

CHAPTER 40B - Residential Development

PERMIT SET - "Comprehensive Permit Plan Set"

Not For Construction

"Heritage Landing"

Cow Pond Brook Road GROTON, MASSACHUSETTS

DATE OF PLAN: APRIL 25, 2023

CHAPTER 40B - Residential Development

16 - Single-Family Units
6 Duplexes - 12 Units

TOTAL UNITS- 28 Units
Proposed Roadway- 980 l.f.±

Subject Property & Zoning Information

TAX MAP 248 LOT 42
COW POND BROOK ROAD
GROTON, MASSACHUSETTS

1. PROPERTY OWNER AND APPLICANT:

DEFCON 1 LLC
390 Broadway Road
Dracut, MA 01826
Book 13059, Page 697

- TOTAL LOT AREA 14.5 ACRES (Town of Groton Assessor's Records)
- BOUNDARY, WETLANDS AND TOPOGRAPHIC INFORMATION DERIVED FROM TOWN OF GROTON GIS AND RECORD PLANS.
- THE PROJECT IS TO BE SERVICED BY MUNICIPAL WATER (By Extension) AND PRIVATE INDIVIDUAL ON-SITE SEPTIC SYSTEMS.

5. CURRENT ZONING:

RA - Residential Agricultural & OS - Open Space
Minimum Dimensional Regulations: RA
Area 80,000 S.F.
Frontage 225'
Setbacks: Front - 50'
Side - 15'
Rear - 15'

BUILDING TABULATION

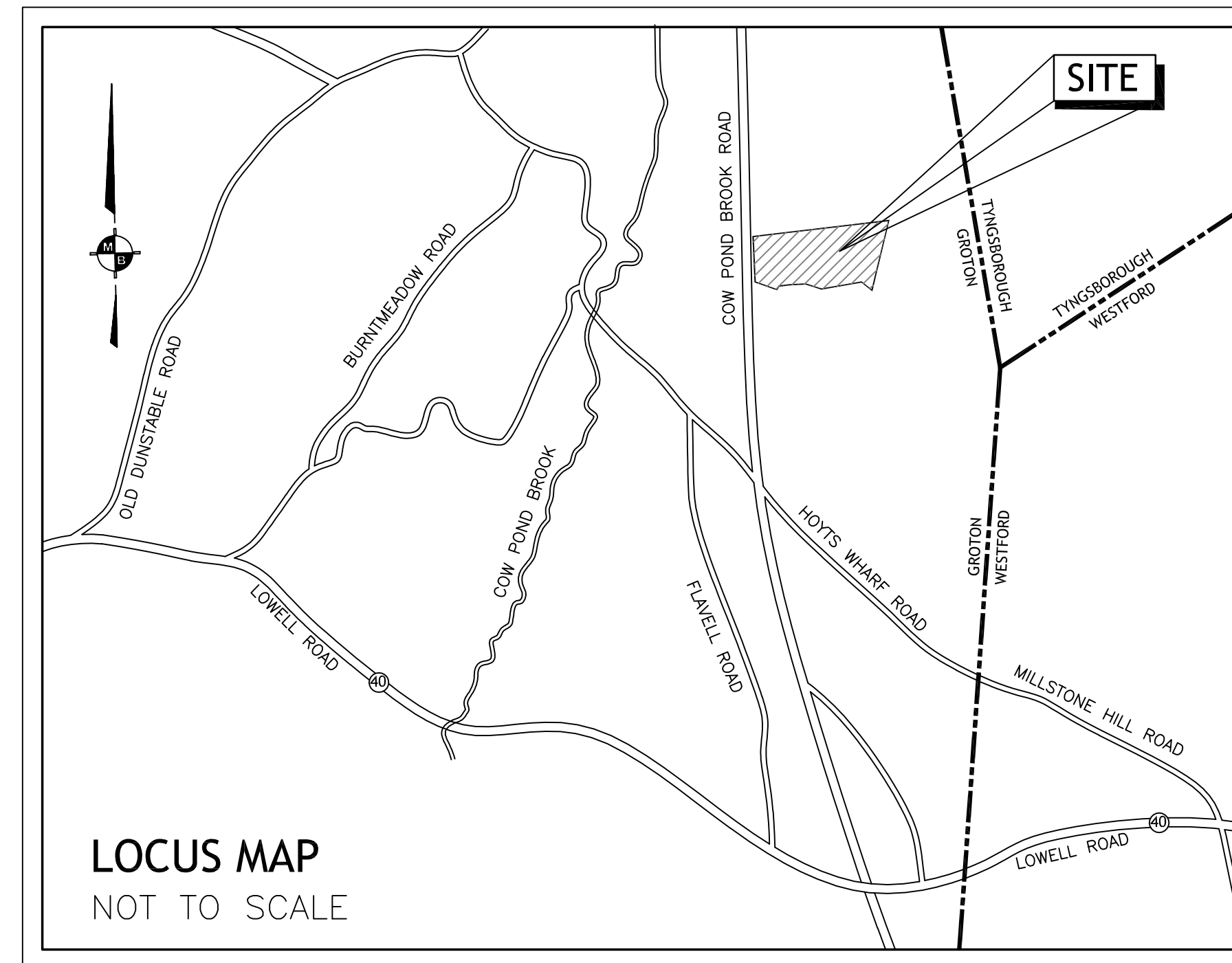
BUILDING TABULATION	SINGLE	FAMILY	DUPLEX	TOTAL
NUMBER OF UNITS	16	12	28	
BEDROOMS	3	3	84	
BATHROOMS - FULL	2	2	56	
BATHROOMS - HALF	1	1	28	
GARAGE	2	2	56	
1ST FLOOR AREA (Excl. Garage)	1249	1225	34,684	
2ND FLOOR AREA (Excl. Garage)	607	845	19,852	
TOTAL GFA	1856	2070	54,536	
FOOTPRINT (Inc. Garage)	1752	1740	48,912	

LOT COVERAGE AREA PERCENTAGE

LOT COVERAGE AREA	PERCENTAGE
BUILDING	48,912 7.7%
PAVEMENT	37,559 5.9%
TOTAL IMPERVIOUS	86,471 13.6%

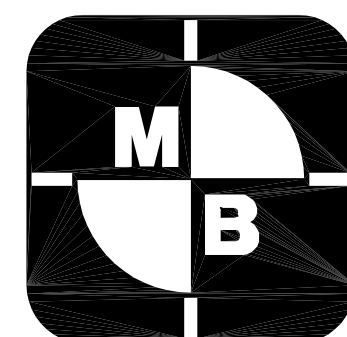
NOTE:

THIS PLAN IS PRELIMINARY ONLY AND NOT FOR CONSTRUCTION.
THIS PLAN IS BASED ON RECORD PLANS ON FILE AT THE MIDDLESEX NORTH REGISTRY OF DEEDS AND THE TOWN OF GROTON AND IS NOT BASED ON AN ACTUAL BOUNDARY, RECENT TOPOGRAPHY, OR WETLAND RESOURCE DELINEATION (BY THIS OFFICE). THEREFORE IS SUBJECT TO CHANGE WHEN AN ACTUAL SURVEY IS PERFORMED.



Tax Map 248 Lot 42
COW POND BROOK ROAD
GROTON, MASSACHUSETTS

DATE OF PLAN: APRIL 25, 2023	REVISION 1: JANUARY 3, 2024	REVISION 2: JANUARY 30, 2024	REVISION 3: APRIL 2, 2024
REVISION 4: MAY 2, 2024			



MEISNER BREM CORPORATION

142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 • (978) 692-1313
202 MAIN STREET, SALEM, NH 03079 • (603) 893-3301

SHEET INDEX

"40-B" COMPREHENSIVE PERMIT PLAN SET

SHEET #	DESCRIPTION
Sheets 1-5 Site Plans by Meisner Brem Corporation	
1	COVER SHEET
2	EXISTING CONDITIONS PLAN
3	GRADING & UTILITY PLAN
4	PROFILE PLAN
5	DETAIL SHEET

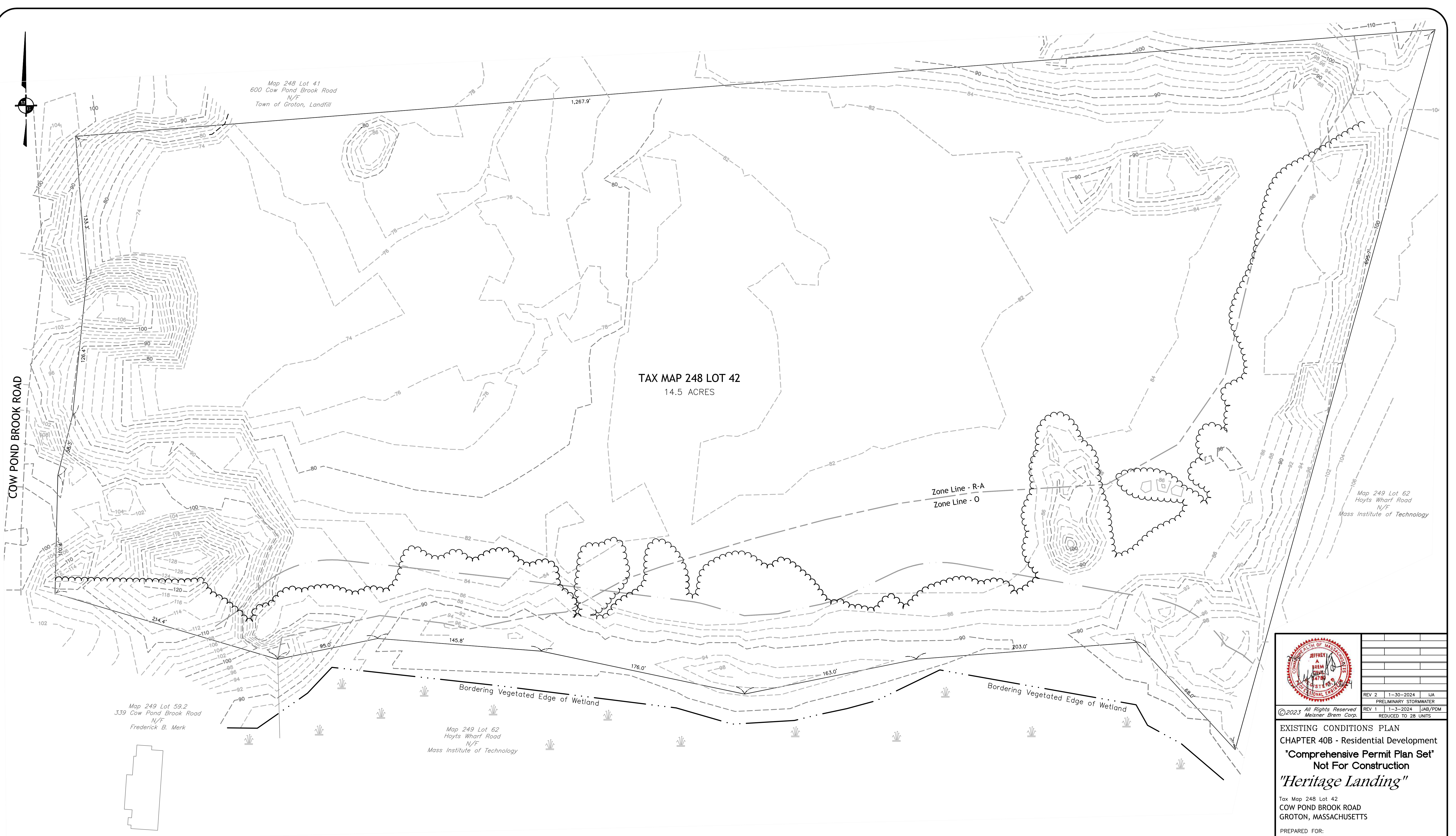
Sheets 1-6 Landscape Plans by Lemon Brooke

L-1.01	LIGHTING ILLUSTRATIVE PLAN
L-1.02	LIGHTING PLAN
L-1.03	LIGHTING CUT SHEETS
L-1.04	PHOTOMETRIC PLAN
L-2.00	PLANTING DETAILS
L-2.01	PLANTING DETAILS

Plan Set Note:

The within plans are Preliminary Site Development Plans. As provided by 760 CMR 56.05 (2), the application materials for a Comprehensive Permit include "preliminary site development plans" as follows: preliminary site development plans showing the locations and outlines of proposed buildings; the proposed locations, general dimensions and materials for streets, drives, parking areas, walks and paved areas; and proposed landscaping improvements and open areas within the site. The plan showing the proposed location and types of sewage, drainage, and water facilities, including hydrants likewise need only be preliminary.

Similarly, in accordance with the Board of Appeals Rules pertaining to Comprehensive Permits, Section 338-34 describes the contents of an application for a comprehensive permit, including the contents of a "preliminary site development plan". Such a plan shall show "the locations and outlines of proposed buildings; the proposed locations, general dimensions and materials for streets, drives, parking areas, walks and paved areas; type and location of proposed sewage disposal and proposed landscaping improvements; trash disposal; open areas within the site, including but not limited to school bus shelters and parks or other play areas for children; proposed stormwater management system; proposed property lines and rights-of-way of any proposed streets; and proposed lighting plans." The level of detail is deliberately lower than that required for a customary site plan review application, because (as provided by 760 CMR 56.05 (4)(a)) "Consistency with Local Needs is the central issue of all Comprehensive Permits before the Board". The applicant anticipates that, if and when, the permit is approved, that conditions of approval will describe requirements for the preparation and the review of final site development plans and engineering data regarding the details of the project, including stormwater management, septic design, water services and other issues customarily required as part of a site plan approval plan.



COW POND BROOK ROAD

Map 248 Lot 41
600 Cow Pond Brook Road
N/F
Town of Groton, Landfill

TAX MAP 248 LOT 42
14.5 ACRES

Zone Line - R-A
Zone Line - O

Map 249 Lot 62
Hoyts Wharf Road
N/F
Mass Institute of Technology

Map 249 Lot 59.2
339 Cow Pond Brook Road
N/F
Frederick B. Merk

Map 249 Lot 62
Hoyts Wharf Road
N/F
Mass Institute of Technology

Bordering Vegetated Edge of Wetland

Bordering Vegetated Edge of Wetland

LEGEND	
	CONTOUR LINE WITH ELEVATION
	EDGE OF BORDERING VEGETATED WETLAND
	100' BUFFER ZONE
	PROPERTY BOUNDARY

PLAN REFERENCES:

- "RESIDENCES OF OLIVER WRIGHT MEADOWS" PROPOSED SITE PLAN BY BELANGER & FOLEY, INC. OF NORTH CHELMSFORD, MA, DATED DEC. 6, 2004, PREPARED FOR A.J. & SONS ON FILE WITH THE TOWN OF GROTON PLANNING DEPARTMENT.
- TOWN OF GROTON GEOGRAPHIC INTERACTIVE SYSTEM (GIS)

NOTES:

- EXISTING TOPOGRAPHY AND WETLANDS DERIVED FROM PLAN REFERENCE 1.
- TOTAL PARCEL AREA = 14.5 ACRES
- TOWN ASSESSOR MAP 248, LOT 142
- THIS PROPERTY WAS PREVIOUSLY USED TO MINE SANDS AND GRAVELS

REV 2	1-30-2024	UA
PRELIMINARY STORMWATER		
REV 1	1-3-2024	UAB/PDM
REDUCED TO 28 UNITS		

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EXISTING CONDITIONS PLAN
CHAPTER 40B - Residential Development
"Comprehensive Permit Plan Set"
Not For Construction
"Heritage Landing"

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GROTON, MASSACHUSETTS

PREPARED FOR:
DEFCON 1 LLC
390 Broadway Road
Dracut, MA 01826
APRIL 25, 2023

SCALE: 1" = 40'

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202 MAIN STREET, SALEM, NH 03079 • (603) 893-3301

DRAFTED BY: UA/PDM	APPROVED BY: JAB/KDM	JOB NUMBER: 2944	2 of 5
ACAD FILE: 2944-M.dwg			



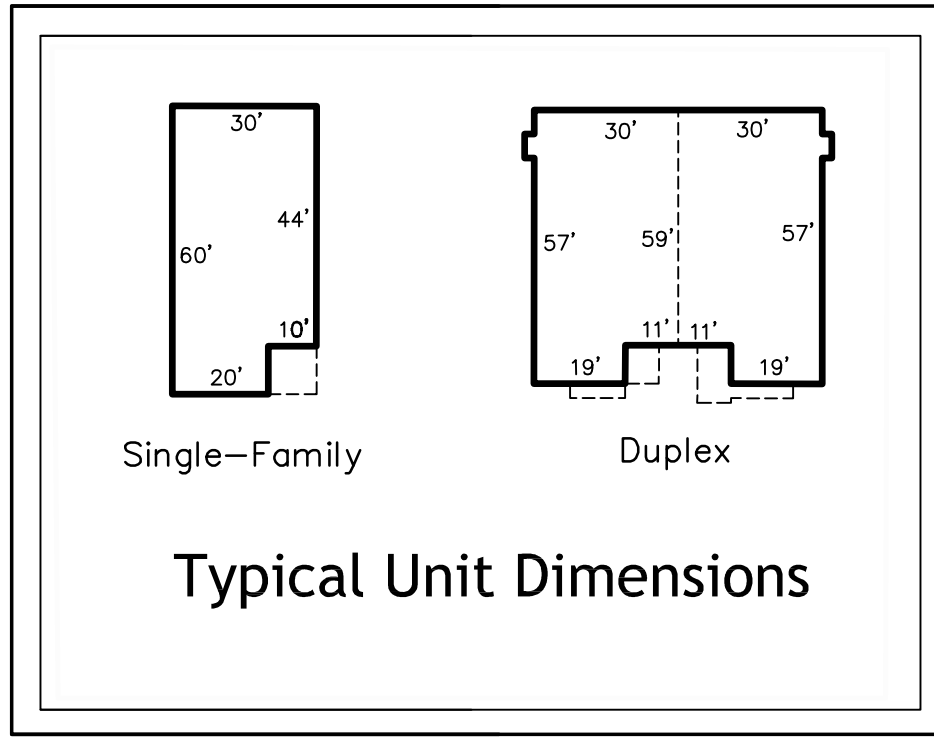
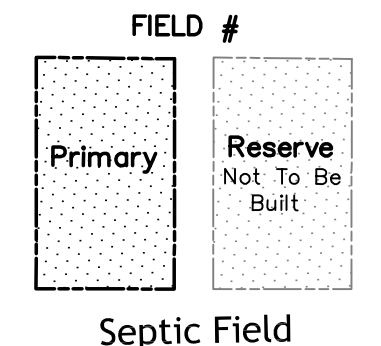
NHESP Mitigation Tabulation

	Square Feet	Acres
Total Parcel Area	631,600 S.F.	14.5 Acres
Less Neutral		
Septic Areas - A,B,C	21,257 S.F.	0.49 Acres
SMF - 1	14,492 S.F.	0.33 Acres
Subtotal Net Area	595,900 S.F.	13.68 Acres
Open Space Restricted Area Required	397,300 S.F.	9.12 Acres
Open Space Restricted Area Provided	*398,100 S.F.	9.14 Acres
Developed Area (Maximum)	198,600 S.F.	4.56 Acres
Developed Area (Actual)	*197,000 S.F.	4.52 Acres

***NHESP Mitigation Ratio**
 Developed Area/O.S. Restricted Area > 2:1
 = 398,100/197,000 = 2.02:1.00

Septic Systems Allocations

FIELD	# OF UNITS	UNITS
A	8	1, 2, 3, 4, 25, 26, 27, 28
B	6	5, 6, 21, 22, 23, 24
C	8	7, 8, 9, 10, 11, 12, 13, 14
D	6	15, 16, 17, 18, 19, 20




PRELIMINARY UTILITY NOTES:

1. WATER SERVICE TO BE GROTON MUNICIPAL WATER BY EXTENSION OF AN 8" CEMENT LINED DUCTILE IRON PIPE AND ASSOCIATED FITTINGS.
2. SEWER SERVICE TO BE VIA PRIVATE, ON-SITE SEPTIC SYSTEMS AS SHOWN HEREIN WITH VARIOUS SYSTEMS SERVING MULTIPLE UNITS AS SHOWN.
3. FOR SEPTIC SYSTEM LOADING COMPUTATIONS AND ASSOCIATED CREDIT LAND, SEE SEPARATE DOCUMENTS ON FILE WITH THE TOWN OF GROTON AND MASS DEP.
4. ALL UTILITIES FOR ELECTRICITY, TELEPHONE, CABLE, FIOS, AND OTHER SHALL BE UNDERGROUND. FINAL DESIGNS TO BE DEVELOPED BY RESPECTIVE UTILITIES AND SUBMITTED TO THE GROTON BOARD OF APPEALS AND BUILDING INSPECTOR AT LEAST 2 WEEKS PRIOR TO INSTALLATION.
5. DRAINAGE SYSTEM SHALL CONSIST OF CONVENTIONAL DEEP SUMP CATCH BASINS, TO A PIPED SYSTEM USING MIN. SIZE 12" DIAMETER HDPE PIPES DIRECTED TO STORMWATER FACILITIES WITH PRE-TREATMENT SYSTEMS AND INFILTRATION BASINS AS GENERALLY SHOWN HEREIN. THE STORMWATER SYSTEM WILL COMPLY WITH MASS DEP STORMWATER STANDARDS UTILIZING CONVENTIONALLY BEST MANAGEMENT PRACTICES AND GENERALLY ACCEPTED ENGINEERING STANDARDS. ALL WORK IS INTENDED TO BE OUTSIDE OF THE 100' BUFFER ZONE TO THE VEGETATED WETLAND AREAS.
6. BASED ON A LETTER FROM NHESP, DATED 8-23-2021, THE PROJECT SITE IS WITHIN A MAPPED AREA FOR BLANDING'S TURTLE (*Emydoidea blandingii*). A "THREATENED" SPECIES PROTECTED UNDER THE MASSACHUSETTS' ENDANGERED SPECIES ACT (MESA, M.G.L. c. 131A) AND ITS IMPLEMENTING REGULATIONS (321 CMR 10.00). THE APPLICANT IS PRESENTLY IN DISCUSSIONS WITH NHESP FOR MITIGATION AND OTHER IMPROVEMENTS IN ANTICIPATION OF AN APPLICATION UNDER MESA.

ZONING NOTES:

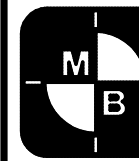
1. TOTAL PARCEL AREA = 14.5 ACRES
2. BUILDING COVERAGE = 7.7%
3. IMPERVIOUS COVERAGE = 13.6%
4. BUILDING SEPARATION / OFFSET = 25' MINIMUM



REV 4 | 5-2-2024 | JAB/PDM
 REDESIGNED ENTRANCE FOR BUS & CHANGED ROAD NAME
 REV 3 | 4-2-2024 | JAB/PDM
 ADDITIONAL PARKING & SIGNAGE
 REV 2 | 1-30-2024 | JJA
 PRELIMINARY STORMWATER
 REV 1 | 1-3-2024 | JAB/PDM
 REDUCED TO 28 UNITS

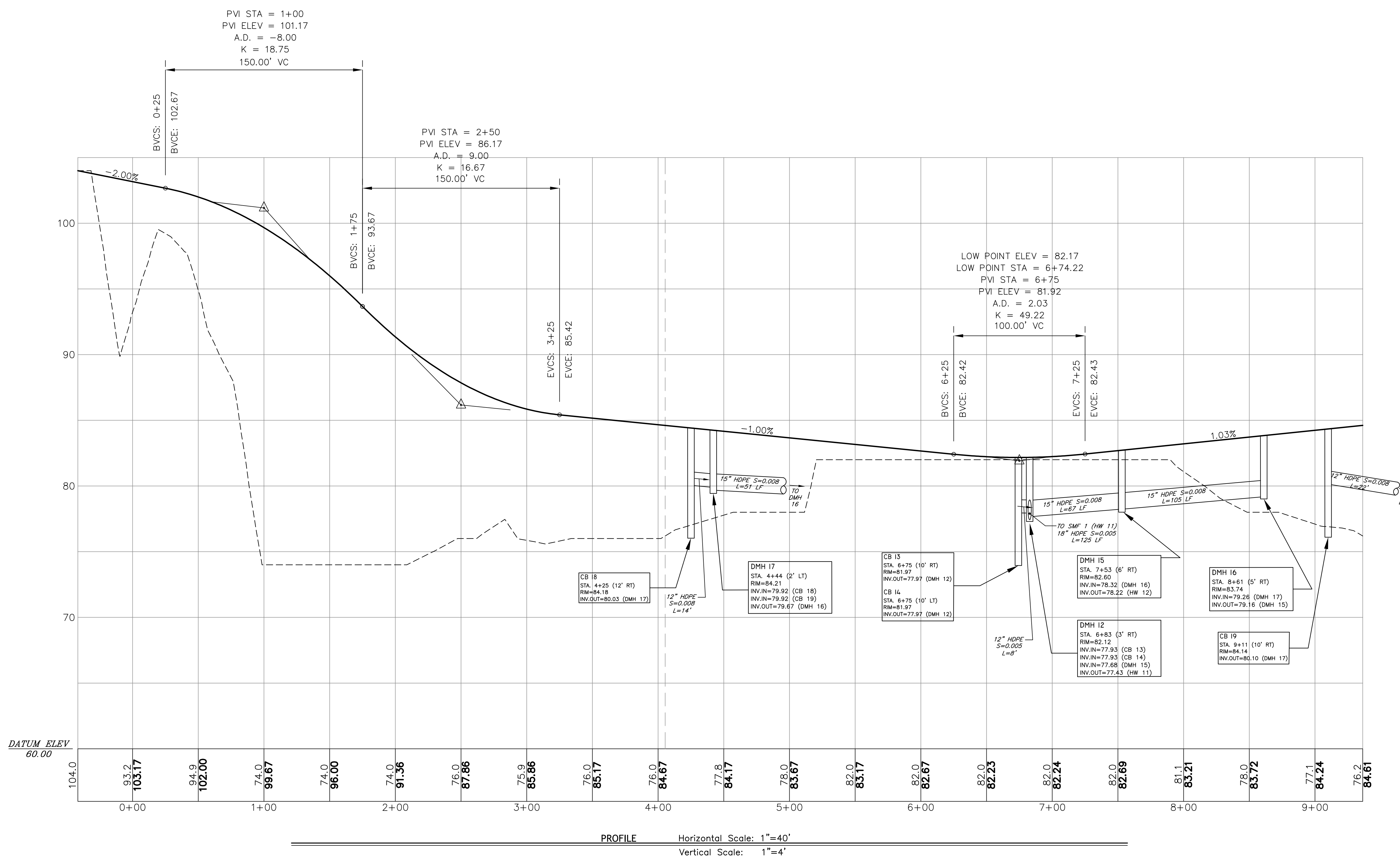
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SITE PLAN
CHAPTER 40B - Residential Development
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"Heritage Landing"
 Tax Map 248 Lot 42
COW POND BROOK ROAD
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 PREPARED FOR:
 DEFCOON 1 LLC
 390 Broadway Road
 Dracut, MA 01826
 APRIL 25, 2023
 SCALE: 1" = 40'



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DRAFTED BY: JJA/PDM
 APPROVED BY: JAB/KDM
 JOB NUMBER: 2944
3 of 5
 ACAD FILE: 2944-M.dwg



REV 2	1-30-2024	LJA
PRELIMINARY STORMWATER		
REV 1	1-3-2024	JAB/PDM
REDUCED TO 28 UNITS		

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PROFILE PLAN
 CHAPTER 40B - Residential Development
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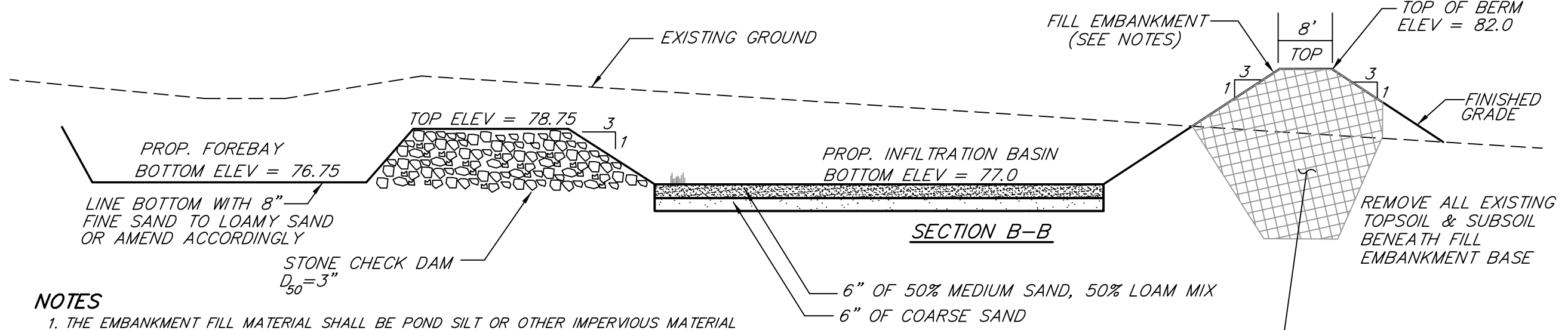
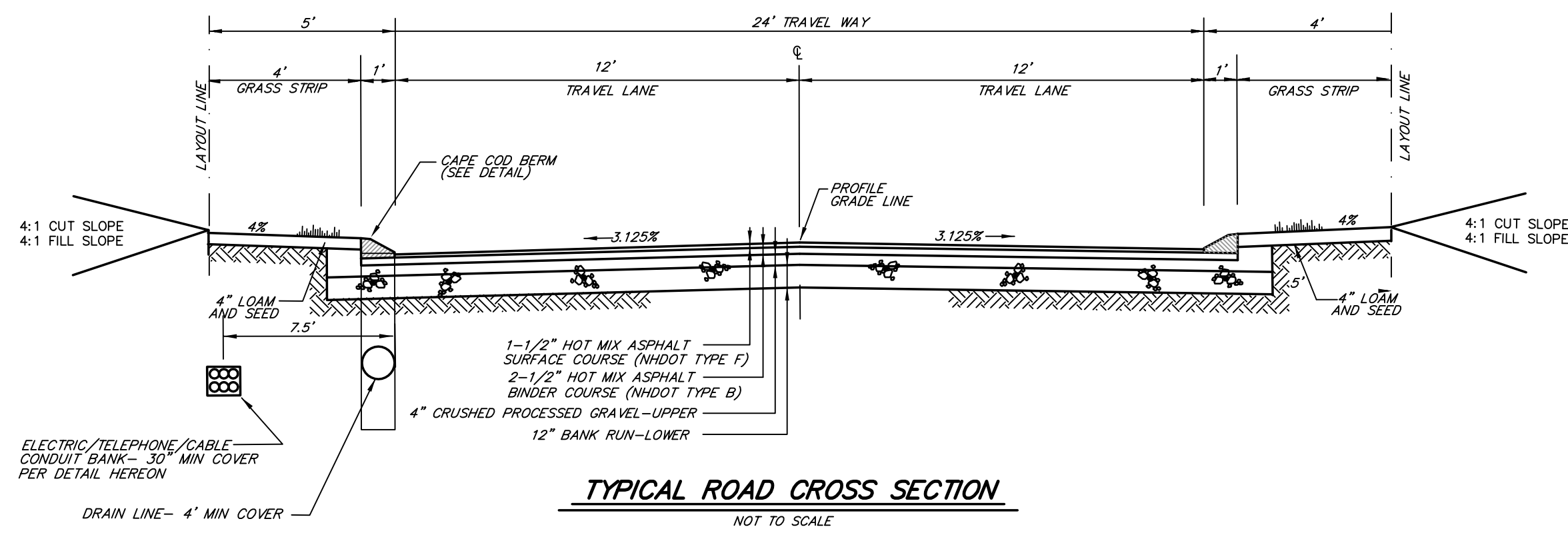
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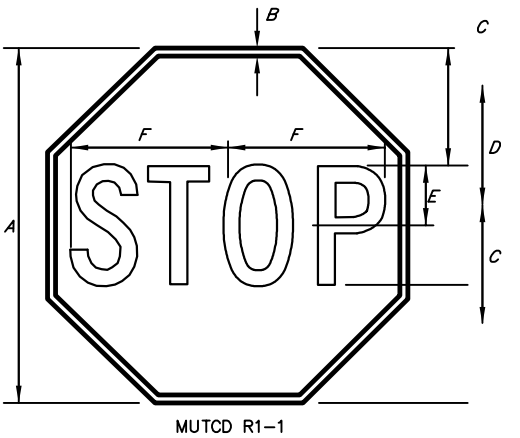
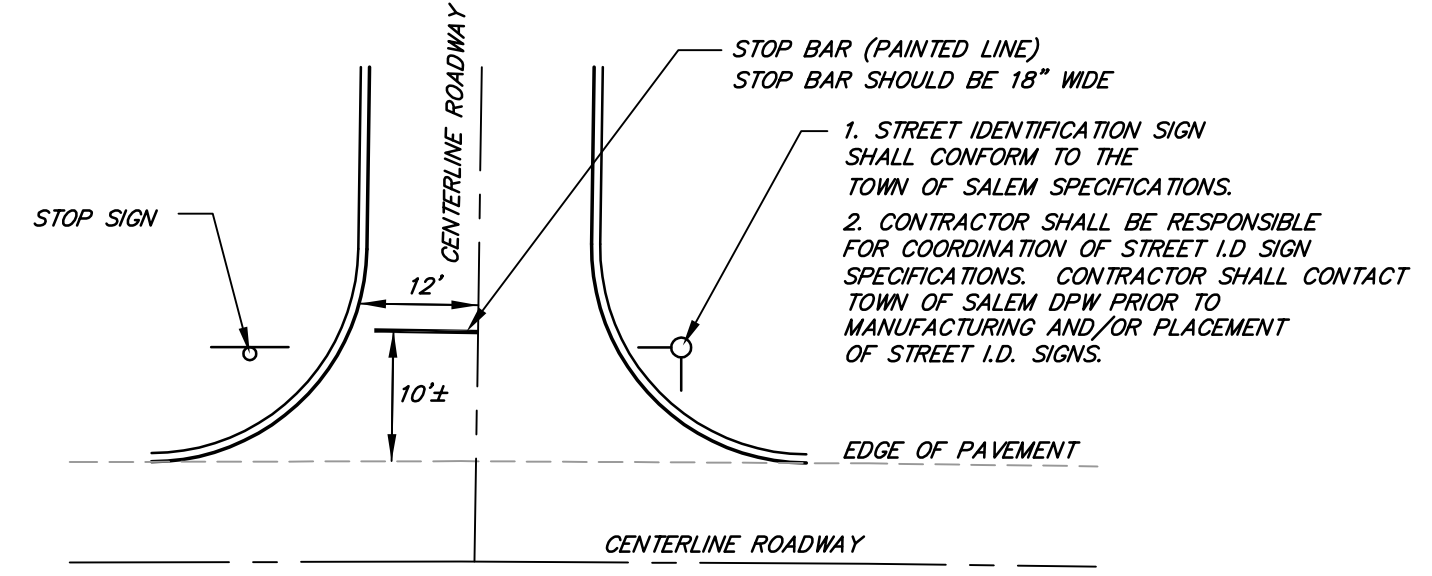
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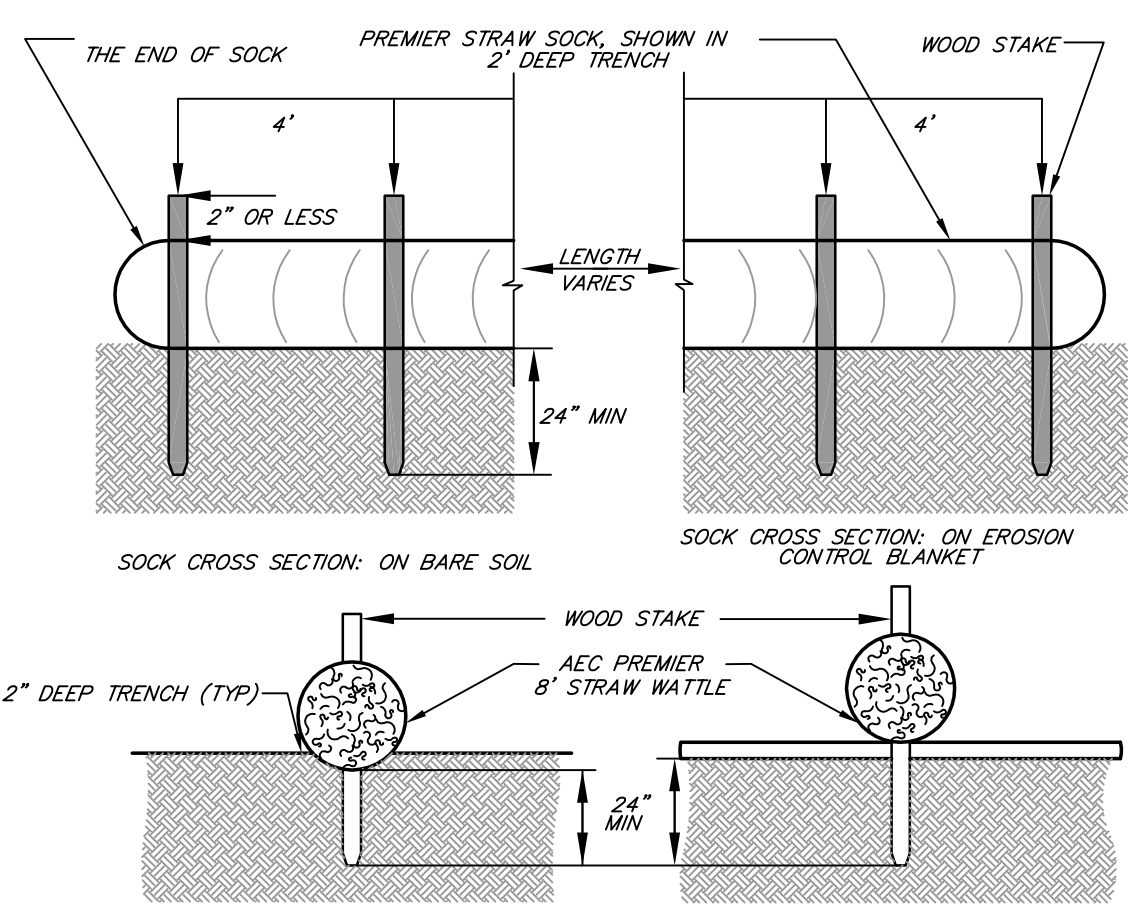
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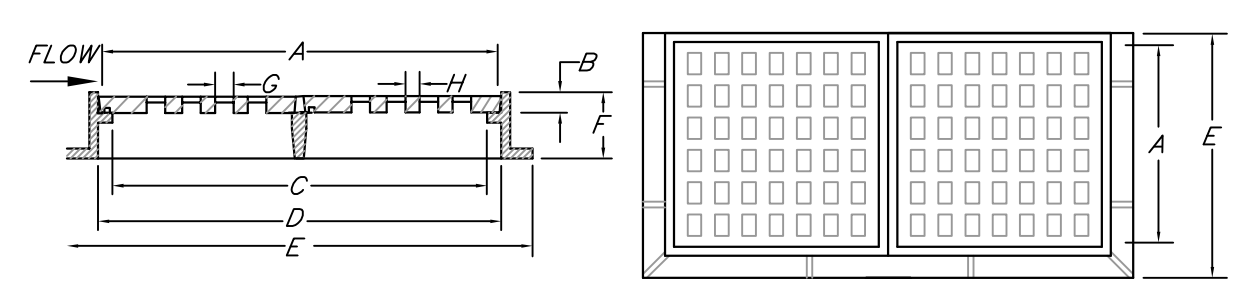
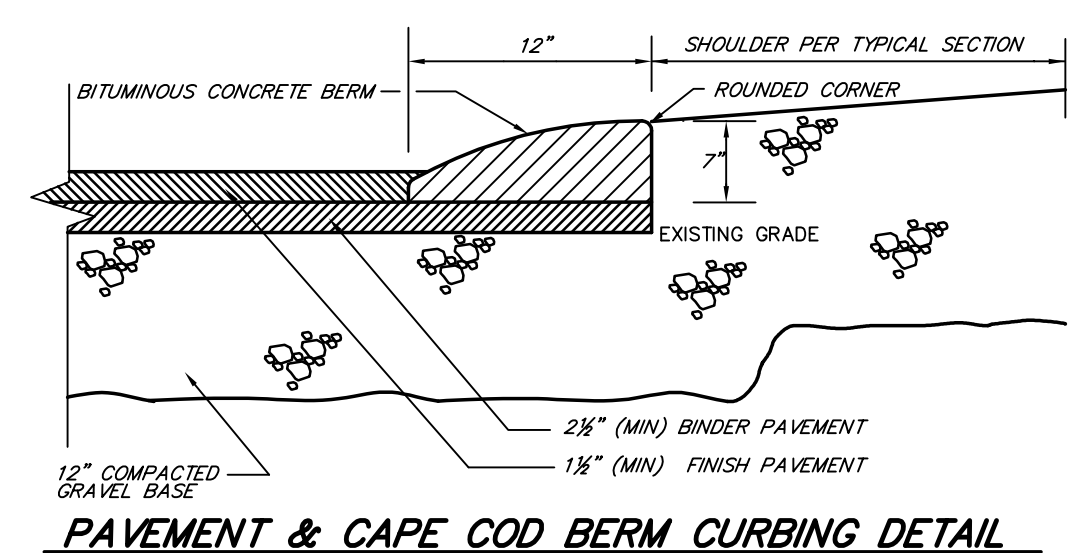
- NOTES:**
1. THE EMBANKMENT FILL MATERIAL SHALL BE POND SILT OR OTHER IMPERVIOUS MATERIAL MEETING THE SPECIFICATIONS OF AASHTO TYPE A-2 AND SHALL EXTEND INTO UNDISTURBED MATERIAL. IT SHALL BE FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, OR OTHER OBJECTIONABLE MATERIAL. AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SACRIFICED PRIOR TO PLACEMENT OF FILL.
 2. FILL MATERIAL WILL BE PLACED IN 6 TO 8 INCH LAYERS AND SHALL BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. COMPACTION WILL BE OBTAINED BY ROUTING THE HAULING EQUIPMENT OVER THE FILL SO THAT THE ENTIRE SURFACE OF THE FILL IS TRAVERSED BY AT LEAST ONE TRACK/TREAD OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY THE USE OF A COMPACTOR. THE EMBANKMENT SHALL BE CONSTRUCTED TO AN ELEVATION 10 PERCENT HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLEMENT IF COMPACTION IS OBTAINED WITH HAULING EQUIPMENT. IF COMPACTORS ARE USED FOR COMPACTION, THE OVERBUILD MAY BE REDUCED TO 5 PERCENT.
 3. KEEP HEAVY CONSTRUCTION EQUIPMENT OFF OF BASIN AREA DURING AND AFTER CONSTRUCTION.
 4. EXCAVATION DEWATERING & CONSTRUCTION SITE RUNOFF SHALL BE DIRECTED AWAY FROM BASIN AREA.
 5. KEEP BASIN OFFLINE UNTIL CONTRIBUTORY RUNOFF AREA IS STABILIZED.
 6. USE ONLY NATIVE RYE AND FESCUE BLEND.



1. STOP SIGN SHALL BE PLACED NOT LESS THAN 6 FEET FROM EDGE OF TRAVELED WAY.
2. STOP SIGN SHALL BE PLACED NOT LESS THAN 7 FEET IN HEIGHT FROM FINISHED GRADE.
3. STOP SIGN SHALL UTILIZE A GREEN ENAMEL U-CANAL.
4. STOP SIGN & BAR MUST BE MUTCD COMPLIANT



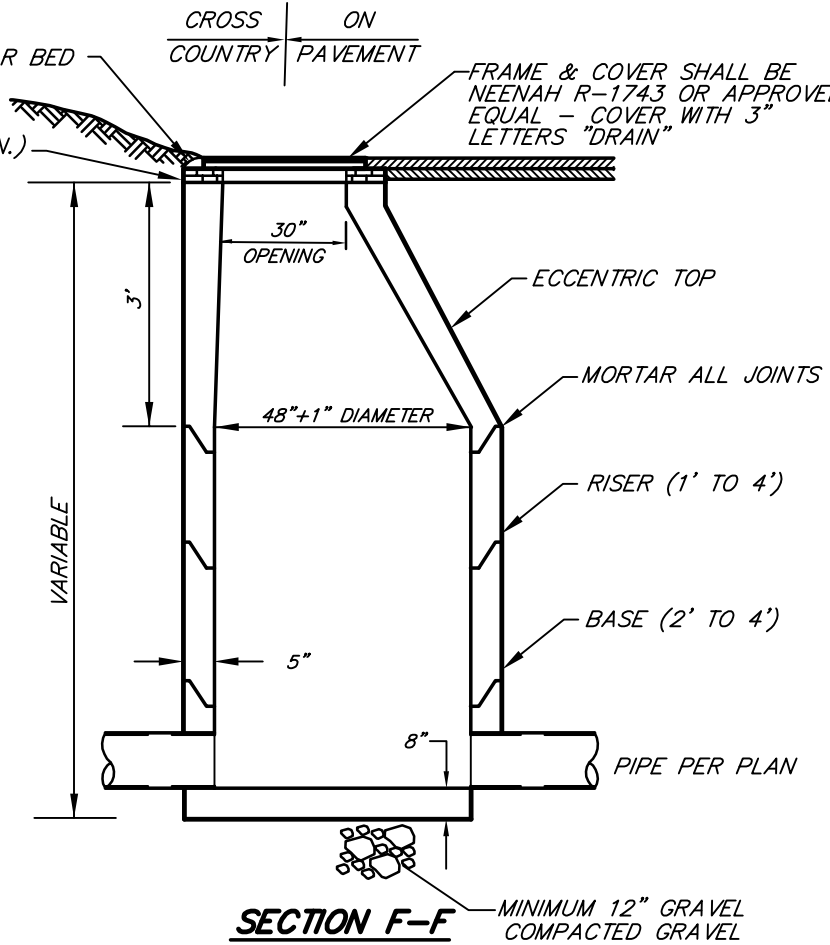
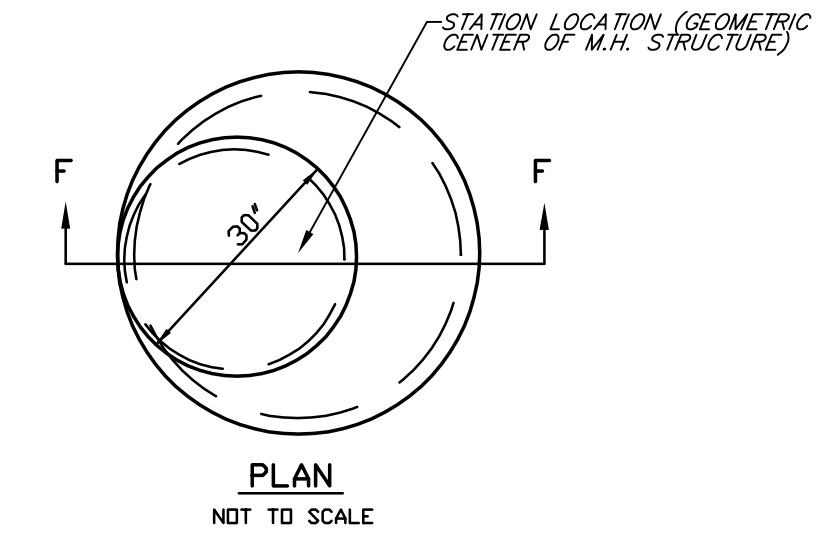
FILTER SOCK EROSION CONTROL DETAIL
NOT TO SCALE



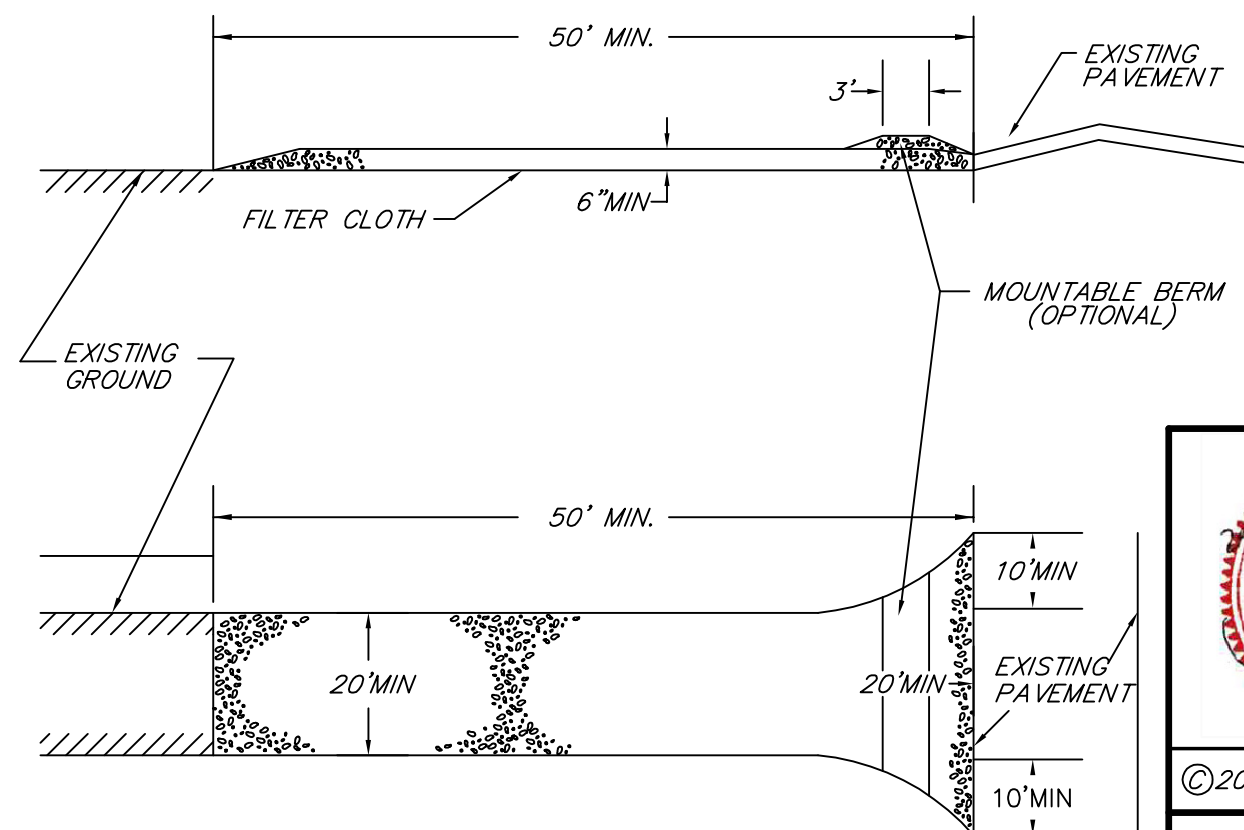
HEAVY DUTY DOUBLE CATCH BASIN GRATE DETAIL
NOT TO SCALE

NOTES: FOR MANHOLE & CATCH BASIN

1. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4,000 PSI). ALL CEMENT SHALL BE TYPE II.
2. REINFORCED STEEL CONFORMS TO LATEST ASTM A 198 SPEC. 0.12 SQ. IN. LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
3. MANHOLE DESIGN SPECIFICATIONS CONFORM TO LATEST ASTM C 478 SPEC. FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTHS.
5. ONE POUR MONOLITHIC BASE SECTION.

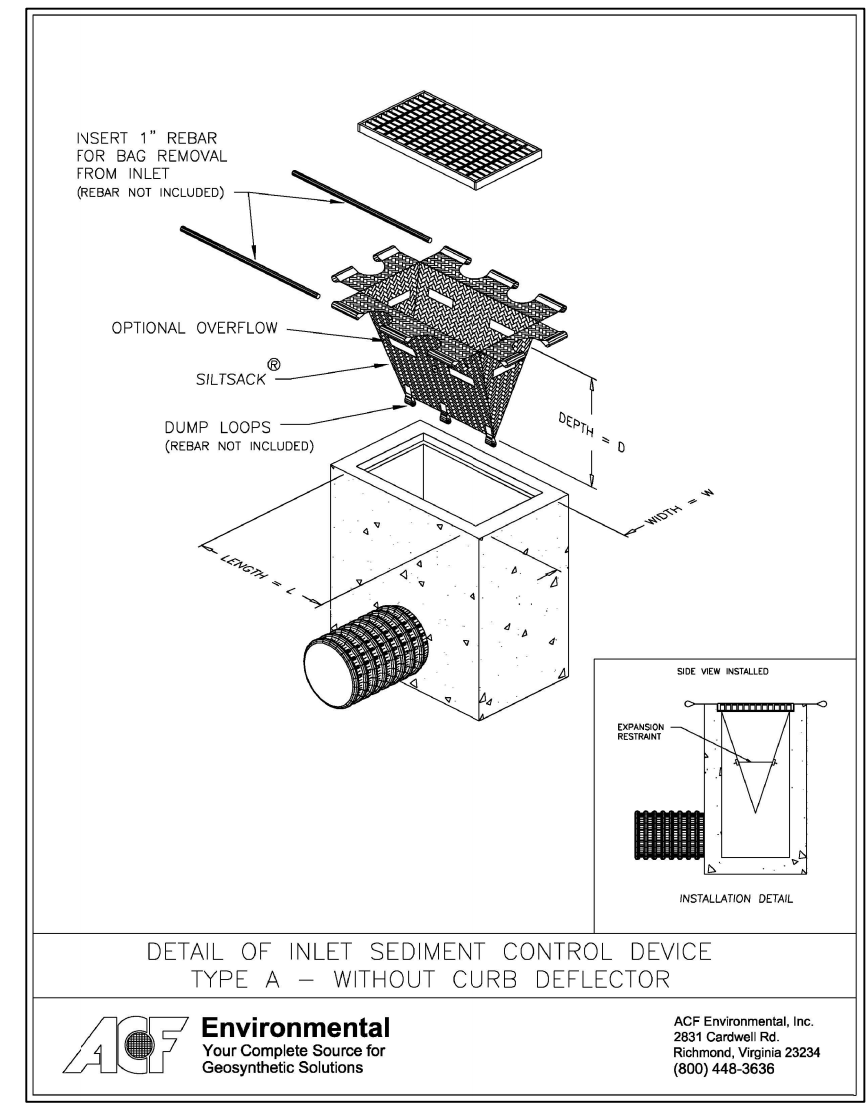
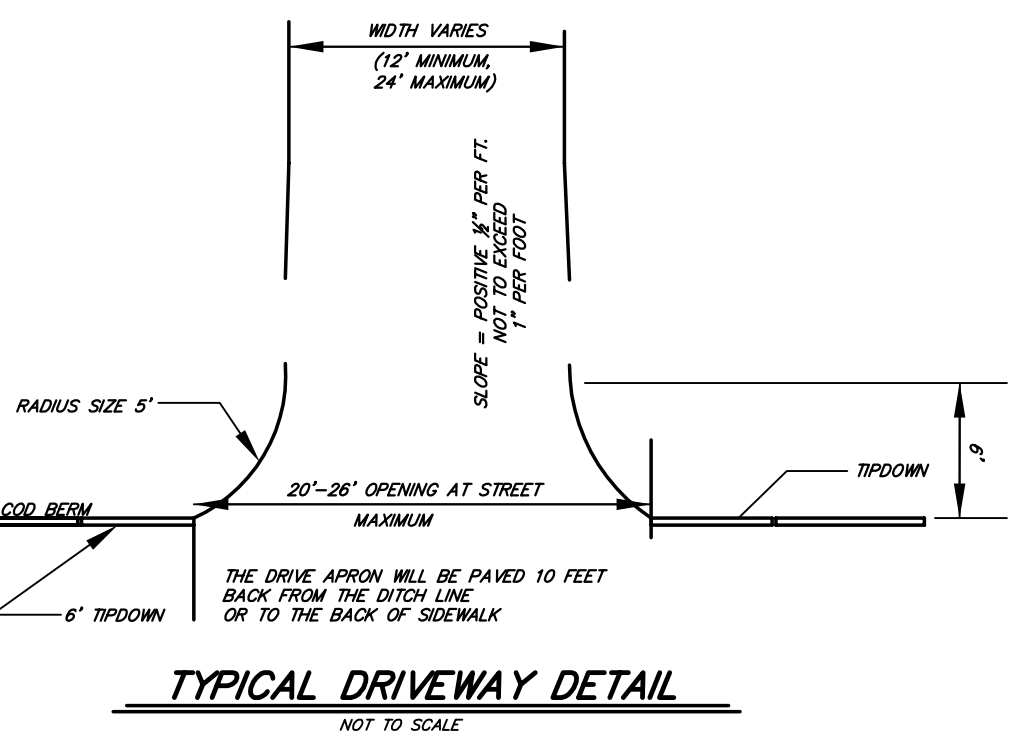
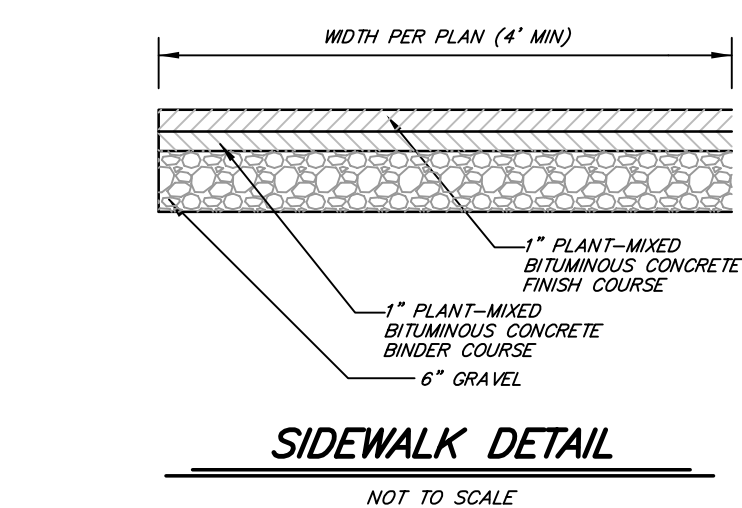


SECTION F-F PRECAST DRAIN MANHOLE DETAIL
NOT TO SCALE

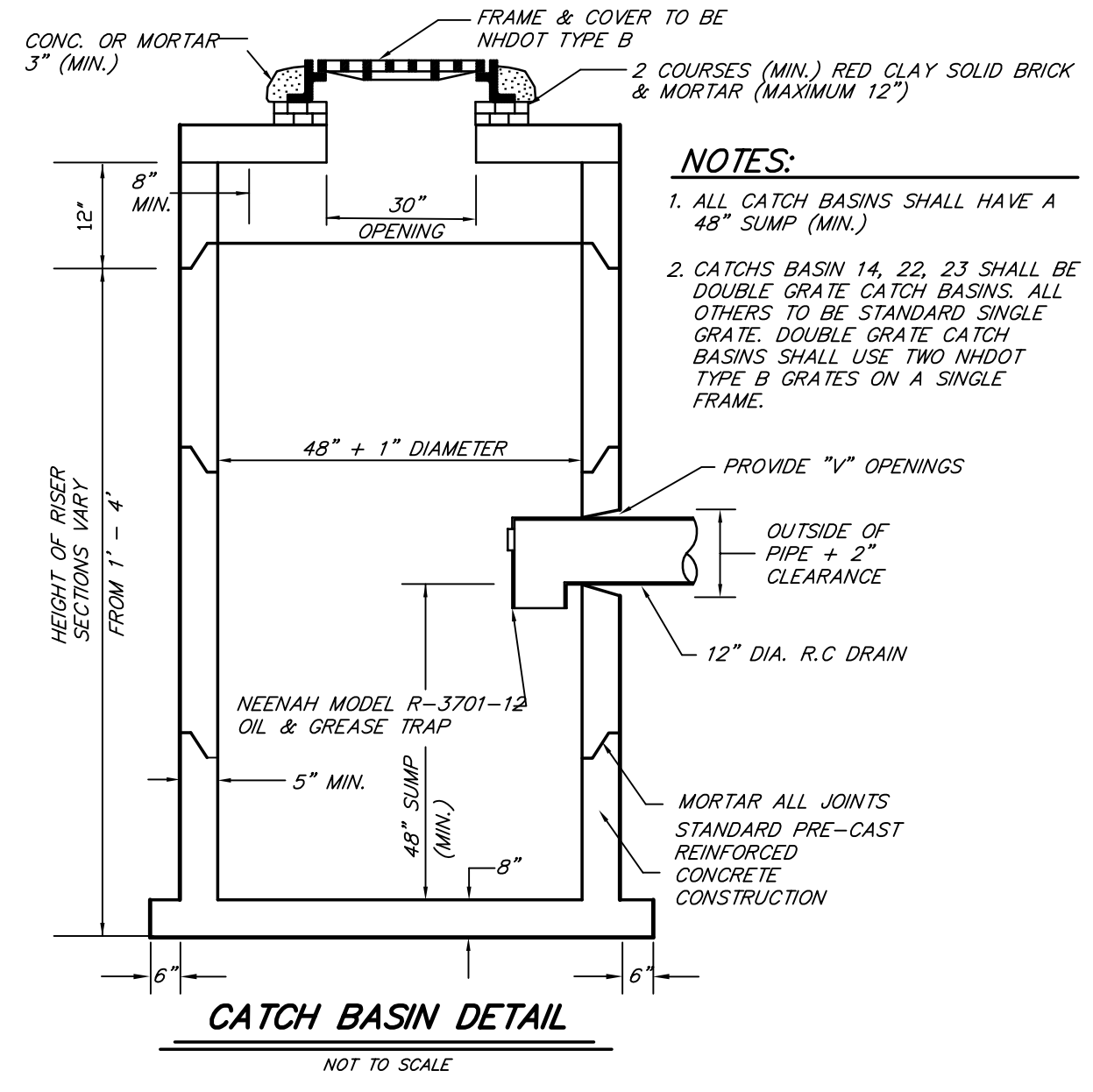


- 1) STONE FOR STABILIZED CONSTRUCTION ENTRANCE SHALL BE 1 TO 2 INCH STONE OR RECLAIMED STONE.
- 2) THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
- 3) THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
- 4) THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS AND EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER.
- 5) GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
- 6) ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE, IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
- 7) THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANSING OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



CATCH BASIN - SILT SACK
NOT TO SCALE
NOTE: SILT SACK TO BE INSTALLED ON ALL CATCH BASINS



CATCH BASIN DETAIL
NOT TO SCALE

REVISIONS:

NO.	DATE	BY	DESCRIPTION
REV 2	1-30-2024	LJA	PRELIMINARY STORMWATER
REV 1	1-3-2024	JAB/PDM	REDUCED TO 28 UNITS

DETAIL SHEET
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