



DEVELOPMENT & MANAGEMENT PLAN

for the

OLD TOWN SUBSTATION REBUILD PROJECT

(Connecticut Siting Council Docket No. 490)

**City of Bridgeport
Fairfield County, Connecticut**

VOLUME 2: Project Mapping and Drawings

December 2024

Prepared By:

THE UNITED ILLUMINATING COMPANY

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VOLUME 2:

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	Demolition Plan	25233-0003-001 SH 001
	Paving, Grading, and Drainage Plan	25233-0003-003 SH 001
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DEVELOPMENT & MANAGEMENT PLAN

for the

OLD TOWN SUBSTATION REBUILD PROJECT

(Connecticut Siting Council Docket No. 490)

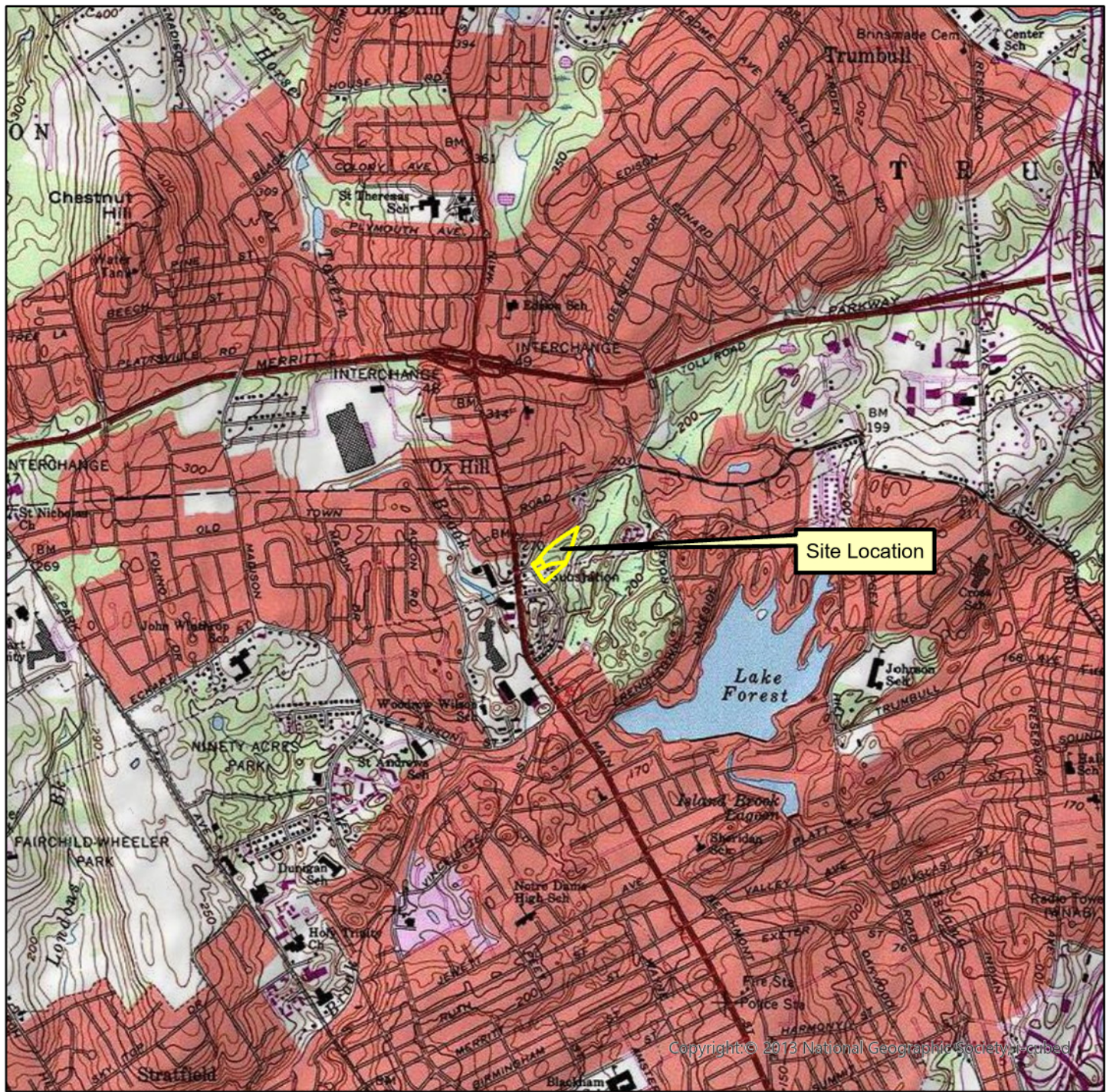
VOLUME 2: Project Mapping and Drawings

SECTION 2A

Overview Maps:

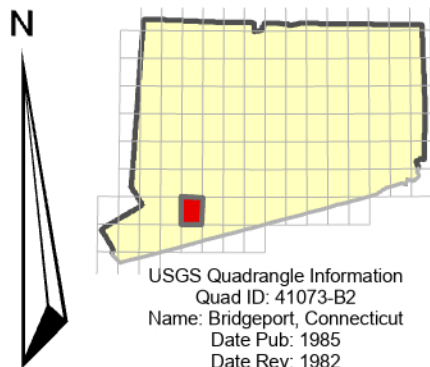
USGS Map	Fig. 1
Aerial Overview	Fig. 2

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0 1,000 2,000 4,000 6,000 8,000 Feet

1 inch = 2,000 feet



Attachment 2.A
USGS Map
Figure 1
280/312/330 Kaechele Place
Bridgeport, Connecticut
HRP# AVA4015.EE
Scale 1" = 2,000'




197 SCOTT SWAMP ROAD
 FARMINGTON, CT 06032
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 HRPASSOCIATES.COM




- LEGEND
- UI PROPERTY BOUNDARY
 - UI SUB-PARCEL BOUNDARY
 - LIMITS OF DISTURBANCE
 - PROPOSED SOD
 - PROPOSED PAVEMENT
 - PROPOSED GRAVEL
 - PROPOSED SITE FENCING
 - PROPOSED RETAINING WALL
 - PROPOSED EQUIPMENT
 - PROPOSED MONOPOLE STRUCTURE
 - PROPOSED EVERSOURCE STRUCTURE
 - WETLAND LIMITS
 - WATERCOURSE
 - EVERSOURCE RIGHT OF WAY


MAP REFERENCE: "115-13.8KV SUBSTATION YARD GENERAL, OLD TOWN, BRIDGEPORT," PREPARED BY SNC, LTD., SCALE N/A, DATED 01/12/2024



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NORTH



0 20' 40'

REVISIONS		
NO.	DATE	DESCRIPTION

DESIGNED:
SNC, LTD.

DRAWN:
ASB

REVIEWED:
TRB

APPROVED:
TRB

SCALE:
1" = 40'

ISSUE DATE:
12/16/2024

PROJECT NUMBER:
AVA4015.EE

SHEET SIZE:
24"x36"

THE UNITED ILLUMINATING - OLD TOWN
SUBSTATION REBUILD

280 KAEICHELE PL,
BRIDGEPORT, CT 06606

ATTACHMENT 2.A
AERIAL OVERVIEW

FIGURE
2



DEVELOPMENT & MANAGEMENT PLAN

for the

OLD TOWN SUBSTATION REBUILD PROJECT

(Connecticut Siting Council Docket No. 490)

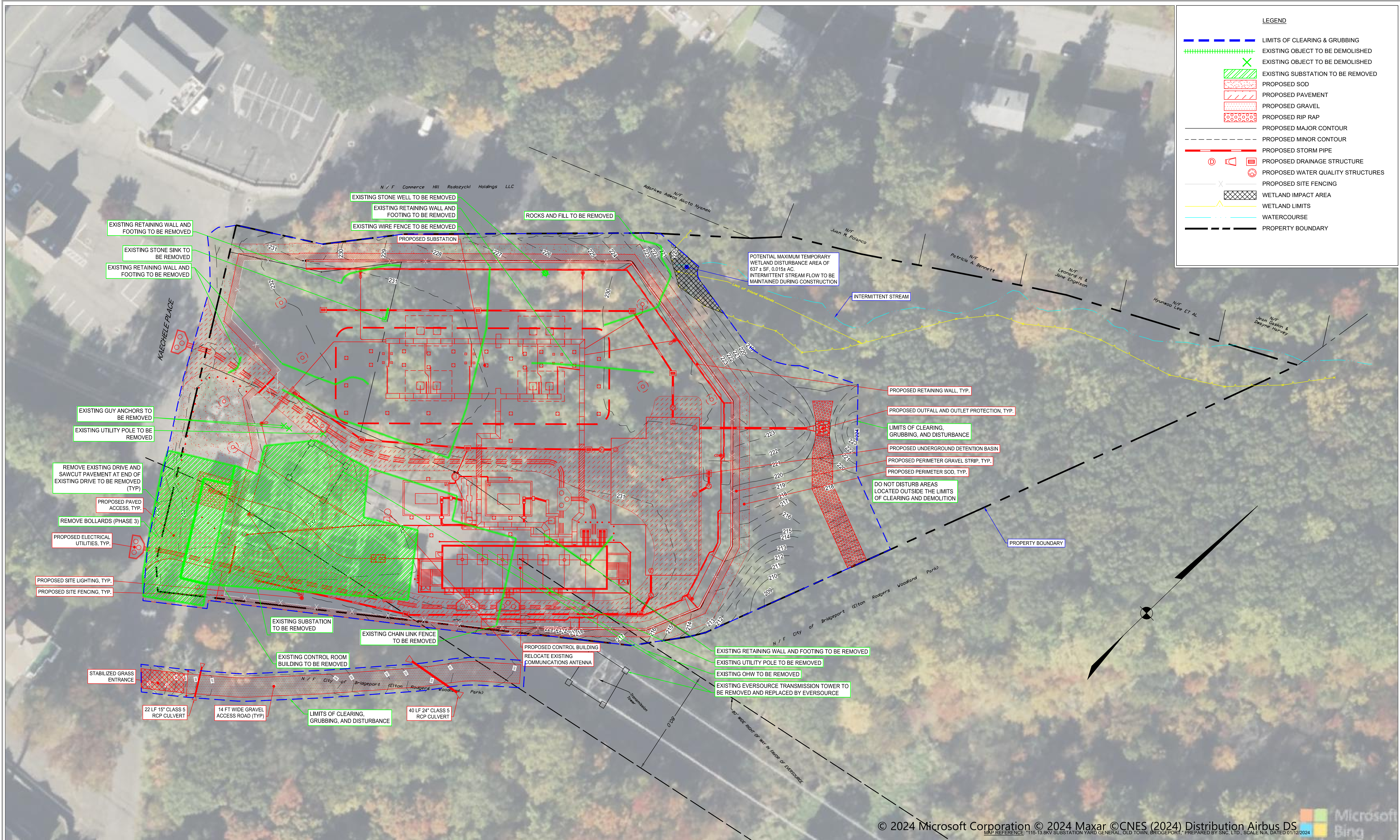
VOLUME 2: Project Mapping and Drawings


SECTION 2B

Site Plans, Engineering Drawings:


Detailed Site Plan	Fig. 3
Site Geometry Plan	25233-0003-001 SH 003
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Paving, Grading, and Drainage Plan	25233-0003-003 SH 001
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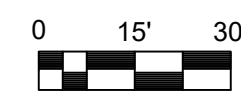




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NORTH



0 15' 30'

REVISIONS		
NO.	DATE	DESCRIPTION

DESIGNED:	SNC, LTD./ASB	SCALE:	1" = 30'
DRAWN:	ASB	ISSUE DATE:	12/09/2024
REVIEWED:	TRB	PROJECT NUMBER:	AVA4015.EE
APPROVED:	TRB	SHEET SIZE:	24"x36"

THE UNITED ILLUMINATING - OLD TOWN
SUBSTATION REBUILD

280, 312, & 330 KAECHELE PL,
BRIDGEPORT, CT 06606

FIGURE

3

ATTACHMENT 2.B
DETAILED SITE PLAN

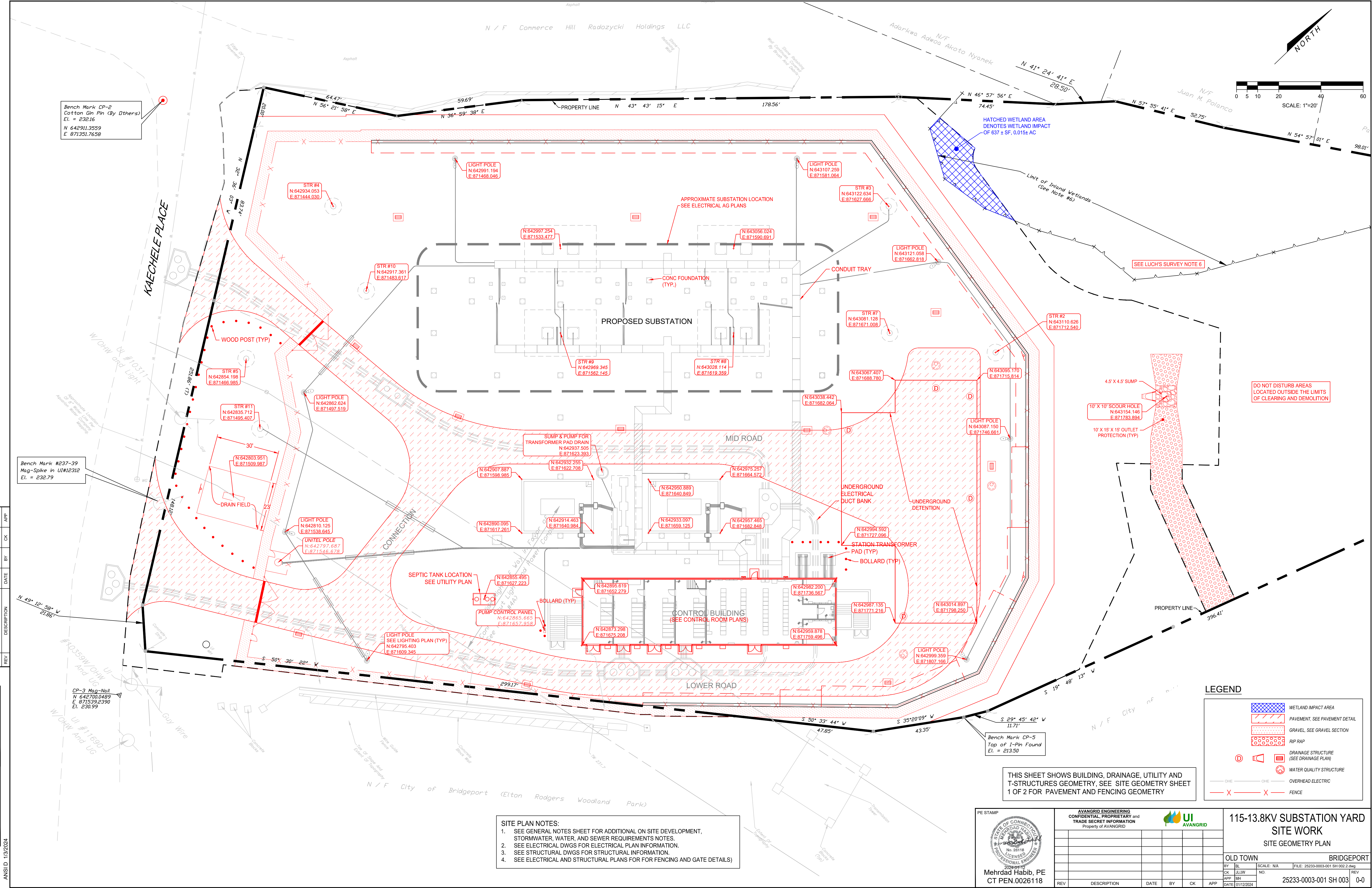
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11/18/2022	DP	JLEB		MH
09/03/2022	BS	CJEB		MH
01/12/2024	BL	JLWJ		MH
0-0	ISSUED FOR CONSTRUCTION			
0-0	ISSUED FOR 70% RE-SUBMISSION			
0-0	ISSUED FOR 70% RE-SUBMISSION			
0-0	ISSUED FOR 90% REVIEW			

LOGO

INFO

SNC-LAVALLIN

Part of SNC-Lavalin Power
155 South St., Suite 1700
Rochester, NY 14611



- SITE PLAN NOTES:**
- SEE GENERAL NOTES SHEET FOR ADDITIONAL ON SITE DEVELOPMENT, STORMWATER, WATER, AND SEWER REQUIREMENTS NOTES.
 - SEE ELECTRICAL DWGS FOR ELECTRICAL PLAN INFORMATION.
 - SEE STRUCTURAL DWGS FOR STRUCTURAL INFORMATION.
 - SEE ELECTRICAL AND STRUCTURAL PLANS FOR FENCING AND GATE DETAILS)

PE STAMP

Mehrobad Habib, PE
CT PEN.0026118

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CONFIDENTIAL, PROPRIETARY and TRADE SECRET INFORMATION				AVANGRID			
Property of AVANGRID							
BY	BL	SCALE: N/A	FILE: 25233-0003-001 SH 002 2.dwg	REV	DESCRIPTION	DATE	REV
CK	BLUW			APP	MMH	01/12/2024	
APP	MMH			DATE	01/12/2024		

115-13.8KV SUBSTATION YARD
SITE WORK
SITE GEOMETRY PLAN

OLD TOWN	BRIDGEPORT		
BY	BL	SCALE: N/A	FILE: 25233-0003-001 SH 002 2.dwg
CK	BLUW		
APP	MMH		
DATE	01/12/2024		

25233-0003-001 SH 003 0-0

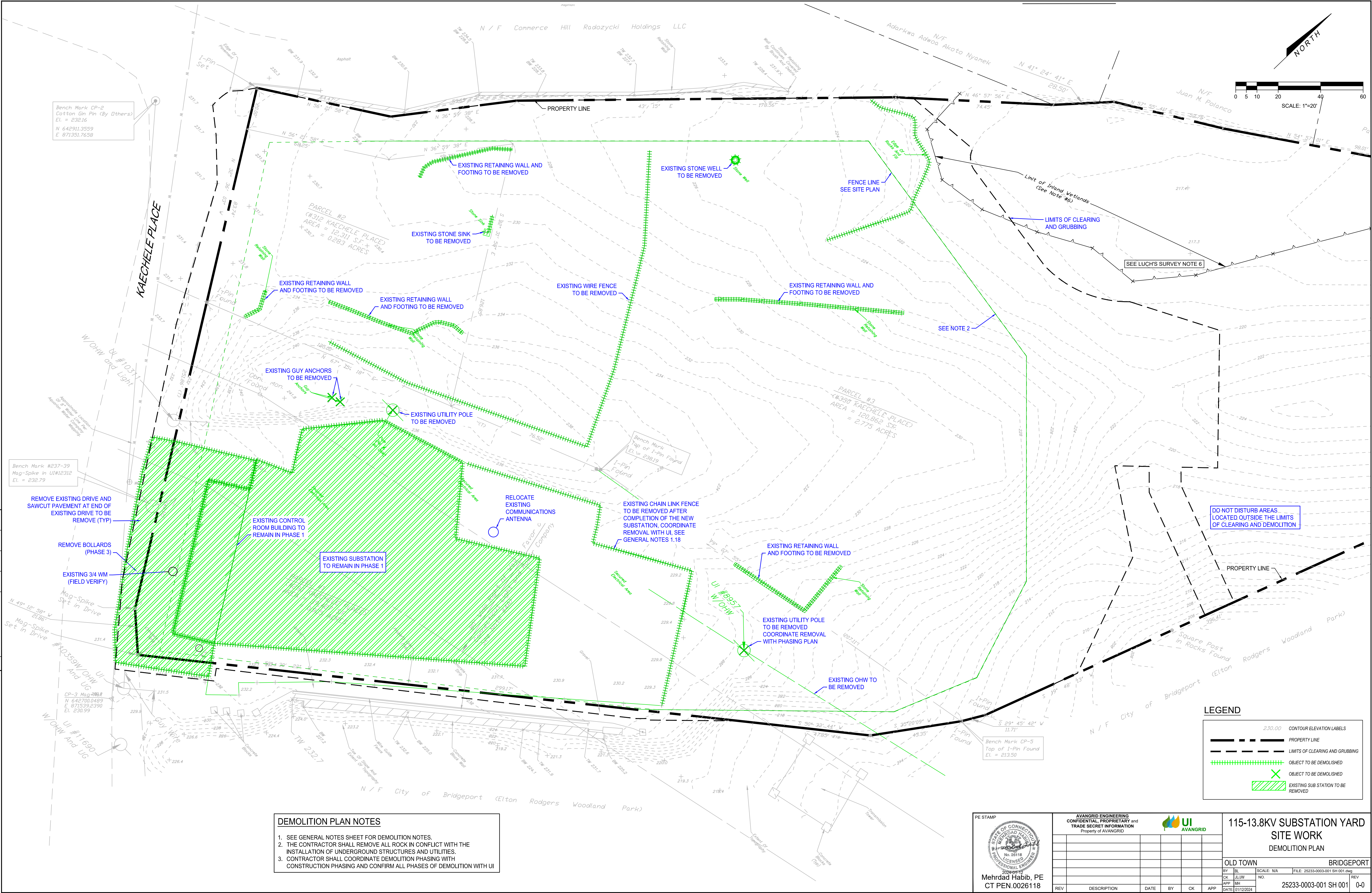
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11/16/2022	DP	JLEB	WH
08/03/2022	BS	CLUB	WH
01/12/2024	BL	LJW	WH
04	REV		

LOGO

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ANSI D 1/3/2024



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STATE OF CONNECTICUT
Mehrdad Habib, PE
CT PEN.0026118

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DATE	BY	CK	APP	DESCRIPTION
02/24/2023	BL	JLB	MH	ISSUED FOR 50% REVIEW
11/16/2022	DP	JLB	MH	ISSUED FOR 70% RE-SUBMISSION
09/03/2022	BS	CLB	MH	ISSUED FOR 70% RE-SUBMISSION
01/12/2024	BL	LLW	MH	ISSUED FOR CONSTRUCTION
04/01/2024	BL	LLW	MH	ISSUED FOR CONSTRUCTION

DATE	BY	CK	APP	DESCRIPTION
02/24/2023	BL	JLB	MH	ISSUED FOR 50% REVIEW
11/16/2022	DP	JLB	MH	ISSUED FOR 70% RE-SUBMISSION
09/03/2022	BS	CLB	MH	ISSUED FOR 70% RE-SUBMISSION
01/12/2024	BL	LLW	MH	ISSUED FOR CONSTRUCTION
04/01/2024	BL	LLW	MH	ISSUED FOR CONSTRUCTION

DATE	BY	CK	APP	DESCRIPTION
02/24/2023	BL	JLB	MH	ISSUED FOR 50% REVIEW
11/16/2022	DP	JLB	MH	ISSUED FOR 70% RE-SUBMISSION
09/03/2022	BS	CLB	MH	ISSUED FOR 70% RE-SUBMISSION
01/12/2024	BL	LLW	MH	ISSUED FOR CONSTRUCTION
04/01/2024	BL	LLW	MH	ISSUED FOR CONSTRUCTION

EARTHWORK TABULATIONS:

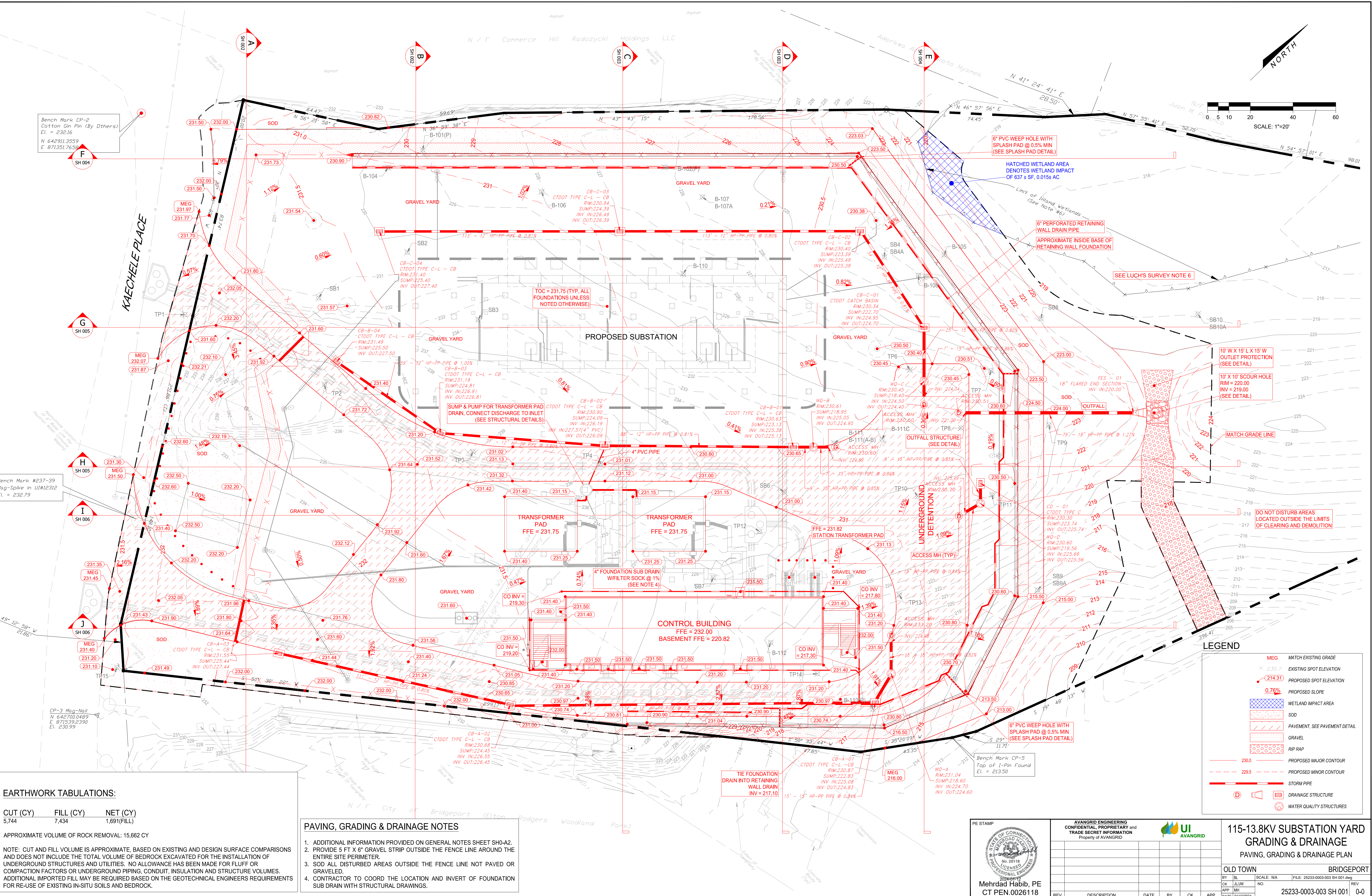
CUT (CY)	FILL (CY)	NET (CY)
5,744	7,434	1,691(FILL)

APPROXIMATE VOLUME OF ROCK REMOVAL: 15,662 CY

NOTE: CUT AND FILL VOLUME IS APPROXIMATE, BASED ON EXISTING AND DESIGN SURFACE COMPARISONS AND DOES NOT INCLUDE THE TOTAL VOLUME OF BEDROCK EXCAVATED FOR THE INSTALLATION OF UNDERGROUND STRUCTURES AND UTILITIES. NO ALLOWANCE HAS BEEN MADE FOR FLUFF OR COMPACTION FACTORS OR UNDERGROUND PIPING, CONDUIT, INSULATION AND STRUCTURE VOLUMES. ADDITIONAL IMPORTED FILL MAY BE REQUIRED BASED ON THE GEOTECHNICAL ENGINEERS REQUIREMENTS FOR RE-USE OF EXISTING IN-SITU SOILS AND BEDROCK.

PAVING, GRADING & DRAINAGE NOTES

- ADDITIONAL INFORMATION PROVIDED ON GENERAL NOTES SHEET SH0-A2.
- PROVIDE 5 FT X 6" GRAVEL STRIP OUTSIDE THE FENCE LINE AROUND THE ENTIRE SITE PERIMETER.
- SOD ALL DISTURBED AREAS OUTSIDE THE FENCE LINE NOT PAVED OR GRAVELED.
- CONTRACTOR TO COORD THE LOCATION AND INVERT OF FOUNDATION SUB DRAIN WITH STRUCTURAL DRAWINGS.



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STATE OF CONNECTICUT

Professional Engineer

Mehrdad Habib, PE

CT PEN.0026118

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115-13.8KV SUBSTATION YARD

GRADING & DRAINAGE

PAVING, GRADING & DRAINAGE PLAN

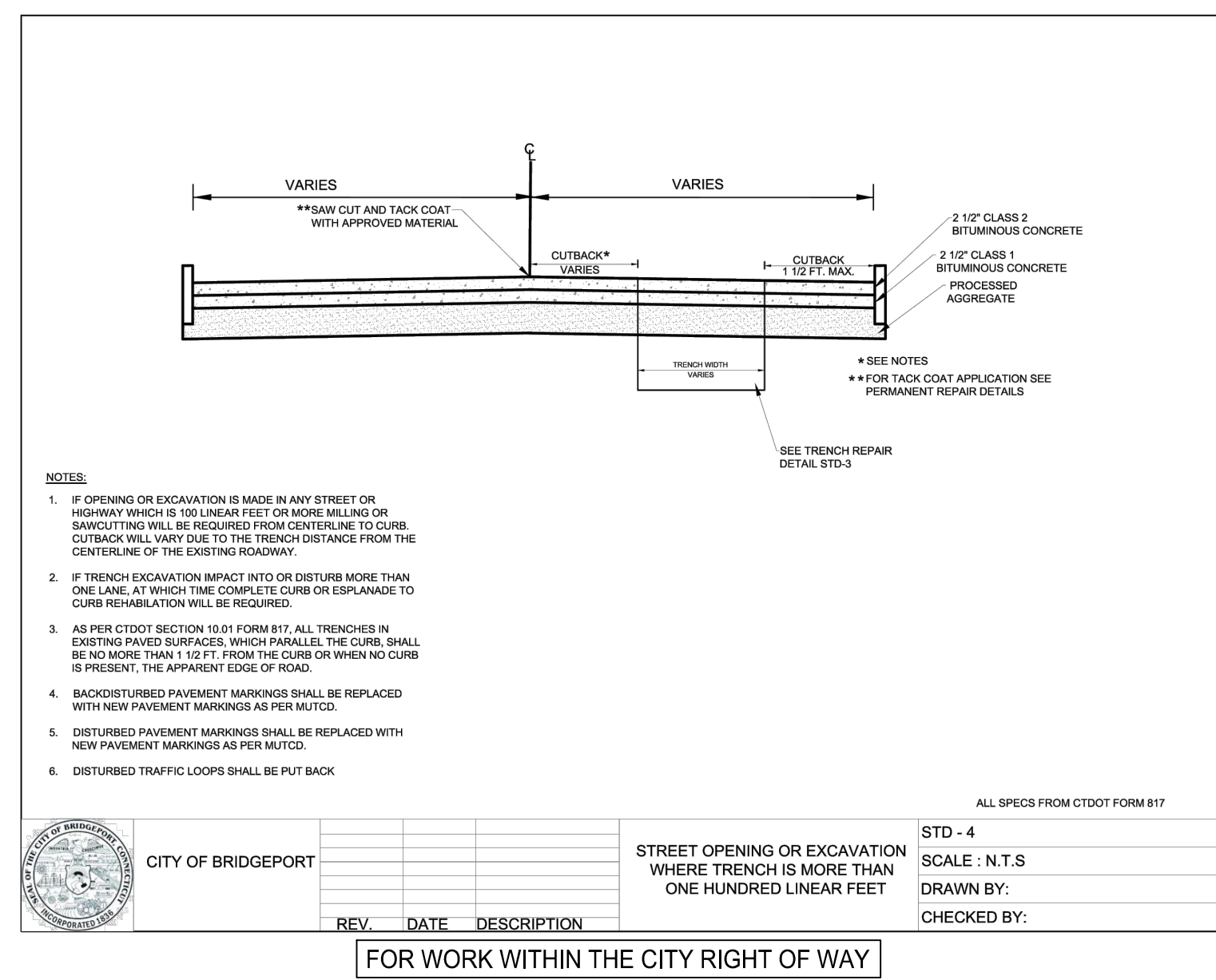
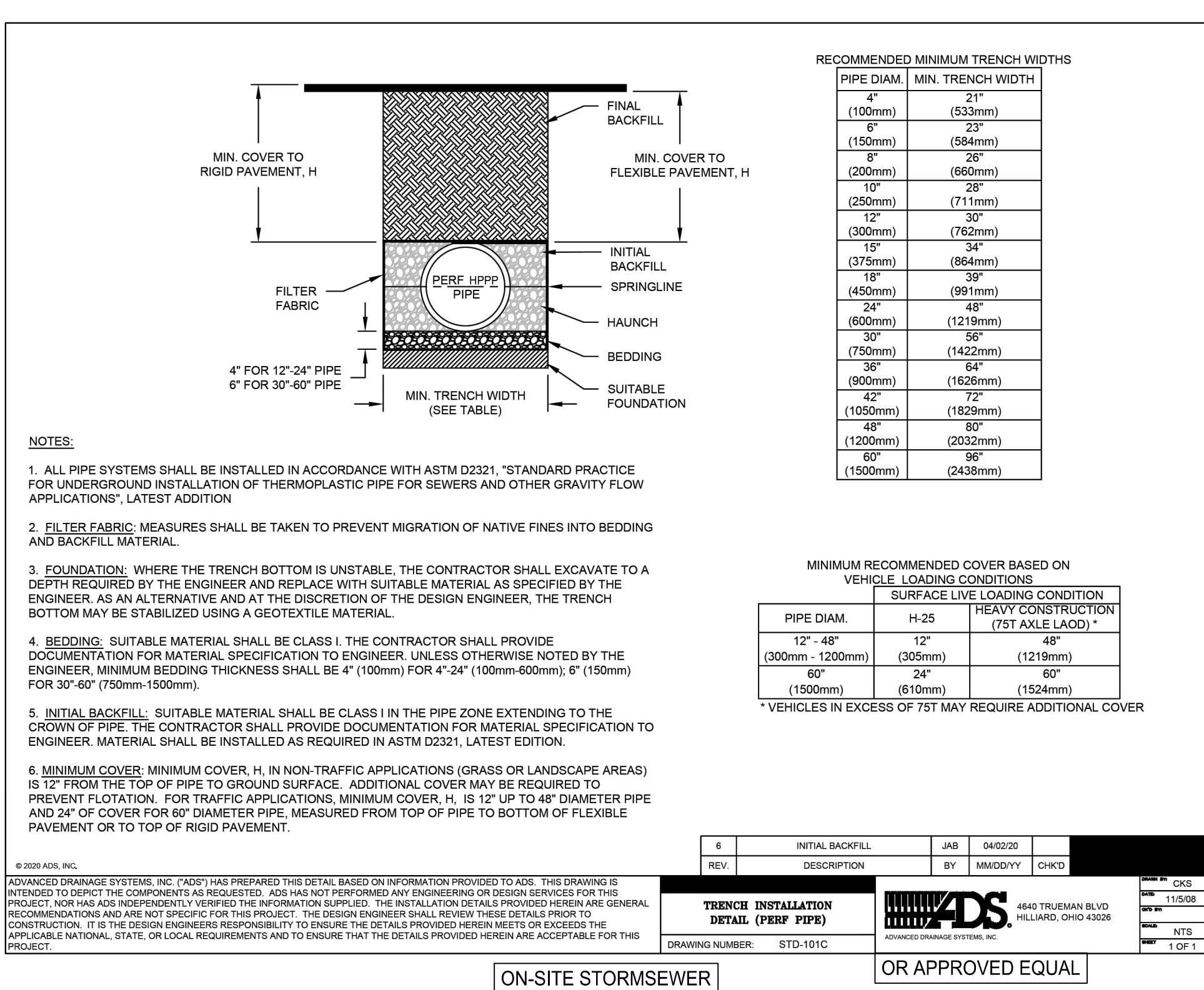
OLD TOWN BRIDGEPORT

BY: BL SCALE: N/A FILE: 25233-0003-003 SH 001.dwg

DATE: 01/12/2024

25233-0003-003 SH 001

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LOGO	ISSUED FOR 90% REVIEW	DATE	DESCRIPTION	REV	BY	CK	APP
06/26/2023	11/18/2022	08/03/2022	01/12/2024				
UOF	ISSUED FOR 90% RE-SUBMISSION	DP	BS	BL	JLB	MH	
UOE	ISSUED FOR 70% RE-SUBMISSION	BS	BL	JLB	MH		
DUD	ISSUED FOR CONSTRUCTION	BL	JLB	MH			
G-C	ISSUED FOR CONSTRUCTION	BL	JLB	MH			

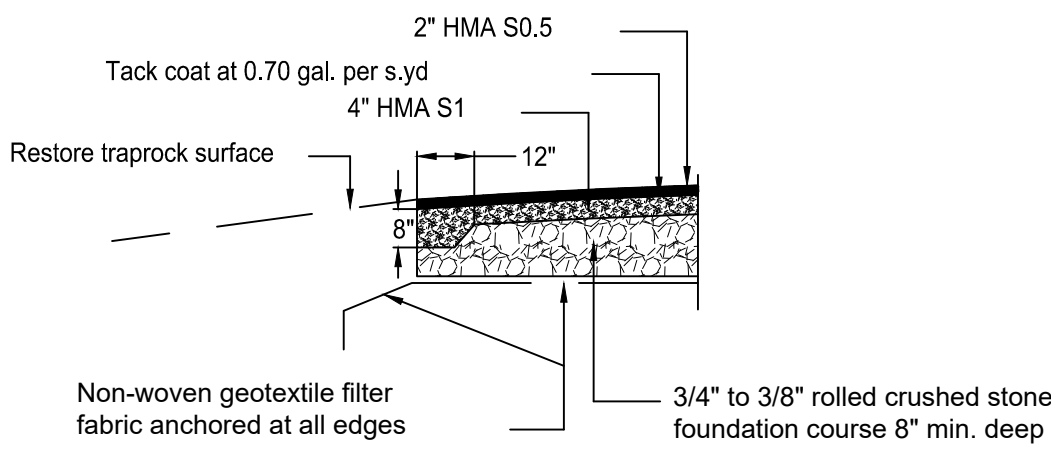
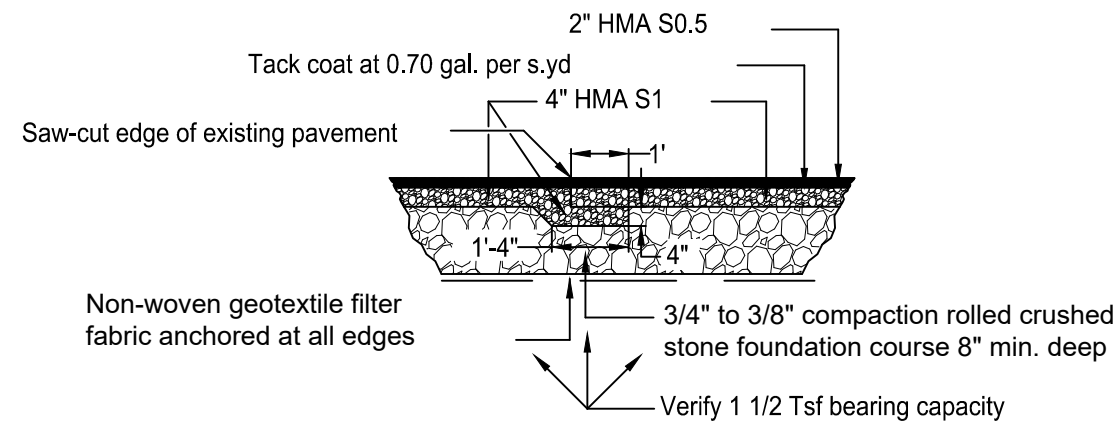
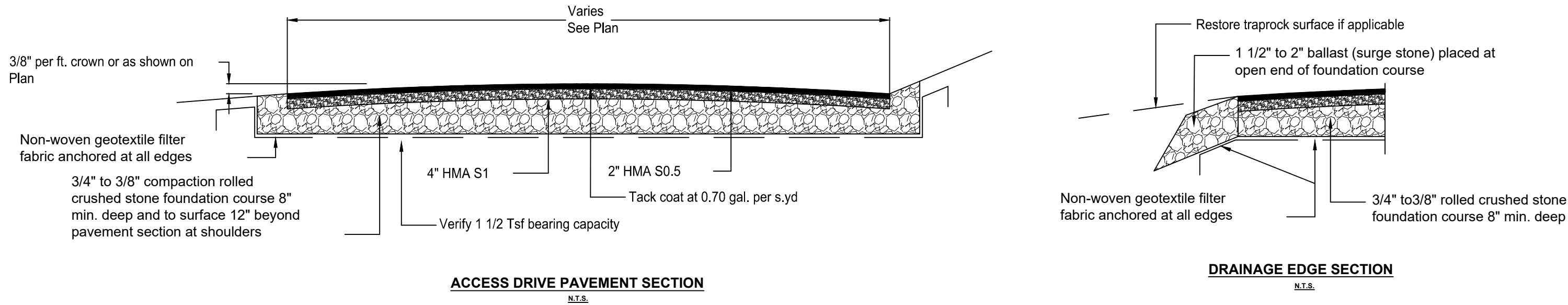
LOGO

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Rochester, NY 14611

ANSI D 1/3/2024

UNITED ILLUMINATING PROPERTY PAVING DETAILS



- Saw-cut edge of existing pavement
- Place geotextile filter fabric and stone foundation course throughout new pavement area
- Excavate existing foundation course below pavement to dimensions shown
- Place and compact HMA S1 support beam below existing pavement as shown and continue placement and compaction of S1 layer throughout new pavement area
- Coat S1 layer and saw-cut edge of existing S0.5 layer with tack coat at 0.70 gal. per sq. yd.
- Place and compact HMA S0.5 layer throughout new pavement area.

- All existing pavement and underlying soils shall be removed to the depths required to produce the profiles shown. Remaining soils shall be determined to be unsuitable to vehicle wheel loads with unsuitable material removed and replaced with Foundation Course material as specified on the section above.
- The site may require a completely drained open-graded foundation course protected from the incursion of fines. In this case, a non-woven geotextile filter fabric shall be employed to completely and continuously enclose an 8" min. foundation course of 3/4" to 3/8" crushed stone which is to be drained through ballast (surge) stone upon its lower side as shown on or determined from the plans.
- Traffic directly upon the compacted foundation course shall be avoided.
- Where pavement is to extend to existing structures, geotextile filter fabric shall be anchored back over the foundation course and anchored into it.
- The sub-base native material shall be sloped to promote drainage within the foundation course material to daylight upon the lowest edge of the pavement area.
- HMA materials including tack coat and their placement shall strictly conform to the requirements of PennDOT Superpave Mix Design and Placement applicable to Municipal Pavements.
- Surface drainage patterning as shown on the plans shall be accomplished through the adjustment of the foundation course depth which shall in no case be less than 8" deep.
- The site is underlain by numerous subsurface utility lines and structures. It shall be the Contractor's responsibility to notify CSTD for delineation of such utilities prior to commencing the work.
- To the extent possible, new paving should be graded to preserve existing manhole cover elevations. Where this is not possible, adjustments to the frames and covers shall be incorporated as part of the
- The sequencing of work shall be planned so as to permit UI access to the substation as required throughout the grading and paving process. Paving operations shall be coordinated with the Transmission and Substation Department of United Illuminating to provide an uninterrupted placement, compaction, and curing of asphalt materials prior to the imposition of vehicle loads.
- The Contractor shall notify the [System Maintenance Department civil engineer at (203) 926-4881] at least 24 hours in advance of the need for inspections which shall be performed upon completion of grubbing and the exposure of sub-base site soils, placement, shaping, and compaction of the foundation course, and placement of binder and wearing courses of asphalt.

No	Date	Revision	By	Chkd.	Eng.	Suprv	Chkd.	Design	Engr.	V. PALMERI	Design	Suprv.	Drawn	Date	06/30/2017	Scale	AS NOTED	Old File Name	SEQUENCE No.	DRAWING NUMBER	DET - 11
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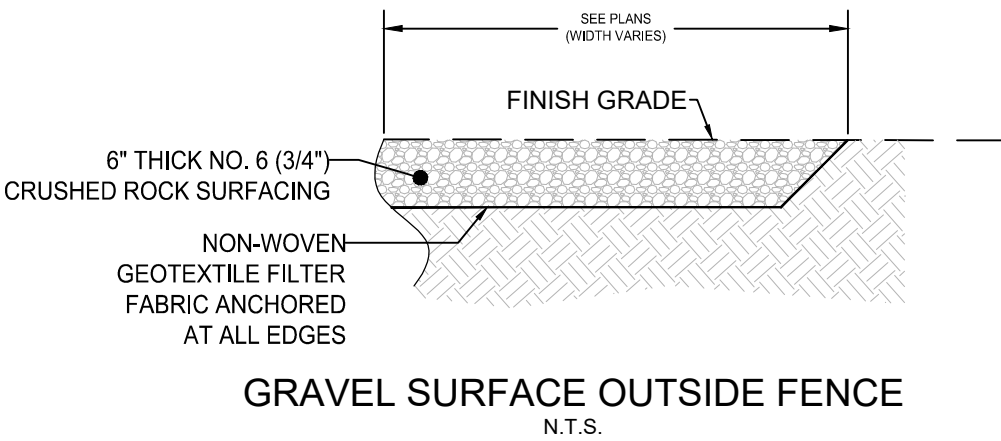
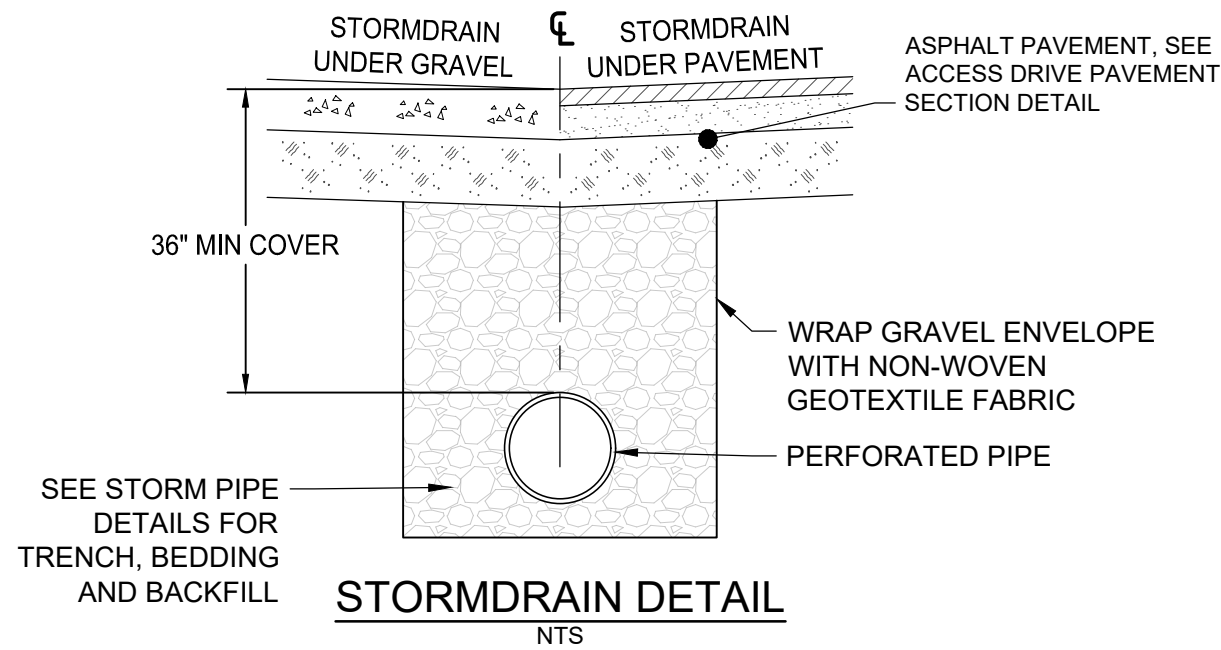
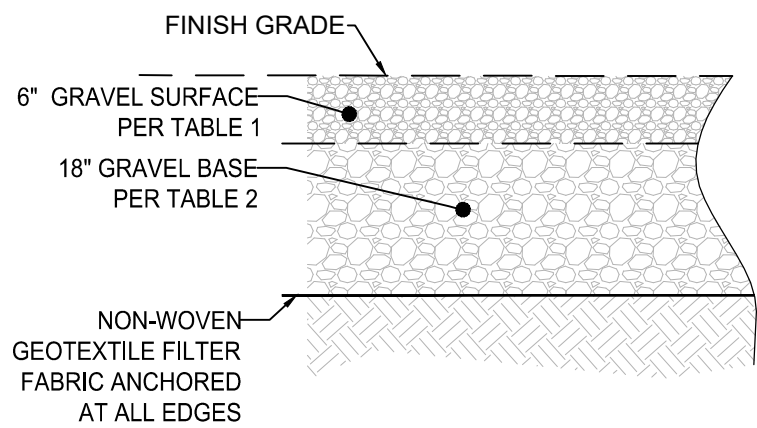
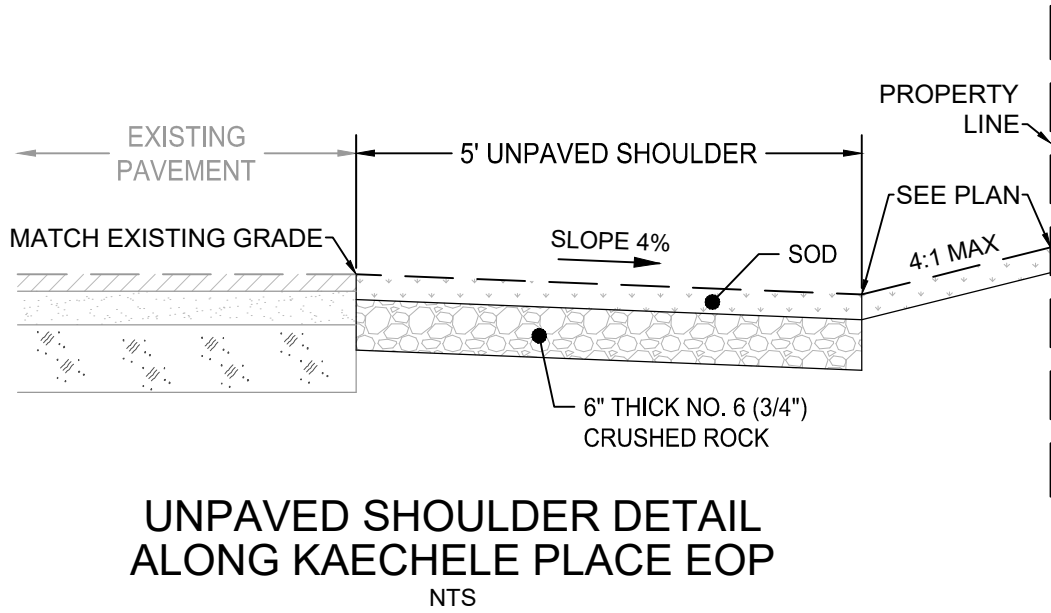
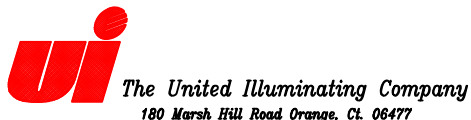


TABLE 1 GRAVEL SURFACE	
US Standard Sieve Size	Percent by Weight Passing Sieve
2"	100
1/2"	45-70
1/4"	30-55
#40	0-20
#200	0-5

TABLE 2 GRAVEL BASE	
US Standard Sieve Size	Percent by Weight Passing Sieve
2"	100
1-1/2"	90-95
1/2"	45-70
1/4"	30-55
#40	0-20
#200	0-5

SOURCE: AVANGRID TECHNICAL STANDARD TM2.71.09 YARD AND FENCING STANDARD

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115-13.8KV SUBSTATION YARD
GRADING & DRAINAGE
STORM SEWER & PAVEMENT DETAILS

OLD TOWN BRIDGEPORT

BY: BL SCALE: N/A FILE: 25233-0003-003 SH 010.dwg

CK: BLJW NO.

APP: MM

DATE: 01/12/2024

REV

DESCRIPTION

DATE

BY

CK

APP

25233-0003-003 SH 010

0-0

DATE	REVISION	BY	CHK	APP	
02/23/2023	0-4F ISSUED FOR 90% REVIEW	BL	JLEB	MH	
11/18/2022	0-4E ISSUED FOR 70% RE-SUBMISSION	DP	JLEB	MH	
09/03/2022	0-4D ISSUED FOR 70% RE-SUBMISSION	BS	CLJB	MH	
01/12/2024	0-0 ISSUED FOR CONSTRUCTION	BL	JLWJ	MH	
REV	DESCRIPTION	DATE	BY	CHK	APP

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155 State Street, Suite 1700
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ANSI D 13/2024

GENERAL NOTES:

- WELDED WIRE FABRIC WITH AN AREA EQUAL TO OR GREATER THAN THE REINFORCING SHOWN MAY BE SUBSTITUTED AS APPROVED BY THE ENGINEER.
- ALL REINFORCEMENT SHALL HAVE A MINIMUM CLEAR COVER OF 2 INCHES, EXCEPT FOR BENEATH BOTTOM REINFORCEMENT IN TOP SLABS, WHERE THE MINIMUM MAY BE 1 1/2 INCHES.
- WALL THICKNESS OF ALL CATCH BASINS OVER 10 FEET DEEP SHALL BE INCREASED TO 12 INCHES. INSIDE DIMENSIONS SHALL REMAIN THE SAME. THE 12 INCH THICKNESS SHALL START AFTER THE FIRST 10 FEET.
- BASES AND RISERS AT A DEPTH OF 20 FEET AND GREATER SHALL BE DESIGNED BY THE CONTRACTOR AND WORKING DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
- RISERS MAY BE PREFABRICATED WITH PIPE OPENINGS IN ALL FOUR WALLS. ADEQUATE REINFORCING AROUND PIPE OPENINGS SHALL BE PROVIDED. RISERS USED WHERE A PIPE OPENING IS TO REMAIN IN PLACE MUST BE FORMED UP WITH BRICK AS DIRECTED BY THE ENGINEER.
- RISERS SHALL NEVER HAVE CORNER PIPE ENTRIES. ROUND STRUCTURES SHALL BE USED WHEN PIPES CANNOT ALIGN WITH A RECTANGULAR STRUCTURE KNOCKOUT.
- SHRINKAGE AND TEMPERATURE REINFORCEMENT SHALL BE PROVIDED IN THE TOP OF SLABS. THE TOTAL AREA OF REINFORCEMENT PROVIDED SHALL BE AT LEAST 0.125 SQUARE INCHES PER FOOT IN EACH DIRECTION. THE MAXIMUM SPACING OF THIS REINFORCEMENT SHALL NOT EXCEED 18 INCHES.
- THE DETAILS SHOWN IN THE PLAN VIEW FOR PRECAST CONCRETE ROUND STRUCTURES SHALL ALSO BE USED FOR CONVERTING MANHOLES TO CATCH BASINS.
- FOR CATCH BASIN TOPS, SEE SHEET NO. HW-586.07 FOR RECTANGULAR OPENING OR SHEET NOS. HW-586.10a, HW-586.10b OR HW-586.10c FOR CIRCULAR OPENING.

REINFORCED CONCRETE PIPE END

DIA.	DIMENSIONS FOR REINFORCED CONCRETE PIPE END						FLARE REINFORCEMENT			
	A	B	C	D	E	F	R ₁	R ₂	ONE LAYER ONLY IN CENTER OF WALL MIN. AREA OF LONGITUDINAL STEEL SQ. IN. PER FT.	MIN. AREA OF TRANSVERSE STEEL SQ. IN. PER FT.
12"	4"	2'-0"	4'-0 1/2"	6'-0 3/4"	2'-0"	1'-7 15/16"	10 1/4"	9"	0.048	0.048
18"	6"	2'-2"	5'-2"	8'-2"	2'-2"	2'-0 3/4"	12 1/2"	1'-0"	0.060	0.060
24"	8"	2'-4"	6'-2"	10'-2"	2'-4"	2'-9 1/8"	14 1/2"	1'-2"	0.072	0.072
30"	1'-0"	4'-0"	1'-7 1/2"	6'-1 1/2"	5'-0"	3'-1"	1'-6 1/2"	1'-3"	0.084	0.084
36"	1'-3"	5'-2"	2'-10 1/2"	8'-1 1/2"	6'-0"	3'-11 1/8"	2'-0 3/4"	1'-4"	0.096	0.096
42"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	4'-5 1/8"	2'-3 1/2"	1'-10"	0.108	0.108
48"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	4'-8 1/2"	2'-4 1/2"	1'-10"	0.120	0.120
54"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"	5'-5 1/2"	2'-9 1/8"	2'-0"	0.132	0.132
60"	2'-9"	5'-0"	3'-3"	8'-3"	8'-0"	6'-0 1/2"	3'-0 15/16"	2'-0"	0.144	0.144

GENERAL NOTES:

- SEE SHEET HW-586.08 FOR CATCH BASIN FRAMES AND GRATES AND HW-586.09 FOR CATCH BASIN LOCK DOWN TOPS.
- SEE SHEET HW-586.01 CATCH BASIN AND SHIP LAP INLET TYPES "C" AND "C-L" TO DETERMINE THE TOP OF FRAME DEPRESSION AT THE GUTTER.
- ALL BASIN SHALL HAVE A MINIMUM 2" COVER.

GENERAL NOTES:

- STEEL OR CAST IRON SHALL BE USED FOR FRAMES. STEEL SHALL BE USED FOR TYPE "A" AND "B" GRATES.
- TYPE "A" GRATES SHALL BE USED ON ALL ROADWAYS WHERE BICYCLE TRAFFIC IS ALLOWED OR ON HEAVY DUTY LOCK DOWN TOPS AS DIRECTED BY THE ENGINEER.
- TYPE "B" GRATES SHALL BE USED ON ALL LIMITED ACCESS HIGHWAYS, RAMPS AND WHERE BICYCLE TRAFFIC IS NOT ALLOWED OR AS DIRECTED BY THE ENGINEER.
- DO NOT GALVANIZE CAST IRON FRAMES.
- DIMENSIONAL TOLERANCES SHALL BE 1 1/8 INCH.
- ALL STEEL BARS SHALL BE WELDED AT ALL INTERSECTIONS.

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**115-13.8KV SUBSTATION YARD
GRADING & DRAINAGE
STORM SEWER DETAILS**

OLD TOWN BRIDGEPORT

BY	BL	SCALE: N/A	FILE: 25233-0003-003 SH 011.dwg
CK	LJW	NO.	
APP	MH	REV	
DATE	01/12/2024	25233-0003-003 SH 011	0-0



SITE SPECIFIC DATA			
STRUCTURE ID			WQ-D
DESIGN WATER QUALITY FLOW RATE (CFS)			0.07
25-YR 24-HR DESIGN FLOW RATE (CFS)			0.91
SEDIMENT STORAGE CAPACITY (CF)			8.283
RIM ELEVATION			230.60
SUMP ELEVATION			219.56
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE	225.66	HP-PP	15"
OUTLET PIPE	225.56	HP-PP	15"



NOTES:

1. TOE IN ALL EDGES OF GEOTEXTILE FABRIC
2. RIP RAP SHALL BE INTERMEDIATE ($0.42 \text{ FT} < d_{50} < 0.67 \text{ FT}$)
3. GRANULAR FILL PER GEOTECHNICAL REPORT AND CT DOT SPECIFICATIONS FOR GRANULAR FILL MATERIAL
4. GEOTEXTILE PER GEOTECHNICAL REPORT AND CT DOT QPL, CLASS A

IF A WATERIGHT SOLUTION IS REQUIRED FOR AN OUTLET STRUCTURE, INCLUDING JOINT BETWEEN TOP AND BASE MODULES, BETWEEN TOP AND BASE OF ADJOINING SYMONS WALLS, AND JOINTS BETWEEN MODULE AND ADJACENT END PANELS WILL BE THE SOLE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO PROVIDE AND INSTALL THE WATERIGHT APPLICATION PER THE ECR'S SPECIFICATION.

PLAN VIEW

ELEVATION VIEW

ISOMETRIC VIEW

SIDE VIEW

StormTrac
POWER LOSS 800/328-0888/WWW.STORMTRAC.COM

1307 NEWBORN PARKWAY
ROMAULD, IL 60446
P815-841-4449 / F331-318-5345

ENGINEER INFORMATION:
ATKINS GLOBAL
W EAU GALIE BLVD
MELBOURNE, FL
321-775-6240

PROJECT INFORMATION:
280 KACHELE
SUBSTATION

BRIDGEPORT, CT

CURRENT ISSUE DATE:
8/9/2023

ISSUED FOR:
PRELIMINARY

REV. DATE: ISSUED FOR: DW BY:



1 8/9/2023 PRELIMINARY LR
2 2/22/2023 PRELIMINARY LR
1 2/26/2023 PRELIMINARY LR

SCALE:
NTS

SHEET TITLE:
OUTLET CONTROL
STRUCTURE DETAIL

SHEET NUMBER:
7.0



 <p>Mehrdad Habib, PE CT PEN. 0026118</p>	<p>AVANGRID ENGINEERING CONFIDENTIAL, PROPRIETARY and TRADE SECRET INFORMATION Property of AVANGRID</p> 					<p>115-13.8KV SUBSTATION YARD GRADING & DRAINAGE STORM TRAP DETAILS</p>			
						<p>OLD TOWN BRIDGEPORT</p>			
						<p>BY: <input type="checkbox"/> BL <input type="checkbox"/> SCALE: N/A CK: <input type="checkbox"/> JLW <input type="checkbox"/> FILE: 25233-0003-003 SH 012.dwg APP: Not NO. DATE: 01/12/2024</p>			
						<p>25233-0003-003 SH 012</p>			
						<p>REV 0-0</p>			
REV	DESCRIPTION	DATE	BY	CK	APP				

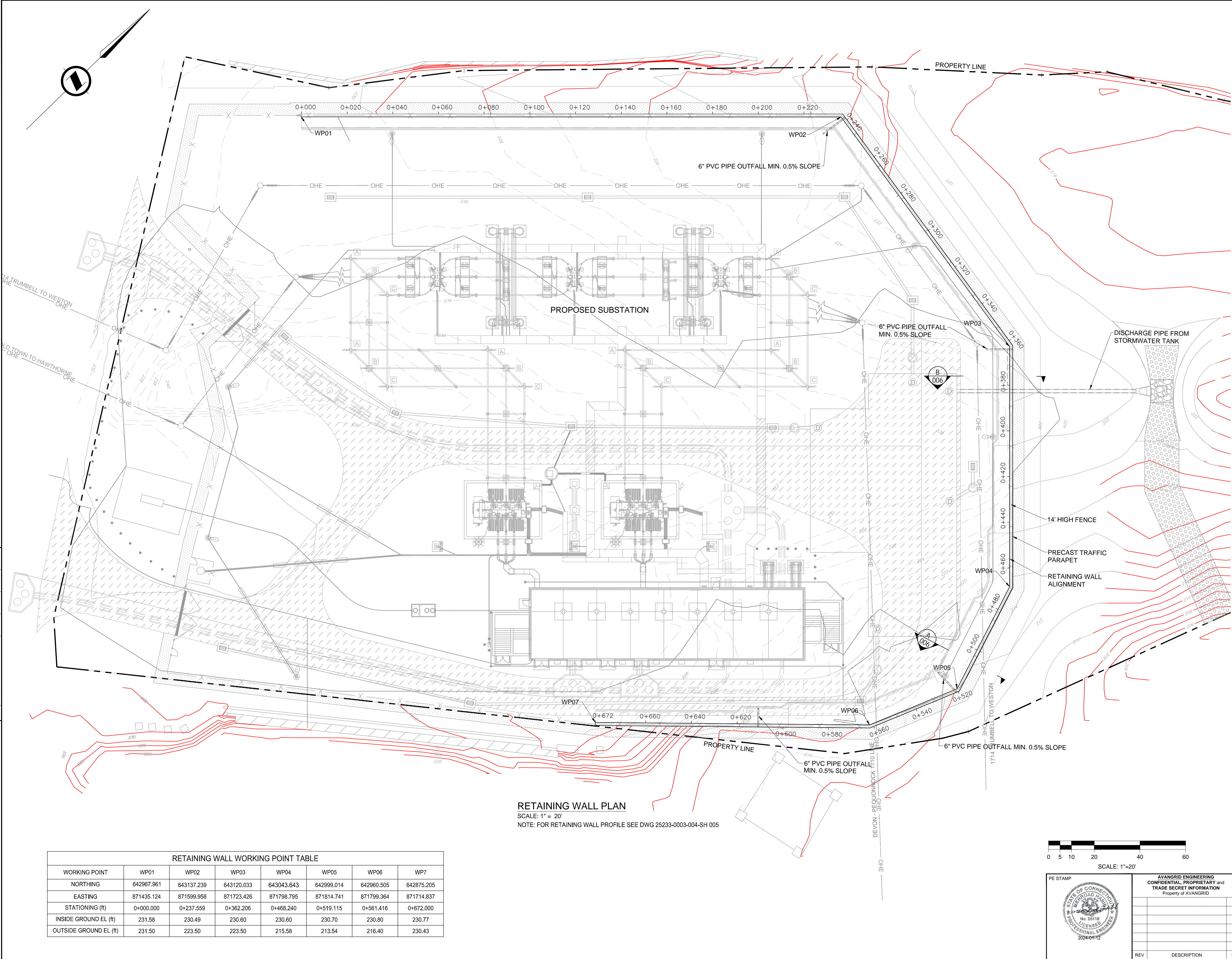
NO.	REV	DATE	BY	CHK	APP
001	ISSUED FOR 0% SUBMISSION	09/29/2021	AL/KC	AL/KC	MH
002	ISSUED FOR 0% RE-SUBMISSION	11/02/2021	AL/KC	AL/KC	MH
003	ISSUED FOR 0% RE-SUBMISSION	09/09/2022	AC	KC	LJ
004	ISSUED FOR 0% RE-SUBMISSION	01/12/2024	AC/KC	AL/KC	MH

LOGO

SNC-LAVALLIN

Part of a SNC-Lavalin Group
150 St-Jacques St. East
Montréal, Québec H2Y 1A1

ANSI D 13/2024



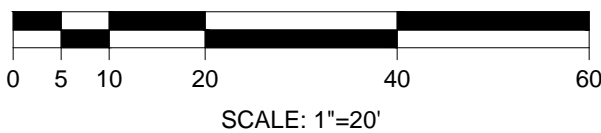
- GENERAL NOTES:
- DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (2020), WITH THE INTERIM SPECIFICATIONS UP TO AND INCLUDING 2022, AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003).
 - ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE. WHEN DECIMAL DIMENSIONS ARE GIVEN TO LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZEROS.
 - a. MASH TEST LEVEL: THE F-SHAPE PARAPET MEETS THE TL-2 CRITERIA FOR MASH.
b. DESIGN VEHICLE: H-40
 - CONTRACTOR SHALL CONFIRM ALL RELEVANT DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO DEVELOPING SHOP DRAWING, ORDERING OF MATERIAL, AND BEGINNING CONSTRUCTION.
 - FOR GEOTECHNICAL SITE REQUIREMENT, PLEASE REFER TO "GEOTECHNICAL ENGINEERING REPORT, UNITED ILLUMINATING OLD TOWN SUBSTATION, 280 KAECHLE PLACE, BRIDGEPORT, CONNECTICUT" FILE NO.135456-002, DATED MAY 2021:
5a. COMPACTION:
MINIMUM COMPACTION REQUIREMENTS REFER TO PERCENTAGES OF THE MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D1557.
BACKFILL BEHIND RETAINING WALL SHALL BE COMPACTED TO ACHIEVE A MINIMUM 95% OF THE LABORATORY DETERMINED MAXIMUM DRY DENSITY (BY MODIFIED PROCTOR) OR AS REQUIRED BY RETAINING WALL VENDOR.
5b. PAVEMENT SLOPES IN SOIL SHALL BE 2H:1V, OR FLATTER. SLOPES SHALL BE VEGETATED FOR EROSION PROTECTION.
5c. EXCAVATION:
EXCAVATION GEOMETRY SHALL CONFORM TO OSHA EXCAVATION REGULATION IN 29 CFR PART 1926 (LATEST REVISION). TEMPORARY, DEWATERED SOIL SLOPES OF 1.5H:1V WITH SUFFICIENT SPACE BUT SHALL BE CONFIRMED DURING CONSTRUCTION BASED ON CONDITIONS AT THE TIME OF EXCAVATION. SURFACE WATER SHALL BE DIVERTED AWAY FROM THE TOPS OF SLOPES AROUND THE SITE PERIMETER.
EXCAVATION IN WEATHERED BEDROCK SHALL BE SLOPED NO STEEPER THAN 1H:1V. EXCAVATION SIDEWALLS IN BEDROCK SHALL BE NO STEEPER THAN 1H:6V.
5d. FOUNDATION BEARING SURFACES:
FOUNDATION BEARING SURFACES SHALL CONSIST OF CRUSHED STONE PLACED OVER GLACIAL TILL OR BEDROCK, OR COMPACTED GRANULAR FILL. SOIL SUBGRADES FOR MATS AND SPREAD FOOTINGS SHALL BE COMPACTED WITH AT LEAST FOUR COVERAGE USING A VIBRATORY PLATE COMPACTOR WITH A MINIMUM 10,000 lbs. DYNAMIC FORCE.
CARE SHALL BE TAKEN TO PREVENT SURFACE WATER FROM COLLECTION ON EXPOSED SOIL UPGRADES. CRUSHED STONE SHALL BE PLACED ON SUBGRADES IMMEDIATELY AFTER THEY ARE PREPARED.
COMPLETELY REMOVE BOULDERS PROJECTING ABOVE FOOTING BEARING LEVEL AND BACKFILL THE VOID WITH CRUSHED STONE SURROUNDED BY GEOTEXTILE FILTER OR COMPACTED GRANULAR FILL.
5e. FILLING AND BACKFILLING
COMPACT GRANULAR FILL AND CRUSHED STONE SHALL BE PLACED IN LIFT THICKNESS NOT EXCEEDING 12 INCH.
VIBRATORY EQUIPMENT OR MECHANICAL TAMPERS, GRANULAR FILL SHALL CONSIST OF SANDY GRAVEL OR GRAVELLY SAND, FREE OF ORGANIC MATERIAL, ENVIRONMENTAL CONTAMINANTS, SNOW, ICE, FROZEN SOIL, OR OTHER UNSUITABLE MATERIAL, AND BE WELL-GRADED WITHIN THE FOLLOWING LIMITS:

U.S. STANDARD SIEVE SIZE 6 INCH *	PERCENT FINER BY WEIGHT
No. 4	100
No. 40	30 - 80
No. 200	10 - 50
	0 - 8

CRUSHED STONE SHALL BE No.6 (3/4" SIZE) IN ACCORDANCE WITH CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 818, M01.01
GRADATION OF LEDGE ROCK AS BACKFILL MATERIAL TO BE REVIEWED AND APPROVED BY GEOTECHNICAL ENGINEER AND WALL VENDOR.
6. FOR RETAINING WALL DESIGN PARAMETERS, PLEASE REFER TO "GEOTECHNICAL ENGINEERING REPORT, UNITED ILLUMINATING OLD TOWN SUBSTATION, 280 KAECHLE PLACE, BRIDGEPORT, CONNECTICUT" FILE NO.135456-002, DATED MAY 2021:
6.a LATERAL EARTH PRESSURES
> UNRESTRAINED WALLS (ACTIVE)
- STATIC: 35 PCF (EQUIVALENT HYDROSTATIC)
- SEISMIC: INVERTED TRIANGULAR PRESSURE APPLIED OVER THE HEIGHT OF THE WALL (H) WITH A MAGNITUDE OF 8.4H (PSF) AT THE TOP OF THE WALL
- SURCHARGE: 0.33 TIMES THE VERTICAL SURCHARGE LOAD UNIFORMLY DISTRIBUTED OVER THE HEIGHT OF THE WALL.
> RESTRAINED WALLS (AT REST)
- STATIC: 55 PCF (EQUIVALENT HYDROSTATIC)
- SEISMIC: SAME AS FOR UNRESTRAINED WALLS
- SURCHARGE: 0.5 TIMES THE VERTICAL SURCHARGE LOAD (PSF) UNIFORMLY DISTRIBUTED OVER THE HEIGHT OF THE WALL
6.b BEARING CAPACITY
FOR RETAINING WALLS, THE MAXIMUM BEARING PRESSURE AT THE TOE OF THE FOOTING SHALL NOT EXCEED 4.5 KSF. THE RESULTANT FORCE SHALL BE WITHIN THE MIDDLE THIRD OF THE FOOTING.
6.c COEFFICIENT OF FRICTION ULTIMATE
- SOIL = 0.5
- BEDROCK = 0.6
7. FOR CONCRETE AND REINFORCEMENT MATERIAL NOTES SEE DRAWING 25233-0003-004-SH 006

RETAINING WALL PLAN
SCALE: 1" = 20'
NOTE: FOR RETAINING WALL PROFILE SEE DWG 25233-0003-004-SH 005

RETAINING WALL WORKING POINT TABLE						
WORKING POINT	WP01	WP02	WP03	WP04	WP05	WP06
NORTHING	642967.961	643137.239	643120.033	643043.643	642999.014	642960.505
EASTING	871435.124	871599.958	871723.426	871798.795	871814.741	871799.364
STATIONING (ft)	0+000.000	0+237.559	0+362.206	0+468.240	0+519.115	0+561.416
INSIDE GROUND EL (ft)	231.58	230.49	230.60	230.60	230.70	230.80
OUTSIDE GROUND EL (ft)	231.50	223.50	223.50	215.58	213.54	216.40



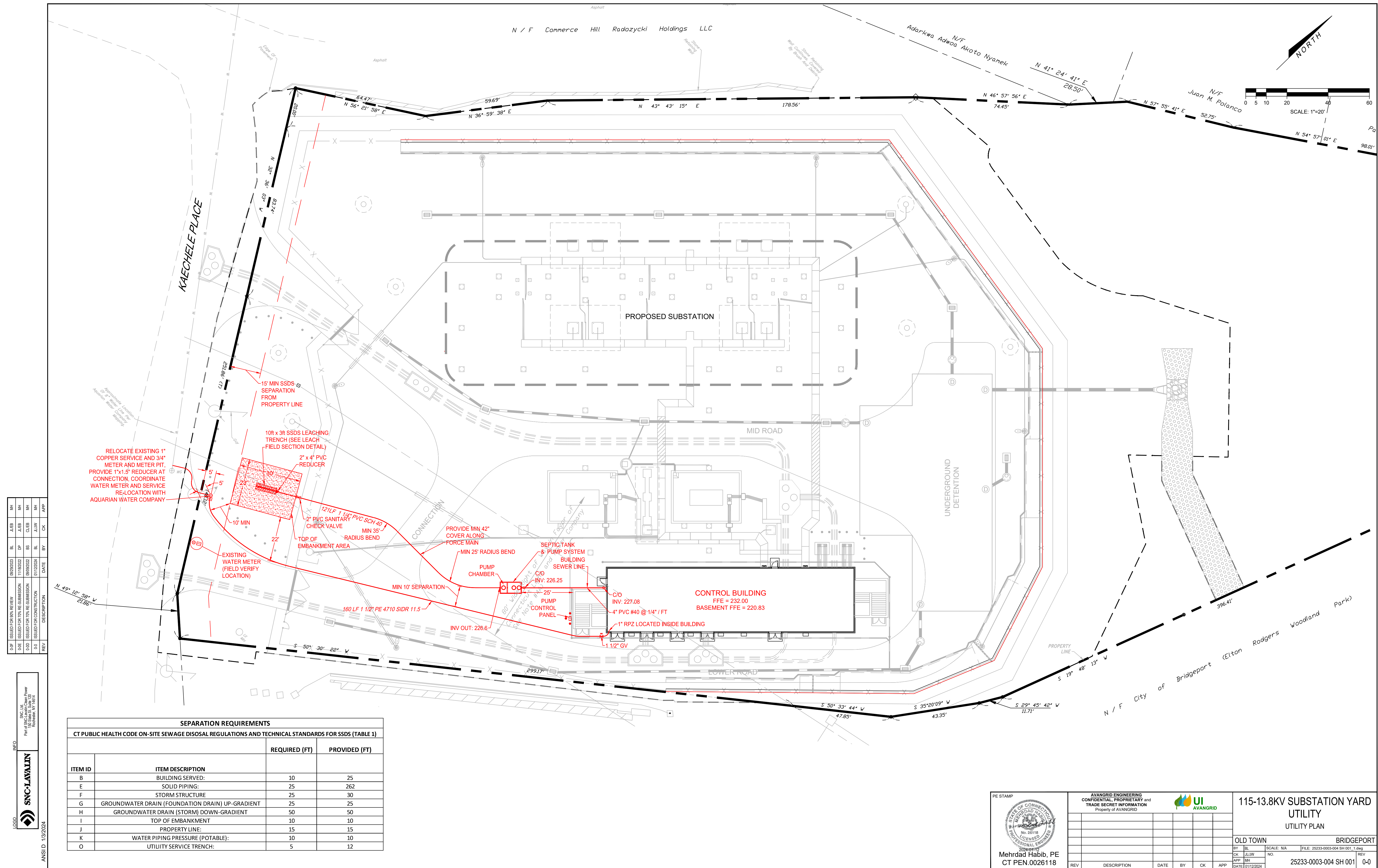
PE STAMP

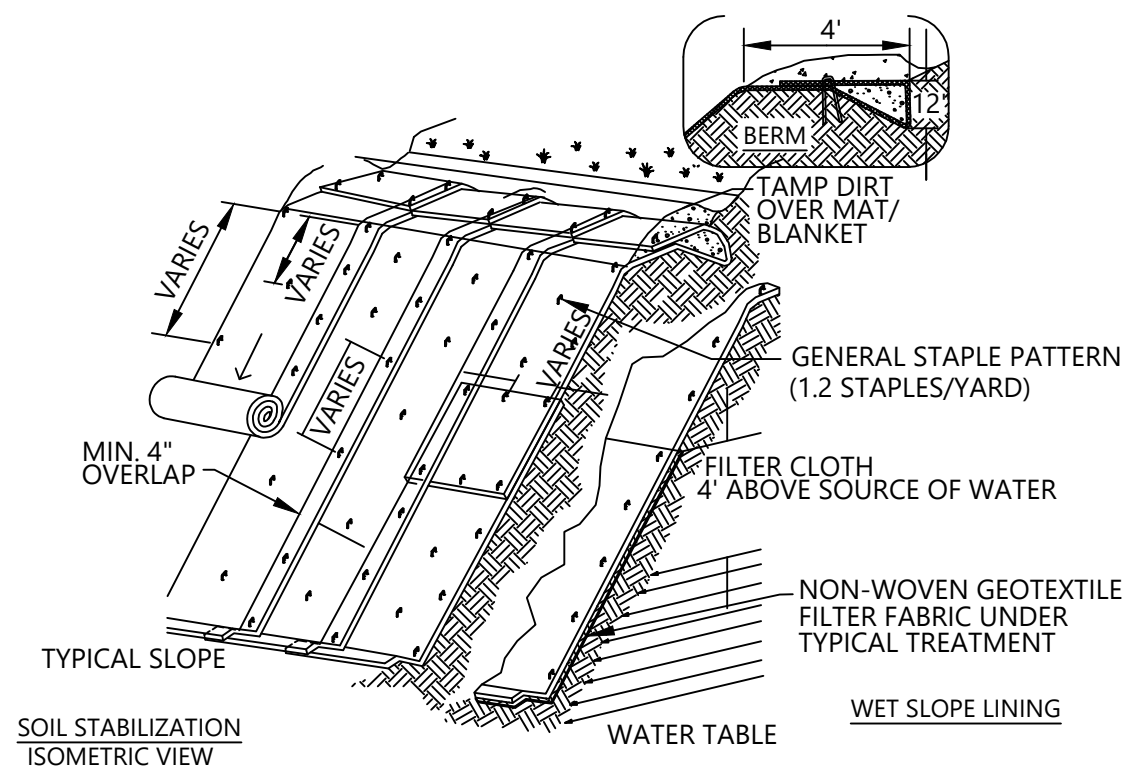
AVANGRID ENGINEERING
CONFIDENTIAL, PROPRIETARY and
TRADE SECRET INFORMATION
Property of AVANGRID

UI
AVANGRID

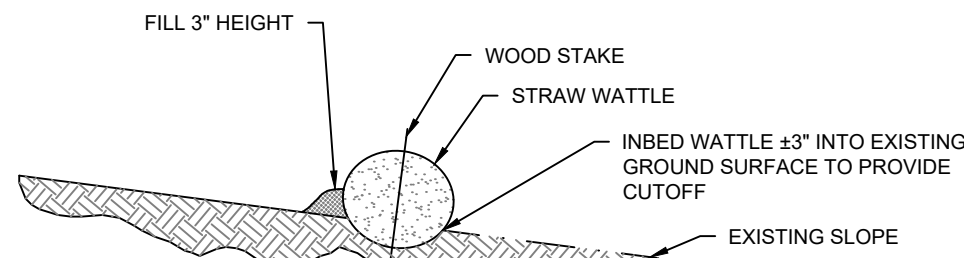
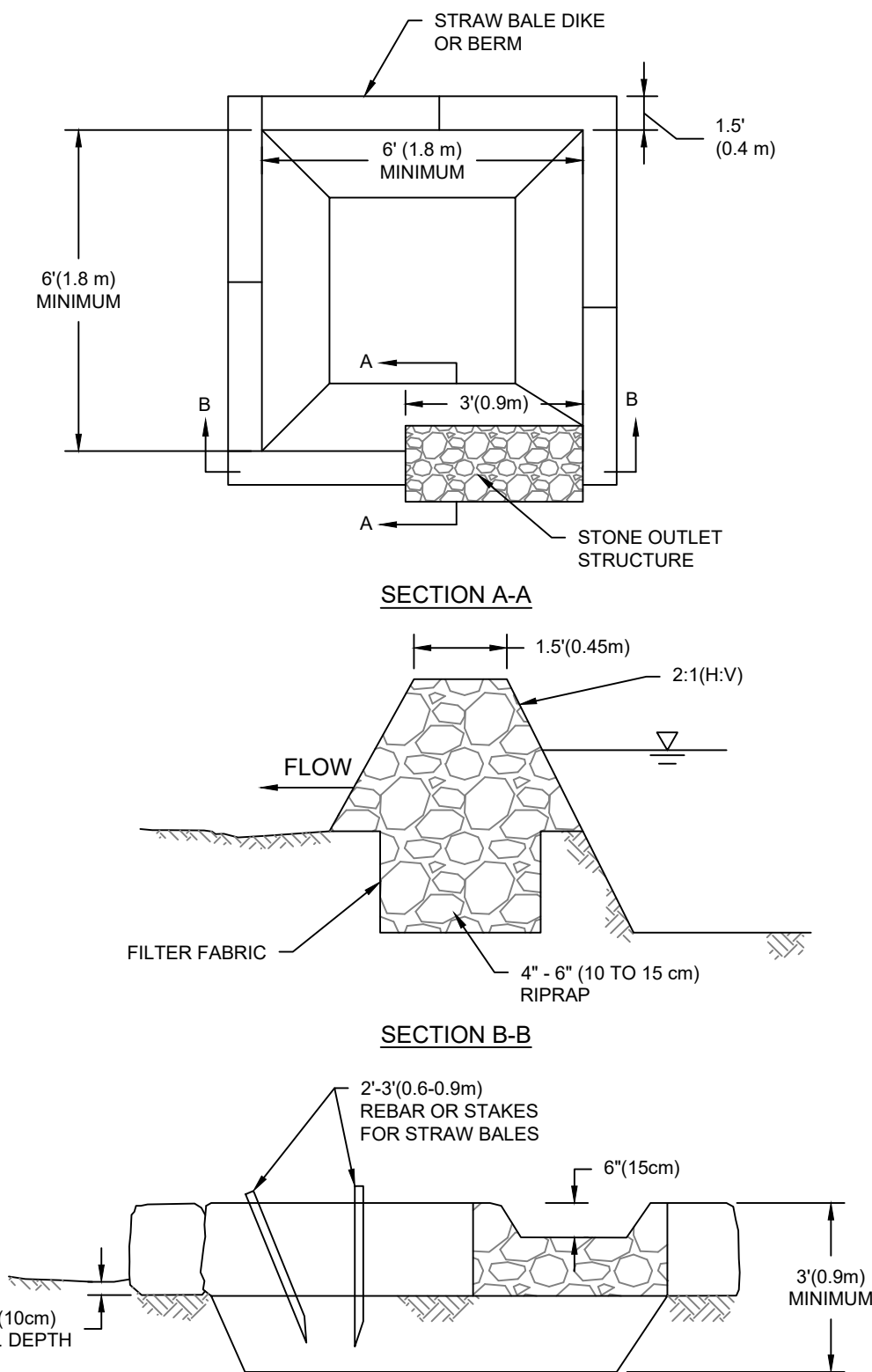
115-13.8KV SUBSTATION YARD
GRADING AND DRAINAGE
RETAINING WALL - PLAN

BY	AC/KC	SCALE: 1" = 20'	FILE: 25233-0003-004-SH 004_RV_PLAN.dwg
CK	LJ/LJW	NO.	REV
APP	LJ		
DATE	09/09/2022	25233-0003-004-SH 004	0-0





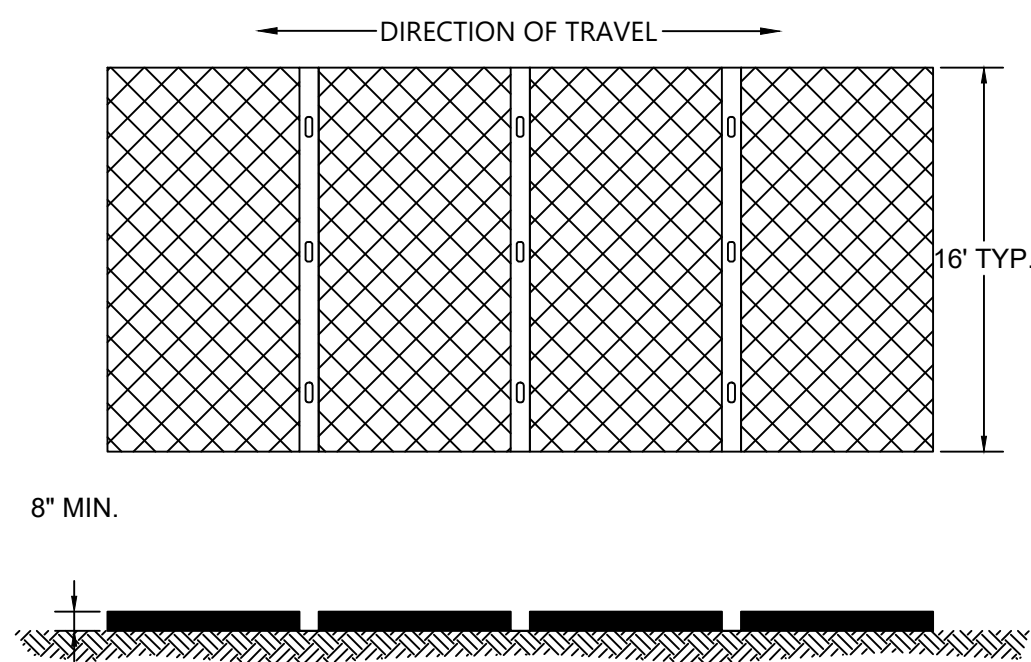
EROSION CONTROL BLANKETS
NOT TO SCALE



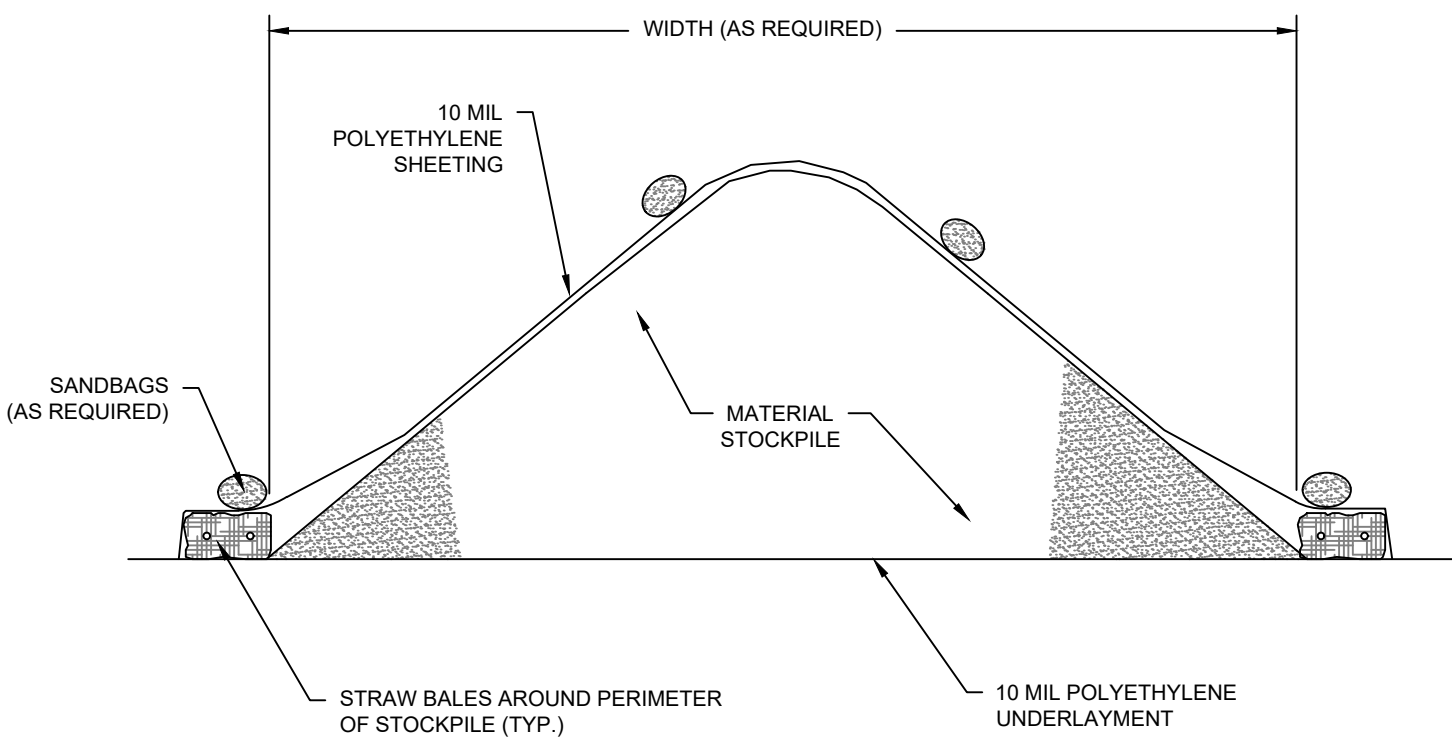
WATTLE DIMENSIONS
LENGTH 10 - 30 FT
DIA 9 - 12 IN

NOTE: IF WATTLE IS PLACED WITHIN A WETLAND, NO IMBEDDING, STAKING, OR FILL WILL BE CONDUCTED DURING INSTALLATION.

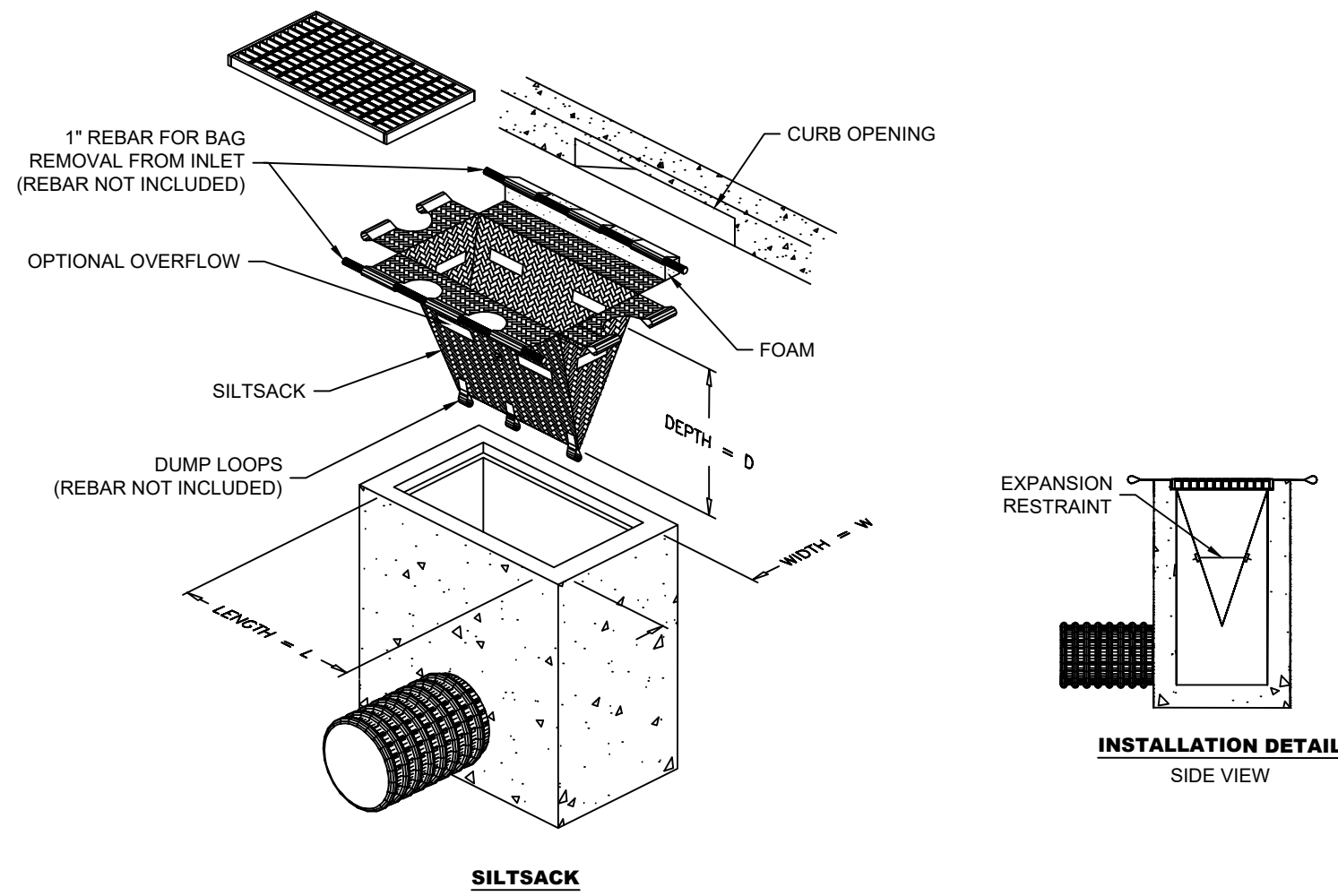
TYPICAL STRAW WATTLE
NOT TO SCALE



TEMPORARY CONSTRUCTION MATTING
NOT TO SCALE



SEDIMENT CONTROL FOR STOCKPILES
NOT TO SCALE

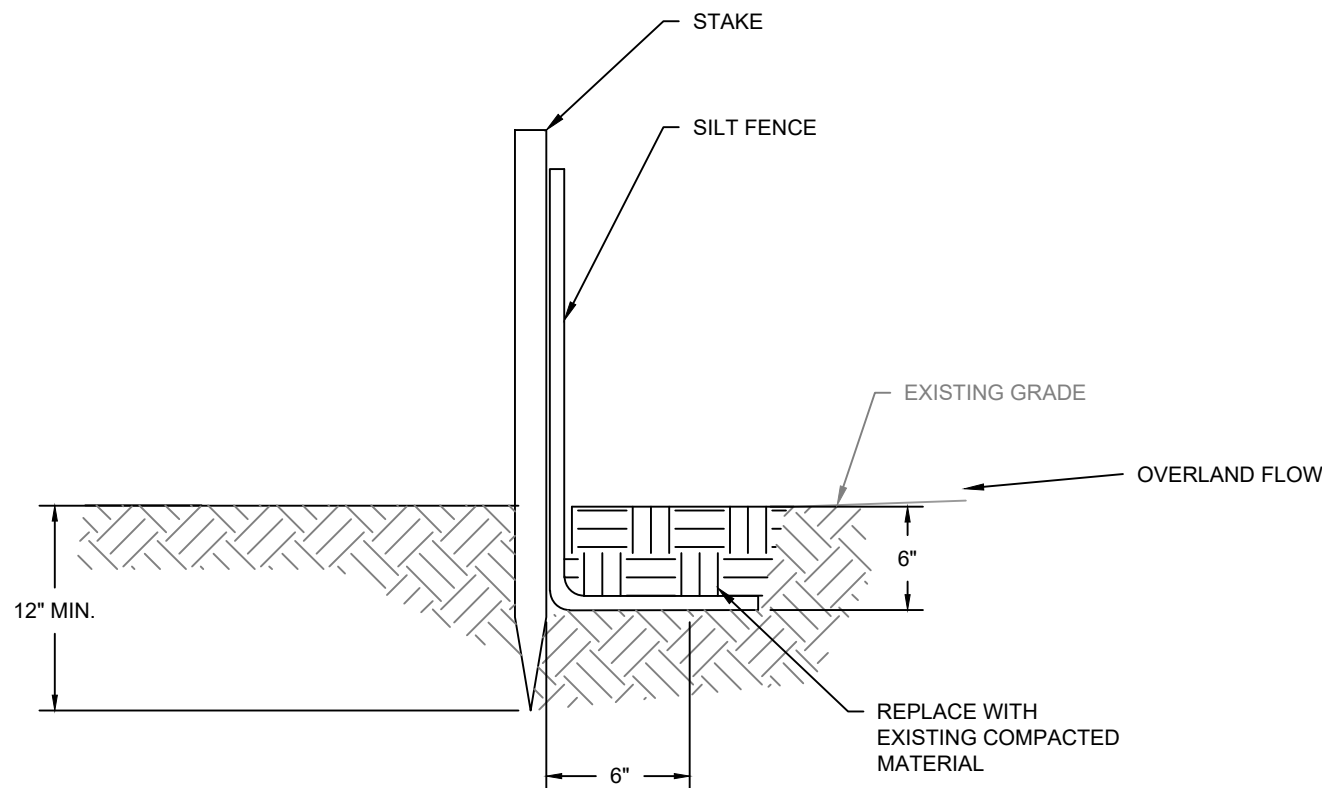


NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE SPECIFICATIONS BELOW.

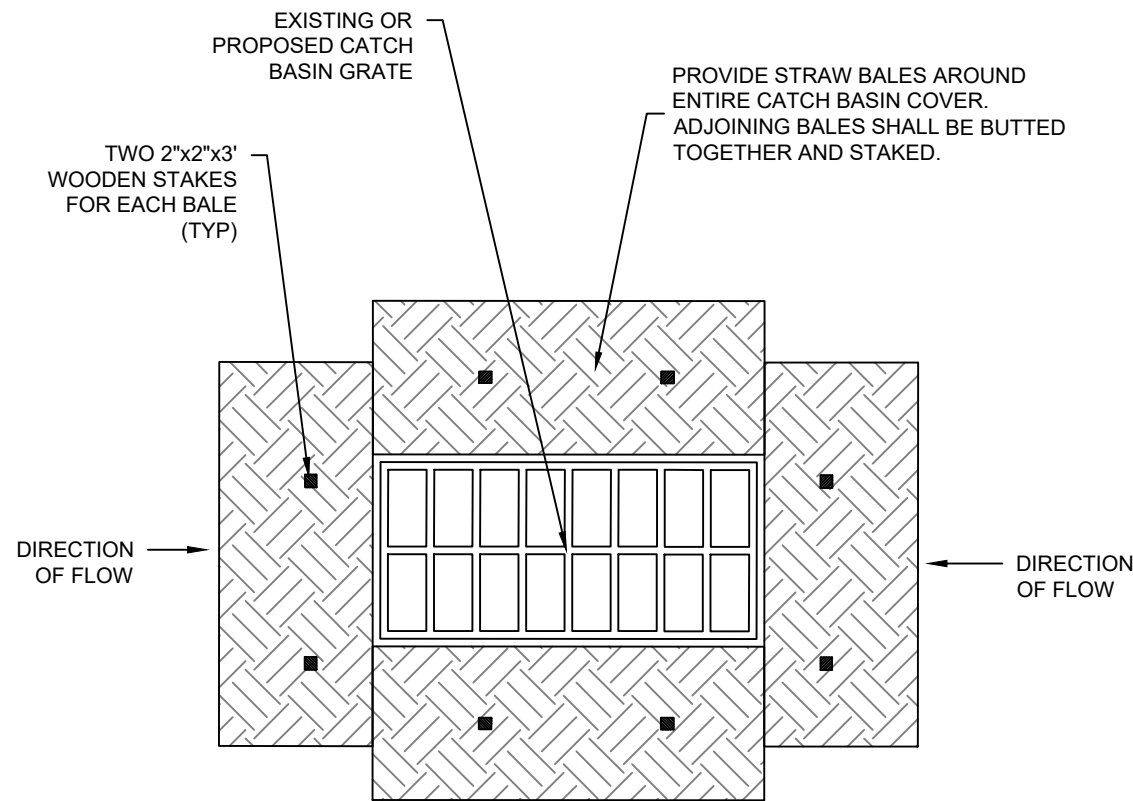
REGULAR FLOW SILTSACK SPECIFICATIONS
(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUNOFF)

PROPERTIES	TEST METHOD	MIN. REQUIREMENTS
GRAB TENSILE STRENGTH	ASTM D4832	300 LBS
GRAN TENSILE ELONGATION	ASTM D4832	20%
PUNCTURE	ASTM D4833	120 LBS
MULLEN BURST	ASTM D3786	800 PSI
TRAPEZOID TEAR	ASTM D4533	120 LBS
UV RESISTANCE	ASTM D4355	80%
APPARENT OPENING SIZE	ASTM D4751	40 US SIEVE
FLOW RATE	ASTM D4491	40 GPM/SF

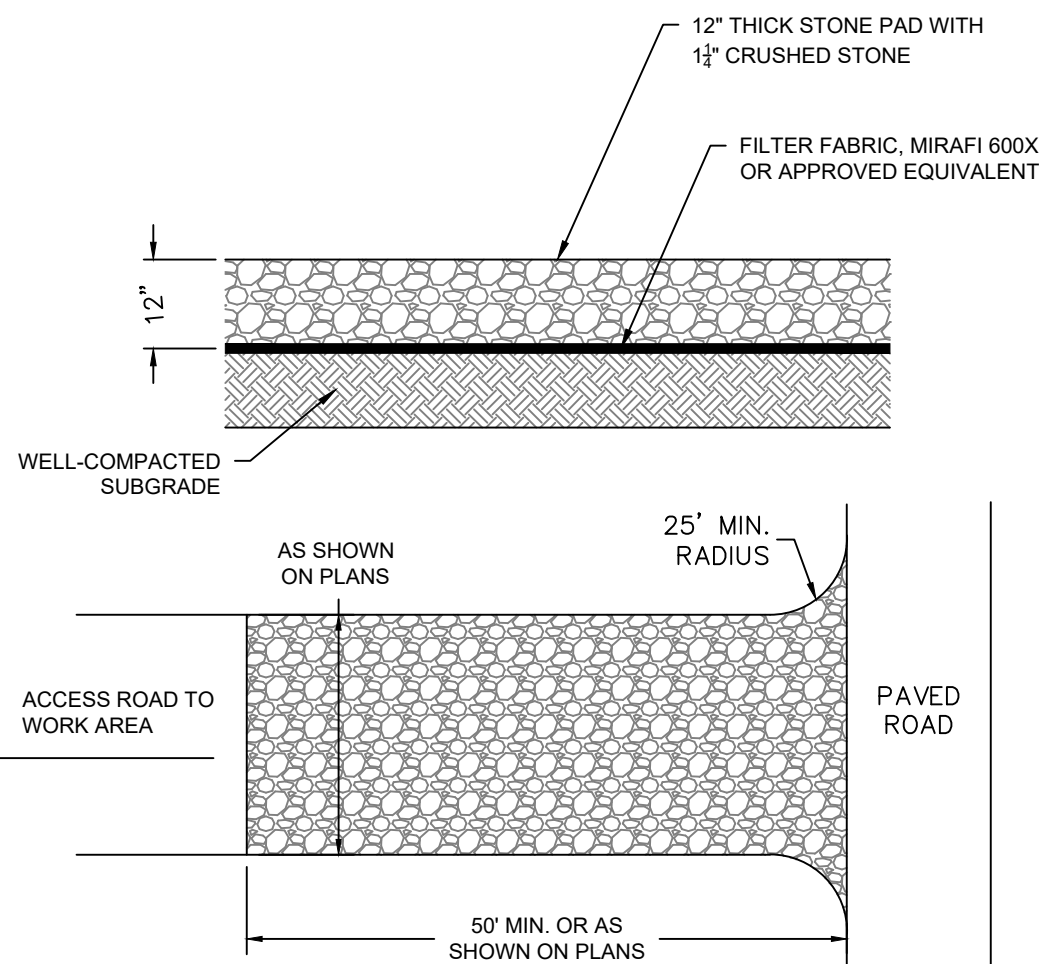
INLET PROTECTION - CATCH BASIN INSERT
NOT TO SCALE



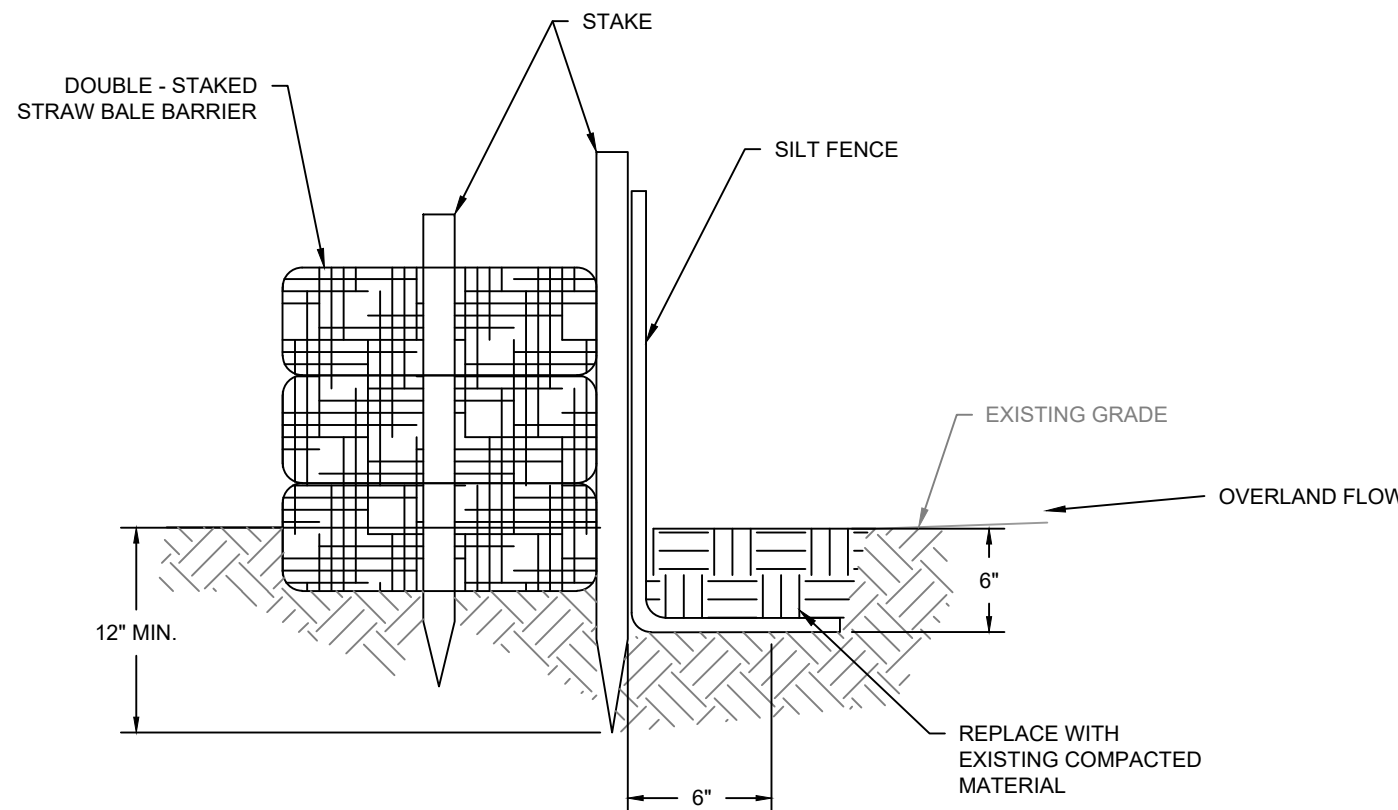
SILT FENCE
NOT TO SCALE



INLET PROTECTION - STRAW BALES
NOT TO SCALE



CONSTRUCTION ENTRANCE PAD
NOT TO SCALE



SILT FENCE BACKED BY STAKED STRAW BALES
NOT TO SCALE



197 SCOTT SWAMP ROAD
FARMINGTON, CT 06032
(860) 674-9570
HRPASSOCIATES.COM

REVISIONS

NO.	DATE	DESCRIPTION

DESIGNED: ASB	SCALE: AS NOTED
DRAWN: ASB	ISSUE DATE: 08/28/2024
REVIEWED: KAM	PROJECT NUMBER: AVA4015.EE
APPROVED: TRB	SHEET SIZE: 24"x36"

THE UNITED ILLUMINATING - OLD TOWN
SUBSTATION REBUILD

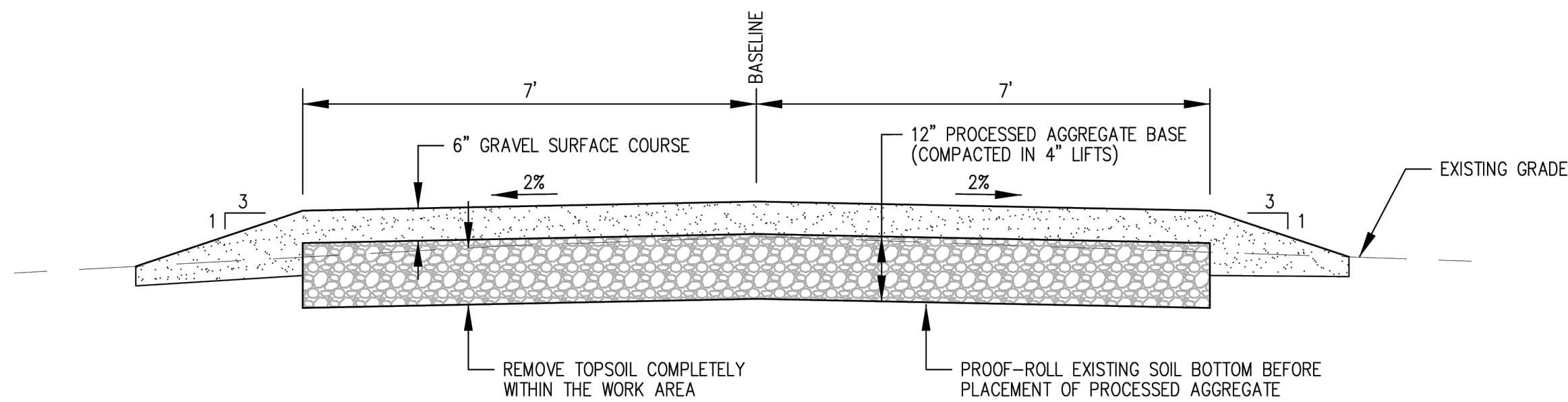
280 KAECHELE PL,
BRIDGEPORT, CT 06606

DETAILS

SHEET NO.

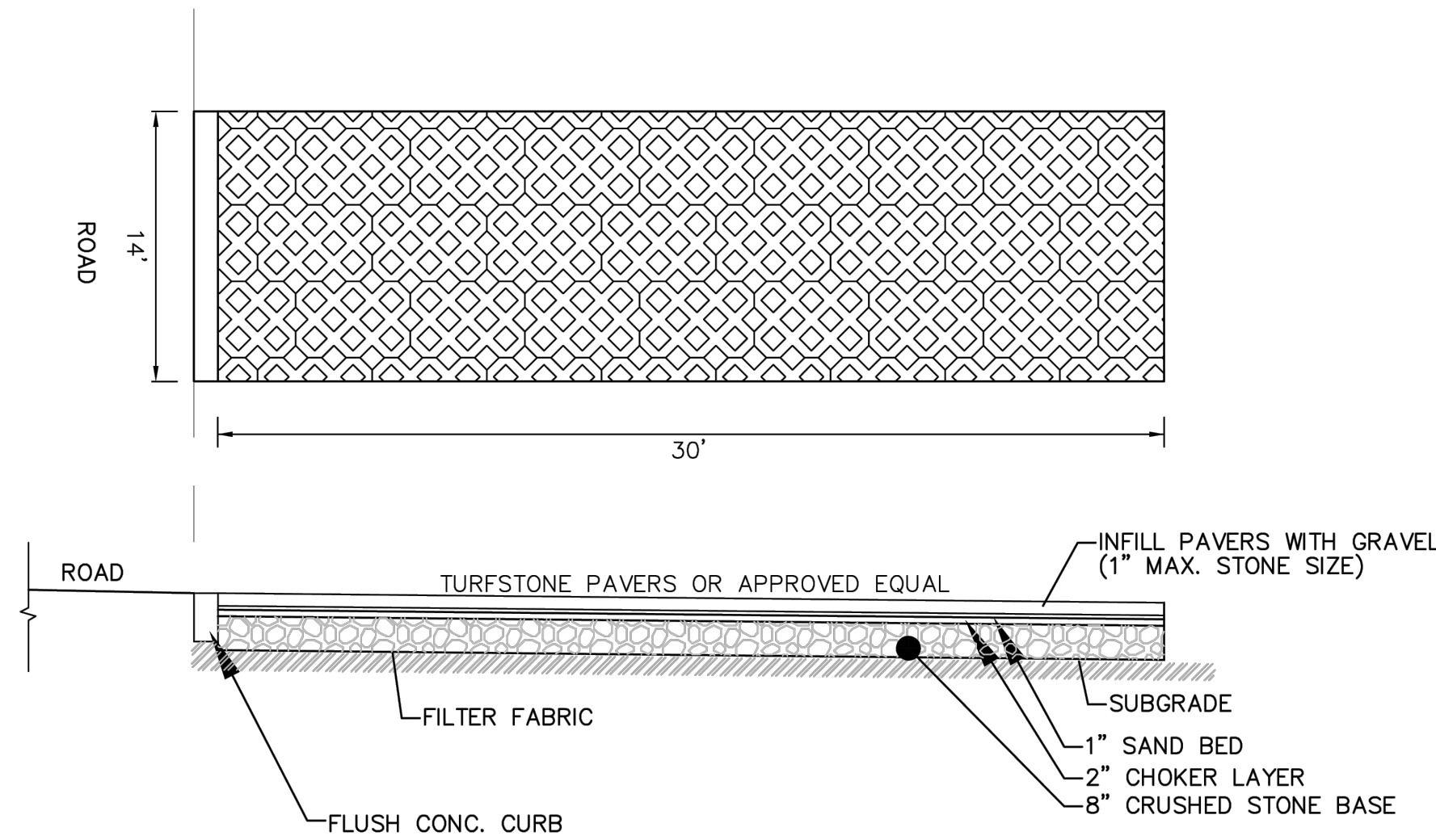
D1.1

MAP REFERENCE: "115-13.8KV SUBSTATION YARD EROSION CONTROL, EROSION CONTROL PLAN, OLD TOWN, BRIDGEPORT," PREPARED BY SNC, LTD., SCALE N/A, DATED 01/12/2024



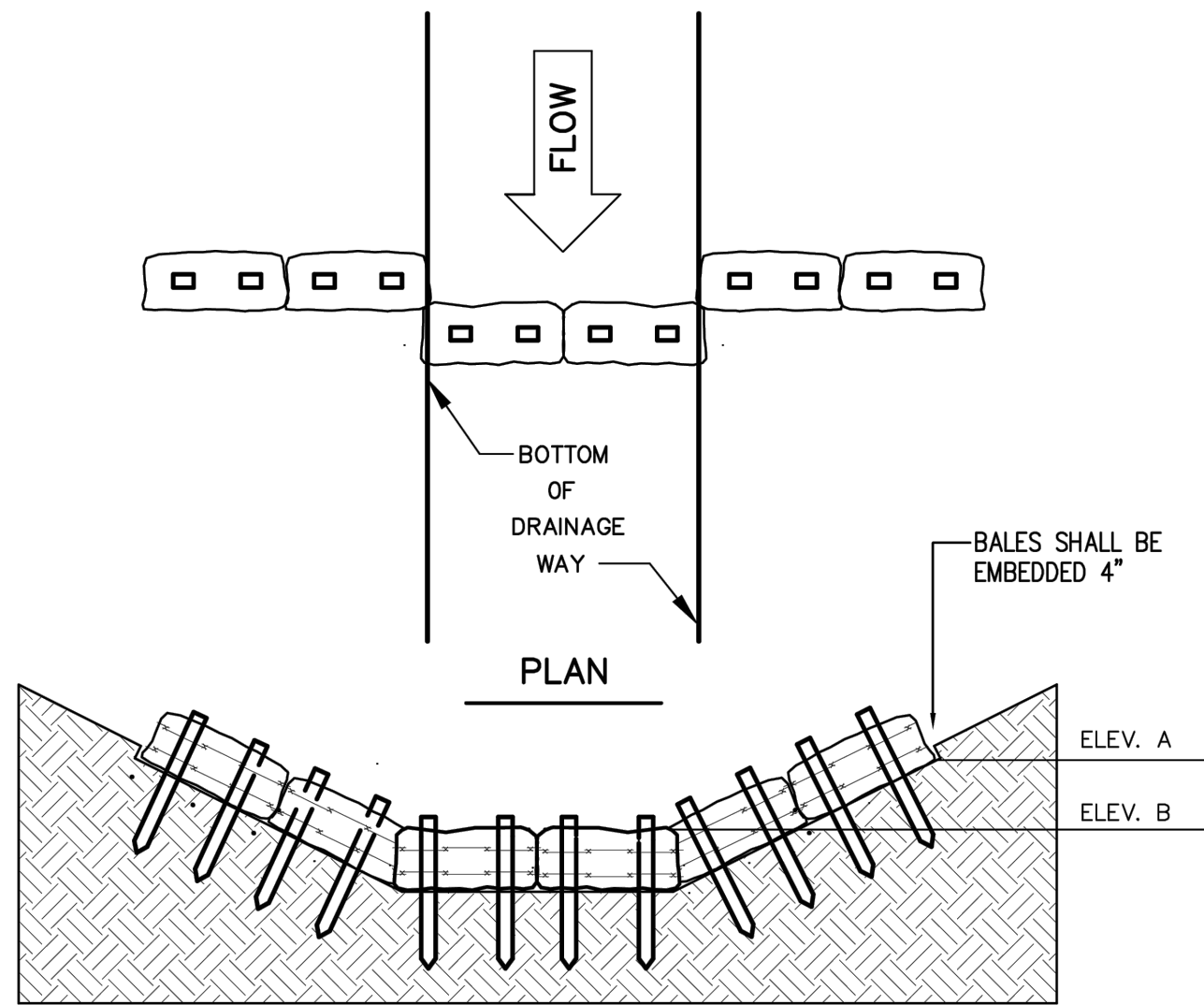
GRAVEL ACCESS DRIVEWAY CROSS SECTION

N.T.S.



STABILIZED ACCESS ROAD ENTRANCE
PRECAST GRID PAVERS

N.T.S.



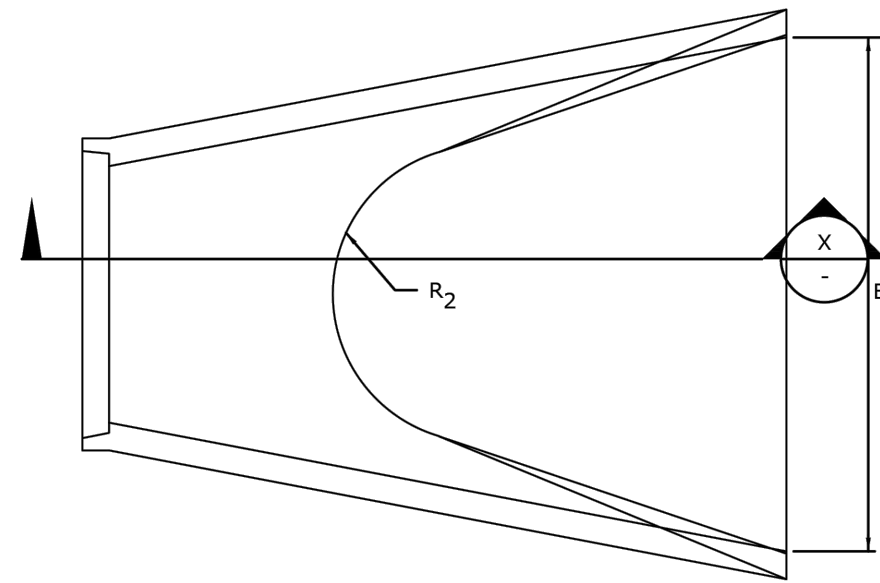
NOTE:

- ELEVATION "A" SHOULD BE HIGHER THAN ELEVATION "B".
- REFER TO HAYBALE STAKING DETAIL

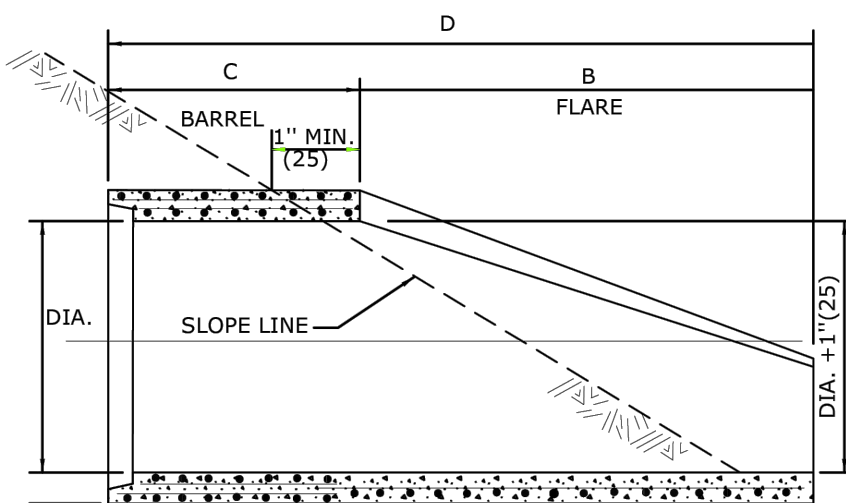
SECTION

HAY BALE CHECK DAM

N.T.S.



PLAN

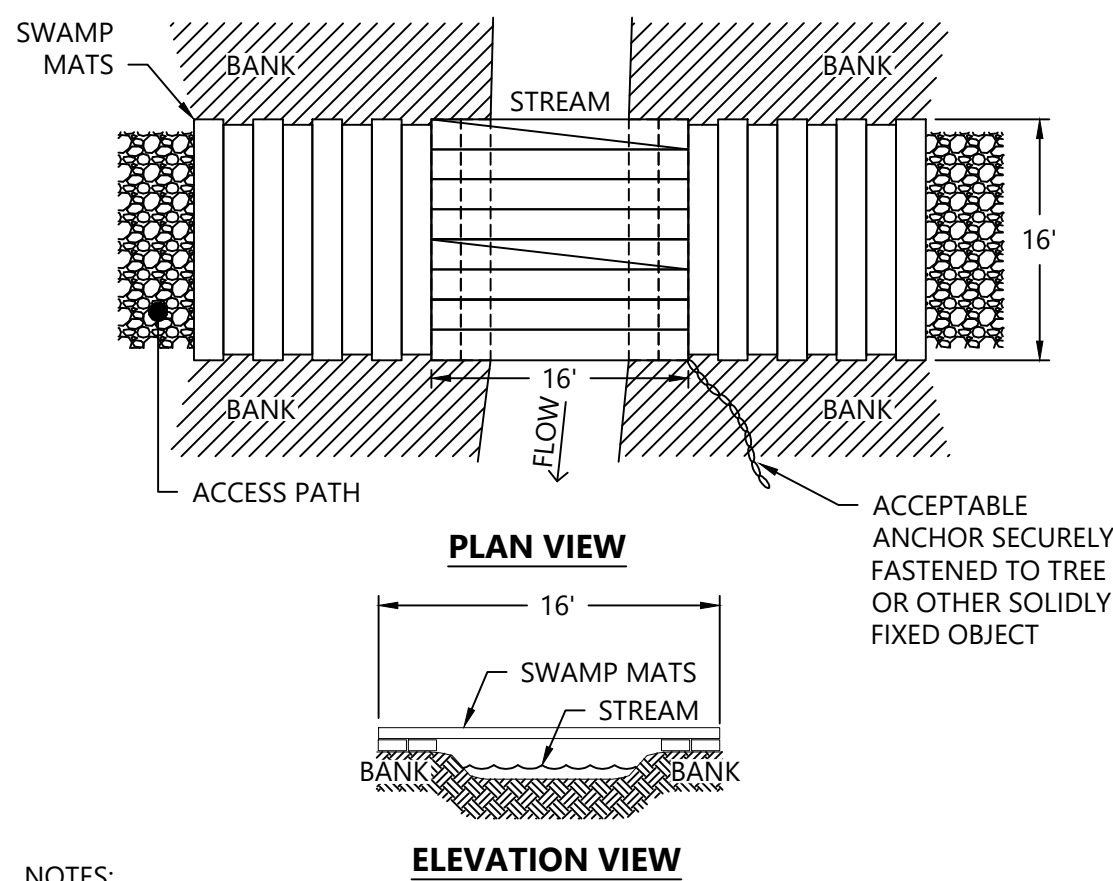


SECTION X

DIMENSIONS FOR REINFORCED CONCRETE PIPE END								
DIA.	A	B	C	D	E	F	R ₁	R ₂
15"(381)	6"(152)	2'-3"(686)	3'-10"(1168)	6'-1"(1854)	2'-6"(762)	2'-0" ¹¹ / ₁₆ " (618)	1'-0" ¹ / ₂ " (318)	11"(279)
24"(610)	9" ⁵ / ₈ " (241)	3'-7" ¹ / ₂ " (1105)	2'-6"(762)	6'-1" ¹ / ₂ " (1867)	4'-0"(1219)	2'-9" ¹ / ₈ " (843)	1'-4" ¹ / ₈ " (427)	1'-2"(356)

REINFORCED CONCRETE PIPE END

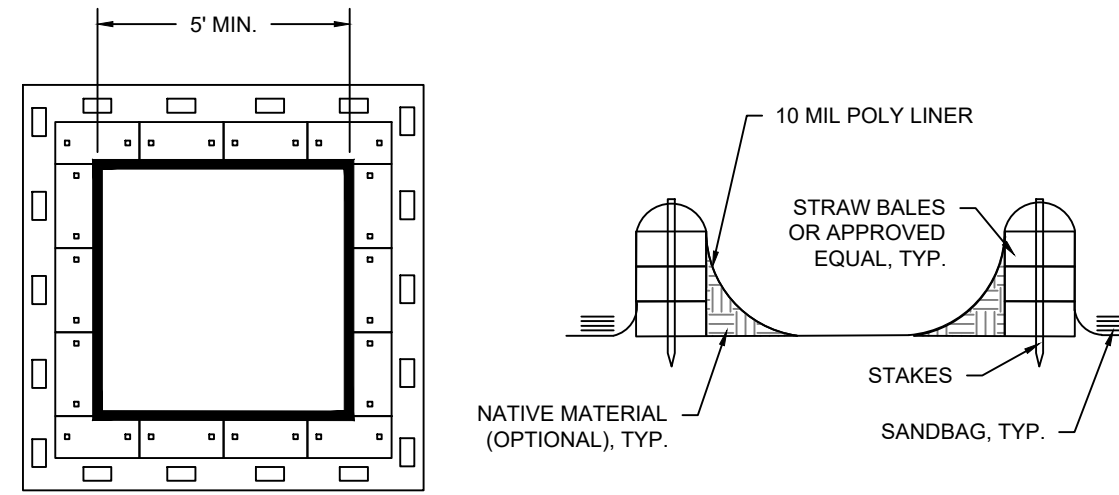
N.T.S.



NOTES:

- SWAMP MATS SHOULD BE PLACED CLOSELY TOGETHER SO THERE IS A SMALL GAP BETWEEN EACH MAT SECTION.
- ADDITIONAL MEASURES MAY BE REQUIRED.
- CONTRACTOR TO ENSURE MATTING IS PLACED WITH NECESSARY BANK OVERLAP TO PROVIDE SUFFICIENT BEARING CAPACITY AND ENSURE STREAM BANK STABILITY.

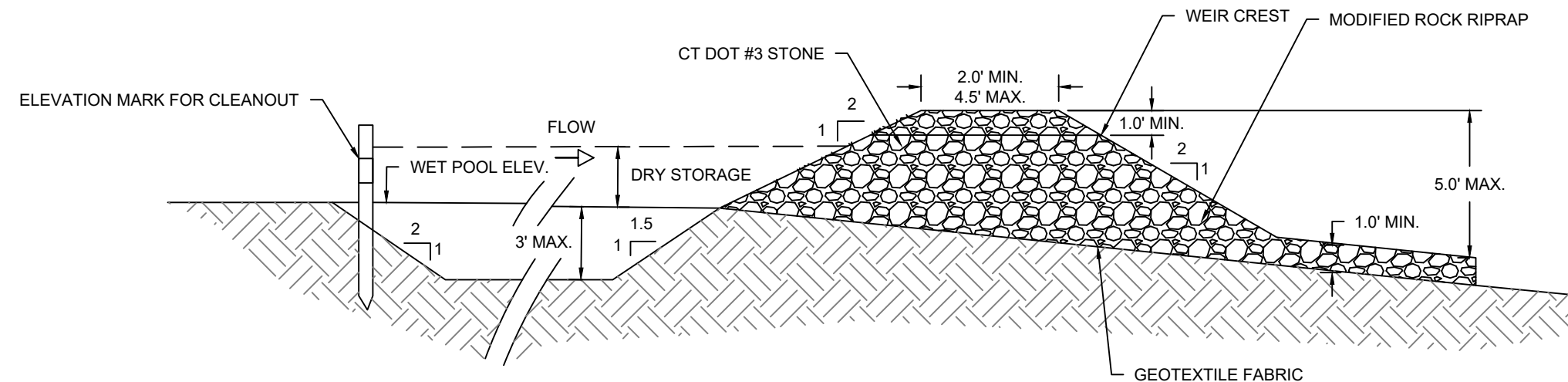
SWAMP MAT BRIDGE FOR TEMPORARY STREAM CROSSING
NOT TO SCALE



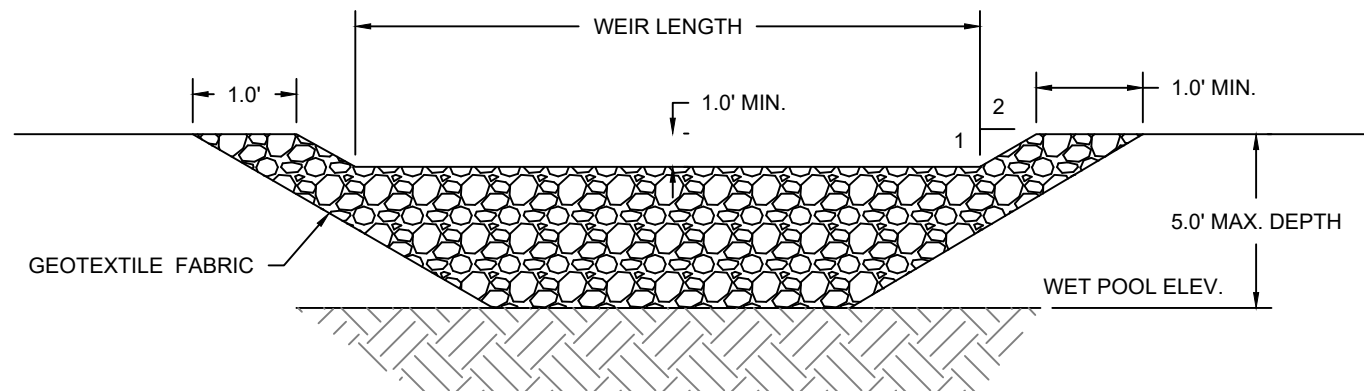
NOTES:

- CONCRETE WASHOUT AREAS SHALL HAVE IMPERMEABLE LINERS OR SEALED UNITS TO PREVENT INFILTRATION/CONTACT WITH SOIL.
- WASHOUT AREAS TO BE INSPECTED DAILY FOR LEAKS OR TEARS IF POLY IS USED.
- AN APPROVED ALTERNATIVE MAY BE USED (I.E., CONTAINMENT BIN)

CONCRETE WASHOUT
NOT TO SCALE



TEMPORARY SEDIMENT TRAP
NOT TO SCALE



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FARMINGTON, CT 06032
(860) 674-9570
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REVISIONS

NO.	DATE	DESCRIPTION
1	12/09/2024	SWAMP MAT BRIDGE FOR TEMPORARY STREAM CROSSING DETAIL ADDED

DESIGNED:	SCALE:
ASB	AS NOTED
DRAWN:	ISSUE DATE:
ASB	08/28/2024
REVIEWED:	PROJECT NUMBER:
KAM	AVA4015.EE
APPROVED:	SHEET SIZE:
TRB	24"x36"

THE UNITED ILLUMINATING - OLD TOWN
SUBSTATION REBUILD

280 KAEICHELE PL,
BRIDGEPORT, CT 06606

DETAILS

SHEET NO.

D1.2



DEVELOPMENT & MANAGEMENT PLAN

for the

OLD TOWN SUBSTATION REBUILD PROJECT

(Connecticut Siting Council Docket No. 490)

VOLUME 2: Project Mapping and Drawings

SECTION 2C

Cross Sections:

Overall Site Sections	25233-0003-003 SH 002
Overall Site Sections	25233-0003-003 SH 004
Overall Site Sections	25233-0003-003 SH 005
Overall Site Sections	25233-0003-003 SH 006
Storm Sewer Profiles	25233-0003-003 SH 007
Storm Sewer Profiles	25233-0003-003 SH 008
Retaining Wall Elevation	25233-0003-004-SH 005
Retaining Wall Sections	25233-0003-004-SH 006
General Arrangement Elevations	25233-0002-002 SH 001
Desing Requirement Drawing Strain Structures 2, 3, & 4	5233U-T1710-200
Desing Requirement Drawing Terminal Structures 7 & 10	5233U-T1710-201-SH1

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LOGO	INFO	DATE	DESCRIPTION	REV	BY	CK	APP
0-0	ISSUED FOR 90% REVIEW	09/26/2023			BL	JLB	MH
0-0	ISSUED FOR 70% RE-SUBMISSION	11/16/2023			DP	JLB	MH
0-0	ISSUED FOR 70% RE-SUBMISSION	09/03/2024			BS	CLB	MH
0-0	ISSUED FOR CONSTRUCTION	01/12/2024			BL	JLW	MH

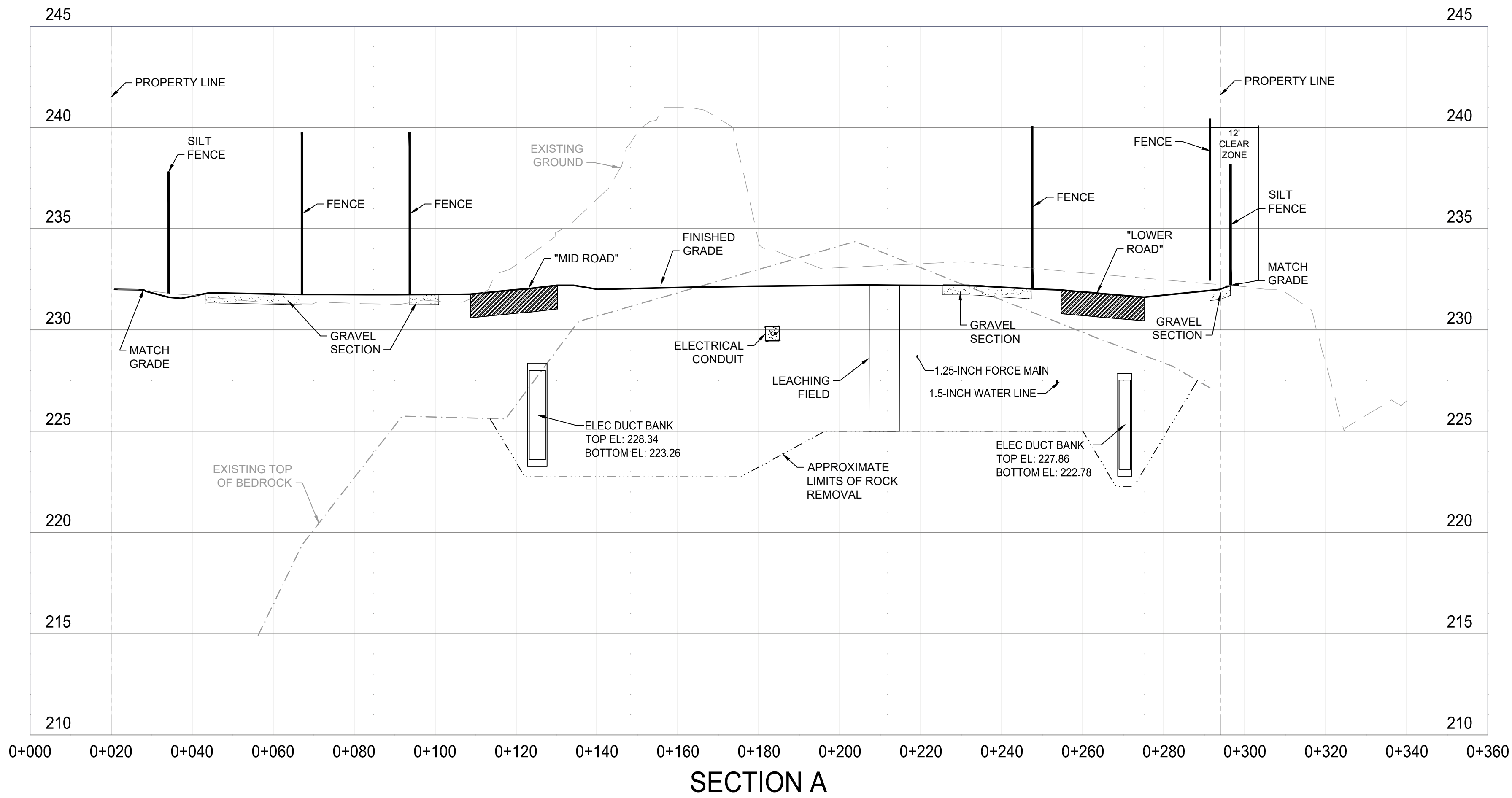
LOGO

INFO

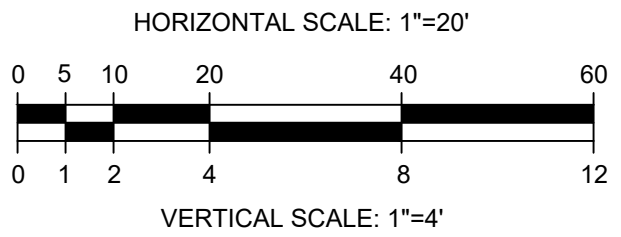
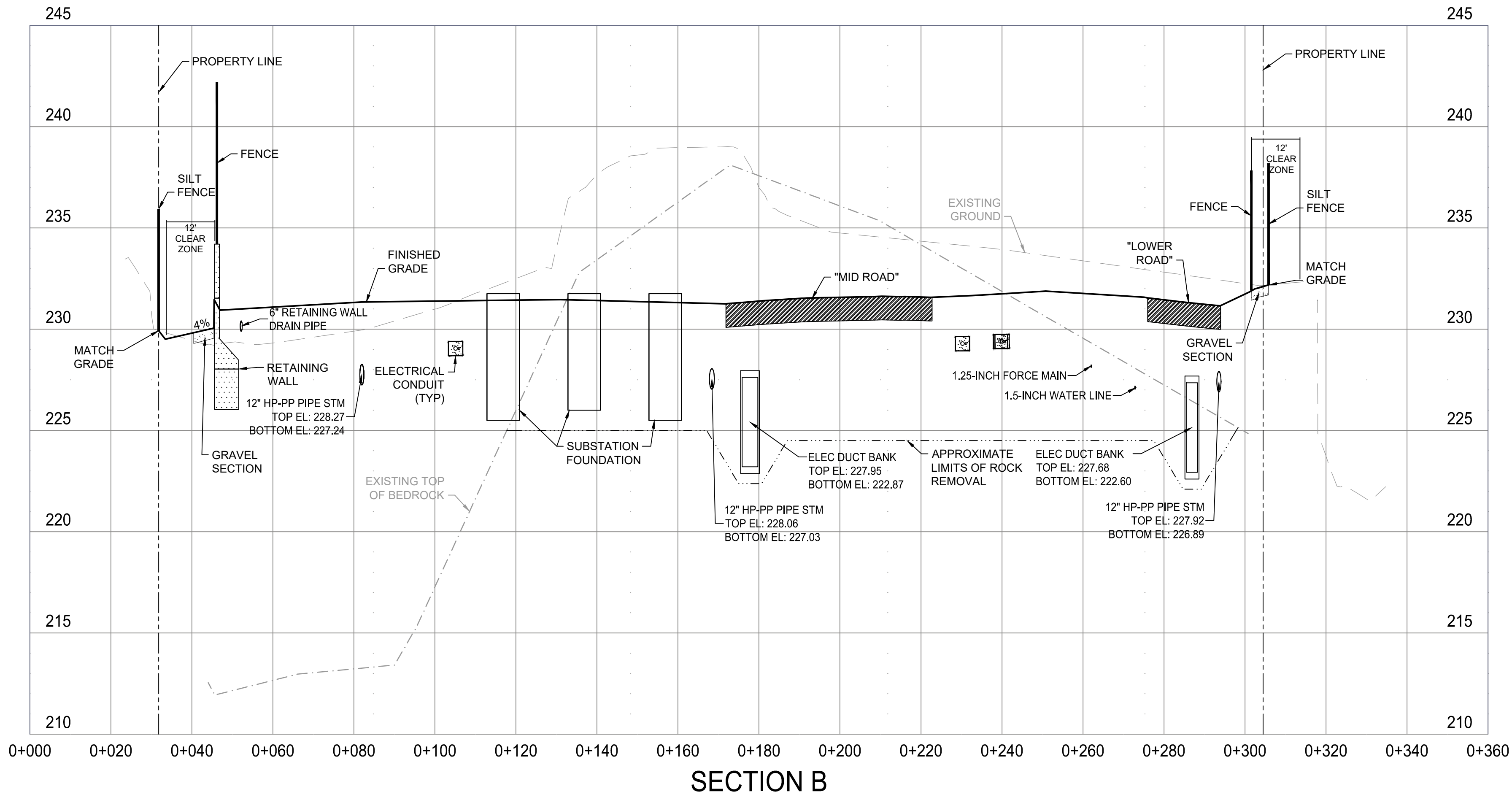
Part of SNC-Lavalin Power
155 South St Suite 170
Rochester, NY 14611

SNC-LAVALIN

ANSI 1/3/2024



- NOTES:
1. SEE ELECTRICAL AND STRUCTURAL PLANS FOR DETAILS ON DUCT BANKS, TRANSFORMERS, ELECTRICAL EQUIPMENT AND STRUCTURES.
 2. THE LIMITS OF ROCK REMOVAL SHOWN ON THESE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL ADJUST THE LIMITS OF BEDROCK AS NECESSARY TO ALLOW FOR STRUCTURES, INSULATION LAYERS, SUMP DEPTHS, PIPE AND STRUCTURE BEDDING, ETC, AT NO ADDITIONAL COST TO OWNER.
 3. REFER TO GEOTECHNICAL REPORT FOR SIDESLOPE REQUIREMENTS



PE STAMP

Mehrdad Habib, PE
CT PEN.0026118

AVANGRID ENGINEERING CONFIDENTIAL, PROPRIETARY and TRADE SECRET INFORMATION Property of AVANGRID					
BY	BL	SCALE: N/A	FILE: 25233-0003-003 SH 002.dwg		
CK	JLW	NO.			
APP	MH	DATE: 01/12/2024			
REV	DESCRIPTION	DATE	BY	CK	APP

115-13.8KV SUBSTATION YARD
GRADING & DRAINAGE
OVERALL SITE SECTIONS

OLD TOWN
BRIDGEPORT

25233-0003-003 SH 002

0-0

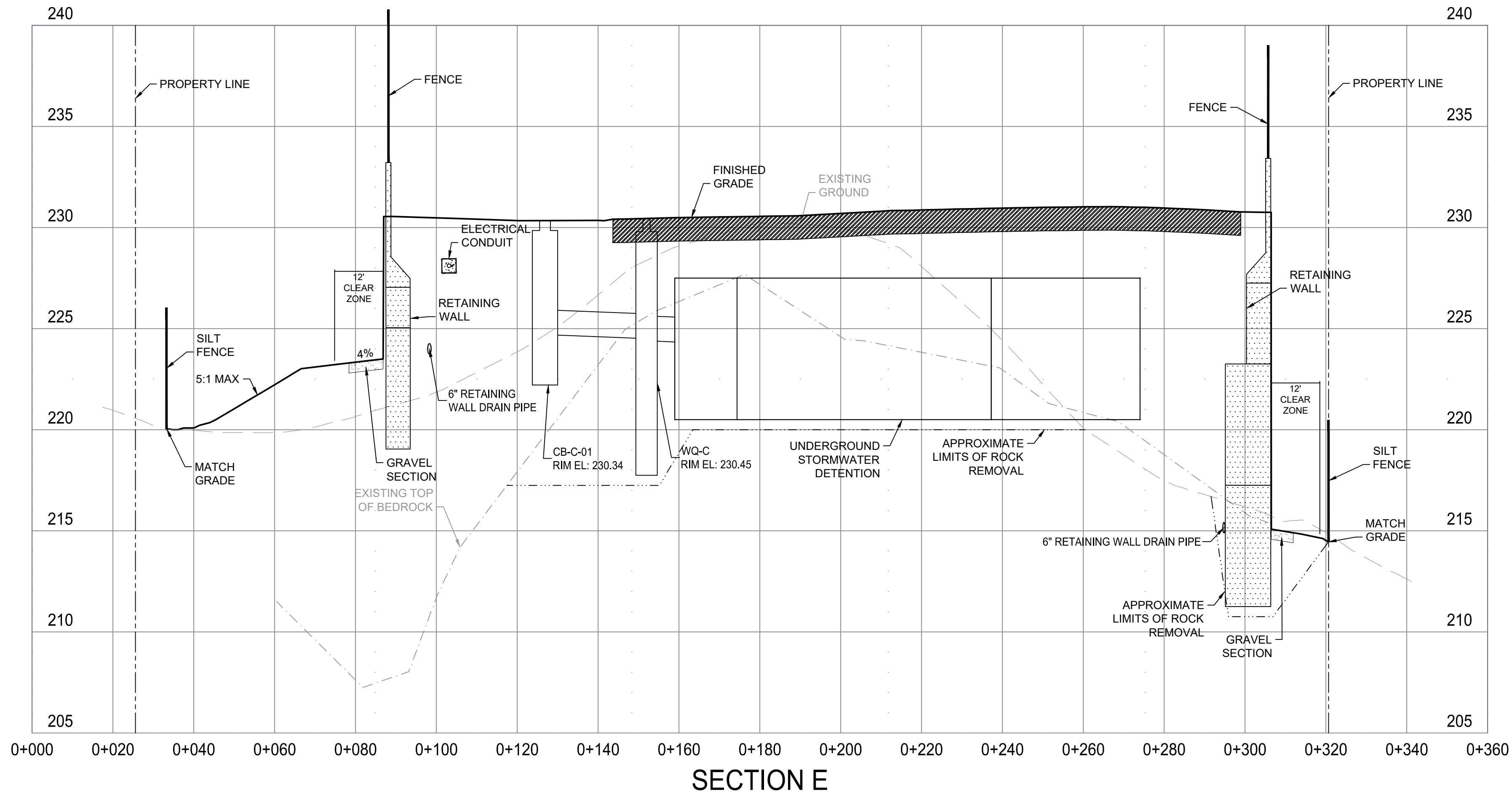
DATE	DESCRIPTION	BY	CK	APP	
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11/16/2022	ISSUED FOR 70% RE-SUBMISSION	DP	JLB	MH	
09/03/2022	ISSUED FOR 70% RE-SUBMISSION	BS	CLB	MH	
01/12/2024	ISSUED FOR CONSTRUCTION	BL	JLW	MH	
REV	DESCRIPTION	DATE	BY	CK	APP

LOGO

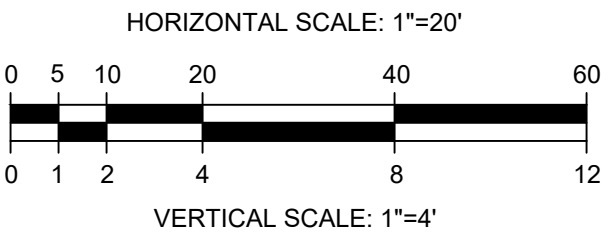
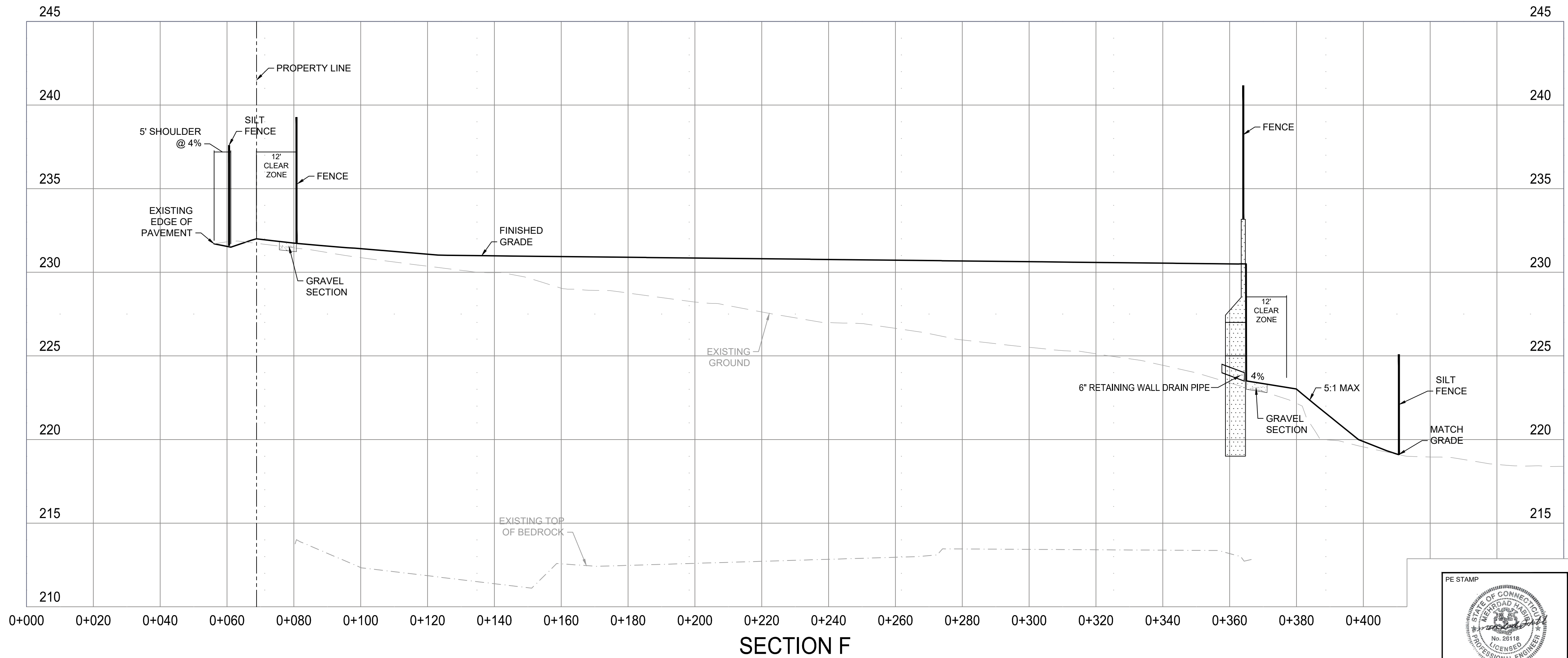
SNC-LAVALLIN

Part of SNC-Lavalin Power
155 South St., Suite 150
Rochester, NY 14611

ANSI D 1/3/2024



- NOTES:
- SEE ELECTRICAL AND STRUCTURAL PLANS FOR DETAILS ON DUCT BANKS, TRANSFORMERS, ELECTRICAL EQUIPMENT AND STRUCTURES. THESE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL ADJUST THE LIMITS OF BEDROCK AS NECESSARY TO ALLOW FOR STRUCTURES, INSULATION LAYERS, SUMP DEPTHS, PIPE AND STRUCTURE BEDDING, ETC, AT NO ADDITIONAL COST TO OWNER.
 - THE LIMITS OF ROCK REMOVAL SHOWN ON THESE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL ADJUST THE LIMITS OF BEDROCK AS NECESSARY TO ALLOW FOR STRUCTURES, INSULATION LAYERS, SUMP DEPTHS, PIPE AND STRUCTURE BEDDING, ETC, AT NO ADDITIONAL COST TO OWNER.
 - REFER TO GEOTECHNICAL REPORT FOR SIDESLOPE REQUIREMENTS



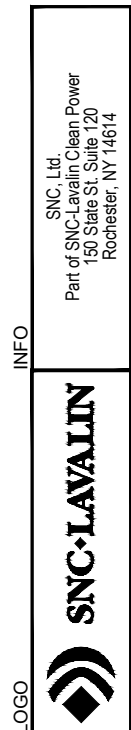
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MEHRDAD HABIB, PE
CT PEN.0026118

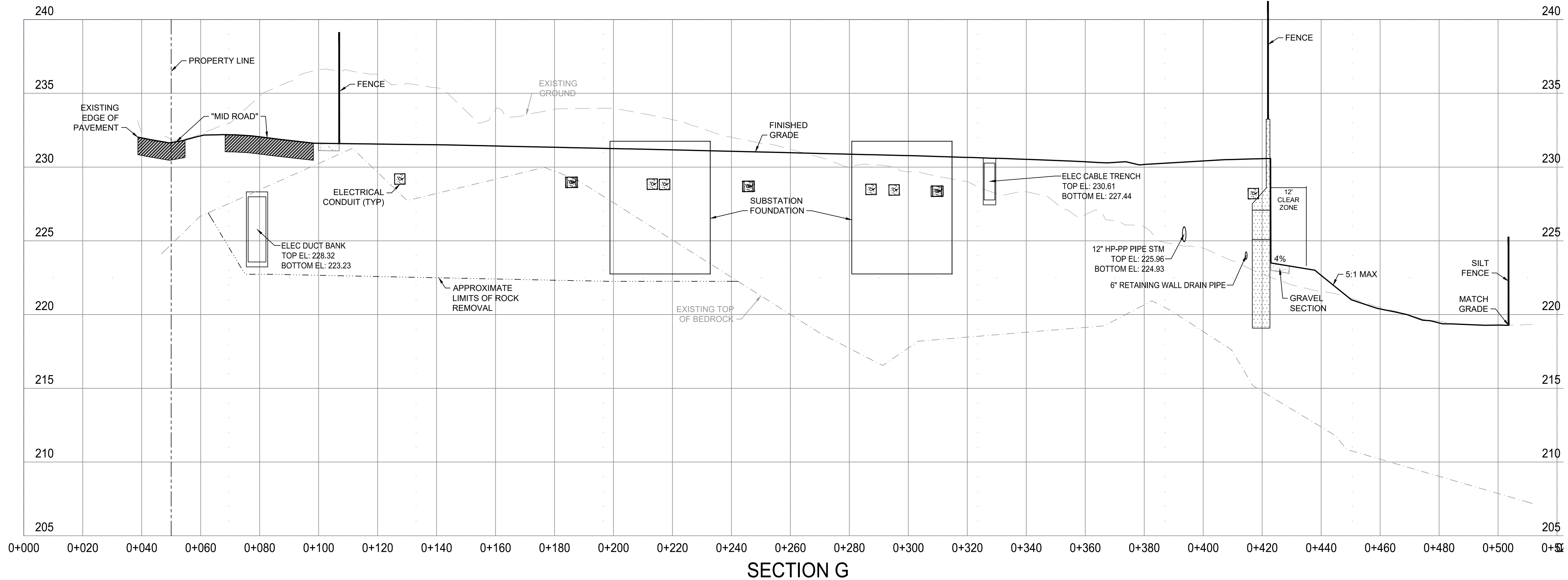
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BY	BL	SCALE: N/A	FILE: 25233-0003-003 SH 004.dwg		
CK	JLW	NO.			
APP	MH	DATE	01/12/2024		
REV	DESCRIPTION	DATE	BY	CK	APP

115-13.8KV SUBSTATION YARD GRADING & DRAINAGE OVERALL SITE SECTIONS					
OLD TOWN			BRIDGEPORT		
REV	DESCRIPTION	DATE	BY	CK	APP
0-0					

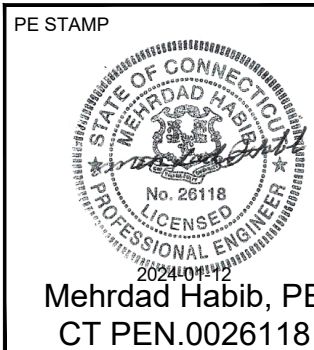
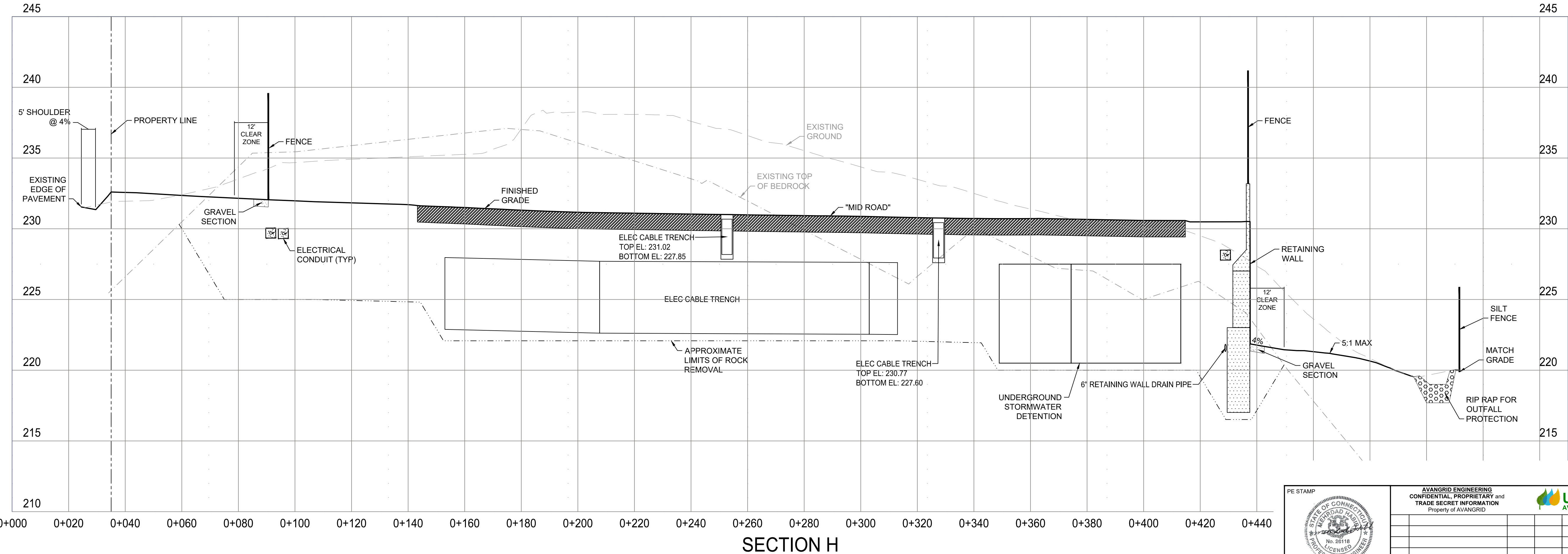
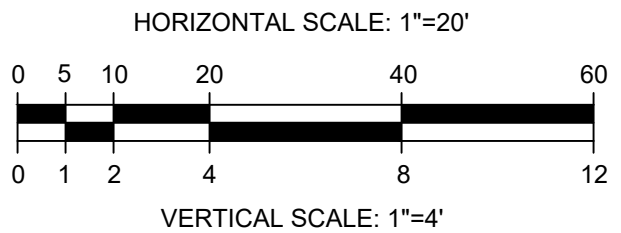
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11/18/2022	0-4E ISSUED FOR 70% RE-SUBMISSION	DP	JLEB	MH	
09/03/2022	0-4D ISSUED FOR 70% RE-SUBMISSION	BS	CLJB	MH	
01/12/2024	0-0 ISSUED FOR CONSTRUCTION	BL	JLWJ	MH	
REV	DESCRIPTION	DATE	BY	CK	APP



ANSI D 11/3/2024



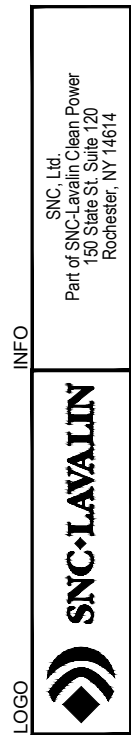
- NOTES:
1. SEE ELECTRICAL AND STRUCTURAL PLANS FOR DETAILS ON DUCT BANKS, TRANSFORMERS, ELECTRICAL EQUIPMENT AND STRUCTURES.
 2. THE LIMITS OF ROCK REMOVAL SHOWN ON THESE PLANS ARE APPROXIMATE, THE CONTRACTOR SHALL ADJUST THE LIMITS OF BEDROCK AS NECESSARY TO ALLOW FOR STRUCTURES, INSULATION LAYERS, SUMP DEPTHS, PIPE AND STRUCTURE BEDDING, ETC., AT NO ADDITIONAL COST TO OWNER.
 3. REFER TO GEOTECHNICAL REPORT FOR SIDESLOPE REQUIREMENTS



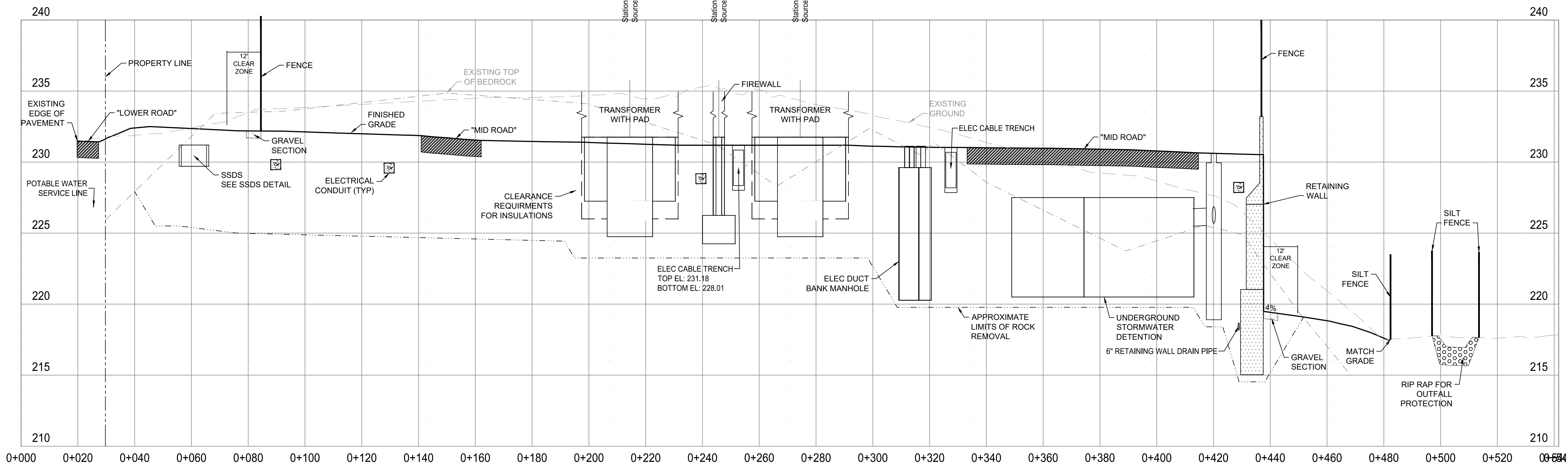
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APP	MH	DATE: 01/12/2024	25233-0003-003 SH 005	0-0	
REV	DESCRIPTION	DATE	BY	CK	APP

115-13.8KV SUBSTATION YARD GRADING & DRAINAGE OVERALL SITE SECTIONS	
OLD TOWN	BRIDGEPORT
BY	BL
CK	JLW
APP	MH
DATE	01/12/2024

DATE	09/29/2023	BY	BL	APP	MM
ISSUED FOR 90% REVIEW					JLB
DATE	11/16/2023	BY	DP	MM	JLB
ISSUED FOR 70% RE-SUBMISSION					CLB
DATE	09/03/2024	BY	BS	MM	JLB
ISSUED FOR 70% RE-SUBMISSION					CLB
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ISSUED FOR CONSTRUCTION					JLB
REV	DESCRIPTION	DATE	BY	CK	APP

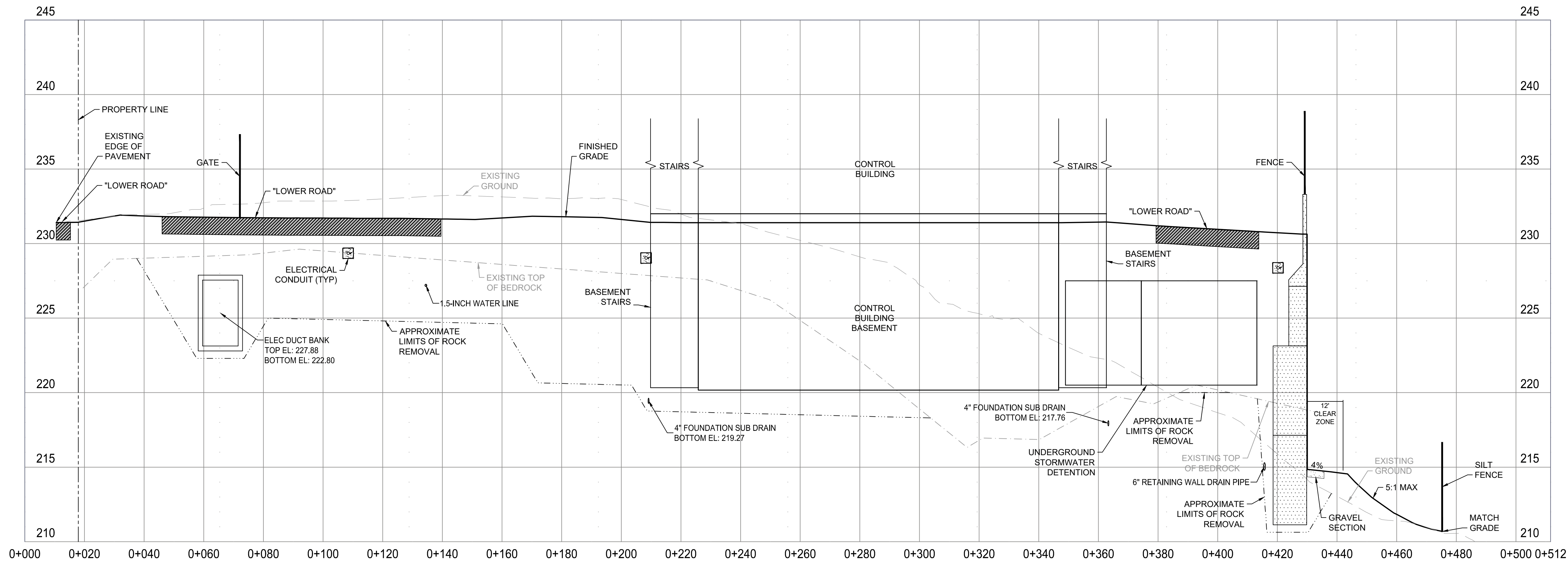


ANSI D 1/3/2024

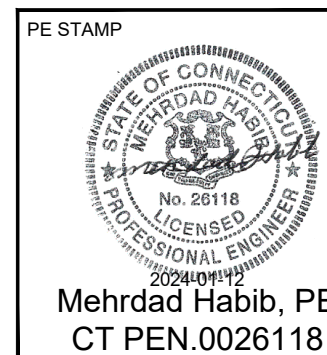
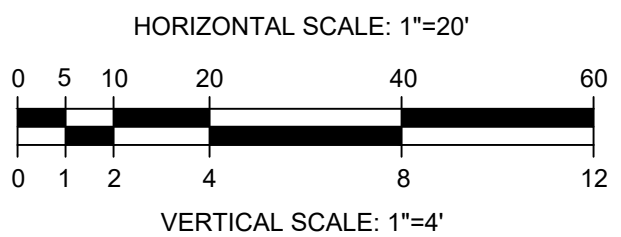


SECTION I

- NOTES:
- SEE ELECTRICAL AND STRUCTURAL PLANS FOR DETAILS ON DUCT BANKS, TRANSFORMERS, ELECTRICAL EQUIPMENT AND STRUCTURES.
 - THE LIMITS OF ROCK REMOVAL SHOWN ON THESE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL ADJUST THE LIMITS OF BEDROCK AS NECESSARY TO ALLOW FOR STRUCTURES, INSULATION LAYERS, SUMP DEPTHS, PIPE AND STRUCTURE BEDDING, ETC., AT NO ADDITIONAL COST TO OWNER.
 - REFER TO GEOTECHNICAL REPORT FOR SIDESLOPE REQUIREMENTS



SECTION J

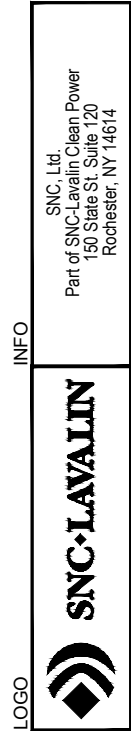


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DATE	01/12/2024				

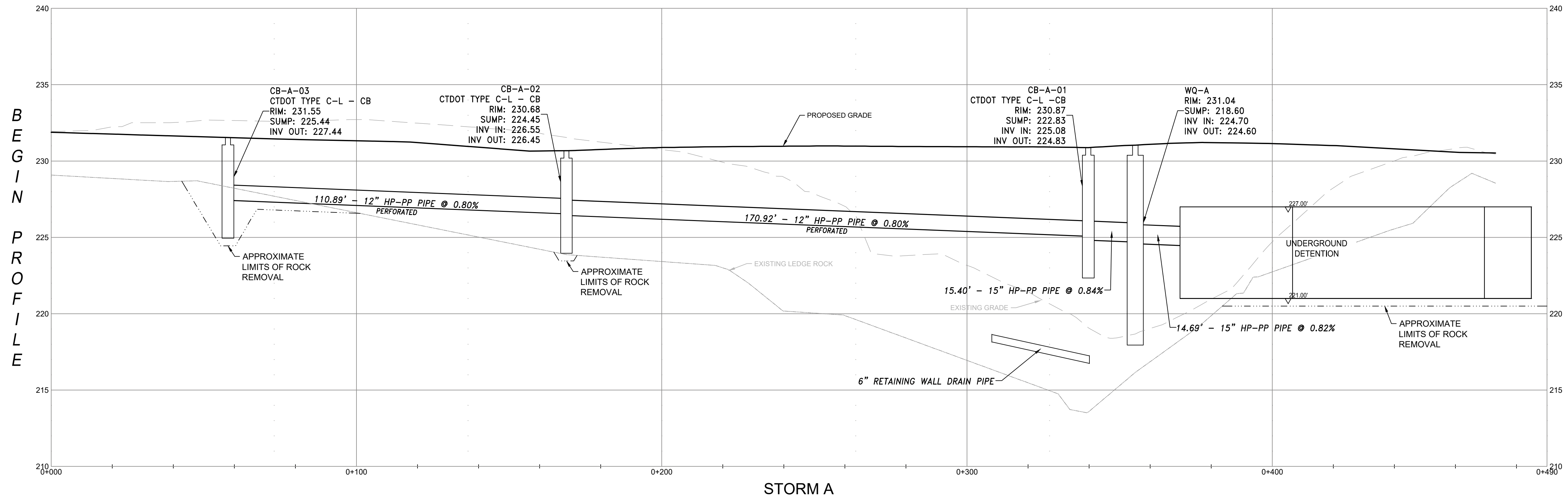
REV	DESCRIPTION	DATE	BY	CK	APP

115-13.8KV SUBSTATION YARD GRADING & DRAINAGE OVERALL SITE SECTIONS	
OLD TOWN	BRIDGEPORT
BY	BL
CK	MM
APP	MM
DATE	01/12/2024
REV	
25233-0003-003 SH 006	0-0

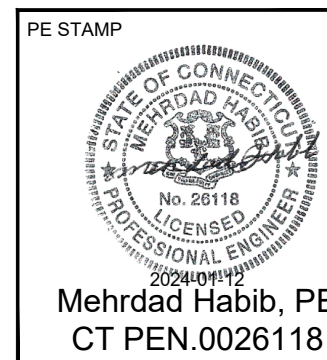
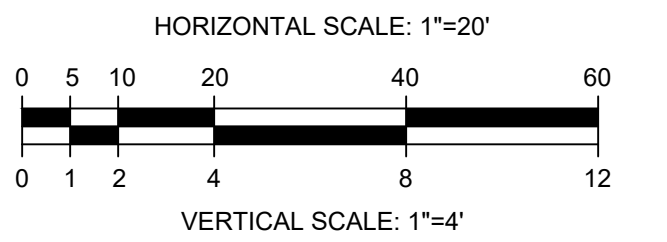
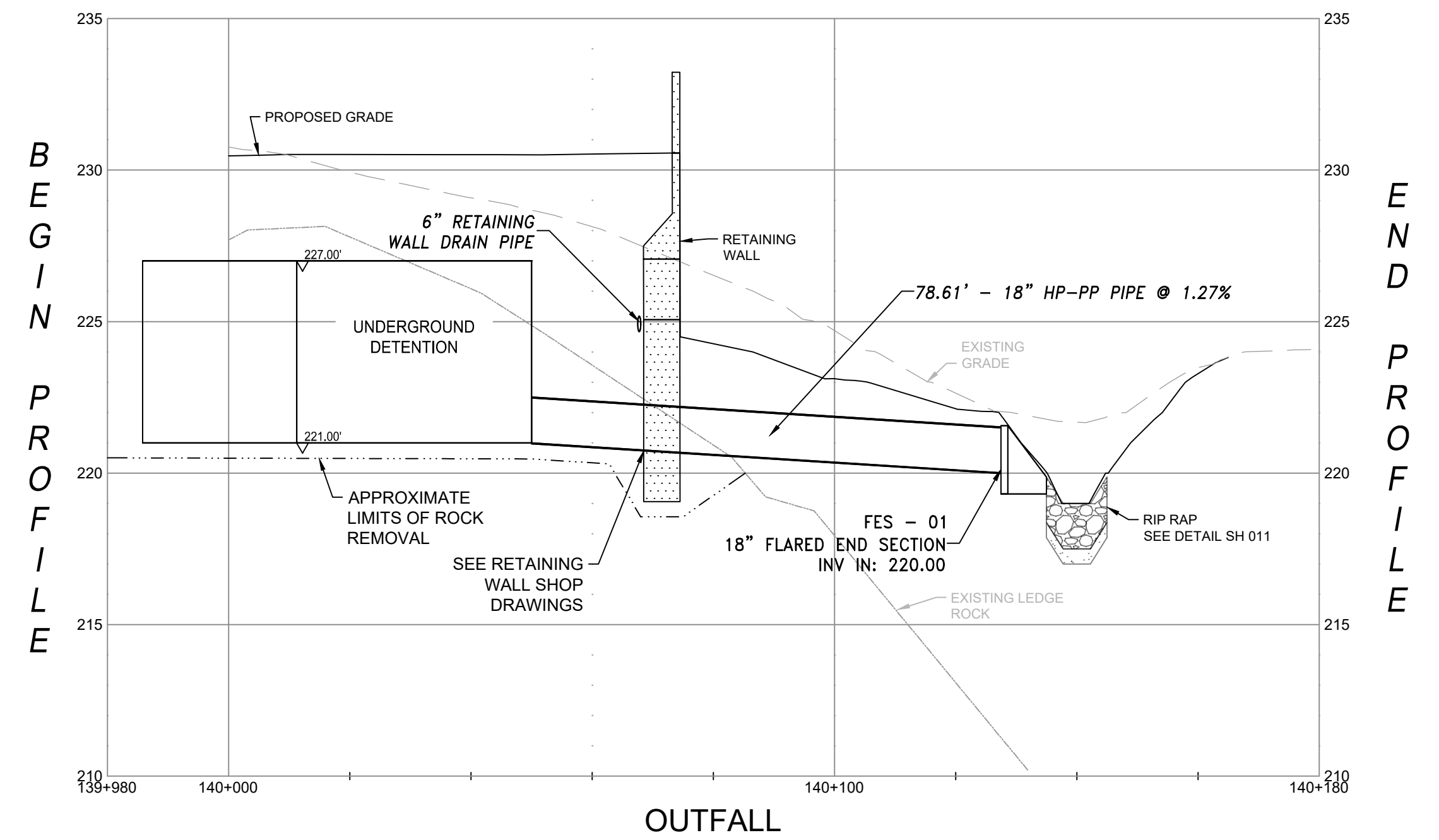
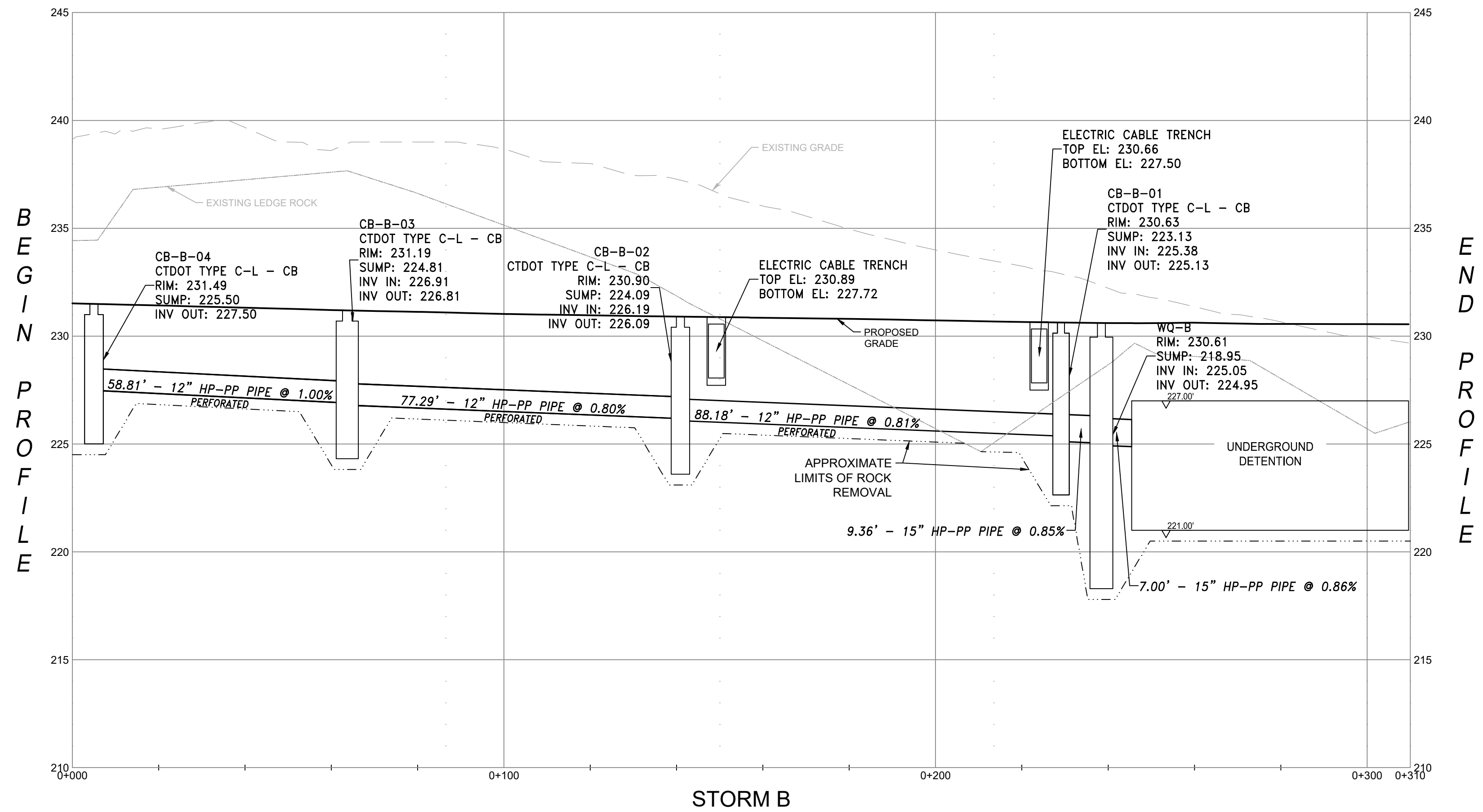
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09/09/2024	ISSUED FOR 70% RE-SUBMISSION	BS		MH
01/12/2024	ISSUED FOR CONSTRUCTION	BL		MH
0-0	REV			



ANSI D 1/3/2024



- NOTES:
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AVANGRID ENGINEERING				
CONFIDENTIAL, PROPRIETARY and TRADE SECRET INFORMATION				
Property of AVANGRID				
BY	BL	SCALE: N/A	FILE: 25233-0003-003 SH 007.dwg	REV
CK	BLUW	NO.		
APP	MH			
DATE	01/12/2024			

115-13.8KV SUBSTATION YARD	
GRADING & DRAINAGE	
STORM SEWER PROFILES	
OLD TOWN	BRIDGEPORT
25233-0003-003 SH 007	0-0

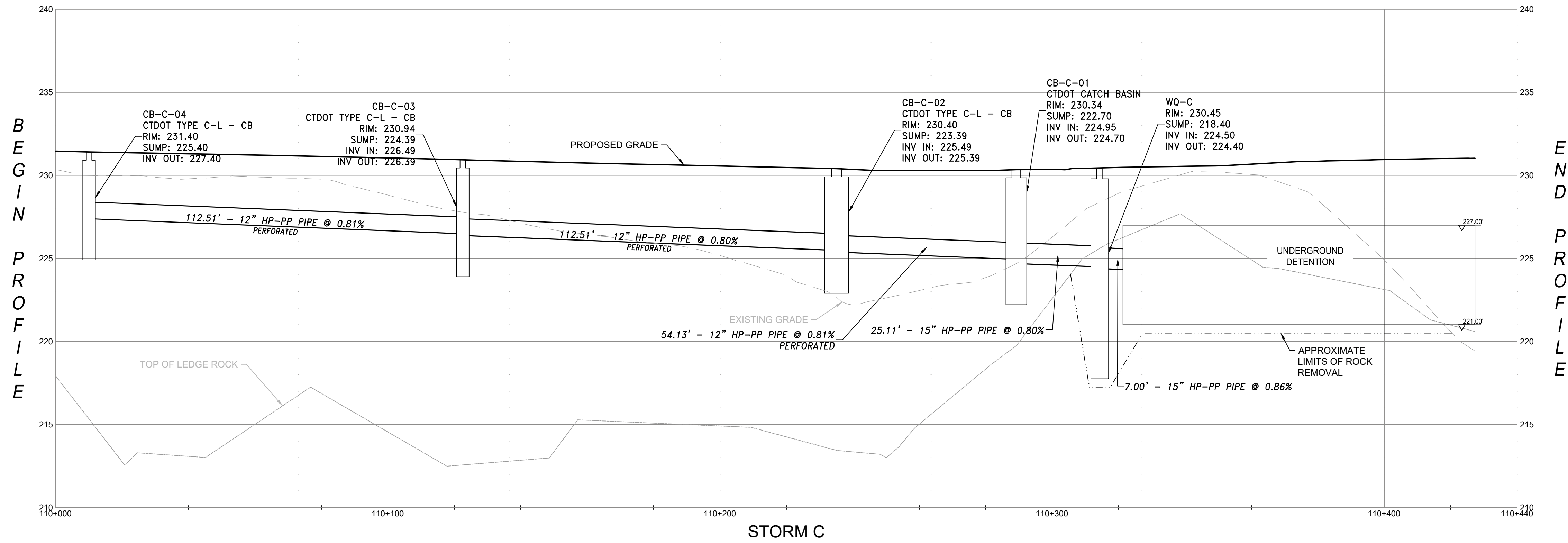
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D/D	ISSUED FOR 70% RE-SUBMISSION	09/09/2022	DS	CLB	MH
O-C	ISSUED FOR CONSTRUCTION	01/12/2024	BL	LUW	MH
REV	DESCRIPTION	DATE	BY	CK	APP

LOGO

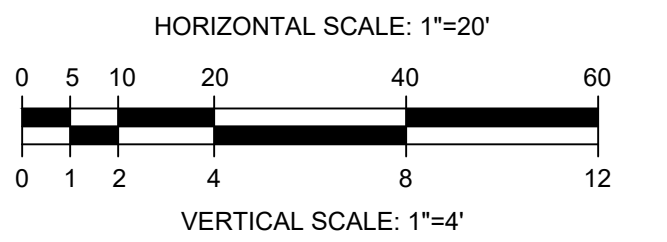
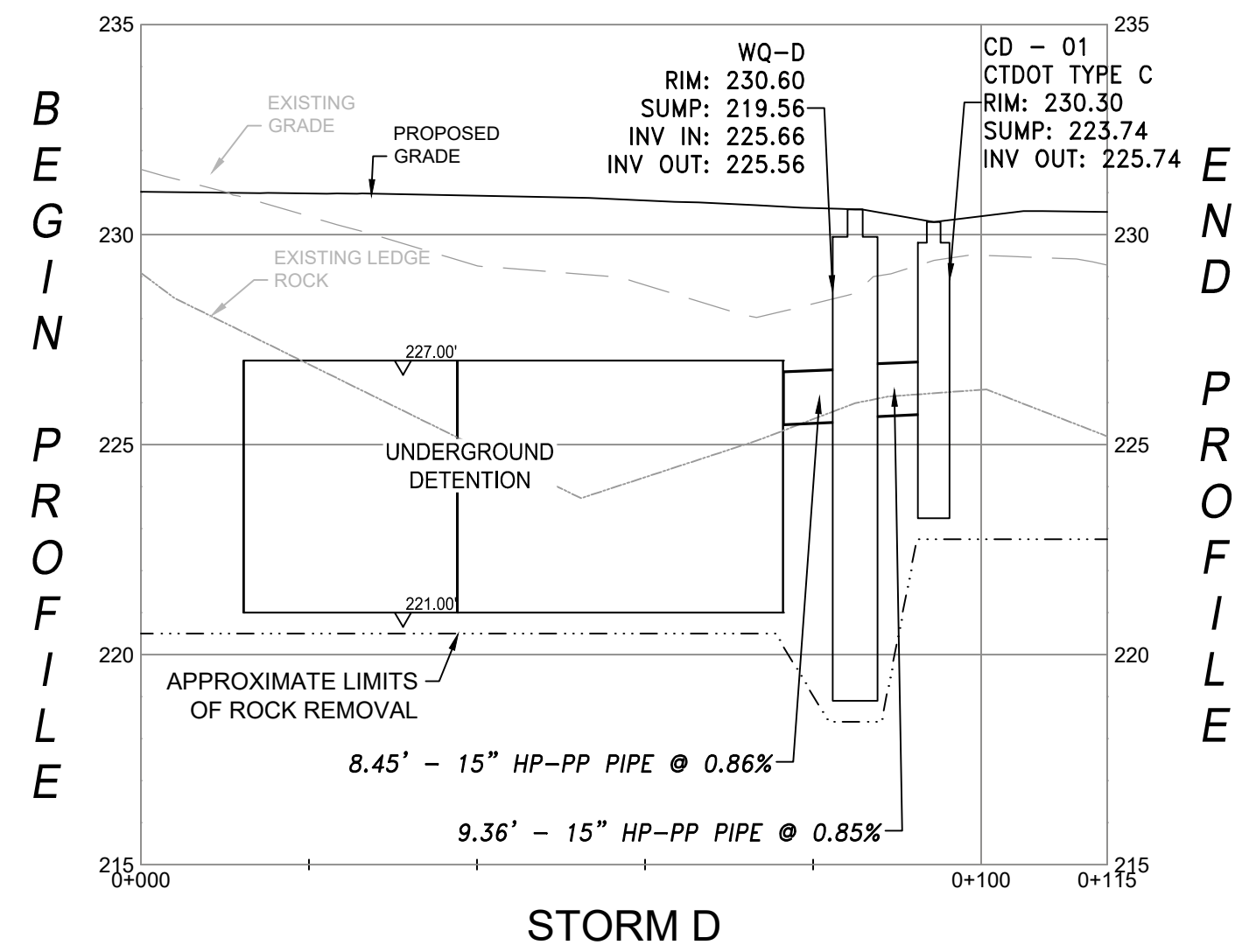
SNC-LAVALLIN

Part of SNC-Lavalin Power
159 State St., Suite 150
Rochester, NY 14611

ANSI D 1/3/2024



- NOTES:**
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PE STAMP

STATE OF CONNECTICUT
Mehrdad Habib, PE
CT PEN.0026118

AVANGRID ENGINEERING CONFIDENTIAL, PROPRIETARY and TRADE SECRET INFORMATION Property of AVANGRID					
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CK	LUW	NO.			
APP	MH	DATE: 01/12/2024			
REV	DESCRIPTION	DATE	BY	CK	APP

115-13.8KV SUBSTATION YARD GRADING & DRAINAGE STORM SEWER PROFILES					
OLD TOWN			BRIDGEPORT		
BY	BL	SCALE: N/A	FILE: 25233-0003-003 SH 007.dwg		
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REV	DESCRIPTION	DATE	BY	CK	APP

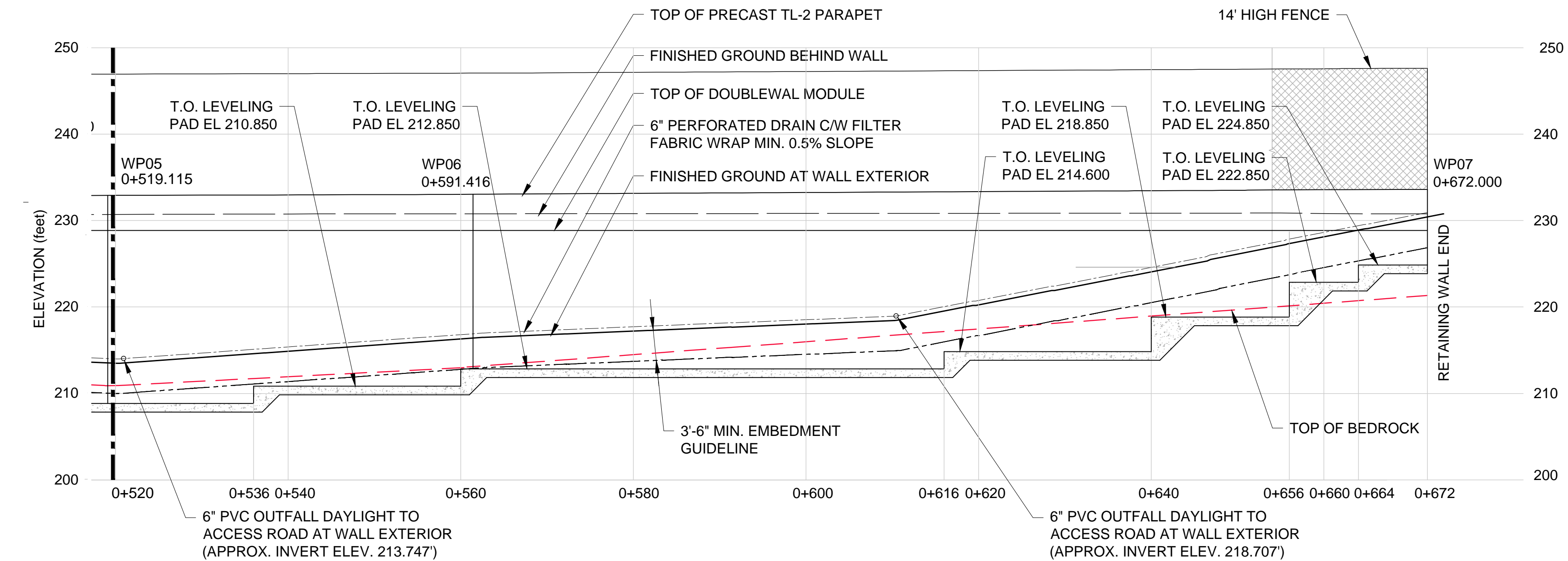
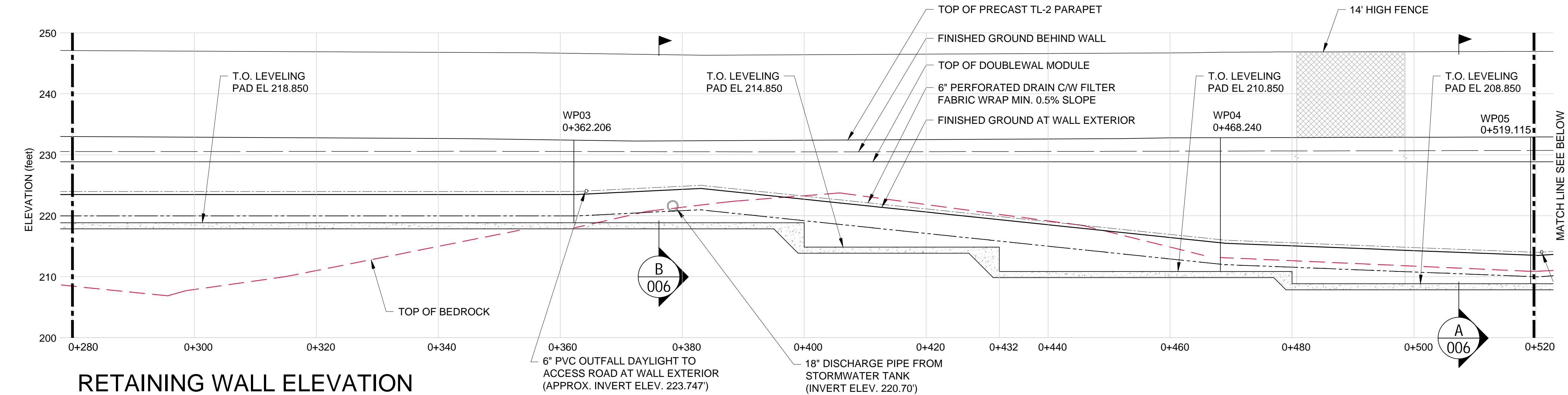
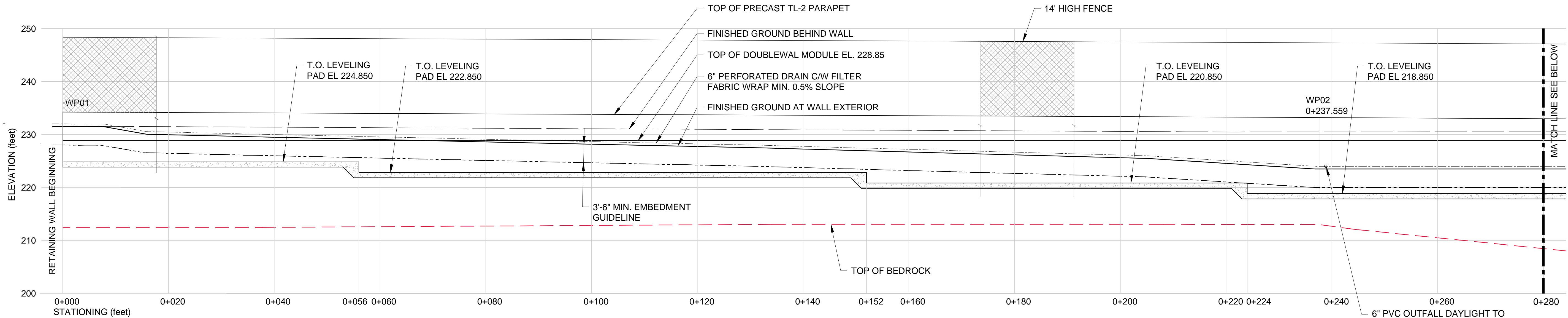
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D/C	ISSUED FOR 70% RE-SUBMISSION	11/02/2023	AL/KC	AL/KC	EB	EB	MH	MH
D/B	ISSUED FOR 70% RE-SUBMISSION	09/05/2023	AL/KC	AL/KC	EB	EB	MH	MH
D-0	ISSUED FOR CONSTRUCTION	01/12/2024	AL/KC	AL/KC	EB	EB	MH	MH
REV	DESCRIPTION	DATE	BY	CK	BY	CK	APP	APP

LOGO

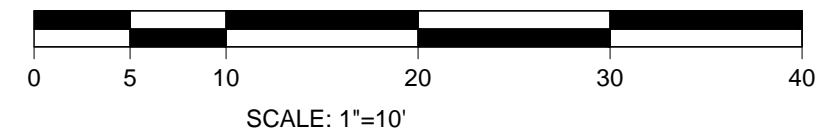
SNC-LAVALLIN

Page 4 of 6
SNC-Lavalin
155 St-James St. East
Richmond, BC V6V 1T1

ANSI D 13/2024



- NOTES:
- FOR GENERAL NOTES SEE DRAWING 25233-0003-004-SH 004.
 - STATIONING AND ELEVATIONS PROVIDE A GENERAL GUIDANCE FOR THE RETAINING WALL LAYOUT. THE STATIONING CAN BE VARIED BY 4 FT. MAXIMUM TO ACCOMMODATE THE PRECAST MODULES. RETAINING WALL VENDOR TO LAYOUT PRECAST MODULE UNITS ACCORDINGLY IN SHOP DRAWINGS AND SUBMIT TO ENGINEER-OF-RECORD SNC Ltd. FOR REVIEW AND APPROVAL.




PE STAMP

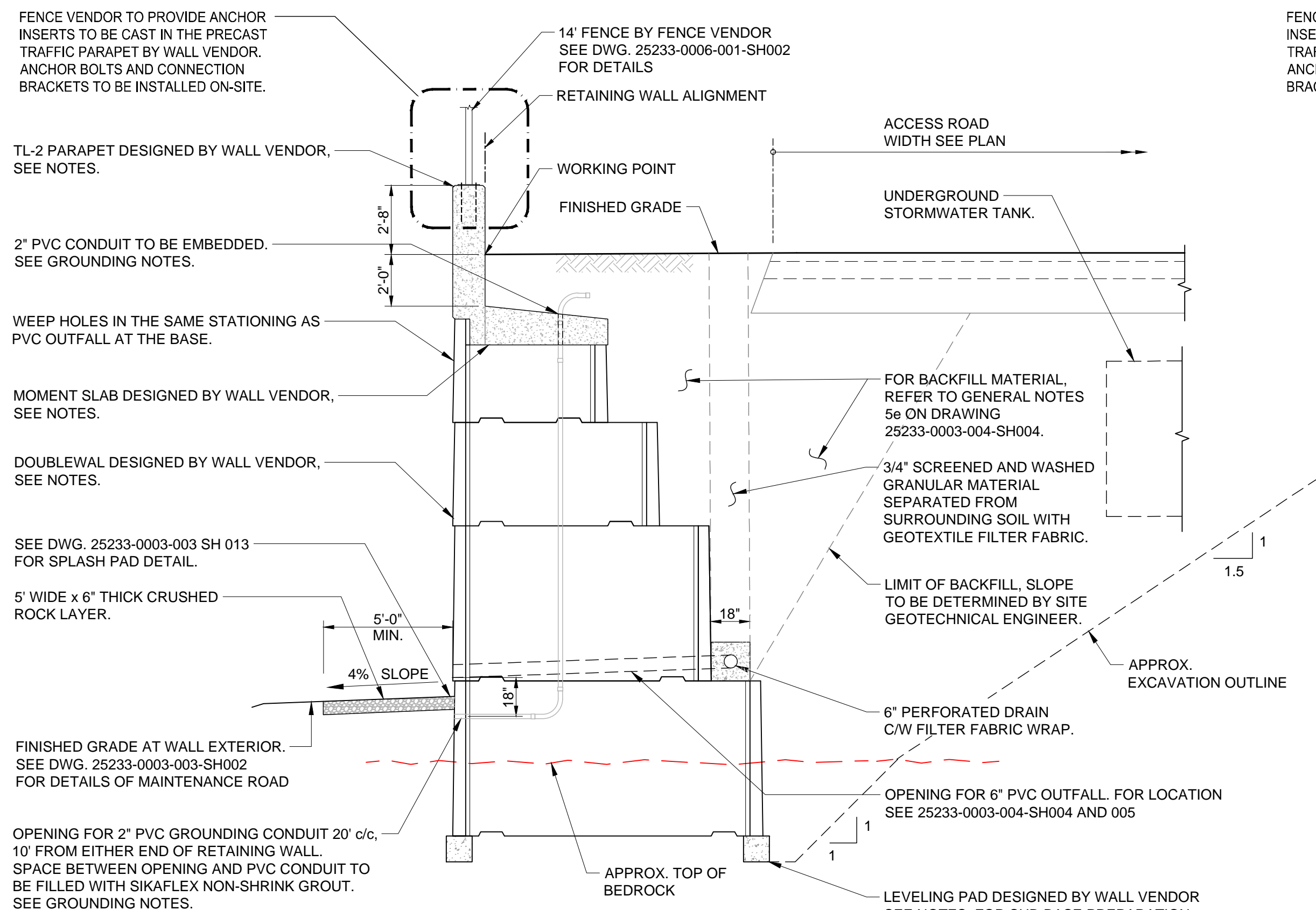
AVANGRID ENGINEERING
CONFIDENTIAL, PROPRIETARY and
TRADE SECRET INFORMATION
Property of AVANGRID

REV	DESCRIPTION	DATE	BY	CK	APP

115-13.8KV SUBSTATION YARD
GRADING AND DRAINAGE
RETAINING WALL - ELEVATION

BY	SK/KC	SCALE: 1" = 20'	FILE: 25233-0003-004-SH-005_RV_ELEV.dwg
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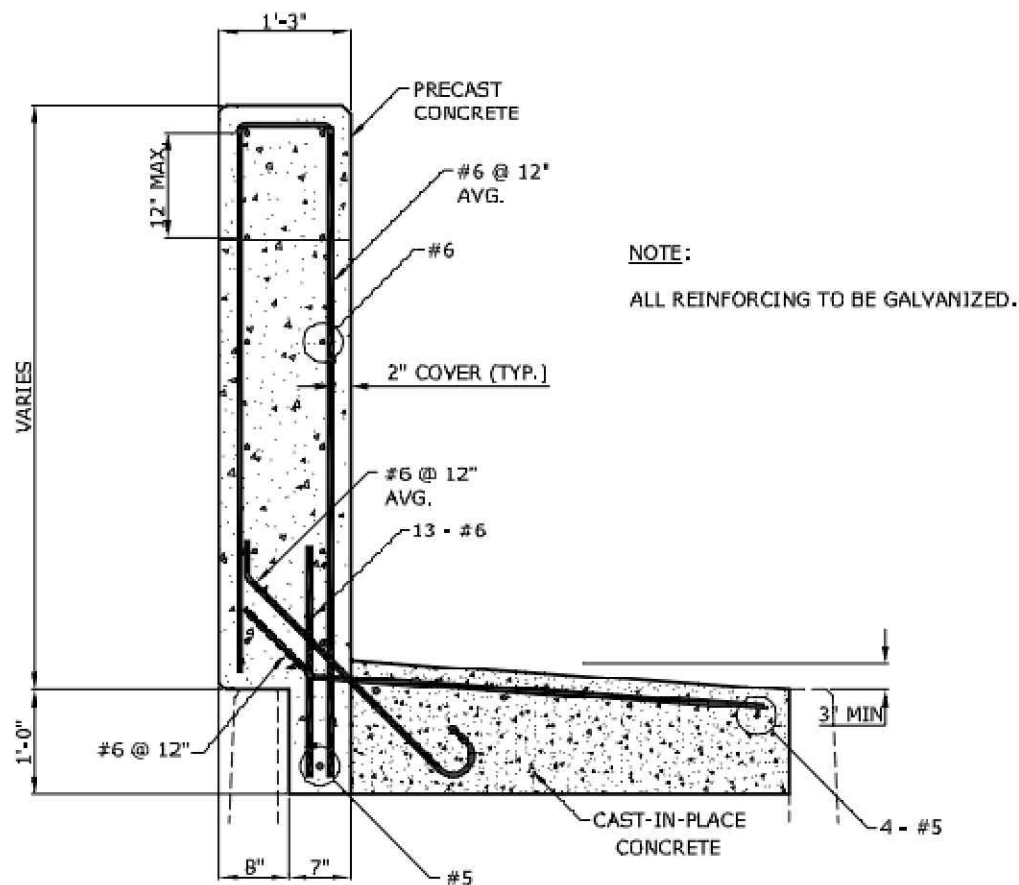
024	 SNC-LAVALIN	INFO	SNC 124 Part of SNC-Lavalin Clean Power 150 State St, Suite 120 Rochester, NY 14614
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A SECTION
004 SCALE 1/4" = 1' - 0"

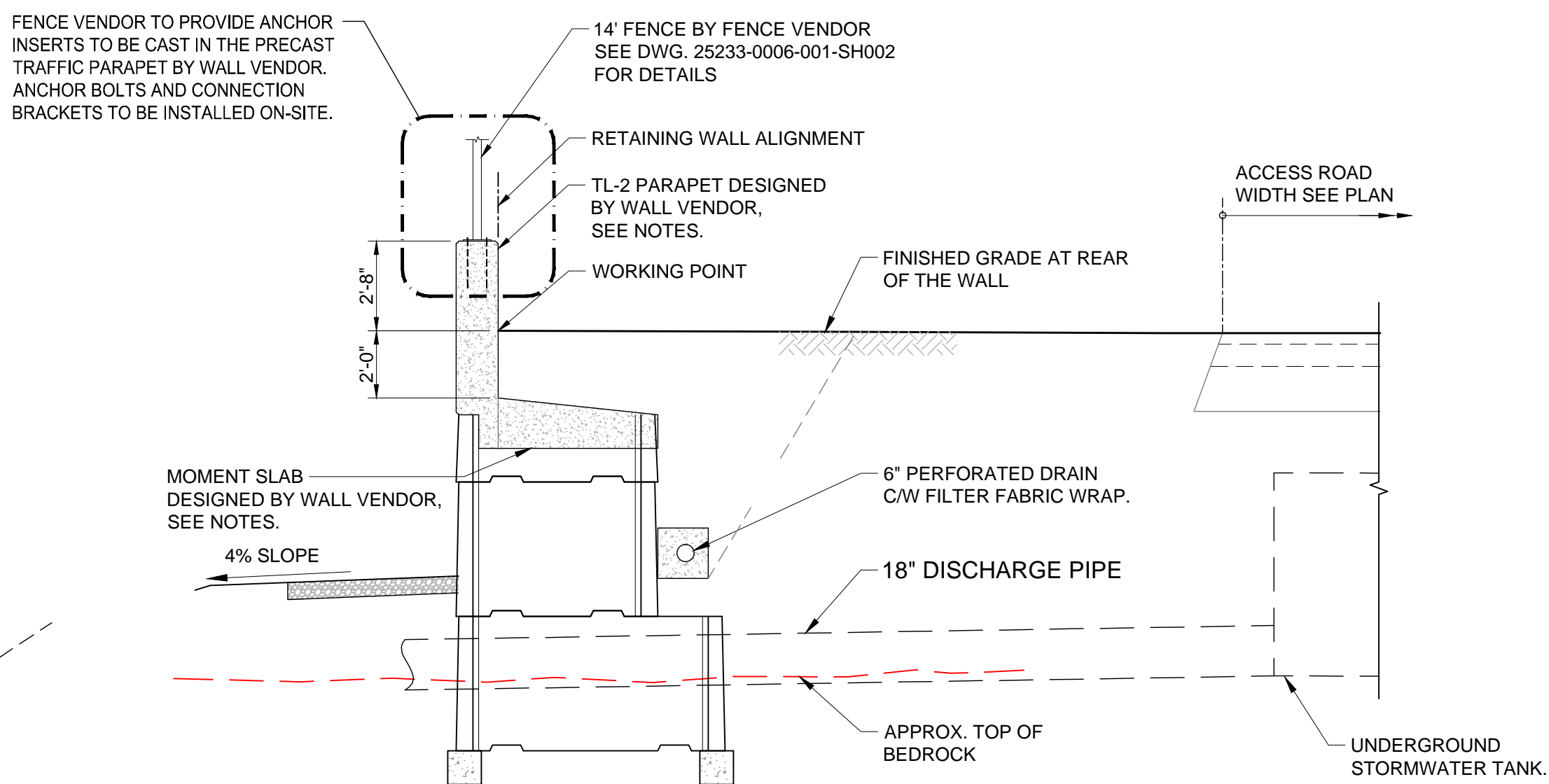
VENDOR NOTES:

1. THE RETAINING WALL SHALL CONSIST OF A DOUBBLEWALL PRECAST RETAINING WALL SYSTEM, NO SUBSTITUTIONS ALLOWED.
2. RETAINING WALL MODULE UNITS, LEVELLING PADS, TRAFFIC PARAPET AND MOMENT SLAB AS SHOWN ARE CONCEPTUAL ONLY. RETAINING WALL VENDOR SHALL BE RESPONSIBLE FOR THE DESIGN BASED ON WALL HEIGHT AND MASHI TEST LEVEL TL-2 AND ALL OTHER APPLICABLE LOADINGS. THE DESIGN SHALL CONFORM TO AASHTO LRFD 2020. ALL DESIGN SHALL BE COMPLETED AND STAMPED BY A QUALIFIED PROFESSIONAL ENGINEER REPRESENTING THE RETAINING WALL VENDOR.
3. WALL SHALL BE DESIGNED AND CONFIGURED TO THE WALL SHOWN ON THE PLANS.
4. DETAILS OF FENCE ANCHORAGE, TRAFFIC PARAPET AND MOMENT SLAB TO BE COORDINATED WITH RETAINING WALL VENDOR AND FENCE VENDOR.
5. ALL DESIGN AND STAMPED DRAWINGS TO BE SUBMITTED TO ENGINEER-OF-RECORD (SNC Ltd.) FOR REVIEW AND APPROVAL.

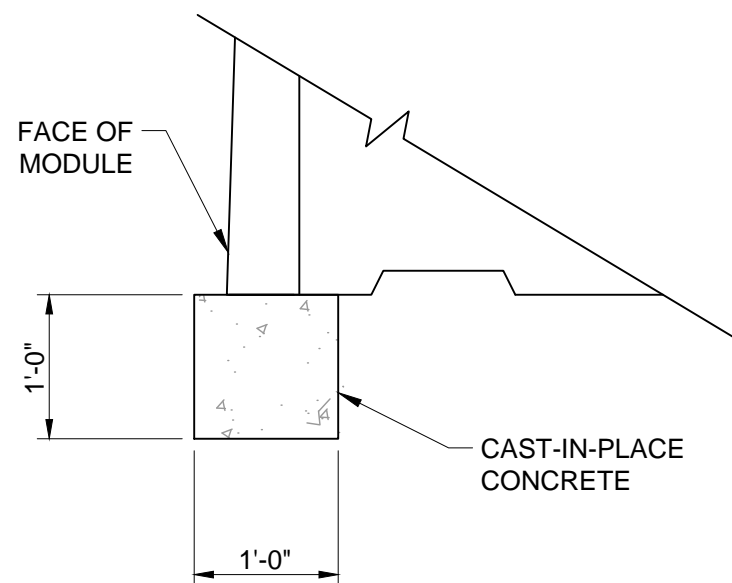


PRECAST BARRIER TYPE II-B DETAIL PROVIDED
BY UNITED CONCRETE PRODUCT, INC.

(SEE VENDOR NOTE 2) SCALE: NTS



B SECTION
004 SCALE 1/4" = 1' - 0"



LEVELING PAD DETAIL PROVIDED
BY UNITED CONCRETE PRODUCT, INC.

(SEE VENDOR NOTE 2) SCALE: 3/4" = 1'-0"

GENERAL & CONCRETE NOTES:

- FOR GENERAL NOTES SEE DRAWING 25233-0003-004-SH 004.
2. ALL PRECAST CONCRETE SHALL HAVE THE MINIMUM COMPRESSIVE STRENGTH AND PROPERTIES AS FOLLOW:

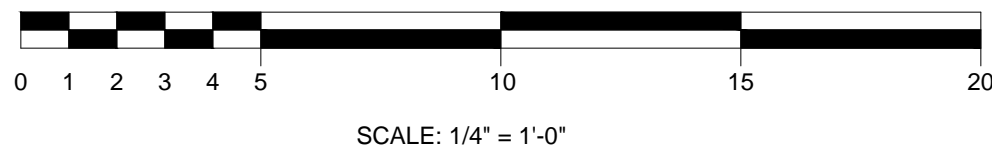
COMPRESSIVE STRENGTH (28 DAY).....5.0 KSI
CEMENT TYPE.....ASTM C150 TYPE I AND II
CEMENT CONTENT.....580 LB (MINIMUM)
AGGREGATE GRADATION.....ASTM C33 NO.67
WATER-CEMENT RATIO.....0.46 BY WEIGHT (MAXIMUM)
AIR CONTENT......6% +/- 1%

REINFORCEMENT:
ASTM A615 GRADE 60 Fy = 60ksi
3. LEVELING PAD CONCRETE
COMPRESSIVE STRENGTH (28 DAY) 4.0 KSI MINIMUM.
4. CONCRETE EXPOSED EDGES: EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1"X1" UNLESS DIMENSIONED OTHERWISE.
5. CONCRETE COVER: ALL REINFORCEMENT SHALL HAVE TWO INCHES COVER UNLESS DIMENSIONED OTHERWISE.
6. REINFORCEMENT: ALL REINFORCEMENT SHALL BE GALVANIZED UNLESS NOTED OTHERWISE. ALL REINFORCEMENT SHALL CONFORM TO THE REQUIREMENT OF ASTM A767 (STANDARD SPECIFICATION FOR ZINC-COATED (GALVANIZED) STEEL BARS FOR CONCRETE REINFORCEMENT), CLASS 1, INCLUDING SUPPLEMENTAL REQUIREMENTS.
7. CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE PLANS, WILL NOT BE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
8. SPLICES: LAP SPLICES SHALL BE STAGGERED EVERY OTHER BAR AND LAP LENGTH SHALL BE AS FOLLOWS:


a. #6 BARS - 2'-6"
9. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE. WHEN DECIMAL DIMENSIONS ARE GIVEN TO LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZEROS.
10. CONTRACTOR SHALL CONFIRM ALL RELEVANT DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO DEVELOPING SHOP DRAWING, ORDERING OF MATERIAL, AND BEGINNING CONSTRUCTION.

GROUNDING NOTES:


1. FOR RESISTIVITY REQUIREMENT, SEE DRAWING 25233-0006-002-SH001 NOTE 5.
2. FOR CONDUIT DETAIL, SEE DRAWING 25233-0006-002-SH004



PE STAMP



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TRADE SECRET INFORMATION
 Property of AVANGRID

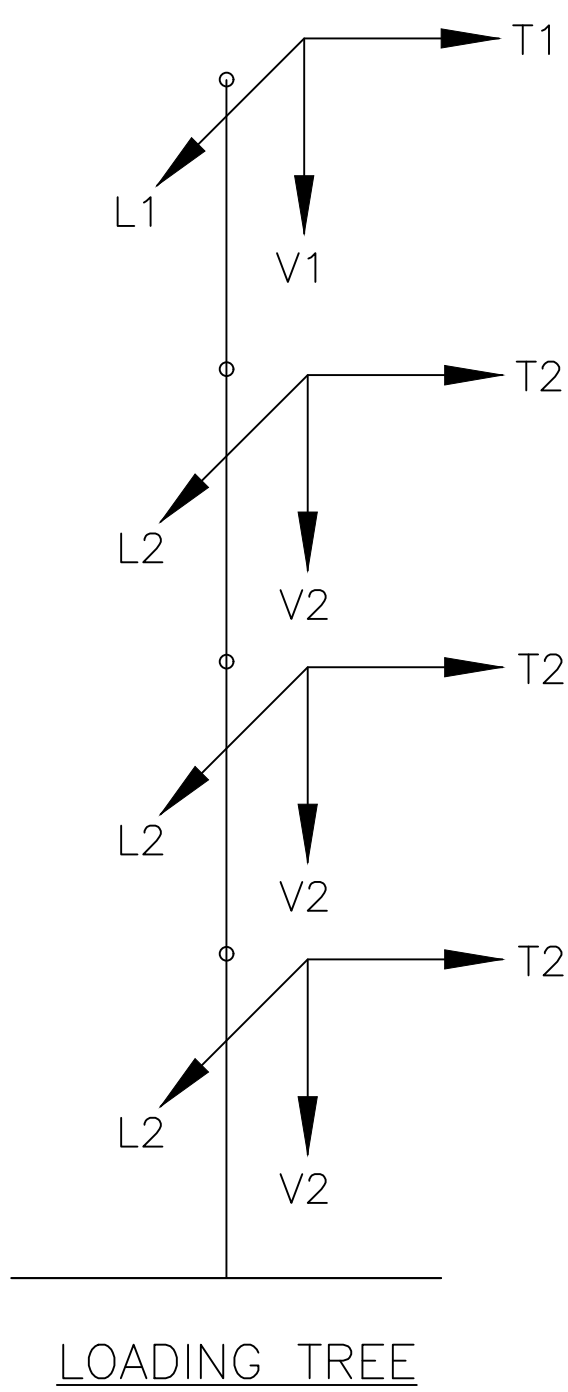


115-13.8KV SUBSTATION YARD

GRADING AND DRAINAGE

RETAINING WALL - SECTIONS



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0-00		APP	MI				
REV	DESCRIPTION	DATE	BY	CK	APP	25233-0003-004-SH-006	0-0



NOTES:

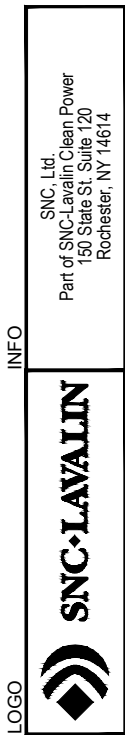
1. ALL LOADS ARE ULTIMATE VALUES AND INCLUDE OVERLOAD FACTORS, VERTICAL LOADS INCLUDE THE WEIGHT OF INSULATORS AND HARDWARE WITH AN ADDITIONAL 500 LB WORKING LOAD (EXCEPT FOR THE EVERYDAY LOADING CASE AND FOR UPLIFT LOADS (NEGATIVE VERTICAL LOADS).
2. ALL THE LOADS BEFORE THE "/" CORRESPOND TO A MINIMUM SPAN WHEREAS ALL THE LOADS AFTER THE "/" CORRESPOND TO THE MAXIMUM SPAN.
3. STRUCTURES ARE TO BE DESIGNED IN ACCORDANCE WITH ASCE/SEI 48-19 OR LATEST EDITION, AND TECHNICAL MANUAL (TM2.22.01) "TUBULAR STEEL POLE SPECIFICATION". IN CASE OF CONFLICT, THE MORE STRINGENT SHALL BE USED.
4. FOR STRUCTURE FINISH (I.E. GALVANIZING, WEATHERING, PAINTED) REFER TO TM2.22.01, PART 5.
5. THE FOLLOWING SHAPE FACTORS SHALL BE USED: 1.0 FOR 12 OR 16-SIDED, 1.4 FOR 6 OR 8-SIDED, 2.0 FOR SQUARE/FLAT.
6. HORIZONTAL STRUCTURE DEFLECTION SHALL BE LIMITED TO 1% OF POLE HEIGHT ABOVE GROUND LINE. RAKING/CAMBERING IS NOT PERMITTED.
7. LADDERS AND LADDER CLIPS SHALL BE SUPPLIED FOR EACH POLE, AS SHOWN ON DRAWING TM2.23.TE-06-001-1 AND TM2.23.TE-06-001-2 OR EQUIVALENT APPROVED.
8. WORKING HOLES SHALL BE DESIGNED FOR A MINIMUM LOAD OF 6 KIPS APPLIED IN ANY DIRECTION.
9. ANCHOR BOLT EMBEDMENT DEPTH SHALL BE CALCULATED IN ACCORDANCE WITH ACI 318, DETERMINED USING ULTIMATE BOND STRESS VALUES BASED ON 4,000 PSI CONCRETE COMPRESSIVE STRENGTH.
10. THE DESCRIPTION OF THE LOADING CASES ARE LOCATED IN TABLE 4-1 OF THE DESIGN BASIS 25233-SPEC-004.

STRUCTURE NO.	STRUCTURE HEIGHT	LINE ANGLE (LA)
	(ft)	(deg)
2	80	33.0
3	100	54.0
4	100	60.2

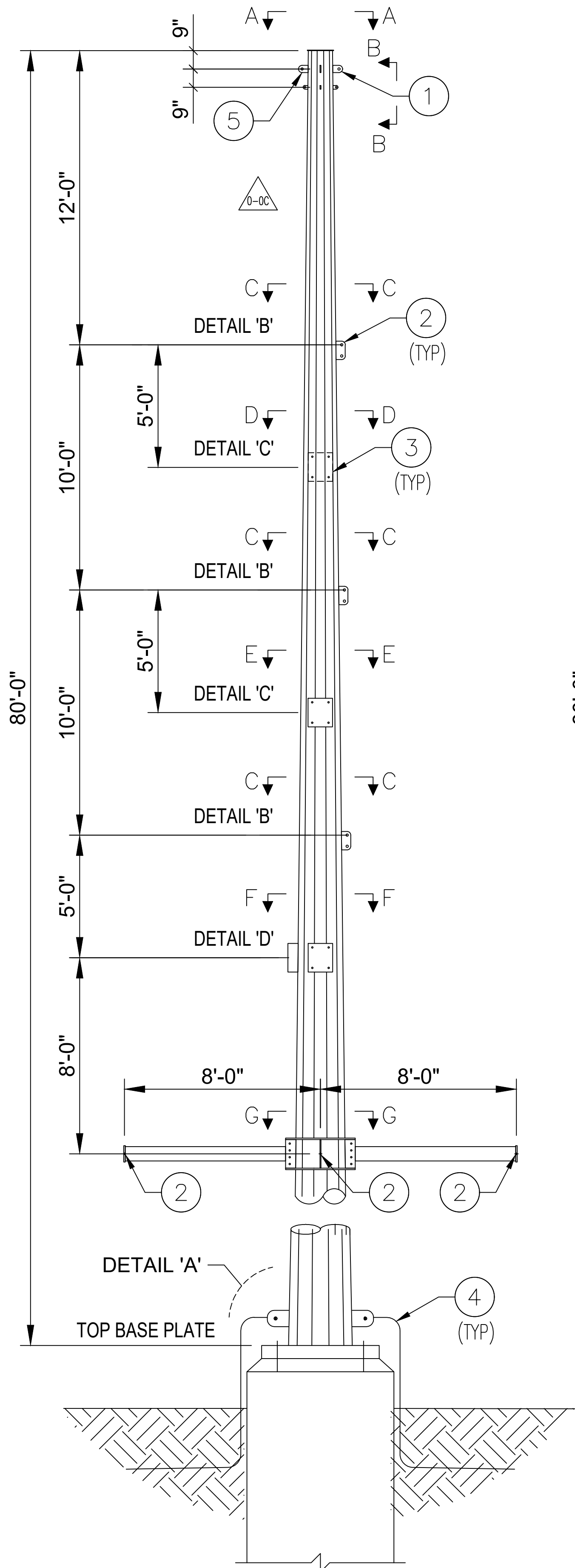
PE STAMP	 AVANGRID ENGINEERING CONFIDENTIAL, PROPRIETARY and TRADE SECRET INFORMATION Property of AVANGRID	 UI AVANGRID	<h1 style="margin: 0;">DESIGN REQUIREMENT DRAWING</h1> <h2 style="margin: 0;">STRAIN STRUCTURES 2, 3 & 4</h2>
		OLD TOWN BRIDGETOWN	
BY: S.M.SNC SCALE: AS NOTED FILE: 25233U-T1710-200-SH-01 Rev: 0f.dwg		CK: A.P.SINC NO. REV:	
APP: A.P.SINC 25233U-T1710-200		DATE: 03/20/2023 0-0F	
SHEET 1 of 2			

INSTALL

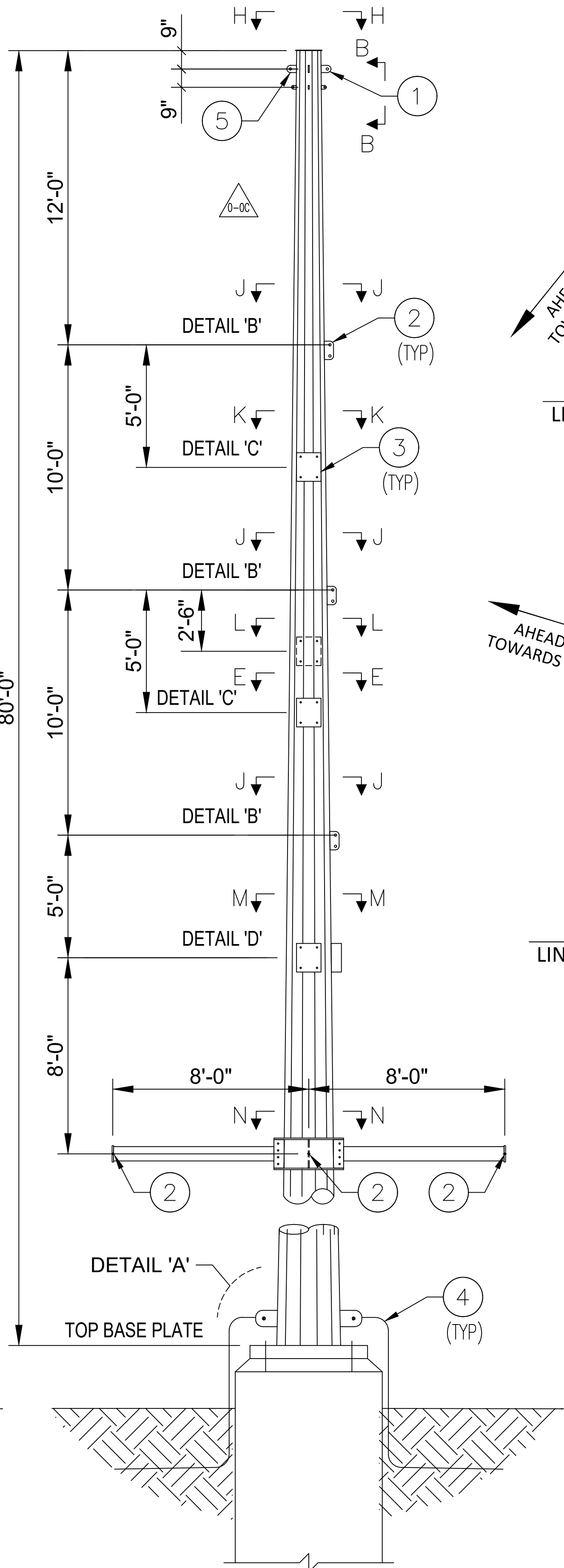
U/F	ISSUED FOR 10% REVIEW	09/29/2023	S.M.SNC	A.P.SNC	A.P.SNC	A.P.SNC	A.P.SNC
Q/E	REISSUED FOR 10% REVIEW	07/16/2023	S.M.SNC	A.P.SNC	A.P.SNC	A.P.SNC	A.P.SNC
D/D	REISSUED FOR 10% REVIEW	11/16/2022	S.M.SNC	A.P.SNC	A.P.SNC	A.P.SNC	A.P.SNC
D/C	ISSUED FOR 10% REVIEW	03/25/2022	S.M.SNC	A.P.SNC	A.P.SNC	A.P.SNC	A.P.SNC
REV	DESCRIPTION	DATE	BY	CK	BY	APP	



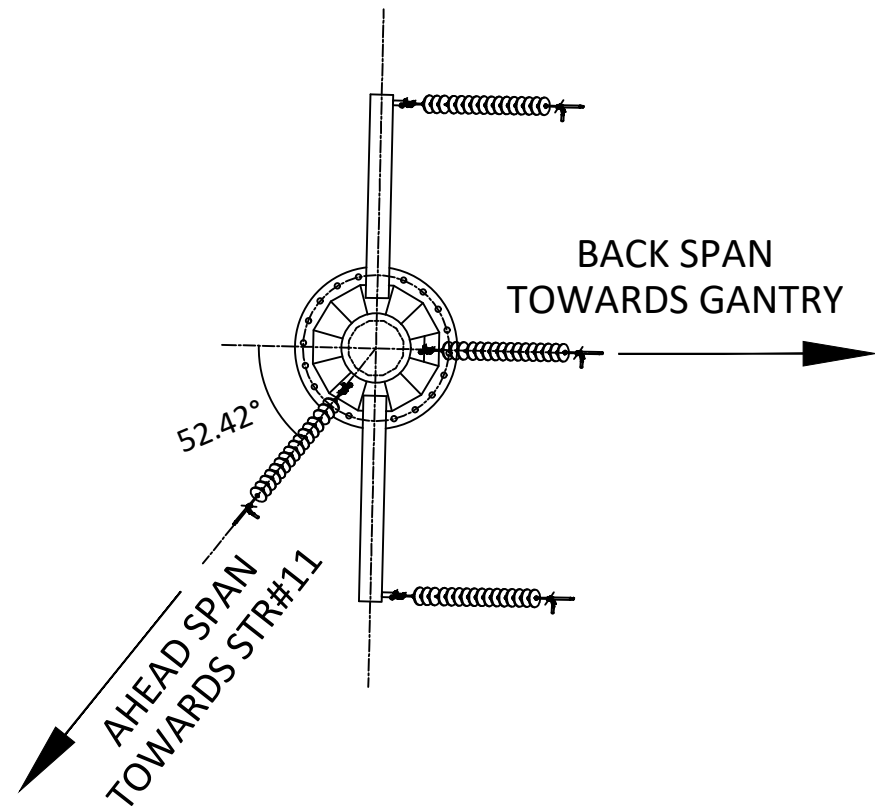
ANSI D 98/2023



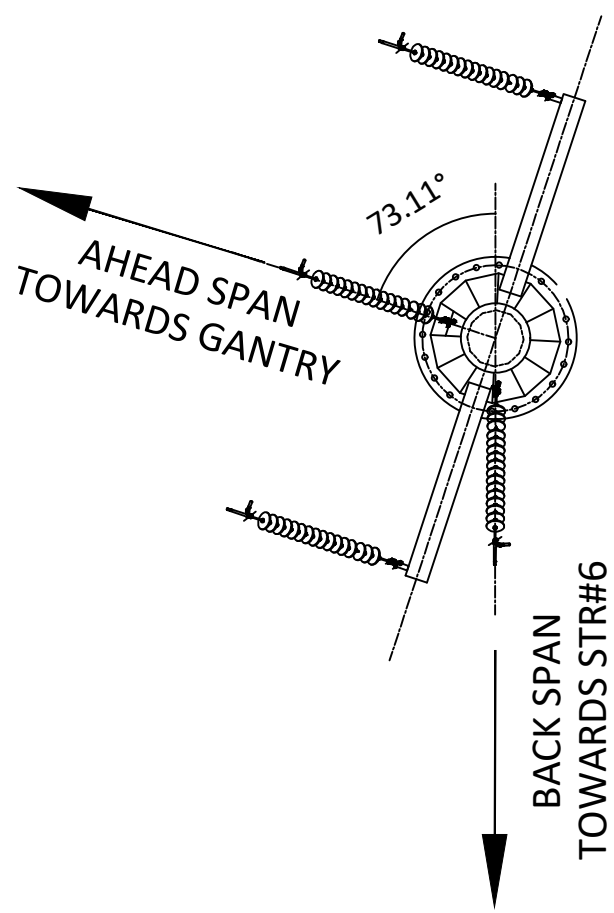
TERMINAL STRUCTURE No.7



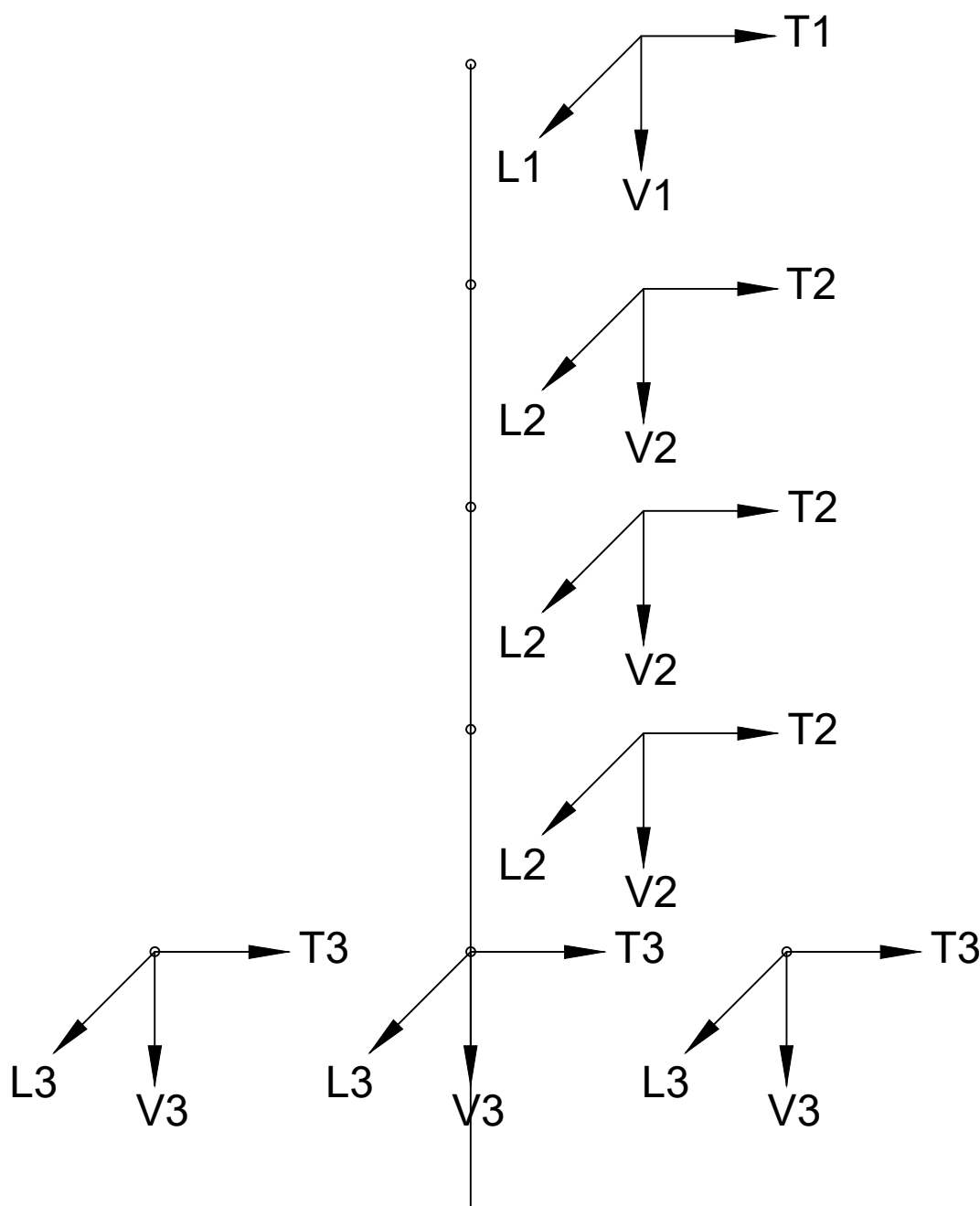
TERMINAL STRUCTURE No10



STR# 10
LINE ANGLE -52.42° (LEFT)



STR# 7
LINE ANGLE -73.11° (LEFT)



LOADING TREE

WIRE LOADS (LBS) - STRUCTURES 7 & 10							
WIRE	LOAD DIRECTION	1. NESC HEAVY (250B)	2. NESC EXTREME WIND (250C)	3. NESC CONCURRENT WIND & ICE (250D)	4. EXTREME ICE	5. EVERY DAY DEFLECTION	6. UI EXTREME WIND
G1	V1	780/1105	340/790	780/1105	2035/1975	170/135	425/860
	T1	3425/1005	1785/1830	2520/760	4895/1420	555/125	2360/800
	L1	2145/2395	1055/1120	1580/1745	3285/3730	280/350	1430/1510
C1-C3	V2	40/920	-210/885	35/860	205/1160	45/100	-350/1045
	T2	6815/2080	4360/5220	4740/1450	8280/2615	1870/510	5620/1865
	L2	1295/1420	1120/1295	920/1000	1235/1750	280/345	1505/1305
C4-C6	V3	595/595	500/500	575/575	630/630	60/60	460/460
	T3	515/515	455/455	370/370	545/545	105/105	615/615
	L3	-2510/-2510	-1555/-1555	-1770/-1770	-3315/-3315	-650/-650	-2045/-2045
WIRE	LOAD DIRECTION	7. NESC HEAVY DEAD-END	8. NESC EXTREME WIND DEAD-END	9. NESC CONCURRENT WIND & ICE DEAD-END	10. EXTREME ICE DEAD-END	11. UI EXTREME WIND DEAD-END	
G1	V1	-95/1340	-155/975	-95/1345	-15/2475	-220/1120	
	T1	3720/1065	1850/1865	2720/790	5540/1735	2440/730	
	L1	2520/3035	1145/1400	1835/2215	4110/4885	1540/1885	
C1-C3	V2	0/920	-205/885	0/860	0/1160	-350/1045	
	T2	6815/2080	4360/5220	4740/1450	8280/2615	5620/1865	
	L2	1295/1420	1120/1295	920/1000	1235/1750	1505/1305	
C4-C6	V3	0/0	0/0	0/0	0/0	0/0	
	T3	0/0	0/0	0/0	0/0	0/0	
	L3	0/0	0/0	0/0	0/0	0/0	

NOTES:

- ALL LOADS ARE ULTIMATE VALUES AND INCLUDE OVERLOAD FACTORS, VERTICAL LOADS INCLUDE THE WEIGHT OF INSULATORS AND HARDWARE WITH AN ADDITIONAL 500 LB WORKING LOAD (EXCEPT FOR THE EVERYDAY LOADING CASE AND FOR UPLIFT LOADS (NEGATIVE VERTICAL LOADS)).
- ALL THE LOADS BEFORE THE "/" CORRESPOND TO A MINIMUM SPAN WHEREAS ALL THE LOADS AFTER THE "/" CORRESPOND TO THE MAXIMUM SPAN.
- STRUCTURES ARE TO BE DESIGNED IN ACCORDANCE WITH ASCE/SEI 48-19 OR LATEST EDITION, AND TECHNICAL MANUAL (TM2.22.01) "TUBULAR STEEL POLE SPECIFICATION". IN CASE OF CONFLICT, THE MORE STRINGENT SHALL BE USED.
- FOR STRUCTURE FINISH (I.E. GALVANIZING, WEATHERING, PAINTED) REFER TO TM2.22.01, PART 5.
- THE FOLLOWING SHAPE FACTORS SHALL BE USED: 1.0 FOR 12 OR 16-SIDED, 1.4 FOR 6 OR 8-SIDED, 2.0 FOR SQUARE/FLAT.
- HORIZONTAL STRUCTURE DEFLECTION SHALL BE LIMITED TO 1% OF POLE HEIGHT ABOVE GROUND LINE. RAKING/CAMBERING IS NOT PERMITTED.
- LADDERS AND LADDER CLIPS SHALL BE SUPPLIED FOR EACH POLE, AS SHOWN ON DRAWING TM2.23.TE-06-001-1 AND TM2.23.TE-06-001-2 OR EQUIVALENT APPROVED.
- WORKING HOLES SHALL BE DESIGNED FOR A MINIMUM LOAD OF 60 KIPS APPLIED IN ANY DIRECTION.
- ANCHOR BOLT EMBEDMENT DEPTH SHALL BE CALCULATED IN ACCORDANCE WITH ACI 318, DETERMINED USING ULTIMATE BOND STRESS VALUES BASED ON 4,000 PSI CONCRETE COMPRESSIVE STRENGTH.
- THE DESCRIPTION OF THE LOADING CASES ARE LOCATED IN TABLE 4-1 OF THE DESIGN BASIS 25233-SPEC-004

MATERIAL LIST PER ONE STRUCTURE				
ITEM	DESCRIPTION	ASSEMBLY	QUANTITY FOR ONE STRUCTURE	REFERENCE DRAWING
1	SW DEADEND ASSEMBLY	SWDA-1	3	25233U-T1710-202
2	115KV DEADEND ASSEMBLY	CDA-1590-2	6	
3	115KV POST INSULATOR ASSEMBLY	CHA-1590-1	6 FOR STR 7 AND 7 FOR STR 10	
4	GROUNDING ASSEMBLY	GA-1	2	

INSTALL

PE STAMP		AVANGRID ENGINEERING CONFIDENTIAL, PROPRIETARY and TRADE SECRET INFORMATION Property of AVANGRID		UI AVANGRID		DESIGN REQUIREMENT DRAWING TERMINAL STRUCTURES 7 & 10	
						OLD TOWN BRIDGETOWN	
						BY: S.M.SNC SCALE: AS NOTED FILE: 25233U-T1710-201-SH-01 Rev 0F.dwg	
						NO.	
						REV	
						25233U-T1710-201-SH1 0-OF	
						SHEET 1 of 2	



DEVELOPMENT & MANAGEMENT PLAN

for the

OLD TOWN SUBSTATION REBUILD PROJECT

(Connecticut Siting Council Docket No. 490)

VOLUME 2: Project Mapping and Drawings

SECTION 2D

Permanent Access Road:

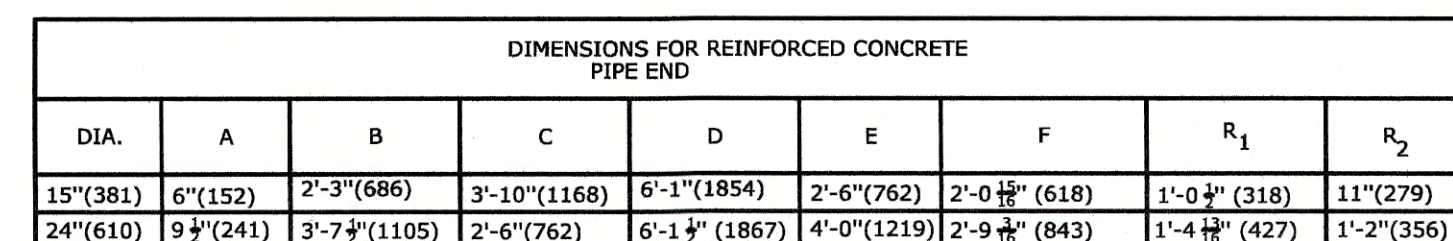
Construction Details	CD-1
Access Road – Site Plan Permanent Improvements	SP-1
Access Road – Site Preparation Plan & Soil, Erosion & Sediment Controls	SPP-1

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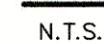


1. AGGREGATE SHALL BE PLACED AROUND AND OVER THE PIPE 12" ABOVE THE TOP OF THE PIPE. THE REMAINDER SHALL BE FILLED WITH AGGREGATE OR SUITABLE BACKFILL MATERIAL.
2. THE BACKFILL MATERIAL SHALL BE PLACED IN LAYERS OF NOT MORE THAN 6" DEEP AFTER COMPCION AND SHALL BE THOROUGHLY COMPACTED.

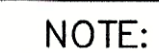
N.T.S.



N.T.S.



N.T.S.



1. ELEVATION "A" SHOULD BE HIGHER THAN ELEVATION "B".
2. REFER TO HAYBALE STAKING DETAIL

N.T.S.



N.T.S.

- NOTES:**
1. INSTALL FABRIC IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS
 2. LONGER POSTS TO BE USED IF ADEQUATE SUPPORT NOT OBTAINED WITH 2'-0" PENETRATION
 3. ALL DISTURBED AREAS NOT PAVED, COVERED BY BUILDING, ROCK OR OTHER HARD SURFACE SHALL RECEIVE 4" TOPSOIL, LIME, FERTILIZER, SEED & MULCH

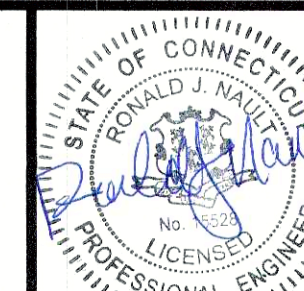
1	7/5/23	Revised Per City review			
REV.	DATE		DESCRIPTION		SHEET. NO
			REVISIONS		
FILENAME: Q:\Projects\Luchs Projects\20164 UI Old town Substation-E&S Control Plans\design\SD2016401.dwg				PLOTTED: 7/06/2023	

DATE CHECKED:



Luchs
CONSULTING ENGINEERS

89 COLONY STREET ■ MERIDEN, CT
TEL. 203-379-0320 ■ FAX. 203-379-0278



PROJECT TITLE:

THE UNITED ILLUMINATING COMPANY
PROPOSED ACCESS ROAD
IMPROVEMENTS OVER LAND
OF THE CITY OF BRIDGEPORT

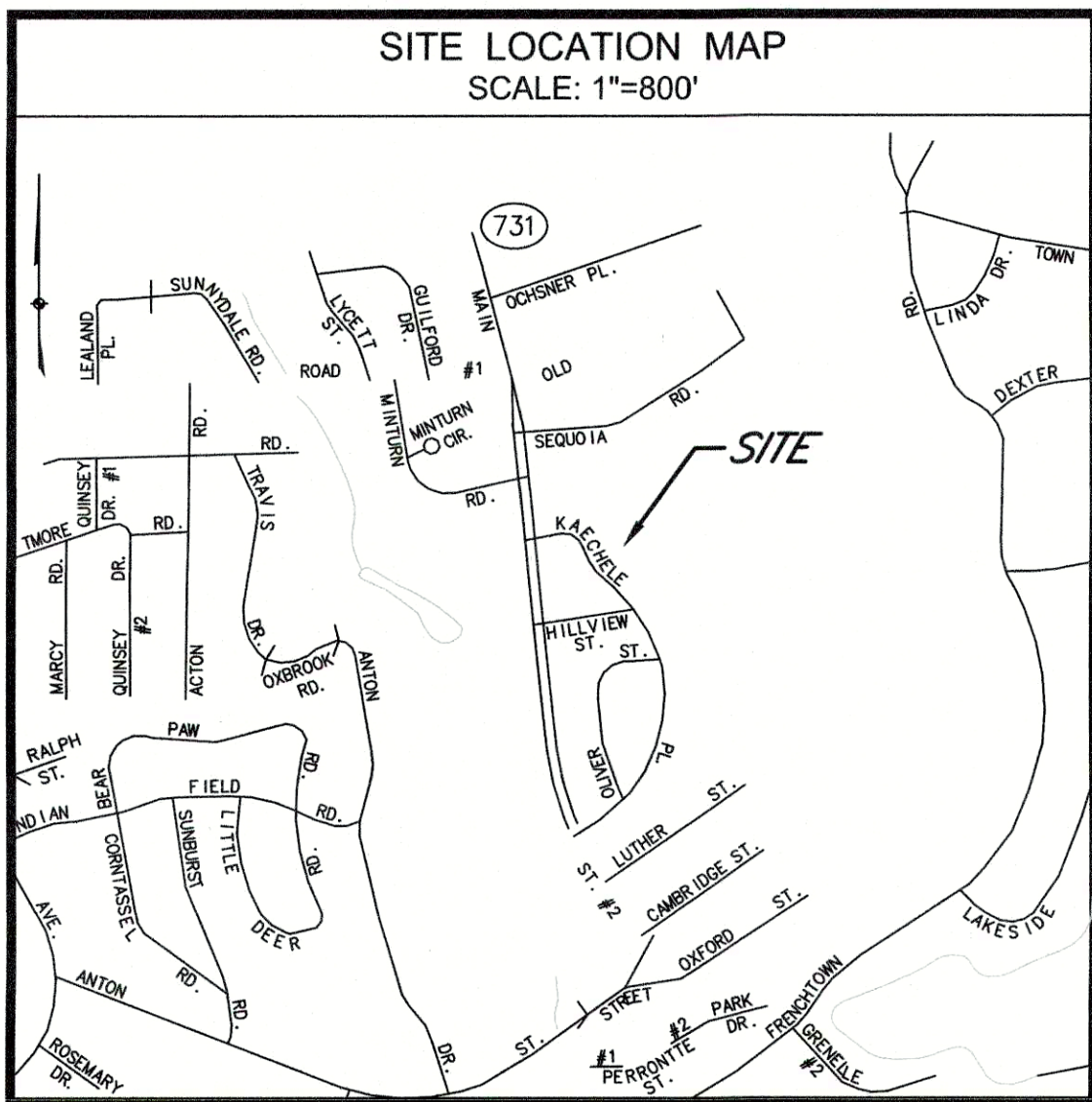
CADD

PLOTTED: 5-5-2023

DRAWING TITLE:

OLD TOWN SUBSTATION CONSTRUCTION DETAILS

3



CONTRACTOR GENERAL NOTES:

- THE WORK IN THIS CONTRACT INCLUDES;
 - THE INSTALLATION OF SOIL EROSION AND SEDIMENTATION CONTROLS (SESC) IN ACCORDANCE WITH THE STATE OF CONNECTICUT STANDARDS AND BEST MANAGEMENT PRACTICES.
 - CLEARING AND GRUBBING, THE REMOVAL AND REPLACEMENT OF EXISTING CULVERTS AND THE CONSTRUCTION OF A NEW GRAVEL ACCESS DRIVEWAY AND PERMANENT ENTRY GATE.
- IT IS THE CONTRACTORS RESPONSIBILITY TO SECURE THE SITE DURING CONSTRUCTION.
- THE MAINTENANCE OF THE SESC MEASURES AND THE ACCESS DRIVEWAY ARE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION INVOLVED WITH THE RECONSTRUCTION OF "OLD TOWN SUBSTATION" HAS BEEN COMPLETED. UPON COMPLETION OF SAID CONSTRUCTION, CONTRACTOR SHALL REMOVE ALL SESC MEASURES AND REPAIR ANY DAMAGE TO THE ACCESS ROAD.

SEQUENCE OF CONSTRUCTION

- REINFORCE EXISTING GATE AS REQUIRED TO SECURE WORK SITE IN OFF-HOURS.
- INSTALL SILT FENCE, CHECK DAMS AND ANTI-TRACKING PAD AT LOCATIONS SHOWN.
- CUT TREES TO BE REMOVED, PROTECT TREES TO REMAIN.
- CLEAR AND GRUB WORK AREA INCLUDING DEBRIS, TREES, BRANCHES AND DEAD WOOD. HAUL EXCESS MATERIALS OFF SITE.
- REMOVE EXISTING CULVERTS AND DISPOSE OFF-SITE.
- INSTALL NEW RCP CULVERTS. (SEE SITE PLAN SHEET 2 AND DETAILS SHEET 3). INVERTS ON NEW CULVERTS TO MATCH THE EXISTING CULVERT INVERTS.
- REMOVE TOPSOIL AND EXCAVATE TO SUB-BASE LAYER FOR NEW GRAVEL ACCESS ROAD. PROOF-ROLL AND COMPACT EXISTING SOIL.
- CONSTRUCT GRAVEL ACCESS DRIVEWAY (SEE DETAIL ON SHEET 3).
- CONSTRUCT PERMANENT STABILIZED ENTRANCE (SEE DETAIL ON SHEET 3).
- REMOVE EXISTING GATE, INSTALL NEW GATE *.
- CLEAN WORK AREA AND TOP-DRESS/COMPACT NEW GRAVEL ACCESS ROAD *
- REMOVE SILT FENCE AND HAY BALE CHECK DAMS *.

* SEE GENERAL NOTES

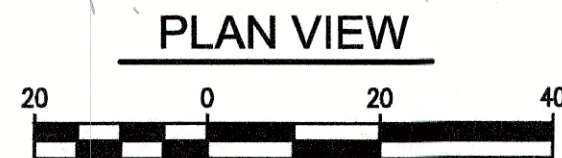
BENCH MARK (STA. 2)
COTTON GIN PIN
N 642911.356
E 871351.766
EL. = 232.16

CONTRACTOR TO PROTECT
EXISTING TREE FROM DAMAGE
DURING THE REMOVAL AND
INSTALLATION OF THE CULVERT

MATCH EXISTING GRADE
AT EDGE OF PAVEMENT
(STA. 10+00)

30 FT LONG 14 FT WIDE
STABILIZED GRASS
ENTRANCE (SEE DETAIL
SHEET 3)

BENCH MARK (STA. 1)
COTTON GIN PIN
N 642607.424
E 871630.507
EL. = 229.28



SCALE: 1" = 20'



PROJECT TITLE:
**THE UNITED ILLUMINATING COMPANY
PROPOSED ACCESS ROAD
IMPROVEMENTS OVER LAND
OF THE CITY OF BRIDGEPORT**

CADD

PLOTTED: 5-5-2023

TOWN:
BRIDGEPORT

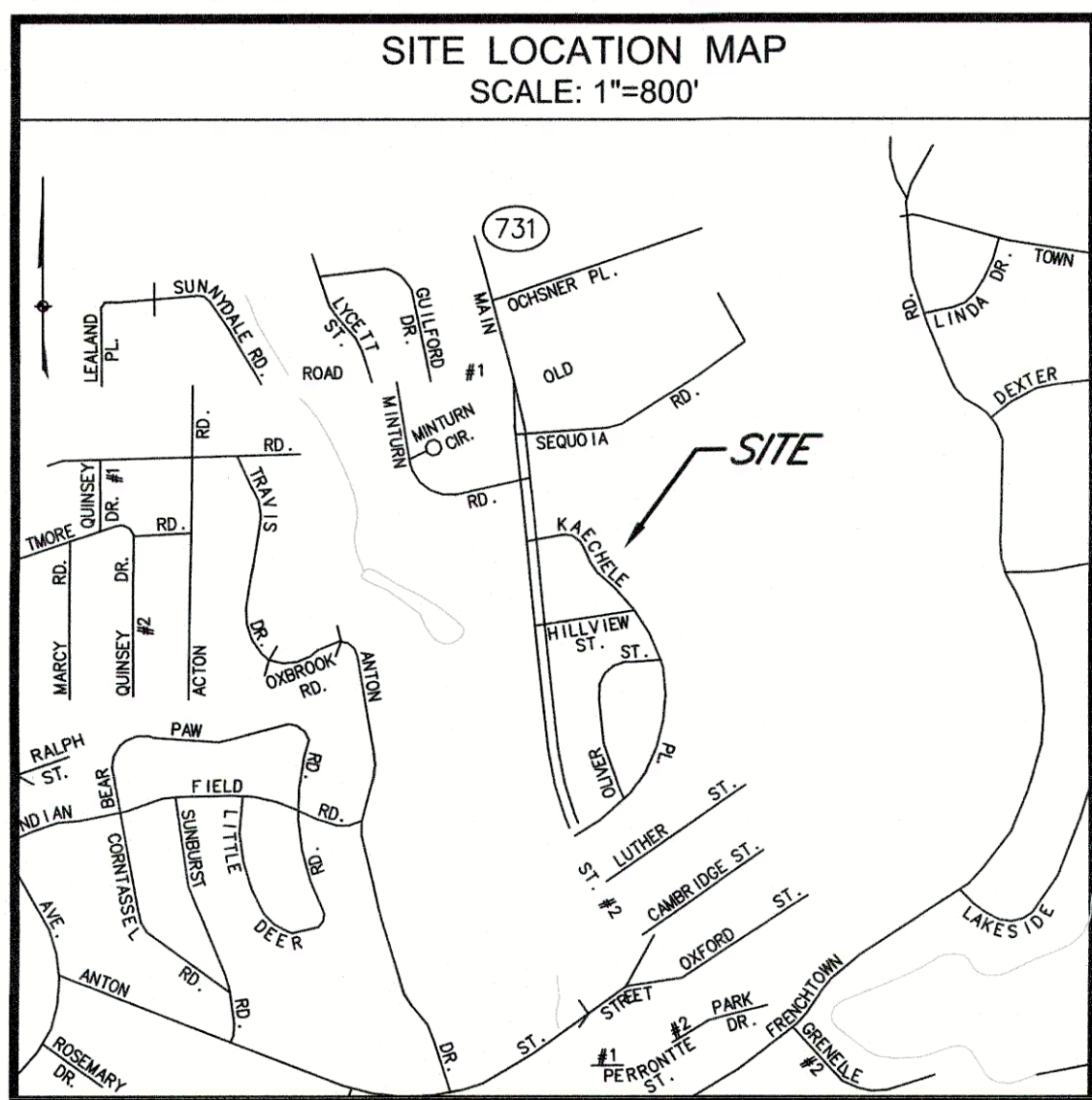
DRAWING TITLE:
**OLD TOWN SUBSTATION
ACCESS ROAD - SITE PLAN
PERMANENT IMPROVEMENTS**

PROJECT NO.:
20-164

DRAWING NO.:
SP-1

SHEET NO.:
2

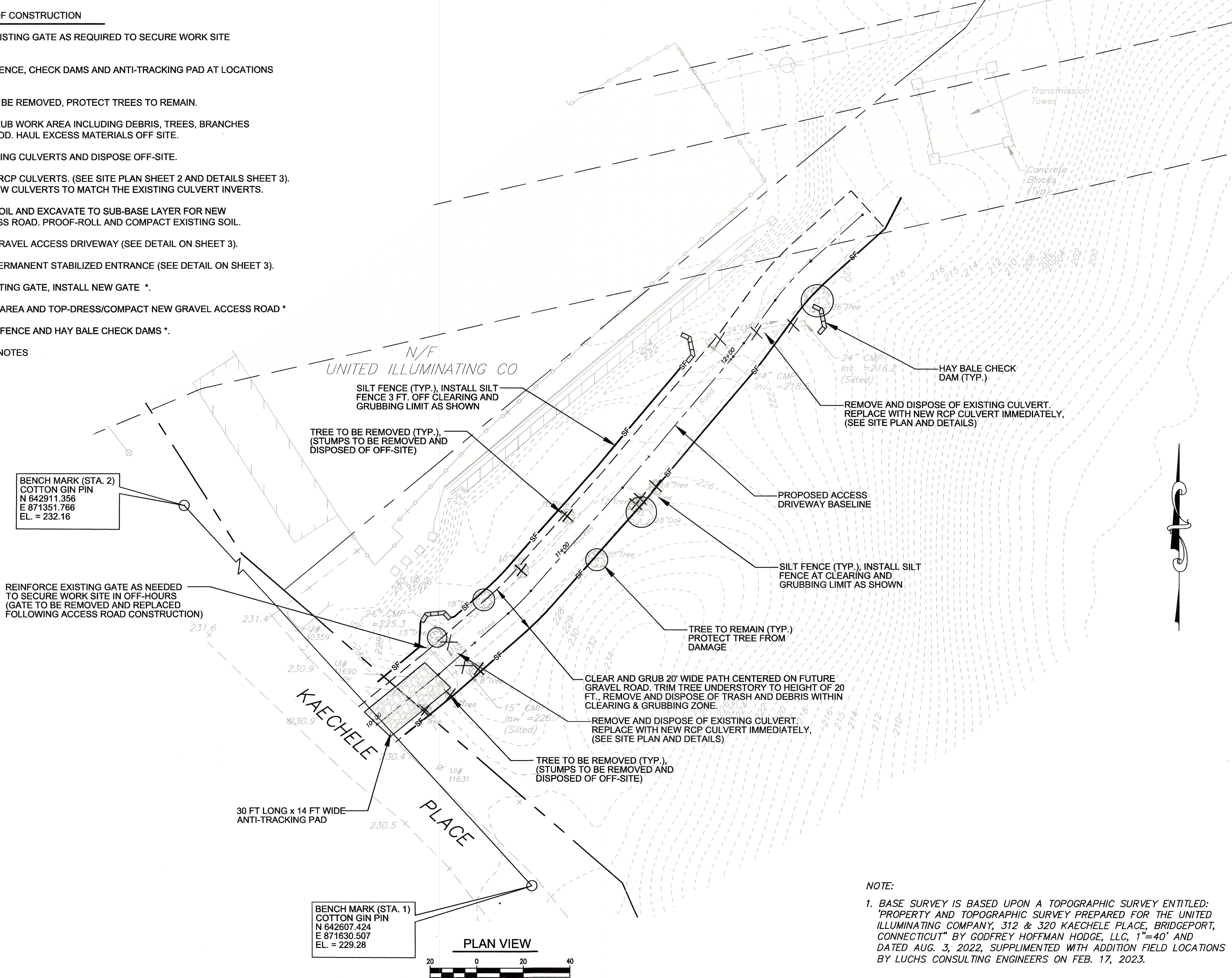
NOTE:
1. BASE SURVEY IS BASED UPON A TOPOGRAPHIC SURVEY ENTITLED: "PROPERTY AND TOPOGRAPHIC SURVEY PREPARED FOR THE UNITED ILLUMINATING COMPANY, 312 & 320 KAECHELE PLACE, BRIDGEPORT, CONNECTICUT" BY GODFREY HOFFMAN HODGE, LLC, 1"=40' AND DATED AUG. 3, 2022, SUPPLEMENTED WITH ADDITION FIELD LOCATIONS BY LUCHS CONSULTING ENGINEERS ON FEB. 17, 2023.



- SEQUENCE OF CONSTRUCTION**
1. REINFORCE EXISTING GATE AS REQUIRED TO SECURE WORK SITE IN OFF-HOURS.
 2. INSTALL SILT FENCE, CHECK DAMS AND ANTI-TRACKING PAD AT LOCATIONS SHOWN.
 3. CUT TREES TO BE REMOVED, PROTECT TREES TO REMAIN.
 4. CLEAR AND GRUB WORK AREA INCLUDING DEBRIS, TREES, BRANCHES AND DEAD WOOD. HAUL EXCESS MATERIALS OFF SITE.
 5. REMOVE EXISTING CULVERTS AND DISPOSE OFF-SITE.
 6. INSTALL NEW RCP CULVERTS. (SEE SITE PLAN SHEET 2 AND DETAILS SHEET 3). INVERTS ON NEW CULVERTS TO MATCH THE EXISTING CULVERT INVERTS.
 7. REMOVE TOPSOIL AND EXCAVATE TO SUB-BASE LAYER FOR NEW GRAVEL ACCESS ROAD. PROOF-ROLL AND COMPACT EXISTING SOIL.
 8. CONSTRUCT GRAVEL ACCESS DRIVEWAY (SEE DETAIL ON SHEET 3).
 9. CONSTRUCT PERMANENT STABILIZED ENTRANCE (SEE DETAIL ON SHEET 3).
 10. REMOVE EXISTING GATE, INSTALL NEW GATE *.
 11. CLEAN WORK AREA AND TOP-DRESS/COMPACT NEW GRAVEL ACCESS ROAD *.
 12. REMOVE SILT FENCE AND HAY BALE CHECK DAMS *.
- * SEE GENERAL NOTES

CONTRACTOR GENERAL NOTES:

1. THE WORK IN THIS CONTRACT INCLUDES:
 - A. THE INSTALLATION OF SOIL EROSION AND SEDIMENTATION CONTROLS (SESC) IN ACCORDANCE WITH THE STATE OF CONNECTICUT STANDARDS AND BEST MANAGEMENT PRACTICES.
 - B. CLEARING AND GRUBBING, THE REMOVAL AND REPLACEMENT OF EXISTING CULVERTS AND THE CONSTRUCTION OF A NEW GRAVEL ACCESS DRIVEWAY AND PERMANENT ENTRY GATE.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO SECURE THE SITE DURING CONSTRUCTION.
3. THE MAINTENANCE OF THE SESC MEASURES AND THE ACCESS DRIVEWAY ARE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION INVOLVED WITH THE RECONSTRUCTION OF "OLD TOWN SUBSTATION" HAS BEEN COMPLETED. UPON COMPLETION OF SAID CONSTRUCTION, CONTRACTOR SHALL REMOVE ALL SESC MEASURES AND REPAIR ANY DAMAGE TO THE ACCESS ROAD.



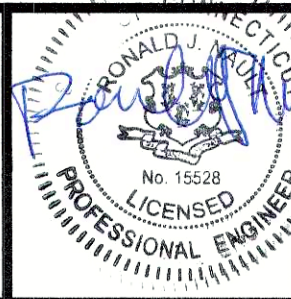
NOTE:

1. BASE SURVEY IS BASED UPON A TOPOGRAPHIC SURVEY ENTITLED: "PROPERTY AND TOPOGRAPHIC SURVEY PREPARED FOR THE UNITED ILLUMINATING COMPANY, 312 & 320 KAECEHE PLACE, BRIDGEPORT, CONNECTICUT" BY GODFREY HOFFMAN HODGE, LLC, 1"=40' AND DATED AUG. 3, 2022, SUPPLEMENTED WITH ADDITION FIELD LOCATIONS BY LUCHS CONSULTING ENGINEERS ON FEB. 17, 2023.

REV.	DATE	DESCRIPTION	SHEET. NO.
1	7/5/23	Revised Per City review	
FILENAME: Q:\Projects\Luchs Projects\20164 UI Old town Substation-E&S Control Plans\design\SD2016401.dwg		PLOTTED: 7/06/2023	

DESIGNER: RJN	
DRAFTER: MLF	
CHECKED BY:	
DATE CHECKED:	

Luchs
CONSULTING ENGINEERS
89 COLONY STREET • MERIDEN, CT
TEL. 203-379-0320 • FAX: 203-379-0278



PROJECT TITLE:
**THE UNITED ILLUMINATING COMPANY
PROPOSED ACCESS ROAD
IMPROVEMENTS OVER LAND
OF THE CITY OF BRIDGEPORT**

CADD PLOTTED: 5-5-2023

TOWN: **BRIDGEPORT**

DRAWING TITLE:
**OLD TOWN SUBSTATION
ACCESS ROAD - SITE PREPARATION PLAN &
SOIL EROSION & SEDIMENT CONTROLS**

PROJECT NO.: **20-164**

DRAWING NO.: **SPP-1**

SHEET NO.: **1**



DEVELOPMENT & MANAGEMENT PLAN

for the

OLD TOWN SUBSTATION REBUILD PROJECT

(Connecticut Siting Council Docket No. 490)

VOLUME 2: Project Mapping and Drawings

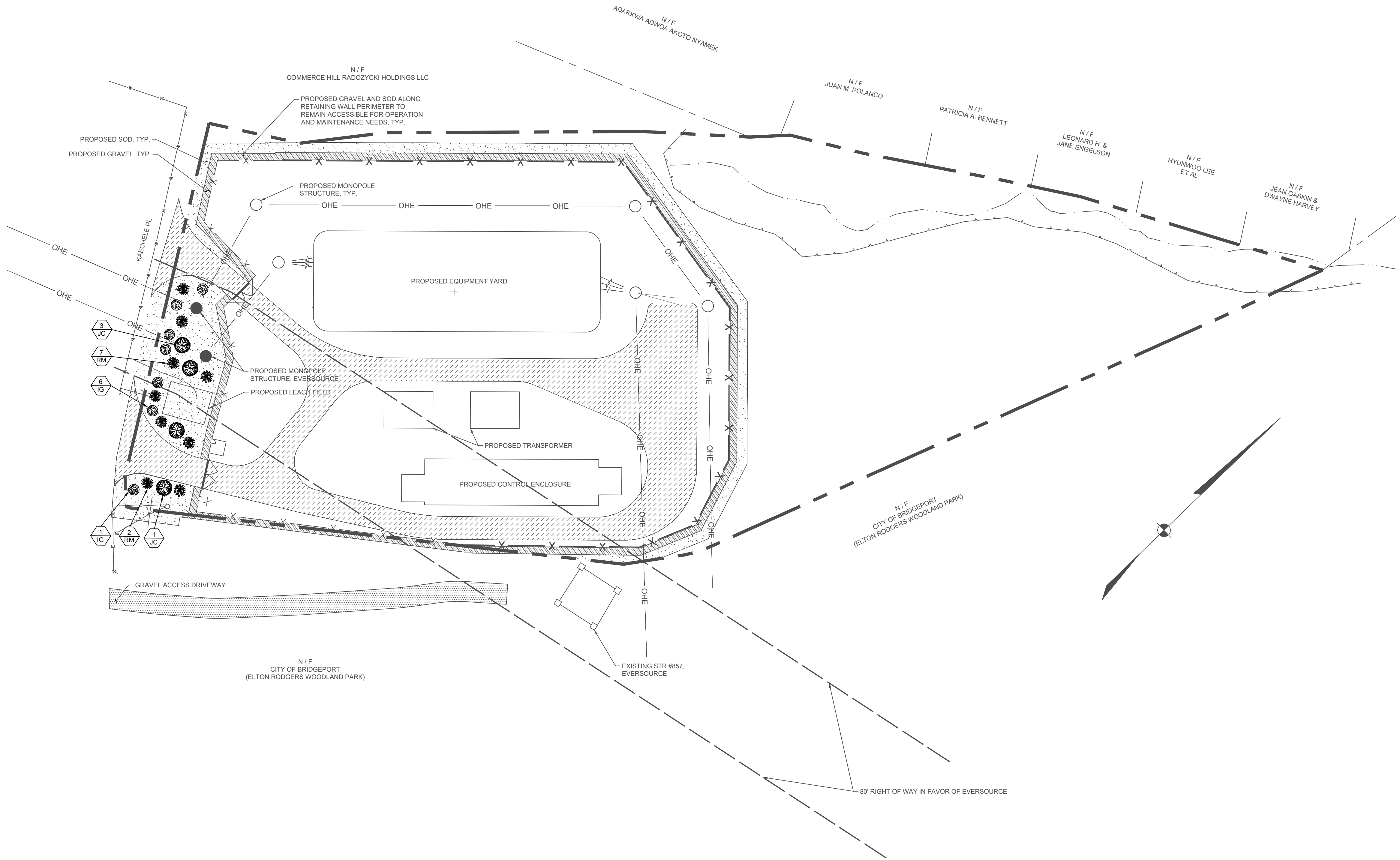
SECTION 2E

Landscape Plan:

Landscape Planting Plan	Fig. 4
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DRAWING NAME: J:\AVANGRID\AVANGRID\PROJECTS\BRIDGEPORT\CT\AVANGRID\HRP\LANDSCAPE\BRIDGEPORT_LANDSCAPE\BRIDGEPORT_LANDSCAPE.dwg, LAYOUT: BRIDGEPORT_LANDSCAPE, PLOT DATE: Dec 10, 2024, 4:58pm, OPERATOR: ASB



LEGEND	
	PROPERTY BOUNDARY
	PROPOSED SOD
	PROPOSED PAVEMENT
	PROPOSED GRAVEL
	PROPOSED SITE FENCING
	PROPOSED SITE FENCING ON RETAINING WALL
	PROPOSED OVERHEAD LINE
	WETLAND LIMITS
	WATERCOURSE
	EVERSOURCE RIGHT OF WAY
	EXISTING UNDERGROUND ELECTRIC
	EXISTING WATER MAIN
	PROPOSED ILEX GLABRA
	PROPOSED RHODODENDRON MAXIMUM
	PROPOSED JUNIPERUS COMMUNIS

PROPOSED PLANT SCHEDULE				
KEY	QUANTITY	SCIENTIFIC NAME	COMMON NAME	TYPICAL SIZE AT INSTALLATION
IG	7	ILEX GLABRA	INKBERRY HOLLY	5-GAL POT
RM	9	RHODODENDRON MAXIMUM	ROSEBAY	2-GAL POT
JC	4	JUNIPERUS COMMUNIS	COMMON JUNIPER	5-GAL POT



IG - INKBERRY HOLLY (ILEX GLABRA)



RM - ROSEBAY (RHODODENDRON MAXIMUM)



JC - COMMON JUNIPER (JUNIPERUS COMMUNIS)

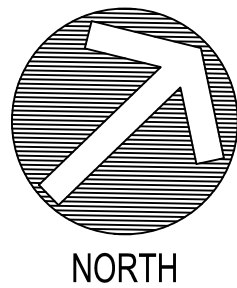
NOTES:

- PROPOSED PLANTINGS DEPICTED ARE SCALED TO THEIR RESPECTIVE AVERAGE MATURE DIAMETERS.
- PROPOSED PLANTING LOCATIONS ARE BASED ON PERIMETER FENCE CLEAR ZONE REQUIREMENTS PER THE AVANGRID TECHNICAL MANUAL, TM 2.71.09, REVISION 09, DATED MARCH 2024.

MAP REFERENCE: "115-13.8KV SUBSTATION YARD GENERAL, OLD TOWN, BRIDGEPORT," PREPARED BY SNC, LTD., SCALE N/A, DATED 01/12/2024



197 SCOTT SWAMP ROAD
FARMINGTON, CT 06032
(860) 674-9570
HRPASSOCIATES.COM



REVISIONS

NO.	DATE	DESCRIPTION

DESIGNED: ASB	SCALE: 1" = 40'
DRAWN: ASB	ISSUE DATE: 12/03/2024
REVIEWED: TRB	PROJECT NUMBER: AVA4015.EE
APPROVED: TRB	SHEET SIZE: 24"x36"

THE UNITED ILLUMINATING - OLD TOWN
SUBSTATION REBUILD

280 KAECHELE PL,
BRIDGEPORT, CT 06606

ATTACHMENT 2.D
LANDSCAPE PLANTING PLAN

FIGURE

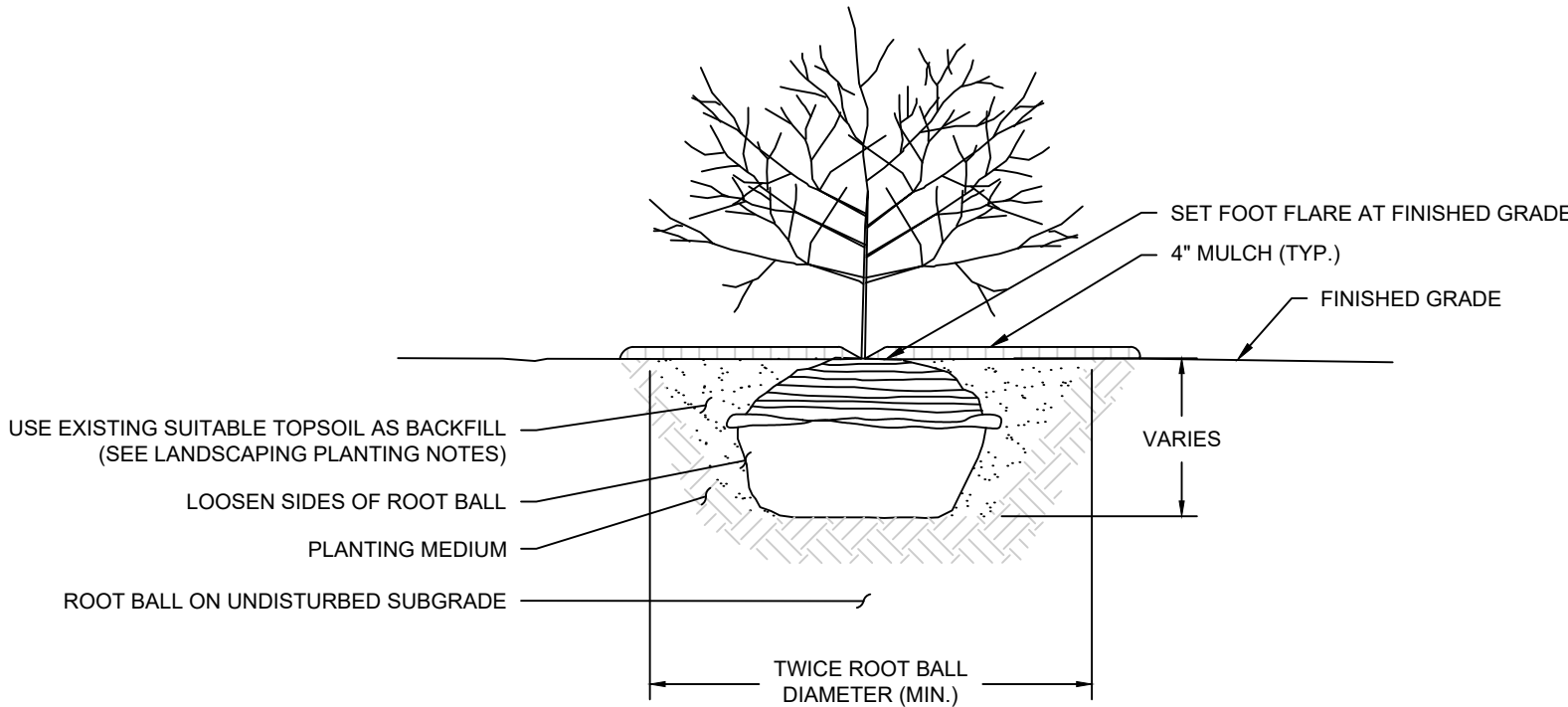
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DRAFT

DRAWING NAME: J:\A\AVANG - AVANGREDA\UT-286-312-330 KAECHHELE PLACE BRIDGEPORT, CT\AVA4015.EE - 04 Planting\Drawing\040523\AVA4015.LANDSCAPE PLANTING.dwg LAYOUT: 11.02.21 PLOT DATE: 11/03/2024 4:58pm OPERATOR: ASB

LANDSCAPE NOTES

- EXISTING AND PROPOSED STRUCTURES AND UTILITY LOCATIONS ARE APPROXIMATE, PER "115-13.8KV SUBSTATION YARD GENERAL, OLD TOWN, BRIDGEPORT," PREPARED BY SNC, LTD., SCALE N/A, DATED 01/12/2024. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING, PRIOR TO BIDDING, THE LOCATIONS OF ALL UTILITIES AND SHALL BE RESPONSIBLE FOR ALL DAMAGE TO SAID UTILITIES. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" (1-800-922-4455), AT LEAST 72 HOURS PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ACTIVITIES WITH INDIVIDUAL UTILITY COMPANIES.
- LOCATIONS OF PROPOSED LANDSCAPING PLANTINGS ARE APPROXIMATE AND ARE SUBJECT TO FIELD ADJUSTMENT DUE TO EXISTING AND PROPOSED UTILITY LOCATIONS, STRUCTURES, AND OTHER SITE CONDITIONS. THE CONTRACTOR SHALL LAY OUT THE WORK PRIOR TO PLANTING FOR THE REVIEW AND APPROVAL OF THE OWNER OR OWNER'S REPRESENTATIVE.
- THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING ALL LABOR AND MATERIALS SUFFICIENT TO COMPLETE THE WORK SHOWN ON THE DRAWINGS.
- BACKFILL FOR ALL LANDSCAPING PLANTINGS SHALL CONSIST OF REMOVED TOPSOIL FROM THE PLANTING PIT UNLESS OTHERWISE SPECIFIED. SUBSOIL, ROCKS, AND DEBRIS SHALL NOT BE UTILIZED AS BACKFILL.
- ALL LANDSCAPING PLANTINGS SHALL BE MULCHED TO A UNIFORM DEPTH OF 4" WITH UNCOLORED, SHREDDED 100% BARK MULCH AGED AT A MINIMUM OF SIX MONTHS.
- ALL LANDSCAPING PLANTINGS SHALL CONFORM IN SIZE AND GRADE TO THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1-2004 AND IN ACCORDANCE WITH THE DRAWINGS. ALL LANDSCAPING PLANTINGS SHALL HAVE BEEN GROWN AT A COMMERCIAL NURSERY AND CONSIDERED NATIVE PER THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION. ALL LANDSCAPING PLANTINGS SHALL BE HEALTHY, SYMMETRICAL, EVENLY AND DENSELY BRANCHED, AND DENSELY FOLIATED WHEN IN LEAF; FREE OF BARK INJURY, DISEASE, AND INSECT PESTS. THE OWNER OR OWNER'S REPRESENTATIVE MAY ALLOW SUBSTITUTIONS UPON WRITTEN REQUEST, AND HAVE THE RIGHT TO INSPECT AND ACCEPT ALL LANDSCAPING PLANTINGS AT THE NURSERY. THE CONTRACTOR SHALL COORDINATE SOURCE VISITS WITH THE OWNER OR OWNER'S REPRESENTATIVE. CERTIFICATES OF COMPLIANCE WITH SPECIFICATIONS ARE REQUIRED FOR ALL LANDSCAPING PLANTINGS.
- SEEDING MIXTURE TO RESTORE ALL DISTURBED AREAS NOT OTHERWISE VEGETATED SHALL BE IN ACCORDANCE WITH ONE OF THE MIXTURES BELOW, OR AN APPROVED EQUAL.
 - SEED MIXTURE #1
 - KENTUCKY BLUEGRASS - 45%
 - CREEPING RED FESCUE (PENNLAWN, WINTERGREEN) - 45%
 - PERENNIAL RYEGRASS (NORLEA, MANHATTEN) - 10%
 - SEED MIXTURE #2
 - CHEWINGS FESCUE - 35%
 - HARD FESCUE - 30%
 - COLONIAL BENTGRASS - 5%
 - CANADA WILDRYE (ELYMUS CANADENSIS) - 10%
 - PERENNIAL RYEGRASS - 20%



NOTES:

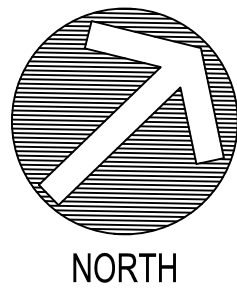
- THE PLANTING PIT SIZE SHALL BE TWICE THE DIAMETER OF THE ROOT BALL IN WIDTH AND LESS THAN 2" LESS THAN THE HEIGHT OF THE ROOT BALL.
- ALL EXTERIOR PACKAGING MATERIAL APPLIED TO THE PLANTS SHALL BE REMOVED AFTER THE PLANT IS LOCATED IN THE PLANTING PIT. CUT AND REMOVE TWINE, BURLAP, OR WIRE BASKETS FROM THE TOP 2/3 OF THE ROOT BALL.

SHRUB PLANTING DETAIL
NOT TO SCALE

DRAFT

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REVISIONS		
NO.	DATE	DESCRIPTION

DESIGNED: ASB	SCALE: 1" = 40'
DRAWN: ASB	ISSUE DATE: 12/03/2024
REVIEWED: TRB	PROJECT NUMBER: AVA4015.EE
APPROVED: TRB	SHEET SIZE: 24"x36"

THE UNITED ILLUMINATING - OLD TOWN
SUBSTATION REBUILD

280 KAECHELE PL,
BRIDGEPORT, CT 06606

ATTACHMENT 2.D
LANDSCAPE PLANTING PLAN

FIGURE
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