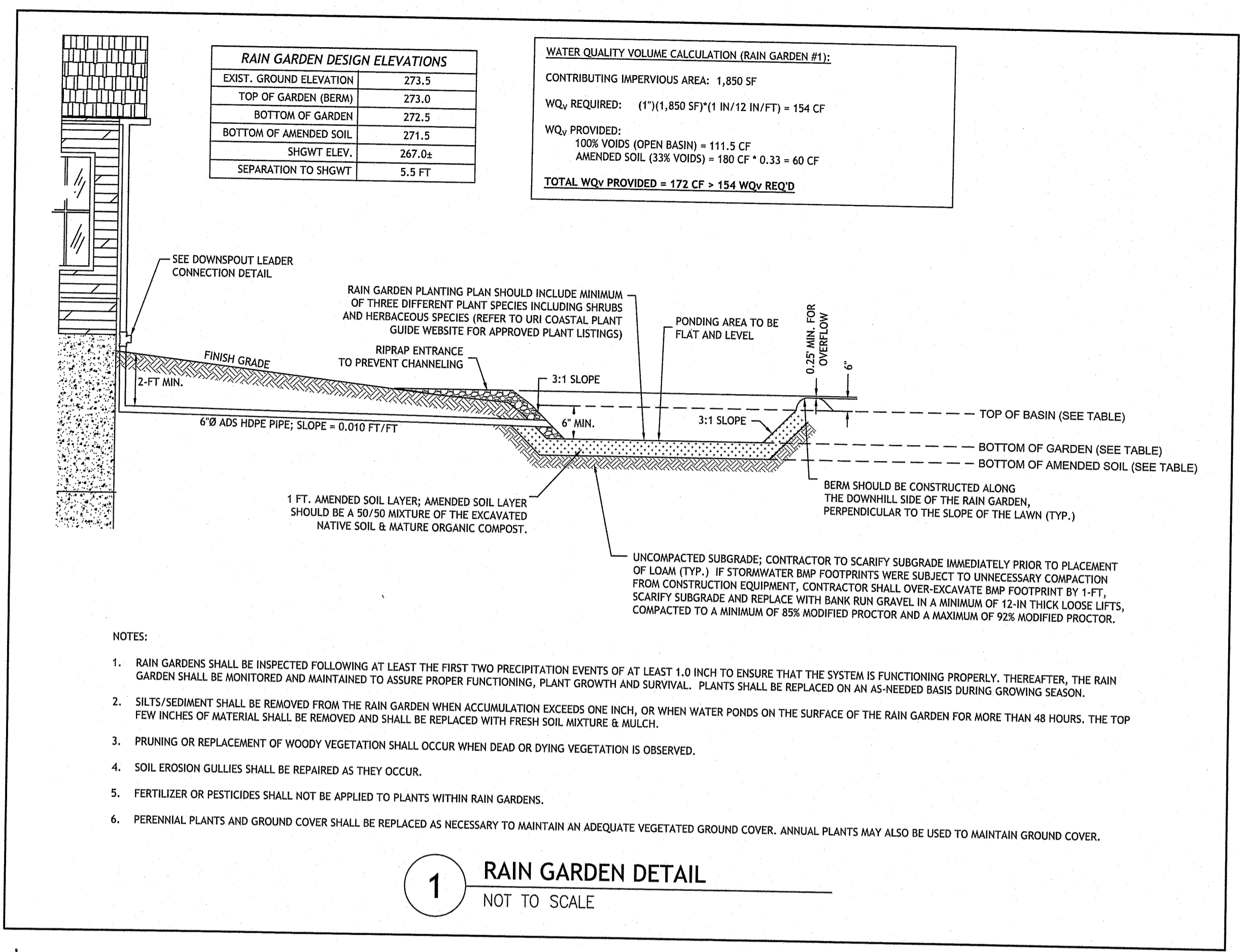


**DETAIL PLAN AT DWELLING**  
SCALE: 1" = 20'

ZONING CRITERIA	REQUIRED	PROPOSED
ZONING DISTRICT	F-1	F-1
MINIMUM LOT AREA	1 ACRE	7.17 ACRES
MINIMUM LOT FRONTAGE <sup>1</sup>	150 FT	50.36 FT <sup>4</sup>
MAXIMUM LOT COVERAGE - STRUCTURE <sup>2</sup>	25%	0.6%
MAXIMUM LOT COVERAGE - PAVEMENT <sup>3</sup>	60%	0.0%
MINIMUM FRONT YARD	60 FT	503.5 FT
MINIMUM SIDE YARD	30 FT	31.1 FT
MINIMUM REAR YARD	45 FT	97.2 FT
MAXIMUM HEIGHT - MAIN STRUCTURE	35 FT	<35 FT
MAXIMUM HEIGHT - ACCESSORY	15 FT	N/A

- MINIMUM WIDTH AT THE FRONT SETBACK LINE MUST BE 75% OF THE REQUIRED MINIMUM STREET FRONTAGE. STREET FRONTAGE REGULATIONS IN A R OR F ZONE MAY BE REDUCED TO NOT LESS THAN 75% OF THE MINIMUM REQUIRED STREET FRONTAGE FOR LOTS FRONTING THE ARC OF A CURVE, AND EACH LOT MUST HAVE THE MINIMUM LOT FRONTAGE AT THE FRONT SETBACK LINE.
- MAXIMUM LOT COVERAGE IS DEFINED HERE AS STRUCTURES ONLY.
- MAXIMUM LOT COVERAGE PAVEMENT IS DEFINED HERE AS THE TOTAL AREA OF BOTH STRUCTURES AND PAVED SURFACES.
- PRE-EXISTING, NON-CONFORMING CONDITION.



RAIN GARDEN DESIGN ELEVATIONS	
EXIST. GROUND ELEVATION	273.5
TOP OF GARDEN (BERM)	273.0
BOTTOM OF GARDEN	272.5
BOTTOM OF AMENDED SOIL	271.5
SHGWT ELEV.	267.0±
SEPARATION TO SHGWT	5.5 FT

**WATER QUALITY VOLUME CALCULATION (RAIN GARDEN #1):**  
 CONTRIBUTING IMPERVIOUS AREA: 1,850 SF  
 WQ<sub>v</sub> REQUIRED: (17)(1,850 SF)(1 IN/12 IN/FT) = 154 CF  
 WQ<sub>v</sub> PROVIDED:  
 100% VOIDS (OPEN BASIN) = 111.5 CF  
 AMENDED SOIL (33% VOIDS) = 180 CF \* 0.33 = 60 CF  
**TOTAL WQ<sub>v</sub> PROVIDED = 172 CF > 154 WQ<sub>v</sub> REQ'D**

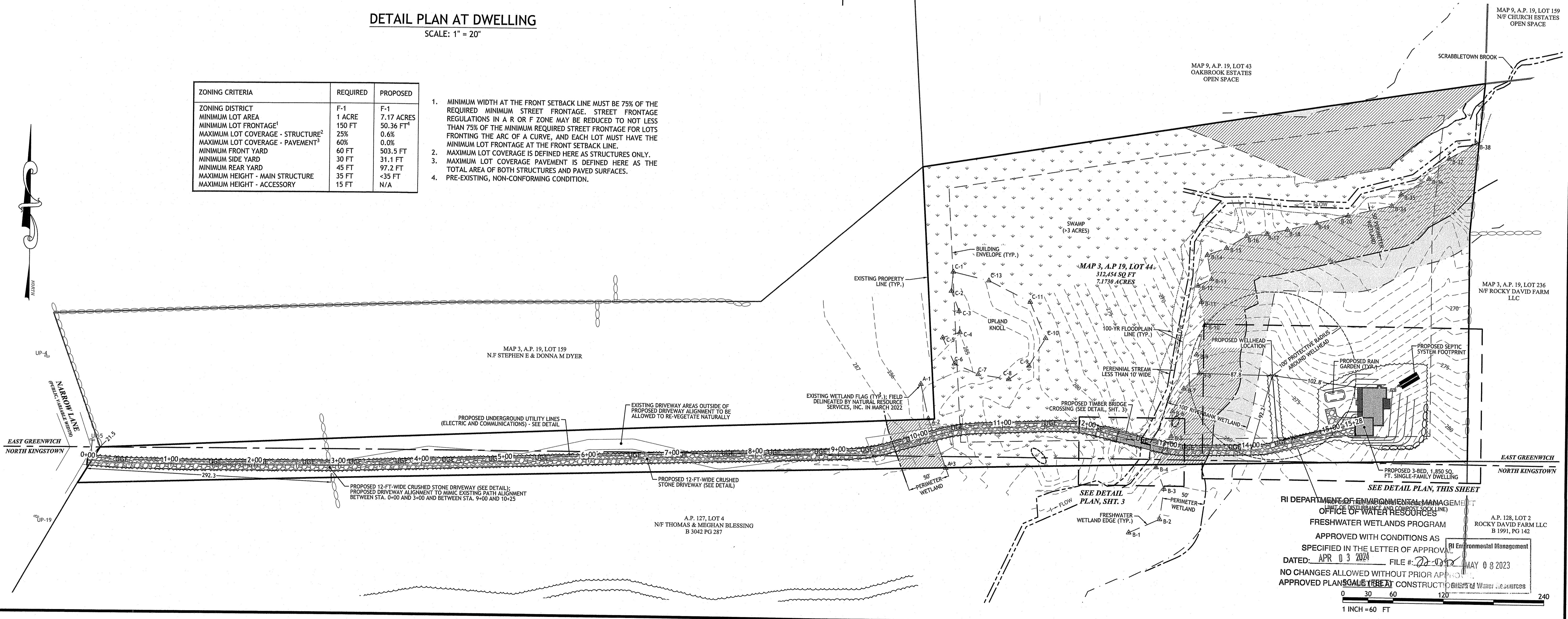
RAIN GARDEN PLANTING PLAN SHOULD INCLUDE MINIMUM OF THREE DIFFERENT PLANT SPECIES INCLUDING SHRUBS AND HERBACEOUS SPECIES (REFER TO URI COASTAL PLANT GUIDE WEBSITE FOR APPROVED PLANT LISTINGS)

1 FT. AMENDED SOIL LAYER; AMENDED SOIL LAYER SHOULD BE A 50/50 MIXTURE OF THE EXCAVATED NATIVE SOIL & MATURE ORGANIC COMPOST.

UNCOMPACTED SUBGRADE; CONTRACTOR TO SCARIFY SUBGRADE IMMEDIATELY PRIOR TO PLACEMENT OF LOAM (TYP.). IF STORMWATER BMP FOOTPRINTS WERE SUBJECT TO UNNECESSARY COMPACTION FROM CONSTRUCTION EQUIPMENT, CONTRACTOR SHALL OVER-EXCAVATE BMP FOOTPRINT BY 1-FT., SCARIFY SUBGRADE AND REPLACE WITH BANK RUN GRAVEL IN A MINIMUM OF 12-IN THICK LOOSE LIFTS, COMPACTED TO A MINIMUM OF 85% MODIFIED PROCTOR AND A MAXIMUM OF 92% MODIFIED PROCTOR.

- NOTES:
- RAIN GARDENS SHALL BE INSPECTED FOLLOWING AT LEAST THE FIRST TWO PRECIPITATION EVENTS OF AT LEAST 1.0 INCH TO ENSURE THAT THE SYSTEM IS FUNCTIONING PROPERLY. THEREAFTER, THE RAIN GARDEN SHALL BE MONITORED AND MAINTAINED TO ASSURE PROPER FUNCTIONING, PLANT GROWTH AND SURVIVAL. PLANTS SHALL BE REPLACED ON AN AS-NEEDED BASIS DURING GROWING SEASON.
  - SILTS/SEDIMENT SHALL BE REMOVED FROM THE RAIN GARDEN WHEN ACCUMULATION EXCEEDS ONE INCH, OR WHEN WATER PONDS ON THE SURFACE OF THE RAIN GARDEN FOR MORE THAN 48 HOURS. THE TOP FEW INCHES OF MATERIAL SHALL BE REMOVED AND SHALL BE REPLACED WITH FRESH SOIL MIXTURE & MULCH.
  - PRUNING OR REPLACEMENT OF WOODY VEGETATION SHALL OCCUR WHEN DEAD OR DYING VEGETATION IS OBSERVED.
  - SOIL EROSION GULLIES SHALL BE REPAIRED AS THEY OCCUR.
  - FERTILIZER OR PESTICIDES SHALL NOT BE APPLIED TO PLANTS WITHIN RAIN GARDENS.
  - PERENNIAL PLANTS AND GROUND COVER SHALL BE REPLACED AS NECESSARY TO MAINTAIN AN ADEQUATE VEGETATED GROUND COVER. ANNUAL PLANTS MAY ALSO BE USED TO MAINTAIN GROUND COVER.

**1 RAIN GARDEN DETAIL**  
NOT TO SCALE



**JCE**  
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JOSEPH A. CASALI  
 No. 7250  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL

**PROPOSED SINGLE-FAMILY DWELLING**  
 NARROW LANE  
 EAST GREENWICH, RHODE ISLAND  
 MAP 3, PLAT 19, LOT 44

REVISIONS:

NO.	DATE	DESCRIPTION
1	11/2022	RIDEM RTC

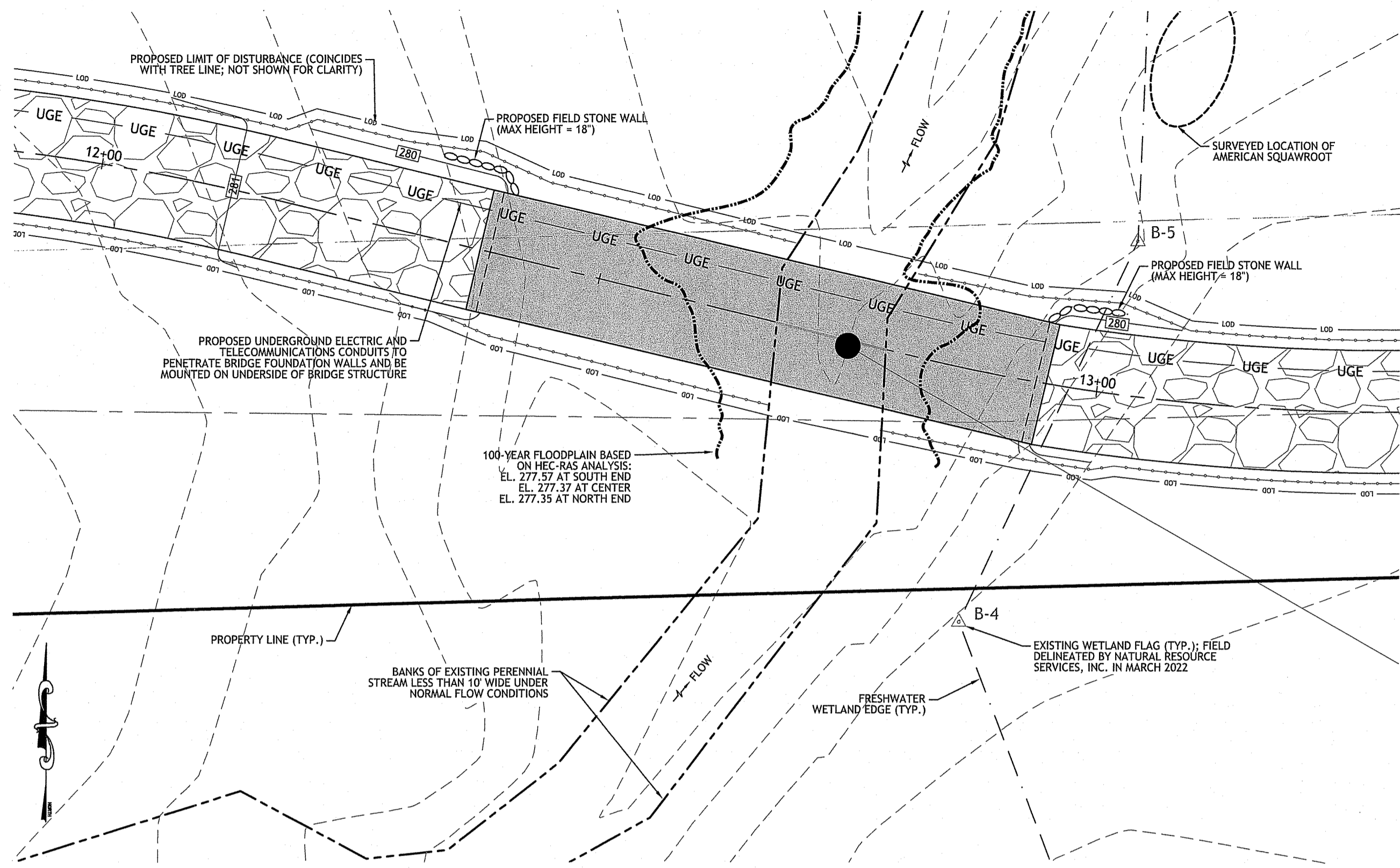
DESIGNED BY: WMLJR  
 DRAWN BY: SD  
 CHECKED BY: JAC  
 DATE: JUNE 2022  
 PROJECT NO: 22-27

PRELIMINARY, NOT FOR CONSTRUCTION

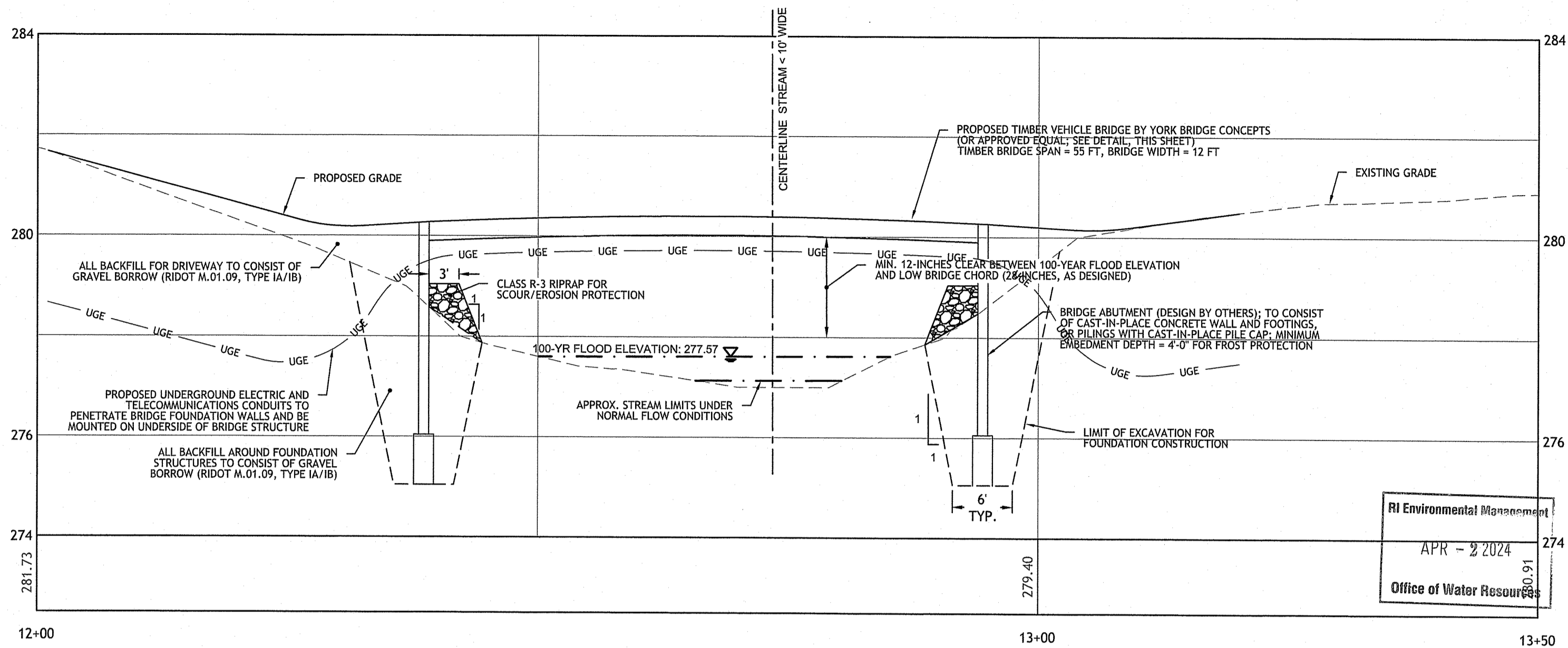
**SITE, GRADING AND DRAINAGE PLAN**

**SHEET 2 OF 4**

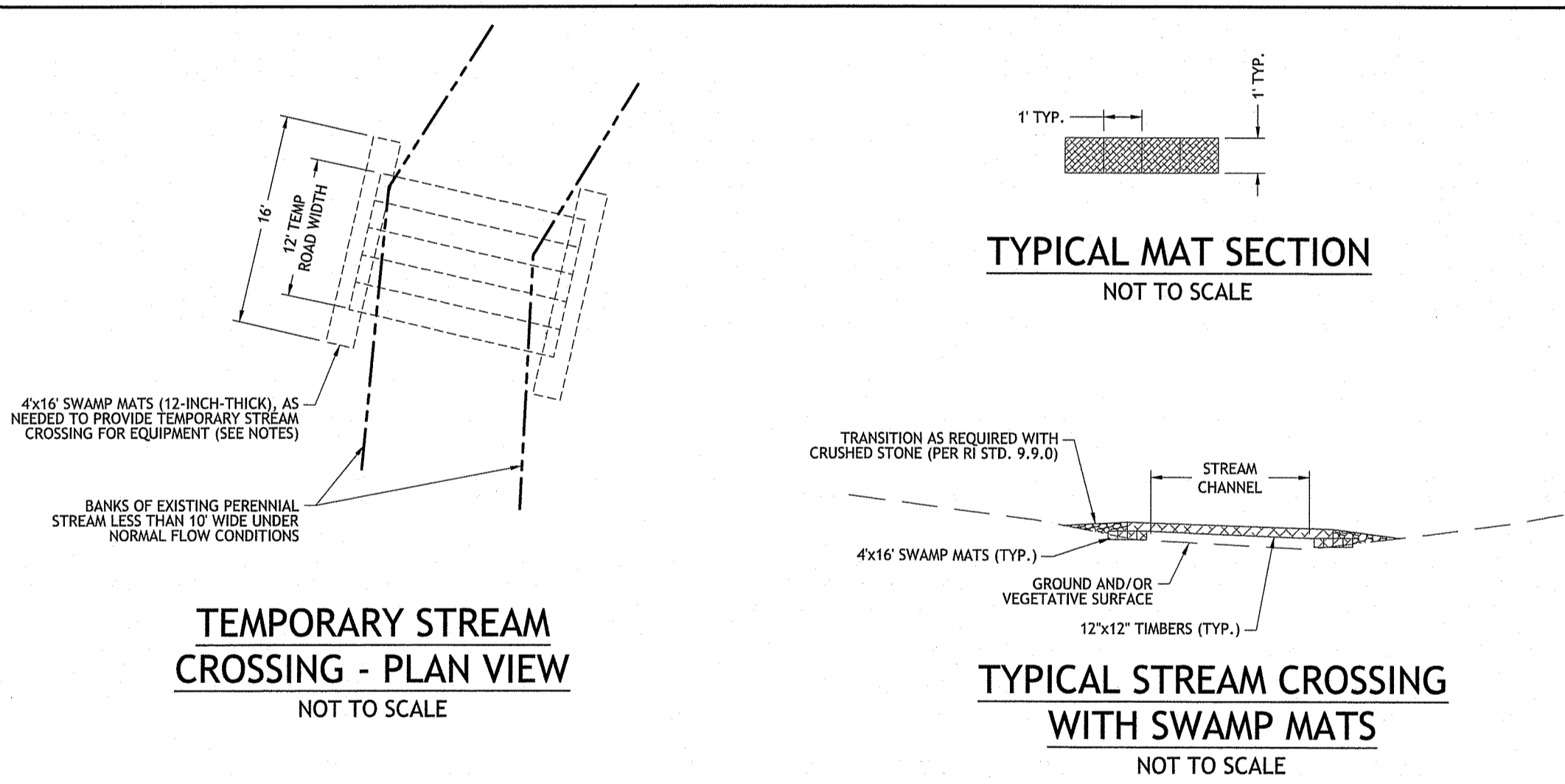
Q:\22-27 David Gannon\CAD\Narrow Lane (Site Plan) P3.dwg, Nov. 22, 2022 8:24am



**TIMBER BRIDGE CROSSING DETAIL PLAN**  
**STA 12+00 TO STA 13+50**  
 SCALE: 1" = 10'



**TIMBER BRIDGE PROFILE: STA 12+00 TO STA 13+50**  
 HORIZONTAL SCALE: 1" = 10'  
 VERTICAL SCALE: 1" = 2'



**TEMPORARY STREAM CROSSING - PLAN VIEW**  
 NOT TO SCALE

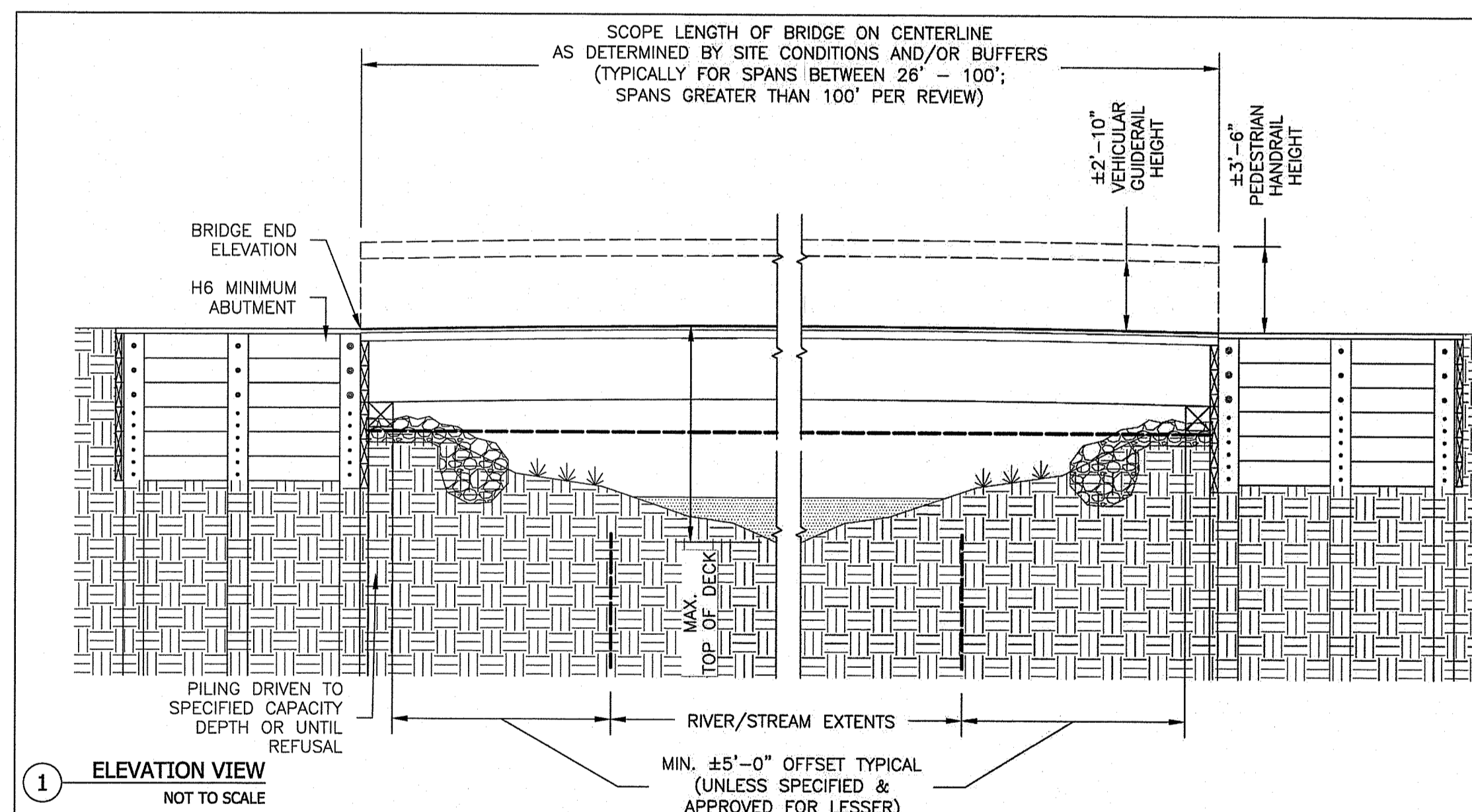
**TYPICAL MAT SECTION**  
 NOT TO SCALE

**TYPICAL STREAM CROSSING WITH SWAMP MATS**  
 NOT TO SCALE

**TEMPORARY STREAM CROSSING NOTES:**

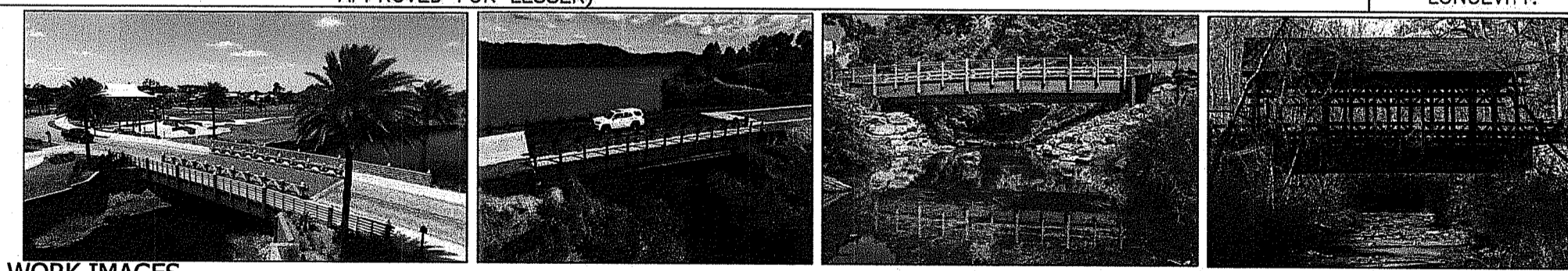
- TEMPORARY STREAM CROSSING SHALL BE PROVIDED AS NEEDED FOR CONSTRUCTION OF EASTERN BRIDGE ABUTMENT AND FOUNDATION. UPON COMPLETION OF CONSTRUCTION OF EASTERN BRIDGE ABUTMENT AND FOUNDATION, PERMANENT BRIDGE STRUCTURE SHALL BE SET IN PLACE AND UTILIZED FOR CONSTRUCTION VEHICLE TRAFFIC.
- MATS SHOULD BE IN GOOD CONDITION TO ENSURE PROPER INSTALLATION, USE AND REMOVAL. MATS SHALL BE HEAVY DUTY MADE WITH PEFC CERTIFIED COASTAL SECOND GROWTH SUSTAINABLE HEM.FIR AND DOUGLAS FIR TIMBER WITH 1-1/4" DIAMETER BOLTS MADE WITH NORTH AMERICAN RECYCLED STEEL. BOLTS SHALL BE COUNTERSUNK. ALL MATS SHOULD BE END TRIMMED FOR EVEN INSTALLATION.
- OPERATING HEAVY EQUIPMENT IN WETLANDS SHALL BE MINIMIZED, AND SUCH EQUIPMENT SHALL NOT BE STORED, MAINTAINED, FUELED OR REPAIRED IN WETLANDS. AN ADEQUATE SUPPLY OF SPILL CONTAINMENT SHALL BE MAINTAINED ON SITE AT ALL TIMES.
- WOODY VEGETATION SHALL BE CUT AT OR ABOVE GROUND LEVEL AND NOT UPROOTED IN ORDER TO PREVENT DISRUPTION TO THE WETLAND SOIL STRUCTURE AND TO ALLOW STUMP SPROUTS TO REVEGETATE THE WORK AREA.
- MATS SHALL BE PLACED IN A LOCATION THAT WILL MINIMIZE THE AMOUNT NEEDED FOR THE WETLAND CROSSING; HOWEVER MUST BE CONTAINED COMPLETELY WITHIN THE LIMIT OF DISTURBANCE.
- CONSTRUCTION MATS MAY BE USED AS A TEMPORARY BRIDGE OVER THE STREAM TO ALLOW VEHICLES ACCESS TO THE EASTERN BRIDGE ABUTMENT FOUNDATION. SMALL SECTIONS OF MAT ARE TO BE PLACED ALONG THE STREAM EDGE PARALLEL TO THE FLOW OF WATER. MATS MAY THEN BE PLACED PERPENDICULAR TO THE STREAM, RESTING ON TOP OF THE INITIAL CONSTRUCTION MAT SUPPORTS. IT MAY BE NECESSARY TO PLACE ADDITIONAL REINFORCEMENT FOR EXTRA STABILITY AND TO MINIMIZE THE AMOUNT OF SEDIMENT THAT COULD FALL BETWEEN THE SPACES OF EACH TIMBER.
- MATS SHALL NOT BE PLACED SUCH THAT THEY RESTRICT THE NATURAL FLOW OF THE STREAM.
- MATting SHOULD BE MAINTAINED UNTIL PERMANENT BRIDGE STRUCTURE IS IN PLACE.
- MATting SHOULD BE REMOVED BY "BACKING" OUT OF THE SITE, REMOVING MATS ONE AT A TIME. ANY RUTTING OR SIGNIFICANT INDENTATIONS IDENTIFIED DURING MAT REMOVAL SHOULD BE REGRABBED IMMEDIATELY, TAKING CARE TO NOT EXCESSIVELY COMPACT SOILS.
- MATS SHOULD BE CLEANED OF SOIL AND ANY INVASIVE PLANT SPECIES SEED STOCK OR PLANT MATERIAL BEFORE FURNISHED ON SITE, AND AGAIN PRIOR TO REMOVAL FROM THE SITE. CLEANING METHODS MAY INCLUDE, BUT ARE NOT LIMITED TO, SHAKING OR DROPPING MATS IN A CONTROLLED MANNER WITH A PIECE OF MACHINERY TO KNOCK OFF ATTACHED SOILS AND DEBRIS, SPRAYING WITH WATER OR AIR, AND SWEEPING.
- MATTED AREAS WITHIN WETLANDS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND ELEVATION.

**TEMPORARY STREAM CROSSING DETAILS**  
 NOT TO SCALE



**1 ELEVATION VIEW**  
 NOT TO SCALE

**2 FREE SPAN BRIDGE PREVIOUS WORK IMAGES**  
 NOT TO SCALE



**YORK BRIDGE CONCEPTS**  
 The Premier Timber Bridge Company

**TIMBER VEHICULAR BRIDGE**  
**TYPICAL FREE SPAN CROSSING**  
 GENERIC RIVER - STREAM ENVIRONMENT

CONCEPT ELEVATION			
RECORD LOADING			
VEHICULAR: 16520-44 (L&HD DEFLECTION)		PEDESTRIAN: 90 PSF LOADING (L&HD DEFLECTION)	
DATE	BY	PROJECT NUMBER	SHEET NUMBER
YEAR - 2020	XXXX	###-###	201

- GENERAL NOTES:**
- DRAWING IS CONCEPTUAL IN NATURE AND IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.
  - SITE INFORMATION IS GENERIC TO ILLUSTRATE GENERALIZED CONDITIONS.
  - LOW CHORD TO BE A MINIMUM OF 12 INCHES CLEAR OF 100-YEAR FLOOD ELEVATION, REQUIRED.
  - GRADING & RIP-RAP DESIGN & INSTALLATION BY OTHERS. NO STEEPER THAN 2:1 GRADING WITH AT LEAST 6" CLEAR OF THE BOTTOM OF PILE CAP IS PREFERRED. RIP-RAP IS RECOMMENDED FOR AREAS WHERE THE POTENTIAL FOR EROSION EXISTS.
  - MINIMUM OF 5' OFFSET FROM EASEMENTS, FLOW EXTENTS, ENVIRONMENTAL BUFFERS, OR SIMILAR RECOMMENDED, UNLESS OTHERWISE ALLOWED AS CONFIRMED BY AHI.
  - CONSTRUCTION FROM GROUND OR FROM DECK CAN INFLUENCE DESIGN CONSIDERATIONS AND SHOULD BE NOTED IN DESIGN INTENT PER PROJECT.
  - 42" PEDESTRIAN HANDRAIL DESIGNED TO MEET 4" SPHERE RULE.
  - 34" VEHICULAR GUIDERAIL & CURBING SYSTEM RATED FOR 10,000 LB CAPACITY.
  - BRIDGE SLOPE NOT TO EXCEED 4.5% FOR A CONTINUOUS PATH OR 7.5% IN AN ADA RAMP & LANDING CONFIGURATION.
  - IMAGERY REPRESENTS A VARIETY OF EXISTING WORK, ALL PROJECTS ARE CUSTOM DESIGNED PER SITE, CLIENT, AND DESIGN INTENT.
  - YORK TIMBER PROTECTIVE SYSTEMS ARE NOT STANDARD BUT RECOMMENDED DECK, RAIL, AND FOUNDATION COATING SELECTIONS THAT ARE CUSTOM TO THE BRIDGE USE, LOCATION, AND DESIGN INTENT FOR INCREASED LONGEVITY.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED: APR 03 2024 FILE #: 22-0267  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL. APPROVED PLANS MUST BE AT CONSTRUCTION SITE

**JCE**  
 JOSEPH A. CASALI ENGINEERING, INC.  
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JOSEPH A. CASALI  
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 04/02/2024

**PROPOSED SINGLE-FAMILY DWELLING**  
 NARROW LANE  
 EAST GREENWICH, RHODE ISLAND  
 MAP 3, PLAT 19, LOT 44

**REVISIONS:**

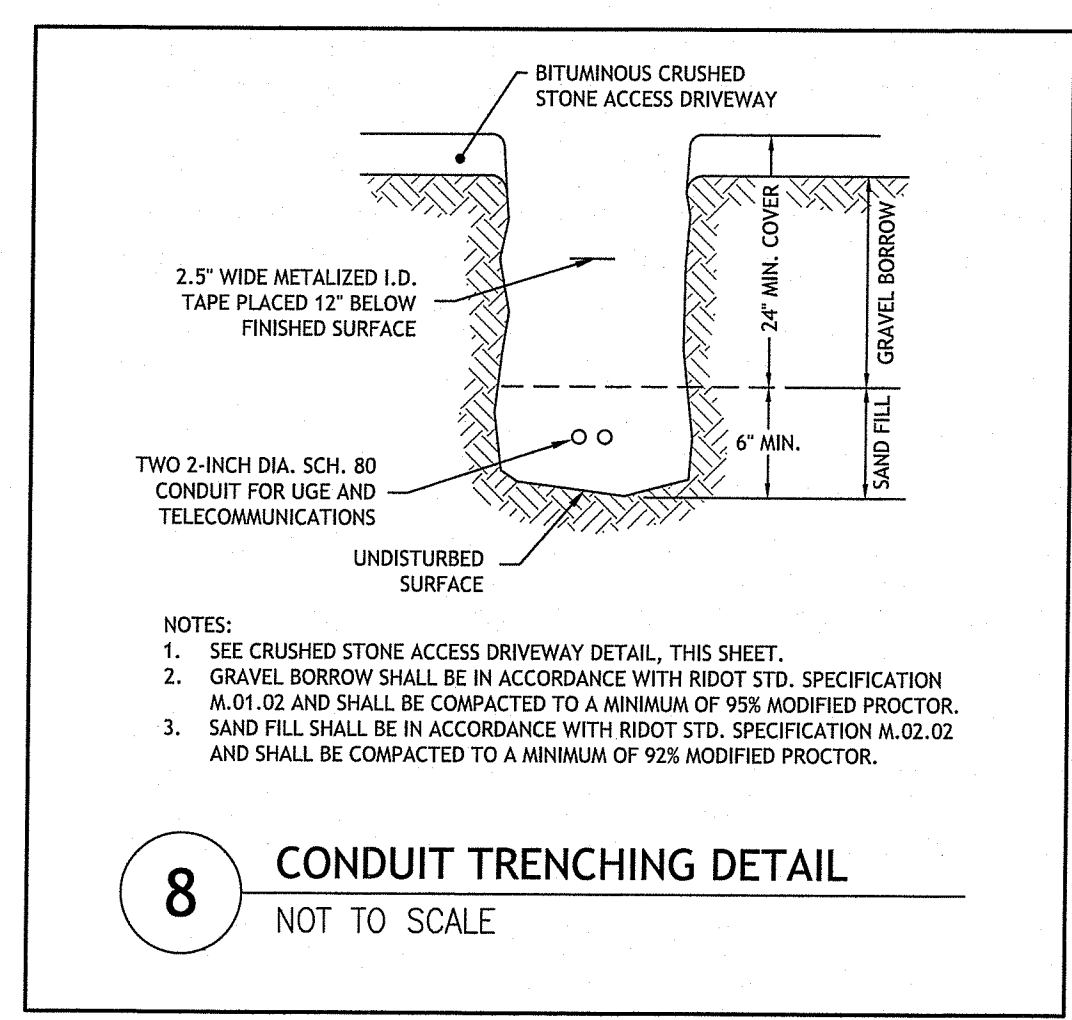
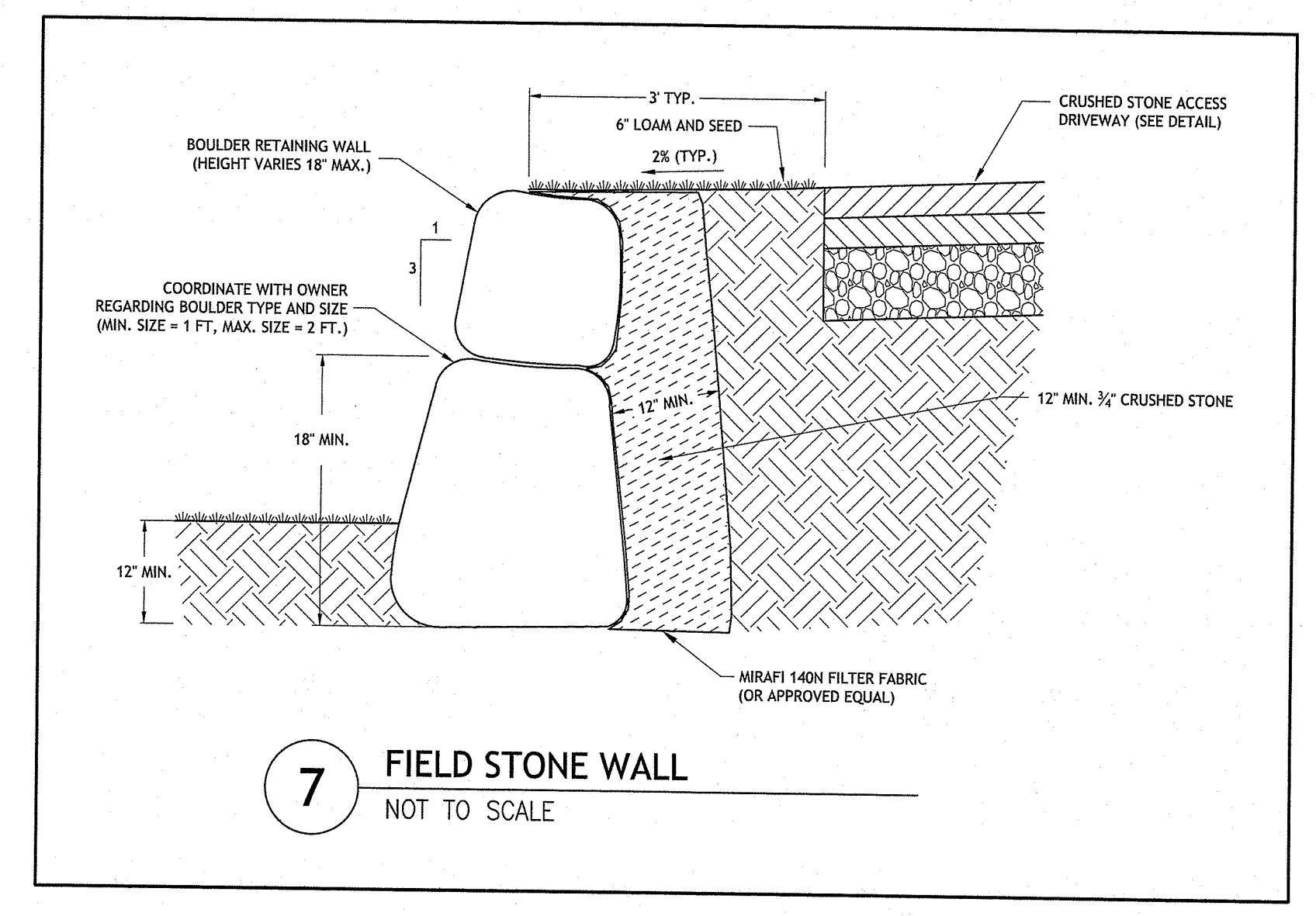
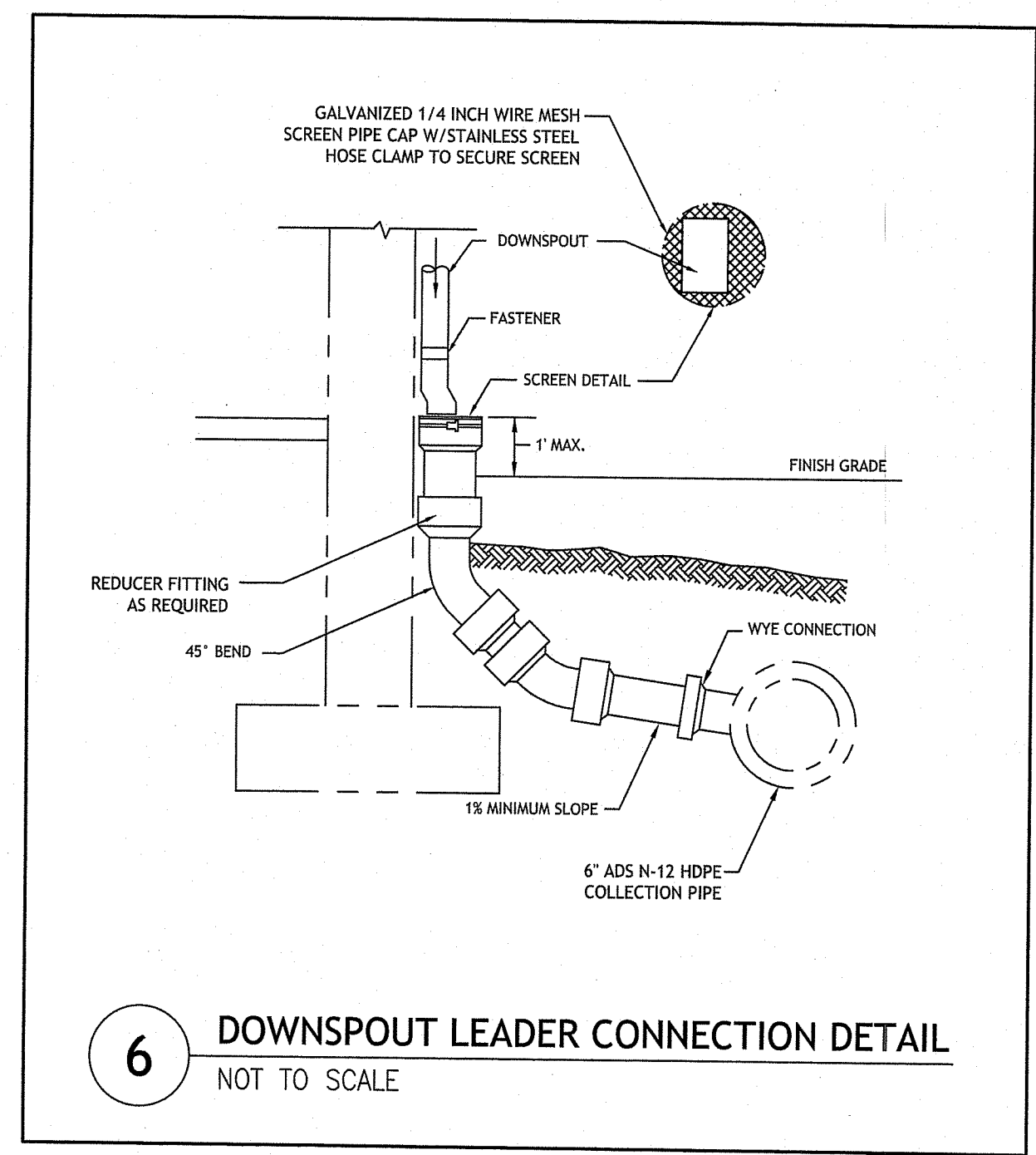
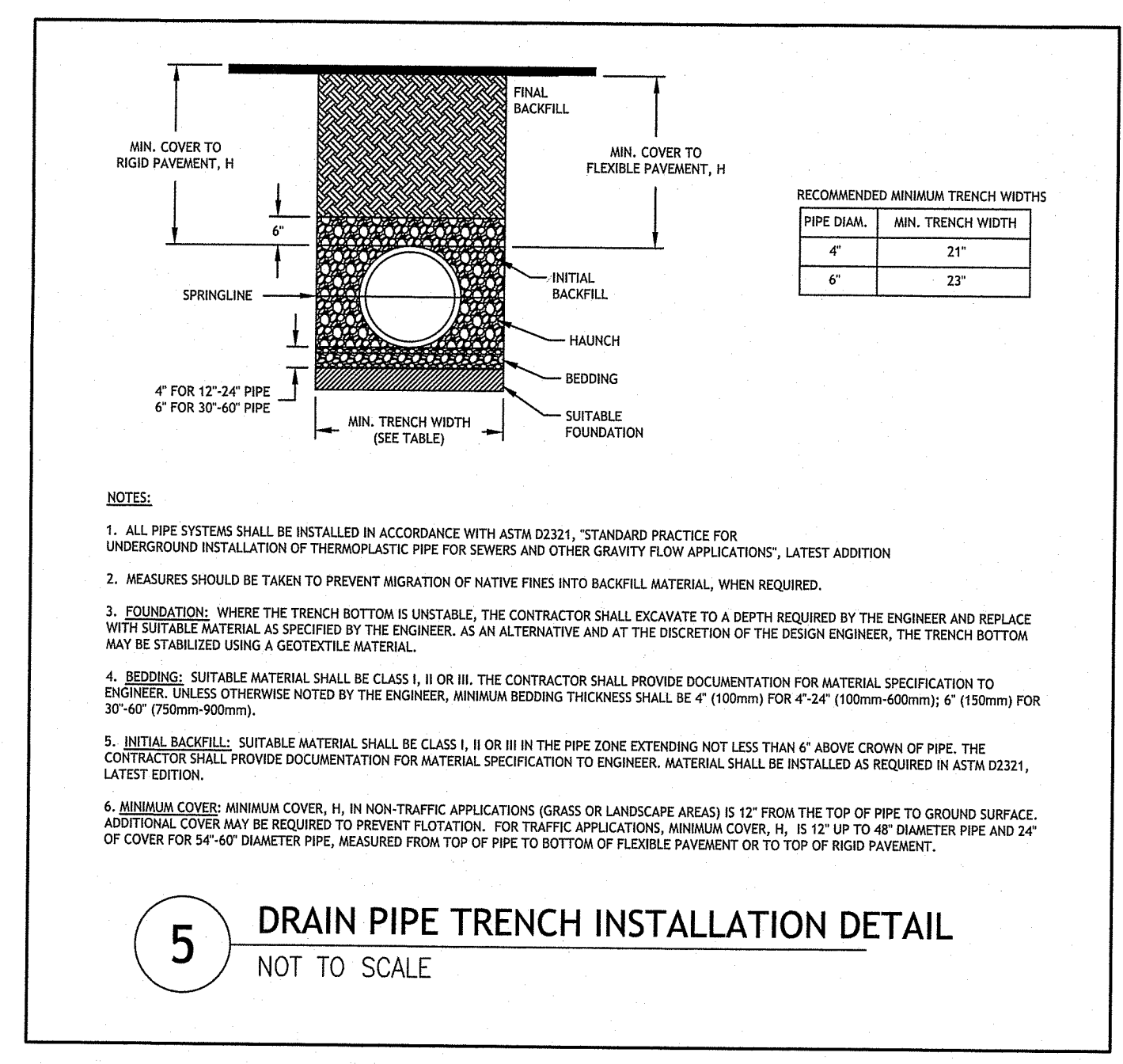
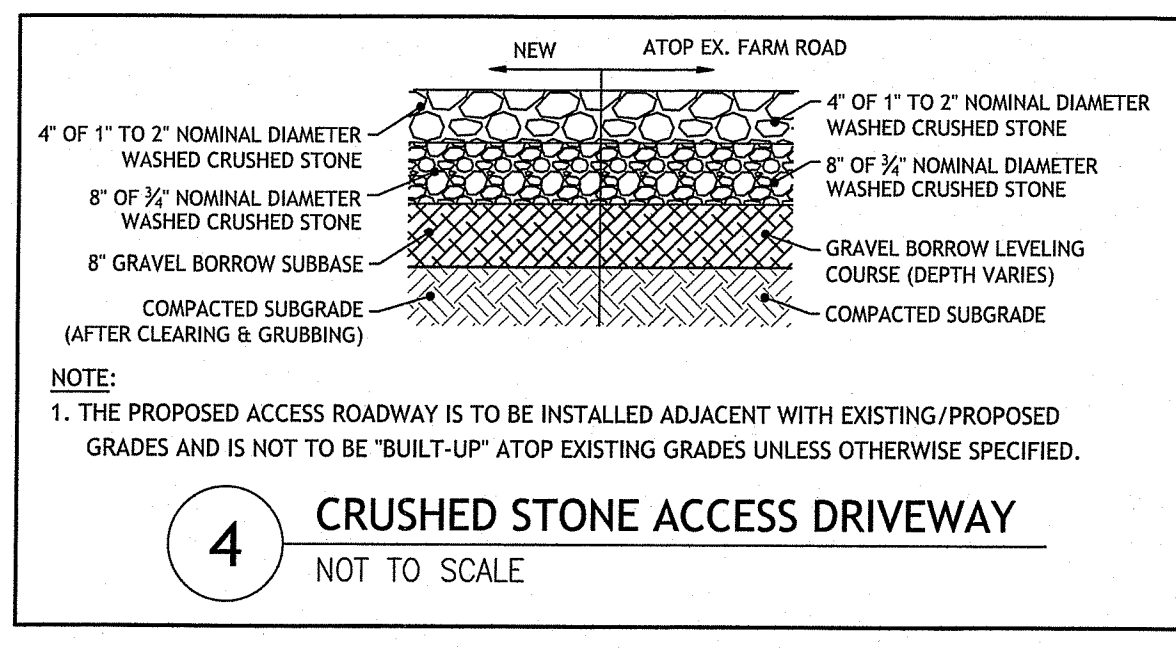
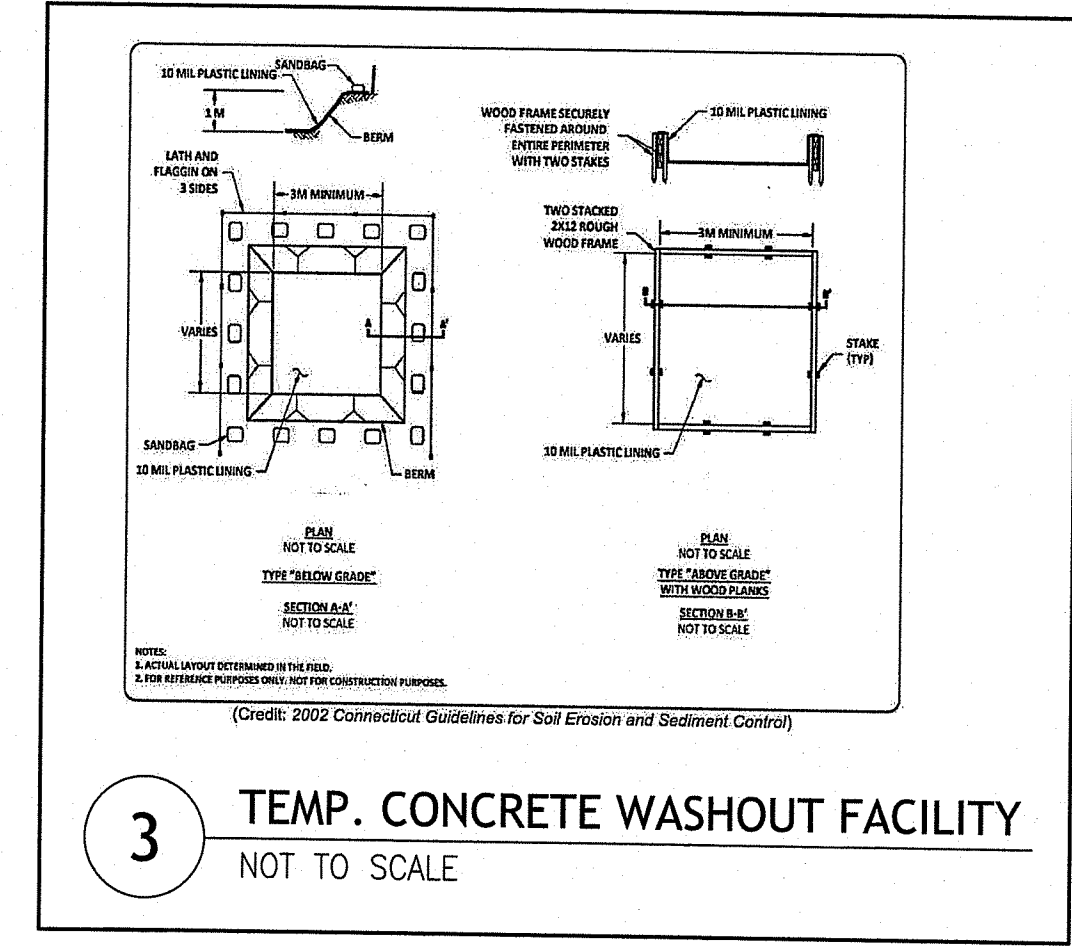
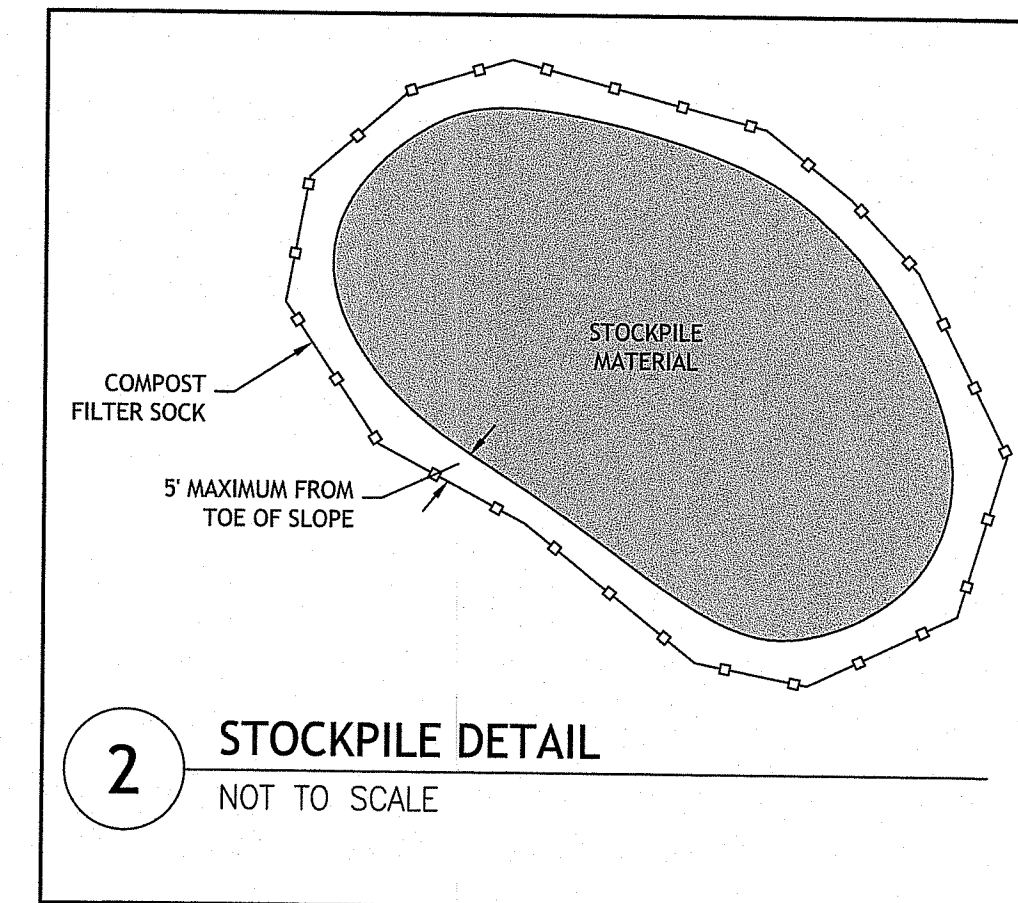
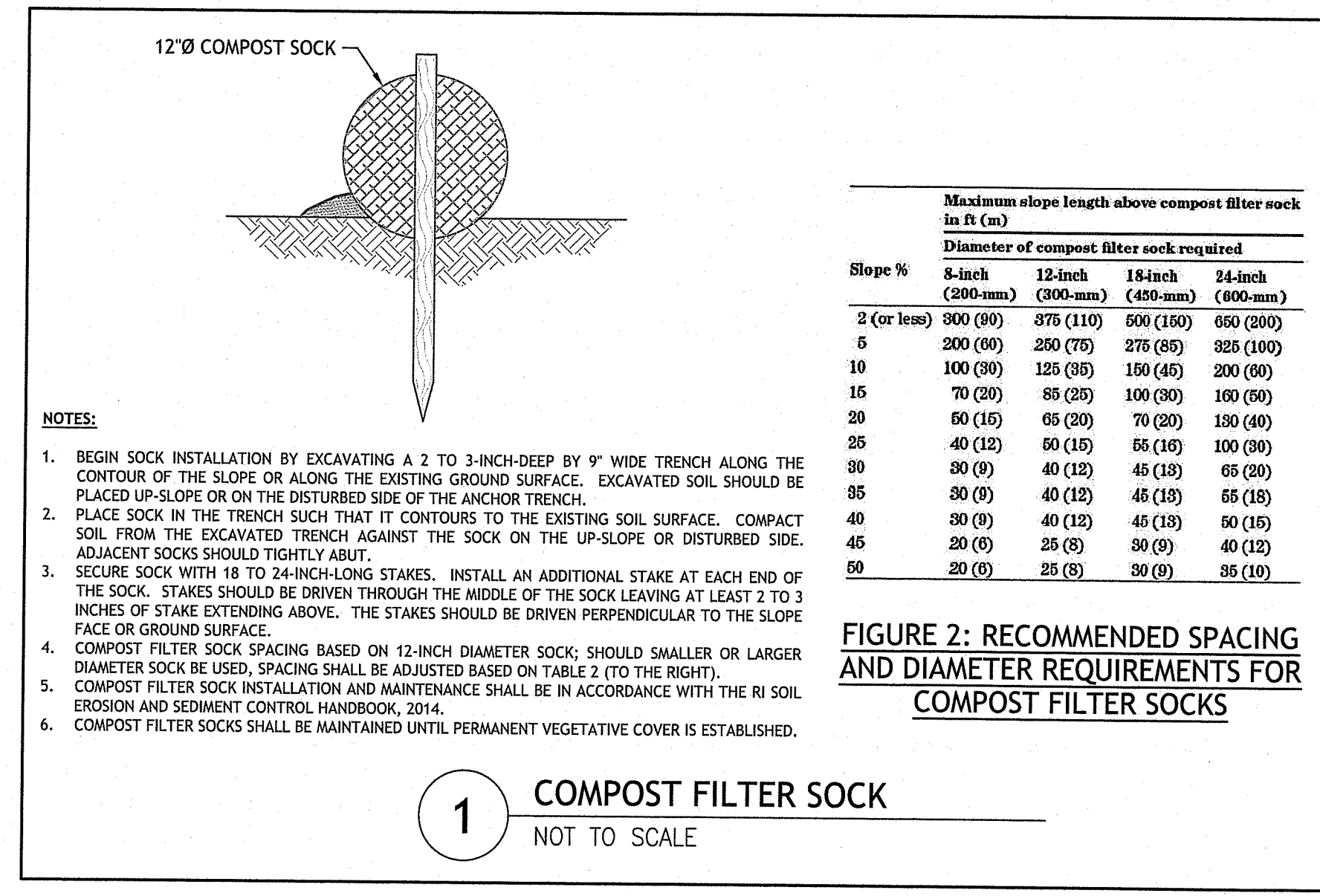
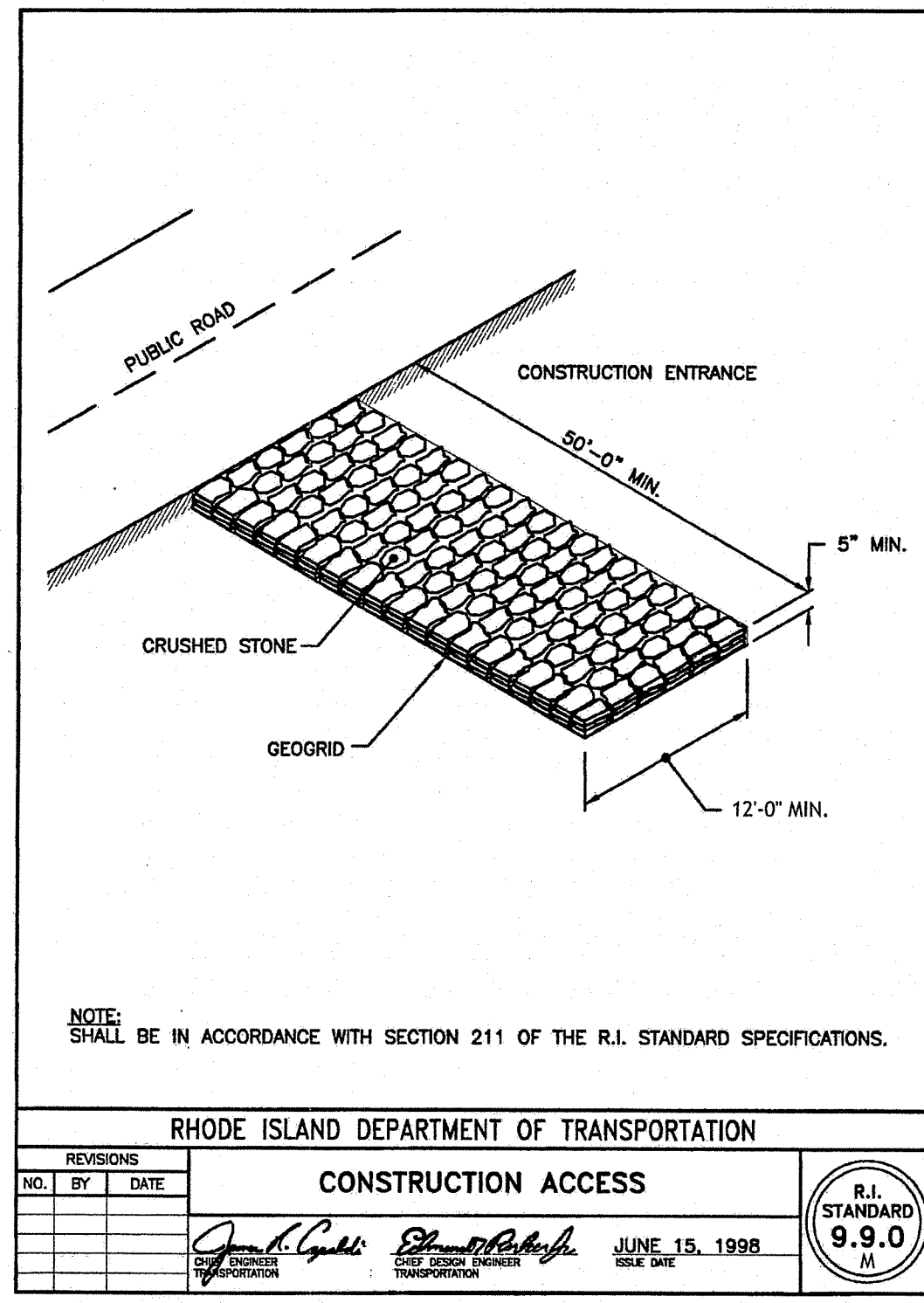
NO.	DATE	DESCRIPTION
1	11/2022	RIDEM RTC
2	4/2024	TEMP. CROSSING

DESIGNED BY: WMLJR  
 DRAWN BY: SD  
 CHECKED BY: JAC  
 DATE: JUNE 2022  
 PROJECT NO: 22-27

PRELIMINARY, NOT FOR CONSTRUCTION

**BRIDGE CROSSING PLAN**

**SHEET 3 OF 4**



JOSEPH A. CASALI  
No. 7250  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL

**PROPOSED SINGLE-FAMILY DWELLING**  
NARROW LANE  
EAST GREENWICH, RHODE ISLAND  
MAP 3, PLAT 19, LOT 44

NO.	DATE	DESCRIPTION
1	11/2022	RIDEM RTC

DESIGNED BY:	WMLJR
DRAWN BY:	SD
CHECKED BY:	JAC
DATE:	JUNE 2022
PROJECT NO.:	22-27

PRELIMINARY, NOT FOR CONSTRUCTION

**CIVIL DETAILS**

**SHEET 4 OF 4**

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED: **APR 03 2024** FILE #: **22-027**  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

RI Environmental Management  
MAY 08 2023  
Office of Water Resources