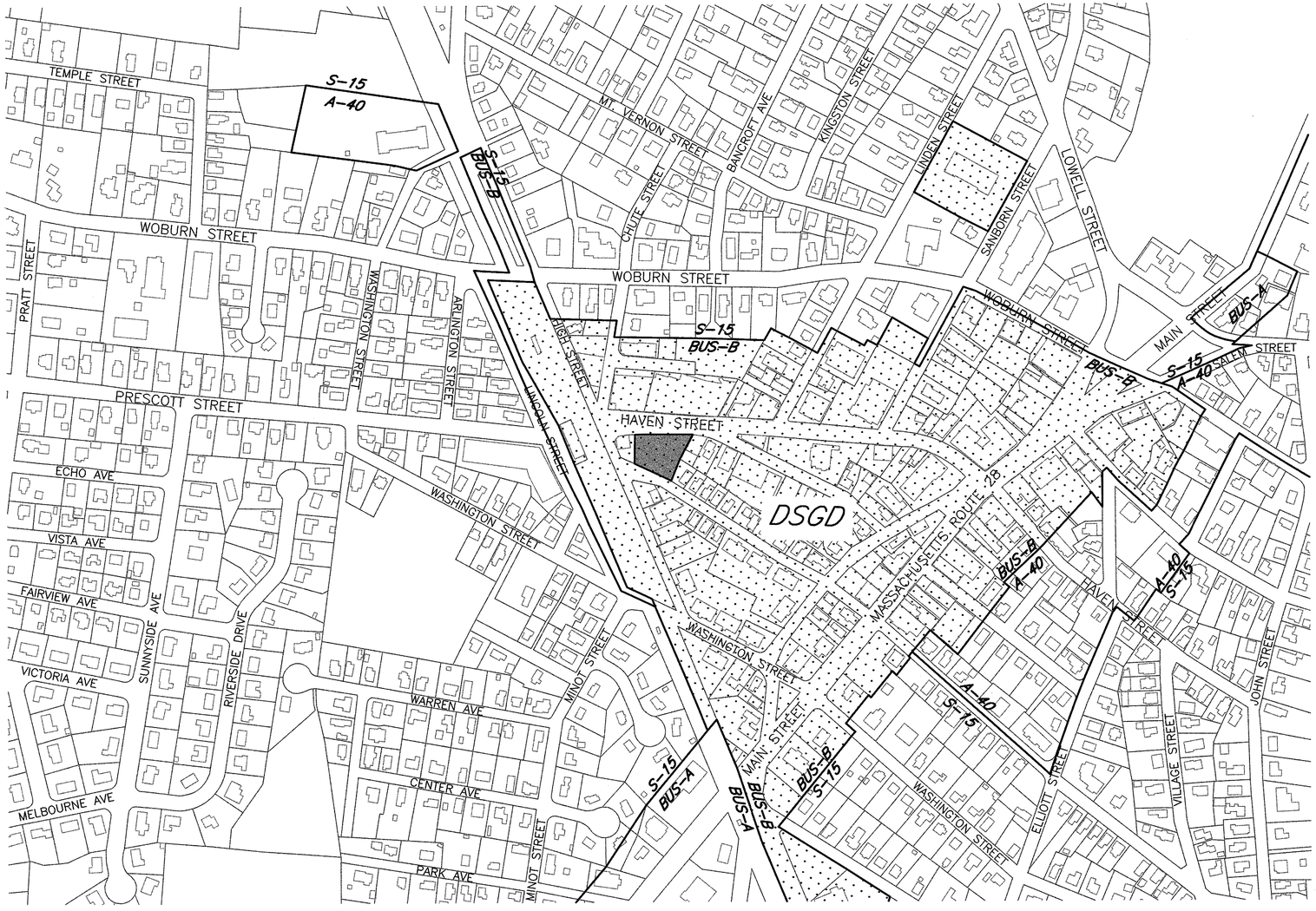
SITE PLAN SET AT
25 HAVEN STREET
(PROPOSED MOSQUE)
Reading, MA



Vicinity Map
Scale: 1"=200'±

READING COMMUNITY PLANNING AND DEVELOPMENT COMMISSION

_____
_____
_____
_____
_____

DATE: _____

RECORD OWNER:

25 HAVEN STREET, LLC
25 HAVEN STREET, READING, MASSACHUSETTS
–ASSESSORS MAP 16 LOT 309
–BOOK 1557 PAGE 74
–LOT B ON LCC 6084B

PLAN REFERENCES:

- *LCC 6084B*
- *LCC 19824A*
- *PLAN 221 OF 1956*

NOTES:

1. *THIS PLAN IS BASED ON AN ACTUAL ON–THE–GROUND FIELD SURVEY CONDUCTED BY HAYES ENGINEERING, INC. ON MARCH 4, 2022.*
2. *THE ELEVATIONS DEPICTED HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) BASED UPON MACORS REAL–TIME NETWORK NAD 83 (2011) (EPOCH 2010.00) DATUM USING GEOID 12B FOR ORTHOMETRIC HEIGHTS.*
3. *THIS PROPERTY DOES NOT LIES WITHIN A FLOOD HAZARD AREA (ZONE A OR V) AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 25017C0313E; EFFECTIVE DATE: 06/04/2010*

SHEET INDEX	
PLAN TITLE	
INDEX	C1
SITE PLAN	C2
DETAIL SHEET	C3

Prepared For:
NAFIS Boston Learning Center
Attn: Br. Jalal C
15 Hamilton Street
Suite F
Woburn, MA 01801

Prepared By:
Hayes Engineering, Inc.
603 Salem Street
Wakefield, MA 01880
Ph: 781.246.9560
Fax: 781.246.7596
www.hayeseng.com

Design By: JG
Drawn By: JG
Checked By: PJO
Project File: REA–0419
Comp. No: REA175
☒ Issued For Permit
☐ Issued For Review
☐ Issued For Bid
☐ Issued For Construction
☒ Not For Construction

No.	Revision	Date
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Scale: 1"=10'
0' 5' 10' 20'
Date: May 25, 2023

Drawing Title:
INDEX PLAN
25 HAVEN STREET
PROPOSED MOSQUE
READING, MASS.

Seal:
COMMONWEALTH OF MASSACHUSETTS
PETER J. OGREN
CIVIL
No. 27145
REGISTERED PROFESSIONAL ENGINEER
5/25/23

Drawing No.:
C1

SHEET 1 OF 3

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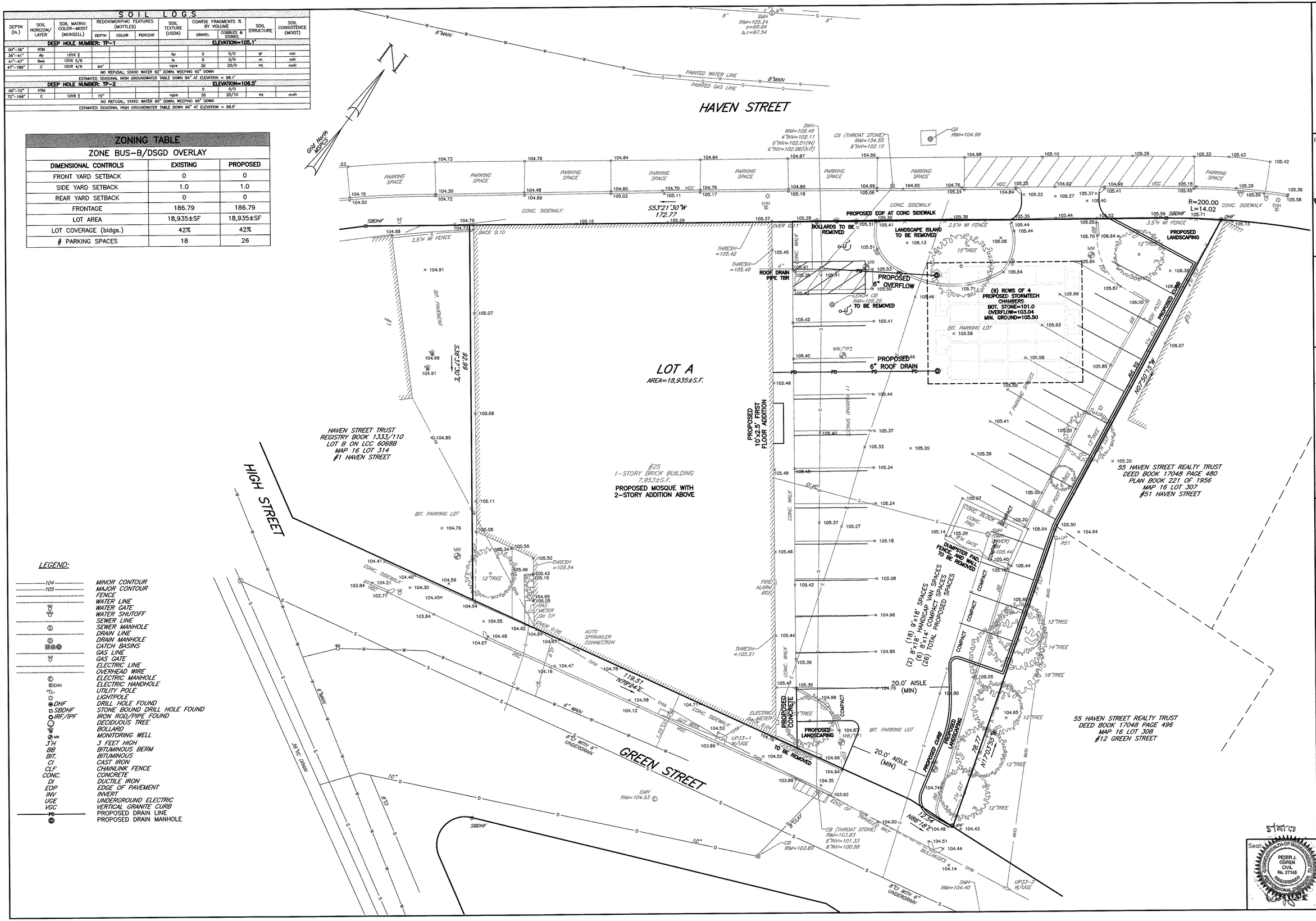
SOIL LOGS

DEPTH (in.)	SOIL HORIZON/ LAYER	SOIL MATRIX: COLOR–MOIST (MUNSELL)	REDOXIMORPHIC FEATURES (MOTTLES) DEPTH	REDOXIMORPHIC FEATURES (MOTTLES) COLOR	REDOXIMORPHIC FEATURES (MOTTLES) PERCENT	SOIL TEXTURE (USDA)	COARSE FRAGMENTS % BY VOLUME GRAVEL	COARSE FRAGMENTS % BY VOLUME COBBLES & STONES	SOIL STRUCTURE	SOIL CONSISTENCE (MOIST)
DEEP HOLE NUMBER: TP–1						**ELEVATION=105.1'**				
00"–36"	HTM									
36"–41"	Ab	10YR 3/1				fsl	0	0/0	gr	mfr
41"–47"	Bwb	10YR 5/6				ls	0	0/0	m	mfr
47"–180"	C	10YR 4/6	84"			vgcs	30	20/0	sg	mwfr
NO REFUSAL; STATIC WATER 92" DOWN; WEEPING 92" DOWN										
ESTIMATED SEASONAL HIGH GROUNDWATER TABLE DOWN 84" AT ELEVATION = 98.1'										
DEEP HOLE NUMBER: TP–2						**ELEVATION=106.5'**				
00"–72"	HTM						0	0/0		
72"–168"	C	10YR 5/1	72"			vgcs	30	20/10	sg	mwfr
NO REFUSAL; STATIC WATER 96" DOWN; WEEPING 96" DOWN										
ESTIMATED SEASONAL HIGH GROUNDWATER TABLE DOWN 96" AT ELEVATION = 98.5'										

ZONING TABLE

ZONE BUS–B/DSGD OVERLAY

DIMENSIONAL CONTROLS	EXISTING	PROPOSED
FRONT YARD SETBACK	0	0
SIDE YARD SETBACK	1.0	1.0
REAR YARD SETBACK	0	0
FRONTAGE	186.79	186.79
LOT AREA	18,935±SF	18,935±SF
LOT COVERAGE (bldgs.)	42%	42%
# PARKING SPACES	18	26



LEGEND:

104	MINOR CONTOUR
105	MAJOR CONTOUR
	FENCE
	WATER LINE
	WATER GATE
	WATER SHUTOFF
	SEWER LINE
	SEWER MANHOLE
	DRAIN LINE
	DRAIN MANHOLE
	CATCH BASINS
	GAS LINE
	GAS GATE
	ELECTRIC LINE
	OVERHEAD WIRE
	ELECTRIC MANHOLE
EHH	ELECTRIC HANDHOLE
	UTILITY POLE
	LIGHTPOLE
DHF	DRILL HOLE FOUND
SBDHF	STONE BOUND DRILL HOLE FOUND
IRF/IPF	IRON ROD/PIPE FOUND
	DECIDUOUS TREE
	BOLLARD
MW	MONITORING WELL
3'H	3 FEET HIGH
BB	BITUMINOUS BERM
BIT.	BITUMINOUS
CI	CAST IRON
CLF	CHAINLINK FENCE
CONC.	CONCRETE
DI	DUCTILE IRON
EOP	EDGE OF PAVEMENT
INV	INVERT
UGE	UNDERGROUND ELECTRIC
VGC	VERTICAL GRANITE CURB
PD	PROPOSED DRAIN LINE
	PROPOSED DRAIN MANHOLE

Prepared For:
NAFIS Boston Learning Center
Attn: Br. Jalal C
1 Henshaw Street
Suite 1
Woburn, MA 01801

Prepared By:
Hayes Engineering, Inc.
603 Salem Street
Wakefield, MA 01880
Phone: 781.246.3600
Fax: 781.246.7596
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Scale: 1"=10'
0' 5' 10' 20'
Date: May 25, 2023

Drawing Title:
SITE PLAN
25 HAVEN STREET
PROPOSED MOSQUE
READING, MASS.

Seal: COMMONWEALTH OF MASSACHUSETTS — PETER J. OGREN — CIVIL — No. 27145 — REGISTERED PROFESSIONAL ENGINEER

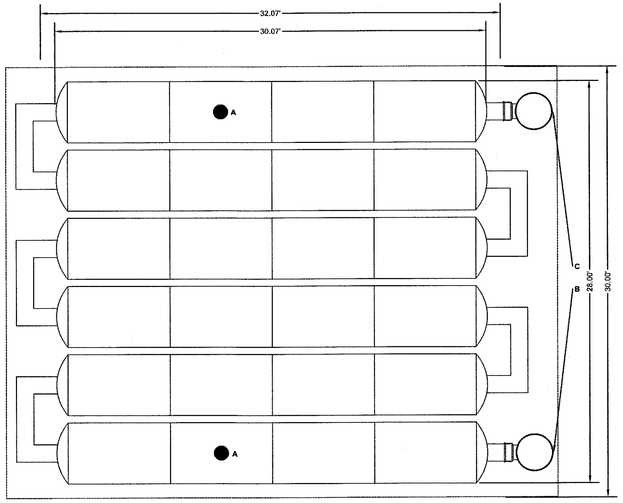
Drawing No.:
C2

SHEET 2 OF 3

N:\REA\175\SP_25HAVEN_R3.dwg, 5/25/2023 8:44:50 AM, JG

PROPOSED LAYOUT		PROPOSED ELEVATIONS:	
24	STORMTECH SC-740 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	
12	STORMTECH SC-740 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	
6	STONE ABOVE (in)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	
6	STONE BELOW (in)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	105.50
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	
2008	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	TOP OF STONE:	104.50
		TOP OF SC-740 CHAMBER:	104.00
		4" INSERTA TEE INVERT:	101.83
		12" BOTTOM CONNECTION INVERT:	101.69
962	SYSTEM AREA (SF)	12" BOTTOM CONNECTION INVERT:	101.60
124.1	SYSTEM PERIMETER (ft)	BOTTOM OF SC-740 CHAMBER:	101.50
		BOTTOM OF STONE:	101.00

PART TYPE	ITEM ON LAYOUT	DESCRIPTION
INSPECTION PORT	A	4" SEE DETAIL
NYLOPLAST (INLET)	B	30" DIAMETER (24.00" SUMP MIN)
NYLOPLAST (OUTLET)	C	30" DIAMETER (DESIGN BY ENGINEER)



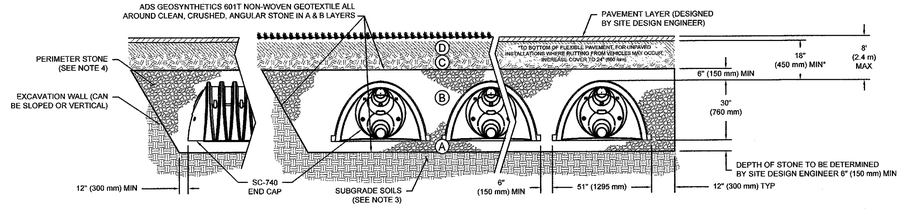
NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (9" LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145* A-1, A-2-4, A-3 OR AASHTO M43* 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43* 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43* 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

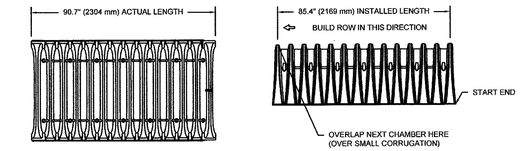


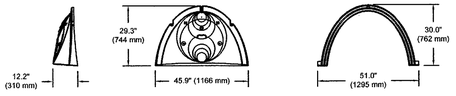
NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/% THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

SC-740 TECHNICAL SPECIFICATION

NTS

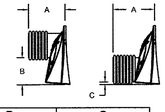




NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



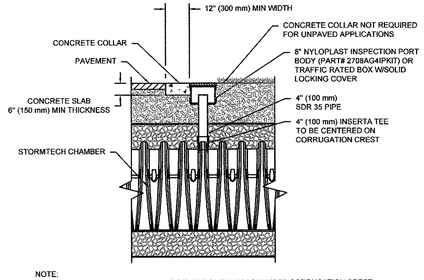
PRE-FAB STUB AT BOTTOM OF END CAP WITH FLAMP END WITH "BR"
PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C	
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	0.5" (13 mm)	OUT IN

ALL STUBS, EXCEPT FOR THE SC740ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740ECEZ THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

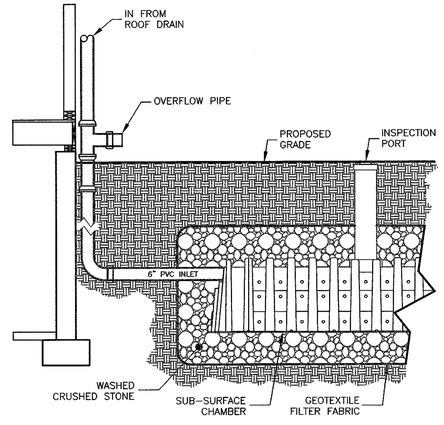
NOTE: ALL DIMENSIONS ARE NOMINAL



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)

NTS



ROOF DRAIN TO SUB-SURFACE CHAMBER

NOT TO SCALE

NOTE:
1. CHAMBERS SHALL BE INSTALLED A MINIMUM OF 10' FROM HOUSE.

Prepared For:

NAFIS Boston Learning Center
Attn: Br. Jalal C
5 Henslow Street
Suite 1
Woburn, MA 01801

Prepared By:

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603 Salem Street
Wakefield, MA 01880
Phone: 781.246.3600
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Scale: NOT TO SCALE

DATE: MAY 22, 2023

Drawing Title:

DETAIL SHEET
25 HAVEN STREET
MIXED-USE DEVELOPMENT
READING, MASS.

Drawing No.:

C8

SHEET 3 OF 3

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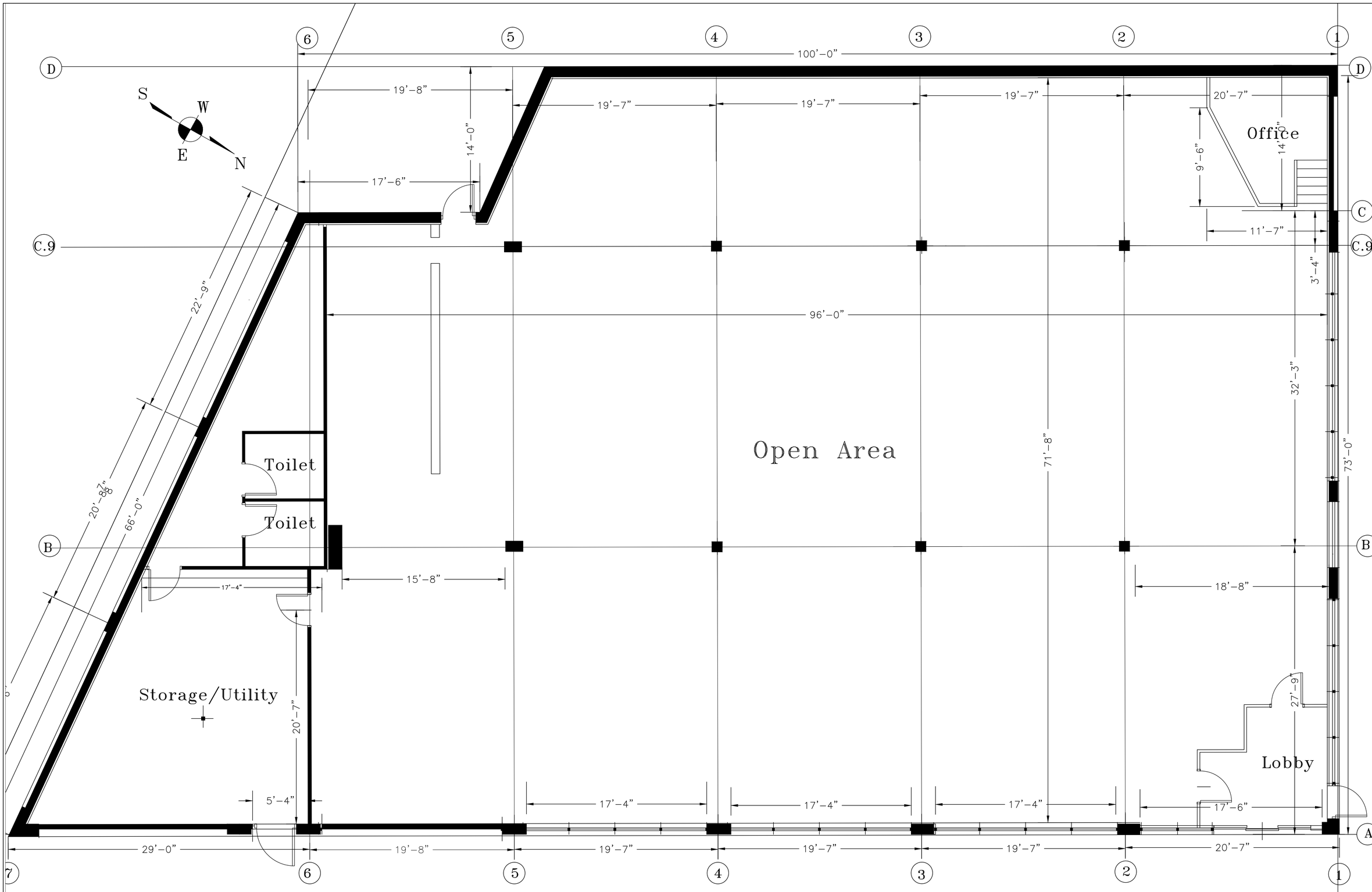


Existing 1st Floor Plan

ARCHITECT:
FAROUK F. YOUSSEF, AIA
53 EDGEWATER RD
HULL, MA 02045
TEL (617) 794-7611
EMAIL: farouk.youssef@gmail.com

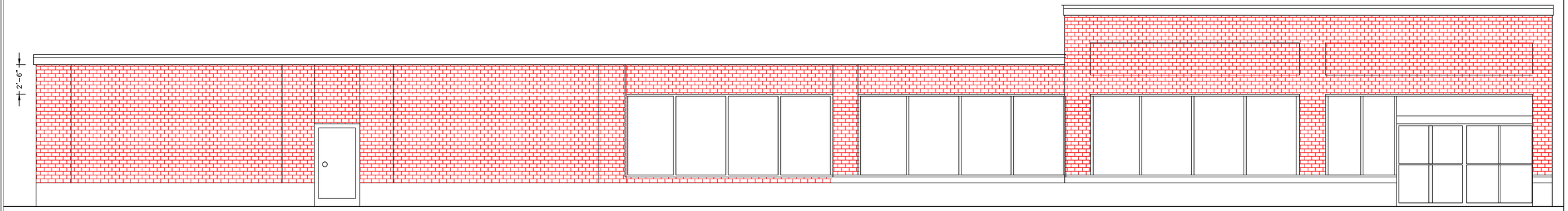
DWG. TITLE:
EXISTING 1st. FLOOR PLAN

REVISIONS:

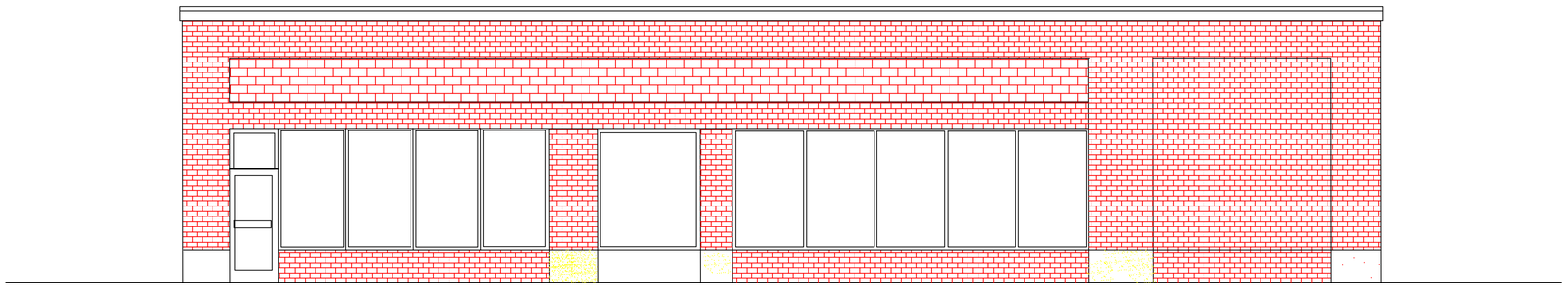
SCALE: 1/4" = 1'-0"
DATE: May 31, 2023

CLIENT/PROJECT:
READING MOSQUE
North American Foundation of Islamic Services (N.A.F.I.S)
25 Haven St. READING, MA 01867

DRAWING:
A-3



East Elevation



North Elevation

ARCHITECT:
FAROUK F. YOUSSEF, AIA
53 EDGEWATER RD
HULL, MA 02045
TEL (617) 794-7611
EMAIL: farouk.youssef@gmail.com

DWG. TITLE: Existing East_North Elevations

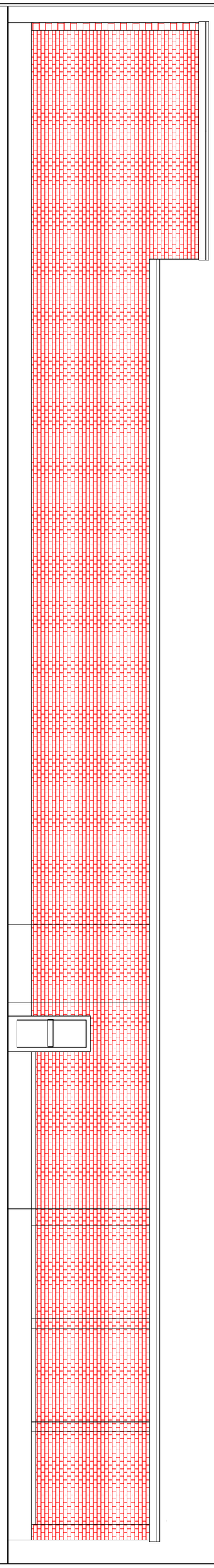
REVISIONS:

SCALE: 1/4"= 1'-0"

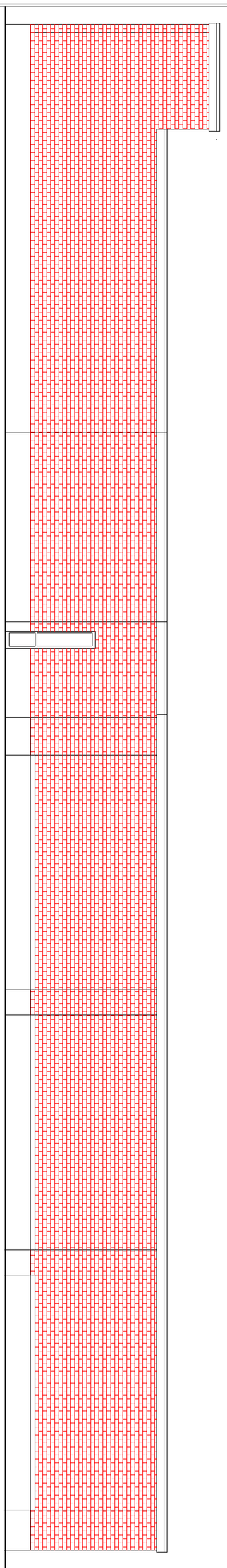
DATE: May 31, 2023

CLIENT/PROJECT:
READING MOSQUE
North American Foundation of Islamic Services (N.A.F.I.S)
25 Haven St. READING, MA 01867

DRAWING:
A-4



West Elevation



South Elevation

DRAWING: A-5

CLIENT/PROJECT:

READING MOSQUE
North American Foundation of Islamic Services (N.A.F.I.S)
25 Haven St. READING, MA 01867

DWG. TITLE:

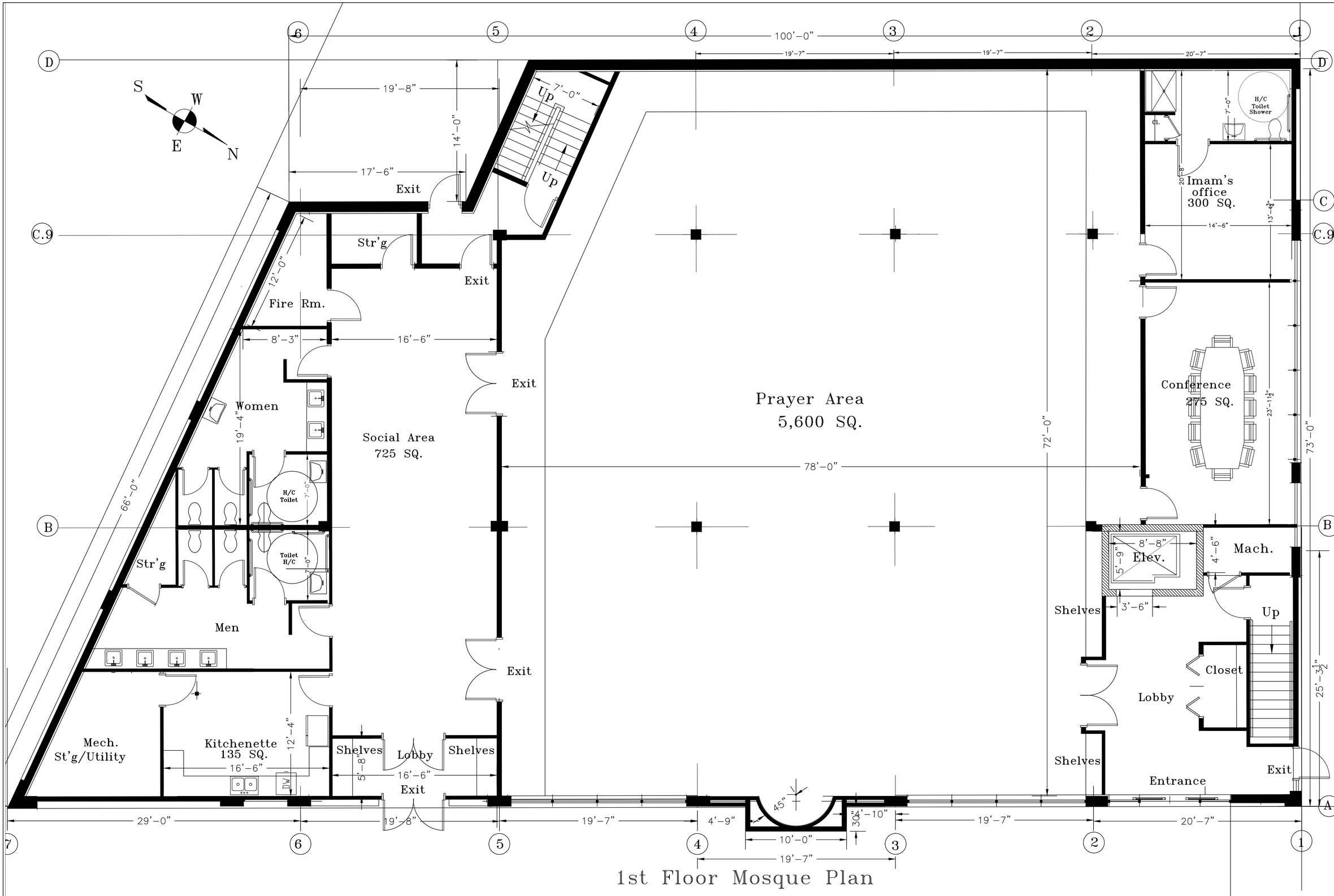
Existing West_South Elevations

SCALE: 1/4"= 1'-0"

DATE: May 31, 2023

REVISIONS:

ARCHITECT:
FAROUK F. YOUSSEF, AIA
53 EDGEWATER RD
HULL, MA 02045
TEL (617) 794-7611
EMAIL: farouk.youssef@gmail.com



1st Floor Mosque Plan

ARCHITECT:
FAROUK F. YOUSSEF, AIA
53 EDGEWATER RD
HULL, MA 02045
TEL (617) 794-7611
EMAIL: farouk.youssef@gmail.com

DWG. TITLE: PROPOSED 1st FLOOR PLAN_MOSQUE

REVISIONS:

SCALE: 1/4" = 1'-0"

DATE: May 31, 2023

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READING MOSQUE
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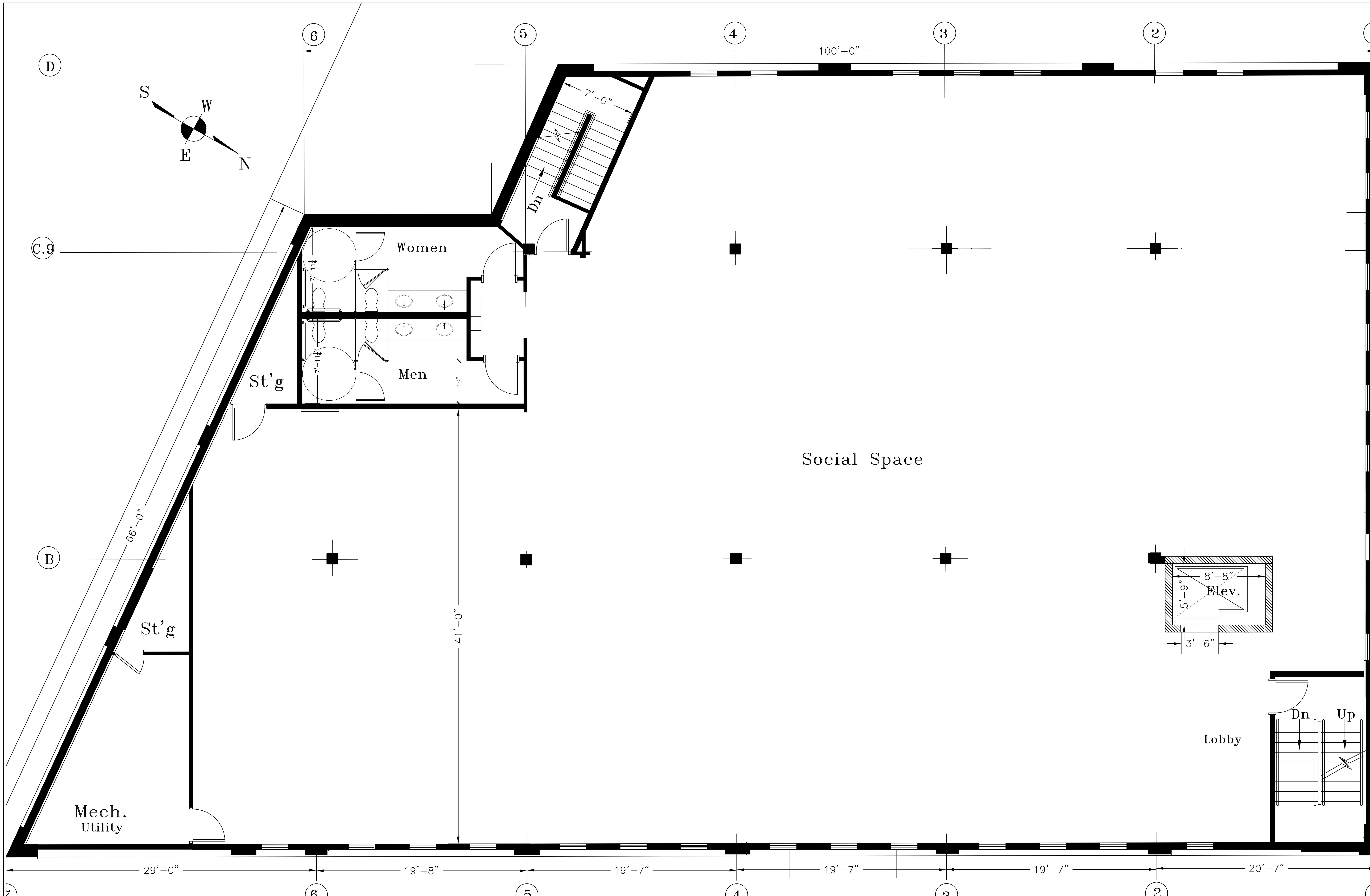
25 Haven St. READING, MA 01867

DRAWING: A-6



2nd & 3rd Floor

ARCHITECT:
FAROUK F. YOUSSEF, AIA
53 EDGEWATER RD
HULL, MA 02045
TEL (617) 794-7611
EMAIL: farouk.youssef@gmail.com

DWG. TITLE:
PROPOSED TYP. 2nd & 3rd FLOOR PLAN

REVISIONS:

SCALE: 1/4"= 1'-0"

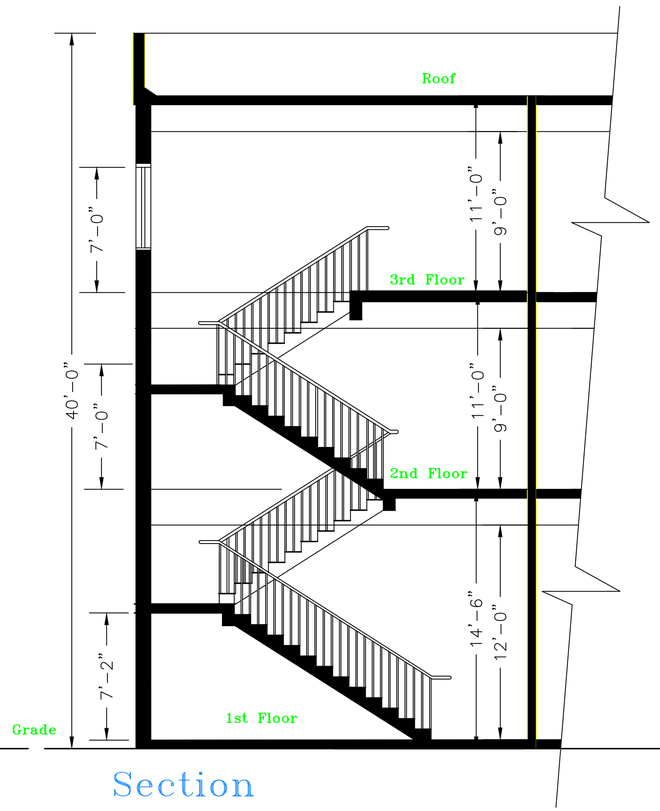
DATE: May 31, 2023

CLIENT/PROJECT:
READING MOSQUE
North American Foundation of Islamic Services (N.A.F.I.S)
25 Haven St. READING, MA 01867

DRAWING:
A-7

Proposed East Elevation

Proposed North Elevation



Section

ARCHITECT:
FAROUK F. YOUSSEF, AIA
53 EDGEWATER RD
HULL, MA 02045
TEL (617) 794-7611
EMAIL: farouk.youssef@gmail.com

DWG. TITLE: Proposed East_North Elevations

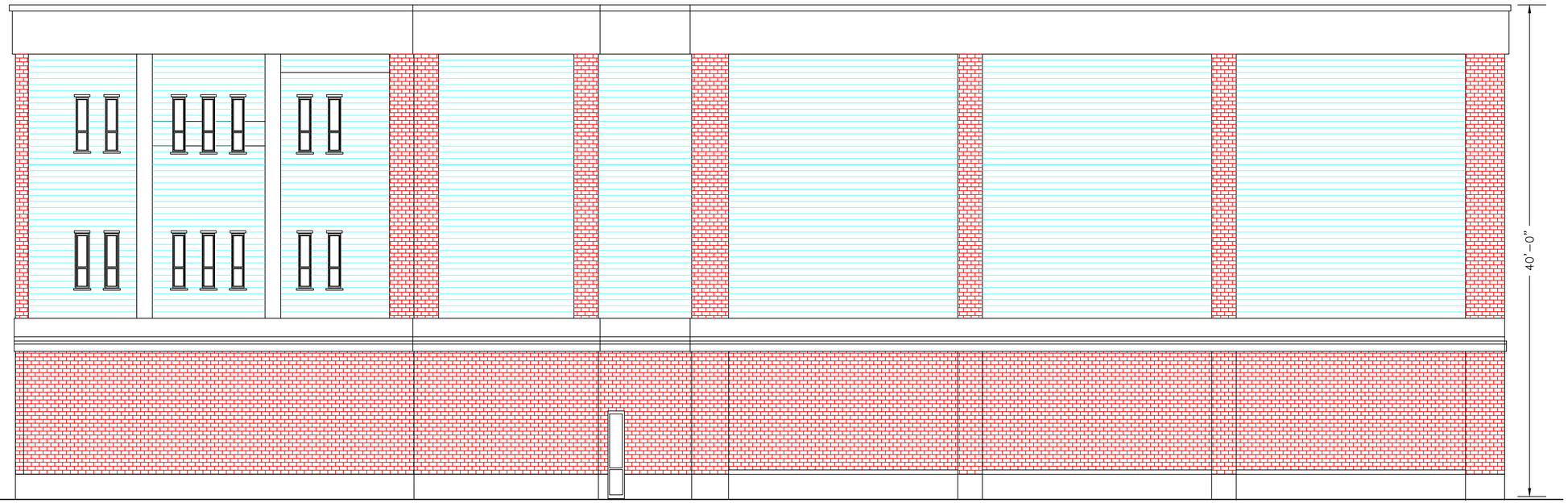
REVISIONS:

SCALE: 1/4"= 1'-0"

DATE: May 31, 2023

CLIENT/PROJECT:
READING MOSQUE
North American Foundation of Islamic Services (N.A.F.I.S)
25 Haven St. READING, MA 01867

DRAWING:
A-8



Proposed South Elevation

Proposed West Elevation

ARCHITECT:
FAROUK F. YOUSSEF, AIA
53 EDGEWATER RD
HULL, MA 02045
TEL (617) 794-7611
EMAIL: farouk.youssef@gmail.com

DWG. TITLE: Proposed West_South Elevations

REVISIONS:

SCALE: 1/4"= 1'-0"

DATE: May 31, 2023

CLIENT/PROJECT:
READING MOSQUE
North American Foundation of Islamic Services (N.A.F.I.S)
25 Haven St. READING, MA 01867

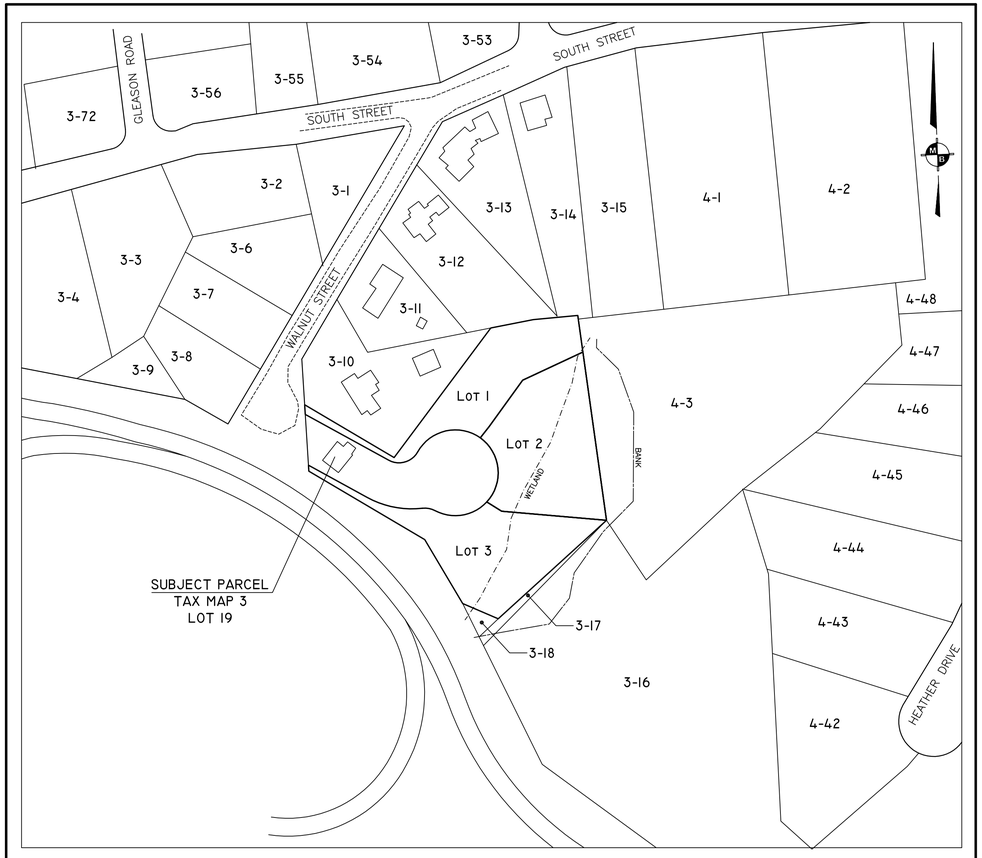
DRAWING:
A-9

PRLIMINARY SUBDIVISION PLAN SET

246 WALNUT STREET

READING, MASSACHUSETTS

TAX MAP 3 LOT 9



LOCUS MAP - 100 Scale

NOTES:

1. *PURPOSE OF PLAN* THIS PLAN IS INTENDED TO BE A PRELIMINARY PLAN PURSUANT TO M.G.L. Ch.41, Section 81T AND Section 5.0 OF THE READING SUBDIVISION REGULATIONS SHOWING 3 LOTS BEING SUBDIVIDED WITH A SMALL EXTENSION OF WALNUT STREET (TOTAL O 2 NEW LOTS).
2. *TAX MAP 3 PARCEL 19*
   LOT AREA: 2.02 ACRES
3. *OWNER:*
   BALSAVICH STEVEN T KORTZ ERIK ETAL JTROS
4. *ZONING: SINGLE FAMILY 20*
   REQUIRED AREA: 20,000 S.F.
   (12,000 S.F. UPLAND)
   REQUIRED FRONTAGE: 120'
   (*80' ON A CURVE LESS THEN 200')
   *REDUCED FRONTAGE MUST BE 120'
   AT THE REAR OF THE FRONT SETBACK
   REQUIRED LOT WIDTH: 80'
   (MEASURED AT ALL POINTS FROM THE
   REQUIRED FRONTAGE:
   TO THE FRONT OF THE DWELLING
   SETBACKS: FRONT: 20'
   SIDE: 15'
   REAR: 20'
5. PROJECT TO BE SERVICED BY MUNICIPAL WATER AND SEWER
6. WAIVER WILL BE REQUESTED TO SET RIGHT-OF-WAY WIDTH TO 50' (SECTION 7.1.5.a.)
7. WAIVER MAY BE REQUIRED FOR MAXIMUM LENGTH OF A CUL-DE-SAC GREATER THAN 500' (SECTION 7.1.1.a. WIDTH AND GRADE OF WAYS)
8. WETLAND SURVEY PERFORMED BY BASBANES AND ASSOC. IN JANUARY OF 2023 AND SURVEYED BY MEISNER BREM CORPORATION
9. THE PROJECT WILL REQUIRE AN ORDER OF CONDITIONS FROM THE READING CONSERVATION COMMISSION FOR WORK WITHIN THE RIVERFRONT AREA. AS PART OF THE NOTICE OF INTENT APPLICATION THE APPLICANT WILL BE REQUIRED TO PERFORM AN ALTERNATIVE ANALYSIS PURSUANT TO 310 CMR 10.58(4)(c) FOR WORK IN THE OUTER RIPARIAN ZONE OF THE RIVER FRONT AREA.

PREPARED FOR:

STELLA CONSTRUCTION
25 Everett Street
Woburn, MA 01810

PREPARED BY:

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

REV.	DATE	BY
1	6-14-2023	PM
Per Town Comments		

PRELIMINARY SUBDIVISION PLAN
246 WALNUT STREET
READING, MASSACHUSETTS

PREPARED FOR:
STELLA CONSTRUCTION
25 Everett Street
Woburn, MA 01810

MAY 3, 2023

30 15 0 30 60
SCALE: 1"=30'

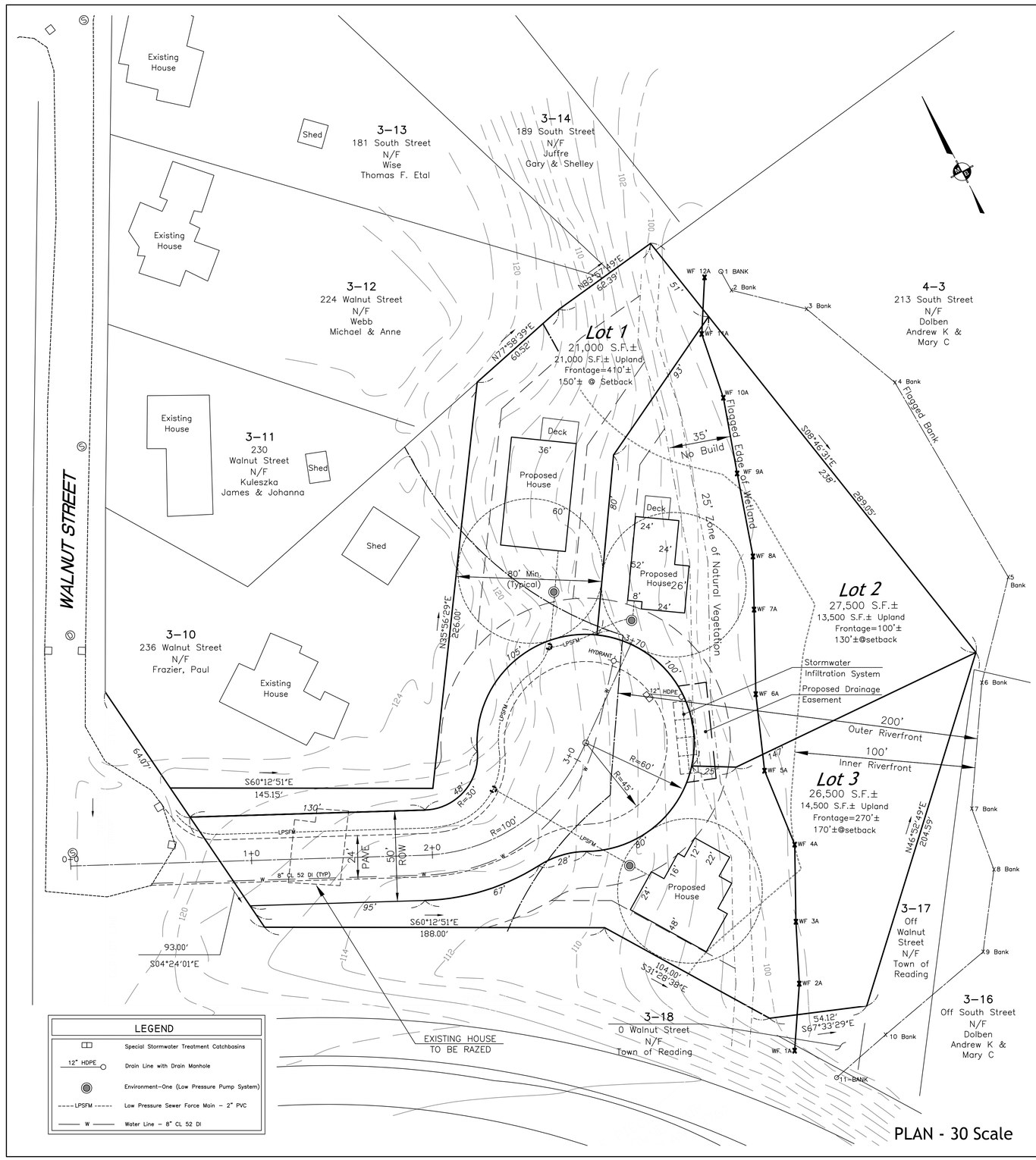
MEISNER BREM CORPORATION
142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 · (978) 692-1313
202 MAIN STREET, SALEM, NH 03079 · (603) 893-3301

JOB NUMBER: 3110
ACAD FILE: 3110-Stella Const. Prelim

1 OF 1

DATE OF PLAN : MAY 3, 2023
REVISION 1 : JUNE 14, 2023

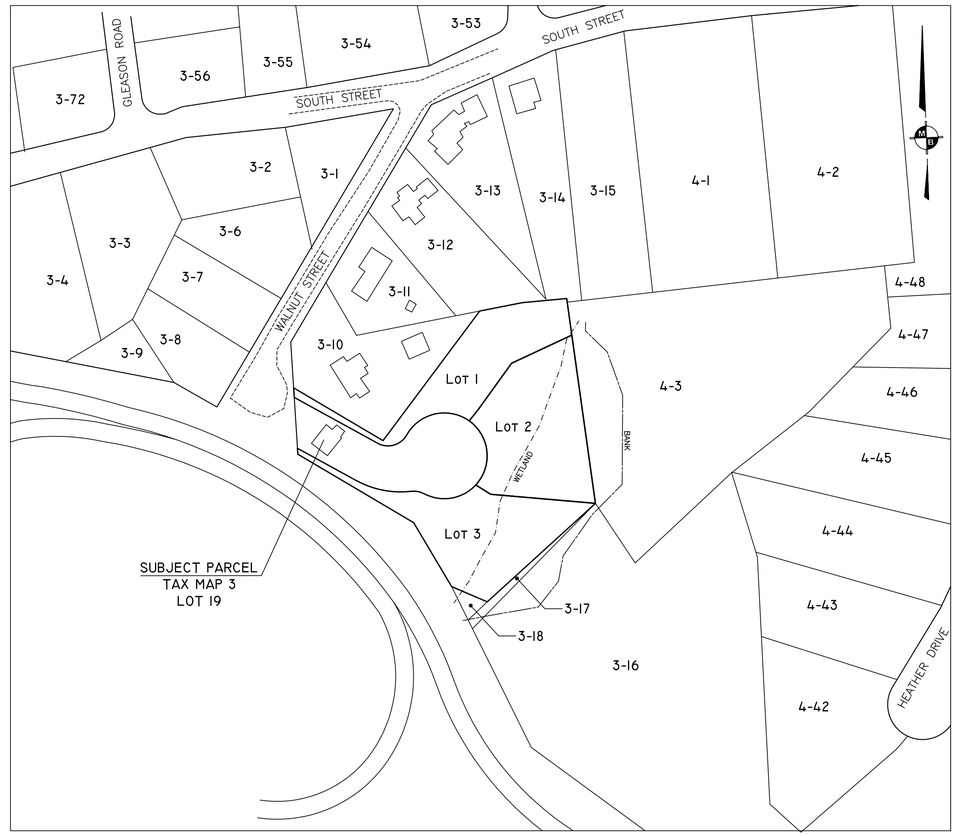
3110



PLAN - 30 Scale

LEGEND

- Special Stormwater Treatment Catchbasins
- 12" HDPE — Drain Line with Drain Manhole
- Environment–One (Low Pressure Pump System)
- ----LPSFM---- Low Pressure Sewer Force Main – 2" PVC
- ——W—— Water Line – 8" CL 52 DI



LOCUS MAP - 100 Scale

NOTES:

1. *PURPOSE OF PLAN* THIS PLAN IS INTENDED TO BE A PRELIMINARY PLAN PURSUANT TO M.G.L. Ch.41, Section 81T AND Section 5.0 OF THE READING SUBDIVISION REGULATIONS SHOWING 3 LOTS BEING SUBDIVIDED WITH A SMALL EXTENSION OF WALNUT STREET (TOTAL O 2 NEW LOTS).
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   *REDUCED FRONTAGE MUST BE 120' AT THE REAR OF THE FRONT SETBACK
   REQUIRED LOT WIDTH: 80'
   (MEASURED AT ALL POINTS FROM THE
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   TO THE FRONT OF THE DWELLING
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REV.	1	6–14–2023	PM
		Per Town Comments	

PRELIMINARY SUBDIVISION PLAN

246 WALNUT STREET
READING, MASSACHUSETTS

PREPARED FOR:
STELLA CONSTRUCTION
25 Everett Street
Woburn, MA 01810

MAY 3, 2023

30 15 0 30 60
SCALE: 1"=30'

MEISNER BREM CORPORATION
142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 · (978) 692–1313
202 MAIN STREET, SALEM, NH 03079 · (603) 893–3301

JOB NUMBER: 3110
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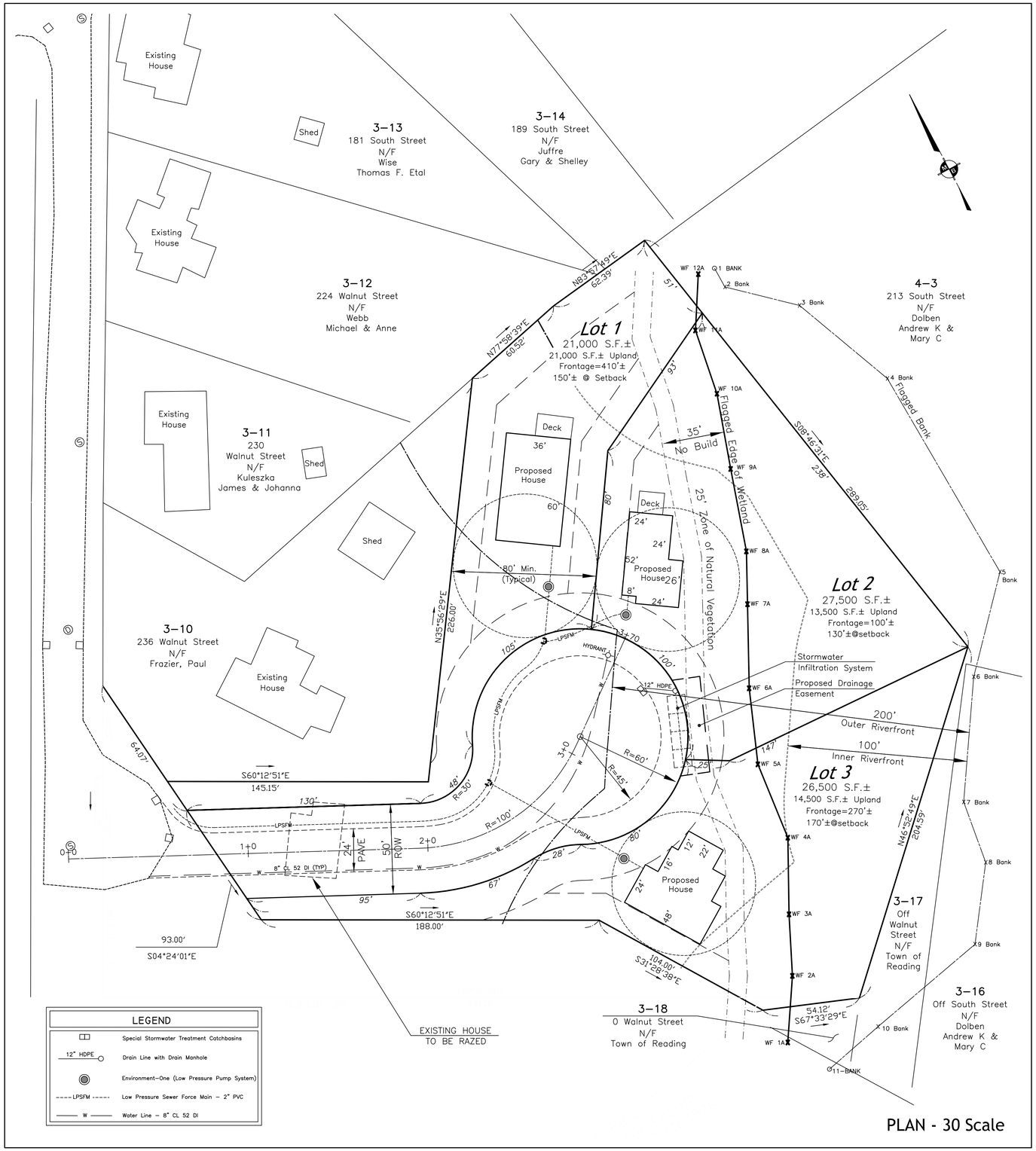


PLAN - 30 Scale

REV.	6–14–2023	PM
1	Per Town Comments	

PRELIMINARY SUBDIVISION PLAN
LAYOUT PLAN

246 WALNUT STREET
READING, MASSACHUSETTS

PREPARED FOR:
STELLA CONSTRUCTION
25 Everett Street
Woburn, MA 01810

MAY 3, 2023

30 15 0 30 60
SCALE: 1"=30'

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

JOB NUMBER: 3110
ACAD FILE: 3110–Stella Const. Prelim

MEISNER BREM CORPORATION
ENGINEERS • PLANNERS • LAND SURVEYORS

July 6, 2023

Heather Clish, Chair
Reading Community Planning and Development Commission
16 Lowell St,
Reading, MA 01867

Re: 246 Walnut Street
Preliminary Plan

Dear Ms. Clish and Members of the Reading Community Planning and Development Commission:

On behalf of our clients, Stella Construction, the applicant hereby requests CPDC to consider the following waivers from the Rules and Regulations Governing the Subdivision of Land in Reading:

Section:	Nature of Requested Waiver:
6.1.1.d.3	Traffic Study – entirety. The project is extremely small of only 2 additional lots and is just an extension of a cul-de-sac.
7.1.1	Right of way width to 50' from 60' – reasonable for utilities.
7.1.3	Traveled Way to 24' from 30' – reasonable for 3 homes in cul-de-sac
7.1.3.e	Side slope - to 2:1 from 3:1 to provide grading flexibility
7.1.5.a	Dead End Street > 500' as extension of an existing dead end improving the turn around to allow emergency vehicles to fully turn around.
7.1.7.a	Vertical Granite curb – minor extension of a street without curbing
7.2	Sidewalks (both sides) – minor extension of a street without sidewalks.

Thank you for your anticipated fair consideration.

Sincerely
MEISNER BREM CORPORATION

Jeffrey A. Brem
Principal Engineer

Cc: Erik Kortz, Client

142 LITTLETON ROAD, STE 16 WESTFORD, MA 01886 978.692.1313 FAX 978.692.0303
202 MAIN STREET SALEM, NH 03079 603.893.3301 FAX 603.893.1977

Town of Reading
Engineering Division

Memo

To: Andrew MacNichol , Community Development Director

From: Ryan A. Percival, P.E., Town Engineer

CC: Mary Benedetto, Senior Planner

Date: July 6, 2023

Re: Grandview Road Extension

Materials reviewed:

- Proposed Site Plans entitled; "Major Site Plan Modification- Grandview Road Subdivision prepared by Fodera Engineering revision date June 20th 2023"
- Revision Comments, Definitive Subdivision – Grandview Road Extension; prepared by Fodera Engineering; dated June 20, 2023
- Post Drainage Report; prepared by Fodera Engineering; dated June 20, 2023

The Engineering Division has reviewed the proposed site application for the proposed project and offers the following comments:

- Engineering has completed their review and find that all comments have been satisfied.
- Additional catch basins in the road should be considered to reduce the potential of on street flooding in the cul-de-sac. If that single basin becomes clogged the street will flood.
- A Sewer Connection I/I fee is required.
- The driveway curb cuts shall meet Town of Reading standard cross sections. The proposed elevations are unclear in these areas, all driveways will be approved individually.
- All utilities shall be approved materials and installed in accordance with the Department of Public Works Standards.
- Engineering Division shall be notified 72 hours in advance to mark out Town utilities.
- All water, sewer, curb cut, street opening and Jackie's Law excavation permits shall be obtained at the Engineering Division prior to any excavations.
- All site work shall be inspected by the Engineering Division. The Applicant/Owner's contractor shall submit a construction schedule of proposed work. All inspections shall be scheduled 48 hours in advance.
- An approved site as-built shall be submitted to the Engineering Division within 60 days of certificate of occupancy. The as-built shall be submitted in mylar and electronic ACAD format.

FOR REGISTRY USE ONLY

SITE PLAN SET

MAJOR SITE PLAN MODIFICATION

GRANDVIEW ROAD SUBDIVISION – PRIVATE WAY

GRANDVIEW ROAD EXTENSION

PROJECT LOCATION:

LOTS 2, 3, and 4
GRANDVIEW ROAD EXTENSION
READING, MA 01867

SHEET INDEX

PROPERTY INFORMATION

ADDRESS
LOTS 2, 3, & 4
GRANDVIEW ROAD EXTENSION
READING, MA 01867

RECORD OWNER
GRANDVIEW, LLC
45 BEACON STREET
READING, MA 01867

LOT SIZE
COMBINED LOTS 2, 3, & 4
45,130 S.F. (1.04 AC.±)

ZONING DISTRICT
SINGLE FAMILY 15 (S-15)

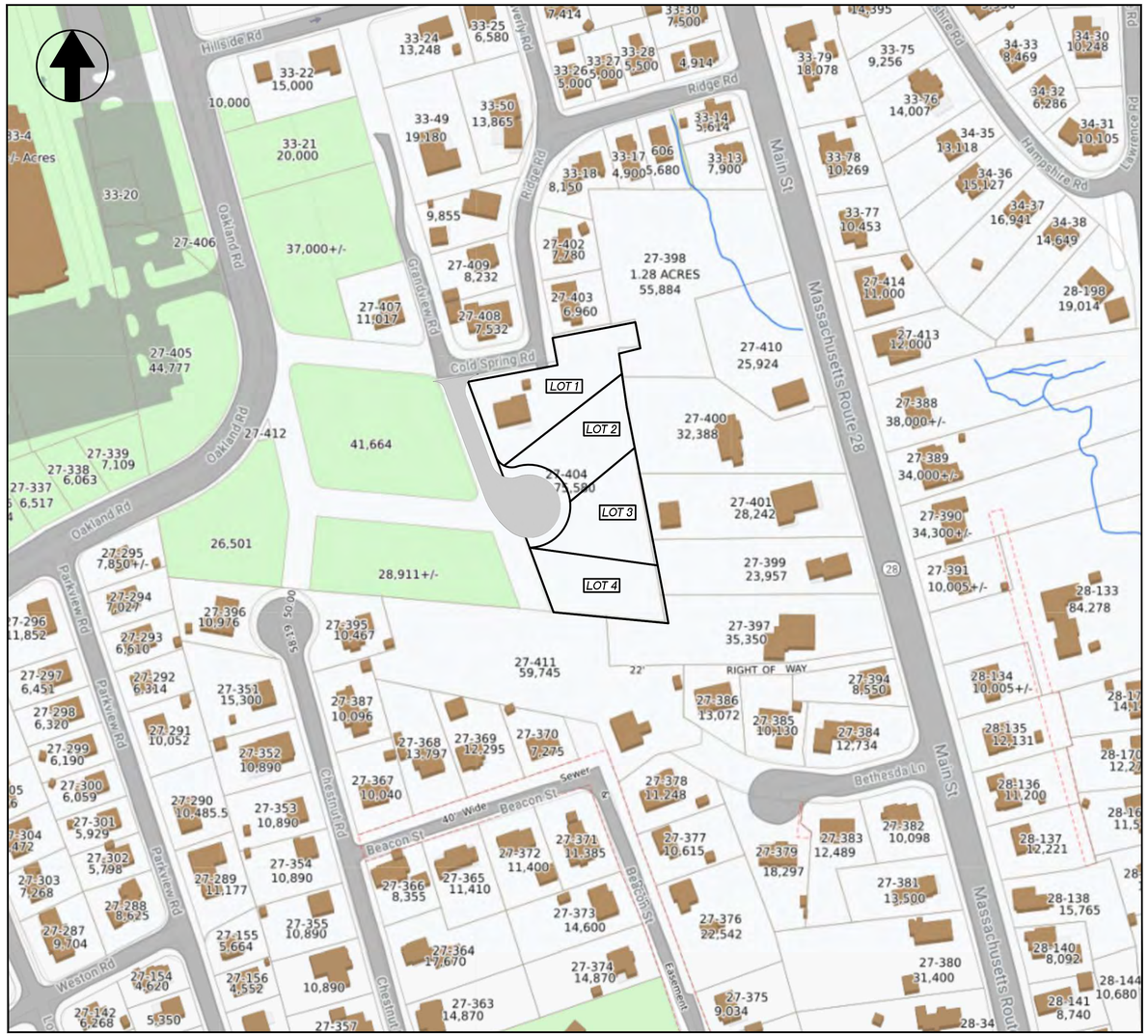
PARCEL ID
PART OF MAP 27, LOT 404

PLAN REFERENCES

1. BOUNDARY, TOPOGRAPHIC, AND PLANIMETRIC INFORMATION WAS OBTAINED FROM AN ON-THE-GROUND SURVEY PERFORMED AND COMPLETED BY PFS LAND SURVEYING, INC., DRAWING NUMBER SV-1, DATED 7/8/2020.
2. MIDDLESEX SOUTH REGISTRY OF DEEDS PLAN 754 OF YEAR 2022.

GENERAL NOTES

1. THE SUBDIVISION OF LAND FOR THIS PROJECT WAS APPROVED AND ENDORSED BY THE READING COMMUNITY PLANNING AND DEVELOPMENT COMMISSION (CPDC), AND THE SUBDIVISION WAS RECORDED WITH THE REGISTRY OF DEEDS AS PLAN 754 OF YEAR 2022.
2. THIS PLAN SET IS FOR THE APPROVAL OF A MAJOR SITE PLAN MODIFICATION. MODIFICATIONS INCLUDE REDESIGNING THE STORMWATER SYSTEM WITH ASSOCIATED SITE GRADING. EASEMENTS HAVE BEEN ADJUSTED AND THEREFORE WILL REQUIRE A NEW ENDORSED SET FOR RECORDING WITH THE REGISTRY.
3. TOPOGRAPHIC DATA IS ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
4. UTILITY INFORMATION OBTAINED FROM THE REFERENCE SURVEY PLAN.
5. SOIL TESTS BY DEEP OBSERVATION HOLES WERE COMPLETED AND REPORTED BY ARMAND J. PORRAZZO (SE#1958) IN JULY 2020. SITE SOILS FROM THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) ONLINE WEB SOIL SURVEY DETERMINE THE SITE TO CONTAIN TWO (2) SOIL TYPES IDENTIFIED AS CANTON-CHARLTON-URBAN LAND COMPLEX WITH A HYDROLOGIC SOIL GROUP (HSG) "A" AND PAXTON FINE SANDY LOAM WITH A HSG "C".
6. THE SITE DOES NOT CONTAIN AREAS SUBJECT TO 1% ANNUAL CHANCE OF FLOODING AND IS IN ZONE "X" AS DETERMINED BY FEMA FLOOD INSURANCE RATE MAP (FIRM) 25017C0311E WITH AN EFFECTIVE DATE OF 6/4/2010.
7. THE SITE IS INLAND AND NOT LOCATED NEAR OR WITHIN THE FOLLOWING PROTECTED RESOURCE AREAS AS DETERMINED BY THE STATE OF MASSACHUSETTS ONLINE GIS MAPPING SYSTEM "OLIVER".
   - NATURAL HERITAGE OF ENDANGERED SPECIES
   - RIVERFRONT
   - CERTIFIED VERNAL POOLS
   - WELLHEAD PROTECTION ZONES
8. THE SITE DOES CONTAIN A SMALL PORTION OF BORDERING VEGETATED WETLANDS AND WERE DELINEATED BY LEC ENVIRONMENTAL CONSULTANTS, INC. IN JUNE 2020.



LOCUS MAP
SCALE: 1" = 100'

PREPARED FOR:
(APPLICANT)
MICHAEL SALAMONE
45 BEACON STREET
READING, MA 01867

PREPARED BY:
FODERA ENGINEERING
28 HARBOR STREET, SUITE 204
DANVERS, MA 01923
(617) 877-3293

ABUTTER'S LIST (NOW OR FORMERLY)

PARCEL ID	ADDRESS	OWNER
27-367	105 BEACON ST.	L & J FAMILY TRUST BRIAN F DESMOND TRUSTE
27-368	101 BEACON ST.	BEVERE LOREEN M
27-369	99 BEACON ST.	JOHNSON PHILLIP M PHOEBE M JOHNSON
27-370	89 BEACON ST.	DECROTEAU MICHAEL EUGENE
27-371	36 BEACON ST.	CUSOLITO JOHN LINCOLN JR ETA BEACON ST 2012 REALTY TR
27-372	98 BEACON ST.	KELLETT JAY S JOYCE A KELLETT
27-377	33 BEACON ST.	DICLEMENTE MICHAEL C DICLEMENTE JAMIE
27-378	39 BEACON ST.	WILMER CHRISTOPHER K SARA WILMER
27-379	14 BETHESDA	LN. BRETCHKO PAVEL TITOVA ELENA
27-384	882 MAIN ST.	MOREIRA GREGORY C ERIN B MORIERA
27-385	11 BETHESDA LN.	SICILIANO ROBERT L SICILIANO STEPHANIE A
27-386	17 BETHESDA LN.	KOUTOUVIDES DAKIS S KOUTOUVIDES KIMBERLY A
27-387	37 CHESTNUT RD.	GOODHUE MARK J WHITNEY GOODHUE
27-394	884 MAIN ST.	GEORGE JENNIFER L DANIEL F DECARPIS
27-395	43 CHESTNUT RD.	DASILVA JOSEPH A DASILVA ANASTASIA
27-397	890 MAIN ST.	JOYCE MARY ELIZABETH JOHN JOYCE
27-398	MAIN ST.	MILLER KEITH L
27-399	896 MAIN ST.	SANDBERG ELLEN L
27-400	908 MAIN ST.	CHEN I-CHEI
27-401	900 MAIN ST.	READING KOREAN CHURCH OF THE NAZARENE
27-402	26 RIDGE RD.	KERR CHRISTOPHER A LESLIE N KERR
27-403	32 RIDGE RD.	BEAUCHER ROBERT A BARBARA L BEAUCHER
27-404	4 COLDSPRING RD.	JEAN PENNY A
27-405	OAKLAND RD.	TOWN OF READING READING MEMORIAL HIGH
27-407	23 GRANDVIEW RD.	CUSOLITO ROBERT P JOANNE CUSOLITO
27-408	31 RIDGE RD.	CORAM GEOFFREY SUSAN G CORAM
27-409	25 RIDGE RD.	FONG ELAINE
27-410	912 MAIN ST.	HATCH WILLIAM G
27-411	45 BEACON ST.	SALAMONE ANGELO
33-13	930 MAIN ST.	RICCI ANTHONY J JANET K GALLAGHER RICCI
33-14	934 MAIN ST.	CROSBY JO ANN
33-15	RIDGE RD.	TOWN OF READING
33-16	8 RIDGE RD.	YAO RYAN S
33-17	10 RIDGE RD.	ALLEN KATHERINE D
33-18	14 RIDGE RD.	HEGARTY GERALD P ETAL TRS GERALD P HEGARTY REVOC
33-19	OAKLAND RD.	TOWN OF READING SCHOOL DEPT.
33-23	23 RIDGE RD.	MESSINA-PEREZ KAREN E
33-49	10 GRANDVIEW RD.	DRUID DAVID A PATRICIA E DRUID
33-50	2 WAVERLY RD.	HILDRETH JOHN W JUDITH D HILDRETH

UTILITIES AND CONTACTS

CABLE
COMCAST CABLE CORPORATION
5 OMNI WAY
CHELMSFORD, MA 01824
ATTN: TED QUINT
978-848-5163
ted_quint@comcast.com

ELECTRIC
READING MUNICIPAL LIGHT DEPARTMENT
230 ASH ST.
READING, MA 01867
ATTN: PETER PRICE
781-942-6429
pprice@rmld.com

GAS
NATIONAL GRID GAS
40 SYLVAN ROAD
WALTHAM, MA 02451
ATTN: MELISSA OWENS
781-907-2845
melissa.owens@nationalgrid.com

TELEPHONE
VERIZON
385 MYLES STANDISH BLVD.
TAUNTON, MA 02780
ATTN: KAREN MEALEY
774-409-3160
karen.m.mealey@verizon.com

WATER AND SEWER
READING DPW
16 LOWELL ST.
READING, MA 01867
781-942-9077

DEPARTMENT OF PUBLIC WORKS
READING DPW ENGINEERING DIVISION
16 LOWELL ST.
READING, MA 01867
781-942-9082

CONSULTANTS

CIVIL ENGINEER
FODERA ENGINEERING
28 HARBOR ST., SUITE 204
DANVERS, MA 01923
ATTN: GIOVANNI FODERA, P.E.
617-877-3293
gfodera@foderaengineering.com

LAND SURVEYOR
PFS LAND SURVEYING, INC.
20 BALCH AVE.
GROVELAND, MA 01834
ATTN: BRYAN PARMENTER, P.L.S.
508-446-0781
bryan@pfsland.com

DATE:
APRIL 20, 2023

TOWN OF READING COMMUNITY PLANNING AND DEVELOPMENT COMMISSION	
DATE:	

REVISION BLOCK

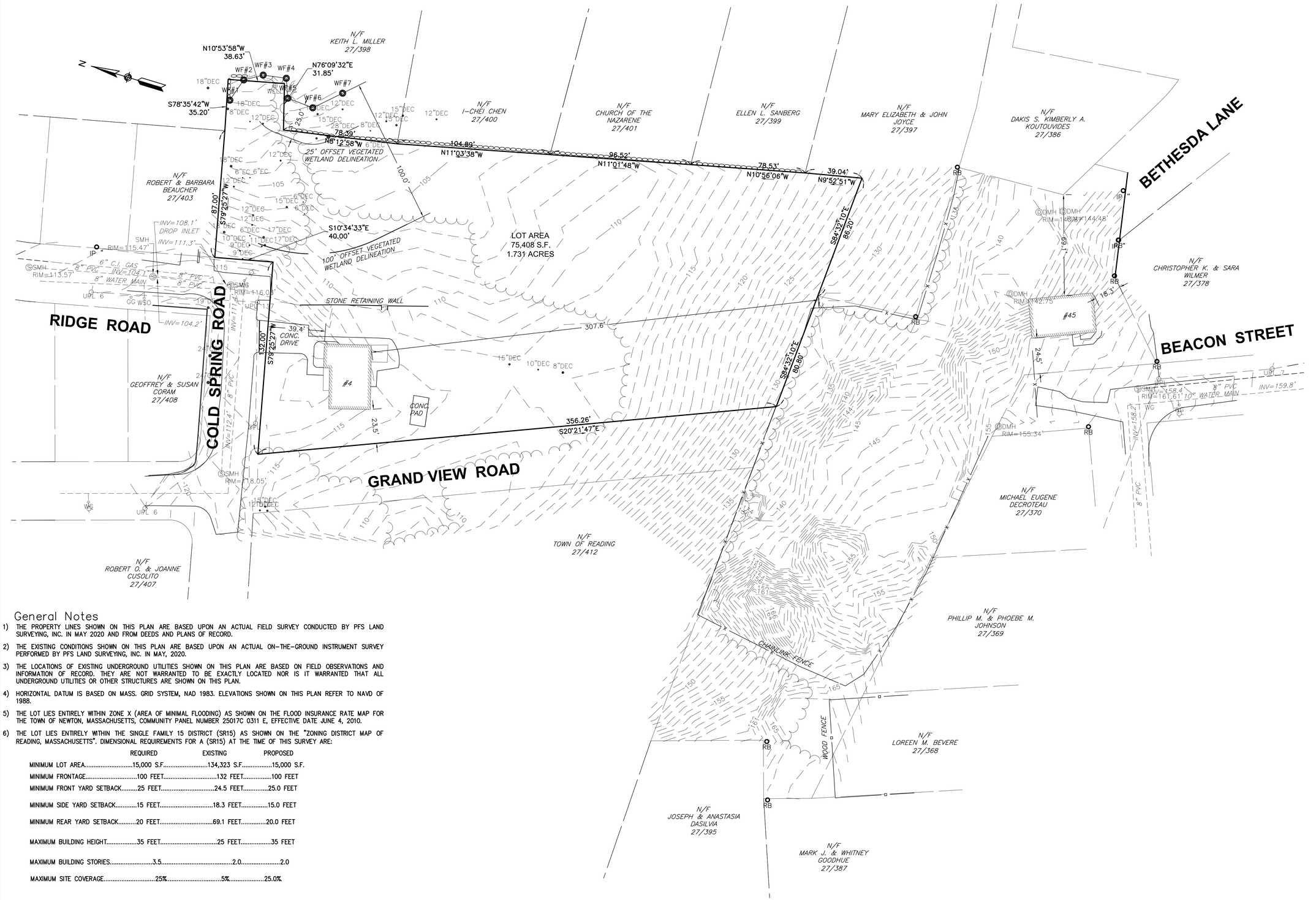
REVISION SET	REVISION DATE	COMPLETED BY
REVISION 1	6/20/23	GGF
–	–	–
–	–	–
–	–	–
–	–	–
–	–	–

PROFESSIONAL SEAL:
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER
JOB # 20160
6/20/23
G.F. 6/20/23

JOB NO.: 20160-149

SHEET TITLE:
COVER SHEET

SHEET NUMBER:
C-0



General Notes

1) THE PROPERTY LINES SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL FIELD SURVEY CONDUCTED BY PFS LAND SURVEYING, INC. IN MAY 2020 AND FROM DEEDS AND PLANS OF RECORD.

2) THE EXISTING CONDITIONS SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY PFS LAND SURVEYING, INC. IN MAY, 2020.

3) THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD OBSERVATIONS AND INFORMATION OF RECORD. THEY ARE NOT WARRANTED TO BE EXACTLY LOCATED NOR IS IT WARRANTED THAT ALL UNDERGROUND UTILITIES OR OTHER STRUCTURES ARE SHOWN ON THIS PLAN.

4) HORIZONTAL DATUM IS BASED ON MASS. GRID SYSTEM, NAD 1983. ELEVATIONS SHOWN ON THIS PLAN REFER TO NAVD OF 1988.

5) THE LOT LIES ENTIRELY WITHIN ZONE X (AREA OF MINIMAL FLOODING) AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR THE TOWN OF NEWTON, MASSACHUSETTS, COMMUNITY PANEL NUMBER 25017C 0311 E, EFFECTIVE DATE JUNE 4, 2010.

6) THE LOT LIES ENTIRELY WITHIN THE SINGLE FAMILY 15 DISTRICT (SR15) AS SHOWN ON THE "ZONING DISTRICT MAP OF READING, MASSACHUSETTS". DIMENSIONAL REQUIREMENTS FOR A (SR15) AT THE TIME OF THIS SURVEY ARE:

	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	15,000 S.F.	134,323 S.F.	15,000 S.F.
MINIMUM FRONTAGE	100 FEET	132 FEET	100 FEET
MINIMUM FRONT YARD SETBACK	25 FEET	24.5 FEET	25.0 FEET
MINIMUM SIDE YARD SETBACK	15 FEET	18.3 FEET	15.0 FEET
MINIMUM REAR YARD SETBACK	20 FEET	69.1 FEET	20.0 FEET
MAXIMUM BUILDING HEIGHT	35 FEET	25 FEET	35 FEET
MAXIMUM BUILDING STORIES	3.5	2.0	2.0
MAXIMUM SITE COVERAGE	25%	5%	25.0%

7) THE WETLANDS SHOWN HEREON WERE FLAGGED BY LEC ENVIRONMENTAL IN JUNE 2020 AND LOCATED BY PFS LAND SURVEYING INC, IN JUNE 2020.

PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com

LEGEND

BM #	BENCHMARK
	BOUND (CONC, STONE, LAND COURT, ETC.)
CB	CATCH BASIN - SQUARE
CB	CATCH BASIN - ROUND
DSK	DISK (CA/T, USC&GS, LAND COURT, ETC.)
DH	DRILL HOLE
D	DRAIN MANHOLE
EHH	ELECTRIC HANDHOLE
E	ELECTRIC MANHOLE
EM	ELECTRIC METER
GG	GAS GATE
GM	GAS METER
	HANDICAP SYMBOL
	GUY WIRE ANCHOR
	FIRE HYDRANT
	LIGHT
OHW	OVERHEAD WIRE
MAG	MAG NAIL
MB	MAIL BOX
	OTHER MANHOLE
PB	PULL BOX
PED	PEDESTRIAN SIGNAL
S	SEWER MANHOLE
T	TELEPHONE MANHOLE
TRFM	TRANSFORMER
12	# OF PARKING SPACES
TS	TRAFFIC SIGNAL
TS	TRAFFIC SIGNAL MAST ARM/SPAN WIRE POLE
	SIGN
ULT#	UTILITY POLE W/ LIGHT
UPL#	UTILITY POLE
WG	WATER GATE
WSO	WATER SHUTOFF
	CHAIN LINK FENCE
	WOOD FENCE

SCALE: 1" = 30'

No.	Revision	Date	Appvd.
2	added tree locations in buffer zone	2-04-2021	BGP
1	updated well location	12-09-2020	BGP

Designed by BGP | Drawn by BGP | Checked by BGP
CAD checked by BGP | Approved by BGP
Scale 1"=30' | Date 7/8/2020

Project Title
Existing Conditions
4 Cold Spring Rd
Reading, MA

Issued for
Review

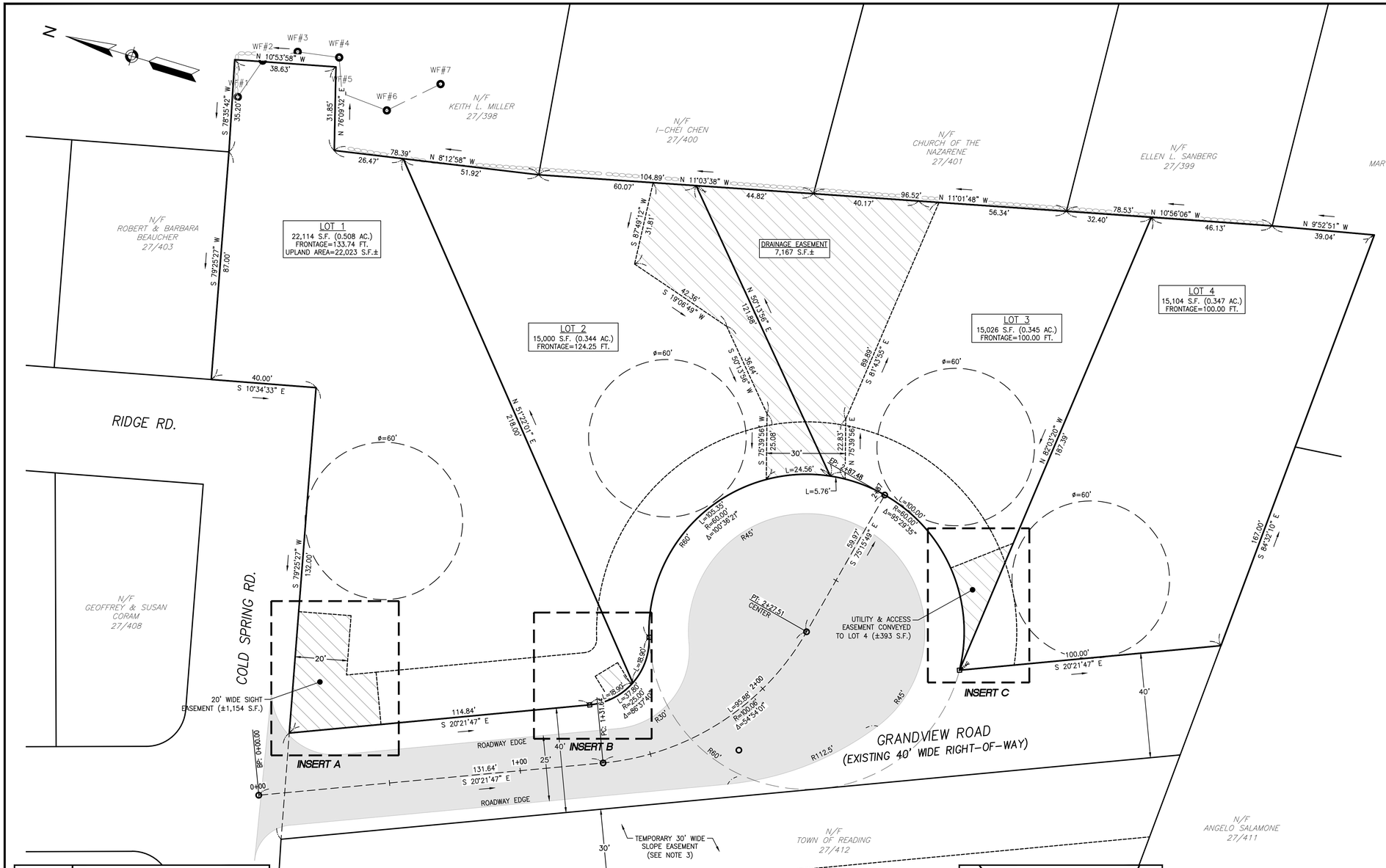
Drawing Title
Existing Conditions
Plan of Land

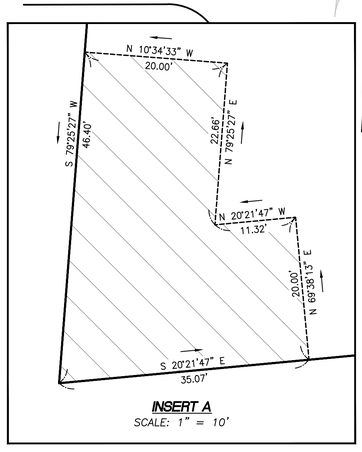
COMMONWEALTH OF MASSACHUSETTS
BRYAN G. GRUNDEN
NO. 48193
REGISTERED
PROFESSIONAL LAND SURVEYOR

Drawing Number
SV-1

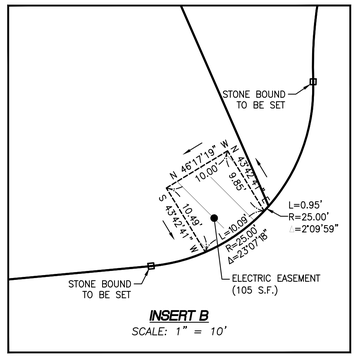
Sheet
1 of 1

Project Number





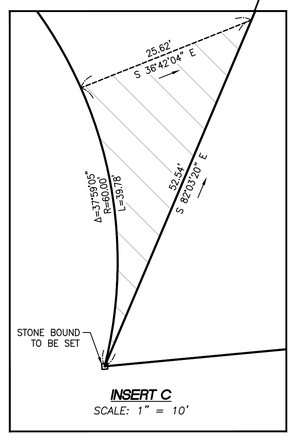
INSERT A
SCALE: 1" = 10'



INSERT B
SCALE: 1" = 10'

PLAN OF LAND
SCALE: 1" = 20'

20 0 10 20 40
SCALE
1 inch = 20 ft.



INSERT C
SCALE: 1" = 10'

RIGHT-OF-WAY STATEMENT

THE RIGHT-OF-WAY (ROW), SOUTH OF THE INTERSECTION FROM COLD SPRING ROAD AND GRANDVIEW ROAD, IS AS A PRIVATE WAY FOR ALL LAND OWNERS IN AND ABUTTING THE SUBDIVISION, AND WILL REMAIN NAMED AS GRANDVIEW ROAD.

LEGEND

- PROPERTY LINE
- EASEMENT LINE
- WETLAND BOUNDARY
- RXX' — RADIUS MEASUREMENT
- WF# — WETLAND FLAG
- STONE BOUND WITH DRILL HOLE

GENERAL NOTES

1. WETLANDS WERE FLAGGED BY LEC ENVIRONMENTAL CONSULTANTS IN JUNE 2020.
2. THE PROJECT IS LOCATED OUTSIDE OF ANY PROTECTED RESOURCE AREAS AND FLOOD ZONES AS DETERMINED BY THE MOST RECENTLY PUBLISHED DATA FROM THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION AND FEMA.
3. IN LIEU OF A RETAINING WALL LOCATED IN THE RIGHT-OF-WAY ALONG THE WESTERN BOUNDARY OF GRAND VIEW ROAD, A TEMPORARY THIRTY (30) FOOT WIDE SLOPE EASEMENT IS PROPOSED ON TOWN PROPERTY AND SHALL BE APPROVED BY THE TOWN. SEE SHEET C-5 FOR GRADING.

PLAN REFERENCES

1. BOUNDARY, TOPOGRAPHIC, AND PLANIMETRIC INFORMATION WAS OBTAINED FROM AN ON-THE-GROUND SURVEY PERFORMED AND COMPLETED BY PFS LAND SURVEYING.

PROPERTY INFORMATION

ADDRESS: LOTS 2, 3, & 4
GRANDVIEW ROAD EXTENSION
READING, MA 01867
TAX MAP, LOT: PART OF MAP 27, LOT 404
LOT SIZE: 45,130 S.F. (1.04 AC.)

RECORD OWNERS

LOTS 2, 3, & 4
GRANDVIEW, LLC
45 BEACON STREET
READING, MA 01867

APPLICANT

MICHAEL SALAMONE
45 BEACON ST.
READING, MA 01867

ZONING SUMMARY

ZONING DISTRICT: SINGLE FAMILY 15 (S15)

	REQUIRED	LOT 1	LOT 2	LOT 3	LOT 4
MIN. LOT WIDTH	60'	>60'	>60'	>60'	>60'
MIN. LOT AREA (SF)	15,000	22,114	15,000	15,026	15,104
MIN. FRONTAGE	100'	132.00	151.62	100.00	100.00
RELIEF REQUIRED	–	N	N	N	N

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MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY
REVISION 1	6/20/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867
PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

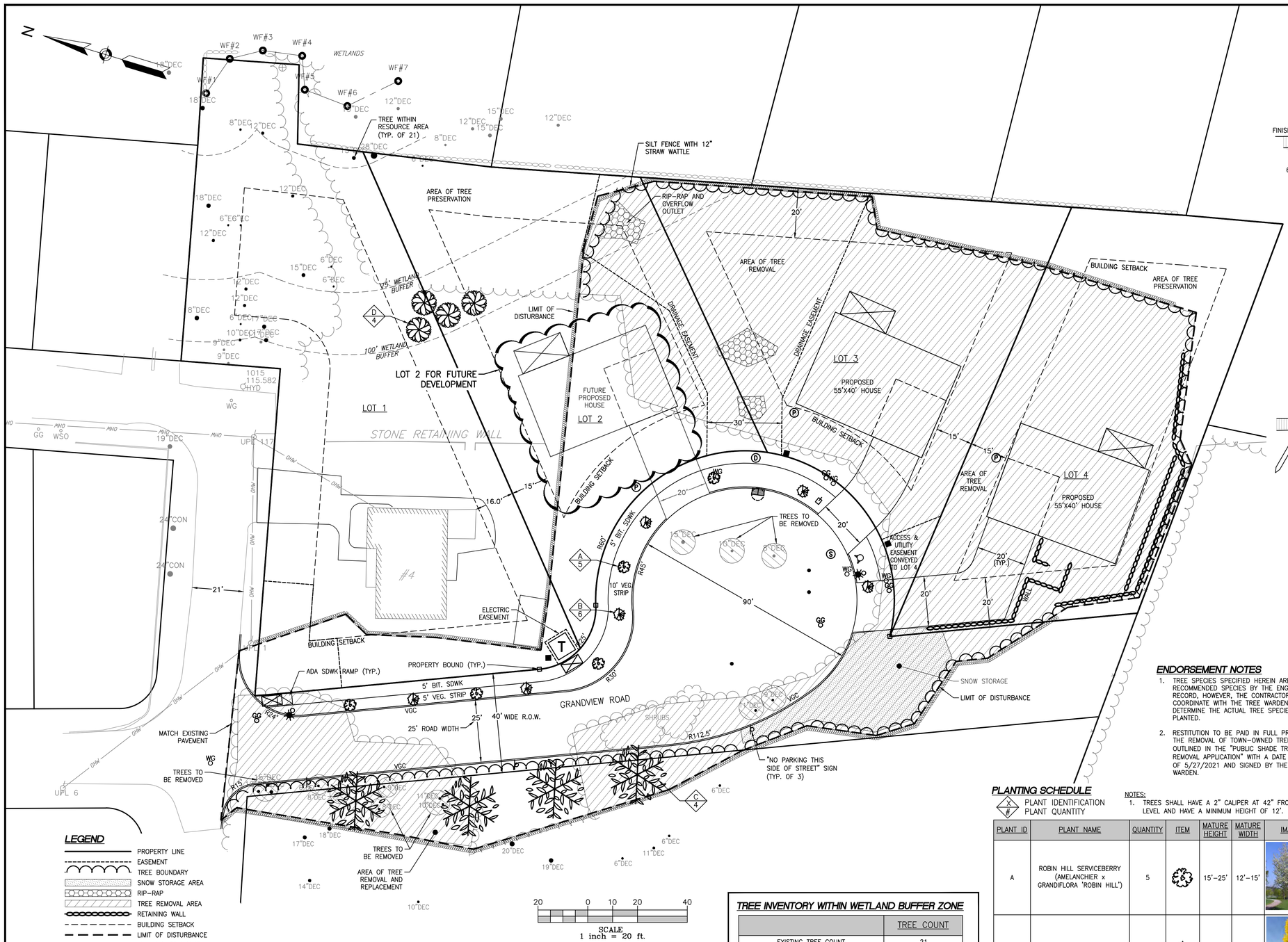
ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL
6/20/23
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS
JOB # 20160
G.F. 6/14/23

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

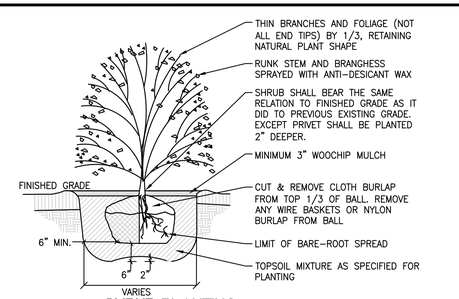
SHEET TITLE:
PLAN OF LAND

SHEET NUMBER:
C-1



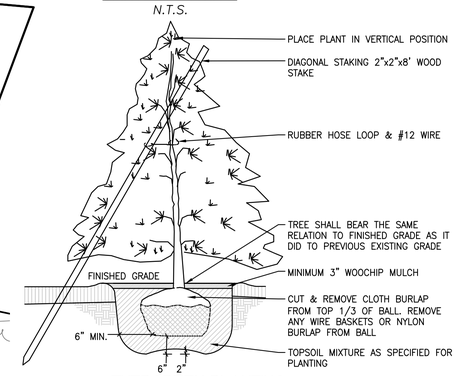
SITE AND TREE PRESERVATION PLAN

SCALE: 1" = 20'



SHRUB PLANTING

N.T.S.



EVERGREEN PLANTING

N.T.S.

GENERAL NOTES

1. ALL PLANT STOCK SHALL CONFORM TO ANSI Z260.1 – NURSERY STOCK, LATEST EDITION (AMERICAN ASSOCIATION OF NURSERYMEN, INC.).
2. NO TREES OR SHRUBS SHALL BE PLANTED AT THE STREET INTERSECTION WHERE THEY COULD BECOME A TRAFFIC HAZARD BY OBSTRUCTING VISION.
3. ALL TREES SHALL BE GUARANTEED BY THE DEVELOPER FOR THEIR ERECTNESS AND GOOD HEALTH FOR TWO (2) YEARS AFTER PLANTING.
4. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE LOAMED AND SEEDED. LOAM DEPTH SHALL BE A MINIMUM OF 4 INCHES. ALL LOAM PLACED SHALL BE pH CORRECTED AND FREE OF CLODS, LUMPS, STONES AND OTHER DELETERIOUS MATERIAL.
5. ANY DEAD VEGETATION SHALL BE REMOVED IMMEDIATELY AND REPLACED IN ACCORDANCE WITH THE SPECIFICATION ON PLAN.
6. OWNER SHALL MAINTAIN LANDSCAPE PLANTINGS TO ENSURE THE AESTHETIC APPEARANCE AND OVERALL PLANT HEALTHINESS IS RETAINED. THIS INCLUDES INSPECTING AND REPLACING PLANTINGS AS NECESSARY, WEEKLY MOWING AND MULCHING.
7. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.
8. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
9. THE CONSTRUCTION SITE SHALL BE SECURED IN A MANNER SO AS TO PREVENT INJURY OR PROPERTY DAMAGE TO THE RESIDENTS OF THE TOWN.
10. AN APPROVED SITE AS-BUILT SHALL BE SUBMITTED TO THE ENGINEERING DIVISION WITHIN 60 DAYS OF CERTIFICATE OF OCCUPANCY. THE AS-BUILT SHALL BE SUBMITTED IN MYLAR AND ELECTRONIC ACAD FORMAT.

ENDORSEMENT NOTES

1. TREE SPECIES SPECIFIED HEREIN ARE SIMPLY RECOMMENDED SPECIES BY THE ENGINEER OF RECORD, HOWEVER, THE CONTRACTOR SHALL COORDINATE WITH THE TREE WARDEN TO DETERMINE THE ACTUAL TREE SPECIES TO BE PLANTED.
2. RESTITUTION TO BE PAID IN FULL PRIOR TO THE REMOVAL OF TOWN-OWNED TREES AS OUTLINED IN THE "PUBLIC SHADE TREE REMOVAL APPLICATION" WITH A DATE OF ACTION OF 5/27/2021 AND SIGNED BY THE TREE WARDEN.

LEGEND

- PROPERTY LINE
- EASEMENT
- TREE BOUNDARY
- SNOW STORAGE AREA
- RIP-RAP
- TREE REMOVAL AREA
- RETAINING WALL
- BUILDING SETBACK
- LIMIT OF DISTURBANCE
- WETLAND BOUNDARY
- WETLAND BUFFER
- WF# WETLAND FLAG
- VGC VERTICAL GRANITE CURB
- MAILBOX
- (P) SEWER PUMP
- (S) FORCE MAIN FLUSHING GATE
- FORCE SERVICE BALL VALVE
- CB CATCH BASIN
- (D) DMH DRAIN MANHOLE
- OOS OVERFLOW OUTLET STRUCTURE
- WG WATER VALVE
- GG GAS VALVE
- T ELECTRIC TRANSFORMER & EASEMENT
- ELECTRIC SERVICE PULLBOX
- ELECTRIC MANHOLE

TREE INVENTORY WITHIN WETLAND BUFFER ZONE

	TREE COUNT
EXISTING TREE COUNT	21
TREES TO BE REMOVED	0
TOTAL TREES TO REMAIN	21

TREE PRESERVATION CALCULATIONS

	LOT 1	LOT 2	LOT 3	LOT 4	Grand View Rd.	TOTALS
LOT AREA, S.F.	22,112	15,002	15,026	15,104	22,164	89,408
NEW IMPERVIOUS, S.F.	0	2,388	2,526	2,998	12,572	23,549
SUM: OPEN SPACE, S.F.	*19,047	12,614	12,500	12,106	9,592	65,859
**REQUIRED # OF TREES	10	7	7	7	N/A	31
AREA OF TREE REMOVAL, S.F.	0	3,605	13,325	11,140	6,217	34,287
AREA OF TREE PRESERVED, S.F.	7,948	3,260	1,590	3,970	2,832	19,600
***ESTIMATED # OF TREES PRESERVED	20	14	7	17	12	70

* SUBTRACTED EXISTING IMPERVIOUS AREA OF 3,065 SF.
** BASED ON 1 TREE PER 2,000 S.F. OF OPEN SPACE PER SECTION 7.6.2.2 OF THE TOWN OF READING SUBDIVISION REGULATIONS.
*** ESTIMATED BASED ON 1 TREE PER 225 S.F. (15'X15')

PERMANENT GRASS SEED MIX	SEED, POUNDS PER 1,000 S.F.
LITTLE BLUESTEM OR BROOMSEDGE	0.25
TUMBLE LOVEGRASS	0.10
SWITCHGRASS	0.10
BUSH CLOVER	0.10
RED TOP	0.10

PLANTING SCHEDULE

PLANT IDENTIFICATION (X) / PLANT QUANTITY (#)

NOTES:
1. TREES SHALL HAVE A 2" CALIPER AT 42" FROM GROUND LEVEL AND HAVE A MINIMUM HEIGHT OF 12'.

PLANT ID	PLANT NAME	QUANTITY	ITEM	MATURE HEIGHT	MATURE WIDTH	IMAGE
A	ROBIN HILL SERVICEBERRY (AMELANCHIER x GRANDIFLORA 'ROBIN HILL')	5	6	15'-25'	12'-15'	
B	GOLDSPIRE GINKGO (GINKGO BILOBA "GOLDSPIRE")	6	15'	5'-6'		
*C	SUGAR MAPLE TREE (ACER SACCHARUM)	4	60'-75'	40'-50'		
D	HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM)	4	6'-12'	8'-12'		

* TREE SPECIES TO BE REPLANTED IN TOWN OWNED PROPERTY SHALL BE APPROVED BY THE TREE WARDEN.

CALL BEFORE YOU DIG 1-888-344-7233 MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY
REVISION 1	6/20/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:

MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SCALE: 1" = 20'

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COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

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Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
SITE AND TREE PRESERVATION

SHEET NUMBER:
C-2

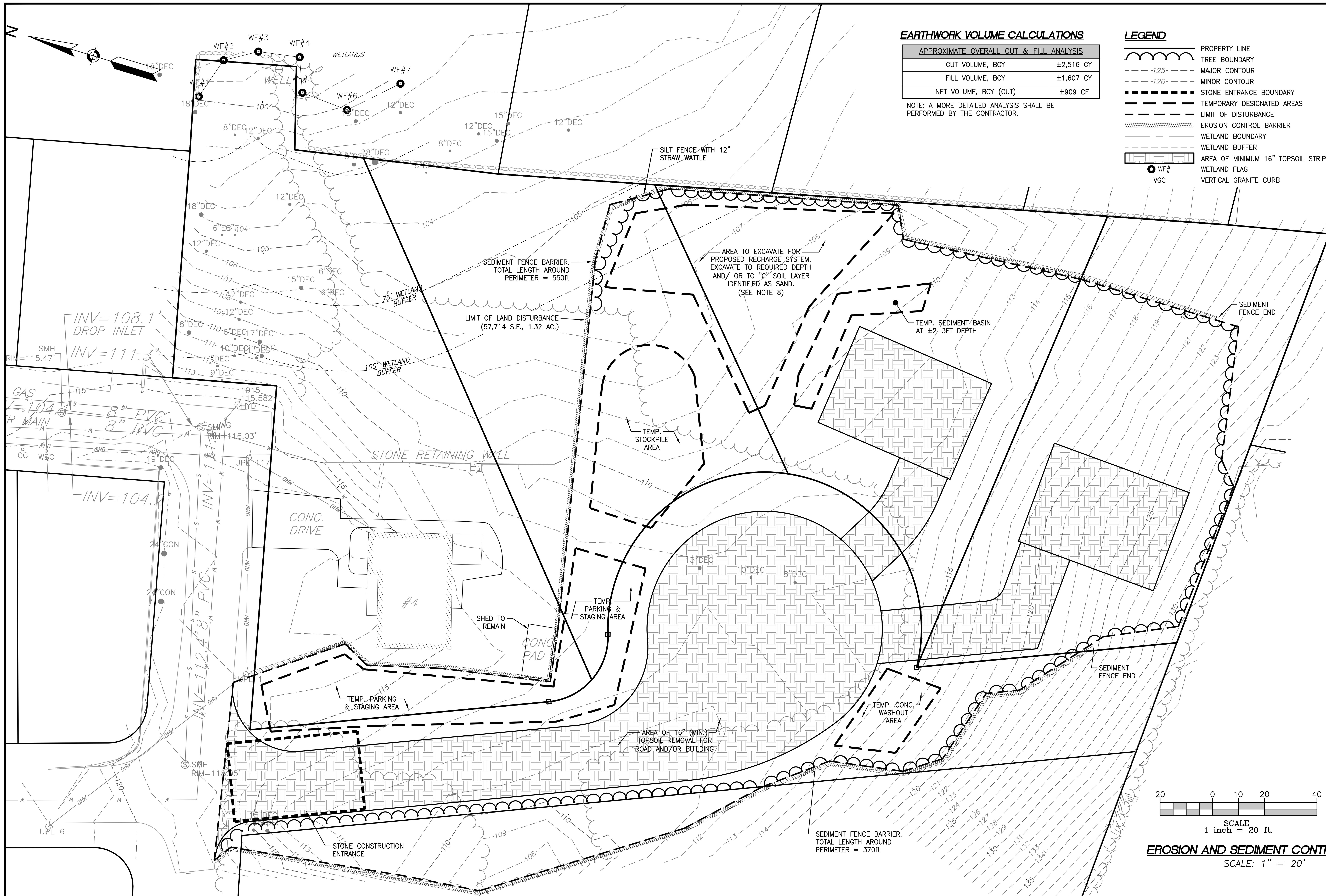
EARTHWORK VOLUME CALCULATIONS

APPROXIMATE OVERALL CUT & FILL ANALYSIS	
CUT VOLUME, BCY	±2,516 CY
FILL VOLUME, BCY	±1,607 CY
NET VOLUME, BCY (CUT)	±909 CF

NOTE: A MORE DETAILED ANALYSIS SHALL BE PERFORMED BY THE CONTRACTOR.

LEGEND

- PROPERTY LINE
- TREE BOUNDARY
- -125- MAJOR CONTOUR
- -126- MINOR CONTOUR
- STONE ENTRANCE BOUNDARY
- TEMPORARY DESIGNATED AREAS
- LIMIT OF DISTURBANCE
- EROSION CONTROL BARRIER
- WETLAND BOUNDARY
- WETLAND BUFFER
- AREA OF MINIMUM 16" TOPSOIL STRIP
- WF# WETLAND FLAG
- VGC VERTICAL GRANITE CURB



SCALE
1 inch = 20 ft.

EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1" = 20'

EROSION CONTROL NOTES

1. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS.
2. INSTALL SEDIMENTATION AND EROSION CONTROL MEASURES PRIOR TO CLEARING GRADING AND DEMOLITION WORK. MAINTAIN ALL SEDIMENT AND EROSION CONTROL, AND TREE PROTECTION MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
3. ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATIONS AT THE DIRECTION OF THE TOWN'S DPW ENGINEERING DEPARTMENT.
4. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE. CONTRACTOR SHALL MAINTAIN CONSTRUCTION ENTRANCE UNTIL SITE PAVING IS COMPLETE.
5. INLET PROTECTIONS SHALL BE INSTALLED ON ALL EXISTING CATCH BASINS AS INDICATED ON THE PLAN, AND IMMEDIATELY AFTER THE INSTALLATION OF ALL NEWLY INSTALLED INLETS.
6. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO THE ACCESSING ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED BY VEHICLE OFF-SITE ONTO THE ROADWAY OR INTO STORM DRAINS MUST BE REMOVED.
7. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
8. ADD EROSION BARRIER AROUND PERIMETER OF PROPOSED RECHARGE AREA IF THE EXCAVATED PIT WILL REMAIN EXPOSED FOR MORE THAN TWO (2) DAYS, WEATHER PERMITTING. THE EXCAVATED PIT SHALL BE CLEAN OF ALL SEDIMENT.
9. EROSION CONTROL DEVICES SHALL BE INSTALLED BEFORE GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
10. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UPSTREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVES HAVE BEEN PAVED.
11. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE IMPROVEMENTS ARE BEING MADE. TRAFFIC CONTROL MEASURES TO BE IN ACCORDANCE WITH LOCAL REGULATIONS AND OR MASSDOT.
12. ALL SILT BARRIERS MUST BE PLACED AS ACCESS IS OBTAINED DURING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIER INSTALLATION AND DETENTION FACILITIES, IF REQUIRED, ARE CONSTRUCTED.
13. CONTRACTOR SHALL PERFORM EROSION CONTROL INSPECTIONS REGULARLY AND IMMEDIATELY FOLLOWING HEAVY RAIN STORMS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY. REPAIR OR REPLACE FAILED SYSTEMS AT THE EARLIEST POSSIBLE DATE.
14. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING.
15. ALL DISTURBED AREAS, WITH NO SPECIFIED GROUND COVER ARE TO BE RESTORED WITH MINIMUM FOUR (4) INCHES OF TOPSOIL AND SEEDING.
16. PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED AT ALL TIMES DURING CONSTRUCTION TO ENSURE INTEGRITY. IF DISTURBED, THEY SHALL BE REPLACED BY A REGISTERED SURVEYOR AT THE CONTRACTOR'S EXPENSE.
17. ALL EXCAVATION SHALL INCLUDE CLEARING, STRIPPING AND STOCKPILING TOPSOIL, REMOVING UNSUITABLE MATERIALS, THE CONSTRUCTION OF EMBANKMENTS, CONSTRUCTION FILLS, AND THE FINAL SHAPING AND TRIMMING TO THE LINES AND GRADES SHOWN ON THE PLANS.
18. ALL TREES, BRUSH, AND ORGANIC TOPSOIL AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED, UNLESS OTHERWISE SPECIFIED, AND DISPOSED OF AT AN OFF-SITE LOCATION, WITH THE EXCEPTION THAT ENOUGH TOPSOIL SHALL BE RETAINED FOR RE-SPREAD AND GENERAL LANDSCAPING. AREAS WHICH ARE TO BE FILLED SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D1557, METHOD C) COMPACTION TEST IN THE PAVED AREAS AND 90% IN THE OTHER AREAS.
19. SWEEP CLEAN THE BINDER COURSE PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE. EXCESSIVE CLEANING OF THE BINDER COURSE THAT MAY BE REQUIRED, AND IS NOT THE FAULT OF THE PAVING CONTRACTOR, SHALL BE PAID FOR ON A TIME AND MATERIAL BASIS BY PRIOR AGREEMENT WITH THE GENERAL CONTRACTOR.
20. THE TOWN'S ENGINEERING DIVISION SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION TO MARK OUT TOWN UTILITIES.
21. ALL WATER, SEWER, CURB CUT, STREET OPENING AND JACKIE'S LAW EXCAVATION PERMITS SHALL BE OBTAINED AT THE ENGINEERING DIVISION PRIOR TO ANY EXCAVATIONS.
22. ALL SITE WORK SHALL BE INSPECTED BY THE ENGINEERING DIVISION. THE APPLICANT\OWNER'S CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE OF PROPOSED WORK. ALL INSPECTIONS SHALL BE SCHEDULED 48 HOURS IN ADVANCE

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MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY
REVISION 1	6/20/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

APRIL 20, 2023

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION

DATE: ______________________

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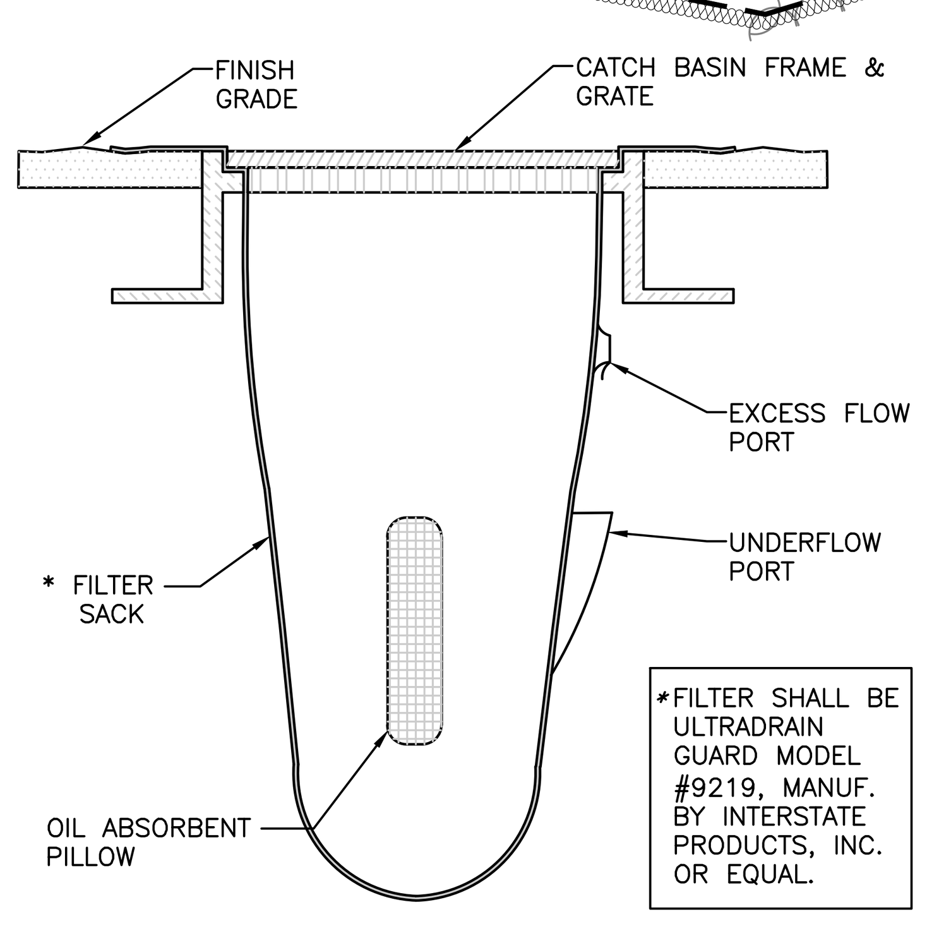
JOB NO.: 20160-149

SHEET TITLE:
EROSION + SEDIMENT CONTROL PLAN

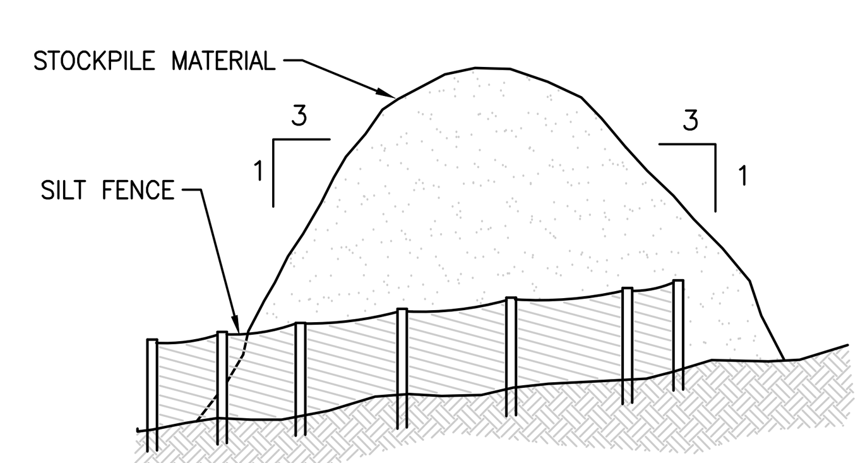
SHEET NUMBER:
C-3



*FILTER SHALL BE ULTRADRAIN GUARD MODEL #9219, MANUF. BY INTERSTATE PRODUCTS, INC. OR EQUAL.

CATCH BASIN INLET PROTECTION

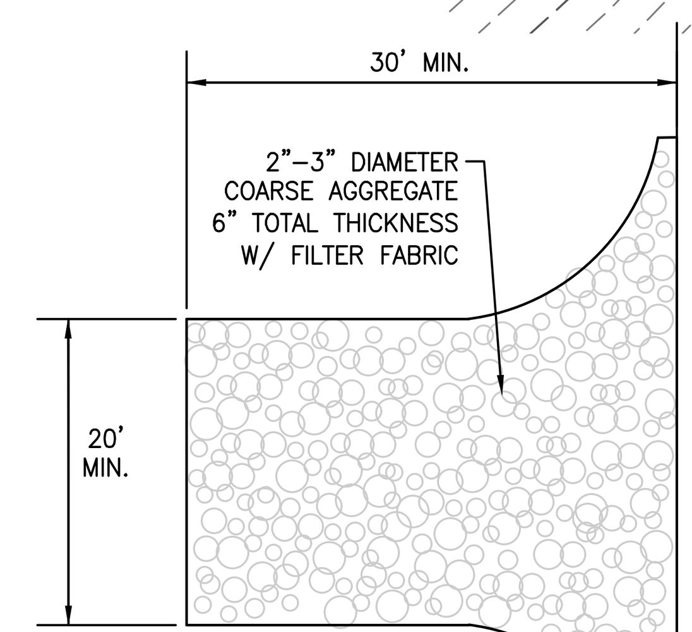
N.T.S.



NOTES
1. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET.
2. STOCKPILE SLOPES MUST BE 3:1 OR FLATTER.

STOCKPILE DETAIL

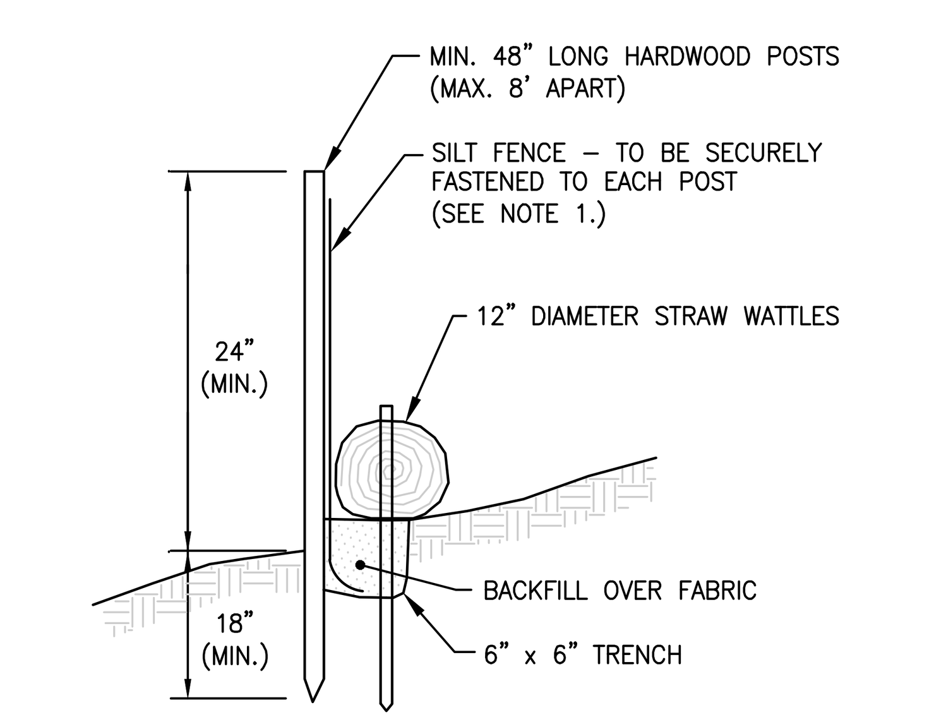
N.T.S.



NOTE:
GRAVEL PAD IS REQUIRED TO PROVIDE BUFFER AREA WHERE VEHICLES CAN DROP MUD AND SEDIMENT TO AVOID TRANSPORTING IT ONTO PAVED ROADS, TO CONTROL EROSION FROM SURFACE RUNOFF AND TO HELP CONTROL DUST.

STONE CONSTRUCTION ENTRANCE

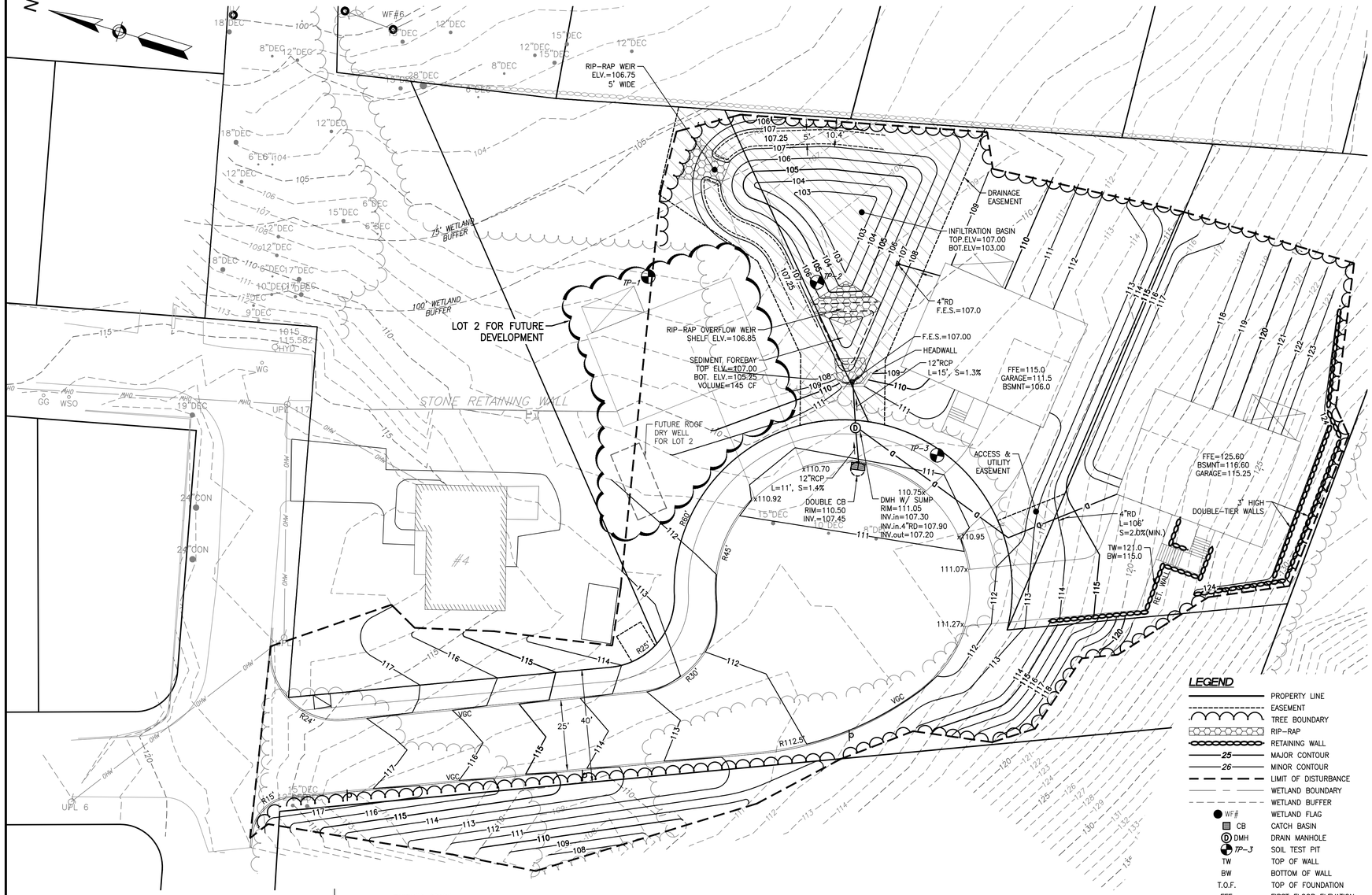
N.T.S.



NOTES:
1. WATTLES SHALL BE STAKED A MINIMUM OF 24 INCHES INTO THE GROUND WITH 2 INCHES OR LESS OF STAKE EXPOSED ABOVE WATTLE. STAKE SHALL BE A MAXIMUM OF 4 FEET APART AND WITHIN 2 FEET OF END OF WATTLE SECTIONS.

SILT FENCE/ STRAW WATTLE BARRIER

N.T.S.



GRADING AND DRAINAGE NOTES

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE TO THE TOWN'S LATEST CONSTRUCTION SPECIFICATIONS AND DETAILS.
2. GRADING IN THE RIGHT-OF-WAY SHALL IN ACCORDANCE WITH LOCAL REGULATIONS, UNLESS OTHERWISE APPROVED BY THE TOWN.
3. THE CONTRACTOR SHALL NOTIFY DIG SAFE AND THE TOWN A MINIMUM OF 72 HOURS PRIOR TO THE START OF ANY EXCAVATIONS.
4. INSTALL ALL APPROPRIATE TREE PROTECTION MEASURES PRIOR TO GRADING AND EXCAVTION.
5. EXACT LOCATIONS OF SAW-CUTTING MAY BE FIELD DETERMINED BASED ON EXISTING PAVEMENT CONDITIONS.
6. THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, REFERENCE POINTS AND STAKES.
7. EROSION CONTROL MEASURES SHALL BE STABILIZED IN PLACE BEFORE BEGINNING SITE WORK. THESE MEASURES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
8. ALL INDICATED ELEVATIONS ARE FINISHED ELEVATIONS.
9. LOCATE AND PROTECT ALL UTILITIES ASSOCIATED WITH THE PROJECT PRIOR TO CONSTRUCTION.
10. ALL EXCAVATION SHALL INCLUDE CLEARING, STRIPPING AND STOCKPILING TOPSOIL, REMOVING UNSUITABLE MATERIALS, THE CONSTRUCTION OF EMBANKMENTS, CONSTRUCTION FILLS, AND THE FINAL SHAPING AND TRIMMING TO THE LINES AND GRADES SHOWN ON THE PLANS.
11. ALL TREES, BRUSH, AND ORGANIC TOPSOIL AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED, UNLESS OTHERWISE SPECIFIED, AND DISPOSED OF AT AN OFF-SITE LOCATION, WITH THE EXCEPTION THAT ENOUGH TOPSOIL SHALL BE RETAINED FOR RE-SPREAD AND GENERAL LANDSCAPING. AREAS WHICH ARE TO BE FILLED SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D1557, METHOD C) COMPACTION TEST IN THE PAVED AREAS AND 90% IN THE OTHER AREAS.
12. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE TO ALL INLETS AND CATCH BASINS. AREAS OF SURFACE PONDING SHALL BE CORRECTED BY CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
13. IF AREAS ARE DISTURBED BEYOND PROPOSED GRADES BY NEGLIGENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY REGRADING OR REPAIR TO MATCH ORIGINAL EXISTING CONDITIONS.
14. SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. SHORING SHALL BE IN ACCORDANCE WITH ALL O.S.H.A AND LOCAL REGULATIONS.
15. CONTRACTOR SHALL ADJUST GRADES BY VARYING THE PAVEMENT SECTIONS ACCORDINGLY. EXISTING COMPACTED SUBGRADE TO BE DISTURBED AS LITTLE AS POSSIBLE.
16. ALL PROPOSED SPOT ELEVATIONS SHOWN INDICATE FINISHED GRADED ELEVATIONS AT EDGE OF PAVEMENT AND/OR GRADE BREAKS, UNLESS OTHERWISE NOTED.
17. MAINTAIN PROPER SITE DRAINAGE AT ALL TIMES DURING THE COURSE OF CONSTRUCTION, AND PREVENT STORM WATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS.
18. SPREAD AND COMPACT UNIFORMLY TO THE DEGREE SPECIFIED ALL EXCESS TRENCH SPOIL AFTER COMPLETION OF THE UNDERGROUND IMPROVEMENTS (EARTHWORK CONTRACTOR SHALL MAKE APPROPRIATE ADJUSTMENTS IN ROUGH GRADING TO ACCOMMODATE TRENCH SPOIL).
19. PROVIDE WATER TO ADD TO DRY MATERIAL IN ORDER TO ADJUST THE MOISTURE CONTENT FOR THE PURPOSE OF ACHIEVING THE SPECIFIED COMPACTION.
20. UNSUITABLE MATERIAL SHALL BE CONSIDERED AS MATERIAL WHICH IS NOT SUITABLE FOR THE SUPPORT OF PAVEMENT AND BUILDING CONSTRUCTION, AND IS ENCOUNTERED BELOW NORMAL TOPSOIL DEPTHS AND THE PROPOSED SUB-GRADE ELEVATION. THE DECISION TO REMOVE SAID MATERIAL, AND TO WHAT EXTENT, SHALL BE MADE BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.
21. REPAIR ANY BASE COURSE AND BINDER COURSE FAILURES PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE.
22. SWEEP CLEAN THE BINDER COURSE PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE. EXCESSIVE CLEANING OF THE BINDER COURSE THAT MAY BE REQUIRED, AND IS NOT THE FAULT OF THE PAVING CONTRACTOR, SHALL BE PAID FOR ON A TIME AND MATERIAL BASIS BY PRIOR AGREEMENT WITH THE GENERAL CONTRACTOR.
23. CONFIRM INVERTS OF ALL EXISTING STORM INLETS AND SANITARY SEWER MANHOLES BEFORE COMMENCING CONSTRUCTION.
24. A GEOTEXTILE MATTING (LANDLOCK TRM 450 OR EQUIVALENT) SHALL BE USED FOR EROSION CONTROL AN ALL SLOPES GREATER THAN 3H:1V IF NECESSARY.
25. DRAINAGE STRUCTURES AND UNDERGROUND INFILTRATION FACILITIES SHALL BE INSPECTED SEMIANNUALLY TO ENSURE PROPER WORKING ORDER.
26. UNSUITABLE EXISTING SOILS, SILT, AND DEBRIS SHALL BE ADEQUATELY REMOVED FROM THE AREA OF THE PROPOSED INFILTRATION BASIN. REMOVE ALL ORGANICS.
27. IF THE CONTRACTOR IN THE COURSE OF WORK FINDS ANY DISCREPANCIES BETWEEN THE PLANS AND THE PHYSICAL CONDITIONS OF THE LOCALITY, OR ANY ERRORS OR OMISSIONS IN THE PLANS OR IN THE LAYOUT AS GIVEN BY THE ENGINEER, IT SHALL BE HIS DUTY TO IMMEDIATELY INFORM THE ENGINEER, IN WRITING AND THE ENGINEER WILL PROMPTLY VERIFY THE SAME. ANY WORK DONE AFTER SUCH A DISCOVERY, UNTIL AUTHORIZED, WILL BE AT THE CONTRACTOR'S RISK.
28. ANNUAL O&M REPORTS SHALL BE DELIVERED TO THE OFFICE OF THE TOWN ENGINEER BY JANUARY 15 OF EACH YEAR.
29. ANY RETAINING WALL OVER FOUR (4) FEET IN RETAINED HEIGHT SHALL REQUIRE AN ENGINEERED DESIGN FROM A DESIGN PROFESSIONAL.

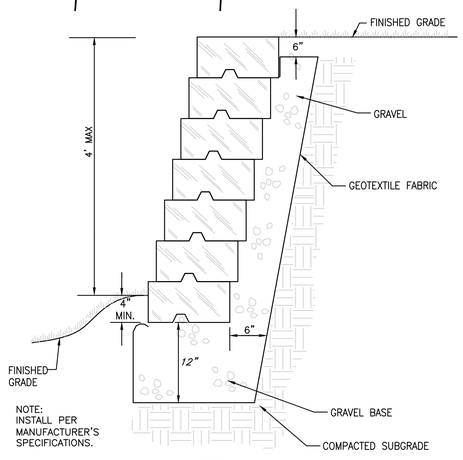
LEGEND

- PROPERTY LINE
- EASEMENT
- TREE BOUNDARY
- RIP-RAP
- RETAINING WALL
- 25 MAJOR CONTOUR
- 26 MINOR CONTOUR
- LIMIT OF DISTURBANCE
- WETLAND BOUNDARY
- WETLAND BUFFER
- WF# WETLAND FLAG
- CB CATCH BASIN
- DMH DRAIN MANHOLE
- TP-3 SOIL TEST PIT
- TW TOP OF WALL
- BW BOTTOM OF WALL
- T.O.F. TOP OF FOUNDATION
- FFE FIRST FLOOR ELEVATION
- RIM RIM ELEVATION
- INV INVERT ELEVATION
- O.O.S. OVERFLOW OUTLET STRUCTURE
- F.E.S. FLARED END SECTION

GRADING AND DRAINAGE PLAN

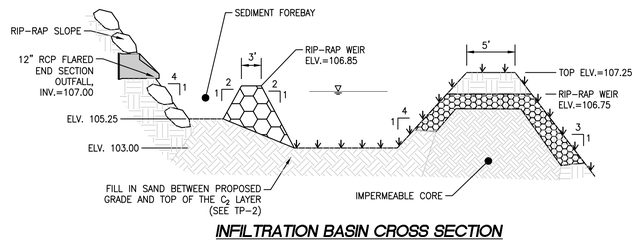
SCALE: 1" = 20'

SCALE
1 inch = 20 ft.



4ft MAX HIGH RETAINING WALL

N.T.S.



INFILTRATION BASIN CROSS SECTION

N.T.S.

SOIL TEST RESULTS

TEST DATE: 7/6/2020
WEATHER: 65°F, SUNNY/ DRY
SOIL EVALUATOR: ARMAND PORRAZZO
LICENCE #: 1958

TP-1

ELV.	DPT.	Soil Data
106	0"-	
105	9"-	A_p (0"-9") Sandy Loam 10YR 3/2
104		
103	24"-	B (9"-24") Sandy Loam 10YR 7/6
102		
101		
100		C (24"-108") Loamy Sand 2.5Y 4/3
99		
98		
97	108"-	
96		

NO REFUSAL
NO WEEPING
REDOX @ 60"
ESHWT = 101.0

TP-2

ELV.	DPT.	Soil Data
108	0"	
107	12"-	A (0"-12") Sandy Loam 10YR 3/2
106		
105	36"-	B_w (12"-36") Sandy Loam 10YR 7/6
104		
103		C_1 (36"-80") Loamy Sand 2.5Y 5/2
102		
101	80"-	
100		C_2 (80"-120") Sand Gravel 2.5Y 4/3
99		
98	120"-	

NO REFUSAL
NO WEEPING
NO REDOX

TP-3

ELV.	DPT.	Soil Data
112	0"-	
111	8"-	A (0"-8") Sandy Loam 10YR 3/2
110		
109	27"-	B_w (8"-27") Sandy Loam 10YR 7/6
108		
107		C (27"-66") Loamy Sand 2.5Y 5/2
106	66"-	
105		
104		
103		

NO REFUSAL
NO WEEPING
NO REDOX

CALL BEFORE YOU DIG
1-888-344-7233
MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY
REVISION 1	6/20/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867
PARCEL ID:
MAP 27, LOT 404

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

APRIL 20, 2023

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER
6/20/23
G.F. 6/20/23

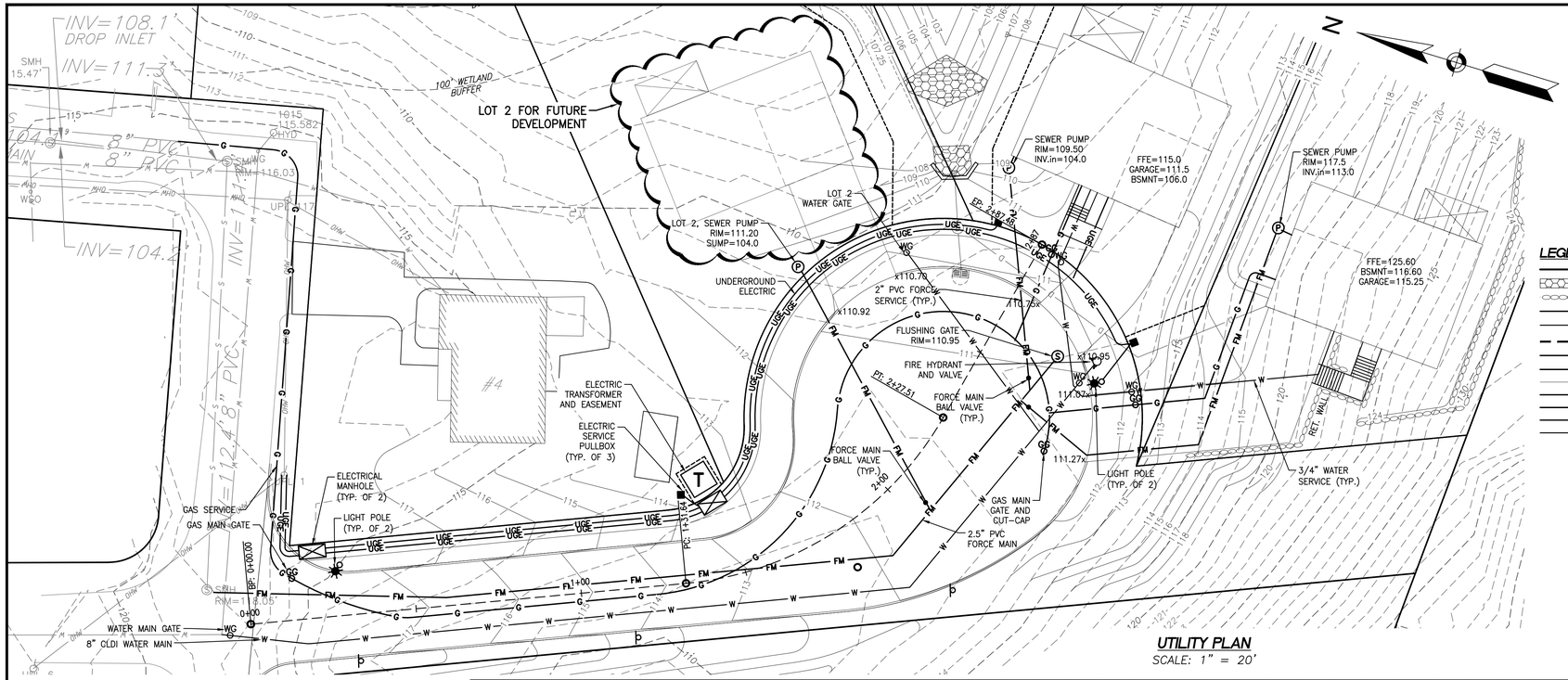
SURVEYOR:
PFS Land Surveying, Inc.
20 Baleh Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
GRADING AND DRAINAGE PLAN

SHEET NUMBER:
C-4

JOB # 20160



UTILITY PLAN
SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- RIP-RAP
- RETAINING WALL
- 125 MAJOR CONTOUR
- 126 MINOR CONTOUR
- LIMIT OF DISTURBANCE
- D STORM DRAIN LINE
- G GAS LINE
- OHW OVERHEAD UTILITY WIRE LINE
- S SANITARY SEWER UTILITY LINE
- FM SEWER FORCE MAIN
- UGE UNDERGROUND ELECTRIC LINE
- W WATER UTILITY LINE
- CB CATCH BASIN
- DMH DRAIN MANHOLE
- SEWER PUMP
- SEWER FLUSHING GATE
- FORCE MAIN BALL VALVE
- GAS VALVE
- WATER VALVE
- FIRE HYDRANT
- RIM RIM ELEVATION
- INV INVERT ELEVATION
- STREET LIGHT
- T ELECTRIC TRANSFORMER & EASEMENT
- ELECTRIC SERVICE PULLBOX
- ELECTRIC MANHOLE

SEWAGE CALCULATIONS

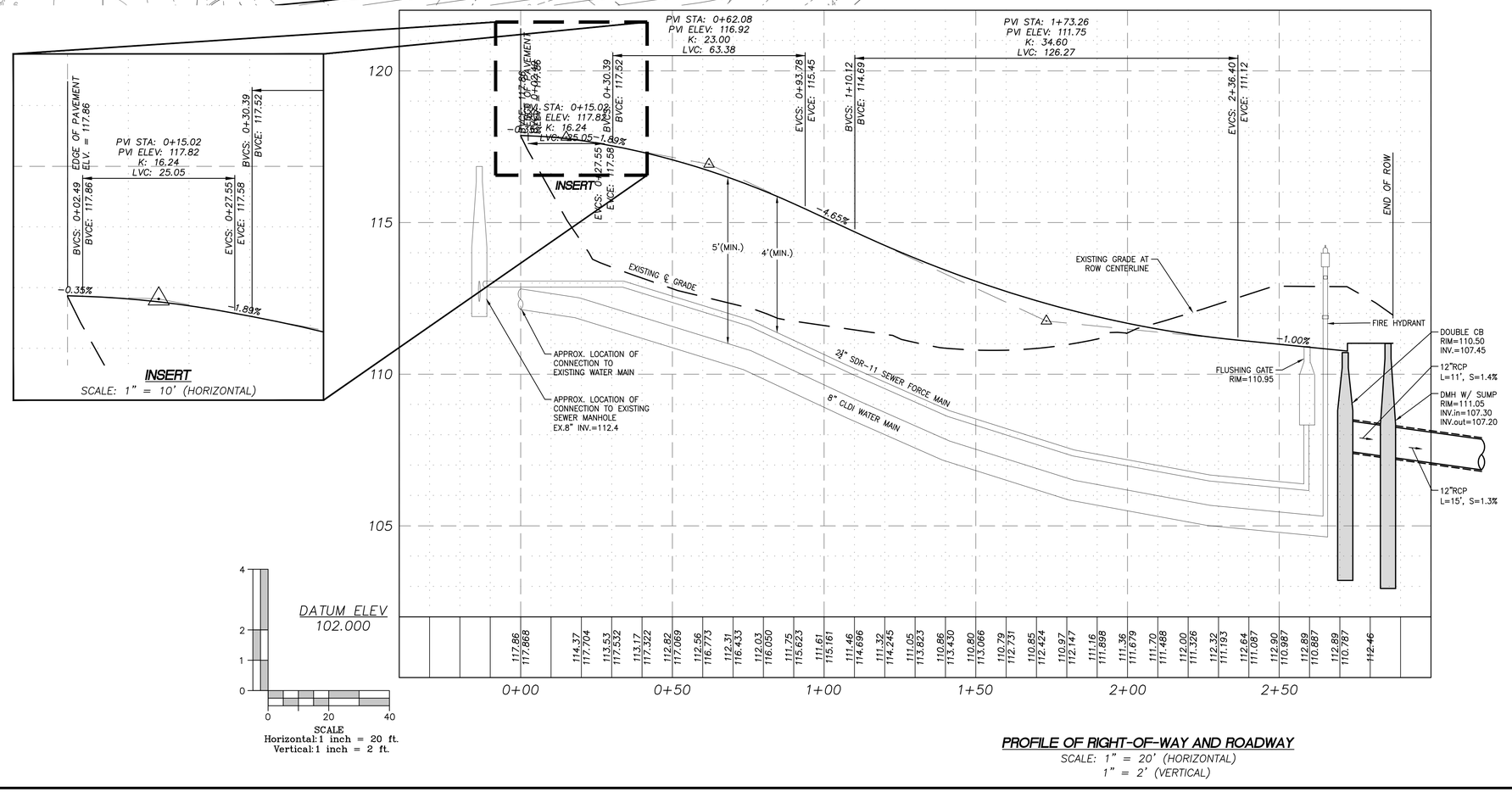
ASSUMPTIONS MADE FOR EACH PROPOSED HOUSE TO CONTAIN FOUR (4) BEDROOMS. CALCULATIONS BELOW ARE IN ACCORDANCE TO 310 CMR 15.00.

3 NEW HOUSES * 4 BEDROOMS PER HOUSE = 12 BEDROOMS ADDED

12 BEDROOMS * 110 GAL/DAY = 1,320 GAL/DAY OF ADDED SEWAGE

UTILITY NOTES

1. CONTRACTOR IS TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND ENSURE NO CONFLICTS EXIST WITH PROPOSED IMPROVEMENTS. NOTIFY ENGINEER IMMEDIATELY IF UTILITIES ARE LOCATED DIFFERENTLY THAN SHOWN. THE CONTRACTOR SHALL COORDINATE WITH EACH RESPECTIVE UTILITY COMPANY IN ORDER TO RELOCATE IF NEEDED IN CONFORMANCE WITH THEIR GUIDELINES.
2. CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO THE REMOVAL OF INDICATED UTILITIES ON SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS REQUIRED FOR DEMOLITION AND HAUL OFF FROM THE APPROPRIATE AUTHORITIES.
3. THE DEPARTMENT OF PUBLIC WORKS OR APPLICABLE GOVERNING DEPARTMENT MUST AUTHORIZE AND PERMIT TO CONSTRUCT, ALTER OR MODIFY A WATER OR SEWER LINE.
4. AT THE COMPLETION OF THE WATER AND/OR SEWER CONSTRUCTION AND PRIOR TO RECORDING THE FINAL PLAT, THE CONTRACTOR WILL FURNISH THE WATER SYSTEM INSPECTOR RECORD DRAWINGS OF THE PROJECT.
5. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE GAS COMPANY FOR THE CONSTRUCTION OF THE GAS LINE BETWEEN METER AND MAIN.
6. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE POWER COMPANY FOR THE CONSTRUCTION OF ELECTRICAL CONDUIT TO PROVIDE SERVICE AND IF A TRANSFORMER IS REQUIRED TO BE INSTALLED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING, PRIOR TO CONSTRUCTION, ALL EXISTING LOCATIONS AND INVERT ELEVATIONS OF SANITARY SEWERS, STORM DRAINAGE, AND WATER MAINS. IF ANY INVERT ELEVATION VARIES MORE THAN 0.1 FT. FROM RECORD ELEVATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. WORK SHALL NOT PROCEED UNTIL THE CONTRACTOR IS NOTIFIED BY THE ENGINEER.
8. CONNECT TO EXISTING UTILITIES AND INSTALL UTILITIES IN COMPLIANCE WITH REQUIREMENTS OF APPROPRIATE JURISDICTIONAL AGENCIES.
9. COORDINATE WITH BUILDING PLANS TO ASSURE ACCURACY OF UTILITY CONNECTIONS AND COMPLIANCE WITH LOCAL CODES.
10. ALL SEWERS TO BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING CLEANING OF ANY SILT OR DEBRIS ACCUMULATED IN STRUCTURES.
11. ALL SURPLUS EXCAVATED MATERIAL FROM THE TRENCH SHALL BE DISPOSED OFF THE SITE BY CONTRACTOR.
12. TRENCHING SHOULD BE CONDUCTED IN ACCORDANCE WITH ALL OSHA REGULATIONS.
13. COORDINATE EXACT TRENCHING, ROUTING, AND POINT OF TERMINATION WITH ALL UTILITY COMPANIES.
14. BACKFILL MATERIAL SHALL BE SUITABLE MATERIAL IN COMPLIANCE WITH THE TOWN OF DANVERS AND/OR THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT).
15. WATER MAIN SHALL HAVE A MINIMUM COVER OF FIVE (5) FEET.
16. THE SANITARY SEWER AND POTABLE WATER LINES ARE TO BE SEPARATED BY AT LEAST 10 FEET HORIZONTALLY, OR THE POTABLE WATER LINE SHALL BE AT LEAST 18 INCHES VERTICALLY ABOVE THE SANITARY SEWER.
17. CONTRACTOR TO RECONFIGURE PROPOSED ELECTRIC/TELEPHONE/CABLE CONDUITS AS NECESSARY TO AVOID CONFLICT WITH TREES/LANDSCAPING.
18. THRUST BLOCKS TO BE PLACED AT ALL BEND LOCATIONS WITHIN THE POTABLE WATER LINES. SEE DETAIL SHEETS.
19. ALL UTILITIES SHALL BE APPROVED MATERIALS AND INSTALLED IN ACCORDANCE WITH THE DEPARTMENT OF PUBLIC WORKS STANDARDS.
20. THE TOWN'S ENGINEERING DIVISION SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION TO MARK OUT TOWN UTILITIES.



INSERT
SCALE: 1" = 10' (HORIZONTAL)

PROFILE OF RIGHT-OF-WAY AND ROADWAY
SCALE: 1" = 20' (HORIZONTAL)
1" = 2' (VERTICAL)

UTILITY AND ROADWAY PROFILE PLAN
SCALE: 1" = 20' (HORIZONTAL)

CALL BEFORE YOU DIG 1-888-344-7233 MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY
REVISION 1	6/20/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867
PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

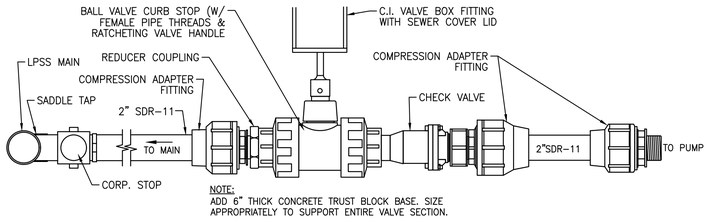
ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS GIOVANNI GAETANO FODERA No. 54884 REGISTERED PROFESSIONAL ENGINEER
6/20/23
JOB # 20160
G.F. 6/6/23

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

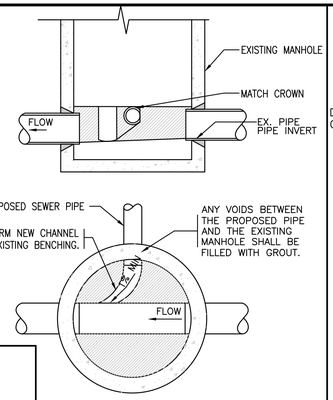
SHEET TITLE:
UTILITY + ROADWAY PROFILE PLAN

SHEET NUMBER:
C-5



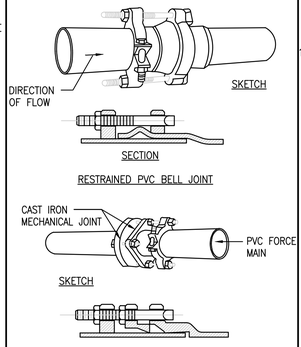
LOW PRESSURE SEWER SERVICE LATERAL VALVE AND CONNECTION

N.T.S.



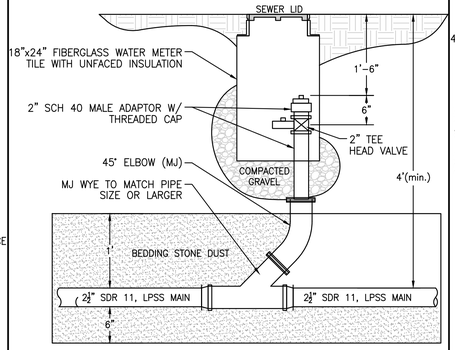
CONNECTION TO EXISTING SEWER MANHOLE

N.T.S.



RESTRAINED MECHANICAL JOINT FITTING

N.T.S.



SEWER FORCE MAIN FLUSHING CONNECTION

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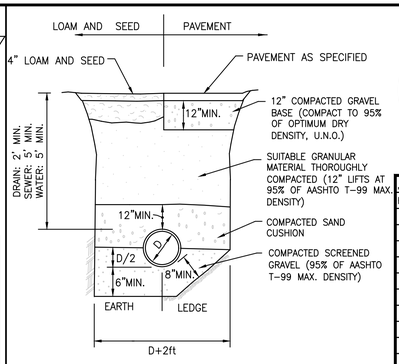
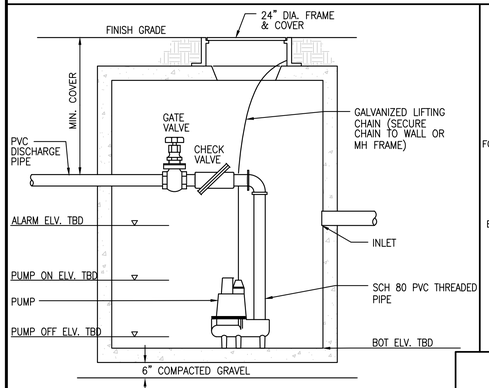


DRAIN/ SEWER/ WATER TRENCH AND BACKFILL DETAIL

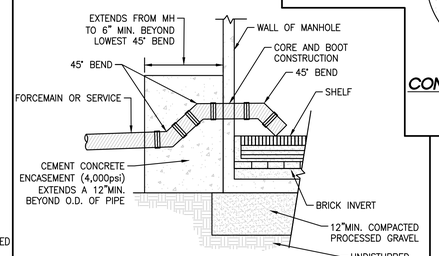
N.T.S.



NOTE:
SEWER PUMP DESIGNS FOR ASSOCIATED LOTS SHALL BE SUBMITTED TO THE ENGINEERING DIVISION FOR REVIEW AND APPROVAL UPON OR BEFORE THE SUBMISSION OF THE APPLICATION FOR THE SEWER PERMIT OF EACH LOT.

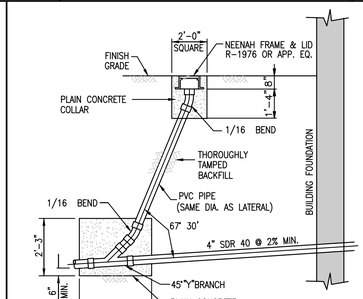
PUMP CHAMBER

N.T.S.



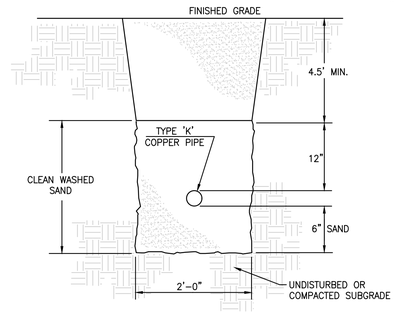
FORCE MAIN CONNECTION TO SEWER MANHOLE

NTS



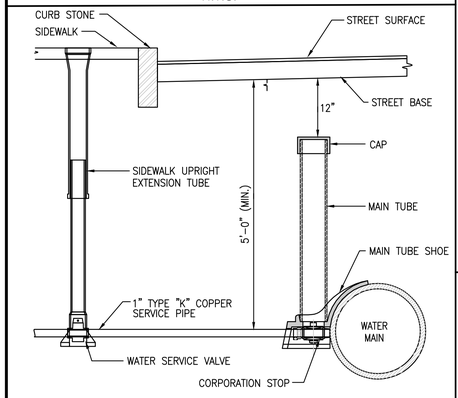
SEWER SERVICE AT BUILDING W/ CLEANOUT

N.T.S.



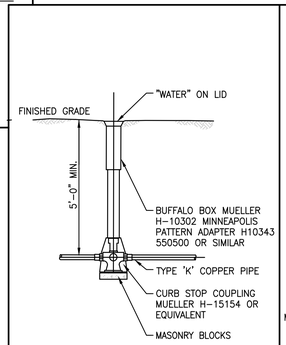
COPPER WATER SERVICE PIPE TRENCH

N.T.S.



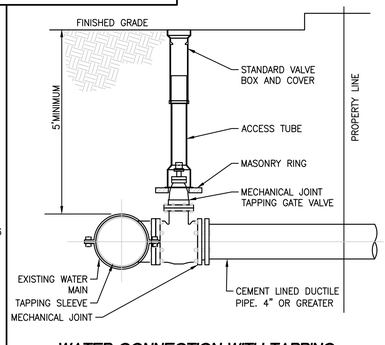
TYPICAL WATER SERVICE CONNECTION

N.T.S.



WATER SERVICE VALVE

N.T.S.



WATER CONNECTION WITH TAPPING SLEEVE AND VALVE

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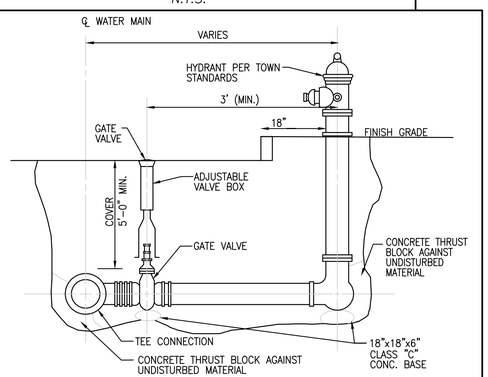
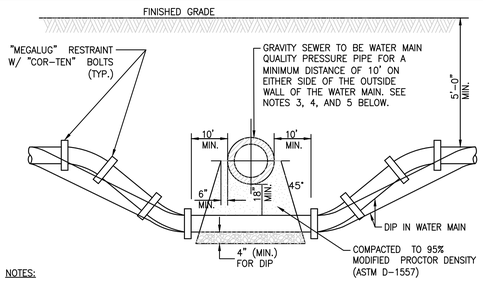


PROPOSED FIRE HYDRANT

N.T.S.

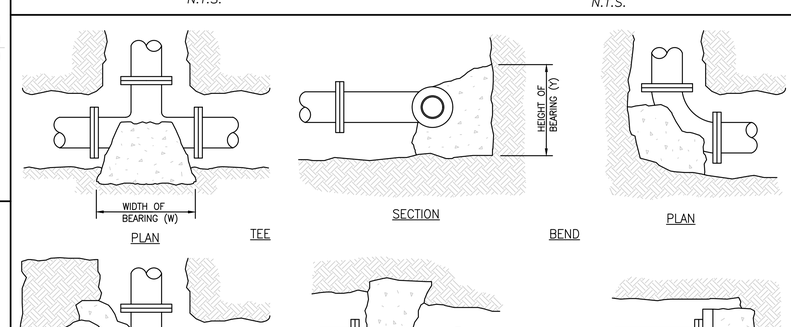


NOTES:

1. HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATERMAINS AND SEWERS SHALL COMPLY WITH APPLICABLE SECTIONS OF LOCAL OR STATE REQUIREMENTS, WHICHEVER IS MORE STRINGENT.
2. CONTRACTOR MAY BEND WATER MAIN PIPE UNIFORMLY UNDER SEWERS WITHOUT USING FITTINGS, PROVIDED THAT JOINT DEFLECTION DOES NOT EXCEED 5 DEGREES PER JOINT FOR PIPE UNDER 14" IN DIAMETER AND 3 DEGREES PER JOINT FOR PIPE 14" AND OVER IN DIAMETER. IF FITTINGS ARE USED, CONTINUOUS STRAPPING WITH RODS, STRAPS, NUTS AND BOLTS BELOW NORMAL WATERMAIN DEPTH ARE REQUIRED, OR RETAINER GLANDS MAY BE USED IN LIEU OF STRAPPING. RETAINER GLANDS TO BE CLOW No. F-1058 OR APPROVED EQUAL.
3. ALL SANITARY SEWER (INCLUDING SERVICE) CROSSINGS WHERE THE WATER MAINS OR WATER SERVICES ARE LESS THAN 18" VERTICALLY ABOVE THE SEWER SHALL BE POLYVINYL CHLORIDE PRESSURE PIPE (SDR 26-160 PSI) AND SHALL CONFORM WITH THE LATEST REVISION OF ASTM D- 2241. JOINTS SHALL CONFORM TO ASTM D-3139 AND ELASTOMERIC GASKETS SHALL CONFORM TO ASTM F-477. THE SAME PIPE AND JOINT MATERIALS SHALL BE USED WHENEVER WATER MAIN CROSSES BELOW THE SEWER.
4. ALL STORM SEWER (INCLUDING SERVICE) CROSSINGS WHERE THE WATER MAINS ARE LESS THAN 18" VERTICALLY ABOVE THE SEWER SHALL BE REINFORCED CONCRETE PIPE, ASTM C-361, CLASS D-25,WITH BELL AND SPIGOT JOINTS AND RUBBER GASKETS, OR PVC SDR 26 AS SPECIFIED IN NOTE 3 ABOVE. THE SAME PIPE AND JOINT MATERIAL SHALL BE USED WHENEVER WATER MAIN CROSSES BELOW THE SEWER.
5. FOR NEW SEWER INSTALLATIONS CROSSING OVER WATER MAINS, THE ENTIRE RUN OF NEW SEWER SHALL BE WATER MAIN QUALITY PIPE, EXTENDING FROM STRUCTURE TO STRUCTURE ON EACH SIDE OF THE CROSSING.

WATER MAIN CROSSING

N.T.S.

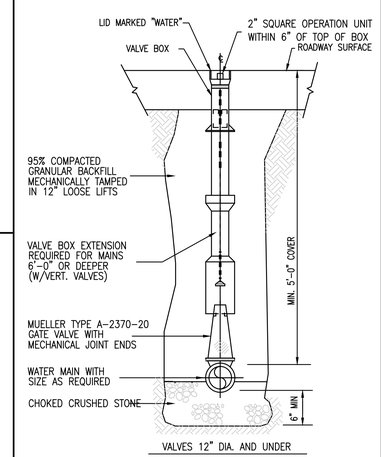


MINIMUM THRUST BLOCK AREA REQUIRED (Y x W)		
PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° & 22½° BENDS
4" OR LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET

NOTES
1. THRUST BLOCKS TO EXTEND TO UNDISTURBED GROUND.
2. ALL CONCRETE SHALL BE CLASS B.
3. TABLE IS BASED ON 3000 LB./SQ. FT. SOIL. IF SOIL CONDITIONS ARE FOUND TO INDICATE SOIL BEARING LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
4. AREAS FOR PIPES GREATER THAN 16" SHALL BE CALCULATED FOR EACH PROJECT.
5. FOR ALL NON BEARING VERTICAL SURFACES.

TRUST BLOCKS FOR WATER SYSTEM

N.T.S.



UNDERGROUND GATE VALVE

N.T.S.

REVISION	DATE	BY
REVISION 1	6/20/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SCALE: N.T.S.

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

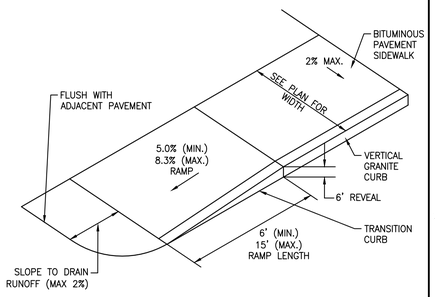
ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

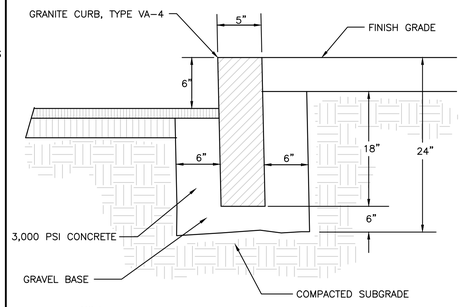
SHEET TITLE:
DETAILS
SHEET 1

SHEET NUMBER:
C-6



ADA ACCESSIBLE SIDEWALK RAMP

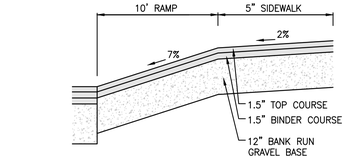
N.T.S.



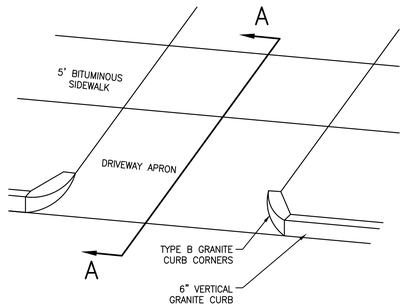
NOTE:
INSTALL GRANITE CURB INLET AT EACH CATCH BASIN LOCATION

VERTICAL GRANITE CURB

N.T.S.

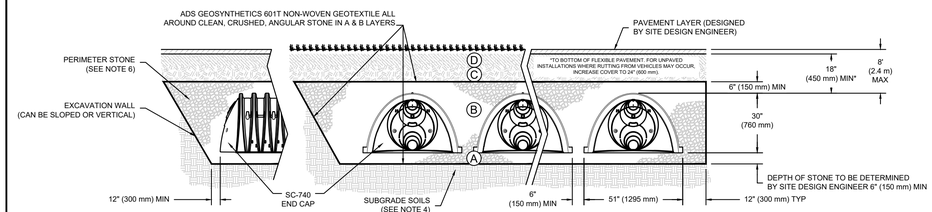


SECTION A-A



TYPICAL DRIVEWAY APRON

N.T.S.

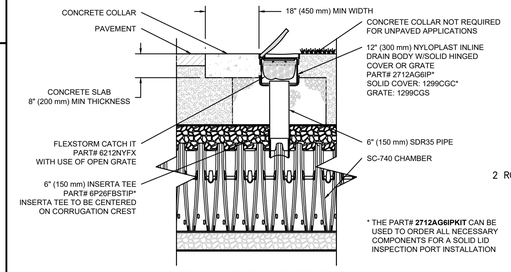


SECTION
NTS

NOTES:

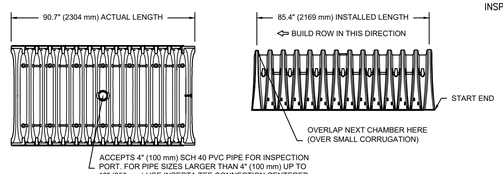
1. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

Ⓐ DOUBLE WASHED $\frac{3}{4}$"–$1\frac{1}{2}$" STONE
Ⓑ DOUBLE WASHED $\frac{3}{4}$"–$1\frac{1}{2}$" STONE
Ⓒ CLEAN GRANULAR FILL MATERIAL
Ⓓ 4"–6" TOPSOIL (LAWN AREA) OR 12" COMPACTED GRAVEL BASE (PAVEMENT AREA)

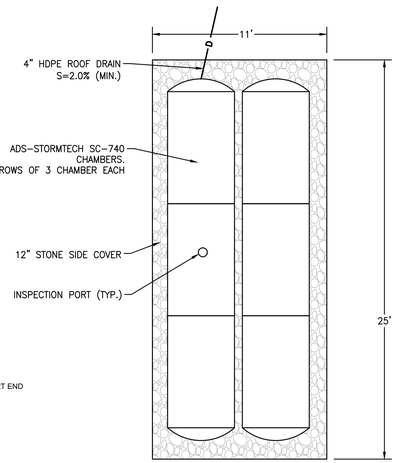


6" PVC INSPECTION PORT DETAIL
NTS

* THE PART# **2712AG6IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION



SC-740 TECHNICAL SPECIFICATION
NTS

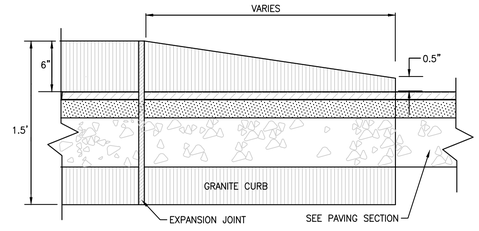


NOTE:
SEE ADDITIONAL DETAILS AND SPECIFICATIONS ON THIS PAGE.

ROOF DRY WELL DETAIL
(FOR FUTURE INSTALL AT LOT 2)

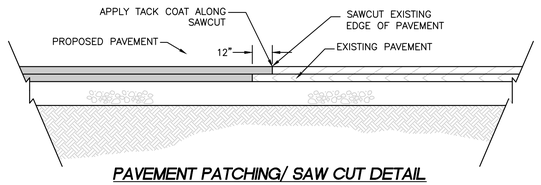
N.T.S.

NOT USED



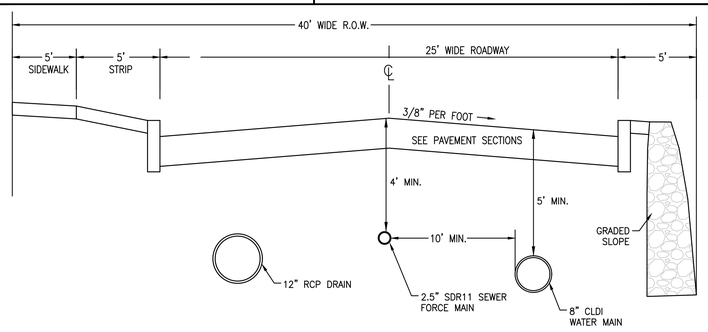
TRANSITION CURB DETAIL

N.T.S.



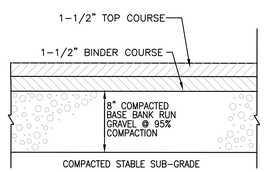
PAVEMENT PATCHING/ SAW CUT DETAIL

N.T.S.

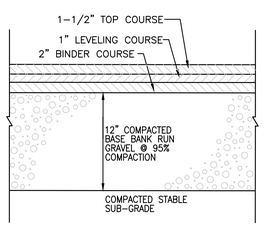


TYPICAL ROADWAY CROSS SECTION

N.T.S.



SIDEWALK SECTION

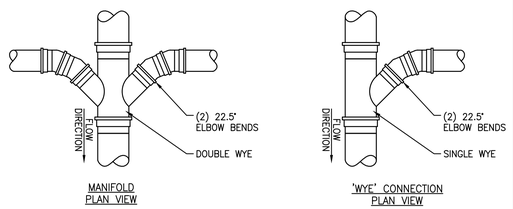


ROADWAY SECTION

NOTE:
COMPACTED FILL SUBSURFACE BACKFILL SHALL MEET SPECIFICATIONS SET FORTH BY THE ENGINEERING DEPARTMENT AND/OR MASSDOT SPECIFICATIONS.

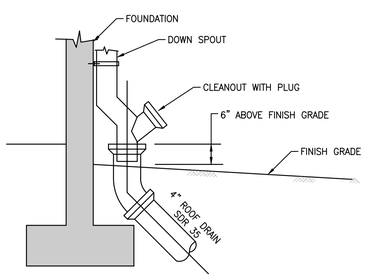
BITUMINOUS PAVEMENT SECTION

N.T.S.



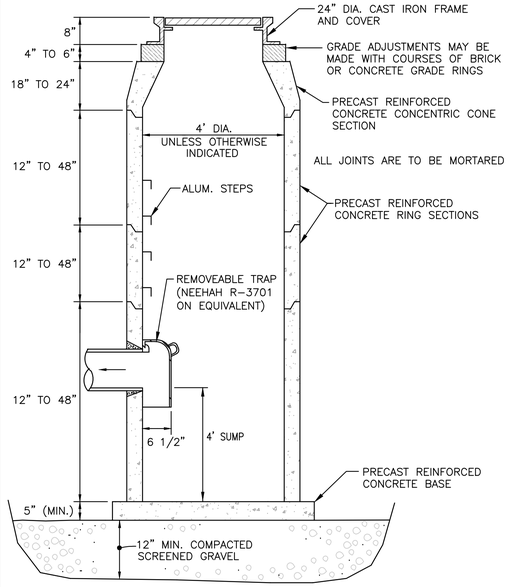
MANIFOLD AND WYE CONNECTIONS

N.T.S.



TYPICAL DOWNSPOUT LEADER

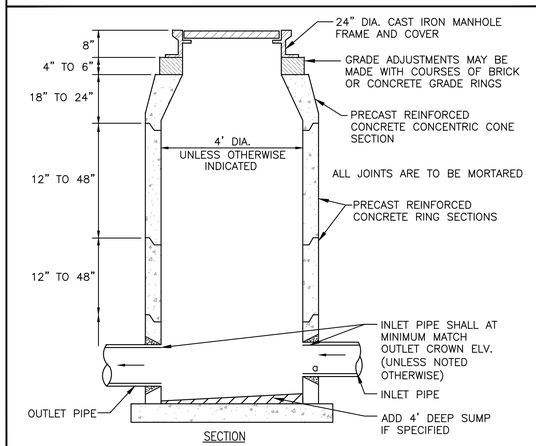
N.T.S.



SECTION

TYPICAL CATCH BASIN

N.T.S.



SECTION

TYPICAL DRAIN MANHOLE

N.T.S.

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION

DATE: _____

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MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY
REVISION 1	6/20/23	GGF

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SCALE: N.T.S.

ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL

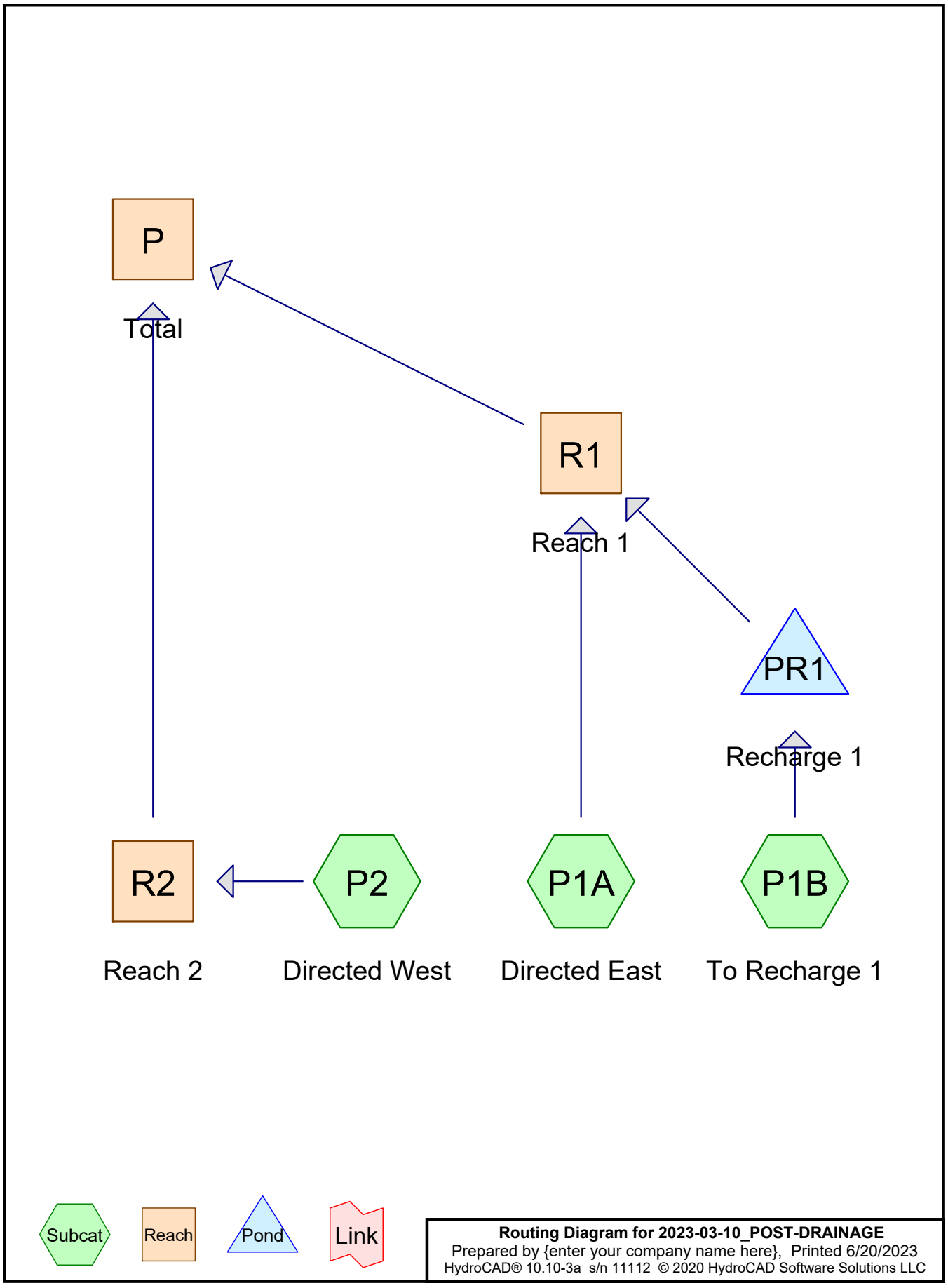
SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54884
JOB # 20160
PROFESSIONAL ENGINEER
6/20/23
G.F. 4/4/23

JOB NO.: 20160-149

SHEET TITLE:
DETAILS
SHEET 2

SHEET NUMBER:
C-7



Routing Diagram for 2023-03-10_POST-DRAINAGE
Prepared by {enter your company name here}, Printed 6/20/2023

Summary for Subcatchment P1A: Directed East

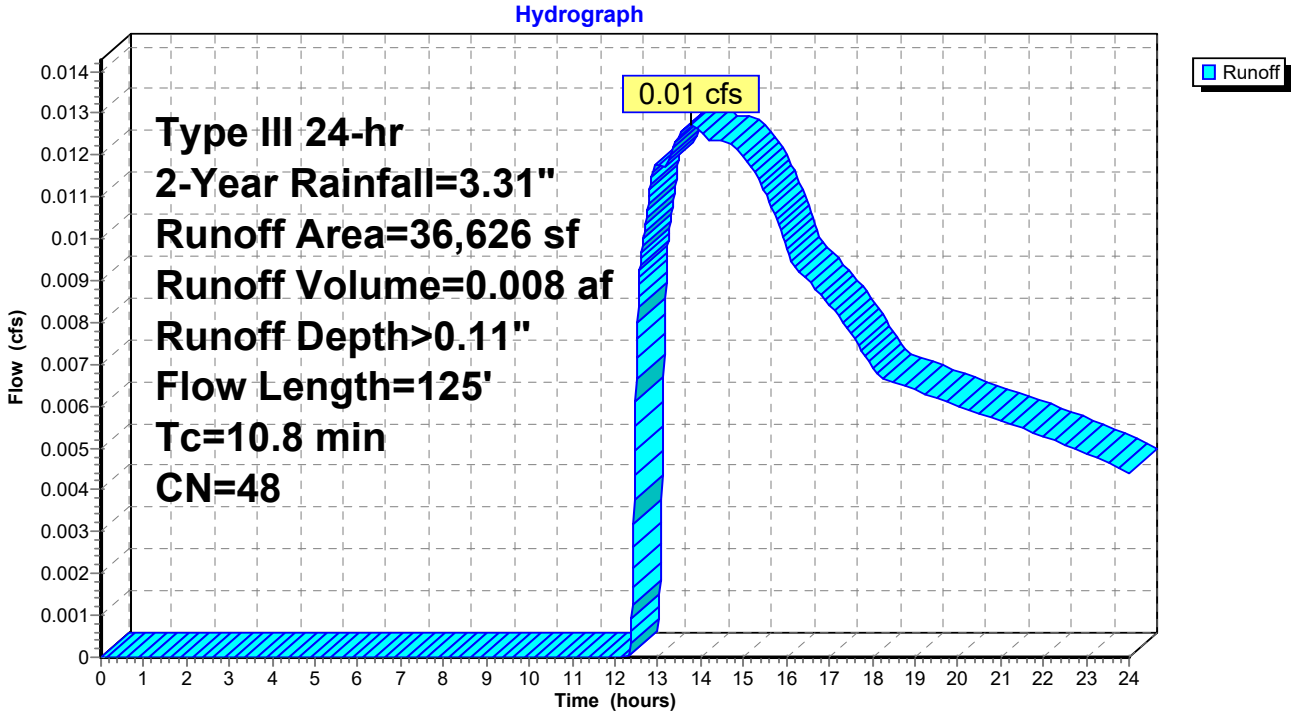
Runoff = 0.01 cfs @ 13.79 hrs, Volume= 0.008 af, Depth> 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.31"

	Area (sf)	CN	Description
*	3,060	98	Impervious
	14,250	39	>75% Grass cover, Good, HSG A
	11,924	30	Woods, Good, HSG A
	4,950	74	>75% Grass cover, Good, HSG C
	109	70	Woods, Good, HSG C
	2,333	80	>75% Grass cover, Good, HSG D
	36,626	48	Weighted Average
	33,566		91.65% Pervious Area
	3,060		8.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Sheet Flow Woods** Woods: Dense underbrush n= 0.800 P2= 3.10"
0.8	75	0.1067	1.63		**Shallow Concentrated Flow, Concentrated Woods** Woodland Kv= 5.0 fps
10.8	125	Total			

Subcatchment P1A: Directed East



Summary for Subcatchment P1B: To Recharge 1

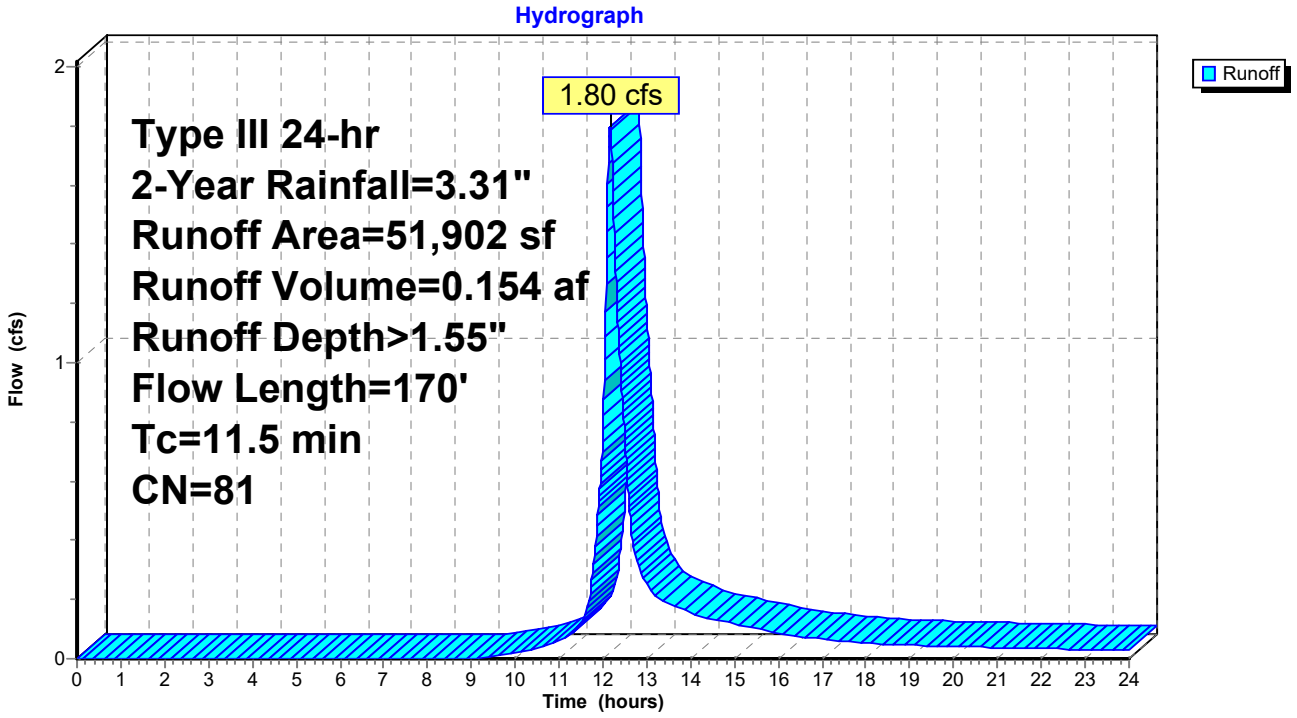
Runoff = 1.80 cfs @ 12.16 hrs, Volume= 0.154 af, Depth> 1.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.31"

	Area (sf)	CN	Description
*	19,628	98	Impervious
	1,448	39	>75% Grass cover, Good, HSG A
	21,790	74	>75% Grass cover, Good, HSG C
	8,739	70	Woods, Good, HSG C
	297	80	>75% Grass cover, Good, HSG D
	51,902	81	Weighted Average
	32,274		62.18% Pervious Area
	19,628		37.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Wood Sheet Flow** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.5	120	0.0750	1.37		**Shallow Concentrated Flow, Woods Concentrated Flow** Woodland Kv= 5.0 fps
11.5	170	Total			

Subcatchment P1B: To Recharge 1



Summary for Subcatchment P2: Directed West

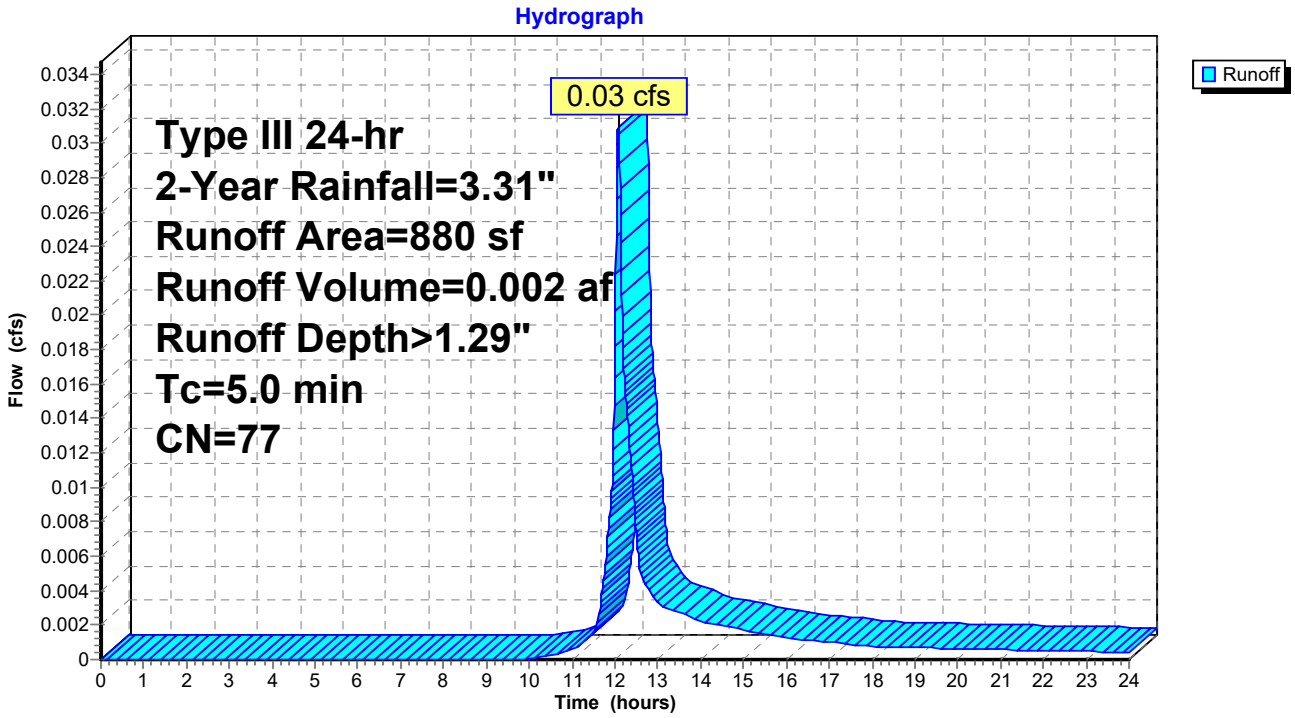
Runoff = 0.03 cfs @ 12.08 hrs, Volume= 0.002 af, Depth> 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.31"

Area (sf)	CN	Description
473	74	>75% Grass cover, Good, HSG C
407	80	>75% Grass cover, Good, HSG D
880	77	Weighted Average
880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P2: Directed West

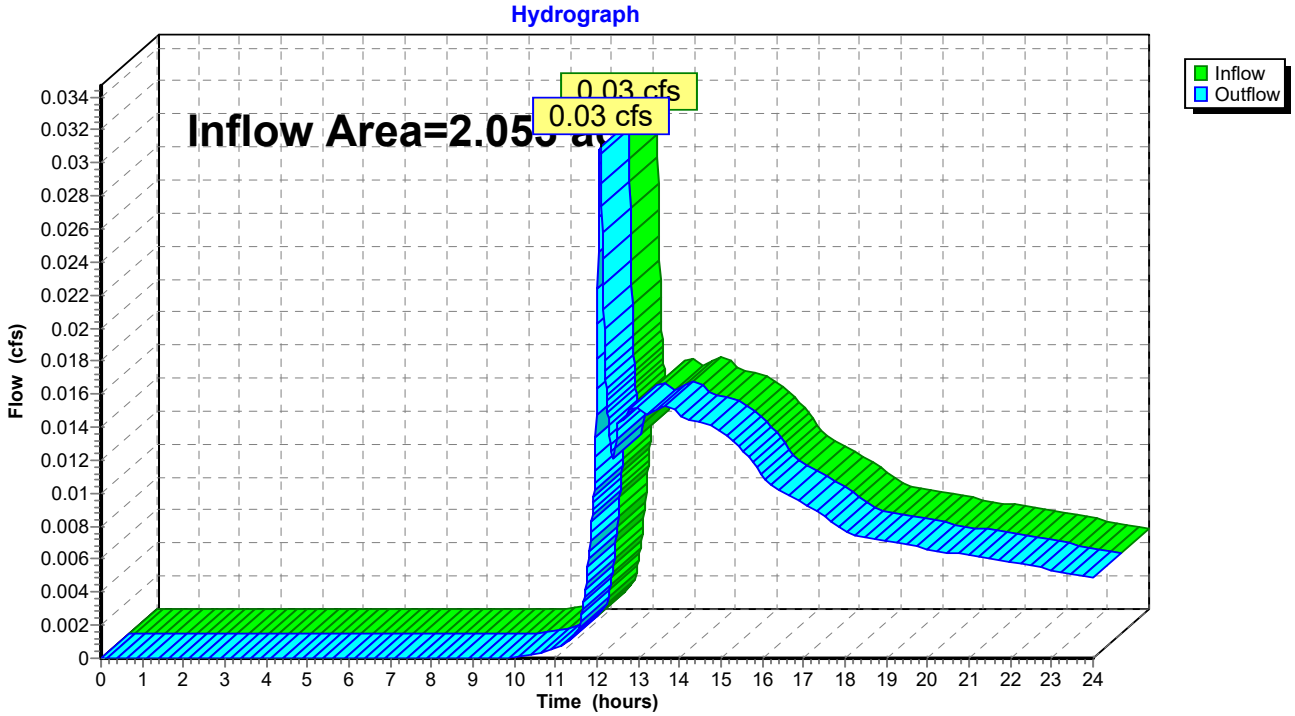


Summary for Reach P: Total

Inflow Area = 2.053 ac, 25.38% Impervious, Inflow Depth > 0.06" for 2-Year event
Inflow = 0.03 cfs @ 12.08 hrs, Volume= 0.010 af
Outflow = 0.03 cfs @ 12.08 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach P: Total

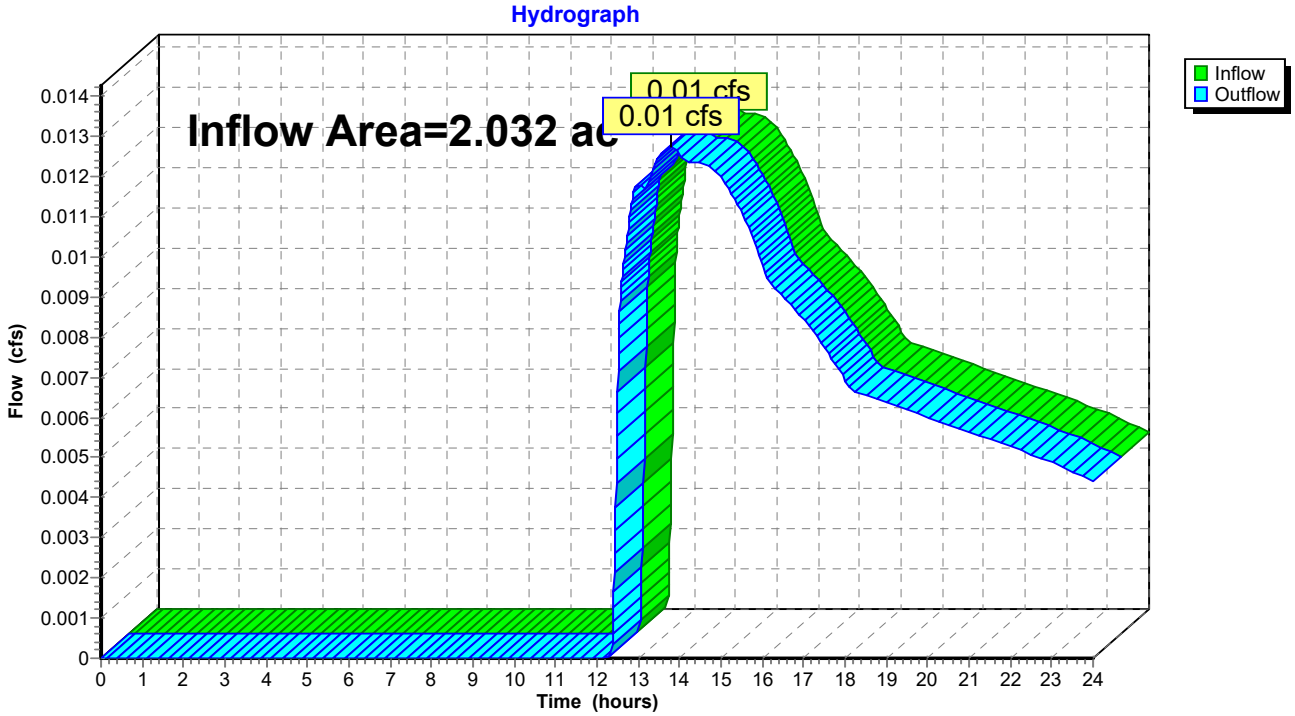


Summary for Reach R1: Reach 1

Inflow Area = 2.032 ac, 25.63% Impervious, Inflow Depth > 0.04" for 2-Year event
Inflow = 0.01 cfs @ 13.79 hrs, Volume= 0.008 af
Outflow = 0.01 cfs @ 13.79 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R1: Reach 1

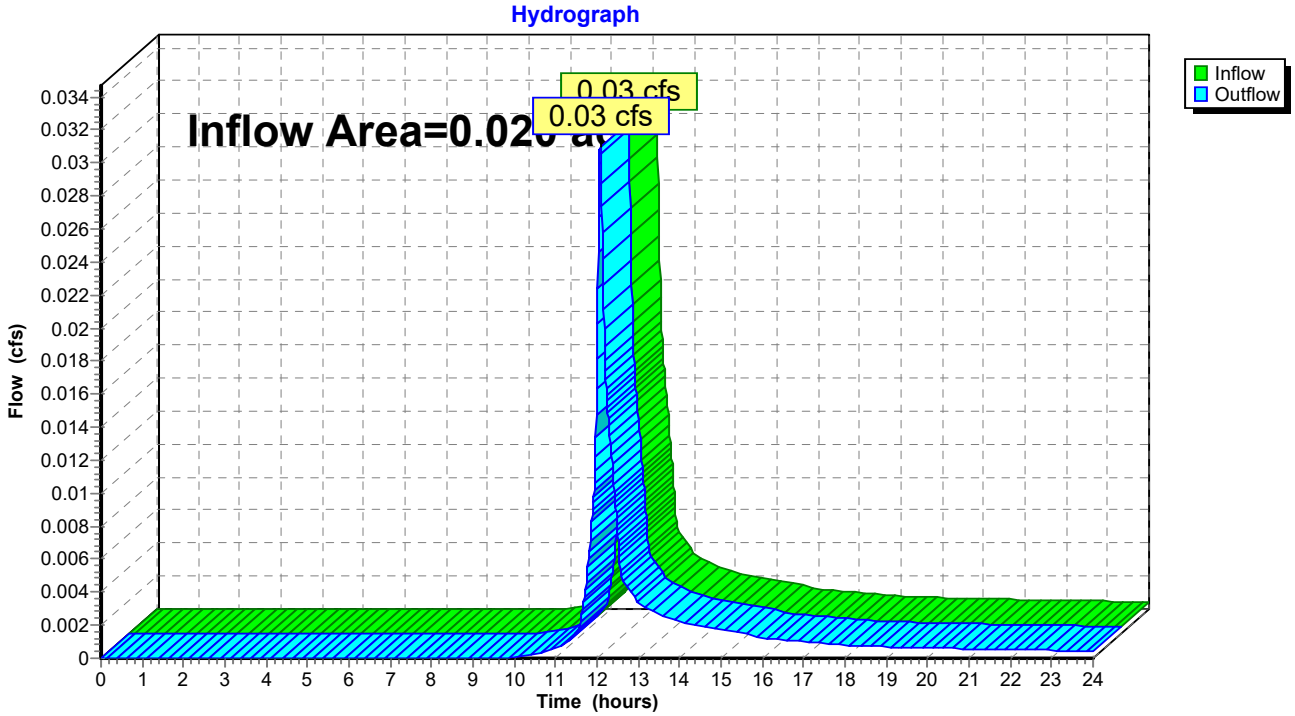


Summary for Reach R2: Reach 2

Inflow Area = 0.020 ac, 0.00% Impervious, Inflow Depth > 1.29" for 2-Year event
Inflow = 0.03 cfs @ 12.08 hrs, Volume= 0.002 af
Outflow = 0.03 cfs @ 12.08 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R2: Reach 2



Summary for Pond PR1: Recharge 1

Inflow Area = 1.192 ac, 37.82% Impervious, Inflow Depth > 1.55" for 2-Year event
Inflow = 1.80 cfs @ 12.16 hrs, Volume= 0.154 af
Outflow = 0.35 cfs @ 12.73 hrs, Volume= 0.154 af, Atten= 81%, Lag= 34.3 min
Discarded = 0.35 cfs @ 12.73 hrs, Volume= 0.154 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 105.33' @ 12.73 hrs Surf.Area= 1,803 sf Storage= 2,383 cf

Plug-Flow detention time= 72.8 min calculated for 0.154 af (100% of inflow)
Center-of-Mass det. time= 72.2 min (913.6 - 841.4)

Volume	Invert	Avail.Storage	Storage Description
#1	103.00'	10,735 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

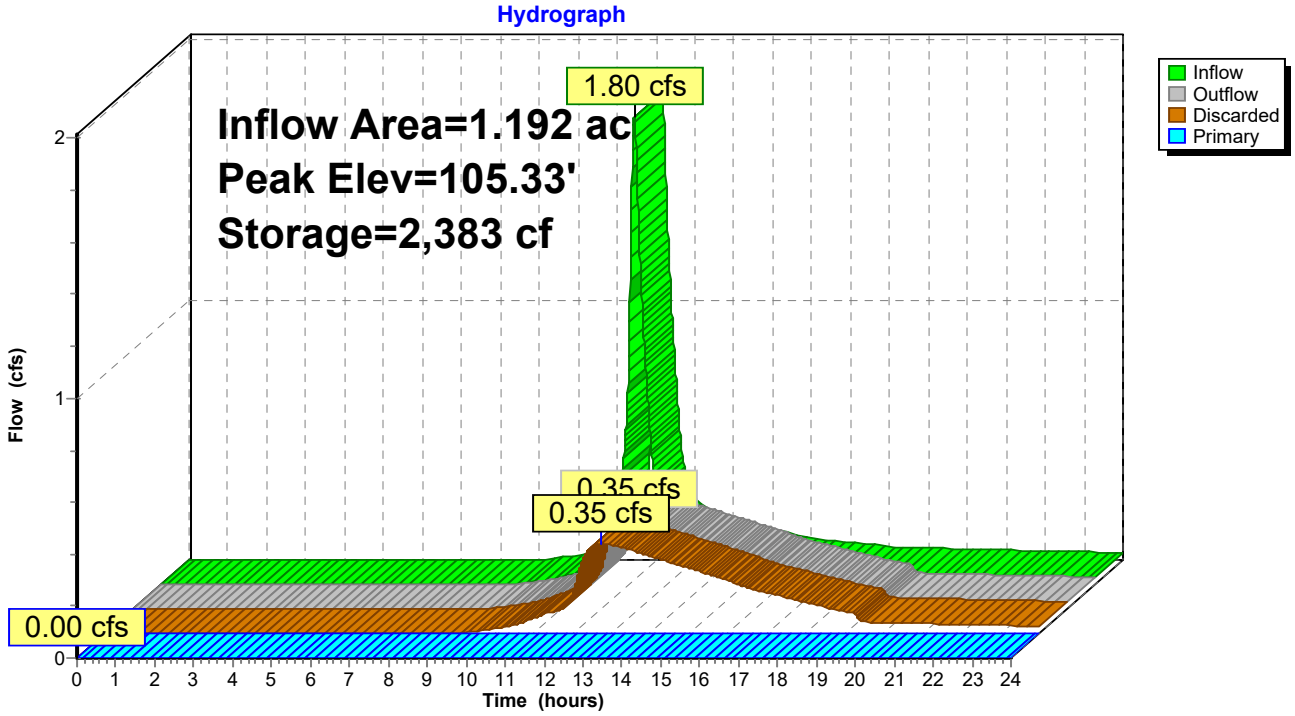
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
103.00	380	0	0
104.00	870	625	625
105.00	1,530	1,200	1,825
106.00	2,345	1,938	3,763
107.00	3,300	2,823	6,585
108.00	5,000	4,150	10,735

Device	Routing	Invert	Outlet Devices
#1	Discarded	103.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	106.75'	**5.0' long (Profile 5) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.79 2.93 3.06

Discarded OutFlow Max=0.35 cfs @ 12.73 hrs HW=105.33' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.35 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=103.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond PR1: Recharge 1



Summary for Subcatchment P1A: Directed East

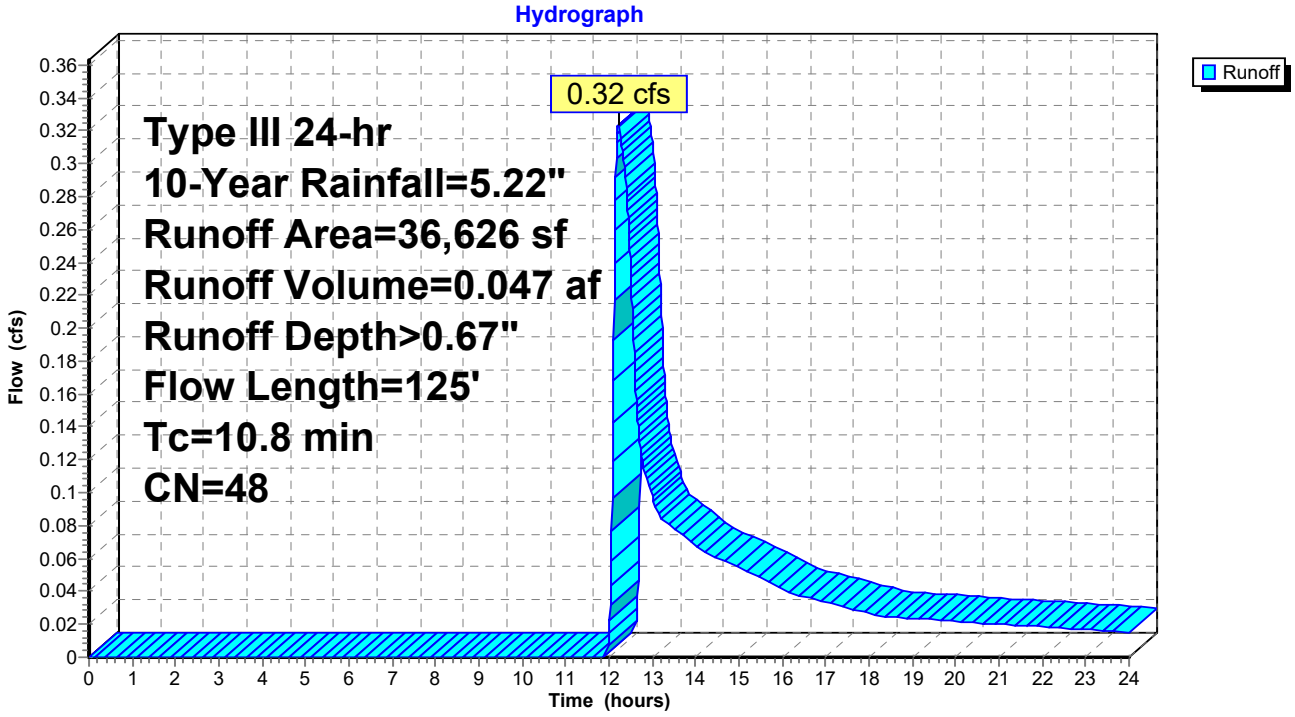
Runoff = 0.32 cfs @ 12.22 hrs, Volume= 0.047 af, Depth> 0.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.22"

	Area (sf)	CN	Description
*	3,060	98	Impervious
	14,250	39	>75% Grass cover, Good, HSG A
	11,924	30	Woods, Good, HSG A
	4,950	74	>75% Grass cover, Good, HSG C
	109	70	Woods, Good, HSG C
	2,333	80	>75% Grass cover, Good, HSG D
	36,626	48	Weighted Average
	33,566		91.65% Pervious Area
	3,060		8.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Sheet Flow Woods** Woods: Dense underbrush n= 0.800 P2= 3.10"
0.8	75	0.1067	1.63		**Shallow Concentrated Flow, Concentrated Woods** Woodland Kv= 5.0 fps
10.8	125	Total			

Subcatchment P1A: Directed East



Summary for Subcatchment P1B: To Recharge 1

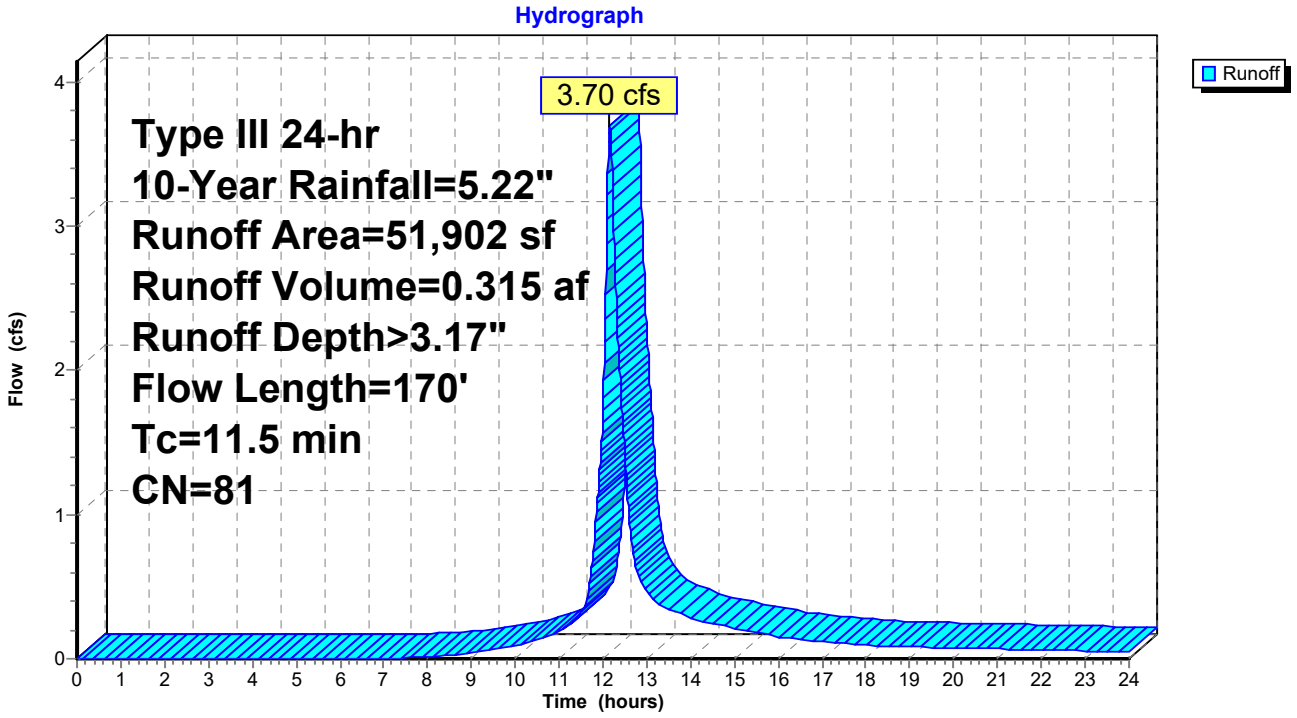
Runoff = 3.70 cfs @ 12.16 hrs, Volume= 0.315 af, Depth> 3.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.22"

	Area (sf)	CN	Description
*	19,628	98	Impervious
	1,448	39	>75% Grass cover, Good, HSG A
	21,790	74	>75% Grass cover, Good, HSG C
	8,739	70	Woods, Good, HSG C
	297	80	>75% Grass cover, Good, HSG D
	51,902	81	Weighted Average
	32,274		62.18% Pervious Area
	19,628		37.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Wood Sheet Flow** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.5	120	0.0750	1.37		**Shallow Concentrated Flow, Woods Concentrated Flow** Woodland Kv= 5.0 fps
11.5	170	Total			

Subcatchment P1B: To Recharge 1



Summary for Subcatchment P2: Directed West

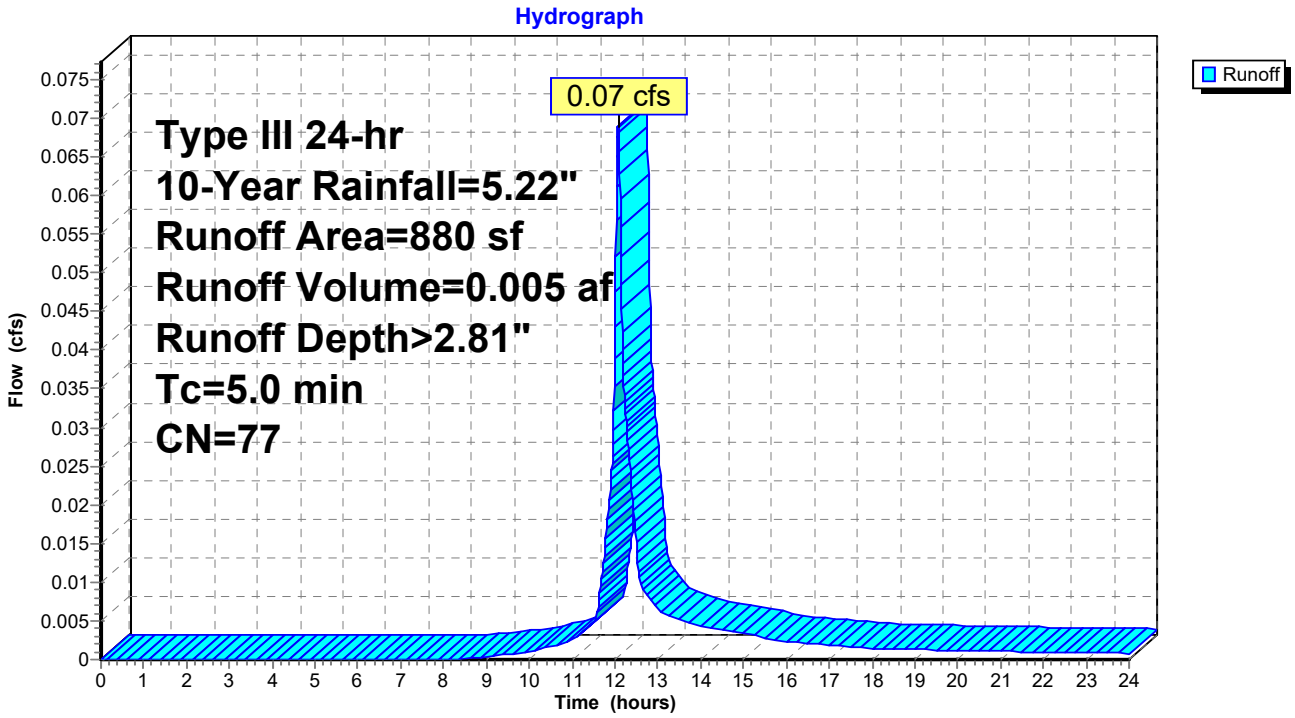
Runoff = 0.07 cfs @ 12.08 hrs, Volume= 0.005 af, Depth> 2.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.22"

Area (sf)	CN	Description
473	74	>75% Grass cover, Good, HSG C
407	80	>75% Grass cover, Good, HSG D
880	77	Weighted Average
880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P2: Directed West

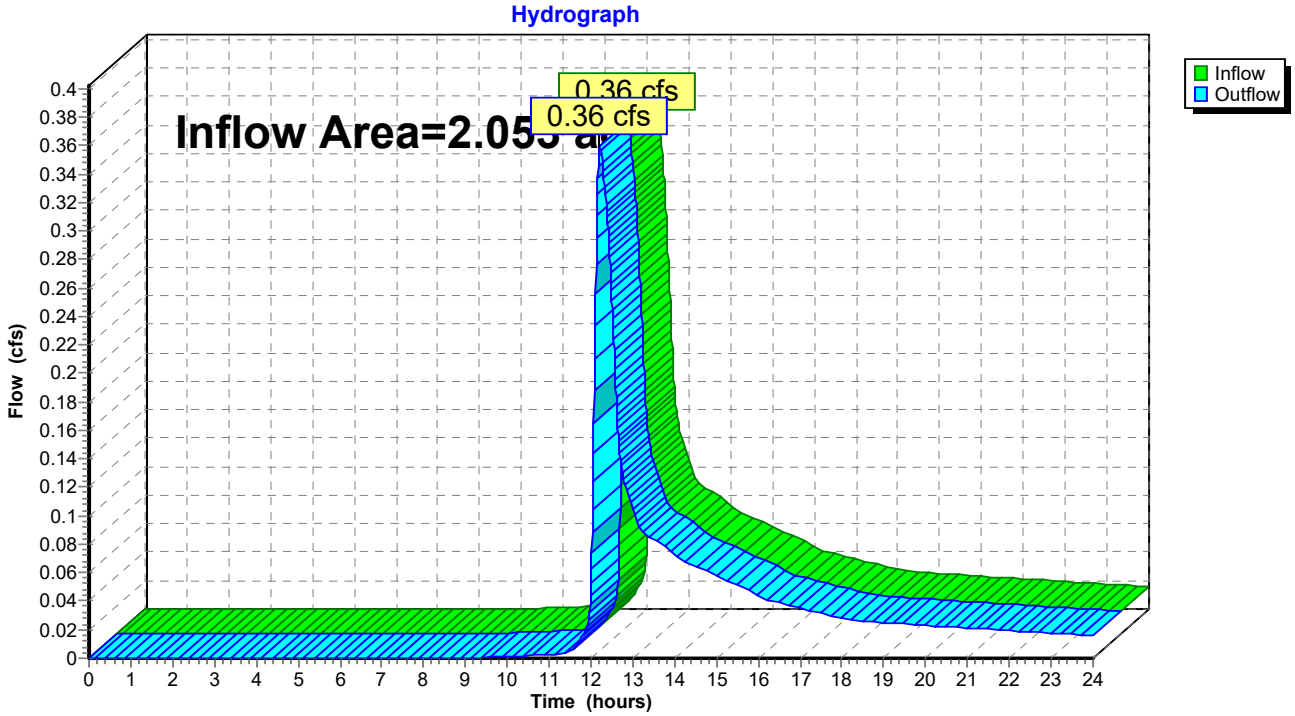


Summary for Reach P: Total

Inflow Area = 2.053 ac, 25.38% Impervious, Inflow Depth > 0.30" for 10-Year event
Inflow = 0.36 cfs @ 12.21 hrs, Volume= 0.052 af
Outflow = 0.36 cfs @ 12.21 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach P: Total

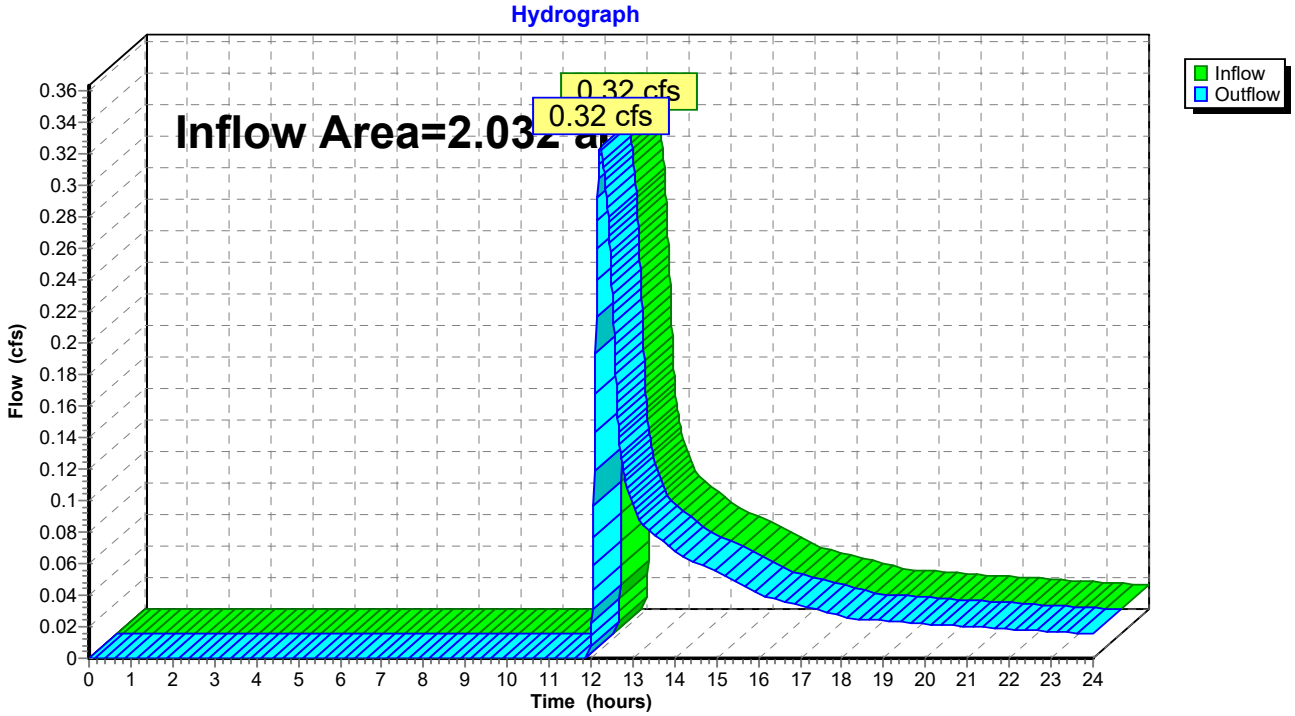


Summary for Reach R1: Reach 1

Inflow Area = 2.032 ac, 25.63% Impervious, Inflow Depth > 0.28" for 10-Year event
Inflow = 0.32 cfs @ 12.22 hrs, Volume= 0.047 af
Outflow = 0.32 cfs @ 12.22 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R1: Reach 1

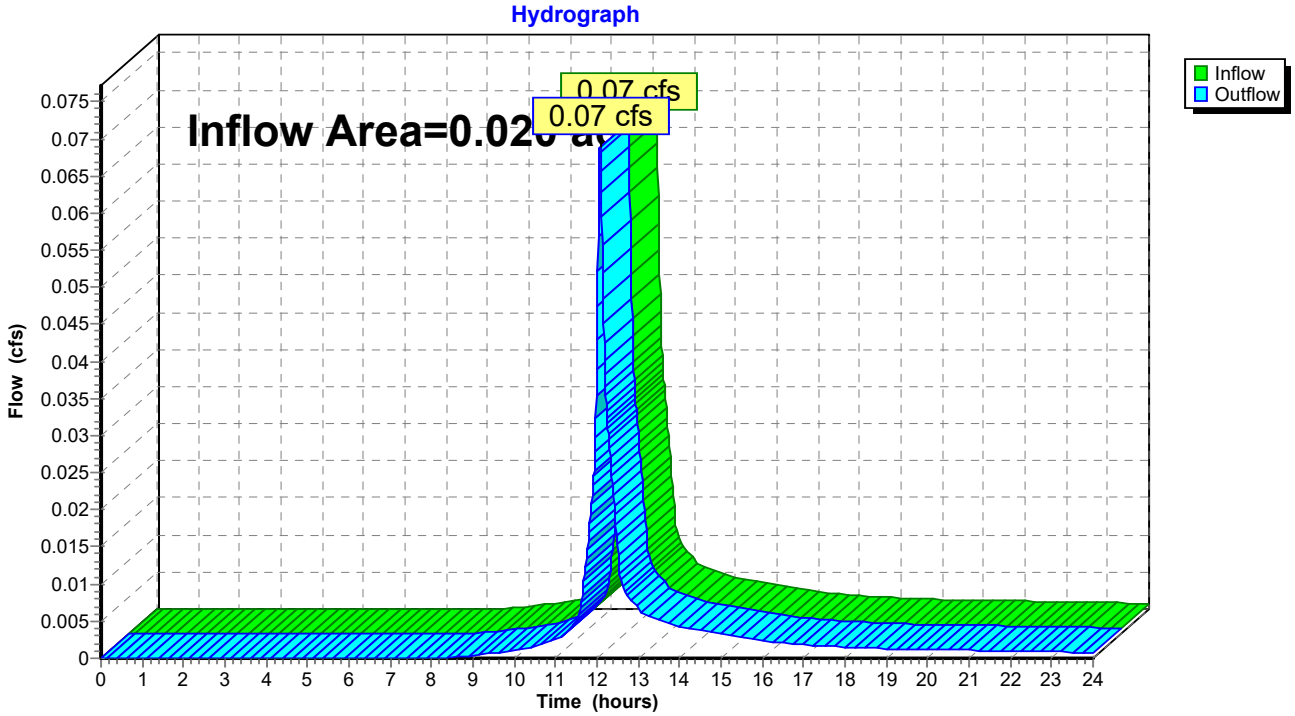


Summary for Reach R2: Reach 2

Inflow Area = 0.020 ac, 0.00% Impervious, Inflow Depth > 2.81" for 10-Year event
Inflow = 0.07 cfs @ 12.08 hrs, Volume= 0.005 af
Outflow = 0.07 cfs @ 12.08 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R2: Reach 2



Summary for Pond PR1: Recharge 1

Inflow Area = 1.192 ac, 37.82% Impervious, Inflow Depth > 3.17" for 10-Year event
Inflow = 3.70 cfs @ 12.16 hrs, Volume= 0.315 af
Outflow = 0.58 cfs @ 12.81 hrs, Volume= 0.315 af, Atten= 84%, Lag= 39.1 min
Discarded = 0.58 cfs @ 12.81 hrs, Volume= 0.315 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 106.69' @ 12.81 hrs Surf.Area= 3,008 sf Storage= 5,621 cf

Plug-Flow detention time= 112.2 min calculated for 0.315 af (100% of inflow)
Center-of-Mass det. time= 111.6 min (932.6 - 821.0)

Volume	Invert	Avail.Storage	Storage Description
#1	103.00'	10,735 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

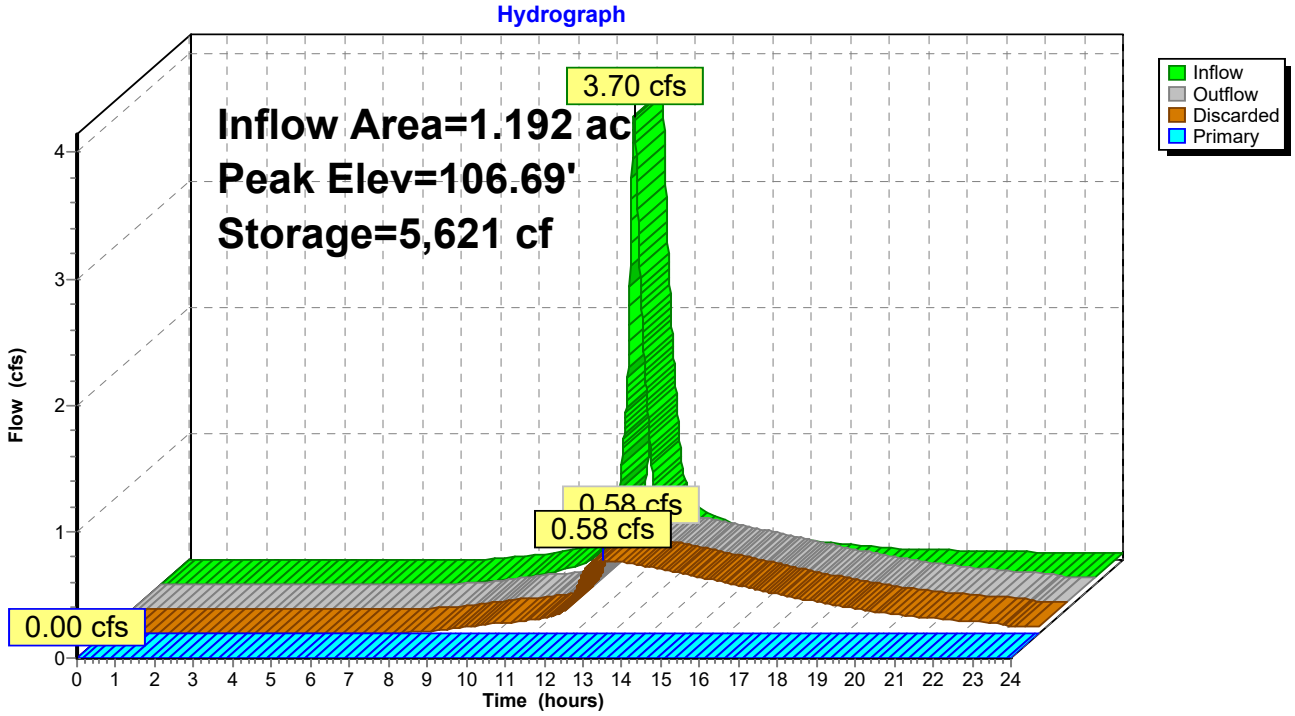
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
103.00	380	0	0
104.00	870	625	625
105.00	1,530	1,200	1,825
106.00	2,345	1,938	3,763
107.00	3,300	2,823	6,585
108.00	5,000	4,150	10,735

Device	Routing	Invert	Outlet Devices
#1	Discarded	103.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	106.75'	**5.0' long (Profile 5) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.79 2.93 3.06

Discarded OutFlow Max=0.58 cfs @ 12.81 hrs HW=106.69' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.58 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=103.00' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond PR1: Recharge 1



Summary for Subcatchment P1A: Directed East

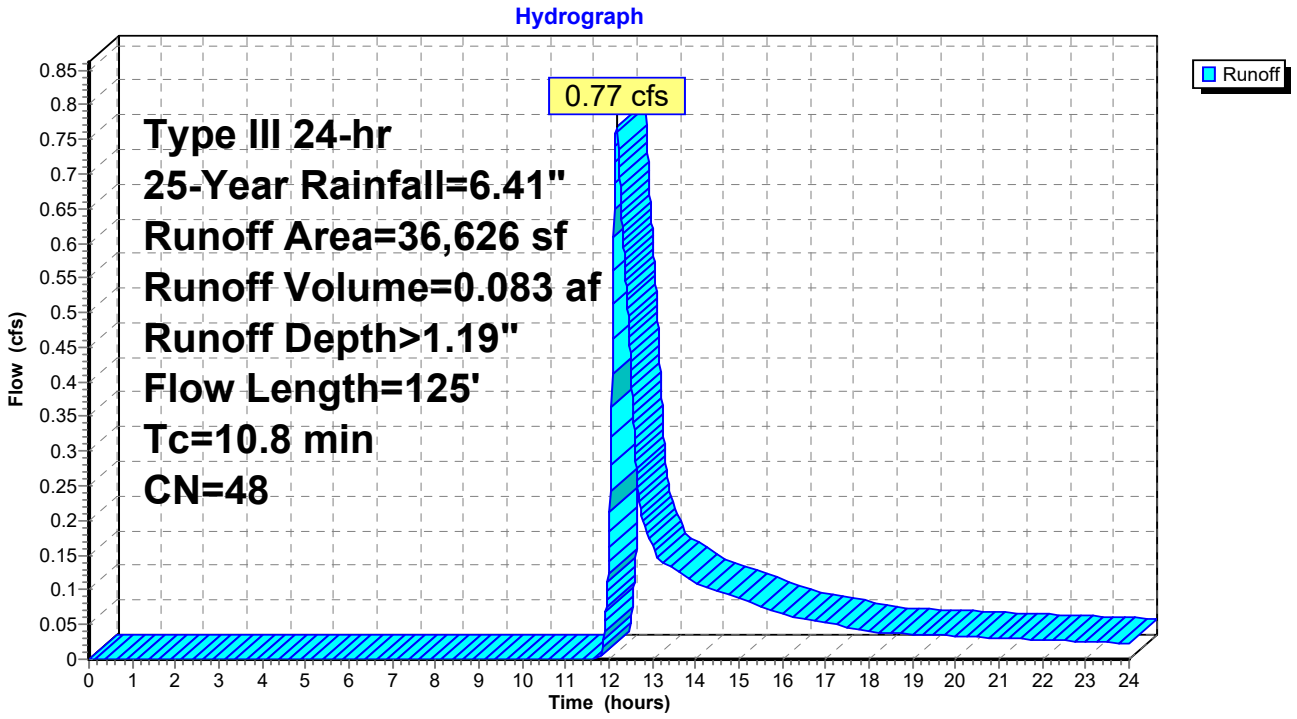
Runoff = 0.77 cfs @ 12.18 hrs, Volume= 0.083 af, Depth> 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.41"

	Area (sf)	CN	Description
*	3,060	98	Impervious
	14,250	39	>75% Grass cover, Good, HSG A
	11,924	30	Woods, Good, HSG A
	4,950	74	>75% Grass cover, Good, HSG C
	109	70	Woods, Good, HSG C
	2,333	80	>75% Grass cover, Good, HSG D
	36,626	48	Weighted Average
	33,566		91.65% Pervious Area
	3,060		8.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Sheet Flow Woods** Woods: Dense underbrush n= 0.800 P2= 3.10"
0.8	75	0.1067	1.63		**Shallow Concentrated Flow, Concentrated Woods** Woodland Kv= 5.0 fps
10.8	125	Total			

Subcatchment P1A: Directed East



Summary for Subcatchment P1B: To Recharge 1

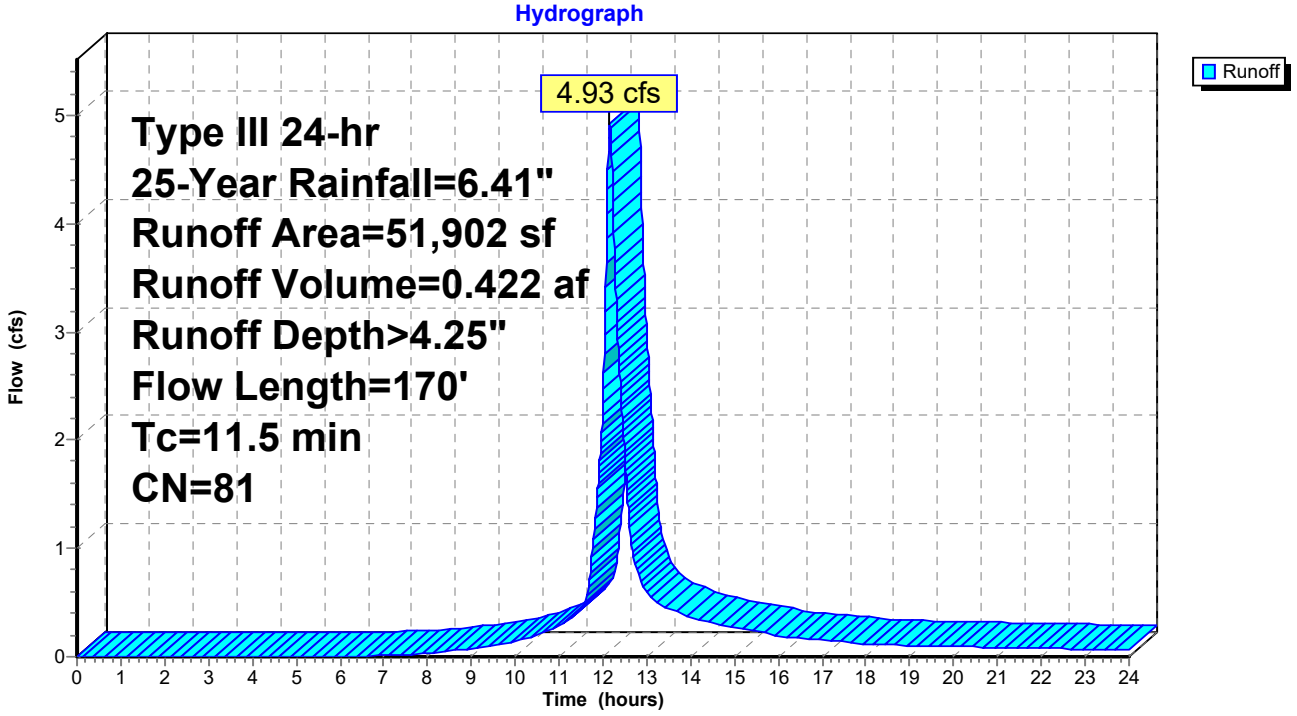
Runoff = 4.93 cfs @ 12.16 hrs, Volume= 0.422 af, Depth> 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.41"

	Area (sf)	CN	Description
*	19,628	98	Impervious
	1,448	39	>75% Grass cover, Good, HSG A
	21,790	74	>75% Grass cover, Good, HSG C
	8,739	70	Woods, Good, HSG C
	297	80	>75% Grass cover, Good, HSG D
	51,902	81	Weighted Average
	32,274		62.18% Pervious Area
	19,628		37.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Wood Sheet Flow** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.5	120	0.0750	1.37		**Shallow Concentrated Flow, Woods Concentrated Flow** Woodland Kv= 5.0 fps
11.5	170	Total			

Subcatchment P1B: To Recharge 1



Summary for Subcatchment P2: Directed West

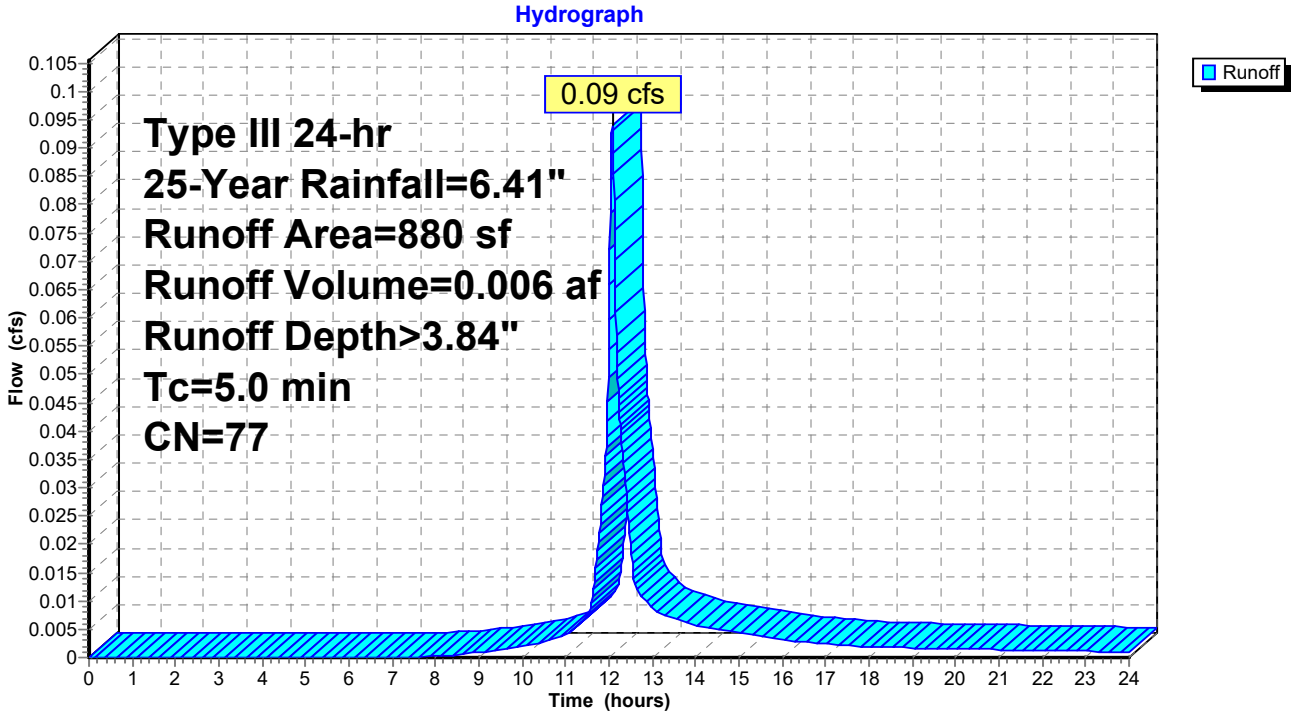
Runoff = 0.09 cfs @ 12.07 hrs, Volume= 0.006 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.41"

Area (sf)	CN	Description
473	74	>75% Grass cover, Good, HSG C
407	80	>75% Grass cover, Good, HSG D
880	77	Weighted Average
880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P2: Directed West

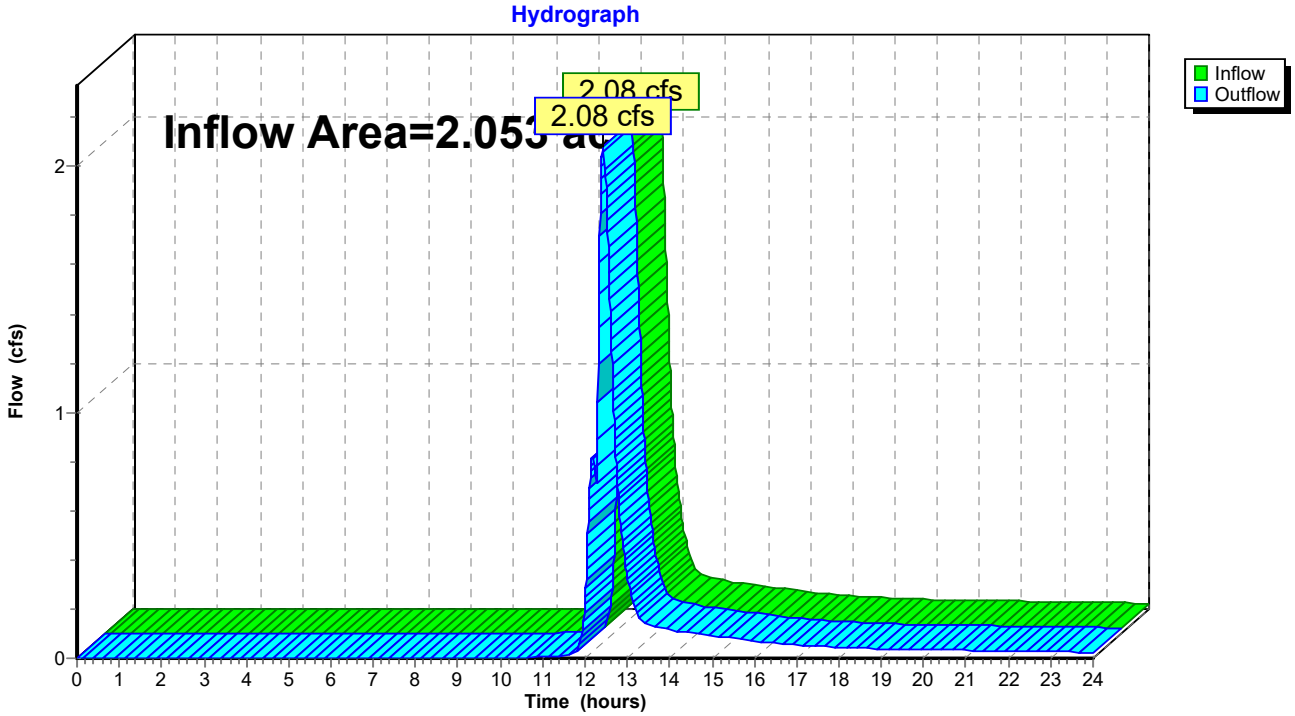


Summary for Reach P: Total

Inflow Area = 2.053 ac, 25.38% Impervious, Inflow Depth > 0.82" for 25-Year event
Inflow = 2.08 cfs @ 12.43 hrs, Volume= 0.140 af
Outflow = 2.08 cfs @ 12.43 hrs, Volume= 0.140 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach P: Total

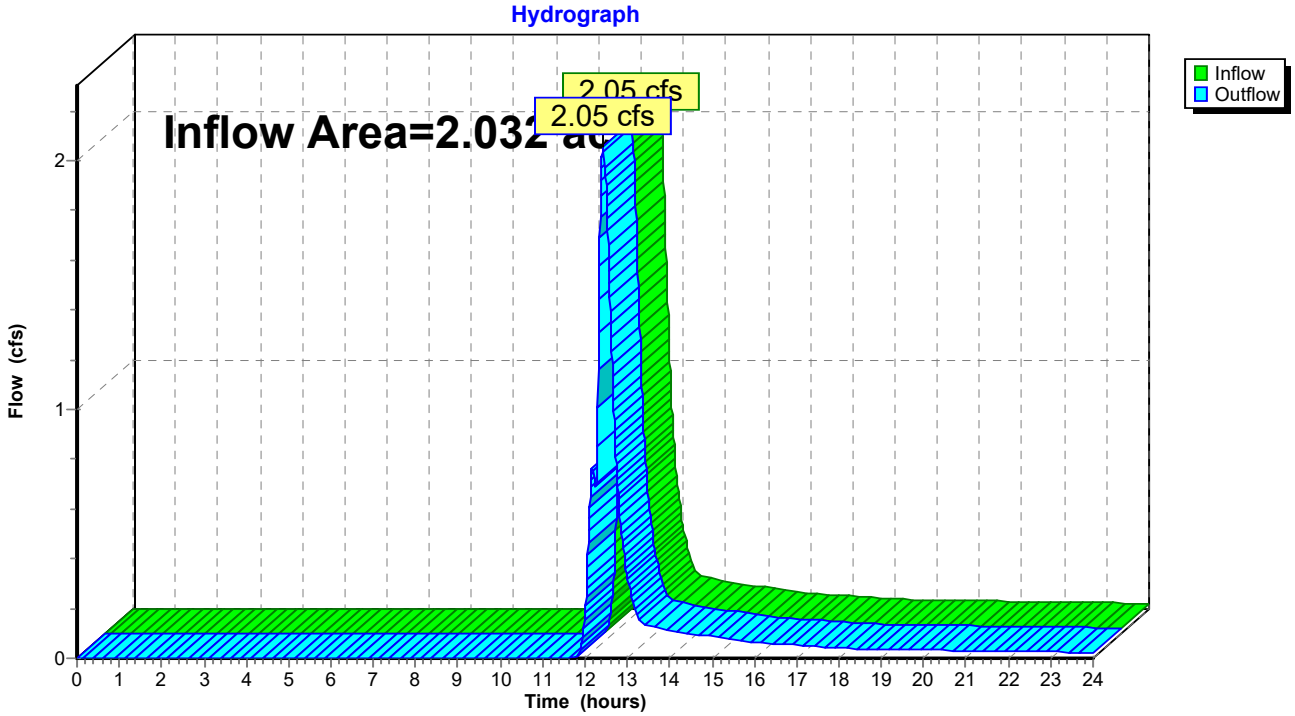


Summary for Reach R1: Reach 1

Inflow Area = 2.032 ac, 25.63% Impervious, Inflow Depth > 0.79" for 25-Year event
Inflow = 2.05 cfs @ 12.43 hrs, Volume= 0.134 af
Outflow = 2.05 cfs @ 12.43 hrs, Volume= 0.134 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R1: Reach 1

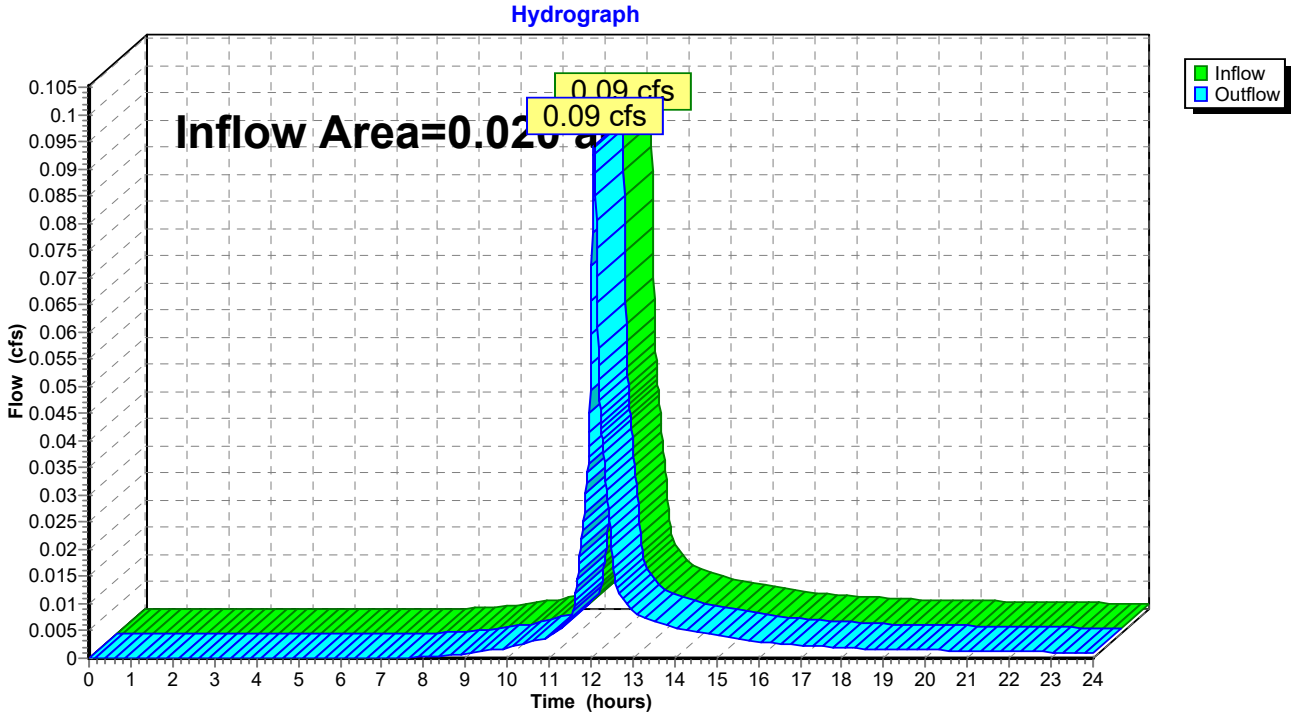


Summary for Reach R2: Reach 2

Inflow Area = 0.020 ac, 0.00% Impervious, Inflow Depth > 3.84" for 25-Year event
Inflow = 0.09 cfs @ 12.07 hrs, Volume= 0.006 af
Outflow = 0.09 cfs @ 12.07 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R2: Reach 2



Summary for Pond PR1: Recharge 1

Inflow Area = 1.192 ac, 37.82% Impervious, Inflow Depth > 4.25" for 25-Year event
Inflow = 4.93 cfs @ 12.16 hrs, Volume= 0.422 af
Outflow = 2.18 cfs @ 12.44 hrs, Volume= 0.420 af, Atten= 56%, Lag= 17.4 min
Discarded = 0.63 cfs @ 12.44 hrs, Volume= 0.370 af
Primary = 1.56 cfs @ 12.44 hrs, Volume= 0.050 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 106.98' @ 12.44 hrs Surf.Area= 3,282 sf Storage= 6,522 cf

Plug-Flow detention time= 104.7 min calculated for 0.420 af (100% of inflow)
Center-of-Mass det. time= 102.4 min (915.1 - 812.7)

Volume	Invert	Avail.Storage	Storage Description
#1	103.00'	10,735 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

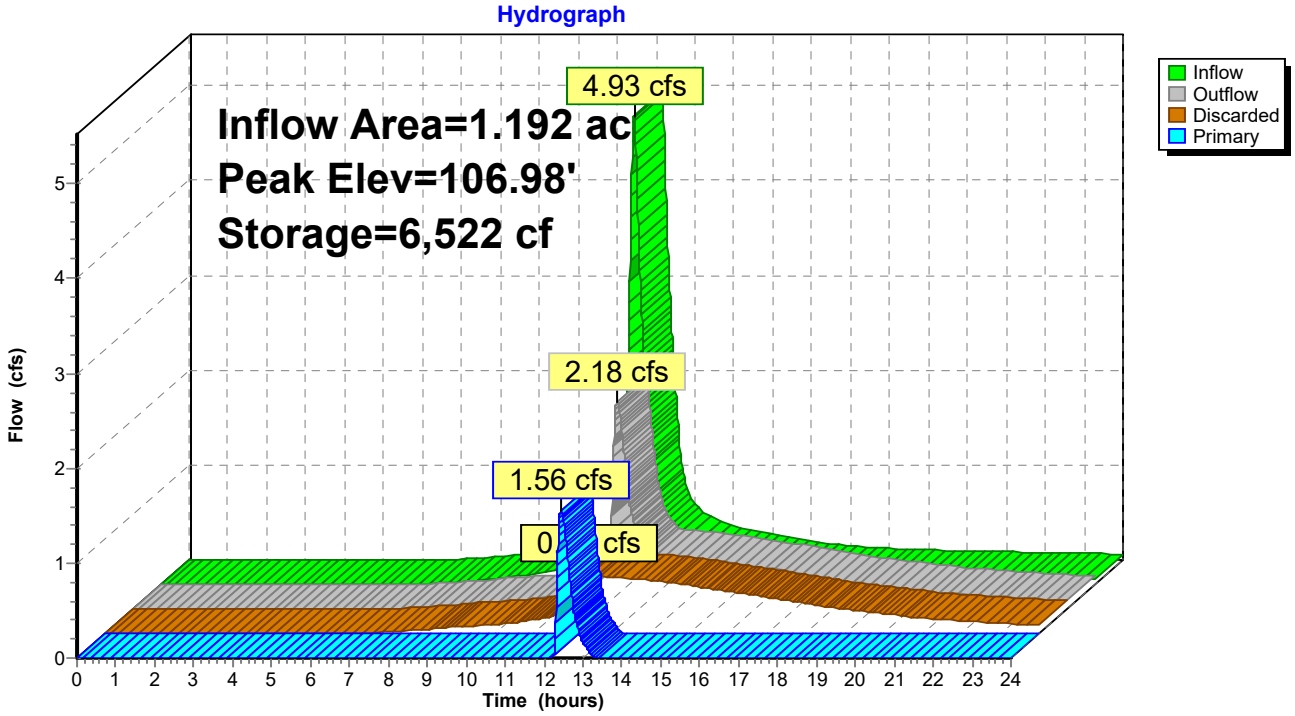
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
103.00	380	0	0
104.00	870	625	625
105.00	1,530	1,200	1,825
106.00	2,345	1,938	3,763
107.00	3,300	2,823	6,585
108.00	5,000	4,150	10,735

Device	Routing	Invert	Outlet Devices
#1	Discarded	103.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	106.75'	**5.0' long (Profile 5) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.79 2.93 3.06

Discarded OutFlow Max=0.63 cfs @ 12.44 hrs HW=106.98' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.63 cfs)

Primary OutFlow Max=1.55 cfs @ 12.44 hrs HW=106.98' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 1.55 cfs @ 1.34 fps)

Pond PR1: Recharge 1



Summary for Subcatchment P1A: Directed East

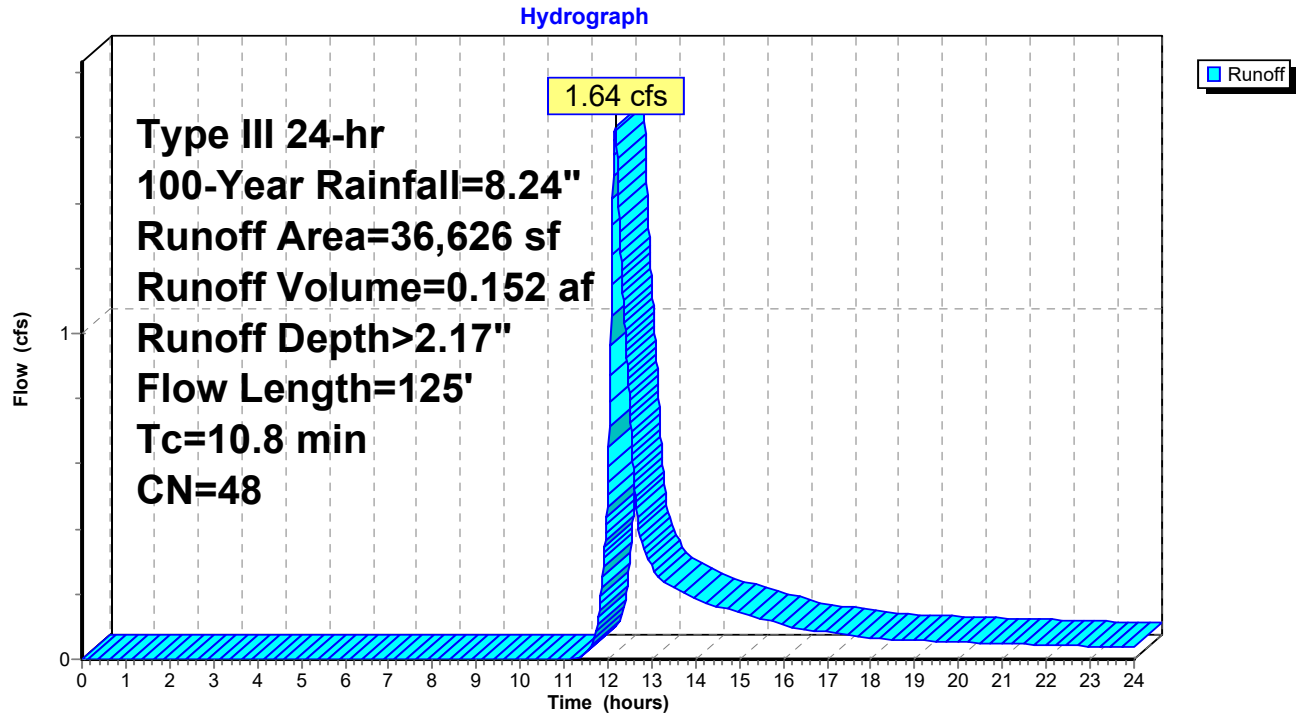
Runoff = 1.64 cfs @ 12.16 hrs, Volume= 0.152 af, Depth> 2.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.24"

	Area (sf)	CN	Description
*	3,060	98	Impervious
	14,250	39	>75% Grass cover, Good, HSG A
	11,924	30	Woods, Good, HSG A
	4,950	74	>75% Grass cover, Good, HSG C
	109	70	Woods, Good, HSG C
	2,333	80	>75% Grass cover, Good, HSG D
	36,626	48	Weighted Average
	33,566		91.65% Pervious Area
	3,060		8.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Sheet Flow Woods** Woods: Dense underbrush n= 0.800 P2= 3.10"
0.8	75	0.1067	1.63		**Shallow Concentrated Flow, Concentrated Woods** Woodland Kv= 5.0 fps
10.8	125	Total			

Subcatchment P1A: Directed East



Summary for Subcatchment P1B: To Recharge 1

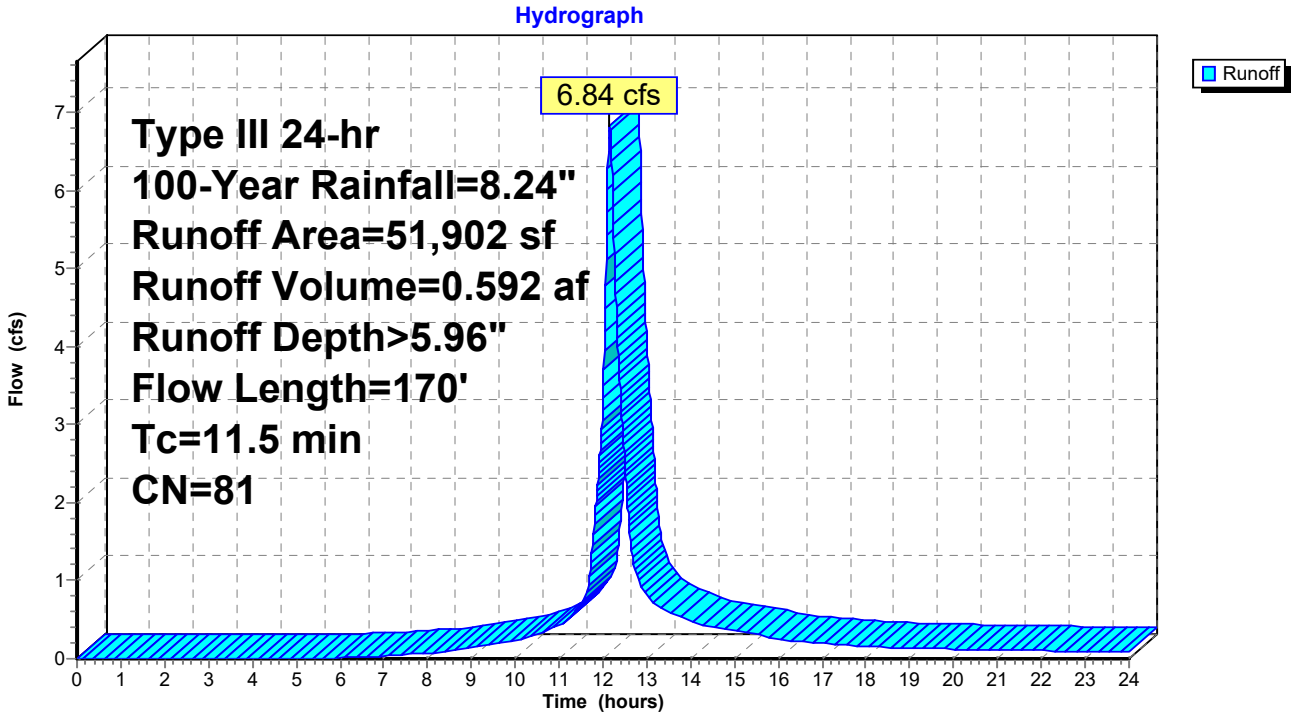
Runoff = 6.84 cfs @ 12.15 hrs, Volume= 0.592 af, Depth> 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.24"

	Area (sf)	CN	Description
*	19,628	98	Impervious
	1,448	39	>75% Grass cover, Good, HSG A
	21,790	74	>75% Grass cover, Good, HSG C
	8,739	70	Woods, Good, HSG C
	297	80	>75% Grass cover, Good, HSG D
	51,902	81	Weighted Average
	32,274		62.18% Pervious Area
	19,628		37.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	50	0.1400	0.08		**Sheet Flow, Wood Sheet Flow** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.5	120	0.0750	1.37		**Shallow Concentrated Flow, Woods Concentrated Flow** Woodland Kv= 5.0 fps
11.5	170	Total			

Subcatchment P1B: To Recharge 1



Summary for Subcatchment P2: Directed West

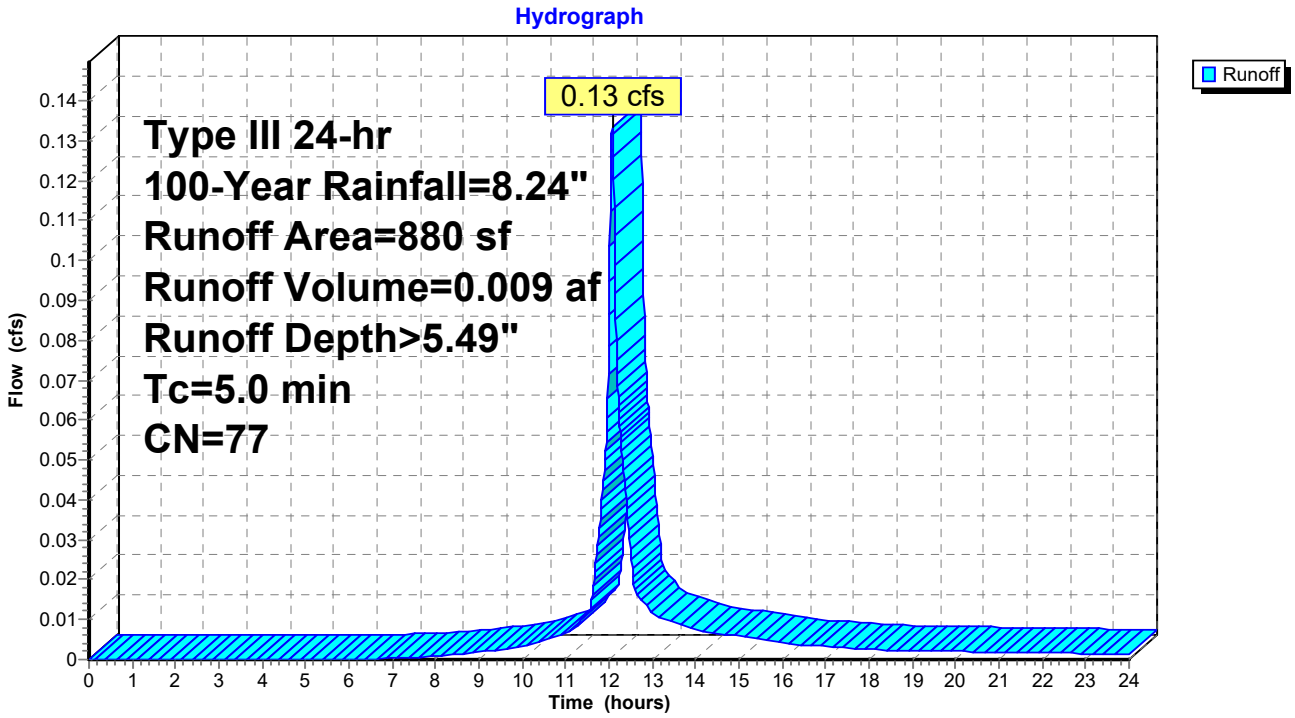
Runoff = 0.13 cfs @ 12.07 hrs, Volume= 0.009 af, Depth> 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.24"

Area (sf)	CN	Description
473	74	>75% Grass cover, Good, HSG C
407	80	>75% Grass cover, Good, HSG D
880	77	Weighted Average
880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P2: Directed West

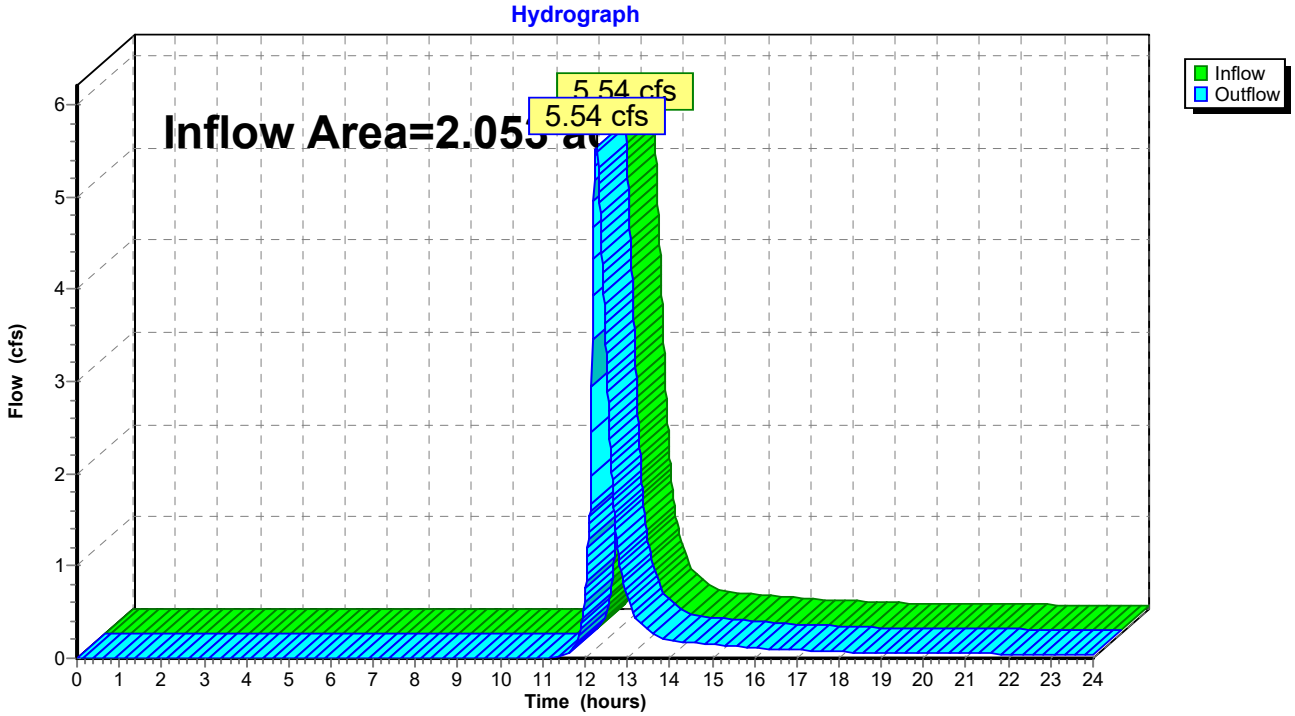


Summary for Reach P: Total

Inflow Area = 2.053 ac, 25.38% Impervious, Inflow Depth > 1.82" for 100-Year event
Inflow = 5.54 cfs @ 12.26 hrs, Volume= 0.311 af
Outflow = 5.54 cfs @ 12.26 hrs, Volume= 0.311 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach P: Total

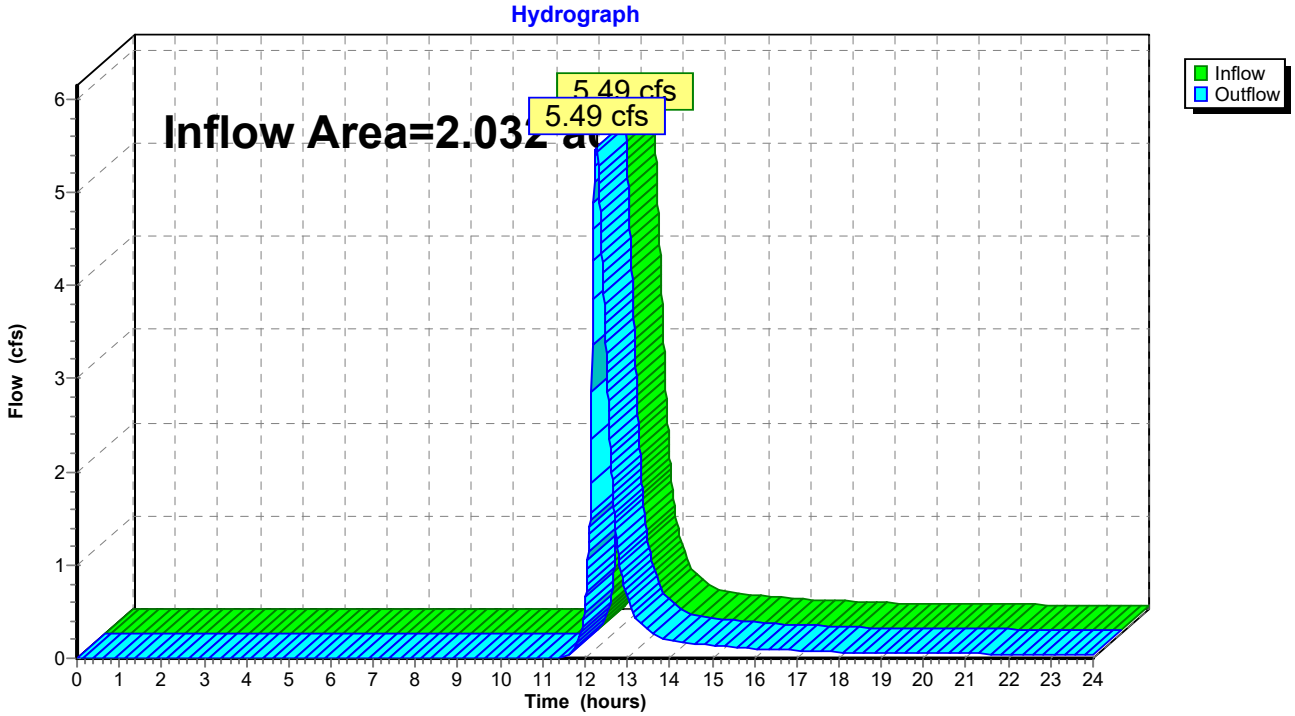


Summary for Reach R1: Reach 1

Inflow Area = 2.032 ac, 25.63% Impervious, Inflow Depth > 1.78" for 100-Year event
Inflow = 5.49 cfs @ 12.26 hrs, Volume= 0.302 af
Outflow = 5.49 cfs @ 12.26 hrs, Volume= 0.302 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R1: Reach 1

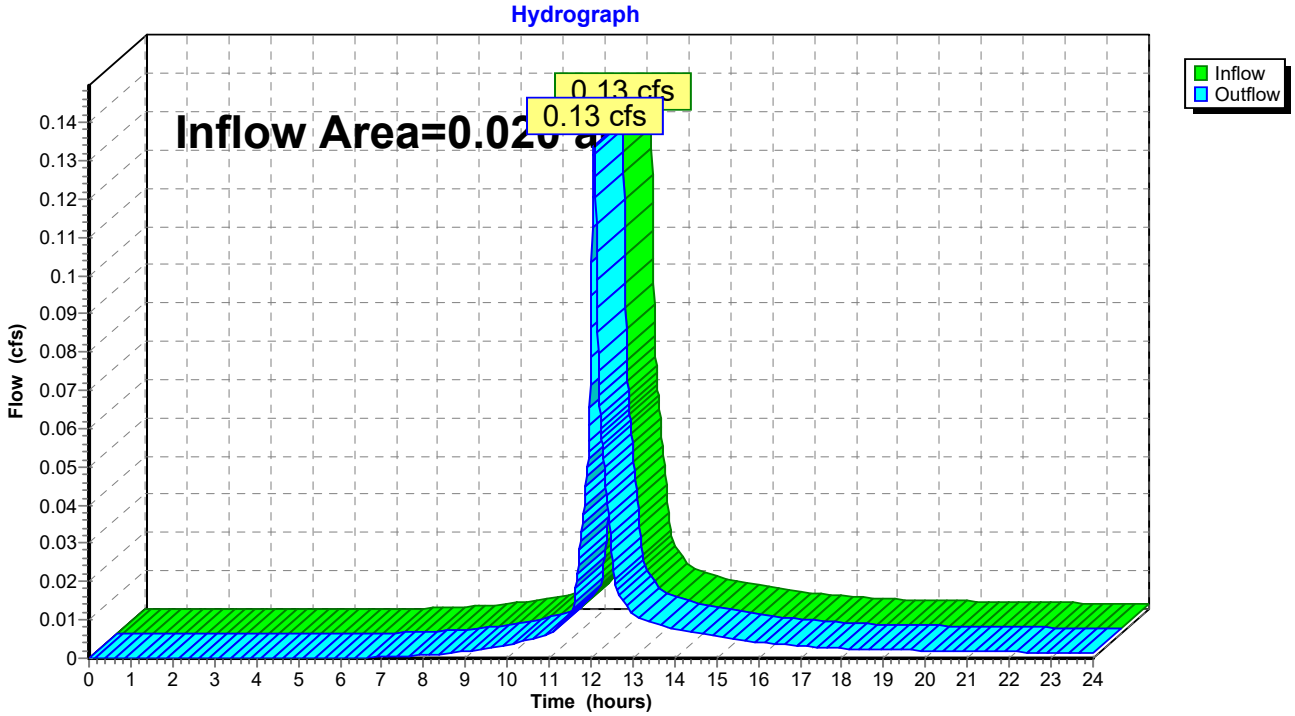


Summary for Reach R2: Reach 2

Inflow Area = 0.020 ac, 0.00% Impervious, Inflow Depth > 5.49" for 100-Year event
Inflow = 0.13 cfs @ 12.07 hrs, Volume= 0.009 af
Outflow = 0.13 cfs @ 12.07 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach R2: Reach 2



Summary for Pond PR1: Recharge 1

Inflow Area = 1.192 ac, 37.82% Impervious, Inflow Depth > 5.96" for 100-Year event
Inflow = 6.84 cfs @ 12.15 hrs, Volume= 0.592 af
Outflow = 4.87 cfs @ 12.28 hrs, Volume= 0.585 af, Atten= 29%, Lag= 7.4 min
Discarded = 0.70 cfs @ 12.28 hrs, Volume= 0.435 af
Primary = 4.18 cfs @ 12.28 hrs, Volume= 0.150 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 107.20' @ 12.28 hrs Surf.Area= 3,636 sf Storage= 7,269 cf

Plug-Flow detention time= 92.7 min calculated for 0.585 af (99% of inflow)
Center-of-Mass det. time= 85.7 min (889.0 - 803.3)

Volume	Invert	Avail.Storage	Storage Description
#1	103.00'	10,735 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

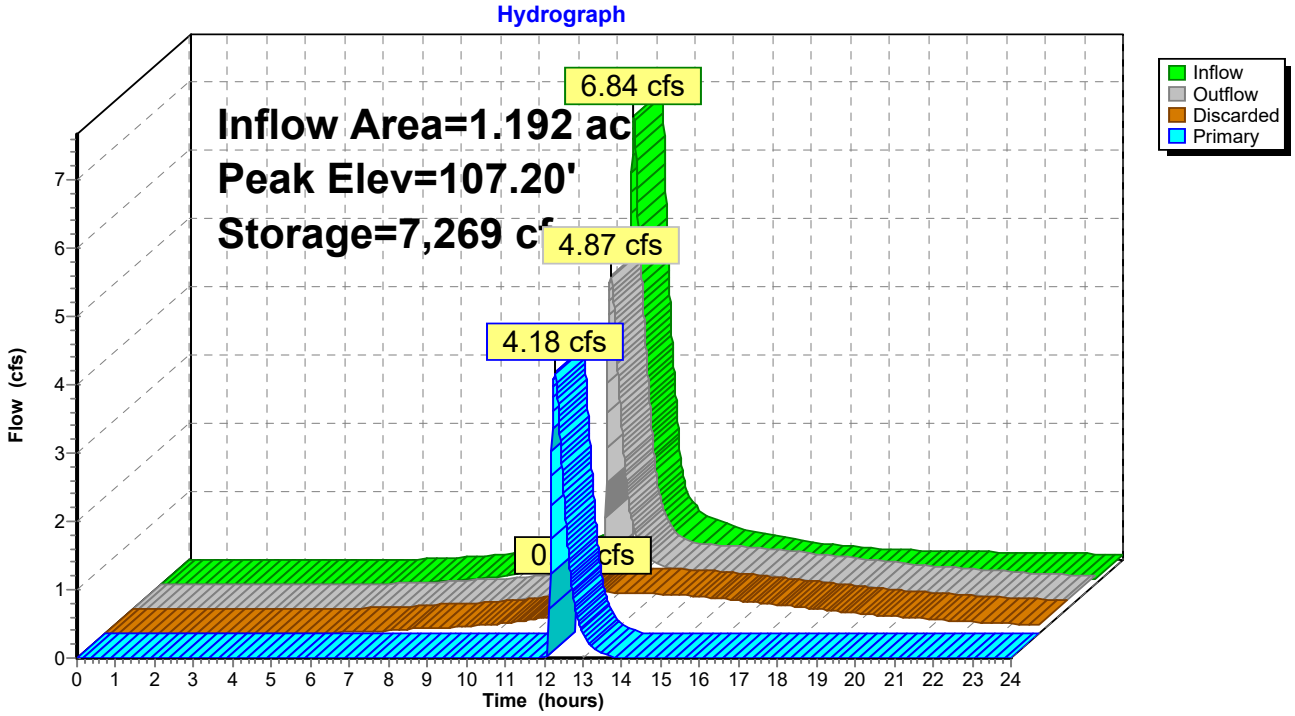
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
103.00	380	0	0
104.00	870	625	625
105.00	1,530	1,200	1,825
106.00	2,345	1,938	3,763
107.00	3,300	2,823	6,585
108.00	5,000	4,150	10,735

Device	Routing	Invert	Outlet Devices
#1	Discarded	103.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Primary	106.75'	**5.0' long (Profile 5) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.79 2.93 3.06

Discarded OutFlow Max=0.70 cfs @ 12.28 hrs HW=107.20' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.70 cfs)

Primary OutFlow Max=4.17 cfs @ 12.28 hrs HW=107.20' (Free Discharge)
↑**2=Broad-Crested Rectangular Weir** (Weir Controls 4.17 cfs @ 1.87 fps)

Pond PR1: Recharge 1



FODERA
ENGINEERING
28 Harbor Street, Suite 204
Danvers, MA 01923
Office: (617) 992-8492
contact@foderaengineering.com

June 20, 2023

To: Mary Benedetto, Senior Planner
Reading Town Hall
16 Lowell Street, Town Hall
Reading, MA 01867

RE: DEFINITIVE SUBDIVISION – GRANDVIEW ROAD EXTENSION
REVISION COMMENTS
GRANDVIEW ROAD EXTENSION
READING, MA 01867

To Ms. Benedetto,

We have reviewed the comments provided by the CPDC and Engineering Division in regards to the the Major Modification of a Definitive Subdivision known as Grandview Road. Comments and associated responses by Fodera Engineering (FE) follows:

Email from Mary Benedetto on 5/17/2023

CPDC had the following asks:

- A response to the Engineering memo, both written comments and plan changes alike. Please reference/detail any plan changes within the memo.
  FE Response: No comment.

- The plan revised to directly address the following:
  - Addition of a treatment forebay to the drainage design
    FE Response: Sediment forebay added.

  - Lot 4 drainage pipe design so as to not discharge into Lot 3 or the proposed sidewalk.
    FE Response: Roof runoff pipe from Lot 4 has been revised to enter directly into the drain manhole rather than daylighting to the sidewalk.

  - Rip-rap design location being so near to the property line and ensure DEP requirements are met. Please provide further explanation on all overflow discharging to this area.
    FE Response: The rip-rap outfall has been removed along with this point of discharge. Previously, the point of discharge was added to control peak rate of runoff and have it reduced compared to existing conditions. Although having the point of discharge and rip-rap outfall was satisfactory with it in place, we further determined that it was not needed in this case. The detention pond's overflow weir is satisfactory alone. Peak

rates of runoff are reduced in the post-construction conditions. Peak rates of runoff in cubic-feet per second (cfs) directed to the northeast (Reach 1) are as follows:

	Pre	***Post***
2-Year	***0.24***	***0.01***
10-Year	***1.40***	***0.32***
25-Year	***2.38***	***2.05***

- The drainage design and calculations should include the future home on Lot 2
  FE Response: Drainage design includes the future driveway and walkways of lot 2. It does not include roof runoff, which will need its own separate dry-well system as outlined on the plan set.

- Please provide further TSS/Phosphorus calculations
  FE Response: Provided herewith. TSS pre-treatment removal is 44%. TSS treatment removal is 89%. Phosphorous removal is almost 84%.

- Can the lot lines of Lot 1 and Lot 2 be modified to remove the need for an easement to keep the shed?
  FE Response: Property lines have been adjusted and the shed is now fully within the limits of Lot 1.

- Provide more information or detail on the Lot 4 retaining wall. Is an easement required to ensure adequate build? If so, please provide a draft and likely a condition will be placed to receive a copy of the executed easement prior to permitting.
  FE Response: We revised the retaining wall from a 6' high wall to two (2) tiered 3' high walls. A 3' high wall will not need structural design nor would it require extending into the abutting property.

- Further justification for the proposed waiver or a revision to the design for further clearance
  FE Response: We revised the plans to omit the need for a waiver on drainage pipe cover. Section 7.4.4.3e states that storm drain pipes shall have a minimum of four (4) feet of cover in paved or other vehicular roads and a minimum of three (3) feet of cover in easements. The drain pipe is located at the end of the cul-de-sac that is directed to the sediment forebay. There is no section of pipe that falls under a "paved or other vehicular roads" area. The section of pipe within the drainage easement has three (3) feet of cover with the addition of a headwall at the pipe outlet into the sediment forebay.

- The design and calculations meet the stormwater permit requirements.
  FE Response: No comment.

Memorandum from Engineering Division, Alex Rozycki P.E., dated April 27, 2023

- Previous plans for the southernmost home included roof drainage tied into the infiltration system, there are concerns that the adjacent property will now receive stormwater flows given the grades. The stormwater report indicates all impervious areas will be captured, does that include hardscapes on the lots? The previous plan captured impervious areas on individual lots.
  FE Response: Roof runoff from the southernmost house will now be tied directly into the drainage conveyance system and detention pond.

- The infiltration chamber design under the endorsed plans will allow for more land use in the backyard areas, the proposed detention pond design eliminates the use of land.
  FE Response: A detention pond is a common and accepted method for managing stormwater. There are still backyard areas provided to each new dwelling.

- Engineering sees no reason to support the waiver allowing less cover on utilities, there appears to be no benefit to support such a waiver.
  FE Response: The site has been redesigned to omit the need for a waiver from Section 7.4.4.3e of the subdivision rules and regulations.

- The Engineering Department does not approve of gas lines or electrical services, those shall be coordinated and approved by others.
  FE Response: Gas and electric utilities will be coordinated with the respective utility companies/ departments.

- There are many instances of utilities crossing, we are particularly concerned with the crossing of water and sewer. Crossings should be limited, and invert elevations of the services may be requested to ensure proper separation.
  FE Response: We limited crossings of utilities but it is inevitable that crossings will occur. There is a "Water Main Crossing" detail on sheet C-6.

- Inverts of the existing sewer manhole should be provided, as well as a detail for the force main connection.
  FE Response: Invert of the existing sewer manhole was provided by the surveyor and is INV=112.4. Details associated with the force main are on sheet C-6.

- MaDEP regulations may not allow for discharge of water or overflow rip-rap within 10 feet of a property line.
  FE Response: The overflow rip-rap has been removed as determined was unnecessary.

- NPDES MS4 permit requirements shall be met for TSS removal and Phosphorous reduction. The supporting calculations should be provided and reviewed by Engineering. The project will also require a Storm Water Pollution Prevention Plan as well as an O&M plan for the proposed detention basin.

FE Response: TSS removal and Phosphorous reduction is provided herewith. A Storm Water Pollution Prevention Plan (SWPPP) will be provided prior to construction. An O&M plan is outlined in the Stormwater Management Report dated March 10, 2023.

- A Sewer Connection I/I fee is required.
  FE Response: That will be paid for prior to construction.

- The driveway curb cuts shall meet Town of Reading standard cross sections. The proposed elevations are unclear in these areas, all driveways will be approved individually.
  FE Response: Proposed spot grade elevations at driveway curb cuts are shown on sheet C-4. A detail labeled "Typical Driveway Apron" is provided on sheet C-7.

- All utilities shall be approved materials and installed in accordance with the Department of Public Works Standards.
  FE Response: All utilities proposed are in accordance with the Department of Public Works Standards.

- Engineering Division shall be notified 72 hours in advance to mark out Town utilities.
  FE Response: This will be completed.

- All water, sewer, curb cut, street opening and Jackie's Law excavation permits shall be obtained at the Engineering Division prior to any excavations.
  FE Response: This will be completed.

- All site work shall be inspected by the Engineering Division. The Applicant/Owner's contractor shall submit a construction schedule of proposed work. All inspections shall be scheduled 48 hours in advance.
  FE Response: This will be submitted.

- An approved site as-built shall be submitted to the Engineering Division within 60 days of certificate of occupancy. The as-built shall be submitted in mylar and electronic ACAD format.
  FE Response: This will be submitted.

Please accept this memorandum as a summary of responses and do not hesitate to call or email me shall you have any questions, comments, or concerns.

Giovanni G. Fodera, P.E.
Principal Engineer
FODERA Engineering
28 Harbor St., Suite 204
Danvers, MA 01923

FODERA ENGINEERING

Project: *4-Lot Subdivision*
Address *4 Cold Spring Road*
Calculated By: *Giovanni G. Fodera, P.E.*
Date: *6/20/2023*

Standard 4 in the Massachusetts Stormwater Handbook, completed in accordance with 310 CMR 10.00 and 314 CMR 9.00

WATER QUALITY CALCULATIONS, TSS REMOVAL

Runoff from impervious surfaces flow overland and gather solids as the stormwater is directed into conveyance systems, and can have adverse effects to water pollution. Standard 4 was implemented for stormwater management systems to be designed to remove 80% of the average annual post-development load of Total Suspended Solids (TSS). Runoff volume requiring appropriate TSS treatment is known as the required water quality volume.

Treatment Train 1:

1. **Catch Basin with Deep Sump & Hood**
2. **Manhole with Deep Sump & Hood**
3. **Infiltration Basin with Sediment Forebay**

	B	C	D	E	F
Pretreatment BMP	TSS Removal Rate	Starting TSS Load	Amount Removed (BxC)	Remaining Load (C-D)	TSS Removal Rate
Deep Sump and Hooded Catch Basin	**0.25**	**1.00**	**0.25**	**0.75**	**25%**
Deep Sump and Hooded Catch Basin	**0.25**	**0.75**	**0.19**	**0.56**	**44%**

	B	C	D	E	F
Treatment BMP	TSS Removal Rate	Starting TSS Load	Amount Removed (BxC)	Remaining Load (C-D)	TSS Removal Rate
Infiltration Basin w/ Sediment Forebay	**0.80**	**0.56**	**0.45**	**0.11**	**89%**

Pretreatment TSS Removal =	**44%**	**(standard is met)**
Treatment TSS Removal =	**89%**	**(standard is met)**

Note: Roof runoff does not require pretreatment

1. Management Objective			
Select Pollutant Type ->	TP	Total BMP Cost ($)	$37,178
Enter Target Load Reduction (%) ->	60.0%	Total Pollutant Load Reduction (%)	83.9%

2. Optimization Target			
Select an option ->	BMP Storage Capacity	Total BMP Storage Capacity (gal)	11,133

3. Watershed Information			
Enter Land Use Area ->	Click Here	Total Impervious Area (ac)	0.4

4. BMP Information			
Enter Drainage Area ->	Click Here	Total Treated Impervious Area (ac)	0.4

5. Optimal Solution

BMP Type	Design Storage Capacity (ft^3)	BMP Cost ($)	Treated Impervious Area (ac)	O&M (hr/yr)	Load Reduction (lbs)	Treated Runoff Depth (in)
Biofiltration with ISR	-	$ -	-	-	-	-
Bioretention	-	$ -	-	-	-	-
Dry Pond	-	$ -	-	-	-	-
Grass Swale*	-	$ -	-	-	-	-
Gravel Wetland	-	$ -	-	-	-	-
Infiltration Basin	-	$ -	-	-	-	-
Infiltration Chambers*	-	$ -	-	-	-	-
Infiltration Trench	1,488	$ 37,178	0.41	-	0.79	1.00
Porous Pavement*	-	$ -	-	-	-	-
Sand Filter	-	$ -	-	-	-	-
Wet Pond	-	$ -	-	-	-	-

Note:Only fill in the yellow highlighted cells.

* Place holder for future option (not implemented)

Planning Level Analysis

The purpose of this tool is to provide decision-makers a comprehensive overview of stormwater management opportunities in a given watershed. The tool will characterize the watershed characteristics and opportunities for applying a variety of BMP technologies to various source areas based on land use, soils, and impervious cover. There are two approaches of the planning-level analysis tool:

1: BMP Storage Capacity – to evaluate the changes in hydrologic and water quality benefits as the BMP/LID sizes are increased in fixed increments; and
2: BMP Drainage Area – to determine how much impervious area would require treatment if specified BMP design capacities are selected for each HRU type to be treated.

Run Single Scenario

Run Optimize Scenario

Return to Home Page

FOR REGISTRY USE ONLY

SITE PLAN SET

MAJOR SITE PLAN MODIFICATION

GRANDVIEW ROAD SUBDIVISION – PRIVATE WAY

GRANDVIEW ROAD EXTENSION

PROJECT LOCATION:

LOTS 2, 3, and 4
GRANDVIEW ROAD EXTENSION
READING, MA 01867

SHEET INDEX

PROPERTY INFORMATION

ADDRESS
LOTS 2, 3, & 4
GRANDVIEW ROAD EXTENSION
READING, MA 01867

RECORD OWNER
GRANDVIEW, LLC
45 BEACON STREET
READING, MA 01867

LOT SIZE
COMBINED LOTS 2, 3, & 4
45,132 S.F. (1.04 AC.±)

ZONING DISTRICT
SINGLE FAMILY 15 (S-15)

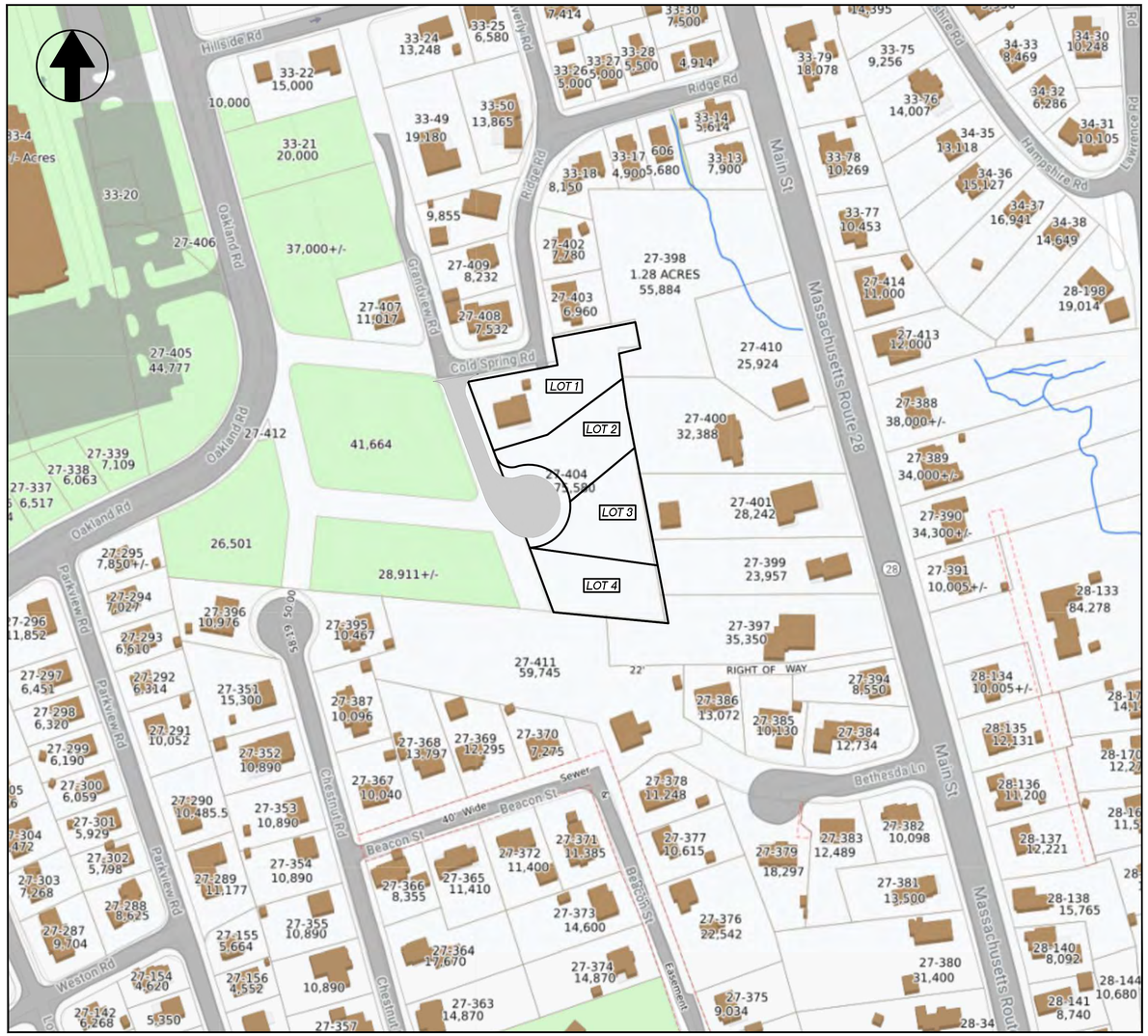
PARCEL ID
PART OF MAP 27, LOT 404

PLAN REFERENCES

1. BOUNDARY, TOPOGRAPHIC, AND PLANIMETRIC INFORMATION WAS OBTAINED FROM AN ON-THE-GROUND SURVEY PERFORMED AND COMPLETED BY PFS LAND SURVEYING, INC., DRAWING NUMBER SV-1, DATED 7/8/2020.
2. MIDDLESEX SOUTH REGISTRY OF DEEDS PLAN 754 OF YEAR 2022.

GENERAL NOTES

1. THE SUBDIVISION OF LAND FOR THIS PROJECT WAS APPROVED AND ENDORSED BY THE READING COMMUNITY PLANNING AND DEVELOPMENT COMMISSION (CPDC), AND THE SUBDIVISION WAS RECORDED WITH THE REGISTRY OF DEEDS AS PLAN 754 OF YEAR 2022.
2. THIS PLAN SET IS FOR THE APPROVAL OF A MAJOR SITE PLAN MODIFICATION. MODIFICATIONS INCLUDE REDESIGNING THE STORMWATER SYSTEM WITH ASSOCIATED SITE GRADING. EASEMENTS HAVE BEEN ADJUSTED AND THEREFORE WILL REQUIRE A NEW ENDORSED SET FOR RECORDING WITH THE REGISTRY.
3. TOPOGRAPHIC DATA IS ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
4. UTILITY INFORMATION OBTAINED FROM THE REFERENCE SURVEY PLAN.
5. SOIL TESTS BY DEEP OBSERVATION HOLES WERE COMPLETED AND REPORTED BY ARMAND J. PORRAZZO (SE#1958) IN JULY 2020. SITE SOILS FROM THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) ONLINE WEB SOIL SURVEY DETERMINE THE SITE TO CONTAIN TWO (2) SOIL TYPES IDENTIFIED AS CANTON-CHARLTON-URBAN LAND COMPLEX WITH A HYDROLOGIC SOIL GROUP (HSG) "A" AND PAXTON FINE SANDY LOAM WITH A HSG "C".
6. THE SITE DOES NOT CONTAIN AREAS SUBJECT TO 1% ANNUAL CHANCE OF FLOODING AND IS IN ZONE "X" AS DETERMINED BY FEMA FLOOD INSURANCE RATE MAP (FIRM) 25017C0311E WITH AN EFFECTIVE DATE OF 6/4/2010.
7. THE SITE IS INLAND AND NOT LOCATED NEAR OR WITHIN THE FOLLOWING PROTECTED RESOURCE AREAS AS DETERMINED BY THE STATE OF MASSACHUSETTS ONLINE GIS MAPPING SYSTEM "OLIVER".
   - NATURAL HERITAGE OF ENDANGERED SPECIES
   - RIVERFRONT
   - CERTIFIED VERNAL POOLS
   - WELLHEAD PROTECTION ZONES
8. THE SITE DOES CONTAIN A SMALL PORTION OF BORDERING VEGETATED WETLANDS AND WERE DELINEATED BY LEC ENVIRONMENTAL CONSULTANTS, INC. IN JUNE 2020.



LOCUS MAP
SCALE: 1" = 100'

ABUTTER'S LIST (NOW OR FORMERLY)

PARCEL ID	ADDRESS	OWNER
27-367	105 BEACON ST.	L & J FAMILY TRUST BRIAN F DESMOND TRUSTE
27-368	101 BEACON ST.	BEVERE LOREEN M
27-369	99 BEACON ST.	JOHNSON PHILLIP M PHOEBE M JOHNSON
27-370	89 BEACON ST.	DECROTEAU MICHAEL EUGENE
27-371	36 BEACON ST.	CUSOLITO JOHN LINCOLN JR ETA BEACON ST 2012 REALTY TR
27-372	98 BEACON ST.	KELLETT JAY S JOYCE A KELLETT
27-377	33 BEACON ST.	DICLEMENTE MICHAEL C DICLEMENTE JAMIE
27-378	39 BEACON ST.	WILMER CHRISTOPHER K SARA WILMER
27-379	14 BETHESDA	LN. BRETCHKO PAVEL TITOVA ELENA
27-384	882 MAIN ST.	MOREIRA GREGORY C ERIN B MORIERA
27-385	11 BETHESDA LN.	SICILIANO ROBERT L SICILIANO STEPHANIE A
27-386	17 BETHESDA LN.	KOUTOUVIDES DAKIS S KOUTOUVIDES KIMBERLY A
27-387	37 CHESTNUT RD.	GOODHUE MARK J WHITNEY GOODHUE
27-394	884 MAIN ST.	GEORGE JENNIFER L DANIEL F DECARPIS
27-395	43 CHESTNUT RD.	DASILVA JOSEPH A DASILVA ANASTASIA
27-397	890 MAIN ST.	JOYCE MARY ELIZABETH JOHN JOYCE
27-398	MAIN ST.	MILLER KEITH L
27-399	896 MAIN ST.	SANDBERG ELLEN L
27-400	908 MAIN ST.	CHEN I-CHEI
27-401	900 MAIN ST.	READING KOREAN CHURCH OF THE NAZARENE
27-402	26 RIDGE RD.	KERR CHRISTOPHER A LESLIE N KERR
27-403	32 RIDGE RD.	BEAUCHER ROBERT A BARBARA L BEAUCHER
27-404	4 COLDSPRING RD.	JEAN PENNY A
27-405	OAKLAND RD.	TOWN OF READING READING MEMORIAL HIGH
27-407	23 GRANDVIEW RD.	CUSOLITO ROBERT P JOANNE CUSOLITO
27-408	31 RIDGE RD.	CORAM GEOFFREY SUSAN G CORAM
27-409	25 RIDGE RD.	FONG ELAINE
27-410	912 MAIN ST.	HATCH WILLIAM G
27-411	45 BEACON ST.	SALAMONE ANGELO
33-13	930 MAIN ST.	RICCI ANTHONY J JANET K GALLAGHER RICCI
33-14	934 MAIN ST.	CROSBY JO ANN
33-15	RIDGE RD.	TOWN OF READING
33-16	8 RIDGE RD.	YAO RYAN S
33-17	10 RIDGE RD.	ALLEN KATHERINE D
33-18	14 RIDGE RD.	HEGARTY GERALD P ETAL TRS GERALD P HEGARTY REVOC
33-19	OAKLAND RD.	TOWN OF READING SCHOOL DEPT.
33-23	23 RIDGE RD.	MESSINA-PEREZ KAREN E
33-49	10 GRANDVIEW RD.	DRUID DAVID A PATRICIA E DRUID
33-50	2 WAVERLY RD.	HILDRETH JOHN W JUDITH D HILDRETH

UTILITIES AND CONTACTS

CABLE
COMCAST CABLE CORPORATION
5 OMNI WAY
CHELMSFORD, MA 01824
ATTN: TED QUINT
978-848-5163
ted_quint@comcast.com

ELECTRIC
READING MUNICIPAL LIGHT DEPARTMENT
230 ASH ST.
READING, MA 01867
ATTN: PETER PRICE
781-942-6429
pprice@rmld.com

GAS
NATIONAL GRID GAS
40 SYLVAN ROAD
WALTHAM, MA 02451
ATTN: MELISSA OWENS
781-907-2845
melissa.owens@nationalgrid.com

TELEPHONE
VERIZON
385 MYLES STANDISH BLVD.
TAUNTON, MA 02780
ATTN: KAREN MEALEY
774-409-3160
karen.m.mealey@verizon.com

WATER AND SEWER
READING DPW
16 LOWELL ST.
READING, MA 01867
781-942-9077

DEPARTMENT OF PUBLIC WORKS
READING DPW ENGINEERING DIVISION
16 LOWELL ST.
READING, MA 01867
781-942-9082

CONSULTANTS

CIVIL ENGINEER
FODERA ENGINEERING
28 HARBOR ST., SUITE 204
DANVERS, MA 01923
ATTN: GIOVANNI FODERA, P.E.
617-877-3293
gfodera@foderaengineering.com

LAND SURVEYOR
PFS LAND SURVEYING, INC.
20 BALCH AVE.
GROVELAND, MA 01834
ATTN: BRYAN PARMENTER, P.L.S.
508-446-0781
bryan@pfsland.com

DATE:
APRIL 20, 2023

PREPARED FOR:
(APPLICANT)
MICHAEL SALAMONE
45 BEACON STREET
READING, MA 01867

PREPARED BY:
FODERA ENGINEERING
28 HARBOR STREET, SUITE 204
DANVERS, MA 01923
(617) 877-3293

TOWN OF READING COMMUNITY PLANNING AND DEVELOPMENT COMMISSION	
DATE:	

REVISION BLOCK

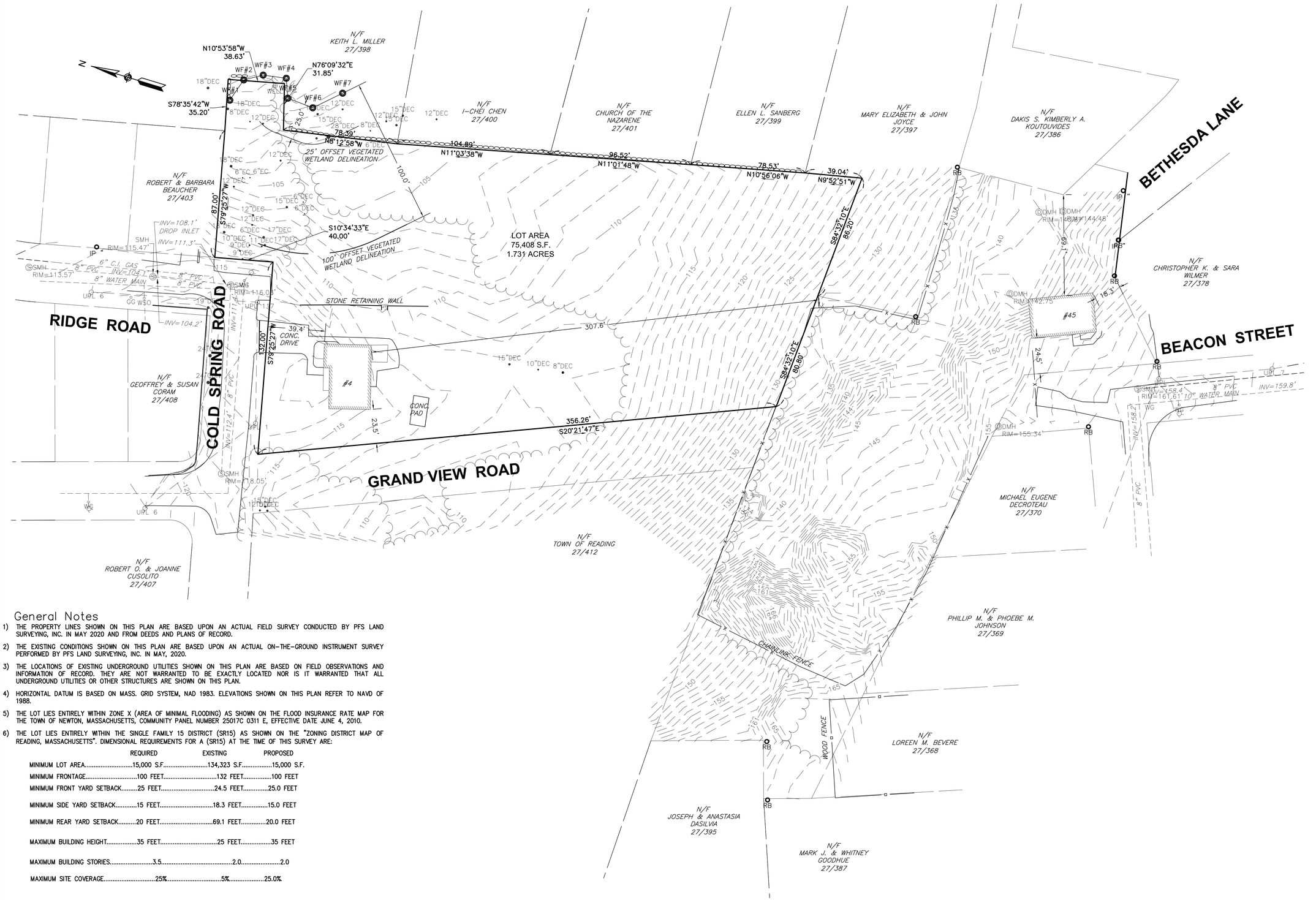
REVISION SET	REVISION DATE	COMPLETED BY
–	–	–
–	–	–
–	–	–
–	–	–
–	–	–
–	–	–

PROFESSIONAL SEAL:
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54684
REGISTERED PROFESSIONAL ENGINEER

JOB NO.: 20160-149

SHEET TITLE:
COVER SHEET

SHEET NUMBER:
C-0



General Notes

1) THE PROPERTY LINES SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL FIELD SURVEY CONDUCTED BY PFS LAND SURVEYING, INC. IN MAY 2020 AND FROM DEEDS AND PLANS OF RECORD.

2) THE EXISTING CONDITIONS SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY PFS LAND SURVEYING, INC. IN MAY, 2020.

3) THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD OBSERVATIONS AND INFORMATION OF RECORD. THEY ARE NOT WARRANTED TO BE EXACTLY LOCATED NOR IS IT WARRANTED THAT ALL UNDERGROUND UTILITIES OR OTHER STRUCTURES ARE SHOWN ON THIS PLAN.

4) HORIZONTAL DATUM IS BASED ON MASS. GRID SYSTEM, NAD 1983. ELEVATIONS SHOWN ON THIS PLAN REFER TO NAVD OF 1988.

5) THE LOT LIES ENTIRELY WITHIN ZONE X (AREA OF MINIMAL FLOODING) AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR THE TOWN OF NEWTON, MASSACHUSETTS, COMMUNITY PANEL NUMBER 25017C 0311 E, EFFECTIVE DATE JUNE 4, 2010.

6) THE LOT LIES ENTIRELY WITHIN THE SINGLE FAMILY 15 DISTRICT (SR15) AS SHOWN ON THE "ZONING DISTRICT MAP OF READING, MASSACHUSETTS". DIMENSIONAL REQUIREMENTS FOR A (SR15) AT THE TIME OF THIS SURVEY ARE:

	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	15,000 S.F.	134,323 S.F.	15,000 S.F.
MINIMUM FRONTAGE	100 FEET	132 FEET	100 FEET
MINIMUM FRONT YARD SETBACK	25 FEET	24.5 FEET	25.0 FEET
MINIMUM SIDE YARD SETBACK	15 FEET	18.3 FEET	15.0 FEET
MINIMUM REAR YARD SETBACK	20 FEET	69.1 FEET	20.0 FEET
MAXIMUM BUILDING HEIGHT	35 FEET	25 FEET	35 FEET
MAXIMUM BUILDING STORIES	3.5	2.0	2.0
MAXIMUM SITE COVERAGE	25%	5%	25.0%

7) THE WETLANDS SHOWN HEREON WERE FLAGGED BY LEC ENVIRONMENTAL IN JUNE 2020 AND LOCATED BY PFS LAND SURVEYING INC, IN JUNE 2020.

PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com

LEGEND

BM #	BENCHMARK
	BOUND (CONC, STONE, LAND COURT, ETC.)
CB	CATCH BASIN - SQUARE
CB	CATCH BASIN - ROUND
DSK	DISK (CA/T, USC&GS, LAND COURT, ETC.)
DH	DRILL HOLE
D	DRAIN MANHOLE
EHH	ELECTRIC HANDHOLE
E	ELECTRIC MANHOLE
EM	ELECTRIC METER
GG	GAS GATE
GM	GAS METER
	HANDICAP SYMBOL
	GUY WIRE ANCHOR
	FIRE HYDRANT
	LIGHT
OHW	OVERHEAD WIRE
MAG	MAG NAIL
MB	MAIL BOX
	OTHER MANHOLE
PB	PULL BOX
PED	PEDESTRIAN SIGNAL
S	SEWER MANHOLE
T	TELEPHONE MANHOLE
TRFM	TRANSFORMER
12	# OF PARKING SPACES
TS	TRAFFIC SIGNAL
TS	TRAFFIC SIGNAL MAST ARM/SPAN WIRE POLE
	SIGN
ULT#	UTILITY POLE W/ LIGHT
UPL#	UTILITY POLE
WG	WATER GATE
WSO	WATER SHUTOFF
	CHAIN LINK FENCE
	WOOD FENCE

SCALE: 1" = 30'

No.	Revision	Date	Appvd.
2	added tree locations in buffer zone	2-04-2021	BGP
1	updated well location	12-09-2020	BGP

Designed by BGP | Drawn by BGP | Checked by BGP
CAD checked by BGP | Approved by BGP
Scale 1"=30' | Date 7/8/2020

Project Title
Existing Conditions
4 Cold Spring Rd
Reading, MA

Issued for
Review

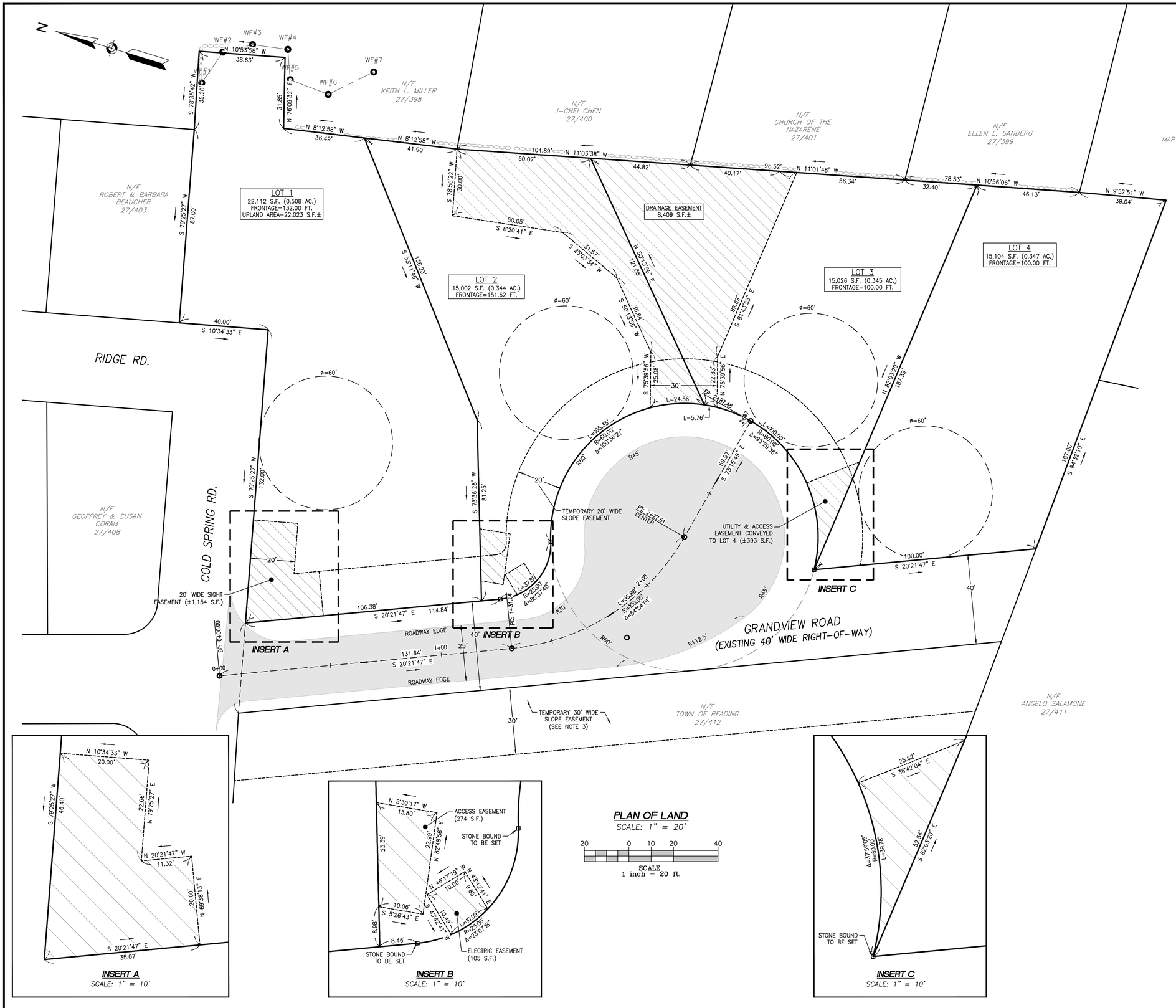
Drawing Title
Existing Conditions
Plan of Land

COMMONWEALTH OF MASSACHUSETTS
BRYAN G. GRUNDEN
NO. 48193
REGISTERED
PROFESSIONAL LAND SURVEYOR

Drawing Number
SV-1

Sheet
1 of 1

Project Number



INSERT A
SCALE: 1" = 10'

INSERT B
SCALE: 1" = 10'

PLAN OF LAND
SCALE: 1" = 20'

20 0 10 20 40
SCALE
1 inch = 20 ft.

INSERT C
SCALE: 1" = 10'

RIGHT-OF-WAY STATEMENT

THE RIGHT-OF-WAY (ROW), SOUTH OF THE INTERSECTION FROM COLD SPRING ROAD AND GRANDVIEW ROAD, IS AS A PRIVATE WAY FOR ALL LAND OWNERS IN AND ABUTTING THE SUBDIVISION, AND WILL REMAIN NAMED AS GRANDVIEW ROAD.

LEGEND

- PROPERTY LINE
- EASEMENT LINE
- WETLAND BOUNDARY
- RXX' RADIUS MEASUREMENT
- WF# WETLAND FLAG
- STONE BOUND WITH DRILL HOLE

GENERAL NOTES

1. WETLANDS WERE FLAGGED BY LEC ENVIRONMENTAL CONSULTANTS IN JUNE 2020.
2. THE PROJECT IS LOCATED OUTSIDE OF ANY PROTECTED RESOURCE AREAS AND FLOOD ZONES AS DETERMINED BY THE MOST RECENTLY PUBLISHED DATA FROM THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION AND FEMA.
3. IN LIEU OF A RETAINING WALL LOCATED IN THE RIGHT-OF-WAY ALONG THE WESTERN BOUNDARY OF GRAND VIEW ROAD, A TEMPORARY THIRTY (30) FOOT WIDE SLOPE EASEMENT IS PROPOSED ON TOWN PROPERTY AND SHALL BE APPROVED BY THE TOWN. SEE SHEET C-5 FOR GRADING.

PLAN REFERENCES

1. BOUNDARY, TOPOGRAPHIC, AND PLANIMETRIC INFORMATION WAS OBTAINED FROM AN ON-THE-GROUND SURVEY PERFORMED AND COMPLETED BY PFS LAND SURVEYING.

PROPERTY INFORMATION

ADDRESS: LOTS 2, 3, & 4
GRANDVIEW ROAD EXTENSION
READING, MA 01867
TAX MAP, LOT: PART OF MAP 27, LOT 404
LOT SIZE: 45,132 S.F. (1.04 AC.)

RECORD OWNERS

LOTS 2, 3, & 4
GRANDVIEW, LLC
45 BEACON STREET
READING, MA 01867

APPLICANT

MICHAEL SALAMONE
45 BEACON ST.
READING, MA 01867

ZONING SUMMARY

ZONING DISTRICT: SINGLE FAMILY 15 (S15)

	REQUIRED	LOT 1	LOT 2	LOT 3	LOT 4
MIN. LOT WIDTH	60'	>60'	>60'	>60'	>60'
MIN. LOT AREA (SF)	15,000	22,112	15,002	15,026	15,104
MIN. FRONTAGE	100'	132.00	151.62	100.00	100.00
RELIEF REQUIRED	–	N	N	N	N

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REVISION	DATE	BY

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867
PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SITE PLAN PERMIT SET

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
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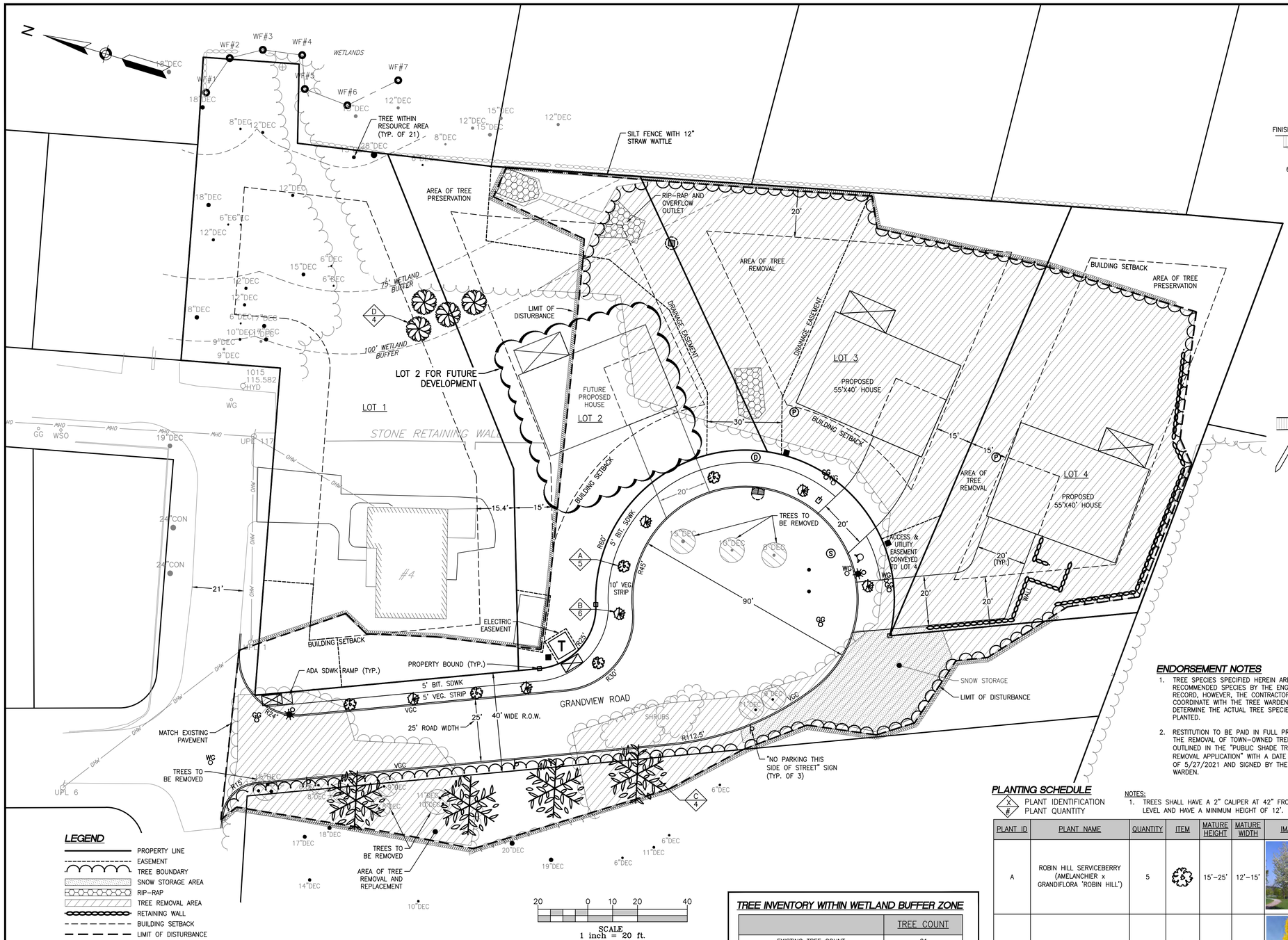
REGISTERED PROFESSIONAL ENGINEER

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
PLAN OF LAND

SHEET NUMBER:
C-1



SCALE
1 inch = 20 ft.

SITE AND TREE PRESERVATION PLAN

SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- EASEMENT
- TREE BOUNDARY
- SNOW STORAGE AREA
- RIP-RAP
- TREE REMOVAL AREA
- RETAINING WALL
- BUILDING SETBACK
- LIMIT OF DISTURBANCE
- WETLAND BOUNDARY
- WETLAND BUFFER
- WF# WETLAND FLAG
- VGC VERTICAL GRANITE CURB
- MAILBOX
- (P) SEWER PUMP
- (S) FORCE MAIN FLUSHING GATE
- FORCE SERVICE BALL VALVE
- CB CATCH BASIN
- (D) DMH DRAIN MANHOLE
- OOS OVERFLOW OUTLET STRUCTURE
- WG WATER VALVE
- GG GAS VALVE
- T ELECTRIC TRANSFORMER & EASEMENT
- ELECTRIC SERVICE PULLBOX
- ELECTRIC MANHOLE

TREE INVENTORY WITHIN WETLAND BUFFER ZONE

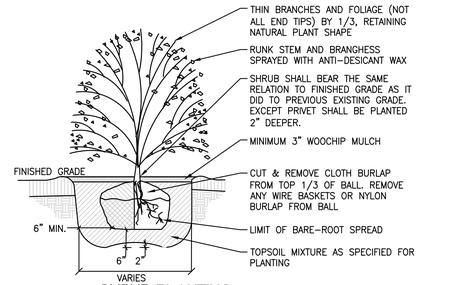
	TREE COUNT
EXISTING TREE COUNT	21
TREES TO BE REMOVED	0
TOTAL TREES TO REMAIN	21

TREE PRESERVATION CALCULATIONS

	LOT 1	LOT 2	LOT 3	LOT 4	Grand View Rd.	TOTALS
LOT AREA, S.F.	22,112	15,002	15,026	15,104	22,164	89,408
NEW IMPERVIOUS, S.F.	0	2,388	2,526	2,998	12,572	23,549
SUM: OPEN SPACE, S.F.	*19,047	12,614	12,500	12,106	9,592	65,859
**REQUIRED # OF TREES	10	7	7	7	N/A	31
AREA OF TREE REMOVAL, S.F.	0	3,605	13,325	11,140	6,217	34,287
AREA OF TREE PRESERVED, S.F.	7,948	3,260	1,590	3,970	2,832	19,600
***ESTIMATED # OF TREES PRESERVED	20	14	7	17	12	70

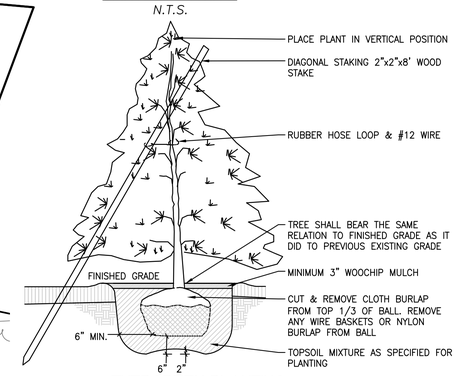
* SUBTRACTED EXISTING IMPERVIOUS AREA OF 3,065 SF.
** BASED ON 1 TREE PER 2,000 S.F. OF OPEN SPACE PER SECTION 7.6.2.2 OF THE TOWN OF READING SUBDIVISION REGULATIONS.
*** ESTIMATED BASED ON 1 TREE PER 225 S.F. (15'X15')

PERMANENT GRASS SEED MIX	SEED, POUNDS PER 1,000 S.F.
LITTLE BLUESTEM OR BROOMSEDGE	0.25
TUMBLE LOVEGRASS	0.10
SWITCHGRASS	0.10
BUSH CLOVER	0.10
RED TOP	0.10



SHRUB PLANTING

N.T.S.



EVERGREEN PLANTING

N.T.S.

GENERAL NOTES

1. ALL PLANT STOCK SHALL CONFORM TO ANSI Z260.1 – NURSERY STOCK, LATEST EDITION (AMERICAN ASSOCIATION OF NURSERYMEN, INC.).
2. NO TREES OR SHRUBS SHALL BE PLANTED AT THE STREET INTERSECTION WHERE THEY COULD BECOME A TRAFFIC HAZARD BY OBSTRUCTING VISION.
3. ALL TREES SHALL BE GUARANTEED BY THE DEVELOPER FOR THEIR ERECTNESS AND GOOD HEALTH FOR TWO (2) YEARS AFTER PLANTING.
4. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE LOAMED AND SEEDED. LOAM DEPTH SHALL BE A MINIMUM OF 4 INCHES. ALL LOAM PLACED SHALL BE pH CORRECTED AND FREE OF CLODS, LUMPS, STONES AND OTHER DELETERIOUS MATERIAL.
5. ANY DEAD VEGETATION SHALL BE REMOVED IMMEDIATELY AND REPLACED IN ACCORDANCE WITH THE SPECIFICATION ON PLAN.
6. OWNER SHALL MAINTAIN LANDSCAPE PLANTINGS TO ENSURE THE AESTHETIC APPEARANCE AND OVERALL PLANT HEALTHINESS IS RETAINED. THIS INCLUDES INSPECTING AND REPLACING PLANTINGS AS NECESSARY, WEEKLY MOWING AND MULCHING.
7. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.
8. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
9. THE CONSTRUCTION SITE SHALL BE SECURED IN A MANNER SO AS TO PREVENT INJURY OR PROPERTY DAMAGE TO THE RESIDENTS OF THE TOWN.
10. AN APPROVED SITE AS-BUILT SHALL BE SUBMITTED TO THE ENGINEERING DIVISION WITHIN 60 DAYS OF CERTIFICATE OF OCCUPANCY. THE AS-BUILT SHALL BE SUBMITTED IN MYLAR AND ELECTRONIC ACAD FORMAT.

ENDORSEMENT NOTES

1. TREE SPECIES SPECIFIED HEREIN ARE SIMPLY RECOMMENDED SPECIES BY THE ENGINEER OF RECORD, HOWEVER, THE CONTRACTOR SHALL COORDINATE WITH THE TREE WARDEN TO DETERMINE THE ACTUAL TREE SPECIES TO BE PLANTED.
2. RESTITUTION TO BE PAID IN FULL PRIOR TO THE REMOVAL OF TOWN-OWNED TREES AS OUTLINED IN THE "PUBLIC SHADE TREE REMOVAL APPLICATION" WITH A DATE OF ACTION OF 5/27/2021 AND SIGNED BY THE TREE WARDEN.

PLANTING SCHEDULE

(X) # PLANT IDENTIFICATION
PLANT QUANTITY

NOTES:
1. TREES SHALL HAVE A 2" CALIPER AT 42" FROM GROUND LEVEL AND HAVE A MINIMUM HEIGHT OF 12'.

PLANT ID	PLANT NAME	QUANTITY	ITEM	MATURE HEIGHT	MATURE WIDTH	IMAGE
A	ROBIN HILL SERVICEBERRY (AMELANCHIER x GRANDIFLORA 'ROBIN HILL')	5	(A)	15'-25'	12'-15'	
B	GOLDSPIRE GINKGO (GINKGO BILOBA "GOLDSPIRE")	6	(B)	15'	5'-6'	
*C	SUGAR MAPLE TREE (ACER SACCHARUM)	4	(C)	60'-75'	40'-50'	
D	HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM)	4	(D)	6'-12'	8'-12'	

* TREE SPECIES TO BE REPLANTED IN TOWN OWNED PROPERTY SHALL BE APPROVED BY THE TREE WARDEN.

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MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY

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GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

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GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
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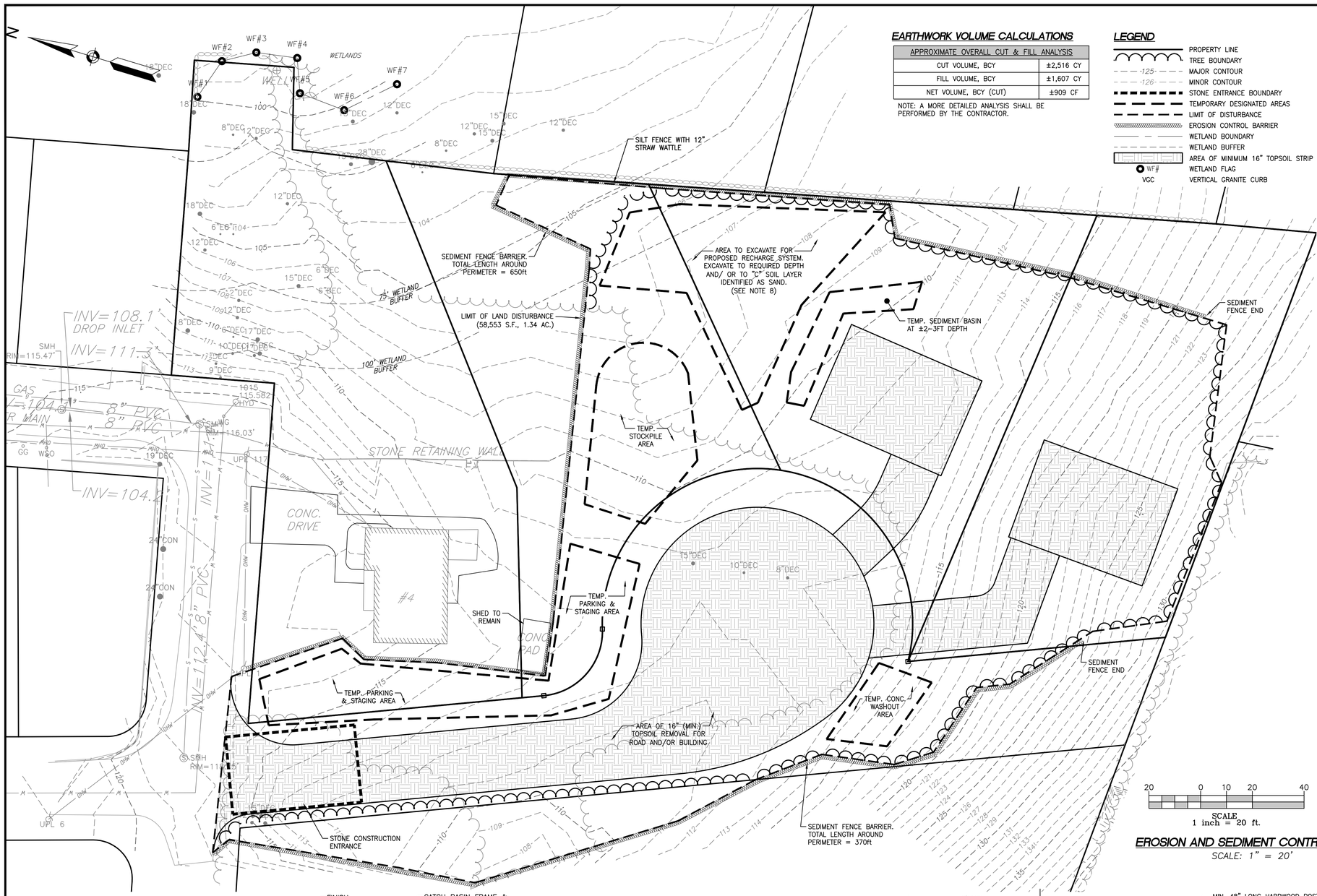
PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
SITE AND TREE PRESERVATION

SHEET NUMBER:
C-2



EARTHWORK VOLUME CALCULATIONS

APPROXIMATE OVERALL CUT & FILL ANALYSIS	
CUT VOLUME, BCY	±2,516 CY
FILL VOLUME, BCY	±1,607 CY
NET VOLUME, BCY (CUT)	±909 CF

NOTE: A MORE DETAILED ANALYSIS SHALL BE PERFORMED BY THE CONTRACTOR.

LEGEND

- PROPERTY LINE
- TREE BOUNDARY
- MAJOR CONTOUR
- MINOR CONTOUR
- STONE ENTRANCE BOUNDARY
- TEMPORARY DESIGNATED AREAS
- LIMIT OF DISTURBANCE
- EROSION CONTROL BARRIER
- WETLAND BOUNDARY
- WETLAND BUFFER
- AREA OF MINIMUM 16" TOPSOIL STRIP
- WF# WETLAND FLAG
- VGC VERTICAL GRANITE CURB

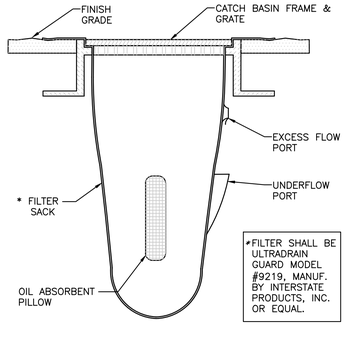
EROSION CONTROL NOTES

1. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS.
2. INSTALL SEDIMENTATION AND EROSION CONTROL MEASURES PRIOR TO CLEARING GRADING AND DEMOLITION WORK. MAINTAIN ALL SEDIMENT AND EROSION CONTROL, AND TREE PROTECTION MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
3. ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATIONS AT THE DIRECTION OF THE TOWN'S DPW ENGINEERING DEPARTMENT.
4. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE. CONTRACTOR SHALL MAINTAIN CONSTRUCTION ENTRANCE UNTIL SITE PAVING IS COMPLETE.
5. INLET PROTECTIONS SHALL BE INSTALLED ON ALL EXISTING CATCH BASINS AS INDICATED ON THE PLAN, AND IMMEDIATELY AFTER THE INSTALLATION OF ALL NEWLY INSTALLED INLETS.
6. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO THE ACCESSING ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED BY VEHICLE OFF-SITE ONTO THE ROADWAY OR INTO STORM DRAINS MUST BE REMOVED.
7. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
8. ADD EROSION BARRIER AROUND PERIMETER OF PROPOSED RECHARGE AREA IF THE EXCAVATED PIT WILL REMAIN EXPOSED FOR MORE THAN TWO (2) DAYS, WEATHER PERMITTING. THE EXCAVATED PIT SHALL BE CLEAN OF ALL SEDIMENT.
9. EROSION CONTROL DEVICES SHALL BE INSTALLED BEFORE GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
10. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UPSTREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVES HAVE BEEN PAVED.
11. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE IMPROVEMENTS ARE BEING MADE. TRAFFIC CONTROL MEASURES TO BE IN ACCORDANCE WITH LOCAL REGULATIONS AND OR MASSDOT.
12. ALL SILT BARRIERS MUST BE PLACED AS ACCESS IS OBTAINED DURING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIER INSTALLATION AND DETENTION FACILITIES, IF REQUIRED, ARE CONSTRUCTED.
13. CONTRACTOR SHALL PERFORM EROSION CONTROL INSPECTIONS REGULARLY AND IMMEDIATELY FOLLOWING HEAVY RAIN STORMS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY. REPAIR OR REPLACE FAILED SYSTEMS AT THE EARLIEST POSSIBLE DATE.
14. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING.
15. ALL DISTURBED AREAS, WITH NO SPECIFIED GROUND COVER ARE TO BE RESTORED WITH MINIMUM FOUR (4) INCHES OF TOPSOIL AND SEEDING.
16. PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED AT ALL TIMES DURING CONSTRUCTION TO ENSURE INTEGRITY. IF DISTURBED, THEY SHALL BE REPLACED BY A REGISTERED SURVEYOR AT THE CONTRACTOR'S EXPENSE.
17. ALL EXCAVATION SHALL INCLUDE CLEARING, STRIPPING AND STOCKPILING TOPSOIL, REMOVING UNSUITABLE MATERIALS, THE CONSTRUCTION OF EMBANKMENTS, CONSTRUCTION FILLS, AND THE FINAL SHAPING AND TRIMMING TO THE LINES AND GRADES SHOWN ON THE PLANS.
18. ALL TREES, BRUSH, AND ORGANIC TOPSOIL AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED, UNLESS OTHERWISE SPECIFIED, AND DISPOSED OF AT AN OFF-SITE LOCATION, WITH THE EXCEPTION THAT ENOUGH TOPSOIL SHALL BE RETAINED FOR RE-SPREAD AND GENERAL LANDSCAPING. AREAS WHICH ARE TO BE FILLED SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D1557, METHOD C) COMPACTION TEST IN THE PAVED AREAS AND 90% IN THE OTHER AREAS.
19. SWEEP CLEAN THE BINDER COURSE PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE. EXCESSIVE CLEANING OF THE BINDER COURSE THAT MAY BE REQUIRED, AND IS NOT THE FAULT OF THE PAVING CONTRACTOR, SHALL BE PAID FOR ON A TIME AND MATERIAL BASIS BY PRIOR AGREEMENT WITH THE GENERAL CONTRACTOR.
20. THE TOWN'S ENGINEERING DIVISION SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION TO MARK OUT TOWN UTILITIES.
21. ALL WATER, SEWER, CURB CUT, STREET OPENING AND JACKIE'S LAW EXCAVATION PERMITS SHALL BE OBTAINED AT THE ENGINEERING DIVISION PRIOR TO ANY EXCAVATIONS.
22. ALL SITE WORK SHALL BE INSPECTED BY THE ENGINEERING DIVISION. THE APPLICANT\OWNER'S CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE OF PROPOSED WORK. ALL INSPECTIONS SHALL BE SCHEDULED 48 HOURS IN ADVANCE

20 0 10 20 40
SCALE
1 inch = 20 ft.

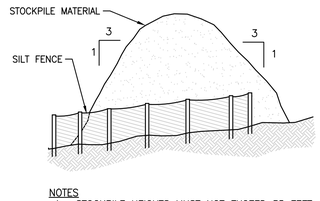
EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1" = 20'



CATCH BASIN INLET PROTECTION

N.T.S.



NOTES
1. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET.
2. STOCKPILE SLOPES MUST BE 3:1 OR FLATTER.

STOCKPILE DETAIL

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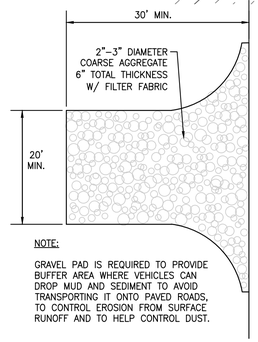
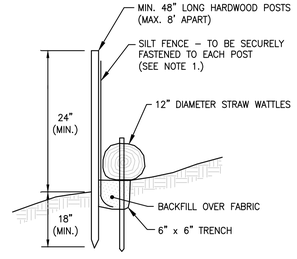


NOTE:

GRAVEL PAD IS REQUIRED TO PROVIDE BUFFER AREA WHERE VEHICLES CAN DROP MUD AND SEDIMENT TO AVOID TRANSPORTING IT ONTO PAVED ROADS, TO CONTROL EROSION FROM SURFACE RUNOFF AND TO HELP CONTROL DUST.

STONE CONSTRUCTION ENTRANCE

N.T.S.



NOTES:
1. WATTLES SHALL BE STAKED A MINIMUM OF 24 INCHES INTO THE GROUND WITH 2 INCHES OR LESS OF STAKE EXPOSED ABOVE WATTLE. STAKE SHALL BE A MAXIMUM OF 4 FEET APART AND WITHIN 2 FEET OF END OF WATTLE SECTIONS.

SILT FENCE/ STRAW WATTLE BARRIER

N.T.S.

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READING, MA 01867

PARCEL ID:
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MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
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APRIL 20, 2023

SITE PLAN PERMIT SET

SCALE: 1" = 20'

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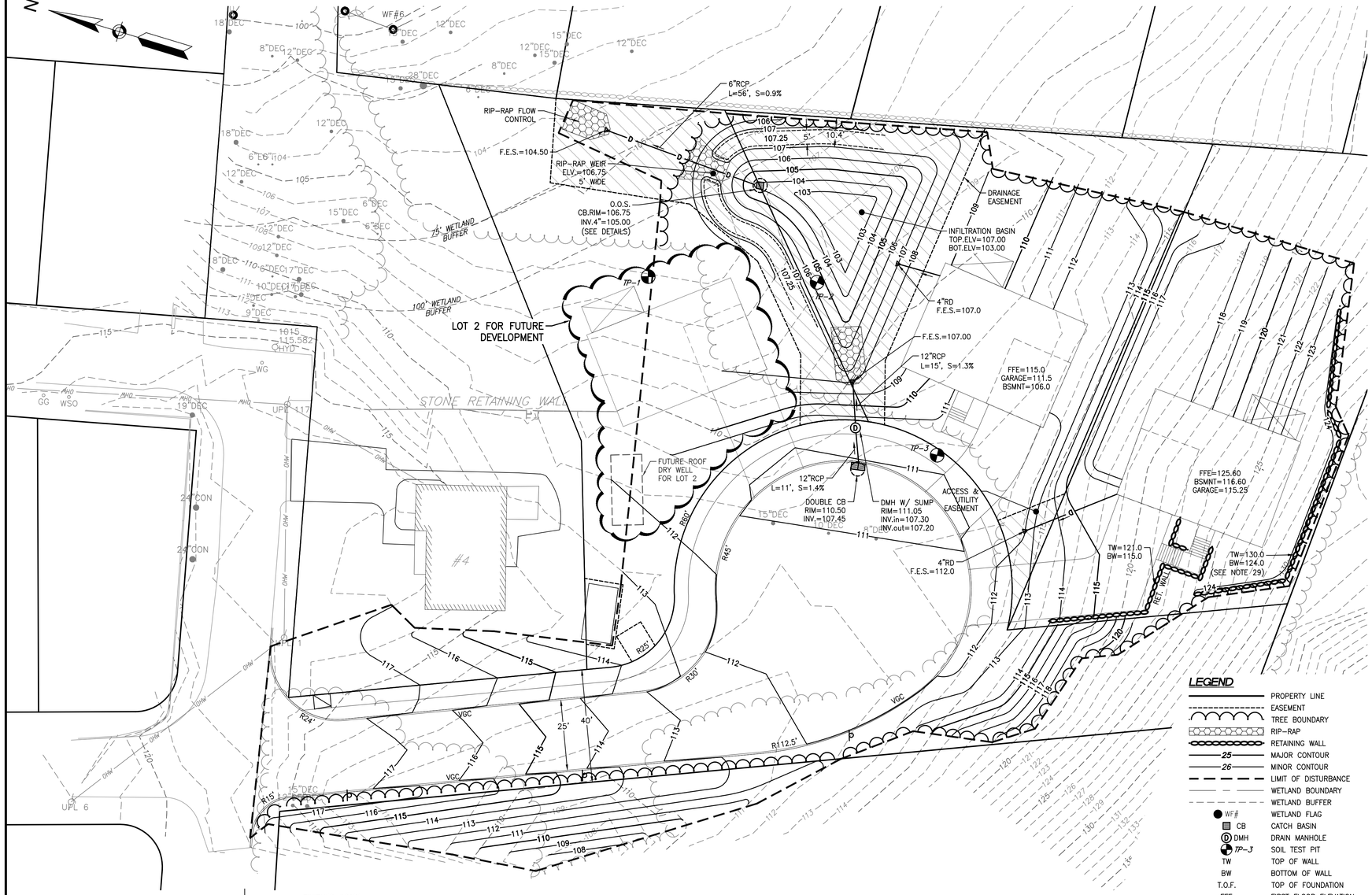
JOB NO.: 20160-149

SHEET TITLE:
EROSION + SEDIMENT CONTROL PLAN

SHEET NUMBER:
C-3



LEGEND

- PROPERTY LINE
- EASEMENT
- TREE BOUNDARY
- RIP-RAP
- RETAINING WALL
- 25 MAJOR CONTOUR
- 26 MINOR CONTOUR
- LIMIT OF DISTURBANCE
- WETLAND BOUNDARY
- WETLAND BUFFER
- WF# WETLAND FLAG
- CB CATCH BASIN
- D DMH DRAIN MANHOLE
- TP-3 SOIL TEST PIT
- TW TOP OF WALL
- BW BOTTOM OF WALL
- T.O.F. TOP OF FOUNDATION
- FFE FIRST FLOOR ELEVATION
- RIM RIM ELEVATION
- INV INVERT ELEVATION
- O.O.S. OVERFLOW OUTLET STRUCTURE
- F.E.S. FLARED END SECTION

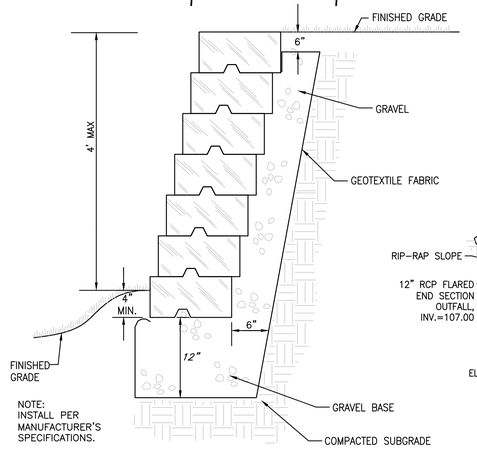
GRADING AND DRAINAGE NOTES

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE TO THE TOWN'S LATEST CONSTRUCTION SPECIFICATIONS AND DETAILS.
2. GRADING IN THE RIGHT-OF-WAY SHALL IN ACCORDANCE WITH LOCAL REGULATIONS, UNLESS OTHERWISE APPROVED BY THE TOWN.
3. THE CONTRACTOR SHALL NOTIFY DIG SAFE AND THE TOWN A MINIMUM OF 72 HOURS PRIOR TO THE START OF ANY EXCAVATIONS.
4. INSTALL ALL APPROPRIATE TREE PROTECTION MEASURES PRIOR TO GRADING AND EXCAVTION.
5. EXACT LOCATIONS OF SAW-CUTTING MAY BE FIELD DETERMINED BASED ON EXISTING PAVEMENT CONDITIONS.
6. THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, REFERENCE POINTS AND STAKES.
7. EROSION CONTROL MEASURES SHALL BE STABILIZED IN PLACE BEFORE BEGINNING SITE WORK. THESE MEASURES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
8. ALL INDICATED ELEVATIONS ARE FINISHED ELEVATIONS.
9. LOCATE AND PROTECT ALL UTILITIES ASSOCIATED WITH THE PROJECT PRIOR TO CONSTRUCTION.
10. ALL EXCAVATION SHALL INCLUDE CLEARING, STRIPPING AND STOCKPILING TOPSOIL, REMOVING UNSUITABLE MATERIALS, THE CONSTRUCTION OF EMBANKMENTS, CONSTRUCTION FILLS, AND THE FINAL SHAPING AND TRIMMING TO THE LINES AND GRADES SHOWN ON THE PLANS.
11. ALL TREES, BRUSH, AND ORGANIC TOPSOIL AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED, UNLESS OTHERWISE SPECIFIED, AND DISPOSED OF AT AN OFF-SITE LOCATION, WITH THE EXCEPTION THAT ENOUGH TOPSOIL SHALL BE RETAINED FOR RE-SPREAD AND GENERAL LANDSCAPING. AREAS WHICH ARE TO BE FILLED SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D1557, METHOD C) COMPACTION TEST IN THE PAVED AREAS AND 90% IN THE OTHER AREAS.
12. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE TO ALL INLETS AND CATCH BASINS. AREAS OF SURFACE PONDING SHALL BE CORRECTED BY CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
13. IF AREAS ARE DISTURBED BEYOND PROPOSED GRADES BY NEGLIGENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY REGRADING OR REPAIR TO MATCH ORIGINAL EXISTING CONDITIONS.
14. SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. SHORING SHALL BE IN ACCORDANCE WITH ALL O.S.H.A AND LOCAL REGULATIONS.
15. CONTRACTOR SHALL ADJUST GRADES BY VARYING THE PAVEMENT SECTIONS ACCORDINGLY. EXISTING COMPACTED SUBGRADE TO BE DISTURBED AS LITTLE AS POSSIBLE.
16. ALL PROPOSED SPOT ELEVATIONS SHOWN INDICATE FINISHED GRADED ELEVATIONS AT EDGE OF PAVEMENT AND/OR GRADE BREAKS, UNLESS OTHERWISE NOTED.
17. MAINTAIN PROPER SITE DRAINAGE AT ALL TIMES DURING THE COURSE OF CONSTRUCTION, AND PREVENT STORM WATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS.
18. SPREAD AND COMPACT UNIFORMLY TO THE DEGREE SPECIFIED ALL EXCESS TRENCH SPOIL AFTER COMPLETION OF THE UNDERGROUND IMPROVEMENTS (EARTHWORK CONTRACTOR SHALL MAKE APPROPRIATE ADJUSTMENTS IN ROUGH GRADING TO ACCOMMODATE TRENCH SPOIL).
19. PROVIDE WATER TO ADD TO DRY MATERIAL IN ORDER TO ADJUST THE MOISTURE CONTENT FOR THE PURPOSE OF ACHIEVING THE SPECIFIED COMPACTION.
20. UNSUITABLE MATERIAL SHALL BE CONSIDERED AS MATERIAL WHICH IS NOT SUITABLE FOR THE SUPPORT OF PAVEMENT AND BUILDING CONSTRUCTION, AND IS ENCOUNTERED BELOW NORMAL TOPSOIL DEPTHS AND THE PROPOSED SUB-GRADE ELEVATION. THE DECISION TO REMOVE SAID MATERIAL, AND TO WHAT EXTENT, SHALL BE MADE BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.
21. REPAIR ANY BASE COURSE AND BINDER COURSE FAILURES PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE.
22. SWEEP CLEAN THE BINDER COURSE PRIOR TO THE INSTALLATION OF THE FINAL BITUMINOUS CONCRETE SURFACE COURSE. EXCESSIVE CLEANING OF THE BINDER COURSE THAT MAY BE REQUIRED, AND IS NOT THE FAULT OF THE PAVING CONTRACTOR, SHALL BE PAID FOR ON A TIME AND MATERIAL BASIS BY PRIOR AGREEMENT WITH THE GENERAL CONTRACTOR.
23. CONFIRM INVERTS OF ALL EXISTING STORM INLETS AND SANITARY SEWER MANHOLES BEFORE COMMENCING CONSTRUCTION.
24. A GEOTEXTILE MATTING (LANDLOCK TRM 450 OR EQUIVALENT) SHALL BE USED FOR EROSION CONTROL AN ALL SLOPES GREATER THAN 3H:1V IF NECESSARY.
25. DRAINAGE STRUCTURES AND UNDERGROUND INFILTRATION FACILITIES SHALL BE INSPECTED SEMIANNUALLY TO ENSURE PROPER WORKING ORDER.
26. UNSUITABLE EXISTING SOILS, SILT, AND DEBRIS SHALL BE ADEQUATELY REMOVED FROM THE AREA OF THE PROPOSED INFILTRATION BASIN. REMOVE ALL ORGANICS.
27. IF THE CONTRACTOR IN THE COURSE OF WORK FINDS ANY DISCREPANCIES BETWEEN THE PLANS AND THE PHYSICAL CONDITIONS OF THE LOCALITY, OR ANY ERRORS OR OMISSIONS IN THE PLANS OR IN THE LAYOUT AS GIVEN BY THE ENGINEER, IT SHALL BE HIS DUTY TO IMMEDIATELY INFORM THE ENGINEER, IN WRITING AND THE ENGINEER WILL PROMPTLY VERIFY THE SAME. ANY WORK DONE AFTER SUCH A DISCOVERY, UNTIL AUTHORIZED, WILL BE AT THE CONTRACTOR'S RISK.
28. ANNUAL O&M REPORTS SHALL BE DELIVERED TO THE OFFICE OF THE TOWN ENGINEER BY JANUARY 15 OF EACH YEAR.
29. ANY RETAINING WALL OVER FOUR (4) FEET IN RETAINED HEIGHT SHALL REQUIRE AN ENGINEERED DESIGN FROM A DESIGN PROFESSIONAL.

GRADING AND DRAINAGE PLAN

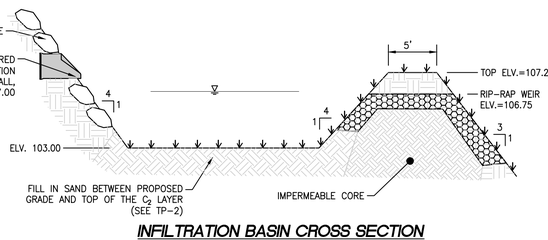
SCALE: 1" = 20'

SCALE
1 inch = 20 ft.

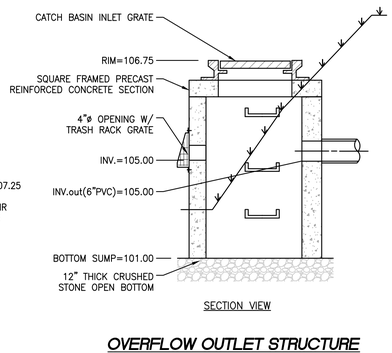


NOTE:
INSTALL PER MANUFACTURER'S SPECIFICATIONS.

4ft MAX HIGH RETAINING WALL
N.T.S.



INFILTRATION BASIN CROSS SECTION
N.T.S.



SECTION VIEW

OVERFLOW OUTLET STRUCTURE
N.T.S.

SOIL TEST RESULTS

TEST DATE: 7/6/2020
WEATHER: 65'F, SUNNY/ DRY
SOIL EVALUATOR: ARMAND PORRAZZO
LICENCE #: 1958

TP-1

ELV.	DPT.	Soil Data
106	0"-9"	A_p (0"-9") Sandy Loam 10YR 3/2
105	9"-24"	B (9"-24") Sandy Loam 10YR 7/6
104		
103		
102		
101		
100	24"-108"	C (24"-108") Loamy Sand 2.5Y 4/3
99		
98		
97		
96	108"-	

NO REFUSAL
NO WEEPING
REDOX @ 60"
ESHWT = 101.0

TP-2

ELV.	DPT.	Soil Data
108	0"-12"	A (0"-12") Sandy Loam 10YR 3/2
107		
106	12"-36"	B_w (12"-36") Sandy Loam 10YR 7/6
105		
104		
103	36"-80"	C_1 (36"-80") Loamy Sand 2.5Y 5/2
102		
101		
100	80"-120"	C_2 (80"-120") Sand Gravel 2.5Y 4/3
99		
98	120"-	

NO REFUSAL
NO WEEPING
NO REDOX

TP-3

ELV.	DPT.	Soil Data
112	0"-8"	A (0"-8") Sandy Loam 10YR 3/2
111		
110	8"-27"	B_w (8"-27") Sandy Loam 10YR 7/6
109		
108		
107	27"-66"	C (27"-66") Loamy Sand 2.5Y 5/2
106		
105		
104		
103		
-	66"-	

NO REFUSAL
NO WEEPING
NO REDOX

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REVISION	DATE	BY

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867
PARCEL ID:
MAP 27, LOT 404

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)
SITE PLAN PERMIT SET

APRIL 20, 2023

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

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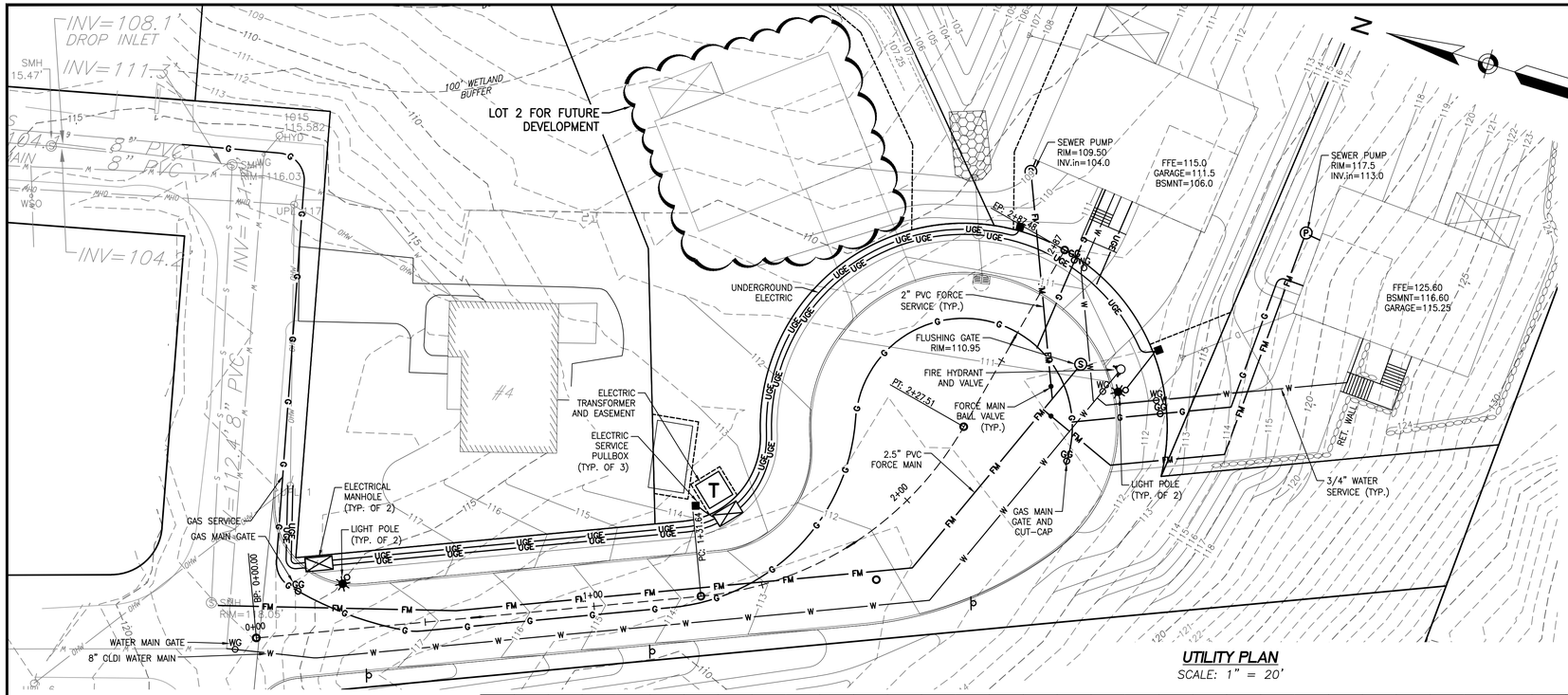
ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54684
REGISTERED PROFESSIONAL ENGINEER

SURVEYOR:
PFS Land Surveying, Inc.
20 Baleh Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
GRADING AND DRAINAGE PLAN

SHEET NUMBER:
C-4



UTILITY PLAN
SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- RIP-RAP
- RETAINING WALL
- 125 MAJOR CONTOUR
- 126 MINOR CONTOUR
- LIMIT OF DISTURBANCE
- D STORM DRAIN LINE
- G GAS LINE
- OHW OVERHEAD UTILITY WIRE LINE
- S SANITARY SEWER UTILITY LINE
- FM SEWER FORCE MAIN
- UGE UNDERGROUND ELECTRIC LINE
- W WATER UTILITY LINE
- CB CATCH BASIN
- DMH DRAIN MANHOLE
- SEWER PUMP
- SEWER FLUSHING GATE
- FORCE MAIN BALL VALVE
- GAS VALVE
- WATER VALVE
- FIRE HYDRANT
- RIM RIM ELEVATION
- INV INVERT ELEVATION
- STREET LIGHT
- T ELECTRIC TRANSFORMER & EASEMENT
- ELECTRIC SERVICE PULLBOX
- ELECTRIC MANHOLE

SEWAGE CALCULATIONS

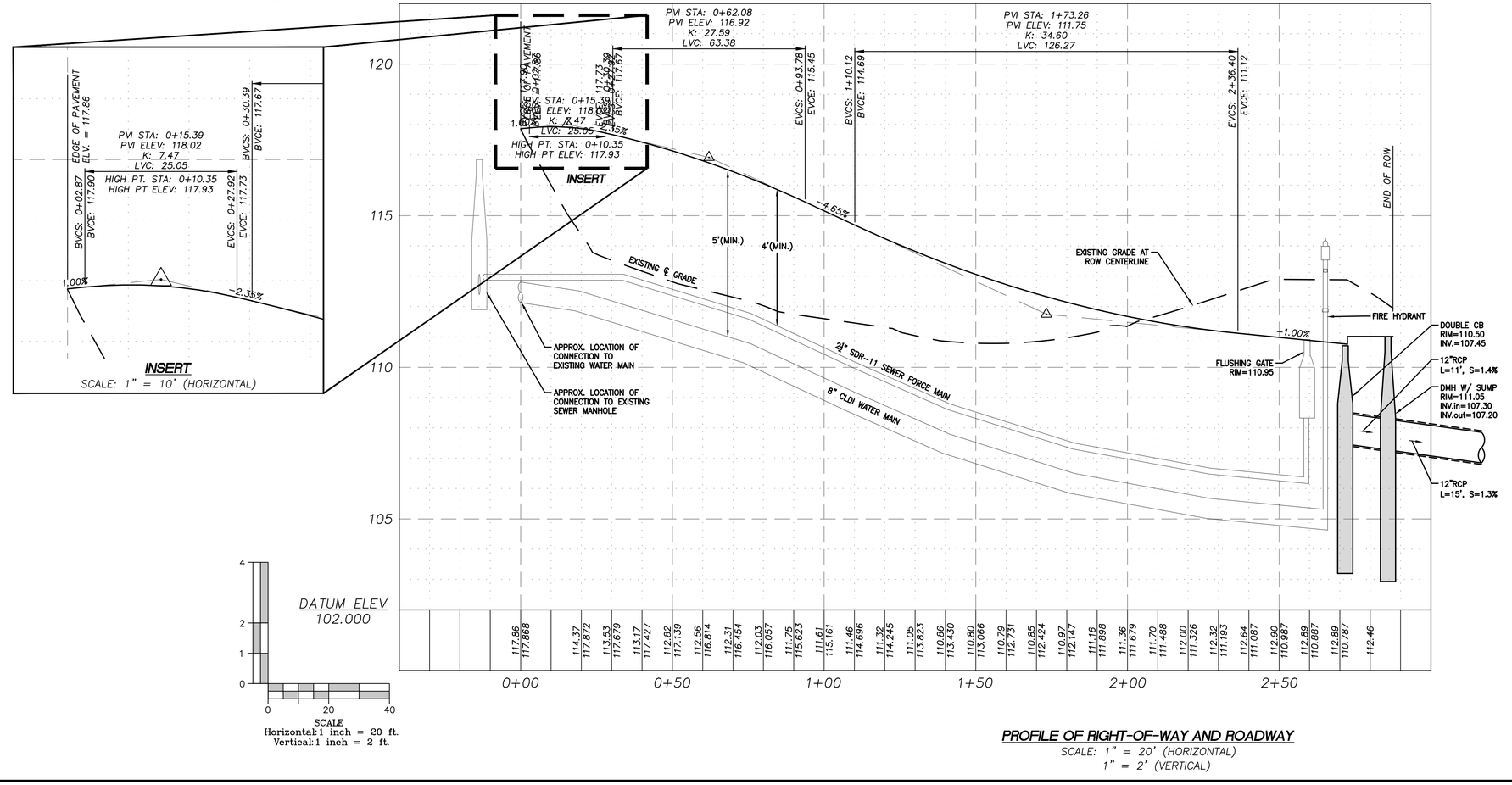
ASSUMPTIONS MADE FOR EACH PROPOSED HOUSE TO CONTAIN FOUR (4) BEDROOMS. CALCULATIONS BELOW ARE IN ACCORDANCE TO 310 CMR 15.00.

3 NEW HOUSES * 4 BEDROOMS PER HOUSE = 12 BEDROOMS ADDED

12 BEDROOMS * 110 GAL/DAY = 1,320 GAL/DAY OF ADDED SEWAGE

UTILITY NOTES

1. CONTRACTOR IS TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND ENSURE NO CONFLICTS EXIST WITH PROPOSED IMPROVEMENTS. NOTIFY ENGINEER IMMEDIATELY IF UTILITIES ARE LOCATED DIFFERENTLY THAN SHOWN. THE CONTRACTOR SHALL COORDINATE WITH EACH RESPECTIVE UTILITY COMPANY IN ORDER TO RELOCATE IF NEEDED IN CONFORMANCE WITH THEIR GUIDELINES.
2. CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO THE REMOVAL OF INDICATED UTILITIES ON SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS REQUIRED FOR DEMOLITION AND HAUL OFF FROM THE APPROPRIATE AUTHORITIES.
3. THE DEPARTMENT OF PUBLIC WORKS OR APPLICABLE GOVERNING DEPARTMENT MUST AUTHORIZE AND PERMIT TO CONSTRUCT, ALTER OR MODIFY A WATER OR SEWER LINE.
4. AT THE COMPLETION OF THE WATER AND/OR SEWER CONSTRUCTION AND PRIOR TO RECORDING THE FINAL PLAT, THE CONTRACTOR WILL FURNISH THE WATER SYSTEM INSPECTOR RECORD DRAWINGS OF THE PROJECT.
5. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE GAS COMPANY FOR THE CONSTRUCTION OF THE GAS LINE BETWEEN METER AND MAIN.
6. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE POWER COMPANY FOR THE CONSTRUCTION OF ELECTRICAL CONDUIT TO PROVIDE SERVICE AND IF A TRANSFORMER IS REQUIRED TO BE INSTALLED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING, PRIOR TO CONSTRUCTION, ALL EXISTING LOCATIONS AND INVERT ELEVATIONS OF SANITARY SEWERS, STORM DRAINAGE, AND WATER MAINS. IF ANY INVERT ELEVATION VARIES MORE THAN 0.1 FT. FROM RECORD ELEVATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. WORK SHALL NOT PROCEED UNTIL THE CONTRACTOR IS NOTIFIED BY THE ENGINEER.
8. CONNECT TO EXISTING UTILITIES AND INSTALL UTILITIES IN COMPLIANCE WITH REQUIREMENTS OF APPROPRIATE JURISDICTIONAL AGENCIES.
9. COORDINATE WITH BUILDING PLANS TO ASSURE ACCURACY OF UTILITY CONNECTIONS AND COMPLIANCE WITH LOCAL CODES.
10. ALL SEWERS TO BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING CLEANING OF ANY SILT OR DEBRIS ACCUMULATED IN STRUCTURES.
11. ALL SURPLUS EXCAVATED MATERIAL FROM THE TRENCH SHALL BE DISPOSED OFF THE SITE BY CONTRACTOR.
12. TRENCHING SHOULD BE CONDUCTED IN ACCORDANCE WITH ALL OSHA REGULATIONS.
13. COORDINATE EXACT TRENCHING, ROUTING, AND POINT OF TERMINATION WITH ALL UTILITY COMPANIES.
14. BACKFILL MATERIAL SHALL BE SUITABLE MATERIAL IN COMPLIANCE WITH THE TOWN OF DANVERS AND/OR THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT).
15. WATER MAIN SHALL HAVE A MINIMUM COVER OF FIVE (5) FEET.
16. THE SANITARY SEWER AND POTABLE WATER LINES ARE TO BE SEPARATED BY AT LEAST 10 FEET HORIZONTALLY, OR THE POTABLE WATER LINE SHALL BE AT LEAST 18 INCHES VERTICALLY ABOVE THE SANITARY SEWER.
17. CONTRACTOR TO RECONFIGURE PROPOSED ELECTRIC/TELEPHONE/CABLE CONDUITS AS NECESSARY TO AVOID CONFLICT WITH TREES/LANDSCAPING.
18. THRUST BLOCKS TO BE PLACED AT ALL BEND LOCATIONS WITHIN THE POTABLE WATER LINES. SEE DETAIL SHEETS.
19. ALL UTILITIES SHALL BE APPROVED MATERIALS AND INSTALLED IN ACCORDANCE WITH THE DEPARTMENT OF PUBLIC WORKS STANDARDS.
20. THE TOWN'S ENGINEERING DIVISION SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION TO MARK OUT TOWN UTILITIES.



PROFILE OF RIGHT-OF-WAY AND ROADWAY
SCALE: 1" = 20' (HORIZONTAL)
1" = 2' (VERTICAL)

UTILITY AND ROADWAY PROFILE PLAN
SCALE: 1" = 20' (HORIZONTAL)

CALL BEFORE YOU DIG 1-888-344-7233 MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SITE PLAN PERMIT SET

SCALE: 1" = 20'

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

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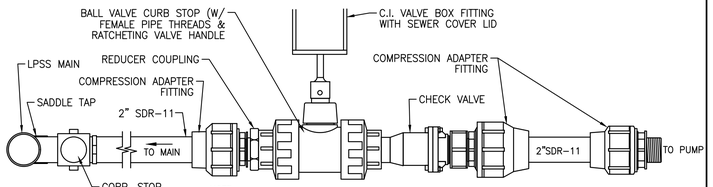
ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com
PROFESSIONAL SEAL

JOB NO.: 20160-149

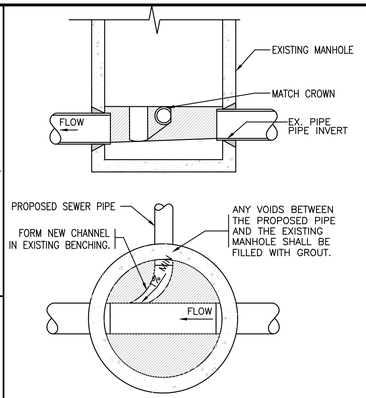
SHEET TITLE:
UTILITY + ROADWAY PROFILE PLAN

SHEET NUMBER:
C-5



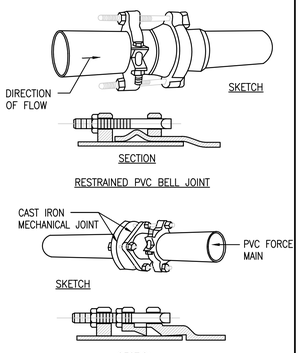
LOW PRESSURE SEWER SERVICE LATERAL VALVE AND CONNECTION

N.T.S.



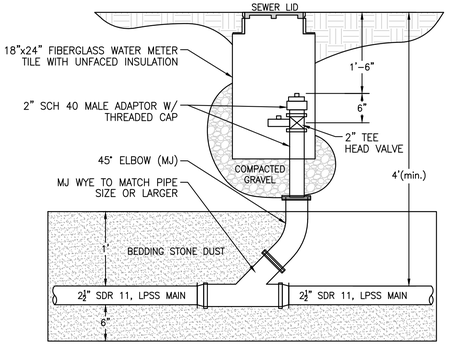
CONNECTION TO EXISTING SEWER MANHOLE

N.T.S.



RESTRAINED MECHANICAL JOINT FITTING

N.T.S.



SEWER FORCE MAIN FLUSHING CONNECTION

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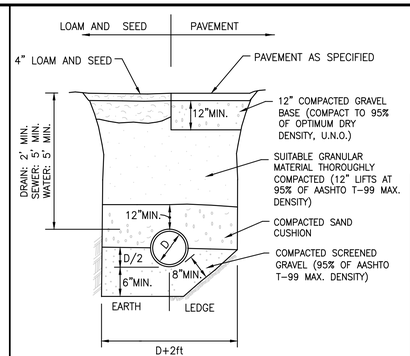
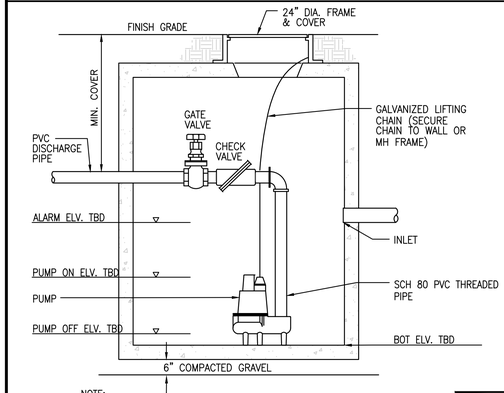


DRAIN/ SEWER/ WATER TRENCH AND BACKFILL DETAIL

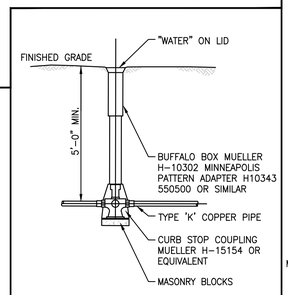
N.T.S.



NOTE:
SEWER PUMP DESIGNS FOR ASSOCIATED LOTS SHALL BE SUBMITTED TO THE ENGINEERING DIVISION FOR REVIEW AND APPROVAL UPON OR BEFORE THE SUBMISSION OF THE APPLICATION FOR THE SEWER PERMIT OF EACH LOT.

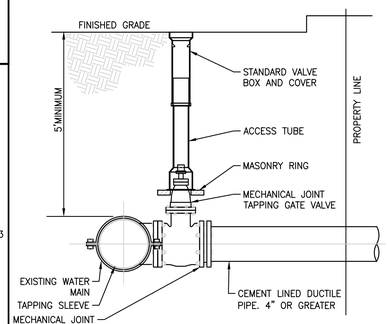
PUMP CHAMBER

N.T.S.



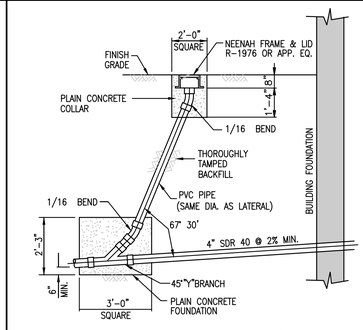
WATER SERVICE VALVE

N.T.S.



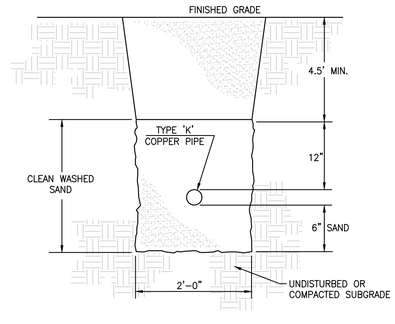
WATER CONNECTION WITH TAPPING SLEEVE AND VALVE

N.T.S.



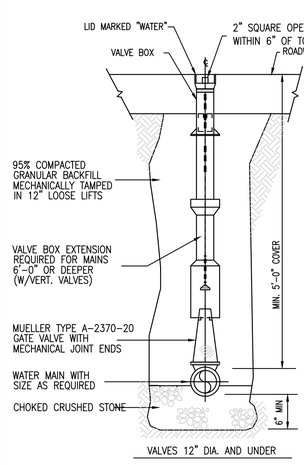
SEWER SERVICE AT BUILDING W/ CLEANOUT

N.T.S.



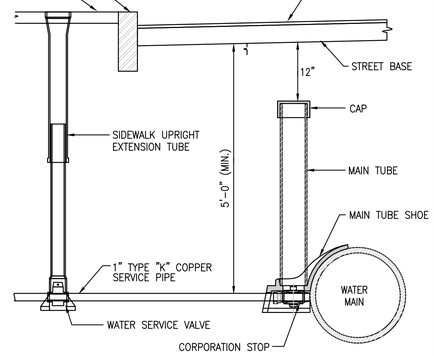
COPPER WATER SERVICE PIPE TRENCH

N.T.S.



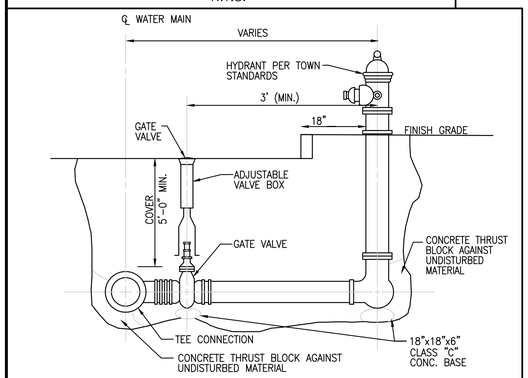
UNDERGROUND GATE VALVE

N.T.S.



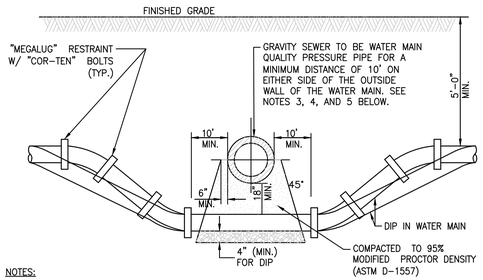
TYPICAL WATER SERVICE CONNECTION

N.T.S.



PROPOSED FIRE HYDRANT

N.T.S.

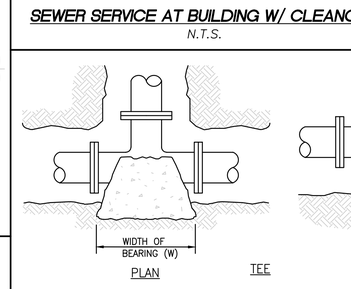


NOTES:

1. HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATERMAINS AND SEWERS SHALL COMPLY WITH APPLICABLE SECTIONS OF LOCAL OR STATE REQUIREMENTS, WHICHEVER IS MORE STRINGENT.
2. CONTRACTOR MAY BEND WATER MAIN PIPE UNIFORMLY UNDER SEWERS WITHOUT USING FITTINGS, PROVIDED THAT JOINT DEFLECTION DOES NOT EXCEED 5 DEGREES PER JOINT FOR PIPE UNDER 14" IN DIAMETER AND 3 DEGREES PER JOINT FOR PIPE 14" AND OVER IN DIAMETER. IF FITTINGS ARE USED, CONTINUOUS STRAPPING WITH RODS, STRAPS, NUTS AND BOLTS BELOW NORMAL WATERMAIN DEPTH ARE REQUIRED, OR RETAINER GLANDS MAY BE USED IN LIEU OF STRAPPING. RETAINER GLANDS TO BE CLOW No. F-1058 OR APPROVED EQUAL.
3. ALL SANITARY SEWER (INCLUDING SERVICE) CROSSINGS WHERE THE WATER MAINS OR WATER SERVICES ARE LESS THAN 18" VERTICALLY ABOVE THE SEWER SHALL BE POLYVINYL CHLORIDE PRESSURE PIPE (SDR 26-160 PSI) AND SHALL CONFORM WITH THE LATEST REVISION OF ASTM D- 2241. JOINTS SHALL CONFORM TO ASTM D-3139 AND ELASTOMERIC GASKETS SHALL CONFORM TO ASTM F-477. THE SAME PIPE AND JOINT MATERIALS SHALL BE USED WHENEVER WATER MAIN CROSSES BELOW THE SEWER.
4. ALL STORM SEWER (INCLUDING SERVICE) CROSSINGS WHERE THE WATER MAINS ARE LESS THAN 18" VERTICALLY ABOVE THE SEWER SHALL BE REINFORCED CONCRETE PIPE, ASTM C-361, CLASS D-25,WITH BELL AND SPIGOT JOINTS AND RUBBER GASKETS, OR PVC SDR 26 AS SPECIFIED IN NOTE 3 ABOVE. THE SAME PIPE AND JOINT MATERIAL SHALL BE USED WHENEVER WATER MAIN CROSSES BELOW THE SEWER.
5. FOR NEW SEWER INSTALLATIONS CROSSING OVER WATER MAINS, THE ENTIRE RUN OF NEW SEWER SHALL BE WATER MAIN QUALITY PIPE, EXTENDING FROM STRUCTURE TO STRUCTURE ON EACH SIDE OF THE CROSSING.

WATER MAIN CROSSING

N.T.S.



MINIMUM THRUST BLOCK AREA REQUIRED (Y x W)		
PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° & 22½-8° BENDS
4" OR LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET

NOTES
1. THRUST BLOCKS TO EXTEND TO UNDISTURBED GROUND.
2. ALL CONCRETE SHALL BE CLASS B.
3. TABLE IS BASED ON 3000 LB./SQ. FT. SOIL. IF SOIL CONDITIONS ARE FOUND TO INDICATE SOIL BEARING LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
4. AREAS FOR PIPES GREATER THAN 16" SHALL BE CALCULATED FOR EACH PROJECT.
5. FOR ALL NON BEARING VERTICAL SURFACES.

TRUST BLOCKS FOR WATER SYSTEM

N.T.S.

CALL BEFORE YOU DIG 1-888-344-7233 MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867
PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)

SITE PLAN PERMIT SET

SCALE: N.T.S.

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION
DATE: _____

FOR REGISTRY USE ONLY

ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com

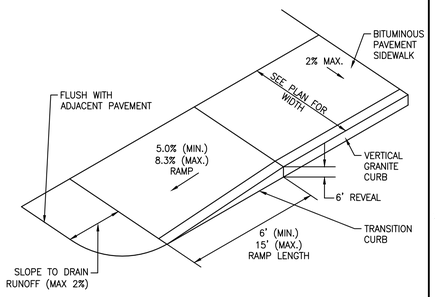
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL SEAL

JOB NO.: 20160-149

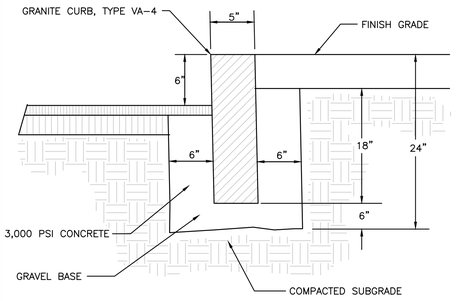
SHEET TITLE:
DETAILS
SHEET 1

SHEET NUMBER:
C-6



ADA ACCESSIBLE SIDEWALK RAMP

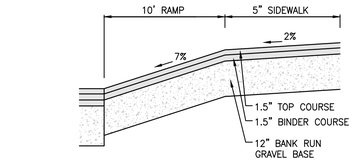
N.T.S.



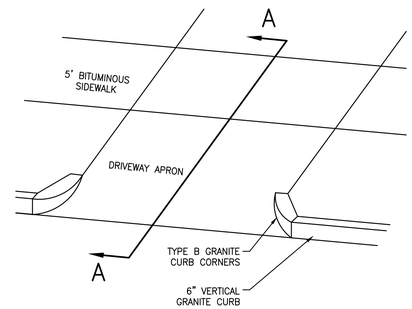
NOTE:
INSTALL GRANITE CURB INLET AT EACH CATCH BASIN LOCATION

VERTICAL GRANITE CURB

N.T.S.

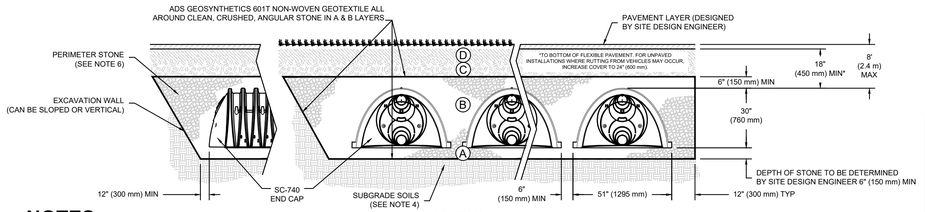


SECTION A–A



TYPICAL DRIVEWAY APRON

N.T.S.

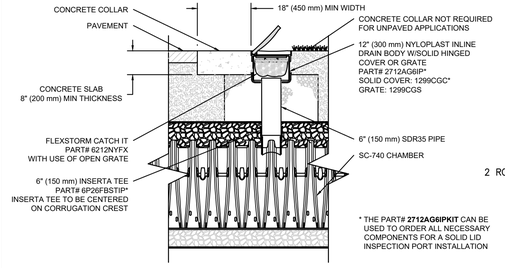


SECTION
NTS

NOTES:

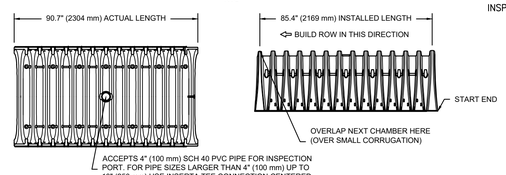
1. SC–740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

Ⓐ DOUBLE WASHED ¾"–1½" STONE
Ⓑ DOUBLE WASHED ¾"–1¼" STONE
Ⓒ CLEAN GRANULAR FILL MATERIAL
Ⓓ 4"–6" TOPSOIL (LAWN AREA) OR 12" COMPACTED GRAVEL BASE (PAVEMENT AREA)

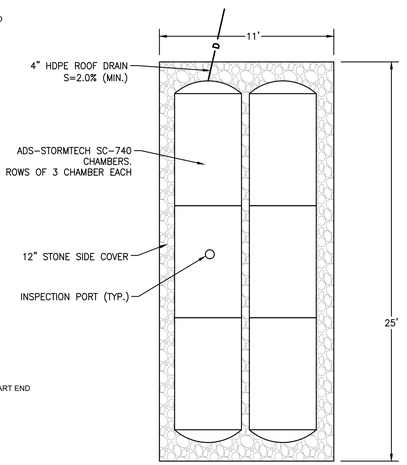


* THE PART# **2712AG6IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

6" PVC INSPECTION PORT DETAIL
NTS



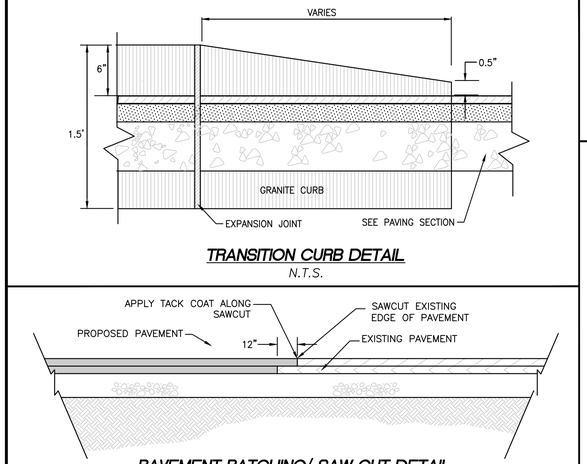
SC-740 TECHNICAL SPECIFICATION
NTS



NOTE:
SEE ADDITIONAL DETAILS AND SPECIFICATIONS ON THIS PAGE.

ROOF DRY WELL DETAIL
(FOR FUTURE INSTALL AT LOT 2)

N.T.S.



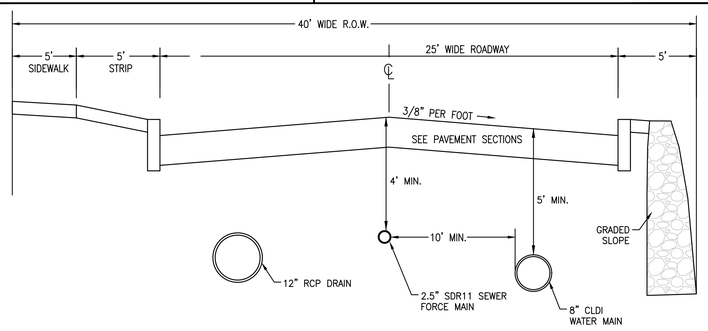
PAVEMENT PATCHING/ SAW CUT DETAIL

N.T.S.

NOT USED

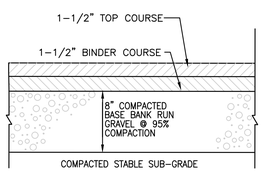
TRANSITION CURB DETAIL

N.T.S.

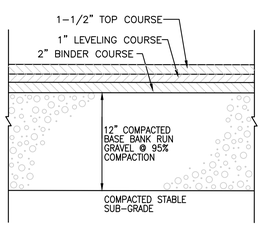


TYPICAL ROADWAY CROSS SECTION

N.T.S.



SIDEWALK SECTION

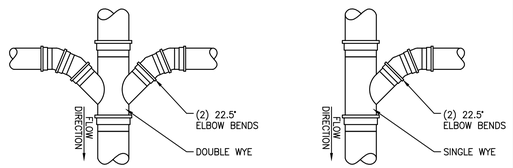


ROADWAY SECTION

NOTE:
COMPACTED FILL SUBSURFACE BACKFILL SHALL MEET SPECIFICATIONS SET FORTH BY THE ENGINEERING DEPARTMENT AND/OR MASSDOT SPECIFICATIONS.

BITUMINOUS PAVEMENT SECTION

N.T.S.

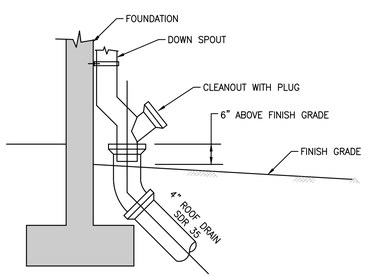


MANIFOLD PLAN VIEW

'WYE' CONNECTION PLAN VIEW

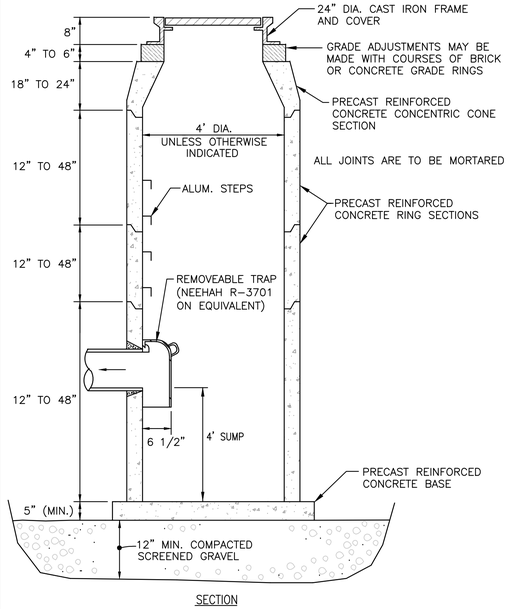
MANIFOLD AND WYE CONNECTIONS

N.T.S.



TYPICAL DOWNSPOUT LEADER

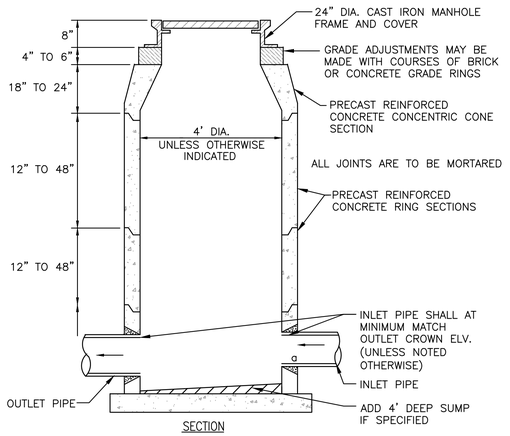
N.T.S.



SECTION

TYPICAL CATCH BASIN

N.T.S.



SECTION

TYPICAL DRAIN MANHOLE

N.T.S.

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION

DATE: _____

FOR REGISTRY USE ONLY

ENGINEER:
FODERA ENGINEERING
(617)877-3293
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923

PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER

SURVEYOR:
PFS Land Surveying, Inc.
20 Balch Avenue
Groveland, MA 01834
P 978.891.5203
www.pfsland.com

PROFESSIONAL SEAL

JOB NO.: 20160–149

SHEET TITLE:
DETAILS
SHEET 2

SHEET NUMBER:
C-7

CALL BEFORE YOU DIG
1–888–344–7233
MASSACHUSETTS ONE CALL SYSTEM

REVISION	DATE	BY

PROJECT LOCATION:
LOTS 2, 3, + 4
GRANDVIEW ROAD
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

APRIL 20, 2023

PLAN SET:
MAJOR SITE PLAN MODIFICATION
GRANDVIEW ROAD SUBDIVISION – PRIVATE WAY
(GRANDVIEW ROAD EXTENSION)
SITE PLAN PERMIT SET

SCALE: N.T.S.

Town of Reading
Engineering Division

Memo

To: Andrew MacNichol, Community Development Director

From: Alex Rozycki, P.E., Senior Civil Engineer

CC: Ryan A. Percival, P.E., Town Engineer; Mary Benedetto, Senior Planner

Date: April 27, 2023

Re: Grandview Road Extension

Materials reviewed:

- Proposed Site Plans entitled; "Major Site Plan Modification- Grandview Road Subdivision prepared by Fodera Engineering dated April 20th 2023"
- Site Plan Set entitled "Penny Lane Subdivision – Grandview Road Extension – Private Way; prepared by Fodera Engineering; dated December 2nd 2020"

The Engineering Division has reviewed the proposed site application for the proposed project and offers the following comments:

- Previous plans for the southernmost home included roof drainage tied into the infiltration system, there are concerns that the adjacent property will now receive stormwater flows given the grades. The stormwater report indicates all impervious area will be captured, does that include hardscapes on the lots? The previous plan captured impervious areas on individual lots.
- The infiltration chamber design under the endorsed plans will allow for more land use in the backyard areas, the proposed detention pond design eliminates the use of land.
- Engineering sees no reason to support the waiver allowing less cover on utilities, there appears to be no benefit to support such a waiver.
- The Engineering Department does not approve of gas lines or electrical services, those shall be coordinated and approved by others.
- There are many instances of utilities crossing, we are particularly concerned with the crossing of water and sewer. Crossings should be limited, and invert elevations of the services may be requested to ensure proper separation.
- Inverts of the existing sewer manhole should be provided, as well as a detail for the force main connection.
- MaDEP regulations may not allow for discharge of water or overflow rip-rap within 10 feet of a property line.
- NPDES MS4 permit requirements shall be met for TSS removal and Phosphorous reduction. The supporting calculations should be provided and reviewed by Engineering. The project will also require a Storm Water Pollution Prevention Plan as well as an O&M plan for the proposed detention basin.
- A Sewer Connection I/I fee is required.
- The driveway curb cuts shall meet Town of Reading standard cross sections. The proposed elevations are unclear in these areas, all driveways will be approved individually.
- All utilities shall be approved materials and installed in accordance with the Department of Public Works Standards.
- Engineering Division shall be notified 72 hours in advance to mark out Town utilities.
- All water, sewer, curb cut, street opening and Jackie's Law excavation permits shall be obtained at the Engineering Division prior to any excavations.
- All site work shall be inspected by the Engineering Division. The Applicant/Owner's contractor shall submit a construction schedule of proposed work. All inspections shall be scheduled 48 hours in advance.
- An approved site as-built shall be submitted to the Engineering Division within 60 days of certificate of occupancy. The as-built shall be submitted in mylar and electronic ACAD format.

FODERA
ENGINEERING
28 Harbor Street, Suite 204
Danvers, MA 01923
Tel: (617) 992-8492
contact@foderaengineering.com

March 10, 2023

To: Andrew MacNichol, Community Development Director
Town of Reading
Community Planning and Development Commission
16 Lowell Street
Reading, MA 01867

RE: GRANDVIEW ROAD SUBDIVISION
SITE PLAN MODIFICATIONS
4 COLD SPRING ROAD
READING, MA 01867

To Mr. MacNichol,

The project at 4 Cold Spring Road known as Grandview Road Subdivision was approved by the Community Planning and Development Commission (CPDC) and a Decision of Approval was issued and dated February 8, 2021. The approved plans were endorsed and recorded at the Middlesex South District Registry of Deeds (M.S.D.R.D.) as Plan 754 of 2022. A deed for the subdivision was recorded as Book 80930 Page 320.

The site has since been revisited and site design changes have been made. The following is a summary of the revisions.

- Lot 2 will remain undeveloped but with the potential to be developed in the future.
- Lot 1 will keep the existing on-site shed and an associated easement into Lot 2 has been created for the encroachment.
- Relocated electric easement on Lot 2.
- The stormwater subsurface infiltration system has been replaced with a detention/infiltration basin and revised the drainage easement accordingly.
- The roadway has been regraded to create a low point at the end of the cul-de-sac.
- The building footprints for Lots 3 and 4 have increased from 1,925 sq-ft to 2,200.
- Created a larger backyard for Lot 4.
- Associated stormwater runoff calculations have been revised and the stormwater report has been updated.

Proposed stormwater pipes have reduced to just two (2) pipes and are at the end of the roadway, directed into the proposed infiltration basin. Cover above the pipes are approximately 2.5 feet, which will require a waiver from Section 7.4.4.3.e of the Subdivision Rules and Regulations dated August 26, 2006. The waiver is to accept a 2.5' cover above the drain pipes, which is less than the required four (4) feet and three (3) in vehicular roadways and easements, respectively.

Please accept this submittal as formal request for review. Please do not hesitate to call or email me shall you have any questions, comments, or concerns.

Sincerely yours,

Giovanni Fodera, P.E.
Principal Engineer
FODERA Engineering

Attachments:

- Major Site Plan Modification – Grandview Road Subdivision, dated March 10, 2023.
- Stormwater Management Report, Major Site Plan Modification, dated March 10, 2023.
- M.S.D.R.D. Plan 754 of 2022
- M.S.D.R.D. Book 80930, Page 320.

Cc: Michael Salamone
Frank Lanzillo

A2

2022 00166357
Bk: 80930 Pg: 320 Doc: DEED
Page: 1 of 2 11/09/2022 03:01 PM

Quitclaim Deed

PENNY A. JEAN, a single woman, of 4 Cold Spring Road, Reading, Massachusetts, for nominal consideration of Ten dollars ($10.00), grant to:

GRANDVIEW, LLC, a Massachusetts limited liability company, of 45 Beacon Street, Reading, Massachusetts

With ***QUITCLAIM COVENANTS***

The land in Reading, Middlesex County, Massachusetts identified as Lots 2, 3 and 4, together with the fee in the land shown as "Grandview Road", as shown on a Subdivision Plan entitled "*Grandview Road Subdivision – Private Way, Grand View Road Extension*" prepared by Fodera Engineering, 28 Harbor Street, Suite 204, Danvers, MA 010923, dated December 3, 2020, revised through July 12, 2021, and which Plan is recorded herewith. Said land is conveyed subject to and with the benefit of all easements, agreement, covenants, and provisions of record. No right, title or interest is conveyed in, to or over the property shown as Lot 1 on said Plan, which is retained by the Grantor.

Grantor hereby releases and terminates any and all claims of homestead in the premises conveyed hereby, and further hereby state that no other person is entitled to claim the benefit of an existing state of homestead in the premises conveyed hereby.

Meaning and intending to convey a portion of the land conveyed to the Grantor by deed dated May 2, 2007, and recorded in the Middlesex County Registry of Deeds at Book 49389, Page 45.

Property Address: Lots 2, 3 and 4 and Grandview Road Extension, Reading, Massachusetts 01867

Executed as a sealed instrument this 25TH day of OCTOBER 2022.

Penny A. Jean

Commonwealth of Massachusetts

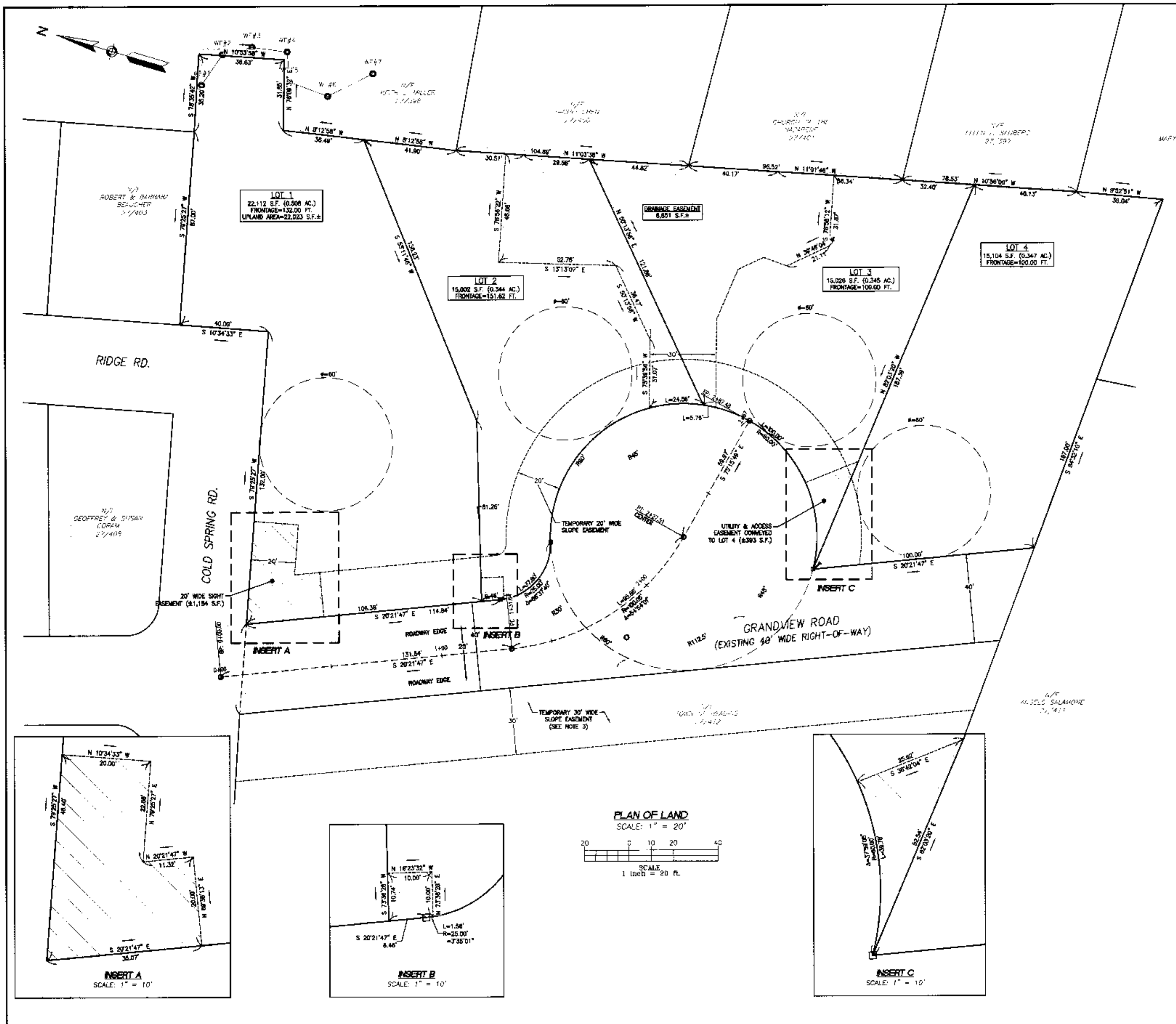
Middlesex, ss.

On 25TH day of October, 2022, before me, the undersigned notary public, personally appeared Penny A Jean, the above-named and proved to me through satisfactory evidence of identification being PERSONAL KNOWLEDGE, to be the persons whose names are signed on this document, and acknowledged to me that she signed it voluntarily for its stated purpose and that the foregoing instrument is her free act and deed.

JOSHUA E. LATHAM
MY COMM. EXPIRES MAY 10, 2024
NOTARY PUBLIC COMMONWEALTH OF MASSACHUSETTS

Notary Public: JOSHUA E. LATHAM
My Commission Expires: 5/10/24

SEE PLAN NO. 754 OF 2022



REVISION	DATE	BY
REVISION 1	12/29/20	GGF
CONSERVATION	2/17/21	GGF
ENDORSEMENT SET	7/12/21	GGF

RIGHT-OF-WAY STATEMENT

THE PROPOSED RIGHT-OF-WAY (ROW), SOUTH OF THE INTERSECTION FROM COLD SPRING ROAD AND GRANDVIEW ROAD, IS PROPOSED AS A PRIVATE WAY FOR ALL LAND OWNERS IN AND ABUTTING THE SUBDIVISION, AND WILL REMAIN NAMED AS GRANDVIEW ROAD.

LEGEND

- PROPERTY LINE
- EASEMENT LINE
- WETLAND BOUNDARY
- RADIUS MEASUREMENT
- WETLAND FLAG
- STONE BOUND WITH DRILL HOLE

GENERAL NOTES

1. WETLANDS WERE FLAGGED BY LEC ENVIRONMENTAL CONSULTANTS IN JUNE 2020.
2. THE PROJECT IS LOCATED OUTSIDE OF ANY PROTECTED RESOURCE AREAS AND FLOOD ZONES AS DETERMINED BY THE MOST RECENTLY PUBLISHED DATA FROM THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION AND FEMA.
3. IN LIEU OF A RETAINING WALL LOCATED IN THE RIGHT-OF-WAY ALONG THE WESTERN BOUNDARY OF GRAND VIEW ROAD, A TEMPORARY THIRTY (30) FOOT WIDE SLOPE EASEMENT IS PROPOSED ON TOWN PROPERTY AND SHALL BE APPROVED BY THE TOWN. SEE SHEET C-5 FOR GRADING.

PLAN REFERENCES

1. BOUNDARY, TOPOGRAPHIC, AND PLANIMETRIC INFORMATION WAS OBTAINED FROM AN ON-THE-GROUND SURVEY PERFORMED AND COMPLETED BY PFS LAND SURVEYING.

PROPERTY INFORMATION

ADDRESS: 4 COLD SPRING ROAD
READING, MA 01867
TAX MAP, LOT: MAP 27, LOT 404
LOT SIZE: 75,407 S.F. (1.73 AC.)

RECORD OWNERS

4 COLD SPRING ROAD
PENNY A. JEAN
4 COLD SPRING RD.
READING, MA 01867

APPLICANT

MICHAEL SALAMONE
45 BEACON ST.
READING, MA 01867

ZONING SUMMARY

ZONING DISTRICT: SINGLE FAMILY 15 (S15)

	REQUIRED	LOT 1	LOT 2	LOT 3	LOT 4
MIN. LOT WIDTH	60'	>60'	>60'	>60'	>60'
MIN. LOT AREA (SF)	15,000	22,112	15,002	15,026	15,104
MIN. FRONTAGE	100'	132.00	151.62	100.00	100.00
RELIEF REQUIRED	–	N	N	N	N

TOWN OF READING
COMMUNITY PLANNING & DEVELOPMENT COMMISSION

DATE:

FOR REGISTRY USE ONLY
Middlesex Registry of Deeds, Southern District
Cambridge, Massachusetts
Plan No. 754 of 2022
Rec'd 11-9 2022
at 2 H 42 M P M

Attest
Register

ENGINEER:
FODERA ENGINEERING
(617)877-3295
gfodera@foderaengineering.com
28 Harbor St., Suite 204
Danvers, MA 01923

PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
GIOVANNI GAETANO FODERA
No. 54884
REGISTERED PROFESSIONAL ENGINEER

SURVEYOR:
PFS Land Surveying, Inc.

PROFESSIONAL SEAL

JOB NO.: 20160-149

SHEET TITLE:
PLAN OF LAND

SHEET NUMBER:
C-1

PROJECT LOCATION:
4 COLD SPRING RD.
READING, MA 01867

PARCEL ID:
MAP 27, LOT 404

PLAN SET:
GRANDVIEW ROAD SUBDIVISION - PRIVATE WAY
(GRAND VIEW ROAD EXTENSION)

DECEMBER 3, 2020

ENDORSEMENT SET

SCALE 1" = 20'

754 of 2022

KK

Memorandum

May 10, 2023

To: Andrew MacNichol, Community Development Director
Town of Reading
Community Planning and Development Commission
16 Lowell Street
Reading, MA 01867

RE: Grandview Road Subdivision

The Conservation Commission reviewed the March 10th 2023 memo by Fodera Engineering regarding site design changes. Although, the Conservation Commission supports stormwater infiltration systems. This change would require the applicant to return to the conservation commission for review and approval.

- The stormwater subsurface infiltration system has been replaced with a detention/infiltration basin

Sincerely,

Chuck Tirone
Conservation Administrator

FODERA
ENGINEERING
28 Harbor Street, Suite 204
Danvers, MA 01923
Tel: (617) 992-8492
contact@foderaengineering.com

June 7, 2023

To: Mary Benedetto, Senior Planner
Town of Reading
Community Planning and Development Commission
16 Lowell Street
Reading, MA 01867

RE: GRANDVIEW ROAD SUBDIVISION
EXTENSION REQUEST
4 COLD SPRING ROAD
READING, MA 01867

To Ms. Benedetto,

The project at 4 Cold Spring Road known as Grandview Road Subdivision is a four-lot residential subdivision. The existing lot identified as parcel ID: 27-404 has an existing dwelling structure on site. The project is to divide the land to create three (3) new single-family lots, and the existing dwelling will remain. The project was approved in 2021 and the approved plans were endorsed by the Community Planning and Development Commission (CPDC) on 7/12/2021.

Per Section 9.4.1 of the local Subdivision Regulations, the time limit for completion is two years from endorsement or date in surety, whichever is sooner. In this case, the endorsement date would control and therefore the time limit would end on 7/12/2023.

We are requesting a one-year extension for the Time Limit for Completion. Work did not commence for the project due to fine tuning agreements between the landowner and applicant. The landowner decided to retain the newly created parcel (Lot 2) behind her existing dwelling lot. The new agreement between the applicant and landowner had to be created and took time to finalize between both parties. Additionally, delays from COVID-19 further slowed the process. We ask that this letter be a formal request for extension.

Sincerely yours,

Giovanni Fodera

Giovanni Fodera, P.E.
Principal Engineer
FODERA Engineering

Town of Reading
16 Lowell Street
Reading, MA 01867

Andrew MacNichol
Community Development
Phone: 781.942-6670
Fax: 781.942-9071
Website: www.readingma.gov

July 10, 2023

Site Plan Review
DECISION

Project: 25 Haven St, Place of worship/youth center
Applicant: North American Foundation of Islamic Services (NAFIS)

To the Town Clerk:
This is to certify that, at a public hearing of the Community Planning and Development Commission opened on July 10, 2023 and closed on July 10, 2023 by a motion duly made and seconded, it was voted:

"We, the Reading Community Planning and Development Commission, upon request from NAFIS, under the provision of Sections 4.3 and 4.6 of the Zoning Bylaws of the Town of Reading, and MGL Chapter 40A, Section 3, to consider the proposed site plan for 25 Haven St (Assessors Map 16, Lot 309) – as shown on the Site Development Plans and architectural elevations prepared by Farouk F. Youssef, dated May 31, 2023 - do hereby vote XXX, to _____the said plans, subject to the Findings and Conditions below."

Materials Submitted:
The following materials were submitted into the public record:

a) Site Plan Review Application and Project Narrative, received 6/13/23.
b) Certified List of Abutters, dated 6/14/23.
c) Legal Notice published in the Daily Times Chronicle on 6/26/23 and 7/3/23.
d) Proposed Site Plan Set, for mosque at 25 Haven St, Reading, MA, prepared by Hayes Engineering Inc., including the following:
    a. Sheet C1: Index Plan, dated 5/25/23
    b. Sheet C2: Site Plan, dated 5/25/23
    c. Sheet C8: Detail Sheet, dated 5/22/23
e) Floor Plans & Exterior Elevations, prepared by Farouk F. Youssef, including the following:
    a. Sheet A-3: Existing 1st Floor Plan, dated 5/31/23
    b. Sheet A-4: Existing East & North Elevations, dated 5/31/23
    c. Sheet A-5: Existing West & South Elevations, dated 5/31/23
    d. Sheet A-6: Proposed 1st Floor Plan, dated 5/31/23
    e. Sheet A-7: Proposed 2nd & 3rd Floor Plans, dated 5/31/23

f. Sheet A-8: Proposed East & North Elevations, dated 5/31/23
g. Sheet A-9: Proposed West & South Elevations, dated 5/31/23

f) Stormwater Management Report for Proposed Mosque at 25 Haven St, prepared by Hayes Engineering Inc., dated 5/22/23
g) Draft Decision, dated 7/10/23.

Findings:

1) Overview: The subject site is a 0.43-acre lot entirely within the Business-B (BUS-B) Zoning District. The land totals 18,935 square feet in area and maintains ~186.78 linear feet of frontage along Haven Street to the north and ~119.51 linear feet of frontage along Green Street to the south. The site is abutted by: Haven Street to the north; both a single-family dwelling and a one-story commercial building to the east; Green Street to the south, and; a two-story commercial building to the west.

   The Applicant proposes to redevelop the 25 Haven St site into a three story, ~23,000sf Mosque and educational center. The existing single-story structure is to be improved with new masonry and window treatment. The stories above shall consist of masonry, clapboard siding and window treatment.

2) Existing Site: The existing site maintains a vacant ~7,953 square-foot, single-story commercial structure and associated parking. It maintains one curb cut along Haven Street and another curb cut along Green Street.

3) Zoning: The site is located within the underlying Business-B Zoning District and the Downtown Smart Growth District (DSGD) / 40R Overlay District. Sites and areas located to the north, south, east and west are also located in the Business-B and DSGD Zoning Districts.

4) Site Plan Review Applicability: According to Section 4.6.2 of the Zoning Bylaw,

   "*Site Plan Review is required if the proposed construction or site alteration involves any of the following:*

   a. An increase in Gross Floor Area of 500 square feet or more, via the creation of new floor area, that results in the requirement for or addition of 2 or more parking spaces (regardless of parking-related exemptions or waivers); or

   The project triggers Site Plan Review by an Increase in Gross Floor Area greater than 500sf.

5) Religious Use: The use of this site as a religious use is protected under the Dover Amendment, G.L. c. 40A, §3. Chapter 40A, §3 states the land and structure may be subject to "reasonable regulations concerning the bulk and height of structures and determining yard sizes, lot area, setbacks, open space, parking, and building coverage requirements."

6) Historic: The existing building is listed on the local Reading Historical Inventory and would be subject to a demolition delay if the existing building were to be completely demolished. The proposed design reuses the existing one-story building as the base of the 3-story building and as such is not subject to any delay.

7) Setbacks and Dimensional Requirements: The lot maintains frontage on both Haven & Green streets, and thus interpreted to have two front-yards and two side-yards.

    a. The building has a front-yard setback of 0-foot from the northern lot line (Haven Street) where 0-feet is required, totaling 77-feet in length; a 0-foot front-yard setback from the southern lot line (Green Street), totaling 66-feet in length; a 1-foot side-yard setback from the western lot line where 30' is required, totaling 79-feet in length; and, a varying side-yard setback, greater than 30-feet, from the eastern lot line, totaling 128-feet in length. There is a 14' x 17.5' bump-out in the southwest corner of the site. As none of the existing setbacks are proposed to be altered in the new building design and the general building layout remains the same, it is appropriate, consistent with G.L. c. 40A, § 3, to permit the applicant to maintain the existing side-yard setback which is less than the required 30' pursuant to Section 6.3 of the Zoning Bylaw.

    b. Allowable building height in the Bus-B district for a religious use is 45 ft and the proposed building height is 40 ft.

8) Interior Space: The proposed first floor includes two lobby entrances and an additional exit, the new elevator, a 725sf social area, a 5,600sf prayer area, a 300sf office for the Imam, a 275sf conference room, associated storage and utility space, and updated men's and women's restrooms. The second and third floors are currently proposed as open social space with storage and men's and women's restrooms. Other future uses and more detailed build-outs for the second and third floors are to be determined.

9) Site Access and Circulation: The building will maintain three points of egress. The parking lot will maintain its existing one-way circulation with cars entering on Haven St and exiting on Green St (right turn only).

10) Parking and Loading: The revised parking design for the lot includes 26 total spaces. Of the 26 total spaces 18 are standard 9' x 18' spaces, 2 are 8' x 18' ADA spaces, and 6 are 8' x 14' compact spaces.

    a. The proposed square footage of the building would require 1 parking space for every 300 square feet proposed, meaning 77 parking spaces should be required. However, section 9.1.1.1 of the Zoning Bylaw provides that retail stores, offices, and consumer service establishments within three hundred feet of an off-street public parking facility shall be exempted from off-street parking requirements. The proposed religious use is subject to reasonable parking requirements under G.L. c. 40A, § 3. Because the proposed use is substantially similar to retail stores, offices, and consumer service establishments and the site is within 300 feet of the public Brande Court parking lot, it is appropriate to extend the off-street parking requirement exemption to the proposed use.

11) Traffic: Hours of operation for the site will be mostly weekday evenings from 7-9pm, weekends from 10am-2pm and 7-9pm, Fridays from 1-2pm. For Friday gatherings the use anticipates 80-100 people attending services, many of them travelling together.

12) Utilities: Water, sewer, gas and electric/telephone/communication connections will be maintained and upgraded as needed. All utilities and connections shall be installed per the requirements of the Engineering, DPW and RMLD Departments.

13) Drainage/Stormwater: The project as proposed will not create any new untreated discharges of stormwater runoff. Stormwater runoff from the roof system is proposed to go through a subsurface infiltration system, improving TSS removal rates over the existing conditions. Parking lot grading is to mimic existing conditions. Post-development peak discharge rates do not exceed pre-development rates.

14) Landscaping: The site is currently almost entirely impervious surface. The proposed changes to the lot will result in an increase in impervious surface area by 1,309sf—in order to increase the available parking spaces in the lot. Existing trees will be maintained where possible and new landscaping of loam and seed will be placed in the new landscaped beds located along the site driveways.

15) Lighting: Existing lighting is proposed to be used wherever possible, any new lighting will be reviewed by staff for approval. Building and parking lot lighting is to be Dark Sky compliant.

16) Conservation: There are no resource areas within the 25 Haven St site.

17) Signage: No signage has been approved herein. Any future signage shall require the submittal of a Sign Permit Application and shall comply with Section 8.0 of the Zoning Bylaw.

18) Dumpster & Trash Management: No exterior dumpster enclosure proposed. Trash removal is to be handled by third party contractor.

19) Snow Storage and Removal: Snow shall be stored in a manner so that it shall not impact the landscaping, vehicular sight lines, travel lanes or parking areas.

Conditions:
General:

1) **Public Health, Safety and Welfare:** If, at any time, the site becomes a nuisance to public health, safety or welfare (i.e., traffic spillover, excessive noise, unreasonable site illumination beyond the hours of operation, etc.) – as shall be evidenced by substantiated complaints to the Police Department or Public Services Office – the Applicant/Owner shall agree to work with PTTTF Staff to rectify the problem. Should the situation warrant it, an additional Site Plan Review by the CPDC may be required.
2) **Utilities**: All utilities, structures, frames and covers shall meet the Town of Reading standards. The electric utility plan is subject to approval by the Reading Municipal Light Department (RMLD).
3) **Site Plan Decision:** The Site Plan Decision herein does not include approval for any future uses or site renovations that may – on their own merits and design – trigger the requirements of site plan review and/or require a special permit. All future proposed uses requiring a site plan review or a special permit shall obtain such approval(s) prior to occupancy of any tenant space.

4) **Sidewalk Improvement:** The Applicant shall seek permission to repair and improve any damage to the sidewalk along their property frontage in compliance with the Engineering Division requirements as deemed necessary or advantageous.

5) **Handicap Parking:** The handicap parking spaces shall be properly posted in the locations depicted on the approved Plans.

6) **Landscaping**: The landscaping shall be installed as indicated on the final approved plans. In the event that weather conditions prevent completion of the proposed landscaping prior to the desired date of occupancy, the Applicant shall submit a bond to cover the cost of installation of the remaining landscaping features.

7) **Architecture:** The building façade on each elevation (north, south, east, west) shall be substantially as indicated on the approved architectural plans and elevations.

Prior to the Commencement of Site Work and Issuance of Building Permit:

8) **Engineering Concerns**: The Applicant shall work with Engineering staff to satisfy requirements for drainage and infiltration.

9) **Structural:** A structural engineer shall provide needed information and assurance to confirm the existing building can support the additional building levels.

10) **Demolition:** Should it be determined that the existing building is to be demolished and replaced the Applicant shall provide a Demolition Permit Application and exercise the requirements under Reading General Bylaw Section 7.2 Historic Demolition Delay.

11) **Utility:** The Applicant shall work with the Engineering, DPW, RMLD and other utility providers to satisfy requirements of the respective departments.

12) **Plan Revisions**: The Applicant shall revise the Site Plan pursuant to any conditions imposed herein and submit 2 full-size (24x36) copies of the revised plans to the Community Development Director for review and approval prior to the issuance of a Building Permit.

13) **Other Permits:** The Owner/Applicant is responsible for obtaining all other requirements and permits including but not limited to, utility connections, sewer, water, curb cut, street opening and Jackie's Law excavation permits from the Engineering Department (prior to excavation), and Board of Health approvals.

14) **Pre-construction Meeting:** The Owner/Applicant and contractors shall coordinate with the Community Development Director to schedule a pre-construction meeting with Town staff prior to applying for building permits, in order to review these conditions and any and all final construction sequencing, details and plans for this project.

15) **Stormwater:** TSS and Phosphorous Removal calculations shall be submitted. A Stormwater Operation and Maintenance Plan shall be submitted for review and approval by the Engineering Department prior to the start of construction. The Plan shall be developed for construction and post construction procedures and shall be provided in a report separate from the construction plans.

16) **Construction Schedule:** A construction schedule shall be submitted to the Community Development Director, Town Engineer, Conservation Commission and Building Inspector prior to the start of construction.

17) **Construction Drawings:** Full construction documents must be submitted and approved by the Fire Department. A building permit shall not be issued until the Fire Department has approved the plans.

During Construction:

18) **Construction Hours:** Construction shall be limited to the hours stated in Section 8.9.8 "Construction Hours" of the Reading General Bylaws and said hours shall be posted in a conspicuous place at the entrance prior to any work on the site.

19) **Construction Activities:** Construction activities shall be conducted in a workmanlike manner at all times. Blowing dust or debris shall be controlled by the Applicant through stabilization, wetting down, and proper storage and disposal methods, subject to the approval of the Health Agent or designee. The Applicant shall ensure that the abutting local streets are kept clear of dirt and debris, which may accumulate as a result of construction activities for the Project. Documentation shall be provided demonstrating ongoing pest management control, subject to the approval of and administration by the Health Division.

20) **Site Inspections:** Town staff or their designee shall have reasonable access to inspect the site to determine compliance with this Decision.

21) **Coordination with Town Officials:** The Applicant and/or its contractor shall provide – during construction – complete, full coordination with local officials on making alterations to existing utilities, future utilities on site shall be installed underground, subject to local utility approval.

22) **Plan Changes:** Any changes to the site layout or utility design during site work or construction shall be submitted to the Engineering Division and Community Development Director for review and approval prior to the construction of the change in design.

23) **Bond:** The Applicant/Owner shall furnish a bond for the final As-Built plans prior to the issuance of the final certificate of occupancy. The bond amount shall be determined by the Town Engineer. The bond shall be returned once the requirements of this condition are met.

Prior to the Issuance of Occupancy Permit:

24) **Compliance Review:** The Applicant shall schedule a meeting with the Building Inspector and Community Development Director to review compliance with this decision and any other applicable permits.

25) **Pavement Markings:** Pavement markings/arrows within the site shall be painted as they are shown on the plan.

26) **Operation and Maintenance Plan**: An O&M Plan shall be prepared for the catch basins and stormwater management infrastructure.

27) **As-Built Plans:** Two full size paper copies and electronic AutoCAD final As-Built plans showing the building footprint, drainage systems and utility connections shall be submitted to the Community Development Director and Town Engineer to ensure compliance with this decision and other applicable Town standards. The bond held for this requirement will be returned to the Applicant once this condition has been fulfilled.

28) **Life Safety:** All life safety devices shall be in place and inspected for functionality.

Conditions for Ongoing Maintenance after Occupancy:

29) **Sign Permit Application:** No signage has been approved herein. The Applicant shall file a sign permit application and request a Certificate of Appropriateness from the CPDC prior to signage installation.

30) **Landscaping:** The site landscaping as depicted on the approved plan shall be maintained in a healthy condition in perpetuity. In the event that landscaping is damaged during snow removal operations, the property owner shall replace such landscaping during the next growing season.

31) **Snow Removal**: Snow shall be stored in a manner so that it shall not impact the landscaping, vehicular sight lines, travel lanes or parking areas. Snow shall be removed from the site by the Applicant and/or its designee if the accumulated snow exceeds the capacity of the snow storage area or impedes vehicular sight lines, travel lanes or the parking lot.

32) **Trash Removal:** All trash collection and disposal are the responsibility of the future owner. The owner shall ensure daily that exterior areas of the site remain clear of debris, trash and any equipment used in connection with any commercial activities on site. Trash pick-up shall be contained on-site and shall not impede access into the site.

33) **Storm Water Operations & Maintenance**: Conditions within the long-term Operations and Maintenance Plan shall be adhered to by the Property Owner. Annual O&M reports shall be delivered to the Town Engineer by January 15th of each year.

Modifications/Revisions - Plan Changes after Approval by the Approving Authority:
If, at any time before or during development, it becomes necessary or desirable for an Applicant to make modifications to a Site Plan, the Applicant shall appear at a regular meeting of the CPDC and submit, if required by the CPDC, plans showing the modification. Modification requests shall be processed in accordance with the rules governing Site Plan Review unless, upon review and determination by the Community Development Director, the proposed changes qualify as a Minor Modification pursuant to Section 4.6.9.2.

1. Minor Modification: Changes that do not substantially alter the concept of the approved Plan in terms of the specific location, the proposed land use, the design of building form and approved building details and materials, site grading or egress points. These include but are not limited to small changes in site layout, topography, architectural plans, landscaping plan, traffic circulation, parking, lighting, signage, open space or other criteria set forth in Section 4.6.9.1. Requests for approval under a minor modification for future renovations/alterations to the approved site plan or for future tenant changes shall be reviewed by the Community Development Director to determine if the proposed work qualifies for review through the Minor Site Plan Review process of Section 4.6.3 of the Reading Zoning Bylaw. If the work is eligible for review under Minor Site Plan review, the Community Development Director may review and grant approval of the proposed work by administrative approval of the Minor Modification. At the determination of the Community Development Director, the Applicant may be required to present the proposed project at a public meeting of the CPDC.

2. Major Modification: If, at any time before or during development, it becomes necessary or desirable for an Applicant to make modifications to a Site Plan, the Applicant shall appear at a regular meeting of the CPDC and submit, if required by the CPDC, plans showing the

modification. Modification requests shall be processed in accordance with the rules governing Site Plan Review unless, upon review and determination by the Community Development Director, the proposed changes qualify as a Minor Modification pursuant to Section 4.6.9.2. The following changes shall be deemed to qualify as a Major Modification: any relocation or shifting of structures or parking areas; any increase in the gross floor area of structures or any changes to the building envelope; any change that requires additional water or sewer usage or the relocation of water and sewer utilities; any increase in impervious areas, either by changes to structures or paved parking areas; or substantial changes to the approved architectural drawings, including changes in building materials and color.

Signed as to the accuracy of the vote as reflected in the minutes

_____

Andrew MacNichol, Community Development Director Date

Cc: Applicant, Town Clerk, DRT Staff, planning file

Town of Reading
16 Lowell Street
Reading, MA 01867

Andrew MacNichol
Community Development Director
Phone: 781.942-6670
Fax: 781.942-9071
Website: www.readingma.gov

July 10, 2023

Preliminary Subdivision Plan
DECISION of APPROVAL

246 Walnut St
Proposed Street Name: Walnut St Extension

To the Town Clerk:
This is to certify, that at a public hearing of the Reading Community Planning and Development Commission (CPDC), which was opened on July 10, 2023, and closed July 10, 2023, by a motion duly made and seconded, it was voted:

"We, the CPDC, as requested by Stella Construction, under the Town of Reading's Subdivision Rules & Regulations, and MGL Chapter 41 Sections 81K through 81GG, to consider the 3-Lot Preliminary Subdivision Plan for property located at 246 Walnut St (Assessors Map 3, Lot 19), as shown on the plans prepared by Meisner Brem Corporation, originally dated May 3, 2023, and most recently revised June 14, 2023, in support of an application filed on June 26, 2023, do hereby vote X-X-X to XXXX the said plans, inclusive of the waivers listed herein, subject to the Findings and Conditions below."

MATERIALS:
The following documents and plans were submitted into the public record:

1. Form B: Application for Subdivision Approval, filed with the Town Clerk 6/26/23.
2. List of Requested Waivers from Reading Subdivision Regulations, dated 7/6/23.
3. Certified List of Abutters, dated 6/14/23.
4. Email from Staff Planner to Applicant's Engineer with a statement deeming the submission Substantially Complete, and including a list of minor revisions to be made for the next plan submission, dated 6/21/23.
5. Legal Notice, published in Daily Times Chronicle on 6/26/23 and 7/3/23.
6. Preliminary Subdivision Plan of Land for 246 Walnut St, Reading MA, prepared for: Stella Construction, prepared by: Meisner Brem Corporation, including the following:
    a. Sheet 1 of 3: Cover Sheet and Location Plan, dated 5/3/23; and most recently revised 6/14/23
    b. Sheet 2 of 3: Preliminary Subdivision Plan, dated 5/3/23; and most recently revised 6/14/23
    c. Sheet 3 of 3: Preliminary Subdivision Layout Plan, dated 5/3/23; and most recently revised 6/14/23.
7. Draft Decision, dated 7/10/23.

FINDINGS:

1. **Existing Conditions:** Walnut St is an existing 50' wide Public Way with 24' of paved roadway width serving eight single-family homes that dead-ends in a partial cul-de-sac. The development tract is comprised of 246 Walnut St, which is the last house on Walnut St. The 2.02-acre tract currently has one single-family home on the western portion of it, closest to Walnut St. The site is entirely within the S-20 Zoning District. The tract maintains 240 linear ft of frontage along Walnut St. The eastern portions of the site are flagged wetlands and the eastern abutting properties contain a river. The 100' inner riverfront line crosses approximately the eastern third of the tract and the 200' outer riverfront line covers the majority of the site, with only the westernmost portions excluded.
2. **General Proposal:** The Applicant is proposing to raze the existing single-family home and to subdivide the lot into three buildable tracts. Walnut St is proposed to be extended by approximately 270' in length, with a 50' right-of-way width on paper and 24' width paved. The applicant is requesting a waiver to reduce the right-of-way width from 60' to 50'. The extension will terminate in a cul-de-sac with a radius of 60', 40' of which will be paved.
3. **Zoning & Upland Area:** The site is within the S-20 Zoning District; of which three lots will comply with the frontage and area requirements of the S-20 Zoning District. It is anticipated that the proposed homes will comply with the dimensional and bulk requirements of the S-20 Zoning District. There are no known Special Permits or Variances relative to the subject properties

   A minimum total of 20,000sf of area, 12,000sf of upland area, and 120' linear feet of frontage is required. Or per Footnote 3, the required frontage can be reduced to not less than 80 ft if the street is a curve having a radius of not more than 200 ft and that lot has a width of not less than 120 ft.

   a. Lot 1 is proposed to be 21,000sf, all of which is upland, with 410 ft of frontage.

   b. Lot 2 is proposed to be 27,500sf with 13,500 upland and 100ft of frontage.

   c. Lot 3 is proposed to be 26,500sf with 14,5000 upland and 270ft of frontage.
4. **Proof of Concept & Proposed Right-of-Way:** The proposed 50' right of way would extend the existing 50' right of way of Walnut St and terminate in cul-de-sac. The extension will provide the necessary frontage and access for the proposed 3 new single-family homes on the tract.
5. **Wetlands:** A wetland survey was performed by Basbanes and Associates in January 2023 and an area of Bordering Vegetated Wetlands (BVW) was flagged on the eastern portion of the tract. The buildable lot areas are proposed outside of the 35' no build zone, although work is proposed within the 100' buffer zone. The flagged bank of the river in the eastern abutting properties means that the 100' inner riverfront line crosses approximately the eastern third of the tract and the 200' outer riverfront line covers the majority of the site, with only the westernmost portions excluded.
6. **Conservation Review Restriction:** The Application will require a Notice of Intent with the Conservation Commission, and the issuance of an Order of Conditions. As part of the notice of intent the applicant will be required to perform an alternative analysis pursuant to 310 CMR 10.58(4)(c) for work in the outer riparian zone of the river front area.
7. **Traffic:** Due to the proposal of a single buildable tract with a net of three single-family dwellings, a waiver has been requested from providing a full Traffic Study.
8. **Trees/Landscaping/Screening:** Deciduous and Evergreen trees with 6" and greater diameter are to be depicted on a Definitive plan set. Area/count of tree removal, tree preservation and tree replacement are to be provided.

9. **Lighting:** No street lighting has been proposed and a waiver request has been provided for such. Typical house mounted lights will be provided at the proposed lot.
10. **Utilities:** Both Town water and sewer are proposed to be extended and connected to the proposed house lot. Electric, Telephone and Cable service shall also be provided. All utilities are proposed to be underground and extended through the proposed right-of-way. A new hydrant is proposed at the end of the cul-de-sac.
11. **Drainage:** Associated road runoff is expected to be directed to a stormwater infiltration system located on the eastern edge of the cul-de-sac between Lots 2 & 3.
12. **Easements:** There is proposed drainage easement on Lots 2 & 3 in conjunction with the proposed drainage system.
13. **Stormwater Permit:** A stormwater permit application will be required with a Definitive application. The Conservation Commission shall issue and oversee the Stormwater Permit.
14. **Rooftop Solar:** The Applicant shall consider orienting the homes so that future owners can benefit from potential rooftop solar installations and/or passive heating.

WAIVERS:

The Applicant has requested, and the Commission has voted the following waivers from the Town of Reading Subdivision Regulations, with guidance:

1. A waiver from Section 6.1.1.d.3 requiring a full traffic study.
    a. *The Applicant requests relief from the requirement due to the modest scope of three additional single-family dwellings.*

2. A waiver from Section 7.1.1.a requiring a right of way width of 60-feet.
    a. *The existing layout of Walnut St is 50-feet wide and the Applicant proposes to extend the layout of Walnut St at the 50-foot width, because of such the Applicant requests relief of this requirement.*

3. A waiver from Section 7.1.3 requiring Typical Cross Section for a Sixty-Foot Street.
    a. *Due to the proposal of a 50-foot street the Applicant proposes a 24-foot paved travel way with no sidewalks.*

4. A waiver from Section 7.1.3.e requiring side slopes no steeper than three feet horizontal to one foot vertical (3:1)
    a. *The Applicant proposes a slope of 2:1 to provide grading flexibility.*

5. A waiver from Section 7.1.5.a requiring dead end streets to be no longer than 500-feet.
    a. *The Applicant proposes an extension of Walnut Street by 270-feet, bringing the dead end of Walnut Street to a total of XXX-feet in length. A 45-foot paved cul-de-sac is provided for turnaround.*

6. A waiver from Section 7.1.5(e) requiring a landscaped cul-de-sac island.

a. *The Applicant requests a waiver from this requirement due to access, plowing and maintenance concerns.*

7. A waiver from Section 7.1.11 requiring the installation of street lighting.
    a. *The Applicant requests a waiver of this requirement due to the opined limited extension, wetland implications and that typical house and driveway lighting is to be provided.*

8. A waiver from Section 7.1.7.a requiring vertical granite curbing.
    a. *The Applicant requests a waiver of this requirement as it is a minor extension of a street without curbing.*

9. A waiver from Section 7.2 requiring sidewalks along both sides of the roadway.
    a. *The Applicant requests a waiver from this requirement due to no existing sidewalks along Walnut Street.*

10. A waiver from Section 7.6 requiring the installation of street trees.
    a. *The Applicant requests a waiver from this requirement due to the proposed extension of Annette Lane by 30-feet and the fact that the rest of the way shall remain on paper.*

CONDITIONS:

General:

1. **Definitive Subdivision**: Should the Applicant wish to proceed with this project, Definitive Subdivision Plans shall be submitted to the Town within 7 months of the preliminary application filed on June 26, 2023, in conformance with Chapter 41A Section 81Q of the Subdivision Control Law.
2. **Drainage Design:** No drainage design is approved herein. The Definitive Plans shall include any LID or conventional stormwater management features proposed on-site, along with relevant calculations and documentation as may be required by the Town Engineer. Requirements within Section 7.4.4.3 of the Subdivision Rules and Regulations shall be met; if a waiver from such requirements is to be sought, relevant reasoning shall be provided. Infrastructure shall be designed to meet Standard 1 through 6, for New Development, of the Massachusetts Stormwater Management Standards; as well as any post-construction design requirements. An Operation and Maintenance Plan associated with the infrastructure is to be submitted.
    a. **Stormwater Permit Application**: The Applicant shall file a Stormwater Permit Application with the Community Development Director, Conservation Administrator, and Town Engineer. Requirements of the Stormwater Regulations shall be met and approved by the Conservation Commission.
3. **Test Boring Logs:** Test Boring Logs shall be provided to the Town Engineer showing the results of all test borings performed as required in Section 6.1.1.d.5 of the Reading Subdivision Rules and Regulations.
4. **Trees/Landscaping/Screening:**

a. A future Definitive Plan Set shall specify locations and identifications of trees 6-inch caliper or larger and of significant stands or groups of trees, together with indications of trees and groups of trees proposed to be saved or preserved as required per Section 6.1.1.b.13 of the Subdivision Rules and Regulations. If a waiver from such requirement is to be sought, relevant reasoning shall be provided.

b. The Applicant shall provide replacement trees on each lot at the ratio of at least one such tree for each 2,000 square-feet of open area on such lot as required per Section 7.6.2.2 of the Subdivision Rules and Regulations. If a waiver from such requirement is to be sought, relevant reasoning shall be provided.

c. All trees proposed to be removed from within the 100' wetland buffer shall be approved by the Conservation Commission. Any proposed Street Trees will not count towards the Conservation replacement requirement.

5. **Utilities:** The Applicant shall work with the DPW and RMLD to ensure compliance with all utility extension requirements. Utilities for the new homes are required to be underground.
6. **Other Permits:** The Applicant is responsible for obtaining all other required Federal, State and Local permits, including but not limited to: Definitive Subdivision Plan Approval from the CPDC, a NPDES Permit; Stormwater Permit, utility permits for sewer, water, electric, etc.; curb cut, driveway, MassDOT and Jackie's Law excavation permits; Board of Health approvals; and an Order of Conditions from the Conservation Commission.
7. **ORAD and NOI:** As appropriate prior to submitting a Definitive Subdivision Plan, the Applicant shall submit an Order of Resource Area Delineation (ORAD) and Notice of Intent (NOI) application with the Conservation Commission.
8. **Health Division:** As appropriate, prior to submitting a Definitive Subdivision Plan, the Applicant shall ensure compliance with applicable requirements of the Health Department.
9. **Snow Storage:** The Applicant shall coordinate with the Conservation Commission, Engineering Department, and DPW Department, to determine the most appropriate location on-site for snow storage.
10. **Electric Utility:** The electric utility plan shall be submitted and approved by the Reading Municipal Light Department (RMLD). Locations of light poles, transformers, etc. shall be added to the plans and approved by RMLD.
11. **Property Maintenance:** The Applicant shall maintain the property in a neat and orderly fashion while the development is pending, and during construction.

Signed as to the accuracy of the vote as reflected in the minutes:

_____

Andrew MacNichol, Community Development Director Date

Cc: Applicant, Town Clerk, CPDC, Development Review Team, Building Inspector, planning file

Town of Reading
16 Lowell Street, Reading, MA 01867

Community Planning & Development Commission
Andrew MacNichol *Community Development Director*
Direct: 781-942-6670
amacnichol@ci.reading.ma.us
readingma.gov/community-planning-and-development-commission

July 10, 2023

Major Modification to a Definitive Subdivision Plan
DECISION of APPROVAL

Land of: 4 Cold Spring Road
Proposed Street Name: Grandview Road Extension

To the Town Clerk:
This is to certify, that at a public hearing of the Reading Community Planning and Development Commission (CPDC), which was opened on May 15, 2023, and closed on XXX, 2023, by a motion duly made and seconded, it was voted:

"We, the CPDC, as requested by Michael Salamone, under the Town of Reading's Subdivision Rules & Regulations, and MGL Chapter 41 Sections 81K through 81GG, and under the Town of Reading General Bylaw Section 7.9 and CPDC Stormwater Management and Erosion Control Regulations, to consider the Major Modification to the previously approved 4-Lot Definitive Subdivision Plan for property located at 4 Cold Spring Road (Assessors Map 27, Lot 404), as shown on the plans prepared by Fodera Engineering dated April 20, 2023, and last revised June 20, 2023 in support of an application filed on May 1, 2023, do hereby vote X-0-0 to _ the said plans, inclusive of the waivers listed herein, subject to the Findings and Conditions below."

MATERIALS:
The following documents and plans were submitted into the public record:

1. Form B: Application for a Definitive Subdivision Plan, filed with the Town Clerk 5/1/2023.
2. Form G: Designer's Certificate, dated 4/3/2023.
3. Modification Summary memo from Fodera Engineering, dated 3/10/2023.
4. Certified List of Abutters, dated 4/3/2023.
5. Legal Notice, published in Daily Times Chronicle on 4/25/2023 and 5/3/2023.
6. Major Site Plan Modification Plan Set for Grandview Road Extension, for the land located on 4 Cold Spring Road, Reading, MA 01867, prepared for: Michael Salamone, prepared by: Fodera Engineering, dated 4/20/2023, and revised 6/20/23, including the following:
    a. Sheet C-0: Cover Sheet, dated 4/20/2023
    b. Sheet SV-1: Existing Conditions Plan of Land, prepared by PFS Land Surveying Inc., dated 7/8/2020;

c. Sheet C-1: Plan of Land, dated 4/20/2023, revised 6/20/23
d. Sheet C-2: Site and Tree Preservation, dated 4/20/2023, revised 6/20/23
e. Sheet C-3: Erosion and Sediment Control Plan, dated 4/20/2023, revised 6/20/23
f. Sheet C-4: Grading and Drainage Plan, dated 4/20/2023, revised 6/20/23
g. Sheet C-5: Utility and Roadway Profile Plan, dated 4/20/2023, revised 6/20/23
h. Sheet C-6: Details Sheet 1, dated 4/20/2023, revised 6/20/23
i. Sheet C-7: Details Sheet 2, dated 4/20/2023, revised 6/20/23

7. Stormwater Management Report, 4-Lot Residential Subdivision, Grandview Road Extension, prepared by Fodera Engineering, dated 3/10/2023
8. HydroCAD Report, dated 6/20/23
9. Memo from Town Engineer to Community Development Director, dated 5/3/23
10. Memo from Conservation Administrator to Community Development Director, dated 5/10/23
11. Memo from Fodera Engineering to Senior Planner, dated 6/20/23
12. Memo from Town Engineer to Community Development Director, dated 7/6/23
13. Draft Decision, dated 5/15/2023, revised 7/10/23
14. Stormwater Permit Application, received 6/20/23

FINDINGS:

1. **Original Approval:** On February 8, 2021 the CPDC approved a Definitive Subdivision Plan for a 4-lot residential subdivision on the land of 4 Cold Spring Road. The existing single-family dwelling was to be retained within a new lot boundary and a net of 3 new house lots and homes created.

2. **Proposal:** Based on changes made in conjunction with the existing occupant the Applicant is proposing the following modifications to their previously approved plan:

    a. **Lot Lines:** The lot lines between Lots 1 & 2 were redrawn to accommodate the keeping of a shed on Lot 1. This revision to the lot lines results in a revised Lot size for Lot 1 of 22,114sf and Lot 2 of 15,000sf.

    b. **Lot Usage:** Lot 2, the lot directly abutting the pre-existing home at 4 Cold Spring Road, will not be built at this time, though the lot remains approved as a buildable lot and the impervious surface area of the future home has been included in the stormwater calculations for the subdivision.

    c. **Building footprints and backyards:** The building footprints for Lots 3 & 4 have each increased from 1,925sf to 2,200sf. Both Lot 3's and Lot 4's "Area of Tree Removal" have increased to provide larger backyards than originally approved. Wooded area to be removed increased from -29,734sf to -34,287sf; total new grass space to be included has increased from 8,050sf to 13,423sf.

    d. **Grading and Drainage:** The roadway grading was regraded to create a low point at the end of the cul-de-sac. The grading of the road has dropped approximately 2-feet from the original approval. Roadway catch basins have been reduced from two to a single double catch basin at the low point. Stormwater flow from the right of way is directed to the low point through vertical granite curbing previously approved. The catch basin will gravity convey runoff to a newly proposed open infiltration basin through an added sediment forebay.

    The roadway lowering allows for the use of a stormwater detention pond/infiltration basin instead of the previously approved stormwater subsurface infiltration system. The grading to the open basin is located entirely within Lot 3 and is setback 10.4-feet

from the eastern property line and X-feet from the dwelling on Lot 3. The basin is an open basin pond design and is sloped no steeper than 4H:1V, with a maximum depth of 4-feet. The detention pond's overflow weir is located on the northeast portion of the basin, directing any possible overflow to the northern low point of the site on Lot 2. Stormwater runoff calculations have been revised and updated in conjunction with the above listed changes.

Roof drainage from the home on Lot 4 will direct directly into the drain manhole and will not daylight.

Previously approved Lot 2 impervious driveway area is included in the stormwater calculations. However, if Lot 2 is developed in the future, roof drainage will require a separate dry well system and would not be directed to the detention pond.

e. **Private easements:** The proposed drainage easement has also been revised accordingly with the new proposed detention/infiltration basin.

f. **Trees/Landscaping/Screening:** By increasing the size of Lot 3 and 4's backyard area the area of tree preservation dropped from 24,282sf to 19,600sf and the estimated number of trees preserved dropped from 353 to 70.

g. **Retaining Wall:** A retaining wall has been added to the southern portion of the site. It will be two tiered 3' high walls and will not require disturbing the abutting property.

3. **Stormwater Permit Applicability:** Any activity that results in disturbance of one (1) or more acres of land and any land-disturbing activity that is part of a Common Plan of Development or Sale that will ultimately result in the disturbance of one (1) or more acres of land, shall be subject to the requirements of the Stormwater Management and Erosion Control Bylaw and Regulations. The project proposes to disturb and develop over one acre of land area.
4. **Conservation:** The proposed changes to the previously approved grading and stormwater infiltration design will require review and approval from the Conservation Commission.
5. **Board of Health:** In accordance with M.G.L. Ch. 41 Section 81U, a copy of the Form B and plans were submitted to the Board of Health. The Health Agent indicated that the proposed modifications do not warrant any additional requirements or actions from the Health Department.

WAIVERS:

The Applicant had previously requested, and the Commission had approved the following waivers from the Town of Reading Subdivision Regulations:

1. A waiver from Section 6.1.1.d.3 requiring the submittal of a full traffic study.

   The development results in three (3) newly created single-family dwellings that would be located on a dead-end street. The Applicant feels that the additional vehicular demand can be determined to have an insignificant impact to the surrounding neighborhood.

2. A waiver from Section 6.1.1.d.4 requiring the submission of an Environmental Impact Report.

   A protected resource area on-site is found in the buffer zone of an inland vegetated wetland. The Applicant states that minor site grading will be performed no closer than ~75' from the wetland area and will be performed in accordance with local and state

regulations. Stormwater control will be properly mitigated on site. There are no Historical properties within 500' of the site and the Applicant feels it can be determined that the project will have an insignificant impact on the protected environment.

3. A waiver from Section 7.1.1(a) requiring the layout width of a right-of-way to be a minimum of 60'. A waiver has been requested to **reduce the right-of-way layout from 60' to 40'.**

   The project is proposing to develop the existing unimproved way known as Grandview Avenue that has a width of 40'. The right-of-way will remain at 40' but the Applicant is proposing a cul-de-sac that satisfies the subdivision regulation requirements.

4. A waiver from Section 7.1.2(a) requiring centerlines of opposing streets to be spaced a minimum of 150' apart. **A waiver has been requested to reduce the minimum spacing of 150' to 130'.**

   The Applicant states that Ridge Road is located 130' east, however, the existing ways have been in existence prior to the Subdivision Regulations.

5. A waiver from Section 7.1.3(a) requiring a minimum of a 30' wide paved way. A waiver has been requested to **reduce the minimum width requirement of 30' to 25'.**

   The Applicant states the 25' roadway width would accommodate the existing 40' right-of-way best by allowing the inclusion of a one-sided 5' sidewalk and 5' wide vegetated strip. The remaining 5' within the right-of-way will be on the west side of the proposed roadway and be graded out onto the Town-owned land.

6. A waiver from Section 7.1.3(b) requiring dimensions of the proposed roadway, curbing, tree lawns, and sidewalks be conforming to the cross section shown in Figure 1 of the Subdivision Regulations has been requested.

   Figure 1 of the Subdivision Regulations displays a 60' wide right-of-way with two 5' sidewalks, two 10' wide vegetated strips and a 30' wide paved roadway. The Applicant states conforming to Figure 1 is unfeasible due to the proposed 40' right-way-way width.

7. A waiver from Section 7.1.3(e) requiring side slopes, outside of the exterior street lines, be a maximum allowable slope of one foot horizontal to one foot vertical (1:1) has been requested.

   The Applicant proposes to grade outside of right-of-way limits and onto Town-owned land. The proximity of the proposed road and grading plan prove that it would require a retaining wall to avoid this waiver request and the Applicant feels that grading into the Town property is more practical and beneficial.

8. A waiver from Section 7.1.4(b) requiring that curb lines at all intersections provide a radius of not less than 30'. A waiver has been requested to **provide a 24' radius curb line at the northeastern corner of the proposed roadway intersection and to provide a 15' radius curb line at the western intersecting side.**

The Applicant states that the existing intersection at Cold Spring Road and the proposed road is limited in radial width due to the corner property boundary of 4 Cold Spring Road. The Applicant feels the 15' radius on the western intersecting side will be satisfactory due to the absence of a western roadway intersection.

9. A waiver from Section 7.1.5(e) requiring a landscape island to be installed within the cul-de-sac has been requested.

   The Applicant states that a fully paved cul-de-sac turnaround will be provided for emergency access and feels that a landscaped island presents maintenance and plowing concerns.

10. A waiver from Section 7.2(a) requiring sidewalks to be constructed on both sides of the proposed street. The Applicant is proposing **a sidewalk on one side of the proposed street**.

    The Applicant states that due to the proposed 40' right-of-way sidewalks on both sides are not practical and that a sidewalk will be provided on one side of the proposed road.

11. A waiver from Section 7.5.4 requiring a 20' slope easement to be provided beyond the road layout for appropriate grading behind the sidewalk. A waiver has been requested to **increase the easement from 20' to 30' on the west side of the road and into the Town owned land abutting the project site.**

    The Applicant states that this waiver would benefit the proposed grading discussed in Waiver #7 above.

CONDITIONS:

General:

1) **Plan Modification:** Upon approval of a Major Modification, the Applicant shall submit one (1) paper copy and one (1) electronic copy, in a format acceptable to the Building Inspector, of the modified plan, as well as a letter issued by a registered professional engineer, registered architect or registered landscape architect certifying, under pains and penalties of perjury, that the modified plan is consistent in all aspects with the approved modification and that all conditions of approval have been satisfied.
2) **February 8, 2021 Approval:** All conditions listed in the February 8, 2021 approval remain in full force and effect to the extent that they are not rendered obsolete by the Major Modification herein.
3) **Conservation:** The Applicant shall coordinate with the Conservation Administrator to comply with the requests and conditions imposed of/by the Conservation Commission.

Stormwater Permit Conditions:

1) The Applicant shall notify the Community Development Director and Town Engineer before significant site milestones, such as installation of erosion and sediment control measures or completion of site clearing.

2) The Applicant shall conduct and document periodic inspections of all control measures (before, during and/or after construction) and submit reports to the Community Development Director and Town Engineer.

3) The Applicant shall post, before the start of land disturbance activity, a cash bond or other surety to secure the performance of the Permittee's obligations under the Stormwater Permit.

4) The Applicant shall record notice of the Operation & Maintenance Plan with the Registry of Deeds (or the Land Court for registered land).

5) The Applicant shall establish a dedicated source of funding for long-term operation and maintenance of stormwater control measures, if not conducted by the Town.

6) The Applicant shall submit, to the Community Development Director and Town Engineer, an annual certification documenting the work that has been done over the last 12 months to properly operate and maintain the stormwater control measures.

7) The Applicant shall notify the CPDC in writing of any change or alteration of a land-disturbing activity authorized in a Stormwater Permit before the change or alteration occurs. If the proposed change or alteration is minor, the Community Development Director, after coordinating with the Town Engineer, may authorize such change or alteration in writing with a copy to the CPDC. Otherwise, the Community Development Director shall forward the notification of change or alteration to the CPDC. If the CPDC determines that the change or alteration is significant, it may require the Permittee to apply for an amendment to the Stormwater Permit.

8) The Approval of the Stormwater Permit shall lapse two (2) years after the date of its issuance if construction pursuant thereto has not begun; provided however, that the CPDC may grant an extension of the two (2) year period, for a maximum of one (1) year, upon a finding of good cause, including the need to obtain other local, state, and federal permits duly applied for, at the written request of the applicant, if submitted to the CPDC at least thirty (30) days prior to the expiration of the two (2) year period.

9) The CPDC may, upon application by the Permittee, amend a Stormwater Permit. Any such amendment shall conform to the requirements of the Stormwater Management and Erosion Control Bylaw and Regulations.

10) Within 60 days of the completion of construction of the project, the Permittee shall submit to the Community Development Director and Town Engineer a record plan detailing the actual stormwater management system as installed. The as-built plan must depict all on-site controls, both structural and non-structural, designed to manage the stormwater associated with the completed site. Such plan shall be provided both in hard copy and as an electronic file. Upon review of the as-built plan, the Community Development Director and Town Engineer may approve it or may direct the Permittee to take any actions necessary to correct the plan or to comply with any outstanding requirements of the Stormwater Permit.

Prior to Plan Endorsement:

1) **Plan Revisions**: The Applicant shall revise the Site Plan pursuant to any conditions imposed herein and submit 2 full-size (24x36) copies of the revised plans to the Community Development Director for review and approval prior to the issuance of a Building Permit. Revisions include but are not limited to:

    a.

2) **Mylars:** The Applicant shall submit two (2) complete sets of mylar plans, and an electronic version, to the Community Development Director for endorsement by the CPDC.

3) **Electric Utility and Easement:** The proposed changes to the electric utility plan shall be approved by the Reading Municipal Light Department (RMLD). Locations of light poles, transformers, etc. shall be added to the plans and approved by RMLD.

Prior to the Commencement of Site Work, Road Work or Utility Work:

1) **Other Permits:** The Owner/Applicant is responsible for meeting all other requirements and obtaining all other permits as needed including but not limited to: Order of Conditions from the Conservation Commission, utility connections, street opening, and Jackie's Law excavation permits from the Engineering Department (prior to excavation).

2) **Recorded Plans:** The Applicant shall provide electronic copies of the recorded plans and all other recorded documents to the Community Development Director.

3) **Engineering Comments:** The Applicant shall coordinate with the Town Engineer to resolve any necessary outstanding comments listed in the memo dated 5/3/23.

Prior to the Issuance of Occupancy for Any Lot:

1) **Access Easement:** The Applicant shall provide a copy of the executed and recorded Access and Utility Easement established between Lot Three and Lot Four.

2) **Closing Documents for Homeowners:** Additional reference to the Stormwater Operation and Management Plan shall include language that no structure, trees, fill and/or blockage of the stormwater detention pond within Lot Three shall be allowed. Additional language as to the maintenance, cleaning and responsibilities to ensure the detention pond works as designed shall be included.

Signed as to the accuracy of the vote as reflected in the minutes:

_____

Andrew MacNichol, Community Development Director Date

Cc: Applicant, Town Clerk, CPDC, Development Review Team, Building Inspector, planning file