SITE PLAN
FOR
PROPOSED AGE RESTRICTED HOUSING DEVELOPMENT
797 BOSTON ROAD
GROTON, MA

GENERAL NOTES:

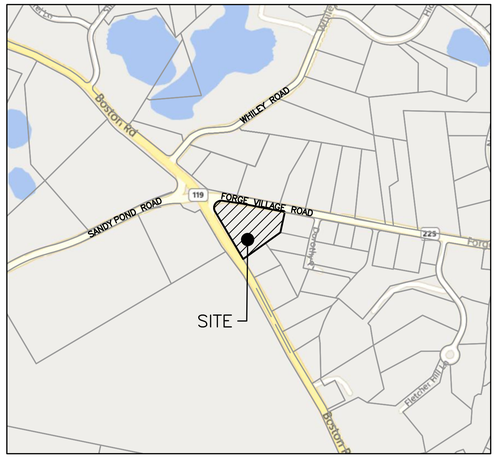
1. EXISTING PROPERTY LINE AND UTILITY INFORMATION SHOWN IS BASED ON AN EXISTING SURVEY CONDUCTED BY WSP USA, INC. REVISED THROUGH 07–13–23.
2. THE ACCURACY AND COMPLETENESS OF THE UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION, SIZE, TYPE, ETC. OF ALL UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THE WORK. AT LEAST 72 HOURS BEFORE EXCAVATION, THE CONTRACTOR SHALL BE REQUIRED TO CONTACT DIGSAFE AT 1–888–344–7233.
3. THE CONTRACTOR SHALL FIELD VERIFY CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
4. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE APPROPRIATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION.
5. ALL UTILITY COMPANIES, PUBLIC AND PRIVATE, MUST BE NOTIFIED, INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN, PRIOR TO EXCAVATING, BLASTING, INSTALLING, BACKFILLING, GRADING, PAVEMENT RESTORATION OR REPAVING.
6. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES EXCEPT THOSE NOTED TO BE ABANDONED, REMOVED AND DISPOSED.
7. THE CONTRACTOR SHALL DISPOSE OF ALL WASTE MATERIAL IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS AT HIS/HER OWN EXPENSE, OUTSIDE OF THE PROJECT LIMITS.

SHEET INDEX

REFERENCE SHEETS

1 OF 1	EXISTING CONDITIONS PLAN BY WSP

THIS SITE PLAN APPROVAL DOES NOT NECESSARILY INDICATE COMPLIANCE WITH THE GROTON ZONING BYLAW



LOCUS MAP
1"=500'

PROJECT TEAM

OWNER/APPLICANT
119 PARTNERS, LLC
11 SUMMER STREET SUITE 8
CHELMSFORD, MA 01824

ARCHITECT
THE MZO GROUP
335 MAIN STREET, SUITE 201
STONEHAM, MA 02180

SURVEYOR
WSP USA, INC.
10 AL PAUL LANE, SUITE 103
MERRIMACK, NH 03054

CIVIL ENGINEER
HOWARD STEIN HUDSON
114 TURNPIKE ROAD, SUITE 2C
CHELMSFORD, MA 01824

LANDSCAPE ARCHITECT
JAMES K EMMANUEL ASSOCIATES
22 CARLTON ROAD
MARBLEHEAD, MA 01945

LIGHTING CONSULTANT
EXPOSURE 2 LIGHTING
6 SCOTT ROAD, UNIT A
HAMPTON, NH 03842

OWNER
119 PARTNERS, LLC
11 SUMMER STREET SUITE 8
CHELMSFORD, MA 01824

ASSESSORS INFORMATION
PARCEL ID: MAP 133 BLOCK 49 LOT 0

REFERENCES
1. EXISTING CONDITIONS SURVEY BY WSP USA INC.
2. BASE MAP OUTSIDE OF PROPERTY LINE WAS CREATED FROM OLIVER MASSGIS
3. BASE MAP OUTSIDE OF PROPERTY LINE WAS CREATED FROM TOWN OF GROTON GIS

ZONING REQUIREMENTS
WATER RESOURCES PROTECTION DISTRICT III
SPECIAL PERMIT FOR TITLE 5 SEPTIC SYSTEM
RA – RESIDENTIAL AGRICULTURE DISTRICT
AGE–RESTRICTED HOUSING PROPOSED BY SPECIAL PERMIT

DIMENSIONAL REQUIREMENTS

	REQUIRED	PROPOSED
MINIMUM LOT AREA	80,000 SF	117,594 SF
MINIMUM FRONTAGE	225 FT	943 FT
MAXIMUM HEIGHT	35 FT	< 35 FT
MAXIMUM STORIES	3	2
MAXIMUM IMPERVIOUS	25%	22%± (26,271 SF±)
MINIMUM FRONT SETBACK	50 FT	51 FT
MINIMUM SIDE SETBACK	15 FT	76 FT
MINIMUM REAR SETBACK	15 FT	69 FT

MAXIMUM DWELLING UNITS REQUIREMENT:
PER TOWN OF GROTON ZONING CODE SECTION 218–9.3(B)(2), THE MAXIMUM NUMBER OF DWELLING UNITS FOR AGE–RESTRICTED HOUSING IS AS FOLLOWS:

1 UNIT / 5,000 SF LOT AREA
LOT AREA = 117,594 SF = (23.5 X 5,000)
23 UNITS AT 1 UNIT/5,000 SF LOT AREA

OR SUBJECT TO PLANNING BOARD APPROVAL BASED ON PROXIMITY TO OPEN SPACE, SCREENING, AND TOPOGRAPHY:
1 UNIT / 3,000 SF LOT AREA =
LOT AREA = 117,594 SF = (39.2 X 3,000)
39 UNITS AT 1 UNIT/3,000 SF LOT AREA

PROPOSED DWELLING UNITS:
24 UNITS (12 PER STRUCTURE)

PARKING REQUIREMENTS
AGE–RESTRICTED HOUSING: 1 SPACE/UNIT
1 SPACE X 24 UNITS = 24 SPACES REQUIRED
36 SPACES PROPOSED INCLUDING 4 ACCESSIBLE SPACES

SITE PLAN AND SPECIAL PERMITS REQUIRED
1. MASSACHUSETTS GENERAL LAWS C.40A SECTION 9 – ZONING ORDINANCE
2. TOWN OF GROTON, MA GENERAL LEGISLATION CHAPTER 218 – ZONING SECTION 218–9.3(B)(5)
3. SPECIAL PERMIT PER SECTION 218–7.2 WATER RESOURCE PROTECTION OVERLAY DISTRICT (I) WASTEWATER TREATMENT WORKS FOR SANITARY WASTEWATERS THAT ARE SUBJECT TO 314 CMR 5.00, INCLUDING PRIVATELY OWNED FACILITIES.
4. SPECIAL PERMIT FOR SECTION 218–5.2 SCHEDULE OF USE REGULATIONS, SECTION 218–9.3 MULTIFAMILY USE B. AGE–RESTRICTED HOUSING.

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4-17-24
KATIE L. ENRIGHT
COMMONWEALTH OF MASSACHUSETTS
CIVIL
No. 46111
REGISTERED PROFESSIONAL ENGINEER

SITE PLAN

COVER SHEET

DATE:	2/16/2024
PROJECT NUMBER:	17267
DESIGNED BY:	NC
DRAWN BY:	NC
CHECKED BY:	KE

C.1

4/17/2024 L:\17267\CURRENT\17267 Site Plan.dwg
Patrick Engler

EROSION CONTROL PLAN NOTES:

1. ALL CONSTRUCTION TRAFFIC TO ENTER/EXIT THE SITE VIA THE STABILIZED CONSTRUCTION ENTRANCE.
2. IT IS THE RESPONSIBILITY OF THE CHOSEN CONTRACTOR TO ENSURE ALL STORMWATER INLETS DOWNSTREAM OF CONSTRUCTION ARE FITTED WITH TEMPORARY INLET PROTECTION. ALL SEDIMENTATION CONTROL DEVICES INSTALLED WITHIN THE TOWN'S RIGHT OF WAY SHALL BE MAINTAINED, INSPECTED, CLEANED AND REPLACED AS NECESSARY TO PREVENT FLOODING DURING RAIN EVENTS.
3. UPON COMPLETION OF WORK, AND APPROVAL IS GRANTED BY THE TOWN OF GROTON DPW, ANY SEDIMENTATION CONTROLLED DEVICES SHALL BE REMOVED AS SOON AS POSSIBLE.
4. ALL PROPOSED CATCH BASINS AND STORMWATER STRUCTURES SHALL BE FITTED WITH INLET PROTECTIONS DURING CONSTRUCTION AS TO MINIMIZE EROSION AND SEDIMENTATION WITHIN THE PROPOSED STORMWATER MANAGEMENT SYSTEM.
5. ALL EXISTING SITE FEATURES NOT PROPOSED TO BE REMOVED SHALL BE PROTECTED DURING CONSTRUCTION TO THE MAXIMUM EXTENT FEASIBLE. ANY DAMAGE SHALL BE REPAIRED TO THE PRE-CONSTRUCTION CONDITION.
6. EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND MAINTAINED AND UPGRADED AS NECESSARY DURING CONSTRUCTION BY THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT AND INSTALL ADDITIONAL CONTROL MEASURES AS NEEDED DURING CONSTRUCTION.
7. STABILIZATION OF ALL RE-GRADED AND SOIL STOCKPILE AREAS MUST BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
8. SEDIMENT REMOVED FROM EROSION AND SEDIMENT CONTROL DEVICES MUST BE PROPERLY REMOVED AND DISPOSED. ALL DAMAGED CONTROLS MUST BE REMOVED, REPLACED, AND DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
9. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENT CONTROL PLAN. THIS INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, AND NOTIFYING THE PROPER TOWN DEPARTMENTS OF ANY TRANSFER OF THIS RESPONSIBILITY.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING WIND EROSION AND DUST THROUGHOUT THE LIFE OF THEIR CONTRACT. DUST CONTROL MAY INCLUDE, BUT IS NOT LIMITED TO, SPRINKLING OF WATER ON EXPOSED SOILS AND STREET SWEEPING WITHIN ADJACENT ROADWAYS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FILE FOR NECESSARY PERMITS TO PERFORM ANY OFF-SITE CONTROL MEASURES.
11. IF FINAL GRADING IS TO BE DELAYED FOR MORE THAN 21 DAYS AFTER LAND DISTURBANCE ACTIVITIES CEASE, TEMPORARY VEGETATION OR MULCH SHALL BE USED TO STABILIZE SOILS WITHIN 14 DAYS OF THE LAST DISTURBANCE.
12. IF A DISTURBED AREA WILL BE EXPOSED FOR GREATER THAN ONE YEAR, PERMANENT GRASSES OR OTHER APPROVED COVER MUST BE INSTALLED.
13. THE CONTRACTOR MUST KEEP ON-SITE AT ALL TIMES ADDITIONAL SILT WATTLE AND SILT FENCE FOR INSTALLATION AT THE DIRECTION OF THE ENGINEER, OR THE TOWN, TO MITIGATE ANY EMERGENCY CONDITION.
14. THE EROSION AND SEDIMENT CONTROLS AS SHOWN MAY NOT BE PRACTICAL DURING ALL STAGES OF CONSTRUCTION. EARTHWORK ACTIVITY ON-SITE MUST BE DONE IN A MANNER SUCH THAT RUNOFF IS DIRECTED TO A SEDIMENT CONTROL DEVICE OR INFILTRATED TO THE GROUND.
15. DEMOLITION AND CONSTRUCTION DEBRIS MUST BE PROPERLY CONTAINED AND DISPOSED OF.
16. DISPOSAL OF ALL DEMOLISHED MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE HAULED OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.
17. ANY LOCATION OF INGRESS AND EGRESS FROM THE SITE SHALL BE FITTED WITH A STABILIZED CONSTRUCTION ENTRANCE.
18. LIMIT OF EROSION CONTROL SHALL CONSIST OF STRAW WATTLE BACKED BY SILT FENCE UNLESS OTHERWISE NOTED. ALL LIMITS OF WORK UPSLOPE OF A WETLAND SHALL BE FITTED WITH PROPER EROSION CONTROL. LIMIT OF EROSION CONTROL SHALL BE INSPECTED EVERY 7 DAYS BY THE SITE CONTRACTOR OR AFTER EVERY RAIN EVENT TOTALING AT LEAST 0.25" OF PRECIPITATION, WHICH EVER COMES FIRST. ANY DAMAGED EROSION CONTROL SHALL BE REPAIRED OR REPLACED IMMEDIATELY UPON BEING FOUND. SWPPP INSPECTIONS BY THE CONTRACTED SWPPP INSPECTOR MAY HAPPEN CONCURRENTLY OR INDEPENDENTLY OF THIS REQUIREMENT.

SITE NOTES:

1. THE INTENT OF THIS PLAN IS TO CREATE 55 AND OVER AGE-RESTRICTED HOUSING THROUGH THE SPECIAL PERMIT BYLAW OF THE TOWN OF GROTON AND THE STATE OF MASSACHUSETTS.
2. ALL CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE TOWN AND STATE STANDARDS AND REGULATIONS.
3. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES, AND BONDS.
4. ALL PROPOSED SIGNAGE SHALL CONFORM WITH THE LOCAL TOWN ZONING REGULATIONS, UNLESS A VARIANCE IS OTHERWISE REQUESTED.
5. ALL SIGNAGE AND PAVE MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND MASSDOT STANDARDS AND SPECIFICATIONS, UNLESS OTHERWISE NOTED.
6. SNOW TO BE STORED AT EDGE OF PAVEMENT, AS SHOWN ON PLANS. ALL EXCESS SNOW SHALL BE TRUCKED OFF SITE TO AN APPROVED SNOW DUMPING LOCATION.
7. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.

UTILITY NOTES:

1. THE CONTRACTOR SHALL PROVIDE A MINIMUM NOTICE OF FOURTEEN (14) DAYS TO ALL CORPORATIONS, COMPANIES, AND/OR LOCAL AUTHORITIES OWNING OR HAVING A JURISDICTION OVER UTILITIES RUNNING TO, THROUGH OR ACROSS PROJECT AREAS PRIOR TO DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
2. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED UTILITY SERVICES SHALL BE TO THE STANDARDS AND REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY (ELECTRIC, TELEPHONE, CABLE TELEVISION, WATER, GAS AND SEWER).
3. A PRECONSTRUCTION MEETING SHALL BE HELD WITH THE OWNER, ENGINEER, ARCHITECT, CONTRACTOR, LOCAL OFFICIALS, AND ALL PROJECT-RELATED UTILITY COMPANIES (PUBLIC AND PRIVATE) PRIOR TO START OF CONSTRUCTION.
4. BUILDING TO BE SERVICED BY UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED.
5. THE CONTRACTOR IS TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND DISCONNECT ALL EXISTING SERVICE CONNECTIONS AT THEIR RESPECTIVE MAINS IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANY'S STANDARDS AND SPECIFICATIONS. ENGINEER TO BE NOTIFIED.
6. AS-BUILT PLANS SHALL BE SUBMITTED TO THE ALL MUNICIPAL DEPARTMENTS SPECIFIED BY CONDITIONS OF APPROVAL.
7. CONTRACTOR SHALL PLACE 2" WIDE METAL WIRE IMPREGNATED RED PLASTIC WARNING TAPE OVER ENTIRE LENGTH OF ALL GRAVITY SEWERS AND SERVICES.
8. ALL SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS.
9. PROPOSED RIM ELEVATIONS OF DRAINAGE AND SANITARY MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, AND OTHER UTILITIES TO FINISH GRADE AS SHOWN ON THE GRADING AND DRAINAGE PLAN.
10. WATER MAINS SHALL BE HYDROSTATICALLY PRESSURE TESTED FOR LEAKAGE PRIOR TO ACCEPTANCE.
11. THRUST BLOCKS SHALL BE INSTALLED AT ALL BENDS, TEES, MECHANICAL JOINTS, AND FIRE HYDRANTS.
12. DIMENSIONS ARE SHOWN TO CENTERLINE OF PIPE OR FITTING.
13. EXISTING UTILITIES SHALL BE DIGSAFED AND PRIVATE UTILITY LOCATOR SERVICES SHOULD BE UTILIZED PRIOR TO CONSTRUCTION.
14. THE CONTRACTOR SHALL MINIMIZE THE DISRUPTIONS TO THE EXISTING SEWER FLOWS AND THOSE INTERRUPTIONS SHALL BE LIMITED TO LOCAL SEWER DEPARTMENT REGULATIONS.
15. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
16. ALL FIRE HYDRANTS SHALL BE PROVIDED WITH AN APPROVED GATE VALVE.
17. THE CONTRACTOR SHALL MAINTAIN WATER SERVICE TO USERS AT ALL TIMES. REQUIREMENTS BY THE TOWN WATER DEPARTMENT REGARDING NOTIFICATION FOR INTERRUPTION OF SERVICE SHOULD BE INCLUDED (TYPICALLY 24 HOURS) AND ALLOWABLE INTERRUPTION DURATION. WATER TESTING AND DISINFECTION REQUIREMENTS SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
18. ALL WATER AND SEWER INSTALLATION SHALL BE COORDINATED WITH THE TOWN OF GROTON, MA.
19. PROPOSED SEPTIC SYSTEM SUBJECT TO APPROVAL BY NASHOBA BOARD OF HEALTH.

GRADING AND DRAINAGE NOTES:

1. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER HOWARD STEIN HUDSON, NOR ANY OTHER EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES AND/OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 888-DIG-SAFE
2. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
3. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. REFER TO THE CONSTRUCTION SEQUENCE ON DETAIL SHEET #1.
4. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO HAVE THE PROJECT LAND SURVEYOR STAKE OR FLAG CLEARING LIMITS. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED.
5. PROPOSED RIM ELEVATIONS OF DRAINAGE STRUCTURES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES UNLESS OTHERWISE NOTED.
6. ALL DRAINAGE AND SANITARY STRUCTURES INTERIOR DIAMETERS (4' MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS.
7. ALL DRAINAGE STRUCTURES SHALL BE PRECAST, UNLESS OTHERWISE SPECIFIED. SEE DETAIL SHEETS FOR DRAINAGE DETAILS.
8. IN AREAS WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT SOCK IS NOT REQUIRED.
9. ALL EXPOSED AREAS SHALL BE SEEDED AS SPECIFIED WITHIN 3 DAYS OF FINAL GRADING.
10. SHOULD CONSTRUCTION STOP FOR LONGER THAN 14 DAYS, THE SITE SHALL BE SEEDED AS SPECIFIED.
11. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE, AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SEDIMENT FROM LEAVING THE SITE.
12. CONSTRUCTION VEHICLES SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCE TO THE EXTENT POSSIBLE THROUGHOUT CONSTRUCTION. IF THE INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
13. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, IF DEEMED NECESSARY THROUGH ON-SITE INSPECTION BY ENGINEER AND/OR REGULATORY OFFICIALS.
14. ALL STORMWATER BMP'S SHALL BE INSPECTED BY DESIGN ENGINEER AFTER INSTALLATION TO CONFIRM ALL BMP'S ARE INSTALLED IN COMPLIANCE WITH PLANS.

LEGEND

		UTILITY POLE WITH TRANSFORMER	
		UTILITY POLE WITH LIGHT AND TRANSFORMER	
IRON ROD FOUND	BMK	BENCHMARK	
AREA DRAIN	BOMO	BOLT OVER MAIN OUTLET	ABUTTERS LOT LINE
CATCH BASIN	BIT	BITUMINOUS PAVEMENT	PROPERTY LINE
DRAIN MANHOLE	EOP	EDGE OF PAVEMENT	EASEMENT
NO LABEL MANHOLE	EOW	EDGE OF WATER	CHAIN LINK FENCE
SEWER MANHOLE	CONC	CONCRETE PAVEMENT	METAL/WIRE FENCE
ELECTRIC HANDHOLE	BB	BITUMINOUS BERM	WOOD GUARDRAIL
UNKNOWN HANDHOLE	GC	GRANITE CURB	TREE LINE
GAS VALVE	RWC	CONCRETE RETAINING WALL	676 INTERMEDIATE CONTOURS
TELEPHONE MANHOLE	RW STONE	STONE RETAINING WALL	675 INDEX CONTOURS
WATER GATE	RW BLOCKS	BLOCK RETAINING WALL	WETLAND LINE
FIRE HYDRANT	RWW	WOOD RETAINING WALL	OHW OVERHEAD WIRES
GUY WIRE	GRW	WOOD GUARD RAIL	S SEWER LINE
UTILITY POLE	HTP	HANDICAP TRACTION PAD	D DRAIN LINE
UTILITY POLE WITH LIGHT	LSA	LANDSCAPED AREA	W WATER LINE
VENT	FFE	FINISHED FLOOR ELEVATION	G GAS LINE
PEDESTRIAL SIGNAL	SILL	DOOR SILL ELEVATION	T TELEPHONE LINE
DECIDUOUS TREE	SWL	SOLID WHITE LINE	E UNDERGROUND ELECTRIC
SIGN (SINGLE POSTED)	DYL	DOUBLE YELLOW LINE	CLF CHAIN LINK FENCE
POST	RCP	REINFORCED CONCRETE PIPE	IRON WROUGHT IRON FENCE
MONITORING WELL	PVC	POLYVINYL CHLORIDE PIPE	POLY POLYVINYL CHLORIDE RAILING
BOLLARD	CIP	CAST IRON PIPE	NPV NO PIPES VISIBLE

THIS SITE PLAN APPROVAL DOES NOT NECESSARILY INDICATE COMPLIANCE WITH THE GROTON ZONING BYLAW

4/17/2024 L:\17267\CURRENT\17267 Site Plan.dwg
Patrick Bigda

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REVISIONS:

NO	BY	DATE	DESCRIPTION
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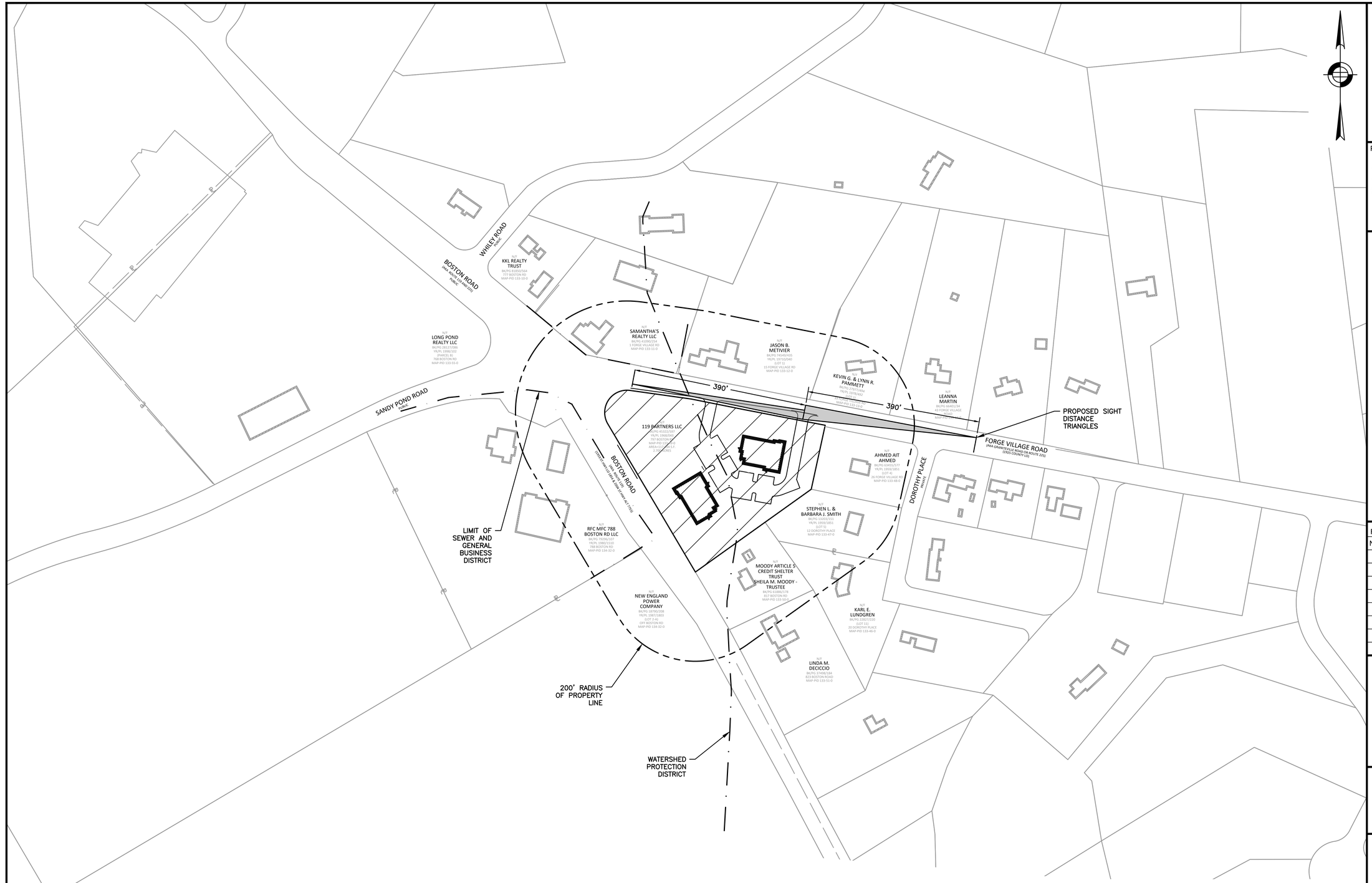
4-17-24
KATIE L. ENRIGHT
CIVIL
No. 40111
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

SITE PLAN

NOTES AND LEGEND SHEET

DATE:	2/16/2024
PROJECT NUMBER:	17267
DESIGNED BY:	NC
DRAWN BY:	NC
CHECKED BY:	KE

C.2



REFERENCES
1. EXISTING CONDITIONS SURVEY BY WSP USA INC.
2. BASE MAP OUTSIDE OF PROPERTY LINE WAS CREATED FROM OLIVER MASSGIS
3. BASE MAP OUTSIDE OF PROPERTY LINE WAS CREATED FROM TOWN OF GROTON GEOGRAPHIC INFORMATION SYSTEM
4. ABUTTERS INFORMATION WAS CREATED FROM MASSLANDRECORDS.COM FOR SOUTHERN MIDDLESEX RECORDED/REGISTERED LAND

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SCALE IN FEET

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SITE PLAN

LOCUS MAP

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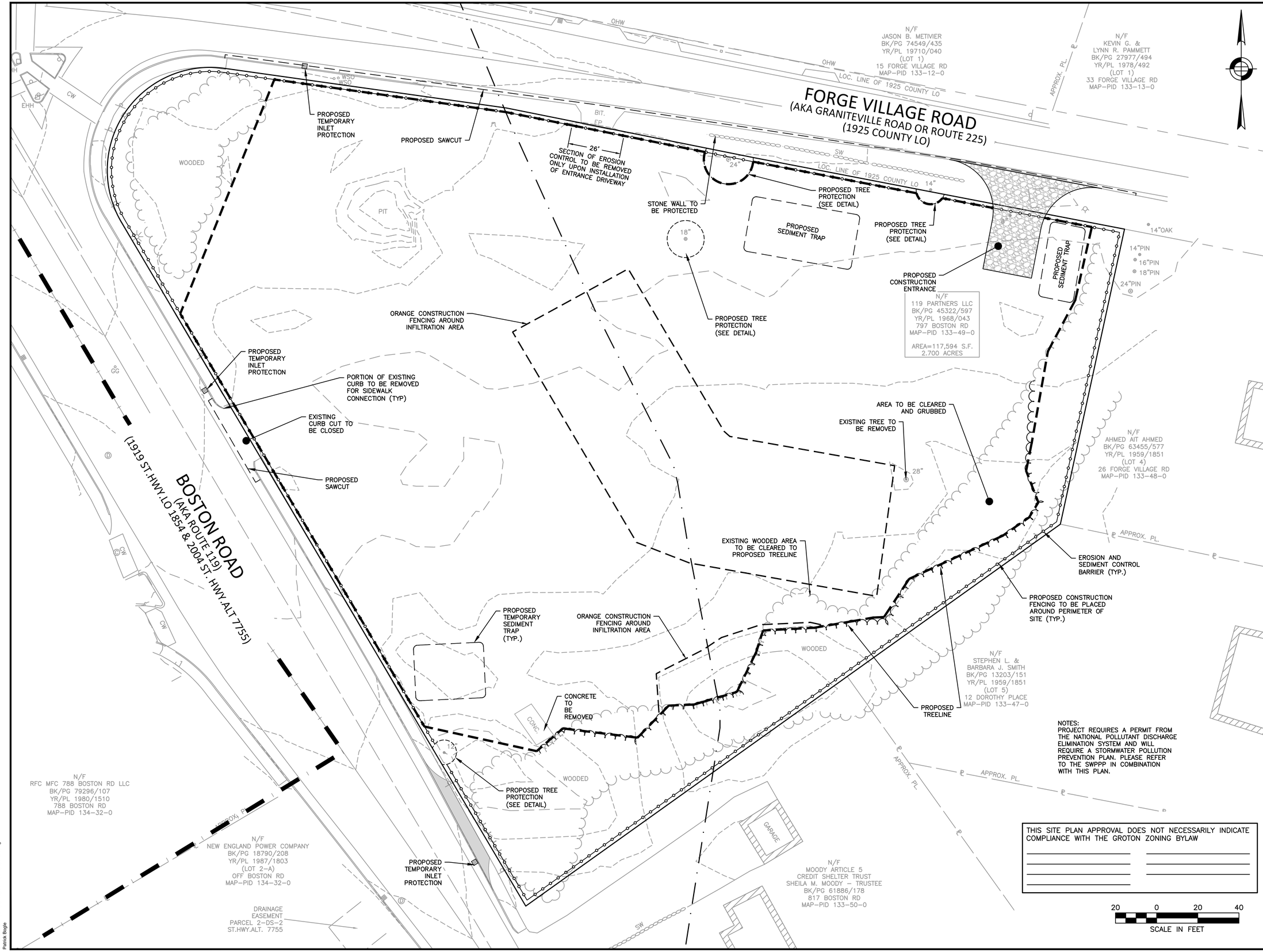
DRAWN BY:	NC
CHECKED BY:	KE

C.3

4/17/2024, L:\17267\CURRENT\17267 Site Plan.dwg
Patrick Bigge



NOTES:
PROJECT REQUIRES A PERMIT FROM THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND WILL REQUIRE A STORMWATER POLLUTION PREVENTION PLAN. PLEASE REFER TO THE SWPPP IN COMBINATION WITH THIS PLAN.

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SITE PLAN

DEMOLITION AND EROSION CONTROL PLAN

DATE:	2/16/2024
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DRAWN BY:	NC
CHECKED BY:	KE

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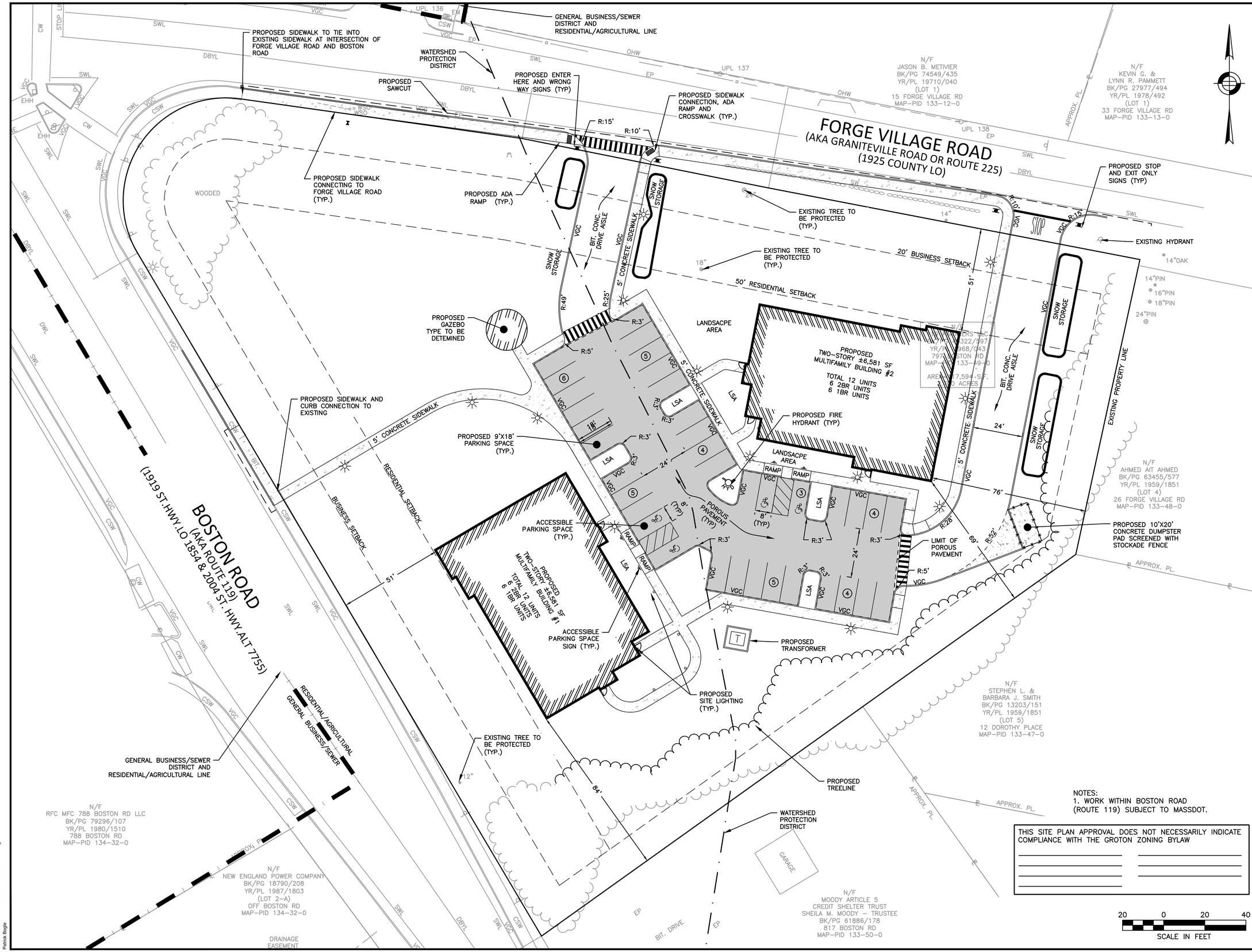

NOTES:
1. WORK WITHIN BOSTON ROAD (ROUTE 119) SUBJECT TO MASSDOT.

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LAYOUT AND MATERIALS PLAN

DATE:	2/16/2024
PROJECT NUMBER:	17267
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DRAWN BY:	NC
CHECKED BY:	KE

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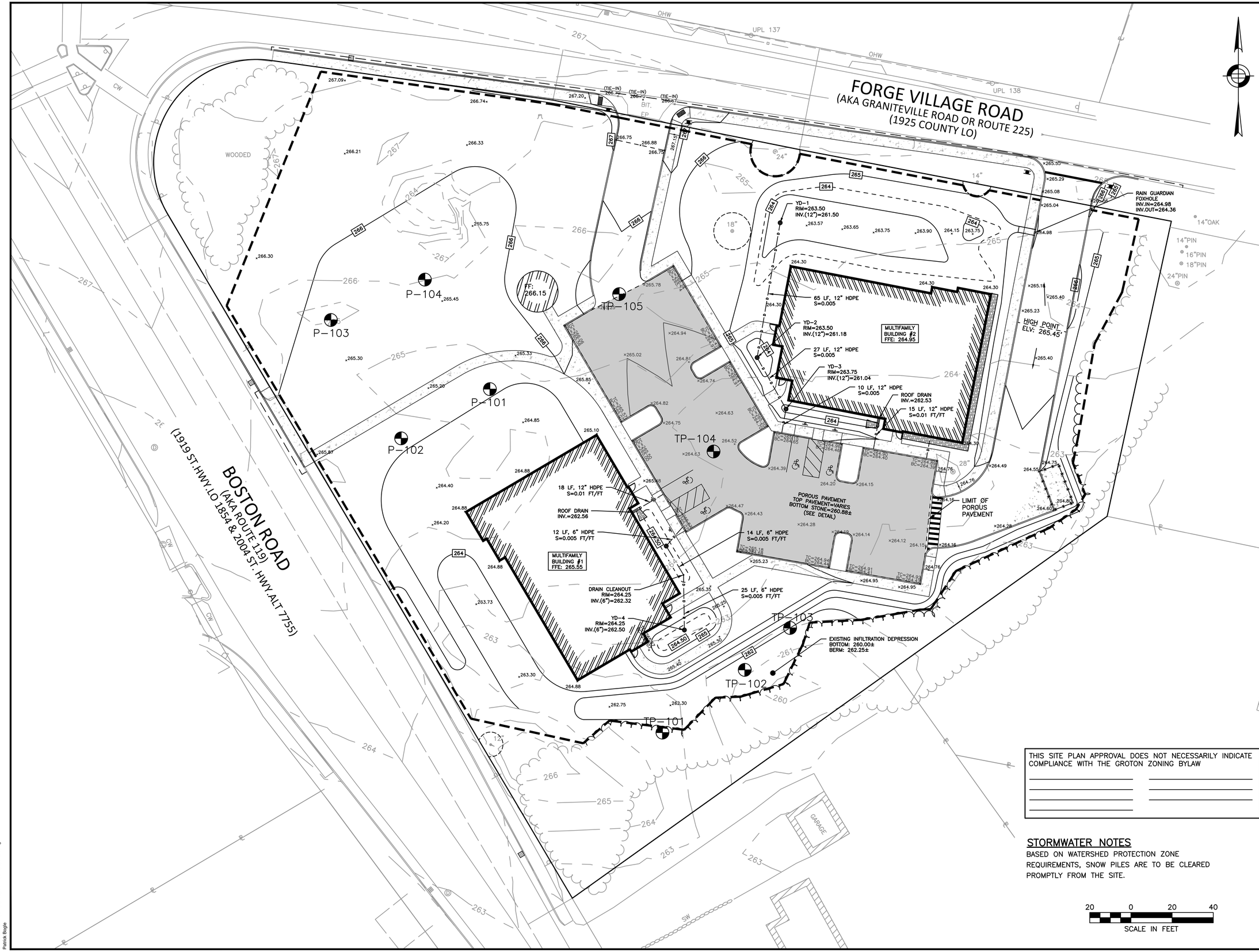

THIS SITE PLAN APPROVAL DOES NOT NECESSARILY INDICATE COMPLIANCE WITH THE GROTON ZONING BYLAW

STORMWATER NOTES

BASED ON WATERSHED PROTECTION ZONE REQUIREMENTS, SNOW PILES ARE TO BE CLEARED PROMPTLY FROM THE SITE.

20 0 20 40
SCALE IN FEET

HOWARD STEIN HUDSON
114 Turnpike Road, Suite 2C
Chelmsford, MA 01824
www.hshassoc.com

PREPARED FOR:

119 PARTNERS LLC
11 SUMMER STREET SUITE 8
CHELMSFORD, MA 01824

PROPOSED AGE RESTRICTED HOUSING DEVELOPMENT
797 BOSTON ROAD
GROTON, MA 01450

REVISIONS:

NO	BY	DATE	DESCRIPTION
1	KF	04-17-24	REV. PER PEER REVIEW

4-17-24
KATIE L. ENRIGHT
CIVIL
No. 46111
REGISTERED PROFESSIONAL ENGINEER

SITE PLAN

GRADING AND DRAINAGE PLAN

DATE:	2/16/2024
PROJECT NUMBER:	17267
DESIGNED BY:	NC
DRAWN BY:	NC
CHECKED BY:	KE

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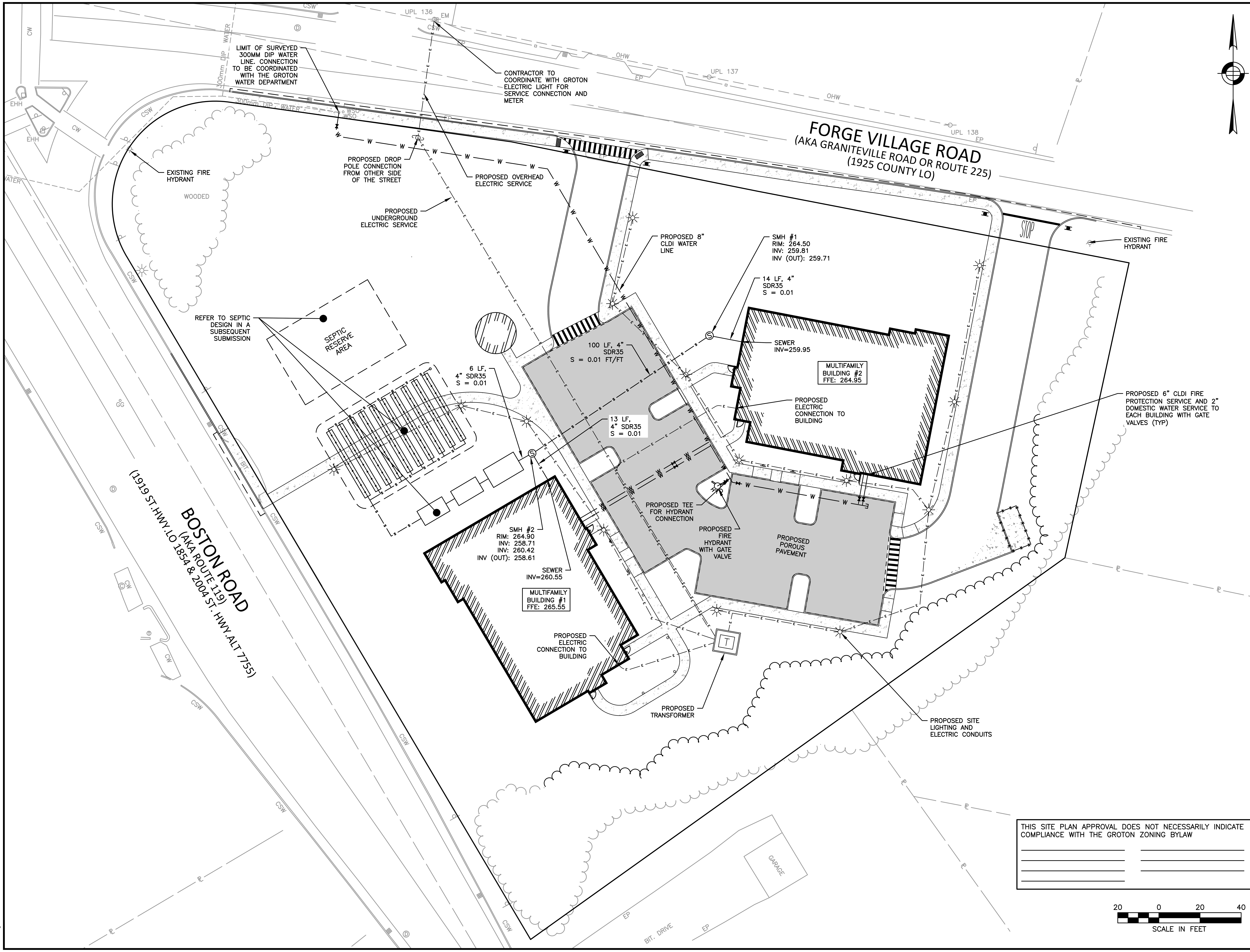
SHEET 6 OF 18

4/17/2024 L:\17267\CURRENT\17267 Site Plan.dwg
Patrick Bigda



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4-17-24
KATIE L. ENRIGHT CIVIL No. 46111 REGISTERED PROFESSIONAL ENGINEER

SITE PLAN

UTILITY PLAN

DATE:	2/16/2024
PROJECT NUMBER:	17267
DESIGNED BY:	NC
DRAWN BY:	NC
CHECKED BY:	KE

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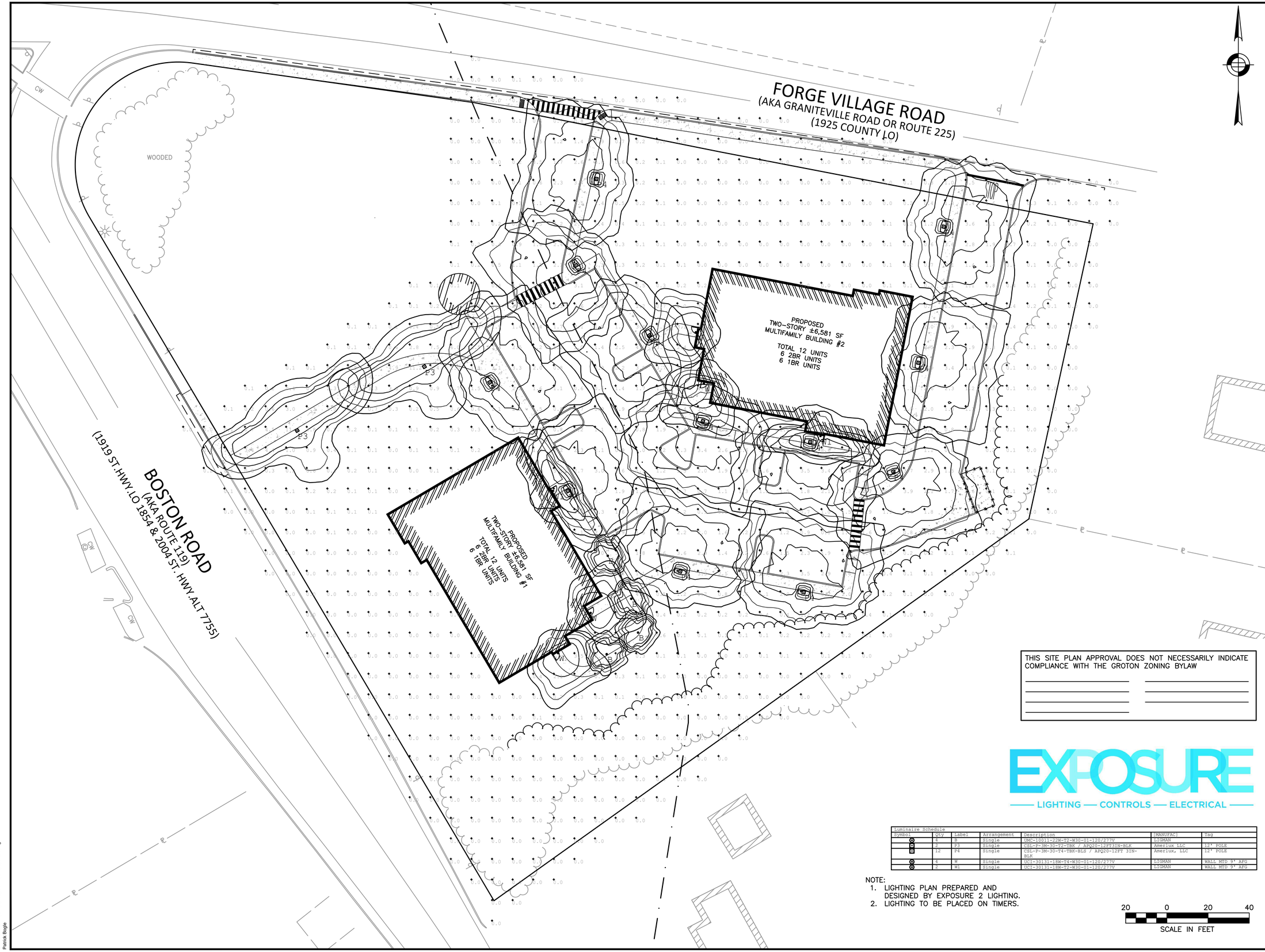
4/17/2024 L:\17267\CURRENT\17267 Site Plan.dwg
Patrick Bogie



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EXPOSURE
LIGHTING — CONTROLS — ELECTRICAL

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Description	[MANUFAC]	Tag
	4	B	Single	IMC-10011-22W-T2-W30-01-120/277V	LIGMAN	
	2	P3	Single	CSL-P-3M-30-T2-TBK / APQ20-12FT3IN-BLK	Amerlux LLC	12' POLE
	12	P4	Single	CSL-P-3M-30-T4-TBK-BLS / APQ20-12FT 3IN-BLK	Amerlux, LLC	12' POLE
	4	W	Single	UCI-30131-18W-T4-W30-01-120/277V	LIGMAN	WALL MTD 9' AFG
	2	W1	Single	UCI-30131-18W-T2-W30-01-120/277V	LIGMAN	WALL MTD 9' AFG

NOTE:
1. LIGHTING PLAN PREPARED AND DESIGNED BY EXPOSURE 2 LIGHTING.
2. LIGHTING TO BE PLACED ON TIMERS.

20 0 20 40
SCALE IN FEET

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SITE PLAN

LIGHTING PLAN

DATE:	2/16/2024
PROJECT NUMBER:	17267
DESIGNED BY:	NC
DRAWN BY:	NC
CHECKED BY:	KE

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Patrick Sigler

EVOLVE

EPTT Town & Country
LED Post Top

CUSTOMER NAME
PROJECT NAME
DATE TYPE
CATALOG NUMBER

The Evolve® LED Post Top Town & Country (EPTT) offers energy efficiency and quality of light in a classic look and style. The advanced LED optical system provides improved horizontal and vertical uniformity, reduced glare and improved lighting control.

Construction

Housing:	Die-cast aluminum housing with traditional lantern design. Cupola compatible with C136.41-2010 PE's, Shorting Caps and LightGrid Nodes
Refractors:	Acrylic, Polycarbonate, None/Open
Lens:	Impact resistant UV resistant polymer
Paint:	Corrosion resistant polyester powder paint, minimum 2.0 mil thickness. Standard = Black, Dark Bronze. RAL & custom colors available
Weight:	14 - 18 lbs (6.2 - 8 kg)

Optical System

Lumens:	2,070-7,970
Distribution:	Symmetric, Asymmetric
Efficacy:	72-130
CCT:	2700K, 3000K, 4000K, 5000K
CRI (Min):	≥70

Electrical

Input Voltage:	120-277V
Input Frequency:	50/60Hz
Power Factor:	≥ 90% at rated watts
Total Harmonic Distortion:	≤ 20% at rated watts

Surge Protection*

STANDARD	OPTIONAL
10kV/5kA	Secondary 10kV/5kA (R Option)

*Per ANSI C136.2-2015

Lumen Maintenance

Projected Lxx per IES TM-21-11 at 25°C

DISTRIBUTION	LXX(10K) @ HOURS 25,000 HR	50,000 HR	60,000 HR
02, 03	L99	L99	L98
04, 05, 06, 07	L96	L91	L89

Note: Projected Lxx based on LM80 (≥ 10,000 hour testing). Accepted Industry tolerances apply to initial luminous flux and lumen maintenance measurements.

Ambient Temperature Factor

AMBIENT TEMP (°C)	INITIAL FLUX FACTOR	AMBIENT TEMP (°C)	INITIAL FLUX FACTOR
10	1.02	30	0.99
20	1.01	40	0.98
25	1.00	50	0.97

Ratings

Operating Temperature:	-40°C to 50°C (Optical Code 02-06); -40°C to 40°C (Optical Code 07)
Vibration:	3G per ANSI C136.31-2010
LM-79:	Testing in accordance with IES Standards

Controls

Dimming:	Standard - 0-10V; Optional - DALI (Option U)
Sensors:	Photo Electric Sensors (PE) available; LightGrid Compatible

Warranty

5 Year (Standard) 10 Year (Optional)

Not all product variations listed on this page are DLC qualified. Visit www.designlights.org/search to confirm qualifications.

Current gecurrent.com/brands/evolve Page 1 of 6

EVOLVE
EPTT Town & Country
LED Post Top

CUSTOMER NAME
PROJECT NAME
DATE TYPE
CATALOG NUMBER

Ordering Information

with LSSX–TT (SOLID BLACK SHIELD) ON HOUSE SIDE

EPTT 02 0 03 B N 30 BLCK

PROD. ID	GEN	VOLTAGE	LUMENS	DISTRIBUTION	REFRACTOR	CCT	CONTROLS PER ANSI C136.41	MOUNTING	COLOR	OPTIONS
E = Evolve	02	0 = 120-277V	02 = 2000 lm	A = Symmetric	A = Acrylic	27 = 2700K[1]	A = ANSI C136.41 7-Pin PE Receptacle[2]	P = Pole Mounted	BLCK = Black	L = Tool-Less Entry
P = Post Top			03 = 3000 lm	B = Asymmetric	P = Polycarbonate	30 = 3000K[1]	D = ANSI C136.41 7-Pin PE Receptacle w/ Shorting Cap		DKBZ = Dark Bronze	P06 = Prewire with 6 ft of 14/3 Cable
TT = Town & Country Traditional			04 = 4000 lm		N = None[1]	40 = 4000K	E = ANSI C136.41 7-Pin PE Receptacle w/ non Dimming PE			R = Secondary 10kV/5kA
			05 = 5000 lm			50 = 5000K				U = DALI Programmable[2]
			06 = 6000 lm							Y = Coastal Finish[3]
			07 = 7000 lm							XXX = Special Options

[1] Select for IDA Approved Units
[2] Compatiable with LightGrid Nodes
[3] Recommended for installations within 750 feet of coast. Lead time varies, check with factory.

REFER TO LIGHTING PLAN FOR QUANTITY

Current gecurrent.com/brands/evolve Page 2 of 6

UCI-30131
Cinati Type I, II, III & IV Surface
microVos TECHNOLOGY — LIGMAN LIGHTING USA

18w LED 2309 Lumens | 30w LED 3848 Lumens
21w COB 1984 Lumens
IP65 • Suitable For Wet Locations
IK08 • Impact Resistant (Vandal Resistant)
Weight 8 lbs

Mounting Detail

Construction

Aluminum Less than 0.1% copper content – Marine Grade 6060 extruded & LM6 Aluminum High Pressure die casting provides excellent mechanical strength, clean detailed product lines and excellent heat dissipation.

Pre paint 8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Memory Retentive - Silicon Gasket Provided with special injection molded "fit for purpose" long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal management LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligman used in conjunction with the driver, controls thermals below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

Surge Suppression Standard 10kv surge suppressor provided with all fixtures.

BUG Rating B2 - U0 - G0

Finishing All Ligman products go through an extensive finishing process that includes fettling to improve paint adherence.

Paint UV Stabilized 4.9Mil thick powder coat paint and baked at 200 Deg C. This process ensures that Ligman products can withstand harsh environments. Rated for use in natatoriums.

Inspired by Nature Finishes The Inspired by nature Finishing is a unique system of decorative powder coating. Our metal decoration process can easily transform the appearance of metal or aluminum product into a wood grain finish.

Cone-shaped wall-mounted downlight fixtures. Simple clean form hiding multiple high-performance glare free optic choices.

A cone shaped wall wash luminaire. Suitable for outdoor up, or down light applications. This luminaire is provided with precision optics and high powered LEDs, to provide narrow, medium, wide and very wide distributions. The vandal resistant tempered glass is available in clear or lightly frosted versions.

This product is suitable for commercial, as well as residential applications and with the selection of optics available can provide an excellent lighting solution. Integral electronic driver. Fixture is mounted over a 3" octagonal junction box.

To meet International Dark Sky criteria, 3000k or warmer LEDs must be selected and luminaire fix mounted (+/- 15° allowable to permit leveling).

Additional Options (Consult Factory For Pricing)

SCBT Surface Conduit Box Trim

UCI-30131
Cinati Type I, II, III & IV Surface

PROJECT | DATE
QUANTITY | TYPE | NOTE

ORDERING EXAMPLE || UCI - 30131 - 18w - T2 - W30 - 02 - 120/277v - Options

UCI-30131	18W	T4/T2	W30	01	277V
	LAMP	BEAM	LED COLOR	FINISH COLOR	VOLTAGE
	18w LED 2309 Lumens; 30w LED 3848 Lumens; 21w COB 1984 Lumens	For 18w and 30w LED Only: T1 - Type I Distribution; T2 - Type II Distribution; T3 - Type III Distribution; T4 - Type IV Distribution. For 21w COB Only: N - Narrow 8°; M - Medium 16°; W - Wide 36°; VW - Very Wide 70°	W27 - 2700K; W30 - 3000K; W35 - 3500K; W40 - 4000K	01 - BLACK RAL 9011; 02 - DARK GREY RAL 7043; 03 - WHITE RAL 9003; 04 - METALLIC SILVER RAL 9006; 05 - MATTE SILVER RAL 9006; 06 - LIGMAN BRONZE; 07 - CUSTOM RAL	120/277v; Other - Specify

INSPIRED BY NATURE FINISHES: SW01 - OAK FINISH; SW02 - WALNUT FINISH; SW03 - PINE FINISH; DF - DOUGLAS FIR FINISH; CW - CHERRY WOOD FINISH; NW - NATIONAL WALNUT FINISH; SU01 - CONCRETE FINISH; SU02 - SOFTSCAPE FINISH; SU03 - STONE FINISH; SU05 - CORTEN FINISH

THERE IS AN ADDITIONAL COST FOR THESE FINISHES

REFER TO LIGHTING PLAN FOR QUANTITY

ADDITIONAL OPTIONS

NAT - Natatorium Rated
DIM - 0-10v Dimming
SCBT - Surface Conduit Box Trim
F - Frosted Lens
AMB - Turtle Friendly Amber LED

CITY OF FLAGSTAFF & TURTLE FRIENDLY COMPLIANT

Narrow-Spectrum Amber LEDs

More Custom Finishes Available Upon Request

Consult factory for pricing and lead times

Oak, Cherry, Beech, Carbon, Walnut, Chestnut, Bamboo, Galvanized, Pine, Mahogany, Birch, Steel

Example: Inspired by Nature Finish

UMC-10011
Mini Macaron Bollard
LIGMAN LIGHTING USA

22w LED 2854 Lumens
IP66
IK08
Weight - 9 lbs

Mounting Detail

Construction

Modern contemporary bollard. Designed with a sleek and clean appearance. Features high powered optics, encapsulated within a small sized bollard. Designed to complement the Macron pole top fixtures.

A modern style die-cast aluminum bollard with excellent downward light distribution that complies with dark sky requirements. Outstanding visual appeal and precision optical system gives very low glare rating, whilst reducing light pollution.

This fixture is available in two standard heights, however custom heights can be specified.

This bollard is available with the following light distributions to maximize spacing and vastly improve uniformity; Type II, III, Wide and Very Wide.

Color temperature 2700K, 3000K, 3500K and 4000K, LED CRI >80 and life time 50,000 Hours. Stainless steel screws. Durable silicone rubber gasket. Powder paint with high corrosion resistance with chemical chromatised protection. Integral control gear.

Customer specific wattages can be provided, please contact the factory for more information.

To meet International Dark Sky criteria, 3000k or warmer LEDs must be selected.

UMC-10011
Mini Macaron Bollard

PROJECT | DATE
QUANTITY | TYPE | NOTE

ORDERING EXAMPLE || UMC - 10011 - 22w - T2 - W30 - 02 - 120/277v - Options

UMC-10011	22W	T2	W30	01	120/277V
	LAMP	BEAM	LED COLOR	FINISH COLOR	VOLTAGE
	22w LED 2854 Lumens	T2 - Type II Distribution; T3 - Type III Distribution; W - Wide 77°x99°; VW - Very Wide 120°x140°	W27 - 2700K; W30 - 3000K; W35 - 3500K; W40 - 4000K	01 - BLACK RAL 9011; 02 - DARK GREY RAL 7043; 03 - WHITE RAL 9003; 04 - METALLIC SILVER RAL 9006; 05 - MATTE SILVER RAL 9006; 06 - LIGMAN BRONZE; 07 - CUSTOM RAL	120/277v; Other - Specify

INSPIRED BY NATURE FINISHES: SW01 - OAK FINISH; SW02 - WALNUT FINISH; SW03 - PINE FINISH; DF - DOUGLAS FIR FINISH; CW - CHERRY WOOD FINISH; NW - NATIONAL WALNUT FINISH; SU01 - CONCRETE FINISH; SU02 - SOFTSCAPE FINISH; SU03 - STONE FINISH; SU04 - CORTEN FINISH

THERE IS AN ADDITIONAL COST FOR THESE FINISHES

REFER TO LIGHTING PLAN FOR QUANTITY

ADDITIONAL OPTIONS

NAT - Natatorium Rated
DIM - 0-10v Dimming
AMB - Turtle Friendly Amber LED
F - Frosted Lens
HGT - Custom Bollard Height

CITY OF FLAGSTAFF & TURTLE FRIENDLY COMPLIANT

Narrow-Spectrum Amber LEDs: Peak wavelength between 585 & 595 nanometers and a full width of 50% power no greater than 15 nanometers.

More Custom Finishes Available Upon Request

Consult factory for pricing and lead times

Oak, Cherry, Beech, Carbon, Walnut, Chestnut, Bamboo, Galvanized, Pine, Mahogany, Birch, Steel

Example: Inspired by Nature Finish

EVOLVE
RSSE Series Poles
Round | Straight | Steel

Project Name
Date Type
Notes

APPLICATIONS

Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location.

CONSTRUCTION

Shaft:	One-piece straight steel with round cross section, Minimum yield of 46,000 psi (ASTM-A500, Grade C); Longitudinal weld seam to appear flush in shaft wall; Steel base plate with axial bolt circle slots welded flush to pole shaft having minimum yield of 36,000 psi (ASTM A36)
Base Cover:	Two-piece square aluminum base cover included standard
Pole Cap:	Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
Hand Hole:	Rectangular 3x5 steel hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
Anchor Bolts:	Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

FINISH

- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over "white metal" steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable

BASE DETAIL — POLE CAP — TENON — BASE COVER

Current gecurrent.com/evolve Page 1 of 6

EVOLVE
RSSE Series Poles
Round | Straight | Steel
Ordering Information

Example: RSSE20-40A-2-E1-DKBZ-UL

RSSE 12 40 A TA E1 BLCK

MOUNTING ORIENTATION — Denotes handhole location: 1, 2, 2L, 3T, 3Y, 4

DRILL PATTERN E1

ACCESSORIES- ORDER SEPARATELY

CATALOG NUMBER	DESCRIPTION
VM2XX*	2nd mode vibration damper

Current gecurrent.com/evolve Page 2 of 6

THIS SITE PLAN APPROVAL DOES NOT NECESSARILY INDICATE COMPLIANCE WITH THE GROTON ZONING BYLAW

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797 BOSTON ROAD
GROTON, MA 01450

REVISIONS:

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1	KF	04-17-24	REV. PER PEER REVIEW

SITE PLAN

SITE LIGHTING DETAILS

DATE:	2/16/2024
PROJECT NUMBER:	17267
DESIGNED BY:	NC
DRAWN BY:	NC
CHECKED BY:	KE

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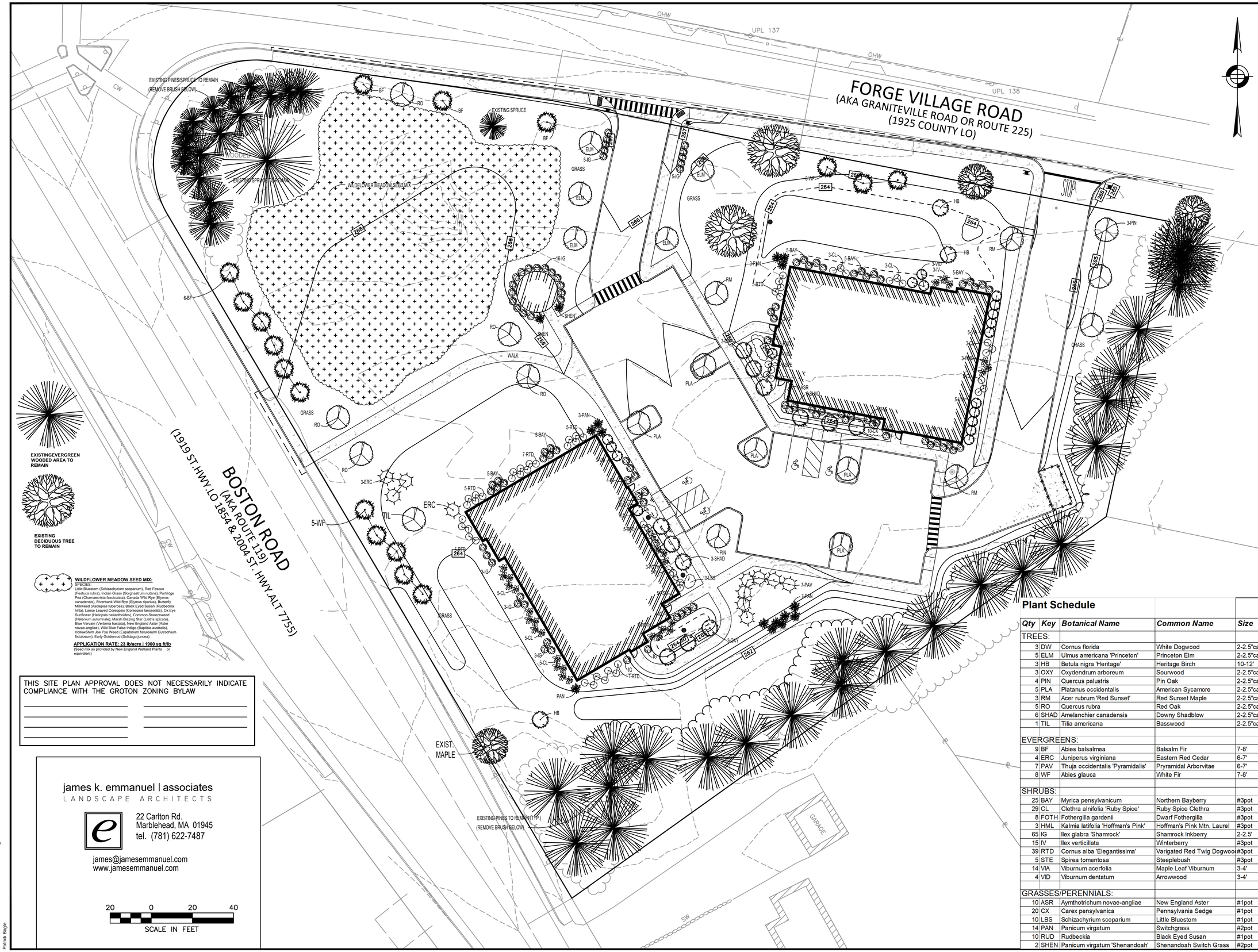
SHEET 9 OF 18

4/17/2024 L:\17267\CURRENT\17267 Site Plan.dwg
Patrick Bogle



james k. emmanuel | associates
LANDSCAPE ARCHITECTS
22 Carlton Rd.
Marblehead, MA 01945
tel. (781) 622-7487
james@jamesemmanuel.com
www.jamesemmanuel.com

Plant Schedule

Qty	Key	Botanical Name	Common Name	Size
TREES:				
3	DW	Cornus florida	White Dogwood	2-2.5"cal
5	ELM	Ulmus americana 'Princeton'	Princeton Elm	2-2.5"cal
3	HB	Betula nigra 'Heritage'	Heritage Birch	10-12'
3	OXY	Oxydendrum arboreum	Sourwood	2-2.5"cal
4	PIN	Quercus palustris	Pin Oak	2-2.5"cal
5	PLA	Platanus occidentalis	American Sycamore	2-2.5"cal
3	RM	Acer rubrum 'Red Sunset'	Red Sunset Maple	2-2.5"cal
5	RO	Quercus rubra	Red Oak	2-2.5"cal
6	SHAD	Amelanchier canadensis	Downy Shadblow	2-2.5"cal
1	TIL	Tilia americana	Basswood	2-2.5"cal
EVERGREENS:				
9	BF	Abies balsalmea	Balsalm Fir	7-8'
4	ERC	Juniperus virginiana	Eastern Red Cedar	6-7'
7	PAV	Thuja occidentalis 'Pyramidalis'	Pryramidal Arborvitae	6-7'
8	WF	Abies glauca	White Fir	7-8'
SHRUBS:				
25	BAY	Myrica pensylvanicum	Northern Bayberry	#3pot
29	CL	Clethra alnifolia 'Ruby Spice'	Ruby Spice Clethra	#3pot
8	FOTH	Fothergilla gardenii	Dwarf Fothergilla	#3pot
3	HML	Kalmia latifolia 'Hoffman's Pink'	Hoffman's Pink Mtn. Laurel	#3pot
65	IG	Ilex glabra 'Shamrock'	Shamrock Inkberry	2-2.5'
15	IV	Ilex verticillata	Winterberry	#3pot
39	RTD	Cornus alba 'Elegantissima'	Varigated Red Twig Dogwood	#3pot
5	STE	Spirea tomentosa	Steeplebush	#3pot
14	VIA	Viburnum acerfolia	Maple Leaf Viburnum	3-4'
4	VID	Viburnum dentatum	Arrowwood	3-4'
GRASSES/PERENNIALS:				
10	ASR	Aymthotrichum novae-angliae	New England Aster	#1pot
20	CX	Carex pensylvanica	Pennsylvania Sedge	#1pot
10	LBS	Schizachyrium scoparium	Little Bluestem	#1pot
14	PAN	Panicum virgatum	Switchgrass	#2pot
10	RUD	Rudbeckia	Black Eyed Susan	#1pot
2	SHEN	Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	#2pot

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SITE PLAN

LANDSCAPE PLAN

DATE: 2/16/2024
PROJECT NUMBER: 17267
DESIGNED BY: NC
DRAWN BY: NC
CHECKED BY: KE

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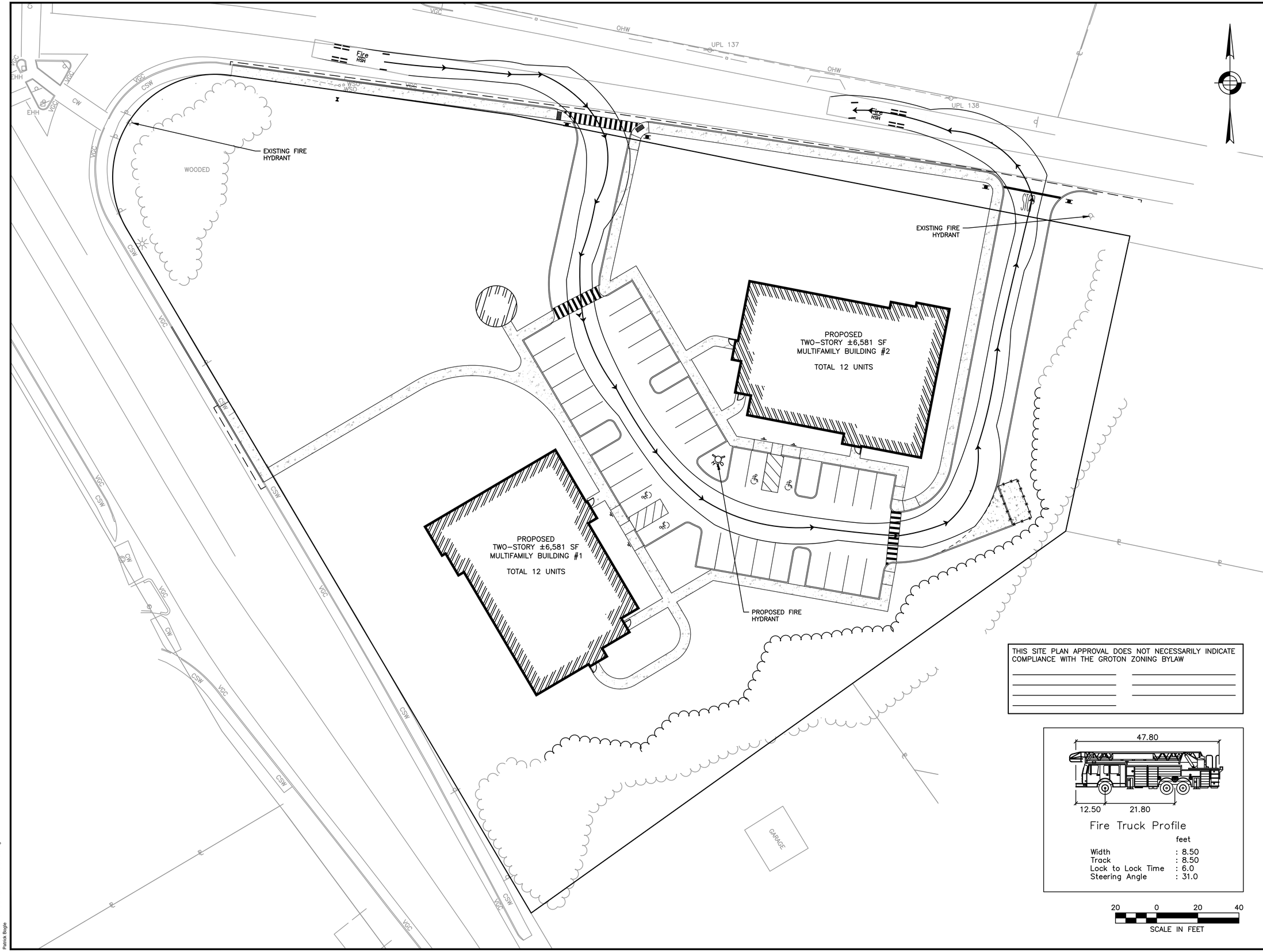
SHEET 10 OF 18

4/17/2024 L:\17267\CURRENT\17267 Site Plan.dwg
Petrus Stage



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4-17-24
KATIE L. ENRIGHT
CIVIL
No. 46111
REGISTERED PROFESSIONAL ENGINEER

SITE PLAN

SWEPT PATH ANALYSIS

DATE:	2/16/2024
PROJECT NUMBER:	17267
DESIGNED BY:	NC
DRAWN BY:	NC
CHECKED BY:	KE

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SHEET 11 OF 18

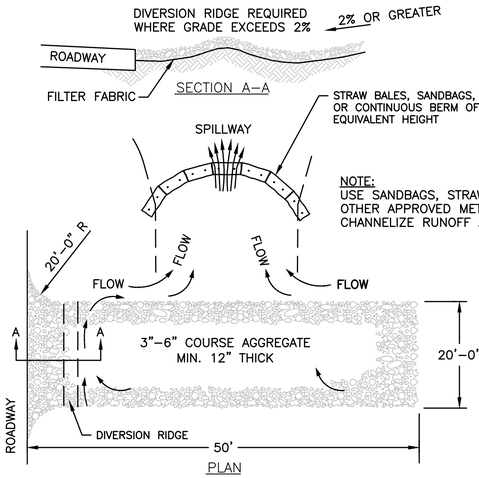
4/17/2024, L:\17267\CURRENT\17267 Site Plan.dwg
Patrick Bogle

EROSION AND SEDIMENT CONTROL NOTES

1. EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND MAINTAINED AND UPGRADED AS NECESSARY DURING CONSTRUCTION BY THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT AND INSTALL ADDITIONAL CONTROL MEASURES AS NEEDED DURING CONSTRUCTION.
2. ALL CATCH BASINS RECEIVING DRAINAGE FROM THE PROJECT SITE MUST BE PROVIDED WITH A CATCH BASIN FILTER.
3. STABILIZATION OF ALL RE–GRADED AND SOIL STOCKPILE AREAS MUST BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
4. SEDIMENT REMOVED FROM EROSION AND SEDIMENT CONTROL DEVICES MUST BE PROPERLY REMOVED AND DISPOSED. ALL DAMAGED CONTROLS MUST BE REMOVED AND REPLACED.
5. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENT CONTROL PLAN. THIS INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, AND NOTIFYING THE PROPER TOWN AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING WIND EROSION AND DUST THROUGHOUT THE LIFE OF HIS CONTRACT. DUST CONTROL MAY INCLUDE, BUT IS NOT LIMITED TO, SPRINKLING OF WATER ON EXPOSED SOILS AND STREET SWEEPING ADJACENT ROADWAYS.
7. IF FINAL GRADING IS TO BE DELAYED FOR MORE THAN 21 DAYS AFTER LAND DISTURBANCE ACTIVITIES CEASE, TEMPORARY VEGETATION OR MULCH SHALL BE USED TO STABILIZED SOILS WITHIN 14 DAYS OF THE LAST DISTURBANCE.
8. IF A DISTURBED AREA WILL BE EXPOSED FOR GREATER THAN ONE YEAR, PERMANENT GRASSES OR OTHER APPROVED COVER MUST BE INSTALLED.
9. THE CONTRACTOR MUST KEEP ON–SITE AT ALL TIMES ADDITIONAL SILT FENCE AND STRAW WATTLE FOR THE INSTALLATION AT THE DIRECTION OF THE ENGINEER OR THE TOWN TO MITIGATE ANY EMERGENCY CONDITION.
10. THE CONSTRUCTION FENCING AND EROSION AND SEDIMENT CONTROLS AS SHOWN MAY NOT BE PRACTICAL DURING ALL STAGES OF CONSTRUCTION. EARTHWORK ACTIVITY ON–SITE MUST BE DONE IN A MANNER SUCH THAT RUNOFF IS DIRECTED TO A SEDIMENT CONTROL DEVICE OR INFILTRATED TO THE GROUND.
11. DEMOLITION AND CONSTRUCTION DEBRIS MUST BE PROPERLY CONTAINED AND DISPOSED OF.
12. DISPOSAL OF ALL DEMOLISHED MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE HAULED OFF–SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.

GENERAL CONSTRUCTION SEQUENCE

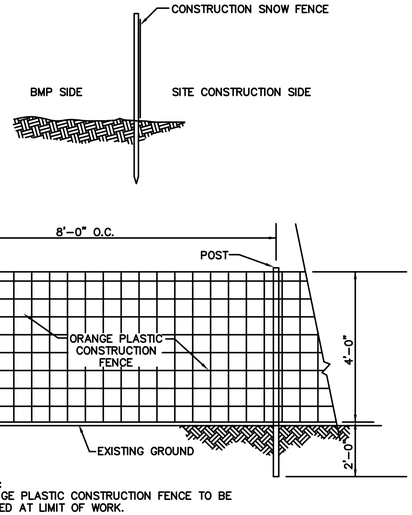
1. INSTALL EROSION AND SEDIMENT CONTROLS PRIOR TO STARTING ANY EARTHWORKS ACTIVITY.
2. INSTALL CONSTRUCTION ENTRANCE.
3. BEGIN CLEARING AND GRUBBING.
4. CONSTRUCT STORMWATER MANAGEMENT SYSTEM.
5. INSTALL SITE FURNISHINGS.
6. INSTALL PAVEMENT AND CURBS.
7. INSTALL LANDSCAPING.
8. EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED UNTIL PERMANENT COVER IS ESTABLISHED.



NOTES:

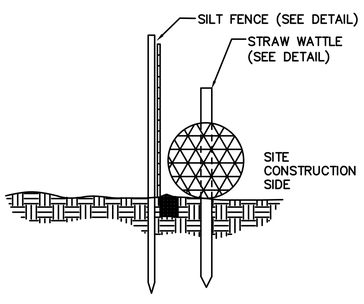
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.
3. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE APPLIED WHERE NECESSARY TO KEEP PUBLIC WAYS FREE OF SEDIMENT INCLUDING STAGING AREAS

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

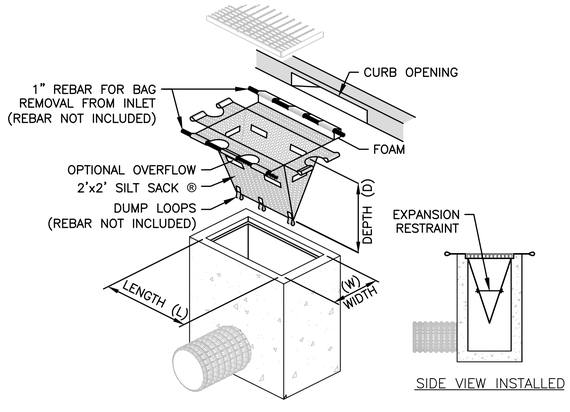


NOTE:
ORANGE PLASTIC CONSTRUCTION FENCE TO BE PLACED AT LIMIT OF WORK.

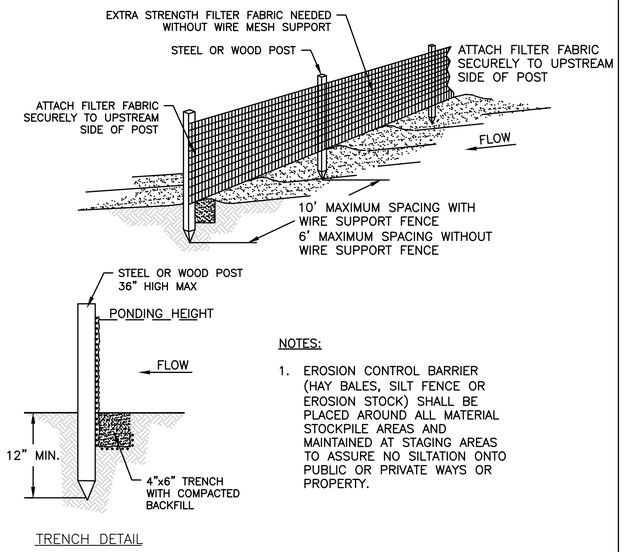
CONSTRUCTION FENCE
NOT TO SCALE



STRAW WATTLE WITH SILT FENCE BACKING DETAIL
NOT TO SCALE



TEMPORARY INLET PROTECTION
NOT TO SCALE

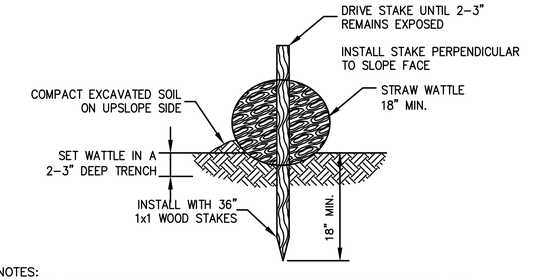


TRENCH DETAIL

NOTES:

1. EROSION CONTROL BARRIER (HAY BALES, SILT FENCE OR EROSION STOCK) SHALL BE PLACED AROUND ALL MATERIAL STOCKPILE AREAS AND MAINTAINED AT STAGING AREAS TO ASSURE NO SILTATION ONTO PUBLIC OR PRIVATE WAYS OR PROPERTY.

SILT FENCE DETAIL
NOT TO SCALE



NOTES:

1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2–3"(5–7.5 CM) DEEP X 9"(22.9 CM) WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UP–SLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE THE WATTLE WITH 36" (45.7–61 CM) STAKES EVERY 3–4' (0.9 – 1.2 M) AND WITH A STAKE ON EACH END. (STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2–3" (5–7.5 CM) OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO SLOPE FACE.

STRAW WATTLE DETAIL
NOT TO SCALE

THIS SITE PLAN APPROVAL DOES NOT NECESSARILY INDICATE COMPLIANCE WITH THE GROTON ZONING BYLAW

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4-17-24
KATIE L. ENRIGHT
CIVIL
No. 46111
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

SITE PLAN

DETAIL SHEET 1 OF 7

DATE:	2/16/2024
PROJECT NUMBER:	17267
DESIGNED BY:	NC
DRAWN BY:	NC
CHECKED BY:	KE

C.12

SHEET 12 OF 18

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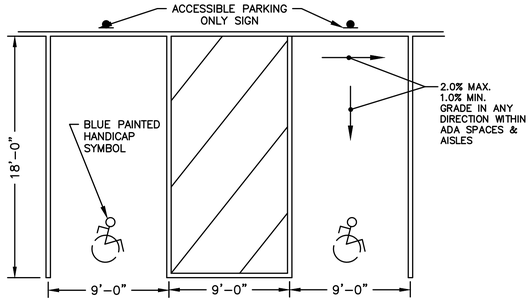
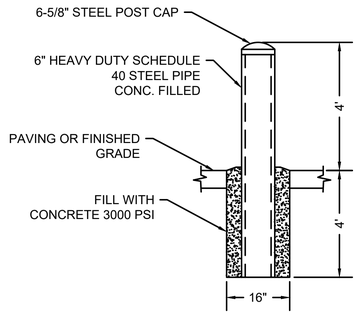
Rafael Bogle

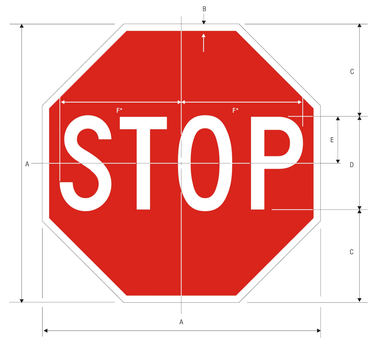


NOTE:
* GRADING WITHIN THE HANDICAP PARKING SPACE SHALL NOT EXCEED 2.0% IN ANY DIRECTION.
* BOLLARD-EMBEDDED ACCESSIBLE PARKING ONLY SIGN

TYPICAL HANDICAP PARKING SPACE
NOT TO SCALE



PIPE BOLLARD DETAIL
NOT TO SCALE



R1-1
STOP
*Reduce spacing 40%

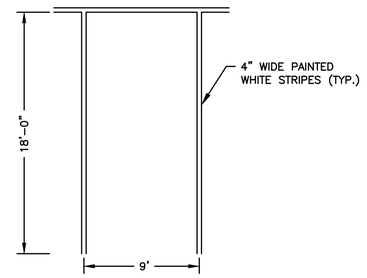
	A	B	C	D	E	F
	18	.375	6	6 C	3	7.75
	24	.625	8	8 C	4	10
C	30	.75	10	10 C	5	12.5
	36	.875	12	12 C	6	15
	48	1.25	16	16 C	8	20

COLORS: LEGEND – WHITE (RETROREFLECTIVE)
BACKGROUND – RED (RETROREFLECTIVE)

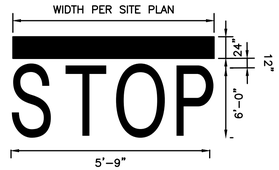
1-1

STOP SIGN
NOT TO SCALE

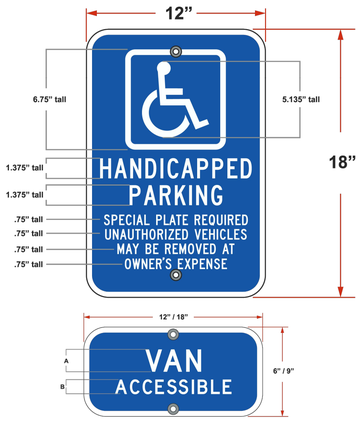
NOT TO SCALE



TYPICAL PARKING SPACE
NOT TO SCALE

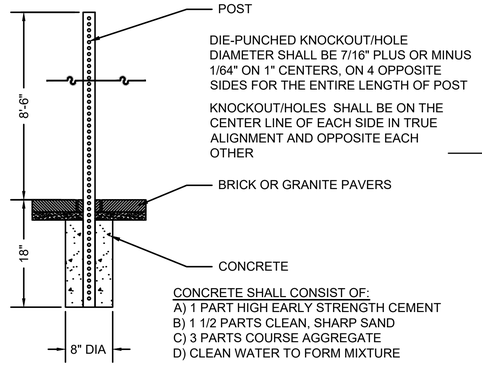


STOP BAR

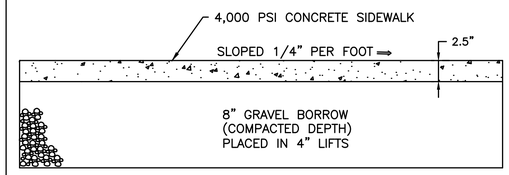


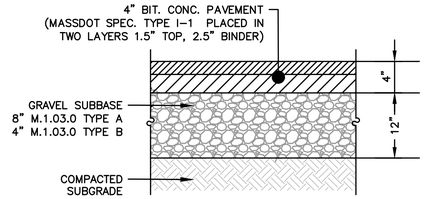
Sign Size	A	B
12 x 6"	1.5" tall	1" tall
18 x 9"	2" tall	1.5" tall

HANDICAP & VAN ACCESSIBLE SIGNS DETAIL
NOT TO SCALE

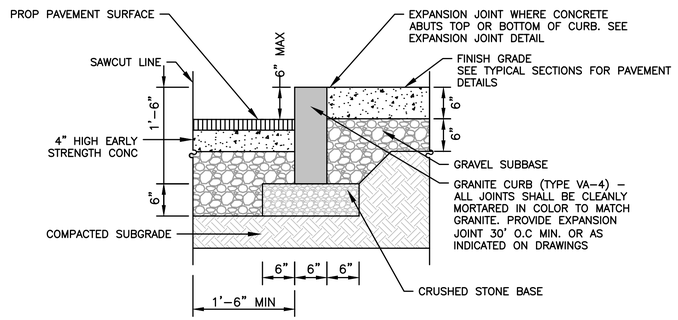


10'-2" SQUARE SIGN POST
NOT TO SCALE





FULL DEPTH DRIVEWAY AND PARKING LOT SECTION DETAIL
NOT TO SCALE



NOTE: USE 2" BIT. CONC. TOP COURSE ABOVE HIGH EARLY STRENGTH CONCRETE FOR RESETTING CURBS

VERTICAL GRANITE CURB
NOT TO SCALE

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REVISIONS:

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4-17-24
KATIE L. ENRIGHT
CIVIL
No. 46111
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

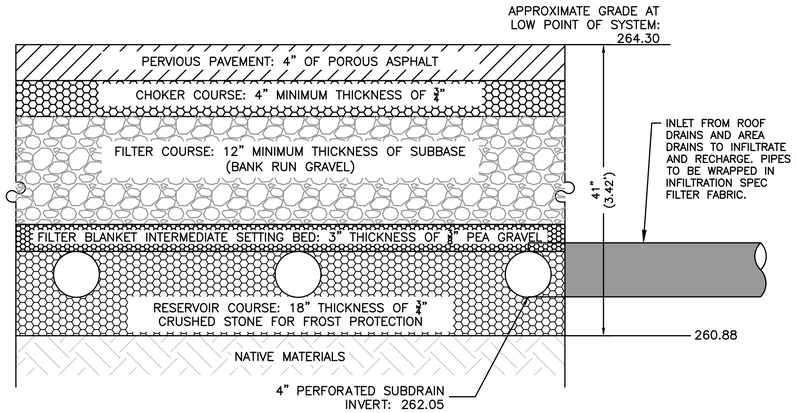
SITE PLAN

DETAIL SHEET
2 OF 7

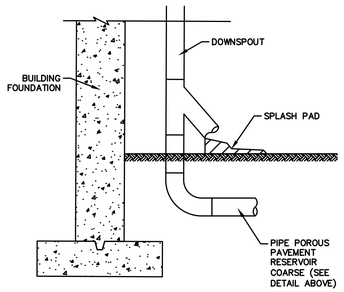
DATE:	2/16/2024
PROJECT NUMBER:	17267
DESIGNED BY:	NC
DRAWN BY:	NC
CHECKED BY:	KE

C.13

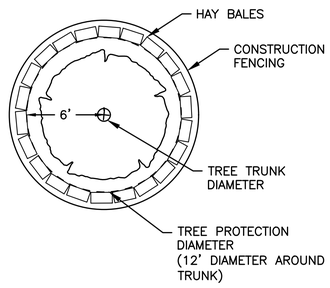
4/17/2024 L:\17267\CURRENT\17267 Site Plan.dwg
Patrick Bigda



PERMEABLE PAVEMENT SECTION DETAIL
NOT TO SCALE

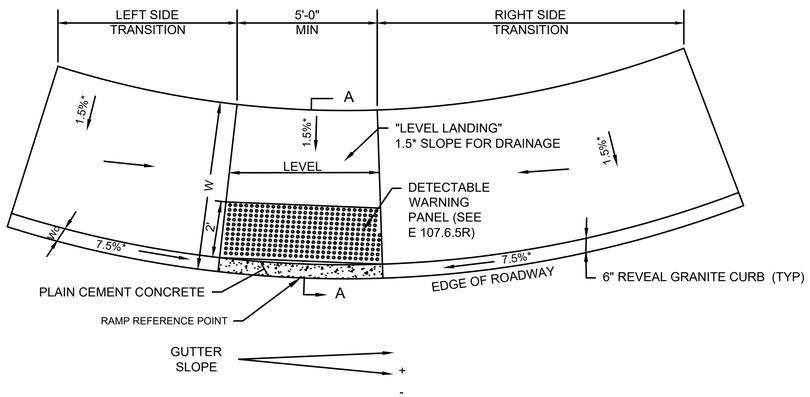


ROOF LEADER CONNECTION DETAIL
NOT TO SCALE



NOTES:
1. TREE PROTECTION DIAMETER TO CONSIST OF HAY BALES AND CONSTRUCTION FENCING AROUND PERIMETER OF TRUNK.

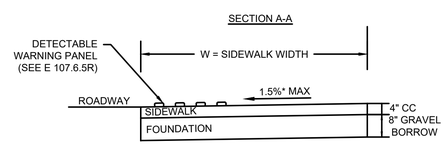
TREE PROTECTION DETAIL
NOT TO SCALE



LEGEND:

HSL = HIGH SIDE TRANSITION (SEE E 107.9.0)
W = SIDEWALK WIDTH
Wc = WIDTH OF CURB (6" TYP)
CC = CEMENT CONCRETE
* = TOLERANCE FOR CONSTRUCTION ±0.5%

USEABLE SIDEWALK WIDTH PER AAB = W-WC

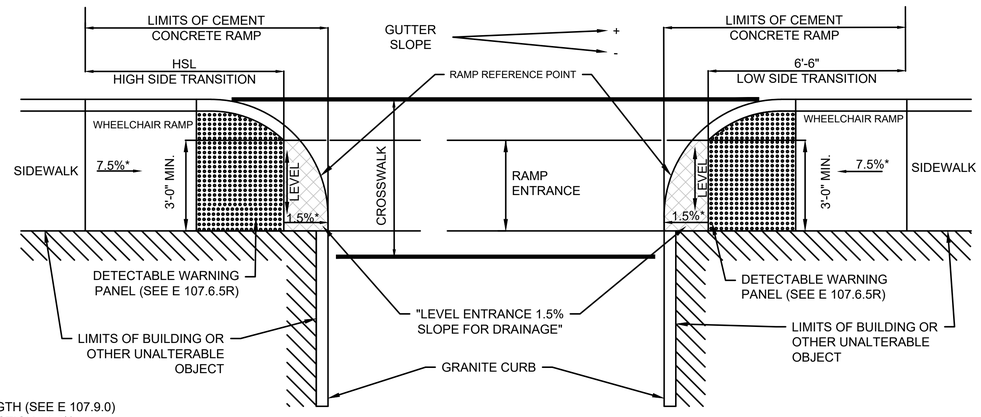


WHEELCHAIR RAMPS ON NARROW CURVED SIDEWALK
WITH DETECTABLE WARNING PANEL
NOT TO SCALE

NOTES:
DETECTABLE WARNING PANEL LOCATED NOT LESS THAN 6" OR MORE THAN 24" FROM ROADWAY EDGE (GUTTER LINE). TRUNCATED DOMES TO BE ALIGNED WITH DIRECTION OF TRAVEL.

FOR DETAILS OF TRUNCATED DOMES SEE DRAWING E 107.6.5.

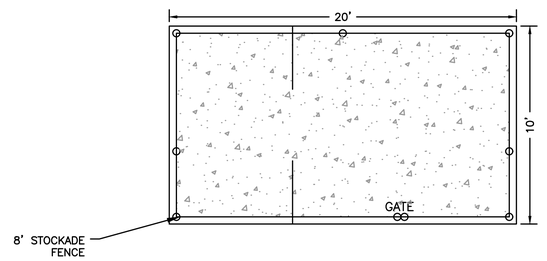
ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS.



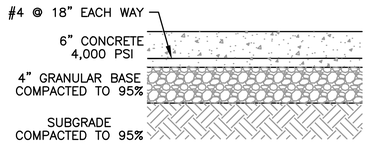
LEGEND:

HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0)
* = TOLERANCE FOR CONSTRUCTION ±0.5%

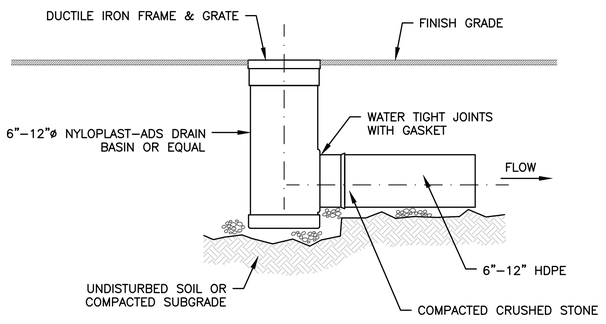
WHEELCHAIR RAMP FOR ONE CONTINUOUS DIRECTION OF PEDESTRIAN TRAVEL
NOT TO SCALE



DUMPSTER PAD
SCALE: N.T.S



NOTE: SEE LANDSCAPE AND ARCHITECTURAL PLANS FOR FINAL DETAILS



AREA DRAIN
NOT TO SCALE

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COMMONWEALTH OF MASSACHUSETTS

SITE PLAN

DETAIL SHEET
3 OF 7

DATE:	2/16/2024
PROJECT NUMBER:	17267
DESIGNED BY:	NC
DRAWN BY:	NC
CHECKED BY:	KE

C.14

4/17/2024 L:\17267\CURRENT\17267 Site Plan.dwg
Patrick Boyle

SPECIFICATIONS

1. STEEL REINFORCED, COLD JOINT SECURED MONOLITHIC CONCRETE STRUCTURES (INLET 875 LBS, MIDDLE 965 LBS, AND OUTLET 730 LBS). CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. CONCRETE AIR ENTRAINED (4% TO 8% BY VOLUME). MANUFACTURED AND DESIGNED TO ASTM C858.
2. 2–POINT PICK USING RECESSED LIFTING POCKETS WITH A STANDARD HOOK.
3. FIBERGLASS GRATE (11 LBS/PIECE).
4. FRP COMPOSITE LID (36 LBS/PIECE) WITH CONCENTRATED LOAD CAPACITY OF 3,400 LBS.

INSTALLATION NOTES

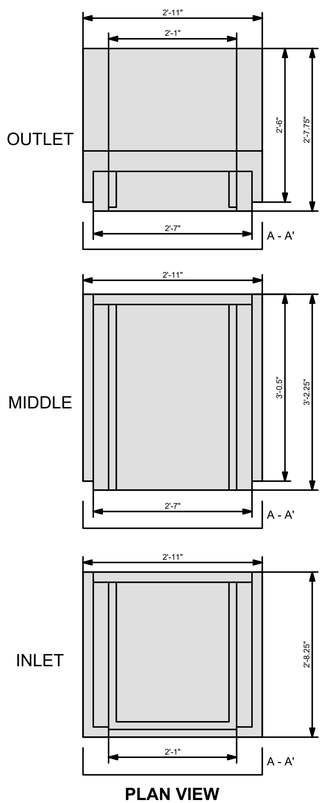
1. INSTALL A CLASS 5 BASE (COMPACTED TO 95% STANDARD PROCTOR). THE DISTANCE FROM THE BACK OF THE CURB MAY VARY BASED ON SITE CONDITIONS. EXCAVATE 1' 7" BELOW THE GUTTERLINE ELEVATION (I.E. THE BIORETENTION OVERFLOW ELEVATION) TO ACCOMMODATE THE 9" PONDING DEPTH, 6" CLASS 5 AGGREGATE, AND 4" RAIN GUARDIAN FOXHOLE BASE (INCLUDED). THEREFORE, THE TOP OF THE CLASS 5 COMPACTED BASE IS PRECISELY 1' 1" BELOW THE GUTTERLINE ELEVATION. THE TOP OF THE RAIN GUARDIAN FOXHOLE INLET POINT WILL BE 7–1/2" ABOVE THE TOP OF THE CONCRETE BASE AND 1–1/2" BELOW THE GUTTERLINE ELEVATION TO ACCOMMODATE A SLOPED INLET FROM THE GUTTER TO THE RAIN GUARDIAN FOXHOLE.

2. SET RAIN GUARDIAN FOXHOLE INLET FIRST, FOLLOWED BY MIDDLE SECTION(S), AND FINALLY THE OUTLET ON THE PREPARED CLASS 5 BASE. POSITION RAIN GUARDIAN FOXHOLE OUTLET PIECE SO PRIMARY OUTLET ALIGNS WITH TOE OF BASIN SIDE SLOPE TO AVOID SOIL INTERFERENCE WITH REMOVABLE FILTER WALL.

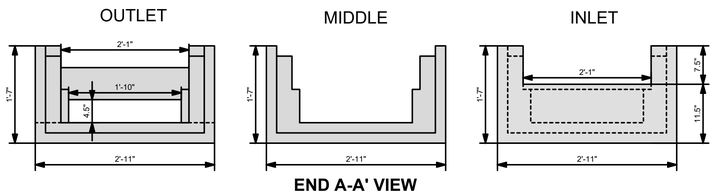
3. SECURE MODULAR FOXHOLE PIECES AT EACH JOINT USING PROVIDED GALVANIZED TIE RODS.

4. INSTALL EXPANSION/CONTRACTION JOINT MATERIAL OR A SHEET OF POLY TO SERVE AS A BOND BREAK BETWEEN RAIN GUARDIAN FOXHOLE AND CONCRETE INLET BEFORE POURING INLET.

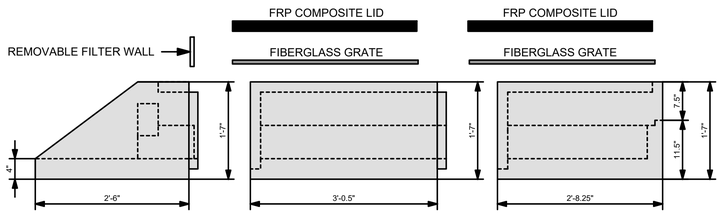
5. REMOVABLE FILTER WALL SHOULD BE INSTALLED WITH FILTER FABRIC FACING THE RAIN GUARDIAN FOXHOLE INLET.



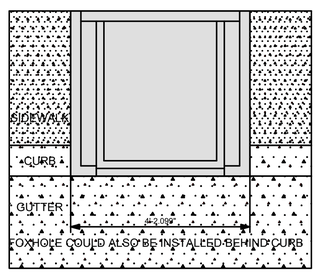
PLAN VIEW



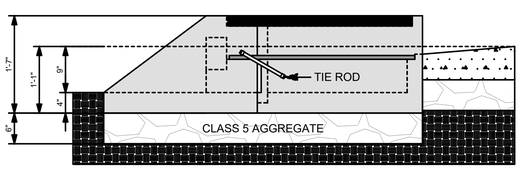
END A-A' VIEW



ELEVATION VIEW



INSTALLED PLAN VIEW - INLET ONLY



INSTALLED ELEVATION VIEW - INLET/OUTLET ONLY

RAIN GUARDIAN FOXHOLE DETAIL

SCALE=NTS

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4 OF 7

DATE:	2/16/2024
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CHECKED BY:	KE

C.15

SHEET 15 OF 18

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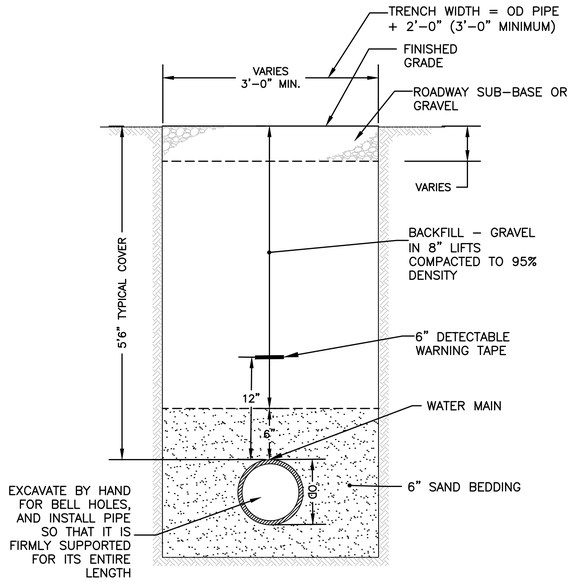
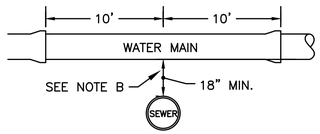
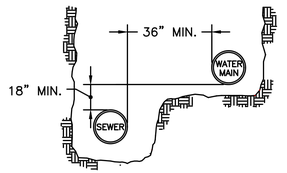
Richard Engle



TRENCH DETAIL – WATER MAIN
NOT TO SCALE



WATER AND SEWER CROSSING



WATER AND SEWER LAID PARALLEL

NOTES:
THE SEPARATION OF WATER MAINS AND SEWERS SHALL COMPLY WITH THE FOLLOWING GENERAL REQUIREMENTS.

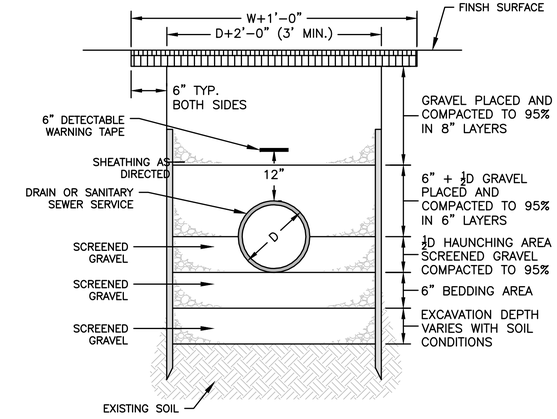
A. PARALLEL INSTALLATION:
- NORMAL CONDITIONS: THE INSIDE EDGE OF A WATER MAIN SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM THE INSIDE EDGE OF ANY SANITARY SEWER, STORM SEWER OR SEWER MANHOLE.
- WHEN LOCAL CONDITIONS PREVENT A HORIZONTAL SEPARATION OF 10 FEET, ONE OF TWO METHODS MAY BE EMPLOYED. IN BOTH CASES THE INVERT OF THE WATER LINE MUST BE AT LEAST 18" ABOVE THE CROWN OF THE SEWER LINE.

1. LAY WATER AND SEWER IN SEPARATE TRENCHES
2. LAY THE WATER AND SEWER IN THE SAME TRENCH WITH THE WATER MAIN AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH WITH A MINIMUM HORIZONTAL SEPARATION FROM INSIDE PIPE TO INSIDE PIPE OF 36"

B. CROSSINGS:
- WHEN SEWERS MUST CROSS UNDER WATER MAINS, THE SEWER LAID SUCH THAT THE INVERT OF THE WATER LINE IS AT LEAST 18 INCHES ABOVE THE CROWN OF THE SEWER LINE.
- WHEN THE SEWER ELEVATION CANNOT BE VARIED TO MEET THE REQUIREMENT, THE WATER LINE MUST BE RELOCATED OR RECONSTRUCTED WITH MECHANICAL JOINT CEMENT LINED DUCTILE IRON PIPE FOR A DISTANCE OF 10 ft ON EACH SIDE OF THE SEWER.
- WHEN IT IS IMPOSSIBLE TO OBTAIN EITHER OR BOTH OF THE ABOVE REQUIREMENTS, BOTH THE WATER AND SEWER LINES SHALL BE CONSTRUCTED OF MECHANICAL JOINT CEMENT LINED DUCTILE IRON PIPE OR OTHER EQUIVALENT MATERIAL. BOTH PIPES SHALL BE PRESSURE TESTED BY AN APPROVED METHOD TO ASSURE WATER TIGHTNESS OR BOTH PIPES SHALL BE ENCASED IN CONCRETE.

SEWER/WATER SEPARATION & CROSSING DETAIL
NOT TO SCALE

THIS SITE PLAN APPROVAL DOES NOT NECESSARILY INDICATE COMPLIANCE WITH THE GROTON ZONING BYLAW



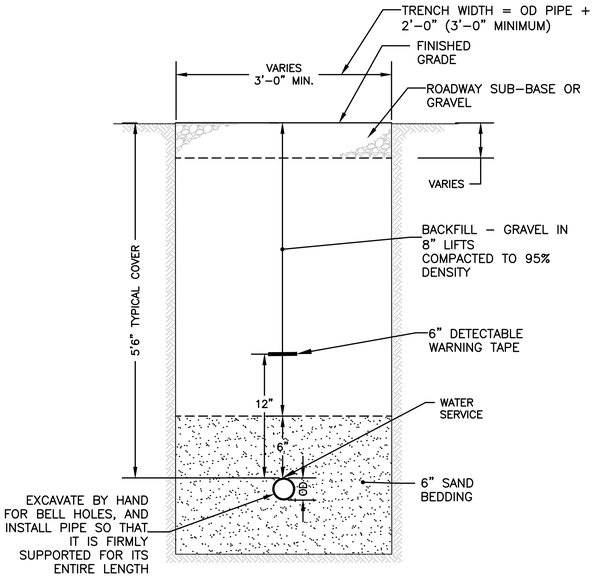
TRENCH DETAIL – DRAINAGE OR SANITARY SEWER SERVICE
NOT TO SCALE

HOWARD STEIN HUDSON
114 Turnpike Road, Suite 2C
Chelmsford, MA 01824
www.hshassoc.com

PREPARED FOR:

119 PARTNERS LLC
11 SUMMER STREET SUITE 8
CHELMSFORD, MA 01824

PROPOSED AGE RESTRICTED HOUSING DEVELOPMENT
797 BOSTON ROAD
GROTON, MA 01450

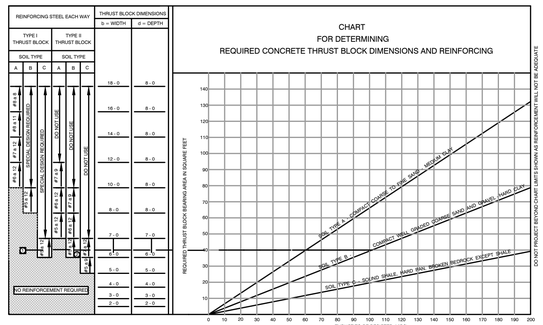


TRENCH DETAIL – WATER SERVICE
NOT TO SCALE

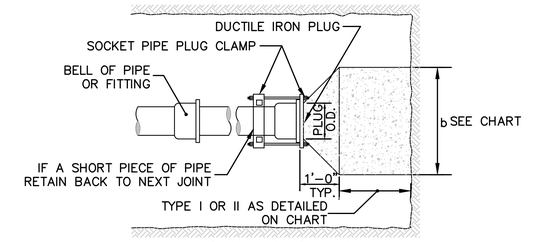
TABLE II - "a" DIMENSION - FEET		
PIPE DIAMETER - INCHES	90° FITTING	OTHERS
6, 8, 10 & 12	1 - 8	1 - 0
16 & 20	2 - 4	1 - 6
24" - 30"	3 - 0	2 - 0

TABLE I - THRUST - KIPS (WATER PRESSURE = 200 P.S.I.)										
PIPE DIAMETER INCHES	6	8	10	12	16	20	24	30	36	42
DEAD ENDS AND TEES	5.6	10	15.8	22.6	40.2	62.8	90.4	141.0	203.6	277.0
90°	7.9	14.2	22.4	32.0	56.8	88.8	127.7	199.0	286.0	392.0
67 1/2°	-	11.1	17.6	25.1	44.7	70.0	100.2	157.0	226.0	308.0
56 1/4°	-	-	14.9	21.2	37.9	59.2	85.1	133.0	192.0	261.0
45°	-	-	-	17.3	30.8	48.1	69.0	108.0	156.0	212.0
33 3/4°	-	-	-	13.1	23.3	36.5	52.5	82.0	118.0	161.0
22 1/2°	-	-	-	8.8	15.7	24.5	35.2	55.0	79.5	108.0

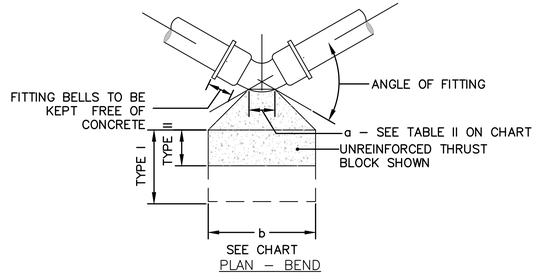
DESIGN THRUST BLOCKS OR OTHER SUITABLE ANCHORAGE TO SUIT ACTUAL CONDITIONS



THRUST BLOCK DIMENSIONS
NOT TO SCALE



PLAN – DEAD END



PLAN – BEND

THRUST BLOCK
NOT TO SCALE

REVISIONS:			
NO	BY	DATE	DESCRIPTION
1	KF	04-17-24	REV. PER PEER REVIEW

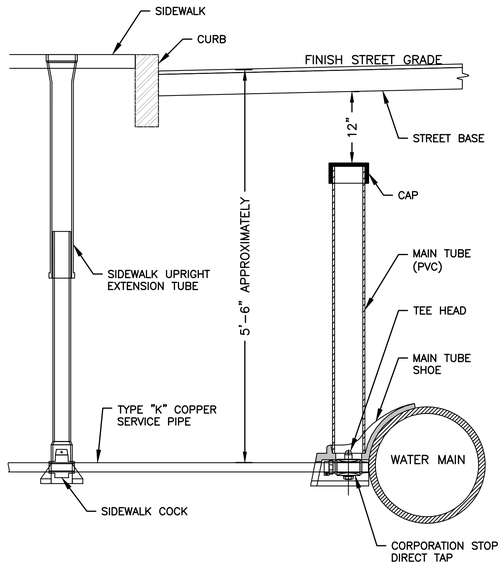
4-17-24
KATIE L. ENRIGHT
CIVIL
No. 46111
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

SITE PLAN

DETAIL SHEET
5 OF 7

DATE:	2/16/2024
PROJECT NUMBER:	17267
DESIGNED BY:	NC
DRAWN BY:	NC
CHECKED BY:	KE

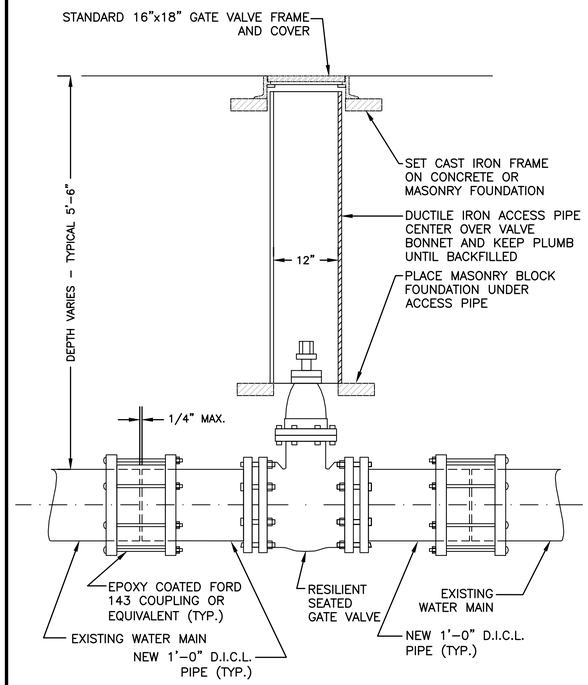
C.16



TYPICAL WATER CONNECTION 1" SERVICE PIPE

NOT TO SCALE

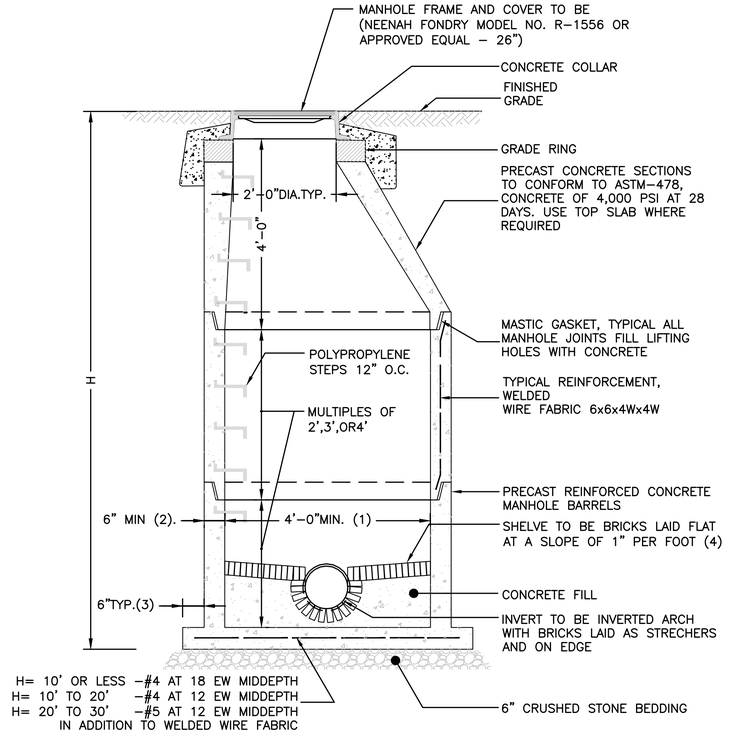
NOTE: IF A SIDEWALK IS NOT PRESENT, PROVIDE A BUFFALO STYLE BOX AT A SIMILAR DISTANCE OFF THE BACK OF THE CURB (6'–7')



NOTE:
1. ALL EXCAVATION AND BACKFILLING AND PAVING SHALL BE IN ACCORDANCE WITH THE CITY OF BOSTON REQUIREMENTS.

TYPICAL GATE VALVE INSTALLATION

NOT TO SCALE

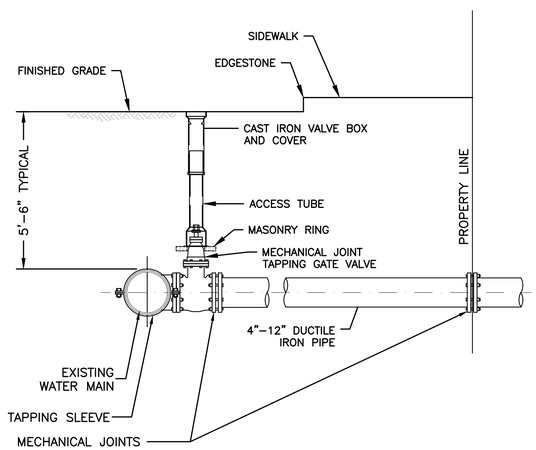


H= 10' OR LESS –#4 AT 18 EW MIDDEPTH
H= 10' TO 20' –#4 AT 12 EW MIDDEPTH
H= 20' TO 30' –#5 AT 12 EW MIDDEPTH
IN ADDITION TO WELDED WIRE FABRIC

NOTES:
1. 5'–0" DIAMETER FOR ALL MANHOLE DEPTHS GREATER THAN 20 FEET OR WHEN ORDERED BY THE ENGINEER.
2. 6 INCH MIN. WALL THICKNESS AND 7 INCH MIN. BASE THICKNESS WITH 5'–0" DIAMETER MANHOLES.
3. 6 INCH LIP OPTIONAL UNLESS OTHERWISE NOTED. CONCRETE INVERT AND SHELF MAY BE SUBSTITUTED IN STORM DRAIN MANHOLES AS DIRECTED BY THE ENGINEER.

PRECAST CONCRETE MANHOLE

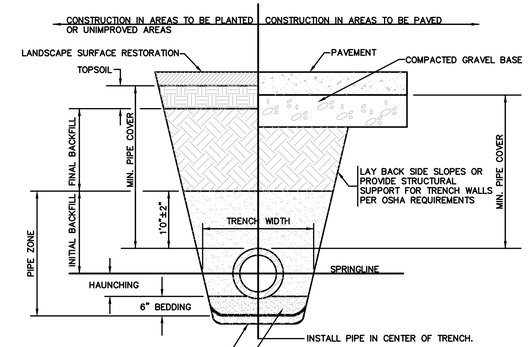
NOT TO SCALE



NOTES:
1. CONCRETE THRUST BLOCK TO BE USED ONLY WHERE IT WILL BEAR ON UNDISTURBED EARTH.
2. USE RESTRAINED JOINT FITTINGS OR TIE RODS WHERE CONCRETE THRUST BLOCK IS UNACCEPTABLE.
3. SIZE OF BLOCK OR MEGALUG TO BE DESIGNED FOR SPECIFIC CONDITIONS.

TAPPING SLEEVE & VALVE

NOT TO SCALE



TRENCH WIDTH:
[1] MINIMUM WIDTH OF TRENCH MEASURED AT SPRINGLINE OF PIPE, INCLUDING ANY NECESSARY SHEATHING:

PIPE I.D.	WIDTH
6" TO 42"	O.D. + 24"
GREATER THEN 42"	O.D. + 30"

MINIMUM PIPE COVER:
[1] MINIMUM SOIL COVER OVER TOP OF PIPE.

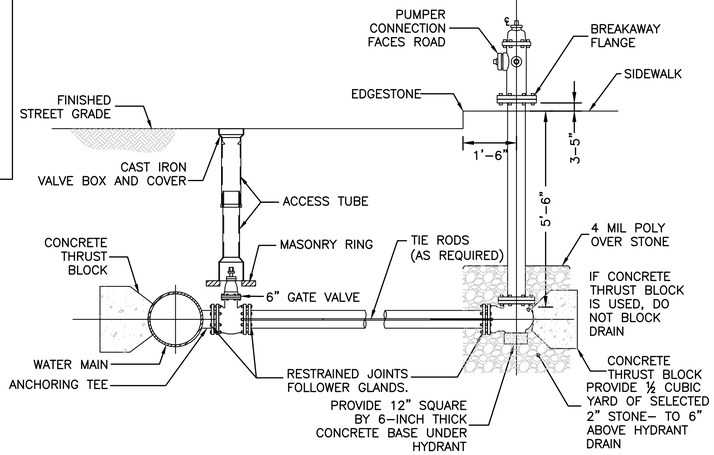
PIPE MATERIAL	HDPE, PVC	RC, DI
WATER	5' – 0"	5' – 0"
SEWER	2' – 0"	2' – 0"
DRAIN	1' – 0"	1' – 0"

MATERIAL KEY NOTES (SEE TABLE BELOW):
[1] PLACE 2" MINUS CRUSHED STONE.
[2] PLACE 1/2" MINUS SAND BORROW (MHD M1.04.1), AT OPTIMUM MOISTURE IN HORIZONTAL 8" DEEP LOOSE LAYERS, COMPACT TO 95% PER ASTM D–1557 MODIFIED PROCTOR METHOD.
[3] IN PLANTED OR UNIMPROVED AREAS, USE 2–INCH MINUS ON–SITE EXCAVATED MATERIAL. COMPACT TO 95% PER ASTM D–1557. IN PAVED AREAS, OBTAIN ENGINEER APPROVAL OF 2–INCH MINUS ON–SITE EXCAVATED MATERIALS.

FOUNDATION, BEDDING AND BACKFILL MATERIALS		
PIPE MATERIAL	HDP, PVC	RC, DI
FOUNDATION STABILIZATION	[NOTE 1]	[NOTE 1]
BEDDING	[NOTE 2]	[NOTE 2]
HAUNCHING	[NOTE 2]	[NOTE 2]
INITIAL BACKFILL	[NOTE 2]	[NOTE 2]
FINAL BACKFILL	[NOTE 3]	[NOTE 3]

PIPE TRENCH

NOT TO SCALE



NOTES:
1. HYDRANT TO BE EITHER AFC AMERICAN DARLING B–62–B OR THE KENNEDY GUARDIAN K–81D HYDRANT.
2. HYDRANTS SHALL BE OPEN LEFT
3. THE DIRECTION OF THE NOZZLES CAN BE CHANGED 360 DEGREES BY ROTATING THE HYDRANT WITHOUT DIGGING UP THE HYDRANT
4. HYDRANT SHALL HAVE TWO (2) 2.5" HOSE NOZZLES AND ONE (1) 4.5" PUMPER NOZZLE.

TYPICAL FIRE HYDRANT CONNECTION FOR HIGH OR LOW SERVICE LINE

NOT TO SCALE

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HOWARD STEIN HUDSON
114 Turnpike Road, Suite 2C
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www.hshassoc.com

PREPARED FOR:

119 PARTNERS LLC
11 SUMMER STREET SUITE 8
CHELMSFORD, MA 01824

PROPOSED AGE RESTRICTED HOUSING DEVELOPMENT

797 BOSTON ROAD
GROTON, MA 01450

REVISIONS:

NO	BY	DATE	DESCRIPTION
1	KF	04-17-24	REV. PER PEER REVIEW

4-17-24
KATIE L. ENRIGHT CIVIL No. 46111 REGISTERED PROFESSIONAL ENGINEER

SITE PLAN

DETAIL SHEET 6 OF 7

DATE:	2/16/2024
PROJECT NUMBER:	17267
DESIGNED BY:	NC
DRAWN BY:	NC
CHECKED BY:	KE

C.17

4/17/2024 L:\17267\CURRENT\17267 Site Plan.dwg
Patrick Bigda

DEEP HOLE AND PERCOLATION TESTING
DECEMBER 06, 2023
SOIL EVALUATOR: KASEY FERREIRA, E.I.T – S.E.#14165
WITNESS: IRA GROSSMAN, NASHOBA BOARD OF HEALTH

TP–101 ELEV. 263.50'
0"–9" A LOAMY SAND
9"–18" B_w SANDY LOAM
18"–96" C LOAMY SAND (30% COBBLE)
NO SIGNS OF ESHW

TP–102 ELEV. 261.30'
0"–12" A ORGANIC/LOAM
12"–19" B_w SANDY LOAM
19"–104" C LOAMY SAND
ESHW @ 63" – ELEV. 256.05'

TP–103 ELEV. 262.00'
0"–11" A ORGANIC/LOAM
11"–23" B LOAMY SAND
23"–62" C1 SAND
62"–84" C2 GRAVELLY SAND
ESHW @ 84" – ELEV. 255.00'

TP–104 ELEV. 263.90'
0"–11" A ORGANIC/LOAM
11"–19" B_w LOAMY SAND
19"–104" C GRAVELLY SAND
ESHW @ 93" – ELEV. 256.15'

TP–105 ELEV. 265.50'
0"–20" FILL
20"–31" A_b ORGANIC/LOAM
31"–45" B_w LOAMY SAND
45"–106" C GRAVELLY LOAMY SAND
NO SIGNS OF ESHW

P–101 ELEV. 264.80'
0"–10" FILL
10"–18" A_b ORGANIC/LOAM 7.5 YR 4/2
18"–22" B_w LOAMY SAND 7.5 YR 6/8
22"–116" C LOAMY SAND 7.5 YR 5/4
ESHW @ 90" – ELEV. 257.30'

P–102 ELEV. 265.20'
0"–11" A ORGANIC/LOAM 7.5 YR 4/2
11"–19" B_w LOAMY SAND 7.5 YR 7/8
19"–123" C GRAVELLY SAND 7.5 YR 8/6
ESHW @ 86" – ELEV. 258.03'
PERC SHELF DEPTH: 27"
PRE SOAK: ACCEPTED 24 GALLONS IN 15 MINUTES 1:47PM
RATE: <2 MIN/INCH
TOP OF WELL: ELEV. 267.95'

P–103 ELEV. 266.05'
0"–20" A ORGANIC/LOAM 7.5 YR 4/2
20"–33" B_w LOAMY SAND 7.5 YR 7/8
33"–115" C GRAVELLY LOAMY SAND 7.5 YR 8/6
ESHW @ 100" – ELEV. 257.72'
PERC SHELF DEPTH: 38"
PRE SOAK: 2:57PM
12" @ 3:12, 9" @ 3:14, 6" @ 3:18
RATE: ROUNDED TO 2.00 MIN/INCH

P–104 ELEV. 266.00'
0"–14" A ORGANIC/LOAM
14"–27" B_w LOAMY SAND 7.5 YR 7/8
27"–110" C1 GRAVELLY SAND 7.5YR 8/6
110"–134" C2 MEDIUM SAND 7.5YR 6/6
ESHW @ 110" – ELEV. 256.83'
PERC SHELF: 30"
PRE SOAK: 2:13PM
12" @ 2:28, 9" @ 2:30, 6" @ 2:33
RATE: ROUNDED TO 2.00 MIN/INCH
TOP OF WELL: ELEV. 268.67'

THIS SITE PLAN APPROVAL DOES NOT NECESSARILY INDICATE COMPLIANCE WITH THE GROTON ZONING BYLAW

BOSTON ROAD
(AKA ROUTE 119)
(AKA ST.HWY.LO 1854 & 2004 ST.HWY.ALT 7755)

FORGE VILLAGE ROAD
(AKA GRANITEVILLE ROAD)
(1925 COUNTY LO)

P–104 P–103 P–101 P–102 TP–105 TP–104 TP–103 TP–102 TP–101

N/F
JASON B. METIVIER
BK/PG 74549/435
YR/PL 19710/040
(LOT 1)
15 FORGE VILLAGE RD
MAP–PID 133–12–0

N/F
119 PARTNERS LLC
BK/PG 45322/597
YR/PL 1968/043
797 BOSTON RD
MAP–PID 133–49–0
AREA=117,594 S.F.
2.700 ACRES

N/F
RFC MFC 788 BOSTON RD LLC
BK/PG 79296/107
YR/PL 1980/1510
788 BOSTON RD
MAP–PID 134–32–0

N/F
NEW ENGLAND POWER COMPANY
BK/PG 18790/208
YR/PL 1987/1803
(LOT 2–A)
OFF BOSTON RD
MAP–PID 134–32–0

N/F
STEPHEN L. &
BARBARA J. SMITH
BK/PG 13203/151
YR/PL 1959/1851
(LOT 5)
12 DOROTHY PLACE
MAP–PID 133–47–0

N/F
MOODY ARTICLE 5
CREDIT SHELTER TRUST
SHEILA M. MOODY – TRUSTEE
BK/PG 61886/178
817 BOSTON RD
MAP–PID 133–50–0

DRAINAGE EASEMENT
PARCEL 2–DS–2
ST.HWY.ALT. 7755

20 0 20 40
SCALE IN FEET

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4-17-24
KATIE L. ENRIGHT
CIVIL
No. 46111
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

SITE PLAN

DETAIL SHEET
7 OF 7

DATE:	2/16/2024
PROJECT NUMBER:	17267
DESIGNED BY:	NC
DRAWN BY:	NC
CHECKED BY:	KE

C.18
SHEET 18 OF 18