# ROOSEVELT DRIVE OIL SITE

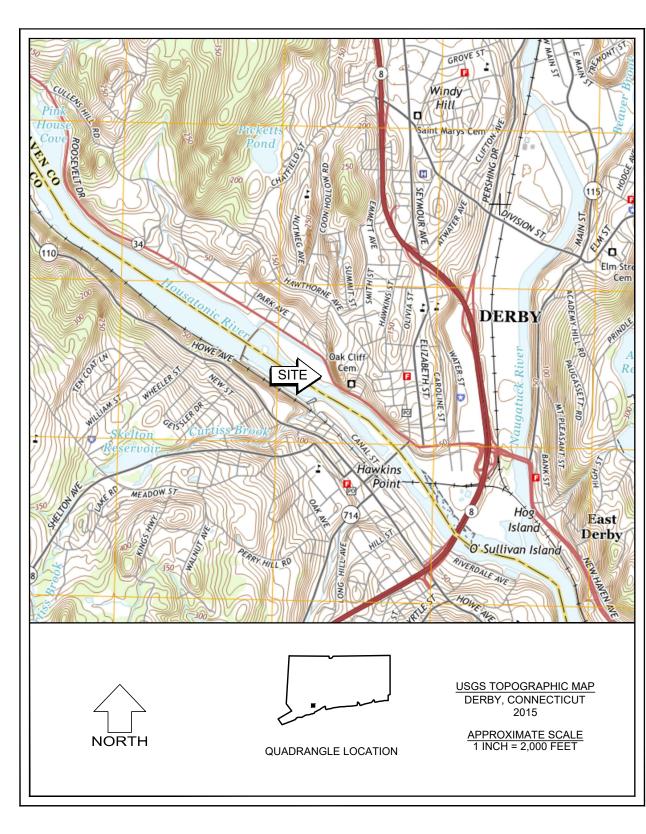
# 134 ROOSEVELT DRIVE DERBY, CONNECTICUT

LEAD ENGINEER
NOBIS GROUP. - LOWELL, MA

SUPPORTING ENGINEER
CH2M / JACOBS - BELLEVUE, WA

<u>SURVEYOR</u>

GM2 ASSOCIATES, INC. - GLASTONBURY, CT



MARCH 2020 REVISED JUNE 10, 2021 REVISED JUNE 21, 2021

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#### LEGEND

EXISTING	PROPOSED		EXISTING	PROPOSED	
		SUBJECT PROPERTY LINE		<b>(</b>	DRAIN MANHOLE
		OTHER PROPERTY LINE	$\boxplus$		CATCH BASIN
·••		STONE WALL		<b>D</b>	UTILITY POLE
		RETAINING WALL	T		PAD MOUNTED TRANSFORMER
_ · · · _ · ·	<b>-</b> · · · <b></b> · ·	EDGE OF WETLAND	<u>S</u>	<b>S</b>	SANITARY SEWER MANHOLE
·	<u> </u>	STREAM / RIVER	(0)	<b>©</b>	SANITARY SEWER CLEAN-OUT
		— — COASTAL JURISDICTION LINE	<del>,</del>	*	HYDRANT
		MEAN HIGH WATER LINE	₩V 	w <sub>Y</sub>	WATER VALVE
		MEAN LOW WATER LINE	#2°	•§o	WATER SHUT OFF
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	$\alpha$	TREE LINE		<b>®</b>	WATER SUPPLY WELL
	ooo-	CHAIN LINK FENCE	GS.	<b>GS</b>	GAS SHUT OFF
		TURBIDITY CURTAIN	GM SM	<b>€M</b>	GAS METER
<u> </u>		• GUARD RAIL (STEEL)	× 100.0	× 100.0	SPOT GRADE
		CENTERLINE	$\times \frac{100.0}{100.5}$	$\times \frac{100.0}{100.5}$	CURB SPOT GRADE
<b>-</b>		— — EDGE OF GRAVEL		-	SIGN POST
		EDGE OF PAVEMENT	\$	<b>□→□</b> • <b>→</b> □	LIGHT POLE
BCC	BCC	BITUMINOUS CONCRETE CURB	* E. C.	$\odot$	TREE
	100	—— MAJOR CONTOUR	Aq	Ay 4 4 44 44 44 44 44 44 44 44 44 44 44 4	CONCRETE
- — — –98- — — <del>—</del>	98	MINOR CONTOUR			GRAVEL
_		STEEL SHEET PILE WALL			RIP RAP
_	>	SWALE FLOW DIRECTION	<u> </u>		WETLAND
_	x	SILT FENCE / WADDLE			WETLAND IMPACT
——————————————————————————————————————	——— ОН <b>W</b> ———	OVERHEAD UTILITY WIRE		~~ <b>&gt;</b>	FLOW DIRECTION
UGE <del></del>	UGE	—— UNDERGROUND ELECTRIC		<b>⟨</b> 2223>	STONE CHECK DAM
	W	WATER LINE	В		BORING LOCATION
	G	—— GAS LINE		<b>→</b> MW	MONITORING WELL LOCATION
			M		MANHOLE
			(E)	<b>©</b>	ELECTRIC MANHOLE

#### **GENERAL NOTES:**

- 1. EXISTING CONDITIONS, PROPERTY LINES, TOPOGRAPHICAL INFORMATION, NORTH ORIENTATION, NORTH ARROW, AND COORDINATE VALUES DEPICTED ON THESE DRAWINGS ARE BASED ON PLANS TITLED "EXISTING CONDITIONS PREPARED FOR NOBIS GROUP", DATED FEBRUARY 20, 2020, PROVIDED TO NOBIS GROUP BY GM2 ASSOCIATES, INC.
- 2. THE CONTRACTOR SHALL OBTAIN COVERAGE UNDER EPA NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FOR CONSTRUCTION ACTIVITIES PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND IMPLEMENTING AN ENVIRONMENTAL PROTECTION AGENCY (EPA) STORM WATER POLLUTION PREVENTION PLAN PRIOR TO THE START OF CONSTRUCTION AND DURING CONSTRUCTION ON-SITE IN ACCORDANCE WITH THE EPA REGULATIONS UNDER THE CLEAN WATER ACT.

#### CONSTRUCTION SEQUENCE:

- 1. CONSTRUCT TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO ANY EARTH MOVING OPERATIONS. INSPECT EROSION AND SEDIMENT CONTROL MEASURES WEEKLY AND WITHIN 24 HOURS OF ANY SIGNIFICANT RAINFALL EVENT (1/2" OF RAIN OR MORE). PERFORM ANY NEEDED MAINTENANCE AND STABILIZATION AS NEEDED.
- 2. DISTURBANCES OF AREAS SHALL BE MINIMIZED. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED FOR LONGER THAN TWO WEEKS DURING THE GROWING SEASON. AREAS WHICH WILL NOT BE PERMANENTLY SEEDED WITHIN TWO WEEKS OF DISTURBANCE SHALL BE TEMPORARILY SEEDED AND MULCHED. ALL AREAS SHALL BE STABILIZED WITH SEED MULCH AND TACKIFIER WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE AND PRIOR TO THE END OF THE GROWING SEASON.
- 3. PERFORM DEMOLITION OF EXISTING SITE FEATURES AND SITE PREPARATION ACTIVITIES AS SHOWN ON SITE PREPARATION AND EROSION CONTROL PLAN.
- 4. PERFORM INSTALLATION OF STEEL SHEET PILES AND PERMEATION GROUTING AT INTERFACE BETWEEN EXISTING RETAINING WALLS AND STEEL SHEET PILES.
- 5. DEWATER TAILRACE AND SURROUNDING AREA. PUMP TO WATER TREATMENT SYSTEM ON-SITE.
- 6. EXCAVATE AND DISPOSE OF SEDIMENT FROM TAILRACE AND MAN-MADE BERM BETWEEN TAILRACE AND THE HOUSATONIC
- 7. INSTALL TEMPORARY LATERAL EARTH SUPPORT SYSTEMS, AND BRACING FOR NEW SHEET PILE CUT-OFF WALL, AS APPROPRIATE, CONCURRENT WITH EXCAVATION ACTIVITIES.
- 8. INSTALL OIL INTERCEPTION TRENCH AND BACKFILL TAILRACE.
- 9. END DEWATERING.
- 10. FINE GRADE THEN INSTALL LOAM AND SEED, EROSION CONTROL MATTING, AND RIP RAP TO PERMANENTLY STABILIZE DISTURBED AREAS.
- 11.REMOVE TEMPORARY EROSION CONTROL MEASURES AND PROPERLY DISPOSE OF FOLLOWING CONSTRUCTION AND ONCE FULL GROUND COVER HAS BEEN ESTABLISHED.

#### **EROSION CONTROL NOTES:**

CATCH BASINS: CARE SHOULD BE TAKEN TO ENSURE THAT SEDIMENTS DO NOT ENTER CATCH BASINS DURING EXCAVATION FOR PIPE TRENCHES, DITCHES AND SWALES. THE CONTRACTOR SHOULD PLACE NON-WOVEN GEOTEXTILE FABRIC FOR INLET PROTECTION OVER INLETS IN AREAS OF SOIL DISTURBANCE, WHICH ARE SUBJECT TO SEDIMENT CONTAMINATION.

PLACE INLET PROTECTION DEVICES, IN CATCH BASINS AND MAINTAIN UNTIL ALL CONSTRUCTION ACTIVITIES HAVE CEASED AND THE SURROUNDING AREAS ARE WELL VEGETATED.

#### ALL SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF INTO THEM.

ADEQUATE MEASURES SHOULD BE TAKEN TO MINIMIZE AIR BORNE DUST PARTICLES ARISING FROM SOIL DISTURBANCE AND

- \* DISTURBANCE OF AREAS SHOULD BE MINIMIZED AND NOT EXCEED 100,000 SQUARE FEET IN AREA AT ANY ONE TIME.

  \* NO DISTURBED AREA SHOULD BE LEFT UNSTABILIZED FOR LONGER THAN TWO WEEKS DURING THE GROWING SEASON.

  \* PERMANENT EROSION CONTROL FEATURES SHOULD BE INCORPORATED INTO THE PROJECT AT THE EARLIEST PRACTICABLE TIME, AS SPECIFIED ON THE CONTRACT PLANS.
- \* WITHIN 14 DAYS OF COMPLETING WORK IN AN AREA, AND PRIOR TO ANTICIPATED RAIN EVENTS, APPLY HAY/STRAW MULCH AND TACKIFIER ON ALL DISTURBED SOIL AREAS. APPLICATION RATES OF 2 TONS OF STRAW OR HAY PER ACRE SHOULD BE USED TO PREVENT EROSION UNTIL VEGETATIVE COVER CAN BE ESTABLISHED. ALTERNATIVELY, APPLY WOOD CHIPS OR GROUND BARK MULCH 2 TO 6 INCHES DEEP AT A RATE OF 10 TO 20 TONS PER ACRE.
- \* WHEN EROSION IS LIKELY TO BE A PROBLEM, GRUBBING OPERATION SHOULD BE SCHEDULED AND PERFORMED SUCH THAT GRADING OPERATION AND PERMANENT EROSION CONTROL FEATURES CAN FOLLOW IMMEDIATELY THEREAFTER.
  \* AS WORK PROGRESSES, PATCH SEEDING AND MULCHING SHOULD BE DONE AS REQUIRED ON AREAS PREVIOUSLY
- TREATED TO MAINTAIN OR ESTABLISH PROTECTIVE COVER.
  \* REMOVE ACCUMULATED SEDIMENTS AND DEBRIS WHEN SEDIMENT CONTAINMENT DEVICES REACH 33% CAPACITY.

#### EROSION CONTROL IMPLEMENTATION SCHEDULE

- THE FOLLOWING GENERAL SCHEDULE IDENTIFIES THE PROPOSED SOIL EROSION AND SEDIMENT CONTROL AND STORM WATER MANAGEMENT MEASURES THAT ARE TO BE IMPLEMENTED PRIOR TO AND DURING CONSTRUCTION:
- \* PERFORM LIMITED GRUBBING, STRIPPING AND SITE GRADING ONLY AS NEEDED TO COMPLETE IMMEDIATE WORK GOALS.
- \* BLOCK STORM WATER FLOW AS NECESSARY TO INSTALL ALL STORM WATER STRUCTURES IN THE DRY.
  \* INSTALL PERMANENT STORM DRAIN SYSTEM.
- \* INSTALL TEMPORARY SOIL STABILIZATION MEASURE INCLUDING SEED, MULCH, FERTILIZER, MATTING, ETC. \* REDIRECT FLOWS INTO FINISHED STRUCTURES PRIOR TO FILL OPERATIONS.
- \* PLACE HUMUS AND CONDUCT PERMANENT SEEDING AND MULCHING OF ALL DISTURBED GROUND.

#### MPORARY STABILIZATION:

EROSION CONTROL MEASURES SHALL BE IMPLEMENTED, AS WRITTEN HEREIN AND AS DEPICTED ON THE ACCOMPANYING PLAN, FROM THE COMMENCEMENT OF CONSTRUCTION ACTIVITY UNTIL FINAL STABILIZATION IS COMPLETE:

TEMPORARY GRADING: TEMPORARY GRADING DURING CONSTRUCTION SHOULD BE PERFORMED IN SUCH A MANNER TO FACILITATE MAXIMUM INFILTRATION OF STORMWATER AND MINIMIZE OR ELIMINATE STORMWATER RUNOFF FROM THE SITE.

MULCH: MULCHING WITH LOOSE HAY OR STRAW, AT A RATE OF 2 TONS PER ACRE, SHALL BE DONE IMMEDIATELY AFTER EACH AREA HAS BEEN FINAL GRADED. WHEN SEED FOR EROSION CONTROL IS SOWN PRIOR TO PLACING THE MULCH, THE MULCH SHOULD BE PLACED ON THE SEEDED AREAS WITHIN 48 HOURS AFTER SEEDING.

TACKIFIER: PLACEMENT OF SOIL TACKIFIER HAS PROVEN TO BE AN EFFECTIVE METHOD OF PREVENTING SOIL AND ADHERING MULCH IN PLACE. THE PLACEMENT OF A SOIL TACKIFIER SHOULD BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND SHOULD BE REAPPLIED AS NECESSARY TO CONTROL AIR BORN DUST AND SOIL, AND

ROAD CLEANING: THE CONTRACTOR SHALL SWEEP ROADS DAILY, OR AS NEEDED TO MAINTAIN CLEAN PAVED SURFACES AT ALL CONSTRUCTION ACCESS/EGRESS POINTS.

<u>DUST CONTROL</u>: THE CONTRACTOR SHALL IMPLEMENT DUST CONTROL MEASURES AS NEEDED TO PREVENT AIRBORNE DUST PARTICLES FROM LEAVING THE SITE. DUST CONTROL MEASURES SHALL CONSIST OF USE OF A WATER TRUCK EQUIPPED WITH A SPRAY-BAR THAT DISSIPATES THE WATER EVENLY OVER THE SURFACE.

PERMANENT STABILIZATION: GRASS, TREES, SHRUBS AND MULCHED PLANTING BEDS WILL BE CONSTRUCTED AND MAINTAINED IN LOCATIONS AS SHOWN ON THE DRAWINGS TO STABILIZE AREAS NOT WITHIN THE PARKING LOT/BUILDING FOOTPRINT. THE CONTRACTOR WILL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL FOR ONE YEAR AFTER COMPLETION.

- AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
- BASE COARSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
   A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
- A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED;
   EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- ALL ROADWAYS/PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

#### STORMWATER POLLUTION PREVENTION PLAN:

MULCH LOSS UNTIL PERMANENT VEGETATION IS ESTABLISHED.

THE PROJECT IS SUBJECT TO THE REQUIREMENTS OF THE USEPA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION PERMIT, WHICH INCLUDES A WRITTEN STORM WATER POLLUTION PREVENTION (SWPPP) PLAN FOR CONSTRUCTION. THE SWPPP PLAN SHALL OUTLINE DETAILED SPECIFICATIONS FOR IMPLEMENTATION, INSPECTION, AND MAINTENANCE OF ALL EROSION CONTROL MEASURES. THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR COMPLIANCE WITH THE EROSION AND SEDIMENT CONTROL PLAN, SHALL BE RESPONSIBLE FOR PREPARING AND AMENDING THE SWPPP ACCORDINGLY, AND SHALL BE RESPONSIBLE FOR ANY PENALTIES RESULTING FROM LACK OF COMPLIANCE.

#### SPECIFICATIONS FOR TEMPORARY AND PERMANENT SEEDING:

GRASS SEED MIXES SHALL CONSIST OF THE MIXTURES AS DETAILED IN THE FOLLOWING TABLES, WITH 98% PURITY:

EROSION CONTROL SEED MIX			
SEED	BY % MASS	% GERMINATION (MIN.)	
WINTER RYE 80 (MIN.)	80 (MIN.)	85	
RED FESCUE (CREEPING)	4 (MIN.)	80	
PERENNIAL RYE GRASS	3 (MIN.)	90	
RED CLOVER	3 (MIN.)	90	
OTHER CROP GRASS	0.5 (MAX.)		
NOXIOUS WEED SEED	0.5 (MAX.)		
INERT MATTER	1.0 (MAX.)		

PERMANENT SEED MIX			
SEED	BY % MASS	% GERMINATION (MIN.)	
RED FESCUE (CREEPING)	50	85	
KENTUCKY BLUE	25	85	
PERENNIAL RYE GRASS	10	90	
RED TOP	10	85	
LANDINO CLOVER	5	85	

#### WINTER CONSTRUCTION NOTES:

ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE ELSEWHERE. MULCH REMAINING IN THE SPRING SHALL BE REMOVED AND REPLACED AT RATE OF 2 TONS PER ACRE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND TACKIFIER SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND.

- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.



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FINAL (100%)

#### ROOSEVELT DRIVE HYDROELECTRIC FACILITY

ROOSEVELT DRIVE DERBY, CT

<u>^2</u>	06/21/2021	REMOVE PREVIOUSLY COMPLETED WORK
<u> 1</u>	06/10/2021	ADD 50' UPLAND BUFFER FRO WETLANDS AND WATERCOURS
NO.	DATE	DESCRIPTION
	RE'	VISIONS

SCALE: AS NOTED

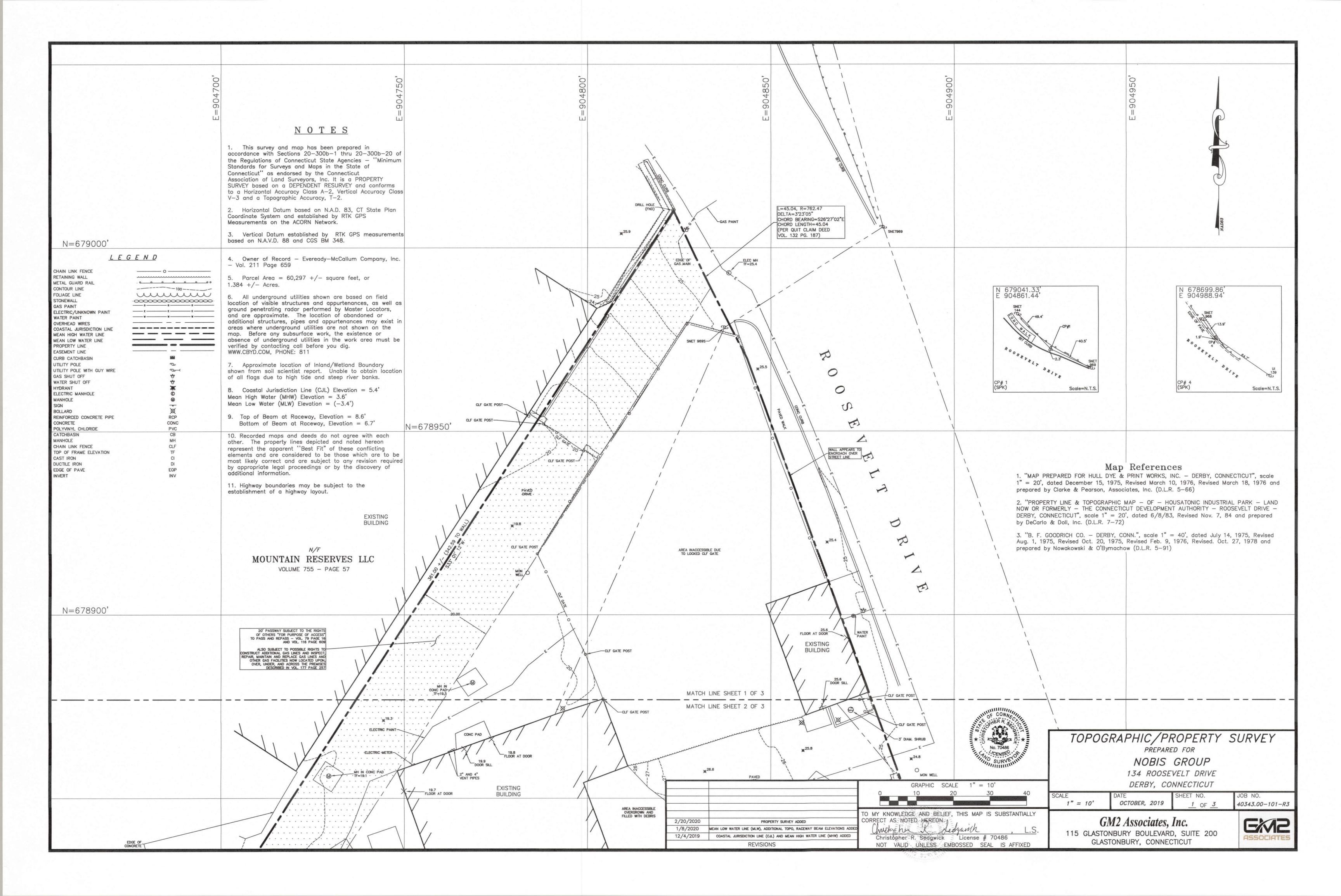
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NOBIS PROJECT NO.	80117.11	
DRAWN BY:	SPM	
CHECKED BY:	AR	
CAD DRAWING FILE:		
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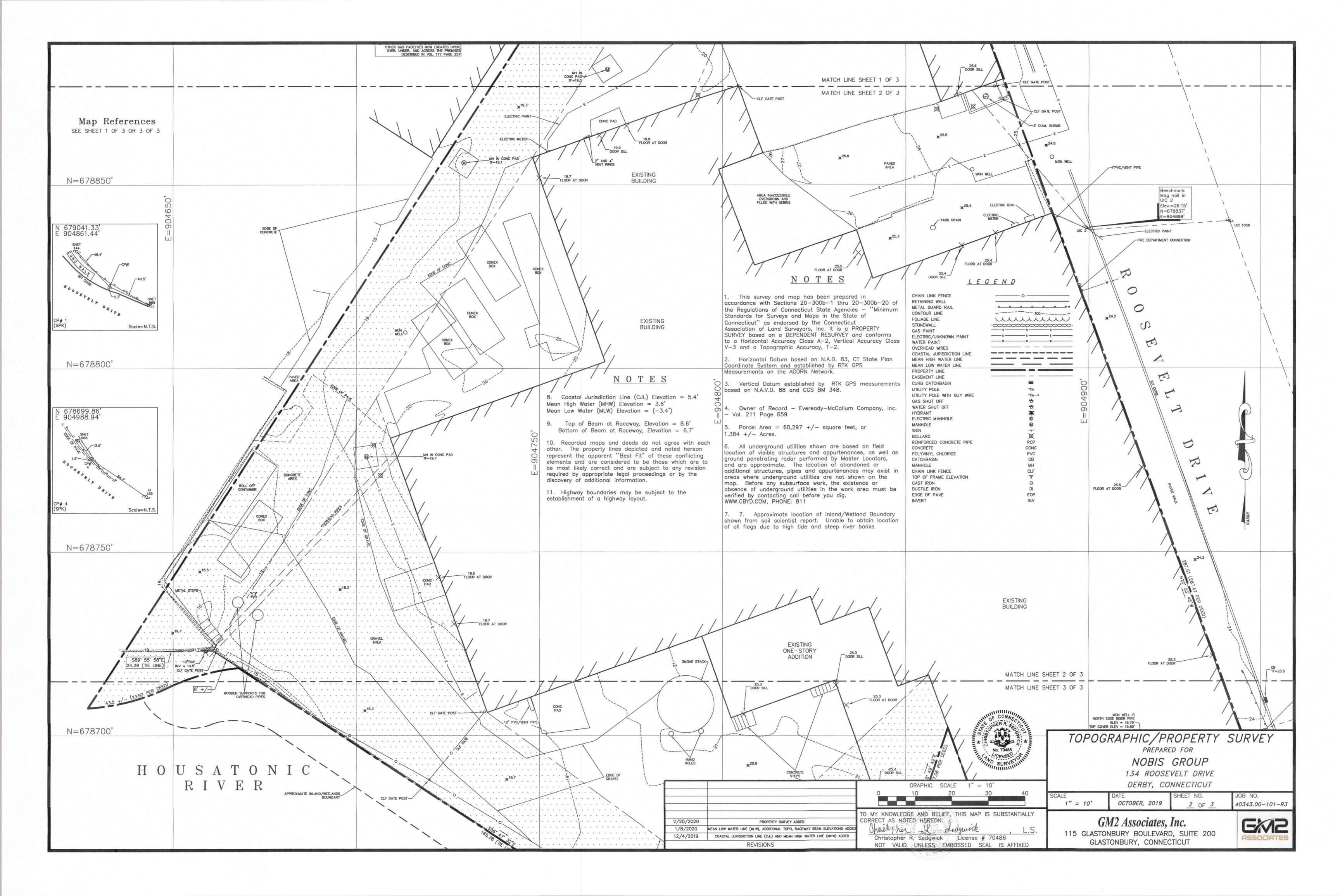
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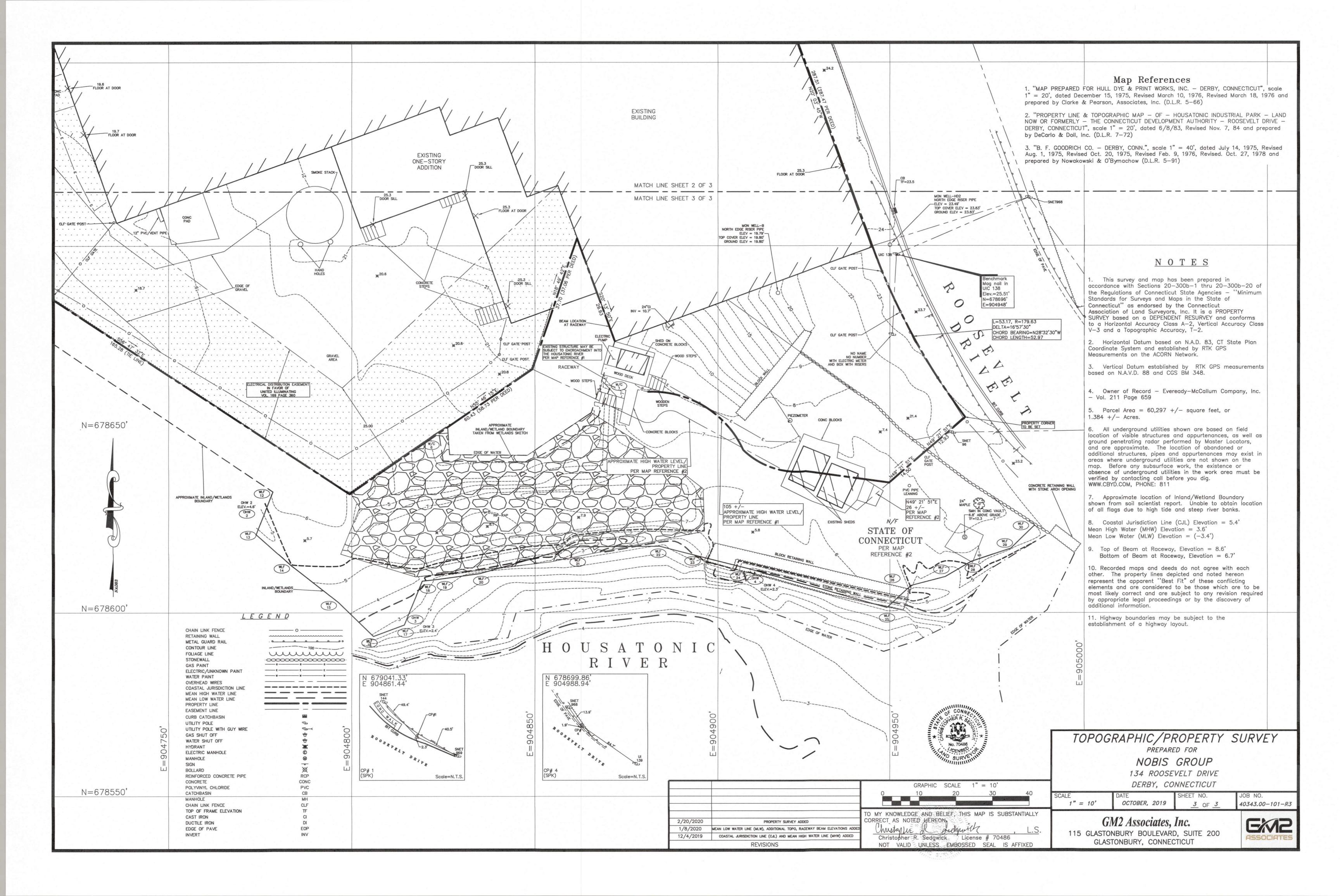
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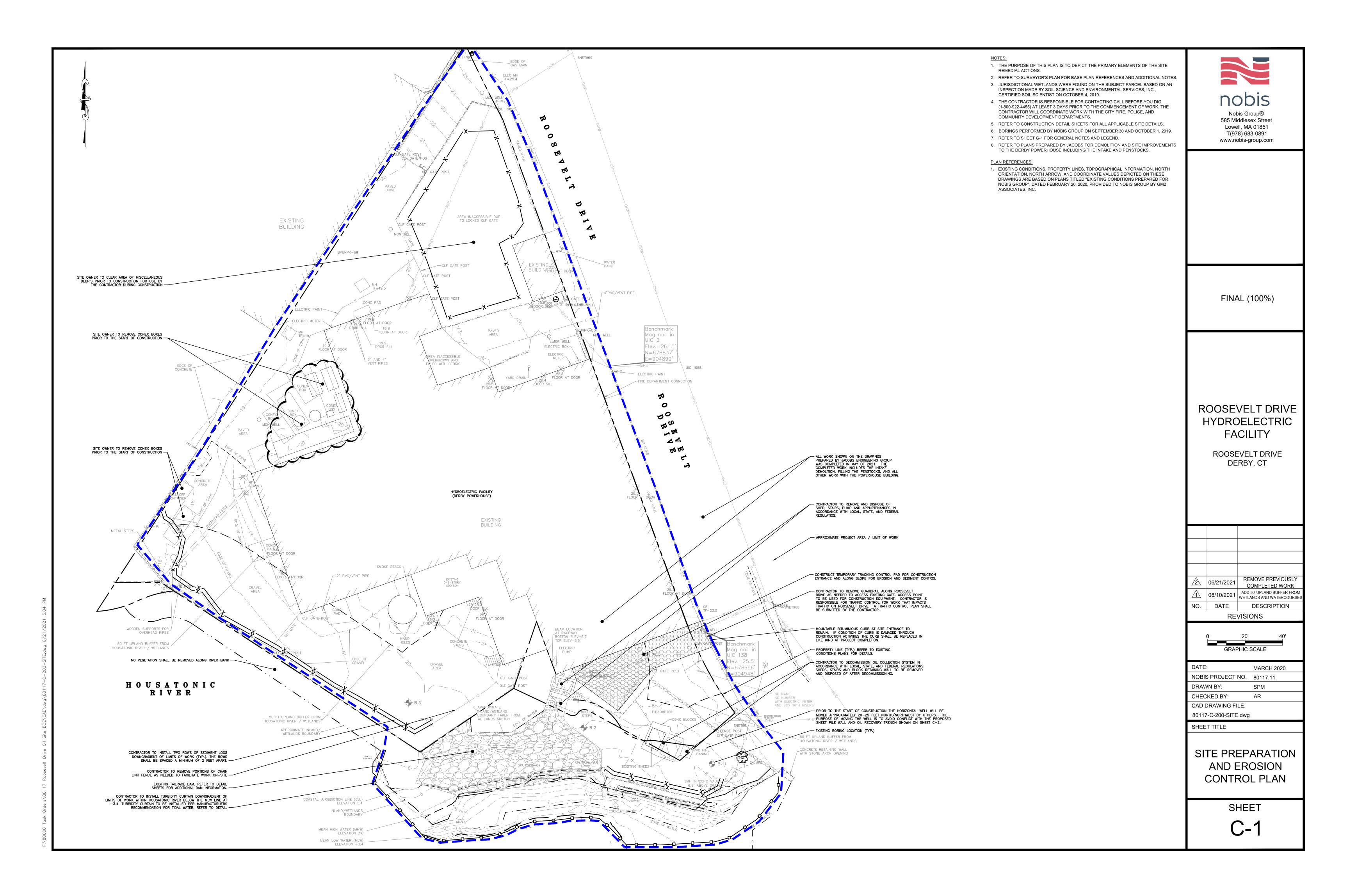
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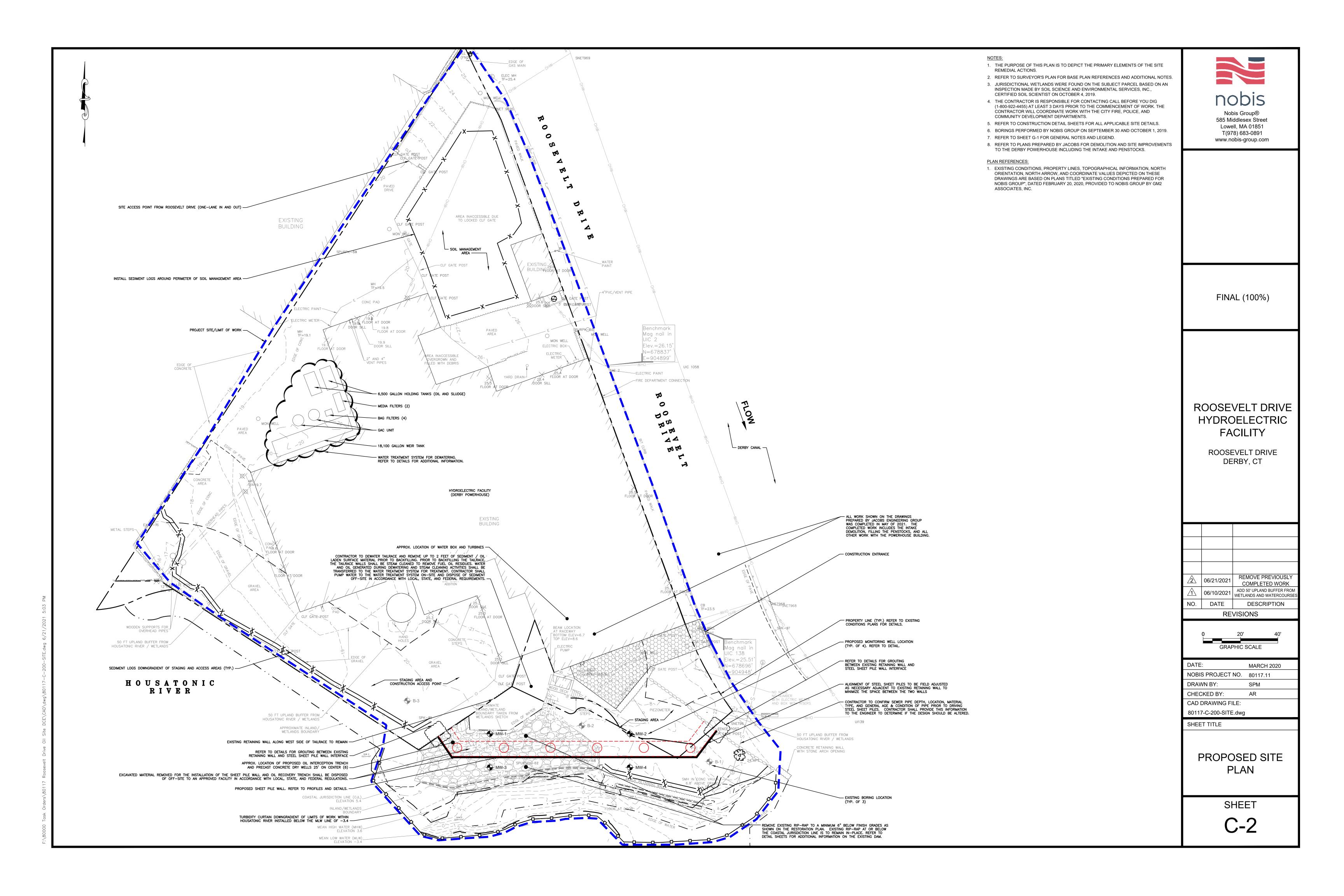
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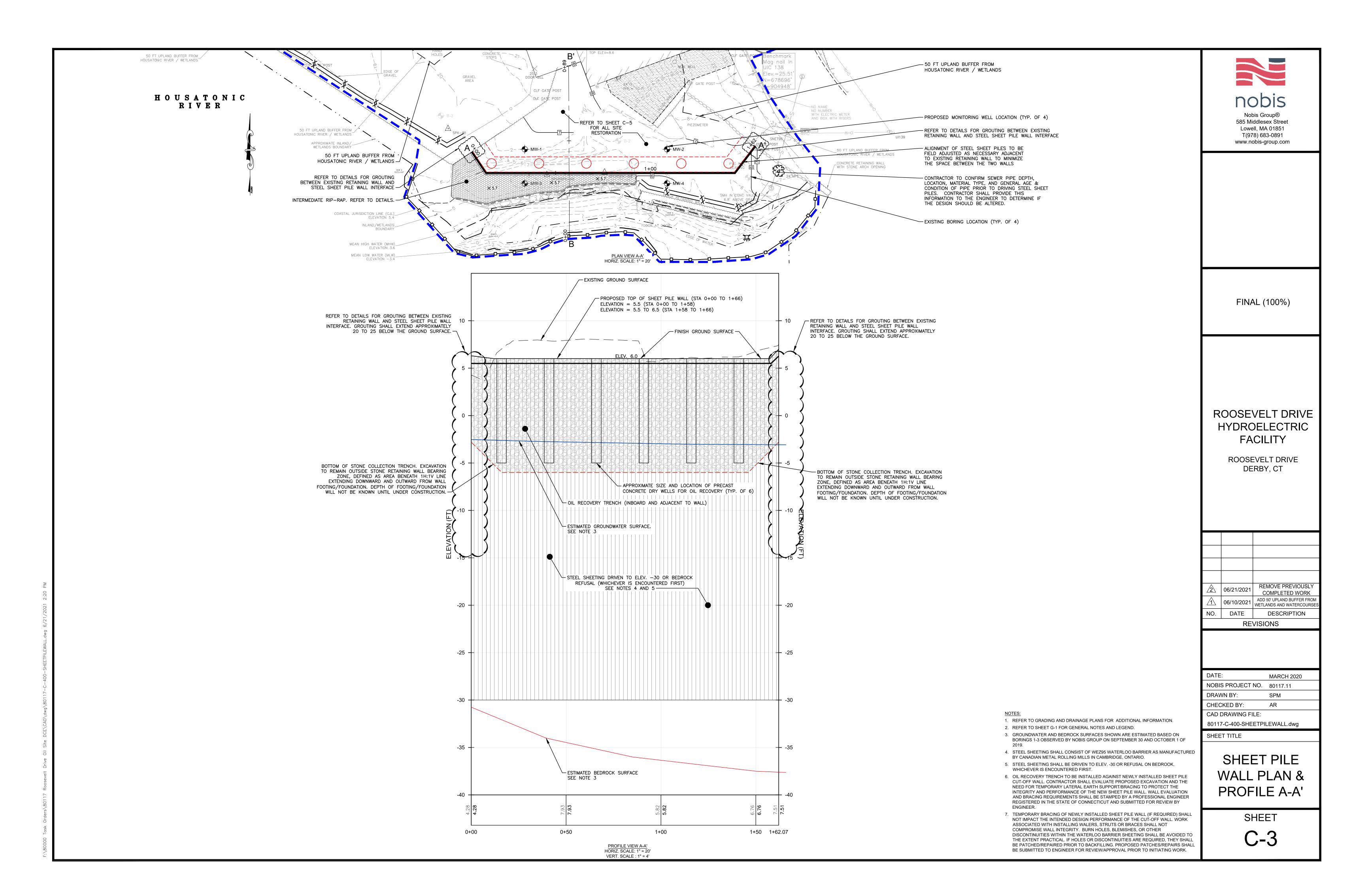


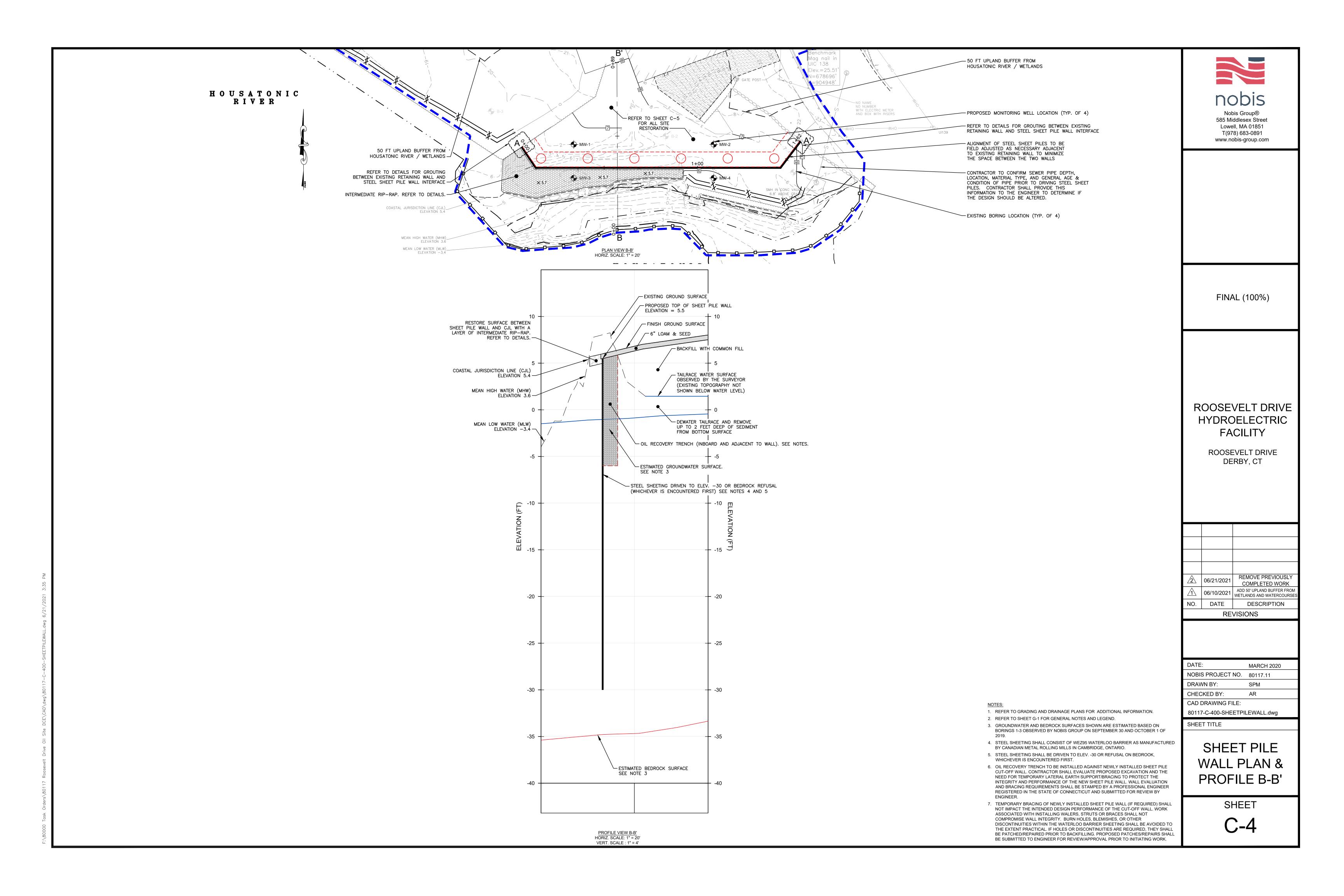


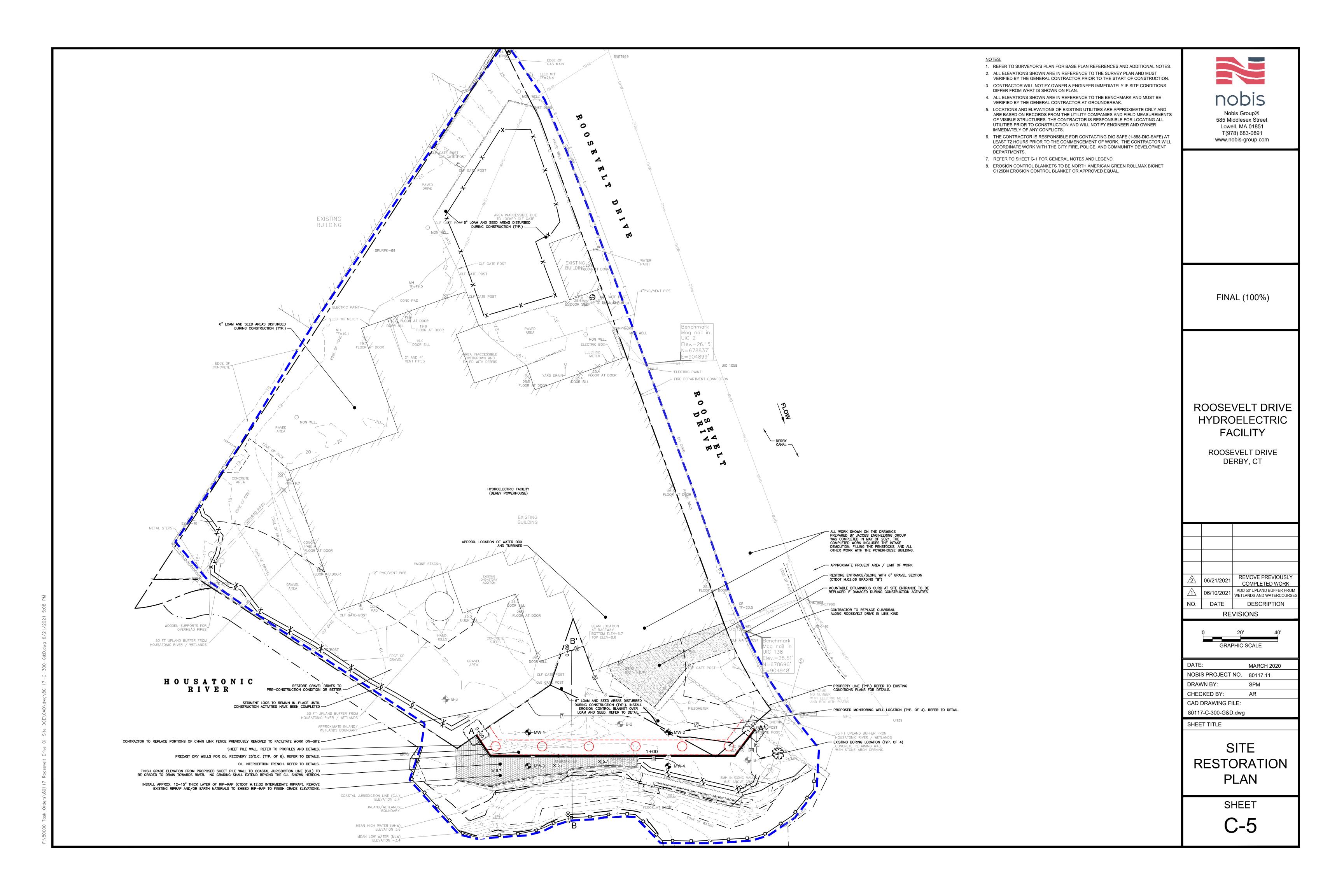


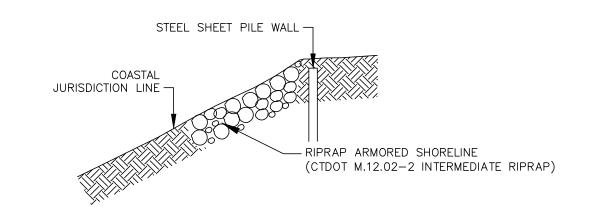










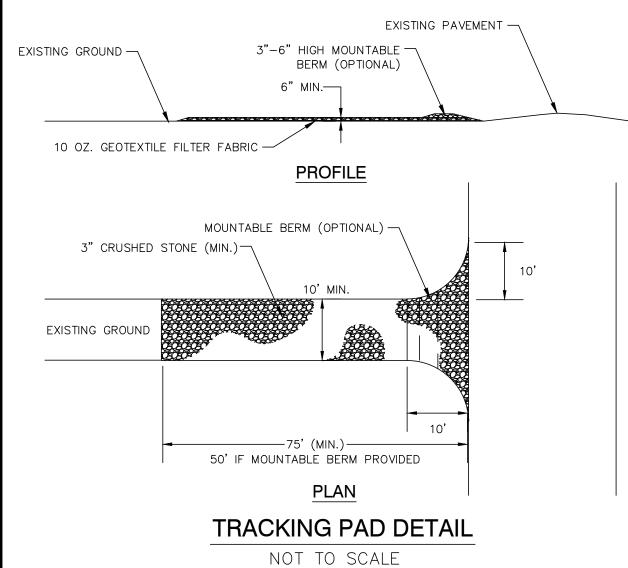


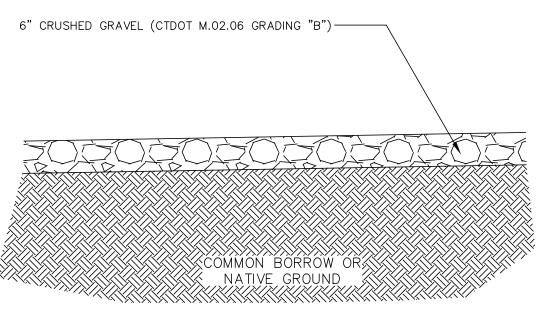
INTERMEDIATE	RIPRAP GRADATION
STONE SIZE	% OF THE WEIGHT
18"	0
10-18"	30-50
6-10"	30-50
4-6"	20-30
2-4"	10-20
<2"	0-10

- 1. THE RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
- 2. STONE FOR THE RIPRAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

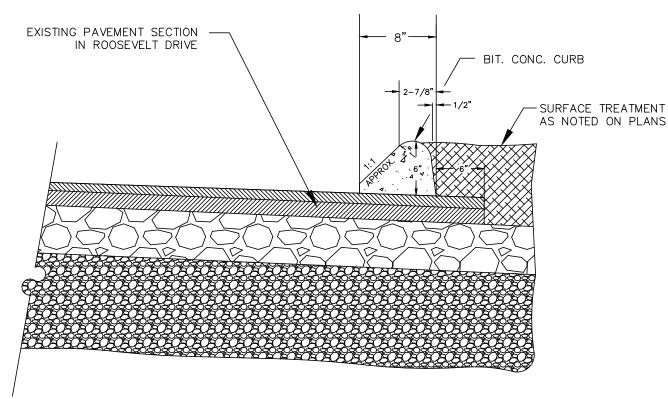
#### RIP RAP SHORELINE RESTORATION

NOT TO SCALE





NOT TO SCALE



#### **BITUMINOUS CURB DETAIL**

NOT TO SCALE



N.H.D.O.T. TYPE "B"

RAW MATERIALS:
• ASTM A572 GR50 • CSA G40.21 GR350W

GALVANIZED, ASTM A123, CSA G164

• COAL TAR EPOXY, SSPC-10 • FUSION BONDED EPOXY RESIN, ASTM A950

BENDS CAN BE SUPPLIED TO ANY ANGLE

'T' SECTIONS AND OTHER WELDED FABRICATIONS ARE

MANUFACTURING: ASTM A6 • CSA G40.20

COATINGS:

MOMENT RADIUS OF SECTION

4.33

OF INERTIA

134

GYRATION | MODULUS

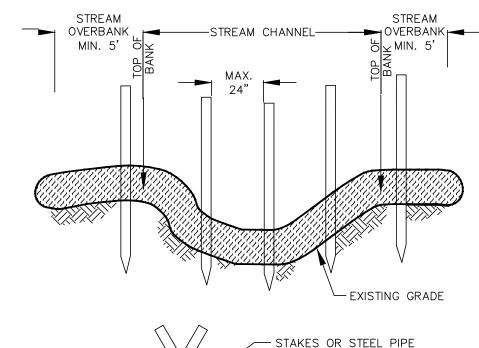
IN<sup>3</sup>/WALL FT

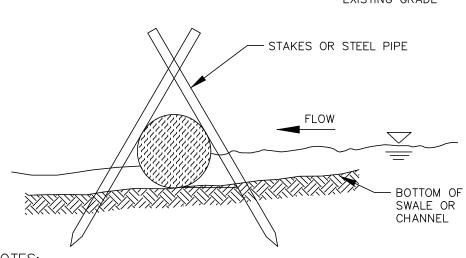
24.9

FRAME AND GRATE SET ON FULL BED OF STEEL SHEET PILING DETAIL MORTAR AND SEALED INSTALL GEOTEXTILE FILTER ADJUST TO GRADE WITH FABRIC BETWEEN LOAM NOT TO SCALE HARD RED BRICK AND TOP OF STONE -2 COURSE MINIMUM - 5 COURSE MAXIMUM TOP OF SHEET PILE 6" LOAM WALL = ELEV: 5.5PRECAST CONCRETE 4' INSIDE DIAMETER COMMON FILL -STEEL SHEET PILING -CONCRETE: 4,000 PSI AFTER 28 DAYS ALL PRECAST COMPONENTS SHALL BE DESIGNED FOR H-20 LOADING 1½" - 3" ROUND STONE PERFORATIONS SHALL BE 12" OFF CENTER BOTH WAYS SEAL ALL PRECAST JOINTS WITH BITUMASTIC SEAL ALL STONE SHALL BE LIFT HOLES ARE TO BE SEALED WITH PORTLAND CEMENT FLUSH TO THE OUTSIDE STRUCTURE WALL WRAPPED IN GEOTEXTILE PRIOR TO BACKFILLING STEEL SHEET PILE WALL AS MANUFACTURED BY WATERLOO WEZ95.
PROVIDE PERIODIC REMOVAL OF ACCUMULATED OIL IN PRECAST CONCRETE DRY WELLS AS NEEDED.
OIL RECOVERY TRENCH TO BE INSTALLED AGAINST NEWLY INSTALLED SHEET PILE CUT—OFF WALL. FILTER FABRIC 0 0 0 0 CONTRACTOR SHALL EVALUATE PROPOSED EXCAVATION AND THE NEED FOR TEMPORARY LATERAL EARTH SUPPORT/BRACING TO PROTECT THE INTEGRITY AND PERFORMANCE OF THE NEW SHEET PILE WALL. WALL EVALUATION AND BRACING REQUIREMENTS SHALL BE STAMPED BY A PROFESSIONAL 0 0 0 0 ENGINEER REGISTERED IN THE STATE OF CONNECTICUT AND SUBMITTED FOR REVIEW BY ENGINEER. TEMPORARY BRACING OF NEWLY INSTALLED SHEET PILE WALL (IF REQUIRED) SHALL NOT IMPACT THE INTENDED DESIGN PERFORMANCE OF THE CUT-OFF WALL. WORK ASSOCIATED WITH INSTALLING WALERS, STRUTS OR BRACES SHALL NOT COMPROMISE WALL INTEGRITY. BURN HOLES, BLEMISHES, OR OTHER DISCONTINUITIES WITHIN THE WATERLOO BARRIER SHEETING SHALL BE AVOIDED TO THE EXTENT PRACTICAL. IF HOLES OR DISCONTINUITIES ARE REQUIRED, THEY SHALL BE PATCHED/REPAIRED PRIOR TO BACKFILLING. PROPOSED PATCHES/REPAIRS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW/APPROVAL PRIOR TO INITIATING WORK. SHEET PILING ADVANCED TO ELEV.

-30 OR BEDROCK REFUSAL

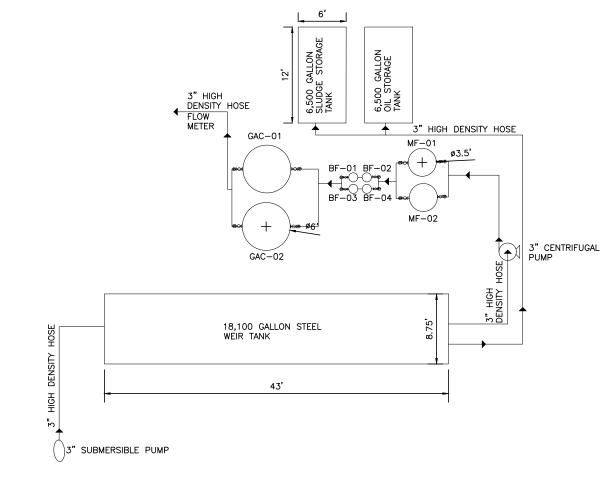
(WHICHEVER IS REACHED FIRST) SECTION VIEW OIL INTERCEPTION TRENCH DETAIL





NOTES: 1. TEMPORARY SEDIMENT LOG (FILTREXX SILTSOXX OR APPROVED EQUAL) SHOULD BE LOCATED AS SHOWN ON EROSION CONTROL PLANS AND ACROSS ANY WATER COURSE DOWNSTREAM FROM THE CONSTRUCTION AREA. 2. STAKE SHOULD BE INTERTWINED WITH THE OUTER MESH ONLY (ON THE DOWNSTREAM SIDE ONLY) AND PLACED A MINIMUM OF 610 MM (24") INTO GROUND. 3. PROVIDE PERIODIC REMOVAL OF ACCUMULATED DEBRIS AND SEDIMENTS DURING CONSTRUCTION AND PRIOR TO DISMANTLING.

TEMPORARY SEDIMENT LOG



NOT TO SCALE

- 1. PROPOSED LOCATION OF WATER TREATMENT SYSTEM IS SHOWN ON SHEET C-1. 2. EFFLUENT WILL BE SAMPLED AND DISCHARGED ON-SITE, PENDING ANALYTICAL RESULTS.
- 3. WATER TREATMENT SYSTEM COMPONENTS ARE DESIGNED FOR 150 GALLON/MINUTE FLOW. 4. DEWATERING WILL OCCUR CONTINUOUSLY THROUGHOUT THE EXCAVATION AND BACKFILL OF THE TAILRACE.
  - WATER TREATMENT SYSTEM -

PROCESS FLOW DIAGRAM

NOT TO SCALE

SHORELINE ANCHOR PT. \*THIS DISTANCE IS VARIABLE

> NOTES:
>
> 1. TURBIDITY CURTAIN TO BE MEET SPECIFICATIONS OF ABASCO TYPE II DOT TURBIDITY CURTAIN OR APPROVED EQUAL.
>
> 2. PURPOSE OF TURBIDITY CURTAIN IS TO PROTECT RIVER AND FISH POPULATIONS FROM SEDIMENT RUNOFF AS A RESULT OF THE WORK.

PLAN

ANCHOR & ANCHOR BUOY

WORK AREA

BARRIER MOVEMENT DUE TO TIDAL CHANGE

TIDAL WATERS AND/OR HEAVY WIND & WAVE ACTION

TURBIDITY CURTAIN DETAIL NOT TO SCALE



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FINAL (100%)

#### ROOSEVELT DRIVE **HYDROELECTRIC FACILITY**

ROOSEVELT DRIVE DERBY, CT

2	06/21/2021	REMOVE PREVIOUSL COMPLETED WORK		
1	06/10/2021	ADD 50' UPLAND BUFFER FR WETLANDS AND WATERCOUF		
10.	DATE	DESCRIPTION		
	REVISIONS			

#### SCALE: AS NOTED

DATE:	MARCH 2020	
NOBIS PROJECT NO.	80117.11	
DRAWN BY:	SPM	
CHECKED BY:	AR	
CAD DRAWING FILE:		
80117-C-700-DETAILS.dwg		

SHEET TITLE

---PROPOSED WORK AREA

\_SHORELINE

ANCHOR PT.

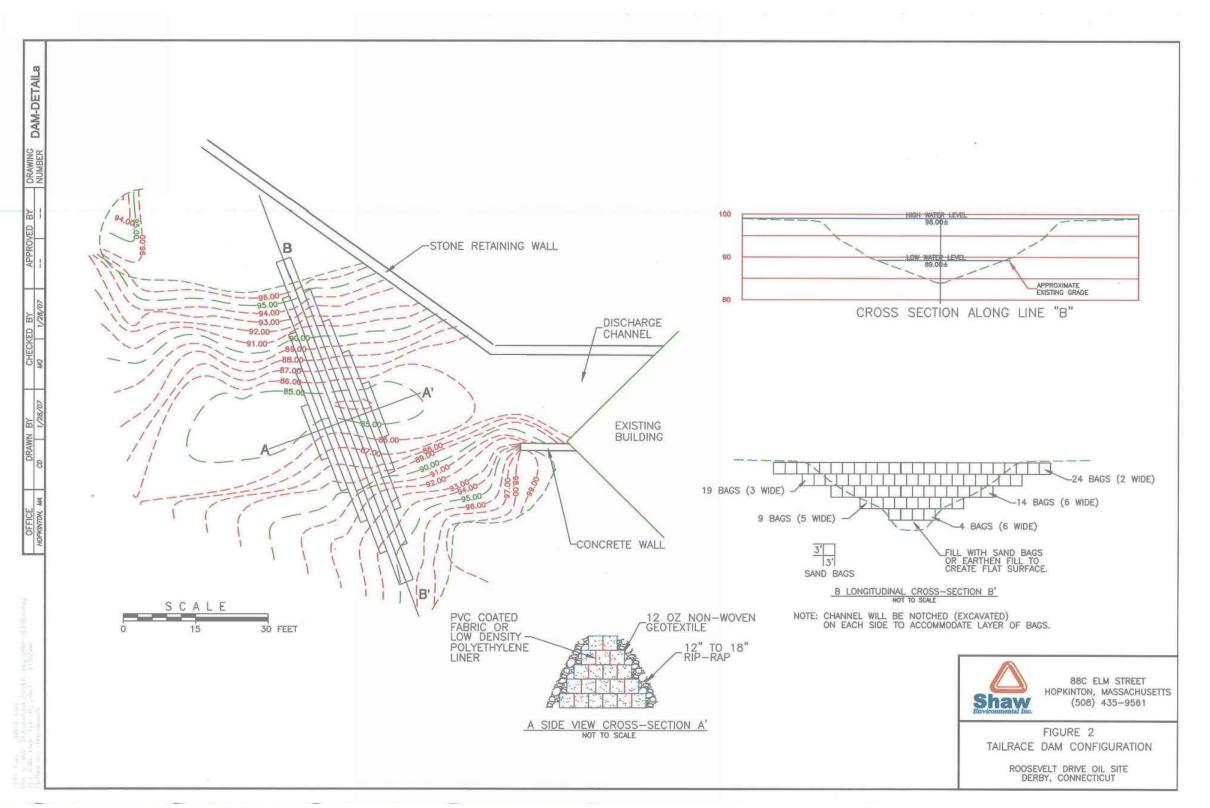
CONSTRUCTION **DETAILS** 

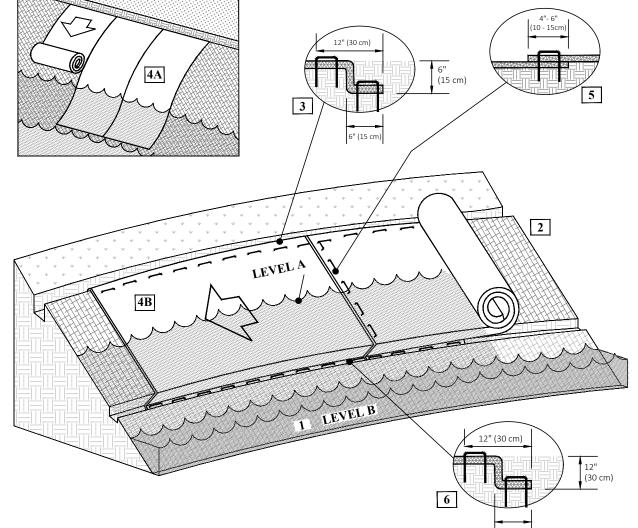
SHEET

C-6

TYPICAL GRAVEL SECTION

NOT TO SCALE





Instructions

1. For easier installation, lower water level from Level A to Level B before installation. 2. Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed. Ground surface must be free of debris, rocks, clay clods and raked smooth sufficient to allow intimate contact of the RECP with the soil over the entirety of the installation.

3. Begin at the top of the shoreline by anchoring the RECPs in a 6" (15 cm) deep X 6" (15 cm) wide trench. Anchor the RECPs with a row of staples/stakes spaced at  $S_T$  apart in the bottom of the trench. Backfill and compact the trench after stapling.
4. Roll RECPs either (A) down the shoreline for long banks (top to bottom) or (B) horizontally across the shoreline slope. RECPs will unroll with appropriate side against the soil surface. VMax TRMs should always be installed parallel to flow. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the

staple pattern guide. 5. The edges of all horizontal and vertical seams must be

stapled with approximately 4" - 6" (10 - 15 cm) overlap. Note: \*In streambank applications, seam overlaps should be shingled in the predominant flow direction.
6. The edges of the RECPs at or below normal water level must be anchored by placing the RECP's in a 12" (30 cm) deep X 6" (15 cm) wide anchor trench. Anchor the RECPs with a row of staples/stakes spaced approximately 12"(30cm) apart in the trench. Backfill and compact the trench after stapling (stone or soil may be used as backfill). For installation at or below normal water level, use of ShoreMax mat on top of the RECP or geotextile underneath is likely required for 7. Fasteners should provide a minimum of twenty pounds cm) eleven gauge staples are typically adequate. In can provide the greatest pullout resistance. In hard or twist pins are refused, provided the minimum pullout

Nobis Group® 585 Middlesex Street Lowell, MA 01851

T(978) 683-0891

www.nobis-group.com

Guide

Staple Pattern

18" (45 cm)

3.8 / SY

Staple Pattern

Pin / Staple / Twist Pin, as

20" (50 cm) 20" (50 cm)

FINAL (100%)

#### **ROOSEVELT DRIVE HYDROELECTRIC FACILITY**

ROOSEVELT DRIVE DERBY, CT

<u>^2</u>	06/21/2021	REMOVE PREVIOUSLY COMPLETED WORK
$\triangle$	06/10/2021	ADD 50' UPLAND BUFFER FRO WETLANDS AND WATERCOURS
NO.	DATE	DESCRIPTION
	RE'	VISIONS

#### SCALE: **AS NOTED**

DATE:	MARCH 2020	
NOBIS PROJECT NO.	80117.11	
DRAWN BY:	SPM	
CHECKED BY:	AR	
CAD DRAWING FILE:		
80117-C-700-DETAILS.dwg		

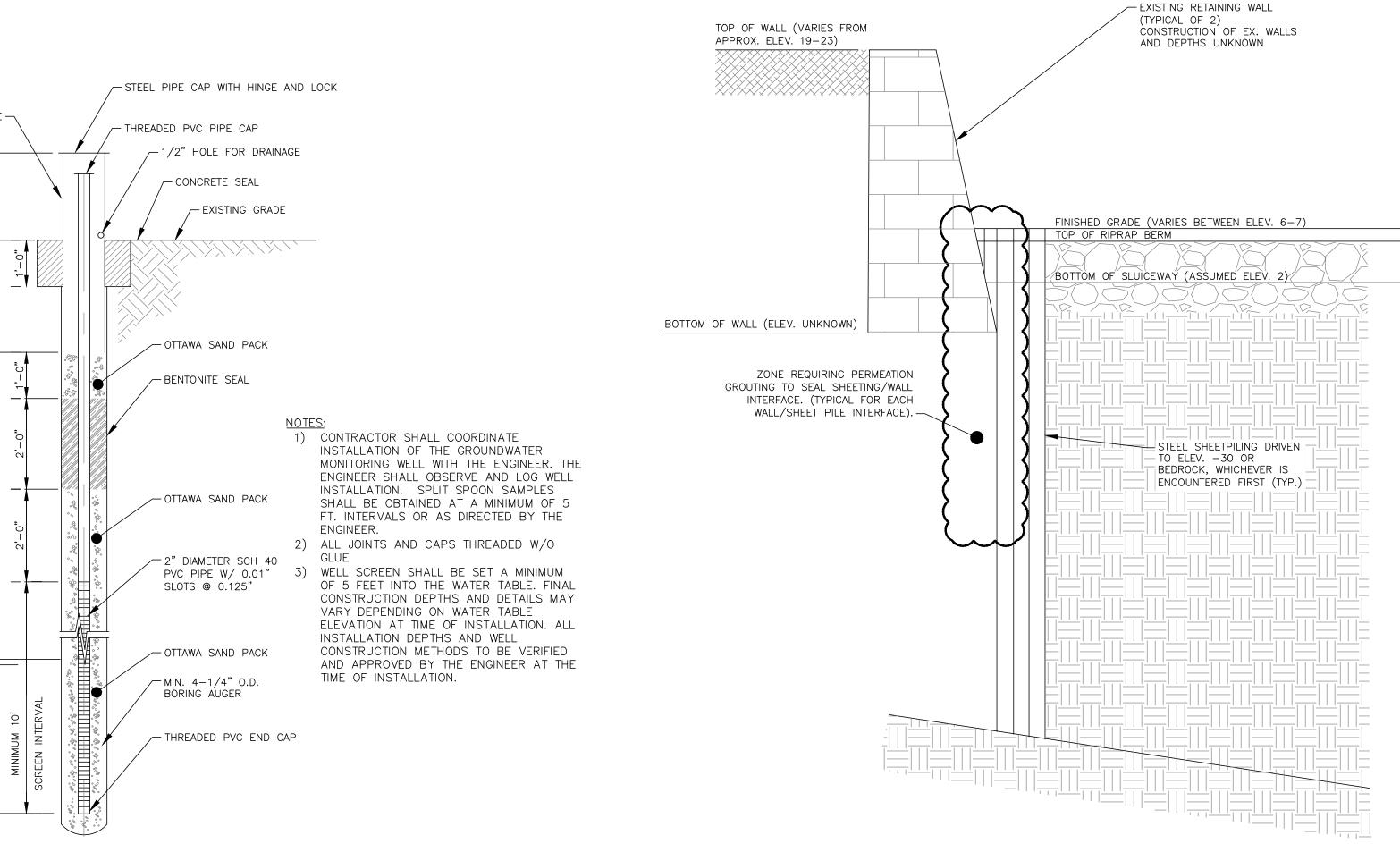
SHEET TITLE

### CONSTRUCTION **DETAILS**

SHEET

## **EXISTING TAILRACE DAM DETAIL** (FOR REFERENCE ONLY)

NOT TO SCALE



TYPICAL EXISTING RETAINING WALL / SHEETING GROUT INTERFACE DETAIL

NOT TO SCALE

PERMEATION GROUTING LOCATIONS (TYP.)
FINAL GROUTING PROGRAM TO BE DETERMINED
DURING CONSTRUCTION BASED ON FIELD CONDITIONS TO ACHIEVE DESIGN OBJECTIVES. GROUTING TO BE EXTENDED BELOW THE GROUND SURFACE APPROXIMATELY 20 TO 25 FEET. -PROPOSED STEEL SHEET PILE WALL (TYP.) OIL INTERCEPTION TRENCH (TYP.)

NOTE: 1. INSTALL NORTH AMERICAN GREEN EROSION CONTROL BLANKET ROLLMAX BIONET C125BN OR APPROVED EQUAL.

**EROSION CONTROL BLANKET INSTALLATION DETAIL** 

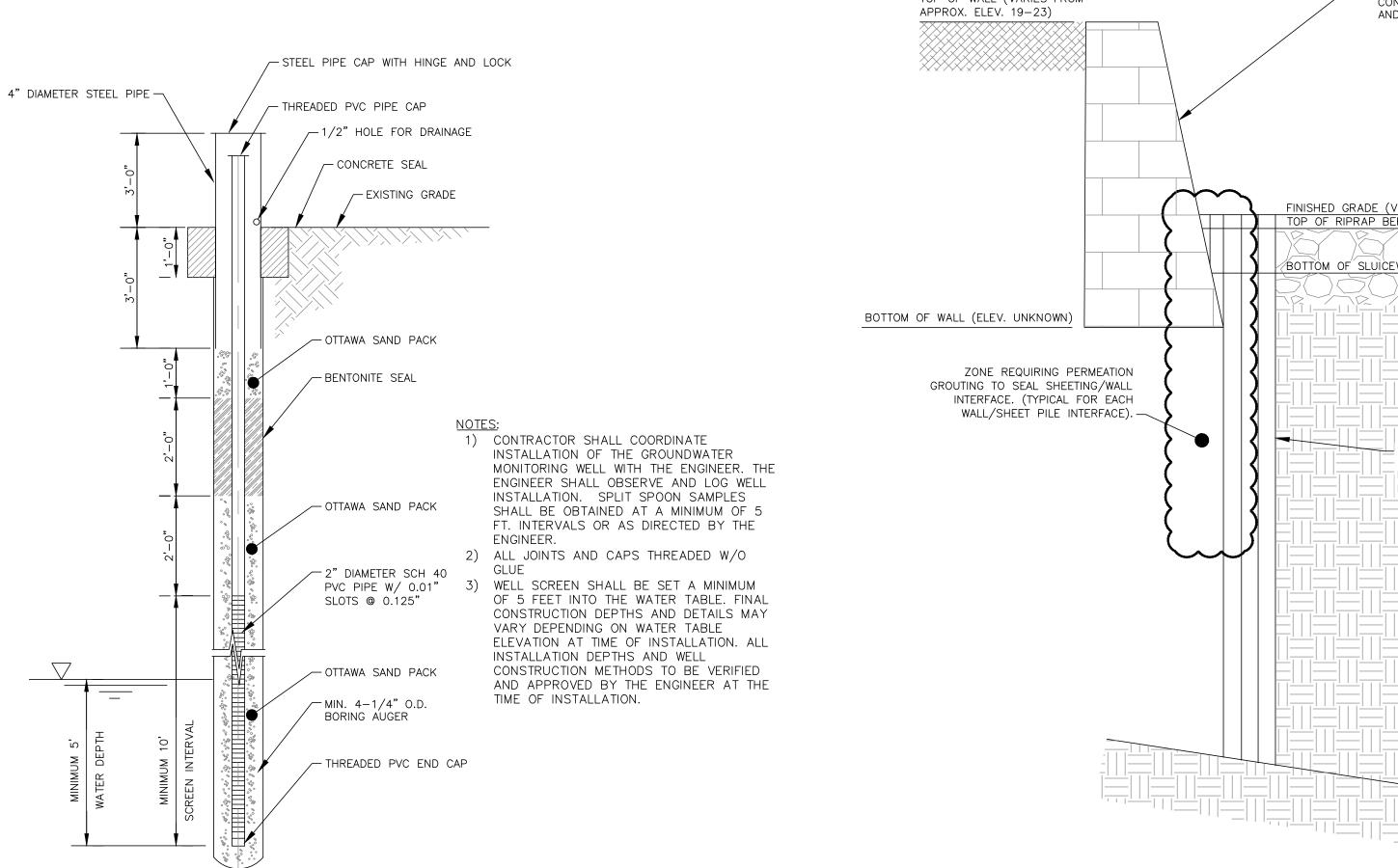
(PROVIDED BY NORTH AMERICAN GREEN)

NOT TO SCALE

1) PERMEATION GROUTING SHALL BE ACCOMPLISHED IMMEDIATELY FOLLOWING INSTALLATION OF STEEL SHEET PILE CUT-OFF WALL, AND PRIOR TO EXCAVATING TO INSTALL OIL INTERCEPTION TRENCH. 2) EXCAVATIONS FOR INSTALLATION OF STONE INTERCEPTION TRENCH SHALL NOT OCCUR UNTIL AFTER PERMEATION GROUTING HAS BEEN COMPLETED AND GROUT HAS HAD ADEQUATE TIME TO SET. EXCAVATIONS FOR THE COLLECTION TRENCH SHALL AVOID EXCAVATING THE GROUTED ZONE, AND TRENCH EXCAVATIONS SHALL NOT EXTEND BELOW A 1H:1V LINE, EXTENDING DOWNWARD AND OUTWARD FROM EDGE OF RETAINING WALL FOUNDATION/FOOTING.

> TYPICAL PERMEATION / JET **GROUTING LOCATIONS DETAIL**

> > NOT TO SCALE



TYPICAL GROUNDWATER MONITORING WELL

NOT TO SCALE