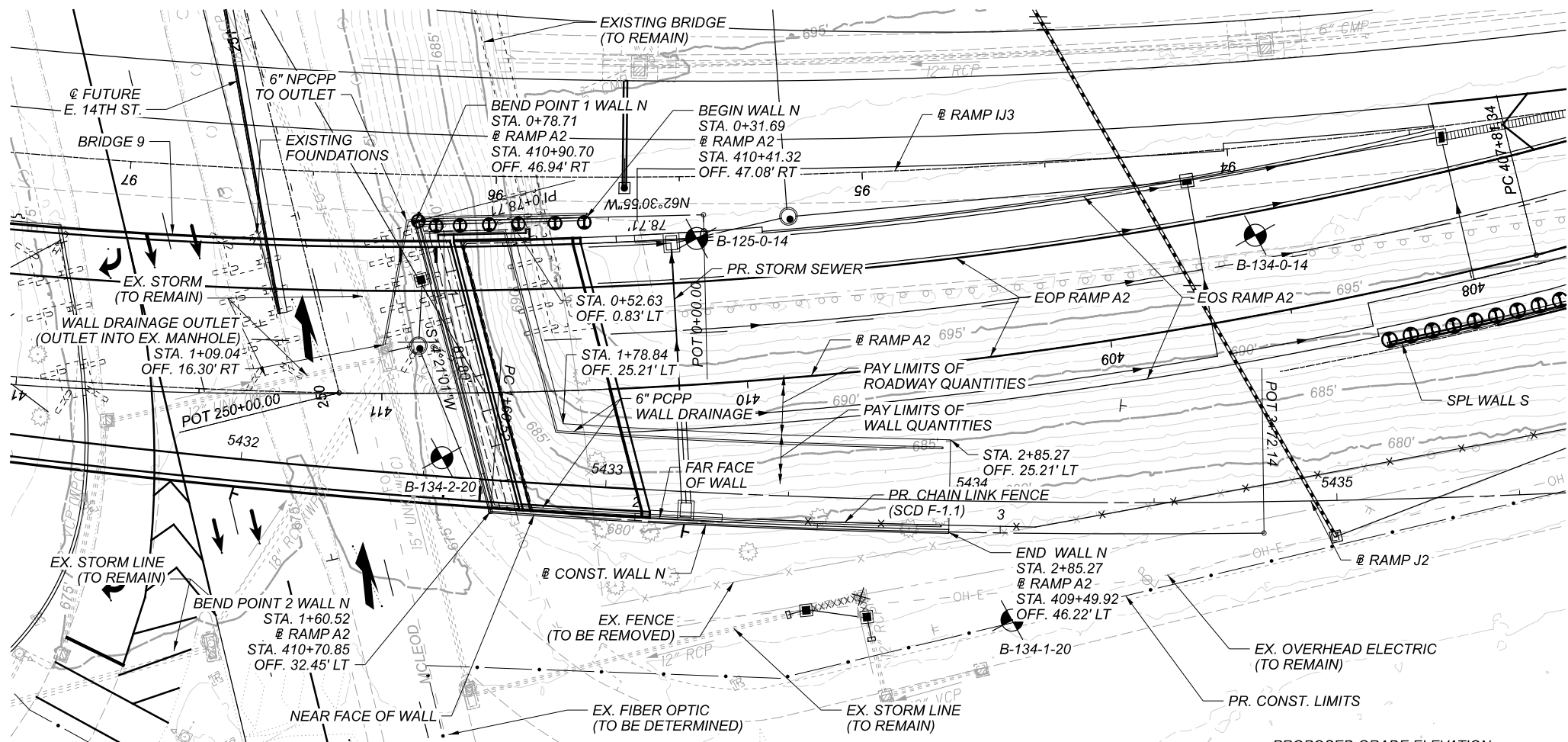
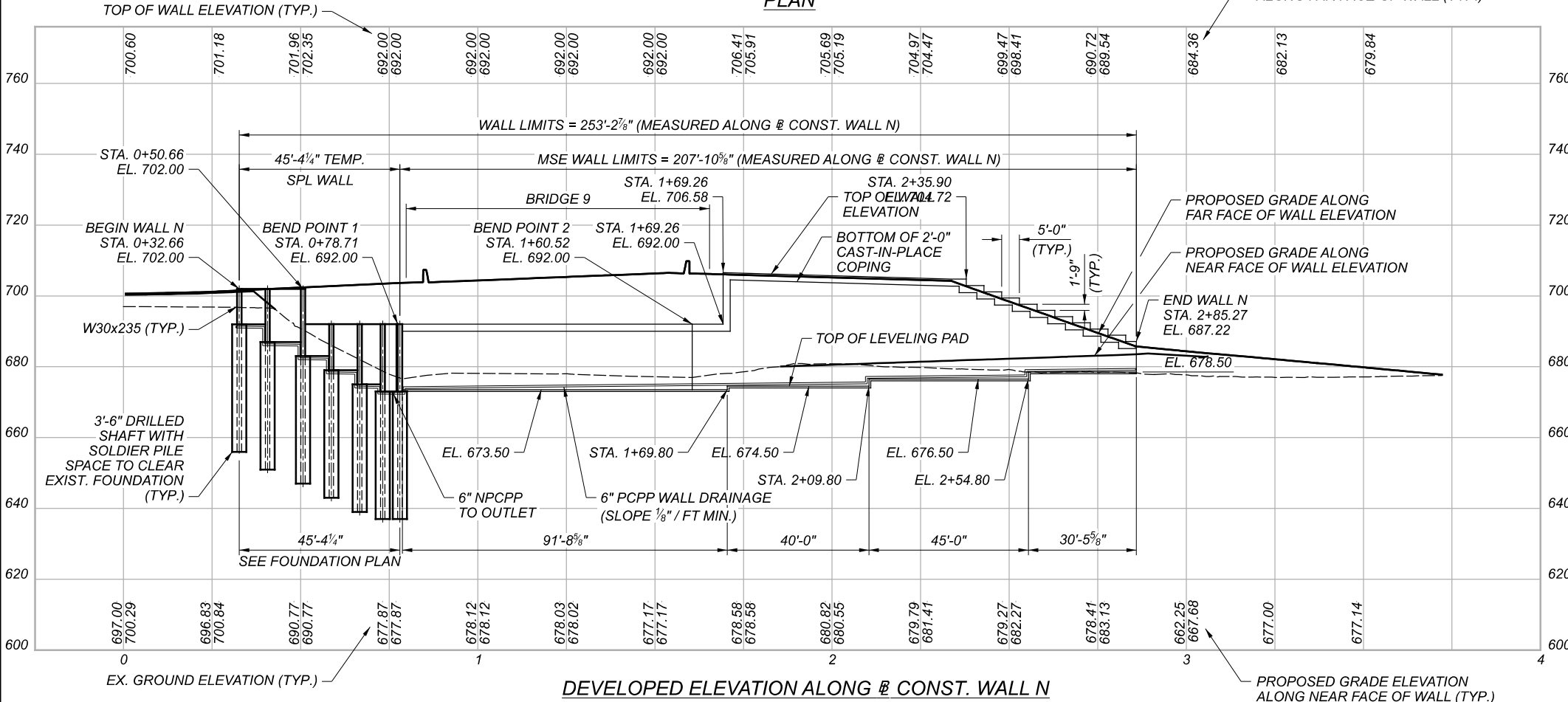


CUY-90-16.28 (CCG3A)

MODEL: WALL N - Wall N Plan-3 PAPER SIZE: TX11 (in.) DATE: 8/10/2022 TIME: 3:33:16 PM USER: Shane.Weiss
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PLAN



DEVELOPED ELEVATION ALONG @ CONST. WALL N

BENCHMARK DATA

BM-59 STA.	430+49.74	ELEV.	660.15	OFFSET	458.93' RT.,
@ RAMP A2, MAG NAIL AT NOSE OF DRAINAGE CHANNEL					
BM-61 STA.	425+47.56	ELEV.	674.03	OFFSET	381.20' LT.,
@ RAMP A2, RAILROAD SPIKE IN NORTH FACE OF POWER/LIGHT POLE					
BM-62 STA.	431+86.05	ELEV.	672.11	OFFSET	388.05' LT.,
@ RAMP A2, RAILROAD SPIKE IN EAST FACE OF POWER/LIGHT POLE					
BM-66 STA.	421+92.16	ELEV.	671.90	OFFSET	844.15' LT.,
@ RAMP A2, CUT CROSS ON N-E BOLT OF CANTILEVER OVERHEAD SIGN					
BM-67 STA.	418+24.32	ELEV.	674.82	OFFSET	454.15' LT.,
@ RAMP A2, CUT CROSS ON N-E BOLT OF EAST LEG OF JCT 422 SIGN					
BM-68 STA.	411+16.80	ELEV.	678.92	OFFSET	249.57' LT.,
@ RAMP A2, CUT CROSS ON N-E BOLT OF TRAFFIC SIGNAL POLE					

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 3 / 2338

PROPOSED WORK

THE PROPOSED WORK CONSISTS OF CONSTRUCTING RETAINING WALLS AROUND THE BRIDGE 9 REAR ABUTMENT CARRYING RAMP A2. PORTIONS OF THE WALL ARE TOP DOWN CONSTRUCTION CONSISTING OF SOLDIER PILES AND PRECAST CONCRETE LAGGING. THE REMAINDER OF THE WALL IS BOTTOM UP CONSTRUCTION UTILIZING MSE TYPE WALLS.

WALL N

CURVE DATA

P.I. = Sta. 2+66.39
 $\Delta = 04^{\circ}44'44''$ LT
 $D_c = 02^{\circ}14'33''$
 $R = 2,555.02'$
 $T = 105.87'$
 $L = 211.62'$
 $E = 2.19'$

RAMP IJ3

CURVE DATA
 P.I. = Sta. 94+88.28
 $\Delta = 20^{\circ}37'12''$ LT
 $D_c = 03^{\circ}00'00''$
 $R = 1,909.86'$
 $T = 347.42'$
 $L = 687.33'$
 $E = 31.34'$

RAMP A2

CURVE DATA
 P.I. = Sta. 413+02.39
 $\Delta = 44^{\circ}30'41''$ LT
 $D_c = 04^{\circ}30'00''$
 $R = 1,273.24'$
 $T = 521.04'$
 $L = 989.14'$
 $E = 102.49'$

RAMP J2

CURVE DATA
 P.I. = Sta. 5435+61.54
 $\Delta = 23^{\circ}06'15''$ LT
 $D_c = 02^{\circ}15'00''$
 $R = 2,546.48'$
 $T = 520.50'$
 $L = 1,026.85'$
 $E = 52.65'$

NOTES

- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
- FOR WALL CROSS SECTIONS, SEE SHEETS 632 TO 635 / 2338
- STATION AND WALL OFFSETS SHOWN AT NEAR FACE OF WALL.
- STEPS AT THE END OF THE WALL ARE A TEMPORARY CONDITION FOR INTERIM CONSTRUCTION. WALL IS TO BE FULL HEIGHT IN FINAL CONDITION.
- TEMPORARY SPL WALL TO BE REMOVED IN A FUTURE CONSTRUCTION CONTRACT. MSE WALL IN FRONT OF B9 REAR ABUTMENT WILL BE EXTENDED AT THAT TIME.

LEGEND

- HISTORICAL BORING LOCATIONS
- PROJECT BORING LOCATIONS

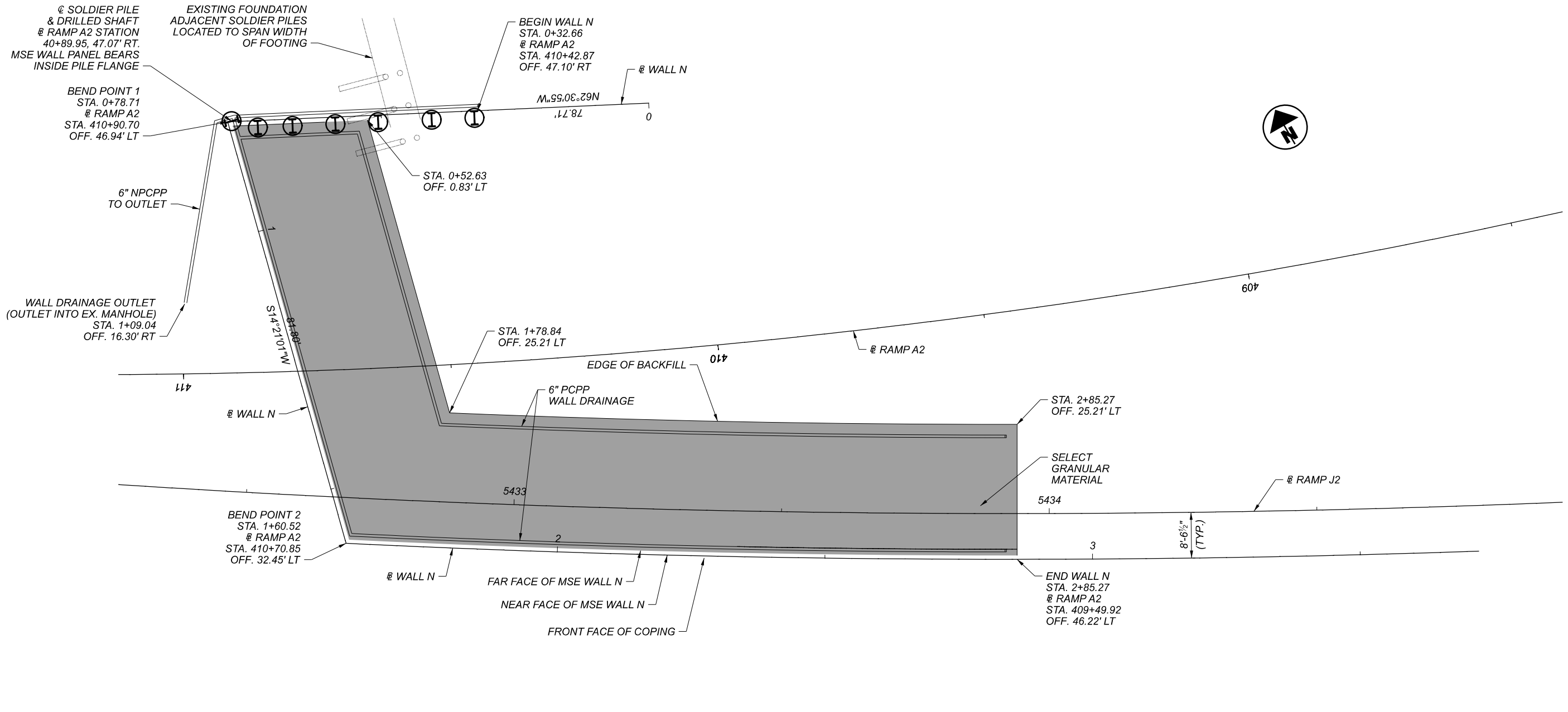
CONST. = CONSTRUCTION
 EOP = EDGE OF PAVEMENT
 EOS = EDGE OF SHOULDER

WALL PLAN AND PROFILE

WALL N

UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

SFN	--NA--
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER/CHECKER	SSW / SNO
REVIEWER	LPC 08-08-22
PROJECT ID	82382
SUBSET	1 / 12
SHEET	1091 / 2338



PLAN

WALL N

CURVE DATA
 P.I. = Sta. 2+66.39
 $\Delta = 04^{\circ}44'44''$ LT
 $D_c = 02^{\circ}14'33''$
 $R = 2,555.02'$
 $T = 105.87'$
 $L = 211.62'$
 $E = 2.19'$

RAMP A2

CURVE DATA
 P.I. = Sta. 413+02.39
 $\Delta = 44^{\circ}30'41''$ LT
 $D_c = 04^{\circ}30'00''$
 $R = 1,273.24'$
 $T = 521.04'$
 $L = 989.14'$
 $E = 102.49'$

RAMP J2

CURVE DATA
 P.I. = Sta. 5435+61.54
 $\Delta = 23^{\circ}06'15''$ LT
 $D_c = 02^{\circ}15'00''$
 $R = 2,546.48'$
 $T = 520.50'$
 $L = 1,026.85'$
 $E = 52.65'$

WALL BASELINE GEOMETRY			
	@ WALL N STA.	@ RAMP A2	OFFSET
BEGIN WALL N	0+32.66	410+42.87	47.10' RT
BEND POINT 1 WALL N	0+78.71	410+90.70	46.94' LT
BEND POINT 2 WALL N	1+60.52	410+70.85	32.45' LT
END WALL N	2+85.27	409+49.92	46.22' LT

NOTES

- FOR WALL CROSS SECTIONS, SEE SHEETS 632 TO 635 / 2338
- @ WALL N IS CONCENTRIC WITH @ RAMP J2.

LEGEND

LIMITS OF SELECT GRANULAR BACKFILL

SCHEMATIC PLAN
WALL N

UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

SFN	N/A
DESIGN AGENCY	
DESIGNER	SSW
CHECKER	SNO
REVIEWER	LPC 08-08-22
PROJECT ID	82382
SUBSET	2
TOTAL	12
SHEET	1092
TOTAL	2338

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:

- F-1.1 REVISED 7/19/2013
- DM-1.1 REVISED 7/17/2020

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

- 800 DATED 7/16/21
- 840 DATED 4/16/21

REFER TO THE FOLLOWING SUPPLEMENT:

- 1073 DATED 4/17/20

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS", 9TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND THE ODOT BRIDGE DESIGN MANUAL, 2020 (DATED 07-16-21).

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
 (CONCRETE COPING, LEVELING PAD, AND PRECAST LAGGING)
 CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.0 KSI (DRILLED SHAFTS)
 REINFORCING STEEL / WELDED WIRE REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI
 STEEL SOLDIER PILES - ASTM A572 - YIELD STRENGTH 50 KSI
 RETAINED SOIL UNIT WEIGHT, $\gamma = 120$ pcf
 ANGLE OF INTERNAL FRICTION, $\phi = 30^\circ$

MSE WALL DESIGN PARAMETERS

THE MINIMUM SOIL REINFORCEMENT LENGTH IS AT LEAST 8 FEET OR 70% OF THE WALL HEIGHT, WHICHEVER IS GREATER. FOR WALL SECTIONS AROUND ABUTMENTS, THE STRAP LENGTH WILL NEED TO BE 70% OF THE DISTANCE BETWEEN THE TOP OF THE LEVELING PAD AND THE TOP OF THE PAVEMENT.

SEQUENCE OF CONSTRUCTION

CONSTRUCT WALL N DURING MOT PHASE 4.

SEE MAINTENANCE OF TRAFFIC NOTES FOR ADDITIONAL PHASES AND INFORMATION.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

SEAL SURFACES OF THE PRECAST CONCRETE LAGGING, MSE WALL PANELS, AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLORS SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

- COPING SEALER: "DOVETAIL" 7018
- SUBSTRUCTURE SEALER: "ALABASTER" 7008

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN, PERMANENT GRAFFITI PROTECTION

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

- A. THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED), NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES, OR POLYURETHANE COMPONENTS.
- B. THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).

C. THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIZE COMPOUNDS (EPA METHOD 24).

D. THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

- CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
- GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM 4578.
- NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING, OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.
- BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".
- ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").
- ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

PROPRIETARY RETAINING WALL DATA

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS840 TO RETAIN EARTH FILL AROUND AND BELOW THE ABUTMENT. FOR LOADS AND NOTES PERTAINING TO THE ABUTMENT, SEE THE GENERAL NOTES SHEETS FOR BRIDGE 9, BRIDGE NUMBER CUY-77-1587.

ITEM 507 - STEEL PILES, MISC.: W30x235, FURNISHED

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50 IN ACCORDANCE WITH C&MS 711.01. GALVANIZE SOLDIER PILES AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH C&MS 711.02. DO NOT FIELD WELD OR SPLICE STEEL SOLDIER PILES.

THE DEPARTMENT WILL MEASURE SOLDIER PILES ALONG THE AXIS OF THE SOLDIER PILE FROM THE TOP OF WALL ELEVATION TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT FOR ITEM 507, STEEL PILES, MISC.: W30x235.

ITEM 524 - DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK, AS PER PLAN

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

EXCAVATE THE HOLE FOR THE DRILLED SHAFT WITHIN 1 1/2 INCHES OF THE PLAN LOCATION. PLACE THE SOLDIER PILE WITHIN THE HOLE SO IT IS VERTICAL AND NOT INCLINED MORE THAN 1 INCH BETWEEN TOP TO BOTTOM. PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF THE ROW OF DRILLED SHAFTS. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. SUPPORT THE SOLDIER PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC 5 CONCRETE ACCORDING TO C&MS 511. PLACE CONCRETE TO THE ELEVATION FOR THE TOP OF THE DRILLED SHAFT. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF WATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

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

REMOVE CONCRETE AND LSM AS NECESSARY FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE THE LAGGING. PLACE LAGGING SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST 3 INCHES AT BOTH ENDS OF THE LAGGING. WAIT AT LEAST 12 HOURS AFTER PLACING CONCRETE BEFORE PLACING LAGGING.

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

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

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

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE DRILLED SHAFTS ABOVE BEDROCK, AS PER PLAN, ALONG THE AXIS OF THE DRILLED SHAFT FROM THE EXISTING GROUND SURFACE TO THE TOP OF BEDROCK, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL MEASURE DRILLED SHAFTS INTO BEDROCK, AS PER PLAN, ALONG THE AXIS OF THE DRILLED SHAFT FROM TOP OF BEDROCK TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER.

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

ITEM 610 - RETAINING WALL, MISC.: PRECAST CONCRETE LAGGING

THIS WORK CONSISTS OF FURNISHING AND PLACING PRECAST REINFORCED CONCRETE PANELS BETWEEN THE SOLDIER PILES TO FUNCTION AS LAGGING FOR THE RETAINING WALL. PROVIDE PRECAST CONCRETE LAGGING FROM A PRECAST CONCRETE MANUFACTURER CERTIFIED ACCORDING TO SUPPLEMENT 1073. PROVIDE CLASS QC1 CONCRETE ACCORDING TO C&MS 499. PROVIDE EPOXY COATED REINFORCING STEEL ACCORDING TO C&MS 709.00. IN LIEU OF EPOXY COATING, A CORROSION INHIBITING CONCRETE ADMIXTURE MAY BE USED AT THE SPECIFIED DOSAGE RATE. A QUALIFIED PRODUCT LIST OF CORROSION INHIBITING ADMIXTURES IS ON FILE AT THE LABORATORY. MANUFACTURERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR MAY AFFECT THE STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE MANUFACTURER'S CHOICE TO USE ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING ALL DESIGN REQUIREMENTS. DO NOT ALLOW THE DIMENSIONS OF THE LAGGING OR LOCATION OF THE REINFORCING STEEL TO VARY BY MORE THAN 1/4-INCH. CAST THREADED INSERTS INTO THE TOP OF EACH PANEL FOR LIFTING AND PLACEMENT.

FINISH THE FACES OF THE PRECAST CONCRETE LAGGING PANELS THAT WILL NOT BE EXPOSED TO A UNIFORM SURFACE, FREE OF OPEN POCKETS OF AGGREGATE. *FINISH THE EXPOSED FACE OF THE PANELS TO A SMOOTH SURFACE. SEAL THE FRONT (EXPOSED) FACE AND SIDES OF EACH CONCRETE PANEL WITH ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY URETHANE). THE COLOR OF THE URETHANE SHALL BE SHERWIN WILLIAMS ALABASTER 7008 OR APPROVED EQUAL.

PERMANENTLY MARK EACH PRECAST CONCRETE LAGGING PANEL TO INDICATE WHICH FACE WILL BE PLACED AGAINST THE SOIL. PLACE THE PANEL BETWEEN THE FLANGES OF THE SOLDIER PILES AND BEARING AGAINST THE FLANGES ON THE EXPOSED SIDE OF THE WALL SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST ONE INCH MORE THAN THE CONCRETE COVER OVER THE REINFORCING STEEL AT BOTH ENDS OF THE LAGGING.

HANDLE, STORE, AND SHIP THE PRECAST CONCRETE LAGGING PANELS TO AVOID CHIPPING, CRACKING AND FRACTURING THE PANELS. SUPPORT THE PANELS ON FIRM BLOCKING WHILE STORING AND SHIPPING. DO NOT SHIP PANELS UNTIL CONCRETE HAS ATTAINED THE REQUIRED COMPRESSIVE STRENGTH. SUBMIT SHIPMENT DOCUMENTATION TO THE ENGINEER AS THE PANELS ARE DELIVERED TO THE PROJECT, INCLUDING THE PRECASTER'S RECORD OF FINAL INSPECTION, THE MEASUREMENTS AND TOLERANCES, STRENGTH, AND DIMENSIONS OF EACH PANEL, ALONG WITH THE TE-24 SHIPPING DOCUMENT.

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPER: SIZE: 17x11 (in.) DATE: 8/10/2022 TIME: 3:33:59 PM USER: Shanae.Walsh pwc:\mb-us-pw\benley.com\mb-us-pw-03\Documents\Cleveland_OH101_P\Projects\ODOT\Dist12\82382\40p-Eng\neering\Structures\WALL_N_Sheets\82382_N_WN001.dgn

WALL GENERAL NOTES (1 OF 2)

WALL N

UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

SFN	N/A
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	SSW SNO
REVIEWER	LPC 08-08-22
PROJECT ID	82382
SUBSET	TOTAL
3	12
SHEET	TOTAL
1093	2338

ITEM 610 - RETAINING WALL, MISC.: PRECAST CONCRETE LAGGING (CONT.)

INSPECT ALL PRECAST CONCRETE LAGGING PANELS AND REJECT PANELS HAVING ANY OF THE FOLLOWING:

1. DEFECTS THAT INDICATE IMPERFECT MOLDING.
2. DEFECTS THAT INDICATE HONEYCOMBED OR OPEN TEXTURE CONCRETE.
3. DEFECTS IN THE PHYSICAL CHARACTERISTICS OF THE CONCRETE, OR DAMAGE TO THE AESTHETIC SURFACE TREATMENTS.
4. CONCRETE CHIPS OR SPALLS THAT ARE LARGER THAN 4 INCHES WIDE OR 2 INCHES DEEP. REPAIR ALL CHIPS AND SPALLS THAT ARE SMALLER.
5. STAINED FORM FACES, DUE TO FORM OIL, CURING OR OTHER CONTAMINANTS.
6. SIGNS OF AGGREGATE SEGREGATION.
7. CRACKS WIDER THAN 0.01 INCH OR PENETRATING MORE THAN 1 INCH OR LONGER THAN 20 PERCENT OF THE LENGTH OF THE FACE CONTAINING THE CRACK.
8. PANELS THAT DO NOT MEET THE SPECIFIED DIMENSIONAL TOLERANCES.
9. UNUSABLE LIFTING INSERTS.
10. EXPOSED REINFORCING STEEL.
11. INSUFFICIENT CONCRETE COMPRESSIVE STRENGTH.

EITHER REPLACE DAMAGED PRECAST CONCRETE LAGGING PANELS OR DOCUMENT THE DAMAGE AND PROPOSE TO THE ENGINEER A REPAIR METHOD FOR THE DAMAGED PANEL. PROVIDE ACCEPTABLE REPLACEMENT PANELS FOR ANY THAT ARE REJECTED. WHEN INSTALLING THE PRECAST CONCRETE LAGGING PANELS, PLACE HARDWOOD WEDGES NEAR THE TOP AND BOTTOM ON EACH SIDE TO HOLD THE LAGGING PANELS AGAINST THE FRONT INSIDE FLANGE OF THE STEEL PILES.

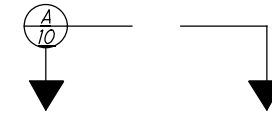
PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIAL REQUIRED TO FABRICATE, TRANSPORT, AND INSTALL THE PRECAST REINFORCED CONCRETE PANELS SHALL BE MADE AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR ITEM 610 - RETAINING WALL, MISC.: PRECAST CONCRETE LAGGING.

ITEM 511- CLASS QCI CONCRETE, MISC.: FOR RAISED PANEL SEAT

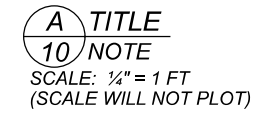
PROVIDE LEVEL CAST-IN-PLACE SEATS FOR LEVEL INSTALLATION OF THE BOTTOM ROW OF LAGGING. SEATS SHALL BE PLACED AS SHOWN IN THE PLANS ON SOUND CONCRETE FROM THE SOLDIER PILE DRILLED SHAFT.

THE CONTRACTOR IS PERMITTED TO USE A PRECAST ALTERNATIVE SUBJECT TO APPROVAL OF THE ENGINEER.

SECTION/DETAIL/VIEW CALLOUTS



(SEE SECTION A ON SHEET 10)



(SECTION A CUT FROM SHEET 10)

PLAN ABBREVIATIONS:

- ABUT. = ABUTMENT
- APPR. = APPROACH
- B = BOTTOM
- @ = BASELINE
- B.F. = BACK FACE
- BM = BENCHMARK
- BOT. OR BTM. = BOTTOM
- @ = CENTERLINE
- C/C = CENTER TO CENTER
- C.I.P. = CAST-IN-PLACE
- C.J. = CONSTRUCTION JOINT
- CLR. = CLEAR
- CMS = CONSTRUCTION AND MATERIAL SPECIFICATIONS
- CONC. = CONCRETE
- CONST. = CONSTRUCTION
- DIA. = DIAMETER
- DIM. = DIMENSION
- DTBD = DISPOSITION TO BE DETERMINED
- DWG. = DRAWING
- EB = EASTBOUND
- E.F. = EACH FACE
- EL. OR ELEV. = ELEVATION
- EQ. = EQUAL
- EST. = ESTIMATED
- EX. = EXISTING
- F.A. = FORWARD ABUTMENT
- F/F = FACE TO FACE
- F.F. = FRONT FACE
- FT. = FOOT OR FEET
- FTG. = FOOTING
- FWD. = FORWARD
- IN. = INCH
- JT. = JOINT
- LT. = LEFT
- MAX. = MAXIMUM
- MIN. = MINIMUM
- MISC. = MISCELLANEOUS
- N = NORTH
- NB = NORTHBOUND
- NO. = NUMBER
- N.P.C.P.P. = NON-PERFORATED CORRUGATED PLASTIC PIPE
- OHWM = ORDINARY HIGH WATER MARK
- O/O = OUT TO OUT
- P.C.P.P. = PERFORATED CORRUGATED PLASTIC PIPE
- P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
- PROP. = PROPOSED
- PSF = POUNDS PER SQUARE FOOT
- R.A. = REAR ABUTMENT
- S = SOUTH
- SB = SOUTHBOUND
- SER. = SERIES
- SHLDR = SHOULDER
- SPA. = SPACE OR SPACES
- STA. = STATION
- STD. = STANDARD
- STR = STRAIGHT
- T = TOP
- T&B = TOP & BOTTOM
- TBR = TO BE REMOVED
- TBRBO = TO BE RELOCATED BY OTHERS
- TEMP. = TEMPORARY
- TYP. = TYPICAL
- U.N.O. = UNLESS NOTED OTHERWISE
- VAR. = VARIES
- WB = WESTBOUND
- WWR = WELDED WIRE REINFORCEMENT

CUY-90-16.28 (CCG3A)

MODEL: Sheet (2 OF 2) PAPER: 17x11 (in.) DATE: 8/10/2022 TIME: 3:34:00 PM USER: Shane.Wells
 p:\mb-us-pw-bentley.com\mb-us-pw-03\Documents\Cleveland_OH101_P\Projects\ODOT\Dist12\8238240p-Eng\Sheeting\Structures\WALL_NISheets\82382_N_WN001.dgn

WALL GENERAL NOTES (2 OF 2)
 WALL N
 UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
SSW	SNO
REVIEWER	
LPC 08-08-22	
PROJECT ID	
82382	
SUBSET	TOTAL
4	12
SHEET	TOTAL
1094	2338

ITEM NO.	EXT.	TOTAL	UNIT	DESCRIPTION	ABUT	PIERS	SUPER	GEN	AS PER PLAN
203	35120	176	CY	GRANULAR MATERIAL, TYPE C					
507	00400	580	FT	STEEL PILES, MISC.: W30x235, FURNISHED					
512	10001	0	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)					3
511	53010	0	CY	CLASS QC1 CONCRETE, MISC.: CONCRETE FOR RAISED PANEL SEAT					4
512	10100	436	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)					
518	40000	502	FT	6" PERFORATED CORRUGATED PLASTIC PIPE					
518	40010	40	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS					
524	94801	360	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK, AS PER PLAN					3
607	23000	62	FT	FENCE, TYPE CLT					
530	51010	762	SF	SPECIAL - RETAINING WALL, MISC.: PRECAST CONCRETE LAGGING					3
840	20000	4686	SF	MECHANICALLY STABILIZED EARTH WALL					
840	21000	1812	CY	WALL EXCAVATION					
840	22000	4748	SY	FOUNDATION PREPARATION					
840	23000	2341	CY	SELECT GRANULAR BACKFILL					
840	23050	399	CY	NATURAL SOIL					
840	26000	239	FT	CONCRETE COPING					
840	26050	4686	FT	AESTHETIC SURFACE TREATMENT					
840	27000	1	DAY	ON-SITE ASSISTANCE					
840	28000	1	LUMP	SGB INSPECTION AND COMPACTION TESTING					

ESTIMATED QUANTITIES

WALL N

UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

SFN
N/A

DESIGN AGENCY

Michael Baker
INTERNATIONAL

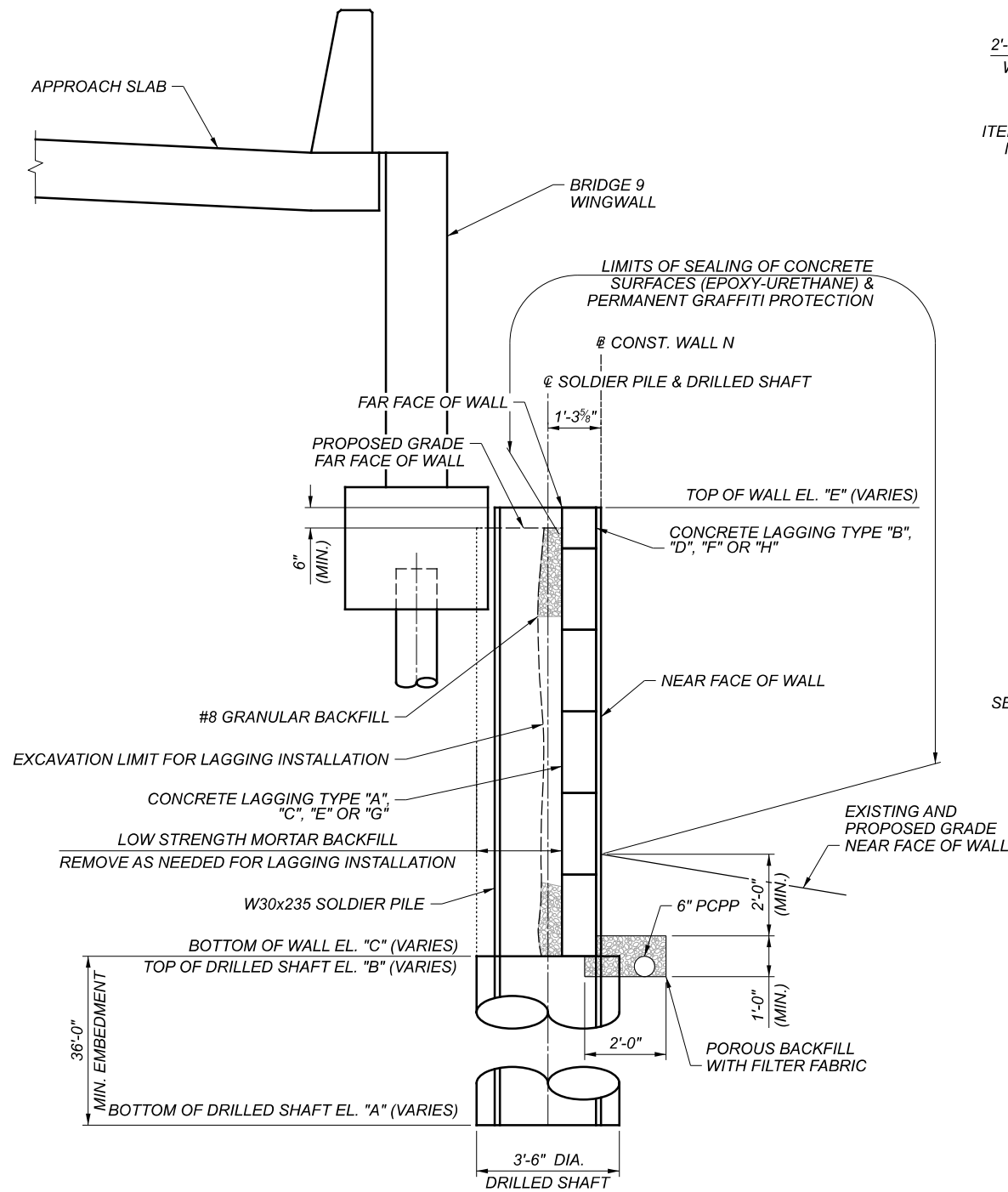
DESIGNER: SSW CHECKER: SNO

REVIEWER: LPC 08-08-22

PROJECT ID: 82382

SUBSET	TOTAL
5	12

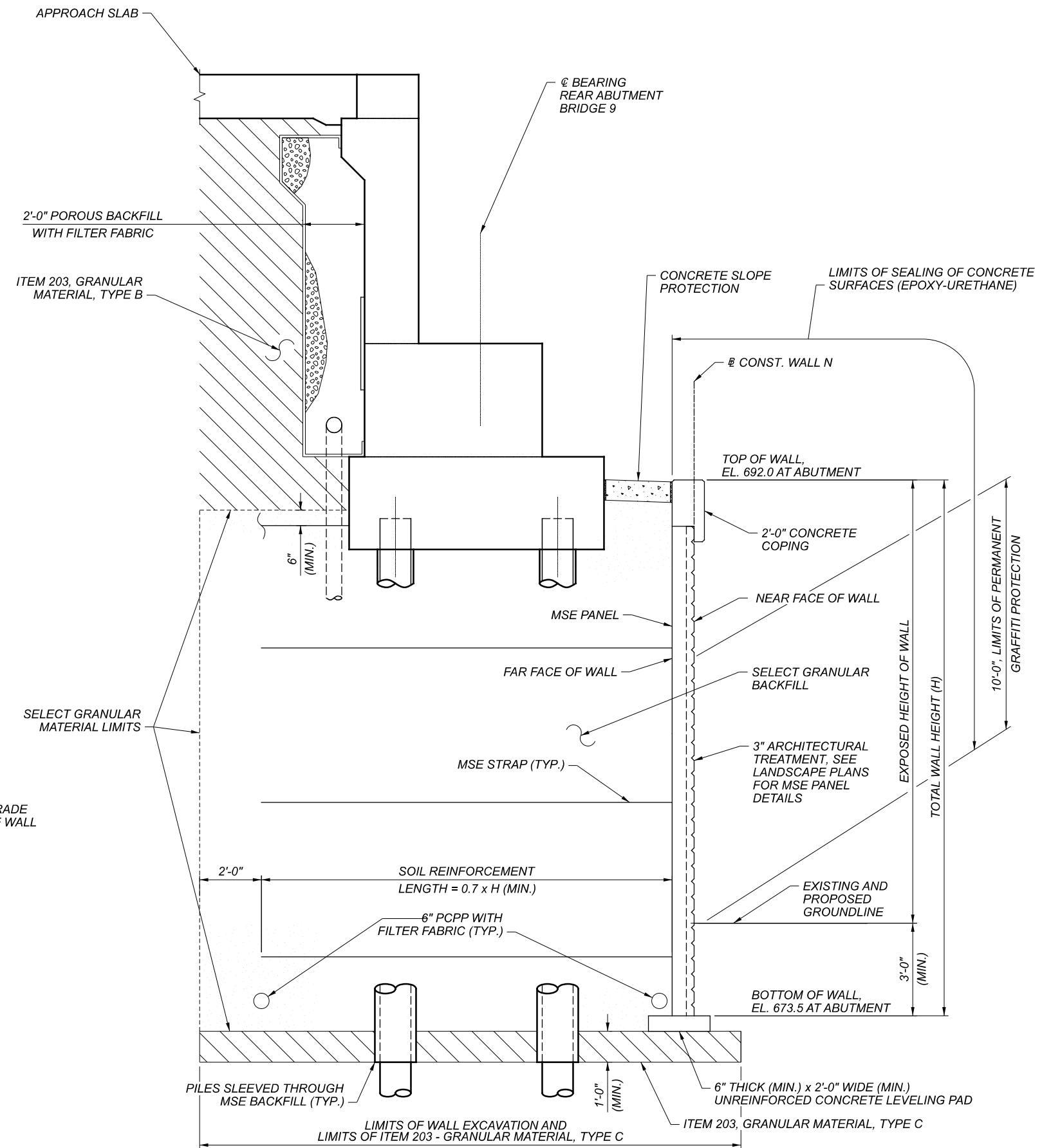
SHEET	TOTAL
1095	2338



TEMPORARY SOLDIER PILE AND LAGGING WALL TYP. SECTION

NOTES:

1. TEMPORARY SOLDIER PILE AND LAGGING WALL MUST BE BUILT PRIOR TO CONSTRUCTION OF BRIDGE 9 REAR ABUTMENT.
2. TEMPORARY SOLDIER PILE AND LAGGING WALL TO BE REMOVED IN A FUTURE CONSTRUCTION PROJECT.

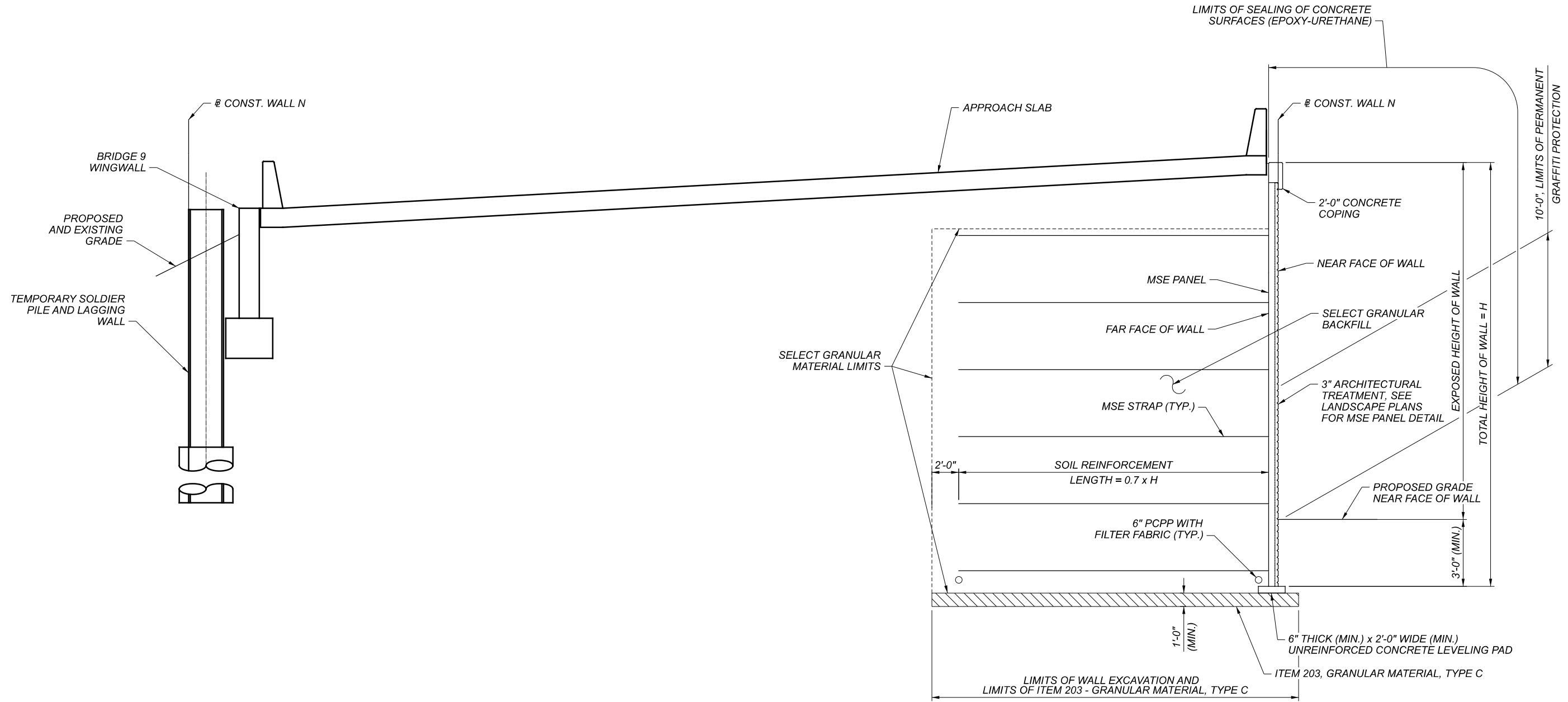


MSE WALL TYP. SECTION

NOTES:

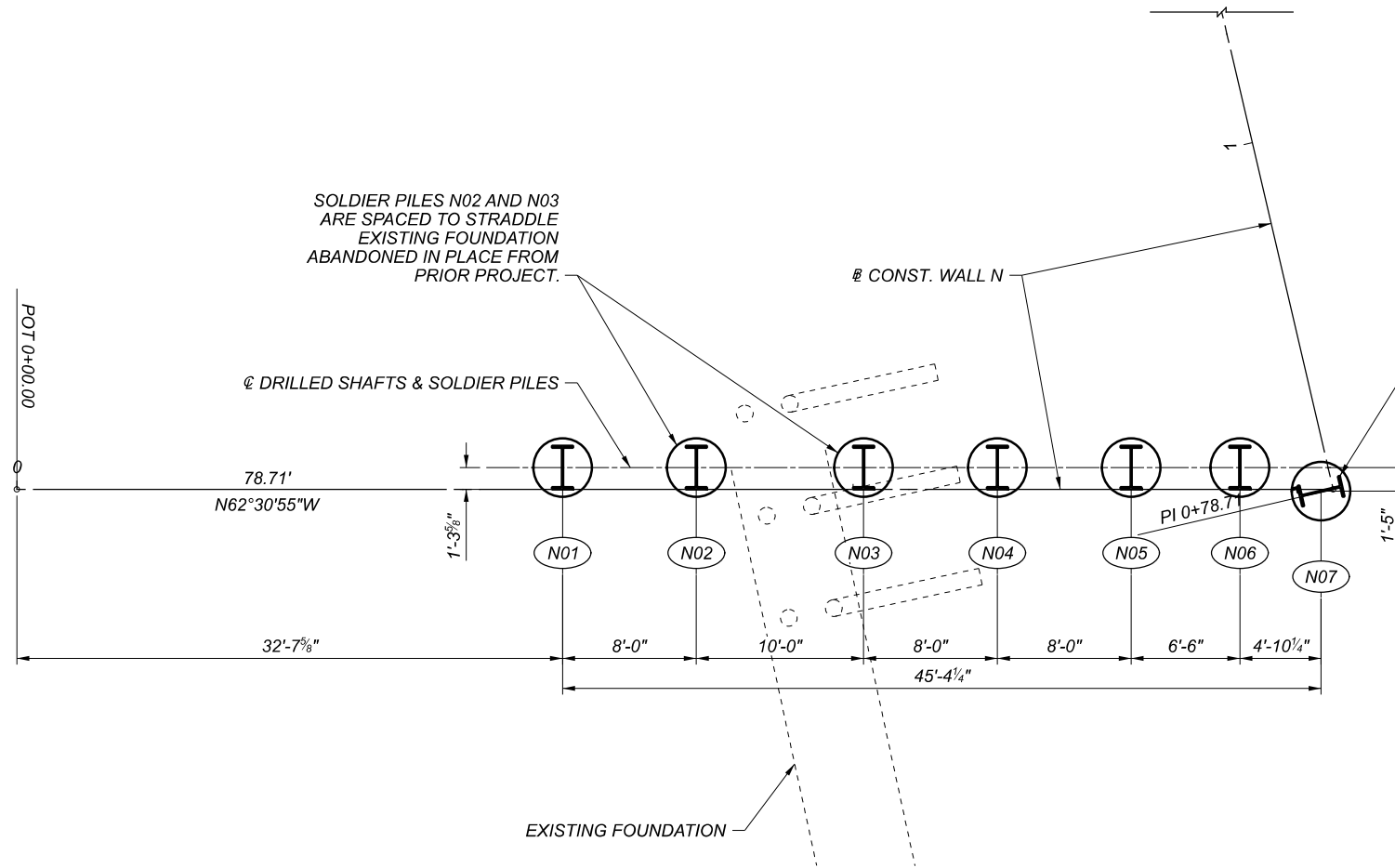
1. MSE WALL PANELS ARE TO BE 5'-0"x5'-0", ARRANGED IN VERTICAL RUNNING BOND.
2. SEE LANDSCAPE DETAILS FOR MSE PANEL AESTHETIC TREATMENT DETAILS.

SFN	N/A
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	SSW
REVIEWER	SNO
PROJECT ID	LPC 08-08-22
SUBSET	82382
SHEET	6
TOTAL	12
TOTAL	1096
TOTAL	2338



MSE WALL TYP. SECTION

SFN	N/A
DESIGN AGENCY	
Michael Baker INTERNATIONAL	
DESIGNER	CHECKER
SSW	SNO
REVIEWER	
LPC 08-08-22	
PROJECT ID	
82382	
SUBSET	TOTAL
7	12
SHEET	TOTAL
1097	2338



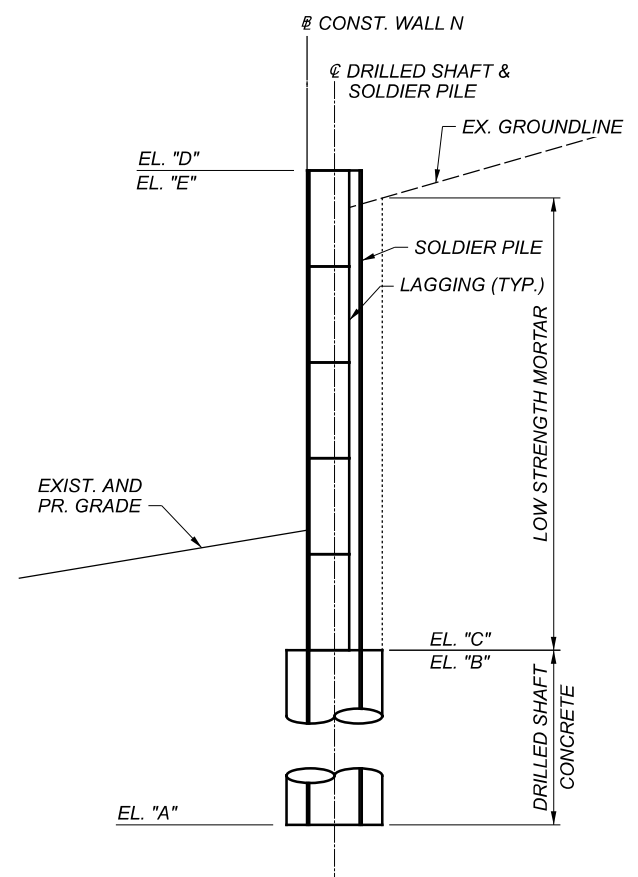
FOUNDATION PLAN



ATTACH FULL HEIGHT L 4 x 4 x 3/4" TO THIS SOLDIER PILE. USE FULL LENGTH 5/16" FILLET WELDS FOR ATTACHMENT ON BOTH SIDES OF ANGLE. LAGGING FROM NO6 TO BEAR AGAINST ANGLE ON NO7. MSE PANELS IN FRONT OF B9 ABUTMENT TO BEAR AGAINST INSIDE OF NO7 FLANGE.

SOLDIER PILES N02 AND N03 ARE SPACED TO STRADDLE EXISTING FOUNDATION ABANDONED IN PLACE FROM PRIOR PROJECT.

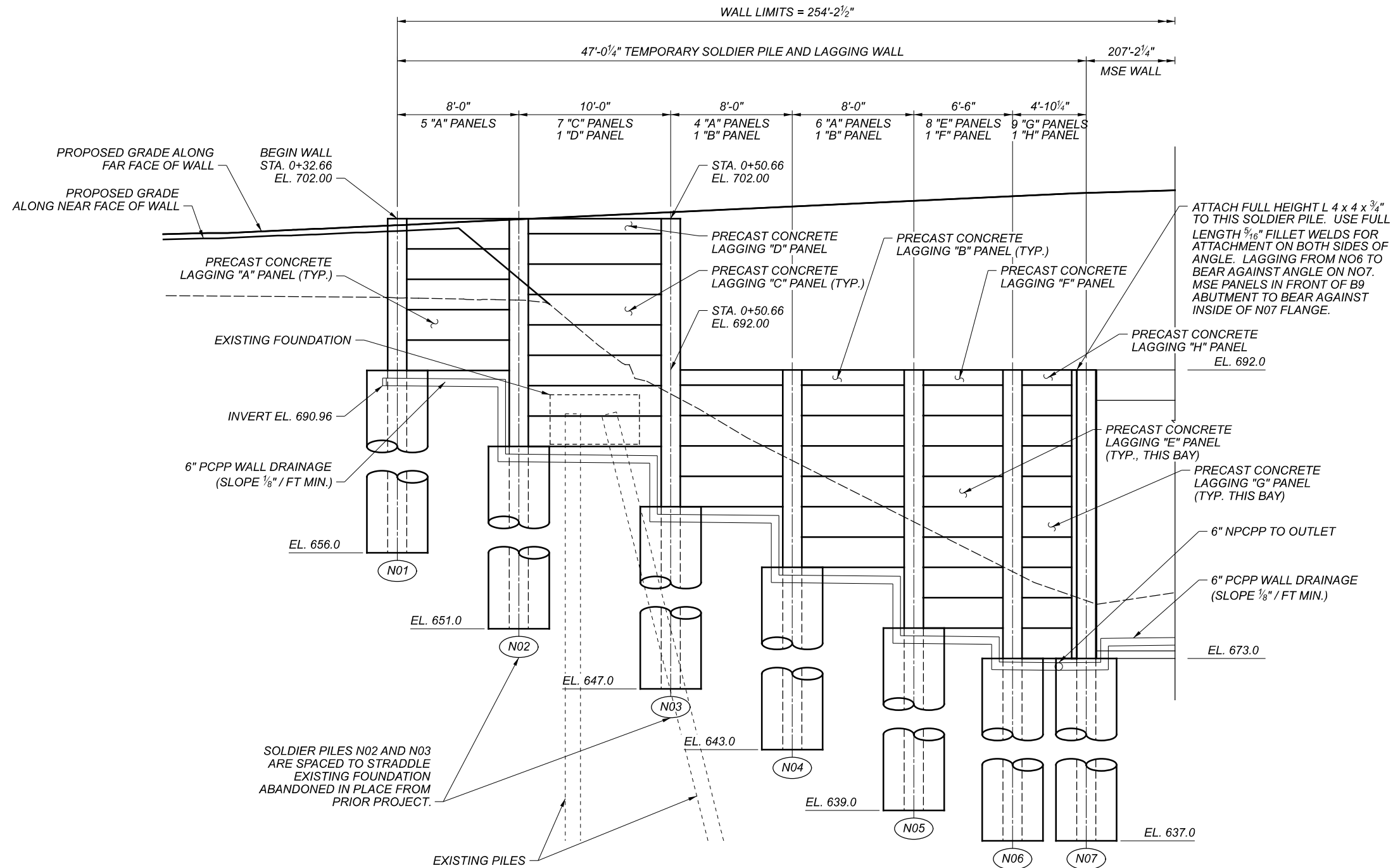
WALL N DRILLED SHAFT & SOLDIER PILE SCHEDULE													
DESIGNATION	STATION BASELINE WALL AJ	CENTERLINE OFFSET FROM BASELINE WALL AJ (FT.)	DIAMETER (IN.)	SHEAR STUDS (YES/NO)	BOTTOM OF DRILLED SHAFT EL. "A"	TOP OF SHAFT CONCRETE EL. "B"	CONCRETE SHAFT LENGTH (FT.)	BOTTOM OF WALL EL. "C"	TOP OF SOLDIER PILE E. "D"	TOP OF WALL EL. "E"	ESTIMATED LENGTH OF SOLDIER PILE (FT.)	HEIGHT OF LAGGING (FT.)	SOLDIER PILE SIZE
N01	00+32.64	1.30' LT	42	NO	656.0	692.0	36.0	692.0	702.0	702.0	46.0	10.0	W30x235
N02	00+40.64	1.30' LT	42	NO	651.0	687.0	36.0	687.0	702.0	702.0	51.0	15.0	W30x235
N03	00+50.64	1.30' LT	42	NO	647.0	683.0	36.0	683.0	702.0	692.0	55.0	9.0	W30x235
N04	00+58.64	1.30' LT	42	NO	643.0	679.0	36.0	679.0	692.0	692.0	49.0	13.0	W30x235
N05	00+66.64	1.30' LT	42	NO	639.0	675.0	36.0	675.0	692.0	692.0	53.0	17.0	W30x235
N06	00+73.14	1.30' LT	42	NO	637.0	673.0	36.0	673.0	692.0	692.0	55.0	19.0	W30x235
N07	00+77.99	1.42' LT	42	NO	637.0	673.0	36.0	673.0	692.0	692.0	55.0	19.0	W30x235



DRILLED SHAFT & SOLDIER PILE SCHEMATIC

LEGEND:
 # - DENOTES SOLDIER PILE NUMBER

SFN	--NA--
DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
CHECKER	
REVIEWER	
PROJECT ID	82382
SUBSET	8
TOTAL	12
SHEET	1097A
TOTAL	2338

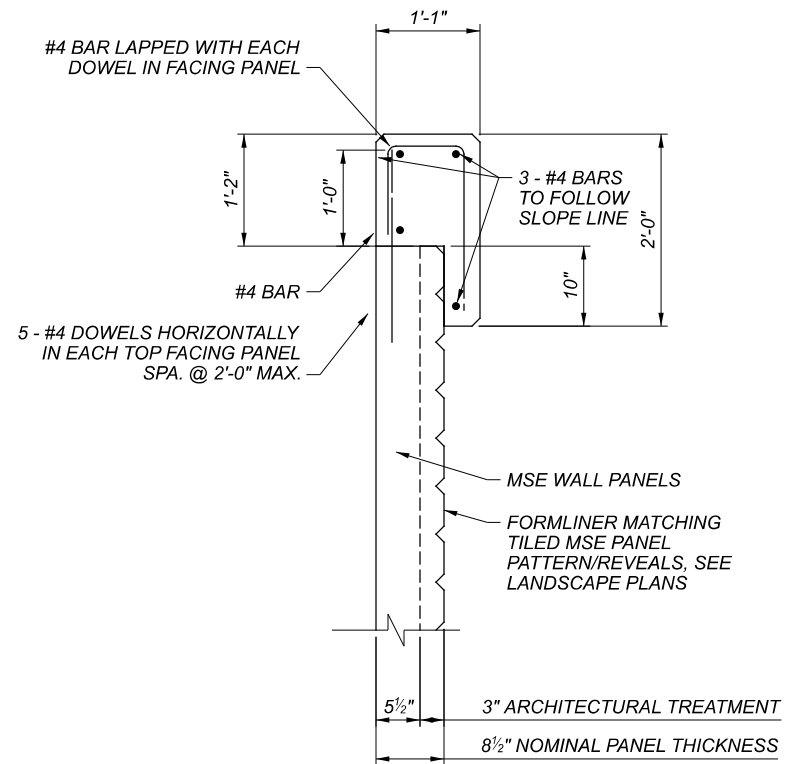


ELEVATION
 (DIMENSIONS GIVEN ALONG @ CONST. WALL N)

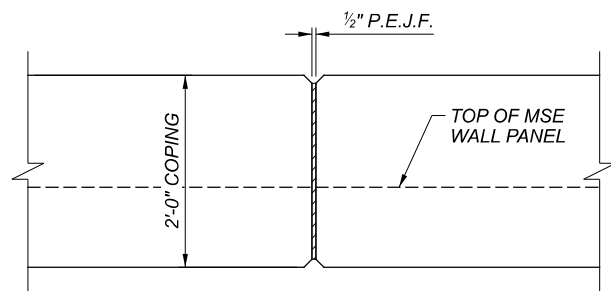
LEGEND:
 # - DENOTES SOLDIER PILE NUMBER

WALL ELEVATION
 WALL N
 UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

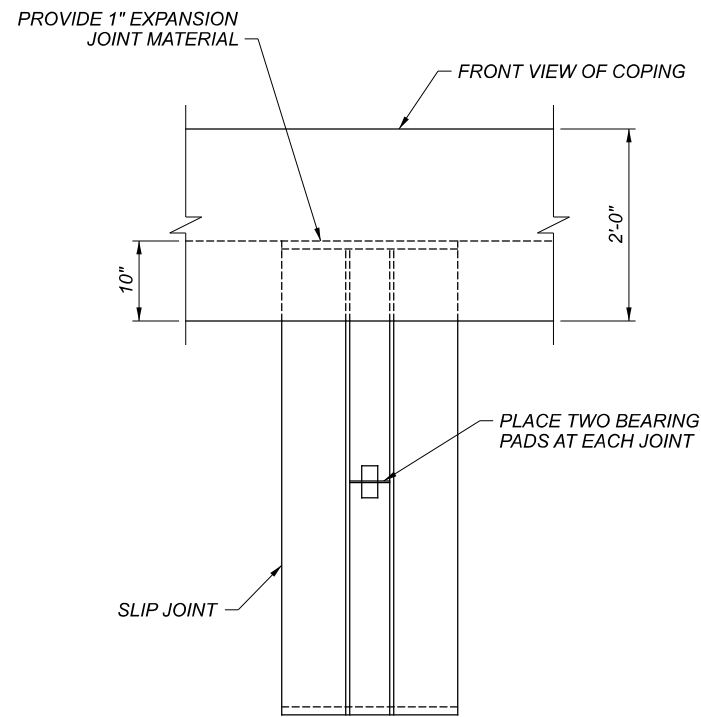
SFN	N/A
DESIGN AGENCY	
DESIGNER	SSW
CHECKER	SNO
REVIEWER	LPC
PROJECT ID	82382
SUBSET	9
TOTAL	12
SHEET	1098
TOTAL	2338



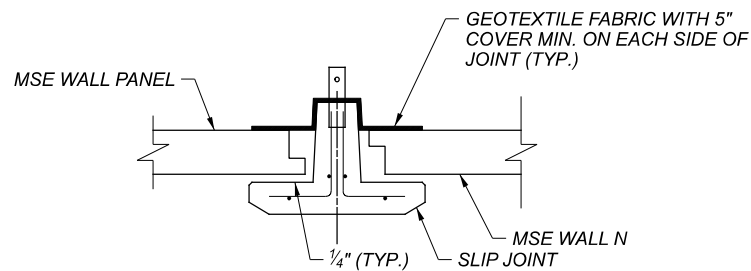
MSE WALL COPING DETAIL
 (ALL REINFORCING STEEL TO BE EPOXY COATED)



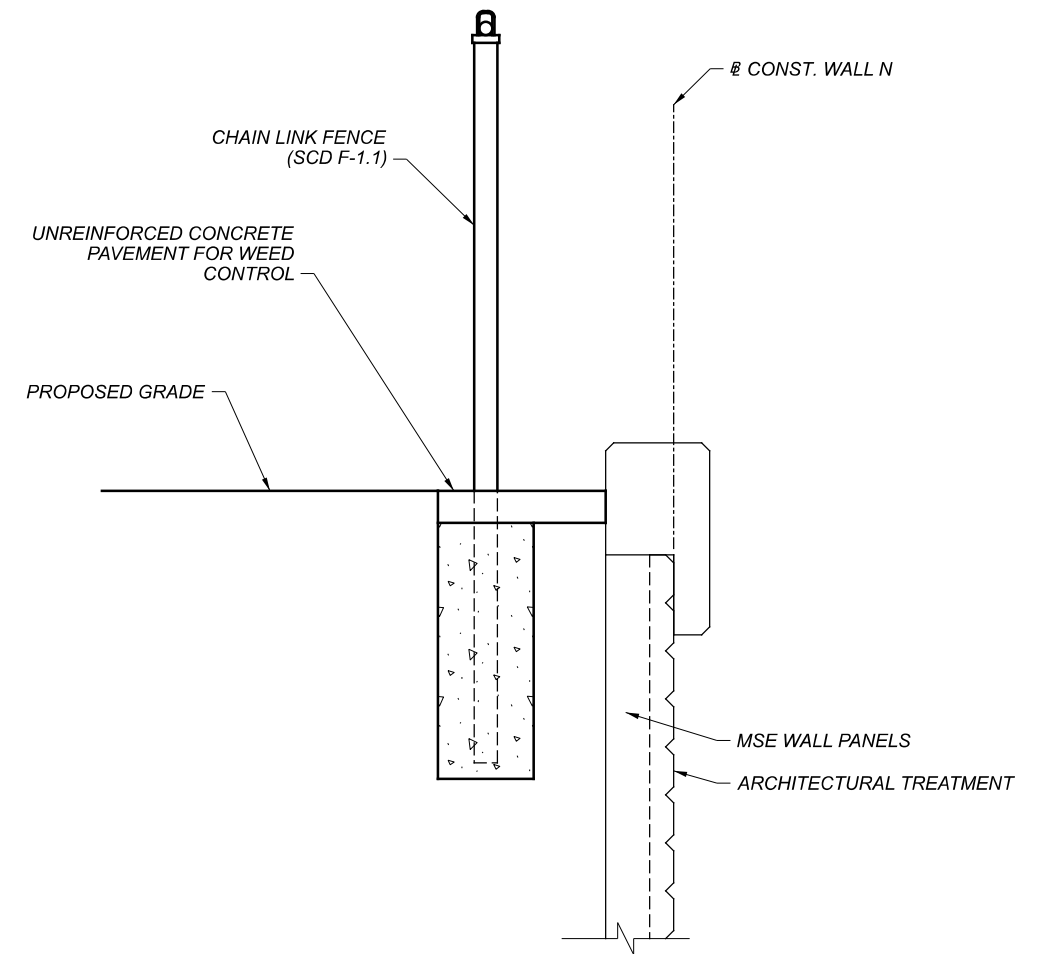
COPING EXPANSION JOINT - ELEVATION
 (MAX JOINT SPACING IS 20'-0")



TYPICAL FRONT WALL VIEW OF SLIP JOINT ELEVATION
 (AT MSE WALL)



SLIP JOINT ELEMENT DETAIL
 (AT MSE WALL)

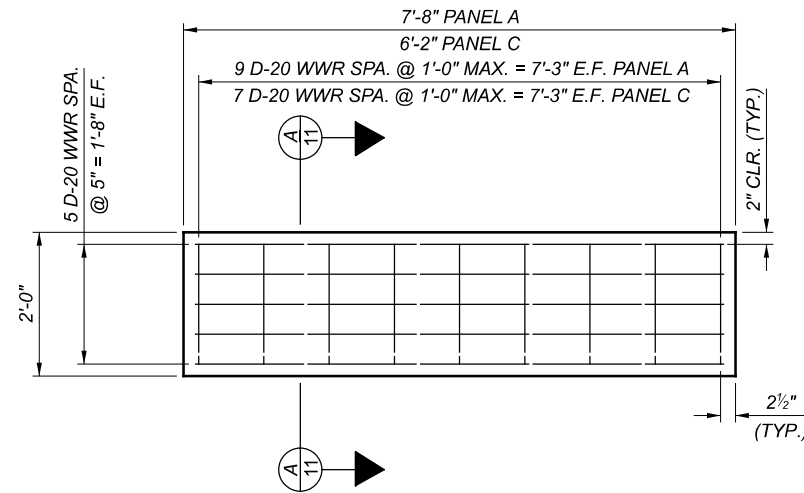
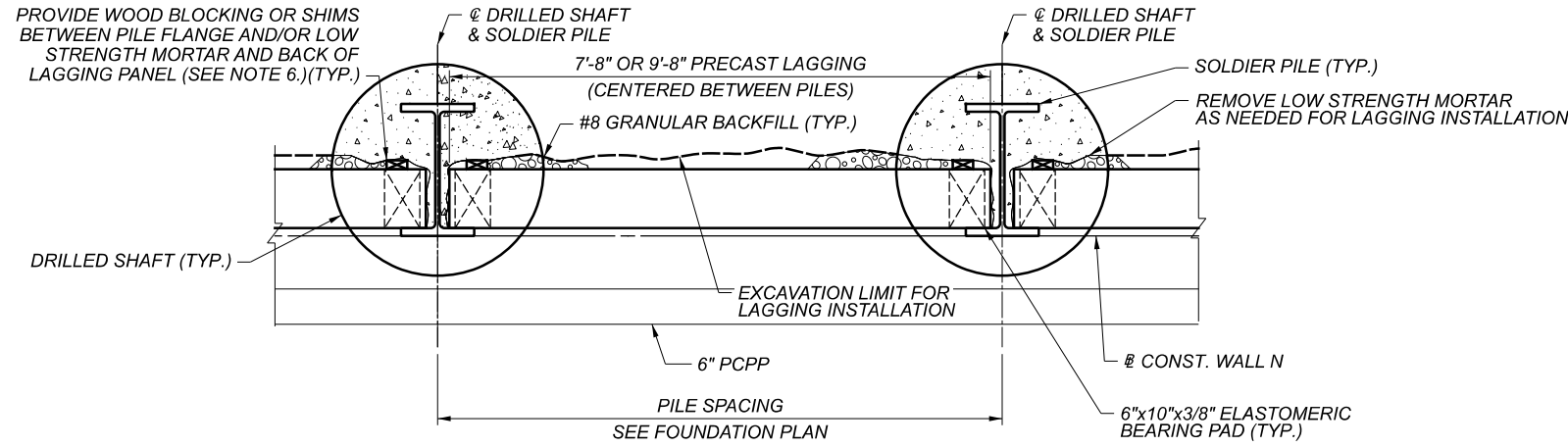


CHAIN LINK FENCE DETAIL
 (SEE PLAN AND PROFILE SHEET FOR LOCATIONS)

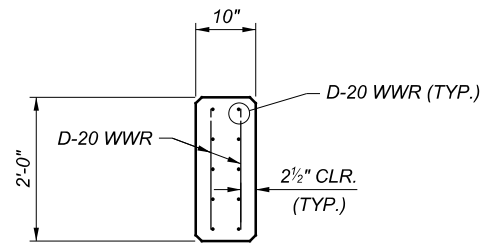
NOTES:

- MSE WALL PANELS ARE TO BE 5'-0"x5'-0", ARRANGED IN VERTICAL RUNNING BOND.
- SEE LANDSCAPE DETAILS FOR MSE PANEL AESTHETIC TREATMENT DETAILS.
- DETAILS FOR ALL VERTICAL AND LONGITUDINAL REINFORCING STEEL IN THE COPING SHALL BE INCLUDED IN THE PROPRIETARY WALL MANUFACTURER'S SHOP DRAWINGS.
- P.E.J.F. SHALL EXTEND THE FULL HEIGHT OF THE MSE WALL/WINGWALL JOINT.
- LOCATIONS OF THE MSE WALL SOIL REINFORCEMENT MUST BE KNOWN TO AVOID CONFLICTS WITH FENCE POST FOUNDATIONS. FENCE POSTS ARE TO BE PLACED SUCH THAT THEY MISS MSE WALL SOIL REINFORCEMENT LOCATIONS.

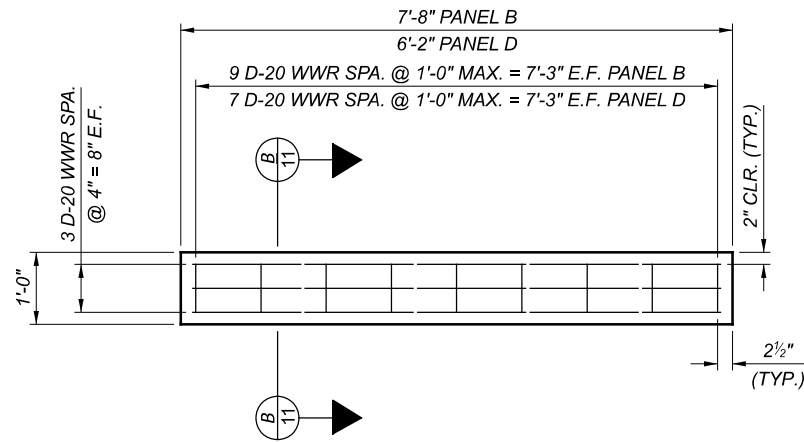
SFN	N/A
DESIGN AGENCY	
DESIGNER	SSW
CHECKER	SNO
REVIEWER	LPC
PROJECT ID	82382
SUBSET	10
TOTAL	12
SHEET	1099
TOTAL	2338



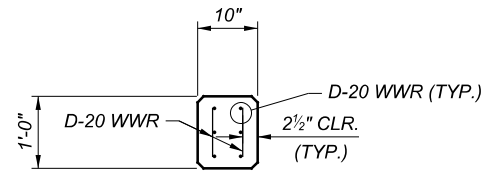
TYPE "A" & "C" PRECAST LAGGING ELEVATION



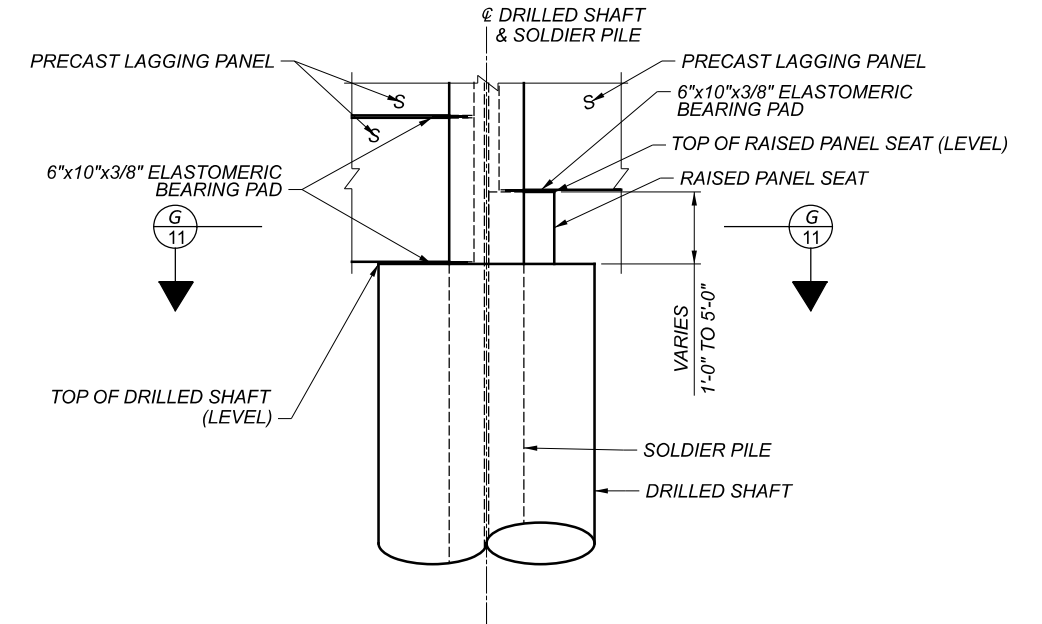
A SECTION
11



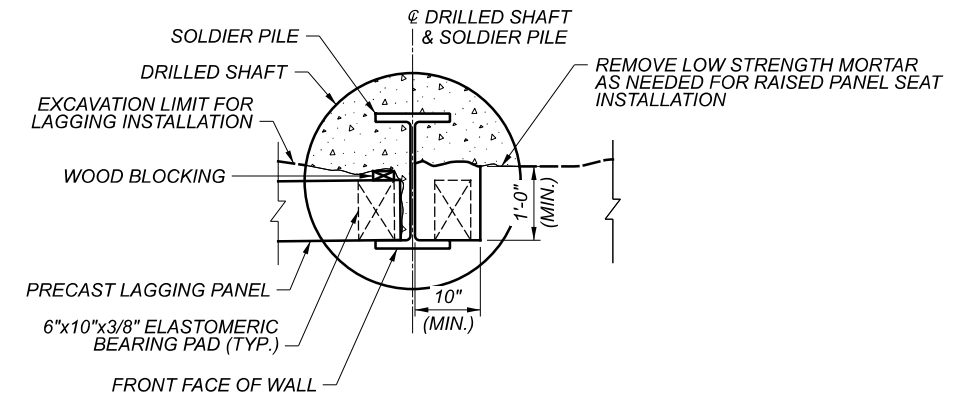
TYPE "B" & "D" PRECAST LAGGING ELEVATION



B SECTION
11



RAISED PANEL SEAT DETAIL
 LOW STRENGTH MORTAR NOT SHOWN FOR CLARITY

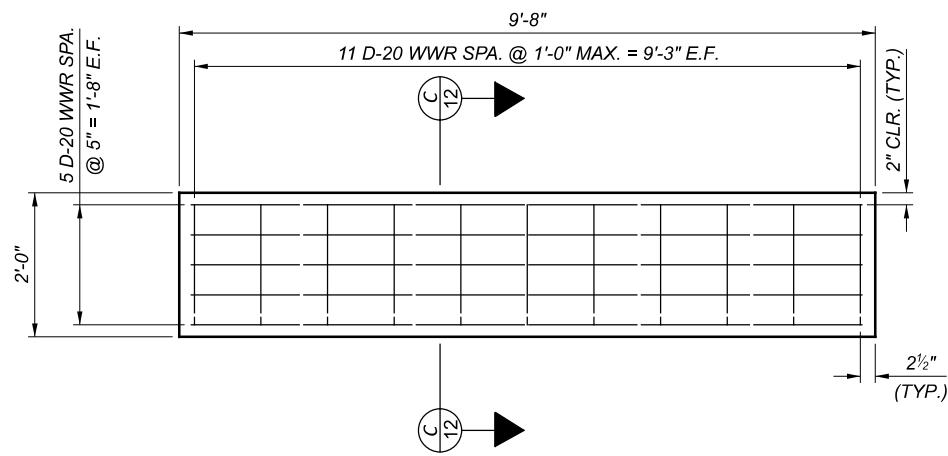


G SECTION
11

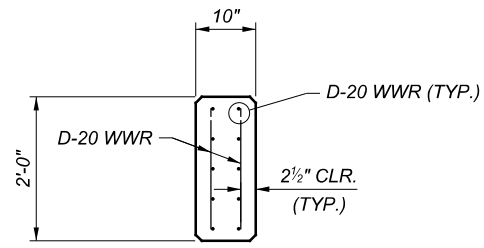
NOTES:

- ELASTOMERIC BEARING PADS SHALL BE PROVIDED AT ALL BOTTOM PANELS BETWEEN THE PANEL AND TOP OF CONCRETE DRILLED SHAFT AND/OR RAISED PANEL SEAT. THEY SHALL ALSO BE PROVIDED AT EACH END OF EACH PANEL BETWEEN PANELS.
- ELASTOMERIC BEARING PADS SHALL BE NEOPRENE ELASTOMERIC PADS HAVING DUROMETER HARDNESS OF 55 ± 5, HIGH DENSITY POLYETHYLENE PADS WITH A MINIMUM DENSITY OF 59 LB/FT³ (0.946 G/CM³) OR EQUIVALENT. SUPPLY CERTIFIED TEST DATA TO THE ENGINEER UPON DELIVERY OF THE MATERIAL TO THE PROJECT. BEARING PADS WILL BE PAID FOR UNDER ITEM 516 ELASTOMERIC BEARING PAD, MISC.: 6" x 10" x 3/8" THICK.
- REINFORCEMENT IN PRECAST LAGGING PANELS SHALL BE INCLUDED WITH ITEM 610 - RETAINING WALL MISC.: PRECAST CONCRETE LAGGING FOR PAYMENT.
- PROVIDE 1" x 1" CHAMFER AT EXPOSED TOP AND BOTTOM OF LAGGING PANELS.
- CENTER LAGGING PANELS BETWEEN PILE WEBS.
- CONTRACTOR HAS THE OPTION TO REMOVE LOW STRENGTH MORTAR AS NEEDED FOR LAGGING INSTALLATION. USE WOOD BLOCKING AND/OR SHIMS TO ENSURE LAGGING PANEL REMAINS FLUSH AGAINST BACK OF SOLDIER PILE FLANGE AT THE FRONT FACE OF WALL.

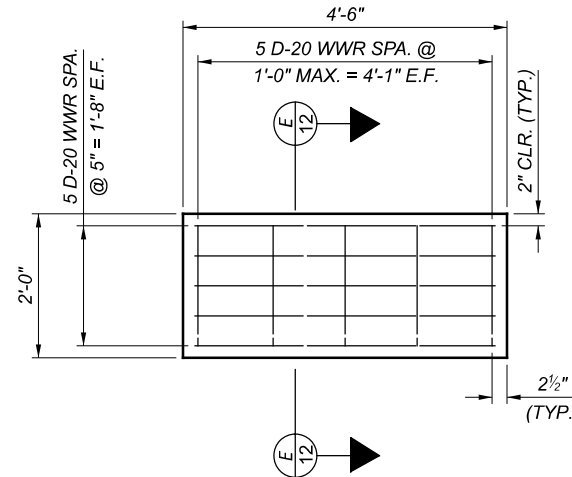
DESIGNER	SSW	CHECKER	SNO
REVIEWER	LPC	DATE	08-08-22
PROJECT ID	82382		
SUBSET	11	TOTAL	12
SHEET	1100	TOTAL	2338



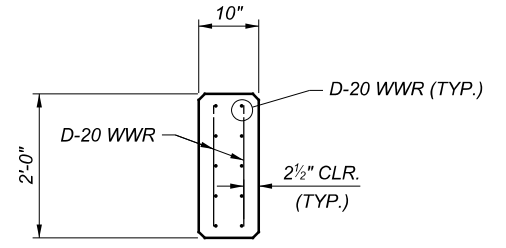
TYPE "C" PRECAST LAGGING ELEVATION



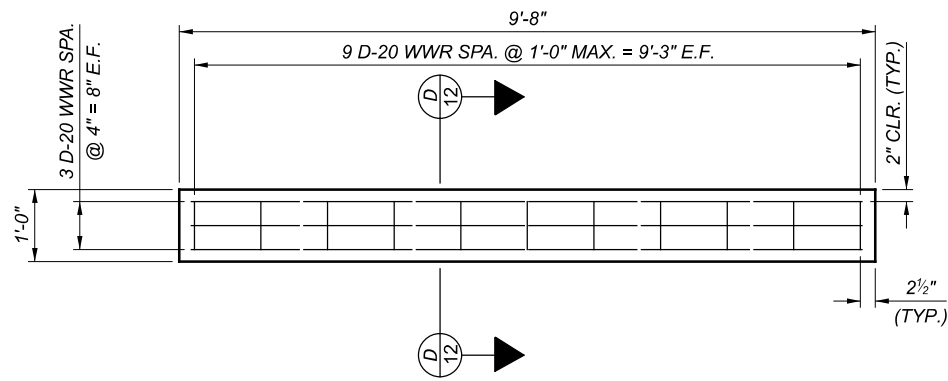
C SECTION



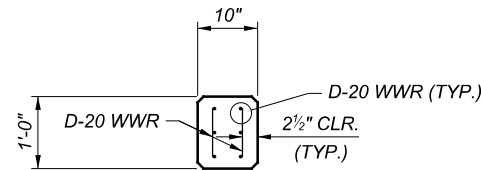
TYPE "G" PRECAST LAGGING ELEVATION



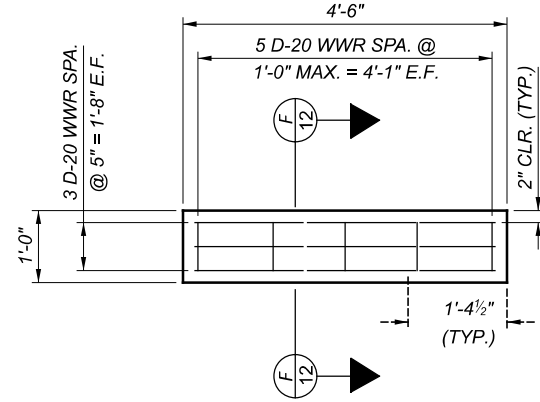
E SECTION



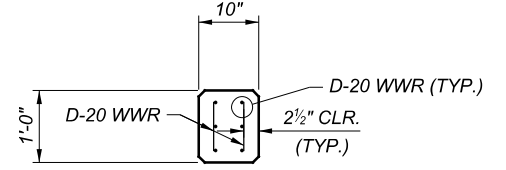
TYPE "D" PRECAST LAGGING ELEVATION



D SECTION



TYPE "H" PRECAST LAGGING ELEVATION



F SECTION

NOTES:

- ELASTOMERIC BEARING PADS SHALL BE PROVIDED AT ALL BOTTOM PANELS BETWEEN THE PANEL AND TOP OF CONCRETE DRILLED SHAFT AND/OR RAISED PANEL SEAT. THEY SHALL ALSO BE PROVIDED AT EACH END OF EACH PANEL BETWEEN PANELS.
- ELASTOMERIC BEARING PADS SHALL BE NEOPRENE ELASTOMERIC PADS HAVING DUROMETER HARDNESS OF 55 ± 5, HIGH DENSITY POLYETHYLENE PADS WITH A MINIMUM DENSITY OF 59 LB/FT³ (0.946 G/CM³) OR EQUIVALENT. SUPPLY CERTIFIED TEST DATA TO THE ENGINEER UPON DELIVERY OF THE MATERIAL TO THE PROJECT. BEARING PADS WILL BE PAID FOR UNDER ITEM 516 ELASTOMERIC BEARING PAD, MISC.: 6"x10"x 3/8" THICK.
- REINFORCEMENT IN PRECAST LAGGING PANELS SHALL BE INCLUDED WITH ITEM 610 - RETAINING WALL MISC.: PRECAST CONCRETE LAGGING FOR PAYMENT.
- PROVIDE 1" x 1" CHAMFER AT EXPOSED TOP AND BOTTOM OF LAGGING PANELS.
- CENTER LAGGING PANELS BETWEEN PILE WEBS.
- CONTRACTOR HAS THE OPTION TO REMOVE LOW STRENGTH MORTAR AS NEEDED FOR LAGGING INSTALLATION. USE WOOD BLOCKING AND/OR SHIMS TO ENSURE LAGGING PANEL REMAINS FLUSH AGAINST BACK OF SOLDIER PILE FLANGE AT THE FRONT FACE OF WALL.

SFN	N/A
DESIGN AGENCY	
DESIGNER	CHECKER
SSW	SNO
REVIEWER	
LPC	08-08-22
PROJECT ID	82382
SUBSET	TOTAL
12	12
SHEET	TOTAL
1100A	2338