

GOULD FARM ROADSIDE STORE & CAFE 2.0 & RELATED SITWORK

275 MAIN ROAD (RT 23) MONTEREY, MASS

CIVIL SITWORK PERMIT DOCUMENTS

DECEMBER, 2022

(NOT FOR CONSTRUCTION)

OWNER/APPLICANT:

THE WILLIAM J. GOULD ASSOCIATES, INC.
100 Gould Road, P.O. Box 157
Monterey, MA 01245

CIVIL ENGINEER:

FORESIGHT LAND SERVICES, INC.
1496 West Housatonic Street
Pittsfield, MA 01201



USGS LOCUS MAP

SCALE: 1" = 2000'

CONSTRUCTION-PHASE MEASURES FOR CONTROL OF SEDIMENT AND EROSION AND PROTECTION OF WETLANDS

- Do not disturb existing vegetated areas far in advance of construction. Limit disturbance only to the extent and duration required for imminent construction activities. Retain and protect natural vegetation and vegetative filter strips wherever possible.
- Temporary vegetation or a heavy mat of wood chips shall be established on all earth stockpiles or stripped areas which will be bare for more than two months and less than 12 months. Such vegetation shall consist of a commercial conservation seed mixture with a high percentage of annual rye grass. Permanent herbaceous cover shall be established on areas which would be bare more than 12 months.
- A heavy mat of straw mulch, wood chips, erosion control netting, mesh or blanket matting shall be used on disturbed areas if vegetation cannot be established due to season or on-going construction process, or if otherwise required.
- Silt fence or carefully positioned staked straw bales shall be installed along the downhill edge of disturbed earthwork areas where required to control erosion and sedimentation.
- Water courses, including intermittent drainage swales, shall be protected from siltation by silt fence barriers or carefully positioned staked straw bale check dams.
- Sediment traps shall be constructed downhill of disturbed areas and upstream of watercourses and/or wetlands. Trapped sediments shall be removed from the basins during the construction period before they become 50% full to prevent sediment from being transported downhill. Dispose of sediments in on-site upland disposal areas, properly graded, seeded and mulched.
- Permanent drainage control structures shall be installed as early as possible in the construction process. Drains shall be provided with drain inlet sediment filters and/or traps.
- Do not fuel construction equipment or store fuel or other potential contaminants within 100 feet of water courses or wetlands.
- Precast concrete shall be washed down at the manufacturer's plant. Cast-in-place concrete within 100 feet of watercourses/wetlands shall be placed so as to minimize runoff of stormwater from fresh concrete, through use of sumps, diversions, etc. Concrete trucks and equipment contaminated with fresh concrete shall not be washed down within 100 feet of wetlands.
- Strictly adhere to all general and special conditions of any Wetlands Protection Act Permits, including plans, details, construction sequencing outline, and other applicable requirements.

SITWORK CONSTRUCTION NOTES

A. Protection of Wetlands, Water Quality, and Stormwater Management

- Work proposed on this Plan includes areas which are subject to regulation under the Mass. Wetlands Protection Act (WPA), Federal Clean Waters Act (CWA), and/or other statutes and regulations pertaining to wetlands, water quality, and stormwater management.
- Contractor shall perform all proposed Work in compliance with the approved Wetlands Permit (Order of Conditions or Determination of Applicability as applicable).
- Contractor shall install, monitor, maintain and replace, whenever necessary, all Erosion and Sedimentation Control Measures required to control stormwater runoff, erosion and sedimentation from the Work, and to prevent sediments from altering any wetlands or watercourses. Refer to Plans, Specifications and Permits for minimum requirements. Contractor shall install additional measures wherever necessary to control site runoff.
- Contractor shall dispose of any unsuitable or excess earth materials excavated from the site ("Spoil Material") in accordance with all applicable laws and regulations. Unless an on-site Spoil area is specified, Contractor shall dispose of excess clean earth material off-site in an upland area outside any wetland buffer zones or resource areas.
- Contractor shall dispose of any demolition debris, construction debris, wood wastes, contaminated soils, hazardous materials and other special wastes in strict accordance with applicable laws and regulations.

B. Work Limits

- Sewer and Water Services: Sitework Contractor shall install Sewer and Water service lines to within ten feet (10') from the building foundation. Building Plumber shall make final installation and connection within ten feet.
- Grading: Where indicated on Plans and Specifications, Sitework Contractor shall perform fine grading work to within five feet (5') from building. Final Grading around Buildings shall be performed by Building Contractor and coordinated with Architectural Plans.
- Contractor shall confine activities to the Work Limits shown on the Plans or directed in the field.
- Unless otherwise indicated, Contractor shall protect all trees, structures, and utilities against damage, and shall repair or replace damaged areas at Contractor's expense.
- In order to avoid damaging tree roots by compacting the soil, Contractor shall not allow equipment or vehicles to operate under tree canopies except where necessary to carry out the Work.

C. Soil Conditions

- Refer to Specifications for Soils Information. Any reference on the plans to Ledger or Bedrock are for information only and shall not be relied upon as representing limits, quantities, presence or absence of rock requiring excavation.

GENERAL NOTES

- Wetlands were delineated by Foresight Land Services, Inc. in August 16, 2022, and field surveyed by Frederick J. Haley PLS LLC on October 21, 2022.
- Topographic Survey was performed by Frederick J. Haley PLS LLC. See Notes below and on C-100.
- Plan was compiled on a PC-based computer using AutoCAD Civil 3D 2016.
- Contours are computer-generated interpolations, edited to generally conform to field observations. Contour interval = 1 (one) foot. Contractor shall verify critical elevations and grades in the field prior to construction.
- The locations and information about underground pipes, utilities or other structures are compiled from available record data and visible field evidence and are not represented as being exact or complete. Prior to beginning excavation, the excavator shall give adequate advance notice to the Dig Safe Center, the municipal and/or state Public Works Department, and private utility companies, to allow for field location of facilities in the vicinity. Contractor shall use all reasonable care to verify in the field (VIF), locate and protect existing utilities and structures.
- If Contractor observes any field conditions which vary significantly from what is shown on these plans, the contractor shall immediately notify the Owner and Engineer for resolution of the conflicting information.
- The Contractor shall record tie measurements, depths, dimensions, materials, field conditions and other pertinent data about all underground pipes, utilities and structures encountered during the work, both existing and constructed. Contractor shall submit Record drawings with this information to the Owner and Engineer prior to completion of the work.
- Contractor shall immediately report any damage to existing pipes, utilities, or structures to the Owner and Engineer, and obtain directions as to repair, replacement or abandonment.

LEGEND

● IRON PIPE FOUND	—x— SG=XXXXXX	SPOT GRADE
■ BOUND		
⊠ DROP INLET		
⊞ CATCH BASIN		STRAWBALE CHECKDAM
⊙ EXISTING TREE		CONSTRUCTION SEDIMENT TRAP
⊕ UTILITY POLE		STONE DISCHARGE APRON
▲ WETLAND FLAG		
⊙ TEST PIT		
⊕ PERC TEST		
===== EDGE OF ASPHALT	----- OH -----	PROPOSED ABANDONED/REMOVED UTILITY
----- 1' CONTOUR	----- G -----	PROPOSED OVERHEAD UTILITY
----- 5' CONTOUR	----- W -----	PROPOSED UNDERGROUND GAS LINE
----- OHW	----- S -----	PROPOSED UNDERGROUND WATER LINE
----- EDGE OF RIVER	----- O -----	PROPOSED UNDERGROUND SEWER LINE
----- OVERHEAD WIRE	----- FD -----	PROPOSED UNDERGROUND DRAIN LINE
----- PAVED WATERWAY	----- SD -----	PROPOSED FOUNDATION DRAIN LINE
----- PROPERTY LINE	SCB-4	PROPOSED SUBDRAIN LINE
----- RIGHT OF WAY LINE	SCB-3	PROPOSED EROSION CONTROL - TYPE 4
----- WETLAND	⊙	PROPOSED EROSION CONTROL - TYPE 3
----- WETLAND RIVERFRONT	⊕	PROPOSED SEWER MANHOLE
----- WETLAND BUFFER ZONE	⊕	PROPOSED FOUNDATION DRAIN CLEANOUT
----- PROPERTY LINE SETBACK (ZONING)	⊕	PROPOSED SUBDRAIN CLEANOUT
----- W WATER LINE	⊕	PROPOSED SEWER CLEANOUT
----- S SEWER LINE - GRAVITY		
----- SFM SEWER LINE - PRESSURE		
----- D DRAIN LINE		
----- STONE WALL	-----	PROPOSED EDGE OF WOODS/CLEARING LIMITS/LIMITS OF WORK AS APPLICABLE

SHEET INDEX	
C-000	COVER SHEET, LOCUS MAP, NOTES & INDEX
C-001	SITE CONTEXT LOCUS PLAN
C-100	PROPERTY LINE & TOPOGRAPHIC SURVEY MAP
C-200	OVERALL SITE PLAN
C-300	SITE GRADING, DRAINAGE & EROSION CONTROL PLAN
C-400	SITE UTILITY PLAN
C-500 - C-501	SITWORK DETAILS

SEE ADDITIONAL PLANS BY ARCHITECT

NOTES :

2022-12-27 ISSUE FOR SITE PLAN REVIEW ONLY
2022-11-29 ISSUE FOR WPA NOI SUBMISSION ONLY
DATE ISSUE/REVISION



CLIENT:

**THE WILLIAM J.
GOULD ASSOC., INC.**

PROJECT TITLE:

**ROADSIDE 2.0
275 MAIN ROAD
MONTEREY, MA**

SHEET TITLE:

**COVER SHEET, LOCUS
MAP, NOTES & INDEX**

SET: PERMIT SET
SCALE: AS NOTED

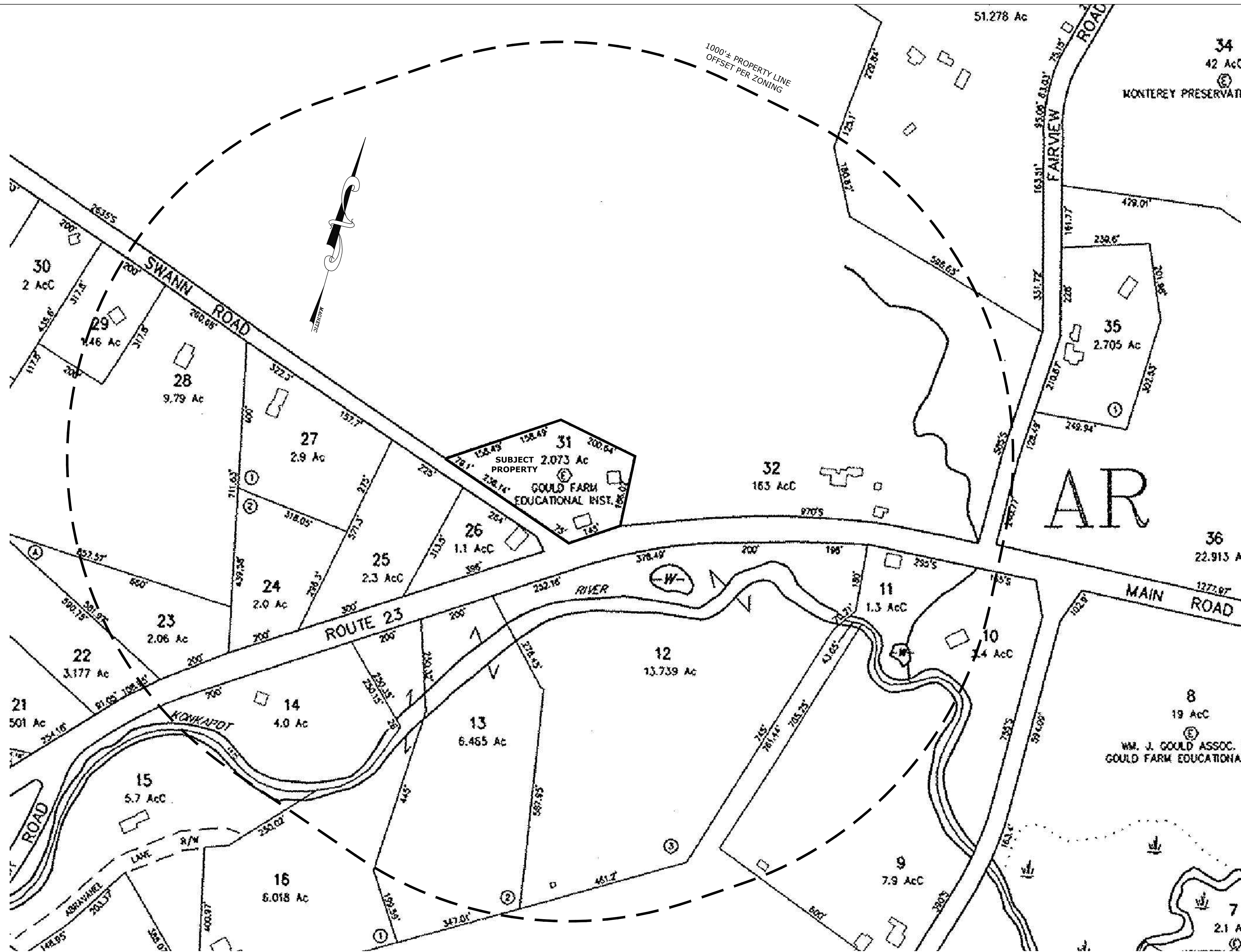
SHEET NUMBER:

C-000

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DATE: 11-29-2022

FLS PROJ. NO.: E3073
FLS CAD FILE NAME: E3073D01.DWG
XREFS:



LOCUS PLAN - MONTEREY TAX MAP 226
 (DATED JAN. 1, 2006)
 SCALE 1"=120'±

NOTES :

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CLIENT:
THE WILLIAM J. GOULD ASSOC., INC.

PROJECT TITLE:
 ROADSIDE 2.0
 275 MAIN ROAD
 MONTEREY, MA

SHEET TITLE:
SITE CONTEXT LOCUS PLAN

SET: PERMIT SET
 SCALE: AS NOTED

SHEET NUMBER:
C-001

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DATE: 12-27-2022

FLS PROJ. NO.: E3073
 FLS CAD FILE NAME: E3073D01.DWG
 XREFS:

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 39°19'00" W	74.99'
L2	N 40°35'24" W	236.14'
L3	N 41°09'50" W	79.10'
L4	N 87°53'52" E	158.49'
L5	N 87°53'52" E	158.49'
L6	S 50°05'47" E	200.64'
L7	S 27°48'32" W	186.02'
L8	S 88°41'00" W	145.00'
L9	S 50°05'47" E	18.61'

LANDS N/F
SUSAN H. LEPROVOST
PROBATE DOCKET
86-P0377-E1

LANDS OF
THE WILLIAM J. GOULD ASSOC. INC.
B. 681, P. 208
AREA = 2.07± ACRES

See reference plan entitled "Septic Design For Existing Restaurant In Monterey, MA" prepared by J. Mustain, dated May 10, 2000 on file with the Board of Health.

SEPTIC SYSTEM EASEMENT AREA
18,877 SQ. FT.±
Book 1222 Page 291
See Plan in Plat File K-169

RESERVED FOR REGISTRY USE

FREDERICK J. HALEY PLS LLC

1218 STATE ROUTE 43
STEPHENTOWN, NY 12169
Tel: (518) 577-5044
email: frederickhaley@hotmail.com

CLIENT:

OWNER INFORMATION:
THE WILLIAM J. GOULD ASSOC., INC.
ROUTE 23
MONTEREY, MA 01245

DEED INFORMATION:
BOOK 681, PAGE 208
DEED DATED SEPTEMBER 14, 1988

CLIENT INFORMATION:

LISANNE FINSTON
GOULD FARM
100 ROAD

ASSESSOR INFORMATION:
TAX MAP 226 LOT 31

PROJECT TITLE:

LANDS OF
THE WILLIAM J. GOULD
ASSOC., INC.

275 MAIN ROAD
MONTEREY, MASSACHUSETTS

SHEET TITLE:

PROPERTY LINE
& TOPOGRAPHIC
SURVEY MAP

SCALE: 1"=20'

DATE: JULY 22, 2020

PROJ. NO.: FINSTON MONTEREY
CAD FILE NAME: FINSTON
LAYOUT TAB: LAYOUT1

SHEET NUMBER:

C-100

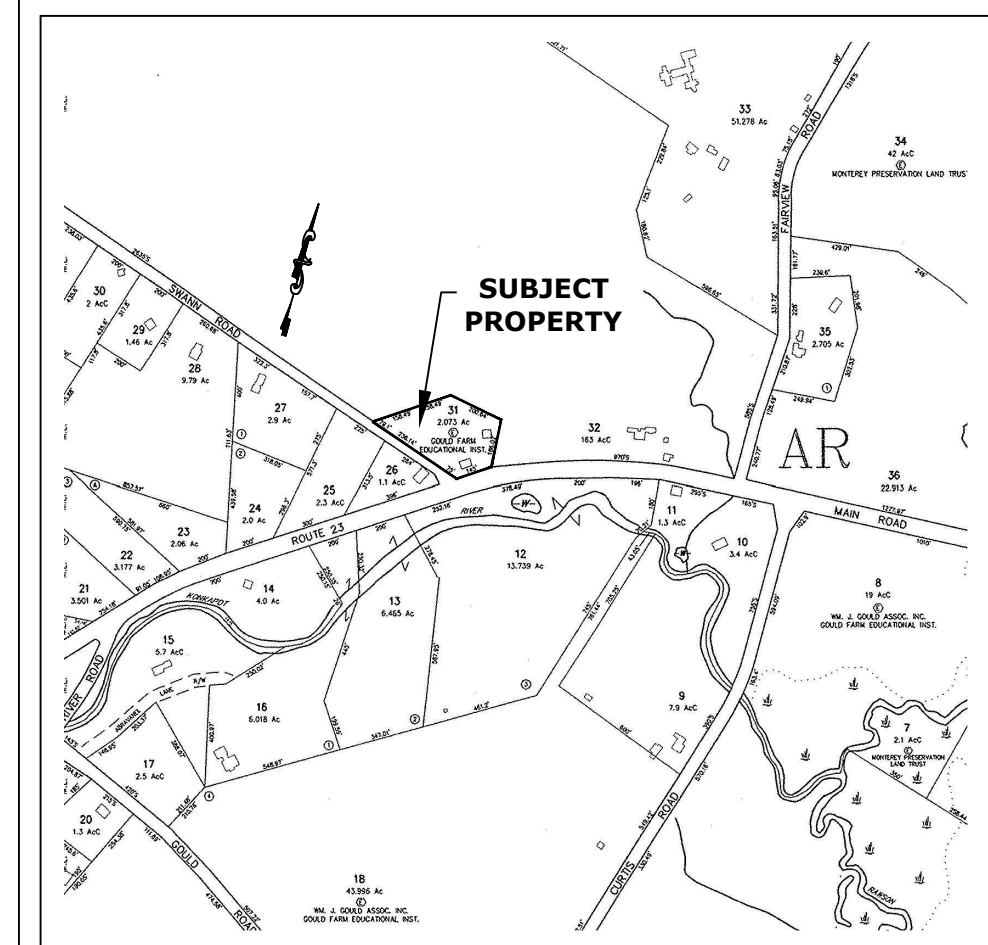
FORESIGHT LAND SERVICES ENGINEERING SURVEYING PLANNING

FORESIGHT LAND SERVICES, INC.
1496 WEST HOUKSTON STREET - PITTSFIELD, MA 01201
TEL: (413) 499-1560 FAX: (413) 499-3307 WWW.FORESIGHTLAND.COM

EDITS DWN. BY: JMM

DATE: November 8, 2022 DWG. NO. E3073D01

JOB NO. E3075 Layout Tab: W01



LOCATION MAP
TOWN OF MONTEREY TAX MAP 226
SCALE: 1"=750'±

NOTES:

- MAPPING PREPARED BY FREDERICK J. HALEY PLS FROM AN ACTUAL FIELD SURVEY CONDUCTED IN JUNE 2020.
- NORTH REFERENCE USED HEREON IS APPROXIMATE MAGNETIC PER MAP REF. 1.
- UNDERGROUND UTILITIES, IF ANY, ARE NOT SHOWN.
- PARCEL SURVEYED MAY BE ALONG WITH RIGHTS, TITLE AND/OR INTERESTS IN AND TO LANDS WITHIN THE BEDS OF THE ADJACENT PUBLIC AND/OR PRIVATE ROADWAYS.
- PARCEL SURVEYED WITHOUT BENEFIT OF AND IS SUBJECT TO THE REVIEW OF A COMPLETE AND UP-TO-DATE ABSTRACT OF TITLE.
- GROUND CONTOURS AND SPOT SHOTS SHOWN HEREON, IF ANY, ARE REFERENCED TO A PROJECT SPECIFIC DATUM, ONLY.
- PARCEL SURVEYED IS FURTHER REFERENCED TO THE TOWN OF MONTEREY TAX ASSESSOR MAP PARCEL NO. 226-31

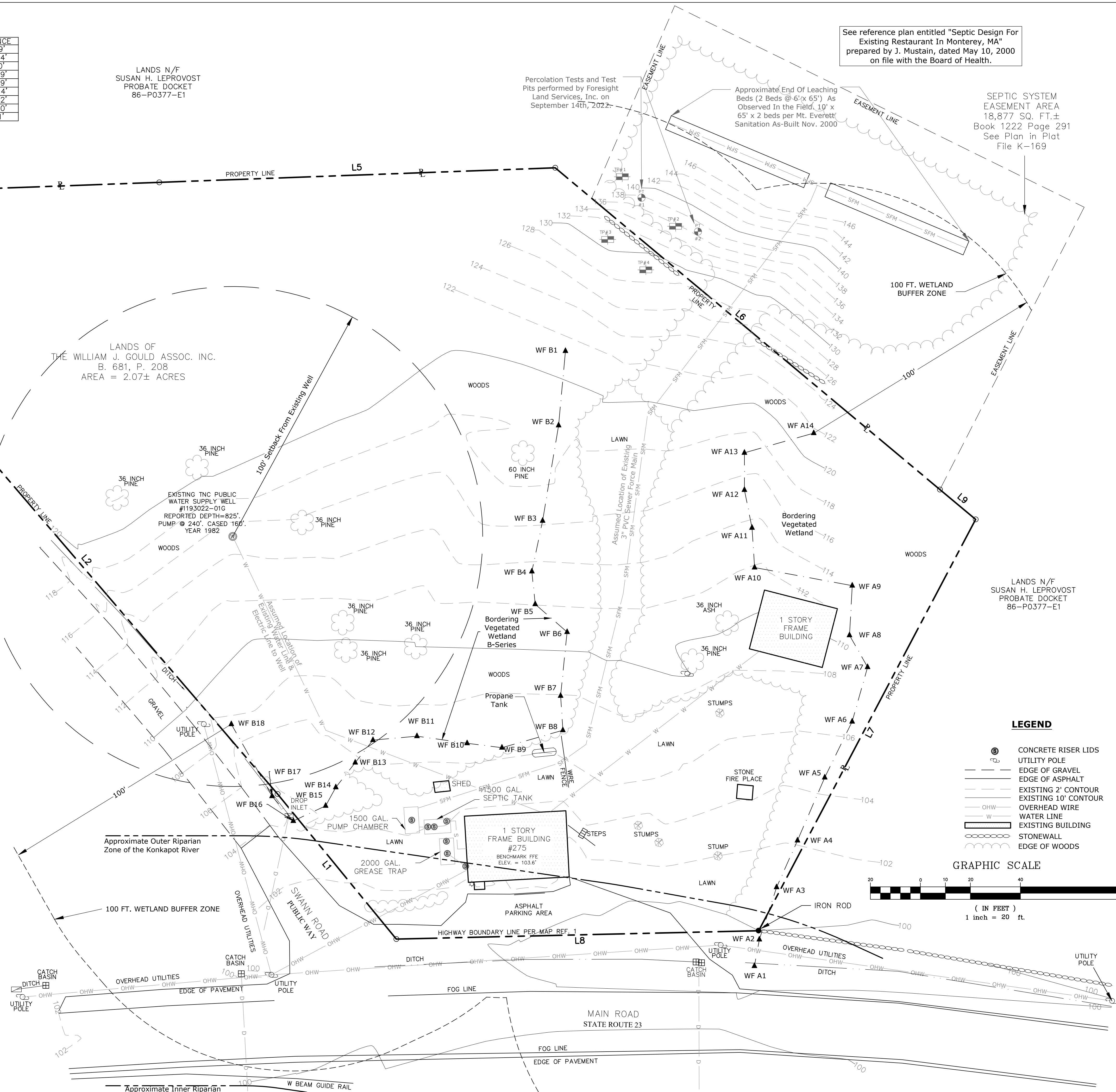
MAP REFERENCES:

- "THE WILLIAM J. GOULD ASSOC., INC." DATED NOVEMBER 27, 2000 AS PREPARED TACONIC LAND CONSULTANTS AND AS FILED IN THE BERKSHIRE SOUTHERN DISTRICT REGISTRY OF DEEDS IN DRAWER E AT PAGE 52.

I CERTIFY THAT THE PROPERTY LINES SHOWN ARE THE LINES DIVIDING EXISTING OWNERSHIPS, AND THE STREETS OR WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED, AND THAT NO NEW LINES FOR DIVISION OF EXISTING OWNERSHIP OR FOR NEW WAYS ARE SHOWN.

I CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

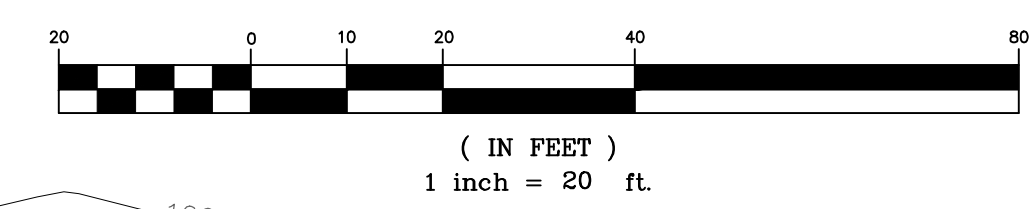
FREDERICK J. HALEY, P.L.S. MA NO. 37048



LEGEND

- ⊙ CONCRETE RISER LIDS
- ⊙ UTILITY POLE
- EDGE OF GRAVEL
- EDGE OF ASPHALT
- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- OVERHEAD WIRE
- WATER LINE
- EXISTING BUILDING
- STONEWALL
- EDGE OF WOODS

GRAPHIC SCALE



FREDERICK J. HALEY, P.L.S. MA NO. 37048

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THE WILLIAM J. GOULD ASSOC., INC.

PROJECT TITLE:
ROADSIDE 2.0
275 MAIN ROAD
MONTEREY, MA

SHEET TITLE:
OVERALL
SITE PLAN
 SET: PERMIT SET
 SCALE: AS NOTED
 SHEET NUMBER:
C-200

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 DATE: 11-29-2022
 FLS PROJ. NO: E3073
 FLS CAD FILE NAME: E3073D01.DWG
 XREFS:

- PROPOSED PLANTINGS LEDEND**
- MIX OF 2'-3' ELDERBERRY, 2'-3' RED-OSIER DOGWOOD & 2'-3' WINTERBERRY HOLLY. 50 TOTAL
 - 1" CALIPER RED MAPLE. 6 TOTAL
 - SEED MIX: WETLAND PLANTS, INC. "EROSION CONTROL FOR MOIST SITES" OR APPROVED EQUAL. APPLICATION RATE = 35 LB./AC.

See reference plan entitled "Septic Design For Existing Restaurant In Monterey, MA" prepared by J. Mustain, dated May 10, 2000 on file with the Board of Health.

Percolation Tests and Test Pits performed by Foresight Land Services, Inc. on September 14th, 2022.

Approximate End Of Leaching Beds (2 Beds @ 6'x 65') As Observed In The Field, 10' x 65' x 2 beds per Mt. Everett Sanitation As-Built Nov. 2000

SEPTIC SYSTEM EASEMENT AREA 18,877 SQ. FT.± Book 1222 Page 291 See Plan in Plat File K-169

LANDS N/F SUSAN H. LEPROVOST PROBATE DOCKET 86-P0377-E1

LANDS OF THE WILLIAM J. GOULD ASSOC. INC. B. 681, P. 208 AREA = 2.07± ACRES

LANDS N/F SUSAN H. LEPROVOST PROBATE DOCKET 86-P0377-E1

PROPOSED APPROXIMATE ACCESS TO WELL WITH TEMPORARY TIMBER SWAMP MATS. TEMPORARY DISTURBANCE ~ 2,390 SF. PROTECT LARGE TREES & RESTORE DISTURBED SURFACE WITH NEW ENGLAND PLANTS INC. "EROSION CONTROL FOR MOIST SITES" SEED MIX OR EQUAL.

PROPOSED WETLAND REPLICATION AREA = 675 SF (125% ALTERATION). REMOVE & DISPOSE INVASIVE SPECIES. RETAIN MATURE VEGETATION

PROPOSED WETLAND ALTERATION = 540 SF

REMOVE & DISPOSE OFFSITE EXISTING SHED STRUCTURE. APPROXIMATE FOOTPRINT AREA = 26 SF

REMOVE & DISPOSE OFFSITE EXISTING CAFE STRUCTURE. APPROXIMATE FOOTPRINT AREA = 1,074 SF

PROPOSED SNOW STORAGE AREA

PROPOSED DRIVEWAY & PARKING IMPROVEMENTS. APPROXIMATE EXISTING RIVERFRONT ALTERATION WITHIN LOT (TO BE RE-PAVED) = 1,745 SF APPROXIMATE NEW PROPOSED RIVERFRONT ALTERATION WITHIN LOT = 1,980 SF. TOTAL = 3,725 SF (UP TO 5,000 SF MAY BE ALLOWED PER 310 CMR 10.58 (d) 1.). CONFIRM DRIVEWAY MODIFICATIONS WITH MONTEREY PUBLIC WORKS HIGHWAY DEPARTMENT

MILL & RE-PAVE WATERWAY

REMOVE PAVEMENT. PROPOSED GRASS ISLAND. COORDINATE WITH MONTEREY PUBLIC WORKS HIGHWAY DEPARTMENT. NOT MASSDOT JURISDICTION

REMOVE & DISPOSE OFFSITE EXISTING STRUCTURE. APPROXIMATE FOOTPRINT AREA = 730 SF. RE-VEGETATE W/ NATIVE PLANTINGS. (4) 1" CALIPER RED MAPLES, (4) 4' TALL WINTERBERRIES, (4) 4' TALL RED OSIER DOGWOODS, & NEW ENGLAND PLANTS INC. "EROSION CONTROL FOR MOIST SITES" SEED MIX OR EQUAL

PROPOSED BOULDER RETAINING WALL - TYPICAL

PROPOSED CONCRETE DUMPSTER PAD & ENCLOSURE W/ GATE

REMOVE & DISPOSE STONE CHIMNEY

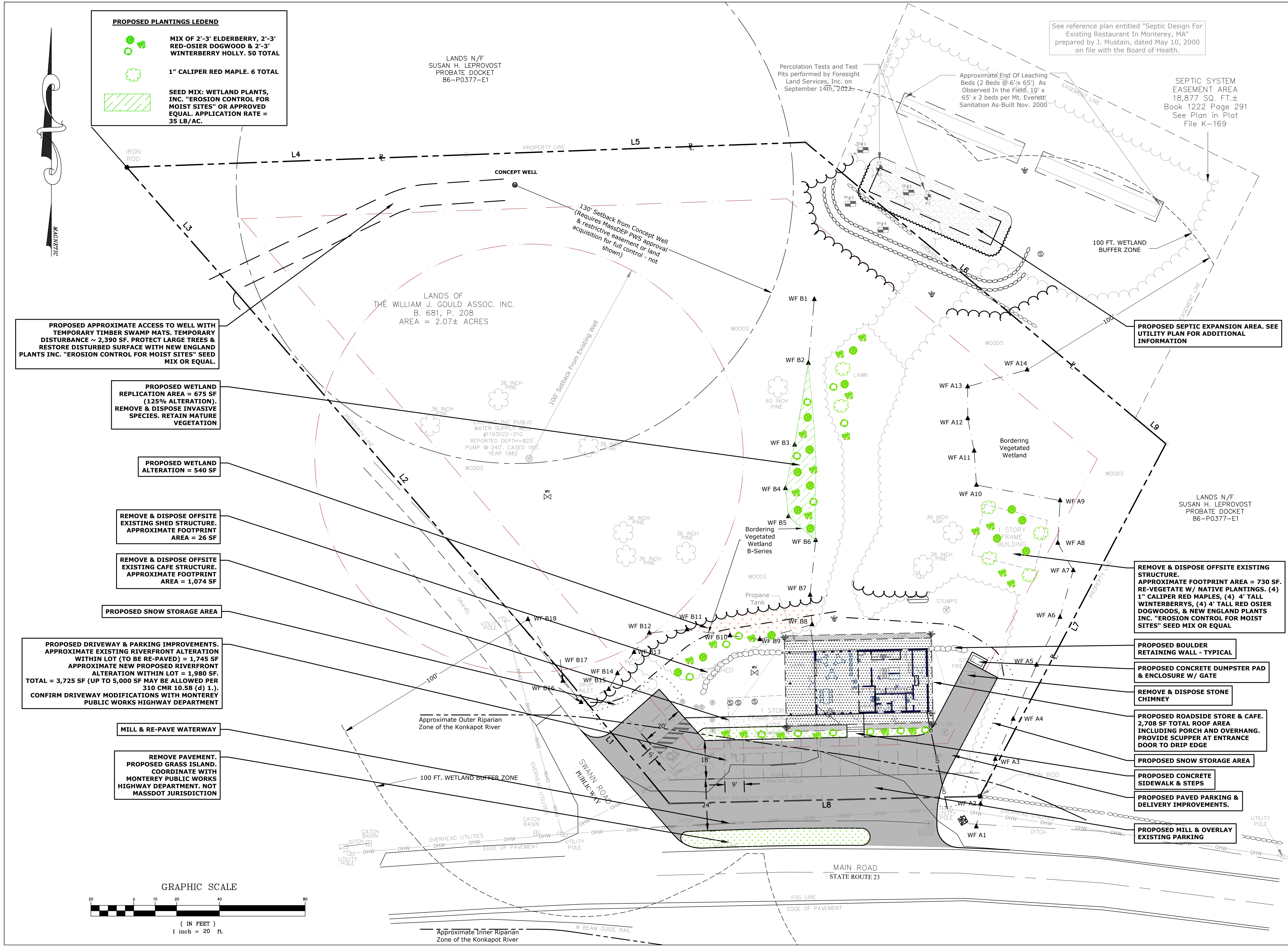
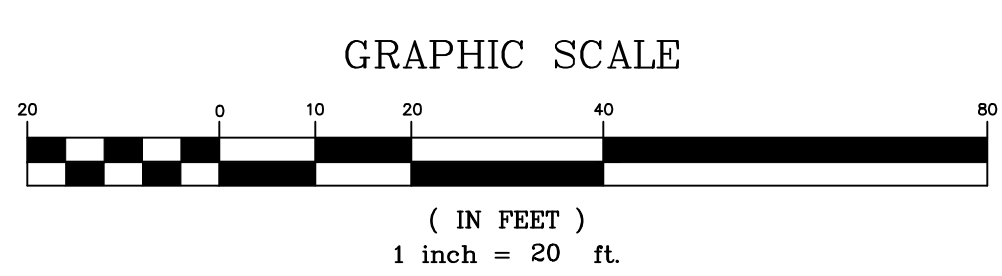
PROPOSED ROADSIDE STORE & CAFE. 2,708 SF TOTAL ROOF AREA INCLUDING PORCH AND OVERHANG. PROVIDE SCUPPER AT ENTRANCE DOOR TO DRIP EDGE

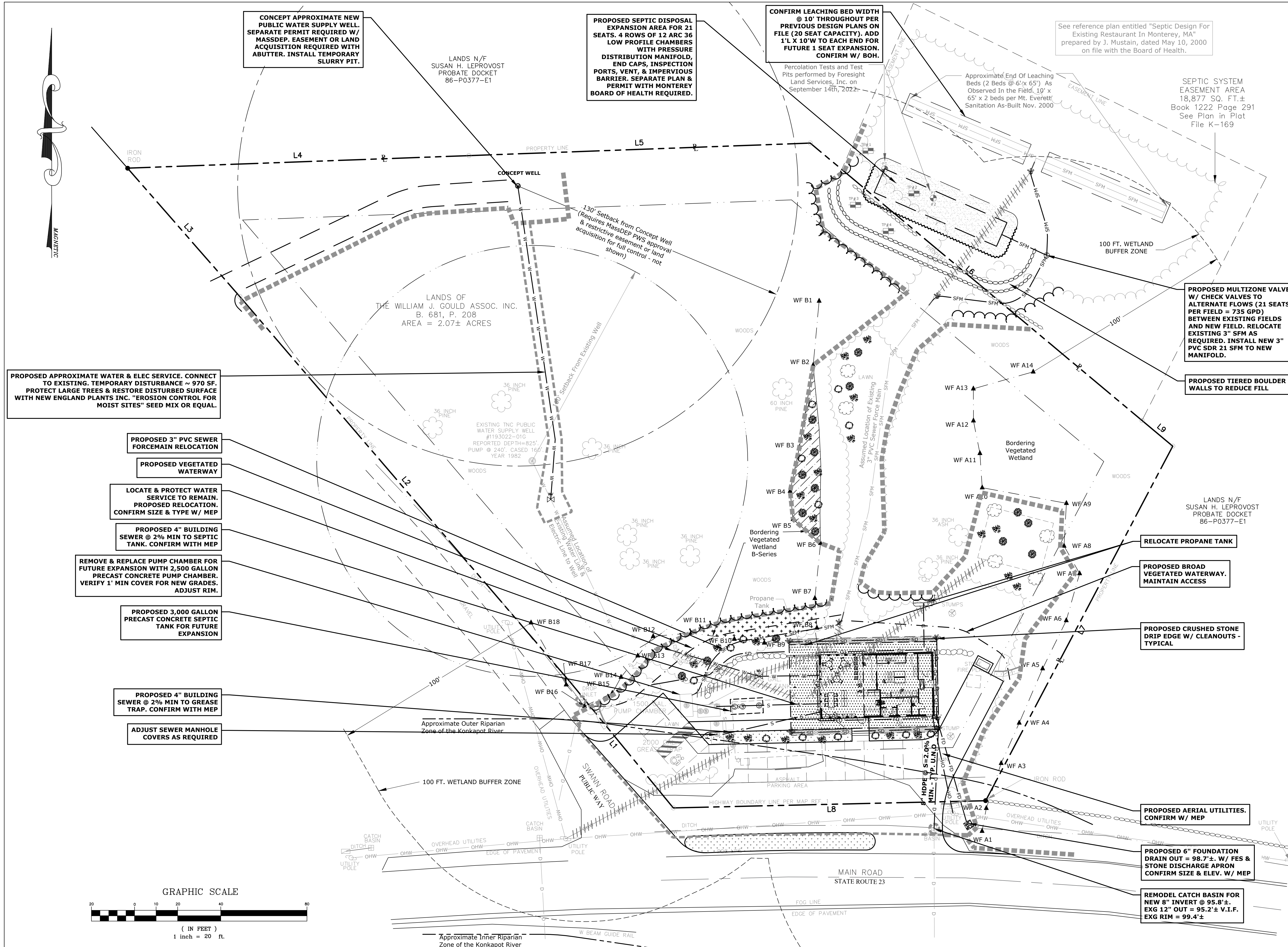
PROPOSED SNOW STORAGE AREA

PROPOSED CONCRETE SIDEWALK & STEPS

PROPOSED PAVED PARKING & DELIVERY IMPROVEMENTS.

PROPOSED MILL & OVERLAY EXISTING PARKING





NOTES :

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DATE ISSUE/REVISION



CLIENT:
 THE WILLIAM J. GOULD ASSOC., INC.

PROJECT TITLE:
 ROADSIDE 2.0
 275 MAIN ROAD
 MONTEREY, MA

SHEET TITLE:
 SITE UTILITY PLAN

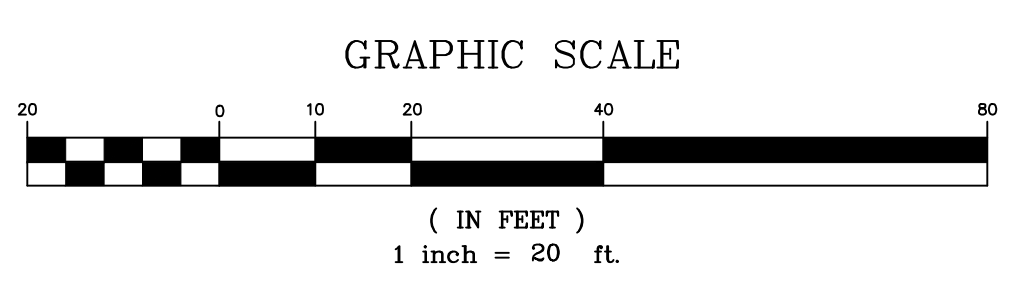
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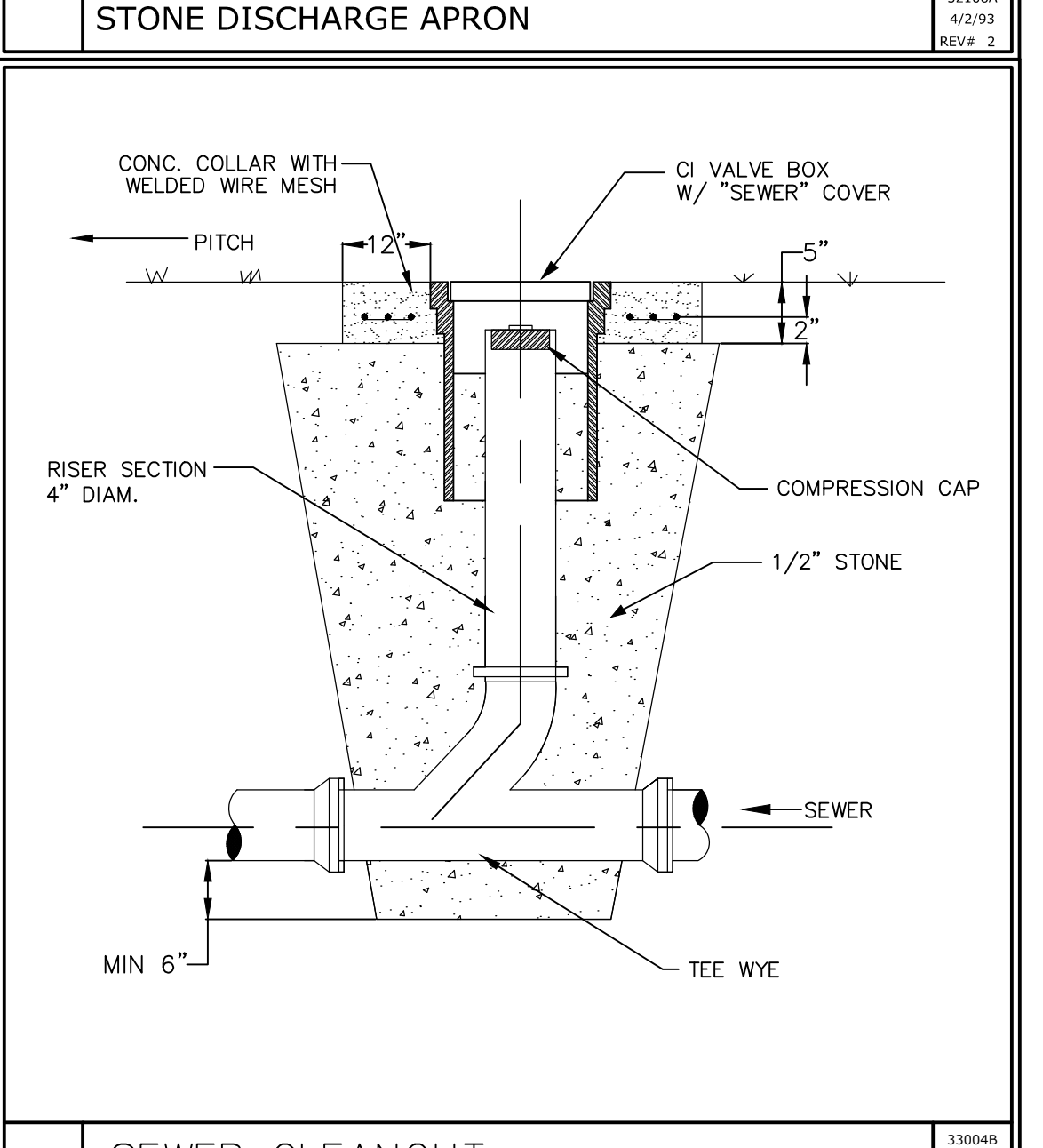
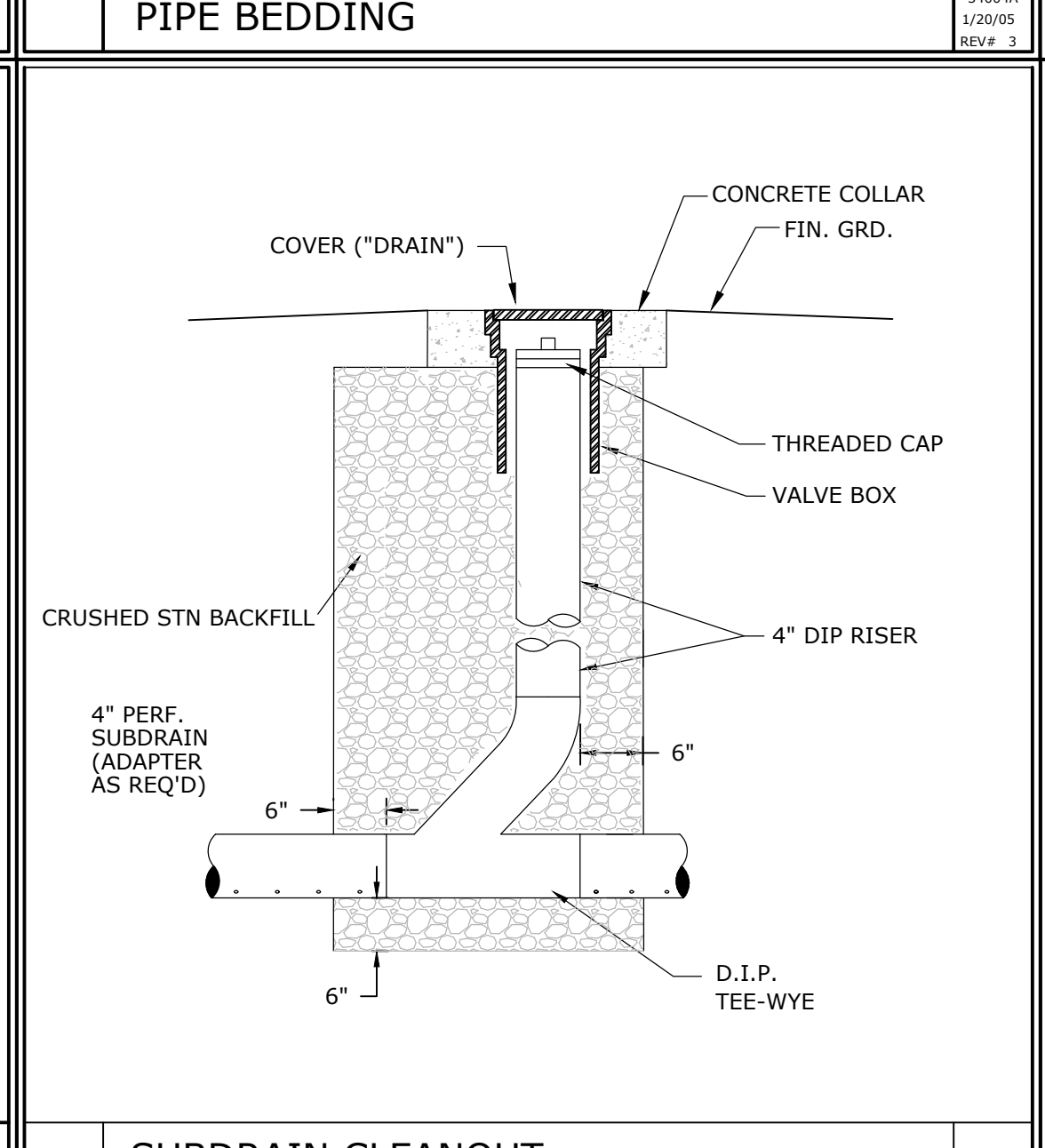
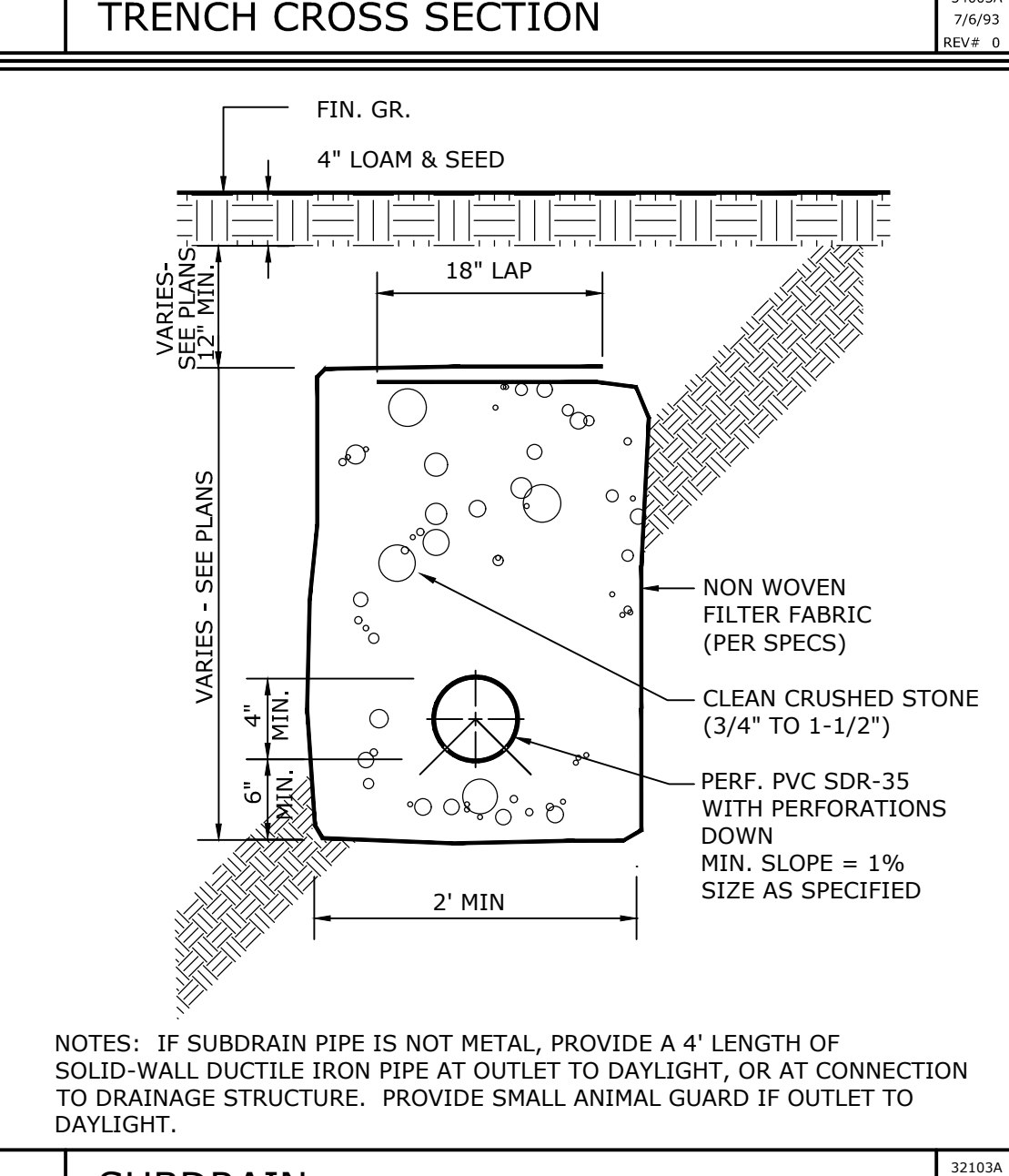
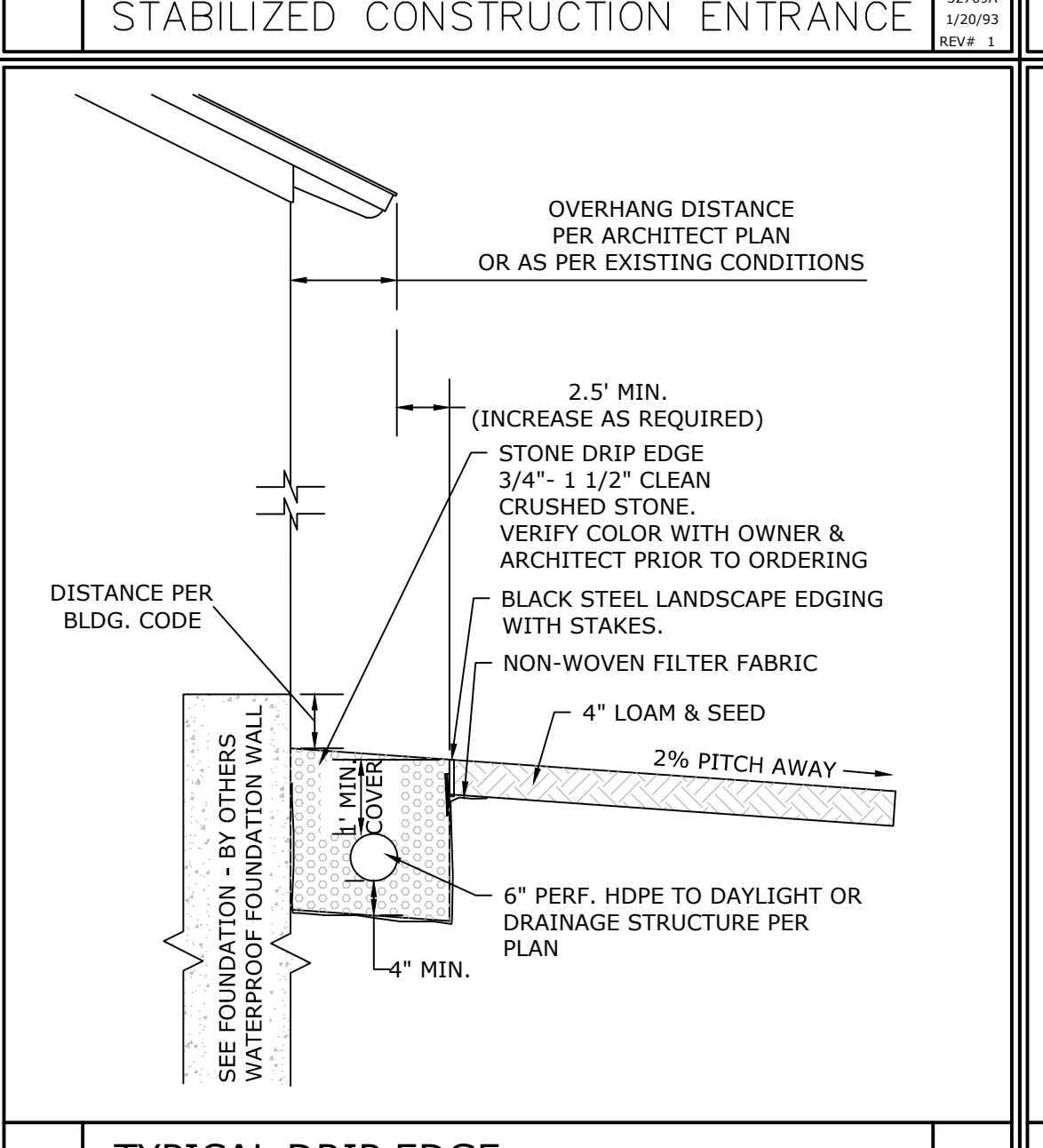
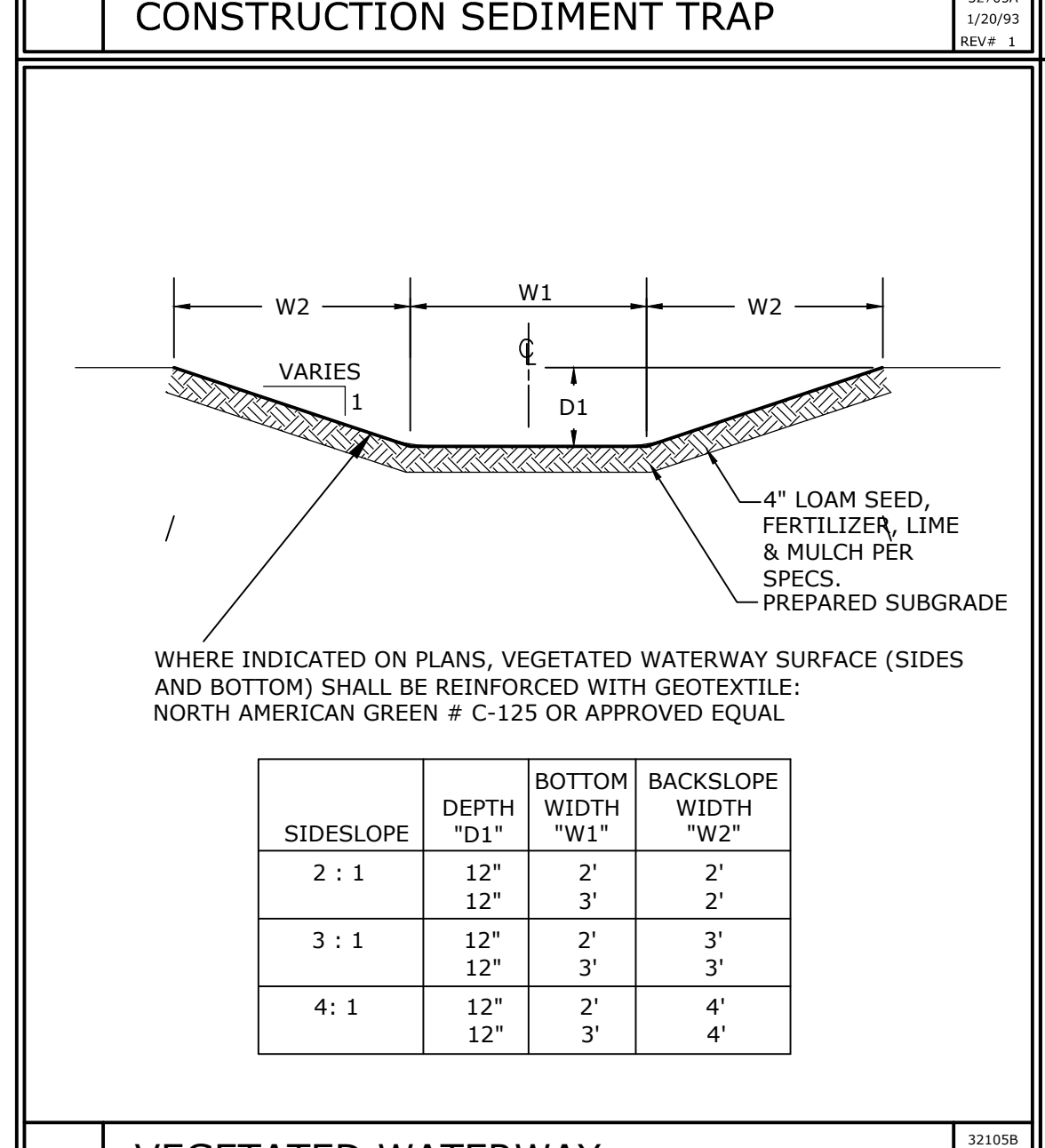
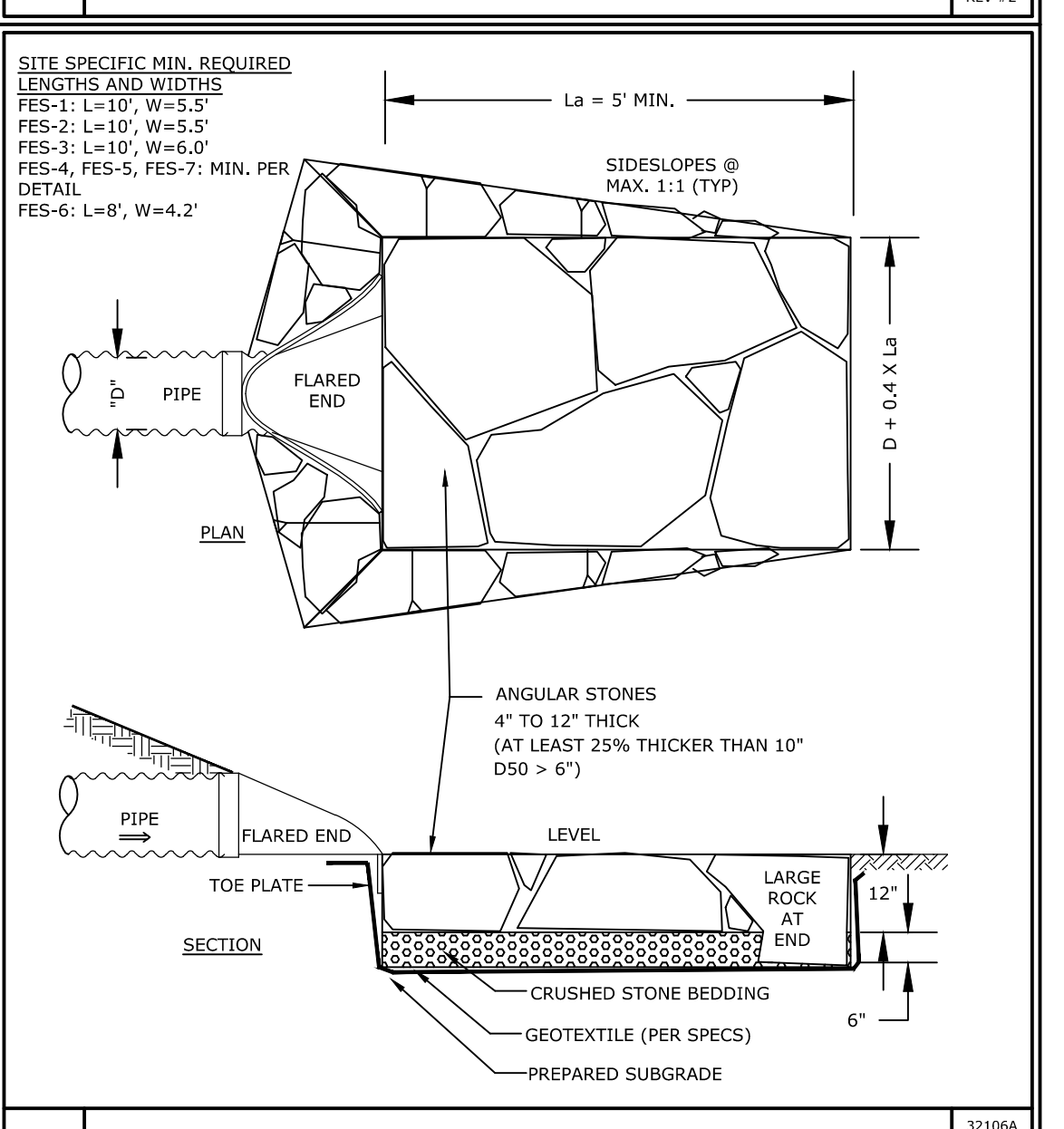
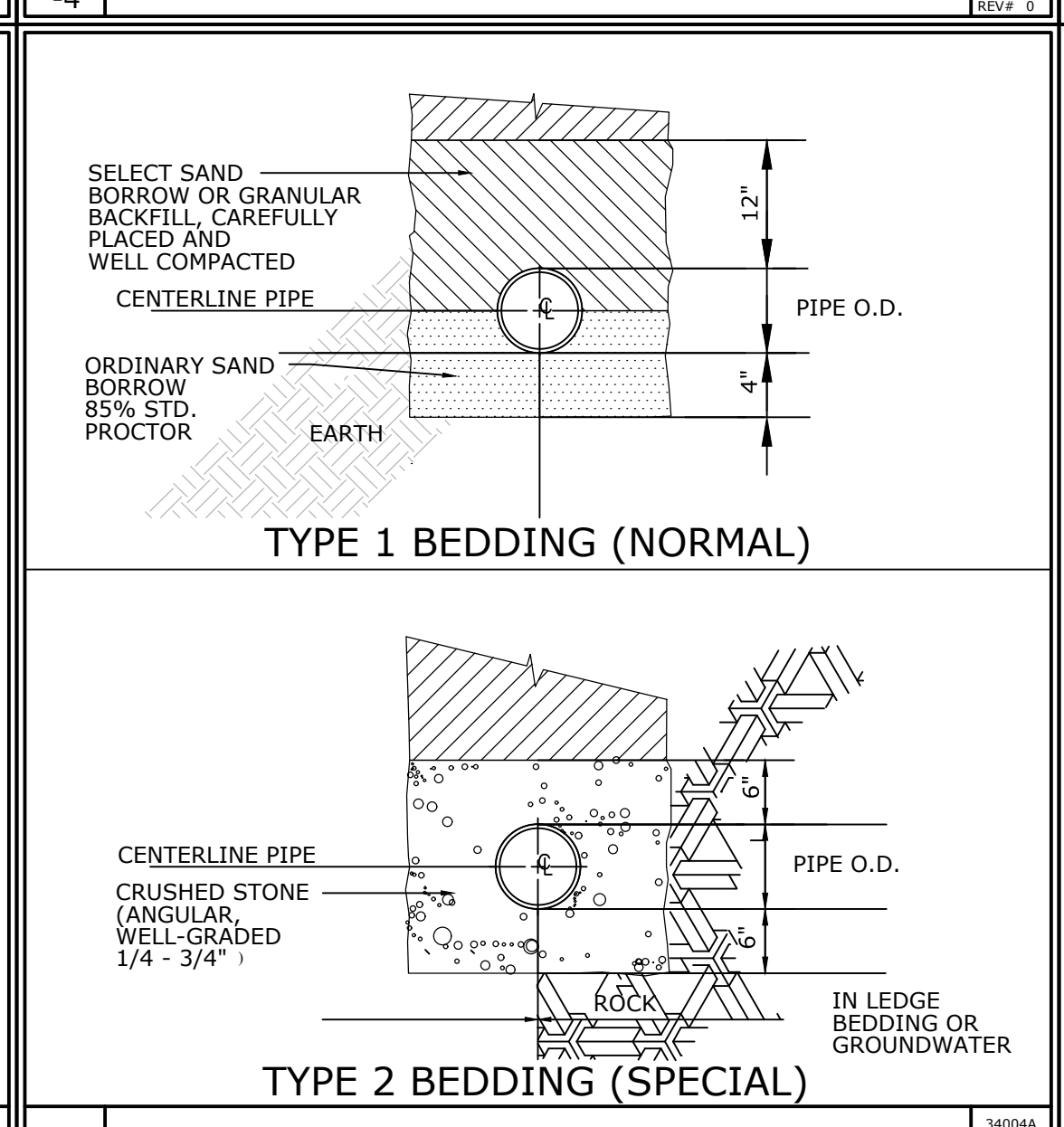
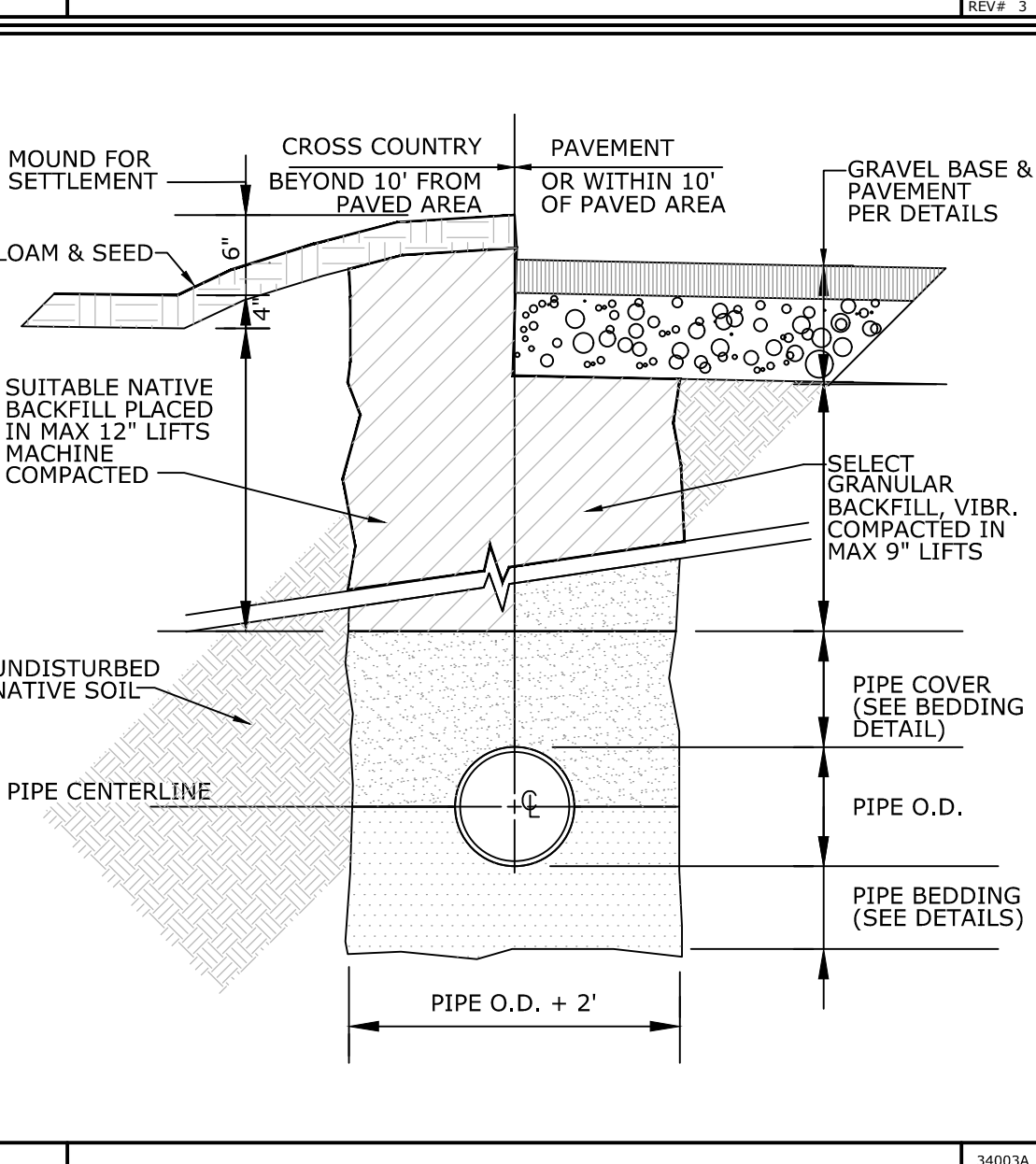
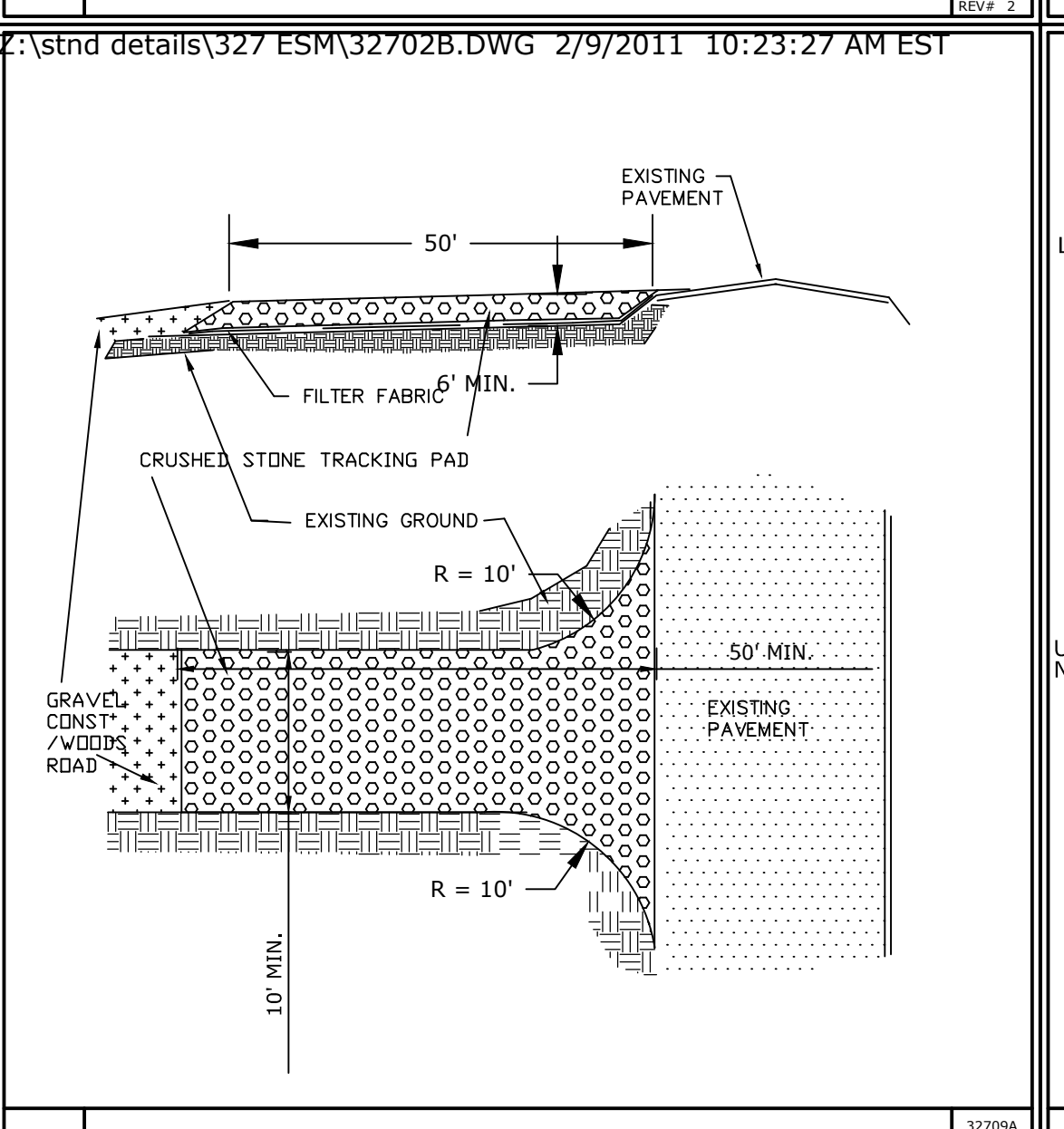
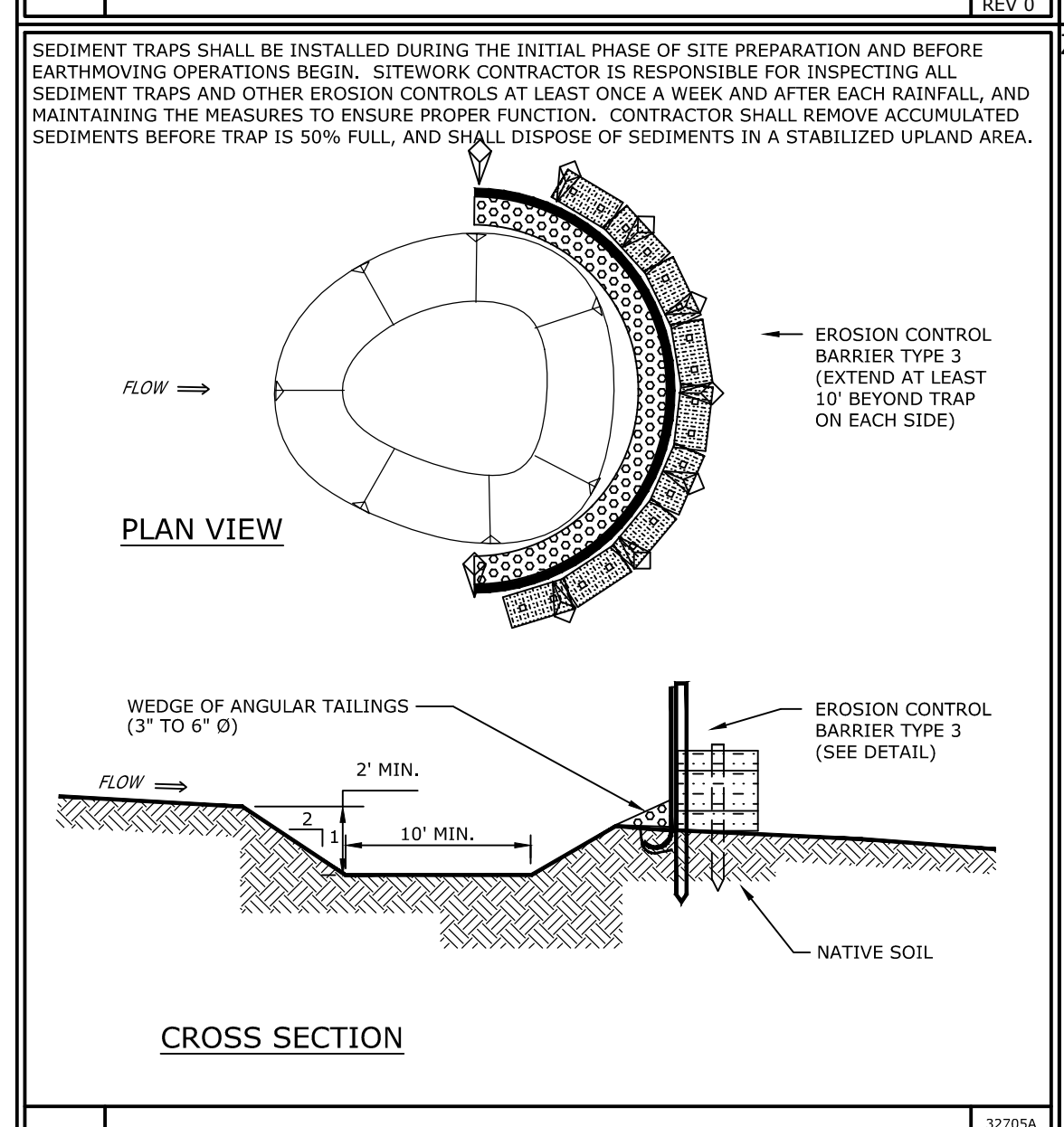
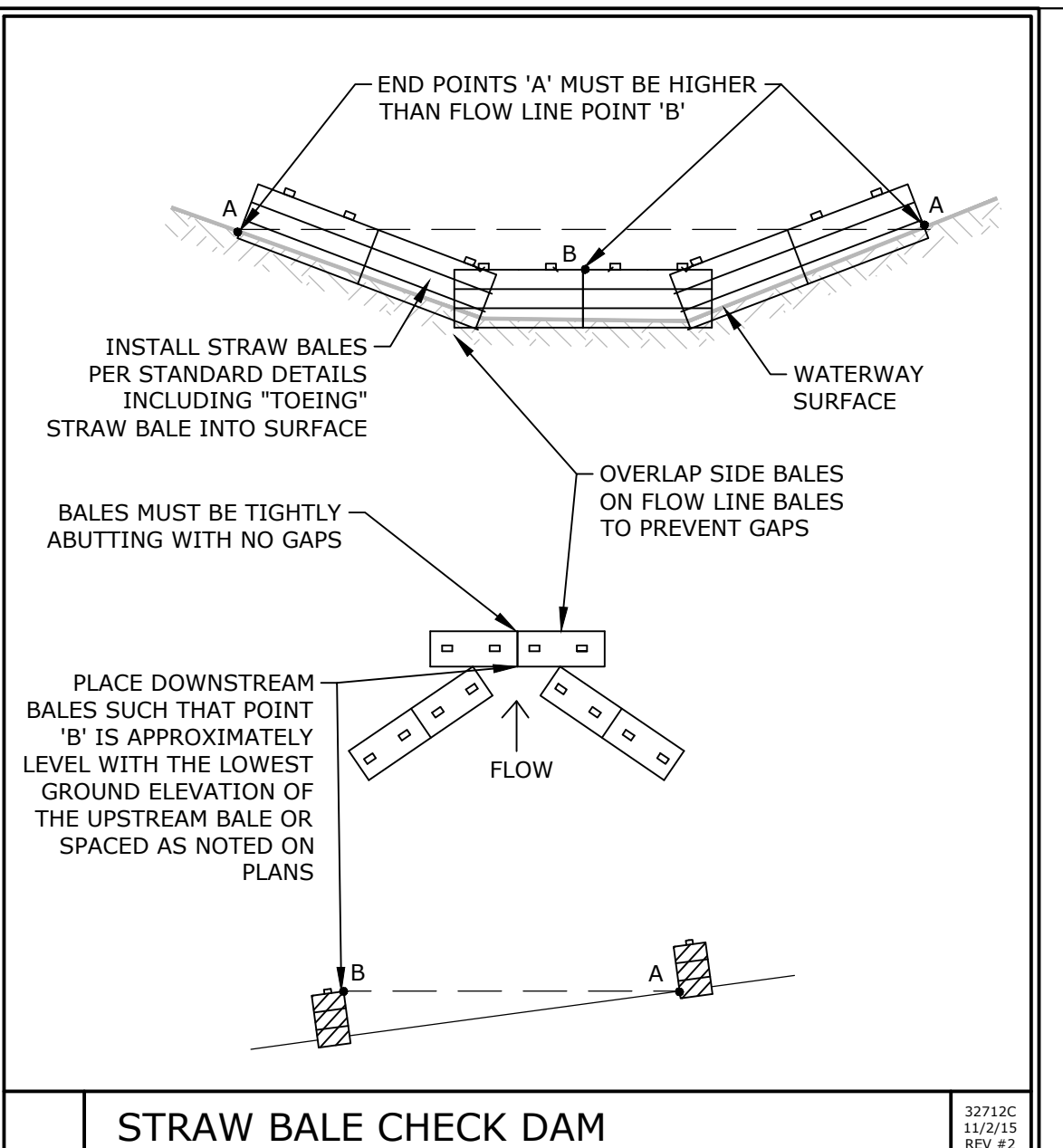
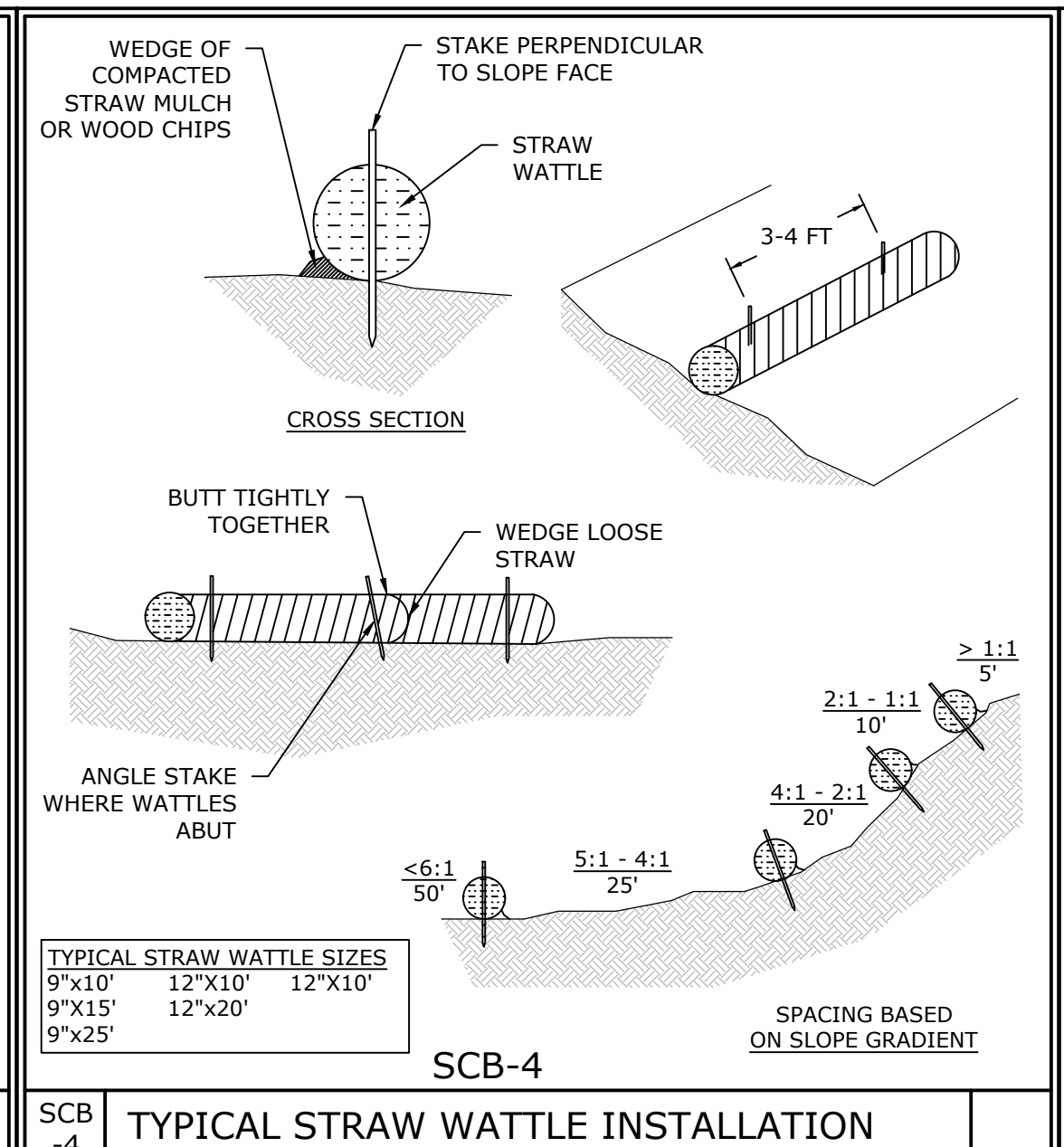
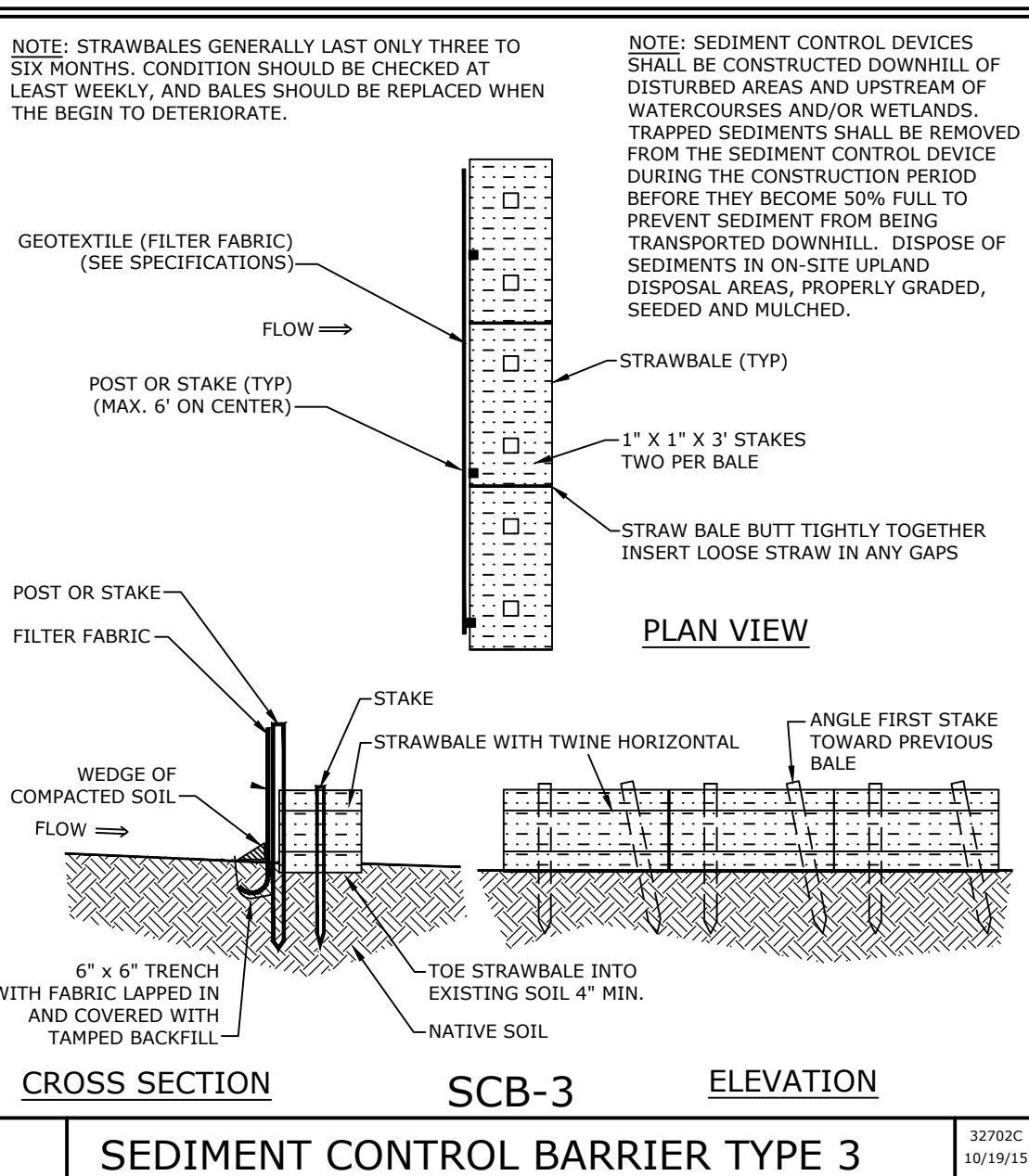
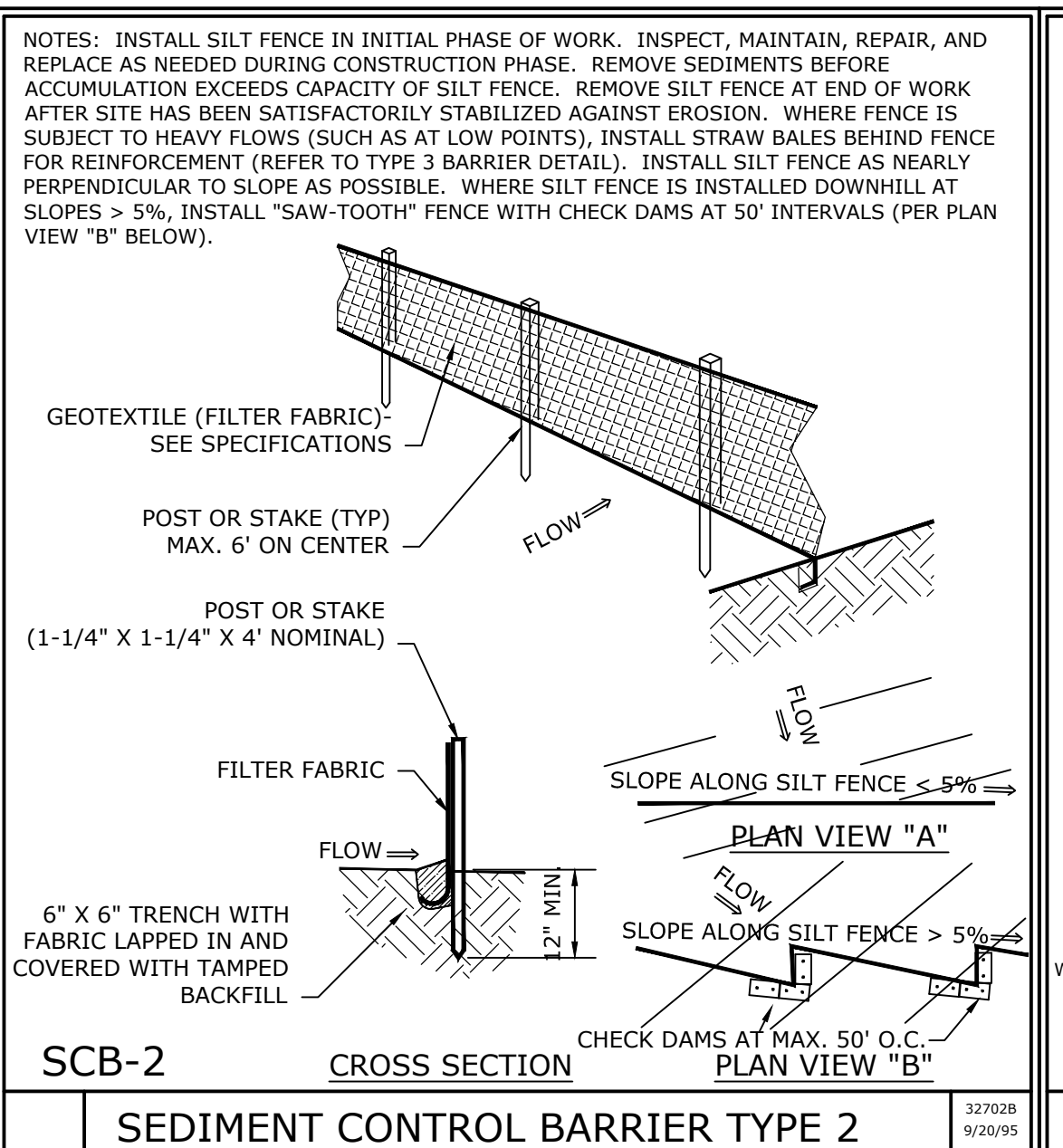
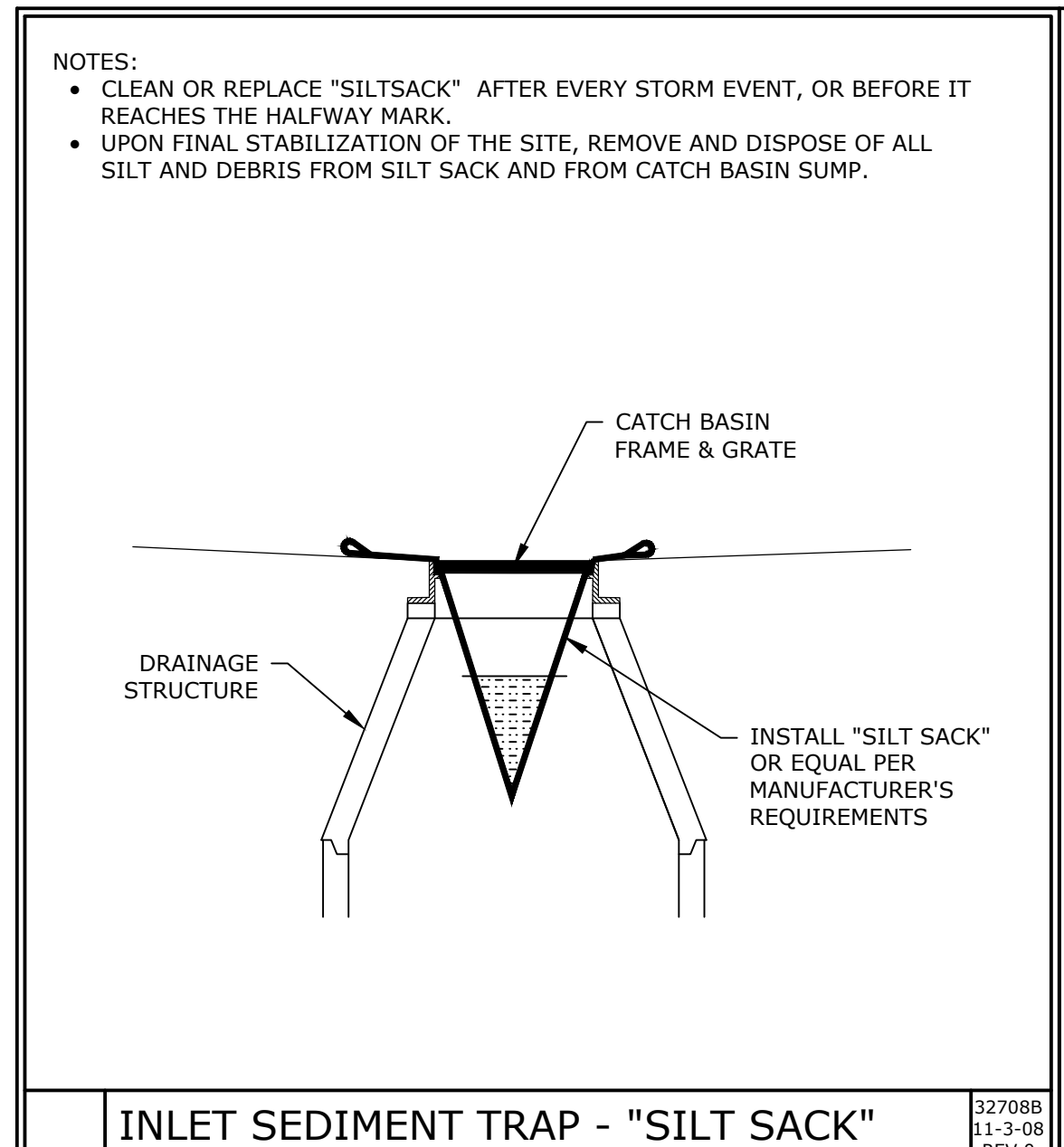
SHEET NUMBER:
 C-400

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DATE: 11-29-2022

FLS PROJ. NO: E3073
 FLS CAD FILE NAME: E3073D01.DWG
 XREFS:





NOTES:

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2022-11-29 ISSUE FOR WPA NOI SUBMISSION ONLY
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FORESIGHT LAND SERVICES
ENGINEERING - SURVEYING - PLANNING - ENVIRONMENTAL PERMITTING
FORESIGHT LAND SERVICES, INC.
1496 WEST HOUSATONIC STREET - PITTSFIELD, MA 01201
TEL: (413) 499-1560 FAX: (413) 499-3307 www.foresightland.com

CLIENT:
THE WILLIAM J. GOULD ASSOC., INC.

PROJECT TITLE:
ROADSIDE 2.0
275 MAIN ROAD
MONTEREY, MA

SHEET TITLE:
SITework
DETAILS - SHEET 1

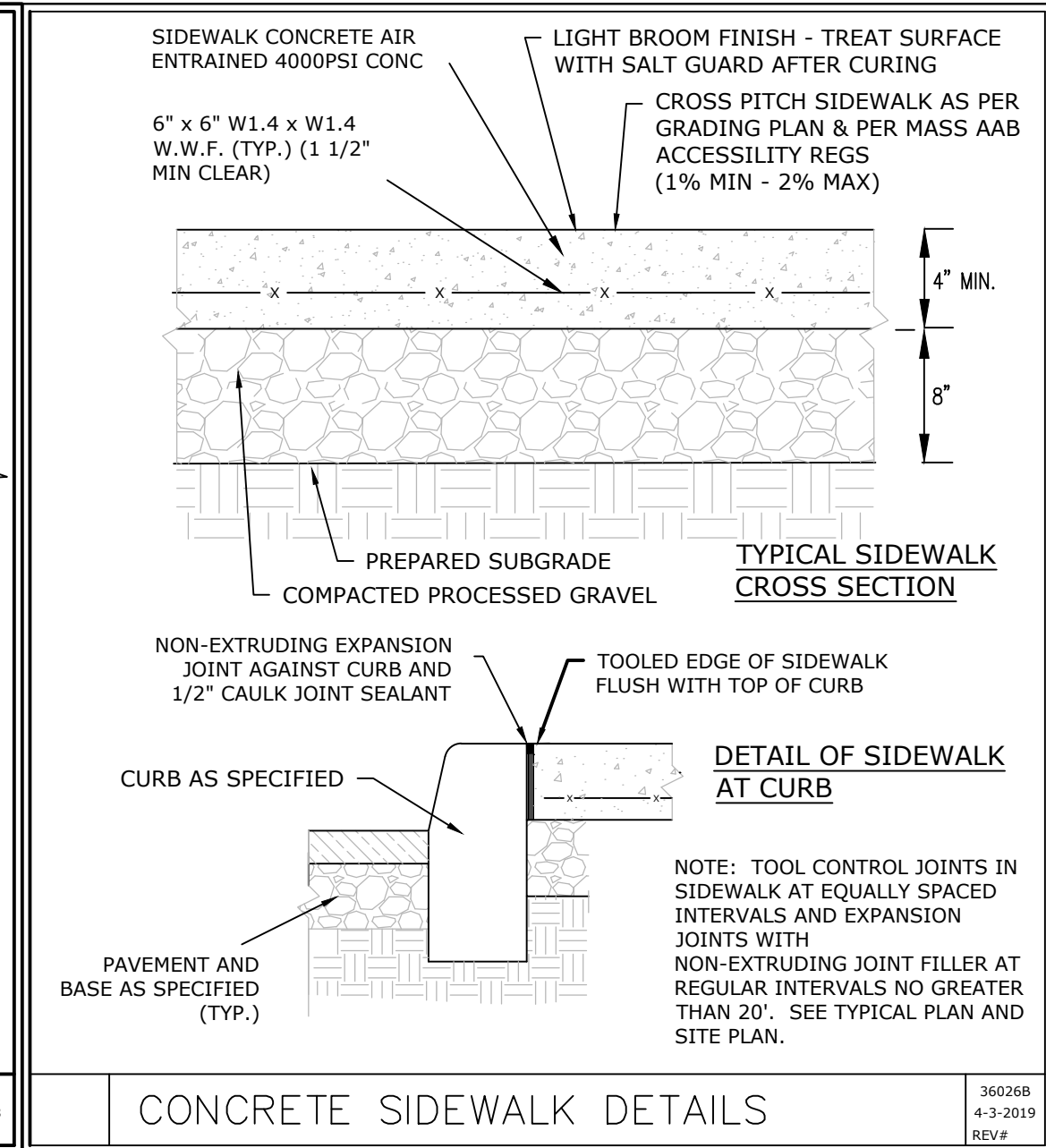
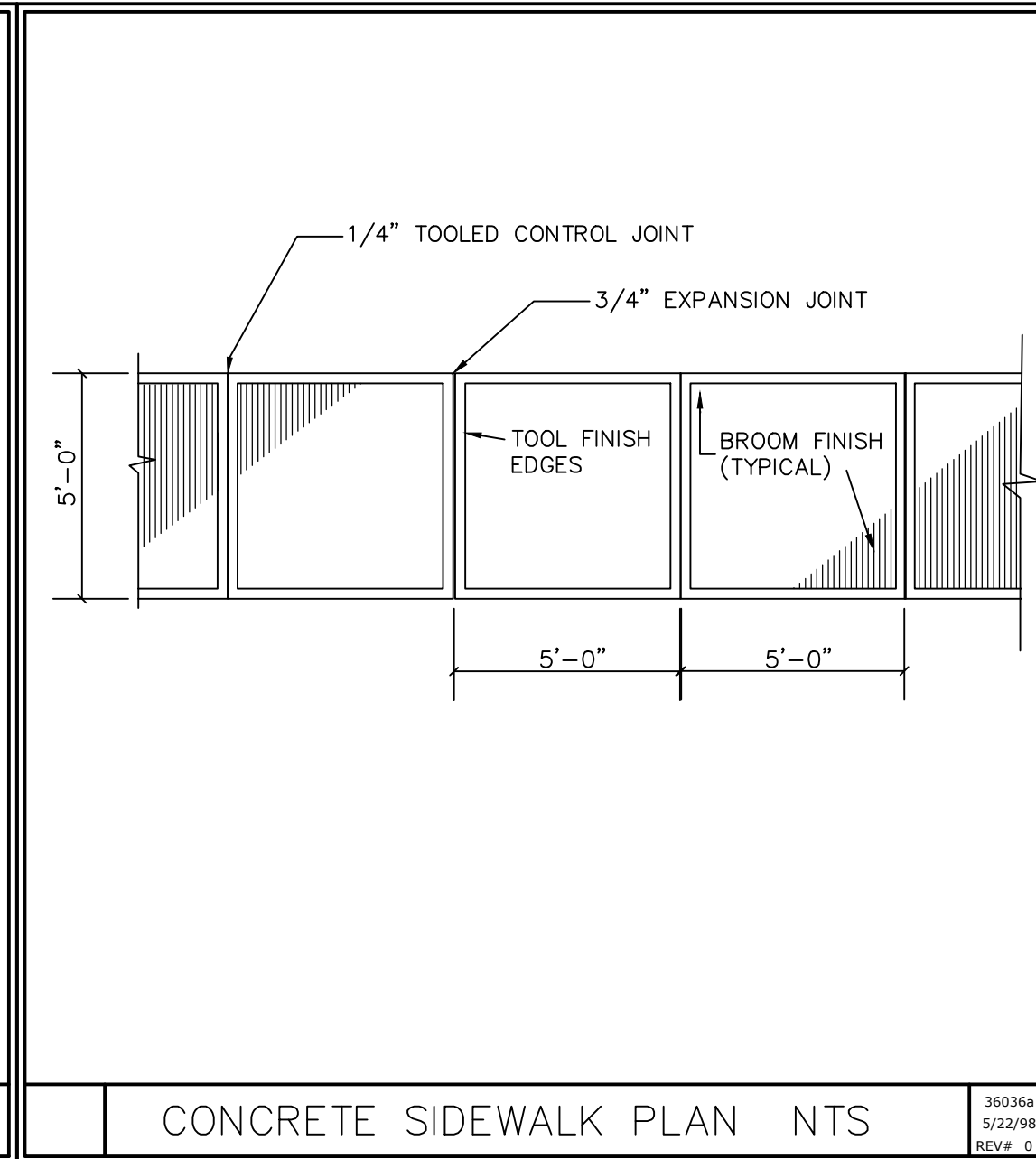
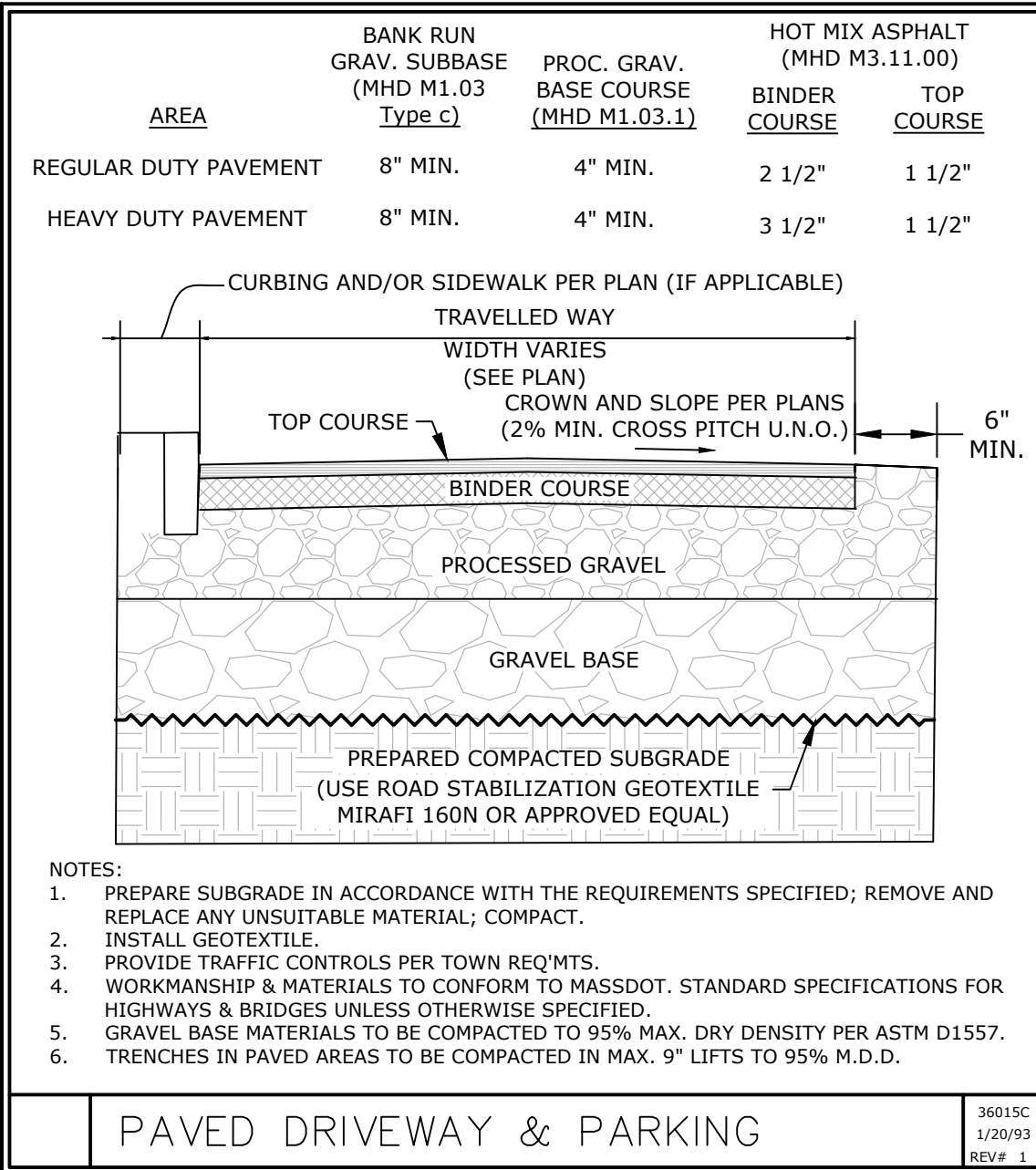
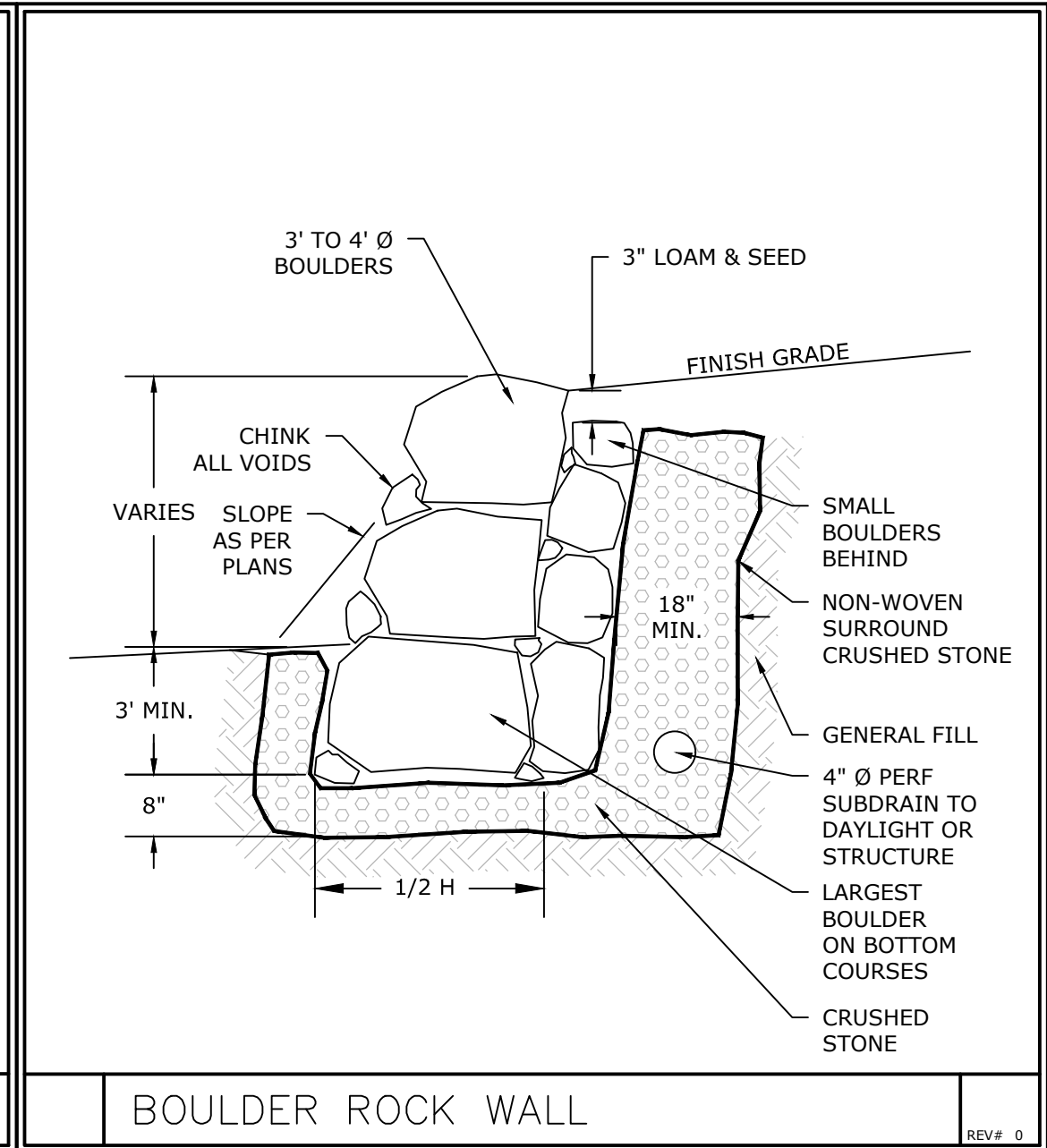
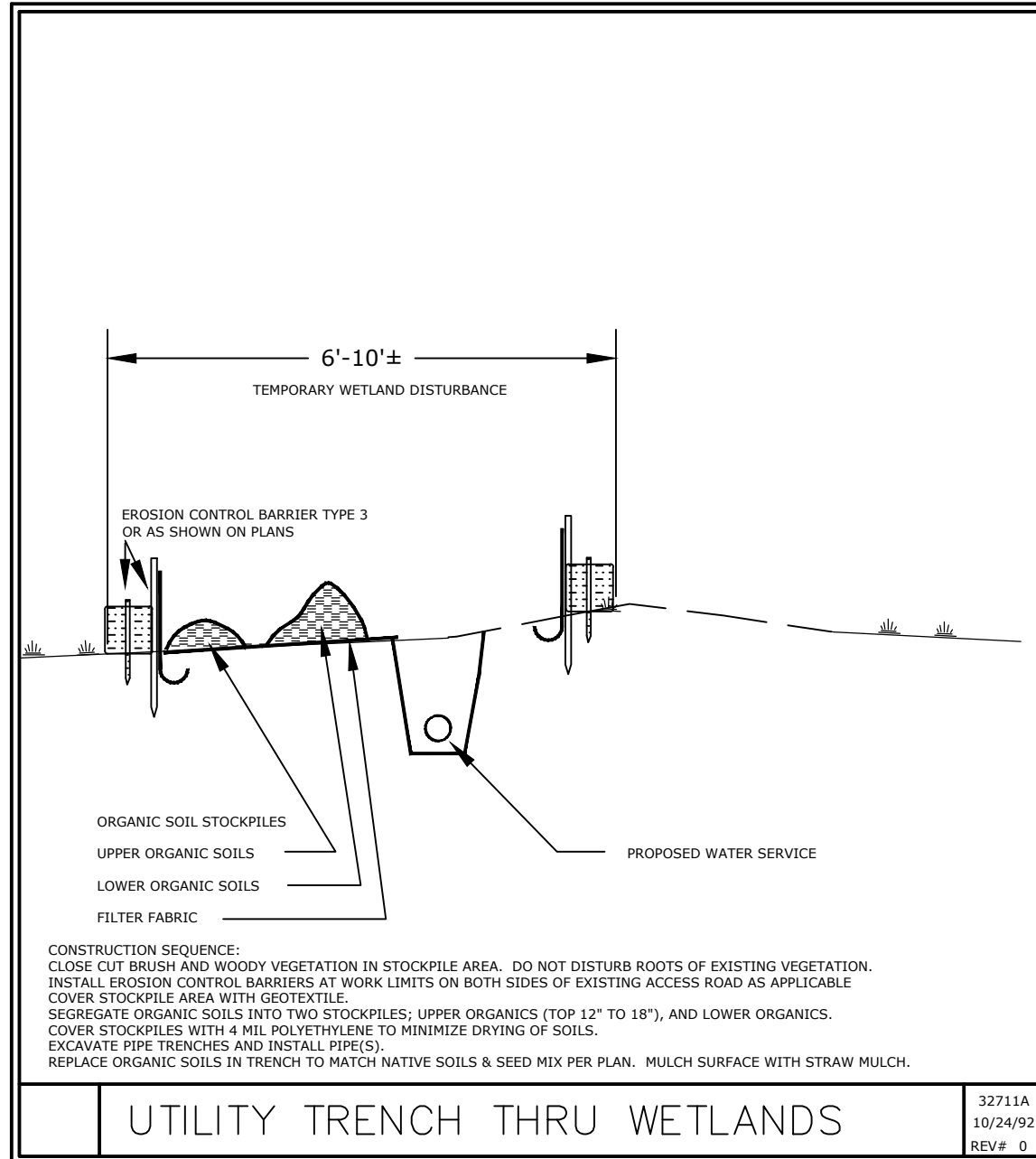
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SHEET NUMBER:
C-500

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FLS PROJ. NO: E3073
FLS CAD FILE NAME: E3073D01.DWG
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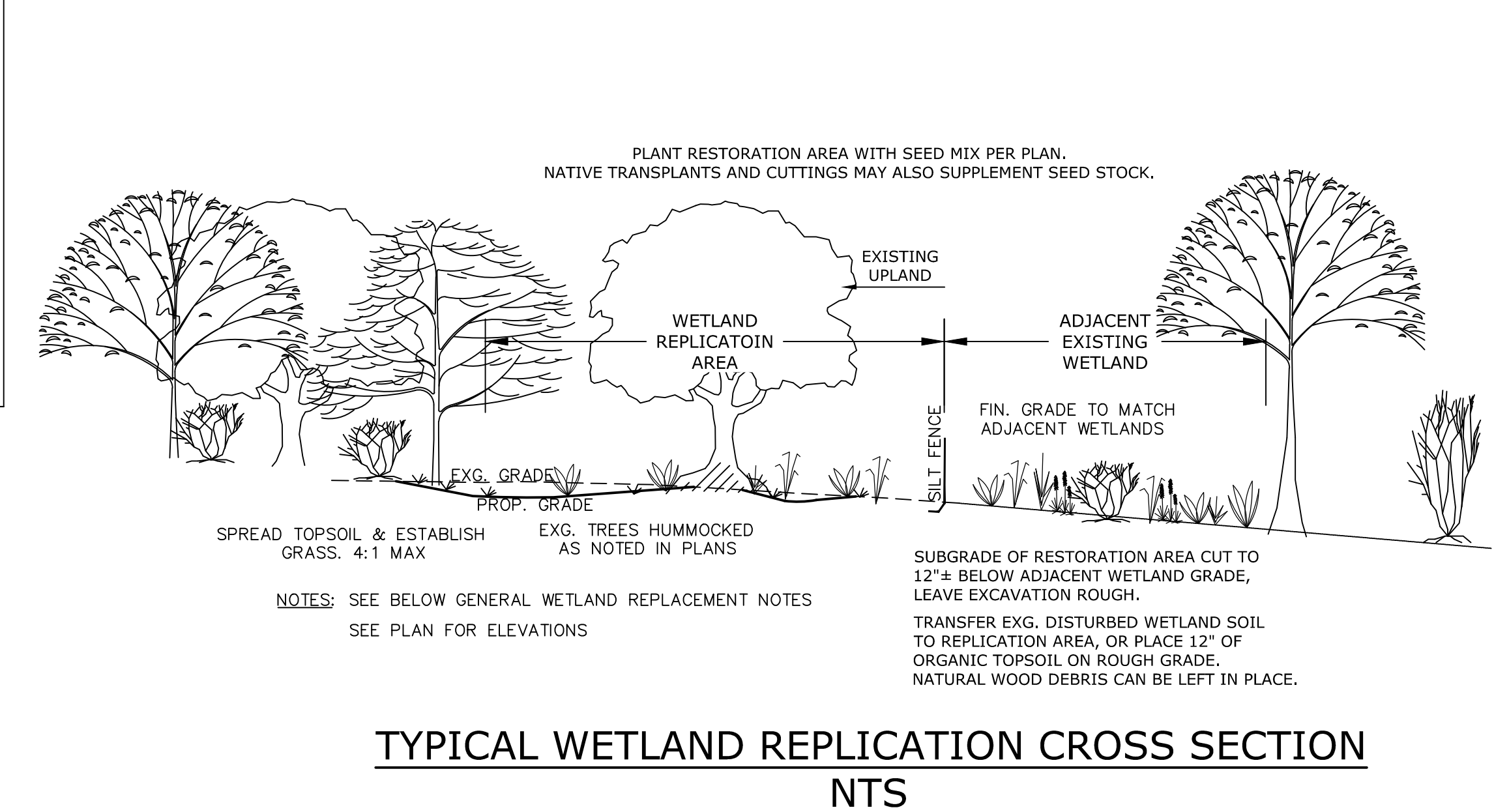
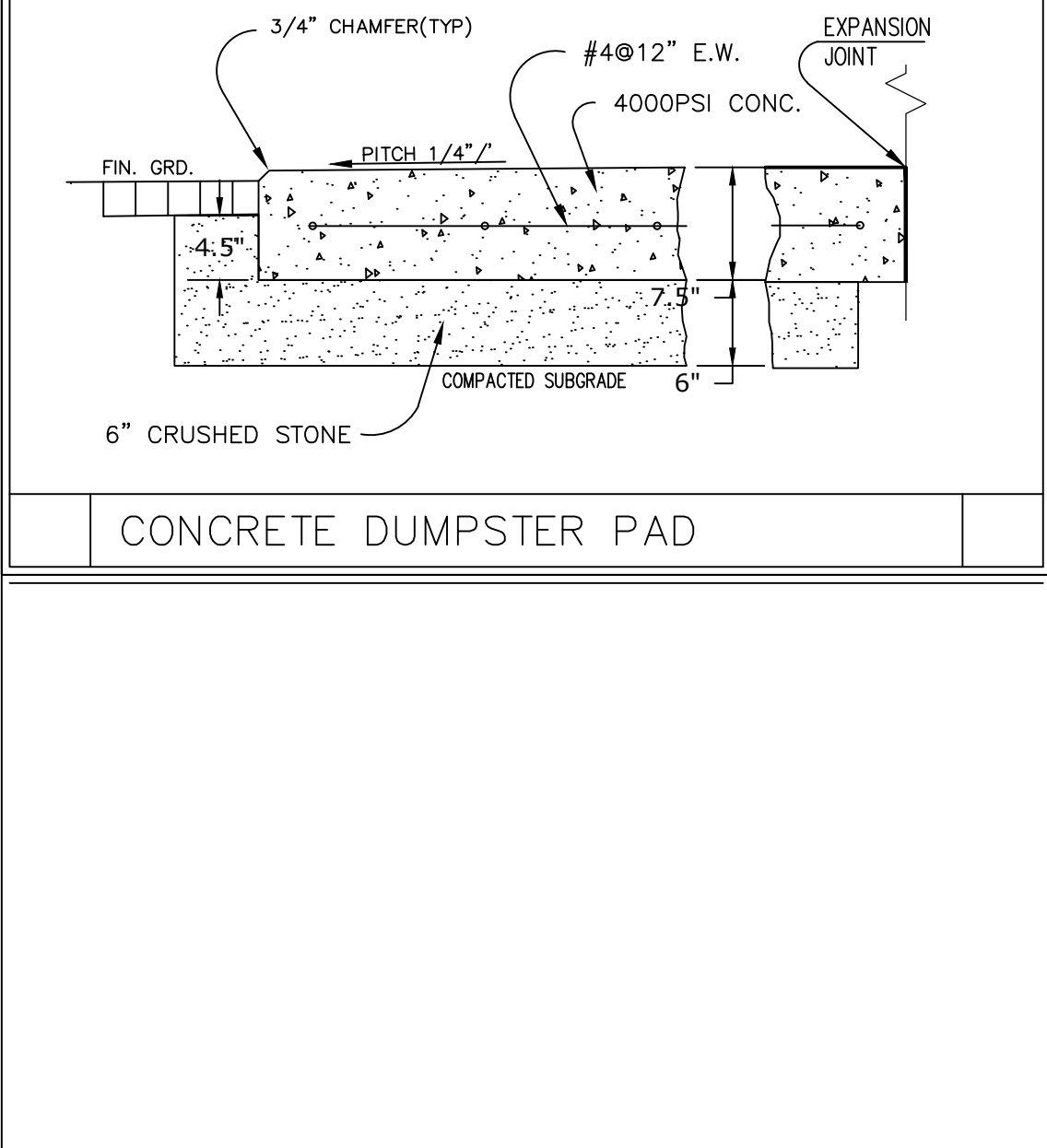
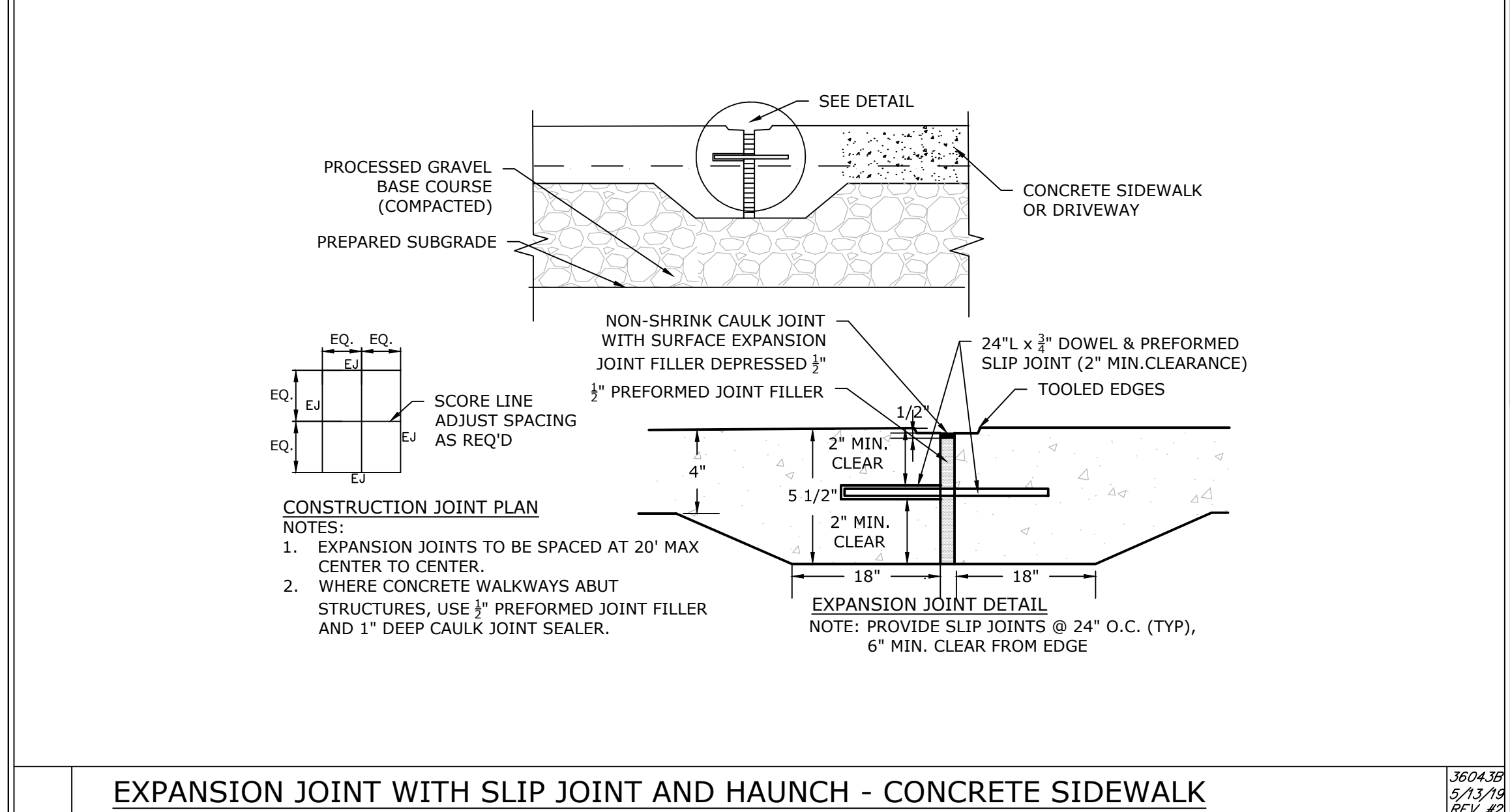


NOTES :

2022-12-27 ISSUE FOR SITE PLAN REVIEW ONLY
2022-11-29 ISSUE FOR WPA NOI SUBMISSION ONLY
DATE ISSUE/REVISION

FORESIGHT LAND SERVICES
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CLIENT:
THE WILLIAM J. GOULD ASSOC., INC.



PROJECT TITLE:

ROADSIDE 2.0
275 MAIN ROAD
MONTEREY, MA

SHEET TITLE:

SITework
DETAILS - SHEET 2

SET: PERMIT SET
SCALE: AS NOTED

SHEET NUMBER:

C-501

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DATE: 11-29-2022

FLS PROJ. NO: E3073
FLS CAD FILE NAME: E3073D01.DWG
XREFS:

Wetland Replacement Guidelines
(Adapted from MASSDOT Guidelines)

Section 1 - General Conditions
Contractor Responsibility
It shall be the responsibility of the Contractor to retain a Botanist, Biologist, Wetland Scientist, or other individual with similar qualifications and a minimum of five years experience in similar wetland replacements, and thoroughly versed in the Commonwealth of Massachusetts Wetlands Protection Act (M.G.L. C.131, s.40), its Regulations (310 CMR 10.00) and all other relevant regulations of the Department of Environmental Protection. This individual, hereafter referred to as "Botanist", shall be approved by the Resident Engineer and shall be identified prior to construction. The construction of the wetland replication area will be supervised by the approved Botanist.

An on-site meeting will be held between the contractor, the site engineer, and the supervising Botanist prior to the commencement of work. The Conservation Commission will be notified in writing at least five days before the meeting. The purpose of the meeting is to review sediment and erosion control measures, construction methods, and wetland replacement procedures. The contractor, site engineer, and Botanist will have and be familiar with copies of the Order of Conditions and Wetland Replacement Procedures.

Section 2 - Site Preparation
2.01 General Provision
The contractor shall plan and execute operations in a manner minimizing the amount of excavated and exposed fill, or other foreign materials that are washed or otherwise carried into the replacement area and nearby wetland resources areas.

All wetland boundaries in the replacement areas will be reflagged every 20 feet.

Site grading and construction will be scheduled to avoid periods of high water. Once begun, grading and construction will continue on interrupted to completion to restrict erosion and the situation of wetlands.

2.02 Erosion and Sedimentation Control
A single row of stacked straw bales shall be installed along the border of the existing wetland and the limit of wetland fill as shown on the plans. Straw bales shall be tightly butted to the adjacent bales, and staked with two 1" x 1" x 3" stakes spaced evenly in the bale and driven solidly into the underlying material. This shall serve as the limit of work line. Following planting, a second line of stacked straw bales shall be placed at the upper limit of the wetland replacement area. These will serve to protect the replacement area from sedimentation and from foreign materials, which could potentially enter the area. The stacked straw bales or siltation fence will be checked and maintained until all soils have stabilized and all danger of siltation has passed. Before any work begins on the soils, there should be 30 extra straw bales on the premises with sufficient stakes for staking them. The extra bales will be used as necessary to reinforce or repair existing straw bale barriers, to establish new barriers where needed, or to be spread as mulch.

2.03 Replacement Area Preparation
This wetland replication shall be performed under the direction and guidance of a qualified Botanist and as specified in these provisions. The preparation of the replacement area shall be accomplished in the following order:

- The replacement area shall be excavated to a minimum depth of 12 inches below the finished grade shown on the plan. Any wetland resource area adjacent to the replacement area shall be separated from the replacement area by a barrier of straw bales and silt fence as shown on the drawings. No grading will extend into the wetland areas.
- All soil within the top 12 inches of the proposed replacement area surface shall be inspected for rubble; if rubble is found, it shall be removed from the topsoil. If the soil is beyond usable quality as determined by the Botanist, it shall be disposed of. Usable soil shall be striped and stockpiled for reuse.
- There shall be a 1-foot deep layer of hydric soils placed in the replacement area. If there is not sufficient usable hydric soil in the proposed wetland fill areas to provide 12 inches of backfill in the wetland replacement area, an alternative soil mixture may be used. This shall consist of plantable soil borrow and at least 20% organic matter by volume. Peat moss of any type shall not be used as a source of organic matter. No woodchips shall be used, and organic material shall be well or partially decomposed. If off-site soils are to be used, documentation to and verification from the Botanist and engineer is required regarding the source, preparation, and placement of the off-site soil. Enough A and B-Horizon material shall be provided to create a suitable rooting medium, and to approximate the conditions at the nearest undisturbed existing wetland. Consistency shall be loose to friable and texture shall be loamy sand to silt loam. To prevent soil drying and contamination, replacement soil shall be used immediately if possible or stockpiled for as little time as possible. When stockpiled, the soils shall be kept wet and maintained at the same moisture content as the existing wetland soils. Soils shall be transported in washed vehicles so that no exotic or invasive species get mixed in. All soils shall be verified that they do not contain invasive species before use. (see Invasive Species List below, provided by DEP)

Purple Loosestrife (*Lythrum salicaria*);
Phragmites (*Phragmites australis*);
Buckhorn (*Rhynchos frondosa*);
Honeyuckle (*Lonicera* spp.);
Garlic Mustard (*Alliaria petiolata*);
Japanese Knotweed (*Polygonum cuspidatum* or *Fallopia japonica*);
Japanese Stilt Grass (*Microstegium vimineum*);
Red Canary Grass (*Phalaris arundinacea*);
Bittersweet nightshade (*Celastrus orbiculatus*);
Black Swallow-wort (*Cynanchum nigricum*);
Pale Swallow-wort (*Cynanchum rossicum*).

- All scarped soils must be stockpiled outside the resource area and at least 100 feet from the edge of the wetland. Pileactions (e.g., straw bales) shall be taken as necessary to prevent erosion of the stockpiled material.

- The previously excavated area (replacement area) shall be backfilled with the hydric soils to a minimum depth of one foot. The added soils level shall be graded so as to be at a grade compatible with the adjacent wetland, as shown on the plans.
- Finished grade shall be at an elevation, which shall provide a hydrologic connection between the replacement area and the adjacent wetland, as shown on the plans. The Contractor shall verify that this elevation is not at a level that could dewater an adjacent wetland.
- The wetland soils shall be deposited in the replacement area in a manner minimizing travel and subsequent compaction of the underlying material and replacement wetland soils.
- The side slopes will be graded with a minimum of four inches of the hydric soil described above and seeded with soil conservation seed mix. All disturbed areas will then be mulched with straw at an application rate of 100 pounds per 1000 square feet.
- Upon completion of the replacement area, a straw bale barrier shall be placed around the entire perimeter to protect it during the rest of the construction.
- The final grading of the wetland soils shall result in no breaks in elevation upon removal of sedimentation barriers.
- The sedimentation barriers shall be removed at the completion of all construction for the project. The ground under the sedimentation barriers shall be reseeded when the barriers are removed.

Section 3 - Wetland Replacement Planting
3.01 Compliance with DEP Performance Standards
The intent of these guidelines is to insure that at least 75 percent replacement surface area is reestablished with indigenous wetland plant species within two growing seasons of their planting in accordance with the Massachusetts DEP Wetlands Protection Act Regulations. The following specifications provide for good establishment, low transplant shock, monitoring of the plantings, and replacement of plant material if necessary.

3.02 Planting Specifications
After the replacement area has been prepared as described above, it shall be planted. Wetland planting shall be performed between April 15 and October 15 or as recommended by the Botanist and as approved by the Engineer. Specific guidance for planting materials is as follows:

- All plant material used shall be nursery grown and healthy, sound and free of disease, insect, pests, eggs or larvae, and shall have a well-developed root system. Container-grown plants shall have sufficient roots to hold planting mix intact after removal from containers, but should not be root bound.

- Plant material shall be planted as soon as possible (within a week) after it has been purchased. If it sits on the site before being planted, it shall be maintained by careful watering.
- The planting will consist of the material specified on the attached plan or Special Provisions. It may be necessary to substitute if the specified plant material is not available. Any substitutions must be approved by the Botanist prior to planting.

3.03 Planting Procedure-Where applicable
All wetland plantings will be performed by hand, using hand implements e.g., shovel or trowel. The following procedure shall be used for wetland plantings.

- Plants shall be installed as shown on plans or as specified in the Special Provisions. Plants will be placed in rows and the rows will be staggered. Trees and saplings will be planted approximately 15 feet on center. Shrubs will be planted between the trees and saplings approximately 8-10 feet apart. Plantings shall replicate existing wetland conditions regarding species (except invasive species if any exist), dominant plants, relative cover, and wetland indicator status for each vegetative layer proposed.
- Plant spacings listed on the plans shall be on center. To install each plant, a small hole shall be dug. A mixture of water and soil from the hole shall be prepared. The plant shall be removed from its container or burlap covering and set in the hole in a manner so that the top of the root ball is level with the surface of the ground. Care should be taken to keep the root ball intact while handling.
- For Balled & Burlap and container-grown material only, the following procedure for fertilizer application applies. The process for bare-root material is outlined below.

•Once each hole is dug for the replacement area vegetation, a small portion of slow release, root contact type fertilizer shall be placed in the hole prior to the input of the plant material. Any fertilizer used for this work must be approved by the Botanist at least by one week prior to use. For all shrub material, a small portion of bone meal should also be placed into the hole prior to insertion of the shrub. All vegetation should be fertilized with a fertilizer that is high in phosphorus composition to aid in plant root development.

Care should be taken to not over-fertilize the transplanted plant material. If, by the determination of the Botanist, some plants are buried due to over application of the fertilizer, all affected plant material must be replaced in-kind immediately by the horticultural contractor.

•For bare-root material (as noted on the planting list shown on the plans), no fertilizer shall be placed in the hole at time of planting.

- After fertilizer has been added and the plants placed, the soil mixture shall be backfilled into the hole and lightly compacted around the base of the plant.

- After plantings are completed, the replacement area will be hand raked to eliminate all soil compaction. Hand raking shall be conducted until soil is loose. Raking will also be performed in order to maintain finish grades established prior to planting. It is essential that any planted material be watered after planting within the same day. If for any reason all plantings are not accomplished in one day, the finished plantings must be watered in the interim.
- If wetland seed mix is included in the plant list shown on the plans, seeding shall be conducted after soil has been raked. Seed shall be sown by hand or by a small mechanical lawn seeder at the rates specified in the plant list. Water-soluble, quick-release fertilizer shall be broadcast at recommended rates along with the seed mix. The fertilizer nutrient analysis (ratio of sources of Nitrogen:Phosphorus:Potassium) should not be higher than 10-10-10. Watering of the seeded area must take place after seeding within that same day. Care should be taken during watering to direct a gentle spray of water that does not disturb seed on the soil surface.

Section 4 - Monitoring and Replacement
Monitoring will be performed in order to ensure satisfactory plant establishment and compliance with the performance standards for Bordering Vegetated Wetland from the Massachusetts Wetlands Protection Act Regulations at 310 CMR 10.35 (4)(b) or with any other relevant regulations of the Department of Environmental Protection. In the case of replication area failure the Botanist and engineer shall assess the failure(s) and develop a contingency plan to be implemented.

4.01 First Inspection
An inspection shall be conducted at the end of the first full growing season, or 100 growing season days after planting, whichever comes first. Following this inspection, the Contractor is required to replace all plants that have not shown satisfactory evidence of establishment, and to reseed any areas that have not achieved at least 50 percent cover with wetland herbaceous species, 50 percent healthy foliage shall be assumed satisfactory evidence of growth after the first growing season. All dead or unsatisfactory plants shall be removed and replaced in kind and size by the contractor, at no additional cost to the owner, with plants as originally established under this specification and planting plan. A survey of finished elevations shall be included as part of the monitoring sequence as well as post construction soil characteristics, colored photos from established reference points, and inspection of embankment to ensure they are stable, properly vegetated, and constructed as designed.

4.02 Second Inspection
A second inspection shall be made at the end of the second growing season. Following this inspection, the Contractor is required to replace all plants that are not healthy or are not flourishing. At the time of the second inspection, the Botanist shall determine whether the wetland replacement area has achieved the required 75 percent re-vegetation with wetland plant species. 75 percent cover by wetland species shall be assumed satisfactory evidence of growth after the second growing season. If this percentage is not achieved additional plantings, of the specified kind and rate, must be made by the contractor, at no additional cost to the owner.