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ESTIMATED ROADWAY QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
105-01	CONSTRUCTION STAKES, LINES AND GRADES	L.S.	1
1	202-01 REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.S.	1
	202-03 REMOVAL OF RIGID PAVEMENT, SIDEWALK, ETC.	S.Y.	389
2	203-01 ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	3357
3	203-06 WATER	M.G.	30
	204-08.01 BACKFILL MATERIAL (FLOWABLE FILL)	C.Y.	5
4	209-03.20 FILTER SOCK (8 INCH)	L.F.	24
4	209-05 SEDIMENT REMOVAL	C.Y.	18
4	209-09.41 CURB INLET PROTECTION (TYPE 2)	EACH	7
4	209-40.33 CATCH BASIN PROTECTION (TYPE D)	EACH	6
4	209-99.91 EROSION CONTROL	L.S.	1
5	303-01 MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	512
	303-10.01 MINERAL AGGREGATE (SIZE 57)	TON	50
	307-01.07 ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M	TON	16
	402-01 BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	1
	402-02 AGGREGATE FOR COVER MATERIAL (PC)	TON	1
	403-01 BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	2
	407-20.05 SAW CUTTING ASPHALT PAVEMENT	L.F.	120
	411-01.10 ACS MIX (PG64-22) GRADING D	TON	217
	415-01.01 COLD PLANING BITUMINOUS PAVEMENT	TON	201
15	604-01.04 1-1/2" STEEL PIPE HANDRAIL	L.F.	98
	607-03.02 18" CONCRETE PIPE CULVERT (CLASS III)	L.F.	232
	611-01.01 MANHOLES, 0' - 4' DEPTH	EACH	1
	611-09.02 REWORK CATCHBASIN	EACH	2
	611-12.01 CATCH BASINS, TYPE 12, 0' - 4' DEPTH	EACH	1
	611-43.02 CATCH BASINS, TYPE 43, > 4' - 8' DEPTH	EACH	1
16	701-01.01 CONCRETE SIDEWALK (4 ")	S.F.	2447
	701-02 CONCRETE DRIVEWAY	S.F.	182
	702-01 CONCRETE CURB	C.Y.	4.2
	702-02 CONCRETE GUTTER	C.Y.	2
	707-01.20 TEMP 6FT CHAIN LINK W/3 STRAND B. WIRE	L.F.	875
	707-01.21 TEMP END & CORNER PST ASBLY (CHN LINK 6FT W/3STR BW)	EACH	23
	707-01.22 TEMP GATE - CHAIN LINK FENCE - 6FT (16 FEET)	EACH	3
	707-01.52 GATE - CHAIN-LINK FENCE (6FT - 24' FEET TEMP.)	EACH	1

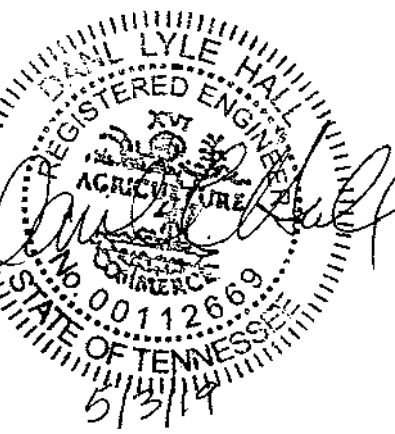
ESTIMATED ROADWAY QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
	707-06.01 REMOVAL OF FENCE (BLACK METAL ORNAMENTAL)	L.F.	299
13, 14	707-08.01 DECORATIVE ALUMINUM FENCE	L.S.	1
13, 14	707-08.02 DECORATIVE ALUMINUM GATES- DOUBLE SWING	L.S.	1
13, 14	707-08.03 DECORATIVE STEEL GATES- DOUBLE SWING	L.S.	1
	707-08.11 HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.	715
	712-01 TRAFFIC CONTROL	L.S.	1
6	712-02.02 INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	270
6	712-04.01 FLEXIBLE DRUMS (CHANNELIZING)	EACH	17
6, 7	712-04.50 PORTABLE BARRIER RAIL DELINEATOR	EACH	15
6	712-05.01 WARNING LIGHTS (TYPE A)	EACH	20
6	712-05.03 WARNING LIGHTS (TYPE C)	EACH	12
8	712-06 SIGNS (CONSTRUCTION)	S.F.	465
6	712-07.03 TEMPORARY BARRICADES (TYPE III)	L.F.	444
	712-09.01 REMOVABLE PAVEMENT MARKING LINE	L.F.	1725
	712-09.02 REMOVABLE PAVEMENT MARKING (8" BARRIER LINE)	L.F.	100
	713-13.02 FLAT SHEET ALUMINUM SIGNS (0.080" THICK)	S.F.	3
	713-15 REMOVAL OF SIGNS, POSTS AND FOOTINGS	L.S.	1
9	714-02.02 ENCASED CONDUIT (2" PVC, SCHEDULE 40)	L.F.	30
	714-05.46 WOOD POLE (30 FT)	EACH	6
	714-06.05 CABLE (1/C #6 AWG)	L.F.	1800
	714-06.06 CABLE (1/C #4 AWG)	L.F.	1830
9	714-08.09 LIGHT STANDARDS (DECORATIVE - BRIDGE MOUNT)	EACH	12
9	714-09.09 LUMINAIRES (LED POSTTOP - 60W)	EACH	12
9	714-09.10 LUMINAIRES (LED ROADWAY - 56W)	EACH	7
	714-10.01 OVERHEAD CONDUCTORS #6 DUPLEX	L.F.	255
	714-25 ELECTRICAL CONNECTION	EACH	1
10	716-02.03 PLASTIC PAVEMENT MARKING (CROSS-WALK)	L.F.	31
10	716-02.04 PLASTIC PAVEMENT MARKING (CHANNELIZATION STRIPING)	S.Y.	26
10	716-02.05 PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	50
10	716-02.09 PLASTIC PAVEMENT MARKING (LONGITUDINAL CROSS-WALK)	L.F.	60
	716-04.12 PLASTIC PAVEMENT MARKING (YIELD LINE)	S.F.	5
11	716-05.01 PAINTED PAVEMENT MARKING (4" LINE)	L.M.	0.4
	716-05.02 PAINTED PAVEMENT MARKING (8" BARRIER LINE)	L.F.	92
	716-05.20 PAINTED PAVEMENT MARKING (6" LINE)	L.M.	0.25
	716-08.01 REMOVAL OF PAVEMENT MARKING (LINE)	L.F.	155
	716-13.06 SPRAY THERMO PVMT MRKNG (40 mil) (4IN LINE)	L.M.	0.22
12	717-01 MOBILIZATION	L.S.	1
	725-24.55 AS-BUILT PLANS	L.S.	1
	790-70.20 STREET LIGHT (POST MOUNTED LUMINAIRE)	EACH	12
17	920-10.02 STAMPED CONCRETE PAVEMENT (8" THICK)	S.Y.	643
15	920-10.04 METAL WINDOW BAR ASSEMBLIES	EACH	14
13, 15	920-11.04 HOLLOW METAL DOOR AND FRAME ASSEMBLY - SINGLE SWING	EACH	4
13, 15	920-12.04 HOLLOW METAL DOOR AND FRAME ASSEMBLY - DOUBLE SWING	EACH	1

FOOTNOTES

- INCLUDES BUT NOT LIMITED TO POWER POLES, POWER/LIGHT POLES, CATCH BASINS, STORM MANHOLES AND CURB. REFER TO SPECIAL NOTES. SHEET C5.2.
- QUANTITIES TO BE INCREASED OR DECREASED AS DIRECTED BY THE CITY OF KNOXVILLE ENGINEERING DEPARTMENT.
- SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT AS DIRECTED BY THE ENGINEER.
- INCLUDES 200 TONS FOR MAINTENANCE OF TRAFFIC.
- MAXIMUM ESTIMATED QUANTITY REQUIRED. NO SEPARATE PAYMENT WILL BE MADE FOR RELOCATION AND REUSE. COST SHALL BE INCLUDED IN ITEM 712-01 TRAFFIC CONTROL.
- SPACING OF THESE DELINEATORS SHALL BE 20 FEET MAXIMUM.
- SEE SHEETS C14.2 AND C15.0 - C15.1 FOR CONSTRUCTION SIGN LOCATIONS. SEE SHEET SL2.0 FOR FOOTNOTES.
- CONTRACTOR MAY ELECT TO SUBSTITUTE PREFORMED PLASTIC FOR THERMOPLASTIC. PREFORMED PLASTIC SHALL BE PAID FOR AT THE SAME UNIT PRICE AS BID FOR THERMOPLASTIC.
- FOR TEMPORARY PAVEMENT MARKINGS ON INTERMEDIATE LAYERS.
- ITEM INCLUDES LITTER AND TRASH REMOVAL. THIS WORK WILL NOT BE MEASURED AND PAID FOR DIRECTLY BUT WILL BE INCLUDED IN THE COST OF ITEM 717-01, MOBILIZATION.
- INCLUDES ALL GATE/DOOR HARDWARE REQUIRED
- INCLUDES CONCRETE FOUNDATION TO RECEIVE A POWDER COATED FINISH.
- SIDEWALK SHALL BE COLORED CONCRETE TO MATCH EXISTING SIDEWALK OF THE 100 BLOCK OF GAY STREET.
- CONCRETE PAVEMENT SHALL BE STAMPED AND COLORED TO LOOK LIKE THE EXISTING BRICK PAVERS ON RAMP.

NO.	DATE	DESCRIPTION
1	5-03-19	



JACKSON AVENUE BRIDGES
OVER RAMP TO GAY STREET

CITY OF KNOXVILLE
KNOX COUNTY, TN.



KENTUCKY
606-248-6600

TENNESSEE
865-546-5800

NORTH CAROLINA
828-253-2796

SOUTH CAROLINA
864-574-4775

GEORGIA
770-627-3590

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DRAWN:	DRF
CHECKED:	JMM
CK JOB NO:	12A-B-0522
VM JOB NO:	50820-56
SCALE:	NO SCALE
DATE:	03-09-2018
DRAWING TITLE:	ESTIMATED ROADWAY QUANTITIES

DRAWING NO:
C3.0

ESTIMATED STRUCTURES QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
202-01.02	REMOVAL OF ASBESTOS	L.S.	1
1 202-04.01	REMOVAL OF STRUCTURES (BR. NO. 47-C899-00.01, STA. 40+23.86 to 43+05.41)	L.S.	1
2 202-04.02	REMOVAL OF STRUCTURES (BR. NO. 47-C899-00.03, STA. 43+95.46 to 46+95.60)	L.S.	1
204-04.10	STRUCTURE EXCAVATION UNCLASSIFIED	C.Y.	632
7, 13 204-05.01	CORE DRILLING AND SAMPLING	L.F.	690
4 204-10.30	FOUNDATION PREPARATION	L.S.	1
26 303-01.03	GRANULAR BACKFILL (RETAINING WALLS)	TONS	1901
29 604-01.54	SLAB-ON-GRADE	S.F.	7930
604-02.03	EPOXY COATED REINFORCING STEEL	LB.	96300
8, 17, 20 604-03.01	CLASS A CONCRETE (BRIDGES)	C.Y.	435.1
604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	75300
604-03.02	STEEL BAR REINFORCEMENT (FOOTINGS AND FALSE COLUMNS)	LB.	10900
8, 20 604-03.04	PAVEMENT @ BRIDGE ENDS	S.Y.	118
604-03.07	CLASS A CONCRETE (FOOTINGS AND FALSE COLUMNS)	C.Y.	137.6
17, 20, 27 604-03.08	CLASS A CONCRETE (RETAINING WALL)	C.Y.	709.5
7, 20 604-03.09	CLASS D CONCRETE (BRIDGE DECK)	C.Y.	496.8
19 604-04.02	APPLIED TEXTURE FINISH (SANDBLASTING)	S.Y.	786
604-05.31	BRIDGE DECK GROOVING (MECHANICAL)	S.Y.	76
604-07.28	RETAINING WALL EXCAVATION	C.Y.	1592
604-10.43	PENETRATING WATER REPELLENT CONCRETE SEAL	S.Y.	109
9, 12, 21 604-11.01	EXPANSION DEVICE (2" STRIPSEAL EXP. JT.)	L.F.	144
606-28.05	TEST PILES (9 5/8" x 3/8" MICROPILE)	L.F.	274
24, 25 606-29.01	MICROPILE (9 5/8" x 3/8" MICROPILE)	L.F.	5841
23 606-29.02	PROOF LOADING TEST (9 5/8" x 3/8" MICROPILE)	EACH	10
11 610-07.03	18" PIPE DRAIN (BRIDGE DRAIN)	L.F.	310
613-02	BRICK MASONRY	MBRK	22.75
28 613-02.01	12" REINFORCED CONCRETE MASONRY UNITS	S.F.	3250
10 615-02.37	PRESTRESSED CONCRETE BOX BEAM (30" X 36")	L.F.	1188.1
620-03.10	CONCRETE PARAPET (TEXAS CLASSIC)	L.F.	582.3
22 620-15	HANDRAIL ASSEMBLY (SAFETY RAILING FOR FIRE ALLEY)	L.F.	12
624-03.01	RETAINING WALL REINFORCING STEEL	LB.	81900
14 625-02.01	DRILLED SHAFT-SOIL (42")	V.F.	429
14 625-02.14	DRILLED SHAFT-ROCK (42")	V.F.	160
625-02.40	DRILLED SHAFT CONCRETE	C.Y.	211.7
16 625-02.44	DRILLED SHAFT REINFORCING STEEL	LB.	64700
15 625-02.46	SONIC LOGGING TESTING	EACH	20
3 714-01	STRUCTURAL LIGHTING	L.S.	1
5 714-08.34	REMOVAL OF LIGHT STANDARD	EACH	1
717-01.04	MOBILIZATION (MICROPILE)	L.S.	1
908-21.01	BEARINGS (1/2" X 6" X 24" ELASTOMERIC)	EACH	8
18 920-02.08	BRICK PAVING	S.F.	5310
920-10.01	REMOVAL AND STOCKPILING OF EXISTING BRICK PAVERS	S.F.	12562

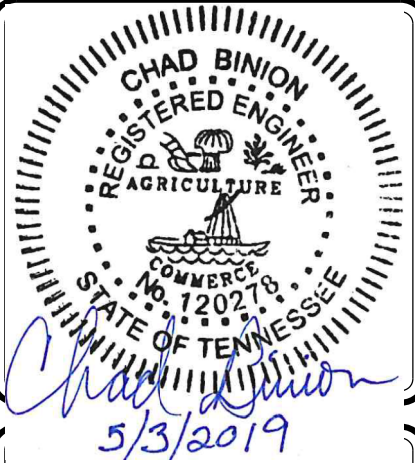
FOOTNOTES

- LUMP SUM: REMOVAL OF ENTIRE EAST STRUCTURE. EAST RAMP CONSISTS OF 16 CONTINUOUSLY SUPPORTED CAST-IN-PLACE GIRDER SPANS. LENGTH 222.4' WITH 22' MAXIMUM OUT-TO-OUT WIDTH. 17 CONCRETE CAP BENTS. SUBSTRUCTURES TO BE REMOVED TO ONE FOOT BELOW PROPOSED GROUND LEVEL. FOR ANY EXISTING SUBSTRUCTURES LOCATED WHERE PROPOSED SUBSTRUCTURES ARE TO BE LOCATED, THE ENTIRE FOOTING SHALL BE REMOVED BEFORE BEGINNING CONSTRUCTION OF THE NEW STRUCTURE.
- LUMP SUM: REMOVAL OF ENTIRE WEST STRUCTURE. WEST RAMP CONSISTS OF 19 CONTINUOUSLY SUPPORTED CAST-IN-PLACE GIRDER SPANS. LENGTH 253.5' WITH 22' MAXIMUM OUT-TO-OUT WIDTH. 20 CONCRETE CAP BENTS. SUBSTRUCTURES TO BE REMOVED TO ONE FOOT BELOW PROPOSED GROUND LEVEL. FOR ANY EXISTING SUBSTRUCTURES LOCATED WHERE PROPOSED SUBSTRUCTURES ARE TO BE LOCATED, THE ENTIRE FOOTING SHALL BE REMOVED BEFORE BEGINNING CONSTRUCTION OF THE NEW STRUCTURE.
- LUMP SUM FOR STRUCTURE LIGHTING, ITEM NO.714-01.01 INCLUDES 583 FT. 2" DIA. PVC SCHEDULE 40 CONDUIT WITH PULL WIRES, 4 JUNCTION BOXES, 48 ANCHOR BOLTS AND ALL NECESSARY MATERIALS FOR INSTALLATION OF STRUCTURE LIGHTING.
- SEE FOUNDATION PREPARATION NOTE ON THE GENERAL NOTES SHEET FOR EACH STRUCTURE.
- REMOVAL OF LIGHT STANDARD BID ITEM INCLUDES ALL WORK NECESSARY FOR THE REMOVAL OF EXISTING LIGHTING COMPONENTS FOR THE ENTIRE PROJECT.
- TO RECEIVE A POWDER COATED FINISH.
- CONCRETE SURFACE SHALL BE STAMPED AND COLORED TO LOOK LIKE THE EXISTING BRICK PAVERS ON RAMP.
- PRIOR TO CONSTRUCTION OF THE PAVEMENT AT BRIDGE ENDS, THE CONTRACTOR SHALL SUBMIT A PROPOSED BILL OF STEEL TO THE ENGINEER FOR APPROVAL.
- THE PRICE BID FOR ROADWAY EXPANSION DEVICES TO INCLUDE THE OF 98 S.Y OF CONCRETE SEAL REQUIRED. SEE GENERAL NOTES FOR DESCRIPTION OF CONCRETE SEAL.
- COST OF ELASTOMERIC PADS AND RUBBER BONDING CEMENT TO BE INCLUDE IN THE UNIT PRICE BID FOR THE PRESTRESSED BEAM.
- COST OF MECHANICAL COUPLERS, FITTINGS, EXCAVATION, AND BACKFILLING SHALL BE INCIDENTAL TO THE COST OF ITEM 610-07.03, 18" PIPE DRAIN (BRIDGE DRAIN).
- THE EXPANSION JOINT AT EACH END OF THE BRIDGE SHALL BE IN ACCORDANCE WITH SECTION 623.03 OF THE STANDARD SPECIFICATIONS. THE TOTAL REQUIRED MOVEMENT IS 3/4 INCH. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF STRUCTURES FOR APPROVAL.
- SEE ARTICLE 625.31 OF THE SPECIAL PROVISIONS. THE INTENT IS FOR THE CORE DRILLING AND SAMPLING TO BE PERFORMED PRIOR TO SHAFT DRILLING, SUBJECT TO THE APPROVAL FROM THE GEOTECHNICAL DIVISION ENGINEER. THESE CORES ARE TO BE USED TO PRE-DETERMINE ACCEPTABLE SHAFT TIP ELEVATIONS. CORES SHALL EXTEND 10' BELOW ESTIMATED TIP ELEVATIONS SHOWN ON THE PLANS. 1 CORE IS REQUIRED PER SHAFT.
- THE COST OF THE FOLLOWING ITEMS IS TO BE INCLUDED IN THE UNIT BID PRICE FOR ITEMS 625-02.01 AND 625-02.14.
 - DRILLING THE SHAFT
 - CLEANING AND INSPECTING THE SHAFT
 - INSTALLATION OF ALL CASING
 - INSTALLATION OF 1 1/2" DIAMETER PIPES IN SHAFTS FOR CSL TESTING (4 CSL TUBES ARE REQUIRED PER SHAFT).
- THE CSL TESTING FIRM MUST BE PRESENT FOR ALL SHAFT POURS.
- THE CONTRACTOR SHALL HAVE THE STABILITY OF THE SHAFT CAGE VERIFIED BY AN ENGINEER LICENSED IN TENNESSEE.
- THE COST OF BITUMINOUS-FIBERBOARD AND ALL MISCELLANEOUS EXPANSION JOINT MATERIAL TO BE INCLUDED IN THE UNIT PRICE BID FOR CLASS A CONCRETE (BRIDGES).
- BRICK PAVERS SHALL BE PROVIDED FROM PAVERS REMOVED AND STOCKPILED FROM THE EXISTING BRIDGE DECK. SEE PAY ITEM NUMBER 920-10.01, REMOVAL & STOCKPILING OF EXISTING BRICK PAVERS, ON SHEET S0.1. PATTERN SHALL MATCH EXISTING PATTERN OF THE BRICK PAVERS AND PLACED WITH UNWORN SIDE UP.
- SANDBLASTING SHALL NOT COMMENCE UNTIL 21 DAYS AFTER THE CONCRETE HAS BEEN PLACED. WHEN CARRYING OUT ANY SANDBLASTING OPERATION, THE CONTRACTOR SHALL TAKE SUITABLE PROTECTIVE MEASURES TO ENSURE THAT NO DAMAGE OCCURS TO ANY PORTION OF THE BARRIER. THE TEXTURE OF THE SANDBLASTED FINISH SHALL BE DETERMINED FROM TRIAL SANDBLASTING OF AREAS OF THE WORK. AS A GENERAL GUIDE, SANDBLASTING SHALL BE SUCH AS TO EXPOSE THE COARSE AGGREGATE WITH A TEXTURE DEPTH OF NO MORE THAN 1#8 INCH. UPON COMPLETION OF THE SANDBLASTING, THE BLASTED SURFACE AND ADJACENT AREAS SHALL BE WASHED DOWN WITH A HIGH PRESSURE JET TO REMOVE LOOSE SAND AND BLASTING DEBRIS.

FOOTNOTES

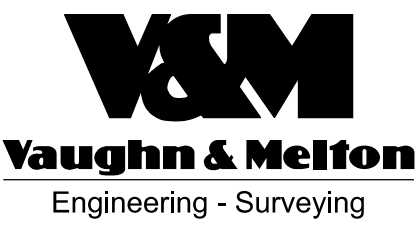
- CONCRETE SURFACE SHALL BE STAMPED AND COLORED TO LOOK LIKE THE EXISTING BRICK PAVERS ON RAMP.
- THE PRICE BID FOR ROADWAY EXPANSION DEVICES TO INCLUDE THE OF 98 S.Y OF CONCRETE SEAL REQUIRED. SEE GENERAL NOTES FOR DESCRIPTION OF CONCRETE SEAL.
- THE NEW SAFETY RAILING SHALL BE SIMILAR IN APPEARANCE TO THE EXISTING RAILING. MAINTAIN A 2" GAP BETWEEN THE BOTTOM RAIL OF THE ASSEMBLY AND SIDEWALK. IT SHALL RECEIVE A POWDER COATED FINISH. THE NEW RAILING SHALL BE SUPPORTED ONLY BY THE BRIDGE, DO NOT ATTACH TO THE EXISTING BUILDINGS. SHOP DRAWINGS SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER BEFORE INSTALLATION.
- MICROPILE TESTING. THE MICROPILE SYSTEM SHALL BE PERFORMANCE AND PROOF TESTED IN ACCORDANCE WITH ASTM D1143 QUICK METHOD, D1389 AND D3966 FOR COMPRESSION, LATERAL, OR TENSILE PERFORMANCE. PERFORMANCE TESTING SHALL BE CONDUCTED ON 5% OF THE MICROPILES OR A MAXIMUM OF (10) MICROPILES, WHICHEVER IS GREATER TO ALLOW EVALUATION OF LOAD-DEFLECTION BEHAVIOR.
- THE COST OF THE FOLLOWING ITEMS IS TO BE INCLUDED IN THE UNIT BID PRICE FOR 9 5/8" X 3/8" MICROPILE (LF).
 - BOTH COMMON AND ROCK DRILLING TO A SUBSTANTIAL EMBEDDED DEPTH INTO A BONDED ZONE FOR SUFFICIENT VERTICAL AND LATERAL SUPPORT. AVERAGE COMMON DRILLED LENGTH PER MICROPILE IS 25 FEET. AVERAGE ROCK DRILLED LENGTH PER MICROPILE IS 8 FEET.
 - MICROPILES SHALL BE FULLY CASING WITH A 9 5/8" DIAMETER X 3/8" THICK CASING.
 - FURNISHING OF ALL MATERIALS NECESSARY TO COMPLETE THE WORK, INCLUDING MICROPILE CASING (80 KSI MINIMUM YIELD STRENGTH), REINFORCING STEEL(75 KSI MAXIMUM YIELD STRENGTH TO MAINTAIN STRAIN COMPATIBILITY WITH GROUT COMPRESSION), CONNECTION NUTS AND WASHERS, MICROPILE GROUT, CORROSION PROTECTION, CENTRALIZERS, AND ANY OTHER MATERIAL NEEDED BY MICROPILE MANUFACTURER TO COMPLETE THE WORK. GROUT SHALL CONSIST OF A NEAT CEMENT MIXTURE WITH WATER/CEMENT RATIO BETWEEN 0.35 AND 0.45 TO PRODUCE A HARDENED MORTAR COMPRESSIVE STRENGTH OF 4,000 psi AT TIME OF PERFORMANCE AND PROOF LOAD TESTING.
 - INSTALLATION OF MICROPILES ACCORDING TO MICROPILE CONSULTANT FURNISHING THE MICROPILES AND DETAILS PROVIDED WITHIN CONTRACT DOCUMENTS.
- THE MICROPILE CONSULTANT FIRM MUST BE PRESENT DURING INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN A MICROPILE CONSULTANT WITH A MINIMUM OF 10 YEARS DEMONSTRATED EXPERIENCE IN MICROPILE INSTALLATION. CONTRACTOR SHALL SUBMIT REFERENCE FOR DEMONSTRATED EXPERIENCE WITH BID.
- GRANULAR BACKFILL SHALL BE CLASS "A" GRADING "D" MATERIAL AND CONSOLIDATED WITH A LIGHT DUTY (HAND HELD) TAMPING MACHINE IN 6" LAYERS AND IN ACCORDANCE WITH SECTION 204.10 OF THE STANDARD SPECIFICATIONS. ALLOW 7 DAYS BEFORE BACKFILLING BEHIND THE WALL OR UNTIL CONCRETE HAS OBTAINED AT LEAST 0.85 fc. SEE STANDARD DRAWING STD-10-1.
- THE COST OF APPLYING RUSTICATION JOINTS ON THE OPEN FACE OF THE RETAINING WALL, INCLUDING ALL LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CLASS "A" CONCRETE (RETAINING WALL). REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFIC SIZE AND SPACING DETAILS.
- PAY ITEM FOR 12" CONCRETE MASONRY SHALL INCLUDE THE 12" MASONRY UNITS, REINFORCING AND DOWEL BARS, LINTELS, BOND BEAMS, CONSTRUCTION FOR OPENINGS, AND ANY OTHER ITEMS NECESSARY TO COMPLETE THE CONSTRUCTION ACCORDING TO THE CONTRACT DOCUMENTS.
- PAY ITEM FOR SLAB-ON-GRADE SHALL INCLUDE QUANTITIES FOR BOTH THE SLAB-ON-GRADE AND THE STAIRS BENEATH THE RAMP. ITEMS SHALL INCLUDE CLASS "D" CONCRETE, REINFORCING BARS, VAPOR BARRIER, AND CAPILLARY WATER BARRIER. PAY ITEM ALSO INCLUDES THE ITEMS AND LABOR NECESSARY TO COMPLETE THE WORK, INCLUDING CONSTRUCTION/CONTROL JOINTS AND FINISHING.

NO.	DATE	DESCRIPTION
1	5-3-19	ADDENDUM 2



**JACKSON AVENUE BRIDGES
OVER RAMP TO GAY STREET**

CITY OF KNOXVILLE
KNOX COUNTY, TN.



KENTUCKY
606-248-6600

TENNESSEE
865-546-5800

NORTH CAROLINA
828-253-2796

SOUTH CAROLINA
864-574-4775

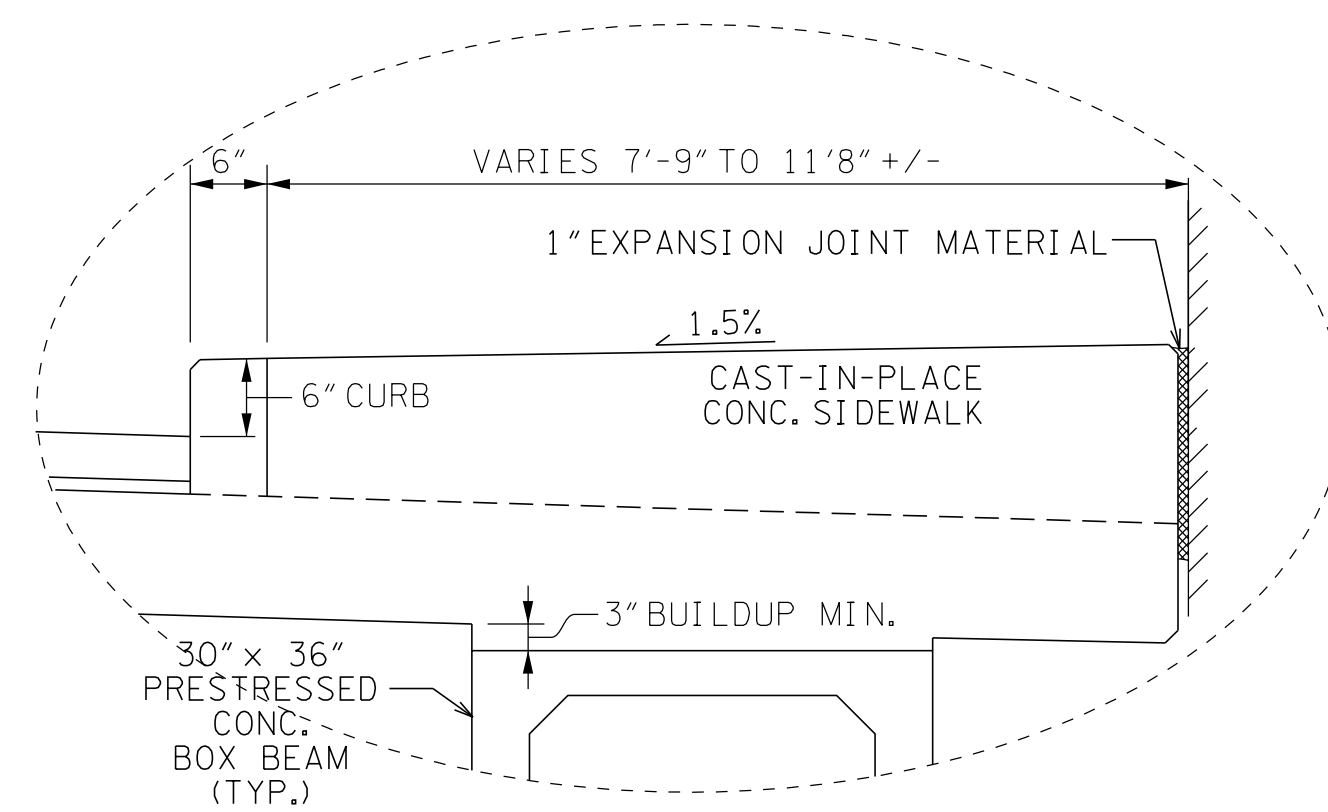
GEORGIA
770-627-3590

www.vaughnmelton.com

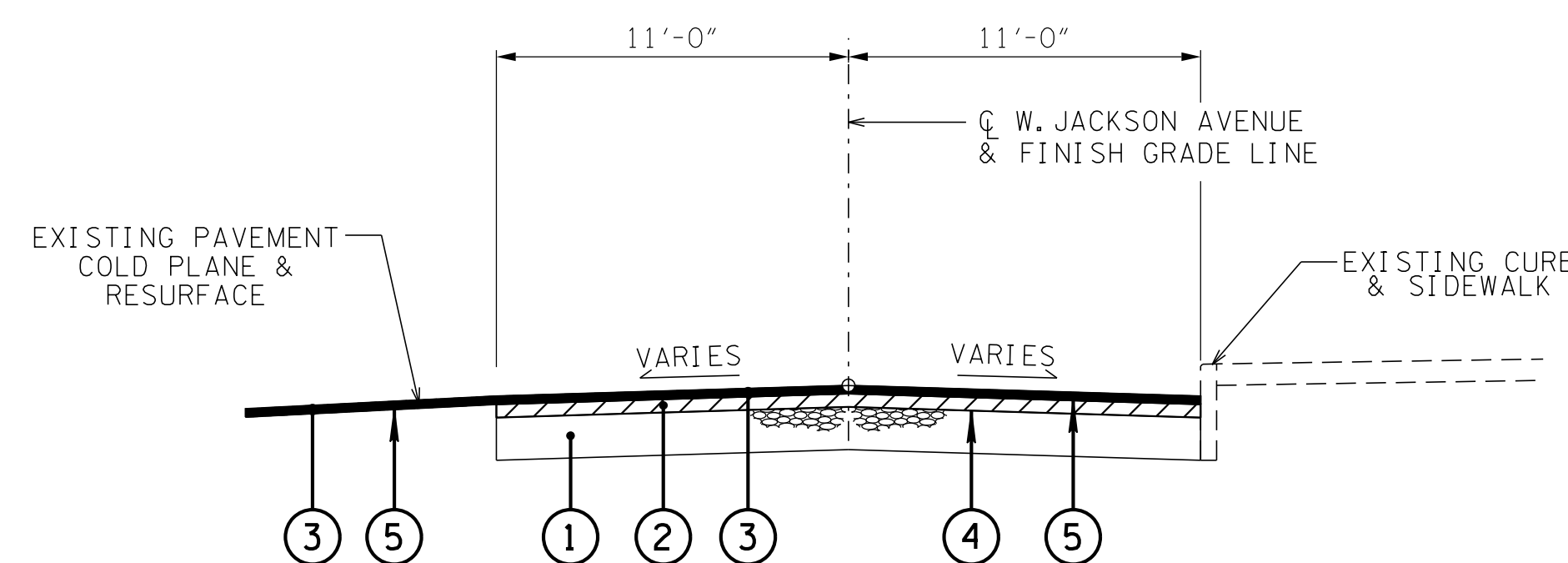
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DRAWN:	JEW
CHECKED:	CB
CK JOB NO:	12A-B-0522
VM JOB NO:	50820-56
SCALE:	NO SCALE
DATE:	03-09-2018
DRAWING TITLE:	ESTIMATED STRUCTURES QUANTITIES
DRAWING NO:	C3.1

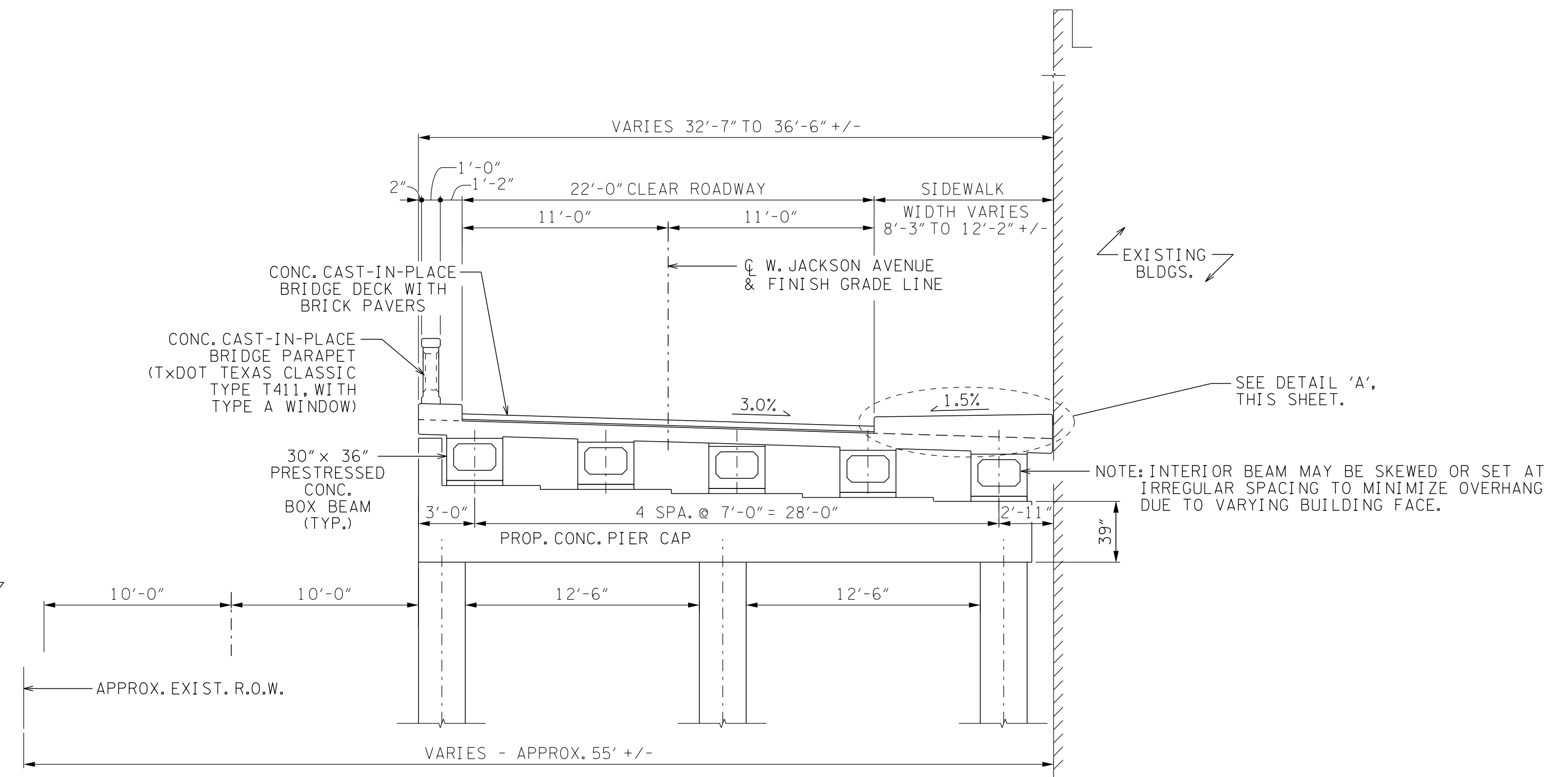
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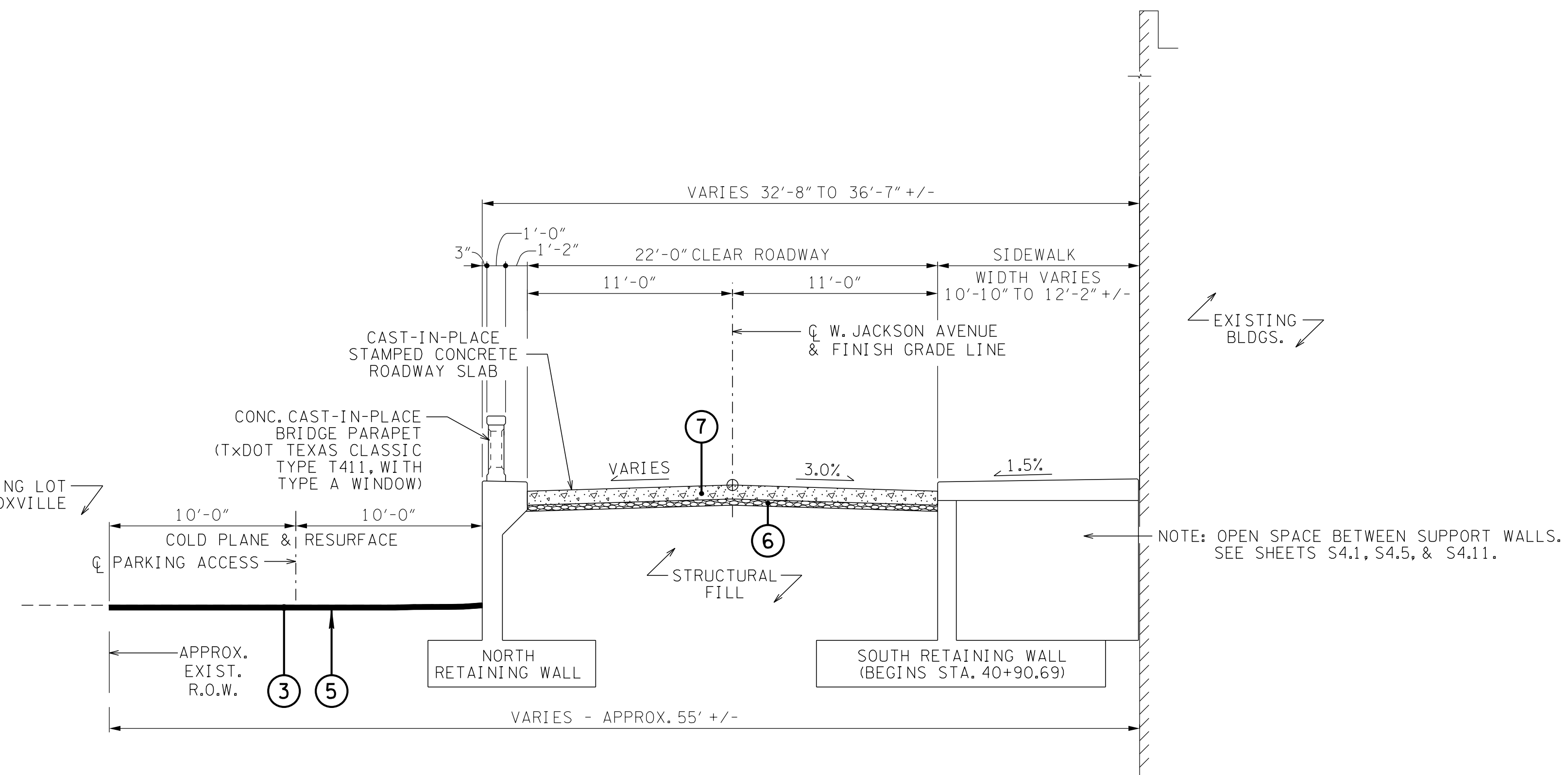
DETAIL 'A'
NOT TO SCALE



PROPOSED SECTION - JACKSON AVENUE
NOT TO SCALE
STA. 39+94.45 TO STA. 40+23.87
STA. 46+95.60 TO STA. 47+37.28



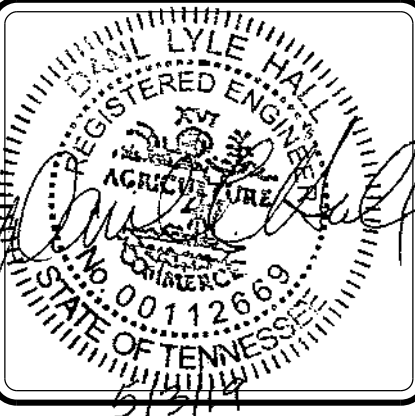
PROPOSED SECTION - JACKSON AVENUE WEST RAMP BOX BEAM BRIDGE
NOT TO SCALE
STA. 41+79.69 TO STA. 43+05.41
(SEE S1 SECTION OF STRUCTURAL PLANS FOR DETAILS)



PROPOSED SECTION - JACKSON AVENUE WEST RAMP RETAINED FILL
NOT TO SCALE
STA. 40+23.87 TO STA. 41+79.69
(SEE S4 SECTION OF STRUCTURAL PLANS FOR DETAILS)

PROPOSED PAVEMENT SCHEDULE	
①	MINERAL AGGREGATE BASE 303-01 MINERAL AGGREGATE, TYPE A BASE, GRADING D 8" THICK
②	BITUMINOUS PLANT MIX BASE (HOT MIX) 307-01.07 ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M 1 1/2" THICK (WEIGHS 159 LBS. / S.Y.)
③	ASPHALTIC CONCRETE SURFACE 411-01.10 ACS MIX (PG64-22) GRADING D 1 1/2" THICK (WEIGHS 159 LBS. / S.Y.)
④	PRIME COAT 402-01 BITUMINOUS MATERIAL FOR PRIME COAT (PC) RATE 0.30 - 0.35 GAL. / SQ. YD. 402-02 AGGREGATE FOR COVER MATERIAL (PC) RATE 10 LB. / SQ. YD.
⑤	TACK COAT 403-01 BITUMINOUS MATERIAL FOR TACK COAT (TC) RATE 0.05 - 0.10 GAL. / SQ. YD. (GENERAL USE) RATE 0.08 - 0.12 GAL. / SQ. YD. (MILLING - COLD PLANE)
⑥	MINERAL AGGREGATE BASE 303-01 MINERAL AGGREGATE, TYPE A BASE, GRADING D 4" THICK
⑦	STAMPED CONCRETE PAVEMENT 920-10.02 STAMPED CONCRETE PAVEMENT 8" 8" THICK

NO.	DATE	DESCRIPTION
1	5-03-19	ADDENDUM 2



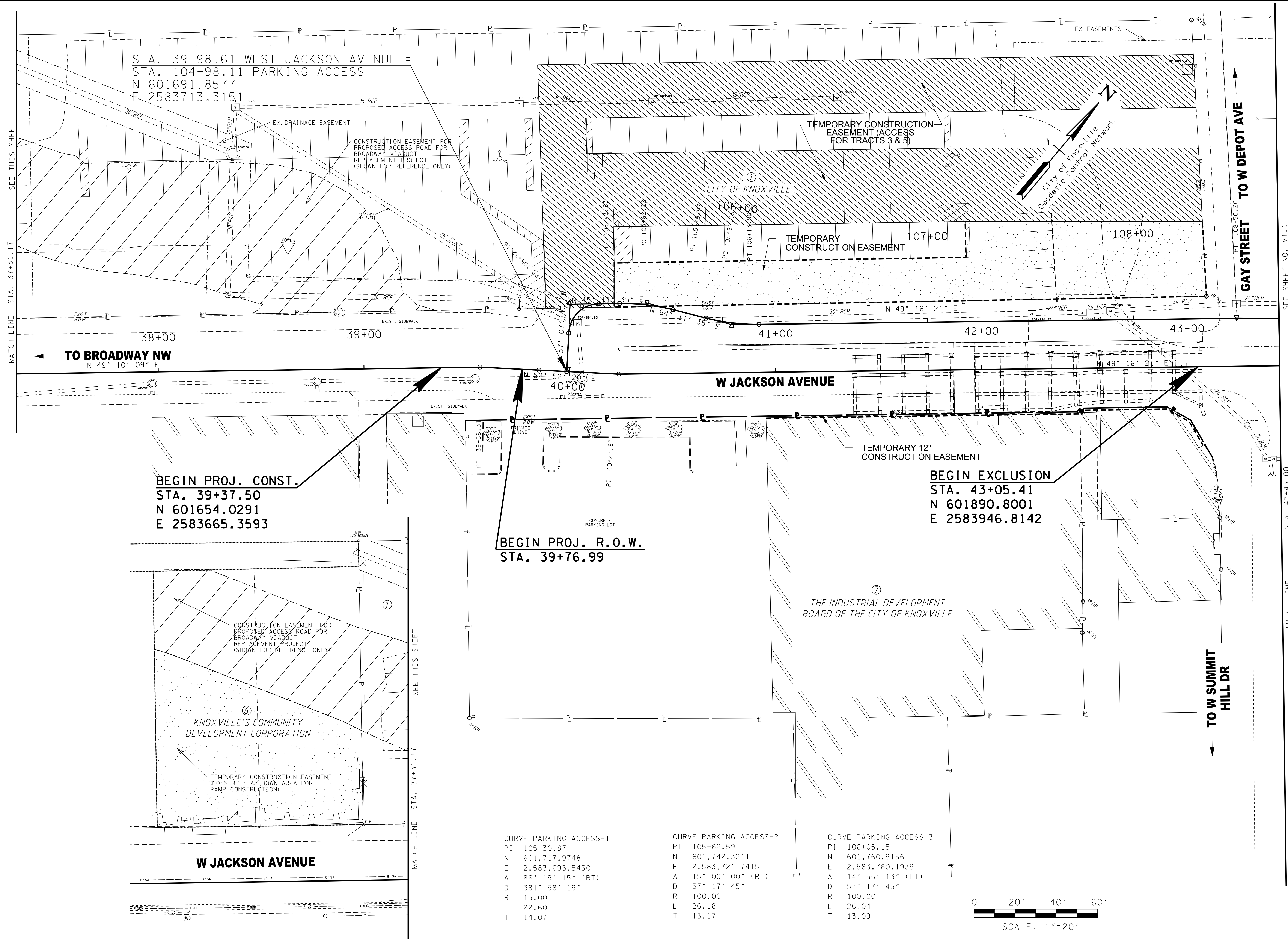
**JACKSON AVENUE BRIDGES
OVER RAMP TO GAY STREET**
CITY OF KNOXVILLE
KNOX COUNTY, TN.

V&M
Vaughn & Melton
Engineering - Surveying
KENTUCKY 606-248-6600
TENNESSEE 865-546-5800
NORTH CAROLINA 828-253-2796
SOUTH CAROLINA 864-574-4775
GEORGIA 770-627-3590
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DRAWN:	CSE
CHECKED:	MEG
CHK JOB NO:	12A-B-0522
VM JOB NO:	50820-56
SCALE:	NOT TO SCALE
DATE:	03-09-2018
DRAWING TITLE:	TYPICAL SECTIONS WEST RAMP
DRAWING NO:	C4.0

5/6/2019 6:48:40 PM \\X:\tennessee\lrc\transportation\50820-56\Drawings\Drawings\Sheets\Plan_Sheet_C04.dgn

5/6/2019 6:48:48 PM
 \\tennessee\transportation\50820-56\Drawings\Drawings\Sheets\Plan_Sheet_V1.0.dgn



STA. 39+98.61 WEST JACKSON AVENUE =
 STA. 104+98.11 PARKING ACCESS
 N 601691.8577
 E 2583713.3151

BEGIN PROJ. CONST.
 STA. 39+37.50
 N 601654.0291
 E 2583665.3593

BEGIN PROJ. R.O.W.
 STA. 39+76.99

BEGIN EXCLUSION
 STA. 43+05.41
 N 601890.8001
 E 2583946.8142

CURVE PARKING ACCESS-1
 PI 105+30.87
 N 601,717.9748
 E 2,583,693.5430
 Δ 86° 19' 15" (RT)
 D 381° 58' 19"
 R 15.00
 L 22.60
 T 14.07

CURVE PARKING ACCESS-2
 PI 105+62.59
 N 601,742.3211
 E 2,583,721.7415
 Δ 15° 00' 00" (RT)
 D 57° 17' 45"
 R 100.00
 L 26.18
 T 13.17

CURVE PARKING ACCESS-3
 PI 106+05.15
 N 601,760.9156
 E 2,583,760.1939
 Δ 14° 55' 13" (LT)
 D 57° 17' 45"
 R 100.00
 L 26.04
 T 13.09



NO.	DATE	DESCRIPTION



**JACKSON AVENUE BRIDGES
 OVER RAMP TO GAY STREET**

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 KNOX COUNTY, TN.



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 828-253-2796

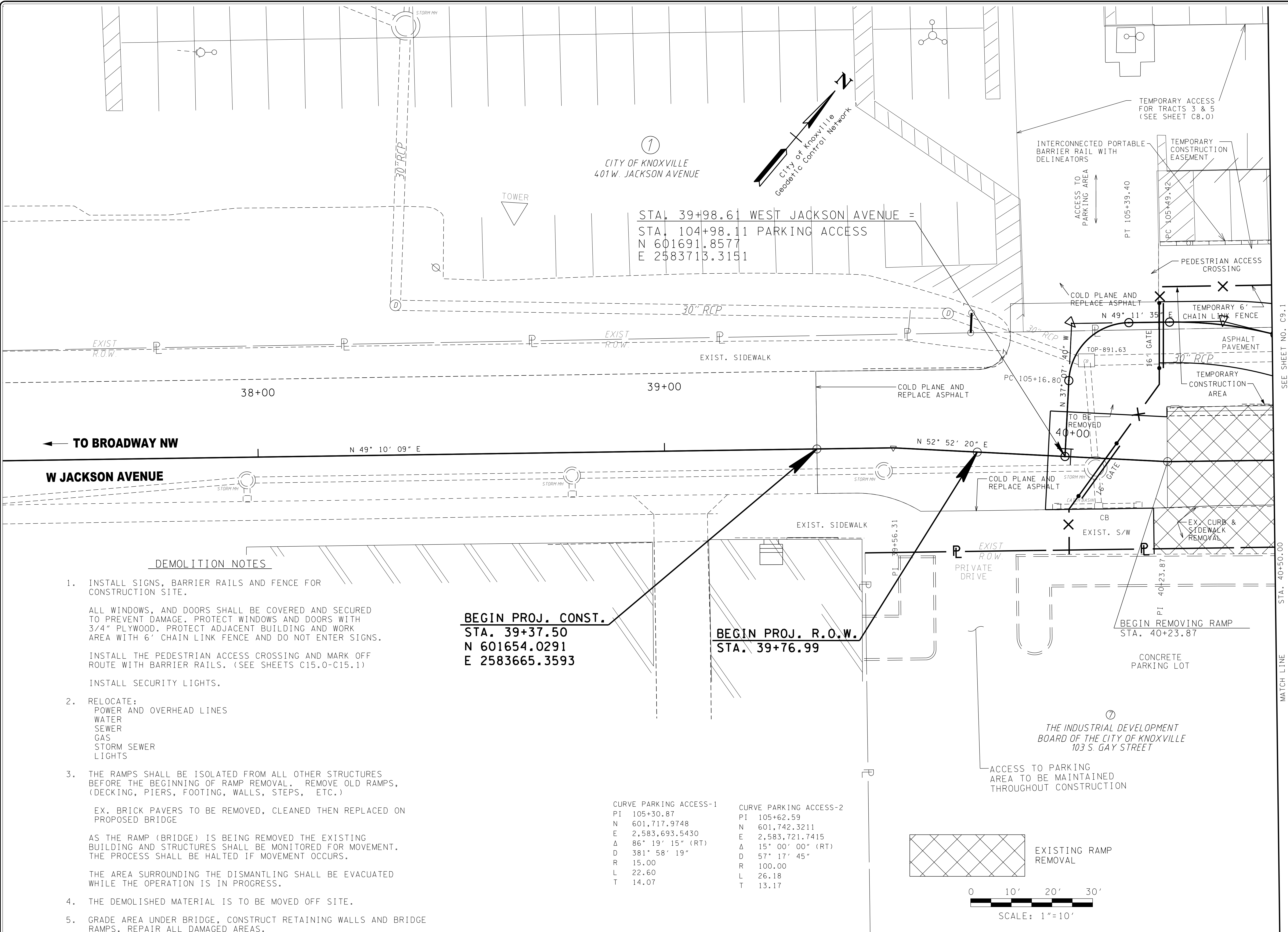
SOUTH CAROLINA
 864-574-4775

GEORGIA
 770-627-3590

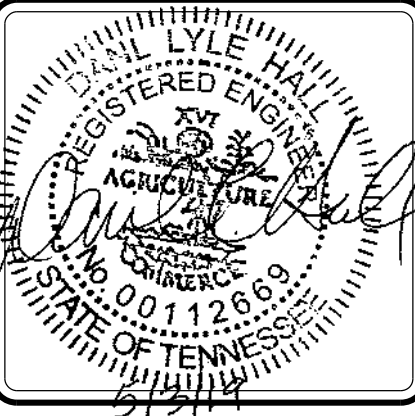
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DRAWN:	CSE
CHECKED:	MEG
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VM JOB NO:	50820-56
SCALE:	1"=20'
DATE:	03-09-2018
DRAWING TITLE:	PRESENT LAYOUT
DRAWING NO:	V1.0

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NO.	DATE	DESCRIPTION
1	5-03-19	ADDENDUM 2



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OVER RAMP TO GAY STREET**

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KNOX COUNTY, TN.



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DRAWN:	CMG
CHECKED:	MEG
CK JOB NO:	12A-B-0522
VM JOB NO:	50820-56
SCALE:	1" = 10'
DATE:	03-09-2018
DRAWING TITLE:	DEMOLITION LAYOUT PLAN
DRAWING NO:	C9.0

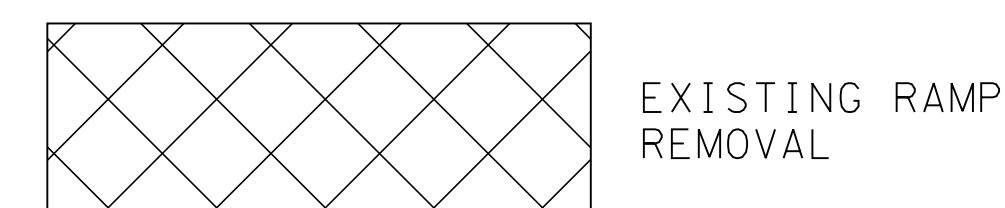
DEMOLITION NOTES

- INSTALL SIGNS, BARRIER RAILS AND FENCE FOR CONSTRUCTION SITE.
ALL WINDOWS, AND DOORS SHALL BE COVERED AND SECURED TO PREVENT DAMAGE. PROTECT WINDOWS AND DOORS WITH 3/4" PLYWOOD. PROTECT ADJACENT BUILDING AND WORK AREA WITH 6' CHAIN LINK FENCE AND DO NOT ENTER SIGNS.
INSTALL THE PEDESTRIAN ACCESS CROSSING AND MARK OFF ROUTE WITH BARRIER RAILS. (SEE SHEETS C15.0-C15.1)
INSTALL SECURITY LIGHTS.
- RELOCATE:
POWER AND OVERHEAD LINES
WATER
SEWER
GAS
STORM SEWER
LIGHTS
- THE RAMPS SHALL BE ISOLATED FROM ALL OTHER STRUCTURES BEFORE THE BEGINNING OF RAMP REMOVAL. REMOVE OLD RAMPS, (DECKING, PIERS, FOOTING, WALLS, STEPS, ETC.)
EX. BRICK PAVERS TO BE REMOVED, CLEANED THEN REPLACED ON PROPOSED BRIDGE
AS THE RAMP (BRIDGE) IS BEING REMOVED THE EXISTING BUILDING AND STRUCTURES SHALL BE MONITORED FOR MOVEMENT. THE PROCESS SHALL BE HALTED IF MOVEMENT OCCURS.
THE AREA SURROUNDING THE DISMANTLING SHALL BE EVACUATED WHILE THE OPERATION IS IN PROGRESS.
- THE DEMOLISHED MATERIAL IS TO BE MOVED OFF SITE.
- GRADE AREA UNDER BRIDGE, CONSTRUCT RETAINING WALLS AND BRIDGE RAMPS, REPAIR ALL DAMAGED AREAS.

BEGIN PROJ. CONST.
STA. 39+37.50
N 601654.0291
E 2583665.3593

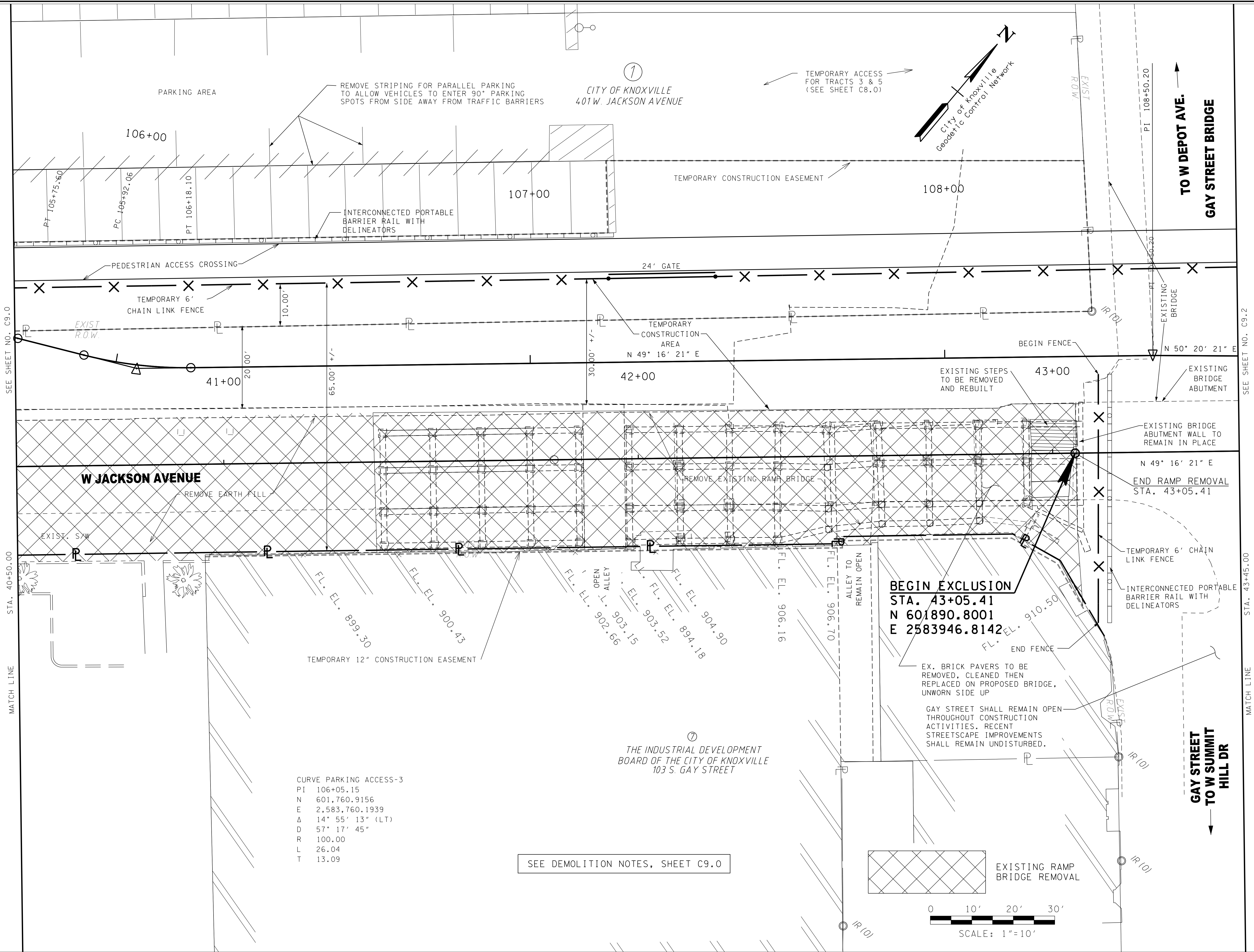
BEGIN PROJ. R.O.W.
STA. 39+76.99

CURVE PARKING ACCESS-1 PI 105+30.87 N 601,717.9748 E 2,583,693.5430 Δ 86° 19' 15" (RT) D 381' 58' 19" R 15.00 L 22.60 T 14.07	CURVE PARKING ACCESS-2 PI 105+62.59 N 601,742.3211 E 2,583,721.7415 Δ 15° 00' 00" (RT) D 57' 17' 45" R 100.00 L 26.18 T 13.17
--	--



MATCH LINE STA. 40+50.00 SEE SHEET NO. C9-1

5/6/2019 6:48:53 PM \\tennessee\transportation\50820-56\Drawings\Drawings\Sheets\Plan_Sheet_C09.dgn



SEE DEMOLITION NOTES, SHEET C9.0

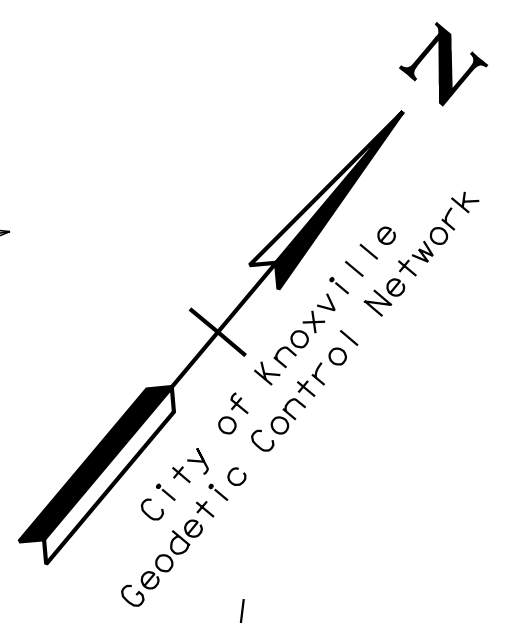
EXISTING RAMP BRIDGE REMOVAL



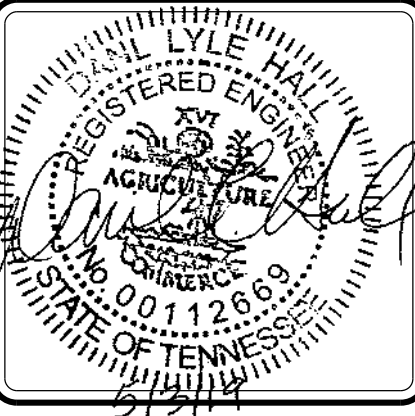
CURVE PARKING ACCESS-3
 PI 106+05.15
 N 601,760.9156
 E 2,583,760.1939
 Δ 14° 55' 13" (LT)
 D 57' 17' 45"
 R 100.00
 L 26.04
 T 13.09

①
 THE INDUSTRIAL DEVELOPMENT BOARD OF THE CITY OF KNOXVILLE
 103 S. GAY STREET

①
 CITY OF KNOXVILLE
 401 W. JACKSON AVENUE



NO.	DATE	DESCRIPTION
1	5-03-19	ADDENDUM 2



**JACKSON AVENUE BRIDGES
 OVER RAMP TO GAY STREET**

CITY OF KNOXVILLE
 KNOX COUNTY, TN.



KENTUCKY
 606-248-6600

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 828-253-2796

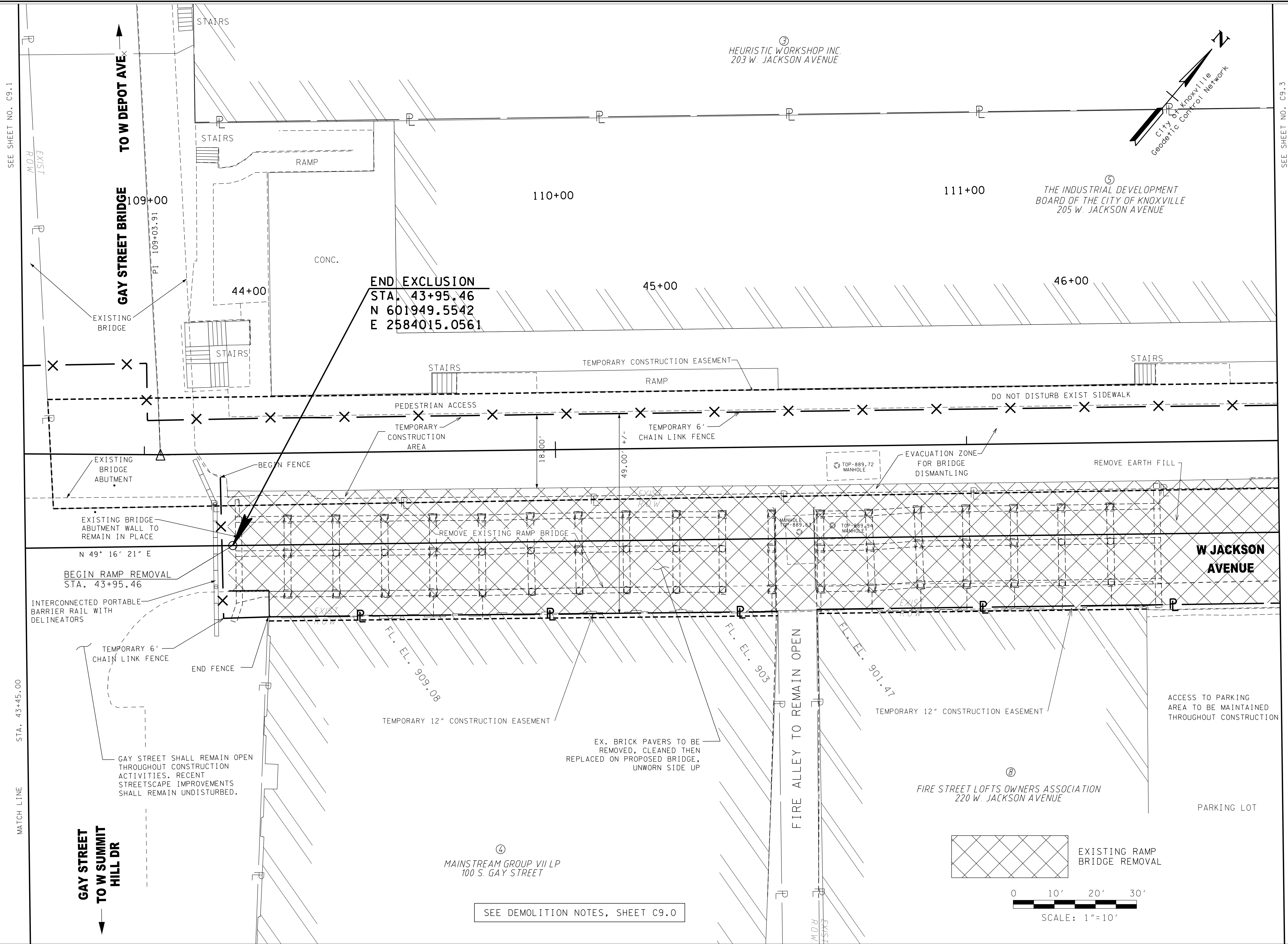
SOUTH CAROLINA
 864-574-4775

GEORGIA
 770-627-3590

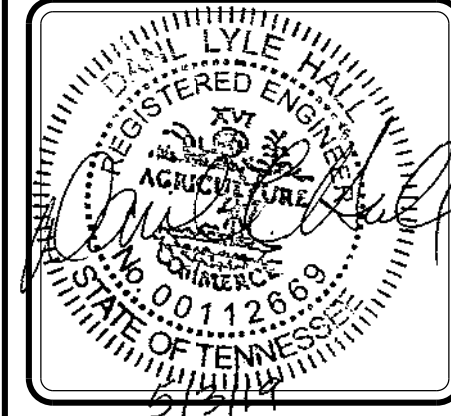
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CHECKED:	MEG
CK JOB NO:	12A-B-0522
VM JOB NO:	50820-56
SCALE:	1"=10'
DATE:	03-09-2018
DRAWING TITLE:	DEMOLITION LAYOUT PLAN
DRAWING NO:	C9.1

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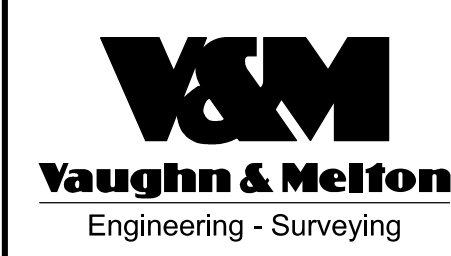


NO.	DATE	DESCRIPTION
1	5-03-19	ADDENDUM 2



**JACKSON AVENUE BRIDGES
OVER RAMP TO GAY STREET**

CITY OF KNOXVILLE
KNOX COUNTY, TN.



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CHECKED:	MEG
CK JOB NO:	12A-B-0522
VM JOB NO:	50820-56
SCALE:	1" = 10'
DATE:	03-09-2018
DRAWING TITLE:	DEMOLITION LAYOUT PLAN
DRAWING NO:	C9.2

5/6/2019 6:48:56 PM
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SEE SHEET NO. C9.2

STA. 46+50.00

MATCH LINE

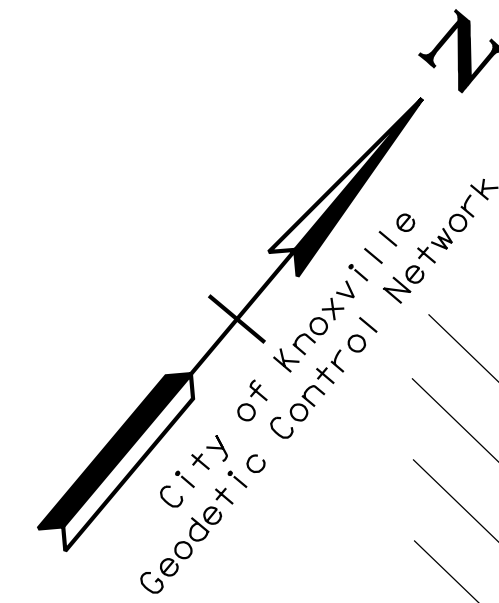
③
HEURISTIC WORKSHOP, INC
203 W. JACKSON AVENUE
HEURISTIC WORKSHOP INC.
203 W. JACKSON AVENUE

⑤
THE INDUSTRIAL DEVELOPMENT
BOARD OF THE CITY OF KNOXVILLE
THE INDUSTRIAL DEVELOPMENT
BOARD OF THE CITY OF KNOXVILLE
205 W. JACKSON AVENUE

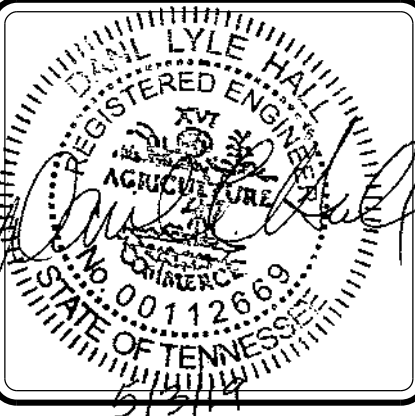
CURVE PARKING ACCESS-4
PI 112+45.78
N 602,178.2318
E 2,584,246.4314
Δ 10° 00' 00" (RT)
D 57° 17' 45"
R 100.00
L 17.45
T 8.75

113+00

STA. 48+16.19 WEST JACKSON AVENUE =
STA. 113+43.20 PARKING ACCESS
N 602228.0327
E 2584330.2141



NO.	DATE	DESCRIPTION
1	5-03-19	ADDENDUM 2



JACKSON AVENUE BRIDGES
OVER RAMP TO GAY STREET
CITY OF KNOXVILLE
KNOX COUNTY, TN.



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DRAWN:	CMG
CHECKED:	MEG
CHK JOB NO:	12A-B-0522
VM JOB NO:	50820-56
SCALE:	1" = 10'
DATE:	03-09-2018
DRAWING TITLE:	DEMOLITION LAYOUT PLAN
DRAWING NO:	C9.3

47+00

48+00

12+00

END PROJ. CONST.
STA. 49+00.00 =
STA. 12+06.58
ADJACENT PROJECT
N 602283.0384
E 2584393.4398

END RAMP REMOVAL
STA. 46+95.60

STAIRS

RAMP

LOADING DOCK

3-S-BR

3-S-BR

3-S

TEMPORARY 6' CHAIN LINK FENCE

TEMPORARY CONSTRUCTION EASEMENT

DO NOT DISTURB EXIST SIDEWALK

TEMPORARY PEDESTRIAN CROSSWALK

COLD PLANE AND REPLACE ASPHALT

EXIST R.O.W.

COLD PLANE AND REPLACE ASPHALT

APPROX. LOCATION OF INTERIOR BASEMENT WALL

W JACKSON AVENUE
TO N CENTRAL ST

PEDESTRIAN ACCESS

TEMPORARY CONSTRUCTION AREA

16' GATE

N 49° 16' 21" E

N 59° 16' 21" E

N 49° 12' 41" E

EXIST. S/W

EXIST R.O.W.

CP-S5

COAL CHUTE

END FENCE
EX. BRICK PAVERS TO BE REMOVED, CLEANED THEN REPLACED ON PROPOSED BRIDGE, UNWORN SIDE UP

ACCESS TO PARKING AREA TO BE MAINTAINED THROUGHOUT CONSTRUCTION

4" BRASS DRAIN
INV-890.23

EL-891.03
TRENCH DRAIN

EL-890.95
4" DRAIN

JFG PARTNERS, LLC
200 W. JACKSON AVENUE

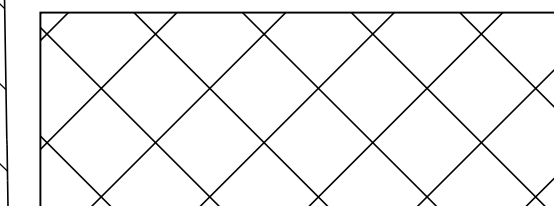
CURVE WEST JACKSON AVENUE -2
PI 47+54.65
N 602,183.9143
E 2,584,287.2609
Δ 6° 09' 31" (LT)
D 11° 27' 33"
R 500.00
L 53.74
T 26.90

CURVE WEST JACKSON AVENUE -3
PI 48+08.13
N 602,222.9908
E 2,584,323.8457
Δ 6° 05' 52" (RT)
D 11° 27' 33"
R 500.00
L 53.21
T 26.63

STATE STREET

END PROJ. R.O.W.
STA. 48+44.48

COFFEE HOUSE MURAL
4-S-BR



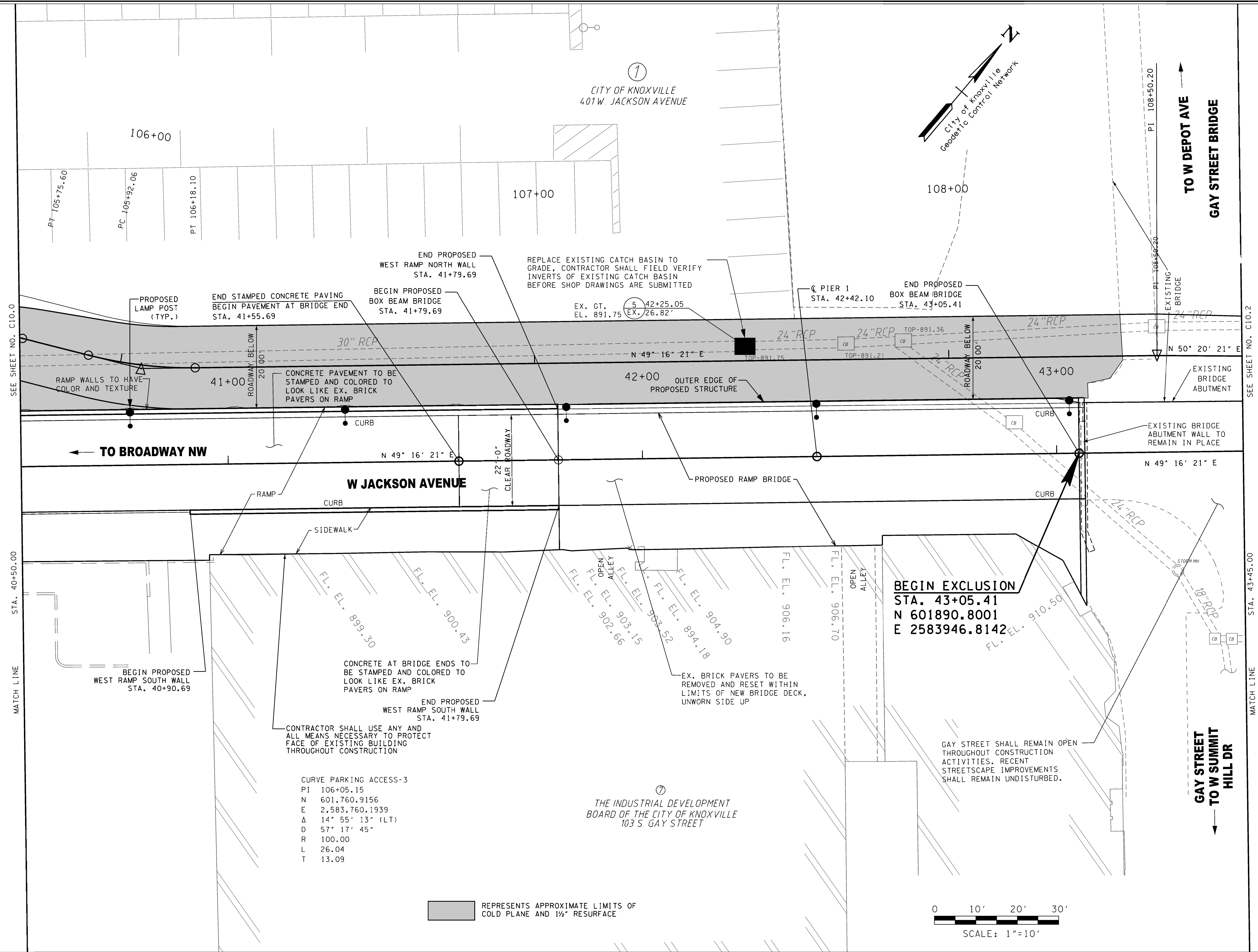
EXISTING RAMP BRIDGE REMOVAL



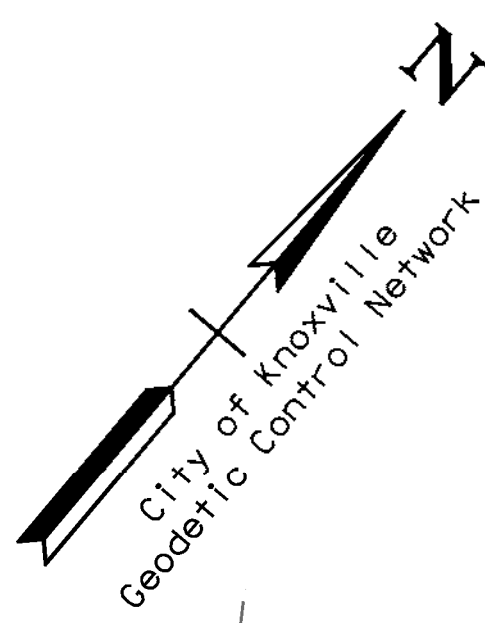
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SEE DEMOLITION NOTES, SHEET C9.0

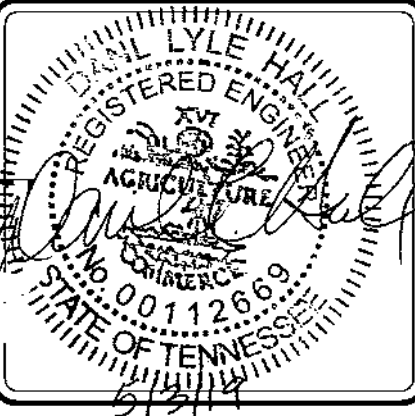
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①
 CITY OF KNOXVILLE
 401 W. JACKSON AVENUE



NO.	DATE	DESCRIPTION
1	5-03-19	ADDENDUM 2



**JACKSON AVENUE BRIDGES
 OVER RAMP TO GAY STREET**

CITY OF KNOXVILLE
 KNOX COUNTY, TN.



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CHECKED:	MEG
CHK JOB NO:	12A-B-0522
VM JOB NO:	50820-56
SCALE:	1" = 10'
DATE:	03-09-2018
DRAWING TITLE:	PROPOSED LAYOUT PLAN
DRAWING NO:	C10.1

REPRESENTS APPROXIMATE LIMITS OF
 COLD PLANE AND 1/2" RESURFACE



CURVE PARKING ACCESS-3
 PI 106+05.15
 N 601,760.9156
 E 2,583,760.1939
 Δ 14° 55' 13" (LT)
 D 57° 17' 45"
 R 100.00
 L 26.04
 T 13.09

①
 THE INDUSTRIAL DEVELOPMENT
 BOARD OF THE CITY OF KNOXVILLE
 103 S. GAY STREET

BEGIN EXCLUSION
 STA. 43+05.41
 N 601890.8001
 E 2583946.8142

5/6/2019 6:51:07 PM
\\Tennessee\lrc\transportation\50820-56\Drawings\Sheets\Plan_Sheet_C10.2.dgn

SEE SHEET NO. C10.1

STA. 43+45.00

MATCH LINE

GAY STREET
TO W SUMMIT
HILL DR

TO W DEPOT AVE

GAY STREET BRIDGE

109+00

PI 109+03.91

44+00

END EXCLUSION
STA. 43+95.46
N 601949.5542
E 2584015.0561

110+00

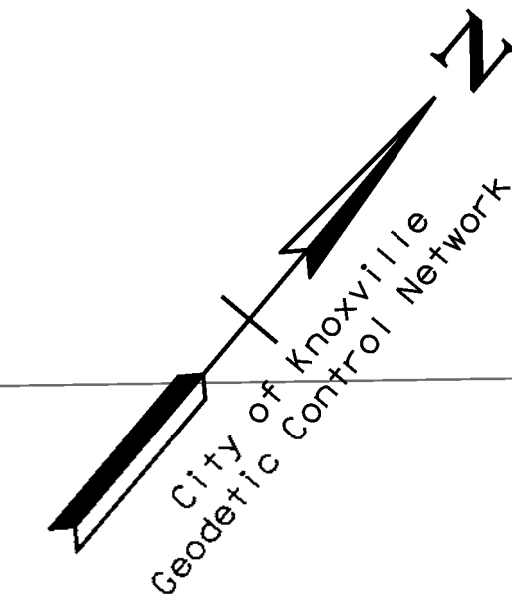
45+00

111+00

THE INDUSTRIAL DEVELOPMENT
BOARD OF THE CITY OF KNOXVILLE
205 W. JACKSON AVENUE

46+00

HEURISTIC WORKSHOP INC.
203 W. JACKSON AVENUE



SEE SHEET NO. C10.3

STA. 46+50.00

MATCH LINE

JACKSON AVENUE BRIDGES
OVER RAMP TO GAY STREET

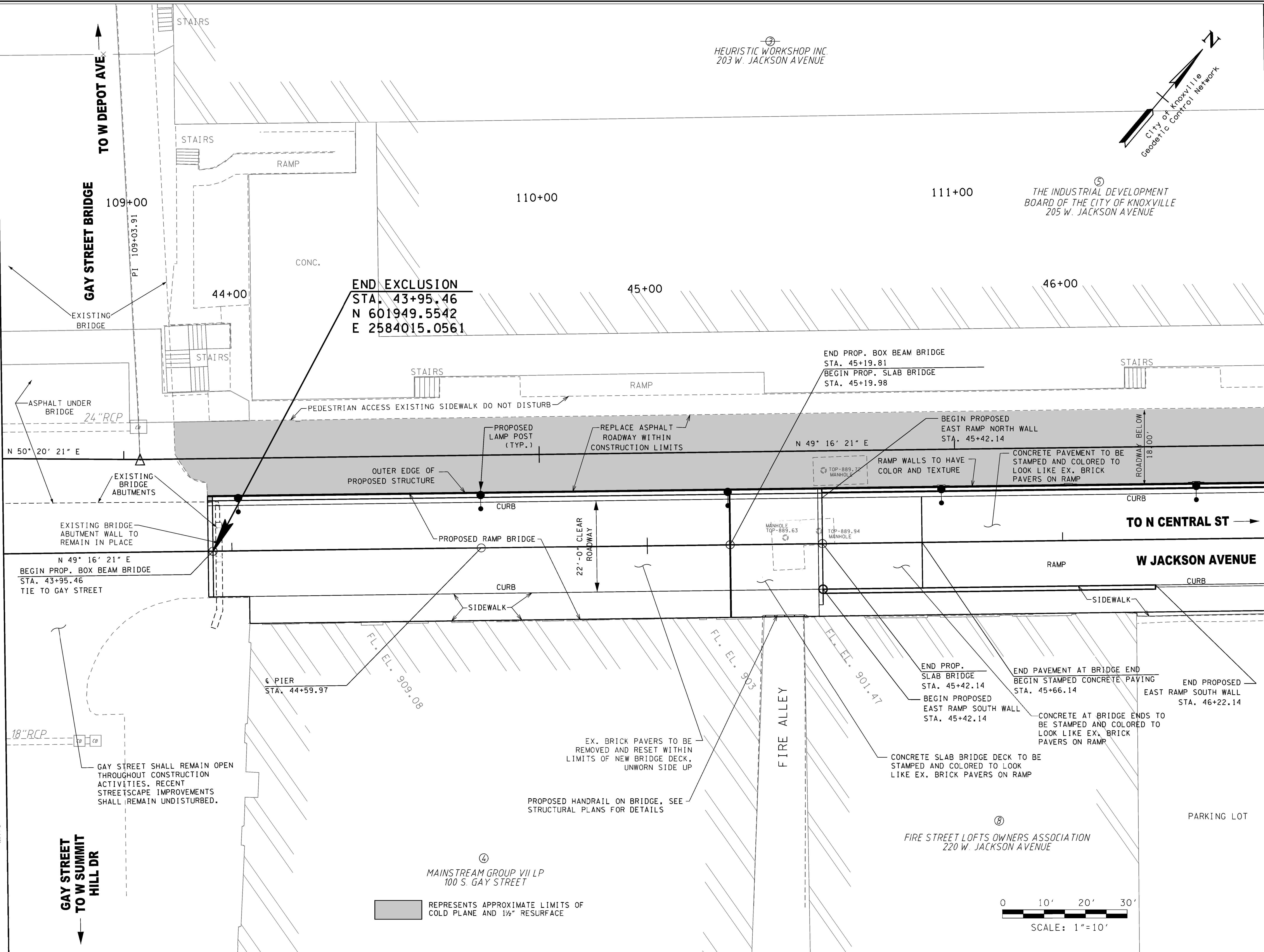
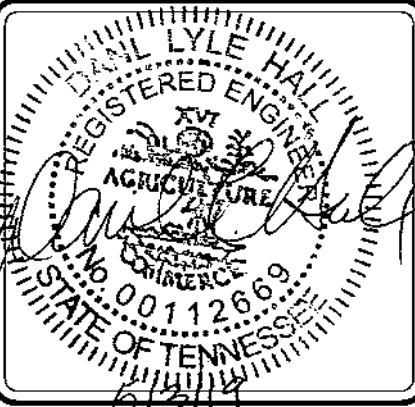
CITY OF KNOXVILLE
KNOX COUNTY, TN.



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DRAWN: CMG
CHECKED: MEG
CK JOB NO: 12A-B-0522
VM JOB NO: 50820-56
SCALE: 1" = 10'
DATE: 03-09-2018
DRAWING TITLE:
PROPOSED
LAYOUT
PLAN
DRAWING NO:
C10.2

NO.	DATE	DESCRIPTION
1	5-03-19	ADDENDUM 2



REPRESENTS APPROXIMATE LIMITS OF
COLD PLANE AND 1/2" RESURFACE



EX. BRICK PAVERS TO BE
REMOVED AND RESET WITHIN
LIMITS OF NEW BRIDGE DECK,
UNWORN SIDE UP

PROPOSED HANDRAIL ON BRIDGE, SEE
STRUCTURAL PLANS FOR DETAILS

FIRE STREET LOFTS OWNERS ASSOCIATION
220 W. JACKSON AVENUE

PARKING LOT

FIRE ALLEY

PIER
STA. 44+59.97

FL. EL. 909.08

FL. EL. 903

FL. EL. 901.47

END PROP.
SLAB BRIDGE
STA. 45+42.14
BEGIN PROPOSED
EAST RAMP SOUTH WALL
STA. 45+42.14

END PAVEMENT AT BRIDGE END
BEGIN STAMPED CONCRETE PAVING
STA. 45+66.14

END PROPOSED
EAST RAMP SOUTH WALL
STA. 46+22.14

CONCRETE AT BRIDGE ENDS TO
BE STAMPED AND COLORED TO
LOOK LIKE EX. BRICK
PAVERS ON RAMP

CONCRETE SLAB BRIDGE DECK TO BE
STAMPED AND COLORED TO LOOK
LIKE EX. BRICK PAVERS ON RAMP

N 50° 20' 21" E

N 49° 16' 21" E

N 49° 16' 21" E
BEGIN PROP. BOX BEAM BRIDGE
STA. 43+95.46
TIE TO GAY STREET

RAMP WALLS TO HAVE
COLOR AND TEXTURE

CONCRETE PAVEMENT TO BE
STAMPED AND COLORED TO
LOOK LIKE EX. BRICK
PAVERS ON RAMP

BEGIN PROPOSED
EAST RAMP NORTH WALL
STA. 45+42.14

END PROP. BOX BEAM BRIDGE
STA. 45+19.81
BEGIN PROP. SLAB BRIDGE
STA. 45+19.98

OUTER EDGE OF
PROPOSED STRUCTURE

REPLACE ASPHALT
ROADWAY WITHIN
CONSTRUCTION LIMITS

PEDESTRIAN ACCESS EXISTING SIDEWALK DO NOT DISTURB

PROPOSED
LAMP POST
(TYP.)

EXISTING
BRIDGE
ABUTMENTS

EXISTING BRIDGE
ABUTMENT WALL TO
REMAIN IN PLACE

PROPOSED RAMP BRIDGE

SIDEWALK

SIDEWALK

STAIRS

STAIRS

RAMP

CONC.

STAIRS

RAMP

STAIRS

ROADWAY BELOW
18' 00"

TO N CENTRAL ST

W JACKSON AVENUE

PARKING LOT

5/6/2019 6:51:17 PM \\X:\tennessee\Transportation\50820-56\Drawings\Drawings\Sheets\Plan_Sheet_C14.dwg

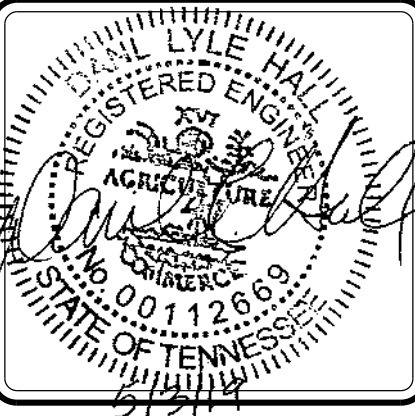
TRAFFIC CONTROL QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	ITEM NO. 712-06	SIZE IN INCHES	M.U.T.C.D. NO.		
	712-01	TRAFFIC CONTROL	L.S.	1				
2	712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	270				
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	17				
2	712-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	15				
	712-05.01	WARNING LIGHTS (TYPE A)	EACH	20				
	712-05.03	WARNING LIGHTS (TYPE C)	EACH	12				
	712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	444				
	712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	1725				
	712-09.02	REMOVABLE PAVEMENT MARKING (8" BARRIER LINE)	L.F.	100				
1	712-06	END ROAD WORK	S.F	4	18.000	36 x 18	G20-2	
	712-06	END DETOUR	S.F	1	3.000	24 x 18	M4-8A	
	712-06	WEST JACKSON AVENUE-DETOUR	S.F	11	82.500	30 x 36	M4-9 (MODIFIED)	
	712-06	WEST JACKSON AVENUE-DETOUR WITH ARROW - LEFT	S.F	7	70.000	30 x 48	M4-9L (MODIFIED)	
	712-06	WEST JACKSON AVENUE-DETOUR WITH ARROW - RIGHT	S.F	7	70.000	30 x 48	M4-9R(MODIFIED)	
	712-06	DETOUR ARROW LEFT	S.F	2	12.000	48 x 18	M4-10L	
	712-06	DETOUR ARROW RIGHT	S.F	2	12.000	48 x 18	M4-10R	
	712-06	EAST	S.F	3	6.000	24 x 12	M3-2	
	712-06	WEST	S.F	3	6.000	24 x 12	M3-4	
	712-06	DIRECTIONAL ARROW- STRAIGHT	S.F	11	24.063	21 x 15	M6-3	
	3	712-06	SIGNS (SIDEWALK CLOSED)	S.F.	3	6.000	24 x 12	R9-9
		712-06	SIGNS (ROAD CLOSED)	S.F.	2	20.000	48 x 30	R11-2
		712-06	SIGNS (ROAD CLOSED TO THRU TRAFFIC)	S.F.	3	37.500	60 x 30	R11-4
712-06		SIGNS (WEST JACKSON AVENUE CLOSED)	S.F.	2	25.000	60 x 30	R11-4 (MODIFIED)	
712-06		ROAD WORK AHEAD	S.F	2	18.000	36 x 36	W20-1	
712-06		DETOUR AHEAD	S.F	2	18.000	36 x 36	W20-2	
712-06		ROAD CLOSED AHEAD	S.F	2	18.000	36 x 36	W20-3	
712-06		UNEVEN LANES	S.F	2	18.000	36 x 36	W8-11	
TOTAL				464.063				

1. SIGNS MAY BE USED CONCURRENTLY FOR TRAFFIC CONTROL.
2. SEE SHEETS C9.0, C9.1 AND C9.2 FOR LOCATIONS.
3. SEE SHEETS C15.0 AND C15.1 FOR LOCATION.

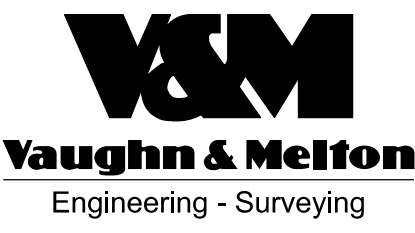
SYMBOL	ITEM
//	WORK ZONE
o	FLEXIBLE DRUMS (CHANNELIZING)
T	SIGN (CONSTRUCTION)
H	VERTICAL PANELS (2 FACES)
→	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	PORTABLE BARRIER RAIL (WITH BARRIER RAIL DELINEATORS)
/ / / / /	REMOVE PAVEMENT STRIPING
* HVF * HVF	HIGH VISIBILITY CONSTRUCTION FENCE
XXXX	TEMPORARY BARRICADE (TYPE III)
A	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)
C	WARNING LIGHT (TYPE C) (STEADY)

NO.	DATE	DESCRIPTION
1	5-03-19	ADDENDUM 2



JACKSON AVENUE BRIDGES
OVER RAMP TO GAY STREET

CITY OF KNOXVILLE
KNOX COUNTY, TN.



KENTUCKY
606-248-6600

TENNESSEE
865-546-5800

NORTH CAROLINA
828-253-2796

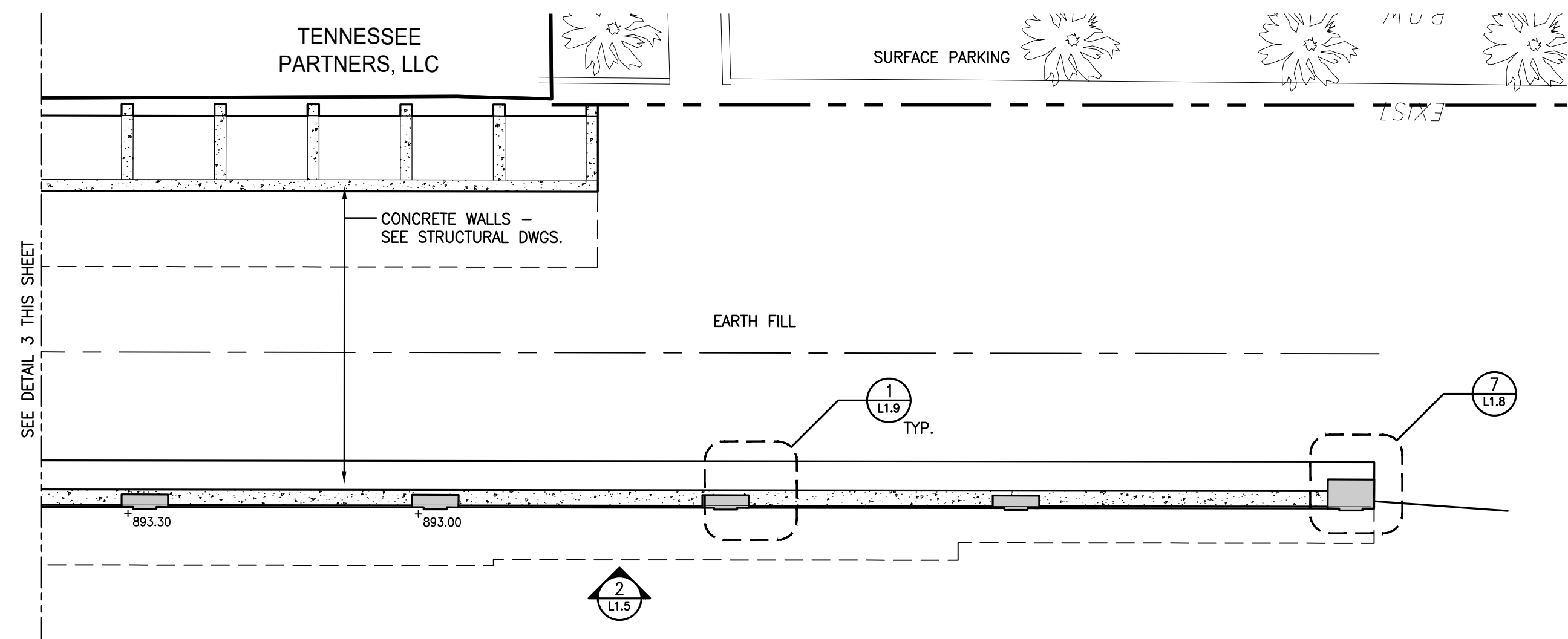
SOUTH CAROLINA
864-574-4775

GEORGIA
770-627-3590

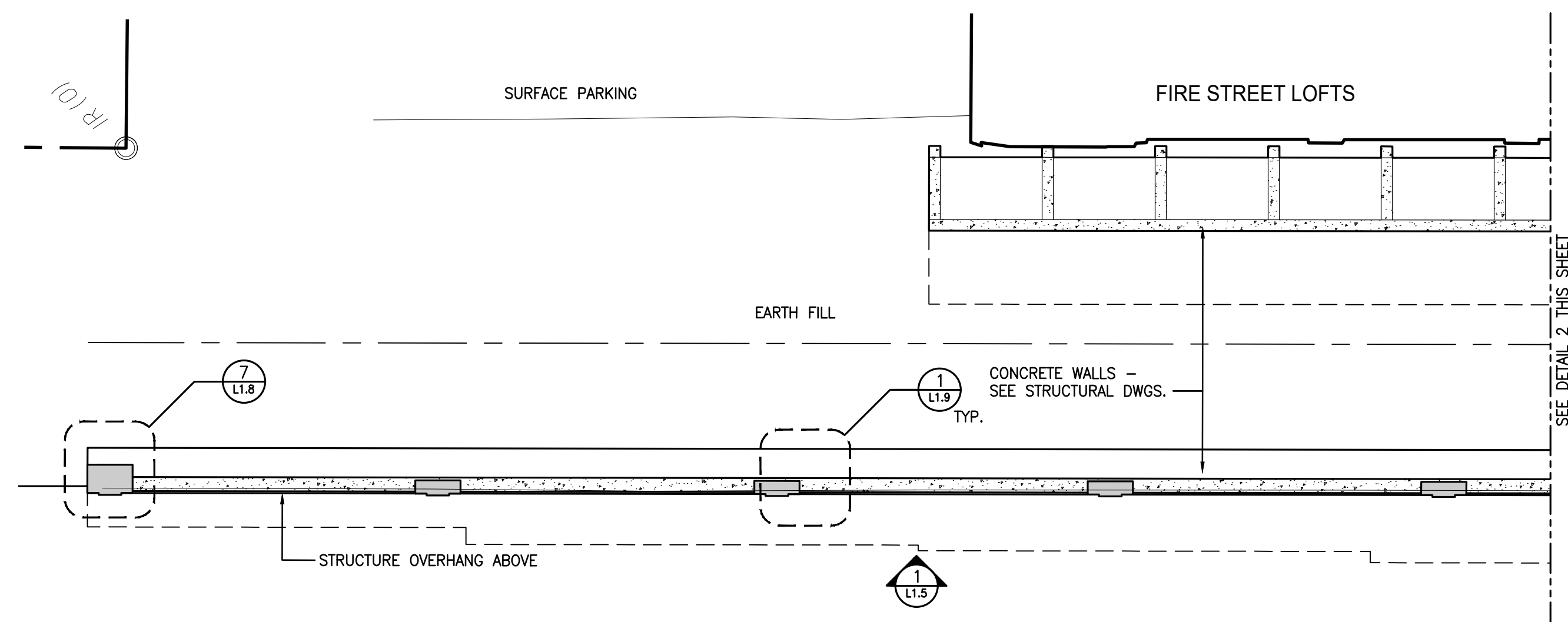
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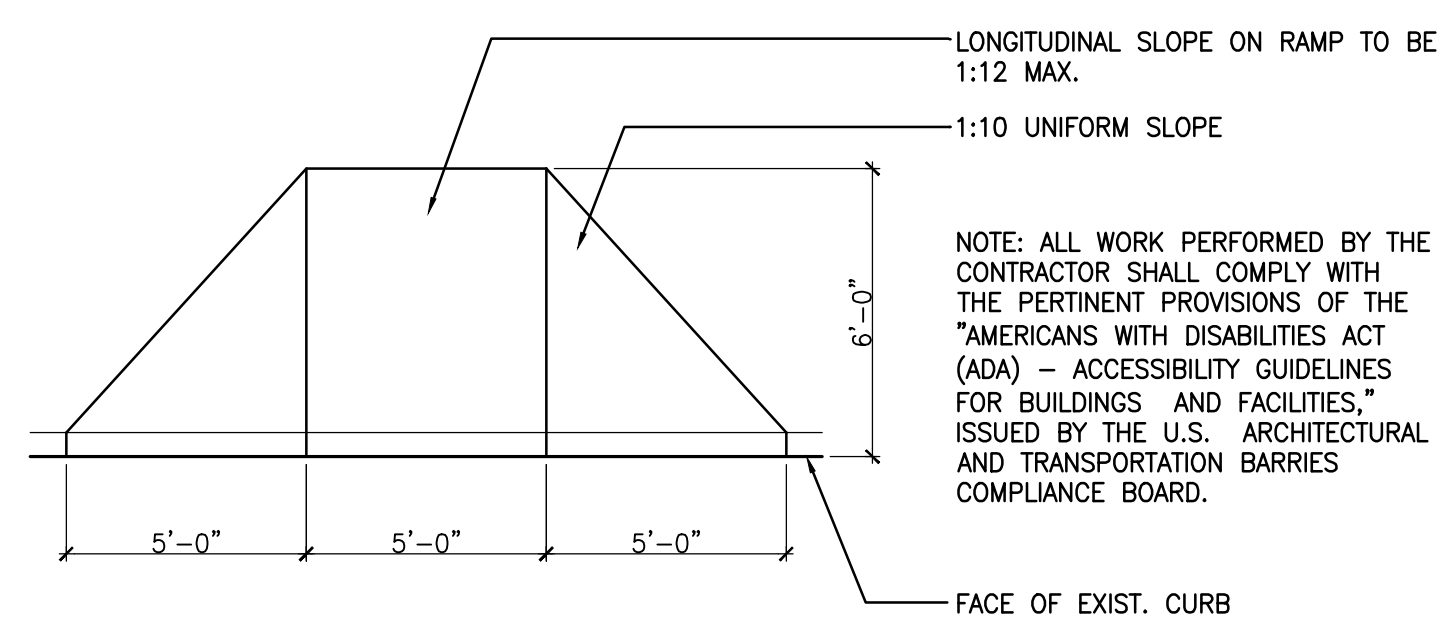
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CHECKED:	JMM
CK JOB NO:	12A-B-0522
VM JOB NO:	50820-56
SCALE:	NO SCALE
DATE:	03-09-2018
DRAWING TITLE:	TRAFFIC CONTROL QUANTITIES
DRAWING NO:	C14.0



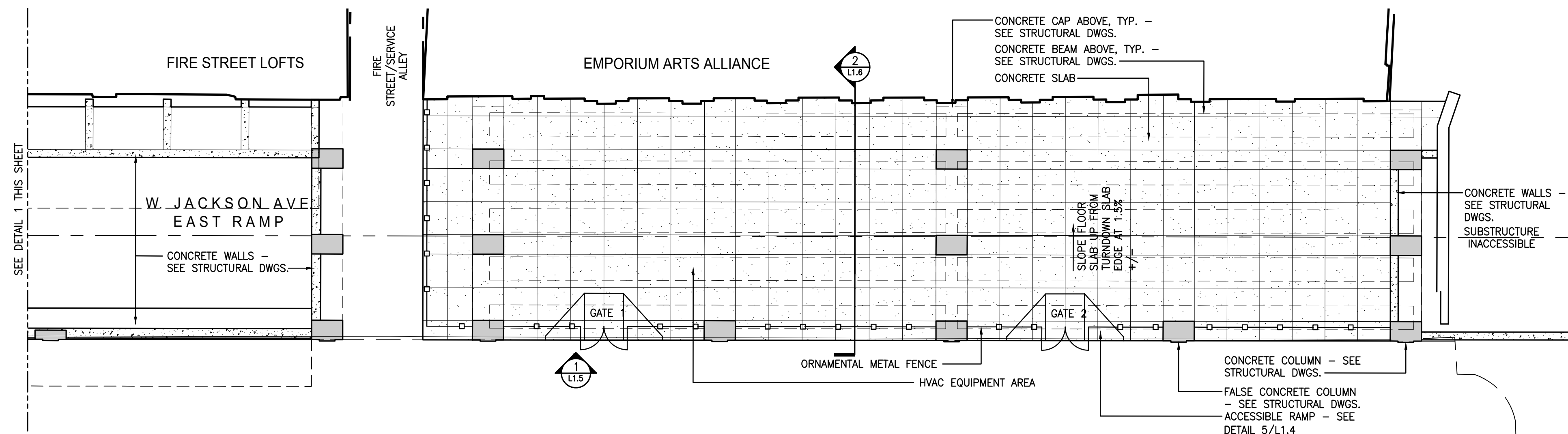
4 LOWER LEVEL ENLARGED PLAN
L1.4 SCALE: 1" = 10'-0"



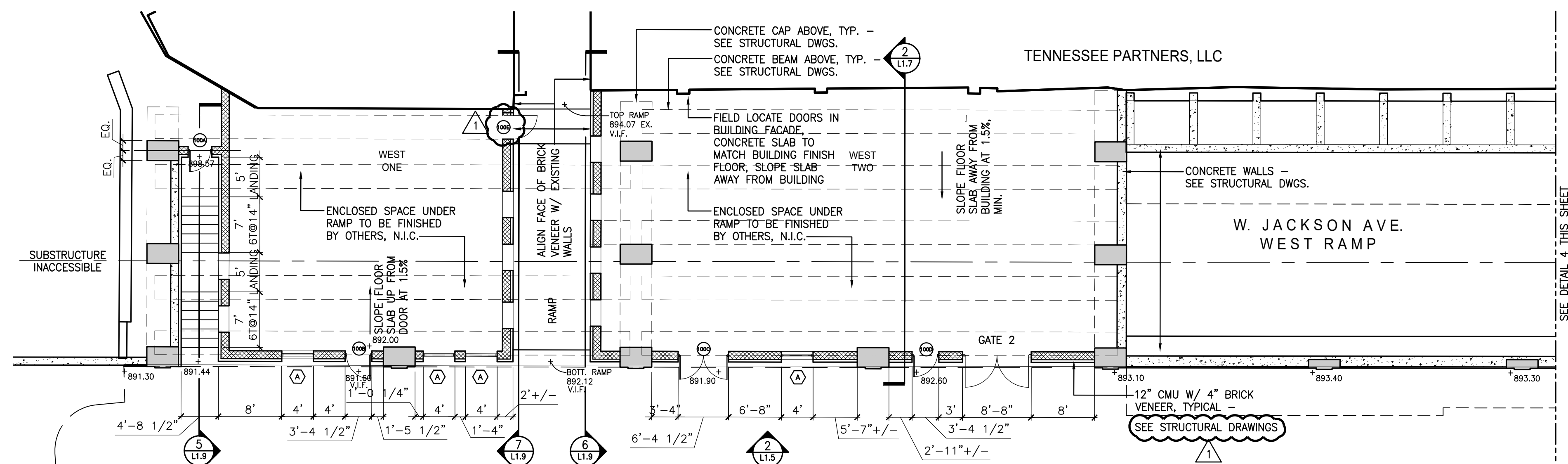
1 LOWER LEVEL ENLARGED PLAN
L1.4 SCALE: 1" = 10'-0"



5 HANDICAP RAMP PLAN
L1.4 SCALE: 1/4" = 1'-0"



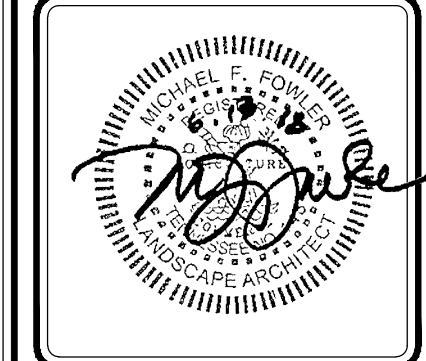
2 LOWER LEVEL ENLARGED PLAN
L1.4 SCALE: 1" = 10'-0"



3 LOWER LEVEL ENLARGED PLAN
L1.4 SCALE: 1" = 10'-0"

SHEET	
PROJECT NO.	
YEAR	
TYPE	

REVISIONS	DESCRIPTION
NO.	DATE
1	5/3/19
FOR ADDENDUM 2	



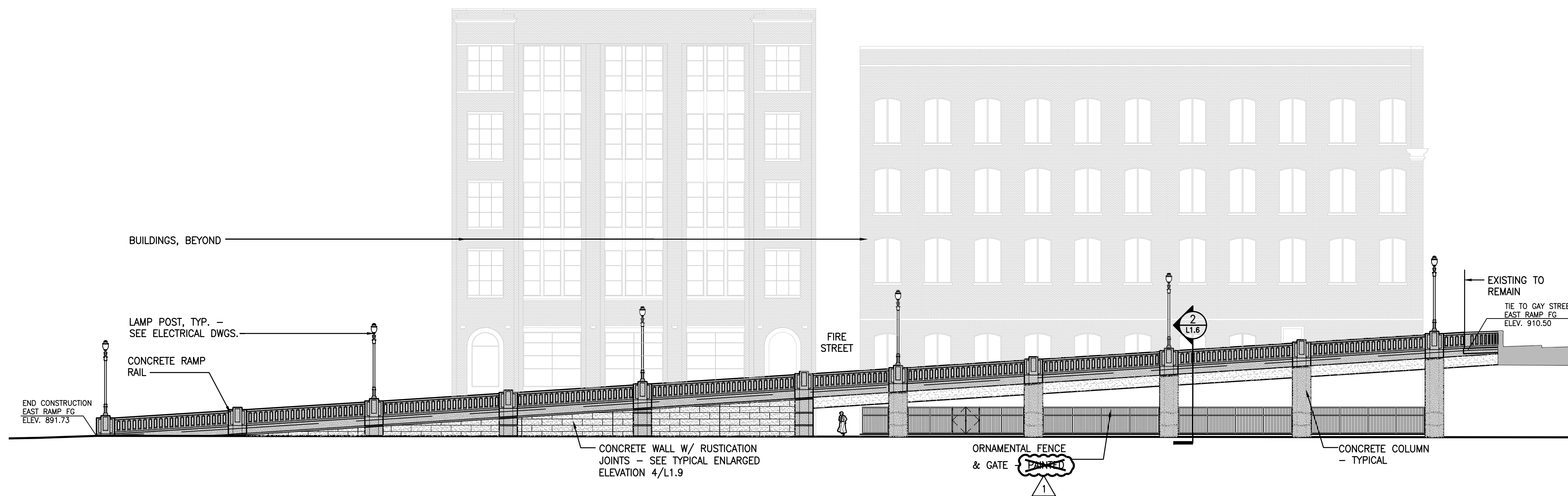
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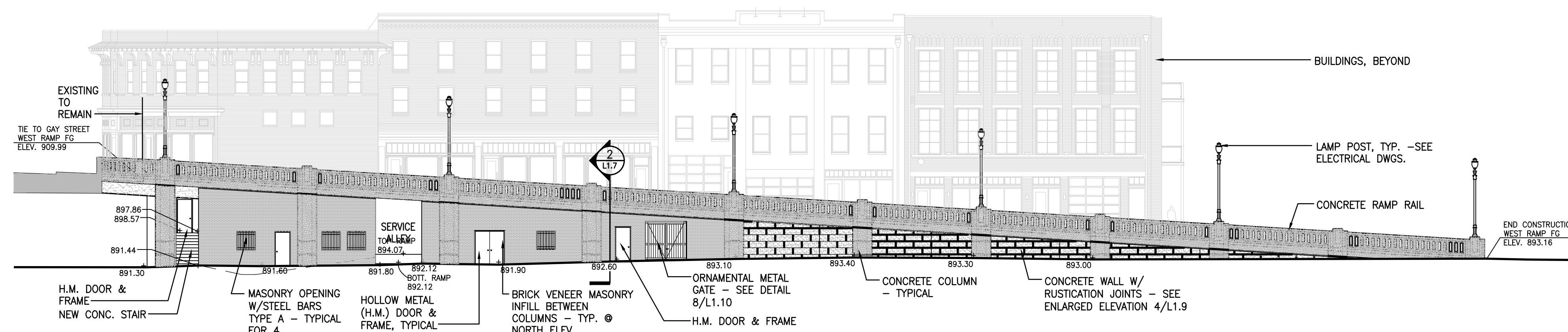
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COK JOB NO:
VM JOB NO:
SCALE: 1" = 10'
DATE: JUNE 13, 2018
DRAWING TITLE:
LOWER LEVEL ENLARGED PLANS

SHEET	DRAWING NO.
4	L1.4
8	





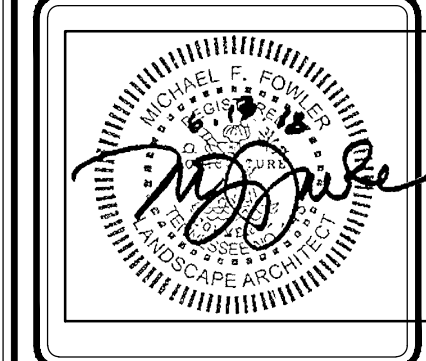
1 W. JACKSON AVENUE EAST RAMP NORTH ELEVATION
 L1.5 SCALE: 1" = 16'-0"



2 W. JACKSON AVENUE WEST RAMP NORTH ELEVATION
 L1.5 SCALE: 1" = 16'-0"

TYPE	YEAR	PROJECT NO.	SHEET

NO.	DATE	REVISIONS	DESCRIPTION
1	5/3/19	FOR ADDENDUM 2	



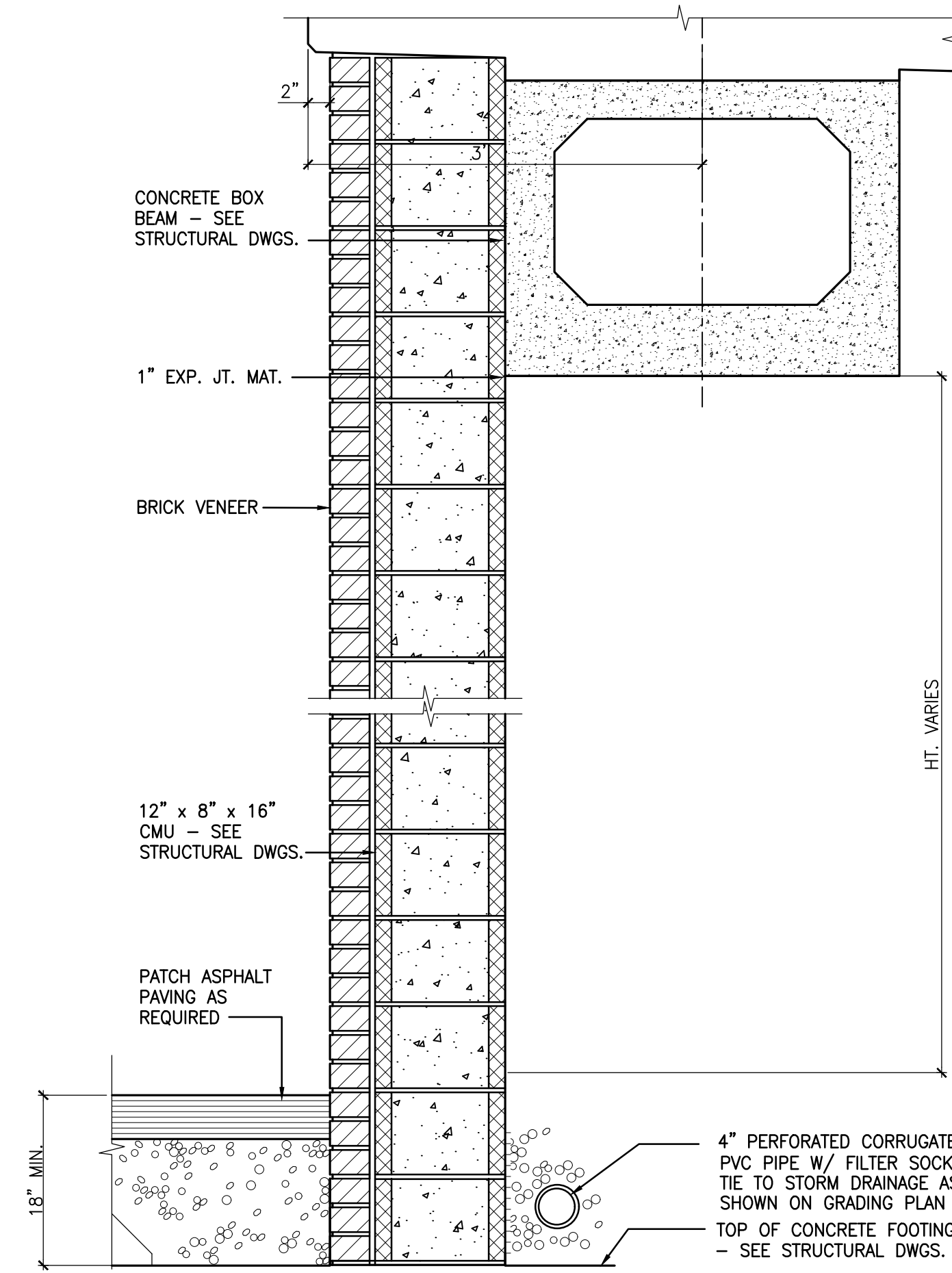
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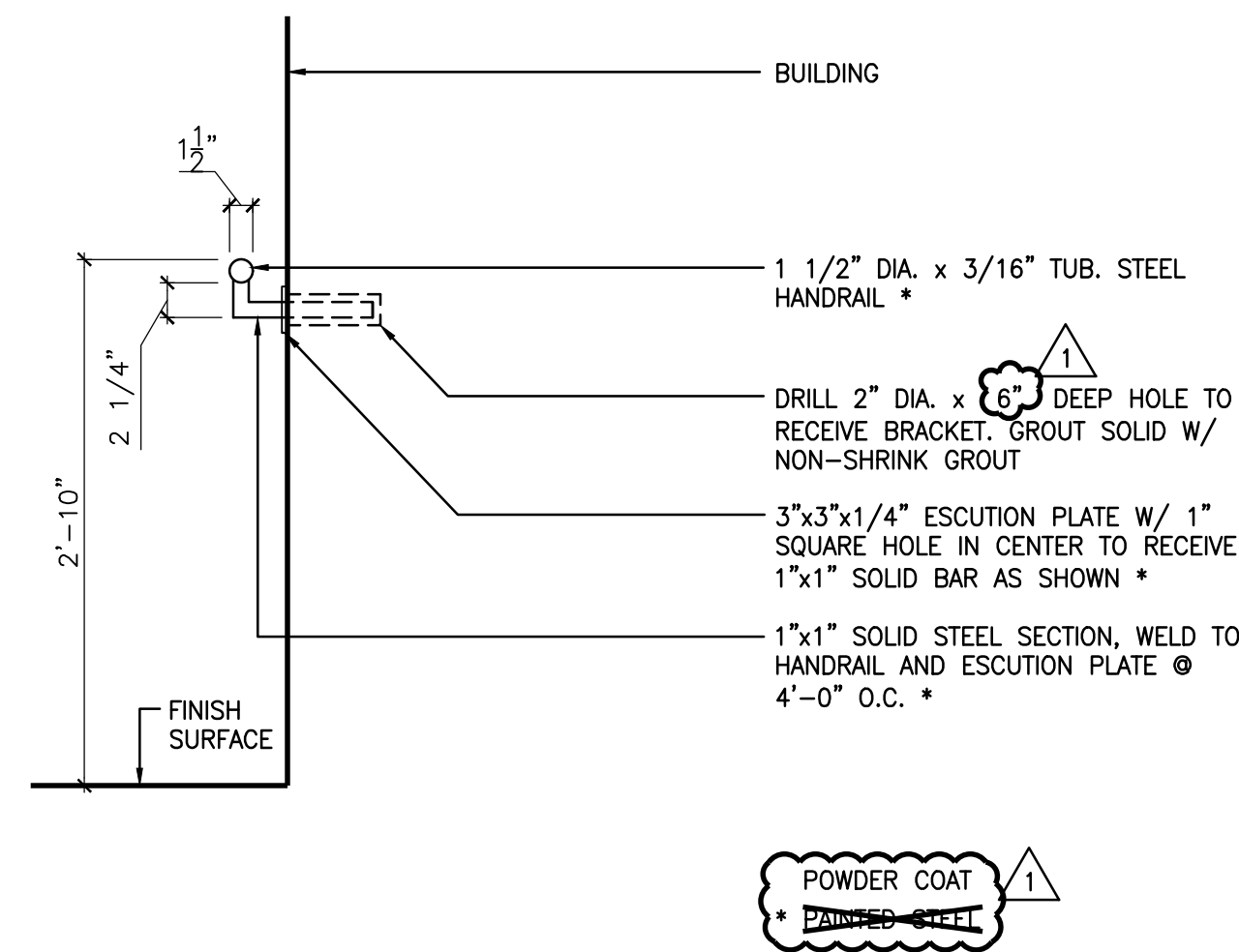
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CHECKED:	
COK JOB NO:	
VM JOB NO:	
SCALE:	1"=16'-0"
DATE:	JUNE 13, 2018
DRAWING TITLE:	JACKSON AVENUE RAMP ELEVATIONS PRELIM. DESIGN

SHEET	DRAWING NO:
5	L1.5
OF	
8	

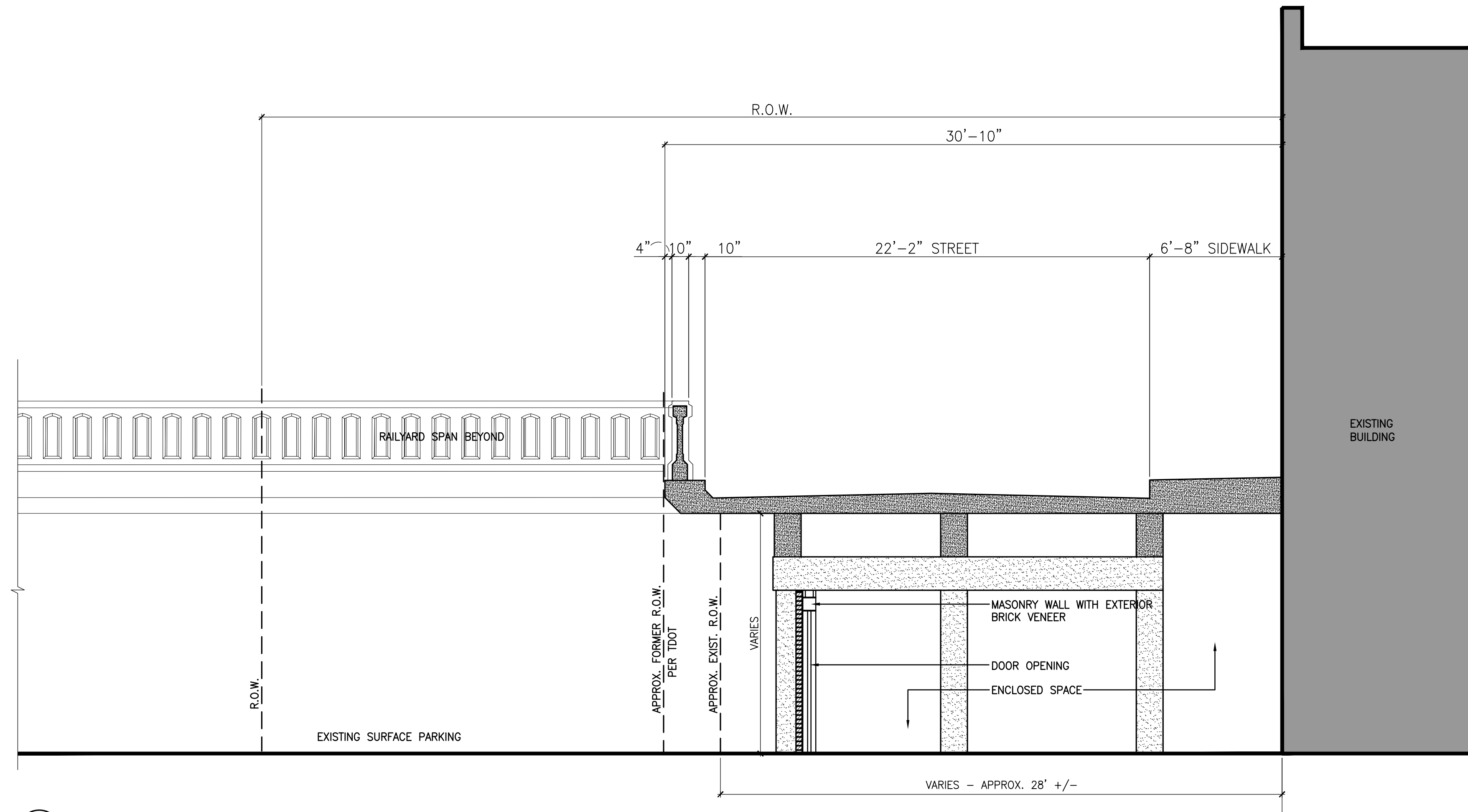
ROSS/FOWLER
 LANDSCAPE ARCHITECTURE
 URBAN DESIGN PLANNING



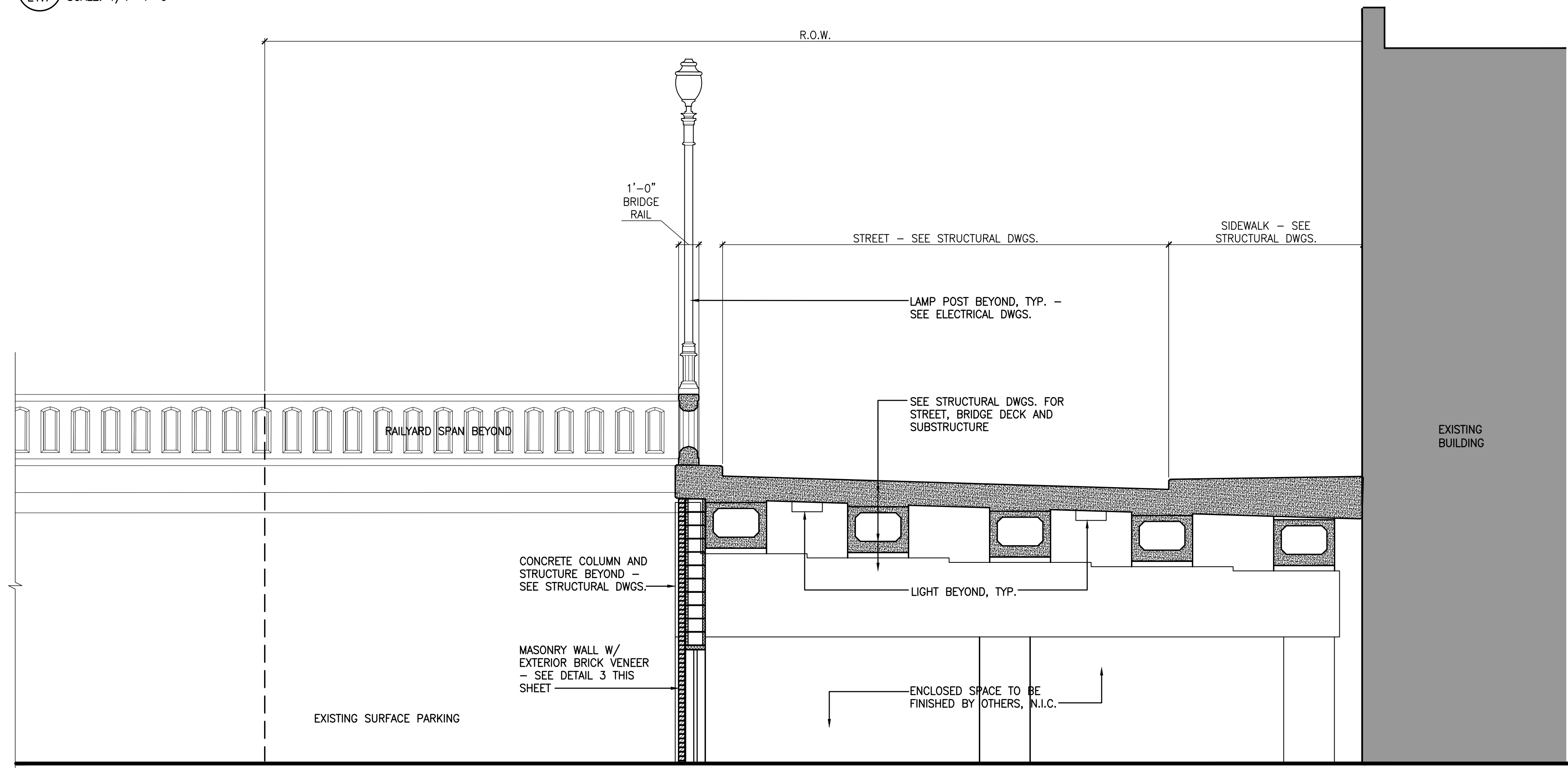
3 FREE-STANDING WALL DETAIL
L1.7 SCALE: 1"=1'-0"



4 HANDRAIL @ WALL SECTION
L1.7 SCALE: 1"=1'-0"



1 EXISTING SECTION THROUGH JACKSON AVENUE WEST RAMP - FOR GENERAL INFORMATION ONLY
L1.7 SCALE: 1/4"=1'-0"



2 PROPOSED SECTION THROUGH JACKSON AVENUE WEST RAMP
L1.7 SCALE: 1/4"=1'-0"

SHEET	
PROJECT NO.	
TYPE	
YEAR	

NO.	DATE	DESCRIPTION
1	5/3/19	FOR ADDENDUM 2



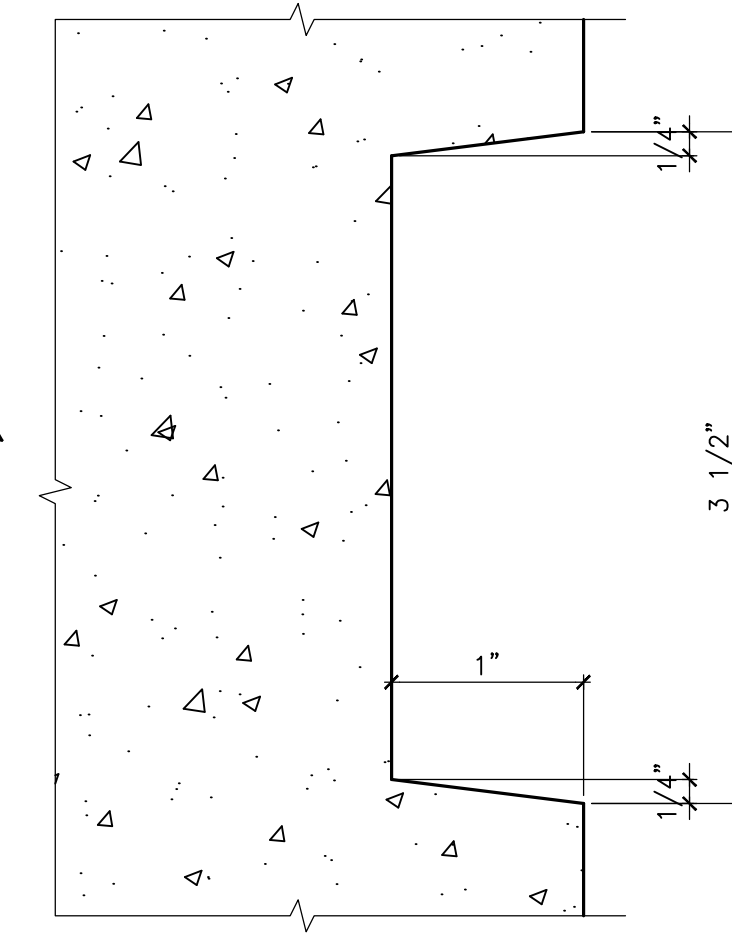
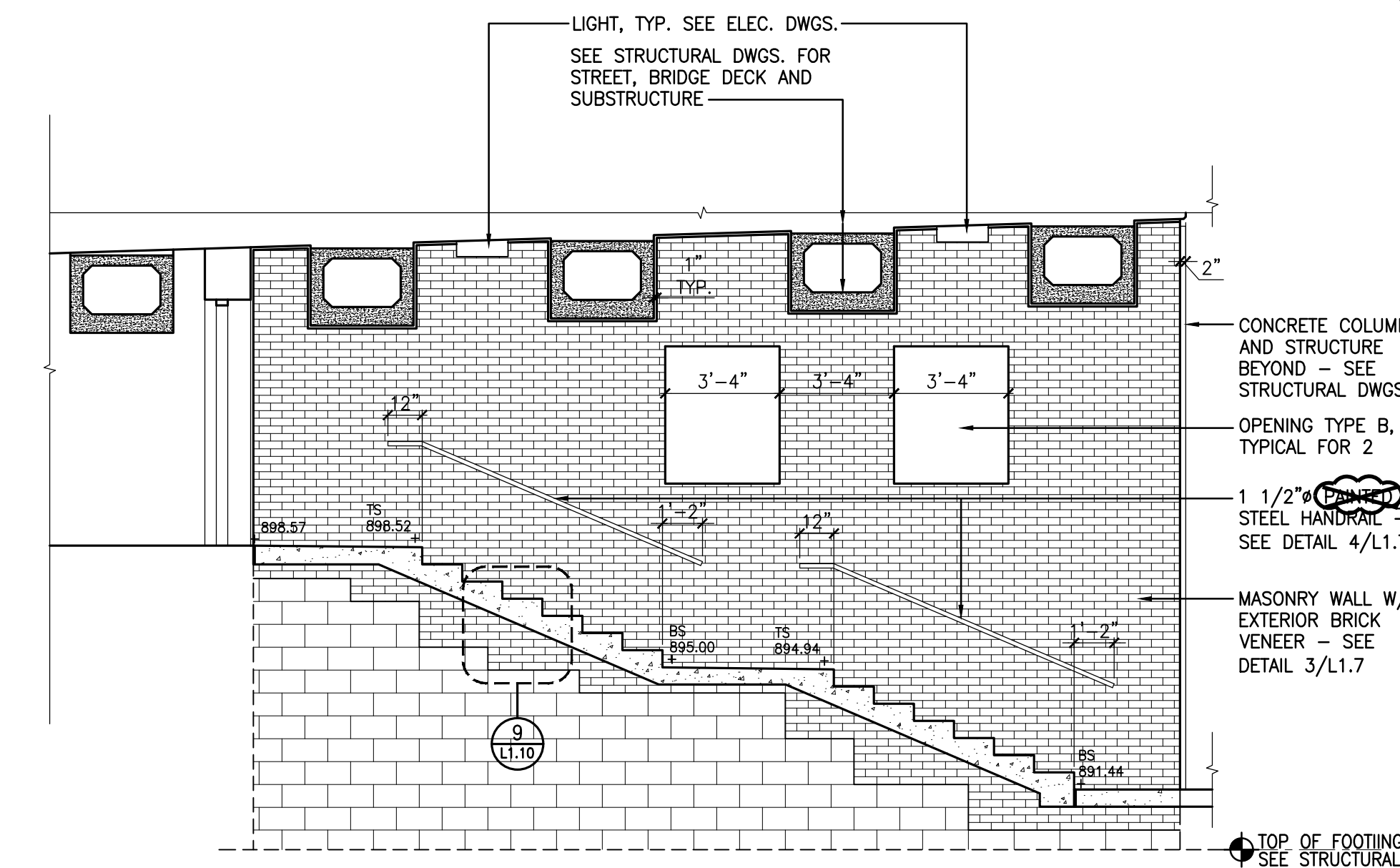
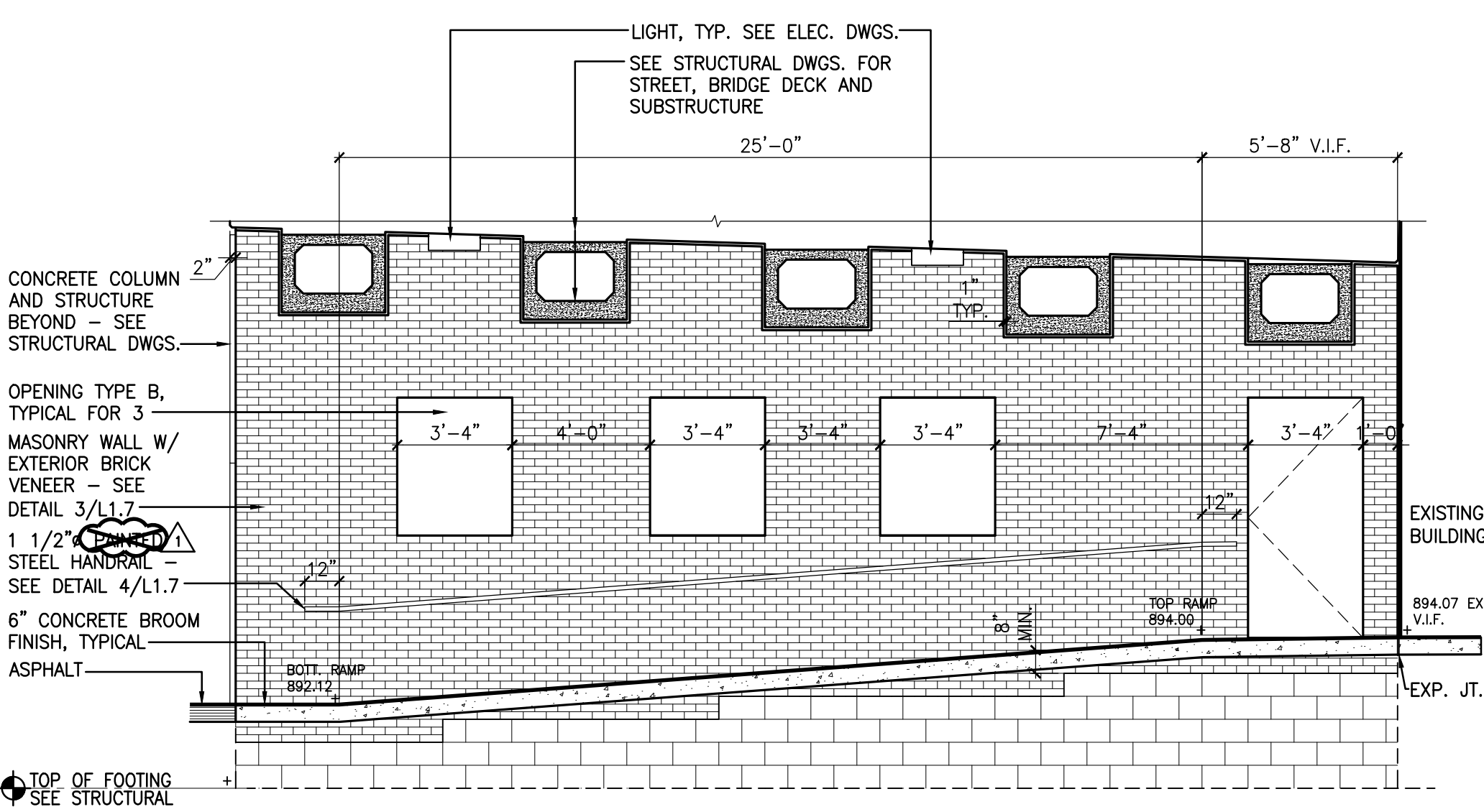
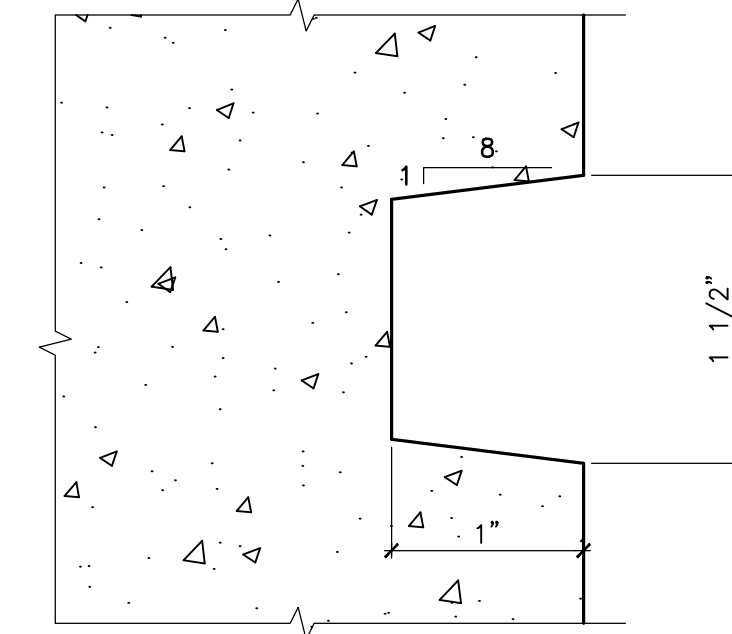
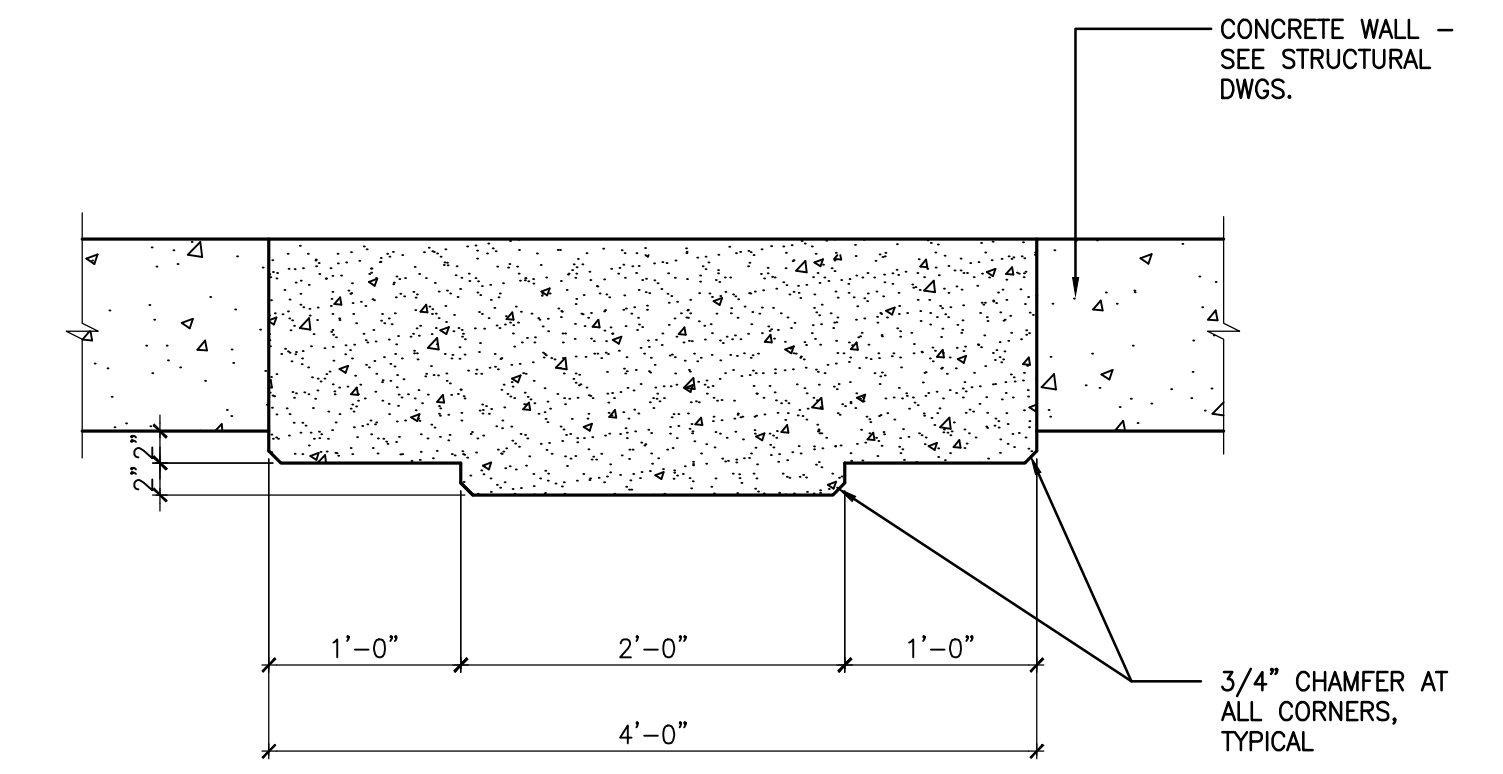
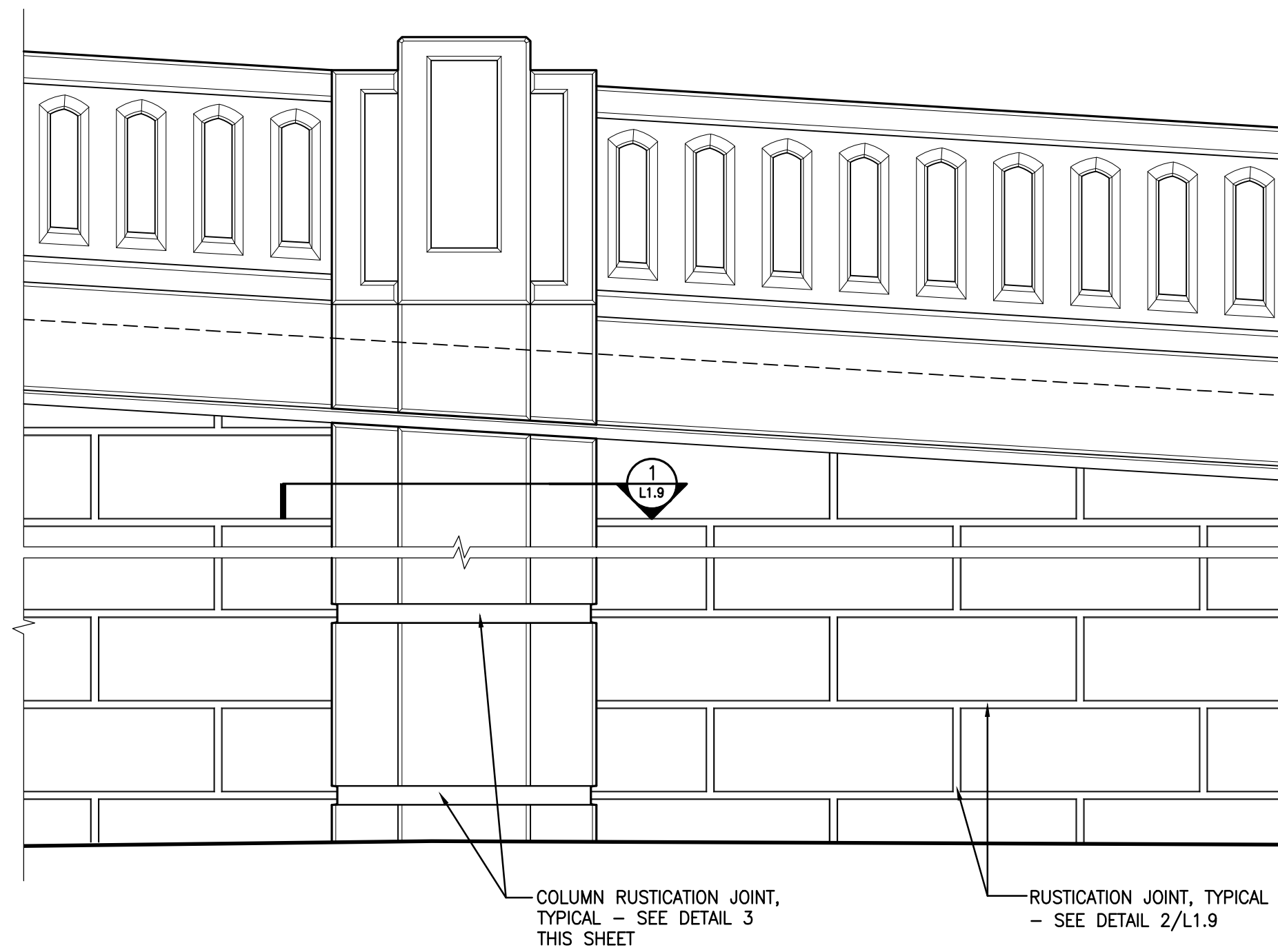
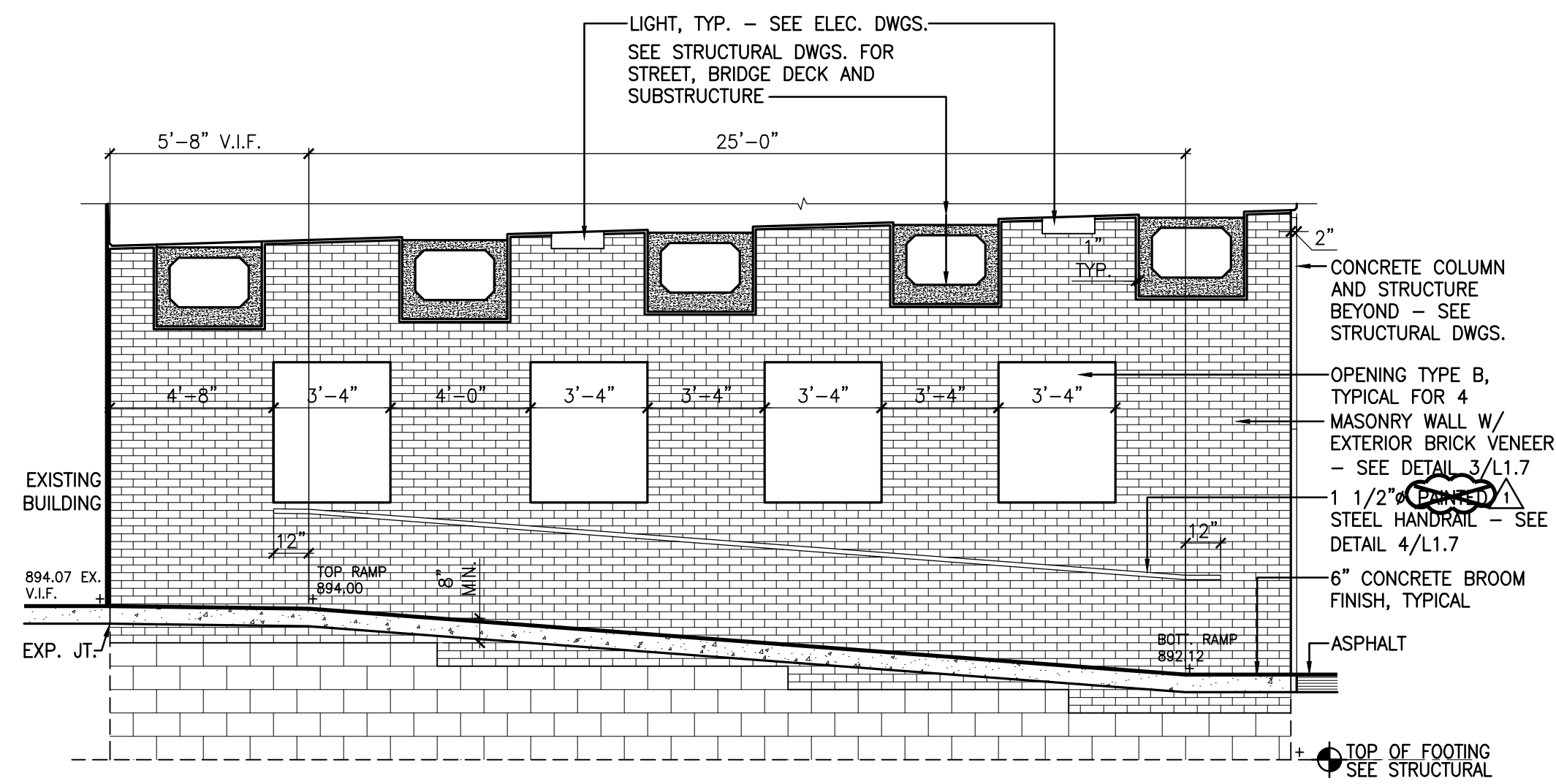
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DRAWN:	
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COK JOB NO:	
VM JOB NO:	
SCALE:	1/4" = 1'-0"
DATE:	JUNE 13, 2018
DRAWING TITLE:	JACKSON AVENUE WEST RAMP SECTIONS

SHEET	DRAWING NO:
7	OF
8	L1.7

ROSS/FOWLER
LANDSCAPE ARCHITECTURE
URBAN DESIGN PLANNING



SHEET	
PROJECT NO.	
YEAR	
TYPE	

NO.	DATE	REVISIONS	DESCRIPTION
1	5/3/19	FOR	APPENDUM 2



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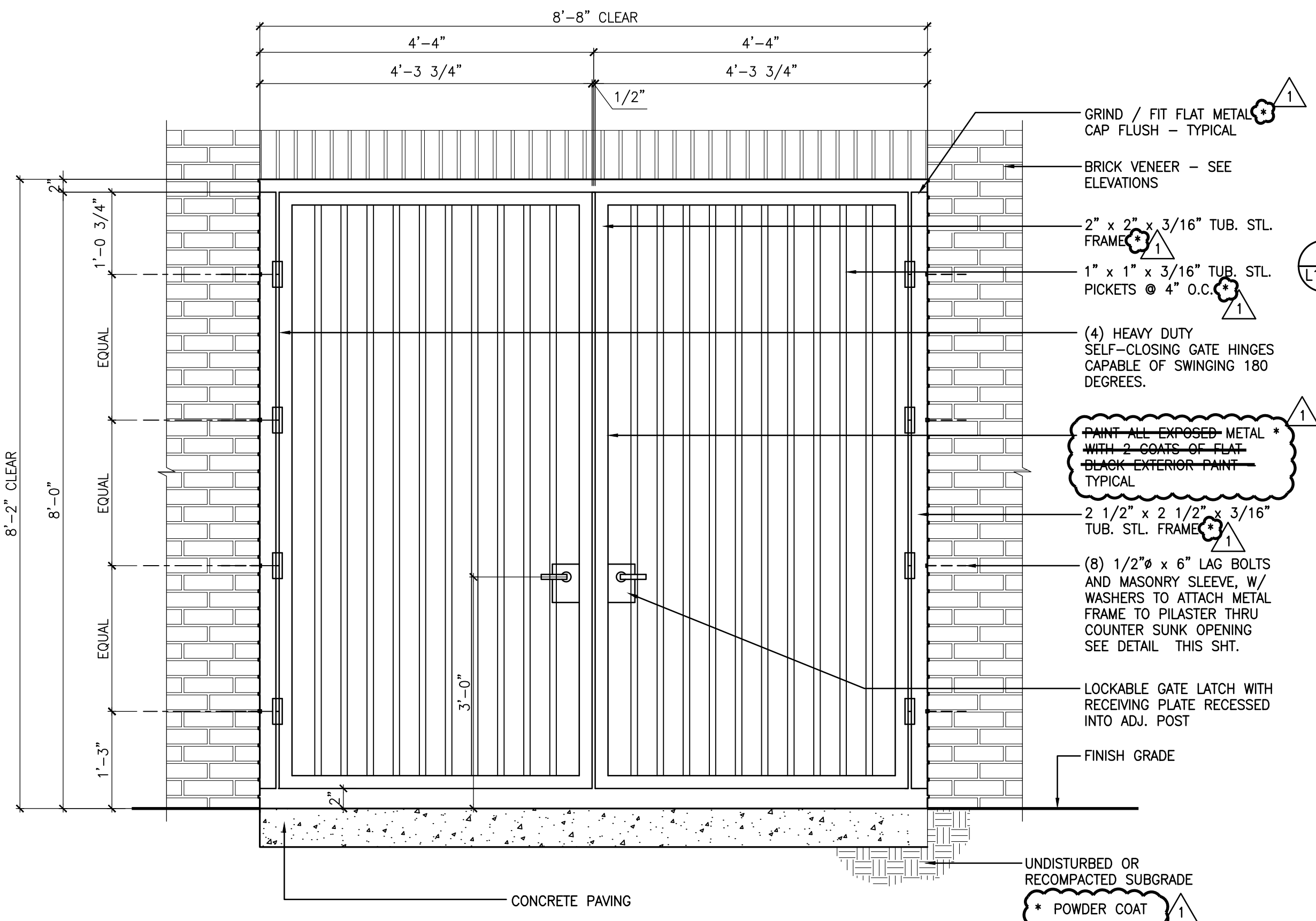
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CHECKED:	
COK JOB NO:	
VM JOB NO:	
SCALE:	AS SHOWN
DATE:	JUNE 13, 2018
DRAWING TITLE:	

JACKSON AVENUE RAMP DETAILS	
SHEET	DRAWING NO:
8	8
OF	L1.9

ROSS/FOWLER
LANDSCAPE ARCHITECTURE
URBAN DESIGN PLANNING

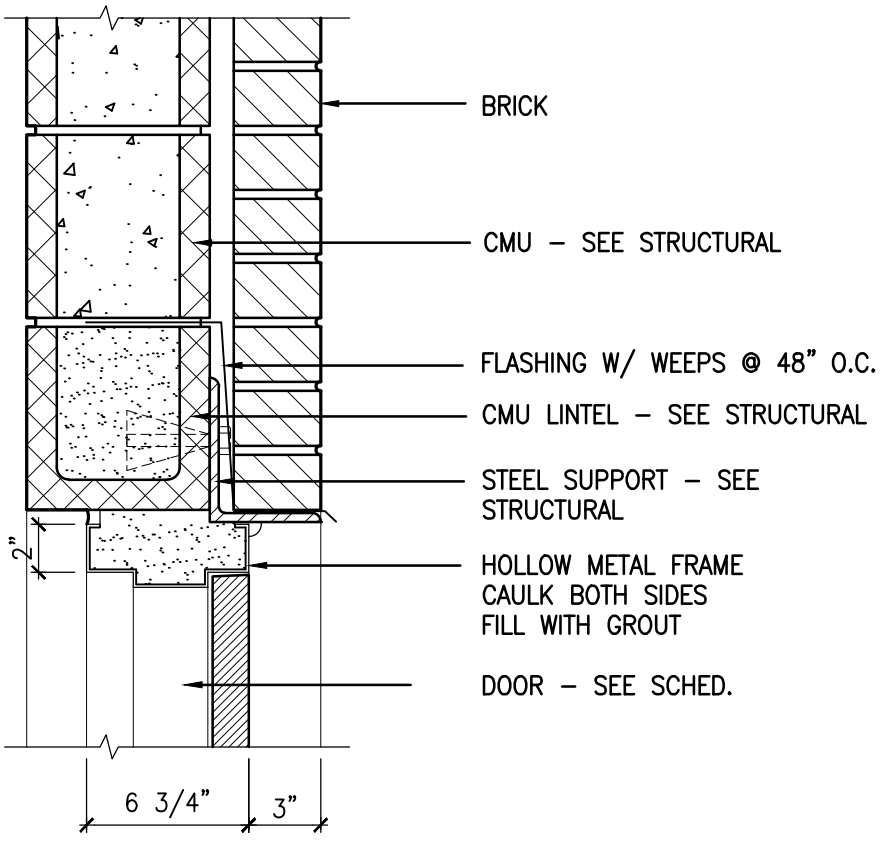
DOOR SCHEDULE

SPACE NAME	NO.	SIZE			DOOR			FRAME			DETAIL REFERENCE			SWING
		WIDTH	HEIGHT	THICK	TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	HEAD	JAMB	THRESH.	
UC GAY STREET TO OUTSIDE	100A	3'-0"	7'-2"	1 3/4"	A	HM	PTD	A	HM	PTD	5/L1.10	6/L1.10		SGL
WEST ONE TO OUTSIDE	100B	3'-0"	7'-2"	1 3/4"	A	HM	PTD	A	HM	PTD	5/L1.10	6/L1.10		SGL
WEST TWO TO OUTSIDE	100C	3'-0"	7'-2"	1 3/4"	A	HM	PTD	A	HM	PTD	5/L1.10	6/L1.10		DBL
WEST TWO TO OUTSIDE	100D	3'-0"	7'-2"	1 3/4"	A	HM	PTD	A	HM	PTD	5/L1.10	6/L1.10		SGL
WEST ONE TO ALLEY	100E	3'-0"	7'-2"	1 3/4"	A	HM	PTD	A	HM	PTD	5/L1.10	6/L1.10		SGL



8 GATE ELEVATION

L1.10 SCALE: 3/4" = 1'-0"

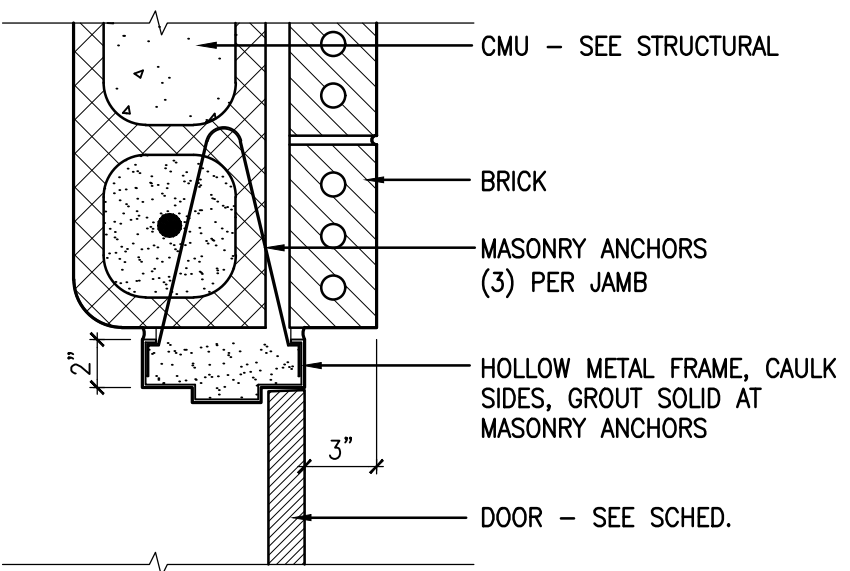


1 DOOR FRAME TYPES

L1.10 SCALE: 1/4" = 1'-0"

5 HEAD DETAIL

L1.10 SCALE: 1 1/2" = 1'-0"

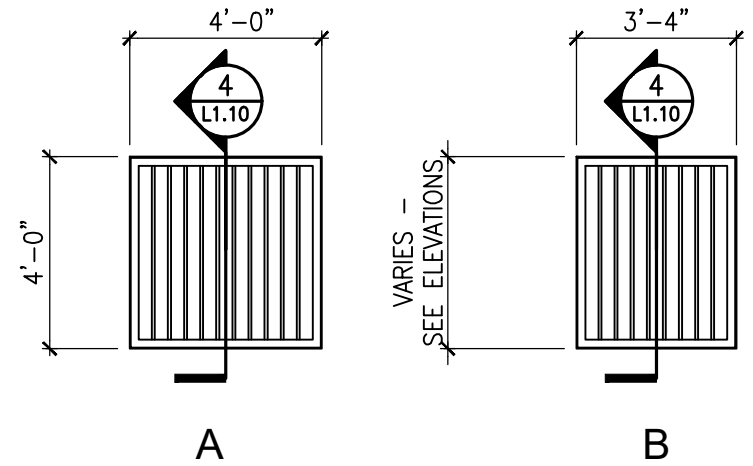


6 JAMB DETAIL

L1.10 SCALE: 1 1/2" = 1'-0"

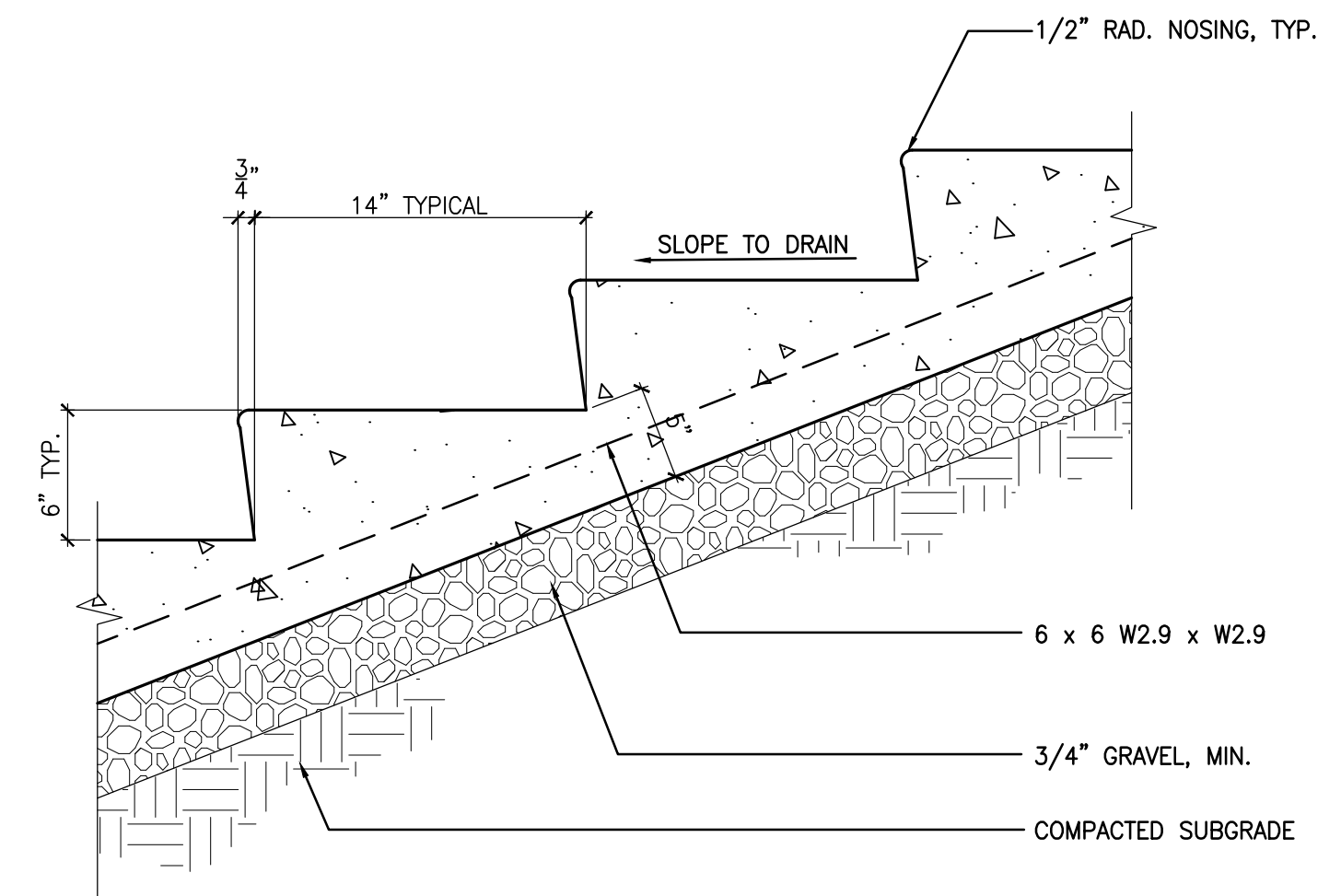
2 DOOR TYPES

L1.10 SCALE: 1/4" = 1'-0"



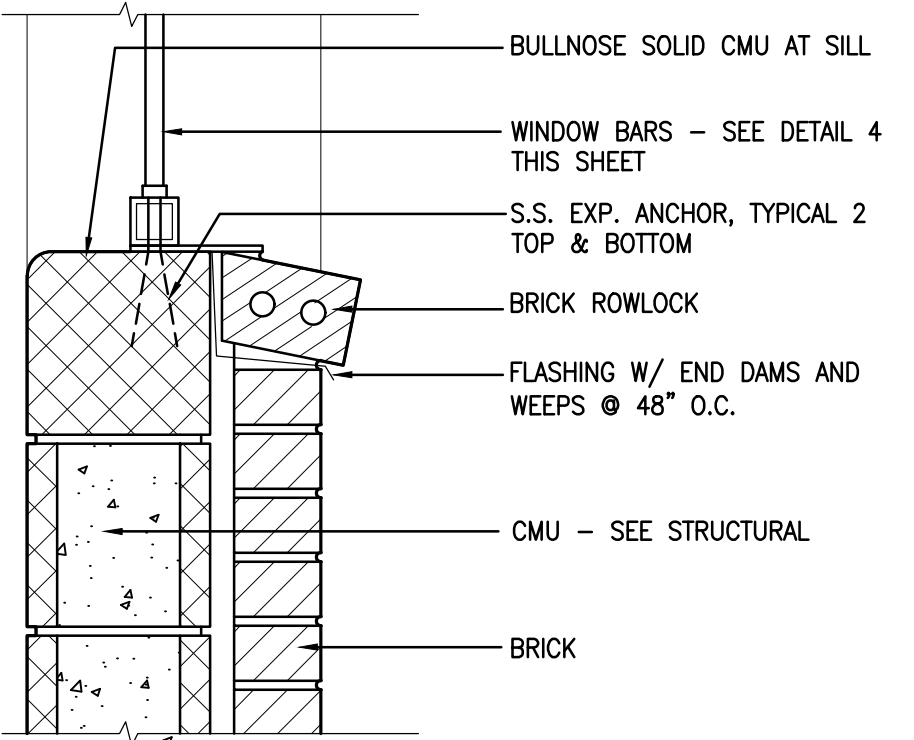
3 OPENING TYPES

L1.10 SCALE: 1/4" = 1'-0"



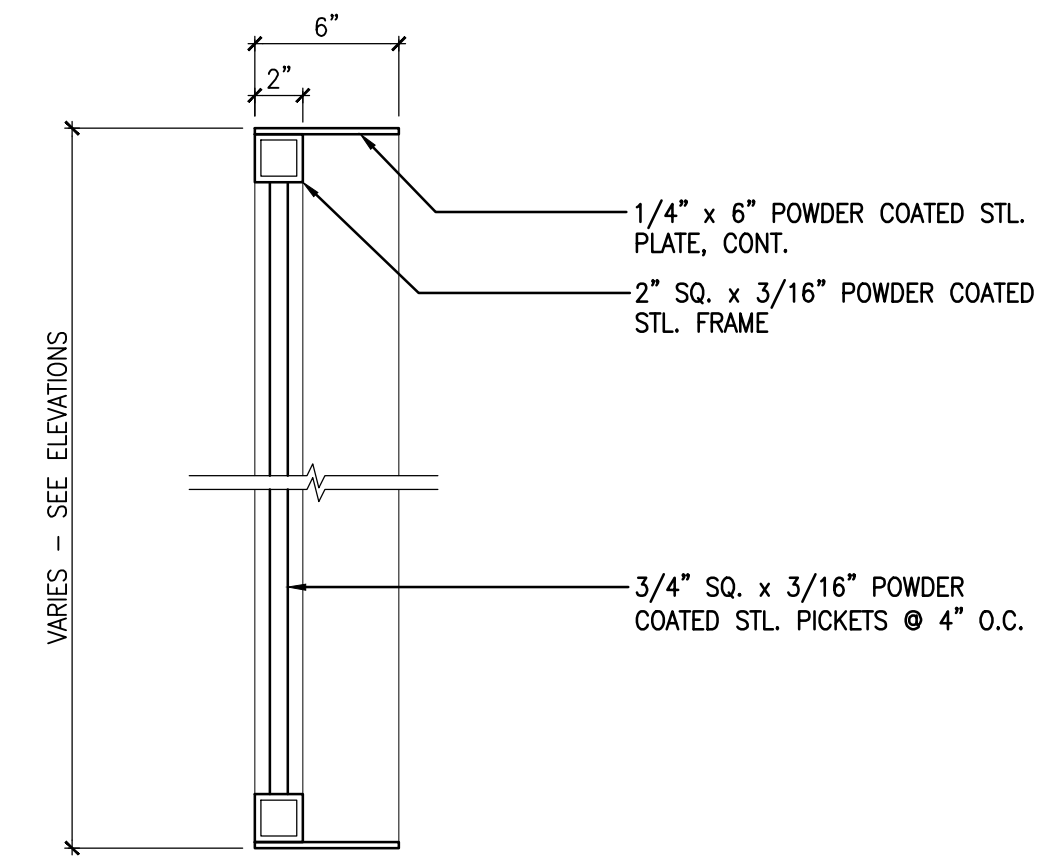
9 ENLARGED STEP DETAIL

L1.10 SCALE: 1 1/2" = 1'-0"



7 SILL DETAIL

L1.10 SCALE: 1 1/2" = 1'-0"

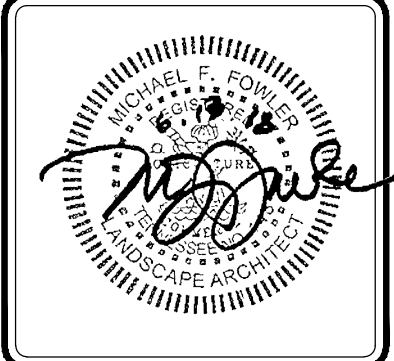


4 WINDOW BAR SECTION

L1.10 SCALE: 1 1/2" = 1'-0"

SHEET	
PROJECT NO.	
YEAR	
TYPE	

REVISIONS	DESCRIPTION
NO.	DATE
1	5/3/19
FOR ADDENDUM 2	



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COK JOB NO:	
VM JOB NO:	
SCALE:	AS SHOWN
DATE:	JUNE 13, 2018
DRAWING TITLE:	JACKSON AVENUE DR & FRAME TYPES DR & OPENING DETAILS

SHEET	DRAWING NO:
8	8
OF	L1.10

ROSS/FOWLER
LANDSCAPE ARCHITECTURE
URBAN DESIGN PLANNING

INDEX OF SHEETS

S1 - BOX BEAM BRIDGE, WEST RAMP

- S1.1 PLAN AND ELEVATION
- S1.2 GENERAL NOTES / ESTIMATED QUANTITIES
- S1.3 FOUNDATION DATA
- S1.4 FOUNDATION DATA
- S1.5 TYPICAL SECTION
- S1.6 DECK PLAN
- S1.7 SIDEWALK SUPPORT DETAILS
- S1.8 DIAPHRAGM DETAILS
- S1.9 PARAPET DETAILS
- S1.10 FRAMING PLAN
- S1.11 GIRDER DETAILS
- S1.12 BEARING PAD DETAILS
- S1.13 ABUTMENT 1, 1 OF 2
- S1.14 ABUTMENT 1, 2 OF 2
- S1.15 PIER, 1 OF 2
- S1.16 PIER, 2 OF 2
- S1.17 ABUTMENT 2, 1 OF 2
- S1.18 ABUTMENT 2, 2 OF 2
- S1.19 BILL OF STEEL, BAR TYPES

S2 - BOX BEAM BRIDGE, EAST RAMP

- S2.1 PLAN AND ELEVATION
- S2.2 GENERAL NOTES / ESTIMATED QUANTITIES
- S2.3 FOUNDATION DATA
- S2.4 FOUNDATION DATA
- S2.5 TYPICAL SECTION
- S2.6 DECK PLAN
- S2.7 DIAPHRAGM DETAILS
- S2.8 PARAPET DETAILS
- S2.9 FRAMING PLAN
- S2.10 GIRDER DETAILS
- S2.11 BEARING PAD DETAILS
- S2.12 ABUTMENT 1, 1 OF 2
- S2.13 ABUTMENT 1, 1 OF 2
- S2.14 PIER, 1 OF 2
- S2.15 PIER, 2 OF 2
- S2.16 SHARED ABUTMENT 2, 1 OF 2
- S2.17 SHARED ABUTMENT 2, 2 OF 2
- S2.18 BILL OF STEEL, BAR TYPES

S3 - SLAB BRIDGE, EAST RAMP

- S3.1 PLAN AND ELEVATION
- S3.2 GENERAL NOTES / ESTIMATED QUANTITIES
- S3.3 FOUNDATION DATA
- S3.4 DECK PLAN / TYPICAL SECTION
- S3.5 PARAPET DETAILS
- S3.6 ABUTMENT 2, 1 OF 2
- S3.7 ABUTMENT 2, 2 OF 2
- S3.8 BILL OF STEEL, BAR TYPES

S4 - RETAINING WALLS

- S4.1 PLAN AND ELEVATION
- S4.2 GENERAL NOTES / ESTIMATED QUANTITIES
- S4.3 WEST RAMP, NORTH WALL, 1 of 2
- S4.4 WEST RAMP, NORTH WALL, 2 of 2
- S4.5 WEST RAMP, SOUTH WALL
- S4.6 EAST RAMP, NORTH WALL, 1 of 2
- S4.7 EAST RAMP, NORTH WALL, 2 of 2
- S4.8 EAST RAMP, SOUTH WALL
- S4.9 SECTIONS AND DETAILS, 1 of 3
- S4.10 SECTIONS AND DETAILS, 2 of 3
- S4.11 SECTIONS AND DETAILS, 3 of 3
- S4.12 PARAPET DETAILS, 1 of 2
- S4.13 PARAPET DETAILS, 2 of 2
- S4.14 BILL OF REINFORCEMENT
- S4.15 MICROPILE DRILLING RECORD

S5 - MISC. STRUCTURES BENEATH RAMPS

- S5.1 FOUNDATION PLAN
- S5.2 GENERAL NOTES / ESTIMATED QUANTITIES
- S5.3 CMU WALL ELEVATIONS, 1 OF 2
- S5.4 CMU WALL ELEVATIONS, 2 OF 2
- S5.5 SLAB ON GRADE DETAILS
- S5.6 CMU WALL DETAILS
- S5.7 FALSE COLUMN DETAILS
- S5.8 CONCRETE WALL
- S5.9 MICROPILE DRILLING RECORD

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL	S1	S2	S3	S4	S5
202-01.02	REMOVAL OF ASBESTOS	L.S.	1		1			
① 202-04.01	REMOVAL OF STRUCTURES (BR. NO. 47-C899-00.01, STA 40+23.86 to 43+05.41)	L.S.	1					
② 202-04.02	REMOVAL OF STRUCTURES (BR. NO. 47-C899-00.03, STA 43+95.46 TO 46+95.60)	L.S.	1					
204-04.10	STRUCTURE EXCAVATION UNCLASSIFIED	C.Y.	632	185	144	52		251
204-05.01	CORE DRILLING AND SAMPLING	L.F.	690	315	315	60		
④ 204-10.30	FOUNDATION PREPARATION	L.S.	1					
303-01.03	GRANULAR BACKFILL (RETAINING WALL)	TONS	1,901				1,901	
604-02.03	EPOXY COATED REINFORCING STEEL	LB.	96,300	46,500	38,200	8,700	2,900	
604-03.01	CLASS A CONCRETE (BRIDGES)	C.Y.	435.1	213.0	180.4	41.7		
604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	75,300	35,300	31,900	8,100		
604-03.02	STEEL BAR REINFORCEMENT (FTGS, WALL, AND FALSE COLUMNS)	LB.	10,900					10,900
⑦ 604-03.04	PAVEMENT @ BRIDGE ENDS	S.Y.	118	59		59		
604-03.07	CLASS A CONCRETE (FTGS, WALL, AND FALSE COLUMNS)	C.Y.	137.6					137.6
604-03.08	CLASS A CONCRETE (RETAINING WALL)	C.Y.	709.5				709.5	
⑦ 604-03.09	CLASS D CONCRETE (BRIDGE DECK)	C.Y.	496.8	246.0	212.4	38.4		
⑦ 604-04.02	APPLIED TEXTURE FINISH (SANDBLASTING)	S.Y.	786	111	111	20	544	
604-07.28	RETAINING WALL EXCAVATION	C.Y.	1,592				1,592	
604-05.31	BRIDGE DECK GROOVING (MECHANICAL)	S.Y.	76			76		
604-10.43	PENETRATING WATER REPELLENT CONCRETE SEAL	S.Y.	109	58	51			
604-11.01	EXPANSION DEVICE (2" STRIPSEAL EXP. JT.)	L.F.	144	82	62			
610-07.03	18" PIPE DRAIN (BRIDGE DRAIN)	L.F.	310	156		154		
615-02.37	PRESTRESSED CONCRETE BOX BEAM (30" X 36")	L.F.	1,188.1	601.0	587.1			
620-03.10	CONCRETE PARAPET (TEXAS CLASSIC)	L.F.	582.3	125.7	124.3	22.3	310.0	
⑥ 620-15	HANDRAIL ASSEMBLY (SAFETY RAILING FOR FIRE ALLEY)	L.F.	12				12	
624-03.01	RETAINING WALL REINFORCING STEEL	LB.	81,900				81,900	
625-02.01	DRILLED SHAFT-SOIL (42")	V.F.	429	191	194	44		
625-02.14	DRILLED SHAFT-ROCK (42")	V.F.	160	72	72	16		
625-02.40	DRILLED SHAFT CONCRETE	C.Y.	211.7	93.3	96.9	21.5		
625-02.44	DRILLED SHAFT REINFORCING STEEL	LB.	64,700	27,900	29,500	7,300		
625-02.46	SONIC LOGGING TESTING	EA.	20	9	9	2		
③ 714-01	STRUCTURAL LIGHTING	L.S.	1					
⑤ 714-08.34	REMOVAL OF LIGHT STANDARD	EA.	1					
908-21.01	BEARINGS (1/2"x6"x24" ELASTOMERIC)	EA.	8			8		
920-02.08	BRICK PAVING	S.F.	5,310	2,660	2,650			
920-10.01	REMOVAL & STOCKPILING OF EXISTING BRICK PAVERS	S.F.	12,562					
717-01.04	MICROPILE MOBILIZATION	L.S.	1					
⑩ 606-29.01	MICROPILE (9 5/8" x 3/8" MICROPILE)	L.F.	5,841				4,554	1,287
⑩ 606-28.05	TEST PILES (9 5/8" x 3/8" MICROPILE)	L.F.	274				208	66
⑩ 606-29.02	PROOF LOADING TEST (9 5/8" x 3/8" MICROPILE)	EA.	10				8	2
⑩ 613-02	BRICK MASONRY	MBRK	22.75					22.75
613-02.01	12" CONCRETE MASONRY WALL	S.F.	3,250					3,250
604-01.54	SLAB-ON-GRADE	S.F.	7,930					7,930

- ① LUMP SUM: REMOVAL OF ENTIRE EAST STRUCTURE. EAST RAMP CONSISTS OF 16 CONTINUOUSLY SUPPORTED CAST-IN-PLACE GIRDER SPANS. LENGTH 222.4' WITH 22' MAXIMUM OUT-TO-OUT WIDTH. 17 CONCRETE CAP BENTS. SUBSTRUCTURES TO BE REMOVED TO ONE FOOT BELOW PROPOSED GROUND LEVEL. FOR ANY EXISTING SUBSTRUCTURES LOCATED WHERE PROPOSED SUBSTRUCTURES ARE TO BE LOCATED, THE ENTIRE FOOTING SHALL BE REMOVED BEFORE BEGINNING CONSTRUCTION OF THE NEW STRUCTURE.
- ② LUMP SUM: REMOVAL OF ENTIRE WEST STRUCTURE. WEST RAMP CONSISTS OF 19 CONTINUOUSLY SUPPORTED CAST-IN-PLACE GIRDER SPANS. LENGTH 253.5' WITH 22' MAXIMUM OUT-TO-OUT WIDTH. 20 CONCRETE CAP BENTS. SUBSTRUCTURES TO BE REMOVED TO ONE FOOT BELOW PROPOSED GROUND LEVEL. FOR ANY EXISTING SUBSTRUCTURES LOCATED WHERE PROPOSED SUBSTRUCTURES ARE TO BE LOCATED, THE ENTIRE FOOTING SHALL BE REMOVED BEFORE BEGINNING CONSTRUCTION OF THE NEW STRUCTURE.

- ③ LUMP SUM FOR STRUCTURE LIGHTING, ITEM NO.714-01.01 INCLUDES 583 FT. 2"Ø PVC SCHEDULE 40 CONDUIT WITH PULL WIRES, 4 JUNCTION BOXES, 48 ANCHOR BOLTS AND ALL NECESSARY MATERIALS FOR INSTALLATION OF STRUCTURE LIGHTING.
- ④ SEE FOUNDATION PREPARATION NOTE ON THE GENERAL NOTES SHEET FOR EACH STRUCTURE.
- ⑤ REMOVAL OF LIGHT STANDARD BID ITEM INCLUDES ALL WORK NECESSARY FOR THE REMOVAL OF EXISTING LIGHTING COMPONENTS FOR THE ENTIRE PROJECT.
- ⑥ TO RECEIVE A POWDER COATED FINISH.
- ⑦ CONCRETE SURFACE SHALL BE STAMPED AND COLORED TO LOOK LIKE THE EXISTING BRICK PAVERS ON RAMP.

LIST OF STD DRAWINGS

DWG NO	LAST REV DATE
STD-1-5	03/26/2014
STD-1-6	04/28/1997
STD-1-7	08/24/2011
STD-1-8	05/01/1995
STD-3-1	11/01/2010
STD-3-2	11/01/2010
STD-6-1	11/01/2010
STD-6-2	11/07/1994
STD-9-1	10/07/2008
STD-10-1	04/08/2005
STD-14-3	10/15/2008

LIST OF SPEC PROVISIONS

PROV NO	LAST REV DATE
625	05/18/2017
624	05/14/2018

NO.	DATE	DESCRIPTION	QUANTITY	REVISIONS
1	5/3/19			



**JACKSON AVENUE BRIDGES
OVER RAMP TO GAY STREET**

CITY OF KNOXVILLE
KNOX COUNTY, TN.



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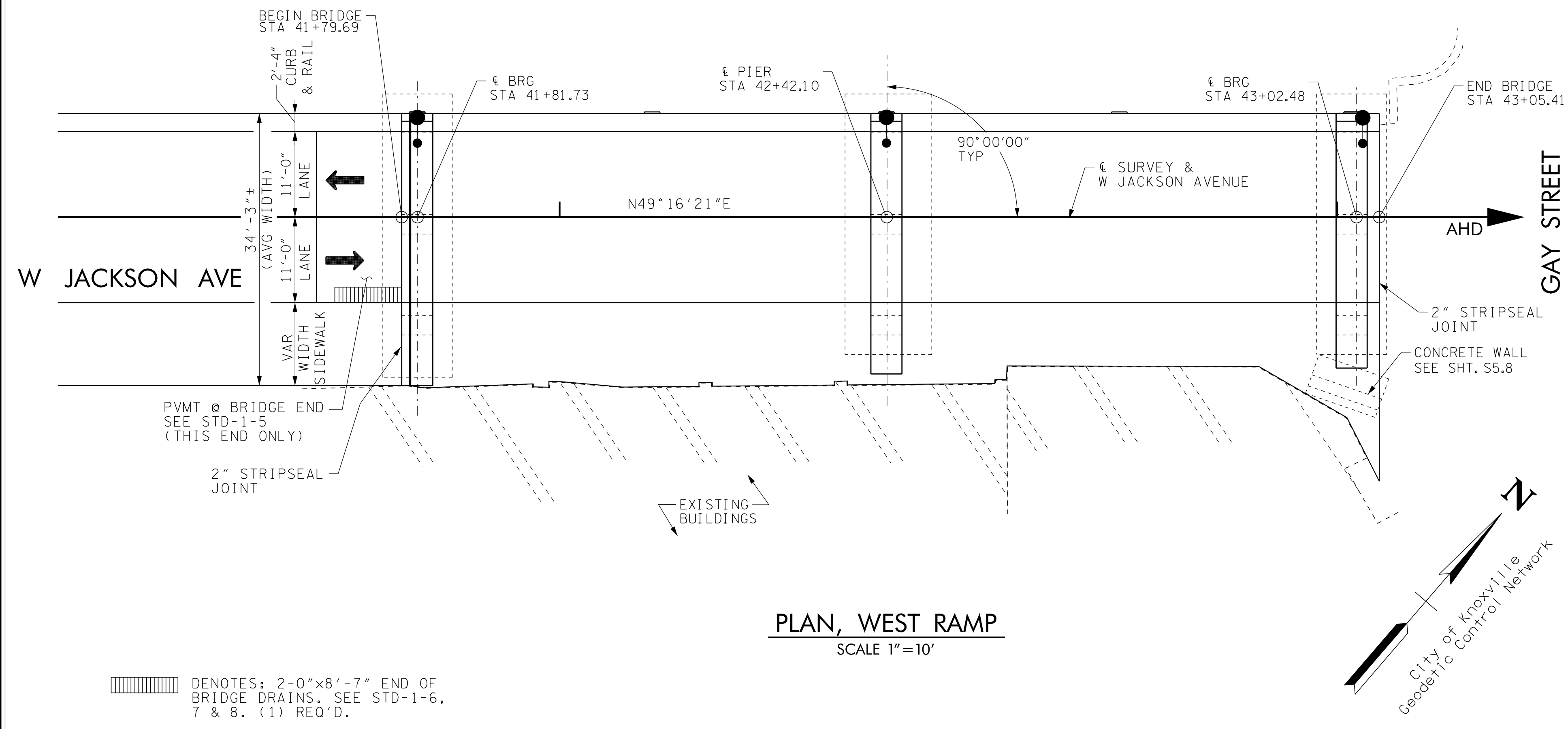
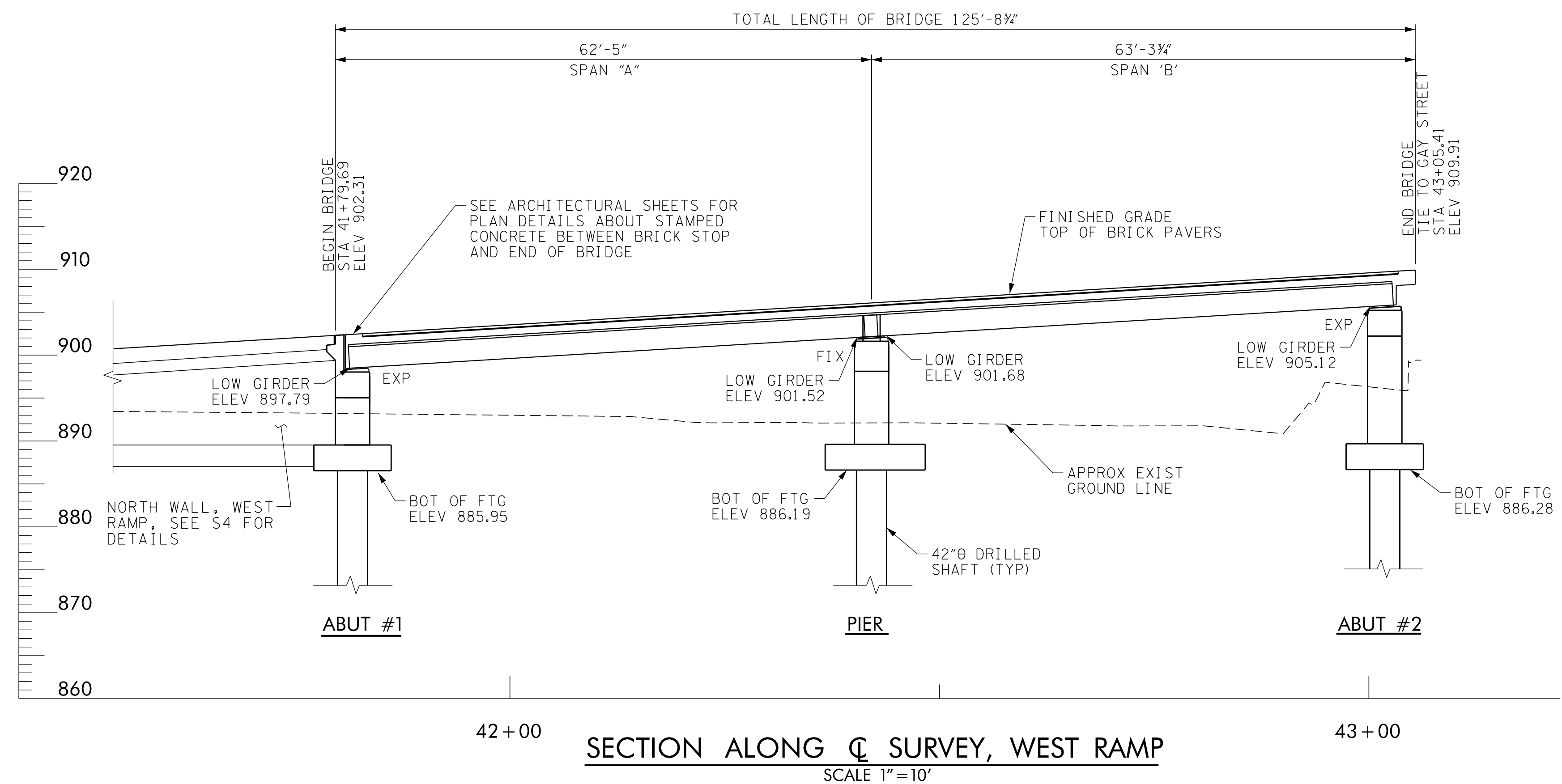
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DRAWN:
CHECKED:
COK JOB NO: 12A-B-0522
VM JOB NO: 50820-56
SCALE:
DATE: 03-09-2018
DRAWING TITLE:
INDEX AND STD. DWGS.
DRAWING NO:
S0.1

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LIST OF DRAWINGS

LAST REV DATE

- S1.1 PLAN AND ELEVATION
- S1.2 GENERAL NOTES / ESTIMATED QUANTITIES
- S1.3 FOUNDATION DATA
- S1.4 FOUNDATION DATA
- S1.5 TYPICAL SECTION
- S1.6 DECK PLAN
- S1.7 SIDEWALK SUPPORT DETAILS
- S1.8 DIAPHRAM DETAILS
- S1.9 PARAPET DETAILS
- S1.10 FRAMING PLAN
- S1.11 GIRDER DETAILS
- S1.12 BEARING PAD DETAILS
- S1.13 ABUTMENT 1, 1 OF 2
- S1.14 ABUTMENT 1, 2 OF 2
- S1.15 PIER, 1 OF 2
- S1.16 PIER, 2 OF 2
- S1.17 ABUTMENT 2, 1 OF 2
- S1.18 ABUTMENT 2, 2 OF 2
- S1.19 BILL OF STEEL, BAR TYPES

LIST OF STD DRAWINGS

DWG NO LAST REV DATE

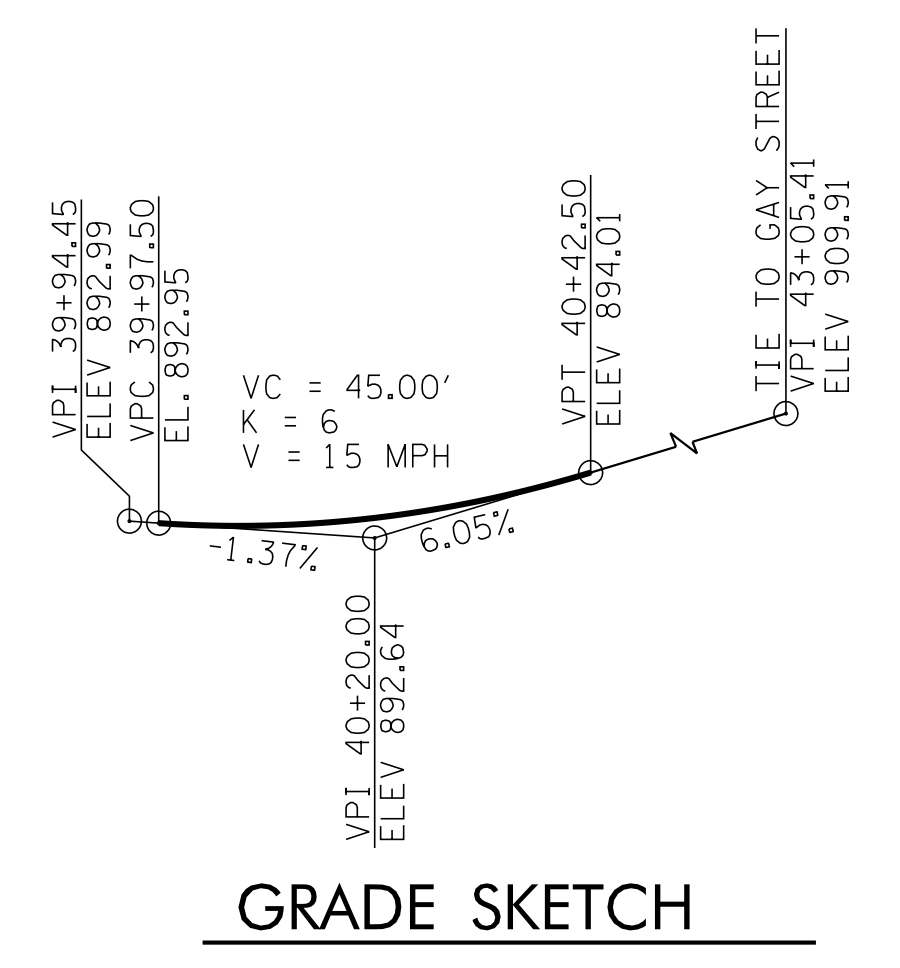
LIST OF STD DRAWINGS	DWG NO	LAST REV DATE
PAVEMENT AT BRIDGE ENDS	STD-1-5	03/26/2014
BRIDGE END DRAIN WITH PABE	STD-1-6	04/28/1997
BRIDGE END DRAIN WITH PABE	STD-1-7	08/24/2011
BRIDGE END DRAIN 2'X8'7" WITH PABE	STD-1-8	05/01/1995
STRIPSEAL EXPANSION JOINT	STD-3-1	11/01/2010
STRIPSEAL EXPANSION JOINT	STD-3-2	11/01/2010
STANDARD SEISMIC DETAILS	STD-6-1	11/01/2010
STANDARD SEISMIC DETAILS	STD-6-2	11/07/1994
REINF BAR SUPPORT DETAILS FOR CONC SLABS	STD-9-1	10/07/2008
MISC ABUT AND DRAINAGE DETAILS	STD-10-1	04/08/2005
STD DETAILS FOR PRESTRESSED BOX BEAMS	STD-14-3	10/15/2008
•TRAFFIC RAIL TEXAS CLASSIC TYPE T411	RLSTD008	07/20/2014

• SEE HYPERLINK BELOW TO ACCESS THE STANDARD DRAWING FOR THE TEXAS CLASSIC TYPE T411 RAILING.
<https://www.dot.state.tx.us/insdtdot/orgchart/cmd/cserve/standard/bridge-e.htm>

LIST OF SPEC PROVISIONS

PROV NO LAST REV DATE

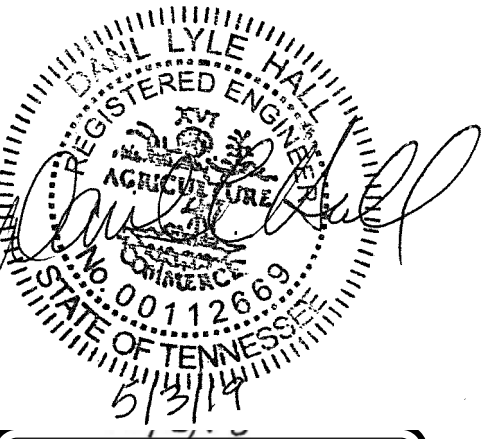
LIST OF SPEC PROVISIONS	PROV NO	LAST REV DATE
DRILLED SHAFT SPECIFICATIONS	625	05/18/2017



NOTE: DRAWINGS OF EXISTING STRUCTURE NOT AVAILABLE.

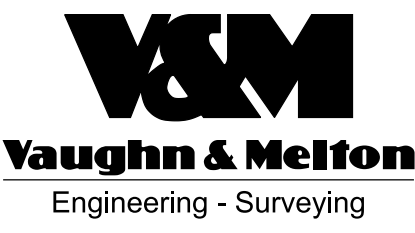
REVISIONS

NO.	DATE	DESCRIPTION	DATE FOR D.S.SPEC.
1	5/3/19		



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DRAWN:
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CHK JOB NO: 12A-B-0522
VM JOB NO: 50820-56
SCALE:
DATE: 03-09-2018
DRAWING TITLE:
PLAN AND ELEVATION
DRAWING NO:
S1.1

GENERAL NOTES

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (JANUARY 1, 2015)

LOADING: HL93 LIVE LOADING; SEISMIC ZONE 1 WITH $A_s = 0.183$, $S_DS = 0.331$, AND $S_{D1} = 0.118$. FUTURE WEARING SURFACE IS NOT INCLUDED IN THE DESIGN DUE TO BRICK PAVERS AS THE RIDING SURFACE.

DESIGN SPECIFICATIONS: AASHTO LRFD 7TH EDITION W/2016 INTERIMS, AND THE 2011 AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN, EDITION 2 (WITH INTERIMS).

CONCRETE: TO BE CLASS "A" $f'c = 3,000$ psi EXCEPT AS NOTED OTHERWISE. CLASS "D" CONCRETE $f'c = 4,000$ psi

CLASS "D" CONCRETE FOR BRIDGE DECKS AND SIDEWALKS SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.

DRILLED SHAFT CONCRETE SHALL CONFORM TO TDOT CLASS "X" ($f'c = 4,000$ psi) AND WITH MAX. COURSE AGGREGATE SIZE NO. 67 (¾"). SEE SHEETS S1.13 THRU S1.18 AS WELL AS SPECIAL PROVISION 625.

BRIDGE DECK FORMS FOR CONCRETE DECKS SHALL BE CONSTRUCTED USING EITHER REMOVABLE FORMS OR PERMANENT FORMS. PERMANENT FORMS MAY BE EITHER REMAIN-IN-PLACE STEEL OR PRECAST, PRESTRESSED CONCRETE PANELS. IN EITHER CASE, FORMS SHALL BE ATTACHED BY MEANS OTHER THAN WELDING TO MAIN STRUCTURAL MEMBERS OR REINFORCING STEEL. TEMPORARY ERECTION DIAPHRAGMS MUST BE USED AT THE ENDS OF PRECAST CONCRETE GIRDERS WHERE END DIAPHRAGMS, SUPPORT DIAPHRAGMS, OR ABUTMENT BACKWALLS ARE TO BE POURED CONCURRENTLY WITH THE DECK AND SHALL BE PROVIDED ELSEWHERE IN ACCORDANCE WITH THE SPECIFICATIONS TO PREVENT GIRDER ROTATION. SEE STANDARD DRAWING STD-14-3 AND ARTICLE 604.05 OF THE STANDARD SPECIFICATIONS.

BEARING DEVICES SHALL BE IN ACCORDANCE WITH THE DETAILS AND DIMENSIONS SHOWN ON DRAWING S1.12.

REINFORCING STEEL: SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS. EPOXY COAT ALL SUPERSTRUCTURE STEEL.

BRIDGE RAIL SYSTEM: BUILD BRIDGE RAILINGS ACCORDING TO DETAILS SHOWN ON DRAWING S1.9.

DEMOLITION OF EXISTING RAMPS: THE ENTIRE ELEVATED JACKSON AVENUE RAMPS ON EITHER SIDE OF GAY STREET ARE TO BE DEMOLISHED. THE WEST SIDE OF THE JACKSON AVENUE RAMPS IS APPROXIMATELY 282 FEET IN LENGTH AND THE EAST RAMP IS APPROXIMATELY 289 FEET IN LENGTH.

TO MINIMIZE ADVERSE IMPACTS TO THE HISTORIC BUILDINGS DURING DEMOLITION OF THE RAMPS, THE CONTRACTOR WILL REMOVE THE ELEVATED CONCRETE SIDEWALKS AND SLABS BY SAWCUTTING A SECTION AT A TIME, DRILLING HOLES INTO THE CONCRETE AND SETTING ANCHOR BOLTS, AND THEN CONNECTING TO A CRANE HOIST AND CAREFULLY HOISTING AWAY FROM THE EXISTING BUILDING FACADES. ALL PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT ANY DEBRIS FROM FALLING ON AND DAMAGING THE NEAR BY HISTORIC BUILDINGS. SPECIAL ATTENTION SHALL BE GIVEN TO THE STOREFRONT AREAS BENEATH THE WEST RAMP, WHERE IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THE GLASS. ANY DAMAGE THAT OCCURS WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

WHEN REMOVING EXISTING SUBSTRUCTURES, PROTECTIVE MEASURES NEED TO BE TAKEN TO PREVENT ANY DAMAGE TO THE EXISTING HISTORIC BUILDINGS. ANY DAMAGE THAT OCCURS WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL COLUMNS AND FOOTINGS OF THE EXISTING FOUNDATION SHALL BE REMOVED ONE FOOT BELOW EXISTING GROUND LINE AND THE GROUND SURFACE RESTORED TO IT'S ORIGINAL CONDITION. EXISTING FOUNDATIONS LOCATED WHERE PROPOSED FOUNDATIONS ARE LOCATED SHALL BE REMOVED IN THEIR ENTIRETY TO CONSTRUCT THE NEW FOUNDATIONS.

A TEMPORARY CHAIN LINK FENCE SHALL BE MAINTAINED IN THE AREA AT ALL TIMES DURING THE REMOVAL OF THE EXISTING STRUCTURE AND CONSTRUCTION OF THE PROPOSED STRUCTURE.

THE EXISTING BRICK PAVERS ON THE DRIVING SURFACES OF THE RAMPS SHALL BE CAREFULLY REMOVED AND STOCKPILED TO BE RE-USED FOR THE DRIVING SURFACE ON THE PROPOSED BOX BEAM BRIDGE ROADWAY SURFACES. THE BOX BEAM BRIDGES HAVE BEEN DESIGNED AND DETAILED TO ACCOMMODATE THE PLACEMENT OF 1" BED OF SAND AND BRICK PAVERS FOR THE ROADWAY OF THE PROPOSED STRUCTURES.

THE CONTRACTOR SHALL PROVIDE 100% CONVENTIONAL FALL PROTECTION FOR WORKERS INSTALLING DECKING ABOVE 15 FEET.

SHOP DRAWINGS: SEE SECTION 105.02 OF THE STANDARD SPECIFICATIONS.

CONCRETE SEALER: CONCRETE SEALER SHALL BE APPLIED TO SUBSTRUCTURES COINCIDING WITH EXPANSION JOINT LOCATIONS BEFORE PLACEMENT OF BEARING DEVICES AND APPLYING TEXTURE COATING. CONCRETE SEALER SHALL BE APPLIED TO THE FRONT VERTICAL FACE OF THE ABUTMENT BACKWALL, THE FRONT AND TOP OF THE ABUTMENT BEAM PLUS ANY OTHER FACES THAT ARE DEEMED NECESSARY BY THE ENGINEER. CONCRETE SEALER SHALL BE APPLIED TO THE TOP AND VERTICAL SURFACES OF THE BENT CAP.

CONCRETE SHALL BE CLEAN AND DRY BEFORE APPLYING THE CONCRETE SEAL, AND THE THICKNESS OF THE SEAL SHALL BE AS RECOMMENDED BY THE SEALANT MANUFACTURER. ACCEPTABLE CONCRETE MAINTAINED BY THE DIVISION OF MATERIALS AND TESTS. THE SEALER SHALL BE CLEAR OR SIMILAR TO THE COLOR OF EXISTING CONCRETE SURFACES TO BE SEALED. THE COST OF THE SEALER, COMPLETE AND IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE OF THE EXPANSION DEVICE AT EACH SUBSTRUCTURE.

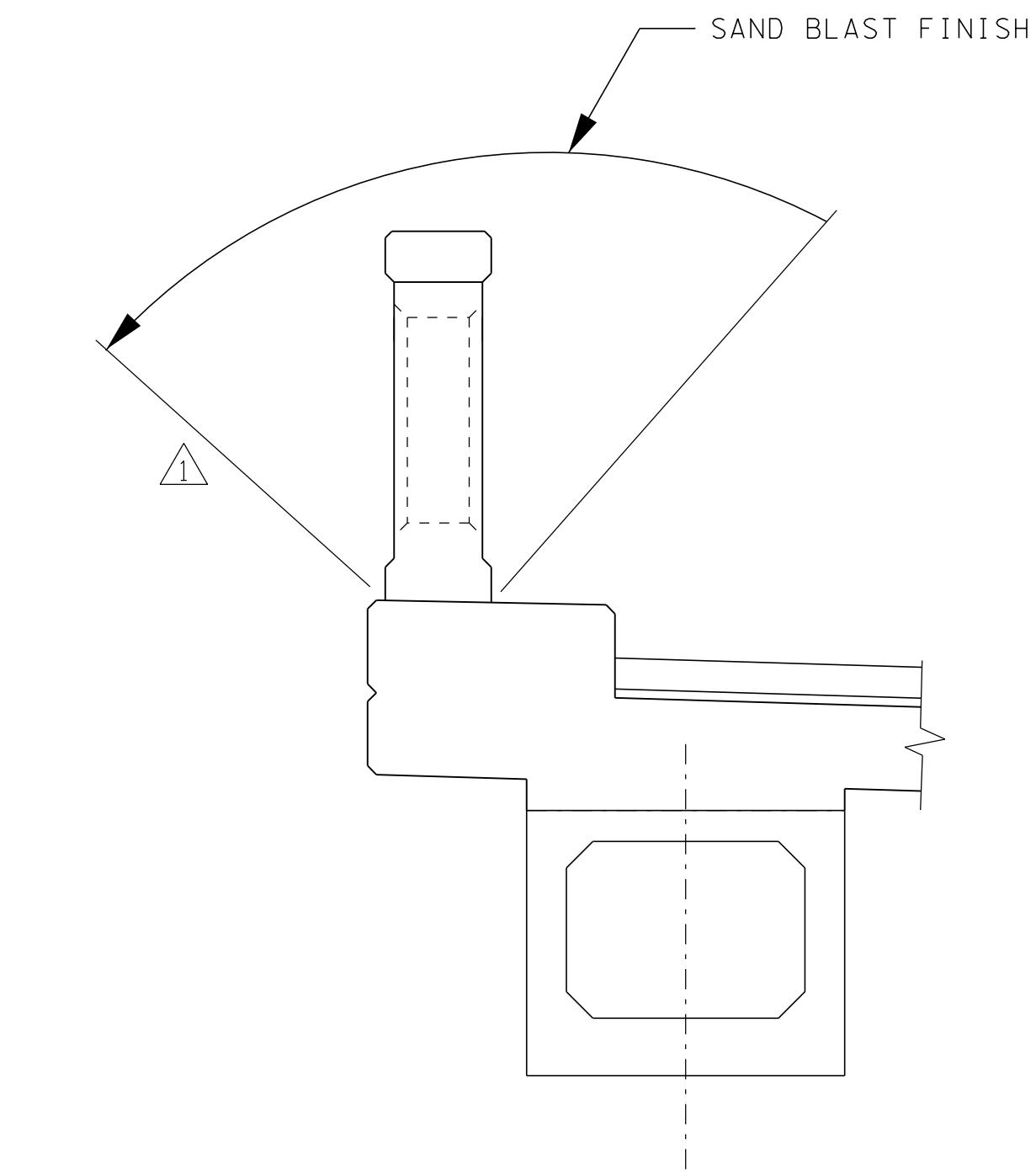
FOUNDATION PREPARATION: SEE SECTION 204 OF THE STANDARD SPECIFICATIONS. IF COFFERDAMS ARE REQUIRED, THEY SHALL BE IN ACCORDANCE WITH SECTION 204.09 OF THE STANDARD SPECIFICATIONS. THE QUANTITY ITEM IS LOCATED IN THE PROJECT QUANTITY LIST LOCATED ON SHEET S0.1.

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL	SUPERSTRUCTURE	ABUT. NO. 1	PIER	ABUT. NO. 2
204-04.10	STRUCTURE EXCAVATION UNCLASSIFIED	C.Y.	185		58	73	54
⑥ 204-05.01	CORE DRILLING AND SAMPLING	L.F.	315		105	105	105
604-02.03	EPOXY COATED REINFORCING STEEL	LB.	46,500	45,400	1,100		
⑩ 604-03.01	CLASS A CONCRETE (BRIDGES)	C.Y.	213.0		68.3	79.4	65.3
604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	35,300		10,800	13,100	11,400
⑬ ① 604-03.04	PAVEMENT @ BRIDGE ENDS	S.Y.	59				
⑬ ② 604-03.09	CLASS D CONCRETE (BRIDGE DECK)	C.Y.	246.0	246.0			
⑫ 604-04.02	APPLIED TEXTURE FINISH (SANDBLASTING)	S.Y.	111	111			
604-10.43	PENETRATING WATER REPELLENT CONCRETE SEAL	S.Y.	58		58		
② ⑤ 604-11.01	EXPANSION DEVICE (ABUT. NOS. 1 & 2) (2" STRIPSEAL EXP. JT.)	L.F.	82	82			
④ 610-07.03	18" PIPE DRAIN (BRIDGE DRAIN)	L.F.	156		156		
③ 615-02.37	PRESTRESSED CONCRETE BOX BEAM (30" X 36")	L.F.	601.0	601.0			
620-03.10	CONCRETE PARAPET (TEXAS CLASSIC)	L.F.	125.7	125.7			
⑦ 625-02.01	DRILLED SHAFT-SOIL (42")	V.F.	191		69	61	61
⑦ 625-02.14	DRILLED SHAFT-ROCK (42")	V.F.	72		24	24	24
625-02.40	DRILLED SHAFT CONCRETE	C.Y.	93.3		33.1	30.0	30.2
⑨ 625-02.44	DRILLED SHAFT REINFORCING STEEL	LB.	27,900		9,600	9,500	8,800
⑧ 625-02.46	SONIC LOGGING TESTING	EA.	9		3	3	3
⑪ 920-02.08	BRICK PAVING	S.F.	2,660	2,660			

- ① PRIOR TO CONSTRUCTION OF THE PAVEMENT AT BRIDGE ENDS, THE CONTRACTOR SHALL SUBMIT A PROPOSED BILL OF STEEL TO THE ENGINEER FOR APPROVAL.
- ② THE PRICE BID FOR ROADWAY EXPANSION DEVICES TO INCLUDE THE OF 98 S.Y OF CONCRETE SEAL REQUIRED. SEE GENERAL NOTES FOR DESCRIPTION OF CONCRETE SEAL.
- ③ COST OF ELASTOMERIC PADS AND RUBBER BONDING CEMENT TO BE INCLUDE IN THE UNIT PRICE BID FOR THE PRESTRESSED BEAM.
- ④ COST OF MECHANICAL COUPLERS, FITTINGS, EXCAVATION, AND BACKFILLING SHALL BE INCIDENTAL TO THE COST OF ITEM 610-07.03, 18" PIPE DRAIN (BRIDGE DRAIN).
- ⑤ THE EXPANSION JOINT AT EACH END OF THE BRIDGE SHALL BE IN ACCORDANCE WITH SECTION 623.03 OF THE STANDARD SPECIFICATIONS. THE TOTAL REQUIRED MOVEMENT IS ¼ INCH. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF STRUCTURES FOR APPROVAL.
- ⑥ SEE ARTICLE 625.31 OF THE SPECIAL PROVISIONS. THE INTENT IS FOR THE CORE DRILLING AND SAMPLING TO BE PERFORMED PRIOR TO SHAFT DRILLING, SUBJECT TO THE APPROVAL FROM THE GEOTECHNICAL DIVISION ENGINEER. THESE CORES ARE TO BE USED TO PRE-DETERMINE ACCEPTABLE SHAFT TIP ELEVATIONS. CORES SHALL EXTEND 10' BELOW ESTIMATED TIP ELEVATIONS SHOWN ON THE PLANS. 1 CORE IS REQUIRED PER SHAFT.
- ⑦ THE COST OF THE FOLLOWING ITEMS IS TO BE INCLUDED IN THE UNIT BID PRICE FOR ITEMS 625-02.01 AND 625-02.14.
 1. DRILLING THE SHAFT
 2. CLEANING AND INSPECTING THE SHAFT
 3. INSTALLATION OF ALL CASING
 4. INSTALLATION OF 1½" DIAMETER PIPES IN SHAFTS FOR CSL TESTING (4 CSL TUBES ARE REQUIRED PER SHAFT)

- ⑧ THE CSL TESTING FIRM MUST BE PRESENT FOR ALL SHAFT POURS.
- ⑨ THE CONTRACTOR SHALL HAVE THE STABILITY OF THE SHAFT CAGE VERIFIED BY AN ENGINEER LICENSED IN TENNESSEE.
- ⑩ THE COST OF BITUMINOUS-FIBERBOARD AND ALL MISCELLANEOUS EXPANSION JOINT MATERIAL TO BE INCLUDED IN THE UNIT PRICE BID FOR CLASS A CONCRETE (BRIDGES).
- ⑪ BRICK PAVERS SHALL BE PROVIDED FROM PAVERS REMOVED AND STOCKPILED FROM THE EXISTING BRIDGE DECK. SEE PAY ITEM NUMBER 920-10.01. REMOVAL & STOCKPILING OF EXISTING BRICK PAVERS, ON SHEET S0.1. PATTERN SHALL MATCH EXISTING PATTERN OF THE BRICK PAVERS AND PLACED WITH UNWORN SIDE UP.
- ⑫ SANDBLASTING SHALL NOT COMMENCE UNTIL 21 DAYS AFTER THE CONCRETE HAS BEEN PLACED. WHEN CARRYING OUT ANY SANDBLASTING OPERATION, THE CONTRACTOR SHALL TAKE SUITABLE PROTECTIVE MEASURES TO ENSURE THAT NO DAMAGE OCCURS TO ANY PORTION OF THE BARRIER. THE TEXTURE OF THE SANDBLASTED FINISH SHALL BE DETERMINED FROM TRIAL SANDBLASTING OF AREAS OF THE WORK, AS A GENERAL GUIDE, SANDBLASTING SHALL BE SUCH AS TO EXPOSE THE COARSE AGGREGATE WITH A TEXTURE DEPTH OF NO MORE THAN ¼ INCH. UPON COMPLETION OF THE SANDBLASTING, THE BLASTED SURFACE AND ADJACENT AREAS SHALL BE WASHED DOWN WITH A HIGH PRESSURE JET TO REMOVE LOOSE SAND AND BLASTING DEBRIS.
- ⑬ CONCRETE SURFACE SHALL BE STAMPED AND COLORED TO LOOK LIKE THE EXISTING BRICK PAVERS ON RAMP.



APPLIED TEXTURE FINISH SKETCH

SPECIAL NOTES FOR SAND BLAST FINISHING OF CONCRETE SURFACES:

- PARAPET CONCRETE SHALL BE COLORED A LIGHT BROWN PRIOR TO RECEIVING A SAND BLAST FINISH TO MATCH GAY STREET BRIDGE PARAPET.
- CONTRACTOR SHALL PREPARE AN ON-SITE SAMPLE (MOCK-UP) OF THE SAND BLAST FINISH FOR APPROVAL BY THE RESIDENT ENGINEER AND CITY OF KNOXVILLE ENGINEERS. APPROVAL SHALL BE OBTAINED BEFORE PROCEEDING WITH WORK, AND ALL COMPLETED WORK SHALL MATCH THE APPROVED SAMPLE.

NO.	DATE	DESCRIPTION
1	5/3/19	TEXTURE SKETCH/NOTE



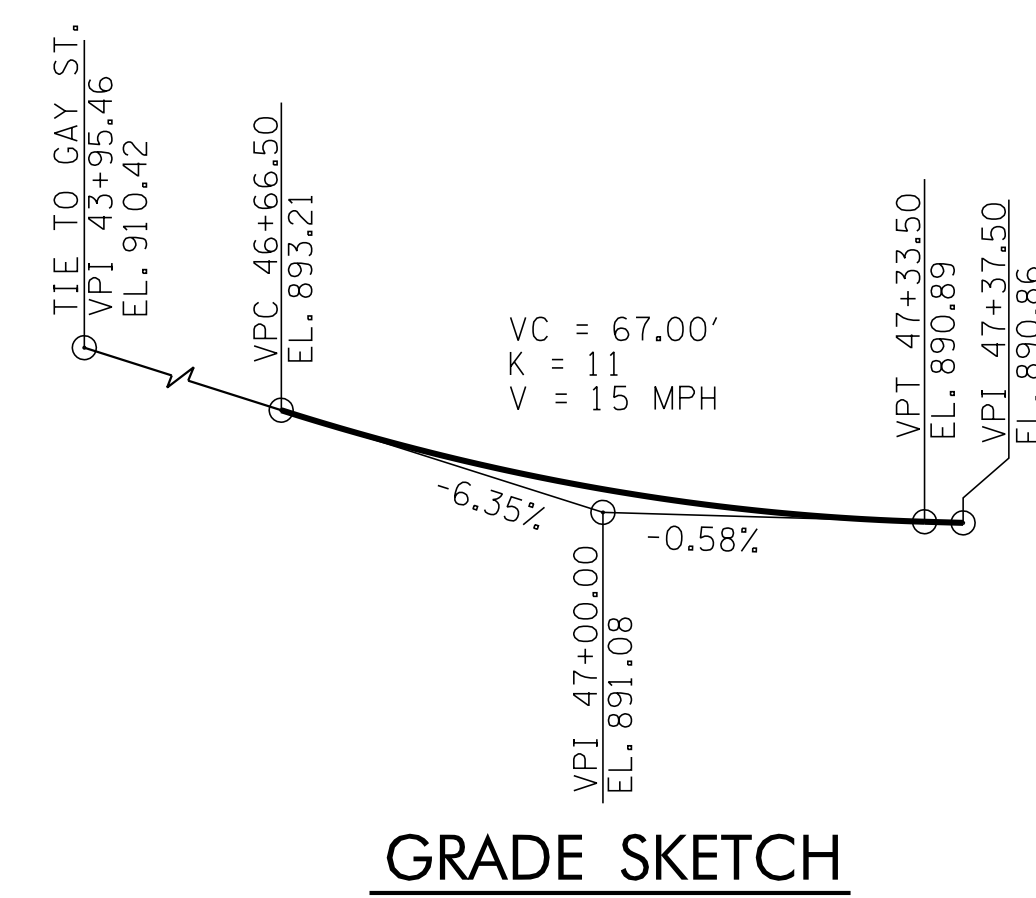
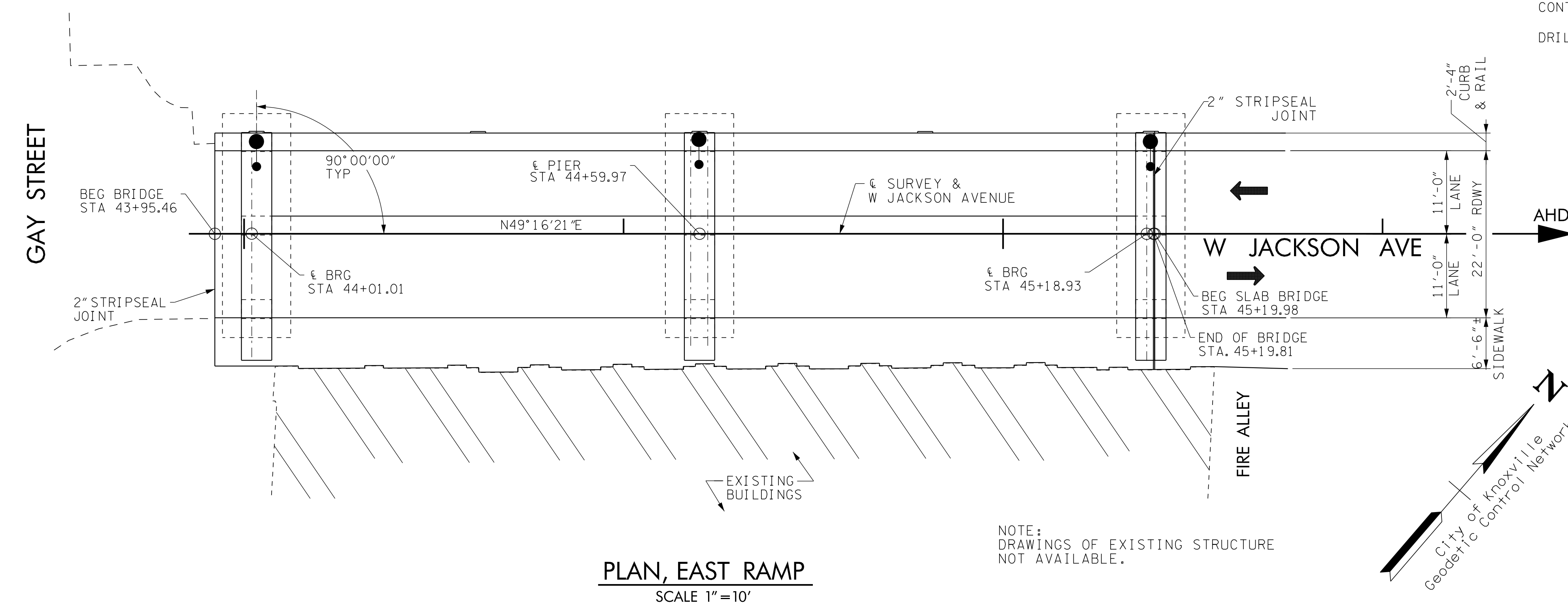
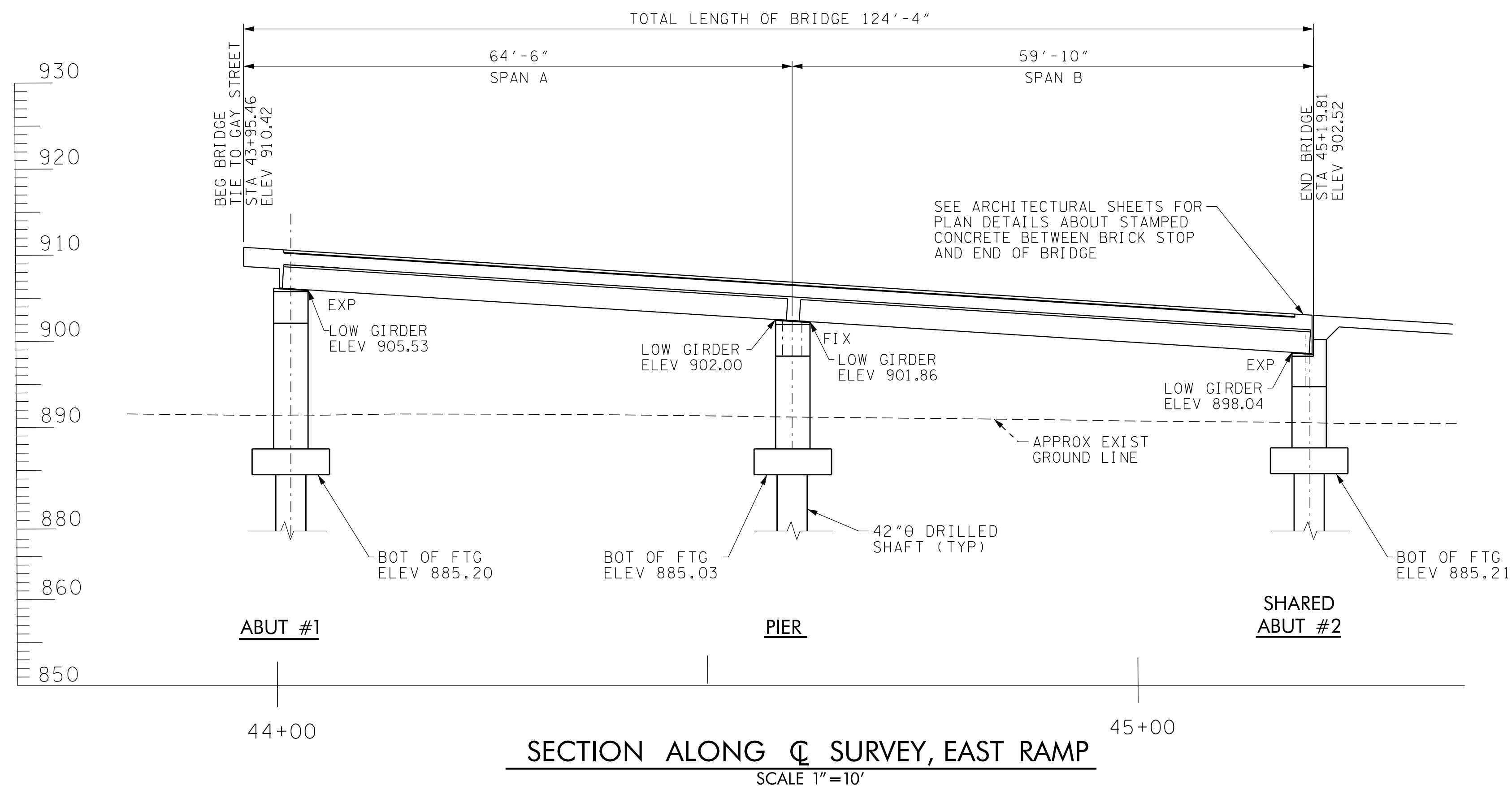
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CK JOB NO: 12A-B-0522
VM JOB NO: 50820-56
SCALE:
DATE: 03-09-2018
DRAWING TITLE: GEN. NOTES / ESTIMATED QUANTITIES
DRAWING NO: S1.2

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LIST OF DRAWINGS

LAST REV DATE

- S2.1 PLAN AND ELEVATION
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- S2.9 FRAMING PLAN
- S2.10 GIRDER DETAILS
- S2.11 BEARING PAD DETAILS
- S2.12 ABUTMENT 1, 1 OF 2
- S2.13 ABUTMENT 1, 1 OF 2
- S2.14 PIER, 1 OF 2
- S2.15 PIER, 2 OF 2
- S2.16 SHARED ABUTMENT 2, 1 OF 2
- S2.17 SHARED ABUTMENT 2, 2 OF 2
- S2.18 BILL OF STEEL, BAR TYPES

LIST OF STD DRAWINGS

DWG NO LAST REV DATE

STRIPSEAL EXPANSION JOINT	STD-3-1	11/01/2010
STRIPSEAL EXPANSION JOINT	STD-3-2	11/01/2010
STANDARD SEISMIC DETAILS	STD-6-1	11/01/2010
STANDARD SEISMIC DETAILS	STD-6-2	11/07/1994
REINF BAR SUPPORT DETAILS FOR CONC SLABS	STD-9-1	10/07/2008
MISC ABUT AND DRAINAGE DETAILS	STD-10-1	04/08/2005
STD DETAILS FOR PRESTRESSED BOX BEAMS	STD-14-3	10/15/2008
TRAFFIC RAIL TEXAS CLASSIC TYPE T411	RLSTD008	07/20/2014

SEE HYPERLINK BELOW TO ACCESS THE STANDARD DRAWING FOR THE TEXAS CLASSIC TYPE T411 RAILING.
<https://www.dot.state.tx.us/insdot/orgchart/cmd/cserve/standard/bridge-e.htm>

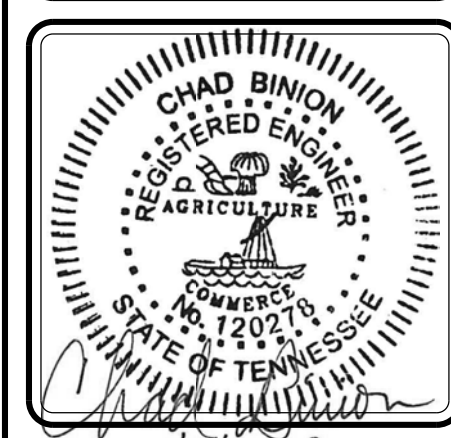
LIST OF SPEC PROVISIONS

PROV NO LAST REV DATE

REMOVAL OF ASBESTOS CONTAINING MATERIALS (ACM)	202ACM	01/01/2015
DRILLED SHAFT SPECIFICATIONS	625	05/18/2017

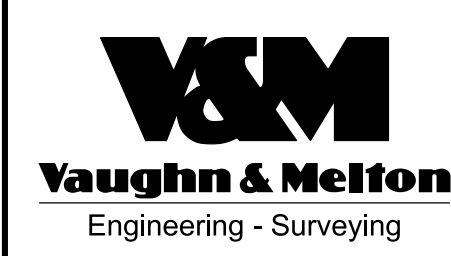
REVISIONS

NO.	DATE	DESCRIPTION
1	5/3/19	DATE FOR D.S.SPEC.



**JACKSON AVENUE BRIDGES
OVER RAMP TO GAY STREET**

CITY OF KNOXVILLE
KNOX COUNTY, TN.



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DRAWN:
CHECKED:
CK JOB NO: 12A-B-0522
VM JOB NO: 50820-56
SCALE:
DATE: 03-09-2018
DRAWING TITLE:
PLAN AND ELEVATION
DRAWING NO:
S2.1

GENERAL NOTES

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (JANUARY 1, 2015)

LOADING: HL93 LIVE LOADING; SEISMIC ZONE 1 WITH $A_s = 0.183$, $S_DS = 0.331$, AND $S_{D1} = 0.118$. FUTURE WEARING SURFACE IS NOT INCLUDED IN THE DESIGN DUE TO BRICK PAVERS AS THE RIDING SURFACE.

DESIGN SPECIFICATIONS: AASHTO LRFD 7TH EDITION W/2016 INTERIMS, AND THE 2011 AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN, EDITION 2 (WITH INTERIMS).

CONCRETE: TO BE CLASS "A" $f'c = 3,000$ psi EXCEPT AS NOTED OTHERWISE. CLASS "D" CONCRETE $f'c = 4,000$ psi

CLASS "D" CONCRETE FOR BRIDGE DECKS AND SIDEWALKS SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.

DRILLED SHAFT CONCRETE SHALL CONFORM TO TDOT CLASS "X" ($f'c = 4,000$ psi) AND WITH MAX. COURSE AGGREGATE SIZE NO. 67 (3/4"). SEE SHEETS S2.12 THRU S2.17 AS WELL AS SPECIAL PROVISION 625.

BRIDGE DECK FORMS FOR CONCRETE DECKS SHALL BE CONSTRUCTED USING EITHER REMOVABLE FORMS OR PERMANENT FORMS. PERMANENT FORMS MAY BE EITHER REMAIN-IN-PLACE STEEL OR PRECAST. PRESTRESSED CONCRETE PANELS. IN EITHER CASE, FORMS SHALL BE ATTACHED BY MEANS OTHER THAN WELDING TO MAIN STRUCTURAL MEMBERS OR REINFORCING STEEL. TEMPORARY ERECTION DIAPHRAGMS MUST BE USED AT THE ENDS OF PRECAST CONCRETE GIRDERS WHERE END DIAPHRAGMS, SUPPORT DIAPHRAGMS, OR ABUTMENT BACKWALLS ARE TO BE POURED CONCURRENTLY WITH THE DECK AND SHALL BE PROVIDED ELSEWHERE IN ACCORDANCE WITH THE SPECIFICATIONS TO PREVENT GIRDER ROTATION. SEE STANDARD DRAWING STD-14-3 AND ARTICLE 604.05 OF THE STANDARD SPECIFICATIONS.

BEARING DEVICES SHALL BE IN ACCORDANCE WITH THE DETAILS AND DIMENSIONS SHOWN ON DRAWING S2.11

REINFORCING STEEL: SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS. EPOXY COAT ALL SUPERSTRUCTURE STEEL.

BRIDGE RAIL SYSTEM: BUILD BRIDGE RAILINGS ACCORDING TO DETAILS SHOWN ON DRAWING S2.8.

DEMOLITION OF EXISTING RAMPS: THE ENTIRE ELEVATED JACKSON AVENUE RAMPS ON EITHER SIDE OF GAY STREET ARE TO BE DEMOLISHED. THE WEST SIDE OF THE JACKSON AVENUE RAMPS IS APPROXIMATELY 282 FEET IN LENGTH AND THE EAST RAMP IS APPROXIMATELY 289 FEET IN LENGTH.

TO MINIMIZE ADVERSE IMPACTS TO THE HISTORIC BUILDINGS DURING DEMOLITION OF THE RAMPS, THE CONTRACTOR WILL REMOVE THE ELEVATED CONCRETE SIDEWALKS AND SLABS BY SAWCUTTING A SECTION AT A TIME, DRILLING HOLES INTO THE CONCRETE AND SETTING ANCHOR BOLTS, AND THEN CONNECTING TO A CRANE HOIST AND CAREFULLY HOISTING AWAY FROM THE EXISTING BUILDING FACADES. ALL PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT ANY DEBRIS FROM FALLING ON AND DAMAGING THE NEAR BY HISTORIC BUILDINGS. SPECIAL ATTENTION SHALL BE GIVEN TO THE STOREFRONT AREAS BENEATH THE WEST RAMP, WHERE IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THE GLASS. ANY DAMAGE THAT OCCURS WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

WHEN REMOVING EXISTING SUBSTRUCTURES, PROTECTIVE MEASURES NEED TO BE TAKEN TO PREVENT ANY DAMAGE TO THE EXISTING HISTORIC BUILDINGS. ANY DAMAGE THAT OCCURS WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL COLUMNS AND FOOTINGS OF THE EXISTING FOUNDATION SHALL BE REMOVED ONE FOOT BELOW EXISTING GROUND LINE AND THE GROUND SURFACE RESTORED TO IT'S ORIGINAL CONDITION. EXISTING FOUNDATIONS LOCATED WHERE PROPOSED FOUNDATIONS ARE LOCATED SHALL BE REMOVED IN THEIR ENTIRETY TO CONSTRUCT THE NEW FOUNDATIONS.

A TEMPORARY CHAIN LINK FENCE SHALL BE MAINTAINED IN THE AREA AT ALL TIMES DURING THE REMOVAL OF THE EXISTINGSTRUCTURE AND CONSTRUCTION OF THE PROPOSED STRUCTURE.

THE EXISTING BRICK PAVERS ON THE DRIVING SURFACES OF THE RAMPS SHALL BE CAREFULLY REMOVED AND STOCKPILED TO BE RE-USED FOR THE DRIVING SURFACE ON THE PROPOSED BOX BEAM BRIDGE ROADWAY SURFACES. THE BOX BEAM BRIDGES HAVE BEEN DESIGNED AND DETAILED TO ACCOMODATE THE PLACEMENT OF 1" BED OF SAND AND BRICK PAVERS FOR THE ROADWAY OF THE PROPOSED STRUCTURES.

THE CONTRACTOR SHALL PROVIDE 100% CONVENTIONAL FALL PROTECTION FOR WORKERS INSTALLING DECKING ABOVE 15 FEET.

SHOP DRAWINGS: SEE SECTION 105.02 OF THE STANDARD SPECIFICATIONS.

CONCRETE SEALER: CONCRETE SEALER SHALL BE APPLIED TO SUBSTRUCTURES COINCIDING WITH EXPANSION JOINT LOCATIONS BEFORE PLACEMENT OF BEARING DEVICES AND APPLYING TEXTURE COATING. CONCRETE SEALER SHALL BE APPLIED TO THE FRONT VERTICAL FACE OF THE ABUTMENT BACKWALL, THE FRONT AND TOP OF THE ABUTMENT BEAM PLUS ANY OTHER FACES THAT ARE DEEMED NECESSARY BY THE ENGINEER. CONCRETE SEALER SHALL BE APPLIED TO THE TOP AND VERTICAL SURFACES OF THE BENT CAP.

CONCRETE SHALL BE CLEAN AND DRY BEFORE APPLYING THE CONCRETE SEAL, AND THE THICKNESS OF THE SEAL SHALL BE AS RECOMMENDED BY THE SEALANT MANUFACTURER. ACCEPTABLE CONCRETE MAINTAINED BY THE DIVISION OF MATERIALS AND TESTS. THE SEALER SHALL BE CLEAR OR SIMILAR TO THE COLOR OF EXISTING CONCRETE SURFACES TO BE SEALED. THE COST OF THE SEALER, COMPLETE AND IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE OF THE EXPANSION DEVICE AT EACH SUBSTRUCTURE.

FOUNDATION PREPARATION: SEE SECTION 204 OF THE STANDARD SPECIFICATIONS. IF COFFERDAMS ARE REQUIRED, THEY SHALL BE IN ACCORDANCE WITH SECTION 204.09 OF THE STANDARD SPECIFICATIONS. THE QUANTITY ITEM IS LOCATED IN THE PROJECT QUANTITY LIST LOCATED ON SHEET SO.1.

OUR ACM (ASBESTOS CONTAINING MATERIAL) SURVEY INDICATES THIS BRIDGE CONTAINS ELEMENTS WITH ACM. TO MINIMIZE THE AMOUNT OF HAZARDOUS MATERIAL WASTE, THE ELEMENTS CONTAINING ASBESTOS SHALL BE REMOVED PRIOR TO DEMOLITION OF THE ENTIRE STRUCTURE. THE CONTRACTOR IS REQUIRED TO TAKE ALL MANDATORY SAFEGUARDS PRESCRIBED BY STATE AND FEDERAL LAW FOR BOTH WORKER PROTECTION AND HAZARDOUS MATERIALS DISPOSAL.

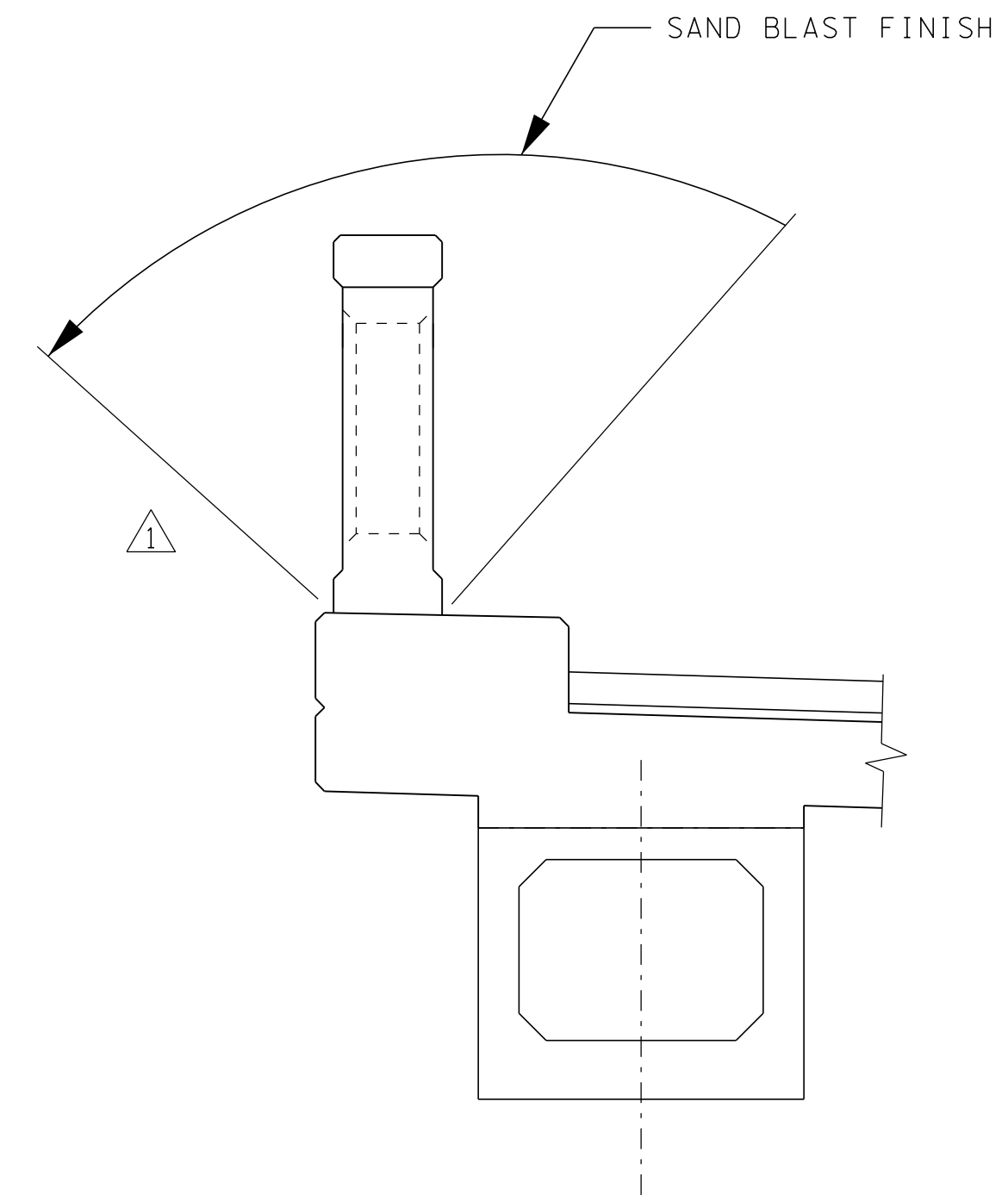
THE FOLLOWING ASBESTOS CONTAINING MATERIAL ELEMENTS WERE DETERMINED TO BE LOCATED ON THE EXISTING BRIDGE: BLACK WRAPPING AROUND A PIPE UNDER THE BRIDGE AT PIER CLOSEST TO GAY STREET. SEE SPECIAL PROVISION 202ACM.

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL	SUPERSTRUCTURE	ABUT. NO. 1	PIER	ABUT. NO. 2
202-01.02	REMOVAL OF ASBESTOS	L.S.	1				
204-04.10	STRUCTURE EXCAVATION UNCLASSIFIED	C.Y.	144		48	48	48
204-05.01	CORE DRILLING AND SAMPLING	L.F.	315		105	105	105
604-02.03	EPOXY COATED REINFORCING STEEL	LB.	38,200	38,200			
604-03.01	CLASS A CONCRETE (BRIDGES)	C.Y.	180.4		61.7	61.0	57.7
604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	31,900		11,000	10,900	10,000
604-03.09	CLASS D CONCRETE (BRIDGE DECK)	C.Y.	212.4	212.4			
604-04.02	APPLIED TEXTURE FINISH (SANDBLASTING)	S.Y.	111	111			
604-10.43	PENETRATING WATER REPELLENT CONCRETE SEAL	S.Y.	51				51
604-11.01	EXPANSION DEVICE (ABUT. NOS. 1 & 2) (2" STRIPSEAL EXP. JT.)	L.F.	62	62			
615-02.37	PRESTRESSED CONCRETE BOX BEAM (30" X 36")	L.F.	587.1	587.1			
620-03.10	CONCRETE PARAPET (TEXAS CLASSIC)	L.F.	124.3	124.3			
625-02.01	DRILLED SHAFT-SOIL (42")	V.F.	194		61	66	67
625-02.14	DRILLED SHAFT-ROCK (42")	V.F.	72		24	24	24
625-02.40	DRILLED SHAFT CONCRETE	C.Y.	96.9		32.4	32.1	32.4
625-02.44	DRILLED SHAFT REINFORCING STEEL	LB.	29,500		10,800	9,300	9,400
625-02.46	SONIC LOGGING TESTING	EA.	9		3	3	3
920-02.08	BRICK PAVING	S.F.	2,650	2,650			

- THE PRICE BID FOR ROADWAY EXPANSION DEVICES TO INCLUDE THE OF 98 S.Y OF CONCRETE SEAL REQUIRED. SEE GENERAL NOTES FOR DESCRIPTION OF CONCRETE SEAL.
- COST OF ELASTOMERIC PADS AND RUBBER BONDING CEMENT TO BE INCLUDE IN THE UNIT PRICE BID FOR THE PRESTRESSED BEAM.
- THE EXPANSION JOINT AT EACH END OF THE BRIDGE SHALL BE IN ACCORDANCE WITH SECTION 623.03 OF THE STANDARD SPECIFICATIONS. THE TOTAL REQUIRED MOVEMENT IS 3/4 INCH. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF STRUCTURES FOR APPROVAL.
- SEE ARTICLE 625.31 OF THE SPECIAL PROVISIONS. THE INTENT IS FOR THE CORE DRILLING AND SAMPLING TO BE PERFORMED PRIOR TO SHAFT DRILLING. THESE CORES ARE TO BE USED TO PRE-DETERMINE ACCEPTABLE SHAFT TIP ELEVATIONS. CORES SHALL EXTEND 10' BELOW ESTIMATED TIP ELEVATIONS SHOWN ON THE PLANS. 1 CORE IS REQUIRED PER SHAFT.
- THE COST OF THE FOLLOWING ITEMS IS TO BE INCLUDED IN THE UNIT BID PRICE FOR ITEMS 625-02.01 AND 625-02.14.
 - DRILLING THE SHAFT
 - CLEANING AND INSPECTING THE SHAFT
 - INSTALLATION OF ALL CASING
 - INSTALLATION OF 1/2" DIAMETER PIPERS IN SHAFTS FOR CSL TESTING (4 CSL TUBES ARE REQUIRED PER SHAFT.

- THE CSL TESTING FIRM MUST BE PRESENT FOR ALL SHAFT POURS.
- THE CONTRACTOR SHALL HAVE THE STABILITY OF THE SHAFT CAGE VERIFIED BY AN ENGINEER LICENSED IN TENNESSEE.
- THE COST OF BITUMINOUS FIBERBOARD AND ALL MISCELLANEOUS EXPANSION JOINT MATERIAL TO BE INCLUDED IN THE UNIT PRICE BID FOR CLASS A CONCRETE (BRIDGES).
- BRICK PAVERS SHALL BE PROVIDED FROM PAVERS REMOVED AND STOCKPILED FROM THE EXISTING BRIDGE DECK. SEE PAY ITEM NUMBER 920-10.01, REMOVAL & STOCKPILED OF EXISTING BRICK PAVERS ON SHEET SO.1. PATTERN SHALL MATCH EXISTING PATTERN OF THE BRICK PAVERS AND PLACED WITH UNWORN SIDE UP.
- SANDBLASTING SHALL NOT COMMENCE UNTIL 21 DAYS AFTER THE CONCRETE HAS BEEN PLACED. WHEN CARRYING OUT ANY SANDBLASTING OPERATION, THE CONTRACTOR SHALL TAKE SUITABLE PROTECTIVE MEASURES TO ENSURE THAT NO DAMAGE OCCURS TO ANY PORTION OF THE BARRIER. THE TEXTURE OF THE SANDBLASTED FINISH SHALL BE DETERMINED FROM TRIAL SANDBLASTING OF AREAS OF THE WORK, AS A GENERAL GUIDE. SANDBLASTING SHALL BE SUCH AS TO EXPOSE THE COARSE AGGREGATE WITH A TEXTURE DEPTH OF NO MORE THAN 1/4 INCH. UPON COMPLETION OF THE SANDBLASTING, THE BLASTED SURFACE AND ADJACENT AREAS SHALL BE WASHED DOWN WITH A HIGH PRESSURE JET TO REMOVE LOOSE SAND AND BLASTING DEBRIS.
- CONCRETE SURFACE SHALL BE STAMPED AND COLORED TO LOOK LIKE THE EXISTING BRICK PAVERS ON RAMP.



APPLIED TEXTURE FINISH SKETCH

SPECIAL NOTES FOR SAND BLAST FINISHING OF CONCRETE SURFACES:

- PARAPET CONCRETE SHALL BE COLORED A LIGHT BROWN PRIOR TO RECEIVING A SAND BLAST FINISH TO MATCH GAY STREET BRIDGE PARAPET.
- CONTRACTOR SHALL PREPARE AN ON-SITE SAMPLE (MOCK-UP) OF THE SAND BLAST FINISH FOR APPROVAL BY THE RESIDENT ENGINEER AND CITY OF KNOXVILLE ENGINEERS. APPROVAL SHALL BE OBTAINED BEFORE PROCEEDING WITH WORK, AND ALL COMPLETED WORK SHALL MATCH THE APPROVED SAMPLE.

NO.	DATE	DESCRIPTION
1	5/3/19	TEXTURE SKETCH/NOTE



3/5/2019

JACKSON AVENUE BRIDGES
OVER RAMP TO GAY STREET

CITY OF KNOXVILLE
KNOX COUNTY, TN.



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DRAWN:
CHECKED:
COK JOB NO: 12A-B-0522
VM JOB NO: 50820-56
SCALE: NTS
DATE: 03-09-2018
DRAWING TITLE: GEN. NOTES / ESTIMATED QUANTITIES
DRAWING NO: S2.2

GENERAL NOTES

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (JANUARY 1, 2015)

LOADING: HL93 LIVE LOADING; SEISMIC ZONE 1 WITH $A_s = 0.183$, $SDS = 0.331$, AND $SD1 = 0.118$. FUTURE WEARING SURFACE IS 35 LBS/FT'.

DESIGN SPECIFICATIONS: AASHTO LRFD 7TH EDITION W/2016 INTERIMS, AND THE 2011 AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN, EDITION 2 (WITH INTERIMS).

CONCRETE: TO BE CLASS "A" $f'c = 3,000$ psi EXCEPT AS NOTED OTHERWISE. CLASS "D" CONCRETE $f'c = 4,000$ psi

CLASS "D" CONCRETE FOR BRIDGE DECKS AND SIDEWALKS SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.

DRILLED SHAFT CONCRETE SHALL CONFORM TO TDOT CLASS "X" ($f'c = 4,000$ psi) AND WITH MAX. COURSE AGGREGATE SIZE NO. 67 (1/4"). SEE SHEETS S1.12 THRU S1.17 AS WELL AS SPECIAL PROVISION 625.

BRIDGE DECK FORMS FOR CONCRETE DECKS SHALL BE CONSTRUCTED USING REMOVABLE FORMS. FORMS SHALL BE ATTACHED BY MEANS OTHER THAN WELDING TO MAIN STRUCTURAL MEMBERS OR REINFORCING STEEL. SEE ARTICLE 604.05 OF THE STANDARD SPECIFICATIONS.

BEARING DEVICES SHALL BE IN ACCORDANCE WITH THE DETAILS AND DIMENSIONS SHOWN ON DRAWING S3.4.

REINFORCING STEEL: SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS. EPOXY COAT ALL SUPERSTRUCTURE STEEL.

BRIDGE RAIL SYSTEM: BUILD BRIDGE RAILINGS ACCORDING TO DETAILS SHOWN ON DRAWING S3.5.

DEMOLITION OF EXISTING RAMPS: THE ENTIRE ELEVATED JACKSON AVENUE RAMPS ON EITHER SIDE OF GAY STREET ARE TO BE DEMOLISHED. THE WEST SIDE OF THE JACKSON AVENUE RAMPS IS APPROXIMATELY 282 FEET IN LENGTH AND THE EAST RAMP IS APPROXIMATELY 289 FEET IN LENGTH.

TO MINIMIZE ADVERSE IMPACTS TO THE HISTORIC BUILDINGS DURING DEMOLITION OF THE RAMPS, THE CONTRACTOR WILL REMOVE THE ELEVATED CONCRETE SIDEWALKS AND SLABS BY SAWCUTTING A SECTION AT A TIME, DRILLING HOLES INTO THE CONCRETE AND SETTING ANCHOR BOLTS, AND THEN CONNECTING TO A CRANE HOIST AND CAREFULLY HOISTING AWAY FROM THE EXISTING BUILDING FACADES. ALL PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT ANY DEBRIS FROM FALLING ON AND DAMAGING THE NEAR BY HISTORIC BUILDINGS. SPECIAL ATTENTION SHALL BE GIVEN TO THE STOREFRONT AREAS BENEATH THE WEST RAMP, WHERE IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THE GLASS. ANY DAMAGE THAT OCCURS WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

WHEN REMOVING EXISTING SUBSTRUCTURES, PROTECTIVE MEASURES NEED TO BE TAKEN TO PREVENT ANY DAMAGE TO THE EXISTING HISTORIC BUILDINGS. ANY DAMAGE THAT OCCURS WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL COLUMNS AND FOOTINGS OF THE EXISTING FOUNDATION SHALL BE REMOVED ONE FOOT BELOW EXISTING GROUND LINE AND THE GROUND SURFACE RESTORED TO IT'S ORIGINAL CONDITION. EXISTING FOUNDATIONS LOCATED WHERE PROPOSED FOUNDATIONS ARE LOCATED SHALL BE REMOVED IN THEIR ENTIRETY TO CONSTRUCT THE NEW FOUNDATIONS.

A TEMPORARY CHAIN LINK FENCE SHALL BE MAINTAINED IN THE AREA AT ALL TIMES DURING THE REMOVAL OF THE EXISTINGSTRUCTURE AND CONSTRUCTION OF THE PROPOSED STRUCTURE.

THE CONTRACTOR SHALL PROVIDE 100% CONVENTIONAL FALL PROTECTION FOR WORKERS INSTALLING DECKING ABOVE 15 FEET.

SHOP DRAWINGS: SEE SECTION 105.02 OF THE STANDARD SPECIFICATIONS.

CONCRETE SEALER: CONCRETE SEALER SHALL BE APPLIED TO SUBSTRUCTURES COINCIDING WITH EXPANSION JOINT LOCATIONS BEFORE PLACEMENT OF BEARING DEVICES AND APPLYING TEXTURE COATING. CONCRETE SEALER SHALL BE APPLIED TO THE FRONT VERTICAL FACE OF THE ABUTMENT BACKWALL, THE FRONT AND TOP OF THE ABUTMENT BEAM PLUS ANY OTHER FACES THAT ARE DEEMED NECESSARY BY THE ENGINEER. CONCRETE SEALER SHALL BE APPLIED TO THE TOP AND VERTICAL SURFACES OF THE BENT CAP.

CONCRETE SHALL BE CLEAN AND DRY BEFORE APPLYING THE CONCRETE SEAL, AND THE THICKNESS OF THE SEAL SHALL BE AS RECOMMENDED BY THE SEALANT MANUFACTURER. ACCEPTABLE CONCRETE MAINTAINED BY THE DIVISION OF MATERIALS AND TESTS. THE SEALER SHALL BE CLEAR OR SIMILAR TO THE COLOR OF EXISTING CONCRETE SURFACES TO BE SEALED. THE COST OF THE SEALER, COMPLETE AND IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE OF THE EXPANSION DEVICE AT EACH SUBSTRUCTURE.

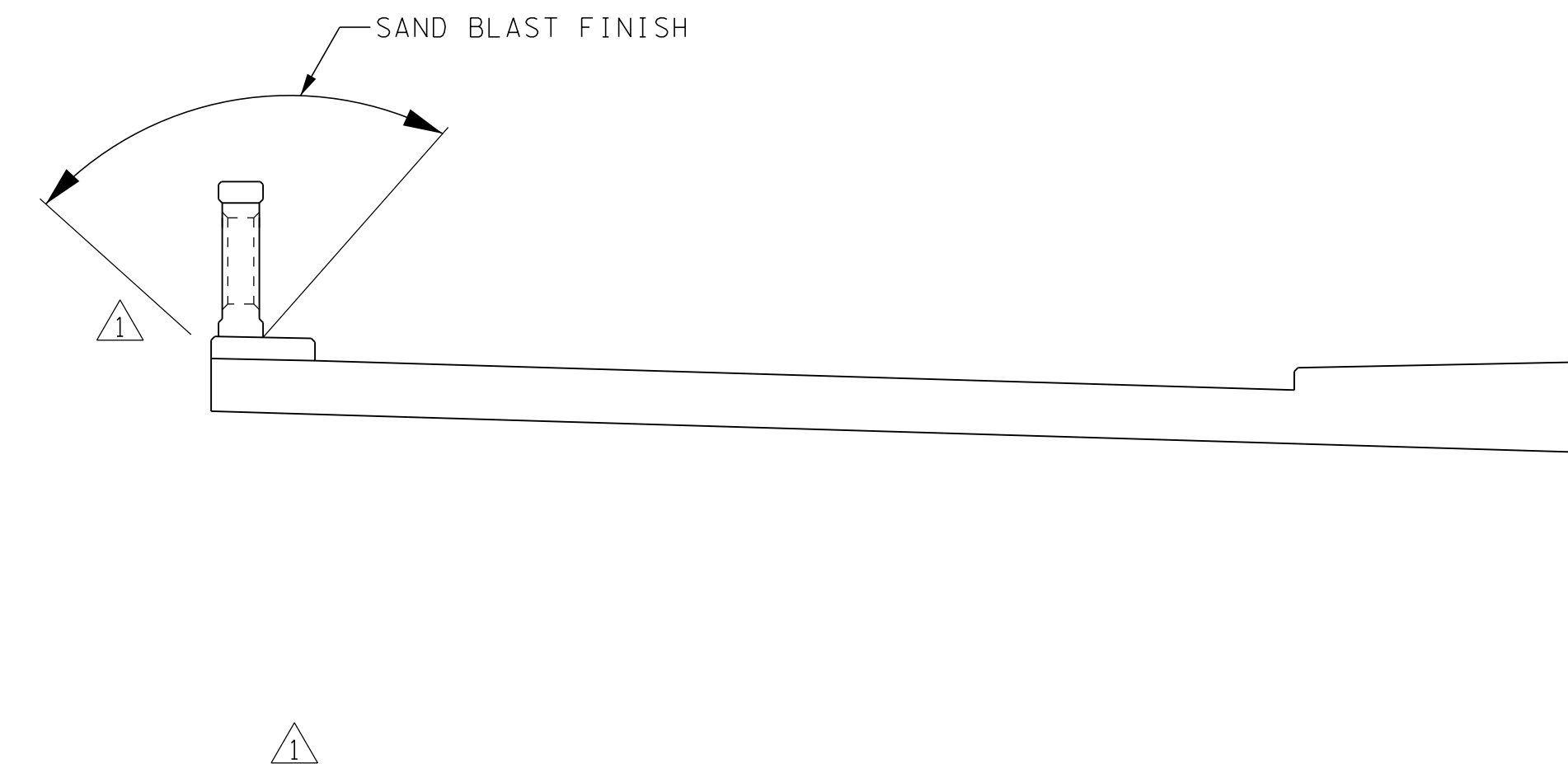
FOUNDATION PREPARATION: SEE SECTION 204 OF THE STANDARD SPECIFICATIONS. IF COFFERDAMS ARE REQUIRED, THEY SHALL BE IN ACCORDANCE WITH SECTION 204.09 OF THE STANDARD SPECIFICATIONS. THE QUANTITY ITEM IS LOCATED IN THE PROJECT QUANTITY LIST LOCATED ON SHEET S0.1.

EXPANSION JOINT AT THE BEGINNING OF BRIDGE IS DETAILED AND QUANTIFIED WITH BRIDGE S2.

INSTALLATION OF THE HANDRAIL ASSEMBLY (ITEM #620-15) SHALL BE UNDER THE RESPONSIBILITY OF THE CONTRACTOR. ANCHORS EMBEDDED INTO THE CONCRETE SIDEWALK SHALL BE IN PLACE BEFORE ANY CONCRETE POUR FOR THE SIDEWALK. DRILLING INTO NEW CONCRETE TO INSTALL ANCHOR BOLT SYSTEMS SHALL NOT BE PERMITTED.

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL	SUPERSTRUCTURE	ABUT. NO. 2
204-04.10	STRUCTURE EXCAVATION UNCLASSIFIED	C.Y.	52		52
204-05.01	CORE DRILLING AND SAMPLING	L.F.	60		60
604-02.03	EPOXY COATED REINFORCING STEEL	LB.	8,700	8,200	500
604-03.01	CLASS A CONCRETE (BRIDGES)	C.Y.	41.7		41.7
604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	8,100		8,100
604-03.04	PAVEMENT @ BRIDGE ENDS	S.Y.	59		59
604-03.09	CLASS D CONCRETE (BRIDGE DECK)	C.Y.	38.4	38.4	
604-04.02	APPLIED TEXTURE FINISH (SANDBLASTING)	S.Y.	20	20	
604-05.31	BRIDGE DECK GROOVING (MECHANICAL)	S.Y.	76	76	
610-07.03	18" PIPE DRAIN (BRIDGE DRAIN)	L.F.	154		154
620.03.10	CONCRETE PARAPET (TEXAS CLASSIC)	L.F.	22.3	22.3	
620-15	HANDRAIL ASSEMBLY (SAFETY RAILING FOR FIRE ALLEY)	L.F.	12	12	
625-02.01	DRILLED SHAFT-SOIL (42")	V.F.	44		44
625-02.14	DRILLED SHAFT-ROCK (42")	V.F.	16		16
625-02.40	DRILLED SHAFT CONCRETE	C.Y.	21.5		21.5
625-02.44	DRILLED SHAFT REINFORCING STEEL	LB.	7,300		7,300
625-02.46	SONIC LOGGING TESTING	EA.	2		2
908-21.01	BEARING (1/2" X 6" X 24" ELASTOMERIC) (SHARED ABUT.)	EA.	8		8



APPLIED TEXTURE FINISH SKETCH

SPECIAL NOTES FOR SAND BLAST FINISHING OF CONCRETE SURFACES:

- PARAPET CONCRETE SHALL BE COLORED A LIGHT BROWN PRIOR TO RECEIVING A SAND BLAST FINISH TO MATCH GAY STREET BRIDGE PARAPET.
- CONTRACTOR SHALL PREPARE AN ON-SITE SAMPLE (MOCK-UP) OF THE SAND BLAST FINISH FOR APPROVAL BY THE RESIDENT ENGINEER AND CITY OF KNOXVILLE ENGINEERS. APPROVAL SHALL BE OBTAINED BEFORE PROCEEDING WITH WORK, AND ALL COMPLETED WORK SHALL MATCH THE APPROVED SAMPLE.

- PRIOR TO CONSTRUCTION OF THE PAVEMENT AT BRIDGE ENDS, THE CONTRACTOR SHALL SUBMIT A PROPOSED BILL OF STEEL TO THE ENGINEER FOR APPROVAL.
- COST OF MECHANICAL COUPLERS, FITTINGS, EXCAVATION, AND BACKFILLING SHALL BE INCIDENTAL TO THE COST OF ITEM 610-07.03, 18" PIPE DRAIN (BRIDGE DRAIN).
- SEE ARTICLE 625.31 OF THE SPECIAL PROVISIONS. THE INTENT IS FOR THE CORE DRILLING AND SAMPLING TO BE PERFORMED PRIOR TO SHAFT DRILLING, SUBJECT TO THE APPROVAL FROM THE GEOTECHNICAL DIVISION ENGINEER. THESE CORES ARE TO BE USED TO PRE-DETERMINE ACCEPTABLE SHAFT TIP ELEVATIONS. CORES SHALL EXTEND 10' BELOW ESTIMATED TIP ELEVATIONS SHOWN ON THE PLANS. 1 CORE IS REQUIRED PER SHAFT.
- THE COST OF THE FOLLOWING ITEMS IS TO BE INCLUDED IN THE UNIT BID PRICE FOR ITEMS 625-02.01 AND 625-02.14.
 - DRILLING THE SHAFT
 - CLEANING AND INSPECTING THE SHAFT
 - INSTALLATION OF ALL CASING
 - INSTALLATION OF 1/2" DIAMETER PIPES IN SHAFTS FOR CSL TESTING (4 CSL TUBES ARE REQUIRED PER SHAFT)
- THE CSL TESTING FIRM MUST BE PRESENT FOR ALL SHAFT POURS.

- THE CONTRACTOR SHALL HAVE THE STABILITY OF THE SHAFT CAGE VERIFIED BY AN ENGINEER LICENSED IN TENNESSEE.
- THE COST OF BITUMINOUS-FIBERBOARD AND ALL MISCELLANEOUS EXPANSION JOINT MATERIAL TO BE INCLUDED IN THE UNIT PRICE BID FOR CLASS A CONCRETE (BRIDGES).
- SANDBLASTING SHALL NOT COMMENCE UNTIL 21 DAYS AFTER THE CONCRETE HAS BEEN PLACED. WHEN CARRYING OUT ANY SANDBLASTING OPERATION, THE CONTRACTOR SHALL TAKE SUITABLE PROTECTIVE MEASURES TO ENSURE THAT NO DAMAGE OCCURS TO ANY PORTION OF THE BARRIER. THE TEXTURE OF THE SANDBLASTED FINISH SHALL BE DETERMINED FROM TRIAL SANDBLASTING OF AREAS OF THE WORK, AS A GENERAL GUIDE, SANDBLASTING SHALL BE SUCH AS TO EXPOSE THE COARSE AGGREGATE WITH A TEXTURE DEPTH OF NO MORE THAN 1/8 INCH. UPON COMPLETION OF THE SANDBLASTING, THE BLASTED SURFACE AND ADJACENT AREAS SHALL BE WASHED DOWN WITH A HIGH PRESSURE JET TO REMOVE LOOSE SAND AND BLASTING DEBRIS.
- THE NEW SAFETY RAILING SHALL BE SIMILAR IN APPEARANCE TO THE EXISTING RAILING. MAINTAIN A 2" GAP BETWEEN THE BOTTOM RAIL OF THE ASSEMBLY AND SIDEWALK. IT SHALL RECEIVE A POWDER COATED FINISH. THE NEW RAILING SHALL BE SUPPORTED ONLY BY THE BRIDGE, DO NOT ATTACH TO THE EXISTING BUILDINGS. SHOP DRAWINGS SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER BEFORE INSTALLATION.
- CONCRETE SURFACE SHALL BE STAMPED AND COLORED TO LOOK LIKE THE EXISTING BRICK PAVERS ON RAMP.

NO.	DATE	DESCRIPTION	REVISIONS
1	5/3/18	TEXTURE SKETCH/NOTE, RAIL NOTE	



JACKSON AVENUE BRIDGES
OVER RAMP TO GAY STREET

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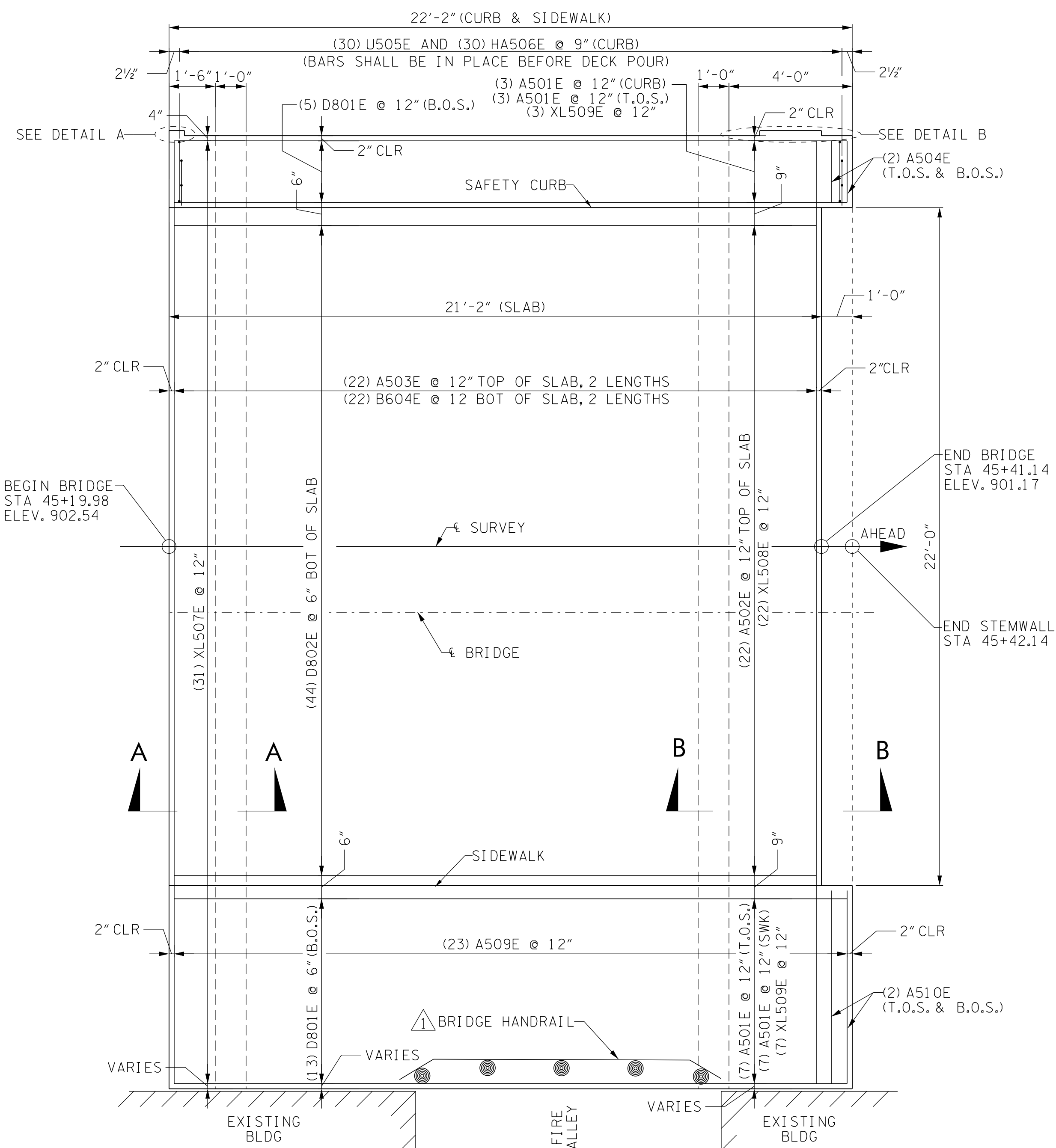
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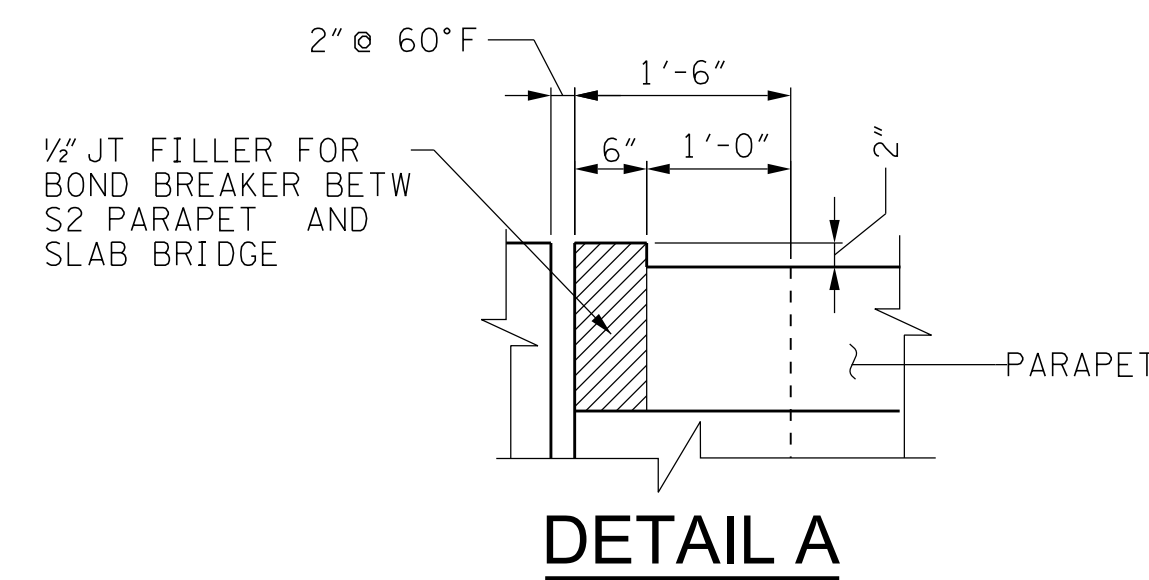
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COK JOB NO: 12A-B-0522
VM JOB NO: 50820-56
SCALE:
DATE: 03-09-2018
DRAWING TITLE: GEN. NOTES / ESTIMATED QUANTITIES
DRAWING NO: S3.2

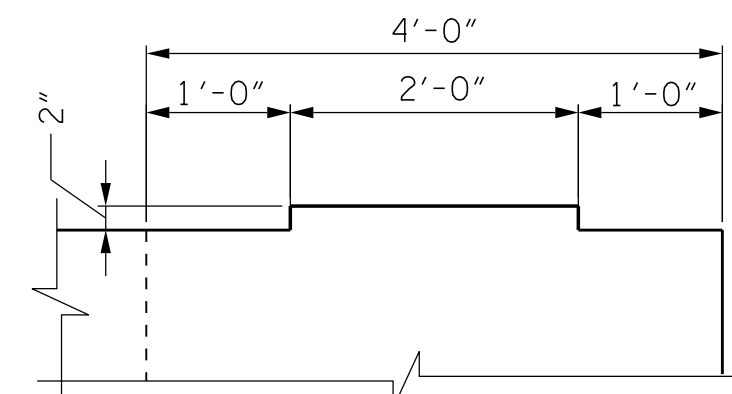
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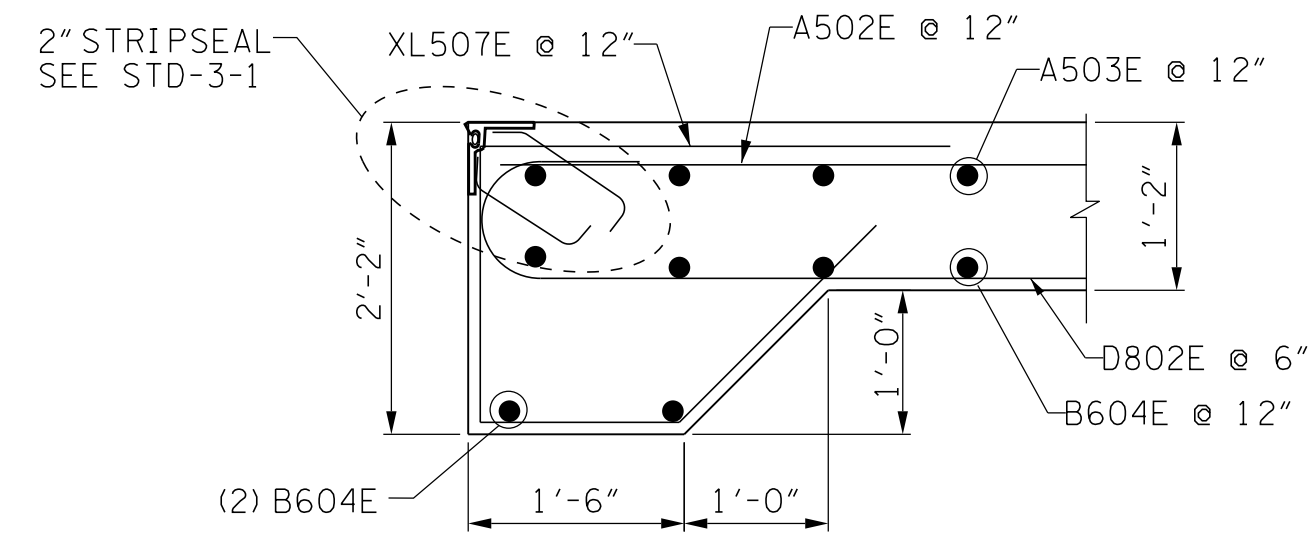
PLAN - JACKSON AVENUE SLAB BRIDGE



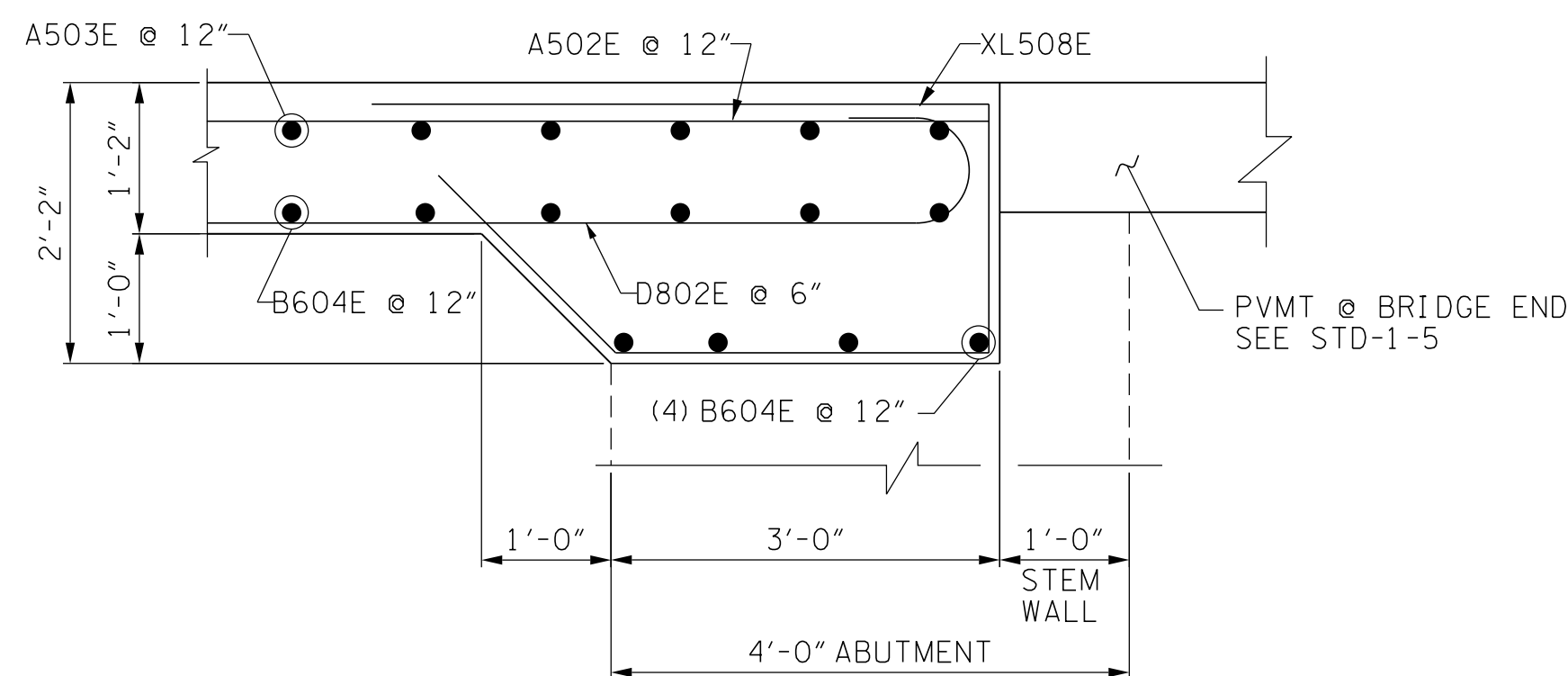
DETAIL A



DETAIL B



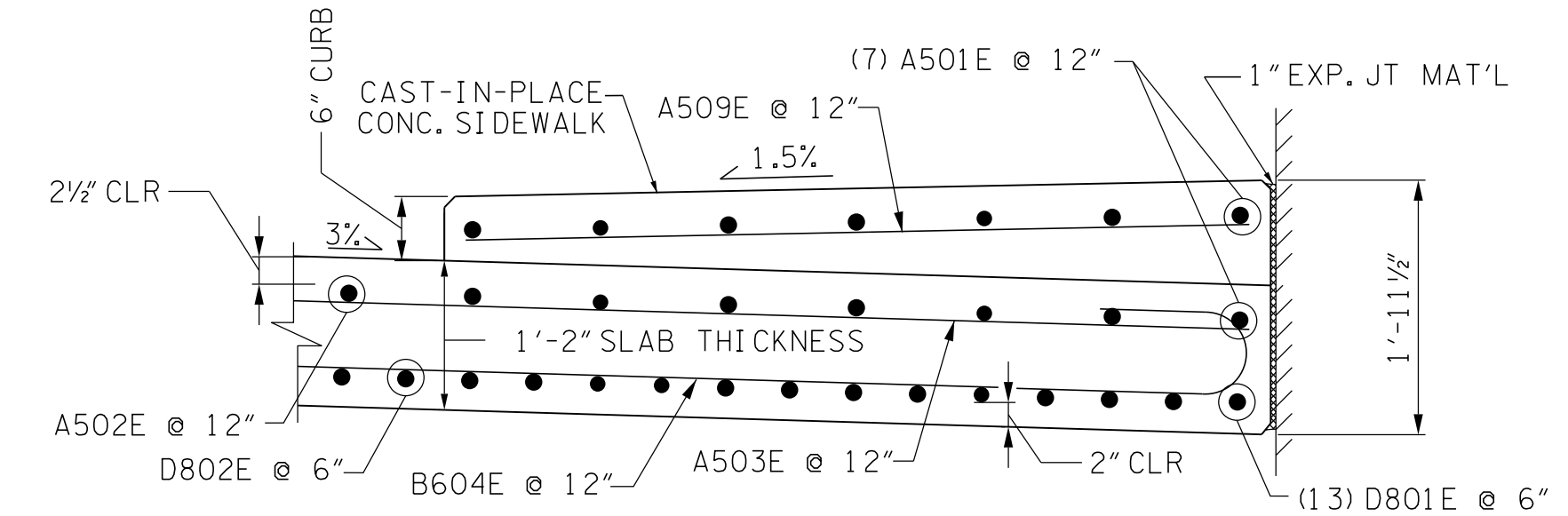
SECTION A-A



SECTION B-B

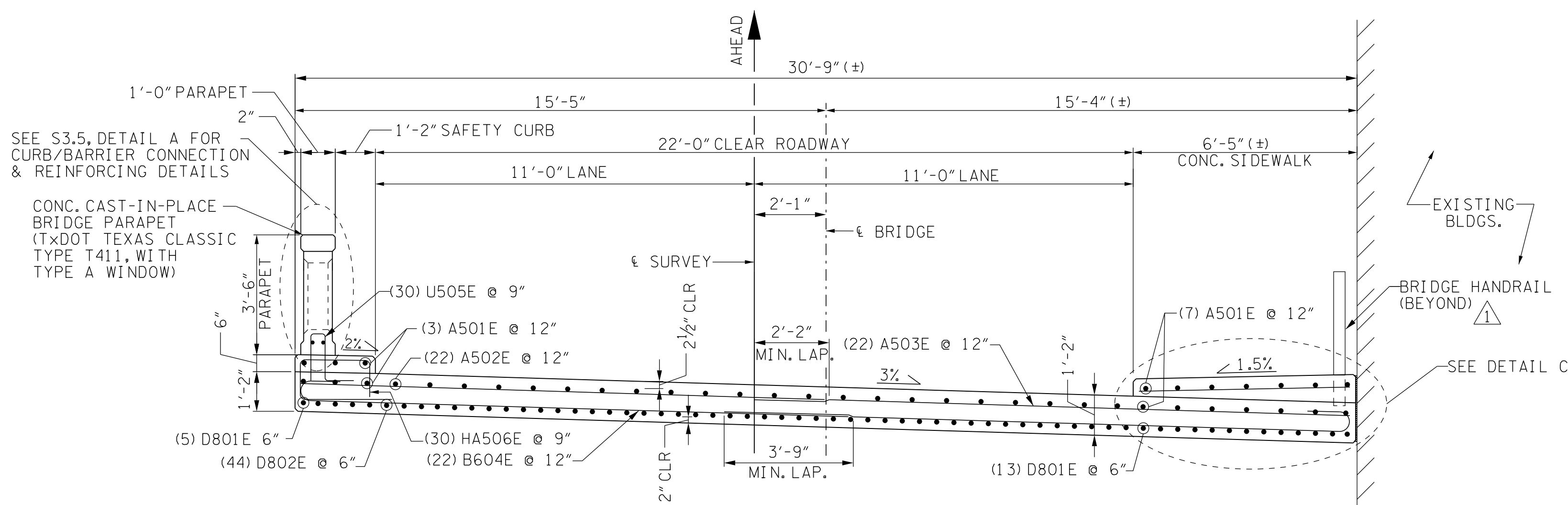
SUPERSTRUCTURE NOTES

WHEN POURING SLAB, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR PARAPET. THE PARAPET AND SIDEWALK SHALL NOT BE POURED UNTIL THE SLAB IS IN PLACE AND CURED.
 CONTRACTOR SHALL FIELD MEASURE A509E BARS IN SIDEWALK BEFORE ORDERING REINFORCEMENT.
 NO PORTION OF THE CURB OR PARAPET SHALL BE POURED UNTIL THE ENTIRE DECK HAS BEEN POURED AND ALL SUPERSTRUCTURE FALSEWORK HAS BEEN REMOVED.
 ANCHOR BOLT ASSEMBLIES SHALL BE IN ACCORDANCE WITH STANDARD DRAWING STD-6-1.



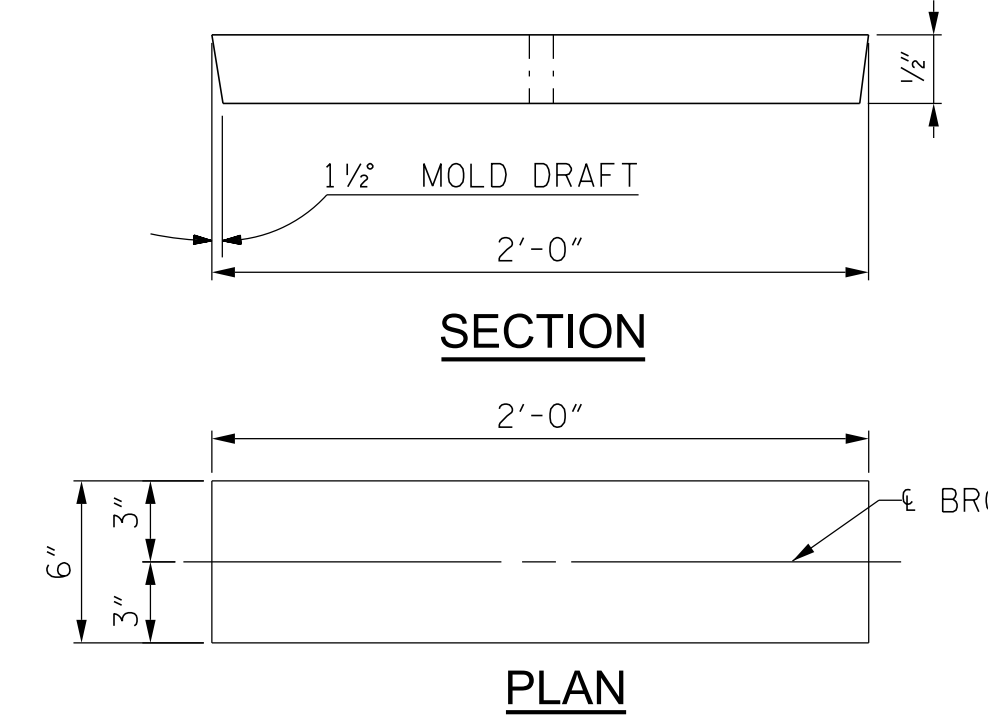
DETAIL C

ESTIMATED QUANTITIES		
CONCRETE CLASS "D" (BRIDGE DECK) (C.Y.)	EPOXY-COATED REINFORCING STEEL (LBS.)	CONCRETE PARAPET (TEXAS CLASSIC) (L.F.)
38.4	8,200	22.3



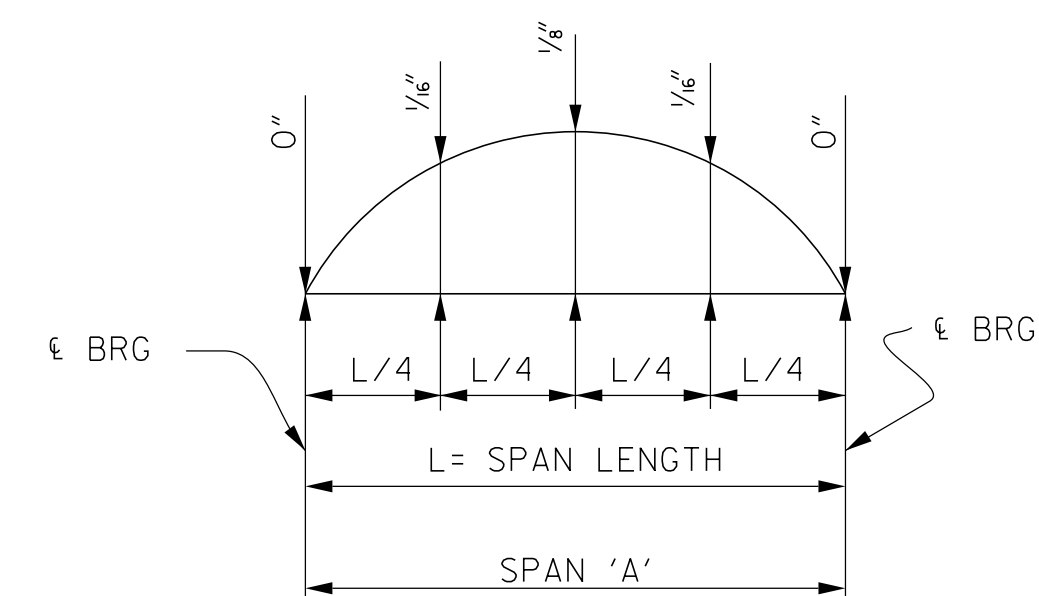
TYPICAL SECTION - JACKSON AVENUE SLAB BRIDGE

(LOOKING AHEAD ON SURVEY)



ELASTOMERIC BEARING PAD E1

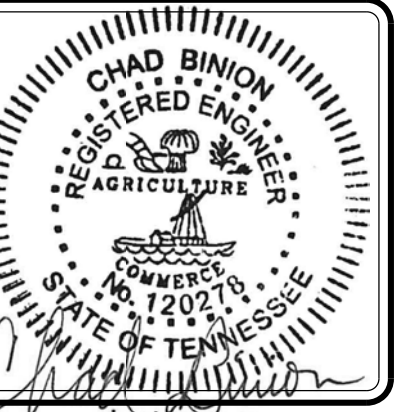
SHARED ABUT (8 REQ'D)



DEAD LOAD CORRECTION CURVE

THIS CURVE IS FOR DEAD LOAD CAMBER ONLY AND SHOULD BE INCREASED BY THE AMOUNT OF ANTICIPATED TAKE UP IN THE FALSEWORK.

NO.	DATE	DESCRIPTION
1	5/3/19	HANDRAIL-PLAN & ELEV.



3/3/2019

**JACKSON AVENUE BRIDGES
OVER RAMP TO GAY STREET**

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SCALE:	
DATE:	03-09-2018
DRAWING TITLE:	DECK PLAN / TYPICAL SECTION
DRAWING NO:	S3.4

GENERAL NOTES

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (JANUARY 1, 2015)

LOADING: HL93 LIVE LOADING; SEISMIC ZONE 1 WITH $A_s = 0.183$, $S_DS = 0.331$, AND $S_{D1} = 0.118$. FUTURE WEARING SURFACE IS 35 LBS/FT'.

DESIGN SPECIFICATIONS: AASHTO LRFD 7TH EDITION W/2016 INTERIMS, AND THE 2011 AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN, EDITION 2 (WITH INTERIMS).

CONCRETE: TO BE CLASS "A" $f'c = 3,000$ psi.

REINFORCING STEEL: SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS.

BRIDGE RAIL SYSTEM: BUILD BRIDGE RAILINGS ACCORDING TO DETAILS SHOWN ON DRAWING S4.12.

MICROPILE DESIGN:

THE DESIGN OF THE MICROPILES IS TO BE PERFORMED BY A DESIGN/BUILD SPECIALTY CONTRACTOR WHO INSTALLS THE PILES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CERTIFIED MICROPILE MANUFACTURER TO PROVIDE DESIGN PLANS AND SPECIFICATIONS, SIGNED AND SEALED BY A LICENSED TENNESSEE PROFESSIONAL ENGINEER. THE PLANS, SHOP DRAWINGS, AND SPECIFICATIONS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER BEFORE THE BEGINNING OF CONSTRUCTION. TO ASSIST IN THE DESIGN OF THE MICROPILES, A TABLE ON SHEET S4.10 HAS PROVIDED WITH HORIZONTAL AND VERTICAL LOADS PER LINEAL FOOT OF RETAINING WALL. MICROPILES SHALL BE EMBEDDED INTO ROCK A MINIMUM OF 8'.

TEST PILE NOTES:

TEST PILES ARE INDICATOR PILES AND SHALL BE DRIVEN WHERE DESIGNATED ON THE PLANS TO DETERMINE THE LENGTH OF PILE REQUIRED. NO DYNAMIC TESTING IS REQUIRED.

ALL TEST PILES SHALL BE ACCURATELY LOCATED SO THAT THEY MAY BE USED IN THE FINISHED STRUCTURE.

SELECTION OF THE PRODUCTION PILES TO BE USED AS TEST PILES MAY BE MODIFIED WITH THE APPROVAL OF THE ENGINEER. NO REDUCTION IN THE TOTAL NUMBER OF TEST PILES MAY BE MADE.

DEMOLITION OF EXISTING RAMPS: THE ENTIRE ELEVATED JACKSON AVENUE RAMPS ON EITHER SIDE OF GAY STREET ARE TO BE DEMOLISHED. THE WEST SIDE OF THE JACKSON AVENUE RAMPS IS APPROXIMATELY 282 FEET IN LENGTH AND THE EAST RAMP IS APPROXIMATELY 289 FEET IN LENGTH.

TO MINIMIZE ADVERSE IMPACTS TO THE HISTORIC BUILDINGS DURING DEMOLITION OF THE RAMPS, THE CONTRACTOR WILL REMOVE THE ELEVATED CONCRETE SIDEWALKS AND SLABS BY SAWCUTTING A SECTION AT A TIME, DRILLING HOLES INTO THE CONCRETE AND SETTING ANCHOR BOLTS, AND THEN CONNECTING TO A CRANE HOIST AND CAREFULLY HOISTING AWAY FROM THE EXISTING BUILDING FACADES. ALL PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT ANY DEBRIS FROM FALLING ON AND DAMAGING THE NEARBY HISTORIC BUILDINGS. SPECIAL ATTENTION SHALL BE GIVEN TO THE STOREFRONT AREAS BENEATH THE WEST RAMP, WHERE IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THE GLASS. ANY DAMAGE THAT OCCURS WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

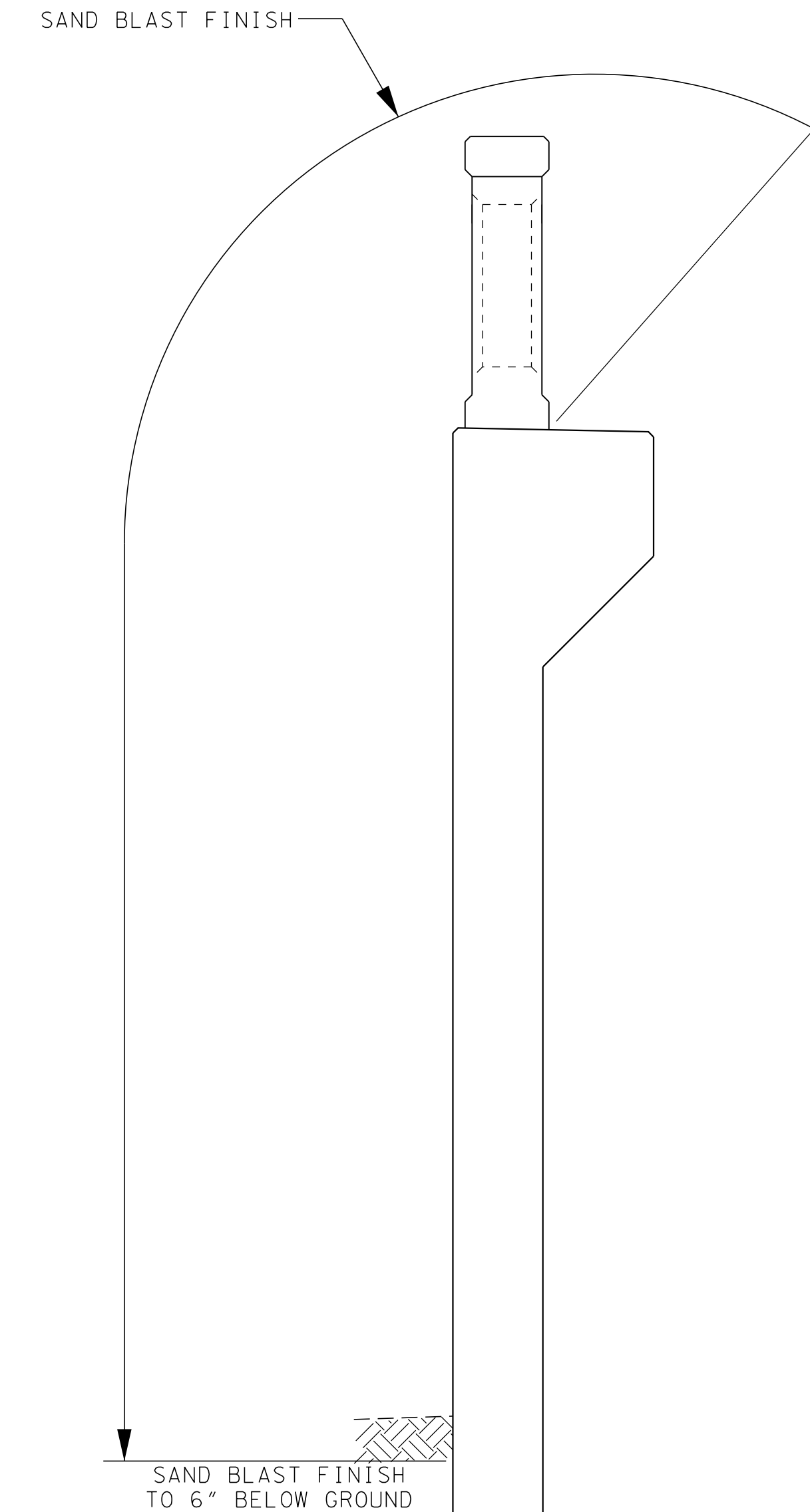
WHEN REMOVING EXISTING SUBSTRUCTURES, PROTECTIVE MEASURES NEED TO BE TAKEN TO PREVENT ANY DAMAGE TO THE EXISTING HISTORIC BUILDINGS. ANY DAMAGE THAT OCCURS WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL COLUMNS AND FOOTINGS OF THE EXISTING FOUNDATION SHALL BE REMOVED ONE FOOT BELOW EXISTING GROUND LINE AND THE GROUND SURFACE RESTORED TO IT'S ORIGINAL CONDITION. EXISTING FOUNDATIONS LOCATED WHERE PROPOSED FOUNDATIONS ARE LOCATED SHALL BE REMOVED IN THEIR ENTIRETY TO CONSTRUCT THE NEW FOUNDATIONS.

A TEMPORARY CHAIN LINK FENCE SHALL BE MAINTAINED IN THE AREA AT ALL TIMES DURING THE REMOVAL OF THE EXISTING STRUCTURE AND CONSTRUCTION OF THE PROPOSED STRUCTURE.

THE CONTRACTOR SHALL PROVIDE 100% CONVENTIONAL FALL PROTECTION FOR WORKERS INSTALLING DECKING ABOVE 15 FEET.

SHOP DRAWINGS: SEE SECTION 105.02 OF THE STANDARD SPECIFICATIONS.

FOUNDATION PREPARATION: SEE SECTION 204 OF THE STANDARD SPECIFICATIONS. IF COFFERDAMS ARE REQUIRED, THEY SHALL BE IN ACCORDANCE WITH SECTION 204.09 OF THE STANDARD SPECIFICATIONS. USE OF HEAVY COMPACTING EQUIPMENT BEHIND THE RETAINING WALLS STRICTLY IS PROHIBITED. THE QUANTITY ITEM IS LOCATED IN THE PROJECT QUANTITY LIST LOCATED ON SHEET S0.1.



ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL
⑤ 303-01.03	GRANULAR BACKFILL (RETAINING WALLS)	TON	1,901
604-02.03	EPOXY COATED REINFORCING STEEL	LB.	2,900
④ ⑦ 604-03.08	CLASS A CONCRETE (RETAINING WALL)	C.Y.	709.5
⑥ 604-04.02	APPLIED TEXTURE FINISH (SANDBLASTING)	S.Y.	544
604-07.28	RETAINING WALL EXCAVATION	C.Y.	1,592
620-03.10	CONCRETE PARAPET (TEXAS CLASSIC)	L.F.	310
624-03.01	RETAINING WALL REINFORCING STEEL	LB.	81,900
717-01.04	MICROPILE MOBILIZATION	L.S.	1
② ③ 606-29.01	9" X 3/8" MICROPILE	L.F.	4,554
606-28.05	TEST PILES (9 5/8" X 3/8" MICROPILE)	L.F.	208
① 606-29.02	PROOF LOADING TEST (9" X 3/8" MICROPILE)	EA.	8

① MICROPILE TESTING. THE MICROPILE SYSTEM SHALL BE PERFORMANCE AND PROOF TESTED IN ACCORDANCE WITH ASTM D1143 QUICK METHOD, D1389 AND D3966 FOR COMPRESSION, LATERAL, OR TENSILE PERFORMANCE. PERFORMANCE TESTING SHALL BE CONDUCTED ON 5% OF THE MICROPILES OR A MAXIMUM OF (10) MICROPILES, WHICHEVER IS GREATER TO ALLOW EVALUATION OF LOAD-DEFLECTION BEHAVIOR.

② THE COST OF THE FOLLOWING ITEMS IS TO BE INCLUDED IN THE UNIT BID PRICE FOR 9" X 3/8" MICROPILE (LF).

- BOTH COMMON AND ROCK DRILLING TO A SUBSTANTIAL EMBEDDED DEPTH INTO A BONDED ZONE FOR SUFFICIENT VERTICAL AND LATERAL SUPPORT. AVERAGE COMMON DRILLED LENGTH PER MICROPILE IS 25 FEET. AVERAGE ROCK DRILLED LENGTH PER MICROPILE IS 8 FEET.
- MICROPILES SHALL BE FULLY CASED WITH A 9" DIAMETER X 3/8" THICK CASING.
- FURNISHING OF ALL MATERIALS NECESSARY TO COMPLETE THE WORK, INCLUDING MICROPILE CASING (80 KSI MINIMUM YIELD STRENGTH), REINFORCING STEEL (75 KSI MAXIMUM YIELD STRENGTH TO MAINTAIN STRAIN COMPATIBILITY WITH GROUT COMPRESSION), CONNECTION NUTS AND WASHERS, MICROPILE GROUT, CORROSION PROTECTION, CENTRALIZERS, AND ANY OTHER MATERIAL NEEDED BY MICROPILE MANUFACTURER TO COMPLETE THE WORK. GROUT SHALL CONSIST OF A NEAT CEMENT MIXTURE WITH WATER/CEMENT RATIO BETWEEN 0.35 AND 0.45 TO PRODUCE A HARDENED MORTAR COMPRESSIVE STRENGTH OF 4,000 psi AT TIME OF PERFORMANCE AND PROOF LOAD TESTING.
- INSTALLATION OF MICROPILES ACCORDING TO MICROPILE CONSULTANT FURNISHING THE MICROPILES AND DETAILS PROVIDED WITHIN CONTRACT DOCUMENTS.

③ THE MICROPILE CONSULTANT FIRM MUST BE PRESENT DURING INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN A MICROPILE CONSULTANT WITH A MINIMUM OF 10 YEARS DEMONSTRATED EXPERIENCE IN MICROPILE INSTALLATION. CONTRACTOR SHALL SUBMIT REFERENCE FOR DEMONSTRATED EXPERIENCE WITH BID.

④ THE COST OF BITUMINOUS-FIBERBOARD AND ALL MISCELLANEOUS EXPANSION JOINT MATERIAL TO BE INCLUDED IN THE UNIT PRICE BID FOR CLASS "A" CONCRETE (RETAINING WALL).

⑤ GRANULAR BACKFILL SHALL BE CLASS "A" GRADING "D" MATERIAL AND CONSOLIDATED WITH A LIGHT DUTY (HAND HELD) TAMPING MACHINE IN 6" LAYERS AND IN ACCORDANCE WITH SECTION 204.10 OF THE STANDARD SPECIFICATIONS. ALLOW 7 DAYS BEFORE BACKFILLING BEHIND THE WALL OR UNTIL CONCRETE HAS OBTAINED AT LEAST 0.85 $f'c$. SEE STANDARD DRAWING STD-10-1.

⑥ SANDBLASTING SHALL NOT COMMENCE UNTIL 21 DAYS AFTER THE CONCRETE HAS BEEN PLACED. WHEN CARRYING OUT ANY SANDBLASTING OPERATION, THE CONTRACTOR SHALL TAKE SUITABLE PROTECTIVE MEASURES TO ENSURE THAT NO DAMAGE OCCURS TO ANY PORTION OF THE AREA. THE TEXTURE OF THE SANDBLASTED FINISH SHALL BE DETERMINED FROM TRIAL SANDBLASTING OF AREAS OF THE WORK. AS A GENERAL GUIDE, SANDBLASTING SHALL BE SUCH AS TO EXPOSE THE COARSE AGGREGATE WITH A TEXTURE DEPTH OF NO MORE THAN 1/8" INCH. UPON COMPLETION OF THE SANDBLASTING, THE BLASTED SURFACE AND ADJACENT AREAS SHALL BE WASHED DOWN WITH A HIGH PRESSURE WATER JET TO REMOVE LOOSE SAND AND BLASTING DEBRIS.

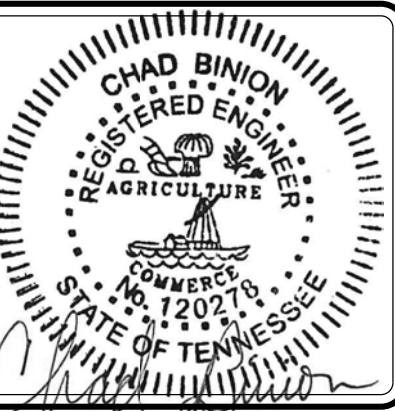
⑦ THE COST OF APPLYING RUSTICATION JOINTS ON THE OPEN FACE OF THE RETAINING WALL, INCLUDING ALL LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CLASS "A" CONCRETE (RETAINING WALL). REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFIC SIZE AND SPACING DETAILS.

APPLIED TEXTURE FINISH SKETCH

SPECIAL NOTES FOR SAND BLAST FINISHING OF CONCRETE SURFACES:

- PARAPET CONCRETE SHALL BE COLORED A LIGHT BROWN PRIOR TO RECEIVING A SAND BLAST FINISH TO MATCH GAY STREET BRIDGE PARAPET.
- CONTRACTOR SHALL PREPARE AN ON-SITE SAMPLE (MOCK-UP) OF THE SAND BLAST FINISH FOR APPROVAL BY THE RESIDENT ENGINEER AND CITY OF KNOXVILLE ENGINEERS. APPROVAL SHALL BE OBTAINED BEFORE PROCEEDING WITH WORK, AND ALL COMPLETED WORK SHALL MATCH THE APPROVED SAMPLE.

NO.	DATE	DESCRIPTION	TEXT	NOTE	PROOF	LOAD	QUANTITY
1	5/3/19						



3/3/2019

JACKSON AVENUE BRIDGES OVER RAMP TO GAY STREET

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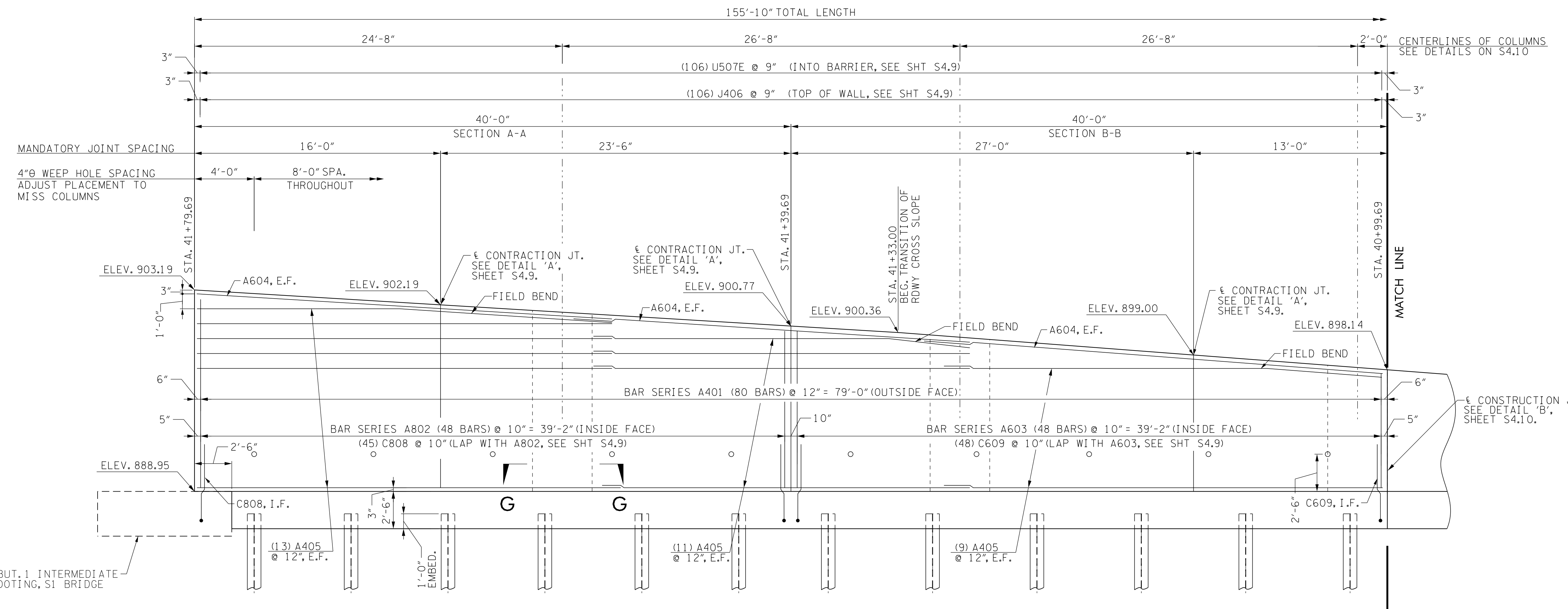
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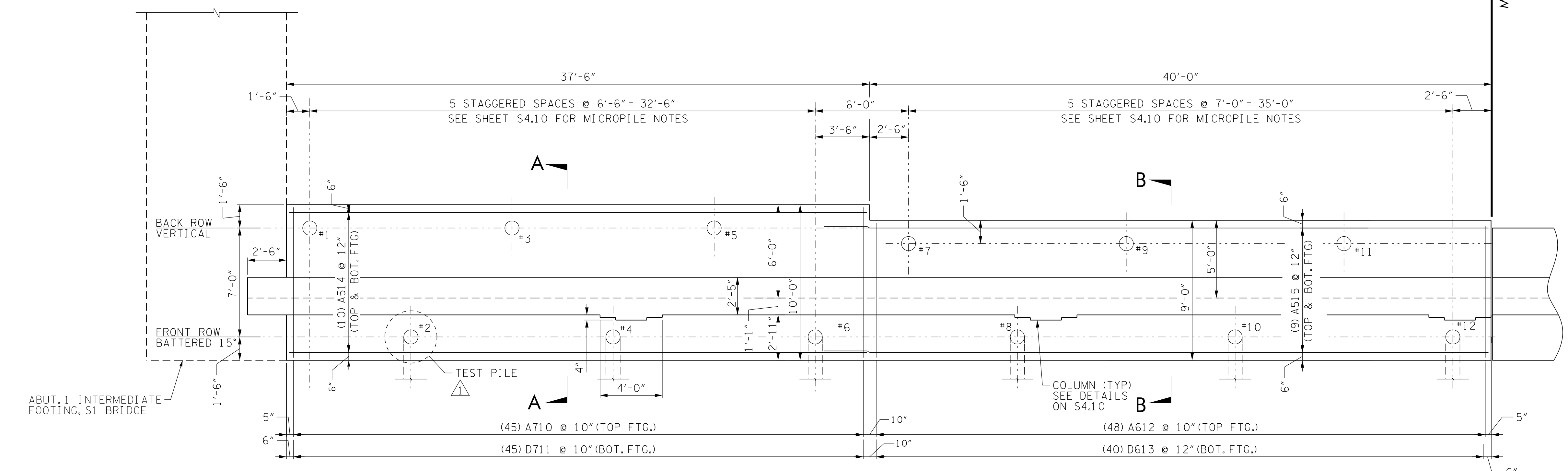
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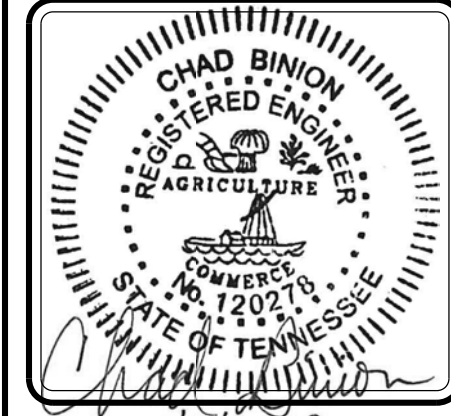
HALF ELEVATION - NORTH RETAINING WALL, WEST RAMP
VIEW FROM OUTSIDE FACE (FROM PARKING LOT)

BAR SIZE	MIN LAP
#4	1'-9"
#5	2'-2"
#6	2'-9"
#7	3'-9"
#8	4'-10"
#9	6'-2"

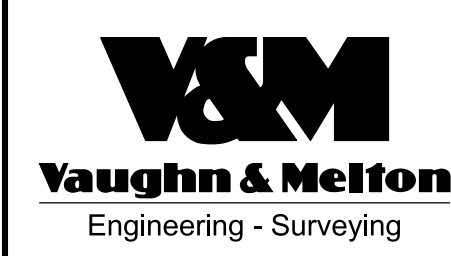


HALF PLAN - NORTH RETAINING WALL, WEST RAMP

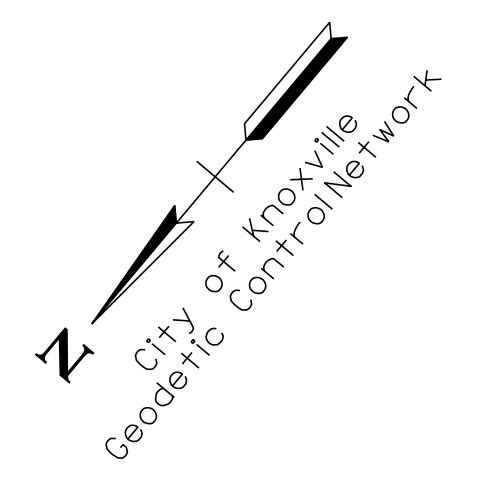
NO.	DATE	DESCRIPTION	TEST PILE LOCATION
1	5/3/19		



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OVER RAMP TO GAY STREET
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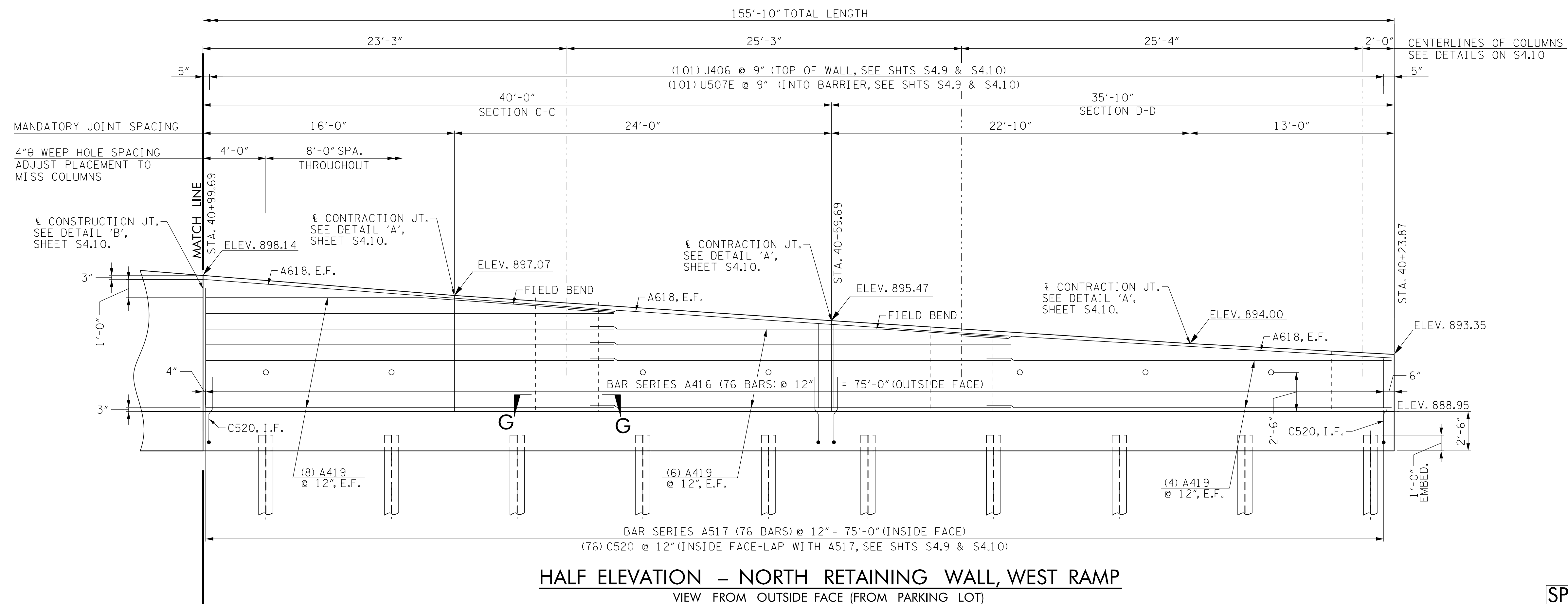
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SCALE:	
DATE:	03-09-2018
DRAWING TITLE:	WEST RAMP NORTH WALL 1 OF 2
DRAWING NO:	S4.3

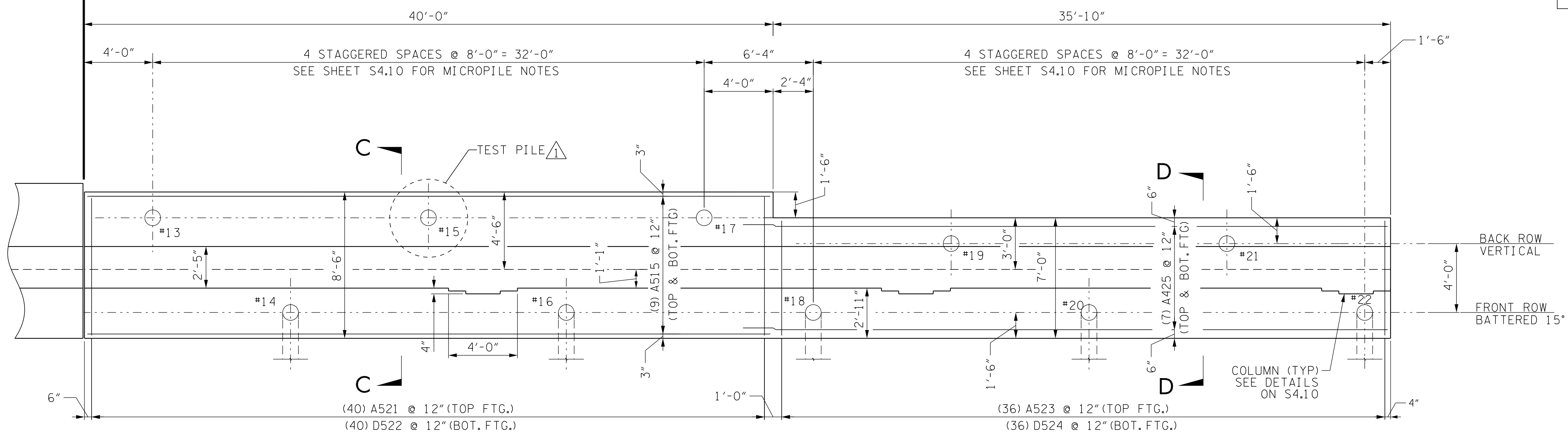
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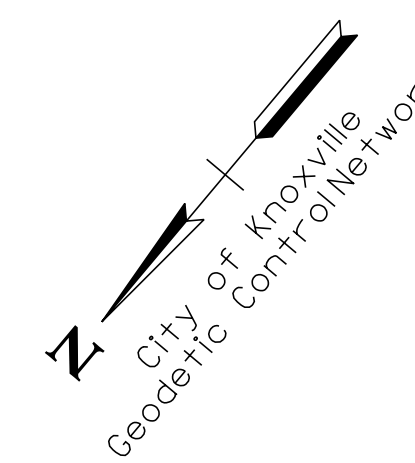


HALF ELEVATION - NORTH RETAINING WALL, WEST RAMP
VIEW FROM OUTSIDE FACE (FROM PARKING LOT)

BAR SIZE	MIN LAP
#4	1'-9"
#5	2'-2"
#6	2'-9"
#7	3'-9"
#8	4'-10"
#9	6'-2"



HALF PLAN - NORTH RETAINING WALL, WEST RAMP

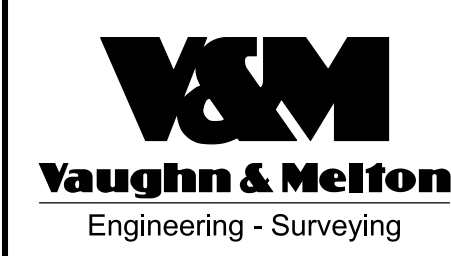


NO.	DATE	DESCRIPTION	TEST PILE LOCATION
1	5/3/19		



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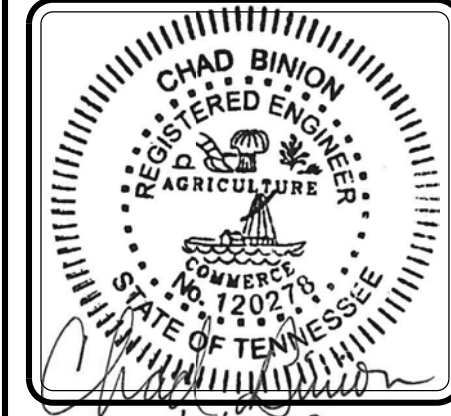
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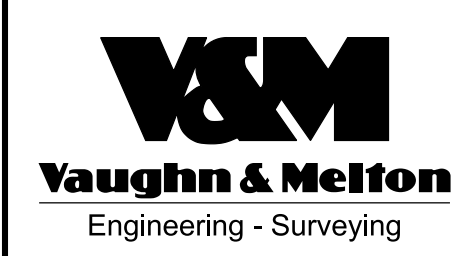
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NO.	DATE	DESCRIPTION	TEST PILE LOCATION
1	5/3/19		



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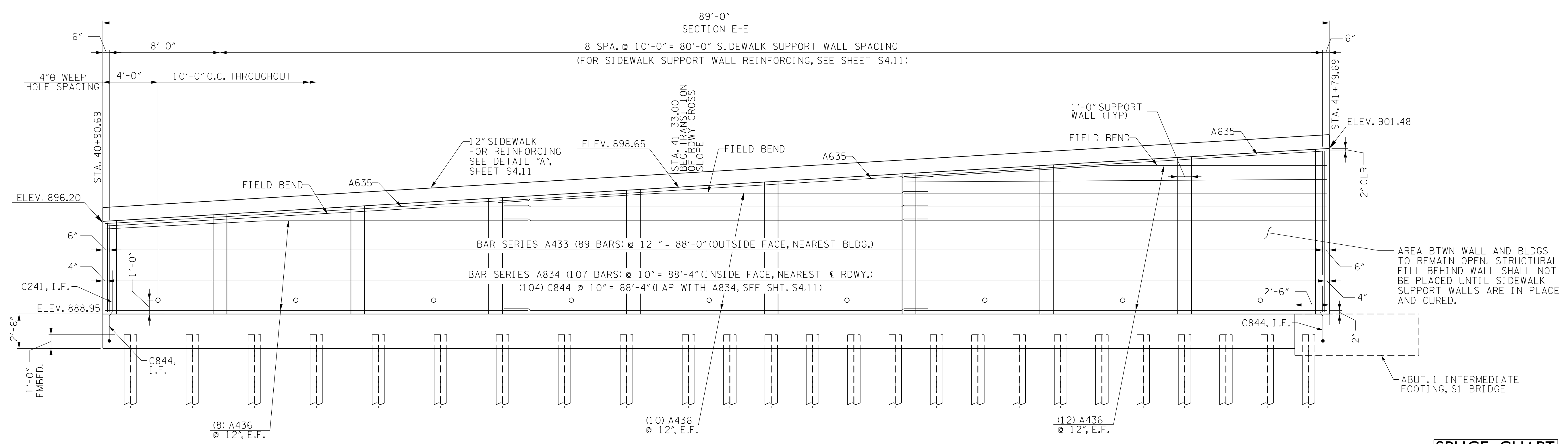
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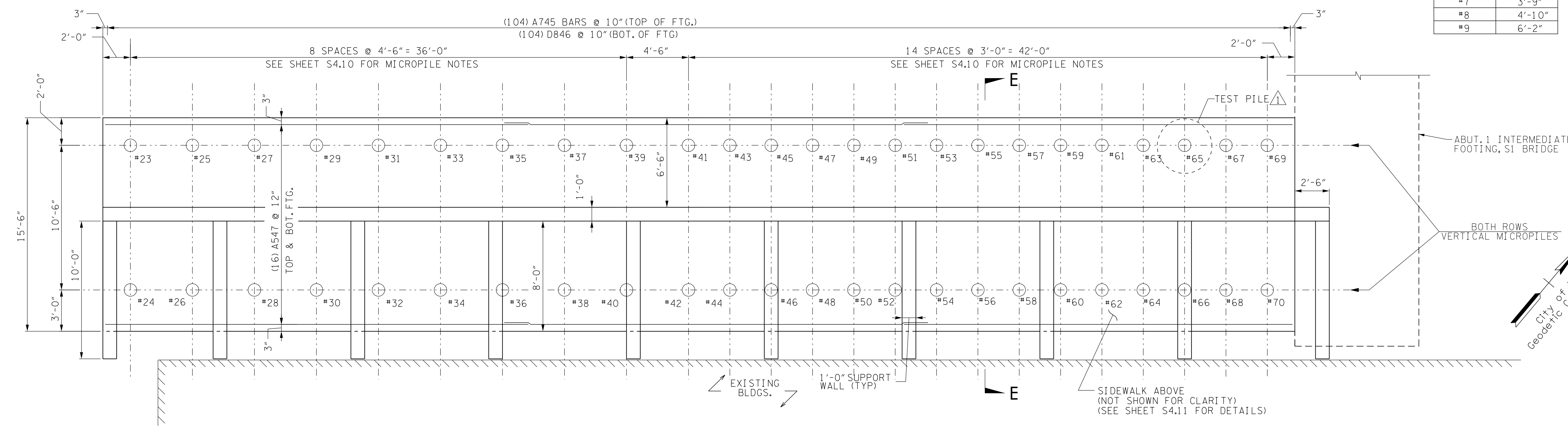
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WEST RAMP SOUTH WALL
DRAWING NO:
S4.5



ELEVATION – SOUTH RETAINING WALL, WEST RAMP
VIEW FROM EXISTING BUILDINGS (RIGHT OF CENTERLINE)

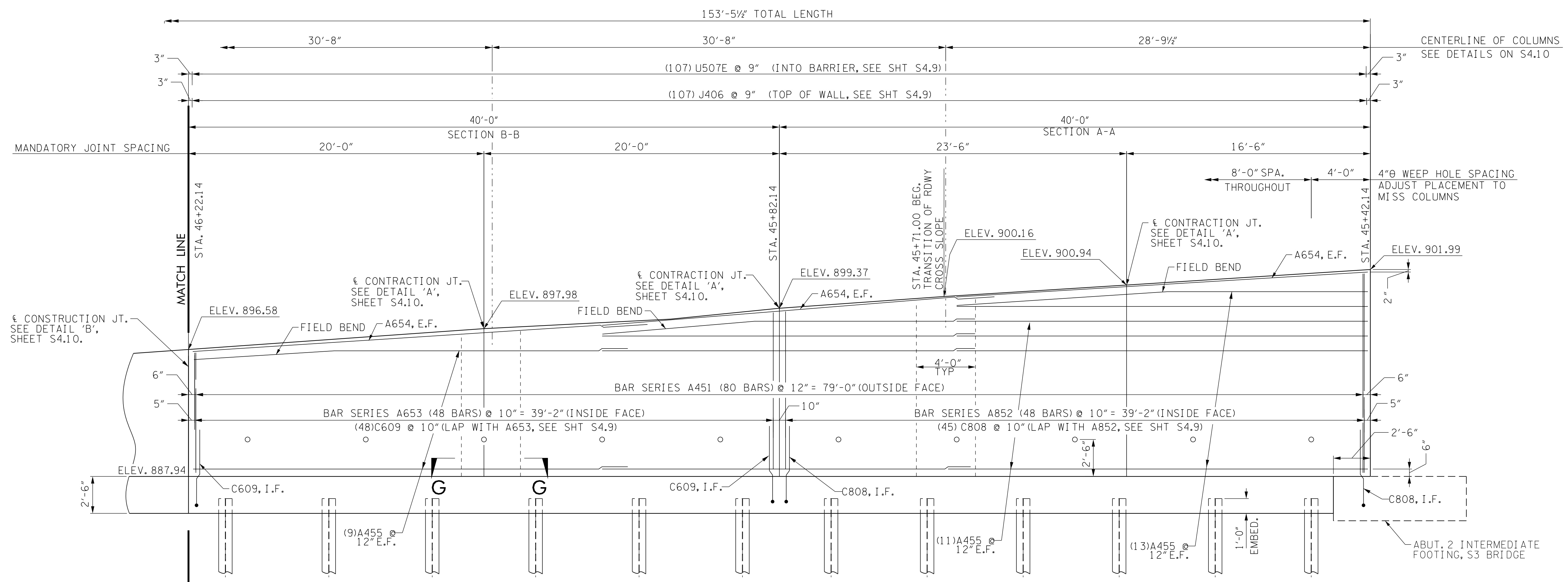
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#7	3'-9"
#8	4'-10"
#9	6'-2"



PLAN – SOUTH RETAINING WALL, WEST RAMP

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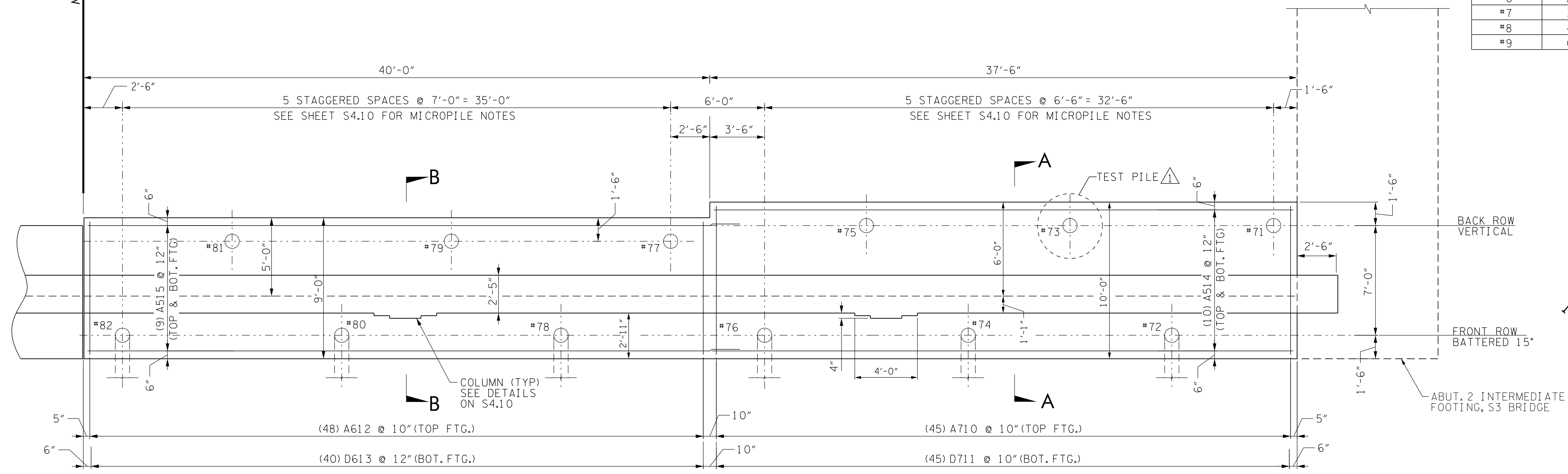
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HALF ELEVATION – NORTH RETAINING WALL, EAST RAMP
VIEW FROM OUTSIDE FACE (FROM PARKING LOT)

SPLICE CHART

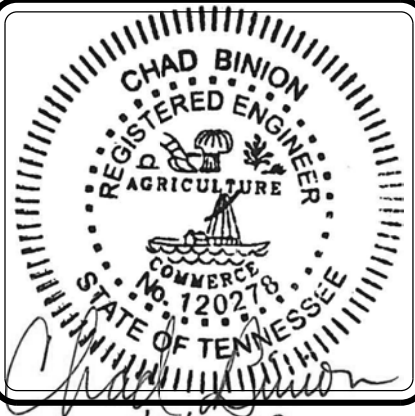
BAR SIZE	MIN LAP
#4	1'-9"
#5	2'-2"
#6	2'-9"
#7	3'-9"
#8	4'-10"
#9	6'-2"



HALF PLAN – NORTH RETAINING WALL, EAST RAMP

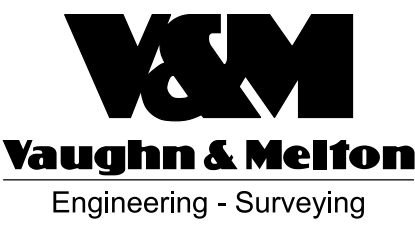
REVISIONS

NO.	DATE	DESCRIPTION	TEST PILE LOCATION
1	5/3/19		



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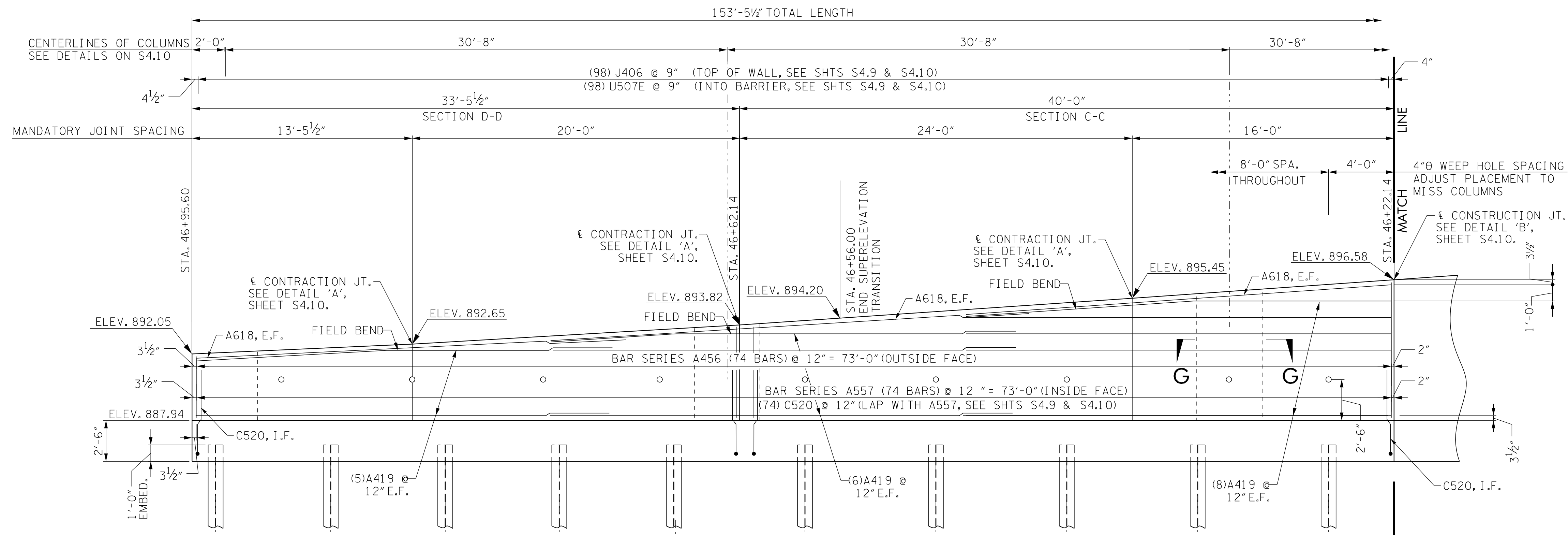
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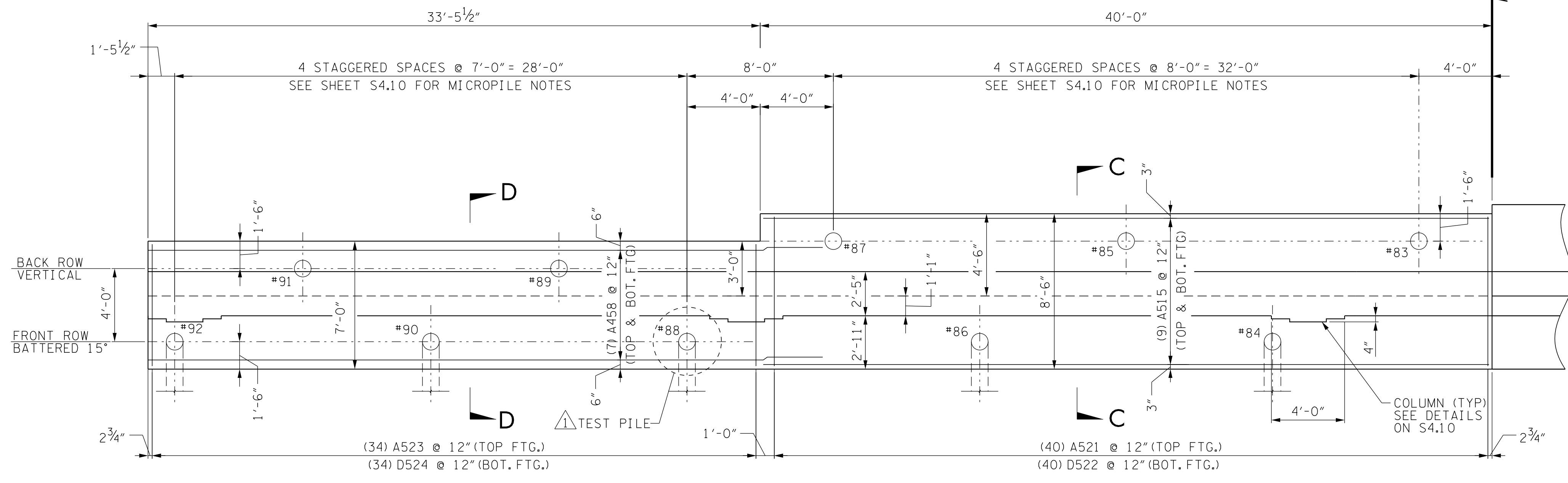
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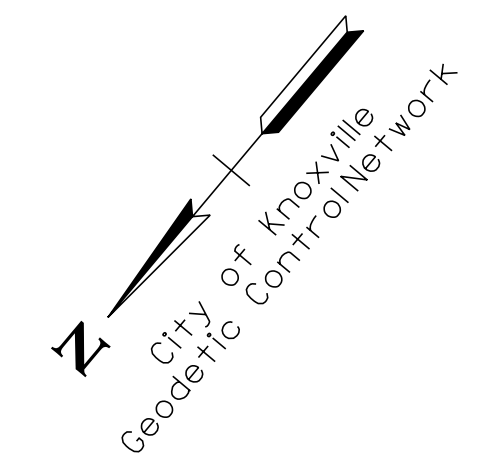
HALF ELEVATION - NORTH RETAINING WALL, EAST RAMP
VIEW FROM OUTSIDE FACE (FROM PARKING LOT)

SPLICE CHART

BAR SIZE	MIN LAP
#4	1'-9"
#5	2'-2"
#6	2'-9"
#7	3'-9"
#8	4'-10"
#9	6'-2"

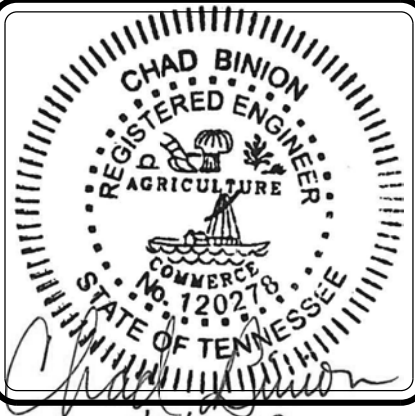


HALF PLAN - NORTH RETAINING WALL, EAST RAMP



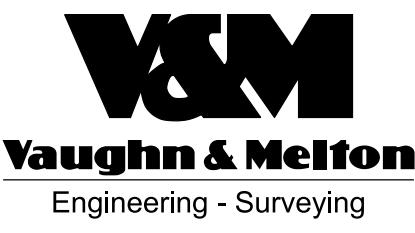
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NO.	DATE	DESCRIPTION	TEST PILE LOCATION
1	5/3/19		



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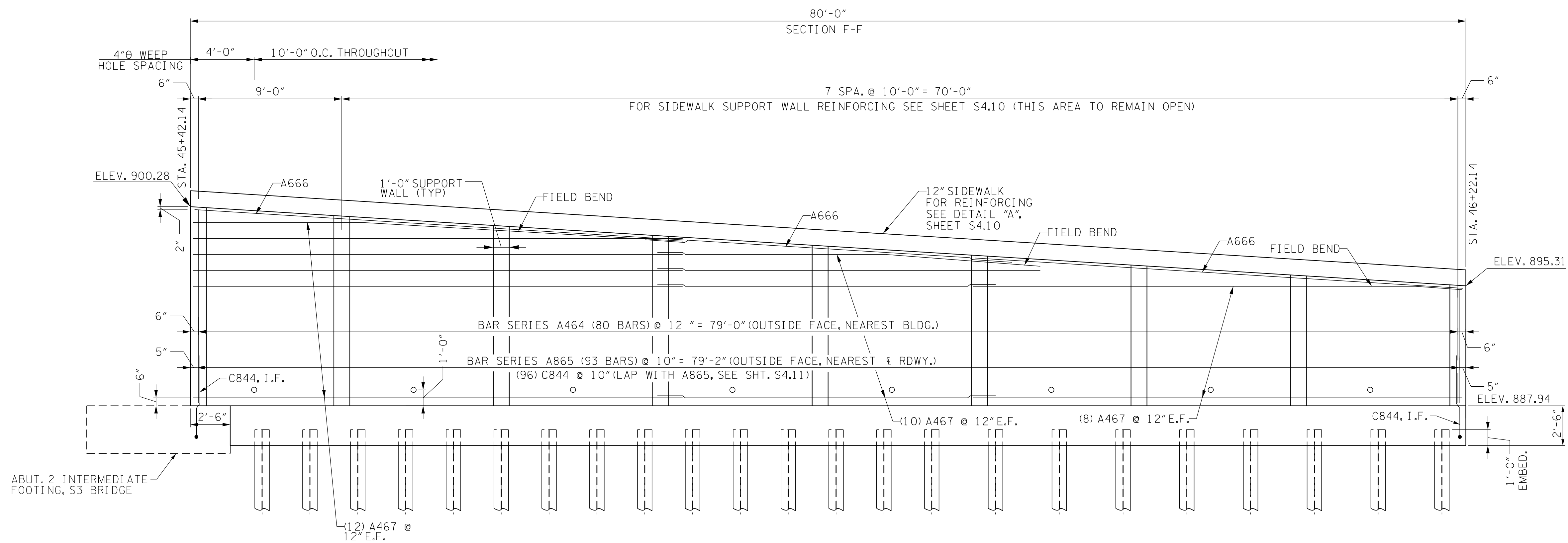
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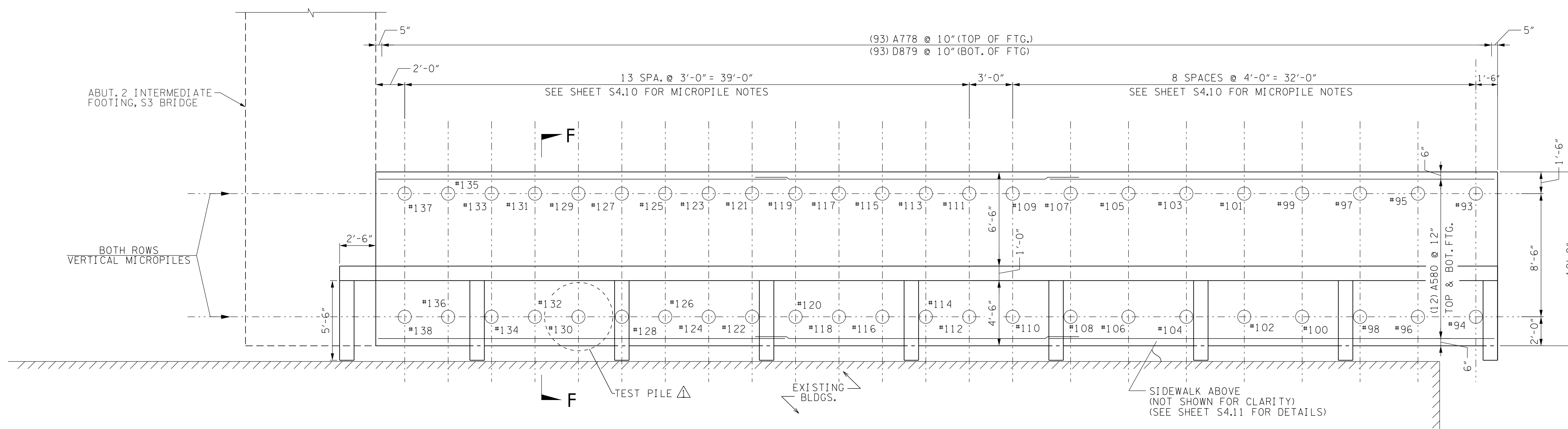
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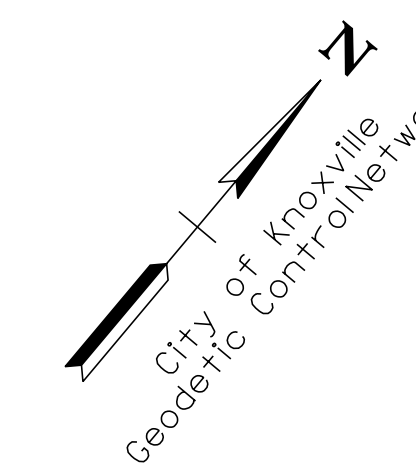


ELEVATION – SOUTH RETAINING WALL, EAST RAMP
VIEW FROM EXISTING BUILDINGS (RIGHT OF CENTERLINE)

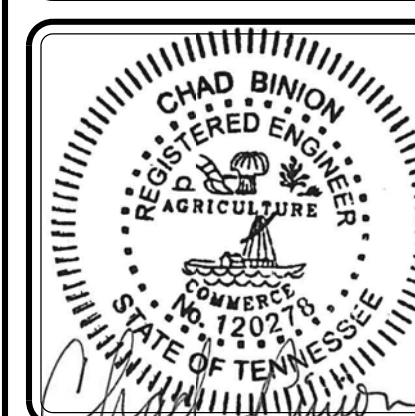
SPLICE CHART	
BAR SIZE	MIN LAP
#4	1'-9"
#5	2'-2"
#6	2'-9"
#7	3'-9"
#8	4'-10"
#9	6'-2"



PLAN – SOUTH RETAINING WALL, EAST RAMP



NO.	DATE	DESCRIPTION	TEST PILE LOCATION
1	5/3/19		



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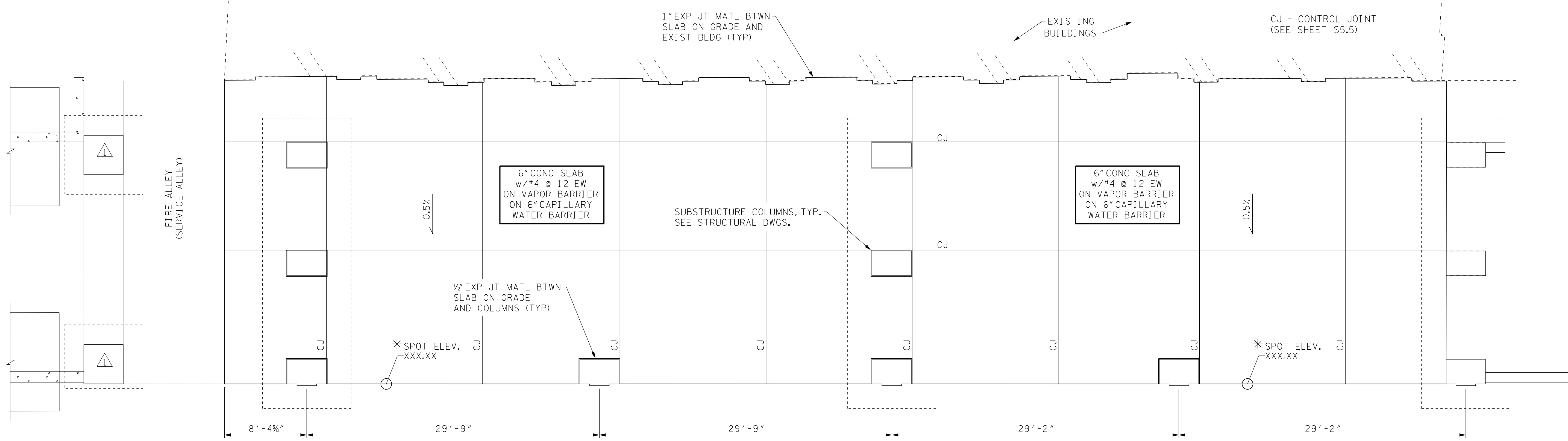
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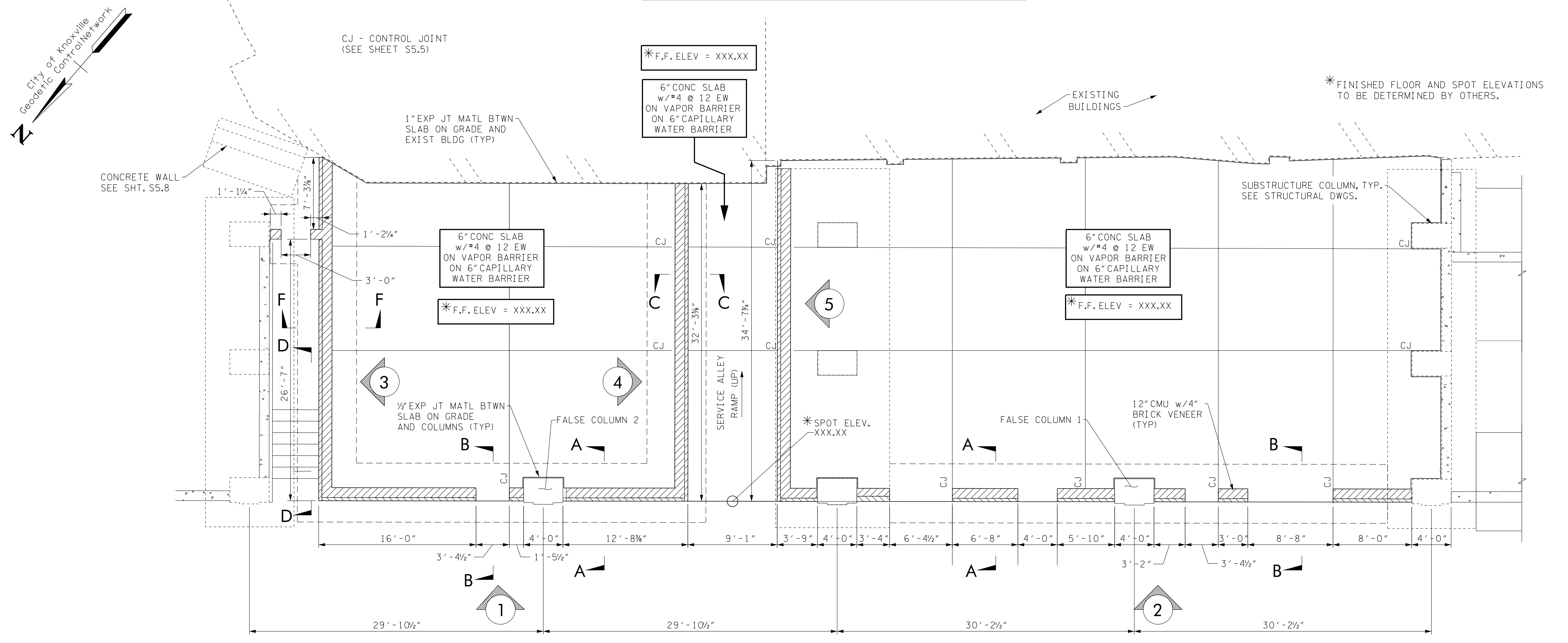
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EAST RAMP SOUTH WALL
DRAWING NO:
S4.8

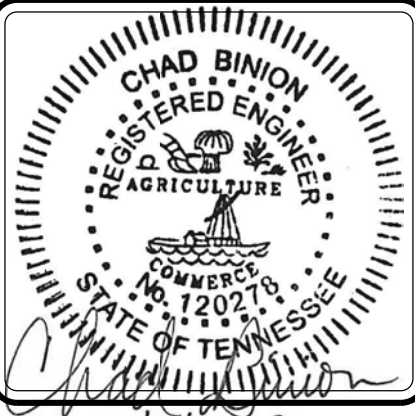


FOUNDATION / FLOOR SLAB PLAN, EAST RAMP



FOUNDATION / FLOOR SLAB PLAN, WEST RAMP

NO.	DATE	DESCRIPTION
1	5/3/19	S3-ABUT 2 CONFIG.



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SCALE:	
DATE:	03-09-2018
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DRAWING NO:	S5.1

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GENERAL NOTES

CAST-IN-PLACE REINFORCED CONCRETE

A. DESIGN CODE: TENNESSEE DEPARTMENT OF TRANSPORTATION, JAN 1, 2015 - STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. CONTRACTOR TO MAINTAIN COPY AT JOB SITE.

B. MIX DESIGN SHALL BE DOCUMENTED IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS. MIX DESIGNS WHICH ARE SUBMITTED WITHOUT THE REQUIRED DOCUMENTATION WILL BE REJECTED. FIELD SLUMPS RECORDED AT JOB SITE SHALL NOT EXCEED THE SLUMP ESTABLISHED FOR THE MIX DESIGN.

C. CONCRETE.
1. SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATION.
2. ALL CONCRETE FOR SLAB-ON-GRADE CONSTRUCTION TO BE A CLASS "D" CONCRETE WITH COMPRESSIVE STRENGTH OF 4000 psi AT 28 DAYS.
3. ALL CONCRETE FOR FALSE COLUMN CONSTRUCTION TO BE A CLASS "A" CONCRETE WITH COMPRESSIVE STRENGTH OF 3000 psi AT 28 DAYS.

D. FORMWORK
1. SHALL BE IN ACCORDANCE WITH SECTION 604.05 OF THE STANDARD SPECIFICATIONS.
2. KEYS INDICATED ARE TO BE 2" x 4" NOMINAL CONTINUOUS U.N.O.
3. RUSTICATION STRIPS, CHAMFERS, DRIPS, MISC EMBEDS, ETC. SEE PLANS AND/OR ARCHITECTURAL DRAWINGS.
4. OPENINGS FOR MP&E TRADES. ALL HOLES FOR OTHER TRADES WHICH MUST BE CUT OR FORMED AND WHICH ARE NOT SHOWN ON THE STRUCTURAL DESIGN(S) DRAWINGS SHALL BE SUBMITTED TO THE CONTRACTING OFFICER FOR REVIEW AND APPROVAL. ANY STRENGTHENING OR ADDITIONAL REINFORCEMENT REQUIRED SHALL BE FURNISHED BY THE CONTRACTOR WITHOUT ADDITIONAL COST TO THE CITY OF KNOXVILLE.

E. REINFORCEMENT
1. REINFORCING BARS, DEFORMED, GRADE 60, ASTM A625.
2. SPLICES, CONTINUOUS REINFORCING BARS INCLUDING CORNER BARS SHALL BE APPLIED THE LENGTH SHOWN IN THE DEVELOPMENT/LAP SPLICE TABLE SHOWN ON THE DESIGN DRAWINGS.
3. MINIMUM COVER FOR PROTECTION TYPICAL, U.N.O.
A. CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
B. FORMED SURFACE EXPOSED TO EARTH OR WEATHER
#6 THROUGH #18 BARS 2"
#5 AND SMALLER 1 1/2"
C. STRUCTURAL SLABS AND WALLS NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND 3/4"
D. BEAMS AND COLUMNS, PRIMARY REINFORCEMENT, TIES, STIRRUPS, AND SPIRALS NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND 1 1/2"
E. HOOKS INDICATED ARE ACI/CRSI STANDARD 90 DEGREE OR 180 DEGREE HOOKS. BAR LENGTHS SHOWN ARE OUT-TO-OUT AND DO NOT INCLUDE HOOK LENGTH.
F. SLAB & WALL OPENINGS. COORDINATE WITH MECHANICAL, PLUMBING AND ELECTRICAL TRADES. FIELD REQUIREMENTS NOT SHOWN ON STRUCTURAL PLANS MUST BE APPROVED BY THE CONTRACTING OFFICER. PLUMBING SLOTS ARE TO BE FILLED WITH CONCRETE TO SAME THICKNESS AS SLAB OR WALL AFTER PIPING HAS BEEN INSTALLED.

G. CONCRETE FINISHES. SEE STANDARD SPECIFICATIONS.
1. FORMED SURFACES
A. PAINTED OR EXPOSED TO VIEW: RUBBED U.N.O. ON PLANS
B. COVERED OR AS NOTED ON PLANS: AS-CAST
2. FLATWORK SURFACES
A. EXPOSED TO VIEW: TROWELED WITH SURFACE TREATMENT
B. TILED OR CARPETED: TROWELED
C. STAIRS OR RAMPS: BROOMED
D. SIDEWALKS, DRIVEWAYS: BROOMED OR BELTED

H. CURING AND PROTECTION, SEE STANDARD SPECIFICATIONS.

I. SLABS ON GRADE
1. STRIP CAST WITH CONTROL/CONSTRUCTION JOINTS TO ALIGN WITH COLUMN CENTERLINES. CONTROL JOINTS SHALL BE PLACED AS SHOWN ON PLANS.
2. CONTRACTOR SHALL SUBMIT A CONTROL/CONSTRUCTION JOINT LAYOUT PLAN WITH CONSTRUCTION JOINT DETAILS AND POUR SEQUENCE/SCHEDULE FOR REVIEW.
3. SEE CONTROL JOINT AND CONSTRUCTION JOINT DETAILS. JOINT MAX. SPACING IS 20'-0".
4. VAPOR BARRIER CONSISTS OF A POLYETHYLENE SHEETING (6 MIL. MINIMUM).
5. GRANULAR SUBBASE UNDER SLAB-ON-GRADE: VAPOR BARRIER AN COMPACTED CRUSHED STONE. A THIN LAYER OF APPROX. 1/2" OF FINE GRADED MATERIAL SHALL BE ROLLED A COMPACTED OVER THE CRUSHED STONE TO PREVENT PUNCTURE OF THE VAPOR BARRIER. 1/2" LAYER SHALL BE PART OF THE CRUSHED STONE THICKNESS.

CONCRETE MASONRY

A. DESIGN CRITERIA, ACI 530

B. CONCRETE MASONRY UNITS:
1. HOLLOW UNITS: ASTM C90, NORMAL WEIGHT
2. SOLID UNITS: ASTM C145, GRADE N
3. CONCRETE BUILDING BRICK: ASTM C55

C. DESIGN f'm = 1,500 psi

D. MORTAR, ASTM C270, TYPE S (1800 psi). MASONRY CEMENT SHALL NOT BE USED FOR REINFORCED CONCRETE MASONRY CONSTRUCTION.

E. GROUT, ASTM C475 (2000psi). MAXIMUM POUR HEIGHT IS 4'-0", CLEAR CELL DIMENSIONS, AND CLEANOUT REQUIREMENTS.

F. REINFORCEMENT
1. HORIZONTAL JOINTS: LADDER TYPE JOINT REINFORCING SHALL BE USED SEE SPECS.
2. VERTICAL AND HORIZONTAL REINFORCEMENT: ASTM A615, GRADE 60

MICROPILE DESIGN

A. THE DESIGN OF THE MICROPILES IS TO BE PERFORMED BY A DESIGN/BUILD SPECIALTY CONTRACTOR WHO INSTALLS THE PILES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CERTIFIED MICROPILE MANUFACTURER TO PROVIDE DESIGN PLANS AND SPECIFICATIONS, SIGNED AND SEALED BY A LICENSED TENNESSEE PROFESSIONAL ENGINEER. THE PLANS, SHOP DRAWINGS, AND SPECIFICATIONS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER BEFORE THE BEGINNING OF CONSTRUCTION.

B. SEE SHEET S4.10 "MICROPILE DETAIL" FOR BASIC DESIGN REQUIREMENTS, INCLUDING BUT NOT LIMITED TO #18 REBAR EXTENDING THE LENGTH OF THE MICROPILE PLACED IN THE CENTER OF THE PILE AND FILLED WITH 4 ksi GROUT. SIZE (DIAMETER) OF MICROPILE SHALL BE AS CALLED OUT ON THE PLANS AS 9"x%. MICROPILE SHALL BE FULLY CASING.

1. TEST PILE NOTES:
TEST PILES ARE INDICATOR PILES AND SHALL BE DRIVEN WHERE DESIGNATED ON THE PLANS TO DETERMINE THE LENGTH OF PILE REQUIRED. NO DYNAMIC TESTING IS REQUIRED.

ALL TEST PILES SHALL BE ACCURATELY LOCATED SO THAT THEY MAY BE USED IN THE FINISHED STRUCTURE.

SELECTION OF THE PRODUCTION PILES TO BE USED AS TEST PILES MAY BE MODIFIED WITH THE APPROVAL OF THE ENGINEER. NO REDUCTION IN THE TOTAL NUMBER OF TEST PILES MAY BE MADE.

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL
204-04.10	STRUCTURE EXCAVATION UNCLASSIFIED	C.Y.	251
604-03.02	STEEL BAR REINFORCEMENT (FTGS, WALL, AND FALSE COLUMNS)	L.B.	10,900
604-03.07	CLASS A CONCRETE (FTGS, WALL, AND FALSE COLUMNS)	C.Y.	137.6
① 613-02.01	12" CONCRETE MASONRY WALL	S.F.	3,250
② 604-01.54	SLAB-ON-GRADE	S.F.	7,930
717-01.04	MICROPILE MOBILIZATION	L.S	1
⑤④ 606-29.01	MICROPILE (9" X 3/8" MICROPILE)	L.F.	1,287
606-28.05	TEST PILES (9 5/8" X 3/8" MICROPILE)	L.F.	66
③ 606-29.02	PROOF LOADING TEST (9" X 3/8" MICROPILE)	EA.	2
613-02	BRICK MASONRY	MBRK	22.75

① PAY ITEM FOR 12" CONCRETE MASONRY SHALL INCLUDE THE 12" MASONRY UNITS, REINFORCING AND DOWEL BARS, LINTELS, BOND BEAMS, CONSTRUCTION FOR OPENINGS, AND ANY OTHER ITEMS NECESSARY TO COMPLETE THE CONSTRUCTION ACCORDING TO THE CONTRACT DOCUMENTS.

② PAY ITEM FOR SLAB-ON-GRADE SHALL INCLUDE QUANTITIES FOR BOTH THE SLAB-ON-GRADE AND THE STAIRS BENEATH THE RAMP. ITEMS SHALL INCLUDE CLASS "D" CONCRETE, REINFORCING BARS, VAPOR BARRIER, AND CAPILLARY WATER BARRIER. PAY ITEM ALSO INCLUDES THE ITEMS AND LABOR NECESSARY TO COMPLETE THE WORK, INCLUDING CONSTRUCTION/CONTROL JOINTS AND FINISHING.

③ MICROPILE TESTING. THE MICROPILE SYSTEM SHALL BE PERFORMANCE AND PROOF TESTED IN ACCORDANCE WITH ASTM D1143 QUICK METHOD, D1389 AND D3966 FOR COMPRESSION, LATERAL, OR TENSILE PERFORMANCE. PERFORMANCE TESTING SHALL BE CONDUCTED ON 5% OF THE MICROPILES OR A MAXIMUM OF 10 MICROPILES, WHICHEVER IS GREATER TO ALLOW EVALUATION OF LOAD-DEFLECTION BEHAVIOR.

④ THE COST OF THE FOLLOWING ITEMS IS TO BE INCLUDED IN THE UNIT BID PRICE FOR 9" X 3/8" MICROPILE (LF).

1. BOTH COMMON AND ROCK DRILLING MEASURED TO A SUBSTANTIAL EMBEDDED DEPTH INTO A BONDED ZONE FOR SUFFICIENT VERTICAL AND LATERAL SUPPORT. AVERAGE COMMON DRILLED LENGTH PER MICROPILE IS 25 FEET. AVERAGE ROCK DRILLED LENGTH PER MICROPILE IS 8 FEET.

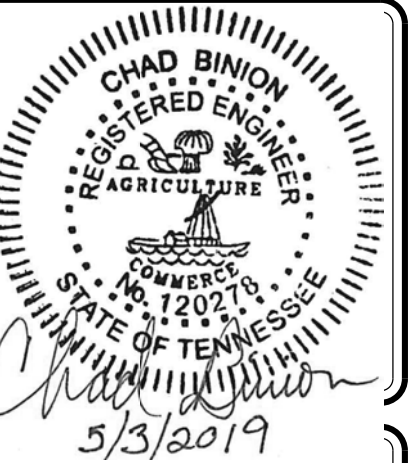
2. MICROPILES SHALL BE FULLY CASING WITH A 9" DIAMETER X 3/8" THICK CASING.

3. FURNISHING OF ALL MATERIALS NECESSARY TO COMPLETE THE WORK, INCLUDING MICROPILE CASING (80 ksi MINIMUM YIELD STRENGTH). REINFORCING STEEL (75ksi MAXIMUM YIELD STRENGTH TO MAINTAIN STRAIN COMPATIBILITY WITH GROUT COMPRESSION), CONNECTION NUTS AND WASHERS, MICROPILE GROUT, CORROSION PROTECTION, CENTRALIZERS, AND ANY OTHER MATERIAL NEEDED BY MICROPILE MANUFACTURER TO COMPLETE THE WORK. GROUT SHALL CONSIST OF A NEAT CEMENT MIXTURE WITH WATER/CEMENT RATIO BETWEEN 0.35 AND 0.45 TO PRODUCE A HARDENED MORTAR COMPRESSIVE STRENGTH OF 4,000 psi AT TIME OF PERFORMANCE AND PROOF LOAD TESTING.

4. INSTALLATION OF MICROPILES ACCORDING TO MICROPILE CONSULTANT FURNISHING THE MICROPILES AND DETAILS PROVIDED WITHIN CONTRACT DOCUMENTS.

⑤ THE MICROPILE CONSULTANT FIRM MUST BE PRESENT DURING INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN A MICROPILE CONSULTANT WITH A MINIMUM OF 10 YEARS DEMONSTRATED EXPERIENCE IN MICROPILE INSTALLATION. CONTRACTOR SHALL SUBMIT REFERENCE FOR DEMONSTRATED EXPERIENCE WITH BID.

NO.	DATE	DESCRIPTION
1	5/3/19	PROOF LOAD, BRICK QUANT.



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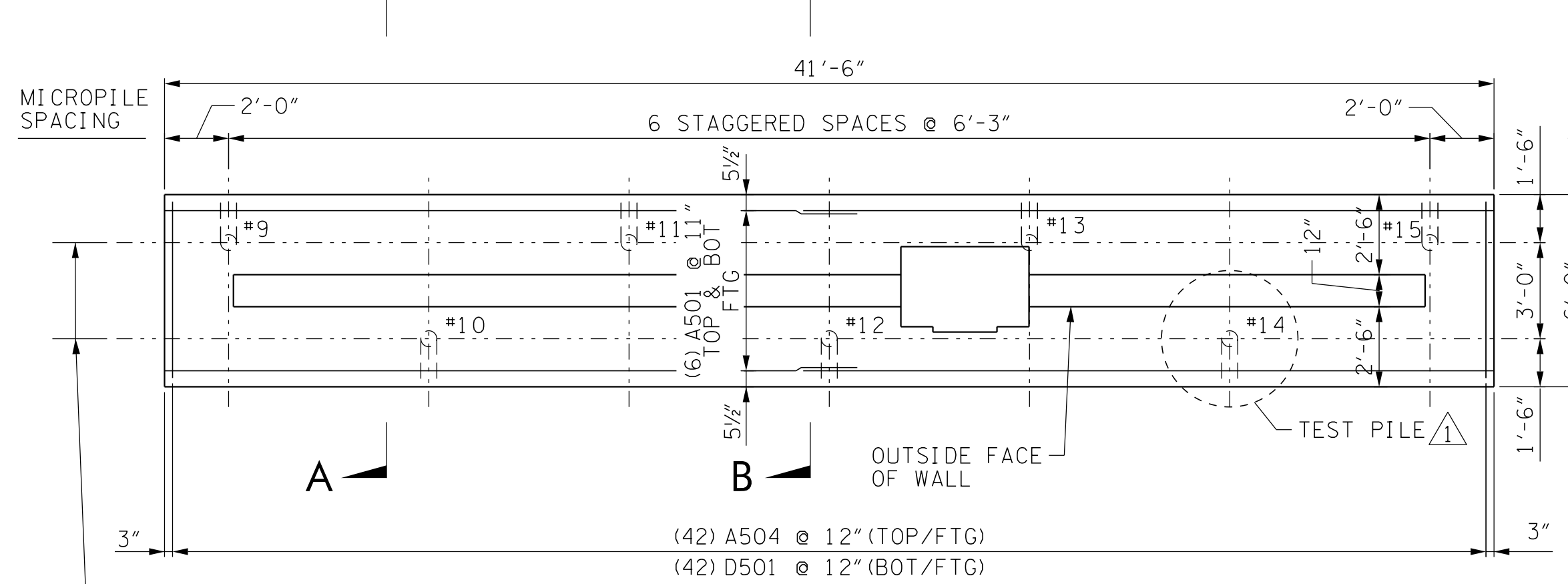
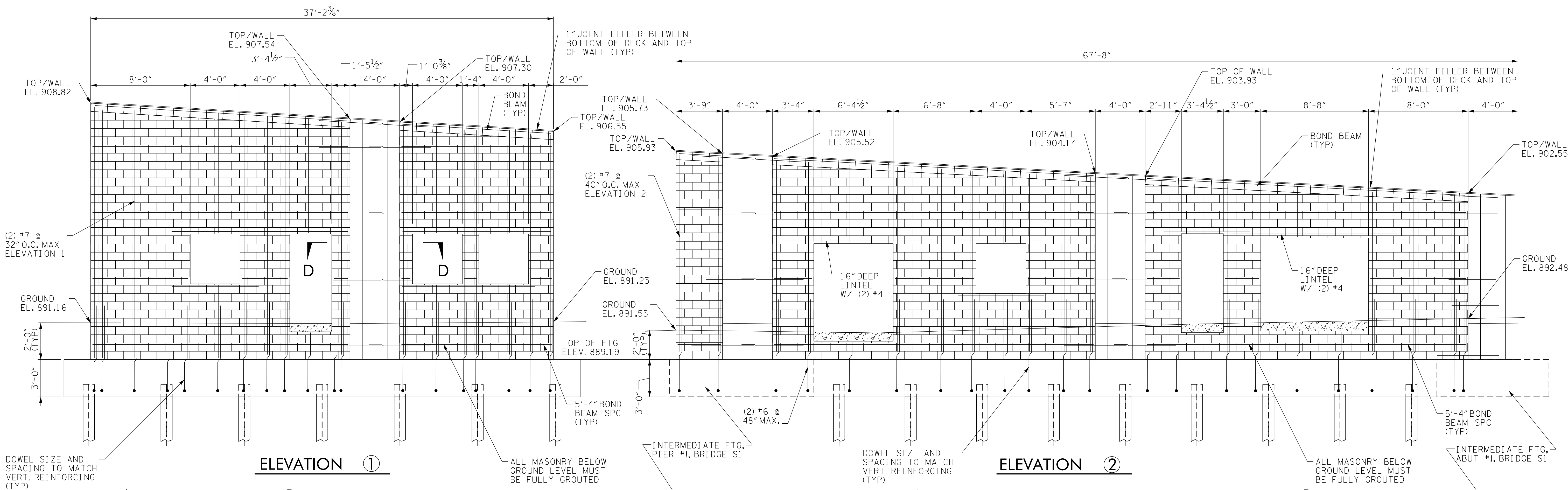
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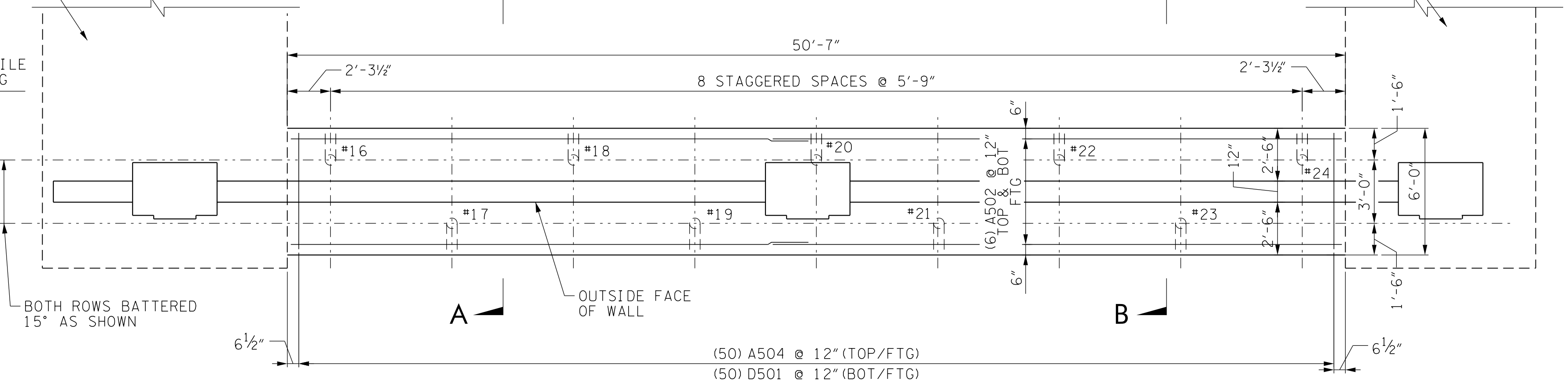
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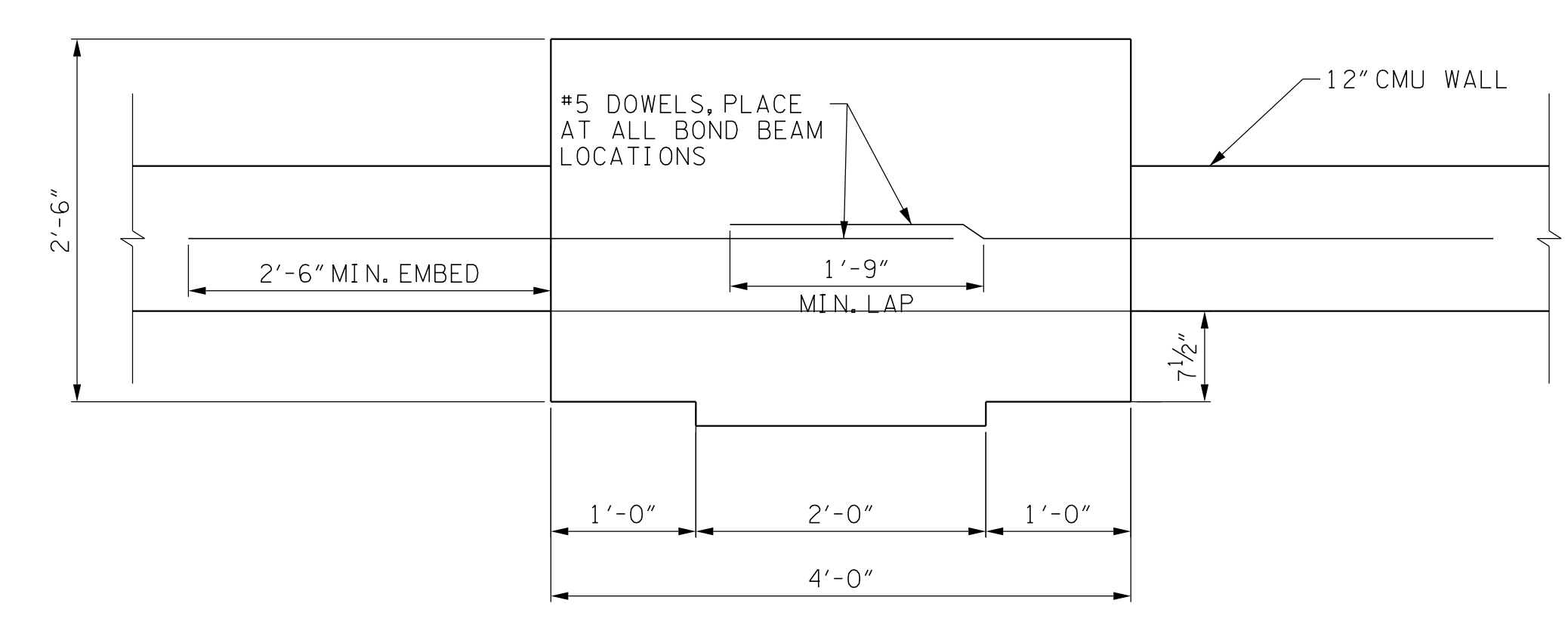


PLAN OF FOOTING



PLAN OF FOOTING

MASONRY SPLICE SCHEDULE	
BAR SIZE	MIN LAP
#4	1'-9"
#5	2'-2"
#6	3'-4"
#7	4'-6"



SECTION D-D
FALSE COLUMN
(SEE S5.7 FOR REINFORCEMENT DETAILS)

NO.	DATE	DESCRIPTION	TEST PILE LOCATION
1	5/3/19		



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