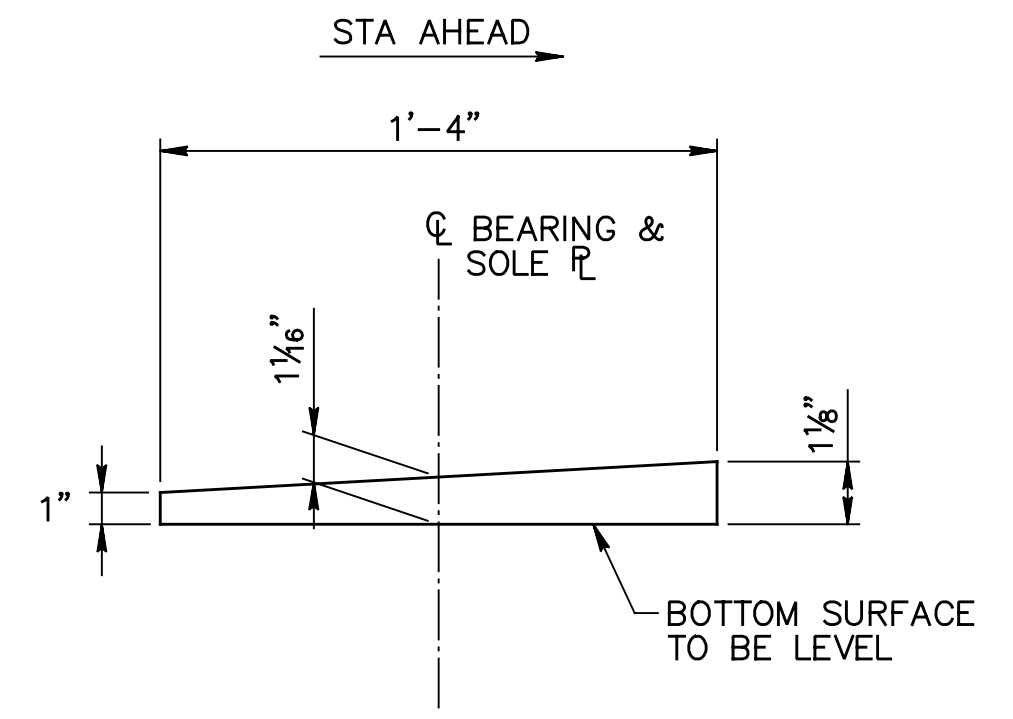
ABUTMENT 2 EXPANSION BEARING



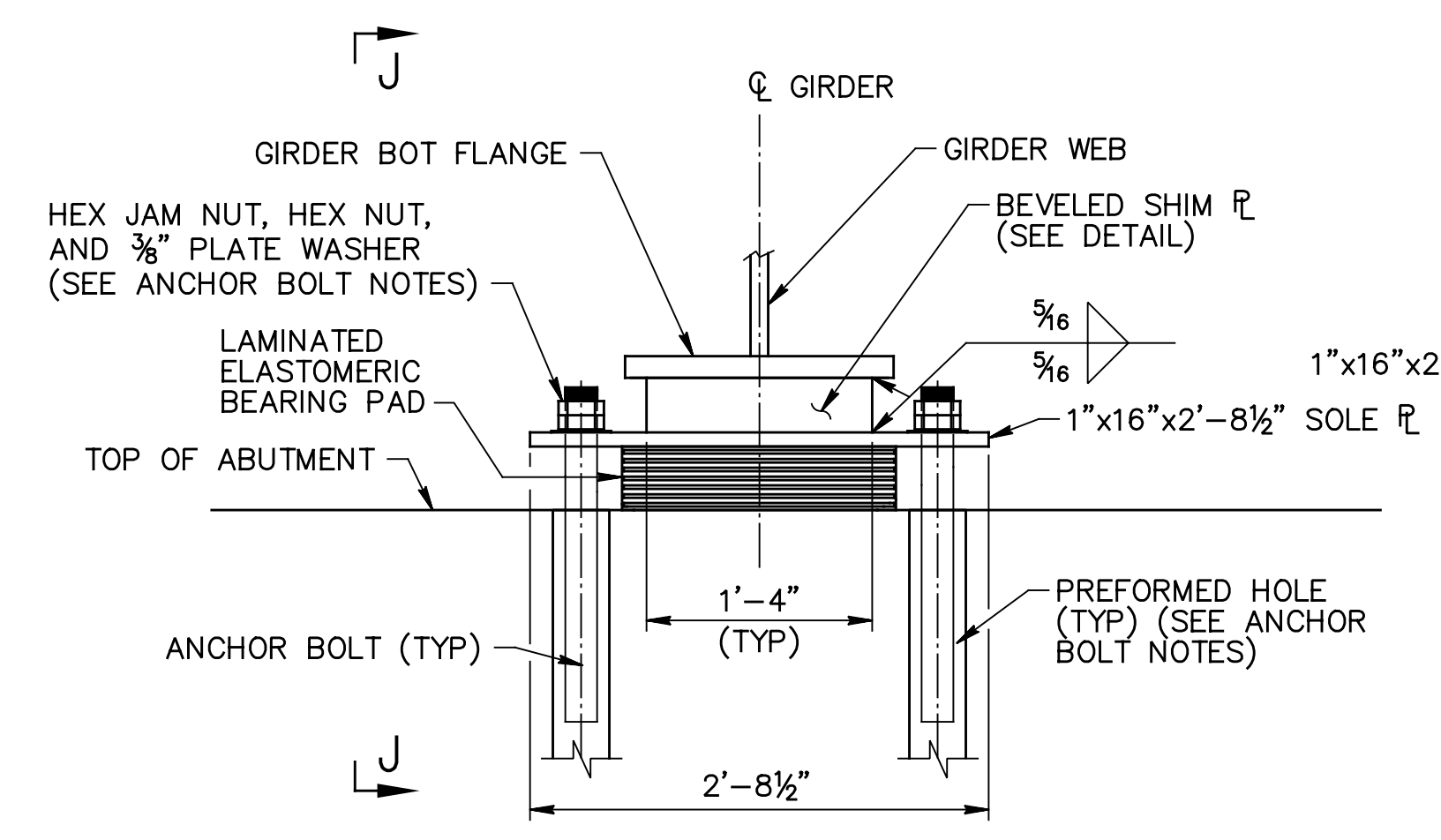
BEARING ELEVATION AT G1 & G10



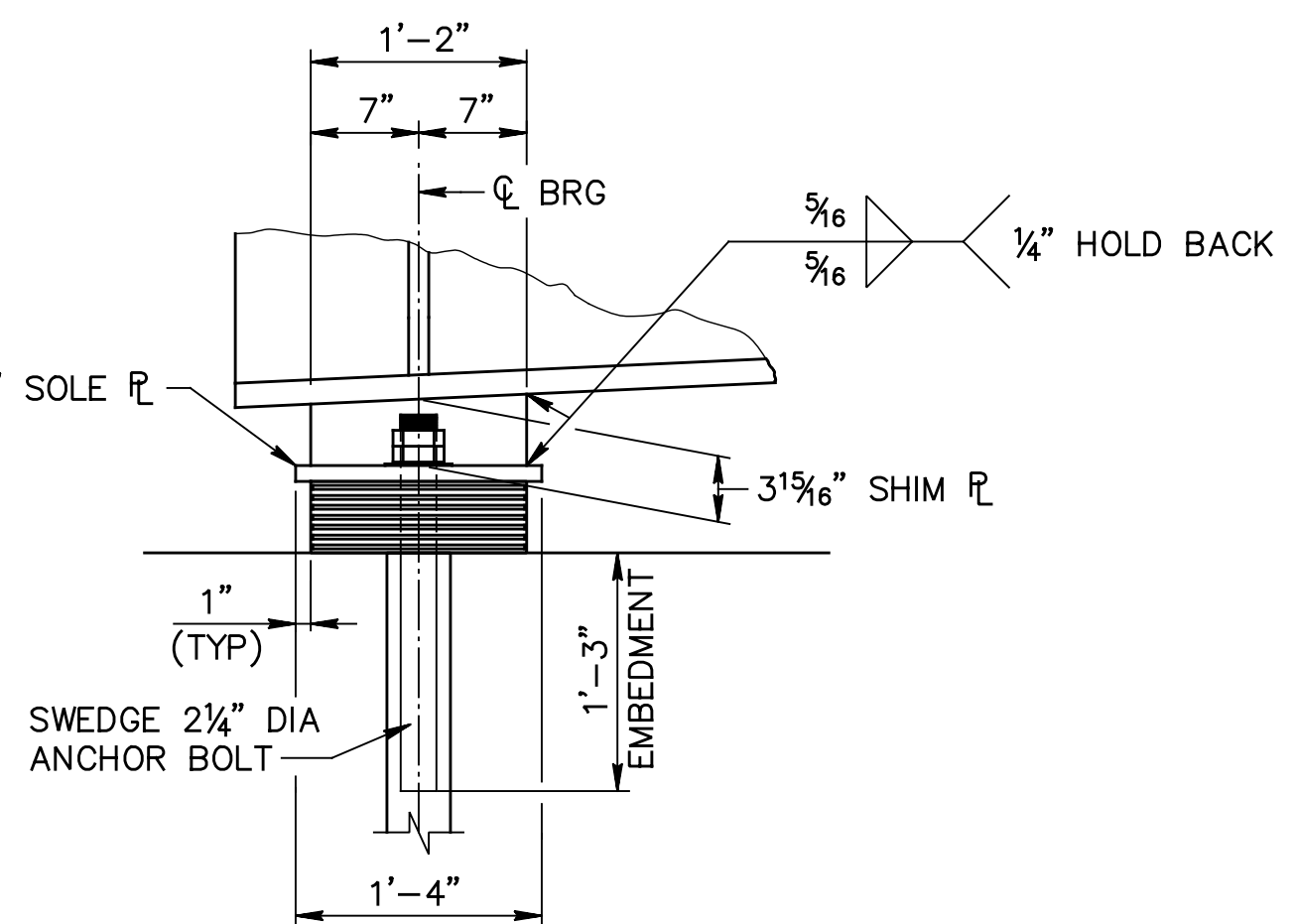
VIEW H-H
(ABUT 1 SHOWN, ABUT 2 SIMILAR)



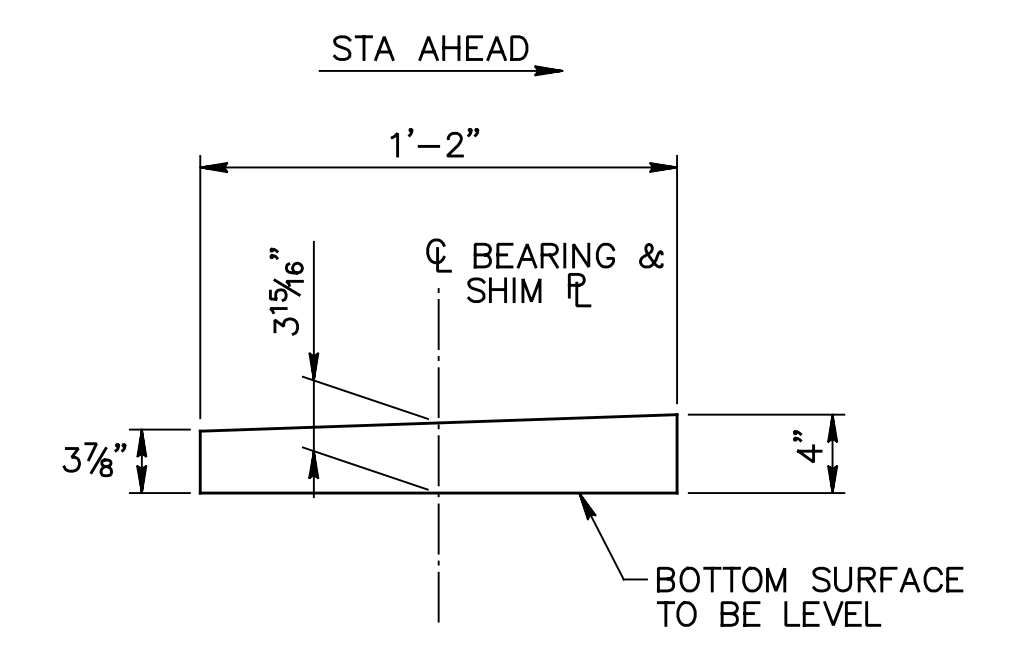
BEVELED SOLE PLATE DETAIL



BEARING ELEVATION AT G2 & G9



VIEW J-J
(ABUT 1 SHOWN, ABUT 2 SIMILAR)



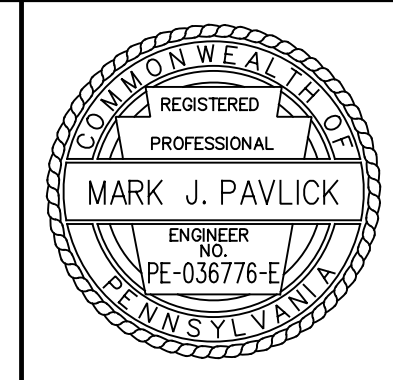
BEVELED SHIM PLATE DETAIL

ANCHOR BOLT NOTES:

1. ALL ANCHOR BOLTS SHALL BE 2 1/4" DIA ASTM F1554, GRADE 105 SWEDGED MECHANICALLY GALVANIZED OR HOT DIPPED GALVANIZED.
2. PROVIDE 4 1/4" DIAMETER (MIN) PREFORMED HOLES IN ABUTMENT STEMS FOR ANCHOR BOLTS.
3. PLACE ANCHOR BOLTS IN PREFORMED HOLES BEFORE BRIDGE SUPERSTRUCTURE SLIDE.
4. DEPTH OF PREFORMED HOLES SHALL BE AS REQUIRED SUCH THAT ANCHOR BOLTS DO NOT EXTEND ABOVE THE TOP OF ABUTMENT BRIDGE SEAT WHEN PLACED INSIDE THE HOLES.
5. AFTER THE BRIDGE SUPERSTRUCTURE SLIDE, CLEAN THE HOLES, SET AND FIX THE BOLTS, AND FILL THE HOLES WITH NONSHRINK GROUT, AS SPECIFIED IN SECTION 1001.2(e).
6. PROVIDE HEX JAM NUT, HEX NUT, AND 3/8" PLATE WASHER AT EACH ANCHOR BOLT. AT FIXED BEARINGS, DRAW NUT FINGER TIGHT, BACK OFF 1/4 TURN, AND PEEN BOLT THREADS AT FACE OF NUT. AT EXPANSION BEARINGS, INSTALL NUT AND PEEN THREADS TO PROVIDE 1/8" CLEAR TO THE SOLE PLATE.
7. DO NOT ALLOW THE PREFORMED HOLES TO COLLECT WATER, ESPECIALLY WHEN THERE IS A POSSIBILITY OF FREEZING TEMPERATURES.

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 39.
2. WORK THIS SHEET WITH SHEET 73.
3. FOR FRAMING PLAN, SEE SHEET 67.
4. FOR DIAPHRAGM DETAILS, SEE SHEETS 74 TO 76.
5. FOR GIRDER ELEVATION, SEE SHEET 68.
6. FOR GIRDER DETAILS, SEE SHEET 69.
7. REFER TO BC-755M FOR ADDITIONAL DETAILS NOT SHOWN.



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 PREPARED FOR:
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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02
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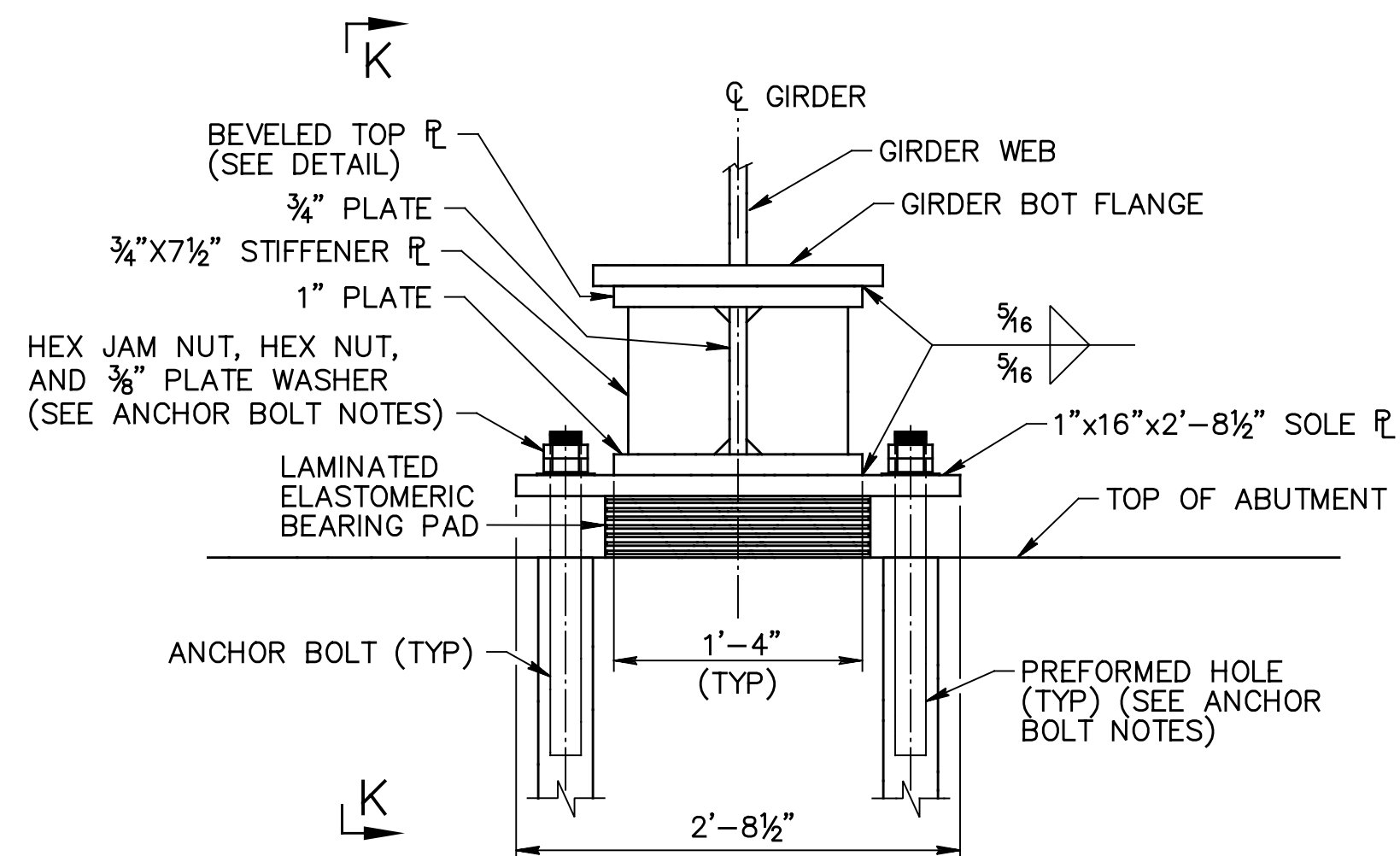
**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

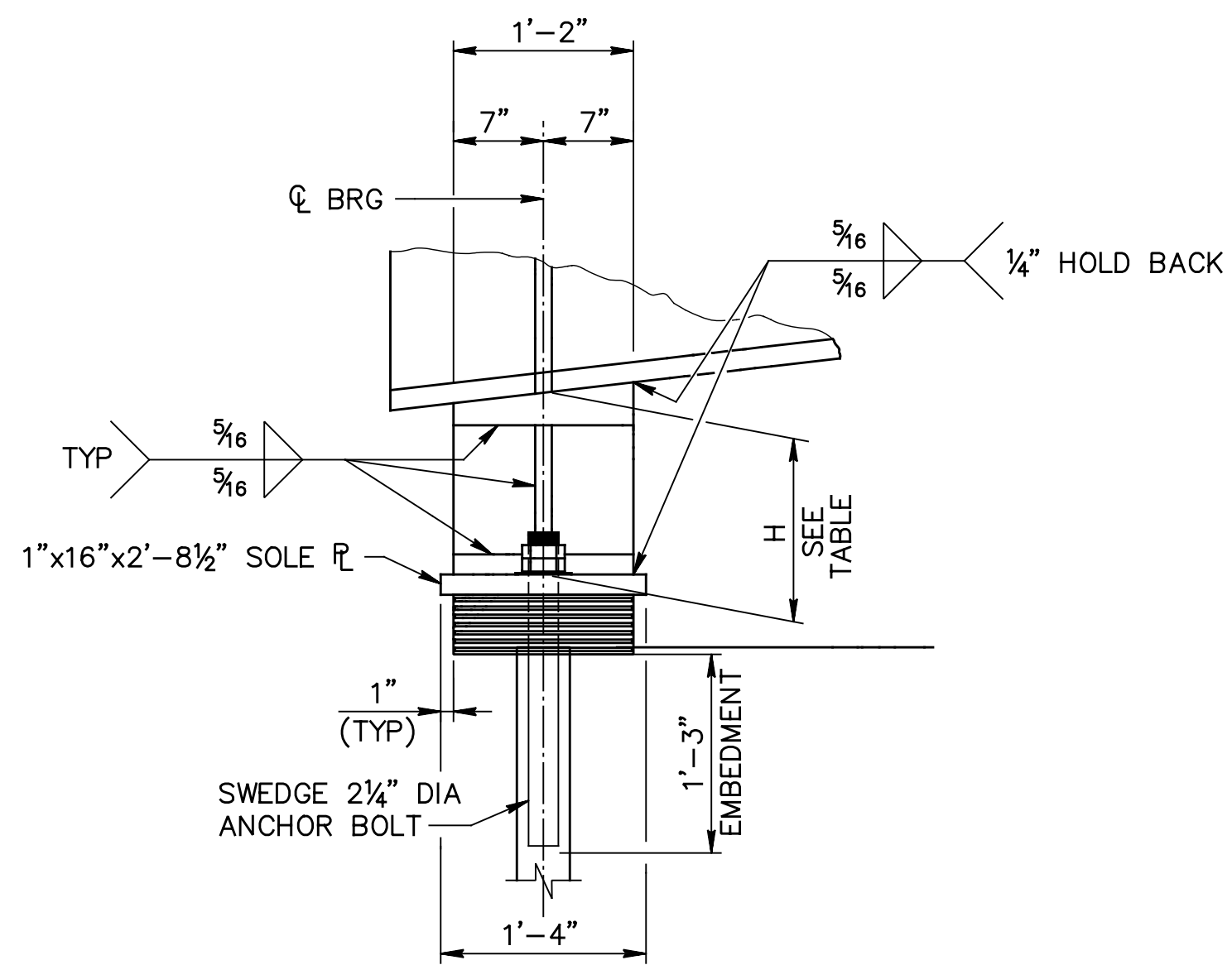
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DRAWING: 35 OF 69
 SHEET: 72 OF 116

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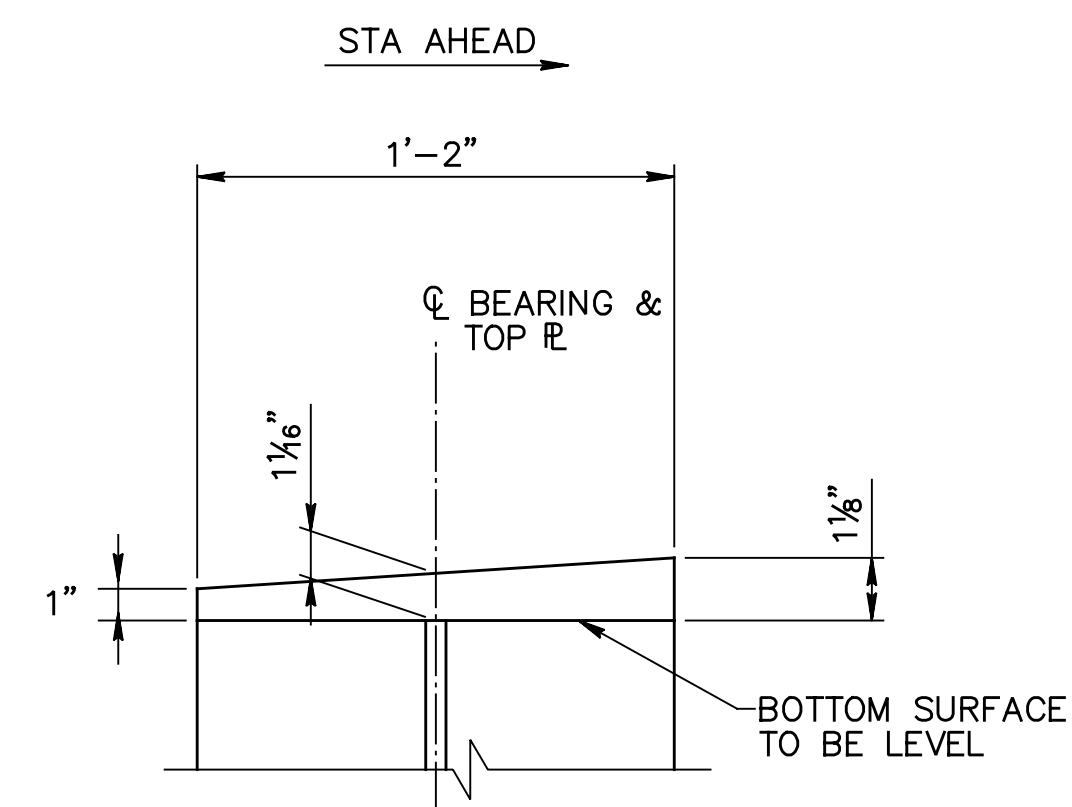


BEARING ELEVATION AT G3 THRU G8

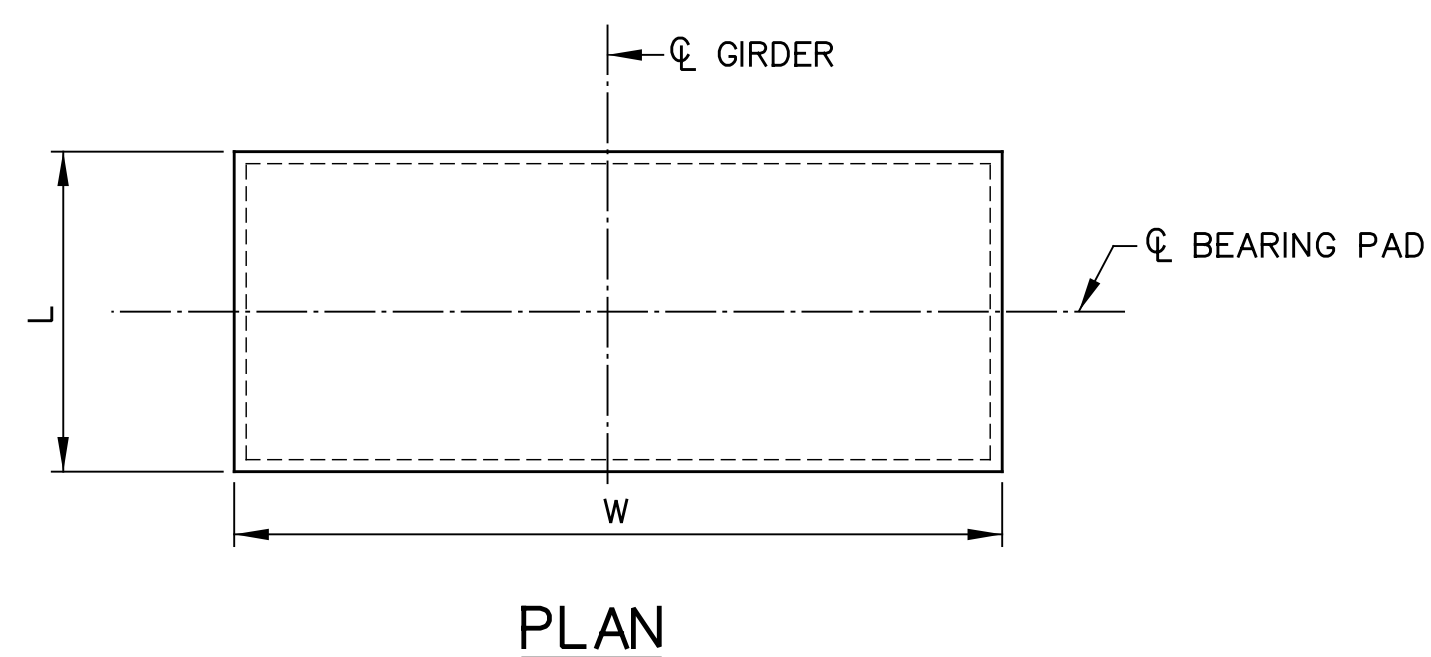


VIEW K-K
(ABUT 1 SHOWN, ABUT 2 SIMILAR)

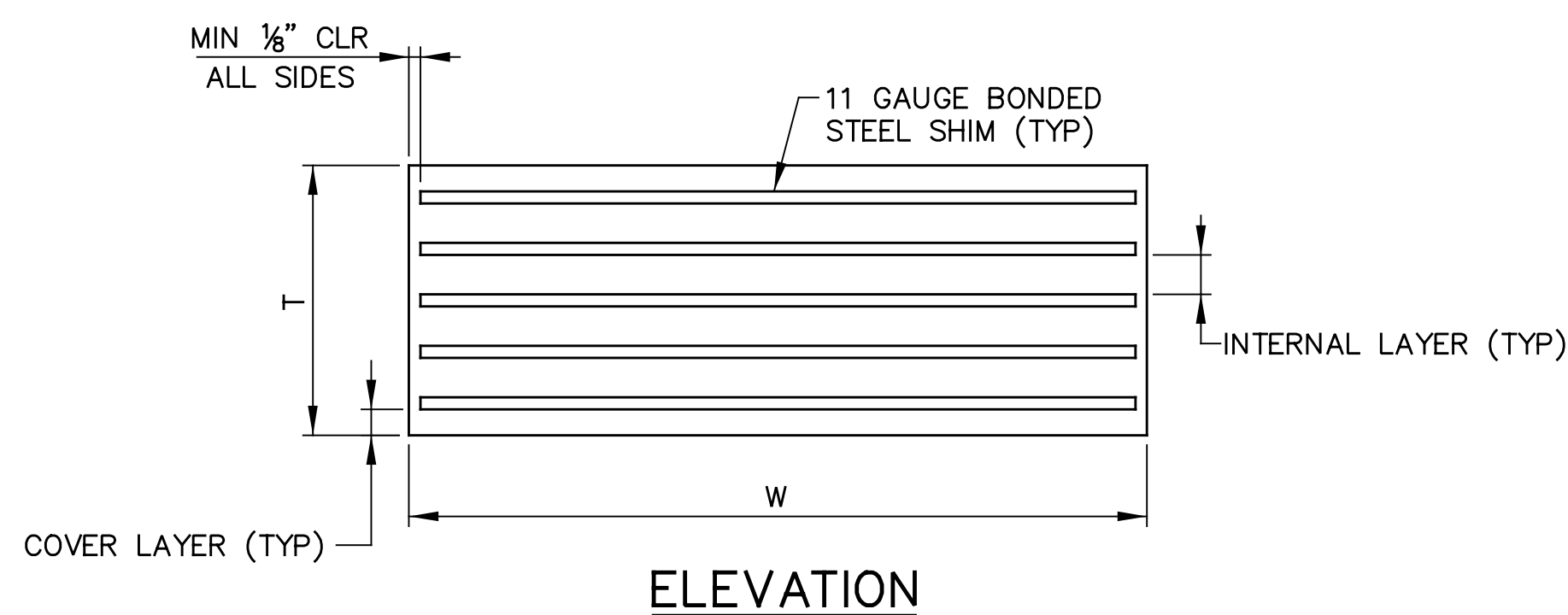
GIRDER	H
G3	6 1/8"
G4	8 1/8"
G5	9 1/8"
G6	9 1/8"
G7	8 1/8"
G8	6 1/8"



BEVELED TOP FLANGE DETAIL



PLAN



ELEVATION

ELASTOMERIC BEARING PAD DATA											
LOCATION	TYPE	NO. REQUIRED	SIZE		NO. OF INTERNAL LAYERS	INTERNAL LAYER THICKNESS	COVER LAYER THICKNESS	NO. OF INTERNAL STEEL SHIMS	TOTAL BEARING THICKNESS, T	CONSTR TOLERANCE TRANSV (RAD)	CONSTR TOLERANCE LONGIT (RAD)
			L	W							
ABUT 1	LAMINATED	10	14"	17"	6	0.375"	0.25"	7	3.5872"	0.007	0.005
ABUT 2	LAMINATED	10	14"	17"	8	0.375"	0.25"	9	4.5764"	0.007	0.005

ELASTOMERIC BEARING PAD DETAILS

ELASTOMERIC BEARING PAD NOTES:

1. MANUFACTURE ALL BEARINGS IN ACCORDANCE WITH PENNDOT PUBLICATION 408/2011, SECTION 1113 AND DESIGN MANUAL-PART 4.
2. PROVIDE NEOPRENE 50 ± 5 DUROMETER.
3. FOR ADDITIONAL NOTES, SEE STANDARD DRAWING BC-755M.

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 39.
2. WORK THIS SHEET WITH SHEET 73.
3. FOR FRAMING PLAN, SEE SHEET 67.
4. FOR DIAPHRAGM DETAILS, SEE SHEETS 74 TO 76.
5. FOR GIRDER ELEVATION, SEE SHEET 68.
6. FOR GIRDER DETAILS, SEE SHEET 69.
7. REFER TO BC-755M FOR ADDITIONAL DETAILS NOT SHOWN.



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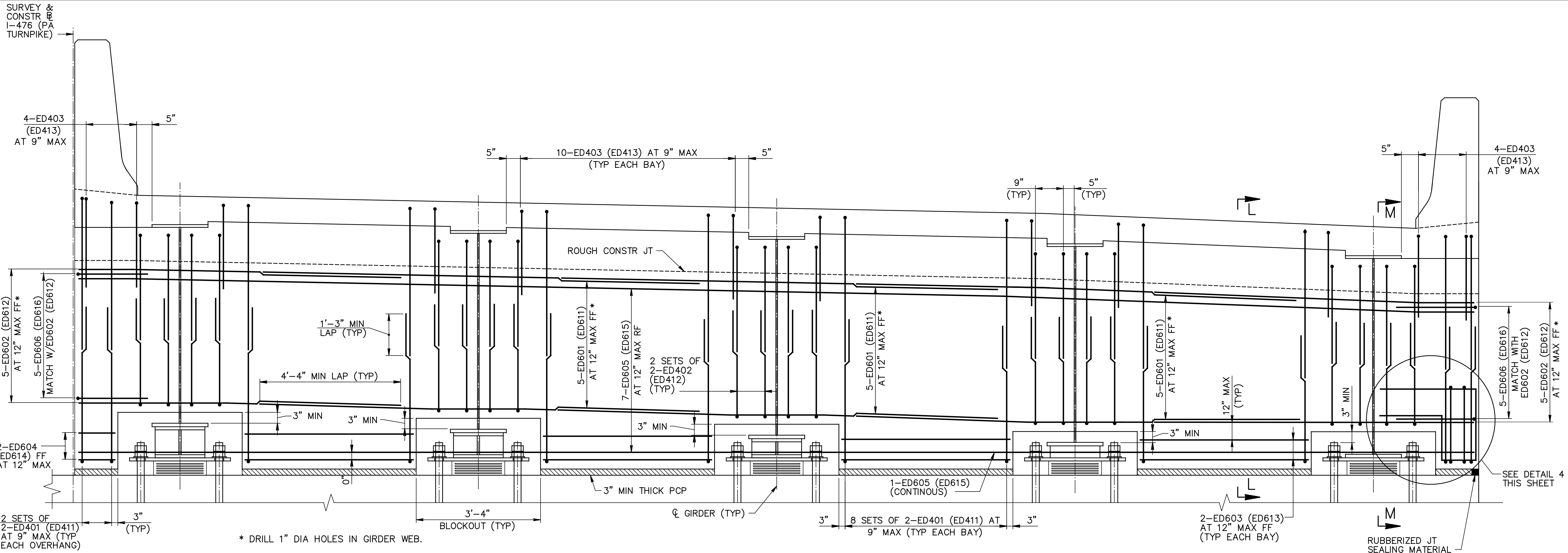


NO.	REVISIONS	DATE	APPR.

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 SCALE: NO SCALE

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

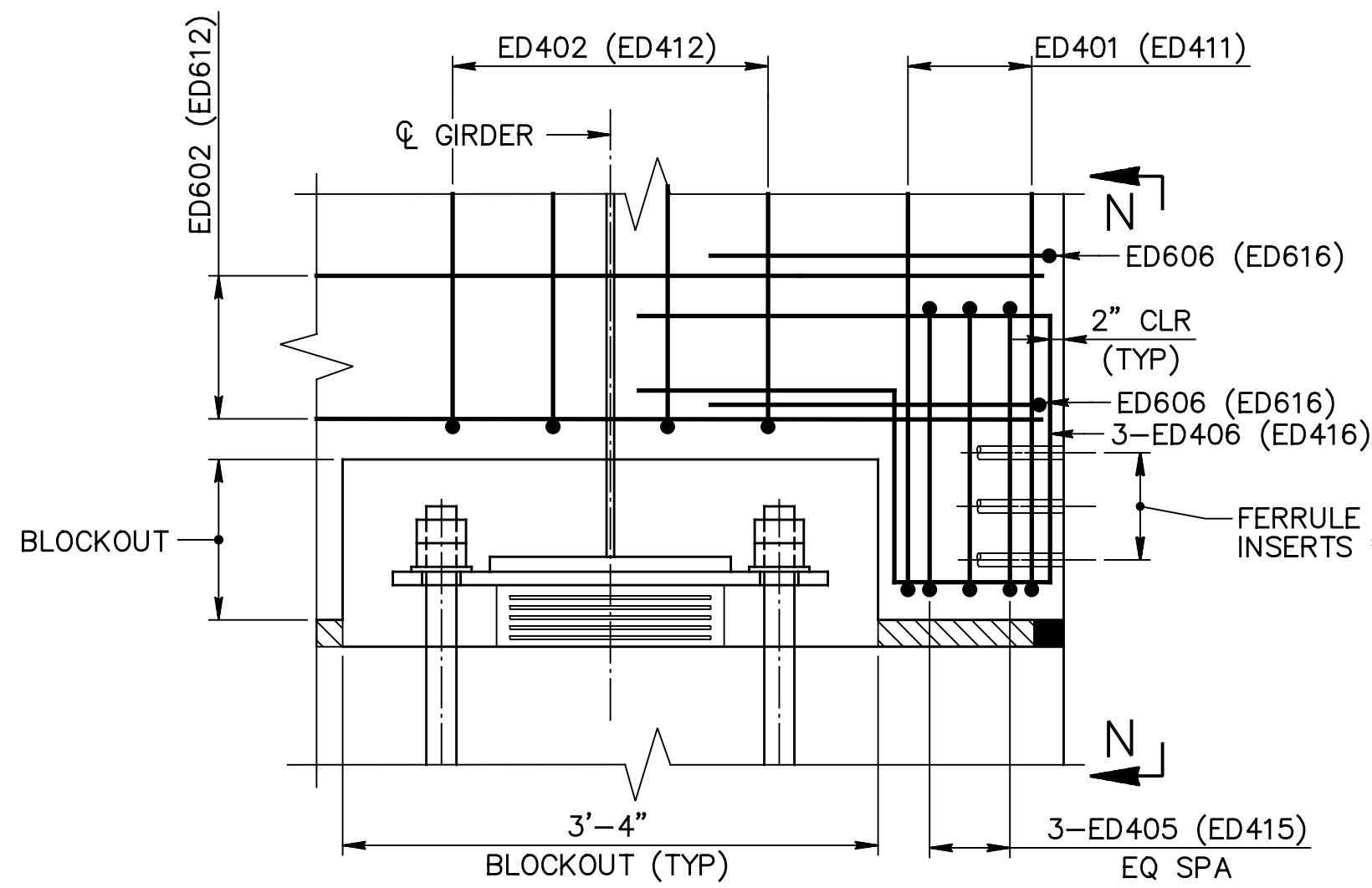
BEARING DETAILS - 2
 DRAWING: 36 OF 69
 SHEET: 73 OF 116



SOUTHBOUND ABUTMENT DIAPHRAGM PARTIAL ELEVATION

(LOOKING BACK STATION)
 (ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR BUT OPPOSITE HAND)
 (ABUTMENT 2 REINFORCEMENT IN PARENTHESIS)

12 0 12 INCHES



DETAIL 4

(ABUTMENT 1 SHOWN, ABUTMENT 2 IN PARENTHESIS)
 ED605 (ED615) BARS NOT SHOWN FOR CLARITY

6 0 6 12 INCHES

NOTES:

- FOR GENERAL NOTES, SEE SHEET 39.
- FOR SECTIONS L-L AND M-M, AND VIEW N-N, SEE SHEET 76.
- FOR ADDITIONAL WATERPROOFING DETAILS, SEE SHEET 53 AND BC-788M.
- FOR DIAPHRAGM REINFORCING SCHEDULE, SEE SHEET 83.
- SHIFT OR SPLAY REINFORCEMENT AS REQUIRED TO PROVIDE 1" CLEAR TO CONDUIT PIPE SLEEVE.
- PREFORMED CELLULAR POLYSTYRENE (PCP), AND CLOSED CELL NEOPRENE SPONGE ITEMS ARE INCIDENTAL TO THE DIAPHRAGM CONCRETE.
- FOR CONCEPTUAL LATERAL JACKING DETAIL, SEE SHEET 90.
- THE SIZE AND SPACING OF FERRULE INSERTS ARE TO BE DETERMINED BY THE CONTRACTOR. ADJUST THE REINFORCEMENT AS NECESSARY TO ACCOMMODATE THE FERRULE INSERTS. PROVIDE 2" CLEAR TO ALL FACES OF CONCRETE.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE CAPACITY OF ALL TEMPORARY AND PERMANENT BRIDGE COMPONENTS SUBJECTED TO LATERAL JACKING FORCES.

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 DES: DCL DWG: MM CKD: DGS



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WBS NO.
A-057.66S002-3-02

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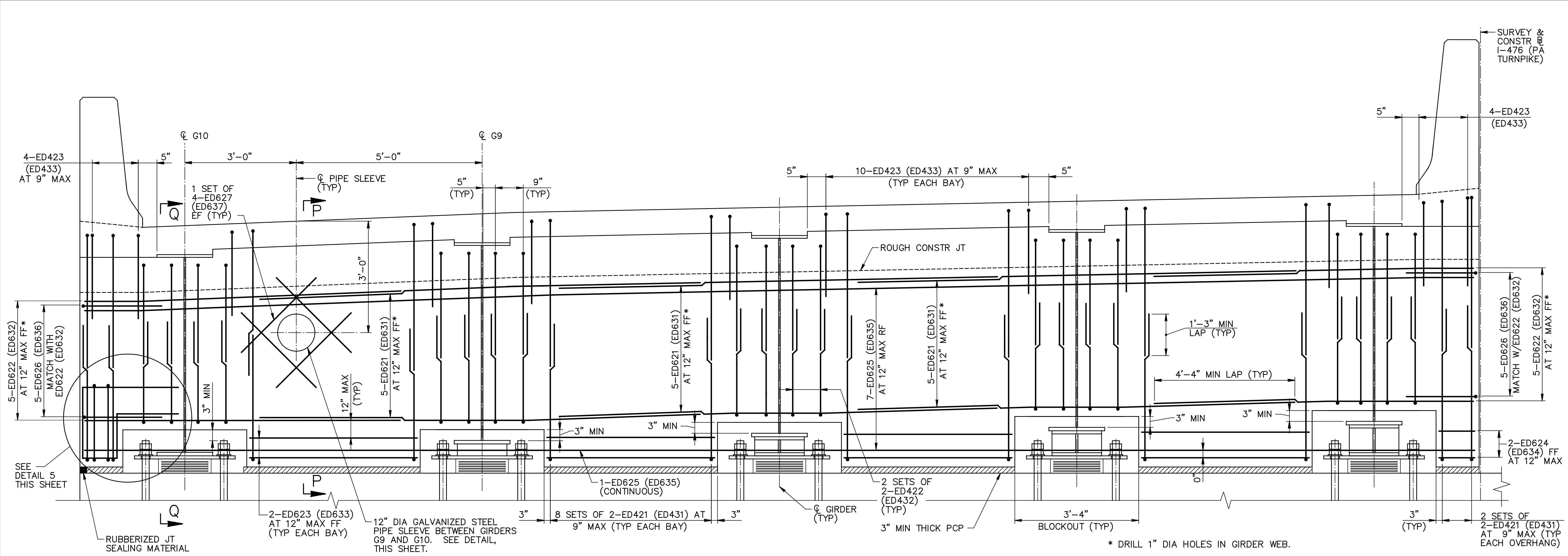
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**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

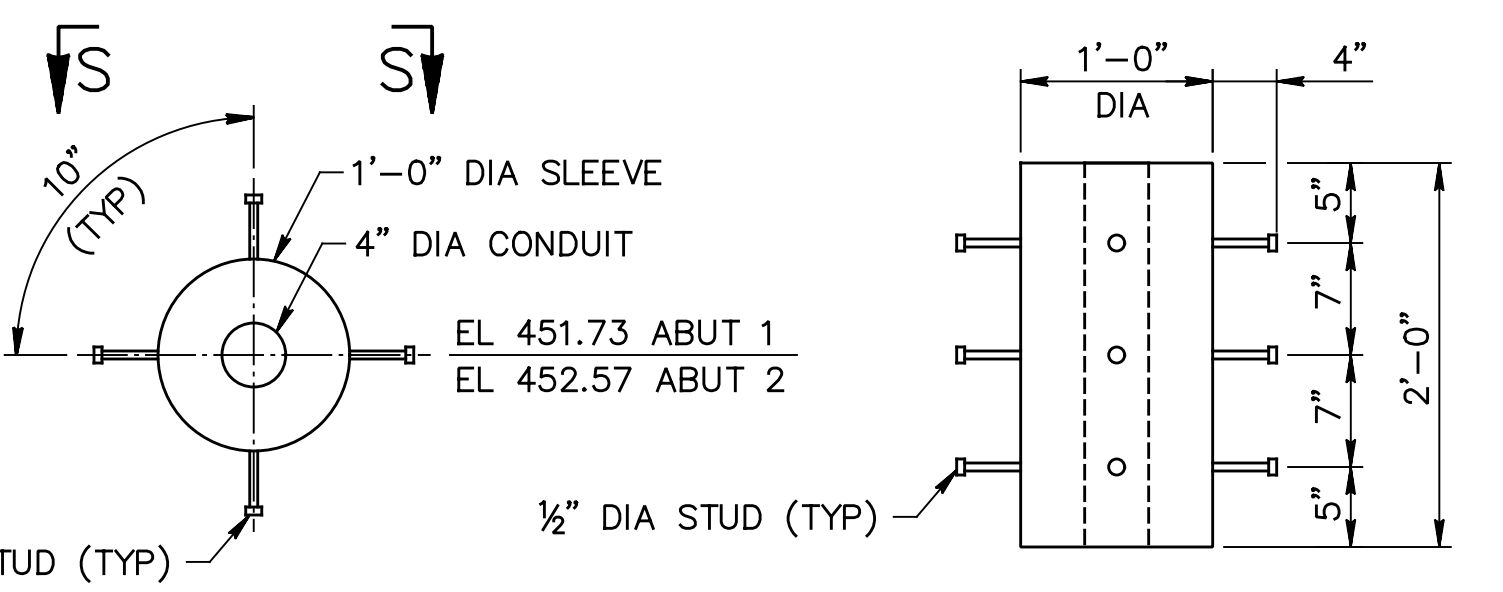
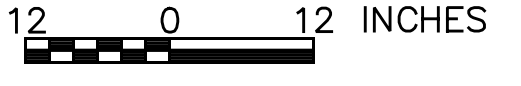
**SOUTHBOUND ABUTMENT
 DIAPHRAGM ELEVATION**

DRAWING: 37 OF 69
 SHEET: 74 OF 116

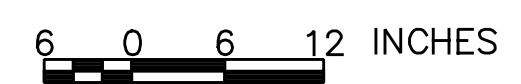


NORTHBOUND ABUTMENT DIAPHRAGM PARTIAL ELEVATION

(LOOKING BACK STATION)
 (ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR BUT OPPOSITE HAND)
 (ABUTMENT 2 REINFORCEMENT IN PARENTHESIS)

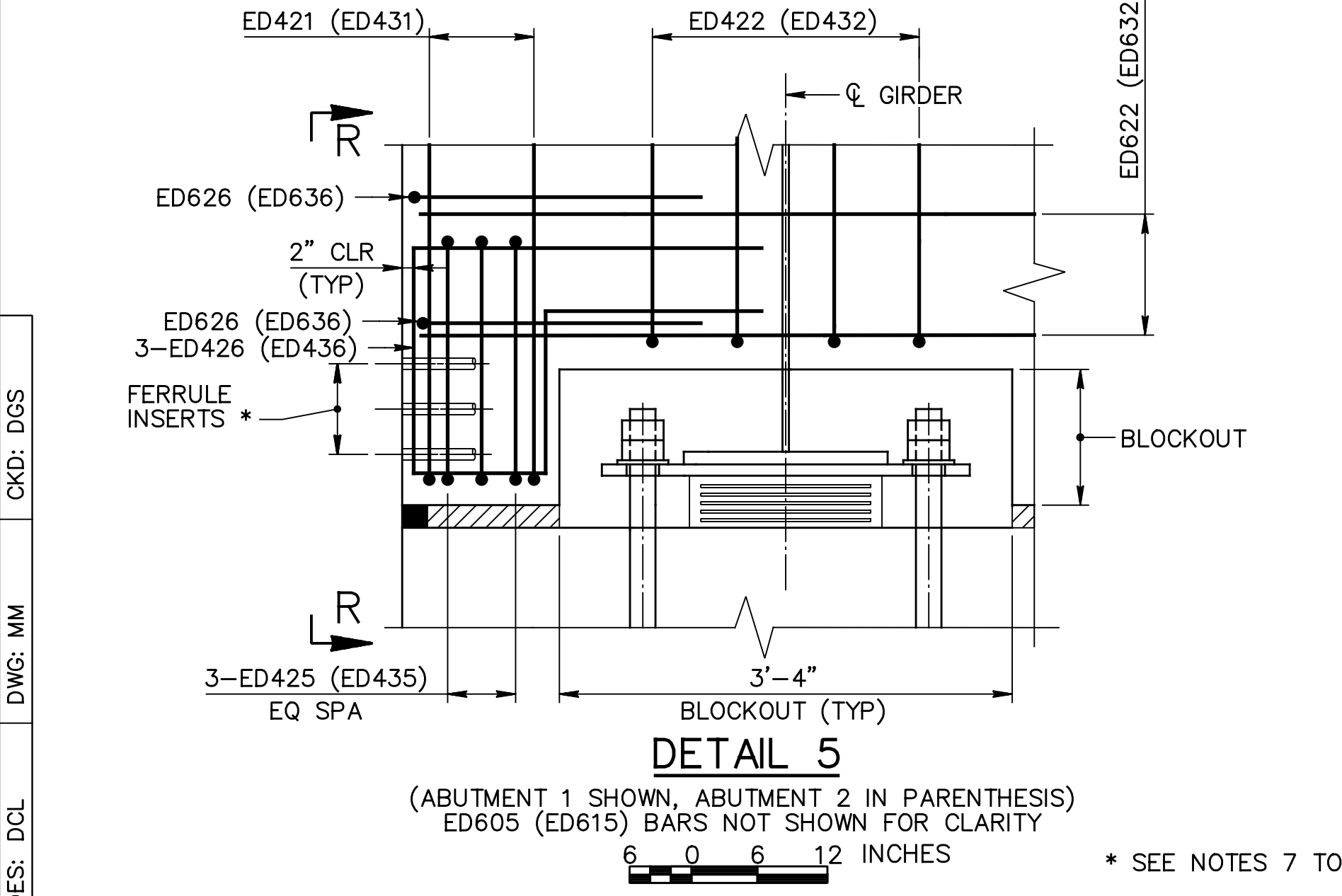


12\"/>



- NOTES:**
- FOR GENERAL NOTES, SEE SHEET 39.
 - FOR SECTIONS P-P AND Q-Q, AND VIEW R-R, SEE SHEET 76.
 - FOR ADDITIONAL WATERPROOFING DETAILS, SEE SHEET 53 AND BC-788M.
 - FOR DIAPHRAGM REINFORCING SCHEDULE, SEE SHEET 83.
 - SHIFT OR SPLAY REINFORCEMENT AS REQUIRED TO PROVIDE 1\"/>

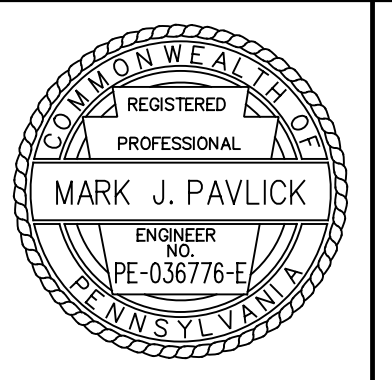
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 MODEL SHEET FILE
 DES: DCL DWG: MM CKD: DGS



DETAIL 5
 (ABUTMENT 1 SHOWN, ABUTMENT 2 IN PARENTHESIS)
 ED605 (ED615) BARS NOT SHOWN FOR CLARITY



* SEE NOTES 7 TO 9



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 03555tabtdiadet02.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355

SCALE: AS SHOWN

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66

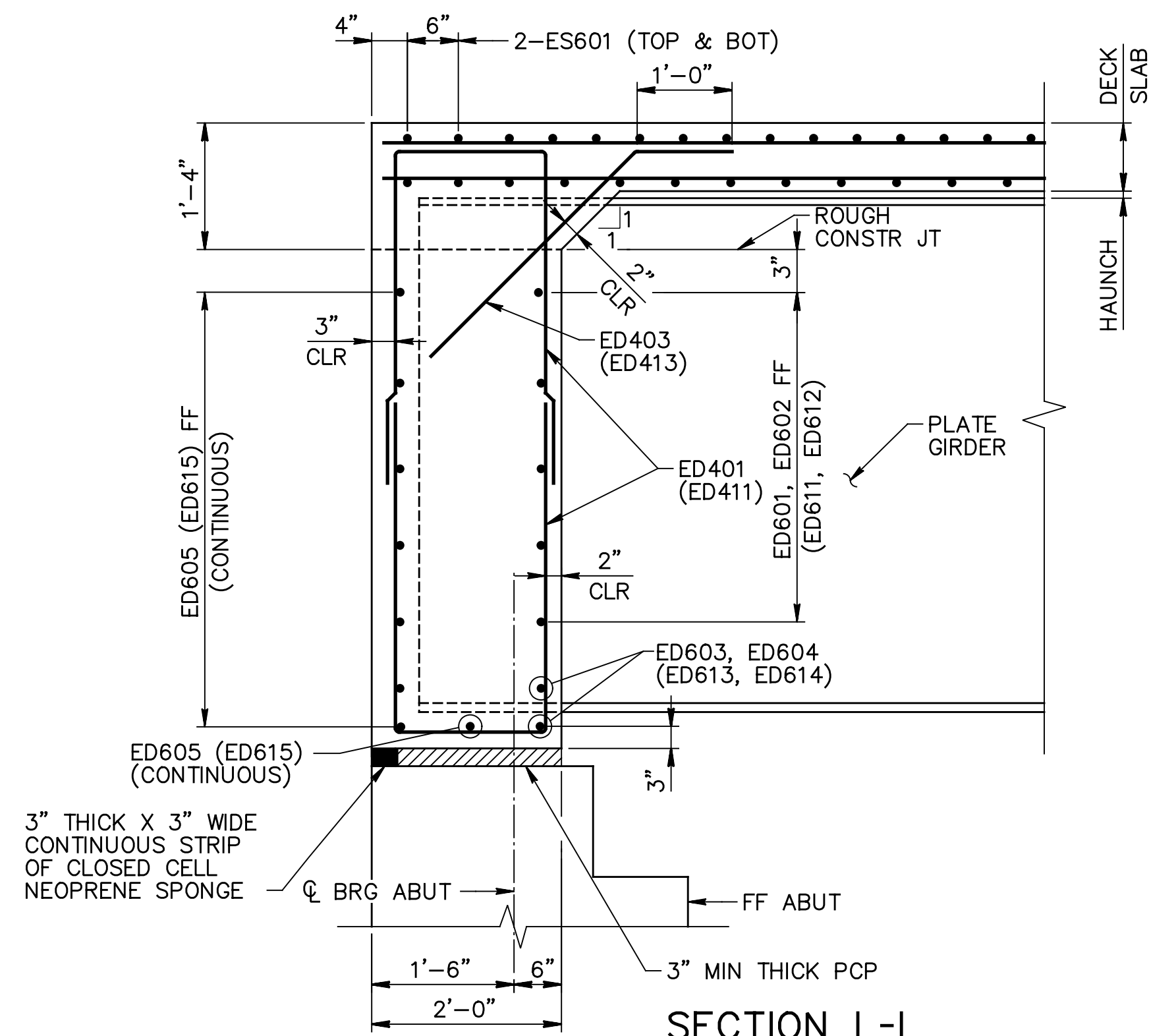
DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

NORTHBOUND ABUTMENT
DIAPHRAGM ELEVATION

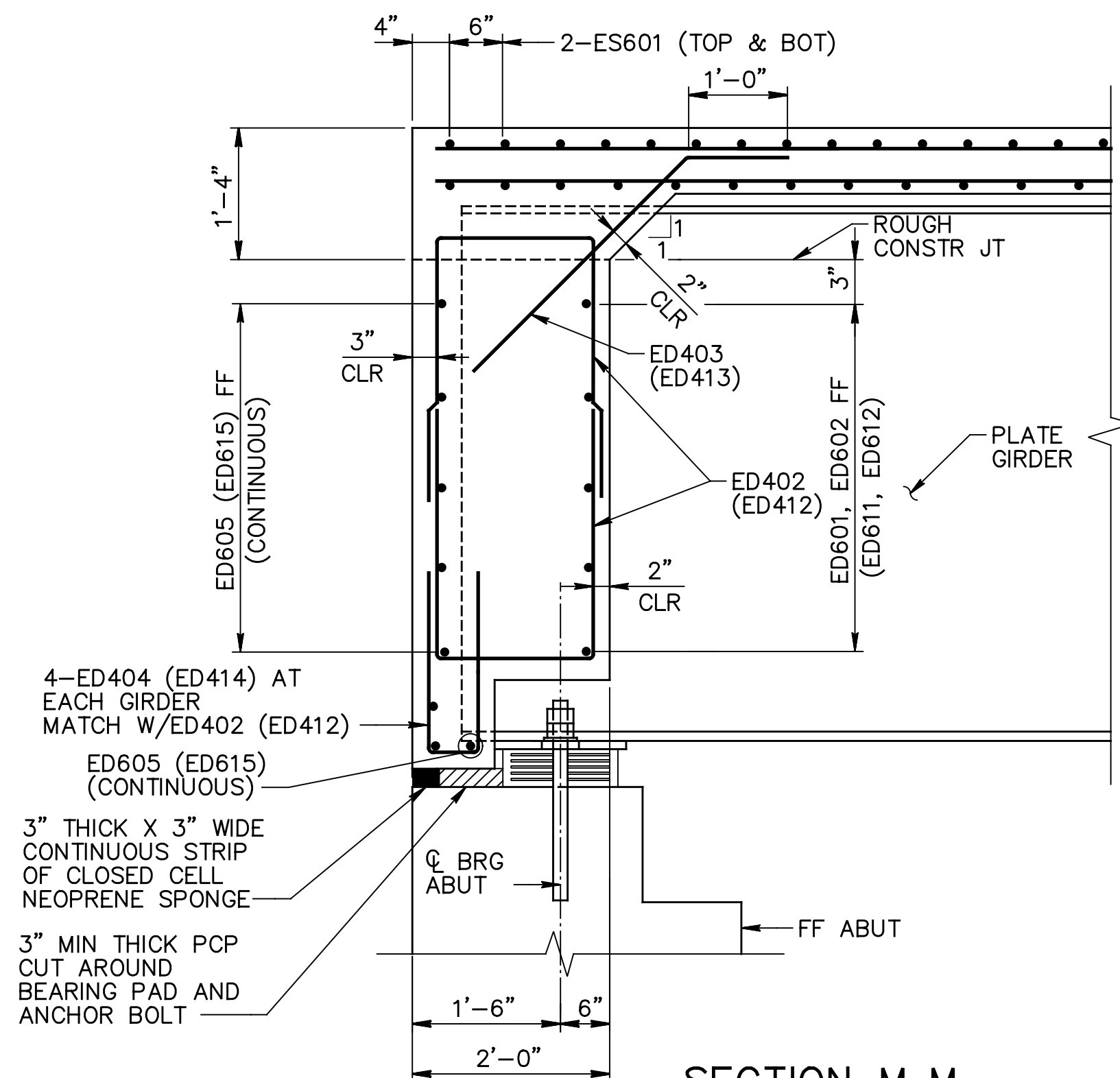
DRAWING: 38 OF 69
 SHEET: 75 OF 116

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:36:53 PM
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 MODEL SHEET FILE

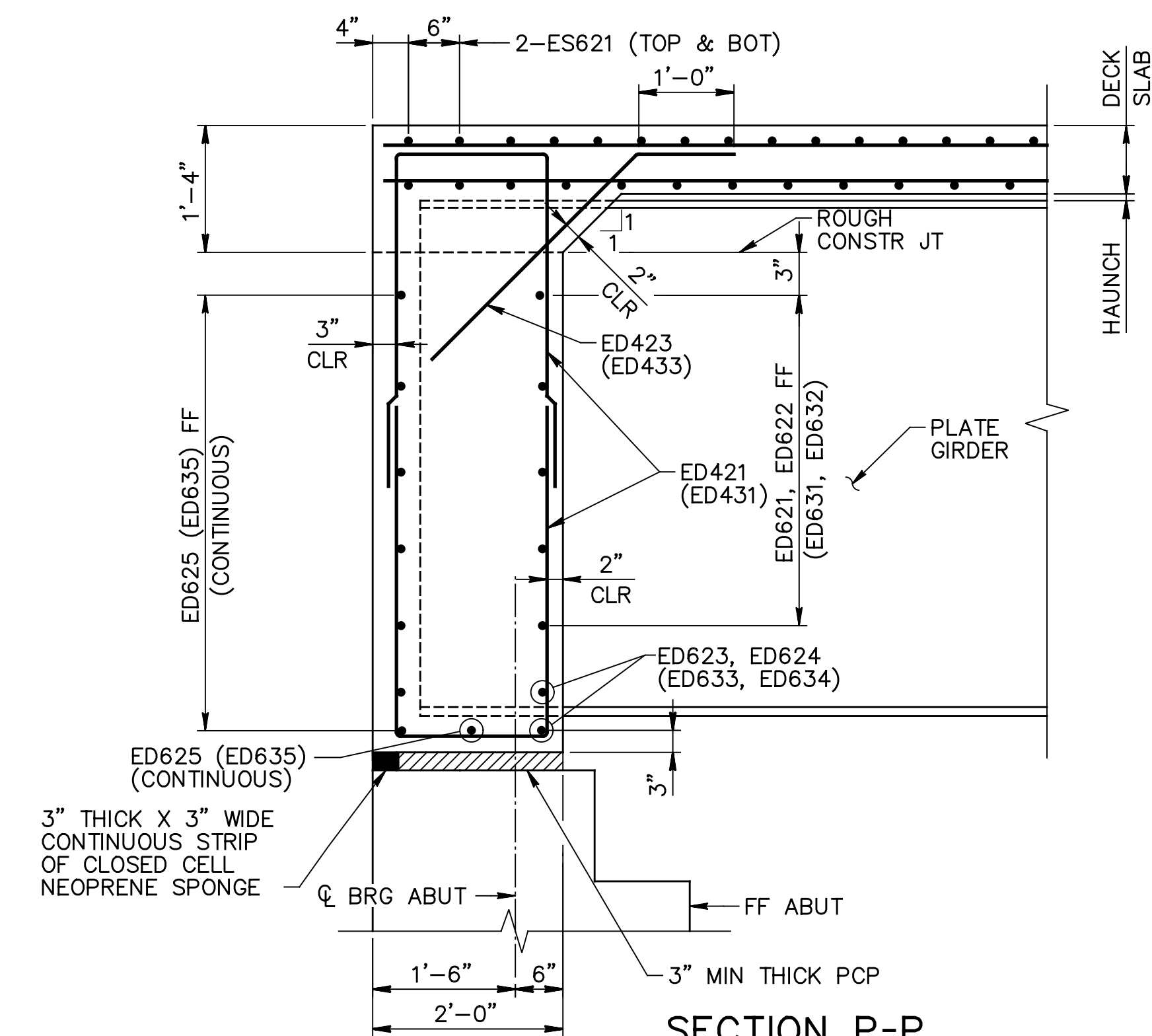
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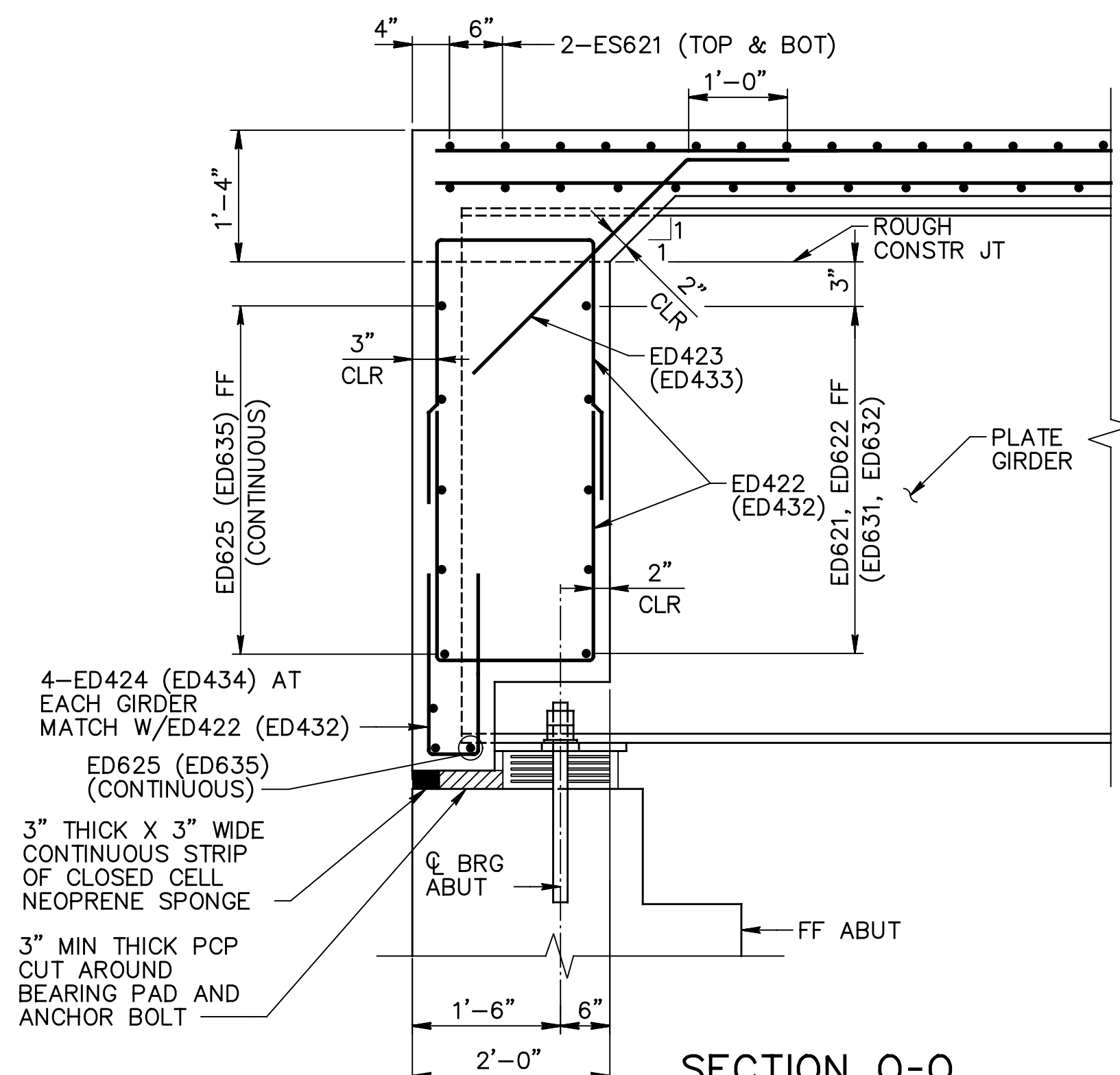
SECTION L-L
 (ABUTMENT 1 REINFORCEMENT SHOWN,
 ABUTMENT 2 REINFORCEMENT IN PARENTHESIS)
 12 0 12 INCHES



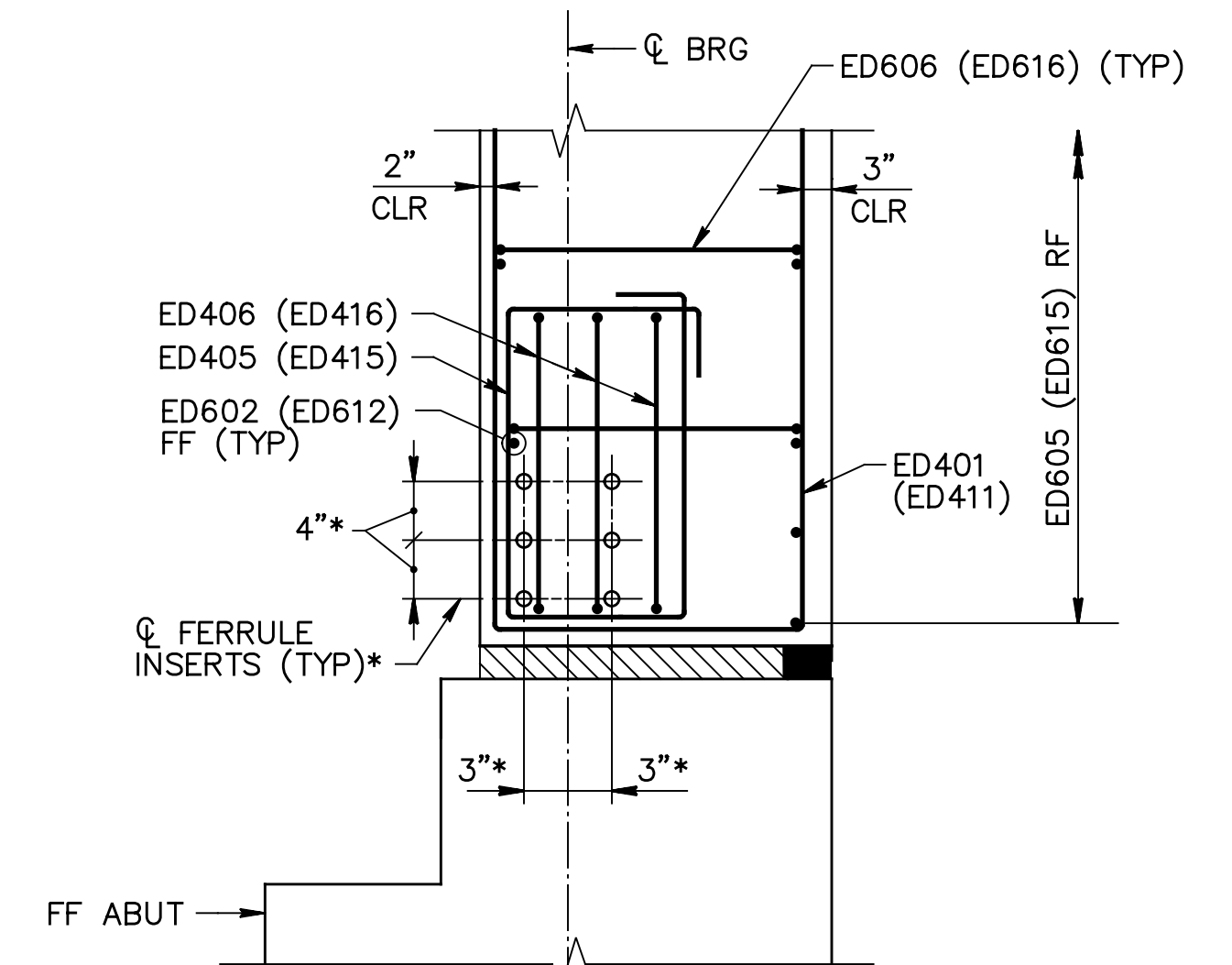
SECTION M-M
 (ABUTMENT 1 REINFORCEMENT SHOWN,
 ABUTMENT 2 REINFORCEMENT IN PARENTHESIS)
 12 0 12 INCHES



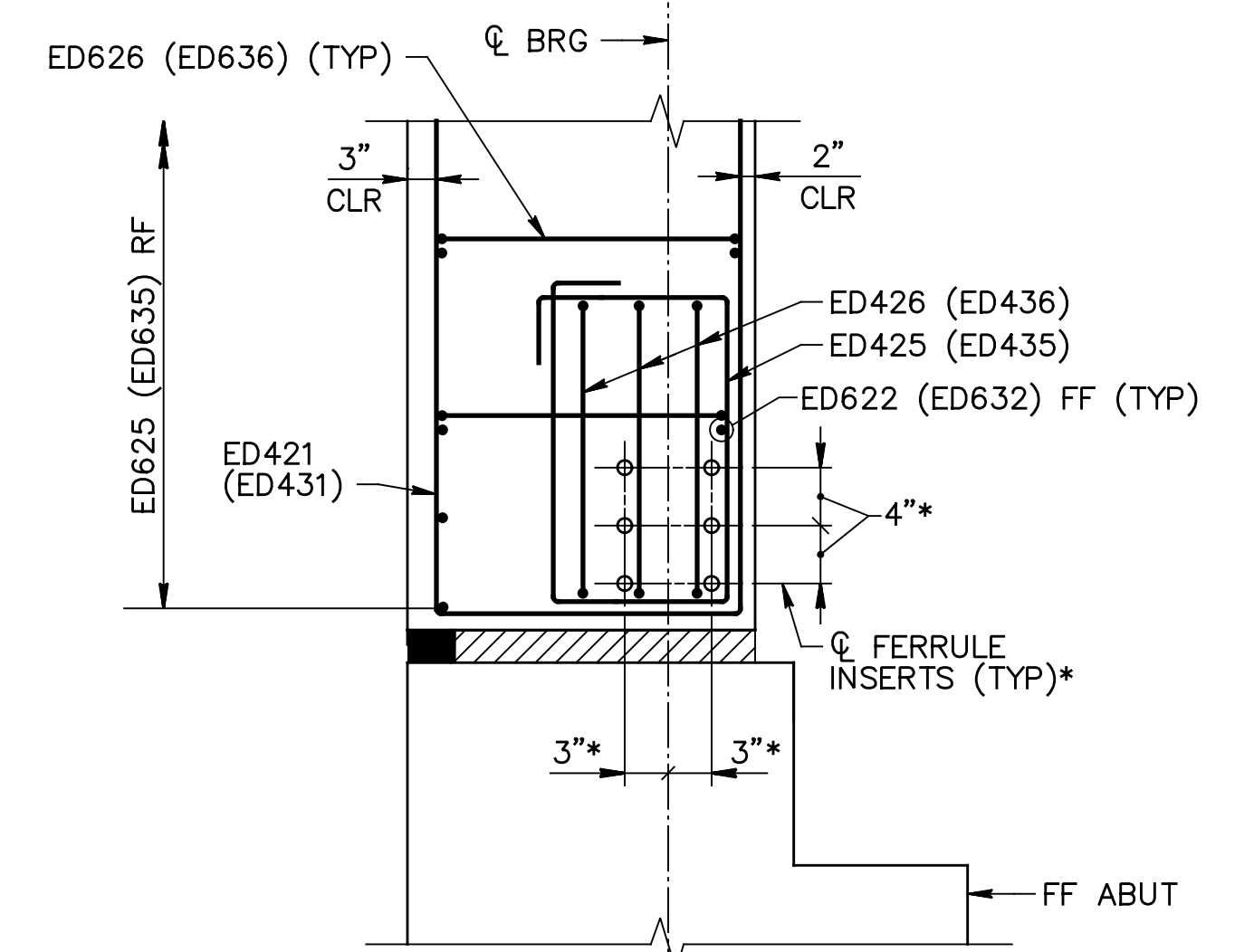
SECTION P-P
 (ABUTMENT 1 REINFORCEMENT SHOWN,
 ABUTMENT 2 REINFORCEMENT IN PARENTHESIS)
 12 0 12 INCHES



SECTION Q-Q
 (ABUTMENT 1 REINFORCEMENT SHOWN,
 ABUTMENT 2 REINFORCEMENT IN PARENTHESIS)
 12 0 12 INCHES



VIEW N-N
 (ABUTMENT 1 REINFORCEMENT SHOWN,
 ABUTMENT 2 REINFORCEMENT IN PARENTHESIS)
 6 0 6 12 INCHES



VIEW R-R
 (ABUTMENT 1 REINFORCEMENT SHOWN,
 ABUTMENT 2 REINFORCEMENT IN PARENTHESIS)
 6 0 6 12 INCHES

- NOTES:**
- FOR GENERAL NOTES, SEE SHEET 39.
 - FOR DIAPHRAGM REINFORCING SCHEDULE, SEE SHEET 83.
 - FOR CONCEPTUAL LATERAL JACKING DETAIL, SEE SHEET 90.
 - THE SIZE AND SPACING OF FERRULE INSERTS ARE TO BE DETERMINED BY THE CONTRACTOR. ADJUST THE REINFORCEMENT AS NECESSARY TO ACCOMMODATE THE FERRULE INSERTS. PROVIDE 2" CLEAR TO ALL FACES OF CONCRETE.
 - THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE CAPACITY OF ALL TEMPORARY AND PERMANENT BRIDGE COMPONENTS SUBJECTED TO LATERAL JACKING FORCES.



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121

FILE NAME: 03555Tabtdiadet03.dgn

DRAWING TYPE: 2G

STRUCTURE NUMBER: NB-355

SCALE: AS SHOWN

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66

DISTRICT: 5 COUNTY: LEHIGH

TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

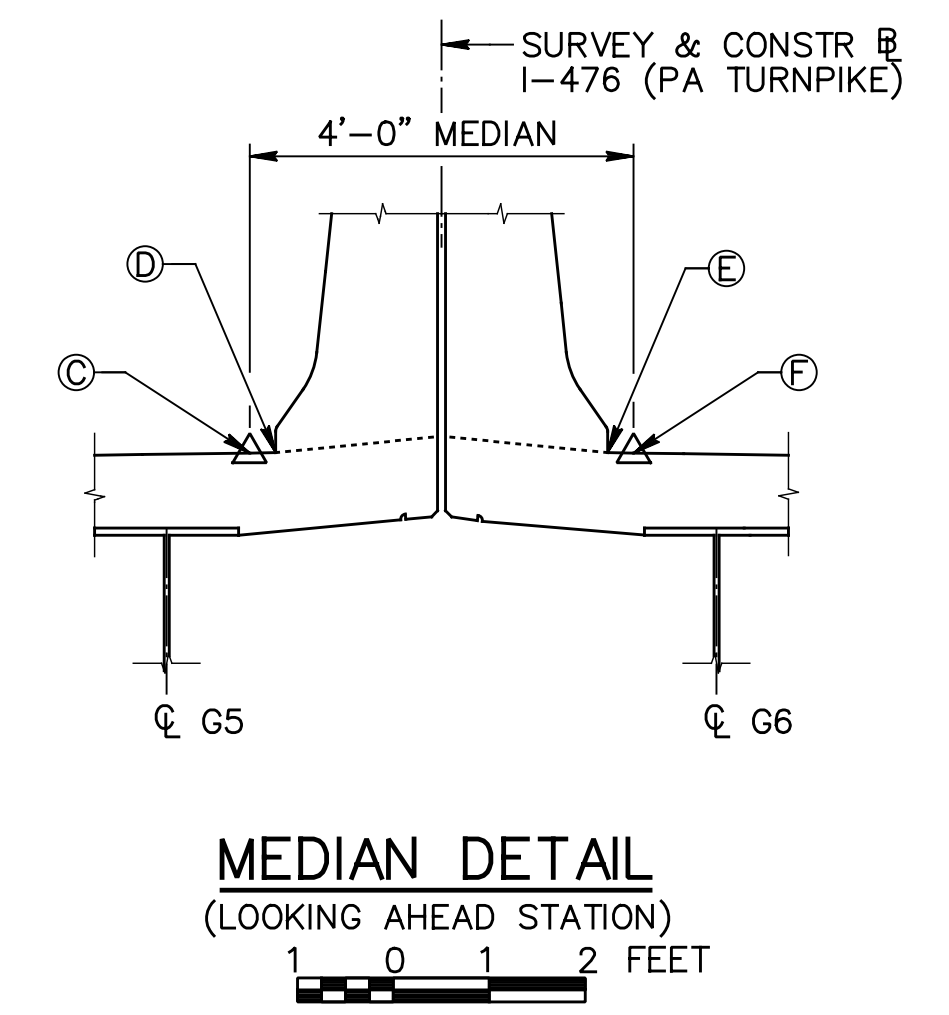
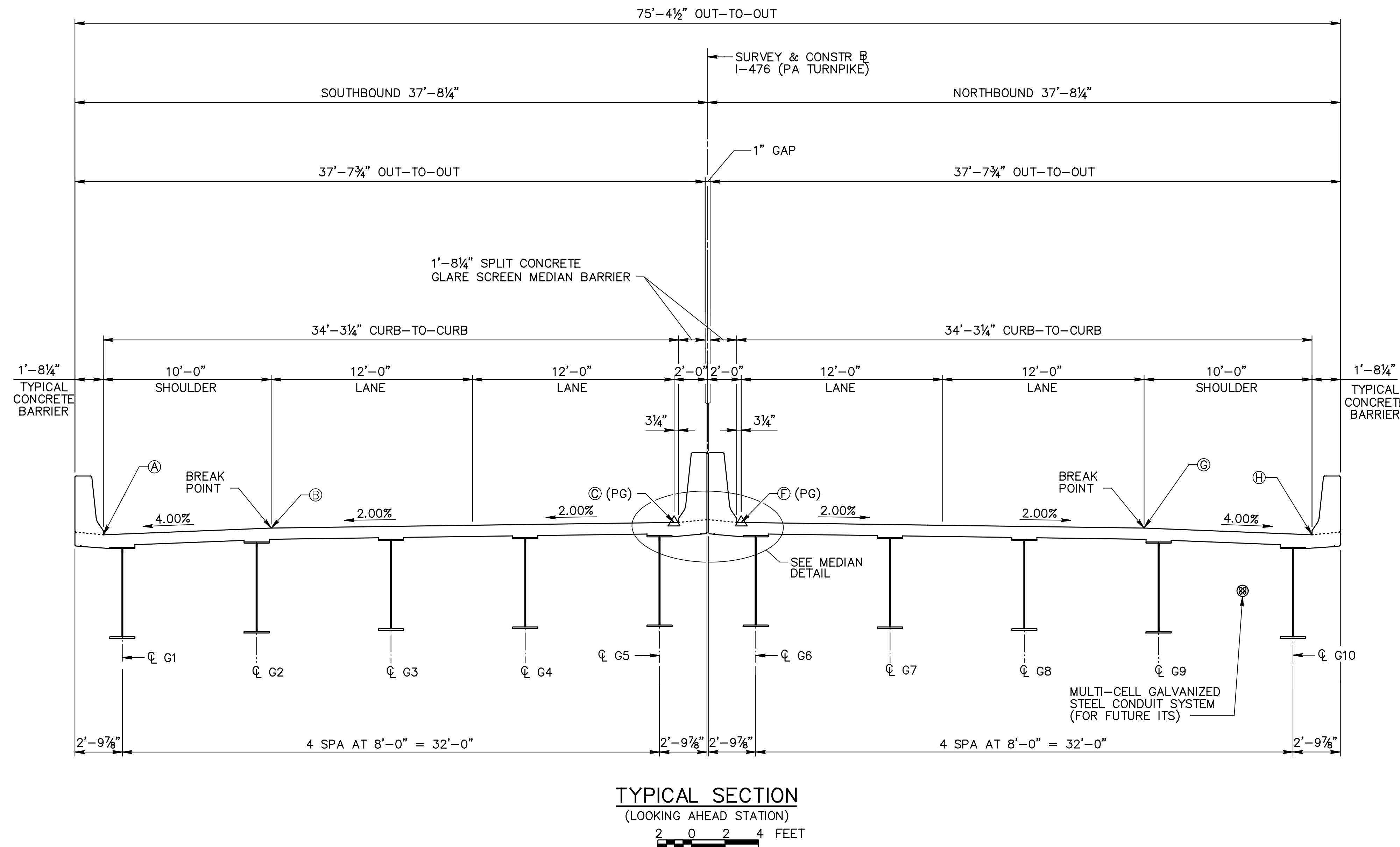
ABUTMENT DIAPHRAGM DETAILS

DRAWING: 39 OF 69

SHEET: 76 OF 116

TOP OF DECK ELEVATIONS AT 10' INTERVALS								
STATION	A	B	C (PG)	D	E	F (PG)	G	H
651+72.36	454.55	454.95	455.43	455.44	455.44	455.43	454.95	454.55
651+73.86	454.56	454.96	455.44	455.45	455.45	455.44	454.96	454.56
651+80.00	454.61	455.01	455.49	455.49	455.49	455.49	455.01	454.61
651+90.00	454.68	455.08	455.56	455.57	455.57	455.56	455.08	454.68
652+00.00	454.75	455.15	455.63	455.64	455.64	455.63	455.15	454.75
652+10.00	454.83	455.23	455.71	455.71	455.71	455.71	455.23	454.83
652+20.00	454.90	455.30	455.78	455.78	455.78	455.78	455.30	454.90
652+30.00	454.97	455.37	455.85	455.86	455.86	455.85	455.37	454.97
652+40.00	455.04	455.44	455.92	455.93	455.93	455.92	455.44	455.04
652+50.00	455.12	455.52	456.00	456.00	456.00	456.00	455.52	455.12
652+60.00	455.19	455.59	456.07	456.08	456.08	456.07	455.59	455.19
652+70.00	455.26	455.66	456.14	456.15	456.15	456.14	455.66	455.26
652+80.00	455.34	455.74	456.22	456.22	456.22	456.22	455.74	455.34
652+88.86	455.40	455.80	456.28	456.29	456.29	456.28	455.80	455.40
652+90.36	455.41	455.81	456.29	456.30	456.30	456.29	455.81	455.41

TOP OF DECK ELEVATIONS ALONG GIRDERS AT TENTH POINTS											
STATION	LOCATION	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
651+73.86	ABUT 1	454.61	454.93	455.10	455.26	455.42	455.42	455.26	455.10	454.93	454.61
651+85.36	0.1 L	454.69	455.01	455.19	455.35	455.51	455.51	455.35	455.19	455.01	454.69
651+96.86	0.2 L	454.78	455.10	455.27	455.43	455.59	455.59	455.43	455.27	455.10	454.78
652+08.36	0.3 L	454.86	455.18	455.36	455.52	455.68	455.68	455.52	455.36	455.18	454.86
652+19.86	0.4 L	454.94	455.26	455.44	455.60	455.76	455.76	455.60	455.44	455.26	454.94
652+31.36	0.5 L	455.03	455.35	455.52	455.68	455.84	455.84	455.68	455.52	455.35	455.03
652+42.86	0.6 L	455.11	455.43	455.61	455.77	455.93	455.93	455.77	455.61	455.43	455.11
652+54.36	0.7 L	455.19	455.51	455.69	455.85	456.01	456.01	455.85	455.69	455.51	455.19
652+65.86	0.8 L	455.28	455.60	455.78	455.94	456.10	456.10	455.94	455.78	455.60	455.28
652+77.36	0.9 L	455.36	455.68	455.86	456.02	456.18	456.18	456.02	455.86	455.68	455.36
652+88.86	ABUT 2	455.45	455.77	455.94	456.10	456.26	456.26	456.10	455.94	455.77	455.45

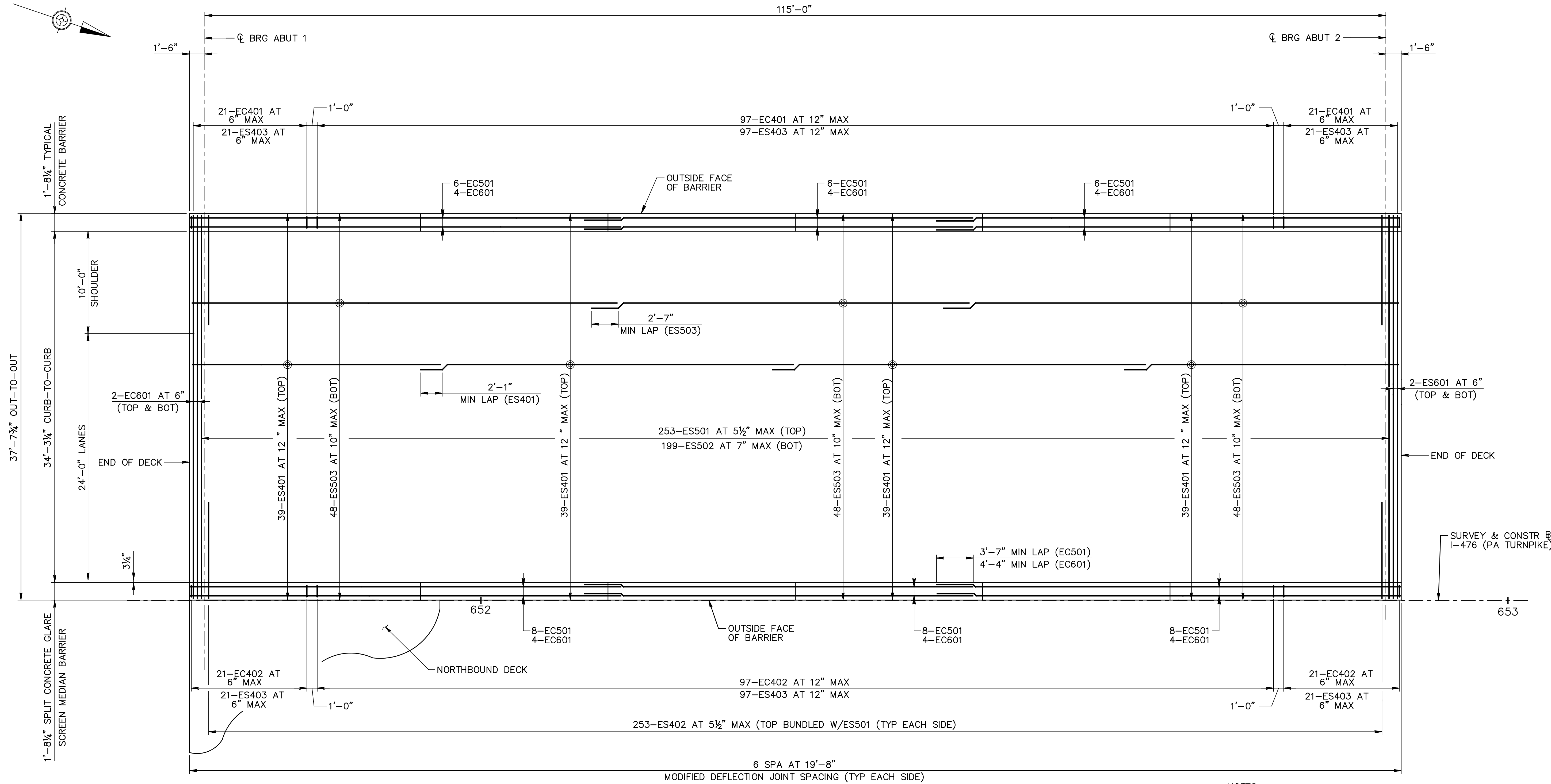


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 MODEL SHEET FILE
 DES: DCL DWG: MM CKD: SJV

	PREPARED BY: HDR Engineering, Inc. 11 STANWIX STREET, SUITE 800 PITTSBURGH, PA 15222		WBS NO. A-057.66S002-3-02	BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	DECK ELEVATIONS
	PREPARED FOR: THE PENNSYLVANIA TURNPIKE COMMISSION		NETWORK NUMBER: 7004121 FILE NAME: 03555Tdelev.dgn DRAWING TYPE: 2G STRUCTURE NUMBER: NB-355		
NO. REVISIONS DATE APPR.			SCALE: AS SHOWN	DRAWING: 40 OF 69 SHEET: 77 OF 116	

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.pltsg PLOT DATE: 09-02-2016 3:37:26 PM
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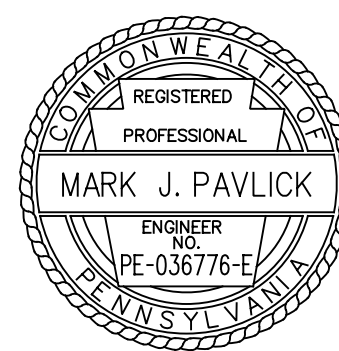
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SOUTHBOUND DECK PLAN

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 39.
2. WORK THIS SHEET WITH SHEETS 80 TO 82.
3. FOR DECK ELEVATIONS, SEE SHEET 77.
4. FOR SUPERSTRUCTURE REINFORCEMENT SCHEDULE, SEE SHEET 83.
5. FOR DIAPHRAGM DETAILS, SEE SHEETS 74 TO 76.



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 THE PENNSYLVANIA
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NO.	REVISIONS	DATE	APPR.

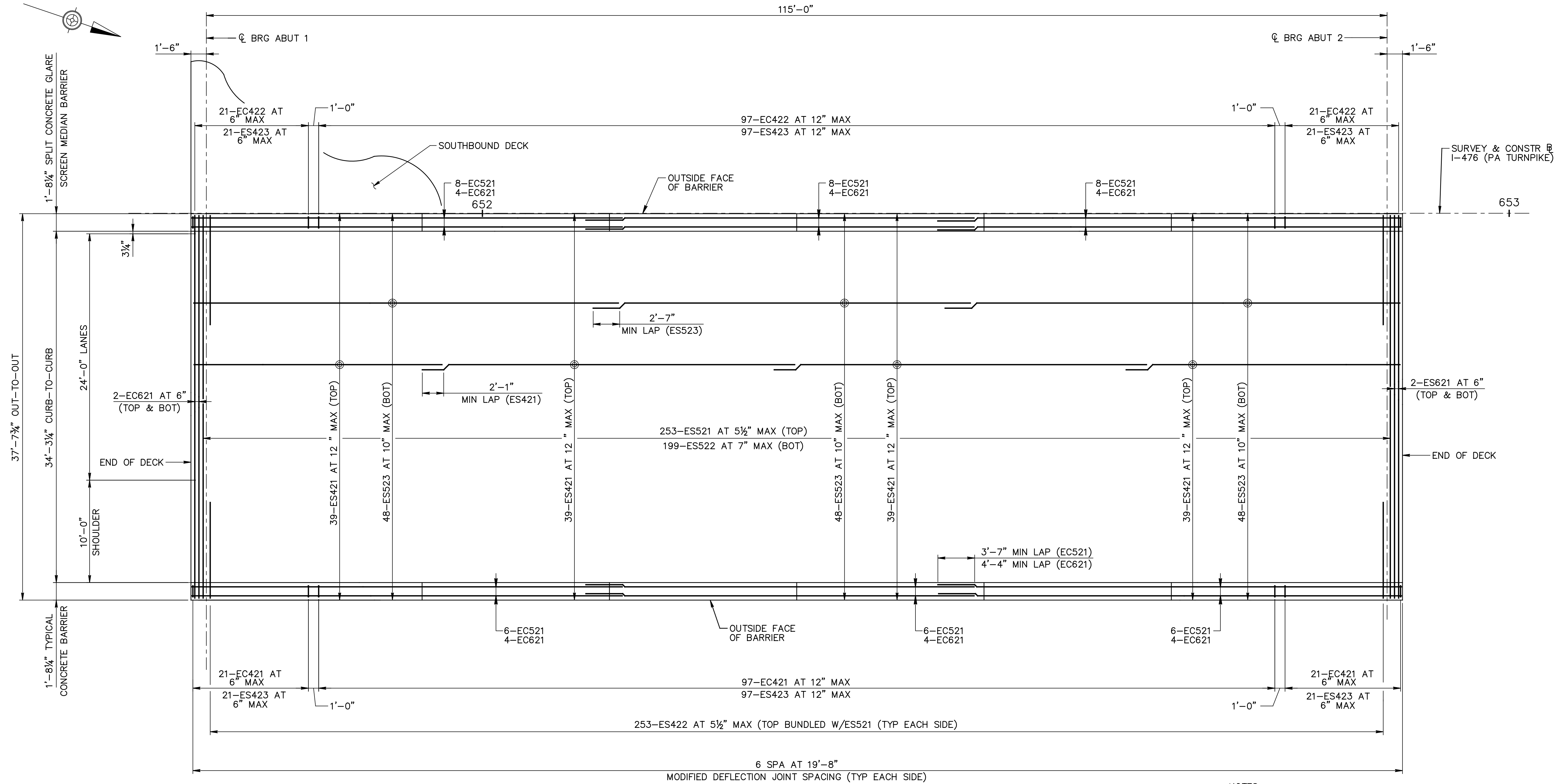
WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 03555Tdp.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355
 SCALE: 2.5 0 2.5 5 FEET

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

SOUTHBOUND DECK PLAN
 DRAWING: 41 OF 69
 SHEET: 78 OF 116

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:37:46 PM
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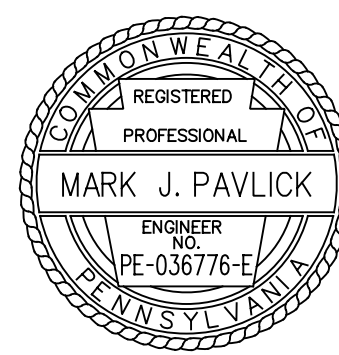
DES: DCL DWG: MM CKD: DGS



NORTHBOUND DECK PLAN

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 39.
2. WORK THIS SHEET WITH SHEETS 80 TO 82.
3. FOR DECK ELEVATIONS, SEE SHEET 77.
4. FOR SUPERSTRUCTURE REINFORCEMENT SCHEDULE, SEE SHEET 83.
5. FOR DIAPHRAGM DETAILS, SEE SHEETS 74 TO 76.



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 0355STdp2.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355

SCALE: 2.5 0 2.5 5 FEET

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

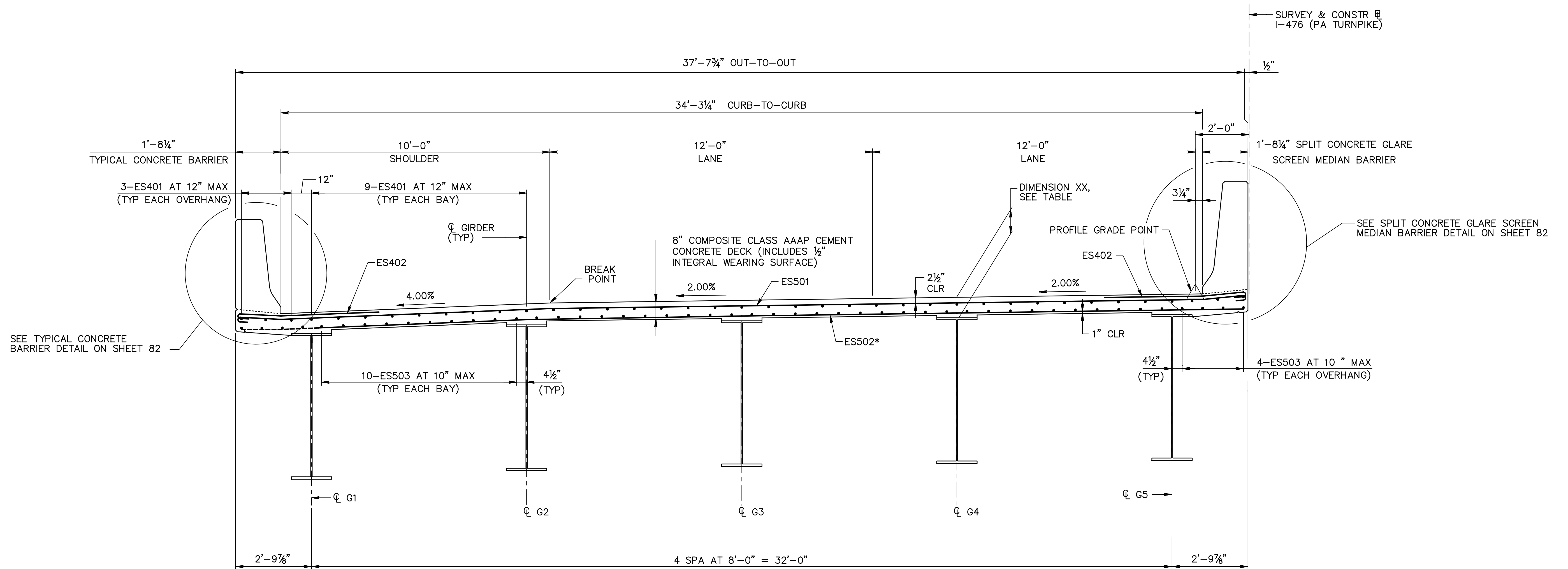
DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

NORTHBOUND DECK PLAN

DRAWING: 42 OF 69
 SHEET: 79 OF 116

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.pltsg PLOT DATE: 09-02-2016 3:36:03 PM
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DES: DCL DWG: MM CKD: DGS



SOUTHBOUND TYPICAL DECK SECTION
 LOOKING AHEAD STATION

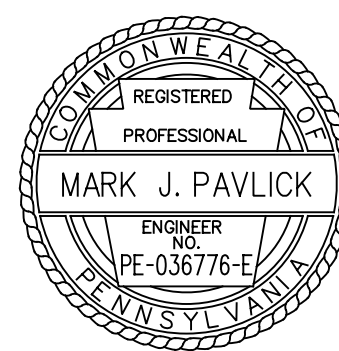
TABLE OF DIMENSION XX (INCHES)
 TOP OF DECK TO TOP OF WEB AT ϕ GIRDER

GIRDER 1	10 1/4"
GIRDER 2	10 1/4"
GIRDER 3	10 1/8"
GIRDER 4	10 1/8"
GIRDER 5	10 1/8"

* EXTEND ONE HALF OF THE ES502 BARS ACROSS THE FULL WIDTH OF THE OVERHANG. EXTEND THE ALTERNATE BARS WHICH DO NOT EXTEND INTO THE OVERHANG 6" MINIMUM BEYOND THE INTERIOR EDGE OF THE FLANGE OF THE FASCIA GIRDER.

NOTES

- FOR GENERAL NOTES, SEE SHEET 39.
- FOR DECK SLAB REINFORCEMENT SCHEDULE, SEE SHEET 83.
- WORK THIS SHEET WITH SHEETS 78 AND 82.
- FOR DECK ELEVATIONS, SEE SHEET 77.
- BEAM HAUNCH REINFORCEMENT WAS NOT DETERMINED TO BE REQUIRED FOR COMPUTED BEAM CAMBERS. HOWEVER, PROVIDE HAUNCH REINFORCEMENT IN ACCORDANCE WITH BC-752M WHERE IRREGULAR BEAM CAMBERS OR OTHER CONSTRUCTION CONDITIONS PROVIDE ACTUAL HAUNCHES THAT EXCEED THE THICKNESS SPECIFIED IN BC-752M.



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PREPARED FOR:
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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 0355STds.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355

SCALE: 1 0 1 2 FEET

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66

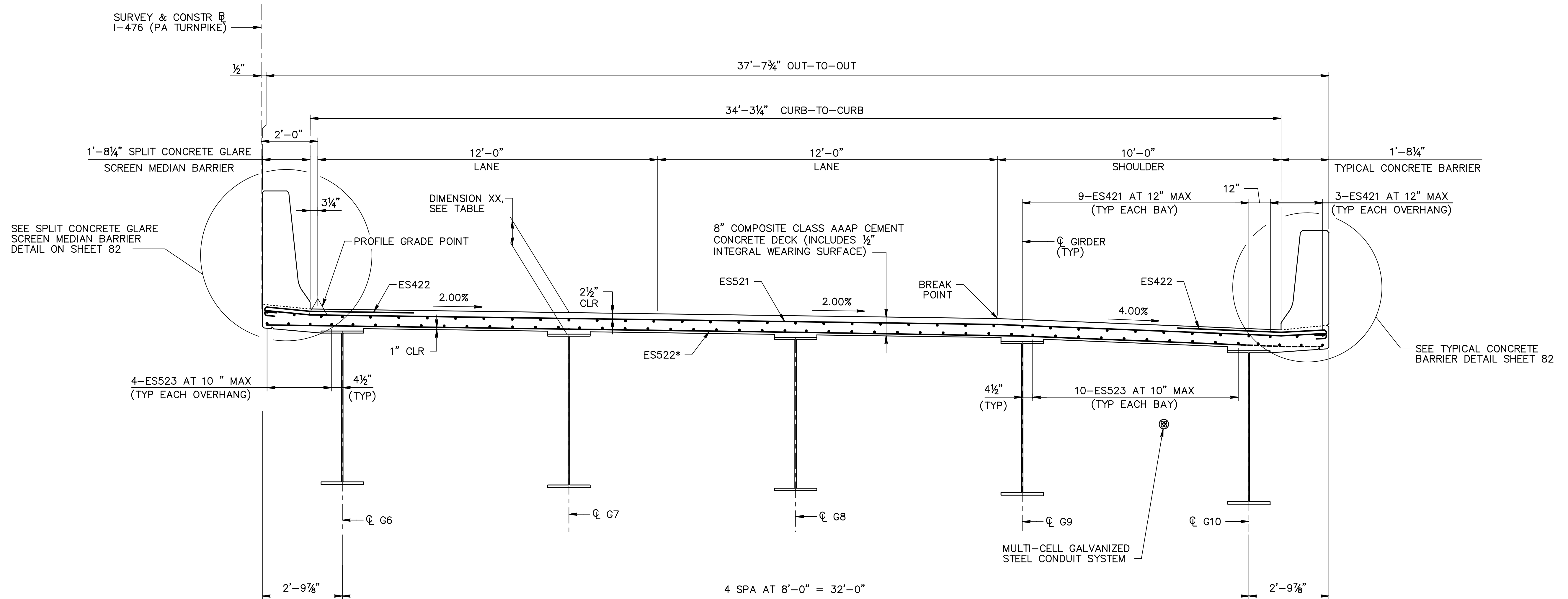
DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

SOUTHBOUND TYPICAL DECK SECTION

DRAWING: 43 OF 69
 SHEET: 80 OF 116

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:36:22 PM
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 MODEL SHEET FILE

DES: DCL DWG: MM CKD: DGS



NORTHBOUND TYPICAL DECK SECTION

LOOKING AHEAD STATION

TABLE OF DIMENSION XX (INCHES)	
TOP OF DECK TO TOP OF WEB AT ϕ GIRDER	
GIRDER 6	10 1/8"
GIRDER 7	10 1/8"
GIRDER 8	10 1/8"
GIRDER 9	10 1/4"
GIRDER 10	10 1/4"

* EXTEND ONE HALF OF THE ES522 BARS ACROSS THE FULL WIDTH OF THE OVERHANG. EXTEND THE ALTERNATE BARS WHICH DO NOT EXTEND INTO THE OVERHANG 6" MINIMUM BEYOND THE INTERIOR EDGE OF THE FLANGE OF THE FASCIA GIRDER.

NOTES

- FOR GENERAL NOTES, SEE SHEET 39.
- FOR DECK SLAB REINFORCEMENT SCHEDULE, SEE SHEET 83.
- WORK THIS SHEET WITH SHEETS 78 AND 82.
- FOR DECK ELEVATIONS, SEE SHEET 77.
- BEAM HAUNCH REINFORCEMENT WAS NOT DETERMINED TO BE REQUIRED FOR COMPUTED BEAM CAMBERS. HOWEVER, PROVIDE HAUNCH REINFORCEMENT IN ACCORDANCE WITH BC-752M WHERE IRREGULAR BEAM CAMBERS OR OTHER CONSTRUCTION CONDITIONS PROVIDE ACTUAL HAUNCHES THAT EXCEED THE THICKNESS SPECIFIED IN BC-752M.



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NO.	REVISIONS	DATE	APPR.

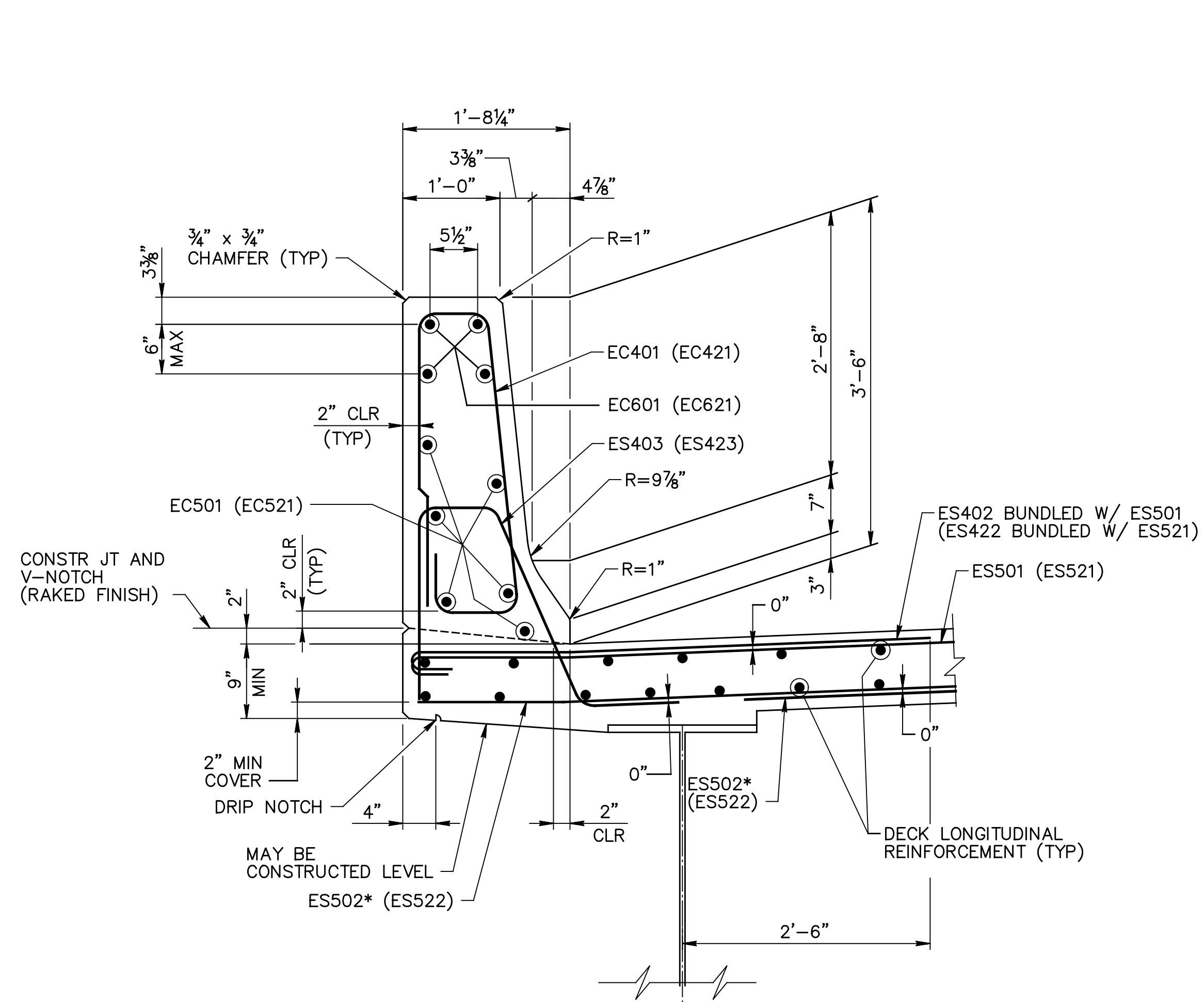
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A-057.66S002-3-02
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 STRUCTURE NUMBER: NB-355
 SCALE: 1 0 1 2 FEET

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

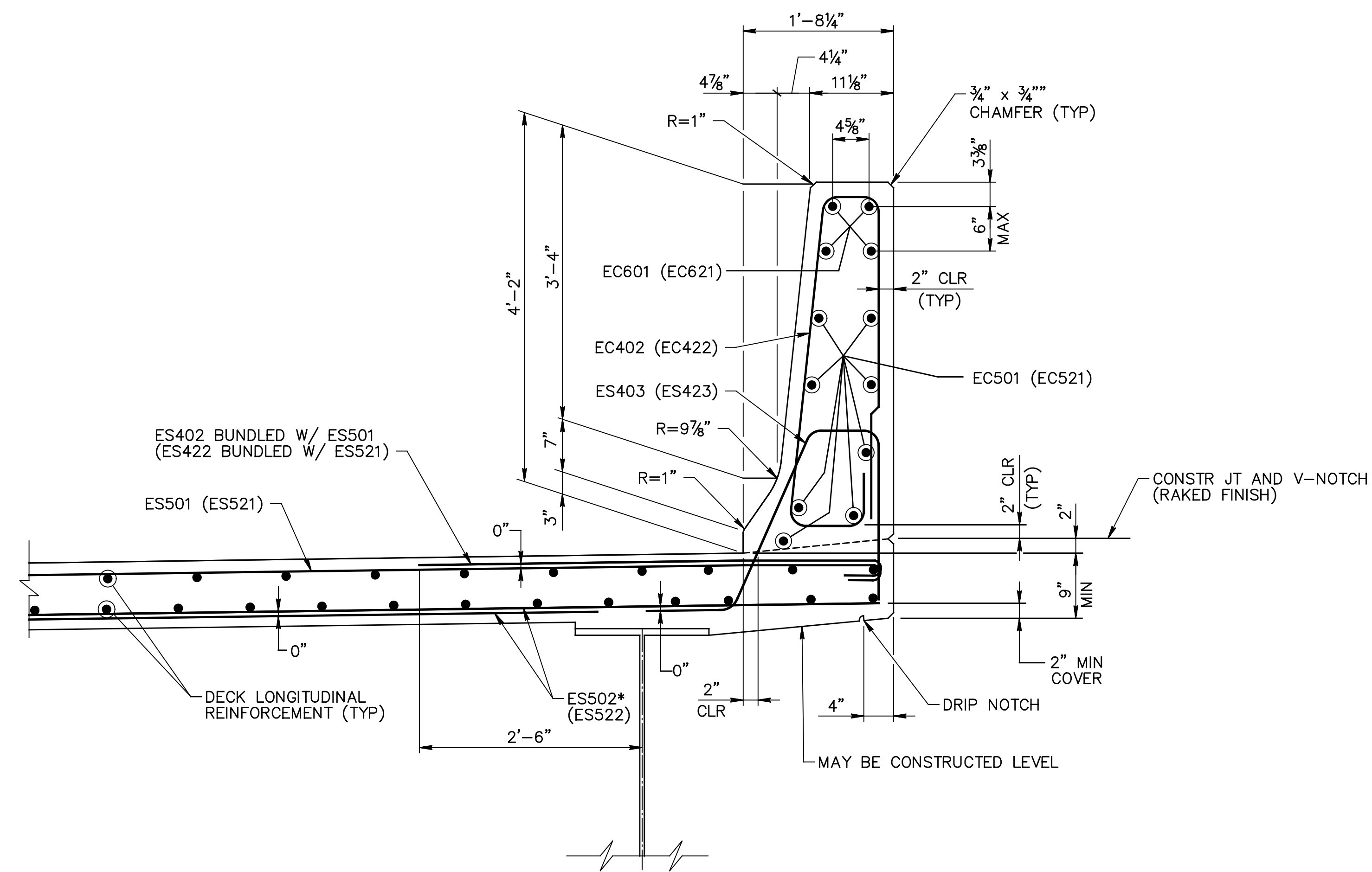
NORTHBOUND TYPICAL DECK SECTION
 DRAWING: 44 OF 69
 SHEET: 81 OF 116

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.pltsg PLOT DATE: 09-02-2016 3:36:36 PM
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 MODEL SHEET FILE

DES: DCL DWG: MM CKD: DGS



TYPICAL CONCRETE BARRIER DETAIL
 (SOUTHBOUND SHOWN, NORTHBOUND IN PARENTHESIS)

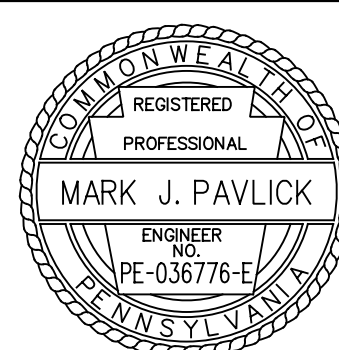


**SPLIT CONCRETE GLARE SCREEN
 MEDIAN BARRIER DETAIL**
 (SOUTHBOUND SHOWN, NORTHBOUND IN PARENTHESIS)

* EXTEND ONE HALF OF THE ES502 (ES522) BARS ACROSS THE FULL WIDTH OF THE OVERHANG. EXTEND THE ALTERNATE BARS WHICH DO NOT EXTEND INTO THE OVERHANG 6" MINIMUM BEYOND THE INTERIOR EDGE OF THE FLANGE OF THE FASCIA GIRDER.

NOTES:

- FOR GENERAL NOTES, SEE SHEET 39.
- FOR DECK ELEVATIONS, SEE SHEET 77.
- WORK THIS SHEET WITH SHEETS 78 AND 80.
- FOR SUPERSTRUCTURE REINFORCEMENT SCHEDULE, SEE SHEET 83.
- FOR DRIP NOTCH DETAILS, SEE BC-775M.
- BEAM HAUNCH REINFORCEMENT WAS NOT DETERMINED TO BE REQUIRED FOR COMPUTED BEAM CAMBERS. HOWEVER, PROVIDE HAUNCH REINFORCEMENT IN ACCORDANCE WITH BC-752M WHERE IRREGULAR BEAM CAMBERS OR OTHER CONSTRUCTION CONDITIONS PROVIDE ACTUAL HAUNCHES THAT EXCEED THE THICKNESS SPECIFIED IN BC-752M.



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355STbd.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355
 SCALE: 6 0 6 12 INCHES

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

BARRIER DETAILS
 DRAWING: 45 OF 69
 SHEET: 82 OF 116

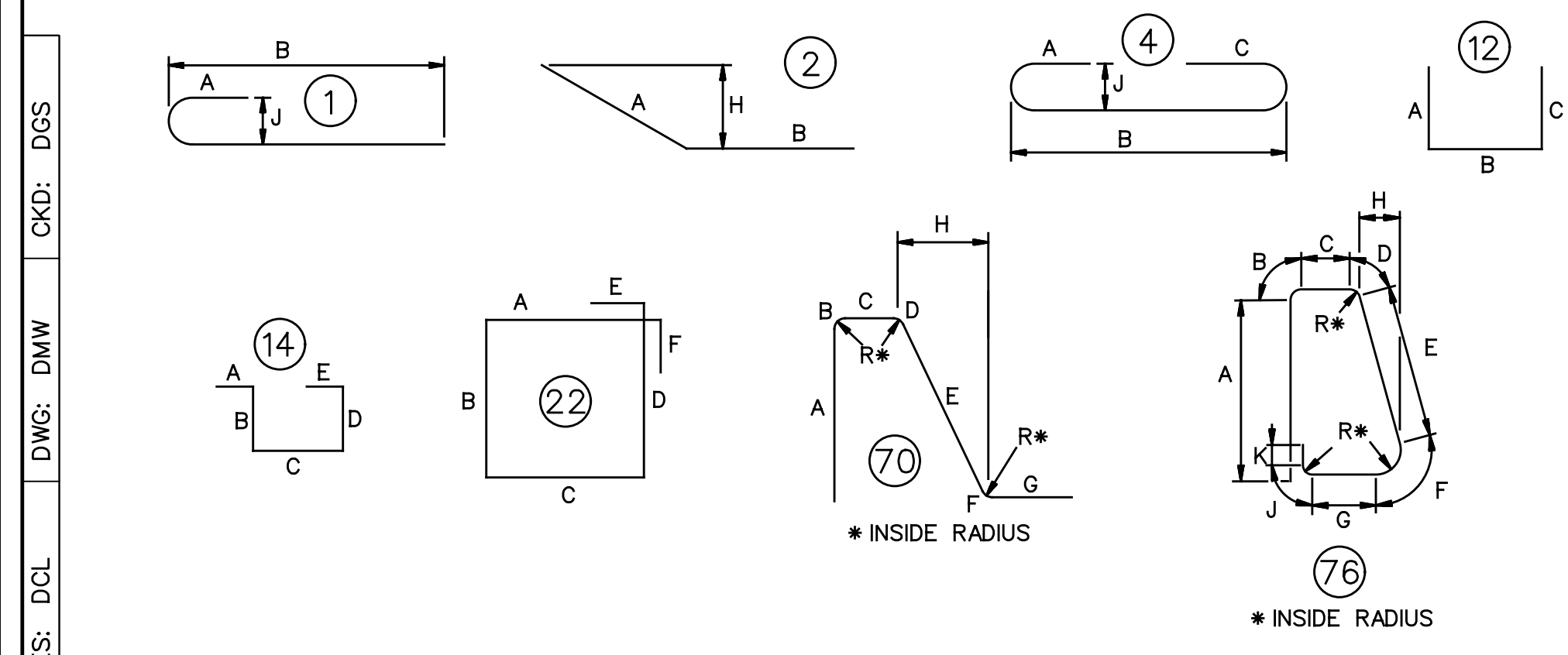
REINFORCEMENT BAR SCHEDULE

MARK	SIZE	LENGTH	NO.	TYPE	A	B	C	D	E	F	G	H	J	K	R	REMARKS
DECK SLAB - SOUTHBOUND																
ES401	4	31'-0	156	STR												
ES402	4	5'-8	506	1	6"	5'-2							4"			
ES403	4	5'-9/2	278	70	1'-9	4"	4"	2 3/4"	1'-11	2 3/4"	1'-0	10/8"			2"	
ES501	5	38'-5 3/4	253	4	7"	37'-3 3/4	7"						5"			
ES502	5	34'-5	199	STR												
ES503	5	41'-0	144	STR												
ES601	6	37'-3 3/4	8	STR												
EC401	4	8'-0/8	139	76	2'-9/2	4"	3 3/8"	3 5/8"	2'-7 3/4	4/8"	6 3/4"	3 3/8"	4"	5"	2"	
EC402	4	9'-3/4	139	76	3'-5/2	4"	2/2"	3 3/8"	3'-3 3/4	4/8"	6 3/4"	4/8"	4"	5"	2"	
EC501	5	41'-8	42	STR												
EC601	6	42'-2	24	STR												
ABUTMENT 1 DIAPHRAGM - SOUTHBOUND																
ED401	4	9'-11	72	12	4'-2	1'-7	4'-2									
ED402	4	7'-7	40	12	3'-0	1'-7	3'-0									
ED403	4	4'-2	48	2	1'-0	3'-2						8/2"				
ED404	4	7'-8	20	12	3'-8	4"	3'-8									
ED405	4	5'-11	3	22	1'-0	1'-7	1'-0	1'-7	4/2"	4/2"						
ED406	4	6'-10	3	14	1'-4	1'-0	9"	1'-5	2'-4							
ED601	6	12'-4	15	STR												
ED602	6	8'-10	10	STR												
ED603	6	4'-4	8	STR												
ED604	6	11"	4	STR												
ED605	6	37'-3 3/4	8	STR												
ED606	6	8'-3	10	12	3'-4	1'-7	3'-4									
ABUTMENT 2 DIAPHRAGM - SOUTHBOUND																
ED411	4	9'-11	72	12	4'-2	1'-7	4'-2									
ED412	4	7'-7	40	12	3'-0	1'-7	3'-0									
ED413	4	4'-2	48	2	1'-0	3'-2						8/2"				
ED414	4	7'-8	20	12	3'-8	4"	3'-8									
ED415	4	5'-11	3	22	1'-0	1'-7	1'-0	1'-7	4/2"	4/2"						
ED416	4	6'-10	3	14	1'-4	1'-0	9"	1'-5	2'-4							
ED611	6	12'-4	15	STR												
ED612	6	8'-10	10	STR												
ED613	6	4'-4	8	STR												
ED614	6	11"	4	STR												
ED615	6	37'-3 3/4	8	STR												
ED616	6	8'-3	10	12	3'-4	1'-7	3'-4									

REINFORCEMENT BAR SCHEDULE

MARK	SIZE	LENGTH	NO.	TYPE	A	B	C	D	E	F	G	H	J	K	R	REMARKS
DECK SLAB - NORTHBOUND																
ES421	4	31'-0	156	STR												
ES422	4	5'-8	506	1	6"	5'-2							4"			
ES423	4	5'-9/2	278	70	1'-9	4"	4"	2 3/4"	1'-11	2 3/4"	1'-0	10/8"			2"	
ES521	5	38'-5 3/4	253	4	7"	37'-3 3/4	7"						5"			
ES522	5	34'-5	199	STR												
ES523	5	41'-0	144	STR												
ES621	6	37'-3 3/4	8	STR												
EC421	4	8'-0/8	139	76	2'-9/2	4"	3 3/8"	3 5/8"	2'-7 3/4	4/8"	6 3/4"	3 3/8"	4"	5"	2"	
EC422	4	9'-3/4	139	76	3'-5/2	4"	2/2"	3 3/8"	3'-3 3/4	4/8"	6 3/4"	4/8"	4"	5"	2"	
EC521	5	41'-8	42	STR												
EC621	6	42'-2	24	STR												
ABUTMENT 1 DIAPHRAGM - NORTHBOUND																
ED421	4	9'-11	72	12	4'-2	1'-7	4'-2									
ED422	4	7'-7	40	12	3'-0	1'-7	3'-0									
ED423	4	4'-2	48	2	1'-0	3'-2						8/2"				
ED424	4	7'-8	20	12	3'-8	4"	3'-8									
ED425	4	5'-11	3	22	1'-0	1'-7	1'-0	1'-7	4/2"	4/2"						
ED426	4	6'-10	3	14	1'-4	1'-0	9"	1'-5	2'-4							
ED621	6	12'-4	15	STR												
ED622	6	8'-10	10	STR												
ED623	6	4'-4	8	STR												
ED624	6	11"	4	STR												
ED625	6	37'-3 3/4	8	STR												
ED626	6	8'-3	10	12	3'-4	1'-7	3'-4									
ED627	6	3'-0	8	STR												
ABUTMENT 2 DIAPHRAGM - NORTHBOUND																
ED431	4	9'-11	72	12	4'-2	1'-7	4'-2									
ED432	4	7'-7	40	12	3'-0	1'-7	3'-0									
ED433	4	4'-2	48	2	1'-0	3'-2						8/2"				
ED434	4	7'-8	20	12	3'-8	4"	3'-8									
ED435	4	5'-11	3	22	1'-0	1'-7	1'-0	1'-7	4/2"	4/2"						
ED436	4	6'-10	3	14	1'-4	1'-0	9"	1'-5	2'-4							
ED631	6	12'-4	15	STR												
ED632	6	8'-10	10	STR												
ED633	6	4'-4	8	STR												
ED634	6	11"	4	STR												
ED635	6	37'-3 3/4	8	STR												
ED636	6	8'-3	10	12	3'-4	1'-7	3'-4									
ED637	6	3'-0	8	STR												

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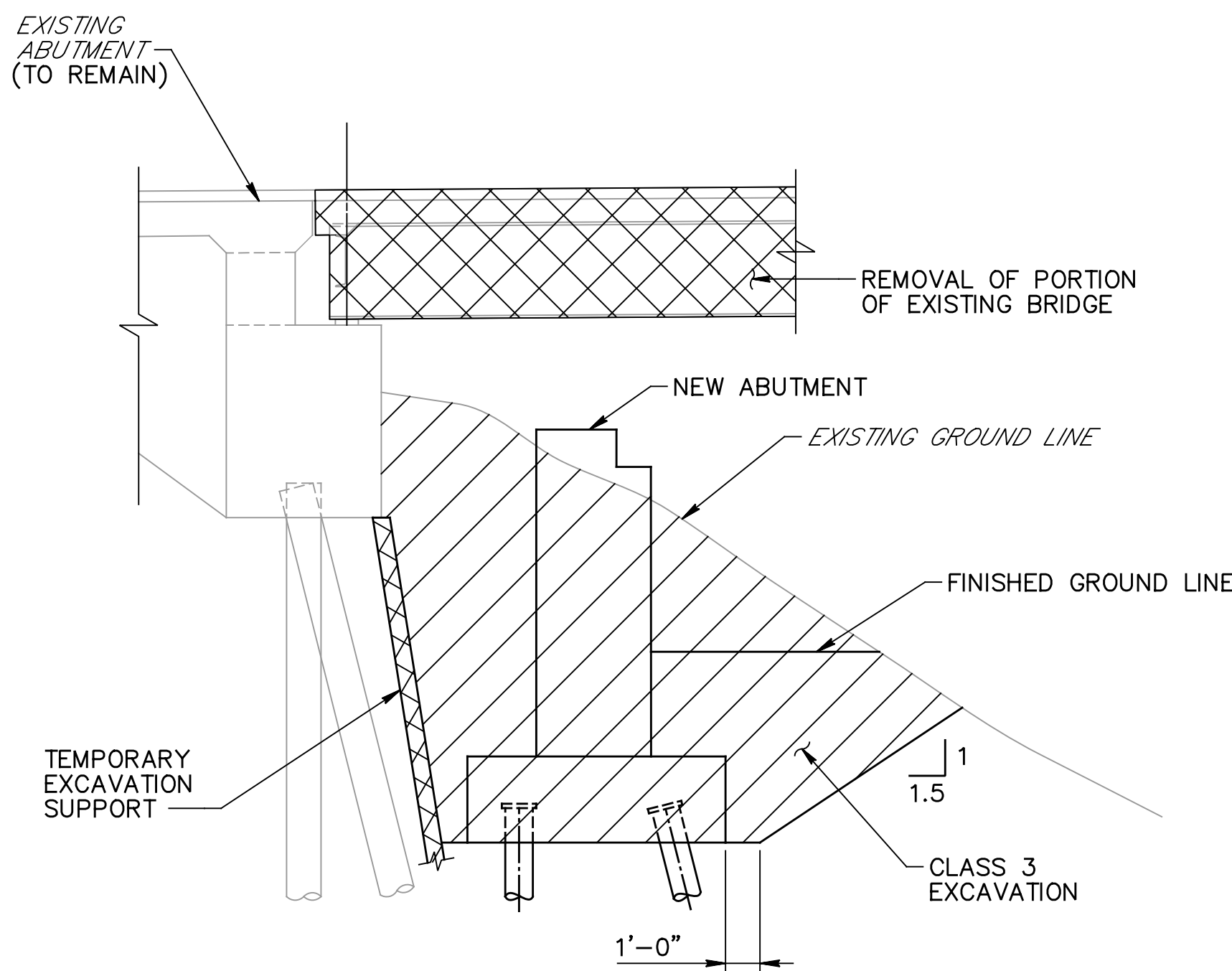
REINFORCEMENT BARS NOTES:

- "E" IN BAR MARK INDICATES EPOXY COATED BARS.
- ALL DIMENSIONS ARE OUT-TO-OUT OF BAR EXCEPT "A" AND "C" ON STANDARD 135° AND 180° HOOKS, AND "R" WHICH IS SHOWN TO THE INSIDE OF THE BAR.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.

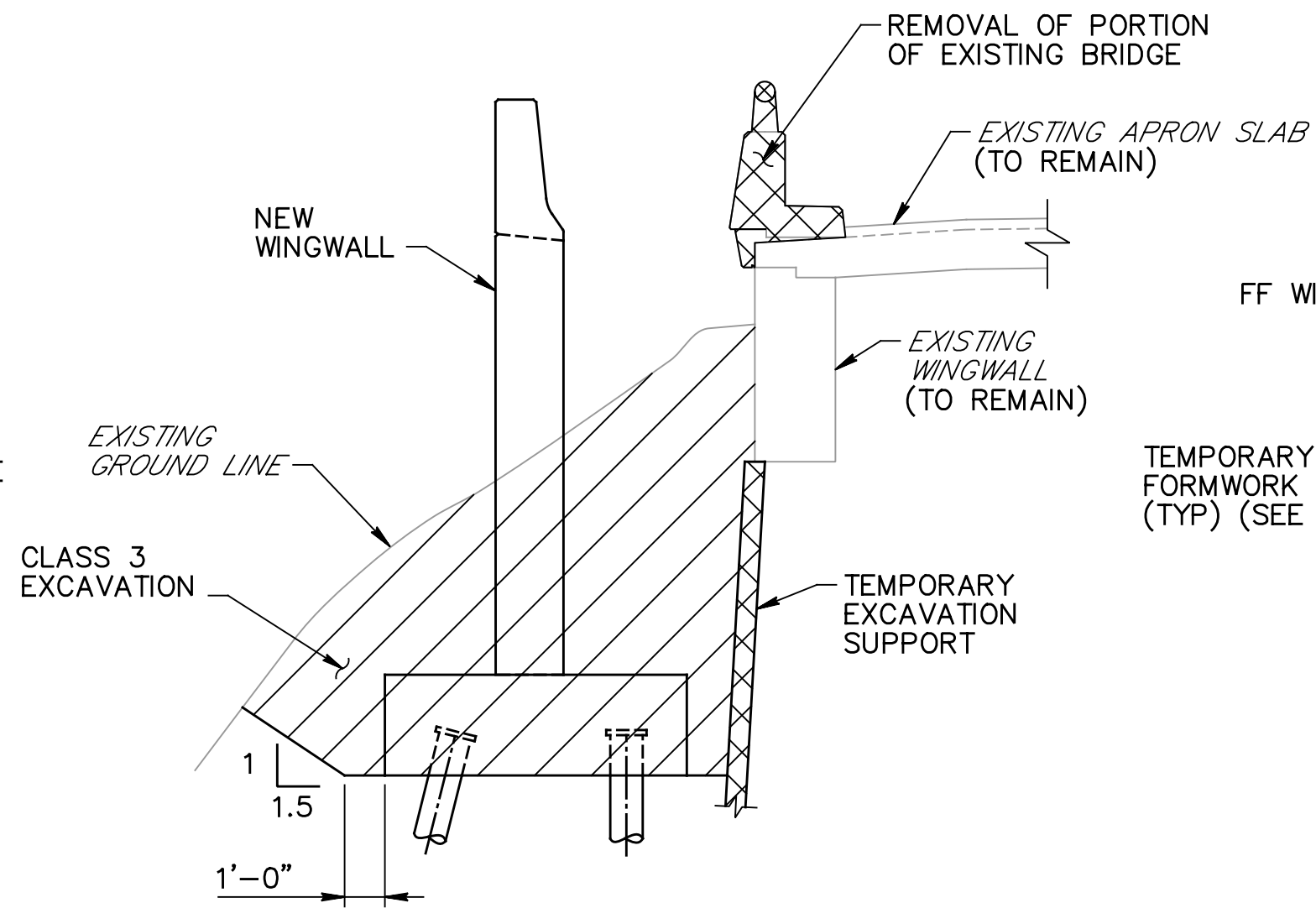
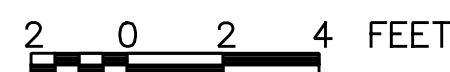
NOTES:

- FOR GENERAL NOTES, SEE SHEET 39.

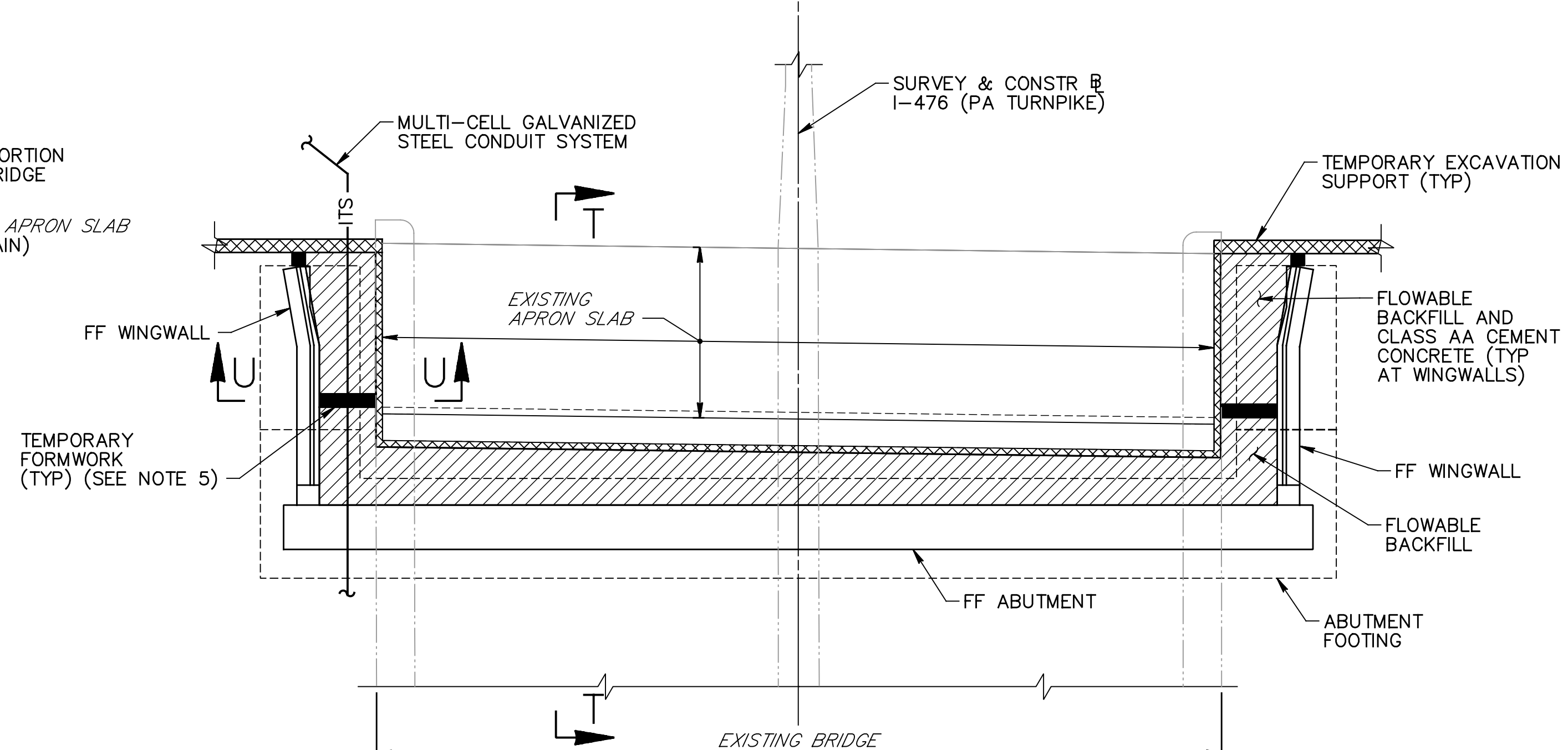
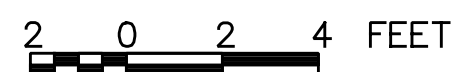
	PREPARED BY: HDR Engineering, Inc. 11 STANWIX STREET, SUITE 800 PITTSBURGH, PA 15222		PREPARED FOR: THE PENNSYLVANIA TURNPIKE COMMISSION	WBS NO. A-057.66S002-3-02	BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	SUPERSTRUCTURE REINFORCEMENT BAR SCHEDULE
	NETWORK NUMBER: 7004121 FILE NAME: 03555Tdcslbrbarsched.dgn DRAWING TYPE: 2G STRUCTURE NUMBER: NB-355		DISTRICT: 5 COUNTY: LEHIGH TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP			
NO. REVISIONS DATE APPR.	SCALE: NO SCALE		DRAWING: 46 OF 69 SHEET: 83 OF 116			



EXCAVATION DETAIL AT ABUTMENTS

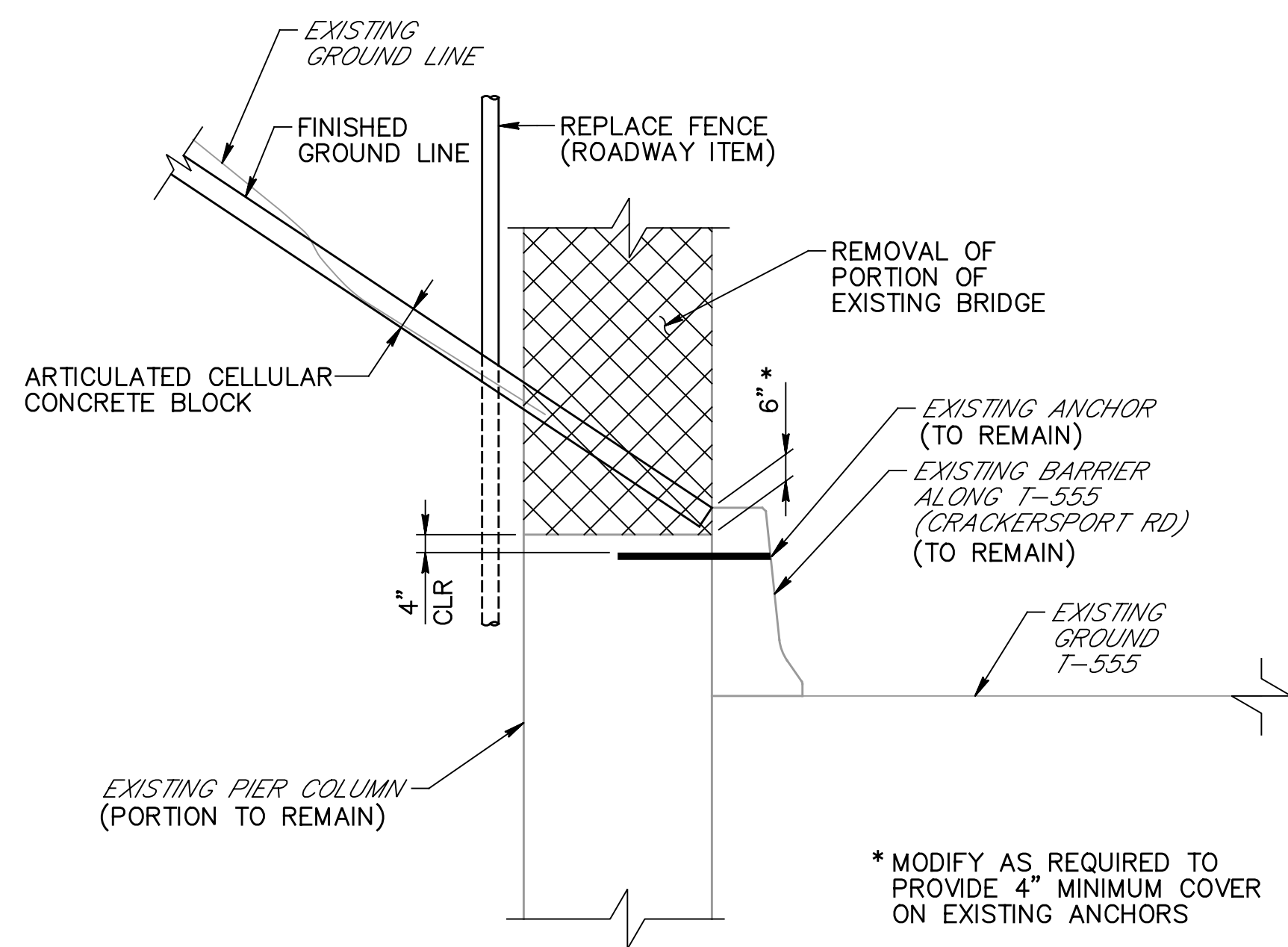


EXCAVATION DETAIL AT WINGWALLS



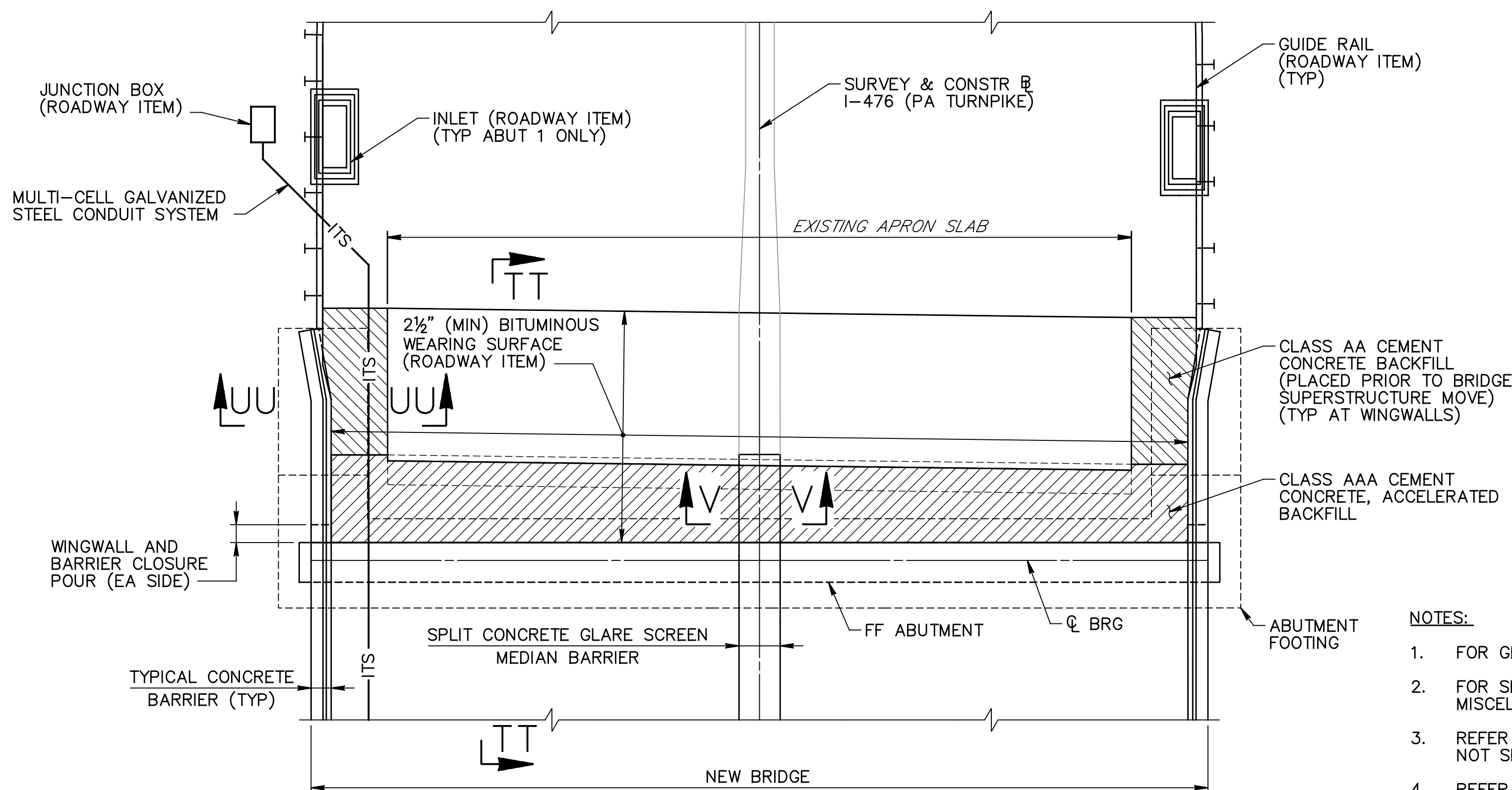
ABUTMENT BACKFILL PLAN - PRIOR TO BRIDGE SUPERSTRUCTURE MOVE

(ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR)



DEMOLITION DETAIL AT PIERS

NO SCALE



ABUTMENT BACKFILL PLAN - FINAL CONDITION

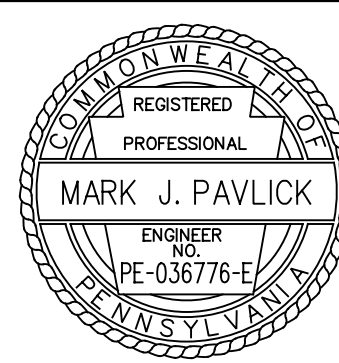
(ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR)



NOTES:

- FOR GENERAL NOTES, SEE SHEET 39.
- FOR SECTION T-T, U-U, V-V, TT-TT AND UU-UU, SEE MISCELLANEOUS CONSTRUCTION DETAILS-2, SHEET 85.
- REFER TO RC-11M FOR ADDITIONAL EXCAVATION NOT SHOWN.
- REFER TO PTS-700 FOR ADDITIONAL BACKFILL DETAILS NOT SHOWN.
- TEMPORARY FORMWORK IS INCIDENTAL TO FLOWABLE BACKFILL, TYPE C.

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 DES: DCL DWG: DWW CKD: MJP



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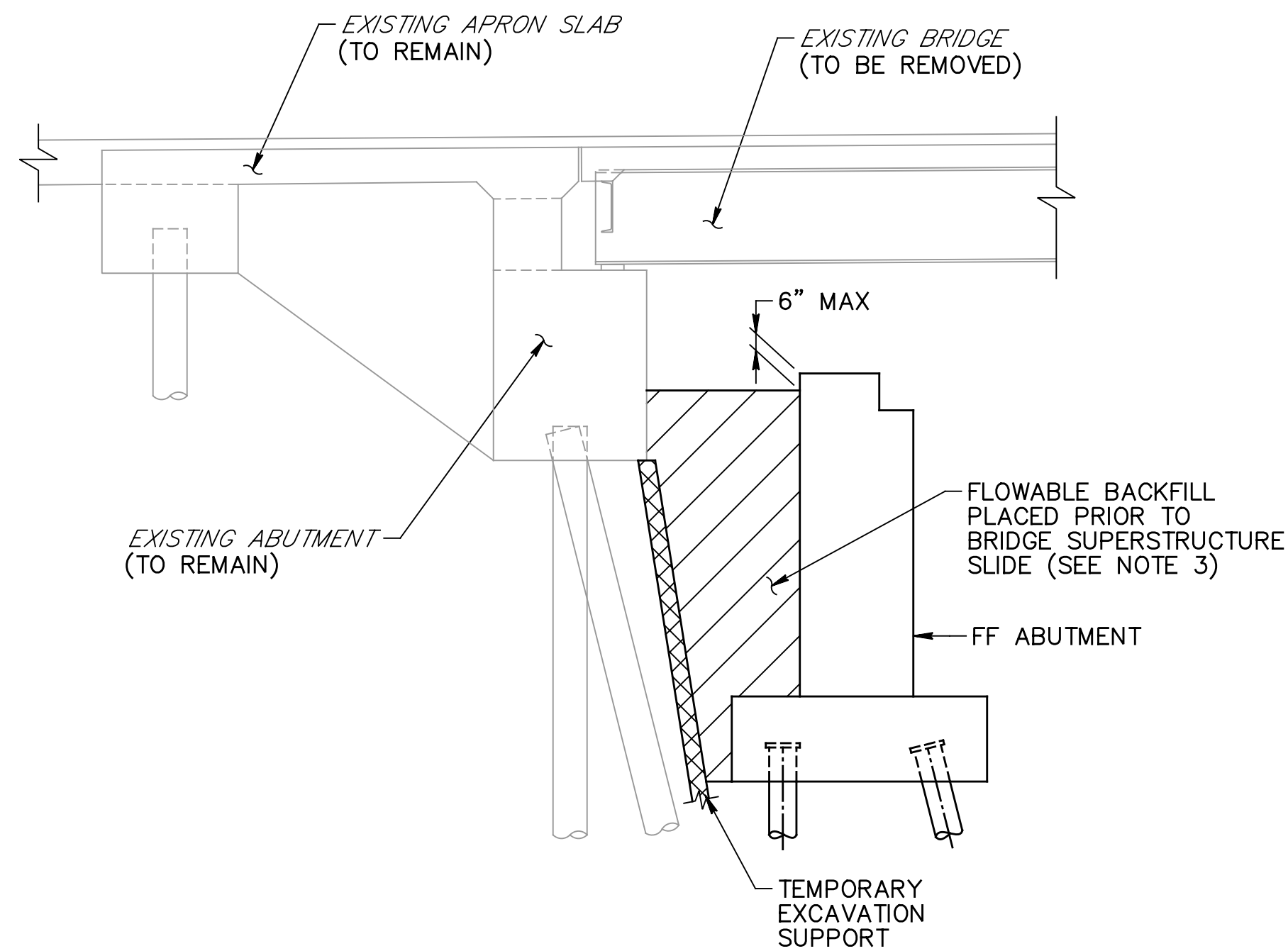


NO.	REVISIONS	DATE	APPR.

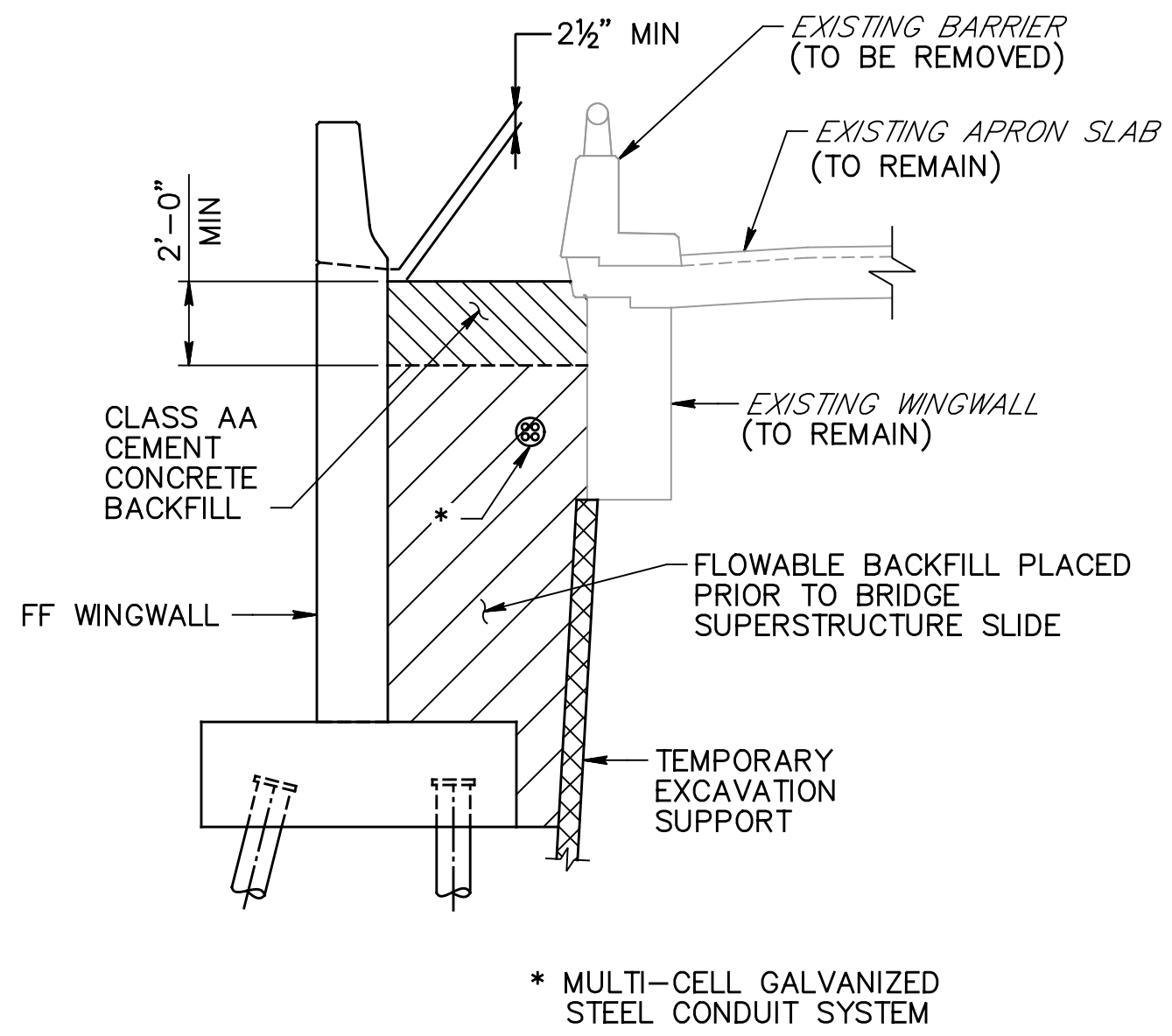
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 NETWORK NUMBER: 7004121
 FILE NAME: 0355Tabrmdet1.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355
 SCALE: AS SHOWN

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

MISCELLANEOUS CONSTRUCTION DETAILS - 1
 DRAWING: 47 OF 69
 SHEET: 84 OF 116

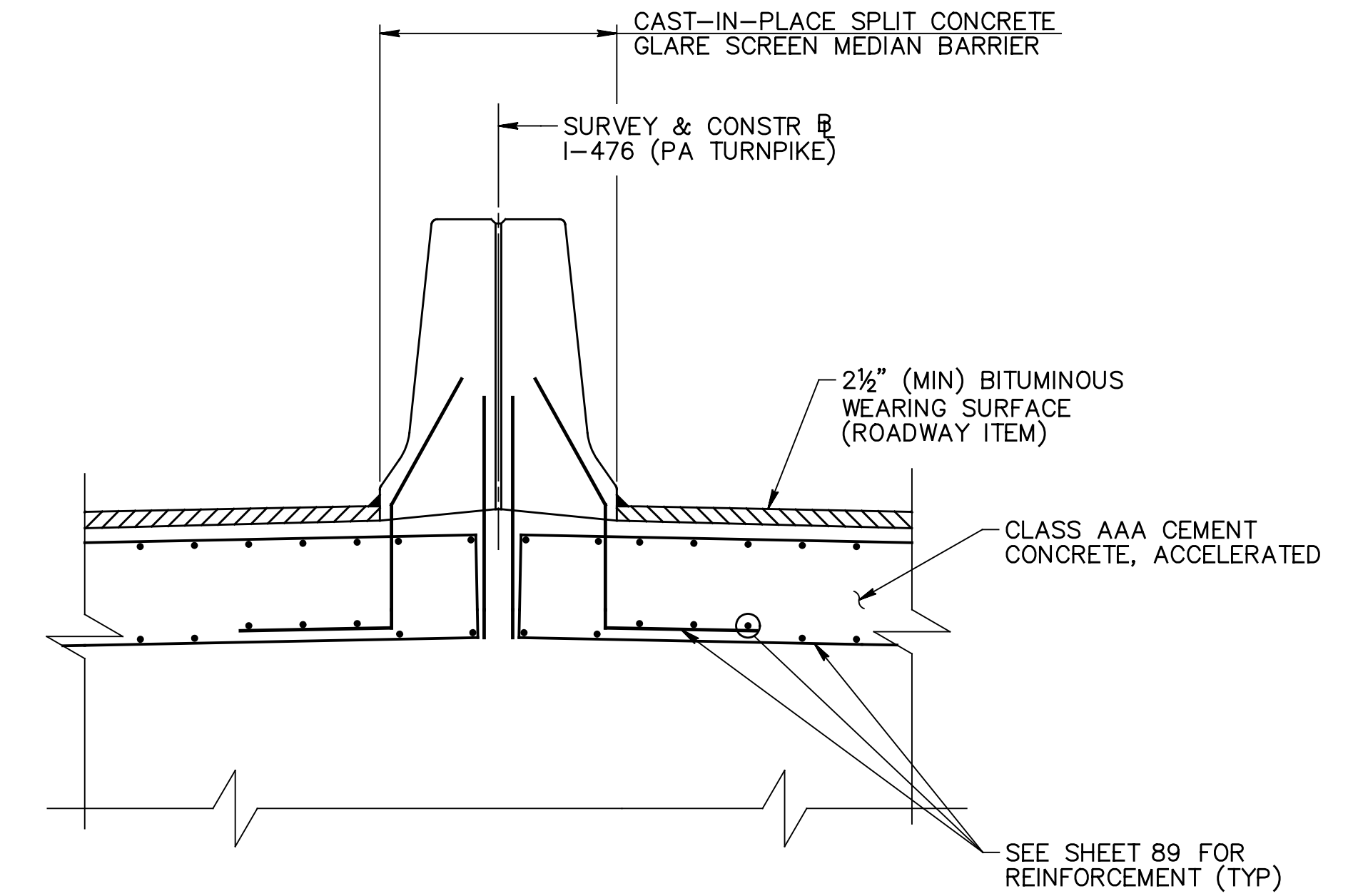


SECTION T-T
 (PRIOR TO BRIDGE SUPERSTRUCTURE MOVE)
 2 0 2 4 FEET

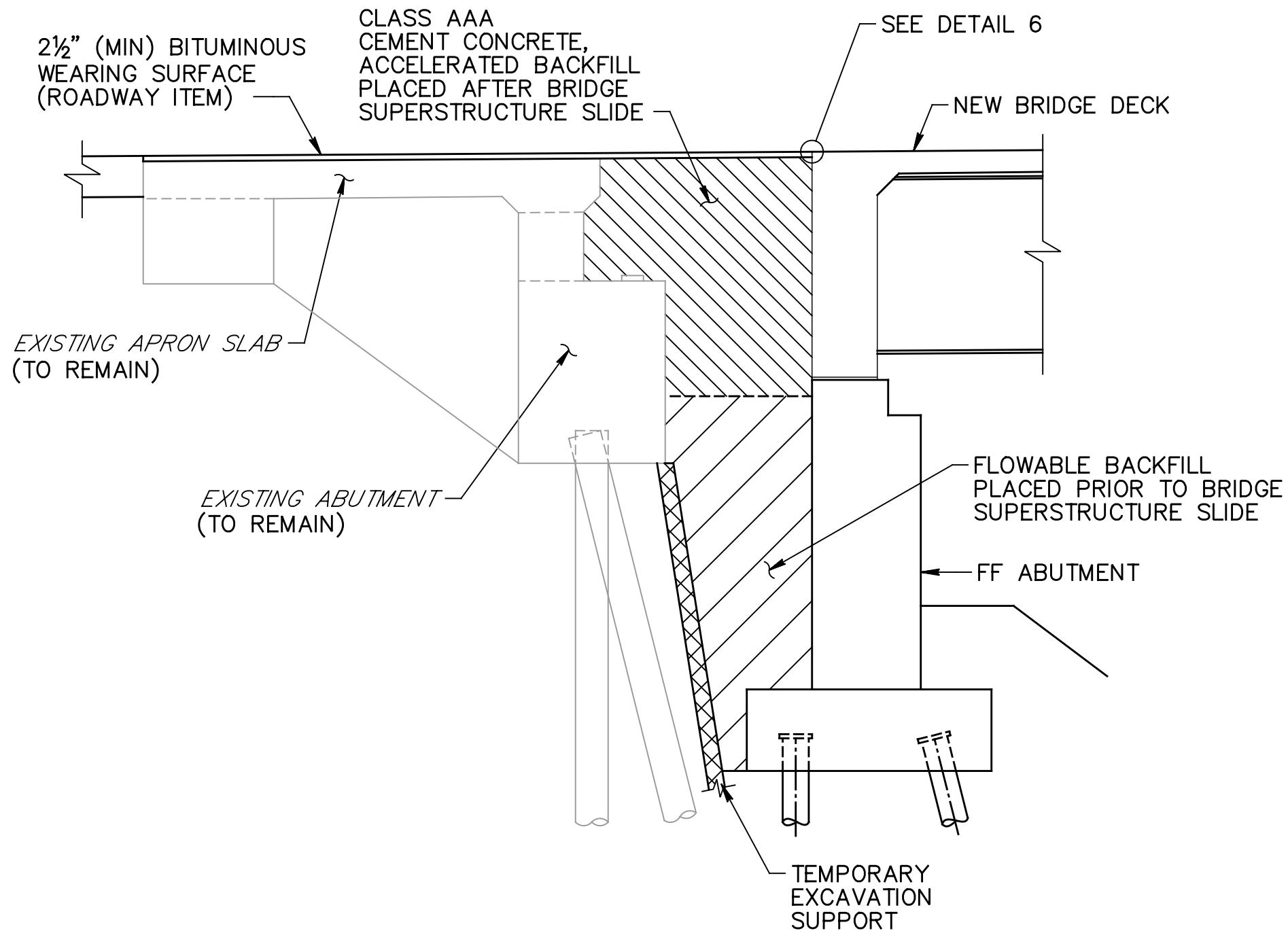


SECTION U-U
 (PRIOR TO BRIDGE SUPERSTRUCTURE MOVE)
 (WINGWALL A SHOWN, OTHER WINGWALLS SIMILAR)
 2 0 2 4 FEET

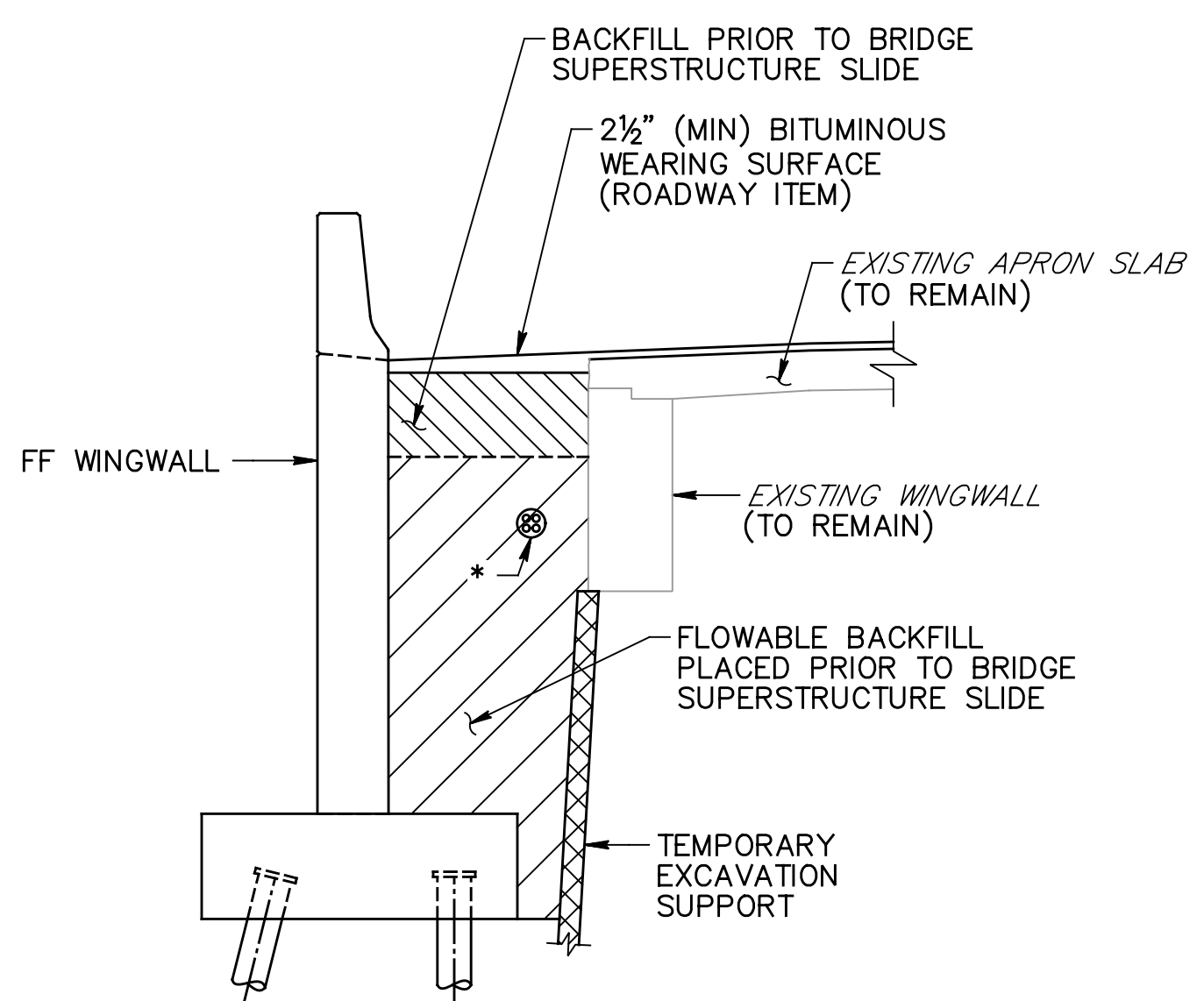
* MULTI-CELL GALVANIZED STEEL CONDUIT SYSTEM



SECTION V-V
 (LOOKING BACK STATION)
 (ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR)
 1 0 1 2 FEET

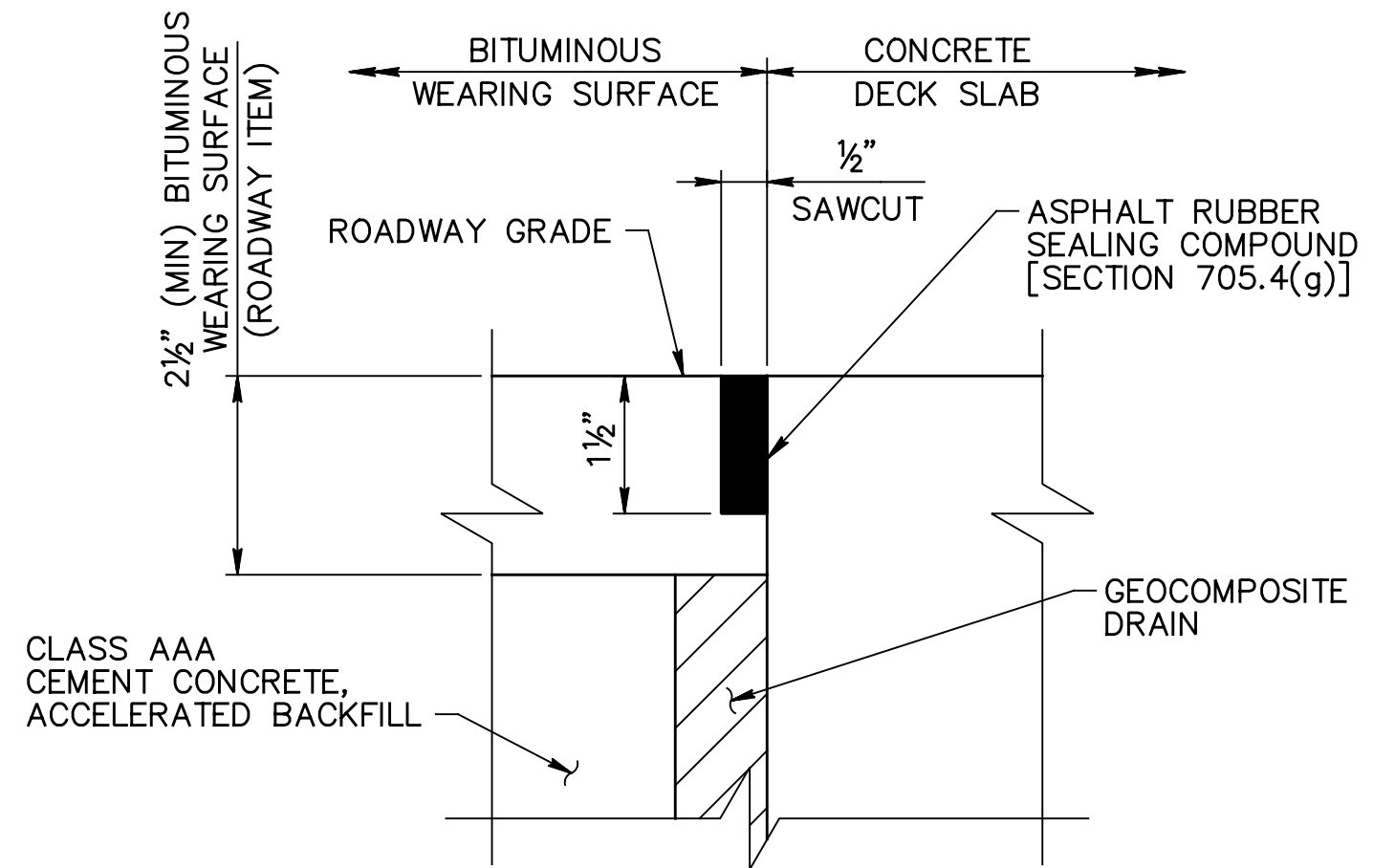


SECTION TT-TT
 (AFTER BRIDGE SUPERSTRUCTURE MOVE)
 2 0 2 4 FEET



SECTION UU-UU
 (AFTER BRIDGE SUPERSTRUCTURE MOVE)
 (WINGWALL A SHOWN, OTHER WINGWALLS SIMILAR)
 2 0 2 4 FEET

* MULTI-CELL GALVANIZED STEEL CONDUIT SYSTEM

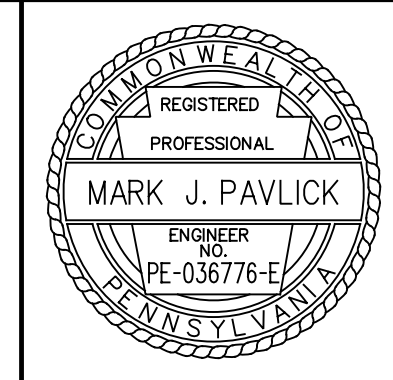


DETAIL 6
 NO SCALE

NOTES:

- FOR GENERAL NOTES, SEE SHEET 39.
- REFER TO PTS-700 FOR ADDITIONAL BACKFILL DETAILS NOT SHOWN.
- FOR ABUTMENT WATERPROOFING DETAILS, SEE SHEET 53. NOTE PORTIONS OF WATERPROOFING SYSTEM MUST BE INSTALLED PRIOR TO PLACING FLOWABLE BACKFILL.
- USE FLOWABLE BACKFILL WITH A MINIMUM DENSITY OF 120 PCF.
- FLOWABLE BACKFILL IS TO BE PLACED IN LIFTS NOT EXCEEDING 4 FEET IN ACCORDANCE WITH SECTION 220.3(b)1.
- CLASS AAA CEMENT CONCRETE, ACCELERATED BACKFILL IS TO BE PLACED IN LIFTS NOT EXCEEDING 4 FEET.
- SAWCUT AND ASPHALT RUBBER SEALING COMPOUND ARE INCIDENTAL TO BITUMINOUS WEARING COURSE.
- FOR APPROACH MEDIAN BARRIER DETAILS, SEE SHEETS 87 AND 88.

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 DES: DCL DWG: DWW CKD: MJP



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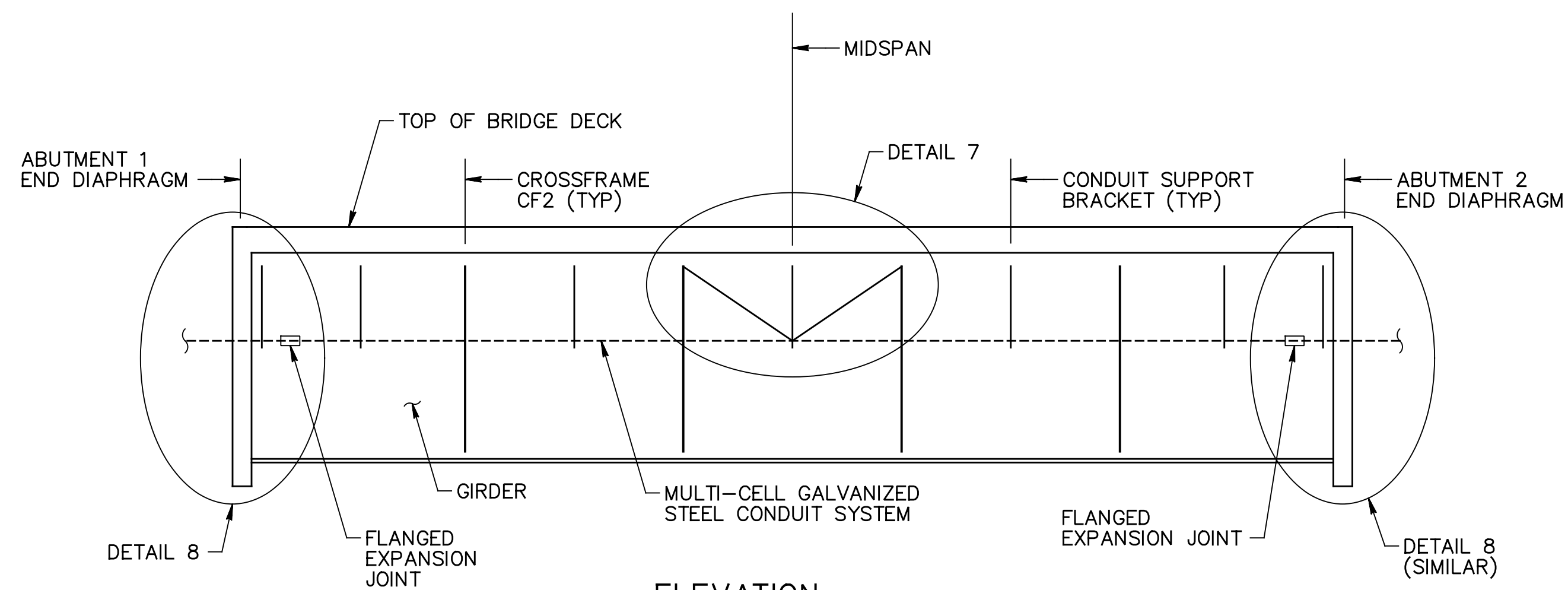


NO.	REVISIONS	DATE	APPR.

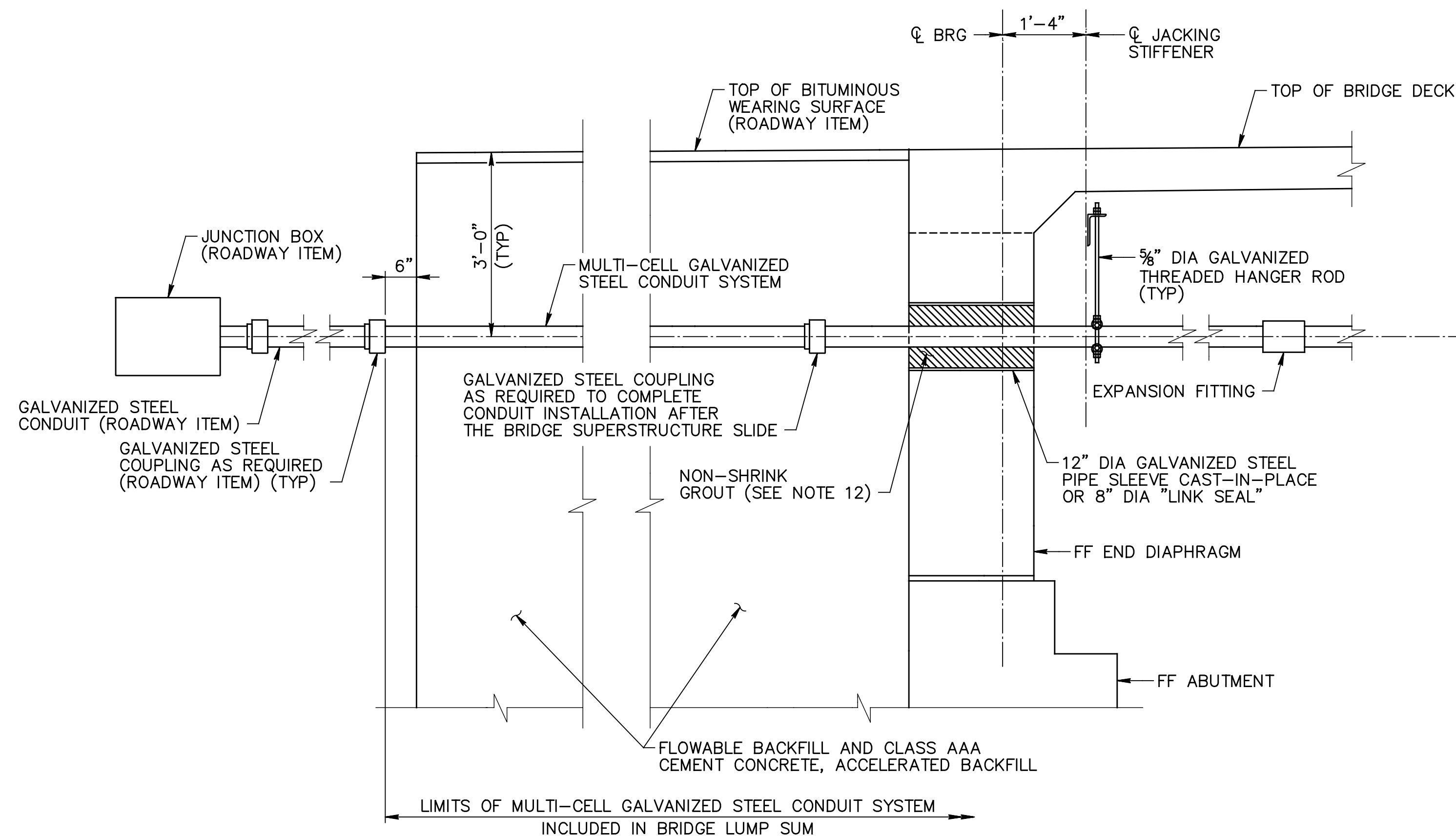
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 NETWORK NUMBER: 7004121
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 STRUCTURE NUMBER: NB-355
 SCALE: AS SHOWN

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

MISCELLANEOUS CONSTRUCTION DETAILS - 2
 DRAWING: 48 OF 69
 SHEET: 85 OF 116



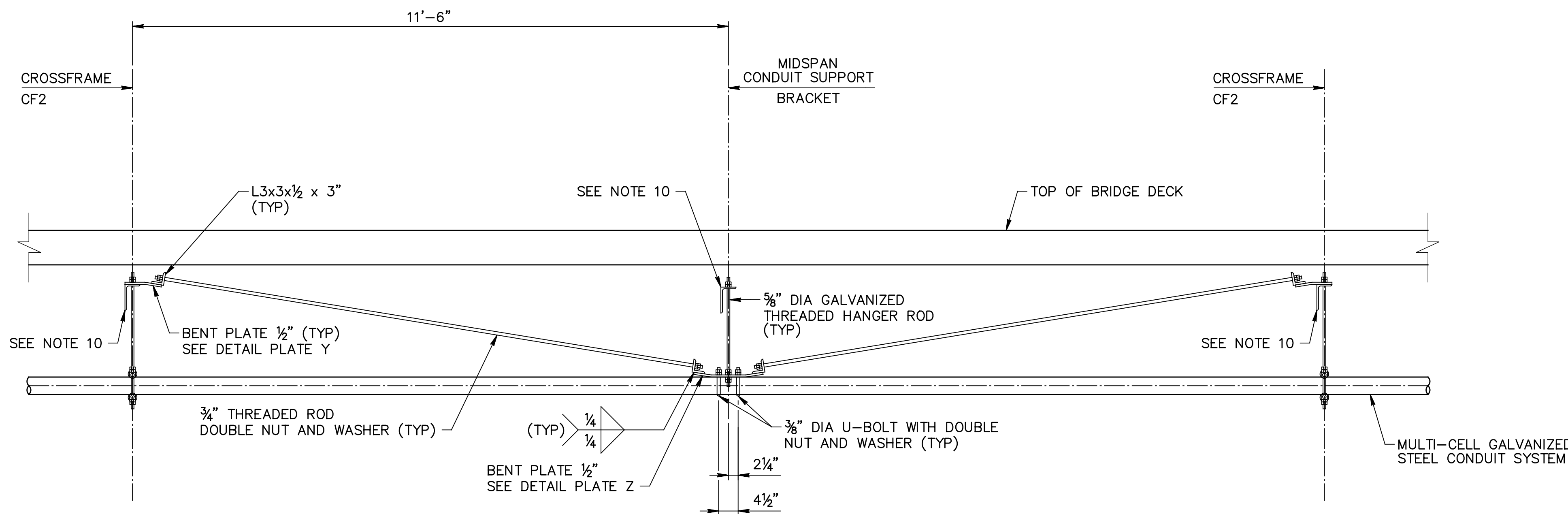
ELEVATION
MULTI-CELL GALVANIZED STEEL CONDUIT SYSTEM
SUPPORT CONFIGURATION
 NO SCALE



DETAIL 8
 (ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR)
 NO SCALE

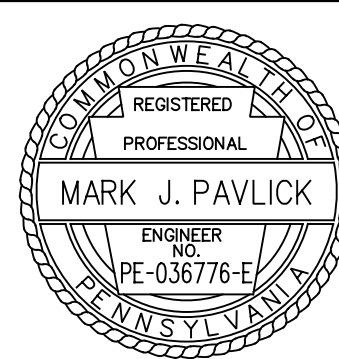
NOTES:

- FOR GENERAL NOTES, SEE SHEET 39.
- MULTI-CELL GALVANIZED STEEL CONDUIT WITH 4 INNER-DUCTS, SHALL BE INSTALLED UNDER THE DECK BETWEEN GIRDER G9 AND GIRDER G10 ON THE NORTHBOUND STRUCTURE.
- STRUCTURE MOUNTED MULTI-CELL GALVANIZED STEEL CONDUIT WITH 4 INNER-DUCTS, SHALL BE INSTALLED PRIOR TO STAY-IN-PLACE DECK PAN AND CONCRETE DECK PLACEMENT.
- MULTI-CELL GALVANIZED STEEL CONDUIT TO INCORPORATE 4 INNER-DUCTS, EACH HAVING AN INSIDE DIAMETER THAT CLOSELY MATCHES THE INSIDE DIAMETER OF 1 1/4" HDPE CONDUIT.
- EACH INNER-DUCT SHALL HAVE A PULL ROPE FOR INSTALLATION OF FUTURE CABLES.
- DOUBLE NUT AT ALL LOCATIONS THAT NUTS ARE SHOWN.
- FLANGED EXPANSION JOINTS, 8" STROKE, MUST BE INSTALLED SUCH THAT AT 68° F, THE FEMALE CONDUIT IS AT THE ZERO POINT, 8" TOTAL STROKE IS AVAILABLE - 4" FOR EXPANSION AND 4" FOR CONTRACTION.
- FLANGED EXPANSION JOINTS SHALL NOT BE POSITIONED AT OR WITHIN 20" OF ANY DIAPHRAGM OR AUXILIARY CONDUIT SUPPORT LOCATION. UNEQUAL SPACING OF FLANGED EXPANSION JOINTS IS PERMITTED TO MEET THIS CRITERIA.
- FOR DETAIL OF PLATE Y AND PLATE Z, SEE ITS-1201 SHEET 13 OF 23.
- CONDUIT SUPPORT BRACKETS AND CROSSFRAME COMPONENTS ARE PAID FOR UNDER FABRICATED STRUCTURAL STEEL.
- MULTI-CELL GALVANIZED STEEL CONDUIT AND CONDUIT SUPPORT COMPONENTS (INCLUDING PIPE SLEEVE, NON-SHRINK GROUT, THREADED RODS, ROLLERS, CONNECTION PLATES AND HARDWARE) ARE INCIDENTAL TO THE MULTI-CELL GALVANIZED STEEL CONDUIT SYSTEM ITEM.
- FILL VOID BETWEEN PIPE SLEEVE AND MULTI-CELL GALVANIZED STEEL CONDUIT SYSTEM WITH NON-SHRINK GROUT.
- FOR CONDUIT SUPPORT AND HANGER DETAILS, SEE SHEET 70.
- FOR PIPE SLEEVE DETAIL, SEE SHEET 75.
- SEE ITS-1201 FOR ADDITIONAL CONDUIT DETAILS.



DETAIL 7
 NO SCALE

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 DES: DCL DWG: ARG CKD: MJP



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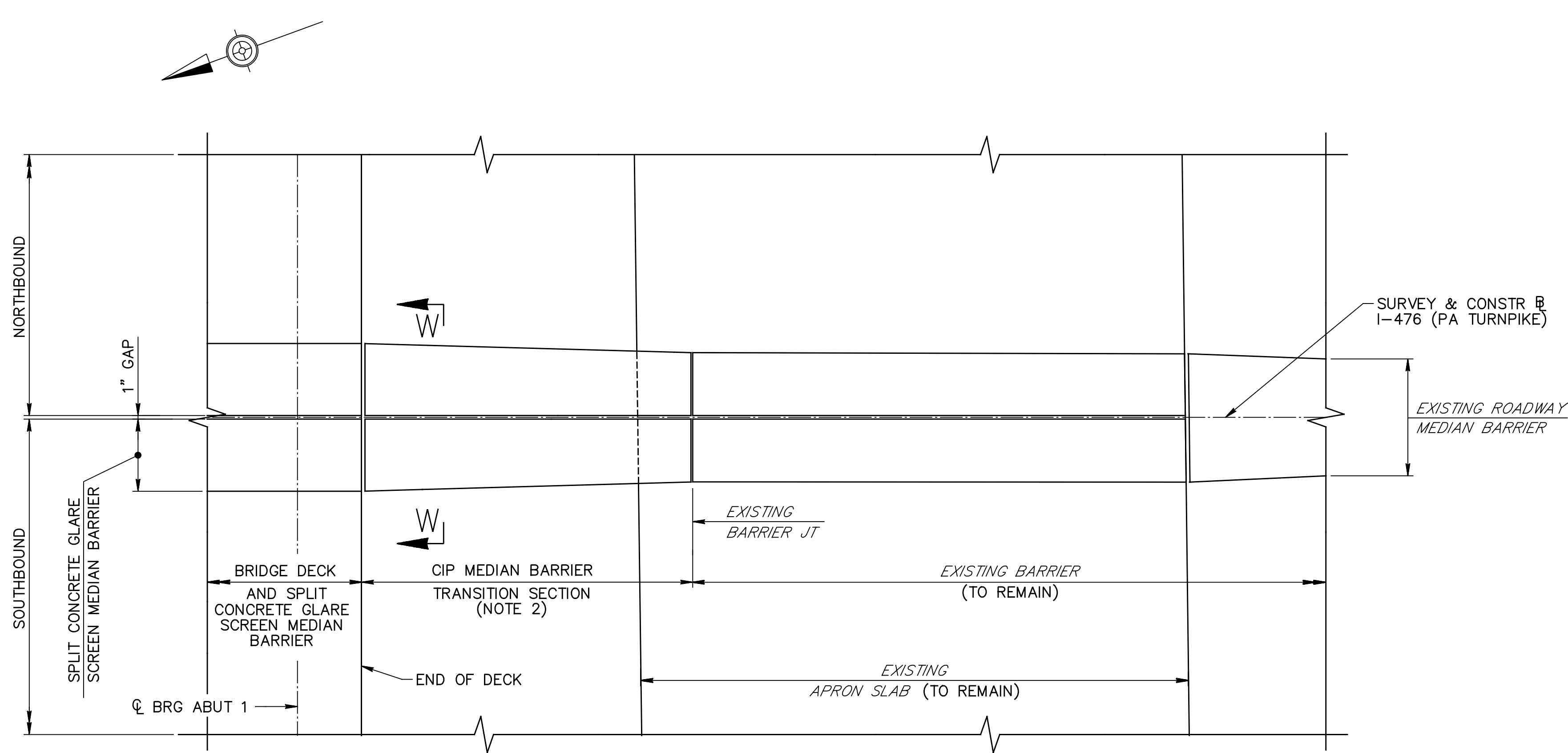


NO.	REVISIONS	DATE	APPR.

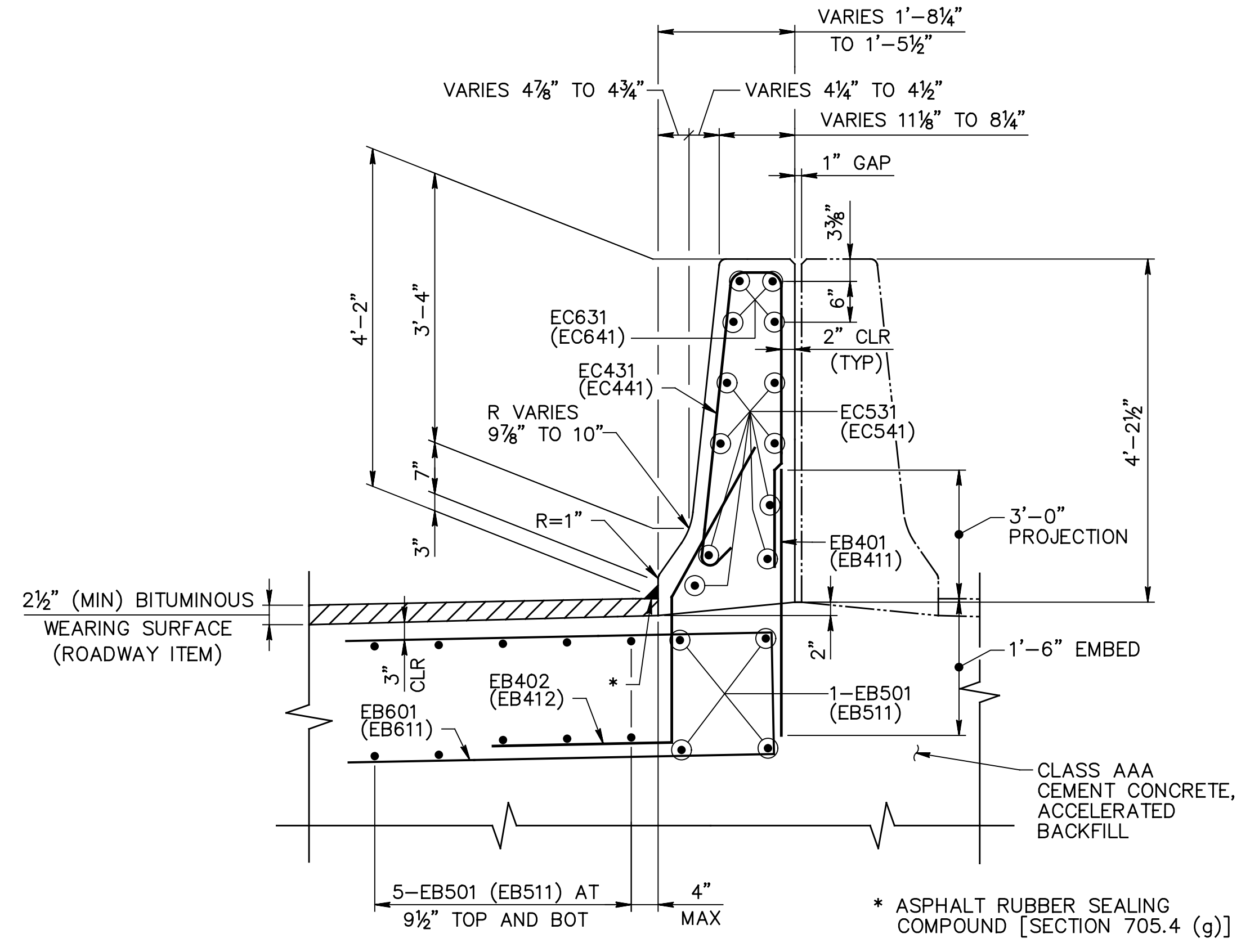
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NETWORK NUMBER: 7004121
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STRUCTURE NUMBER: NB-355
SCALE: AS SHOWN

BRIDGE REPLACEMENT	
NB-355 OVER CRACKERSPORT ROAD	
MP A-57.66	
DISTRICT: 5	COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP	

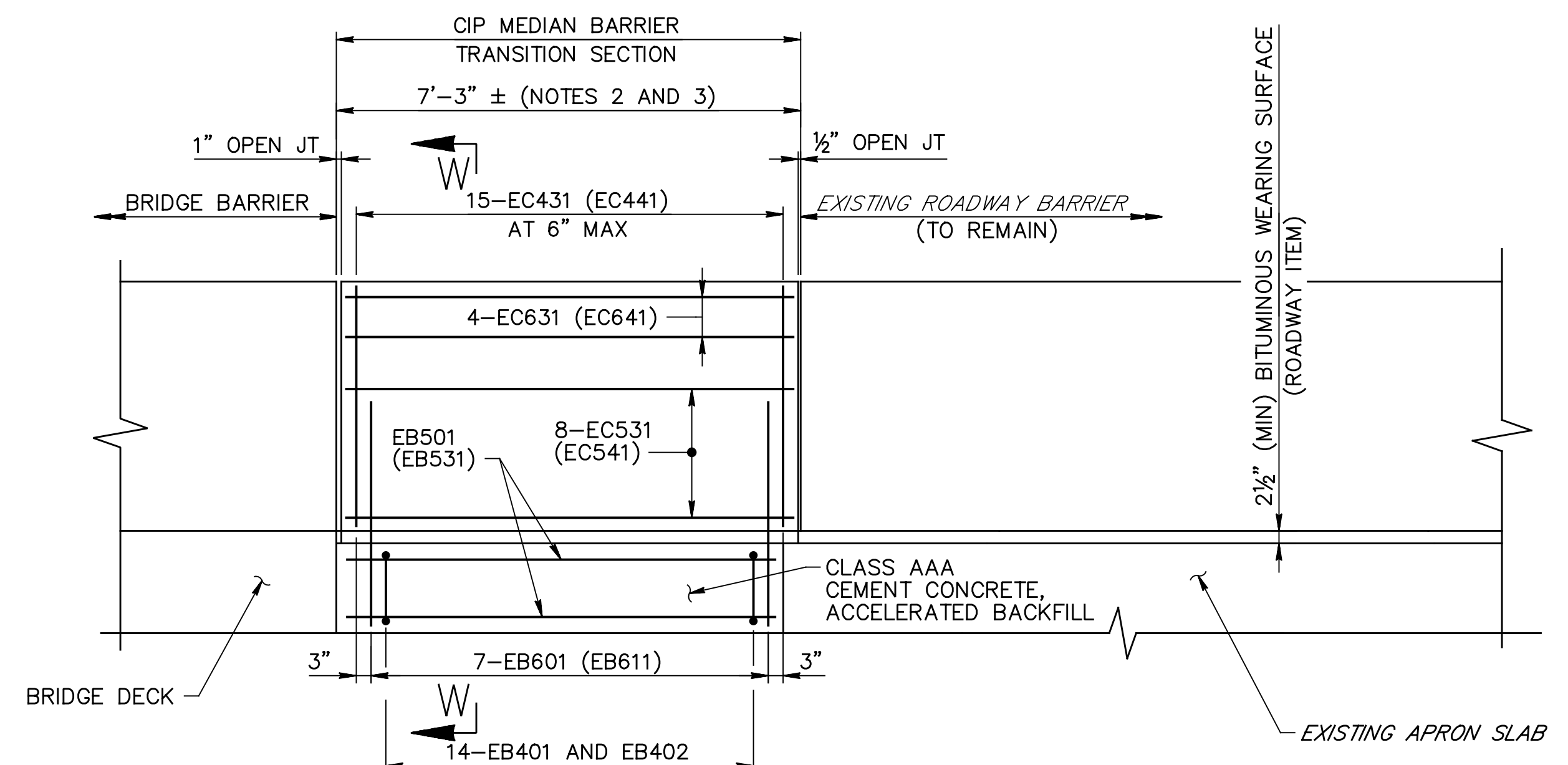
MULTI-CELL GALVANIZED STEEL CONDUIT SYSTEM DETAILS	
DRAWING: 49 OF 69	SHEET: 86 OF 116



PLAN
(ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR)
1 0 1 2 FEET



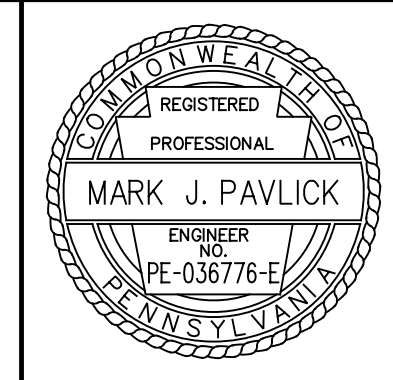
SECTION W-W
(LOOKING AHEAD STATION)
(ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR BUT OPPOSITE HAND)
12 0 12 INCHES



ELEVATION
(ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR)
1 0 1 2 FEET

- NOTES:**
- FOR GENERAL NOTES, SEE SHEET 39.
 - DETERMINE THE LIMITS OF THE MEDIAN BARRIER TRANSITION SECTION IN THE FIELD. LIMITS OF THE CIP MEDIAN BARRIER TRANSITION SECTION ARE FROM THE END OF THE DECK TO THE FIRST EXISTING BARRIER JOINT ON THE EXISTING APRON SLAB.
 - VERIFY THE LENGTH OF THE CIP MEDIAN BARRIER TRANSITION SECTION SHOWN ON THE ELEVATION VIEW AND ADJUST REINFORCEMENT BAR LENGTH AS NECESSARY.
 - DETERMINE THE VARYING CROSS-SECTIONAL DIMENSIONS OF THE CIP MEDIAN BARRIER IN THE FIELD.
 - FOR REINFORCEMENT SCHEDULE, SEE SHEET 89.
 - USE CLASS AAA CEMENT CONCRETE, ACCELERATED IN THE APPROACH MEDIAN BARRIERS.

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 DES: DCL DWG: MM CKD: MJP



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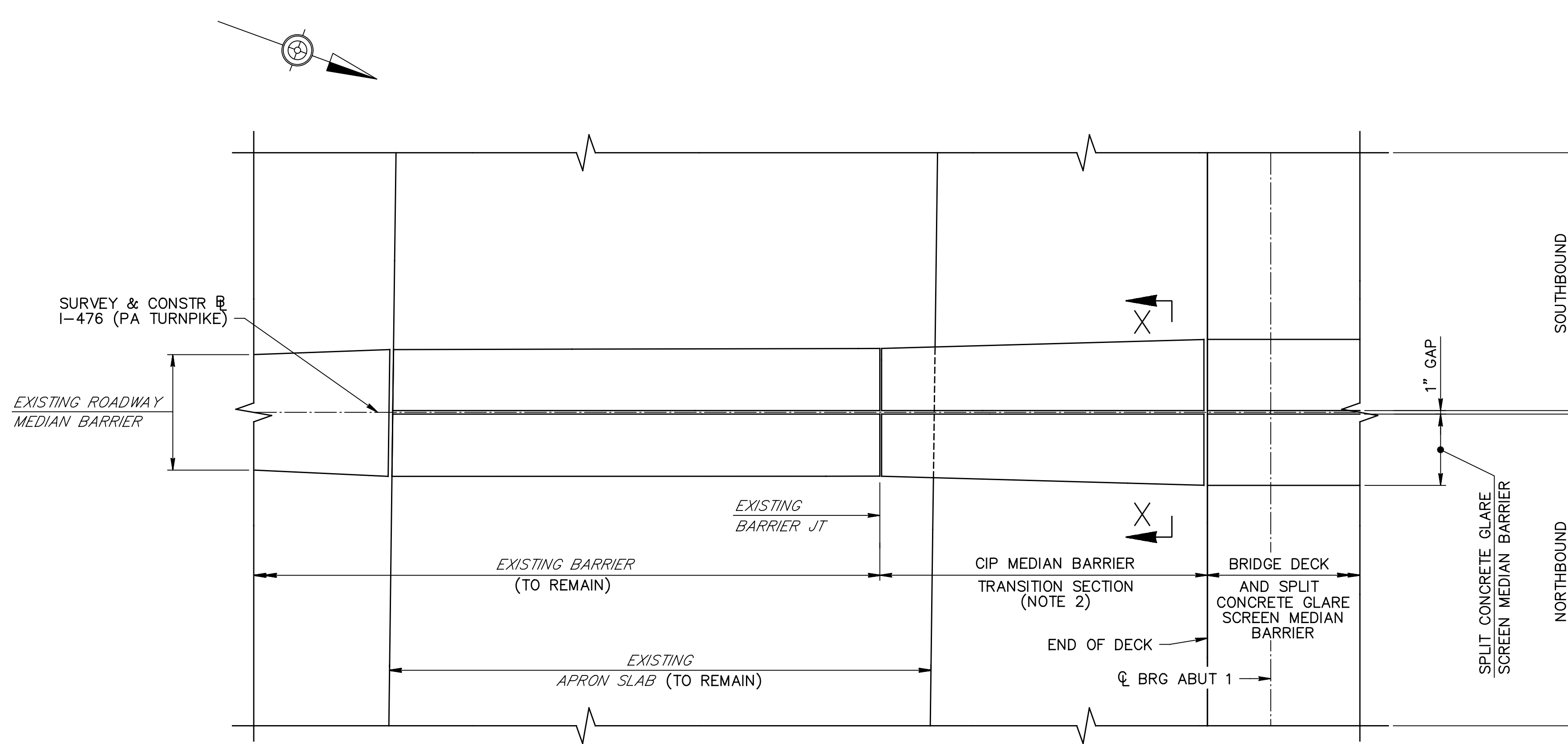
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 SCALE: AS NOTED

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66

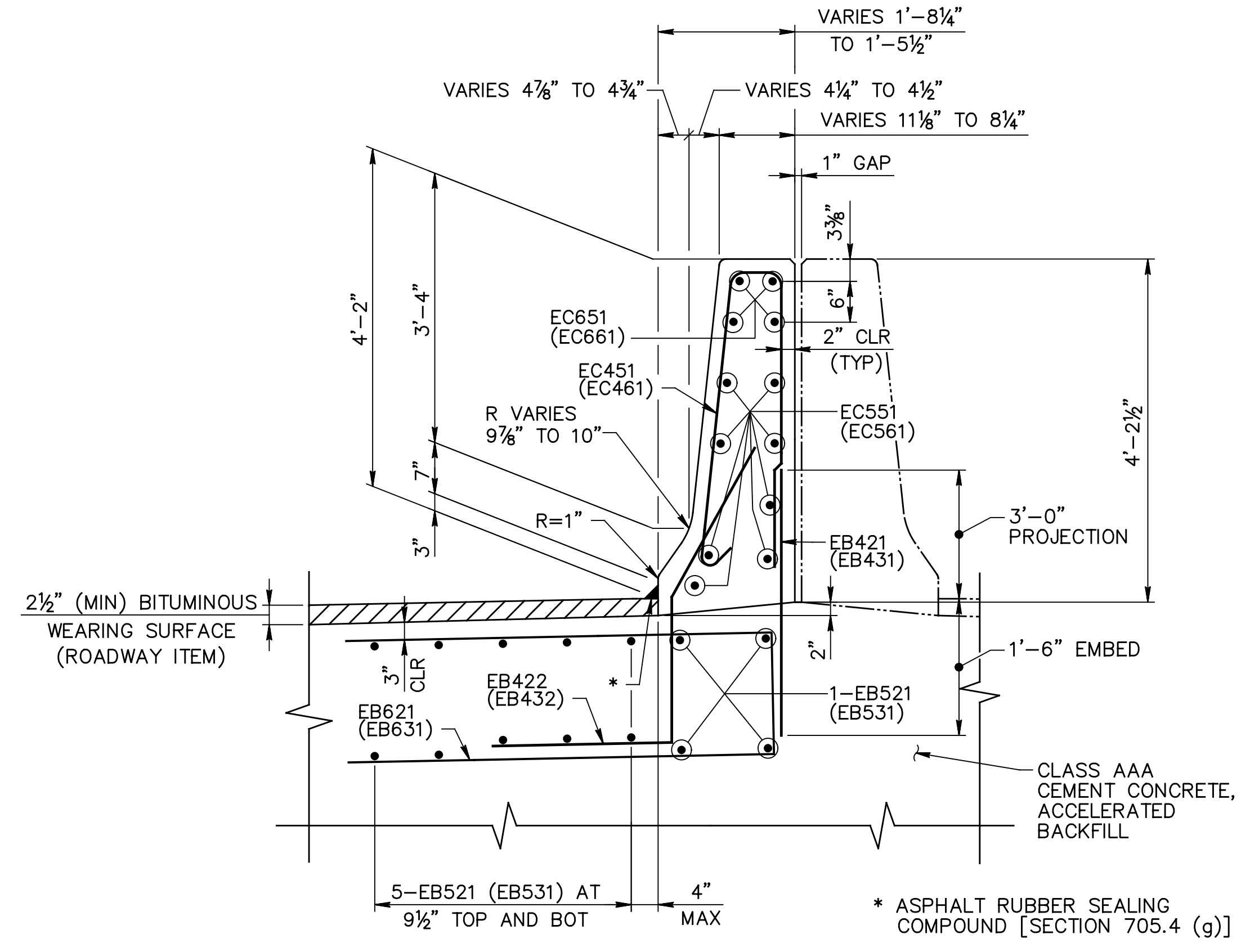
DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

SOUTHBOUND APPROACH
MEDIAN BARRIER DETAILS

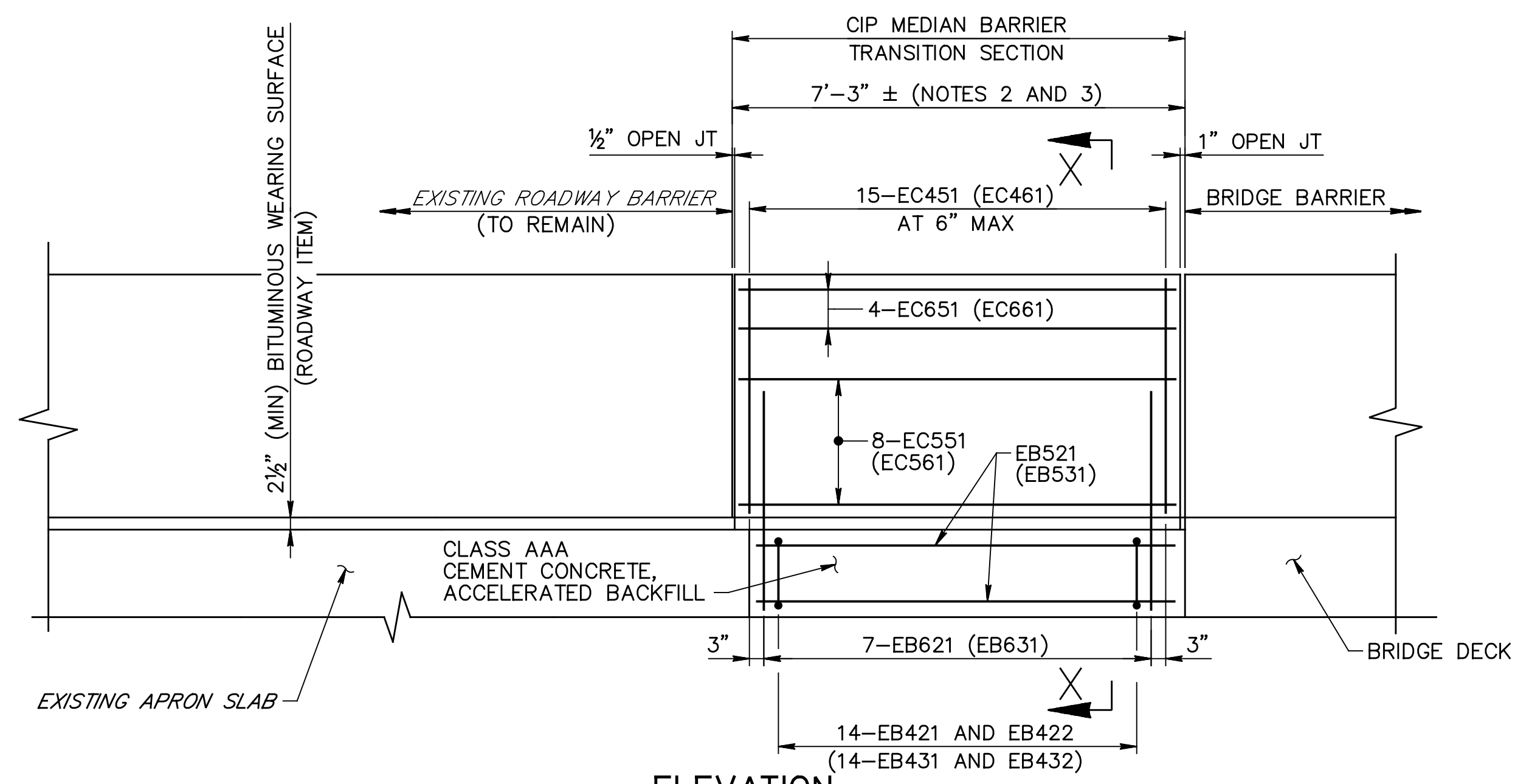
DRAWING: 50 OF 69
 SHEET: 87 OF 116



PLAN
(ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR)
1 0 2 FEET



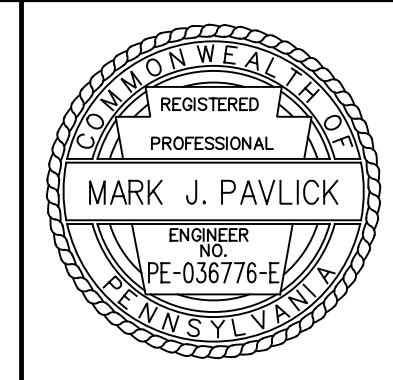
SECTION X-X
(LOOKING BACK STATION)
(ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR BUT OPPOSITE HAND)
12 0 12 INCHES



ELEVATION
(ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR)
1 0 2 FEET

- NOTES:**
- FOR GENERAL NOTES, SEE SHEET 39.
 - DETERMINE THE LIMITS OF THE MEDIAN BARRIER TRANSITION SECTION IN THE FIELD. LIMITS OF THE CIP MEDIAN BARRIER TRANSITION SECTION ARE FROM THE END OF THE DECK TO THE FIRST EXISTING BARRIER JOINT ON THE EXISTING APRON SLAB.
 - VERIFY THE LENGTH OF THE CIP MEDIAN BARRIER TRANSITION SECTION SHOWN ON THE ELEVATION VIEW AND ADJUST REINFORCEMENT BAR LENGTH AS NECESSARY.
 - DETERMINE THE VARYING CROSS-SECTIONAL DIMENSIONS OF THE CIP MEDIAN BARRIER IN THE FIELD.
 - FOR REINFORCEMENT SCHEDULE, SEE SHEET 89.
 - USE CLASS AAA CEMENT CONCRETE, ACCELERATED IN THE APPROACH MEDIAN BARRIERS.

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.pltsg PLOT DATE: 09-02-2016 3:40:27 PM
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 DES: DCL DWG: MM CKD: MJP



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NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355STmedbardet2.dgn
 DRAWING TYPE: 2G
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 SCALE: AS NOTED

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

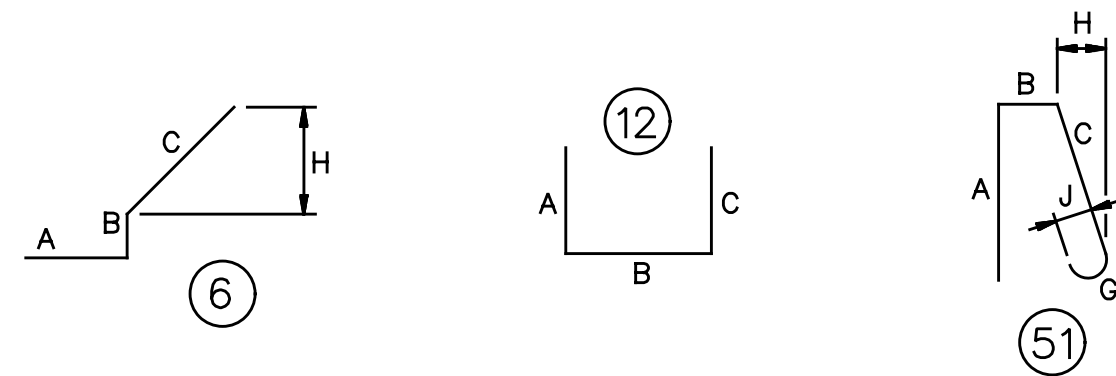
NORTHBOUND APPROACH
MEDIAN BARRIER DETAILS
 DRAWING: 51 OF 69
 SHEET: 88 OF 116

REINFORCEMENT BAR SCHEDULE

MARK	SIZE	LENGTH	NO.	TYPE	A	B	C	D	E	F	G	H	J	K	R	REMARKS
ABUTMENT 1 APPROACH MEDIAN BARRIER - SOUTHBOUND																
EB402	4	6'-6	14	6	2'-1	2'-1	2'-4					2'-0				
EB501	5	6'-2	14	STR												
EB601	6	12'-0	7	12	5'-3	1'-6	5'-3									
EC431	4	VARIES 8'-5/2 TO 8'-3	15	51	3'-8	VARY 7" TO 4 1/2"	3'-8 1/2				6"	4 1/4"	4"			1 SET OF 15; VARY B 3/16" (-)
EC531	5	6'-9	8	STR												
EC631	6	6'-9	4	STR												
ABUTMENT 2 APPROACH MEDIAN BARRIER - SOUTHBOUND																
EB412	4	6'-6	14	6	2'-1	2'-1	2'-4					2'-0				
EB511	5	6'-2	14	STR												
EB611	6	12'-0	7	12	5'-3	1'-6	5'-3									
EC441	4	VARIES 8'-5/2 TO 8'-3	15	51	3'-8	VARY 7" TO 4 1/2"	3'-8 1/2				6"	4 1/4"	4"			1 SET OF 15; VARY B 3/16" (-)
EC541	5	6'-9	8	STR												
EC641	6	6'-9	4	STR												

REINFORCEMENT BAR SCHEDULE

MARK	SIZE	LENGTH	NO.	TYPE	A	B	C	D	E	F	G	H	J	K	R	REMARKS
ABUTMENT 1 APPROACH MEDIAN BARRIER - NORTHBOUND																
EB421	4	4'-6	14	STR												
EB422	4	6'-6	14	6	2'-1	2'-1	2'-4					2'-0				
EB521	5	6'-2	14	STR												
EB621	6	12'-0	7	12	5'-3	1'-6	5'-3									
EC451	4	VARIES 8'-5/2 TO 8'-3	15	51	3'-8	VARY 7" TO 4 1/2"	3'-8 1/2				6"	4 1/4"	4"			1 SET OF 15; VARY B 3/16" (-)
EC551	5	6'-9	8	STR												
EC651	6	6'-9	4	STR												
ABUTMENT 2 APPROACH MEDIAN BARRIER - NORTHBOUND																
EB431	4	4'-6	14	STR												
EB432	4	6'-6	14	6	2'-1	2'-1	2'-4					2'-0				
EB531	5	6'-2	14	STR												
EB631	6	12'-0	7	12	5'-3	1'-6	5'-3									
EC461	4	VARIES 8'-5/2 TO 8'-3	15	51	3'-8	VARY 7" TO 4 1/2"	3'-8 1/2				6"	4 1/4"	4"			1 SET OF 15; VARY B 3/16" (-)
EC561	5	6'-9	8	STR												
EC661	6	6'-9	4	STR												



REINFORCEMENT BARS NOTES:

- "E" IN BAR MARK INDICATES EPOXY COATED BARS.
- ALL DIMENSIONS ARE OUT-TO-OUT OF BAR EXCEPT "A" AND "C" ON STANDARD 135° AND 180° HOOKS, AND "R" WHICH IS SHOWN TO THE INSIDE OF THE BAR.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.

NOTES:

- FOR GENERAL NOTES, SEE SHEET 39.

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:40:44 PM
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 MODEL SHEET FILE

DES: DCL DWG: DMW CKD: MJP



PREPARED BY:
HDR
 HDR Engineering, Inc.
 11 STANWIX STREET, SUITE 800
 PITTSBURGH, PA 15222
 PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION

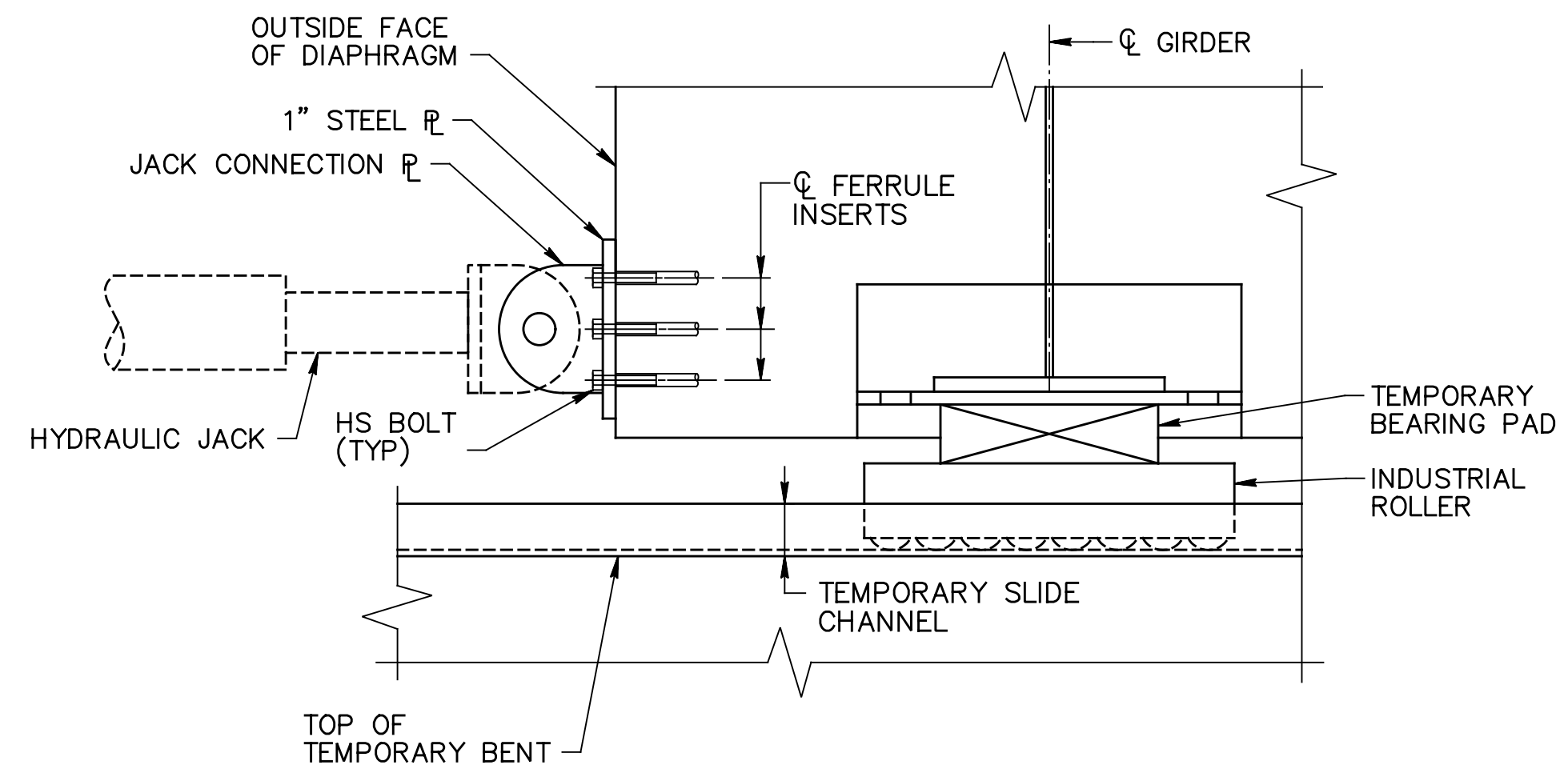
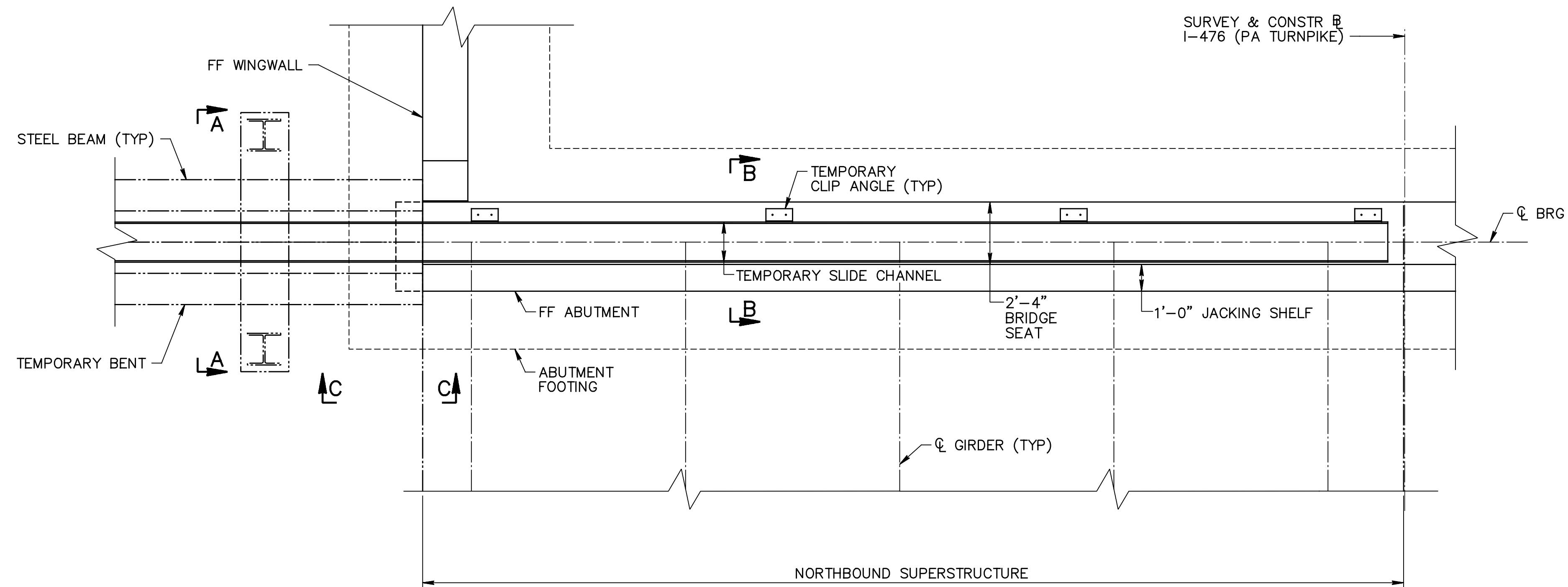


NO.	REVISIONS	DATE	APPR.

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A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355Stappmedrebarsched.dgn
 DRAWING TYPE: 2G
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 SCALE: NO SCALE

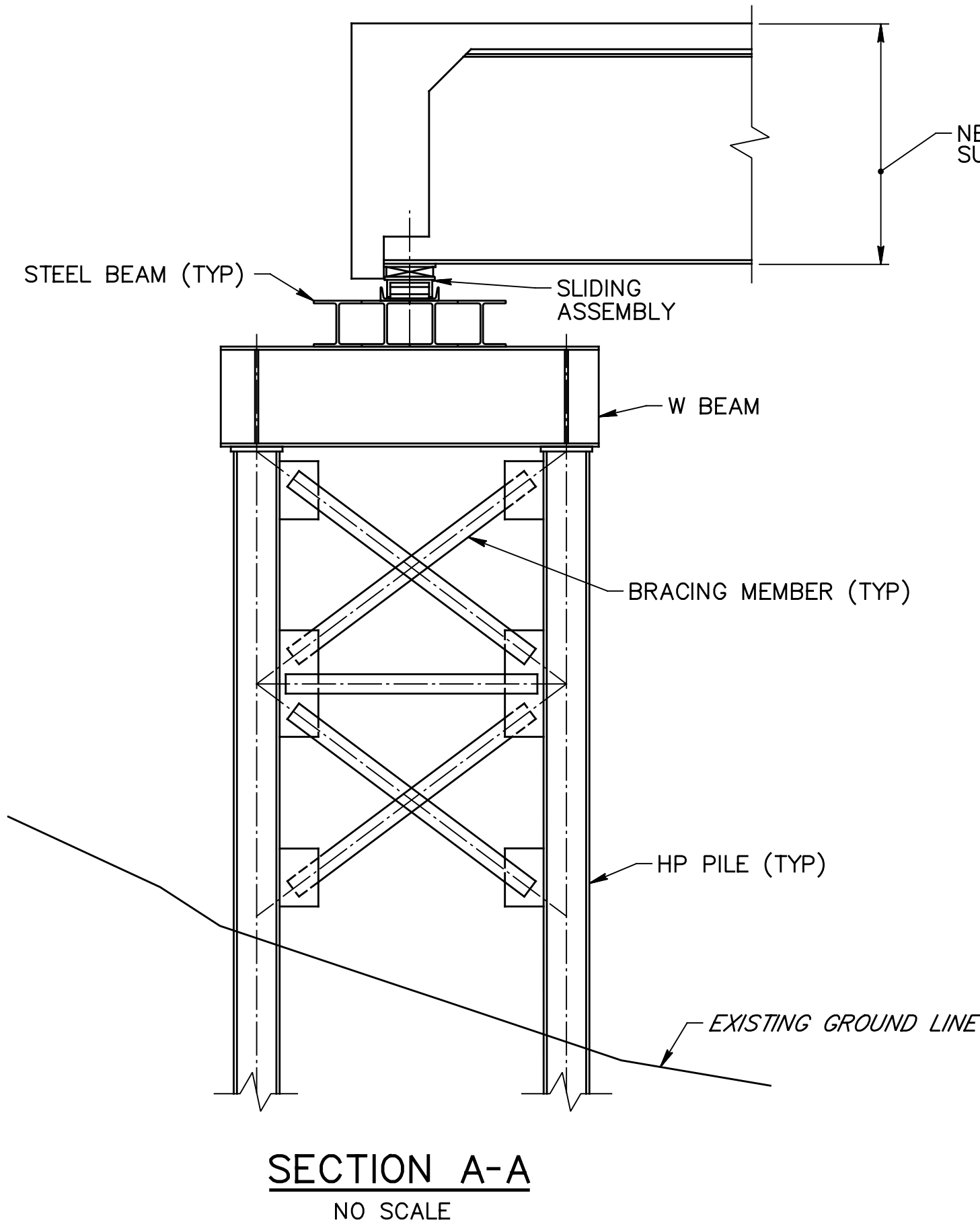
**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

**APPROACH MEDIAN BARRIER
 REINFORCEMENT BAR SCHEDULE**
 DRAWING: 52 OF 69
 SHEET: 89 OF 116

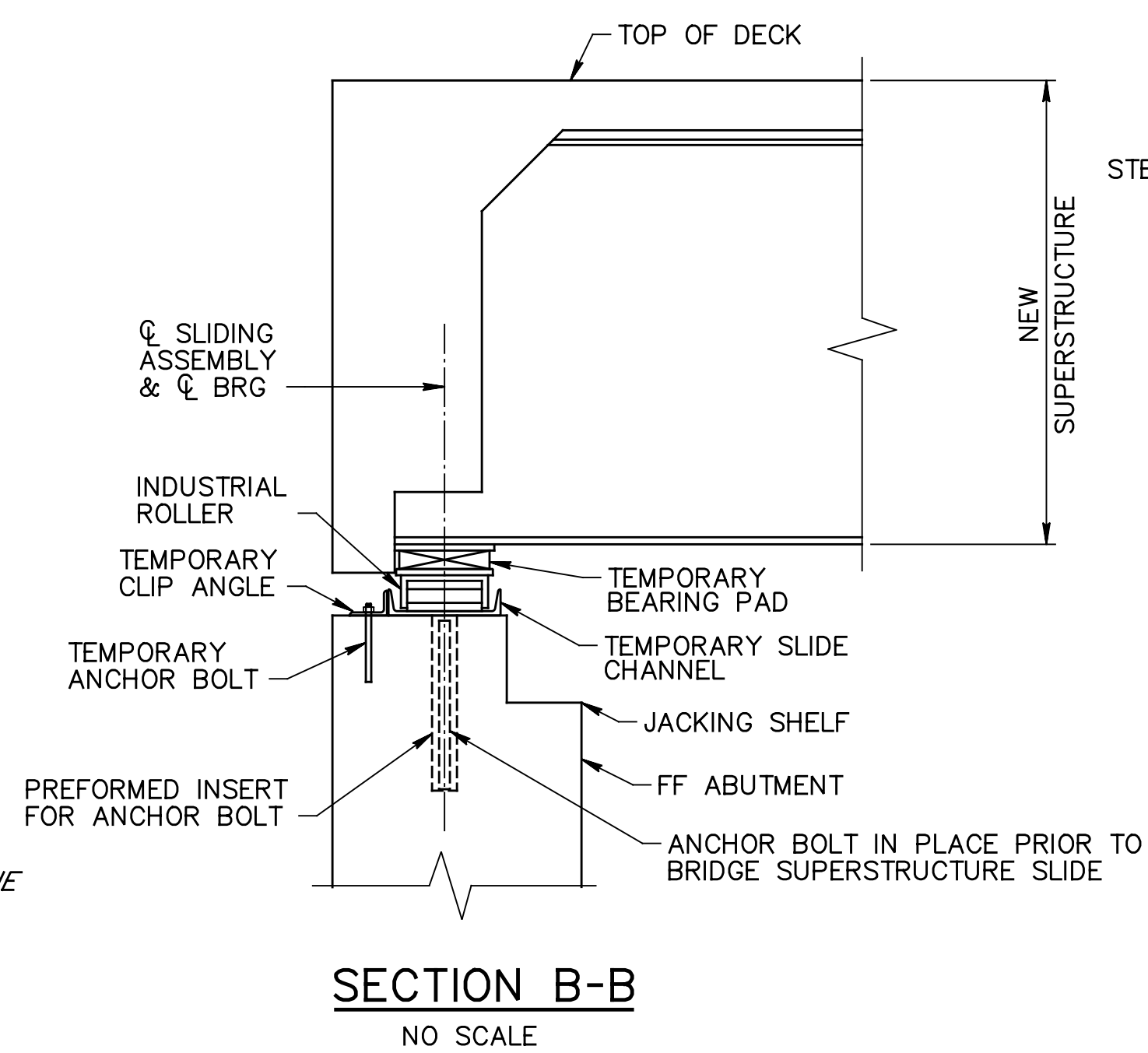


ABUTMENT PARTIAL SLIDING PLAN
(ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR)
NO SCALE

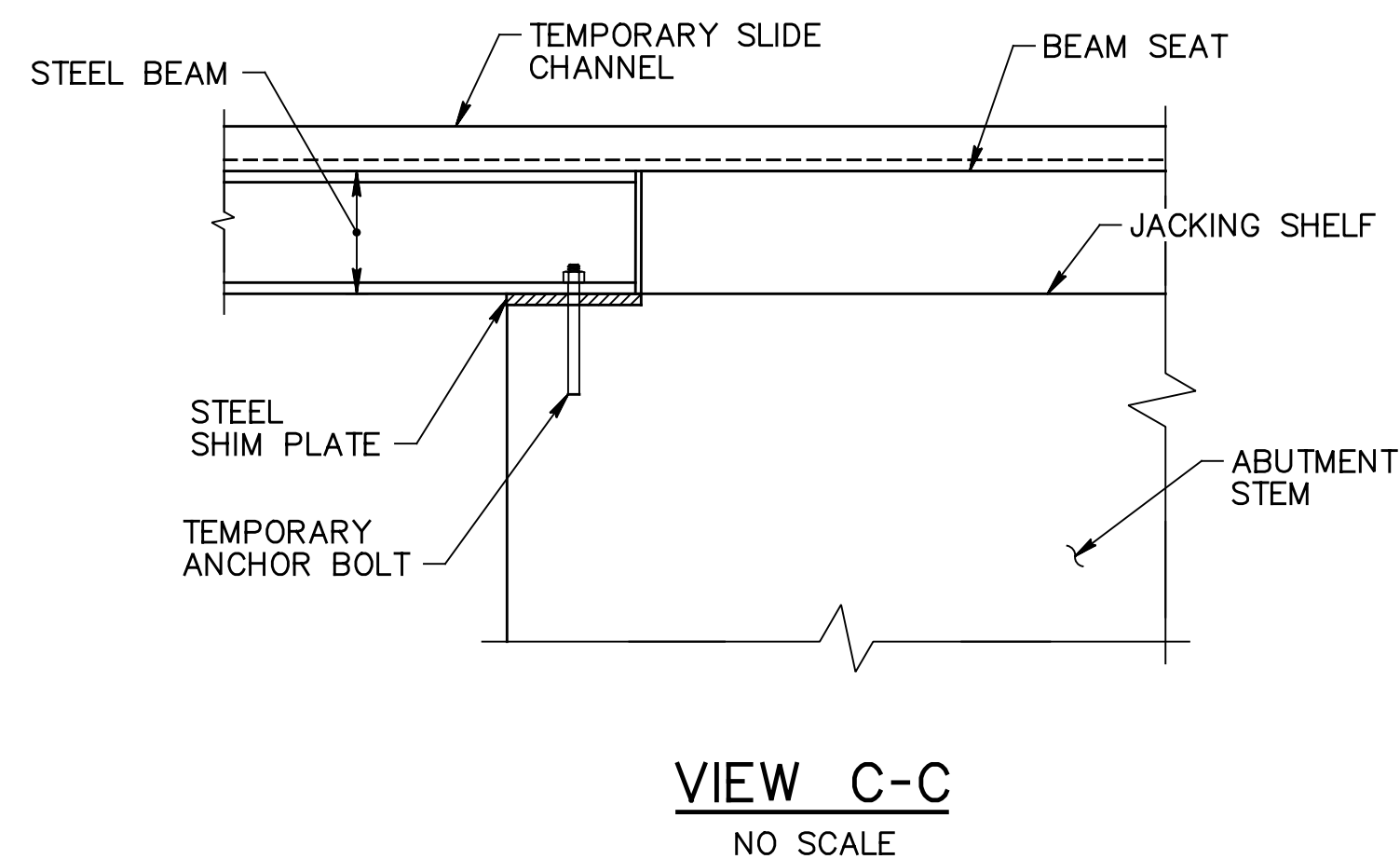
CONCEPTUAL LATERAL JACKING DETAIL
NO SCALE



SECTION A-A
NO SCALE



SECTION B-B
NO SCALE



VIEW C-C
NO SCALE

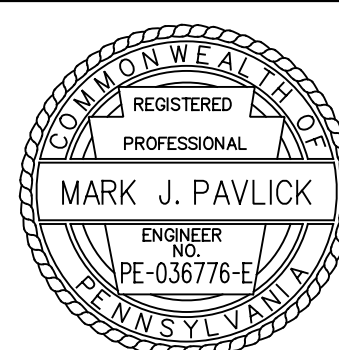
CONCEPTUAL HORIZONTAL SLIDE PROCEDURE:

1. PLACE PERMANENT GIRDER ANCHOR BOLTS IN PREFORMED HOLES IN THE ABUTMENT STEM.
2. INSTALL COMPONENTS AND EQUIPMENT REQUIRED FOR HORIZONTAL SLIDE INCLUDING TEMPORARY SLIDE CHANNEL, TEMPORARY CLIP ANGLES, TEMPORARY ANCHOR BOLTS, INDUSTRIAL ROLLERS, AND JACKS.
3. CONDUCT A TRIAL HORIZONTAL SLIDE IN ACCORDANCE WITH THE SPECIAL PROVISION "HORIZONTAL SLIDE AND TEMPORARY SHORING".
4. PERFORM HORIZONTAL SLIDE AND MONITOR BRIDGE MOVEMENT IN ACCORDANCE WITH THE SPECIAL PROVISION.
5. JACK THE SUPERSTRUCTURE VERTICALLY FROM ABUTMENT JACKING SHELVES AND REMOVE ALL TEMPORARY COMPONENTS AND EQUIPMENT REQUIRED FOR HORIZONTAL SLIDE.
6. INSTALL PERMANENT (NEW) BEARING PADS, PCP, AND CLOSED CELL NEOPRENE SPONGE ON THE BRIDGE SEAT.
7. LIFT SWEDGED ANCHOR BOLTS FROM THE PREFORMED HOLES AND INSTALL WASHERS AND NUTS
8. LOWER THE SUPERSTRUCTURE AND REMOVE JACKS.
9. GROUT PREFORMED HOLES.

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 39.
2. FOR CONSTRUCTION SITE PLAN AND SEQUENCE, SEE SHEET 45.
3. ALL TEMPORARY BENT AND SLIDE-IN DETAILS SHOWN ARE CONCEPTUAL. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF TEMPORARY BENT AND SLIDE-IN DETAILS.
4. THE HORIZONTAL SLIDE PROCEDURE SHOWN IS CONCEPTUAL AND IS PROVIDED FOR INFORMATION ONLY.

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 PATH: c:\pwworking\bit\1379599\ FILE: 0355STconslndinets.dgn
 DES: DCL DWG: MM CKD: MJP



PREPARED BY:
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 PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION

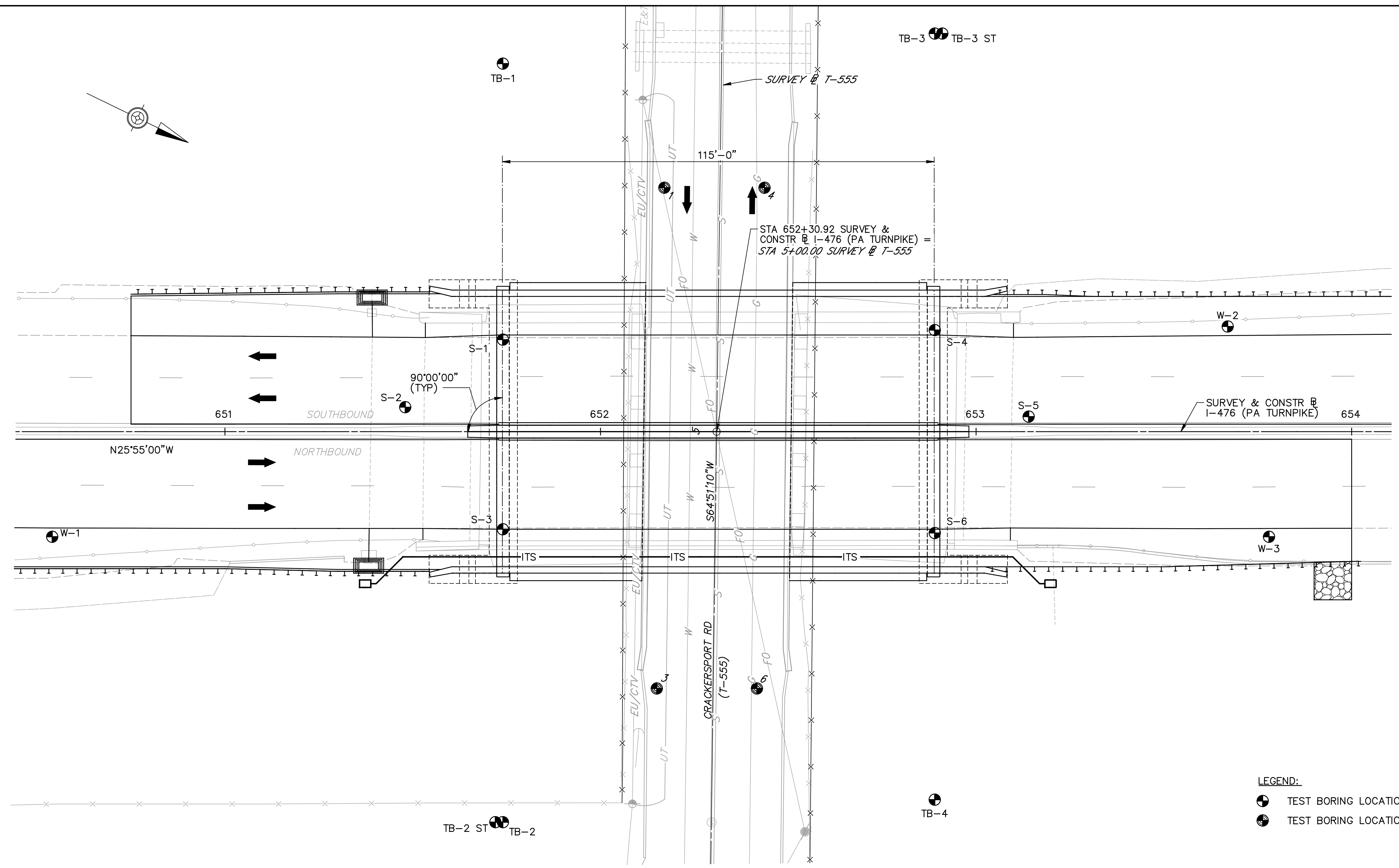


NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355STconslndinets.dgn
 DRAWING TYPE: 2G
 STRUCTURE NUMBER: NB-355
 SCALE: AS SHOWN

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

CONCEPTUAL TEMPORARY BENT AND SLIDE-IN DETAILS
 DRAWING: 53 OF 69
 SHEET: 90 OF 116



TEST BORING LOCATIONS		
BORING	STATION	OFFSET
S-1	651+74	24.50' L
S-2	651+48	6.50' L
S-3	651+74	25.00' R
S-4	652+89	27.00' L
S-5	653+14	4.00' L
S-6	652+89	27.00' R
TB-1	651+74	98.00' L
TB-2	651+74	104.00' R
TB-2 ST	651+72	104.00' R
TB-3	652+89	106.00' L
TB-3 ST	652+91	106.00' L
TB-4	652+89	98.00' R
W-1	650+54	28.00' R
W-2	653+67	28.00' L
W-3	653+78	28.00' R

EXISTING BORING LOCATIONS		
BORING	STATION	OFFSET
1	652+17	64.83' L
3	652+17	68.33' R
4	652+45	64.83' L
6	652+45	68.33' R

NOTE: STATIONS AND OFFSETS ARE RELATIVE TO SURVEY & CONSTR 1-476 (PA TURNPIKE)

LEGEND:

- TEST BORING LOCATION (HDR, 2015)
- TEST BORING LOCATION (PTC, 1954)

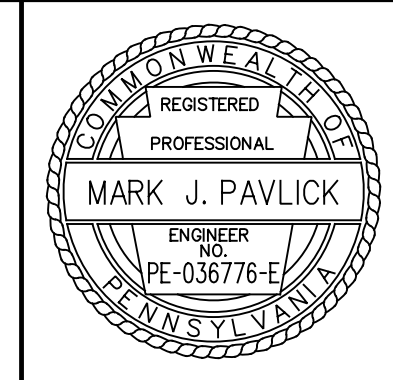
NOTES:

1. FOR BORING LOGS, SEE SHEETS 92 THROUGH 106.

TEST BORING LOCATION PLAN

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:41:23 PM
 PATH: c:\pwworking\h1\1379599\ FILE: 0355STbpl01.dgn
 MODEL SHEET

DES: DCL DWG: DWW CKD: MJP



PREPARED BY: **HDR**
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 PITTSBURGH, PA 15222
 PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



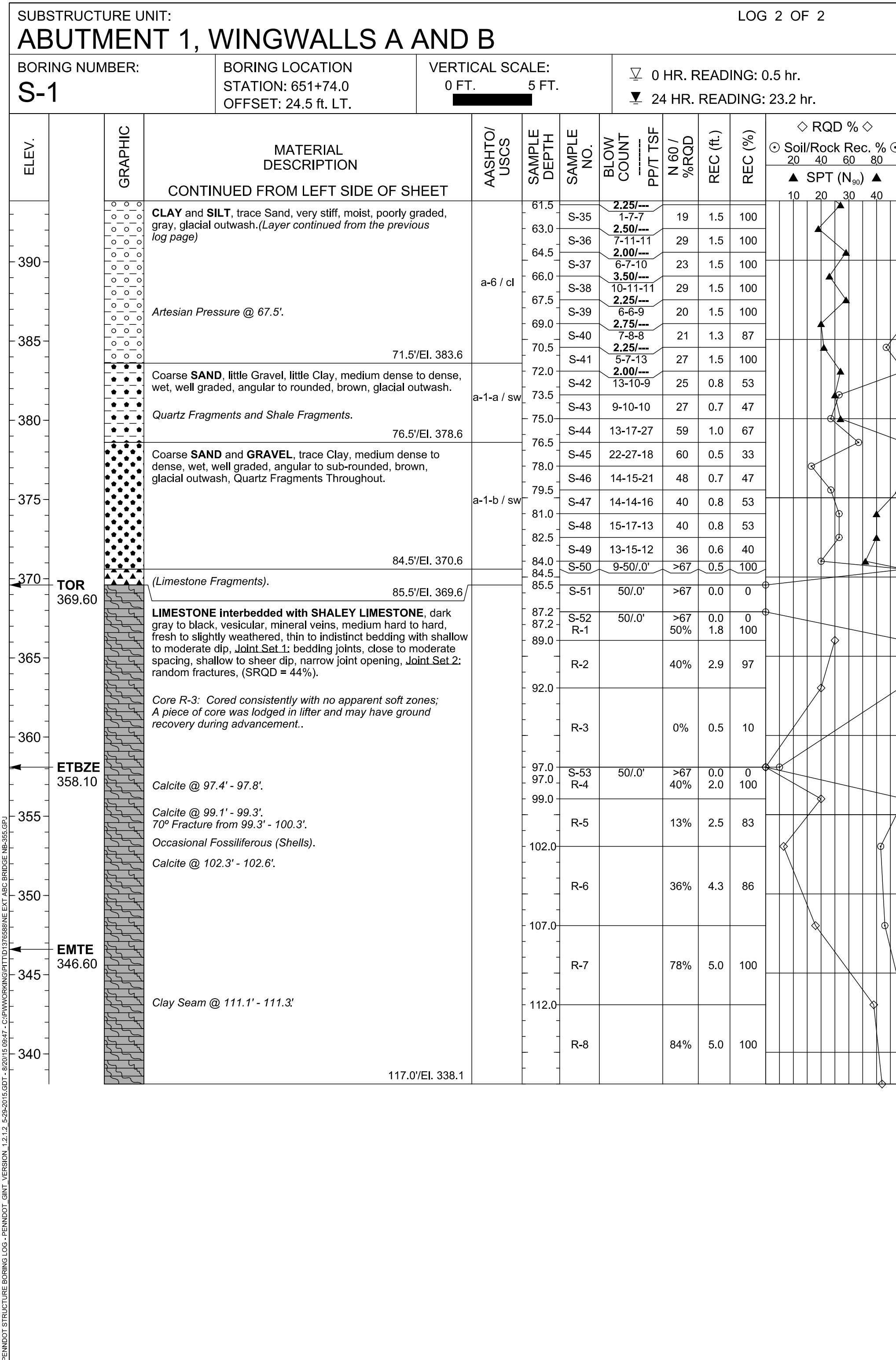
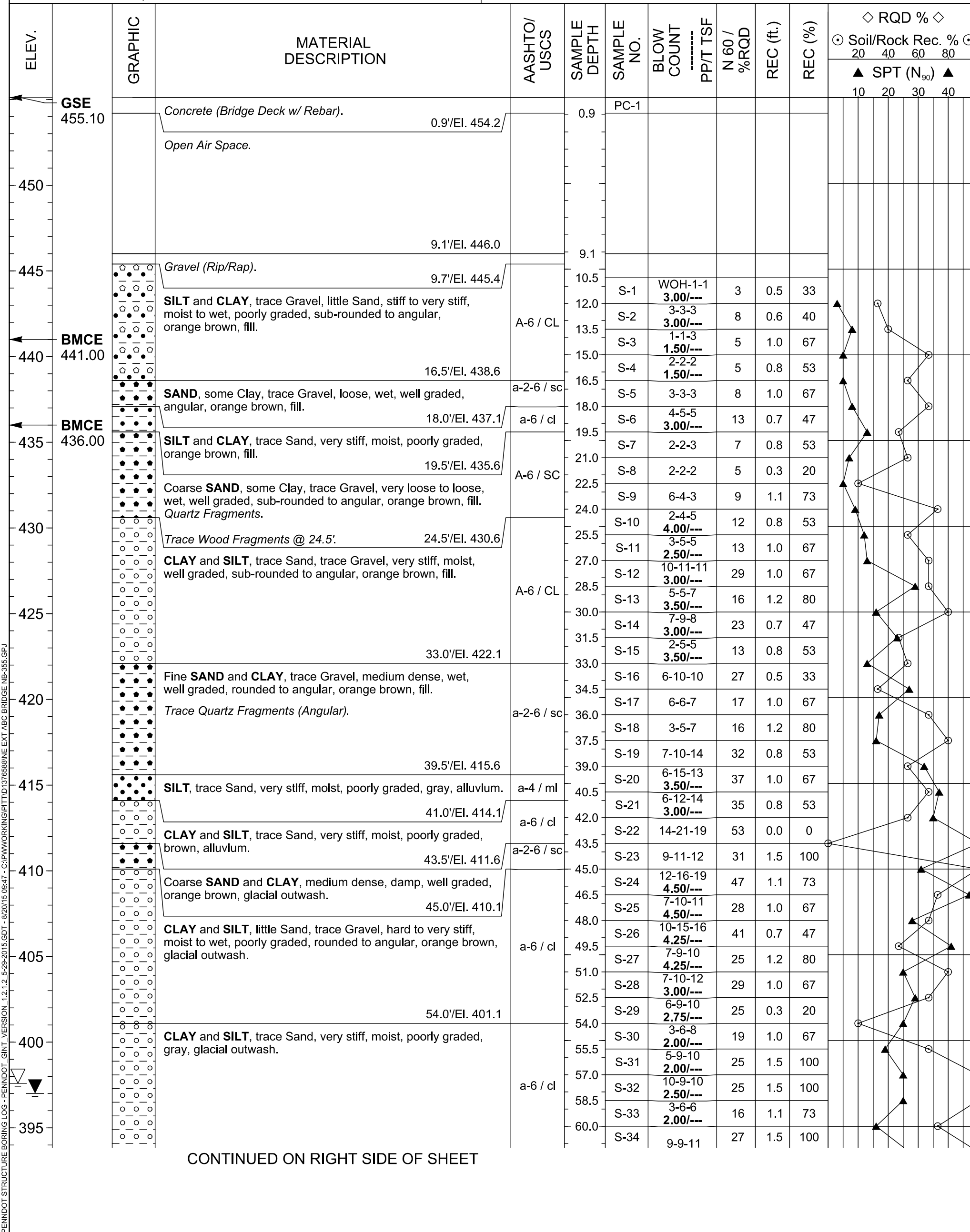
NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
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 DRAWING TYPE: 2P
 STRUCTURE NUMBER: NB-355
 SCALE: 15 0 15 FEET

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

PLAN AND LOCATION OF BORINGS
 DRAWING: 54 OF 69
 SHEET: 91 OF 116

SUBSTRUCTURE UNIT: ABUTMENT 1, WINGWALLS A AND B				LOG 1 OF 2			
BORING NUMBER: S-1	BORING LOCATION STATION: 651+74.0 OFFSET: 24.5 ft. LT.	START: 05/18/2015 10:20 AM FINISH: 05/20/2015 1:30 PM	HAMMER: AUTOMATIC EFFICIENCY: 0.8 ERa				
DRILLING METHOD AND EQUIPMENT: DBLE TUBE SPLIT INNER BRL-NQ2, AUTOMATIC, ACKER XLS TRACK RIG W/SAFETY HMR		SIZE OF CORE: 1.874"	VERTICAL SCALE: 0 FT. 5 FT.	TOP OF BORING ELEVATION: 455.1 FT.			
DRILLING INSPECTOR: RUSSELL KANITH DRILLER & DRILLING COMPANY: JEFF DOTZLER TRC ENGINEERS, INC.		▽ 0 HR. READING - ELAPSED TIME: El. 397.6 - 0.5 hr. ▼ 24 HR. READING - ELAPSED TIME: El. 397.0 - 23.2 hr.					



GENERAL NOTES:

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.

FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.

THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SUBSURFACE CONDITIONS MAY DIFFER FROM THE CONDITIONS REPORTED AT THE SPECIFIC LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE OF CONDITIONS AT THE BORING LOCATIONS.

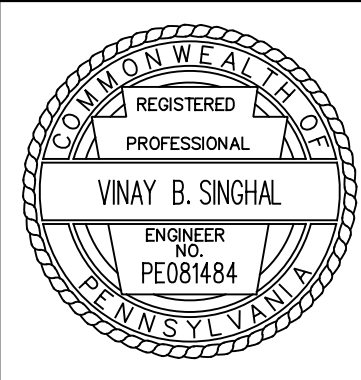
LEGEND

- GSE GROUND SURFACE ELEVATION
- BMCE BOTTOM OF MICROPILE CAP ELEVATION
- TRE TOP OF ROCK ELEVATION
- ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
- EMTE ESTIMATED MICROPILE TIP ELEVATION (FOR VERTICAL PILES)

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED:
Donald E. Spillone

THE SUBSURFACE EXPLORATION DATA THAT ARE PRESENTED ON THESE DRAWINGS (INCLUDING BORING LOGS, EARTH SAMPLES, ROCK CORES, CLASSIFICATION OF MATERIALS AND DEPTH OF BORINGS) ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM AT EACH BORING LOCATION.
Donald E. Spillone
08/24/2015
DATE

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.pltsg PLOT DATE: 09-02-2016 3:41:41 PM
PATH: c:\pwworking\p11\1379599\ FILE: 0355Gtborlog01.dgn
DES: DES DWG: JAE CKD: VBS



PREPARED BY:
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PREPARED FOR:
THE PENNSYLVANIA
TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121

FILE NAME: 0355Gtborlog01.dgn

DRAWING TYPE: 2P

STRUCTURE NUMBER: NB-355

SCALE: AS NOTED

**BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH

TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

STRUCTURE BORING S-1

DRAWING: 55 OF 69
SHEET: 92 OF 116

SUBSTRUCTURE UNIT:
ABUTMENT 1, WINGWALLS A AND B LOG 1 OF 2

BORING NUMBER: **S-2** BORING LOCATION STATION: 651+48.0 OFFSET: 6.5 ft. LT.

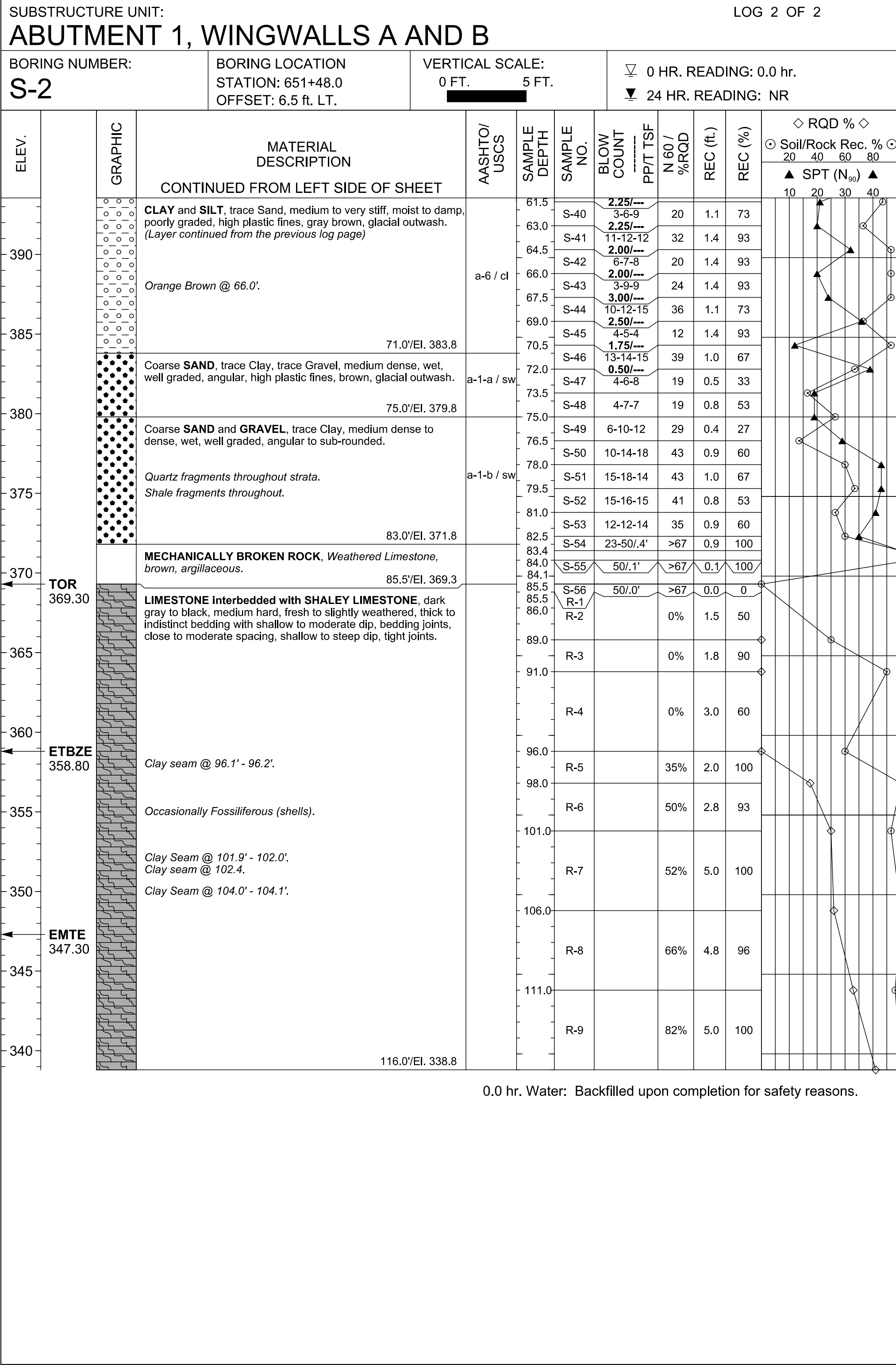
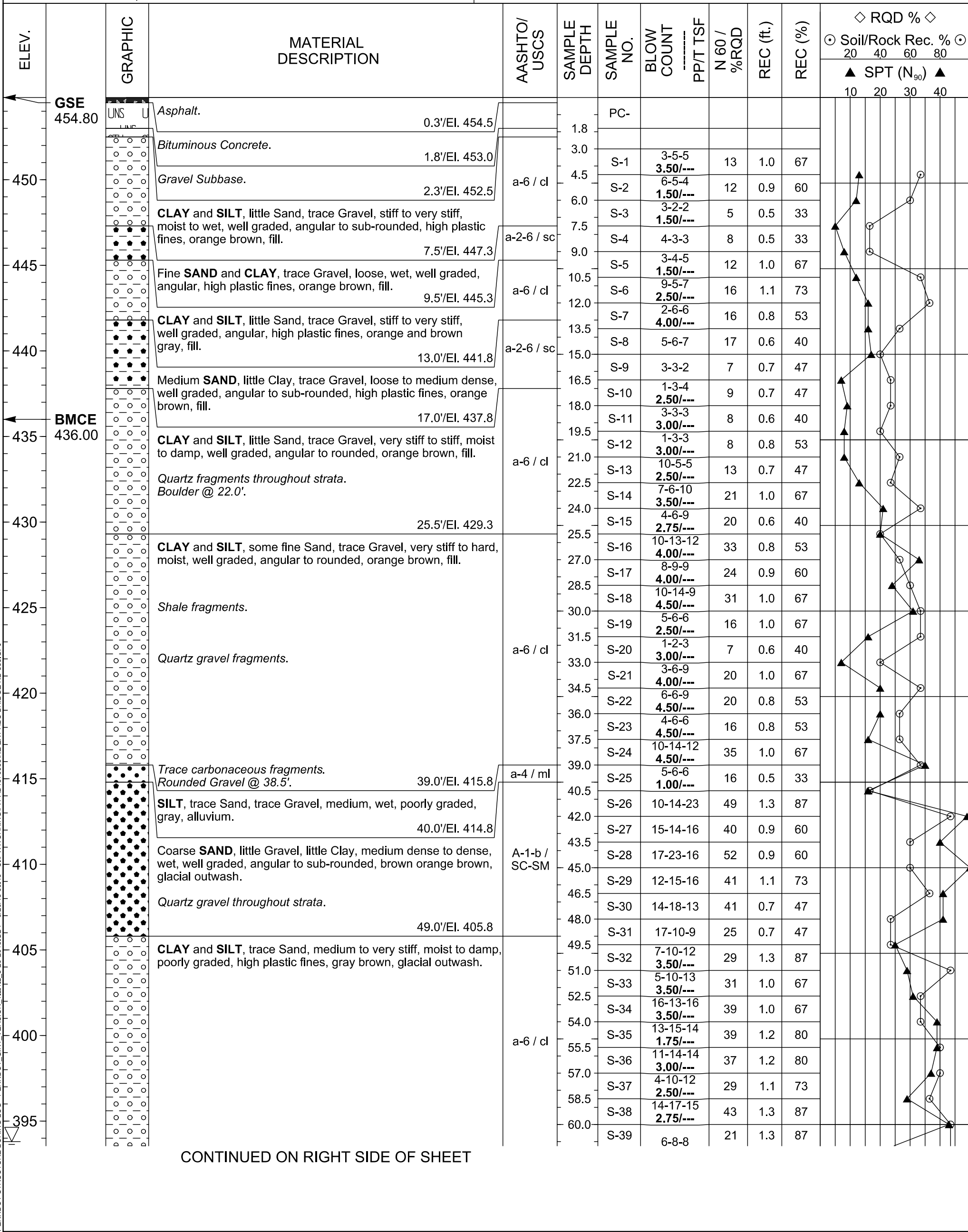
START: 05/27/2015 8:00 AM HAMMER: AUTOMATIC
FINISH: 05/28/2015 5:00 PM EFFICIENCY: 0.8 ERa

DRILLING METHOD AND EQUIPMENT: DBLE TUBE SPLIT INNER BRL-NQ2, AUTOMATIC, ACKER XLS TRACK RIG W/SAFETY HMR

SIZE OF CORE: 1.874" VERTICAL SCALE: 0 FT. 5 FT. TOP OF BORING ELEVATION: 454.8 FT.

DRILLING INSPECTOR: RUSSELL KANITH
DRILLER & DRILLING COMPANY: JEFF DOTZLER TRC ENGINEERS, INC.

0 HR. READING - ELAPSED TIME: El. 393.8 - 0.0 hr.
24 HR. READING - ELAPSED TIME: NR - NR



GENERAL NOTES:
THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.
FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.
THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SUBSURFACE CONDITIONS MAY DIFFER FROM THE CONDITIONS REPORTED AT THE SPECIFIC LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE OF CONDITIONS AT THE BORING LOCATIONS.

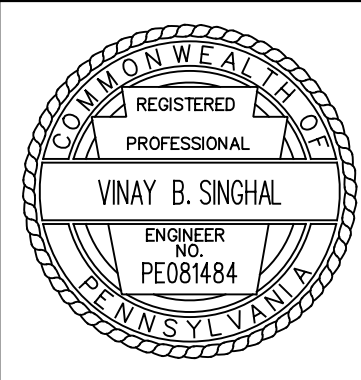
LEGEND
GSE GROUND SURFACE ELEVATION
BMCE BOTTOM OF MICROPILE CAP ELEVATION
TRE TOP OF ROCK ELEVATION
ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
EMTE ESTIMATED MICROPILE TIP ELEVATION (FOR VERTICAL PILES)

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED:
Donald E. Spillone

THE SUBSURFACE EXPLORATION DATA THAT ARE PRESENTED ON THESE DRAWINGS (INCLUDING BORING LOGS, EARTH SAMPLES, ROCK CORES, CLASSIFICATION OF MATERIALS AND DEPTH OF BORINGS) ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM AT EACH BORING LOCATION.
Donald E. Spillone
GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST
08/24/2015
DATE

USER: JBDNO PLOT DRIVER: PTC_PDF_Screening.pltsg PLOT DATE: 09-02-2016 3:41:55 PM
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FILE: 0355Gtboring02.dgn

DES: DES DWG: JAE CKD: VBS



PREPARED BY: **HDR**
HDR Engineering, Inc.
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PITTSBURGH, PA 15222

PREPARED FOR:
THE PENNSYLVANIA
TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
FILE NAME: 0355Gtboring02.dgn
DRAWING TYPE: 2P
STRUCTURE NUMBER: NB-355

SCALE: AS NOTED

**BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66**

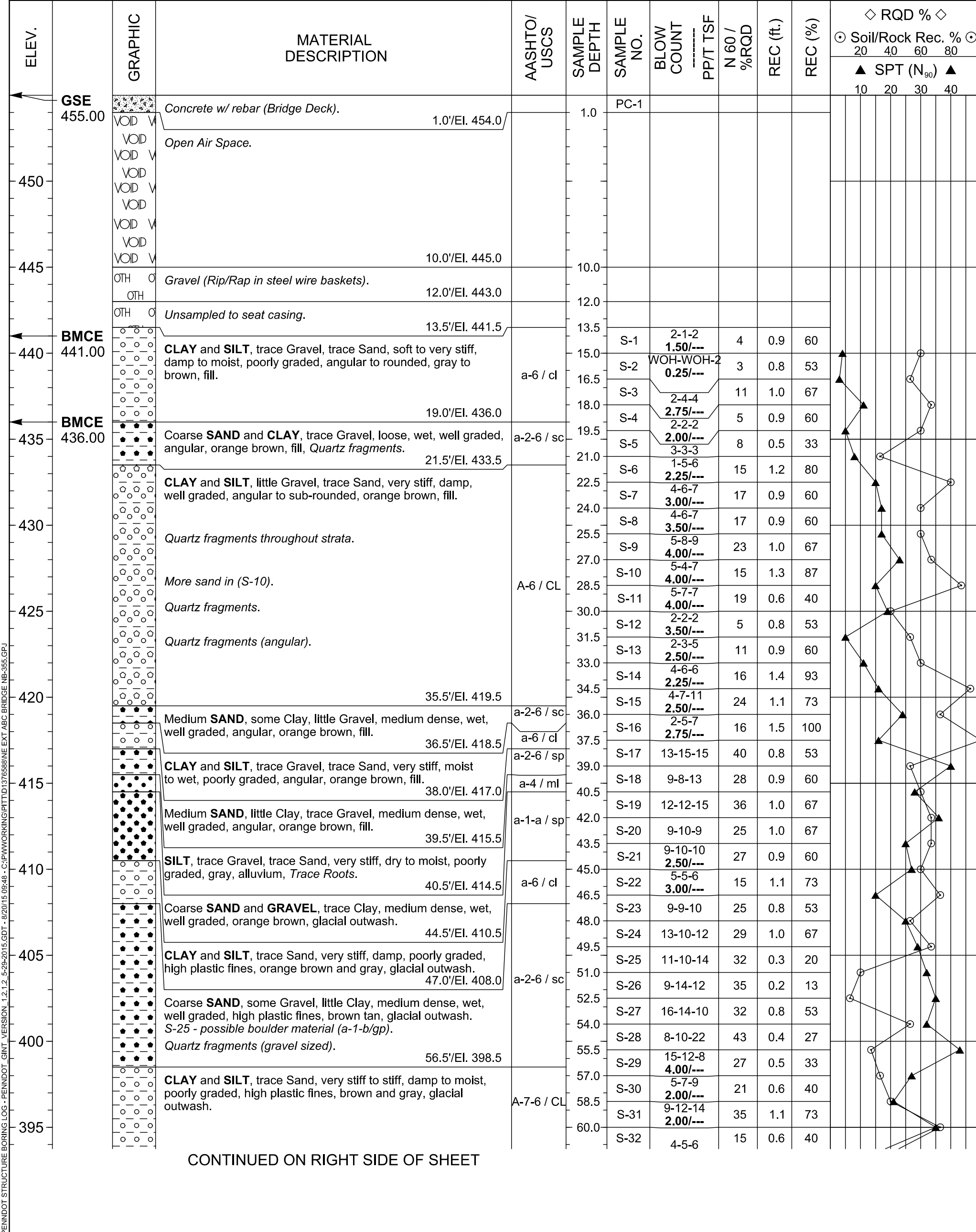
DISTRICT: 5 COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

STRUCTURE BORING S-2

DRAWING: 56 OF 69
SHEET: 93 OF 116

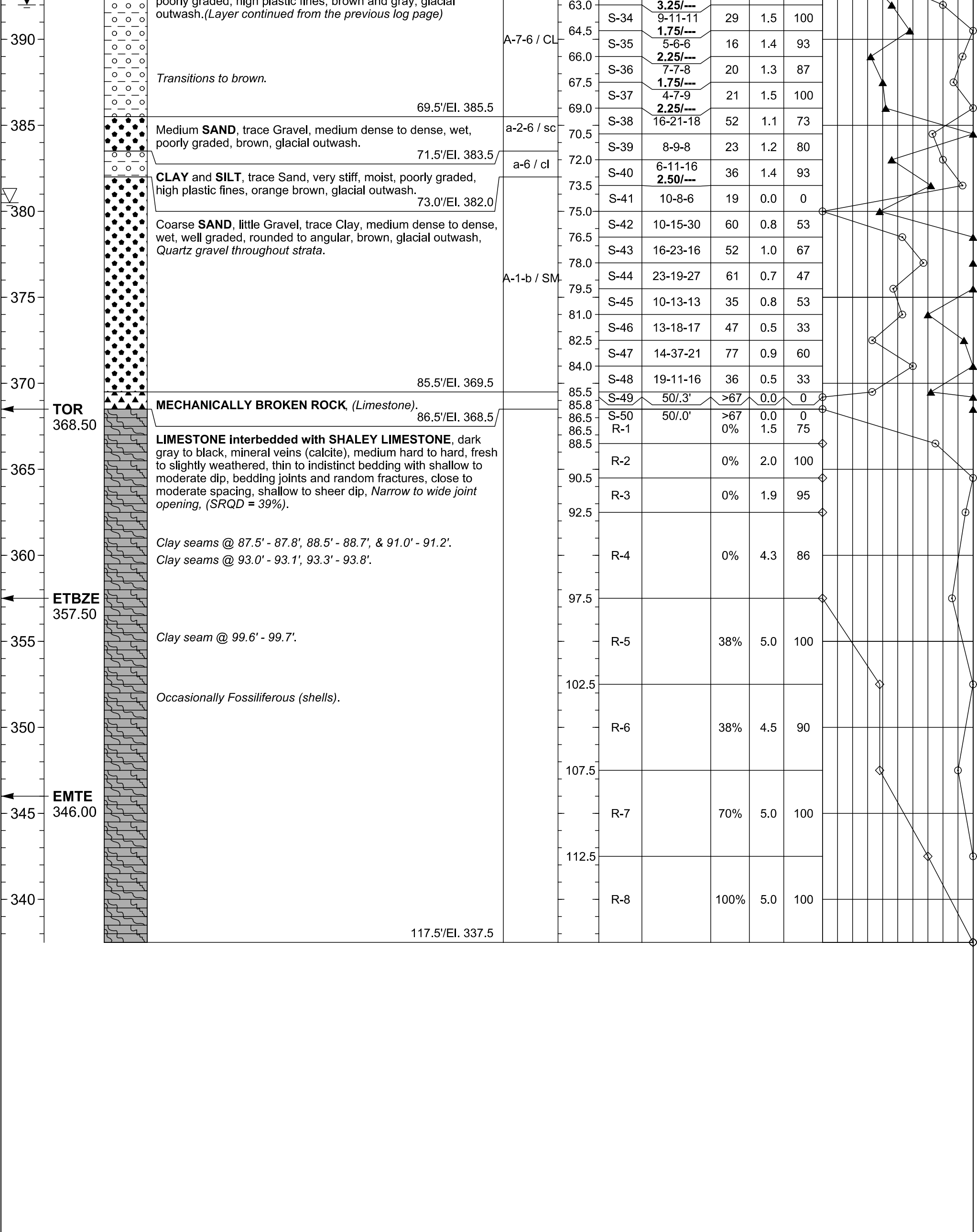
SUBSTRUCTURE UNIT: **ABUTMENT 1, WINGWALLS A AND B** LOG 1 OF 2

BORING NUMBER: S-3	BORING LOCATION STATION: 651+74.0 OFFSET: 25.0 ft. RT.	START: 06/02/2015 11:19 PM FINISH: 06/03/2015 2:30 AM	HAMMER: AUTOMATIC EFFICIENCY: 0.8 ERa
DRILLING METHOD AND EQUIPMENT: DBLE TUBE SPLIT INNER BRL-NQ2, AUTOMATIC, ACKER XLS TRACK RIG W/SAFETY HMR		SIZE OF CORE: 0 FT.	VERTICAL SCALE: 5 FT.
DRILLING INSPECTOR: RUSSELL KANITH DRILLER & DRILLING COMPANY: JEFF DOTZLER TRC ENGINEERS, INC.		TOP OF BORING ELEVATION: 455.0 FT.	
		0 HR. READING - ELAPSED TIME: El. 380.5 - 1.0 hr. 24 HR. READING - ELAPSED TIME: El. 392.0 - 24.0 hr.	



SUBSTRUCTURE UNIT: **ABUTMENT 1, WINGWALLS A AND B** LOG 2 OF 2

BORING NUMBER: S-3	BORING LOCATION STATION: 651+74.0 OFFSET: 25.0 ft. RT.	VERTICAL SCALE: 5 FT.	0 HR. READING: 1.0 hr. 24 HR. READING: 24.0 hr.
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GENERAL NOTES:
THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.
FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.
THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SUBSURFACE CONDITIONS MAY DIFFER FROM THE CONDITIONS REPORTED AT THE SPECIFIC LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE OF CONDITIONS AT THE BORING LOCATIONS.

LEGEND

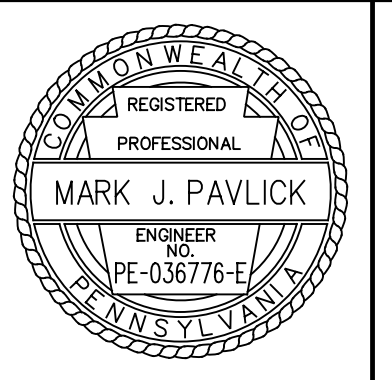
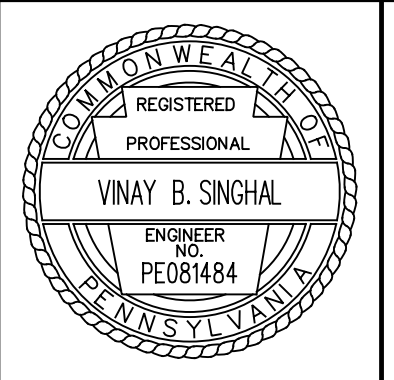
GSE	GROUND SURFACE ELEVATION
BMCE	BOTTOM OF MICROPILE CAP ELEVATION
TRE	TOP OF ROCK ELEVATION
ETBZE	ESTIMATED TOP OF BOND ZONE ELEVATION
EMTE	ESTIMATED MICROPILE TIP ELEVATION (FOR VERTICAL PILES)

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED:
Donald E. Spillone

THE SUBSURFACE EXPLORATION DATA THAT ARE PRESENTED ON THESE DRAWINGS (INCLUDING BORING LOGS, EARTH SAMPLES, ROCK CORES, CLASSIFICATION OF MATERIALS AND DEPTH OF BORINGS) ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM AT EACH BORING LOCATION.
Donald E. Spillone
GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST
08/24/2015
DATE

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.pltsg PLOT DATE: 09-02-2016 3:42:18 PM
PATH: c:\pwworking\bit\1379599\ MODEL:Default
FILE: 0355GTborlog03.dgn

DES: DES DWG: JAE CKD: VBS



PREPARED BY:
HDR
HDR Engineering, Inc.
11 STANWIX STREET, SUITE 800
PITTSBURGH, PA 15222

PREPARED FOR:
THE PENNSYLVANIA
TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

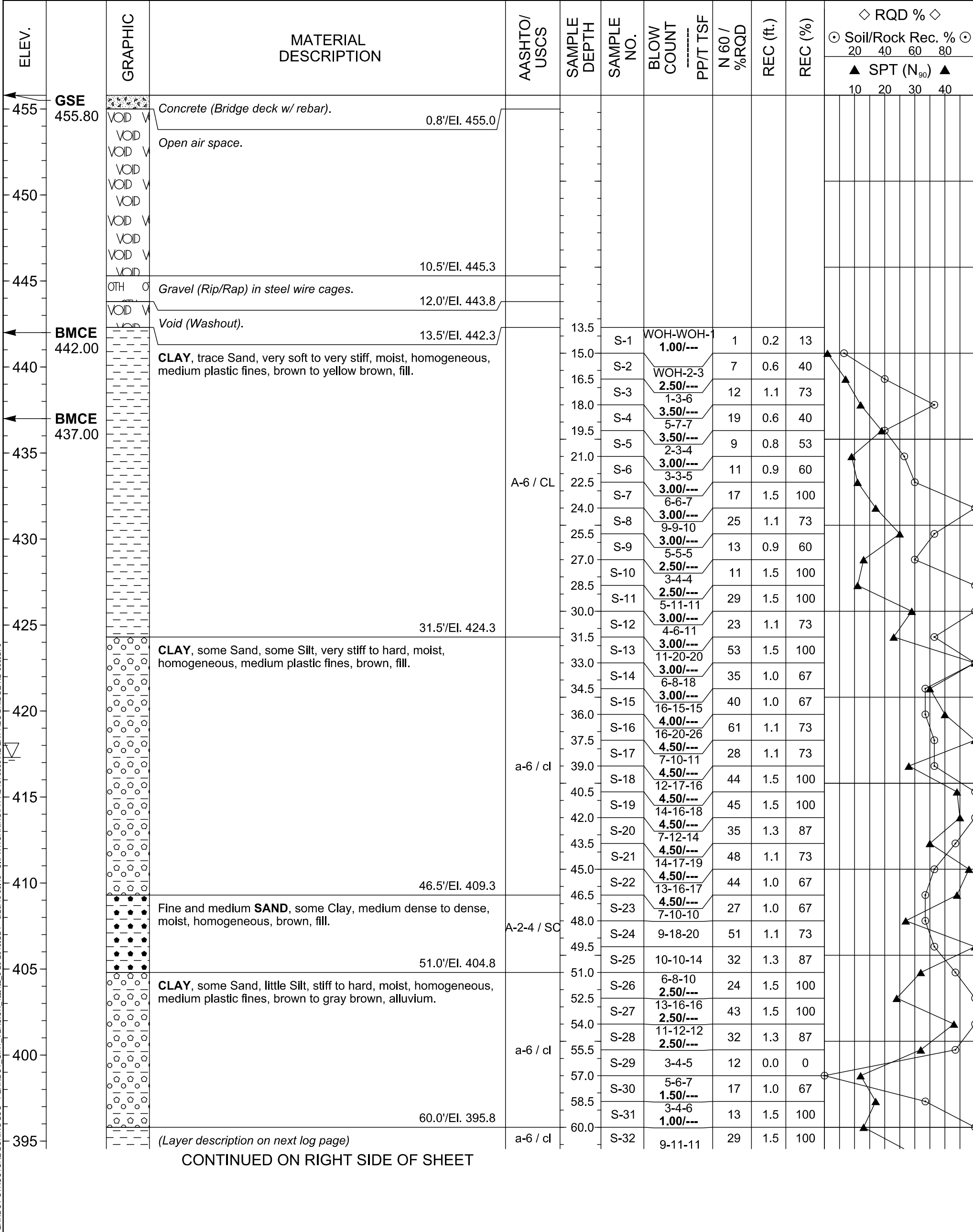
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NETWORK NUMBER: 7004121
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DRAWING TYPE: 2P
STRUCTURE NUMBER: NB-355
SCALE: AS NOTED

BRIDGE REPLACEMENT	
NB-355 OVER CRACKERSPORT ROAD	
MP A-57.66	
DISTRICT: 5	COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP	

STRUCTURE BORING S-3	
DRAWING: 57 OF 69	SHEET: 94 OF 116

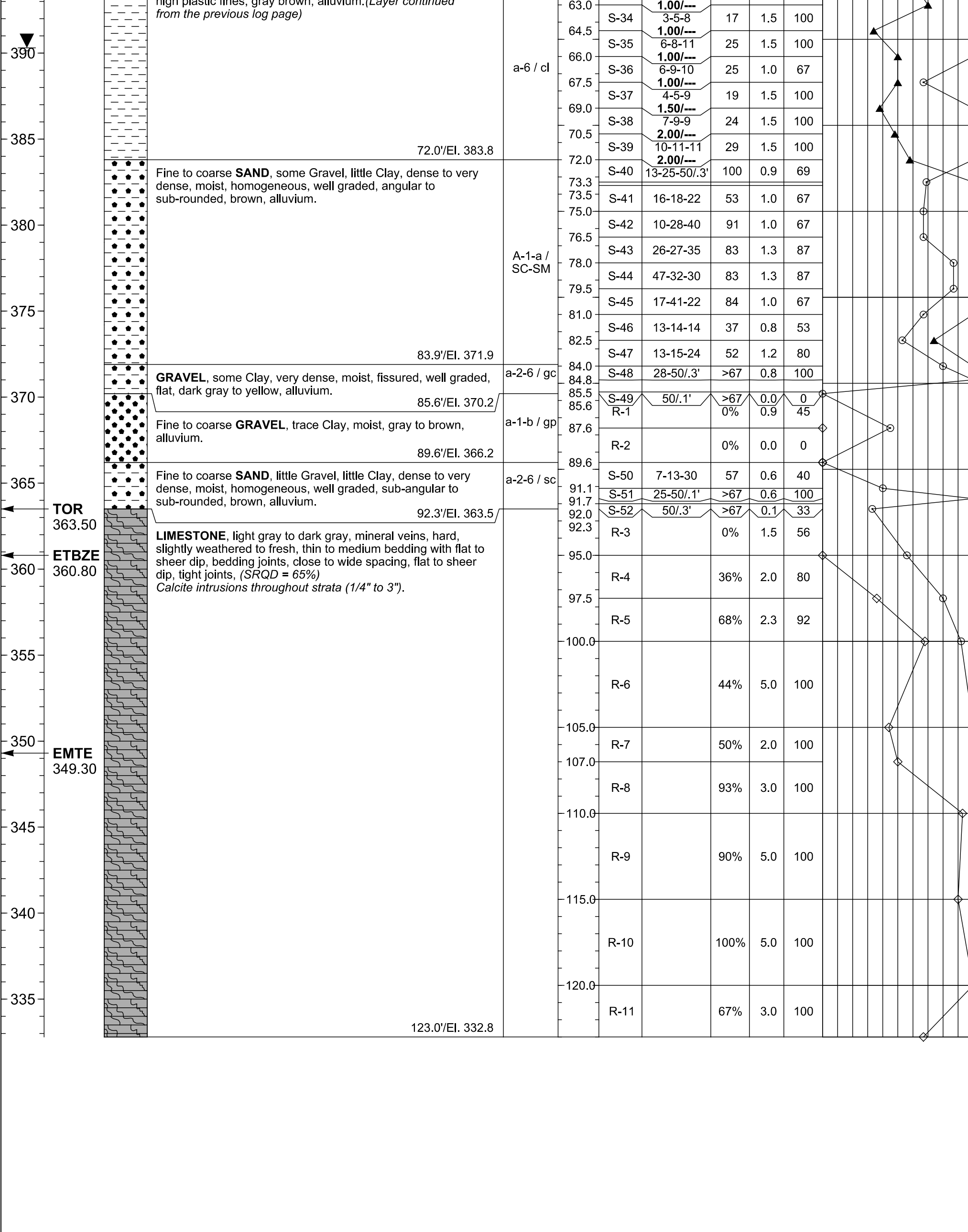
SUBSTRUCTURE UNIT: **ABUTMENT 2, WINGWALLS C AND D** LOG 1 OF 2

BORING NUMBER: **S-4** BORING LOCATION STATION: 652+89.0 OFFSET: 27.0 ft. LT.
 START: 05/18/2015 8:00 AM HAMMER: AUTOMATIC
 FINISH: 05/20/2015 5:00 PM EFFICIENCY: 0.8 ERa
 DRILLING METHOD AND EQUIPMENT: DBLE TUBE WIRE LN-NQ2, AUTOMATIC, ACKER XLS TRACK RIG W/SAFETY HMR
 SIZE OF CORE: 1.874" VERTICAL SCALE: 0 FT. 5 FT. TOP OF BORING ELEVATION: 455.8 FT.
 DRILLING INSPECTOR: WILLIAM MILLER
 DRILLER & DRILLING COMPANY: JJ MEHALICK TRC ENGINEERS, INC.
 0 HR. READING - ELAPSED TIME: EI. 417.3 - 0.0 hr.
 24 HR. READING - ELAPSED TIME: EI. 390.3 - 24.0 hr.



SUBSTRUCTURE UNIT: **ABUTMENT 2, WINGWALLS C AND D** LOG 2 OF 2

BORING NUMBER: **S-4** BORING LOCATION STATION: 652+89.0 OFFSET: 27.0 ft. LT.
 VERTICAL SCALE: 0 FT. 5 FT.
 0 HR. READING: 0.0 hr.
 24 HR. READING: 24.0 hr.



GENERAL NOTES:
 THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.
 FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.
 THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SUBSURFACE CONDITIONS MAY DIFFER FROM THE CONDITIONS REPORTED AT THE SPECIFIC LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE OF CONDITIONS AT THE BORING LOCATIONS.

LEGEND
 GSE GROUND SURFACE ELEVATION
 BMCE BOTTOM OF MICROPILE CAP ELEVATION
 TRE TOP OF ROCK ELEVATION
 ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
 EMTE ESTIMATED MICROPILE TIP ELEVATION (FOR VERTICAL PILES)

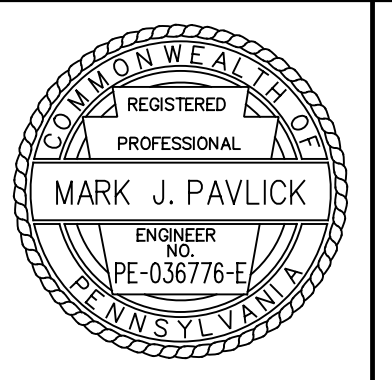
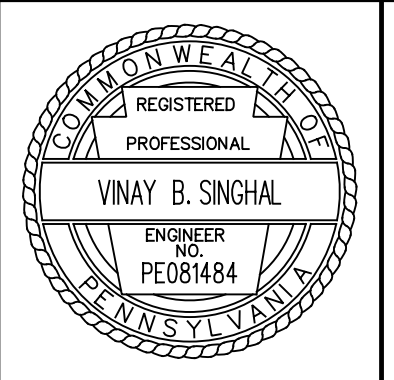
THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED:

THE SUBSURFACE EXPLORATION DATA THAT ARE PRESENTED ON THESE DRAWINGS (INCLUDING BORING LOGS, EARTH SAMPLES, ROCK CORES, CLASSIFICATION OF MATERIALS AND DEPTH OF BORINGS) ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM AT EACH BORING LOCATION.

 GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST
 DATE: 08/24/2015

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:42:36 PM
 PATH: c:\pwworking\jbl\1379599\ FILE: 0355GTborlog04.dgn
 MODEL: Default

DES: DES DWG: JAE CKD: VBS



PREPARED BY: **HDR**
 HDR Engineering, Inc.
 11 STANWIX STREET, SUITE 800
 PITTSBURGH, PA 15222
 PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

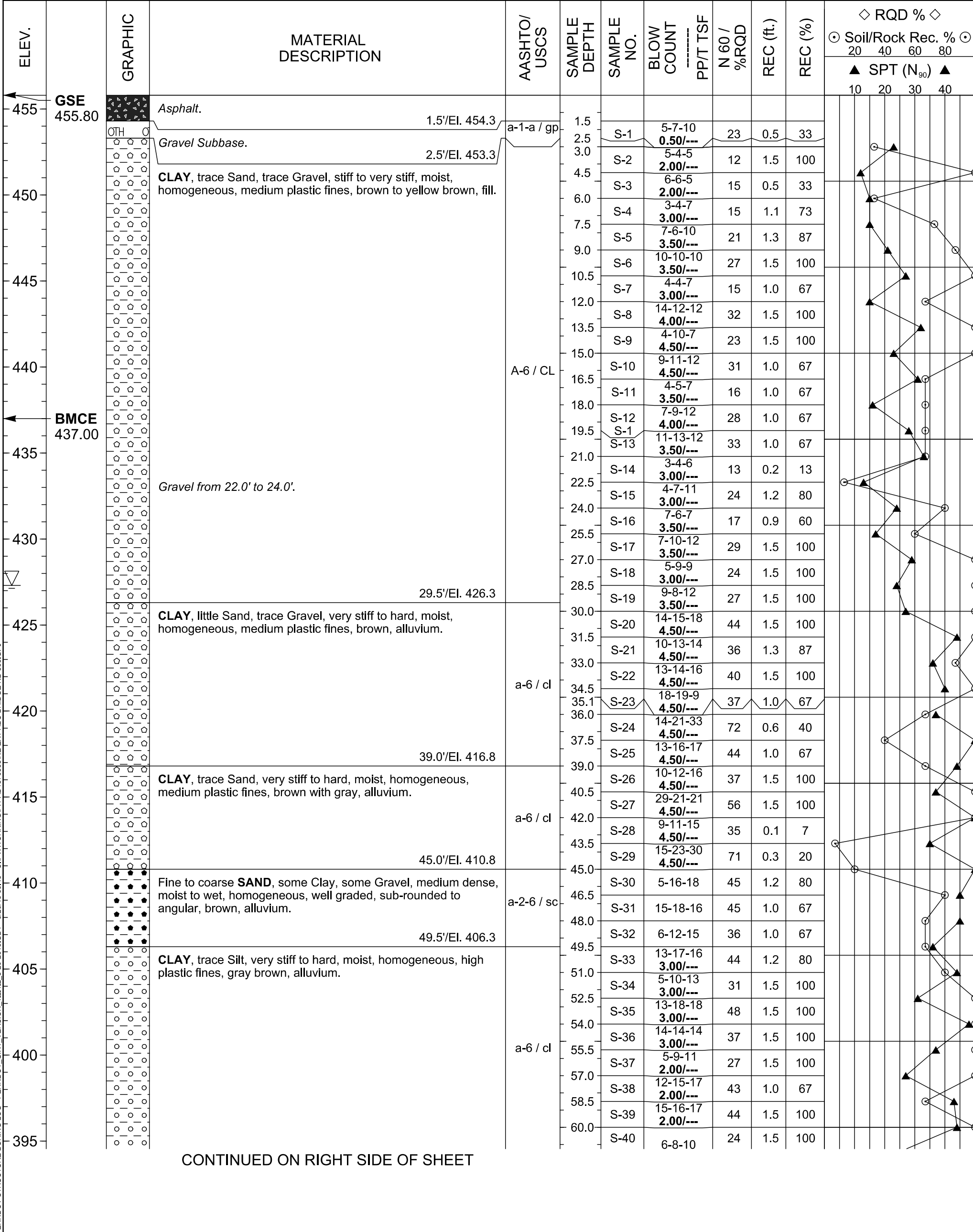
WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355GTborlog04.dgn
 DRAWING TYPE: 2P
 STRUCTURE NUMBER: NB-355
 SCALE: AS NOTED

BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66
 DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

STRUCTURE BORING S-4
 DRAWING: 58 OF 69
 SHEET: 95 OF 116

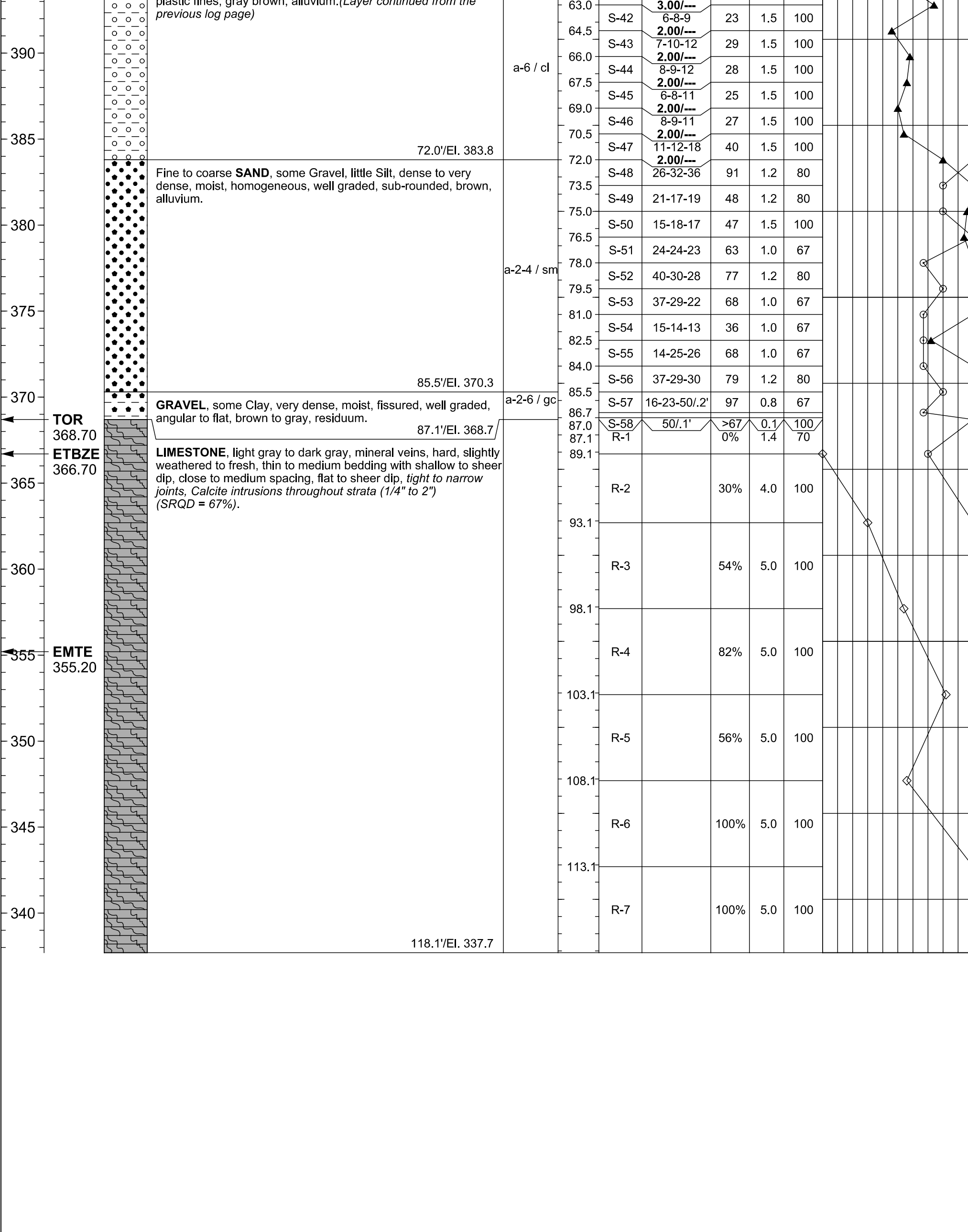
SUBSTRUCTURE UNIT: **ABUTMENT 2, WINGWALLS C AND D** LOG 1 OF 2

BORING NUMBER: **S-5** BORING LOCATION: STATION: 653+14.0
 OFFSET: 4.0 ft. LT. START: 05/27/2015 8:00 AM HAMMER: AUTOMATIC
 FINISH: 05/28/2015 5:00 PM EFFICIENCY: 0.8 ERa
 DRILLING METHOD AND EQUIPMENT: DBLE TUBE SPLIT INNER BRL-NQ2, AUTOMATIC, ACKER XLS TRACK RIG W/SAFETY HMR
 SIZE OF CORE: 1.874" VERTICAL SCALE: 0 FT. 5 FT. TOP OF BORING ELEVATION: 455.8 FT.
 DRILLING INSPECTOR: WILLIAM MILLER
 DRILLER & DRILLING COMPANY: JJ MEHALICK TRC ENGINEERS, INC.
 0 HR. READING - ELAPSED TIME: EI. 427.3 - 0.0 hr.
 24 HR. READING - ELAPSED TIME: EI. 391.4 - 0.5 hr.



SUBSTRUCTURE UNIT: **ABUTMENT 2, WINGWALLS C AND D** LOG 2 OF 2

BORING NUMBER: **S-5** BORING LOCATION: STATION: 653+14.0
 OFFSET: 4.0 ft. LT. VERTICAL SCALE: 0 FT. 5 FT. 0 HR. READING: 0.0 hr.
 24 HR. READING: 0.5 hr.



GENERAL NOTES:
 THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.
 FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.
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LEGEND
 GSE GROUND SURFACE ELEVATION
 BMCE BOTTOM OF MICROPILE CAP ELEVATION
 TRE TOP OF ROCK ELEVATION
 ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
 EMTE ESTIMATED MICROPILE TIP ELEVATION (FOR VERTICAL PILES)

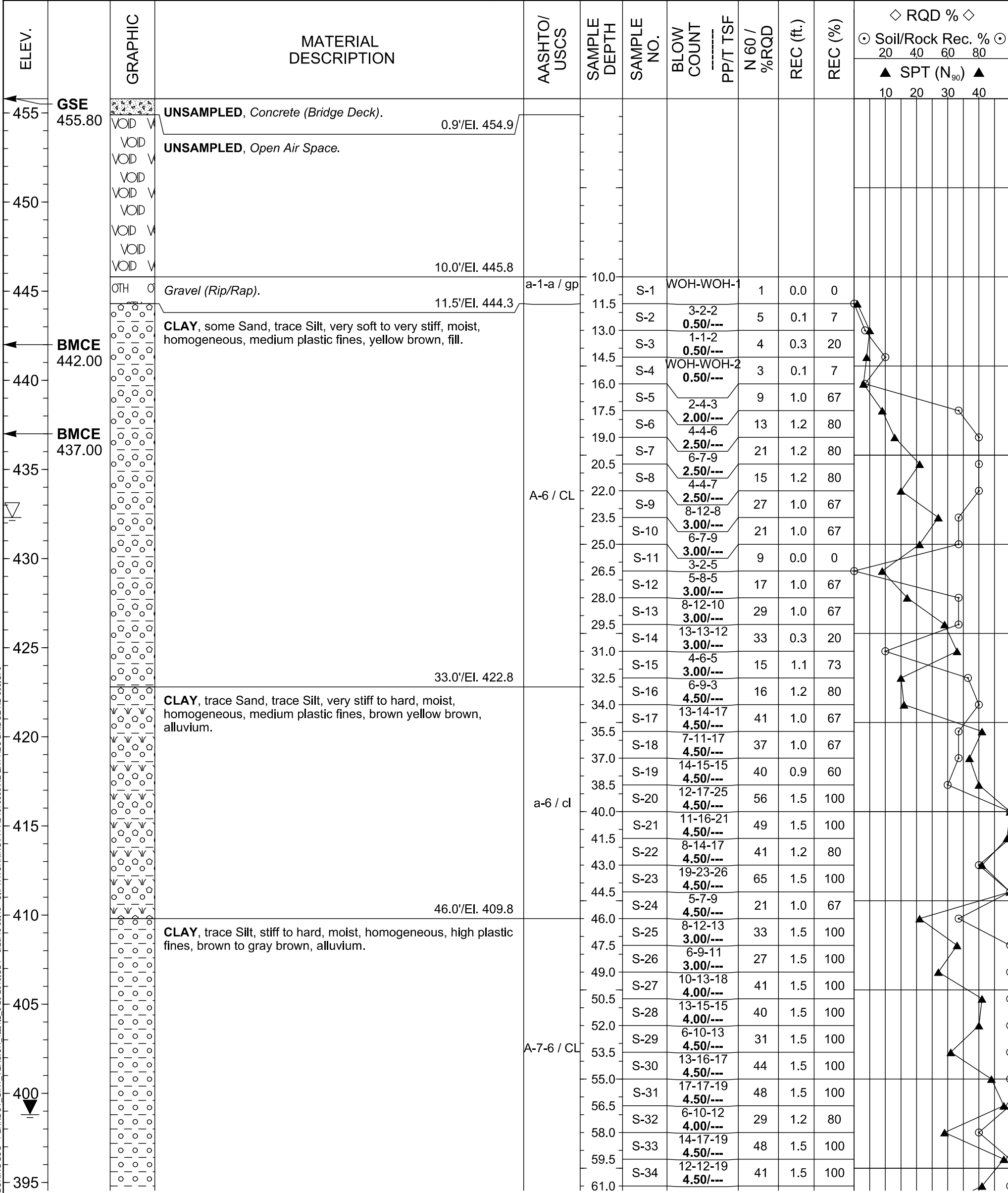
THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED:
Donald E. Spillone
 THE SUBSURFACE EXPLORATION DATA THAT ARE PRESENTED ON THESE DRAWINGS (INCLUDING BORING LOGS, EARTH SAMPLES, ROCK CORES, CLASSIFICATION OF MATERIALS AND DEPTH OF BORINGS) ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM AT EACH BORING LOCATION.
Donald E. Spillone
 GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST DATE: 08/24/2015

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:42:53 PM
 PATH: c:\pwworking\jbl\1379599\ FILE: 0355Gtborlog05.dgn
 MODEL: Default
 DES: DES DWG: JAE CKD: VBS

		PREPARED BY: HDR HDR Engineering, Inc. 11 STANWIX STREET, SUITE 800 PITTSBURGH, PA 15222		WBS NO. A-057.66S002-3-02	BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	STRUCTURE BORING S-5
		PREPARED FOR: THE PENNSYLVANIA TURNPIKE COMMISSION		NETWORK NUMBER: 7004121 FILE NAME: 0355Gtborlog05.dgn DRAWING TYPE: 2P STRUCTURE NUMBER: NB-355		
NO. REVISIONS DATE APPR.				SCALE: AS NOTED		

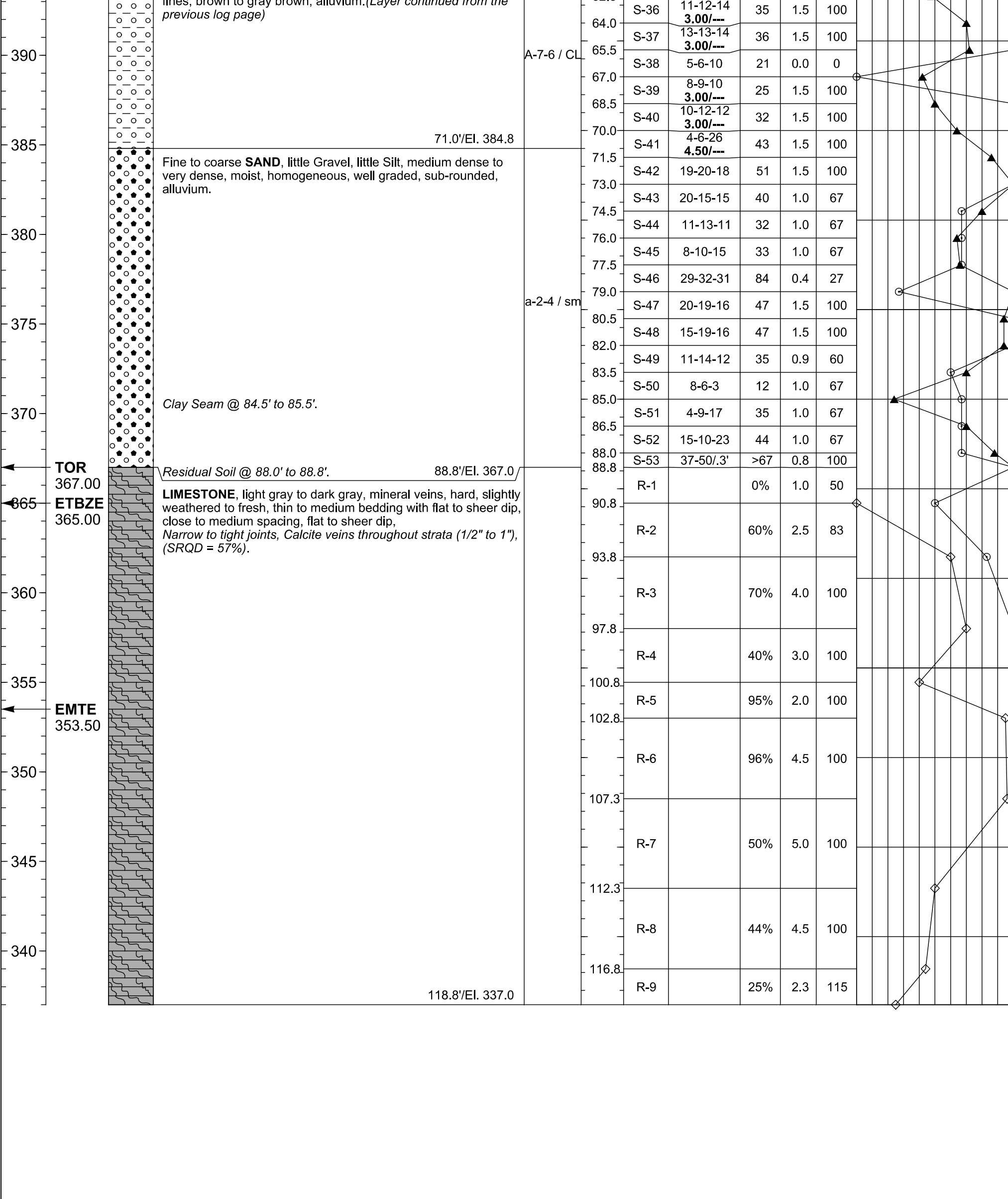
SUBSTRUCTURE UNIT: **ABUTMENT 2, WINGWALLS C AND D** LOG 1 OF 2

BORING NUMBER: **S-6** BORING LOCATION STATION: 652+89.0 OFFSET: 27.0 ft. RT.
 START: 06/02/2015 8:00 AM HAMMER: AUTOMATIC
 FINISH: 06/03/2015 5:00 PM EFFICIENCY: 0.8 ERa
 DRILLING METHOD AND EQUIPMENT: DBLE TUBE SPLIT INNER BRL-NQ2, AUTOMATIC, ACKER XLS TRACK RIG W/SAFETY HMR
 SIZE OF CORE: 1.874" VERTICAL SCALE: 0 FT. 5 FT. TOP OF BORING ELEVATION: 455.8 FT.
 DRILLING INSPECTOR: WILLIAM MILLER
 DRILLER & DRILLING COMPANY: JJ MEHALICK TRC ENGINEERS, INC.
 0 HR. READING - ELAPSED TIME: EI. 432.3 - 0.0 hr.
 24 HR. READING - ELAPSED TIME: EI. 398.8 - 24.0 hr.



SUBSTRUCTURE UNIT: **ABUTMENT 2, WINGWALLS C AND D** LOG 2 OF 2

BORING NUMBER: **S-6** BORING LOCATION STATION: 652+89.0 OFFSET: 27.0 ft. RT.
 VERTICAL SCALE: 0 FT. 5 FT.
 0 HR. READING: 0.0 hr.
 24 HR. READING: 24.0 hr.



GENERAL NOTES:
 THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.
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LEGEND
 GSE GROUND SURFACE ELEVATION
 BMCE BOTTOM OF MICROPILE CAP ELEVATION
 TRE TOP OF ROCK ELEVATION
 ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
 EMTE ESTIMATED MICROPILE TIP ELEVATION (FOR VERTICAL PILES)

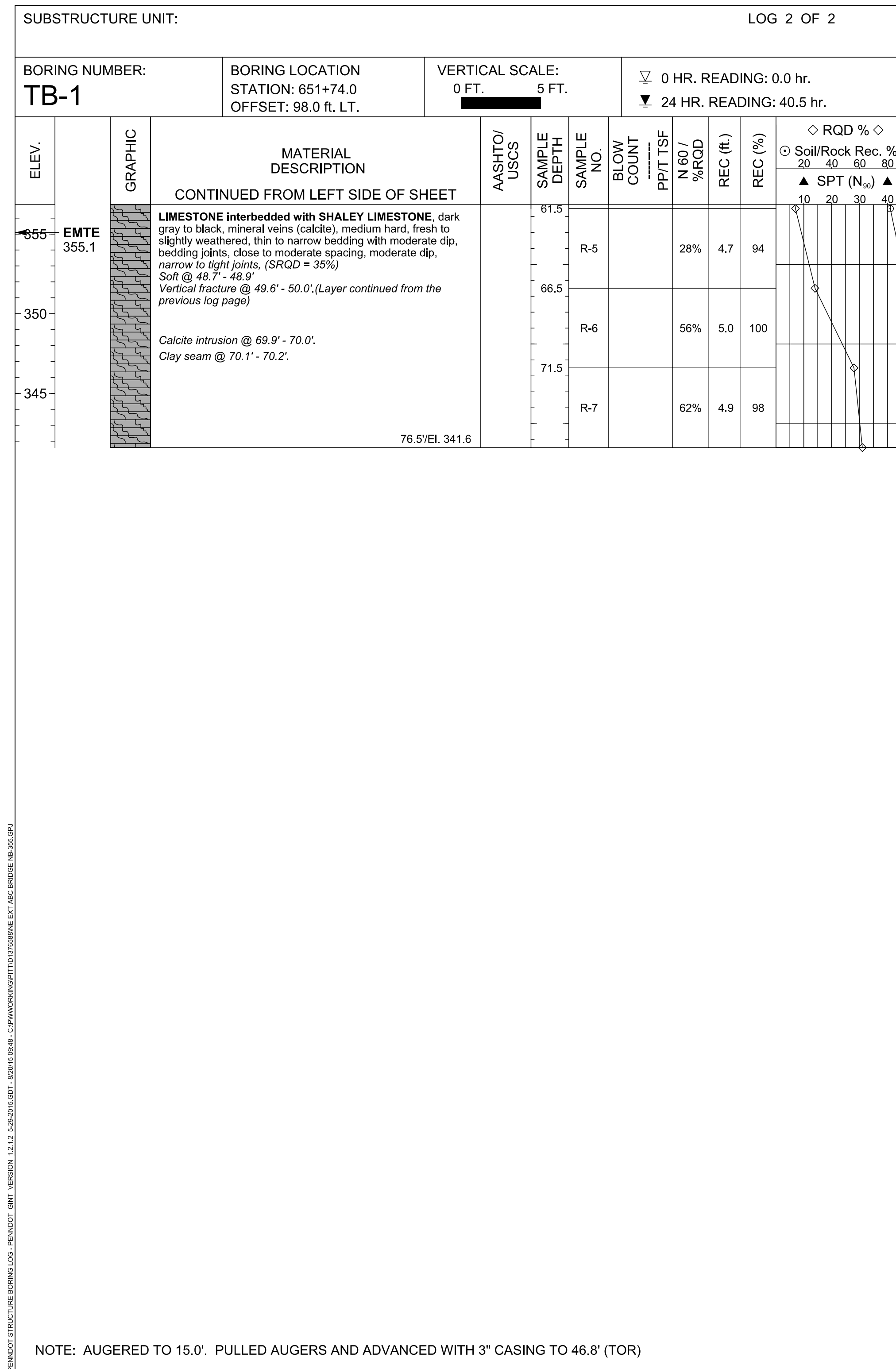
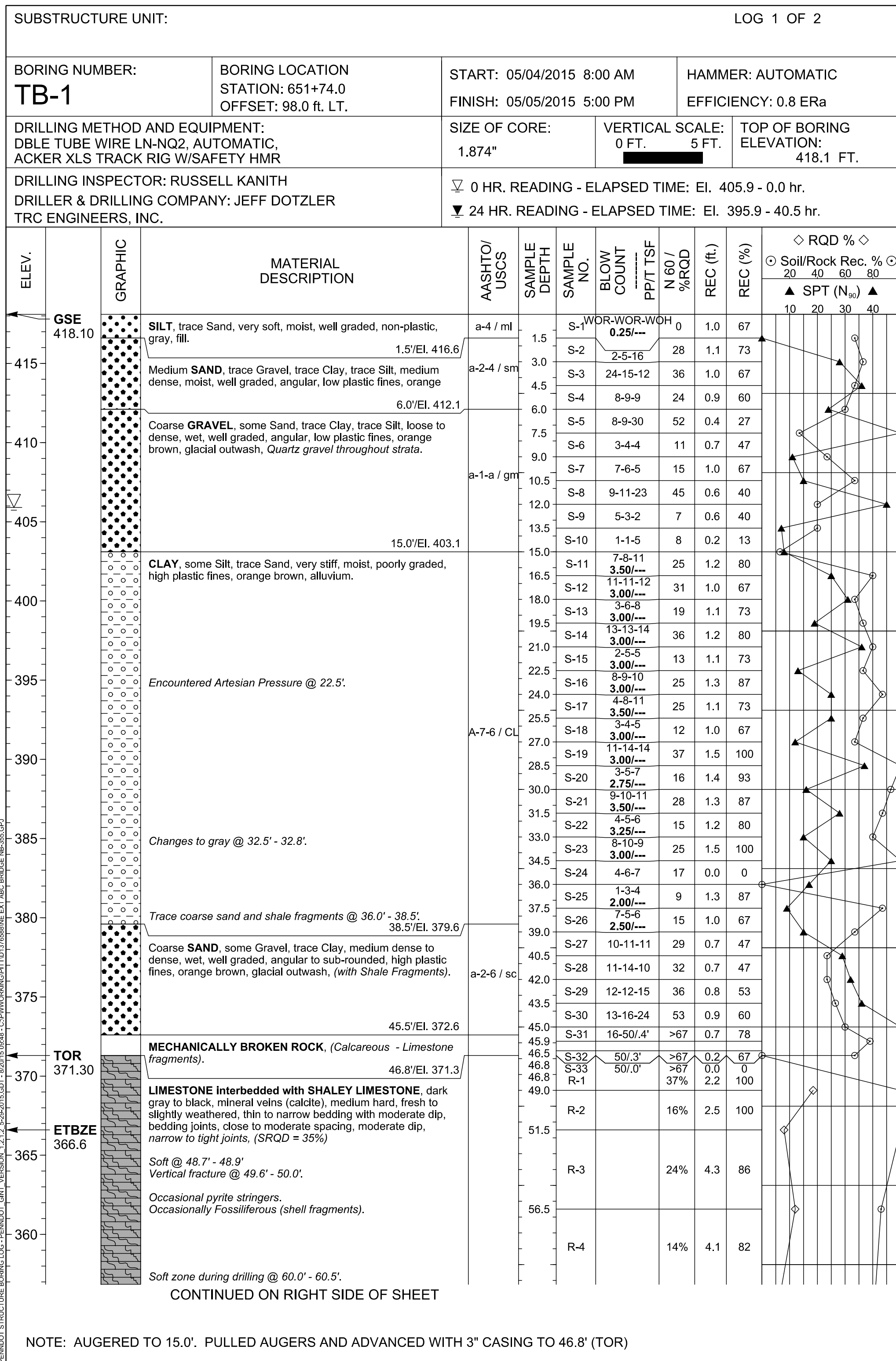
THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED:
Donald E. Spillone
 THE SUBSURFACE EXPLORATION DATA THAT ARE PRESENTED ON THESE DRAWINGS (INCLUDING BORING LOGS, EARTH SAMPLES, ROCK CORES, CLASSIFICATION OF MATERIALS AND DEPTH OF BORINGS) ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM AT EACH BORING LOCATION.
Donald E. Spillone
 GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST 08/24/2015
 DATE

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:43:12 PM
 PATH: c:\pwworking\jbl\1379599\ FILE: 0355Gtboring06.dgn
 MODEL: Default
 DES: DES DWG: JAE CKD: VBS

		PREPARED BY: HDR HDR Engineering, Inc. 11 STANWIX STREET, SUITE 800 PITTSBURGH, PA 15222		WBS NO. A-057.66S002-3-02	BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	STRUCTURE BORING S-6
		PREPARED FOR: THE PENNSYLVANIA TURNPIKE COMMISSION		NETWORK NUMBER: 7004121 FILE NAME: 0355Gtboring06.dgn DRAWING TYPE: 2P STRUCTURE NUMBER: NB-355		
NO. REVISIONS DATE APPR.				SCALE: AS NOTED	DRAWING: 60 OF 69 SHEET: 97 OF 116	

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:43:45 PM
 PATH: c:\pwworking\bit\1379599\ FILE: 0355Gtboring07.dgn
 MODEL: Default

DES: DES DWG: JAE CKD: VBS



GENERAL NOTES:

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.

FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.

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LEGEND

- GSE GROUND SURFACE ELEVATION
- BMCE BOTTOM OF MICROPILE CAP ELEVATION
- TRE TOP OF ROCK ELEVATION
- ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
- EMTE ESTIMATED MICROPILE TIP ELEVATION (FOR VERTICAL PILES)

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED:

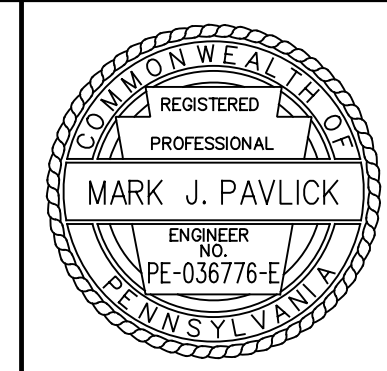
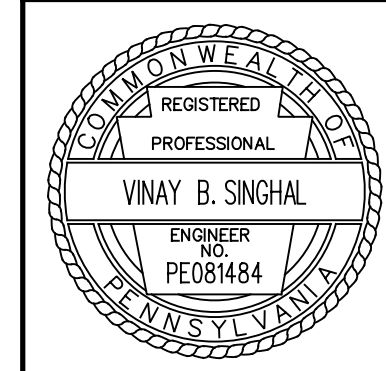
Donald E. Spillone

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Donald E. Spillone

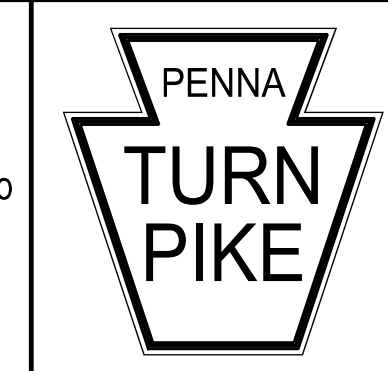
GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST

08/24/2015
DATE



PREPARED BY: **HDR**
 HDR Engineering, Inc.
 11 STANWIX STREET, SUITE 800
 PITTSBURGH, PA 15222

PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO. **A-057.66S002-3-02**
 NETWORK NUMBER: 7004121
 FILE NAME: 0355Gtboring07.dgn
 DRAWING TYPE: 2P
 STRUCTURE NUMBER: NB-355
 SCALE: AS NOTED

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

STRUCTURE BORING TB-1

DRAWING: 61 OF 69
 SHEET: 98 OF 116

SUBSTRUCTURE UNIT:		LOG 1 OF 2	
BORING NUMBER: TB-2	BORING LOCATION STATION: 651+74.0 OFFSET: 104.0 ft. RT.	START: 05/08/2015 8:00 AM FINISH: 05/11/2015 5:00 PM	HAMMER: AUTOMATIC EFFICIENCY: 0.8 ERa
DRILLING METHOD AND EQUIPMENT: DBLE TUBE WIRE LN-NQ2, AUTOMATIC, ACKER XLS TRACK RIG W/SAFETY HMR		SIZE OF CORE: 1.874"	VERTICAL SCALE: 0 FT. 5 FT.
DRILLING INSPECTOR: RUSSELL KANITH DRILLER & DRILLING COMPANY: JEFF DOTZLER TRC ENGINEERS, INC.		TOP OF BORING ELEVATION: 416.5 FT.	
0 HR. READING - ELAPSED TIME: EI. 381.5 - 0.0 hr.		24 HR. READING - ELAPSED TIME: EI. 396.7 - 24.0 hr.	

ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/ USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	PPT TFSF N 60 / %RQD	REC (ft.)	REC (%)	Soil/Rock Rec. % 10 20 30 40	SPT (N ₆₀) 10 20 30 40
416.5		SAND and GRAVEL, little Clay, loose, moist, well graded, angular to sub-rounded, brown to black, fill, Quartz fragments throughout strata. 3.5'/EI. 413.0	a-2-6 / sc	1.5	S-1	3-3-5	11	0.9	60		
		S-2	6-5-4	12	0.3	20					
415		SAND and CLAY, little Gravel, trace Sand, very stiff, moist, well graded, high plastic fines, orange to brown, fill, 5.0'/EI. 411.5	a-6 / cl	4.5	S-3	1-3-9	2.00	16	1.1	73	
		S-4	14-16-21	49	1.0	67					
410		SAND and GRAVEL, little Clay, medium dense to dense, wet, well graded, angular, high plastic fines, orange brown, glacial outwash, Quartz Fragments throughout strata. 11.5'/EI. 405.0	a-2-6 / sc	7.5	S-5	9-6-12	24	1.2	80		
		S-6	36-24-15	52	1.0	67					
405		CLAY and SILT, trace Gravel, trace Sand, stiff to very stiff, damp to moist, poorly graded, high plastic fines, orange to brown, alluvium. 11.5'/EI. 405.0		9.0	S-7	11-16-10	35	0.8	53		
		S-8	10-7-6	17	1.0	67					
400				12.0	S-9	6-8-8	2.50	21	0.7	47	
		S-10	4-6-8	19	1.0	67					
395				13.5	S-11	8-12-11	2.25	31	1.4	93	
		S-12	2-4-7	15	1.1	73					
390			15.0	S-13	7-8-11	2.00	25	1.4	93		
	S-14	3-4-8	16	1.2	80						
385			16.5	S-15	1-4-5	2.25	12	1.0	67		
	S-16	8-8-9	23	1.2	80						
380			18.0	S-17	4-5-7	3.00	16	1.1	73		
	S-18	8-9-9	24	1.3	87						
375			19.5	S-19	10-9-10	2.00	25	1.5	100		
	S-20	5-8-11	25	1.2	80						
370			21.0	S-21	10-12-7	25	0.9	60			
	S-22	5-8-7	20	1.0	67						
365			22.5	S-23	15-21-23	59	1.1	73			
	S-24	16-26-16	56	0.5	33						
360			24.0	S-25	10-16-16	43	0.8	53			
	S-26	24-23-20	57	1.1	73						
359.1			25.5	S-27	16-21-18	52	0.5	33			
	S-28	12-14-11	33	1.0	67						
	S-29	12-16-23	52	1.0	67						
	S-30	19-17-14	41	1.0	67						
	S-31	11-10-29	52	1.1	73						
	S-32	50/0'	>67	0.0	0						
	R-1		0%	0.3	15						
	S-33	50/0'	>67	0.0	0						
	R-2		0%	1.0	67						
	R-3		0%	1.2	60						
	R-4		0%	1.3	43						
	R-5		0%	2.0	100						
	R-6		23%	2.8	93						
	R-7		32%	4.6	92						

SUBSTRUCTURE UNIT:		LOG 2 OF 2	
BORING NUMBER: TB-2	BORING LOCATION STATION: 651+74.0 OFFSET: 104.0 ft. RT.	VERTICAL SCALE: 0 FT. 5 FT.	0 HR. READING: 0.0 hr. 24 HR. READING: 24.0 hr.

ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/ USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	PPT TFSF N 60 / %RQD	REC (ft.)	REC (%)	Soil/Rock Rec. % 10 20 30 40	SPT (N ₆₀) 10 20 30 40
359.1		CONTINUED FROM LEFT SIDE OF SHEET Clay seam 60.9' - 61.1'. LIMESTONE interbedded with SHALEY LIMESTONE , dark gray to black, mineral veins (calcite), medium hard to hard, fresh to slightly weathered, thin to indistinct bedding with shallow dip, random fractures, close to moderate spacing, moderate dip, narrow to large joint opening, (SRQD = 57%). (Layer continued from the previous log page)		65.0	R-7		32%	4.6	92		
347.6		Occasional pyrite stringers. Occasional fossiliferous (shell frags).		70.0	R-8		72%	5.0	100		
		Lost water @ 73.0'.		75.0	R-9		86%	5.0	100		
		Water returned @ 78.5'.		80.0	R-10		86%	4.9	98		

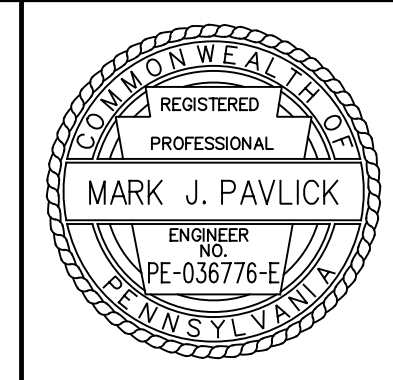
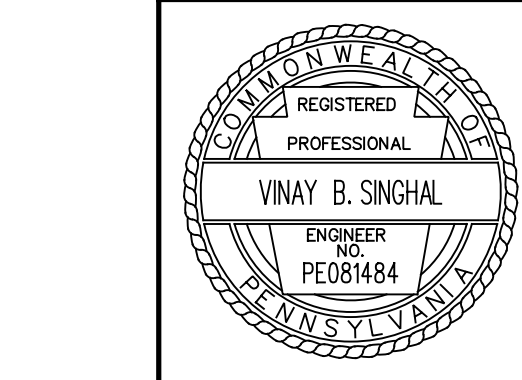
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LEGEND
GSE GROUND SURFACE ELEVATION
BMCE BOTTOM OF MICROPILE CAP ELEVATION
TRE TOP OF ROCK ELEVATION
ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
EMTE ESTIMATED MICROPILE TIP ELEVATION (FOR VERTICAL PILES)

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED:
Donald E. Spillone

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Donald E. Spillone
GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST
08/24/2015
DATE

DES: DES
DWG: JAE
CKD: VBS
VBS



PREPARED BY:
HDR
HDR Engineering, Inc.
11 STANWIX STREET, SUITE 800
PITTSBURGH, PA 15222

PREPARED FOR:
THE PENNSYLVANIA
TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO. A-057.66S002-3-02	BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66
NETWORK NUMBER: 7004121	
FILE NAME: 0355Gtborlog08.dgn	
DRAWING TYPE: 2P	
STRUCTURE NUMBER: NB-355	DISTRICT: 5 COUNTY: LEHIGH TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP
SCALE: AS NOTED	

DISTRICT: 5	COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP	

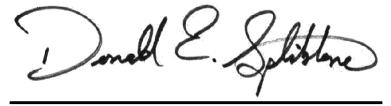
STRUCTURE BORING TB-2	
DRAWING: 62 OF 69	SHEET: 99 OF 116

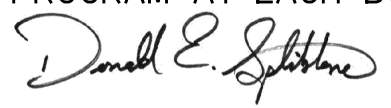
SUBSTRUCTURE UNIT:		LOG 1 OF 1			
BORING NUMBER: TB-2 ST	BORING LOCATION STATION: 651+72.0 OFFSET: 104.0 ft. RT.	START: 05/11/2015 8:00 AM FINISH: 05/11/2015 5:00 PM	HAMMER: AUTOMATIC EFFICIENCY: 0.8 ERa		
DRILLING METHOD AND EQUIPMENT: . AUTOMATIC; ACKER XLS TRACK RIG W/SAFETY HMR		SIZE OF CORE:	VERTICAL SCALE: 0 FT. 5 FT.	TOP OF BORING ELEVATION: 416.5 FT.	
DRILLING INSPECTOR: RUSSELL KANITH DRILLER & DRILLING COMPANY: JEFF DOTZLER TRC ENGINEERS, INC.		<input checked="" type="checkbox"/> 0 HR. READING - ELAPSED TIME: DRY - 0.0 hr. <input checked="" type="checkbox"/> 24 HR. READING - ELAPSED TIME: DRY - 240.0 hr.			

ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/ USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	PPT TSE	N 60 / %RQD	REC (ft.)	REC (%)	◇ RQD % ◇								
											Soil/Rock Rec. %	20	40	60	80				
415	GSE	416.50																	
		Unsampled Hit obstruction 3.5' to 6.0'. Abandoned Attempt.																	
		5.0'EI. 411.5																	

GENERAL NOTES:
 THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.
 FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.
 THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SUBSURFACE CONDITIONS MAY DIFFER FROM THE CONDITIONS REPORTED AT THE SPECIFIC LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE OF CONDITIONS AT THE BORING LOCATIONS.

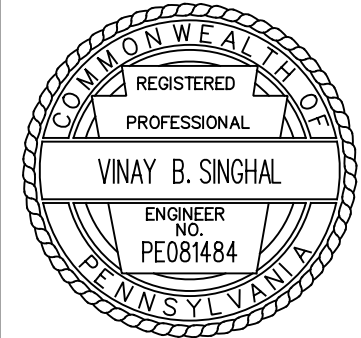
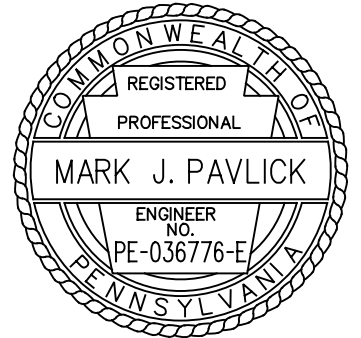
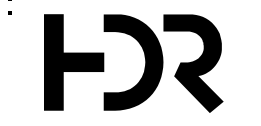

- LEGEND
- GSE GROUND SURFACE ELEVATION
 - BMCE BOTTOM OF MICROPILE CAP ELEVATION
 - TRE TOP OF ROCK ELEVATION
 - ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
 - EMTE ESTIMATED MICROPILE TIP ELEVATION (FOR VERTICAL PILES)

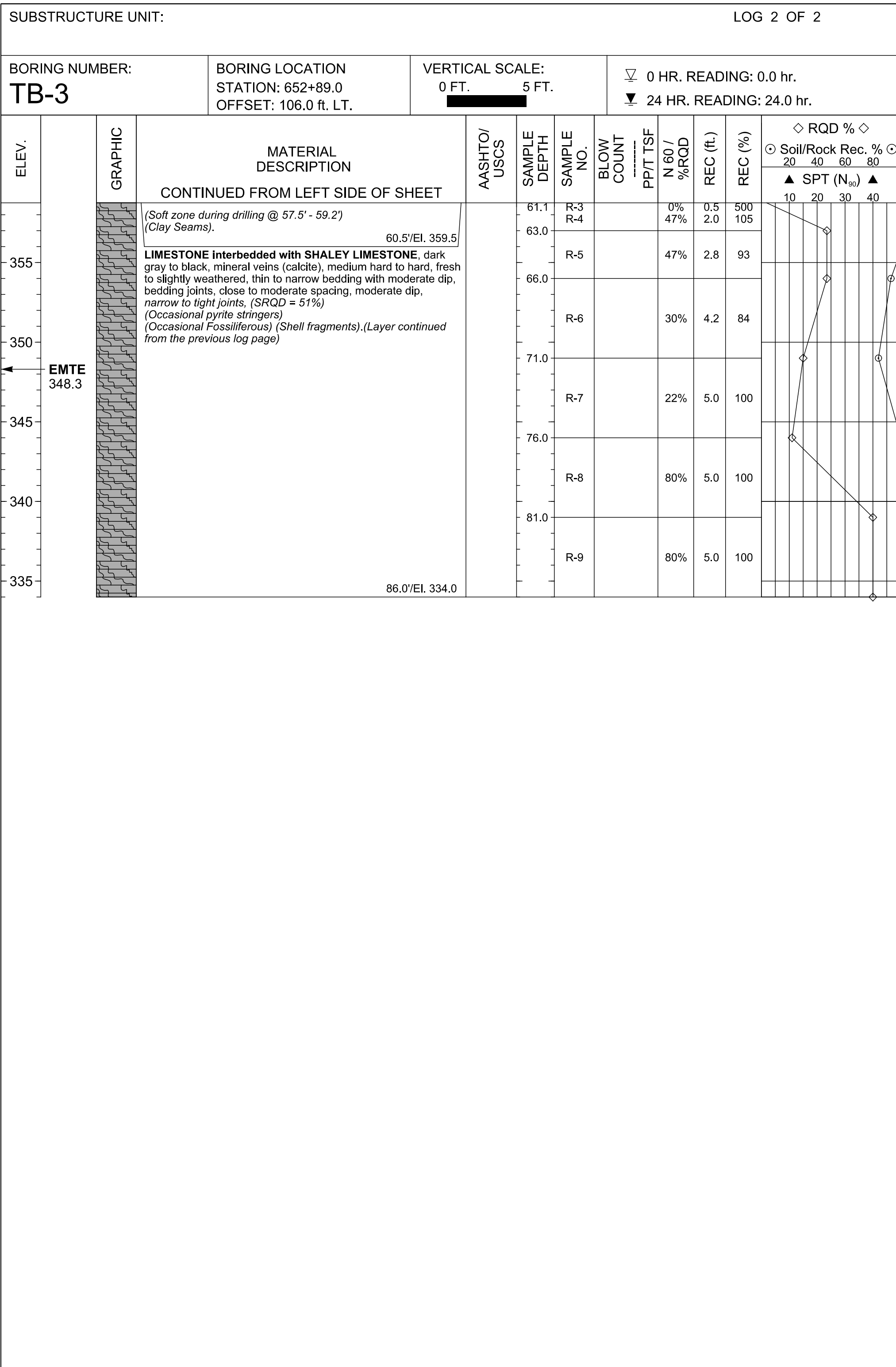
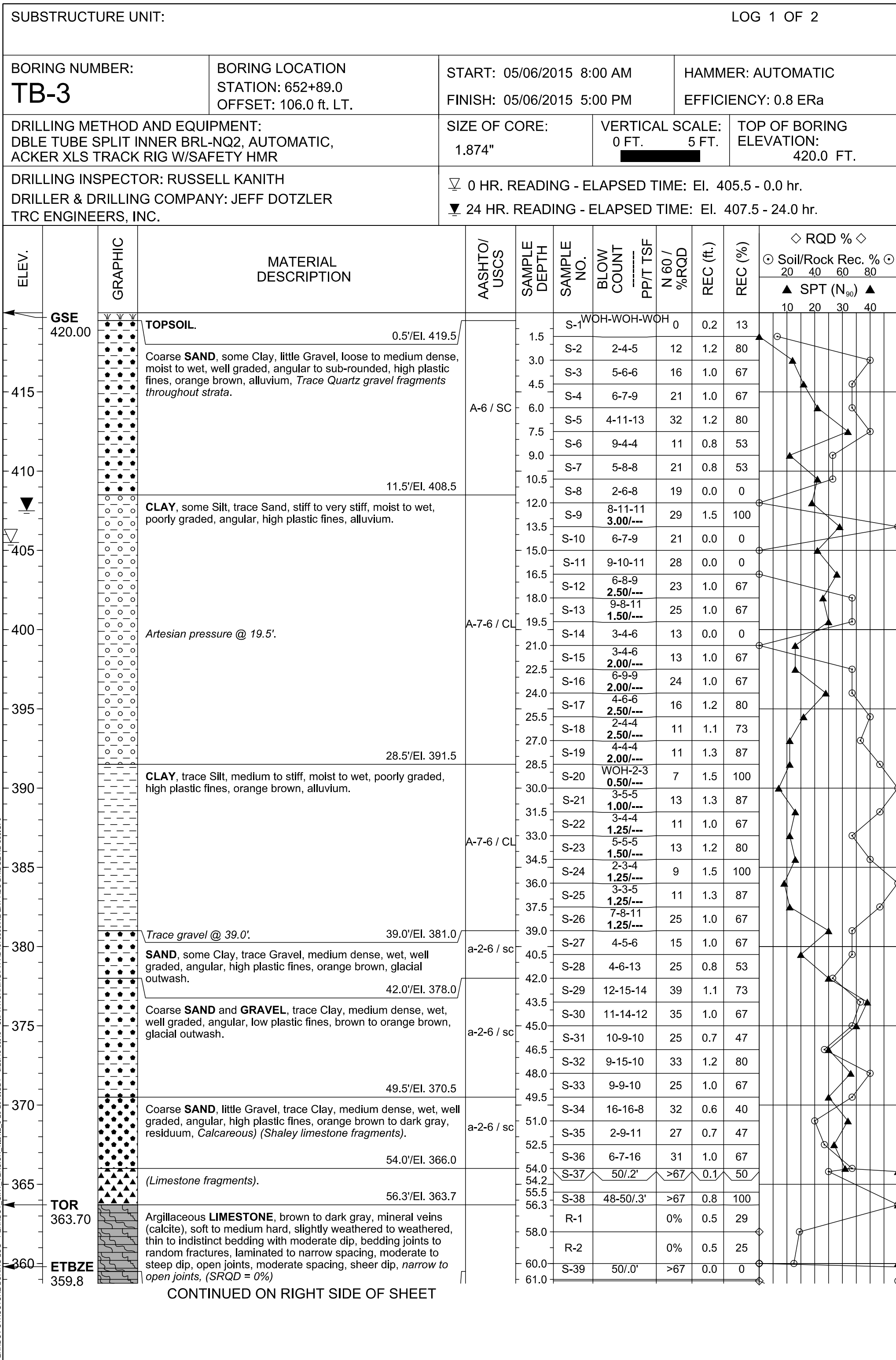
THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED:


THE SUBSURFACE EXPLORATION DATA THAT ARE PRESENTED ON THESE DRAWINGS (INCLUDING BORING LOGS, EARTH SAMPLES, ROCK CORES, CLASSIFICATION OF MATERIALS AND DEPTH OF BORINGS) ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM AT EACH BORING LOCATION.

 GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST
 DATE: 08/24/2015

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:44:37 PM
 PATH: c:\pwworking\ptl\dl1379599\ FILE: 0355GTborlog09.dgn
 MODEL: Default

DES: DES DWG: JAE CKD: VBS

 REGISTERED PROFESSIONAL ENGINEER VINAY B. SINGHAL ENGINEER NO. PE081484 PENNSYLVANIA	 REGISTERED PROFESSIONAL ENGINEER MARK J. PAVLICK ENGINEER NO. PE-036776-E PENNSYLVANIA	PREPARED BY:  HDR Engineering, Inc. 11 STANWIX STREET, SUITE 800 PITTSBURGH, PA 15222	 PENNA TURN PIKE	WBS NO. A-057.66S002-3-02	BRIDGE REPLACEMENT NB-355 OVER CRACKERSPORT ROAD MP A-57.66	STRUCTURE BORING TB-2 ST
		PREPARED FOR: THE PENNSYLVANIA TURNPIKE COMMISSION		NETWORK NUMBER: 7004121 FILE NAME: 0355GTborlog09.dgn DRAWING TYPE: 2P STRUCTURE NUMBER: NB-355		
NO. REVISIONS DATE APPR.				SCALE: AS NOTED		



GENERAL NOTES:

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.

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LEGEND

GSE GROUND SURFACE ELEVATION
 BMCE BOTTOM OF MICROPILE CAP ELEVATION
 TRE TOP OF ROCK ELEVATION
 ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
 EMTE ESTIMATED MICROPILE TIP ELEVATION (FOR VERTICAL PILES)

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED:

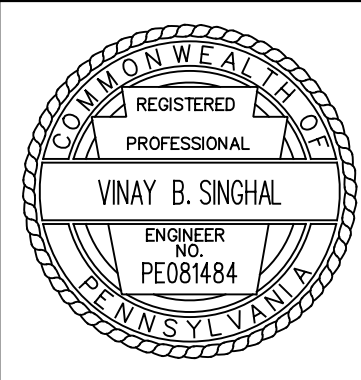
Donald E. Spillone

THE SUBSURFACE EXPLORATION DATA THAT ARE PRESENTED ON THESE DRAWINGS (INCLUDING BORING LOGS, EARTH SAMPLES, ROCK CORES, CLASSIFICATION OF MATERIALS AND DEPTH OF BORINGS) ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM AT EACH BORING LOCATION.

Donald E. Spillone 08/24/2015
 GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST DATE

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:44:55 PM
 PATH: c:\pwworking\jbl\1379599\ FILE: 0355Gtboring10.dgn
 MODEL: Default

DES: DES DWG: JAE CKD: VBS



PREPARED BY: **HDR**
 HDR Engineering, Inc.
 11 STANWIX STREET, SUITE 800
 PITTSBURGH, PA 15222

PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 0355Gtboring10.dgn
 DRAWING TYPE: 2P
 STRUCTURE NUMBER: NB-355

SCALE: AS NOTED

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

STRUCTURE BORING TB-3

DRAWING: 64 OF 69
 SHEET: 101 OF 116

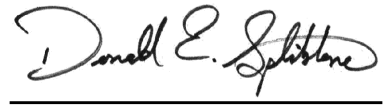
SUBSTRUCTURE UNIT:		LOG 1 OF 1									
BORING NUMBER: TB-3 ST		BORING LOCATION STATION: 652+91.0 OFFSET: 106.0 ft. LT.		START: 05/07/2015 8:00 AM FINISH: 05/07/2015 5:00 PM		HAMMER: AUTOMATIC EFFICIENCY: 0.8 ERa					
DRILLING METHOD AND EQUIPMENT: AUTOMATIC ACKER XLS TRACK RIG W/SAFETY HMR				SIZE OF CORE: 0 FT. 5 FT.		VERTICAL SCALE: 0 FT. 5 FT.		TOP OF BORING ELEVATION: 420.0 FT.			
DRILLING INSPECTOR: RUSSELL KANITH DRILLER & DRILLING COMPANY: JEFF DOTZLER TRC ENGINEERS, INC.				<input type="checkbox"/> 0 HR. READING - ELAPSED TIME: NR - NR <input checked="" type="checkbox"/> 24 HR. READING - ELAPSED TIME: NR - NR							
ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	PPT TSE	N 60 / %RQD	REC (ft.)	REC (%)	◇ RQD % ◇ ⊙ Soil/Rock Rec. % ⊙ 20 40 60 80 ▲ SPT (N ₆₀) ▲ 10 20 30 40
GSE 420.00		UnSampled.									
415											
410											
405											
400											
395		23.0'EI. 397.0 CLAY , some Silt, very stiff, moist, poorly graded, high plastic fines, brown orange brown, alluvium, (Rig Pressure - 600 psf). 25.0'EI. 395.0	A-7-6 / CL	23.0	ST-1	2.00/---		1.5	75		

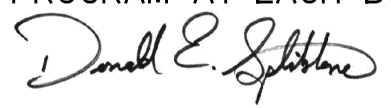
GENERAL NOTES:
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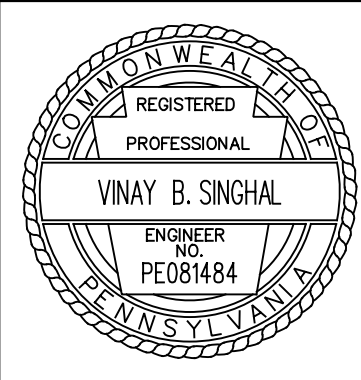
LEGEND
 GSE GROUND SURFACE ELEVATION
 BMCE BOTTOM OF MICROPILE CAP ELEVATION
 TRE TOP OF ROCK ELEVATION
 ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
 EMTE ESTIMATED MICROPILE TIP ELEVATION (FOR VERTICAL PILES)

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.pltsg PLOT DATE: 09-02-2016 3:45:12 PM
 PATH: c:\pwworking\ptl\dl1379599\ MODEL: Default
 FILE: 0355GTborlog1.dgn

DES: DES DWG: JAE CKD: VBS

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED:


THE SUBSURFACE EXPLORATION DATA THAT ARE PRESENTED ON THESE DRAWINGS (INCLUDING BORING LOGS, EARTH SAMPLES, ROCK CORES, CLASSIFICATION OF MATERIALS AND DEPTH OF BORINGS) ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM AT EACH BORING LOCATION.

 GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST 08/24/2015
 DATE



PREPARED BY:

 HDR Engineering, Inc.
 11 STANWIX STREET, SUITE 800
 PITTSBURGH, PA 15222
 PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

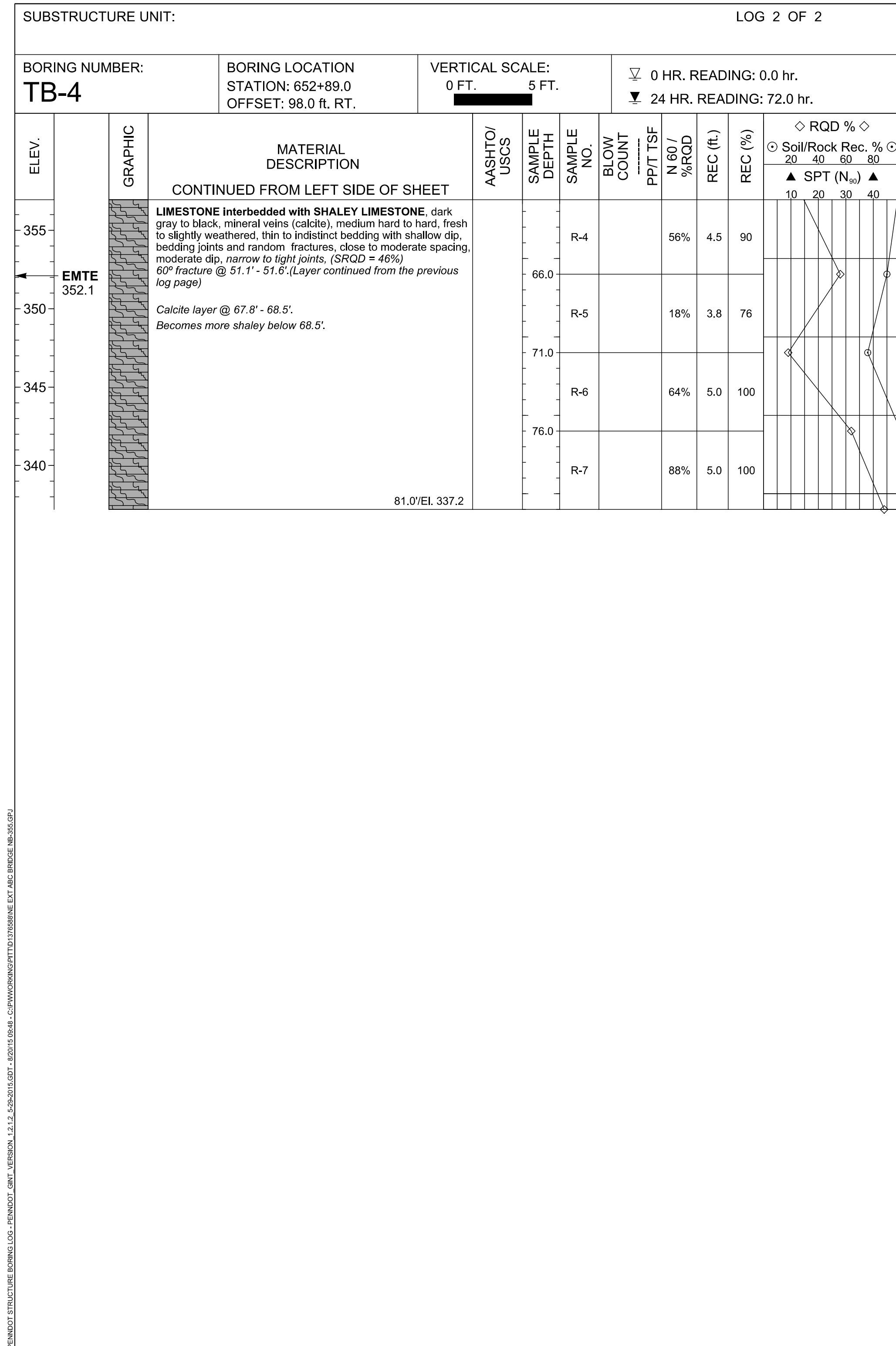
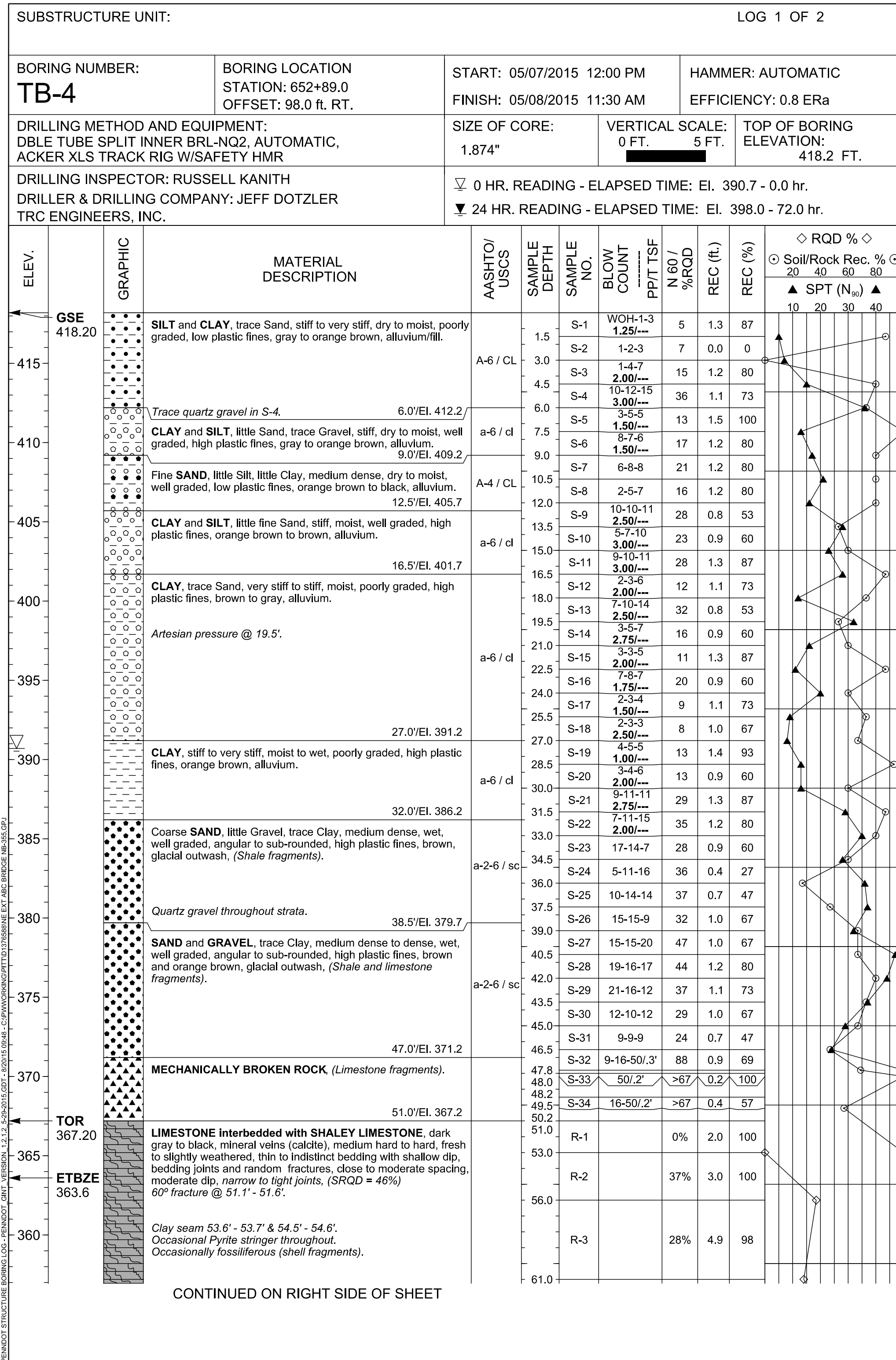
WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355GTborlog1.dgn
 DRAWING TYPE: 2P
 STRUCTURE NUMBER: NB-355
 SCALE: AS NOTED

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

STRUCTURE BORING TB-3 ST

DRAWING: 65 OF 69
 SHEET: 102 OF 116



GENERAL NOTES:

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.

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LEGEND

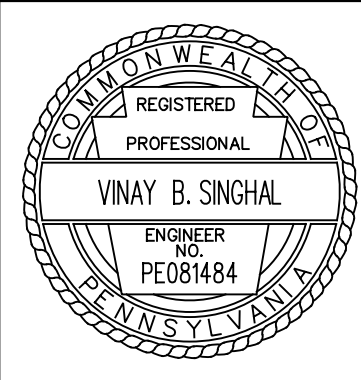
- GSE GROUND SURFACE ELEVATION
- BMCE BOTTOM OF MICROPILE CAP ELEVATION
- TRE TOP OF ROCK ELEVATION
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 08/24/2015
 GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST DATE

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:45:28 PM
 PATH: c:\pwworking\jbt\1379599\ FILE: 0355GTborlog12.dgn
 MODEL: Default
 DES: DES DWG: JAE CKD: VBS



PREPARED BY: **HDR**
 HDR Engineering, Inc.
 11 STANWIX STREET, SUITE 800
 PITTSBURGH, PA 15222
 PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355GTborlog12.dgn
 DRAWING TYPE: 2P
 STRUCTURE NUMBER: NB-355
 SCALE: AS NOTED

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

STRUCTURE BORING TB-4

DRAWING: 66 OF 69
 SHEET: 103 OF 116

SUBSTRUCTURE UNIT:		LOG 1 OF 1											
BORING NUMBER: W-1	BORING LOCATION STATION: 650+54.0 OFFSET: 28.0 ft. RT.	START: 06/03/2015 8:00 AM	HAMMER: AUTOMATIC										
DRILLING METHOD AND EQUIPMENT: AUTOMATIC ACKER XLS TRACK RIG W/SAFETY HMR		SIZE OF CORE:	VERTICAL SCALE:	TOP OF BORING ELEVATION:									
DRILLING INSPECTOR: WILLIAM MILLER DRILLER & DRILLING COMPANY: JJ MEHALICK TRC ENGINEERS, INC.		▽ 0 HR. READING - ELAPSED TIME: EI. 454.1 - 0.0 hr.	454.1 FT.										
		▽ 24 HR. READING - ELAPSED TIME: NR - NR											
ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	PPT TSF	N 60 / %RQD	REC (ft.)	REC (%)	Soil/Rock Rec. %	SPT (N ₆₀)	
GSE 454.10	Asphalt.	0.6'/EI. 453.5		0.6	S								
	Gravel (Subbase).	1.5'/EI. 452.6		1.5	S-1	4-6-5		15	1.5	100			
	CLAY and SILT, trace Sand, medium to very stiff, moist, homogeneous, medium plastic fines, brown to yellow brown, fill.		A-6 / CL	3.0	S-2	6-6-6		16	1.5	100			
				4.5	S-3	2.00/---		17	1.5	100			
				6.0	S-4	7-7-7		19	1.5	100			
				7.5	S-5	4-3-4		9	1.5	100			
				9.0	S-6	5-6-5		15	1.5	100			
				10.5	S-7	4-6-9		20	1.5	100			
				12.0	S-8	2.00/---		23	1.2	80			
				13.5	S-9	8-7-9		21	1.0	67			
				15.0	S-10	4-5-4		12	1.2	80			
				16.5	S-11	6-9-9		24	1.5	100			
				18.0	S-12	8-9-12		28	1.5	100			
				19.5	S-13	5-3-3		23	1.5	100			
				21.0	S-14	6-16-13		39	1.5	100			
				22.5	S-15	16-50/3"		>67	0.8	100			
	23.3	S-	2.50/---										
	24.0	S-16	8-38-10		64	1.5	100						
	25.5	S-17	8-12-9		28	1.0	67						
	27.0	S-18	11-10-8		24	0.1	7						
	28.5	S-19	6-5-8		17	1.5	100						
	30.0	S-20	8-9-11		27	1.5	100						
	31.5	S-21	8-11-14		33	1.5	100						
	33.0	S-22	8-10-11		28	1.5	100						
	34.5	S-23	12-12-13		33	1.5	100						
	36.0	S-24	13-13-14		36	1.5	100						
	37.5	S-25	6-10-11		28	1.5	100						
	39.0	S-26	4-5-3		17	1.0	67						
	CLAY and SILT, stiff, moist, homogeneous, medium plastic fines, dark brown, alluvium, Roots present.	40.5'/EI. 413.6	A-7-5 / MH										

GENERAL NOTES:
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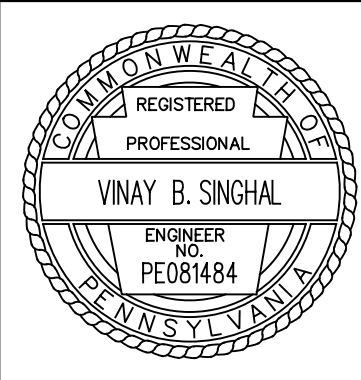
LEGEND
 GSE GROUND SURFACE ELEVATION
 BMCE BOTTOM OF MICROPILE CAP ELEVATION
 TRE TOP OF ROCK ELEVATION
 ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
 EMTE ESTIMATED MICROPILE TIP ELEVATION (FOR VERTICAL PILES)

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED:
Donald E. Spillone

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Donald E. Spillone
 GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST
 DATE: 08/24/2015

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:45:47 PM
 PATH: c:\pwworking\jbl\1379599\ FILE: 0355Gtborlog13.dgn
 MODEL: Default

DES: DES DWG: JAE CKD: VBS



PREPARED BY: **HDR**
 HDR Engineering, Inc.
 11 STANWIX STREET, SUITE 800
 PITTSBURGH, PA 15222
 PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02
 NETWORK NUMBER: 7004121
 FILE NAME: 0355Gtborlog13.dgn
 DRAWING TYPE: 2P
 STRUCTURE NUMBER: NB-355
 SCALE: AS NOTED

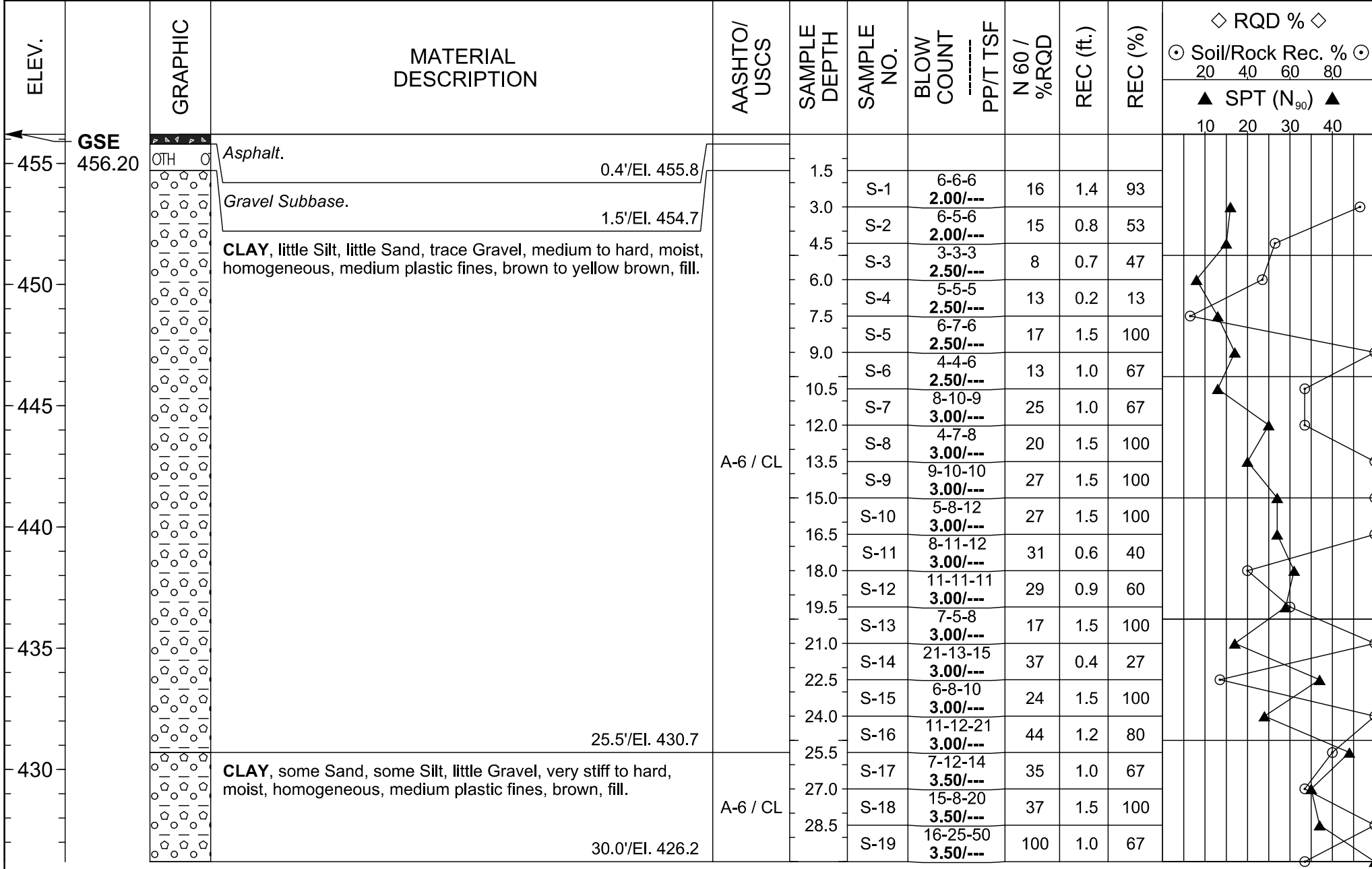
**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

STRUCTURE BORING W-1

DRAWING: 67 OF 69
 SHEET: 104 OF 116

BORING NUMBER: W-2	BORING LOCATION STATION: 653+67.0 OFFSET: 28.0 ft. LT.	START: 05/21/2015 8:00 AM FINISH: 05/21/2015 5:00 PM	HAMMER: AUTOMATIC EFFICIENCY: 0.8 ERa
DRILLING METHOD AND EQUIPMENT: AUTOMATIC ACKER XLS TRACK RIG W/SAFETY HMR		SIZE OF CORE: 0 FT. ████████ 5 FT.	VERTICAL SCALE: ████████ 5 FT. TOP OF BORING ELEVATION: 456.2 FT.
DRILLING INSPECTOR: WILLIAM MILLER DRILLER & DRILLING COMPANY: JJ MEHALICK TRC ENGINEERS, INC.		0 HR. READING - ELAPSED TIME: DRY - 0.0 hr. 24 HR. READING - ELAPSED TIME: NR - NR	



0.0 hr. Water: Backfilled upon completion for safety reasons.

GENERAL NOTES:

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LEGEND

- GSE GROUND SURFACE ELEVATION
- BMCE BOTTOM OF MICROPILE CAP ELEVATION
- TRE TOP OF ROCK ELEVATION
- ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
- EMTE ESTIMATED MICROPILE TIP ELEVATION (FOR VERTICAL PILES)

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED:

Donald E. Spillone

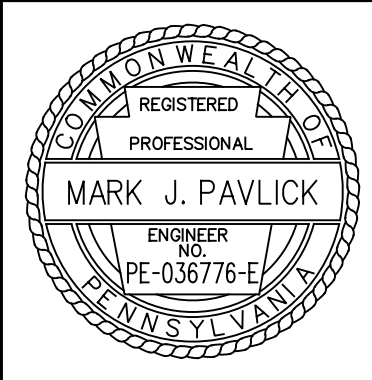
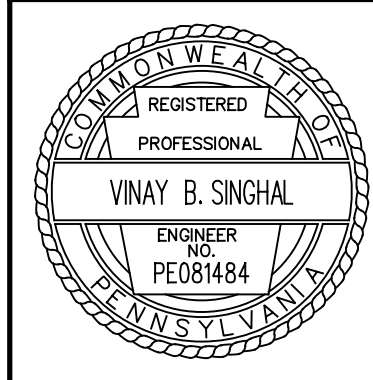
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Donald E. Spillone

08/24/2015
DATE

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.plt PLOT DATE: 09-02-2016 3:46:03 PM
 PATH: c:\pwworking\pti\pl1379599\ FILE: 0355GTborlog14.dgn
 MODEL: Default

DES: DES DWG: JAE CKD: VBS



PREPARED BY: **HDR**
 HDR Engineering, Inc.
 11 STANWIX STREET, SUITE 800
 PITTSBURGH, PA 15222

PREPARED FOR:
 THE PENNSYLVANIA
 TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02

NETWORK NUMBER: 7004121
 FILE NAME: 0355GTborlog14.dgn
 DRAWING TYPE: 2P
 STRUCTURE NUMBER: NB-355

SCALE: AS NOTED

**BRIDGE REPLACEMENT
 NB-355 OVER CRACKERSPORT ROAD
 MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
 TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

STRUCTURE BORING W-2

DRAWING: 68 OF 69
 SHEET: 105 OF 116

SUBSTRUCTURE UNIT:		LOG 1 OF 1										
BORING NUMBER: W-3	BORING LOCATION STATION: 653+78.0 OFFSET: 28.0 ft. RT.	START: 06/03/2015 8:00 AM	HAMMER: AUTOMATIC		FINISH: 06/03/2015 5:00 PM		EFFICIENCY: 0.8 ERa					
DRILLING METHOD AND EQUIPMENT: AUTOMATIC ACKER XLS TRACK RIG W/SAFETY HMR		SIZE OF CORE:	VERTICAL SCALE:	TOP OF BORING ELEVATION:								
DRILLING INSPECTOR: WILLIAM MILLER DRILLER & DRILLING COMPANY: JEFF DOTZLER TRC ENGINEERS, INC.		▽ 0 HR. READING - ELAPSED TIME: DRY - 0.0 hr.		456.3 FT.								
		▽ 24 HR. READING - ELAPSED TIME: DRY - 15.0 hr.										
ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	PPT TSF	N 60 / %RQD	REC (ft.)	REC (%)	Soil/Rock Rec. %	SPT (N ₆₀)
456.30	GSE	UNSAMPLED, Asphalt.		1.5	S-1	3-4-7 2.50/---		15	1.0	67		
454.8		UNSAMPLED, Gravel Subbase.		3.0	S-2	7-8-8 2.50/---		21	1.0	67		
		CLAY, little Sand, trace Silt, stiff to hard, moist, homogeneous, medium plastic fines, brown yellow brown, fill.		4.5	S-3	5-7-13 2.50/---		27	1.3	87		
		Rock in tip (S-5).		6.0	S-4	11-8-10 3.50/---		24	0.8	53		
				7.5	S-5	5-5-8		17	0.1	7		
				9.0	S-6	8-8-9 3.50/---		23	0.9	60		
				10.5	S-7	6-8-11 3.50/---		25	1.0	67		
				12.0	S-8	15-12-13		33	0.0	0		
				13.5	S-9	15-16-14 3.50/---		40	0.2	13		
				15.0	S-10	10-9-11 3.50/---		27	0.9	60		
			A-6 / CL	16.5	S-11	11-13-13 4.00/---		35	1.0	67		
				18.0	S-12	14-11-12 4.00/---		31	1.2	80		
				19.5	S-13	9-14-11 3.00/---		33	0.9	60		
		Pieces of limestone gravel in (S-14) and (S-15).		21.0	S-14	15-10-11 3.00/---		28	0.9	60		
				22.5	S-15	12-14-15 2.00/---		39	0.8	53		
				24.0	S-16	8-10-8 3.50/---		24	1.0	67		
				25.5	S-17	6-8-10 3.50/---		24	1.0	67		
				27.0	S-18	8-10-10 3.50/---		27	1.1	73		
				28.5	S-19	6-9-3 4.00/---		16	1.5	100		
				30.0	S-20	11-11-14 4.00/---		33	1.5	100		
		CLAY, trace Sand, trace Silt, hard, moist, homogeneous, medium plastic fines, yellow brown, alluvium. Roots found in (S-21).		31.5	S-21	15-21-18 4.00/---		52	1.0	67		
			A-6 / CL	33.0	S-22	14-16-16 4.00/---		43	1.5	100		

GENERAL NOTES:

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.

FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.

THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SUBSURFACE CONDITIONS MAY DIFFER FROM THE CONDITIONS REPORTED AT THE SPECIFIC LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE OF CONDITIONS AT THE BORING LOCATIONS.

LEGEND

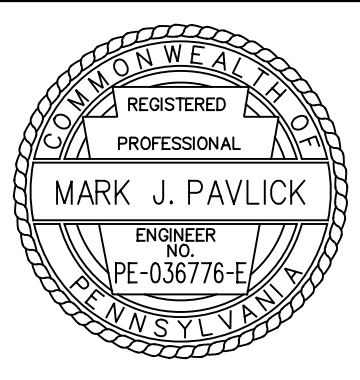
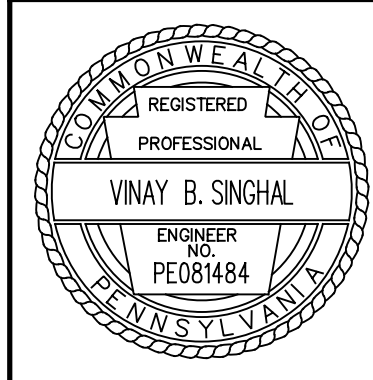
- GSE GROUND SURFACE ELEVATION
- BMCE BOTTOM OF MICROPILE CAP ELEVATION
- TRE TOP OF ROCK ELEVATION
- ETBZE ESTIMATED TOP OF BOND ZONE ELEVATION
- EMTE ESTIMATED MICROPILE TIP ELEVATION (FOR VERTICAL PILES)

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED:
Donald E. Spillone

THE SUBSURFACE EXPLORATION DATA THAT ARE PRESENTED ON THESE DRAWINGS (INCLUDING BORING LOGS, EARTH SAMPLES, ROCK CORES, CLASSIFICATION OF MATERIALS AND DEPTH OF BORINGS) ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM AT EACH BORING LOCATION.
Donald E. Spillone 08/24/2015
GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST DATE

USER: JBONO PLOT DRIVER: PTC_PDF_Screening.pltsg PLOT DATE: 09-02-2016 3:46:23 PM
PATH: c:\pwworking\pti\1379599\ FILE: 0355GTborlog15.dgn
MODEL: Default

DES: DES DWG: JAE CKD: VBS



PREPARED BY: **HDR**
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PREPARED FOR:
THE PENNSYLVANIA
TURNPIKE COMMISSION



NO.	REVISIONS	DATE	APPR.

WBS NO.
A-057.66S002-3-02
NETWORK NUMBER: 7004121
FILE NAME: 0355GTborlog15.dgn
DRAWING TYPE: 2P
STRUCTURE NUMBER: NB-355
SCALE: AS NOTED

**BRIDGE REPLACEMENT
NB-355 OVER CRACKERSPORT ROAD
MP A-57.66**

DISTRICT: 5 COUNTY: LEHIGH
TOWNSHIP / BOROUGH: SOUTH WHITEHALL TOWNSHIP

STRUCTURE BORING W-3

DRAWING: 69 OF 69
SHEET: 106 OF 116