### NOTES:

- 1. INFORMATION SHOWN ON THIS PLAN IS THE RESULT OF A FIELD SURVEY PERFORMED BY SPRUHAN ENGINEERING, P.C. AS OF 12/29/2022.
- 2. DEED REFERENCE: BOOK 80894, PAGE 369
  MIDDLESEX COUNTY SOUTH DISTRICT REGISTRY OF DEEDS
- 3. THIS PLAN IS NOT INTENDED TO BE RECORDED.
- 4. I CERTIFY THAT THE DWELLING SHOWN IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE. IT IS LOCATED IN ZONE X, ON FLOOD HAZARD BOUNDARY MAP NUMBER 25017C0552E, IN COMMUNITY NUMBER: 250208, DATED 6/4/2010.
- 5. THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT USES OF THE LAND; HOWEVER THIS NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.
- 6. FIRST FLOOR ELEVATIONS ARE TAKEN AT THRESHOLD.
- 7. NO RESPONSIBILITY IS TAKEN FOR ZONING TABLE AS SPRUHAN ENGINEERING, P.C. ARE NOT ZONING EXPERTS. TABLE IS TAKEN FROM TABLE PROVIDED BY LOCAL ZONING ORDINANCE. CLIENT AND/OR ARCHITECT TO VERIFY THE ACCURACY OF ZONING

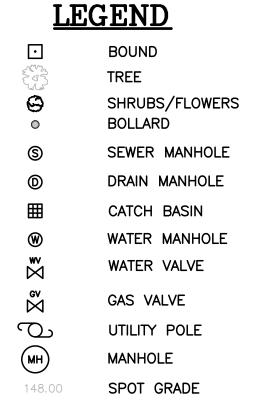
STREET - 33' WDE)

REEN (PUBLIC W

EXISTING S.M.H. RIM=45.99 INV=27.91

8. THE ELEVATIONS SHOWN ARE BASED ON CITY OF NEWTON DATUM.

ZONING LEGEND						
ZONING DISTRICT: MULTI-RESIDENCE 2 (LOT CREATED BEFORE 12/07/1953)						
		REQUIRED	EXISTING	PROPOSED		
MIN.	AREA	10,000 S.F.	10,268 S.F.± (M)	10,268 S.F.± (M)		
MAX LOT COVERAGE		30%	10.11%	33.49%		
MIN OPEN SPACE		50%	78.61%	51.0%		
MIN.	FRONTAGE	80'				
ЖS	FRONT (MIN)	25'	13.4'	26.7'		
SETBACKS	SIDE (MIN.)	7.5'	56.6' / 11.4''	11.0'		
SEI	REAR (MIN)	15'	49.9'	20.3'		
MAX. BLDG. HEIGHT		36'	25.13'±	34.83'±		



DRAIN LINE WATER LINE GAS LINE UNDERGROUND ELECTRIC LINE - CONTOUR LINE (MJR)

—o—— FENCE

TREE LINE

SEWER LINE

CONTOUR LINE (MNR) -195 PROP CONTOUR LINE PROPOSED DOWNSPOUT TEST PIT #X

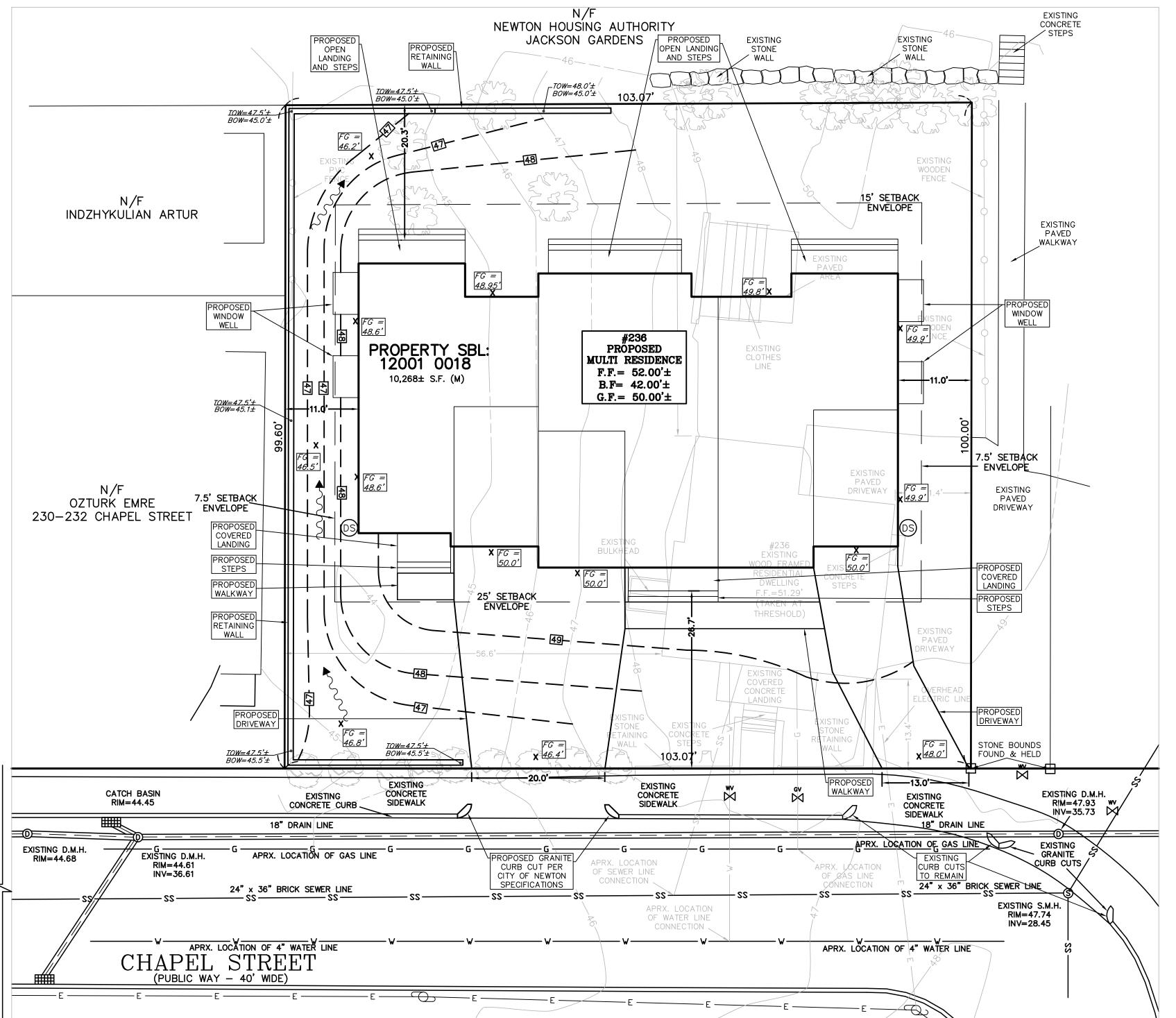
INSPECTION CLEAOUTS

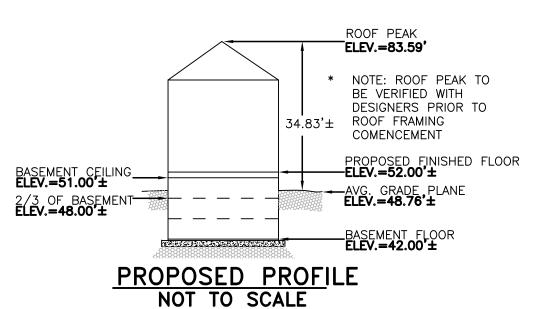
SUMP PUMP

FIRST FLOOR ELEV. TOP OF FOUNDATION ELEV.

GARAGE FLOOR ELEV. BASEMENT FLOOR ELEV.

**OVERHANG** 





\* 2/3 OF BASEMENT HEIGHT ELEVATION IS LOWER THAN AVERAGE GRADE ELEVATION, THEREFORE PROPOSED BASEMENT MEETS THE DEFINITION OF A BASEMENT



Spruhan Engineering, P.C.

80 JEWETT ST, (SUITE 1)

NEWTON, MA 02458

Tel: 617-816-0722 Email:edmond@spruhaneng.com

236 CHAPEL STREET NEWTON *MASSACHUSETTS* 

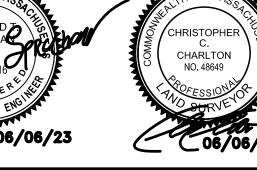
CIVIL PLAN

## REVISION BLOCK

BY	DESCRIPTION	DATE

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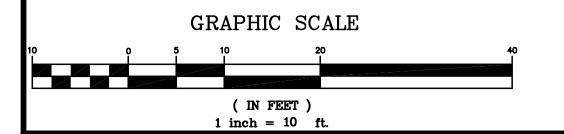




06/06/23 DRAWN BY: E.R.G. H.M.S CHECKED BY: APPROVED BY:

> MATERIALS & LAYOUT PLAN

SHEET 1 OF 5



NOTES:

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жs	FRONT (MIN)	25'	13.4'	26.7'			
SETBACKS	SIDE (MIN.)	7.5'	56.6' / 11.4"	11.0'			
	REAR (MIN)	15'	49.9'	20.3'			
MAX. BLDG. HEIGHT		36'	25.13'±	34.83'±			

NOTE: ANY TREE BEING

ORDINANCE

REMOVED SHALL COMPLY

WITH CITY OF NEWTON TREE

NOTE: SURFACE WATER TO

SIDES OF FOUNDATION WALL

TREE.

五 記 記

RIM=45.99 INV=27.91

BE DIVERTED FROM ALL

IF THE CURB-CUT IS

BUFFER ZONE OF (8)

FEET, THEN APPROVAL

FROM THE CITY OF

SUPERINTENDENT OF

URBAN FORESTRY WILL

NOTE: ANY PROPOSED

RETAINING WALLS

BY OTHERS. ALSO.

RETAINING WALL IN

EXCEED 4 FEET IN

SETBACK SHALL NOT

HEIGHT IN REFERENCE

NOTE: CONTRACTOR TO

TO EXISTING GRADES.

REGULARLY INSPECT

SEDIMENT CONTROLS

CONFIRM LOCATION

NOTE: CONTRACTOR TO

OUT ANY DRAINAGE WORKS

OF DOWN SPOUTS PRIOR TO CARRYING

MUST CROSS OR ARE WITHIN

NOTE: IF WATER AND SEWER LINES

10-FEET HORIZONTALLY, THE SEWER

ENCASED. THIS REQUIREMENT STANDS

UNLESS THE WATER IS A MINIMUM

OF 18-INCHES ABOVE THE SEWER

PIPE OR IF THERE IS A MINIMUM OF

A 10-FOOT HORIZONTAL SEPARATION.

NOTE: SPRUHAN ENGINEERING, P.C.,

ACCEPTS NO LIABILITY FOR GROUND

WATER OR OTHER SURFACE WATER

ANY EXISTING STONE BOUND MUST

AROUND THE STONE BOUND PRIOR

DISTURB THE BOUND. IF DISTURBED

THE BOUND MUST BE RE-SET IN

BE SET IN THE GROUND EVENLY

TO ANY WORK THAT COULD

THE ORIGINAL LOCATION

A MINIMUM OF (3) OFFSETS TO

IN BASEMENT

PIPE AND WATER PIPE MUST BE

AND MAINTAIN THE

EROSION AND

MEASURES.

ANY PROPOSED

SHALL BE DESIGNED

NEWTON

BE REQUIRED

CITY STREET TREE

PROPOSED WITHIN THE

# **LEGEND**

**BOUND** TREE SHRUBS/FLOWERS BOLLARD

SEWER MANHOLE DRAIN MANHOLE CATCH BASIN

WATER MANHOLE WATER VALVE GAS VALVE

UTILITY POLE **MANHOLE** SPOT GRADE

TREE LINE SEWER LINE

DRAIN LINE WATER LINE GAS LINE UNDERGROUND ELECTRIC LINE

CONTOUR LINE (MJR) CONTOUR LINE (MNR) — PROP CONTOUR LINE

PROPOSED DOWNSPOUT

TEST PIT #X

INSPECTION CLEAOUTS SUMP PUMP

FIRST FLOOR ELEV. TOP OF FOUNDATION ELEV. GARAGE FLOOR ELEV.

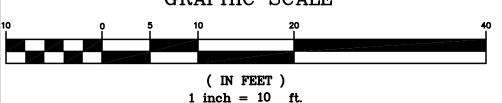
BASEMENT FLOOR ELEV. **OVERHANG** 

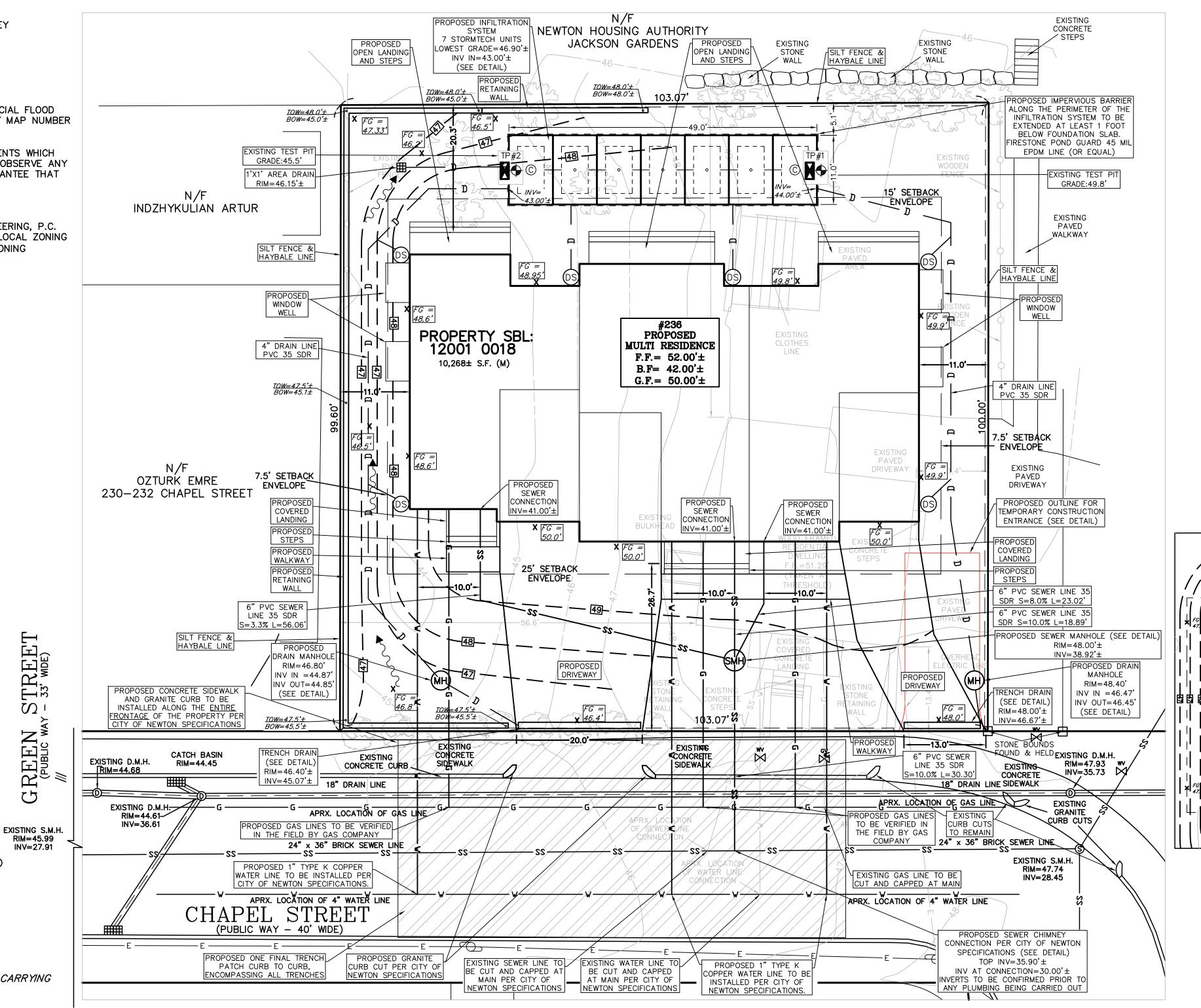
OF NEWTON

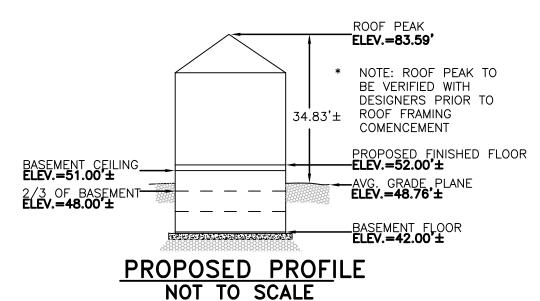
NOTE: CONTRACTOR TO ENSURE THAT THE BUILDING FOOTPRINT REPRESENTED ON THIS PLAN IS THE SAME AS THE PROPOSED ARCHITECTURAL STURUCTURAL PLANS AND INCORPORATES ALL OVERHANGS, CANTILEVERS AND ANY COMPONENT THAT IS SUBJECT TO ZONING RESTRICTIONS. IF THIS IS FOUND NOT TO BE THE CASE THE CONTRACTOR MUST CONTACT THE ENGINEER /SURVEYOR AND REQUEST A REVISED PLAN WHICH MUST BE RESUBMITTED TO I.S.D. CITY

NOTE: CONTRACTOR TO ENSURE ALL RAIN WATER FROM SPLASH BLOCKS (IF ANY) IS DIVERTED AWAY FROM BUILDING FOUNDATION AND DIVERTED AWAY FROM NEIGHBORING **PROPERTIES** 

GRAPHIC SCALE



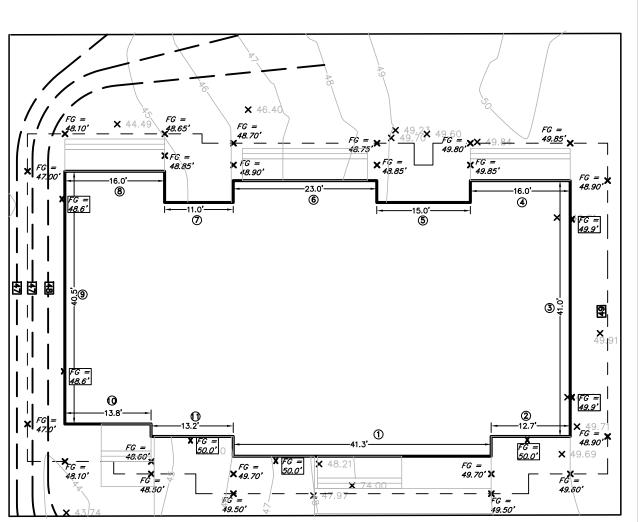




\* 2/3 OF BASEMENT HEIGHT ELEVATION IS LOWER THAN AVERAGE GRADE ELEVATION, THEREFORE PROPOSED BASEMENT MEETS THE DEFINITION OF A BASEMENT

EXISTING A	REAS	PROPOSED AREAS		
LOT AREA 10,268.00 S.F.		LOT AREA	10,268.00 S.F.	
EXISTING IMPER	/IOUS AREA	PROPOSED IMPERVIOUS AR	EA	
ROOF HOUSE	953.79 S.F.	ROOF HOUSE AND GARAGE	3,357.22 S.F.	
DRIVEWAY	788.46 S.F.	DRIVEWAY	1,172.67 S.F	
WALKWAY	28.05 S.F.	WALKWAY	151.71 S.F	
PAVED AREA	208.64 S.F.	COVERED LANDINGS	81.92 S.F	
COVERED LANDING	84.56 S.F.	OPEN LANDINGS	182.00 S.F	
WALLS (STONE)	72.59 S.F.	STEPS (CONCRETE)	122.50 S.F	
BULKHEAD	31.04 S.F.	WINDOW WELLS	96.55 S.F	
STEPS (CONCRETE)	29.21 S.F.	WALLS	137.26 S.F	
TOTAL	2,196.34 S.F.	TOTAL	5,301.83 S.F	
EXISTING PERVI	OUS AREAS	PROPOSED PERVIOUS AREA		
N/A	0.00 S.F.	N/A	0.00 S.F	
TOTAL	0.00 S.F.	TOTAL	0.00 S.F	
LANDSCAPE AREA	8,071.66 S.F.	LANDSCAPE AREA	4,966.17 S.F	

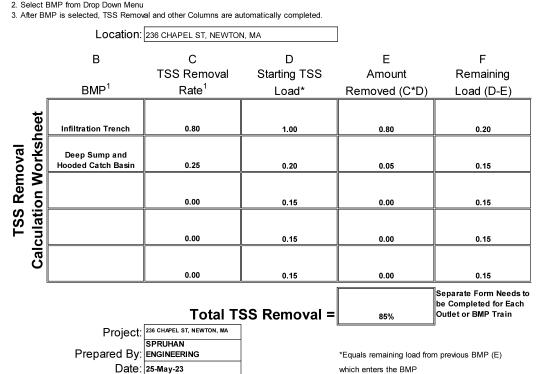
TOTAL EXISTING IMPERVIOUS AREA = 2,196.34 S.F.TOTAL PROPOSED IMPERVIOUS AREA = 5,302.83 S.F. TOTAL **INCREASE** IN IMPERVIOUS AREA = 3.105.49 S.F.



### PROP. AVERAGE GRADE PLANE

AVERAGE GRADE PLANE (ALL UNITS IN FEET)						
SEGMENT	1			ı	MEAN x LENGTH	
1	41.30	49.50	49.70	49.60	2,048.48	
2	12.70	49.70	49.60	49.65	630.56	
3	41.00	48.90	48.90	48.90	2,004.90	
4	16.00	49.90	49.80	49.85	797.60	
5	15.00	49.85	48.85	49.35	740.25	
6	23.00	48.75	48.70	48.73	1,120.68	
7	11.00	48.90	48.85	48.88	537.63	
8	16.00	48.65	48.10	48.38	774.00	
9	40.50	47.00	47.00	47.00	1,903.50	
10	13.80	48.10	48.60	48.35	667.23	
11	13.20	48.50	49.70	49.10	648.12	
SUM =	243.50				11,872.94	
AVERA	48.76					

## AVERAGE GRADE CALCULATION



TOTAL SUSPENDED SOILS REDUCTION

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu

PHOSPHORUS LOADS / REDUCTIONS						
TP = A*L						
Where:						
Α	= Total impervious area of post-development (acres)					
L	= Load of a pollutant in pounds per acre per year.					
<b>A</b> c	= Captured impervious area of post-development (acres)					
PF	RE-DEVELOPMENT PHOSPHORUS LOADING (Lpre)					
Tppre	= A*L					
Tppre	= 0.0504 Acres X 1.96 lbs/acre/year					
Tppre	= 0.099 lbs/year					
POS	ST-DEVELOPMENT PHOSPHORUS LOADING (Lpost)					
<b>TP</b> post	= A*L					
<b>TP</b> post	= 0.1217 Acres x 1.96 lbs/acre/year					
TPpost	= 0.239 lbs/year					
	REDUCED TP LOAD					
REDUCED TP	= AC*L					
REDUCED TP	= 0.1040 Acres x 1.96 lbs/acre/year					
REDUCED TP	= 0.204 lbs/year					
	TOTAL PHOSPHORUS REDUCTION % (TP)					

PRE/POST-DEVELOPMENT PHOSPHORUS LOAD

AND PHOSPHORUS LOAD REDUCTION

TP RED. (%) = 85.44 %



Engineering, P.C. 80 JEWETT ST, (SUITE 1) NEWTON, MA 02458

Tel: 617-816-0722 Email:edmond@spruhaneng.com

236 CHAPEL STREET **NEWTON** *MASSACHUSETTS* 

CIVIL PLAN

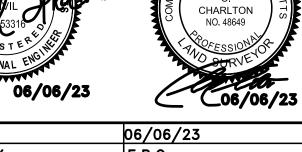
## REVISION BLOCK

BY	DESCRIPTION	DATE

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DATE:



DRAWN BY: E.R.G. H.M.S CHECKED BY: APPROVED BY: E.S

CIVIL PLAN

SHEET 2 OF 5

- ELEVATIONS REFER TO CITY OF NEWTON DATUM
- THIS PLAN IS THE RESULT OF AN INSTRUMENT SURVEY DONE ON THE GROUND ON **DECEMBER 29TH, 202**
- THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ANY CROSSINGS OF
- MASSACHUSETTS STATE LAW REQUIRES UTILITY NOTIFICATION AT LEAST THREE BUSINESS DAYS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CALL DIG-SAFE AT 1-888-344-7233 IN ORDER TO COMPLY WITH STATE LAW. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THE CITY OF NEWTON GENERAL CONSTRUCTION DETAILS, LATEST EDITION
- PREPARED AND ISSUED BY THE NEWTON ENGINEERING DEPARTMENT. COPIES MAY BE OBTAINED AT THE OFFICE OF THE CITY ENGINEER. REFER TO NOTE 29 FOR DETAILS. NOTE: A TRENCH PERMIT MUST BE OBTAINED PRIOR TO ANY EXCAVATION PROPOSED SEWER PIPE SHALL BE 6" PVC SDR 35. CONTRACTOR TO ENSURE SEWER LINE IS PITCHED AT AN
- EQUAL SLOPE OF BETWEEN 2% AND 10% FROM HOUSE TO MAIN CONNECTION.
- PROPOSED WATER SERVICE SHALL BE 1" TYPE K COPPER.
- ALL WORK SHALL BE SUBJECT TO THE INSPECTION BY AND APPROVAL OF THE CITY ENGINEER.
- CONSTRUCTION DETAILS", COPIES OF WHICH MAY BE OBTAINED AT THE ENGINEERING OFFICE. ALL WORK SHALL BE SUBJECT TO NSPECTION AND APPROVAL BY THE CITY OF NEWTON ENGINEERING DEPARTMENT.
- AS OF JANUARY 1, 2009, ALL TRENCH EXCAVATION CONTRACTORS SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS HAPTER 82A, TRENCH EXCAVATION SAFETY REQUIREMENTS, TO PROTECT THE PUBLIC FROM UNAUTHORIZED ACCESS TO UNATTENDED TRENCHES. TRENCH EXCAVATION PERMIT REQUIRED. THIS APPLIES TO ALL TRENCHES, BOTH ON PUBLIC AND/OR
- O. NO EXCAVATION SHALL BE MADE BY THE CONTRACTOR IN ANY PUBLIC WAY OR UTILITY EASEMENT UNLESS AT LEAST FORTY-EIGHT (48) HOURS, EXCLUSIVE OF SATURDAYS, SUNDAYS, AND HOLIDAYS, BEFORE THE PROPOSED EXCAVATION IS TO BE MADE, HE HAS SUBMITTED, NOTICE OF THE PROPOSED EXCAVATION TO THE FOLLOWING:
- SUCH PUBLIC UTILITY COMPANIES AS SUPPLY GAS, ELECTRICITY, AND TELEPHONE SERVICE IN THE CITY. b SUCH PRIVATE COMPANIES AS PROVIDE CABLE TELEVISION SERVICE IN THE CITY C. CITY OF NEWTON WATER & SEWER DEPARTMENT. SUCH NOTICE SHALL SET FORTH THE STREET NAME AND A REASONABLY
- THE CONTRACTOR MUST PROVIDE POLICE DETAILS, SCHEDULED 48 HOURS IN ADVANCE, FOR THE DIRECTION AND CONTROL OF
- RAFFIC, AS REQUIRED BY THE CITY ENGINEER. ALL ROADS AFFECTED BY CONSTRUCTION SHALL ALWAYS REMAIN OPEN TO EMERGENCY VEHICLES. CONTRACTOR IS TO COORDINATE WITH POLICE AND FIRE DEPARTMENT TO ENSURE PUBLIC SAFETY.
- 12. NO WORK SHALL BE PERFORMED UNTIL THE NECESSARY PERMITS ARE OBTAINED FROM THE CITY OF NEWTON PUBLIC WORKS DEPARTMENT. THE APPLICANT WILL HAVE TO APPLY FOR STREET OPENING, UTILITIES CONNECTION, SIDEWALK CROSSING AND AN INSTALL CURB & SIDEWALK PERMIT WITH THE DPW PRIOR TO START OF WORK.
- 13. ALL TRENCHES IN PAVED STREETS SHALL BE TEMPORARILY PATCHED WITH PAVEMENT OF EXISTING PAVEMENT THICKNESS OR AS DIRECTED BY THE CITY ENGINEERING INSPECTOR, LAID HOT AND MAINTAINED UNTIL THE PERMANENT PATCH IS INSTALLED.
- 14. WARNING SIGNS SHALL CONFORM TO 2020 MUTCD STANDARD HIGHWAY SIGNS. 15. ALL TOPSOIL, SUBSOIL OR IMPERVIOUS SOIL MUST BE EXCAVATED AND REMOVED BELOW THE LEACHING SYSTEM AND TO A DISTANCE 5' LATERALLY IN ALL DIRECTIONS BEYOND THE SIDES OF THE GALLEYS. BACKFILL AS REQUIRED WITH A CLEAN

GRANULAR SAND, FREE FROM ORGANIC MATTER AND DELETERIOUS SUBSTANCES. THE SAND SHALL HAVE A PERCOLATION RATE

- 16. IN CASES WHERE LEDGE OR BOULDERS ARE ENCOUNTERED, SPRUHAN ENGINEERING, P.C. WILL NOT BE RESPONSIBLE FOR THE
- 17. IF ANY PART OF THIS DESIGN IS TO BE ALTERED IN ANY WAY, THE DESIGN ENGINEER, AS WELL AS THE APPROVING AUTHORITIES, SHALL BE NOTIFIED IN WRITING BEFORE CONSTRUCTION.
- 18. THE ROOF RUNOFF FROM THE ROOF SURFACES SHALL BE COLLECTED BY GUTTERS AND DIRECTED TO THE STORM WATER DRAINAGE SYSTEM. SURFACE WATER TO BE DIVERTED FROM ALL SIDES OF FOUNDATION WALL.
- 9. PRIOR TO AN OCCUPANCY PERMIT BEING ISSUED, AN AS-BUILT PLAN SHOULD BE SUBMITTED TO THE ENGINEERING DIVISION IN BOTH DIGITAL FORMAT AND HARD COPY. THE PLAN SHOULD SHOW ALL UTILITIES AND FINAL GRADES, TIES TO ALL GATES, VALVES, CLEAN-OUTS, CONNECTION POINTS AT MAINS, STRUCTURE ACCESS/MAINTENANCE COVERS, ANY EASEMENTS, SHOW DIMENSIONAL TIES FROM FIXED POINTS (FOUNDATION CORNERS) TO ALL SUBSURFACE COMPONENTS AS WELL AS FINAL GRADING
- THE AS-BUILT PLAN MUST BE STAMPED, SIGNED, AND DATED BY THE ENGINEER OF RECORD. 20. AFTER ALL ENGINEERING PERMITS ARE OBTAINED, THE CONTRACTOR NEEDS TO NOTIFY THE ENGINEERING DIVISION CONSTRUCTION INSPECTOR A MINIMUM OF 48-HOURS IN ADVANCE AND SCHEDULE AN APPOINTMENT TO HAVE SITE UTILITIES AND STORMWATER COMPONENTS INSPECTED. THE SYSTEM & UTILITIES MUST BE FULLY EXPOSED FOR THE INSPECTOR. ONCE
- THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE DESIGN ENGINEER FOR INSPECTIONS OR AS-BUILT LOCATIONS. PETER NOLAN & ASSOCIATES, LLC. WILL NOT PROVIDE AS-BUILT CERTIFICATION TO UNINSPECTED BACKFILLED UTILITIES. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED PRIOR TO INSPECTIONS.
- 22. ANY PROPOSED PVC PIPES UNDER PAVING OR CONCRETE WITH LESS THAN 30" OF COVER MUST BE ENCASED IN CONCRETE. (SEE PAGE 21, CITY OF NEWTON GENERAL CONSTRUCTION DETAILS.)
- 23. THE EXISTING WATER SERVICE MUST BE COMPLETELY REMOVED FROM THE DWELLING TO THE CORPORATION AT THE MAIN. THE CORPORATION SHALL BE CAPPED, AND A NEW TAP SHALL BE MADE FOR THE NEW SERVICE. EACH PHASE OF THIS PROCESS
- MAY RESULT IN THE DELAY OR DENIAL OF A WATER SERVICE PERMIT. 24. THE EXISTING SEWER SERVICE MUST BE COMPLETELY REMOVED FROM THE DWELLING TO THE MAIN. THE REMOVAL, ALONG WITH THE NEW CONNECTION MUST BE INSPECTED BY A REPRESENTATIVE OF THE ENGINEERING DIVISION. FAILURE TO HAVING THESE
- INSPECTIONS PERFORMED, MAY RESULT IN THE DELAY OR DENIAL OF A SEWER SERVICE PERMIT. 25. THE NEW SEWER SERVICE(S) AND/OR STRUCTURE(S) SHALL BE PRESSURE TESTED OR VIDEOTAPED AFTER FINAL INSTALLATION

MUST BE INSPECTED BY A REPRESENTATIVE OF THE ENGINEERING DIVISION. FAILURE TO HAVING THIS INSPECTION PERFORMED,

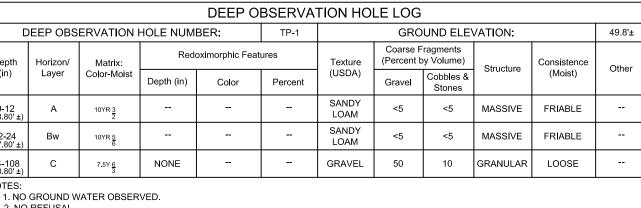
ENGINEERING DIVISION. THE SEWER SERVICE WILL NOT BE ACCEPTED UNTIL ONE OF THE TWO METHODS STATED ABOVE IS COMPLETED. A CERTIFICATE OF OCCUPANCY WILL NOT BE RECOMMENDED UNTIL ALL PIPING AND STRUCTURES ARE TESTED AND

26. THE NEW WATER SERVICE SHALL BE INSTALLED IN CONJUNCTION WITH THE CITY OF NEWTON UTILITIES DIVISION. THE

- OWNER/CONTRACTOR MAY OBTAIN A WATER SERVICE APPLICATION BY CONTACTING THE UTILITIES DIVISION (617) 796-1640 OR BY VISITING THE CITY OF NEWTON WEBSITE AND CLICK THE LINK FOR PUBLIC WORKS / UTILITIES DIVISION. AFTER THE APPLICATION IS PAID IN FULL THE OWNER/CONTRACTOR SHALL FOLLOW THE INSTRUCTIONS PLAN NOTES MENTIONED AND
- 27. THE EXISTING CONTOURS OF THE LAND ARE NOT TO BE ALTERED BY MORE THAN THREE (3) FEET AS A RESULT OF THE PLACEMENT OR REMOVAL OF SOD, LOAM, CLAY, GRAVEL OR STONE, OR OTHER SOLID MATERIAL UNLESS A PROPOSED RETAINING WALL OR SWALE IS INSTALLED AFTER IT IS APPROVED BY BOTH CITY OF NEWTON ENGINEERING DEPARTMENT & CITY
- 28. NO EXCAVATION IS ALLOWED WITHIN ANY CITY RIGHT-OF-WAY BETWEEN NOVEMBER 15<sup>TH</sup> AND APRIL 15<sup>TH</sup>. IF AN EMERGENCY EXISTS OR THERE ARE EXTENUATING CIRCUMSTANCES, APPLICANT MAY SEEK PERMISSION FOR SUCH WORK FROM THE CITY DPW COMMISSIONER VIA THE CITY ENGINEER. IF PERMISSION IS GRANTED, SPECIAL CONSTRUCTION STANDARDS WILL BE APPLIED. APPLICANT OR APPLICANT'S REPRESENTATIVE MUST CONTACT THE CITY OF NEWTON ENGINEERING DEPARTMENT PRIOR TO START
- 29. AT THE END OF CONSTRUCTION, ALL DRAINAGE STRUCTURES ARE TO BE CLEANED OF SILT, STONES AND OTHER DEBRIS.
- 30. DURING CONSTRUCTION, THE EROSION CONTROL MEASURES SHALL BE INSPECTED ONCE PER WEEK AND WITHIN 24 HOURS OF ANY STORM EVENT GENERATING MORE THAN 1/2" OF RAINFALL. THE EROSION CONTROL MEASURES SHALL BE CLEANED REGULARLY AND ADJUSTED IF NECESSARY TO ENSURE THAT NO SILT OR DEBRIS LEAVES THE SITE
- 31. EXCEPT FOR GAS SERVICES, ALL UTILITY TRENCHES WITHIN THE CITY OF NEWTON RIGHT-OF-WAY WILL BE BACK FILLED WITH TYPE IE (EXCAVATABLE) CONTROLLED DENSITY FILL AS SPECIFIED BY THE CITY OF NEWTON ENGINEERING SPECIFICATIONS. EXCAVATABLE FLOW FILL WITH EXTEND TO WITHIN 18" OF ROADWAY ASPHALT.
- 32. ALL CONSTRUCTION ACTIVITIES WITHIN THE CITY OF NEWTON RIGHT-OF-WAY MUST FULLY COMPLY WITH ALL OF CITY OF NEWTON CONSTRUCTION SPECIFICATIONS AS WELL AS 521 CMR 21.00 AND 22.00.
- 33. ALL SILTATION CONTROL NEEDS TO BE INSTALLED PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE CITY ENGINEER'S OFFICE FOR APPROVAL PRIOR TO COMMENCEMENT.
- 34. ALL TRENCH EXCAVATION CONTRACTORS SHALL COMPLY WITH MGL CHAPTER 82A, TRENCH EXCAVATION SAFETY REQUIREMENTS, TO PROTECT THE GENERAL PUBLIC FROM UNAUTHORIZED ACCESS TO UNATTENDED TRENCHES. A TRENCH
- APPROVAL OF THIS PLAN BY CITY OF NEWTON ENGINEERING DIVISION IMPLIES THAT THE PLAN MEETS THE MINIMAL DESIGN STANDARDS OF THE CITY OF NEWTON. HOWEVER. THE ENGINEERING DIVISION MAKES NO REPRESENTATION AND ASSUMES NO RESPONSIBILITY FOR THE DESIGN(S) IN TERMS OF SUITABILITY FOR THE PARTICULAR SITE CONDITIONS OR OF THE FUNCTIONABILITY OR PERFORMANCE OF ANY ITEMS CONSTRUCTED IN ACCORDANCE WITH THE DESIGN(S). THE CITY OF NEWTON ASSUMES NO LIABILITIES FOR DESIGN ASSUMPTION, ERRORS OR OMISSIONS BY THE ENGINEER OF RECORD. 36. PER CITY OF NEWTON ORDINANCE NO.B-42, COUNCIL ITEM #251-19, BUILDING SEWER, WATER SERVICE PIPE &
- SIDEWALK/CURB REPLACEMENT ORDINANCE. THE APPLICANT IS REQUIRED TO INSTALL/REPLACE SIDEWALK & CURB ALONG THE ENTIRE FRONTAGE. THIS SHALL INCLUDE APPROPRIATE TRANSITION TO ADJOINING CURBING & WALKWAYS, INCLUDING ACCESSIBLE CURB CUTS & OTHER ACCESS AS REQUIRED. THE ENGINEERING CONSTRUCTION INSPECTOR MAKES A DETERMINATION, BASED ON THE MATERIAL & MANNER OF CONSTRUCTION OF THE EXISTING SIDEWALK & CURB, THAT THE EXISTING SIDEWALK & CURB HAS THE ABILITY TO BE RE-SET OR REUSED WITHOUT REPLACEMENT.
- 37. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE DESIGN ENGINEER FOR INSPECTIONS AND AS-BUILT LOCATIONS: THE ENGINEER OF RECORD IS RESPONSIBLE FOR THE ON-SITE INSPECTION(S) OF ALL SUBSURFACE STRUCTURES. THIS INCLUDES BUT NOT LIMITED TO DRAINAGE, UTILITIES (INCLUDING SEWER PIPE SLOPE), ROOF LEADER COLLECTION SYSTEM, TRENCH DRAINS, MANHOLES ETC. ENGINEER OF RECORD MUST ALSO CONDUCT "BOTTOM OF HOLE" INSPECTION(S) PRIOR TO SUBSURFACE
- DRAINAGE SYSTEM(S) BEING INSTALLED.—CONTRACTOR TO NOTIFY ENGINEER

  BEFORE BACKFILL OR SIGN OFF CANNOT OCCUR WITHOUT RE-EXCAVATION.
- 38. PLEASE SEE SECTION 6-C REQUIREMENT #6 OF THE STORMWATER MANAGEMENT AND EROSION CONTROL RULES & REGULATIONS PAGE 11 OF 17, POST CONSTRUCTION OPERATION AND MAINTENANCE PLAN (0&M). THE O & M PLAN MUST BE RECORDED AT THE APPROPRIATE REGISTRY OF DEEDS AND THAT PROOF OF RECORDING MUST BE PROVIDED TO THE ENGINEERING DIVISION PRIOR TO THE RECOMMENDATION OF THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- 39. 5 YEAR MORATORIUM IF AT TIME OF CONSTRUCTION THE ROADWAY IS UNDER A 5 YEAR MORATORIUM, THE ROADWAY MUST BE MILLED & PAVED GUTTER-TO-GUTTER FOR A DISTANCE OF 25 FEET IN EACH DIRECTION FROM THE OUTERMOST TRENCHES OR AS DIRECTED BY THE ENGINEERING INSPECTOR.

IT IS THE GENERAL CONTRACTORS RESPONSIBILITY TO CONTACT THE ENGINEER OF RECORD FOR ALL INSPECTIONS OUTLINED IN NOTE 38 ON THIS PLAN



3. LOGGED BY MATTHEW MUI, SE14259 ON 12/08/2022

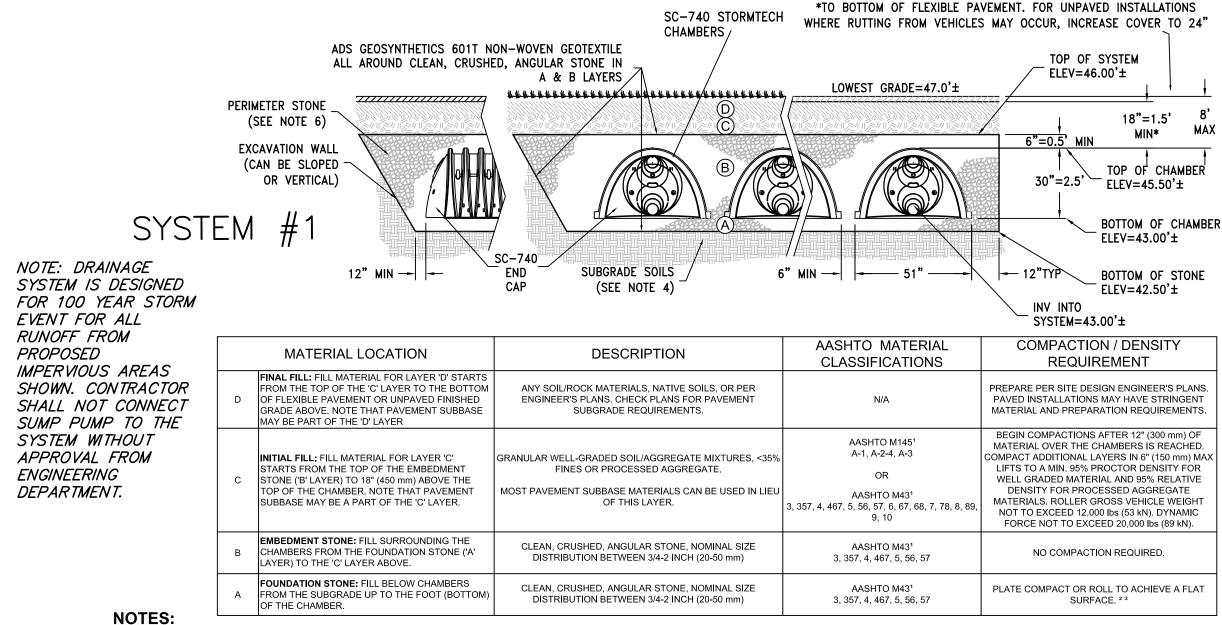
SOIL EVALUATOR: MATTHEW MUI (SE14259)

	DEEP OBSERVATION HOLE NUMBER:			TP-2		GROUND ELEVATION:				45.5'±	
Depth	Horizon/	Matrix:	Redoximorphic Features		ures	Texture	Coarse Fragments (Percent by Volume)		Churchina	Consistence	Other
(in)	Layer	Color-Moist	Depth (in)	Color	Percent	(USDA)	Gravel	Cobbles & Stones	Structure	(Moist)	Other
0-8 (44.83' ±)	А	10YR <u>3</u>				SANDY LOAM	<5	<5	MASSIVE	FRIABLE	
8-20 (43.83' ±)	Bw	10YR <u>5</u>			-	SANDY LOAM	<5	<5	MASSIVE	FRIABLE	
20-108 (36.50' ±)	С	7.5Y <u>6</u>	NONE			GRAVEL	50	10	GRANULAR	LOOSE	
(36.50° ±)   3											

DEEP OBSERVATION HOLE LOG

GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED AT 236 CHAPEL ST, NEWTON, MA BY SPRUHAN ENGINEERING, P.C.

### DEEP OBSERVATION HOLE LOG

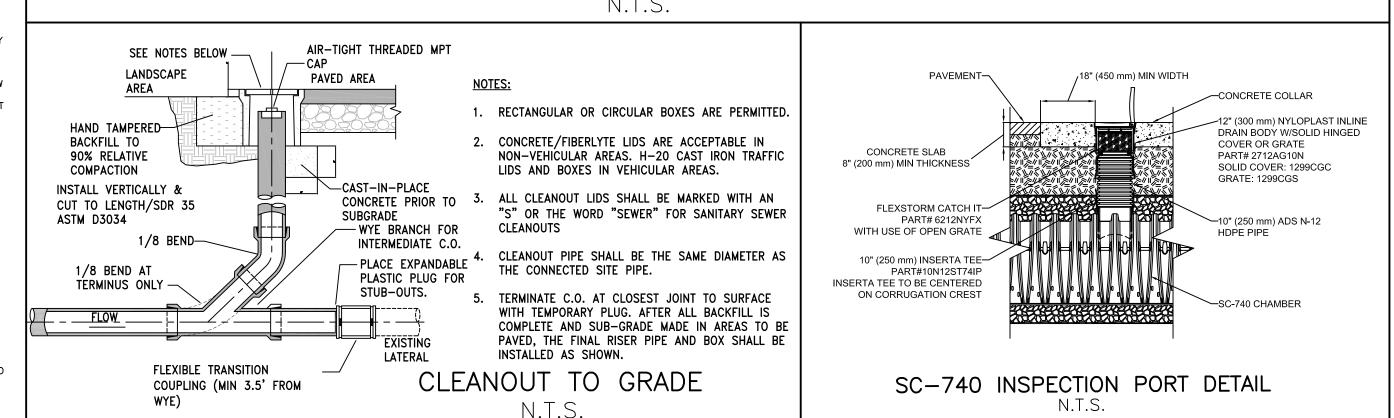


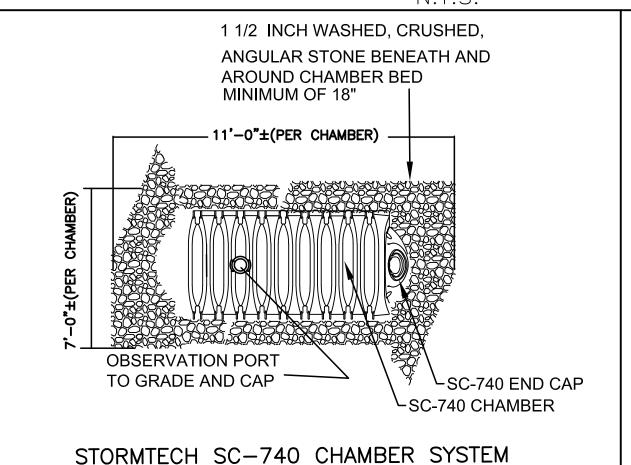
1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". 2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER 3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND

4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT. 5. 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.

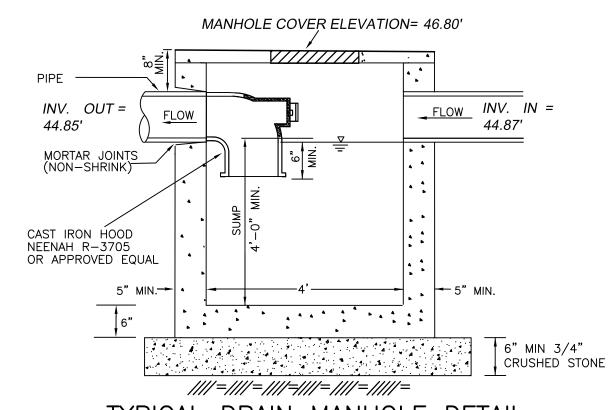
PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS. 7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

# DRAINAGE SYSTEM

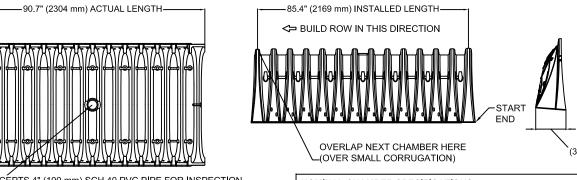




PLAN VIEW DETAIL



TYPICAL DRAIN MANHOLE DETAIL LEFT DRIVEWAY N.T.S.



ACCÉPTS 4" (100 mm) SCH 40 PVC PIPE FOR INSPECTION PORT. FOR PIPE SIZES LARGER THAN 4" (100 mm) UP TO 10" (250 mm) USE INSERTA TEE CONNECTION CENTERED CHAMBER STORAGE ON A CHAMBER CREST CORRUGATION

SC740EPE24B\*

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 45.9 CUBIC FEET MINIMUM INSTALLED STORAGE\* 74.9 CUBIC FEET 75.0 lbs.

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B" PART# 18.5" (470 mm C740EPE06T / SC740EPE06TPC 10.9" (277 mm 6" (150 mm) C740EPE06B / SC740EPE06BP6 16.5" (419 mm SC740EPE08T/SC740EPE08TPC 12.2" (310 mn 0.6" (15 mm) C740EPE10T / SC740EPE10TPC 14.5" (368 mm 10" (250 mm) 13.4" (340 mm SC740EPE10B / SC740EPE10BPC 12.5" (318 mm) SC740EPE12T / SC740EPE12TP0 12" (300 mm) 14.7" (373 mm) 1.2" (30 mm) SC740EPE12B / SC740EPE12BPC C740EPE15T / SC740EPE15TP 15" (375 mm) 18.4" (467 mm) SC740EPE15B / SC740EPE15BPC SC740EPE18T / SC740EPE18TP 18" (450 mm) 19.7" (500 mm) 1.6" (41 mm

\* FOR THE SC740EPE24B 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

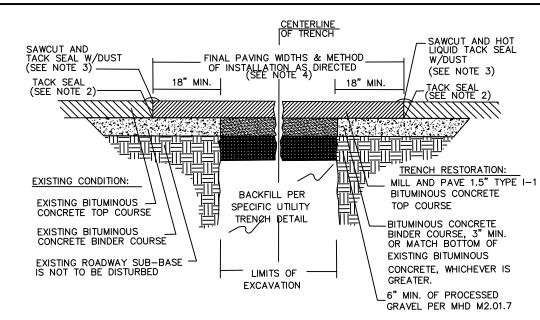
ALL STUBS. EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF

THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT

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

- 1. STORMTECH LLC ("STORMTECH") REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION. 2. STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.): MINIMUM
- COVER IS 18 INCHES NOT INCLUDING PAVEMENT; MAXIMUM COVER IS 96 INCHES INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24 INCHES, MAXIMUM COVER IS 96 INCHES. 3. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO
- 4. AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
- 5. STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS. 6. BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF
- STORMTECH'S INSTALLATION INSTRUCTIONS. 7. THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR
- PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS. 8. THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.

### SC-740 TECHNICAL SPECIFICATION



- 1. ALL INSTALLATION AND MATERIAL SPECIFICATIONS PER MASSDOT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 2020 AS
- 2. ALL EXPOSED BITUMINOUS CONCRETE IS TO BE TACKED PER MASSDOT PRIOR TO NEW BITUMINOUS CONCRETE INSTALLATION.

INV. OUT:

MORTAR JOINŢS

(NON-SHRINK)

CAST IRON HOOD

OR APPROVED EQUAL

NEENAH R-3705

46.45'

- 3. ALL EXPOSED JOINTS ARE TO BE SEALED WITH HOT LIQUID TACK AND STONE DUST.
- 4. ANY TOP COURSE APPLIED AT A WIDTH OF 6' WIDE OR GREATER IS TO BE PLACED BY MACHINE/BOX SPREADER WHEN & AS DIRECTED BY THE CITY OF NEWTON.

5. SUPERPAVE FOR PAVEMENT TYPICAL TRENCH REPAIR & PAVEMENT SECTION DETAIL

MANHOLE COVER ELEVATION= 48.40'

FLOW INV. IN = 46.47'

6" MIN 3/4" CRUSHED STONE ////=////=////=////=

TYPICAL DRAIN MANHOLE DETAIL RIGHT DRIVEWAY N.T.S.

SHEET 3 OF 5



Engineering, P.C.

80 JEWETT ST, (SUITE 1

NEWTON, MA 02458

Tel: 617-816-0722 Email:edmond@spruhaneng.com

236 CHAPEL STREET **NEWTON MASSACHUSETTS** 

CIVIL PLAN

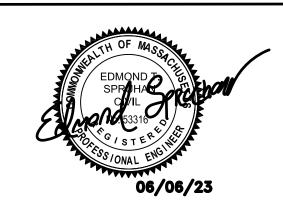
### REVISION BLOCK

DATE

**DESCRIPTION** 

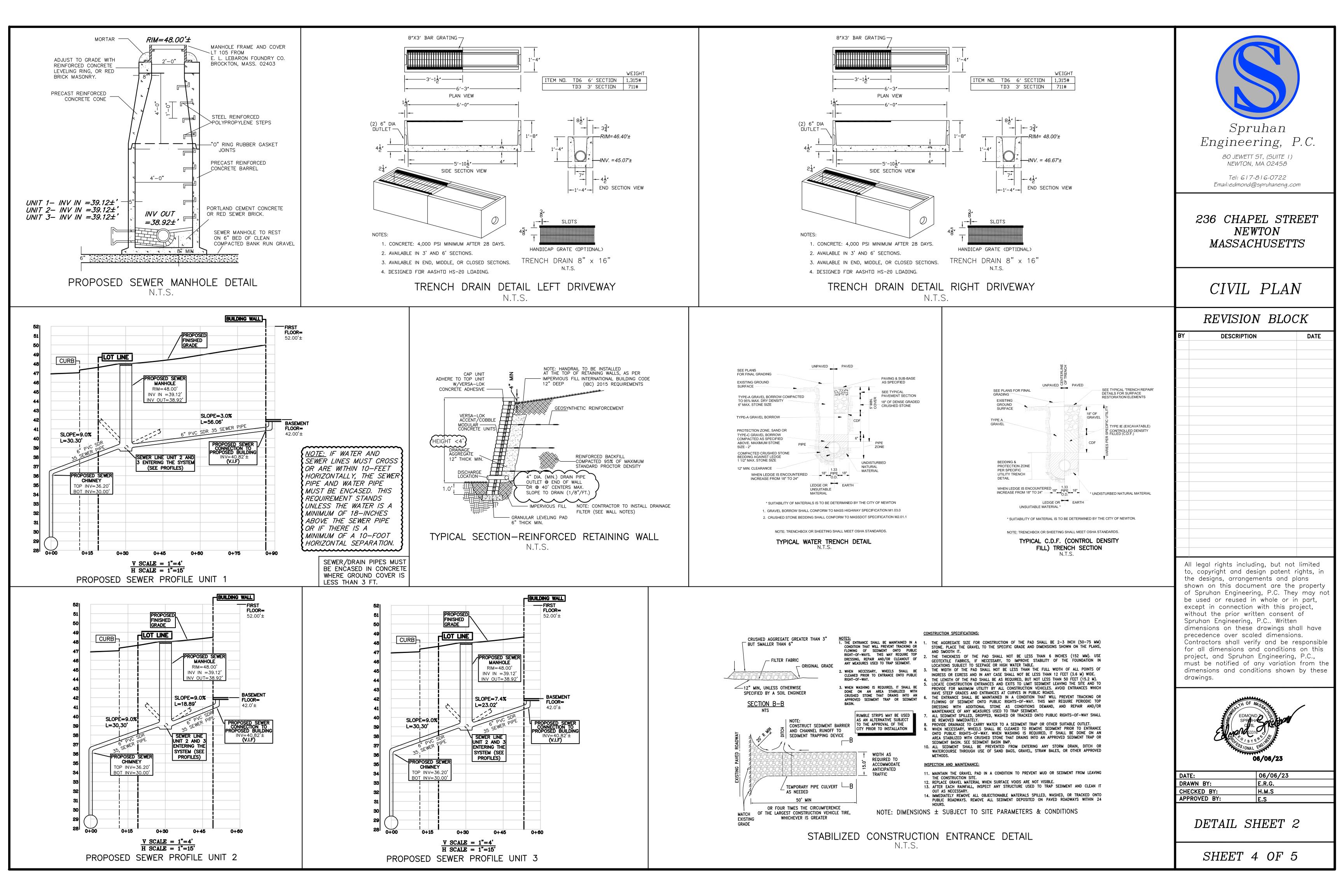
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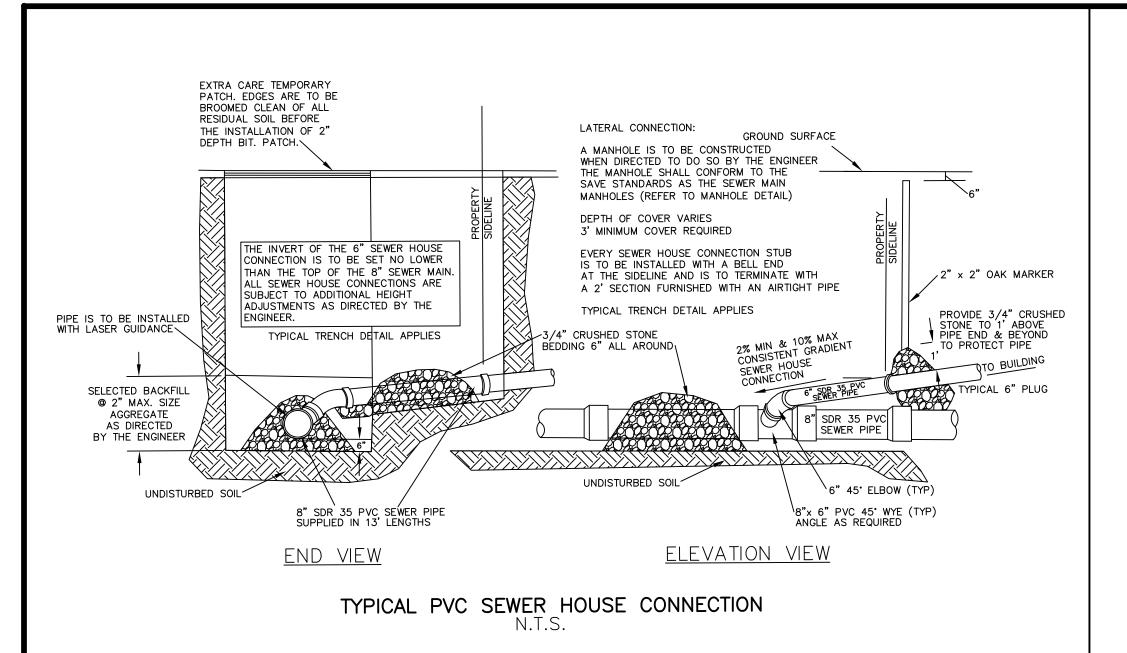
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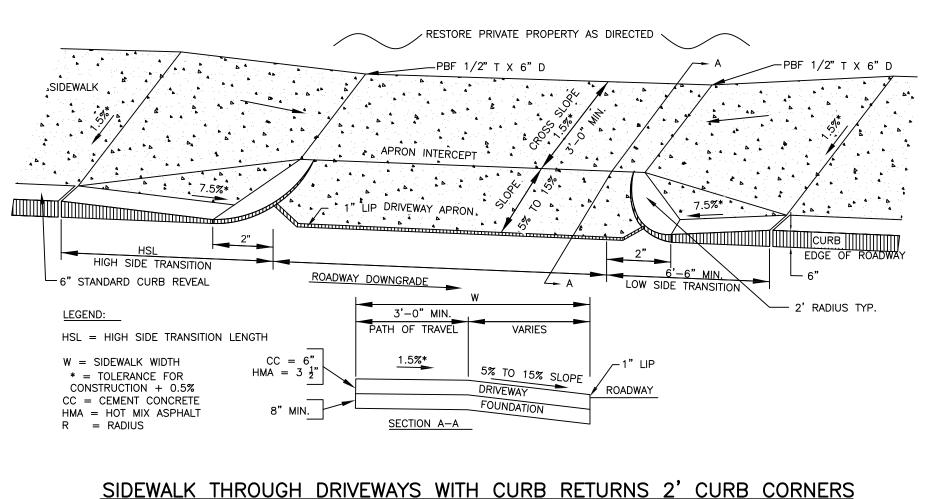


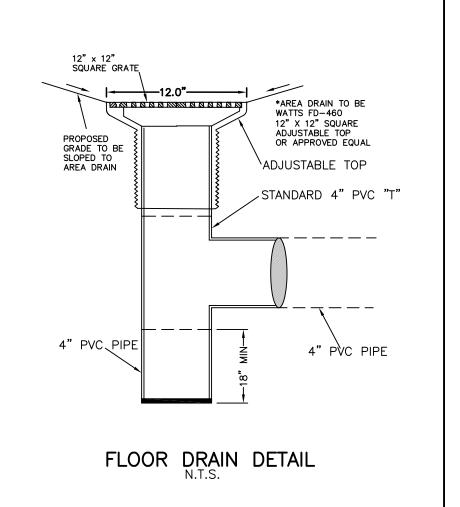
06/06/23 DATE: DRAWN BY: E.R.G. H.M.S CHECKED BY: APPROVED BY:

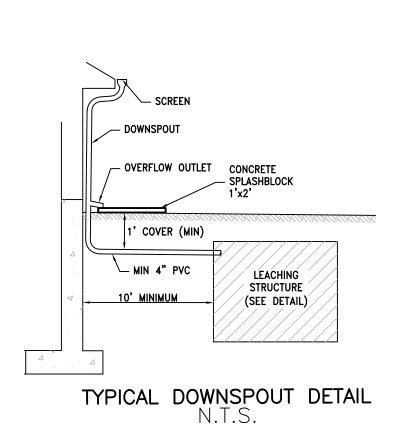
DETAIL SHEET I











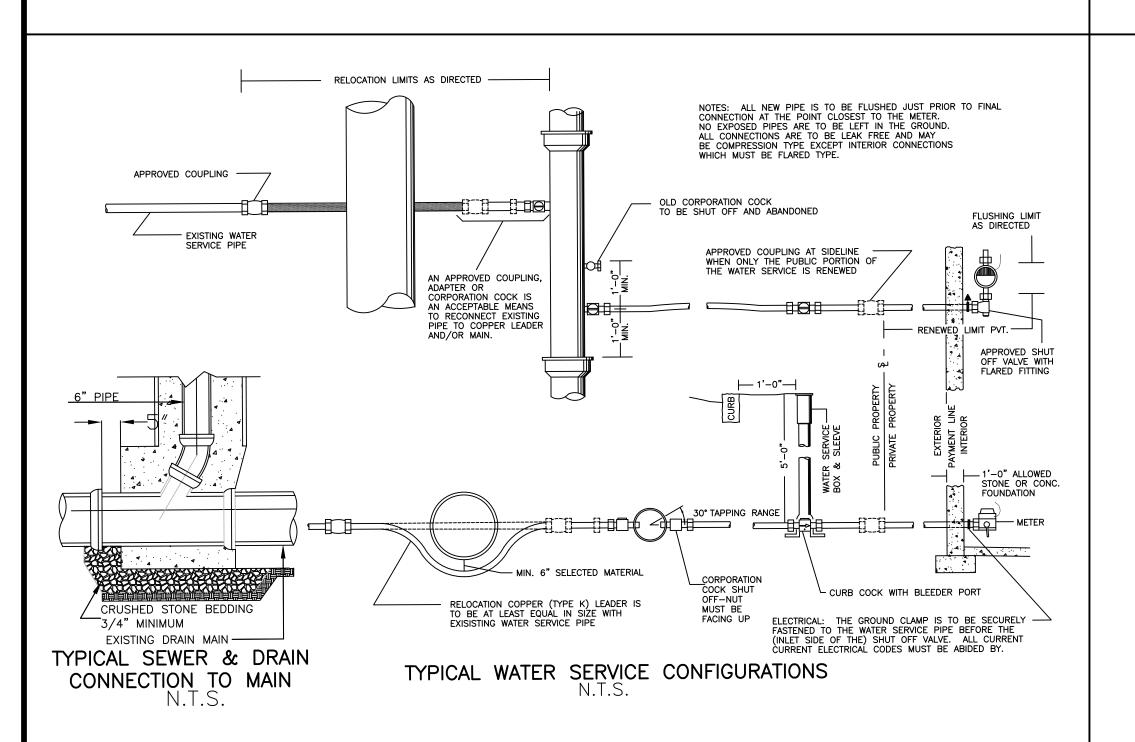
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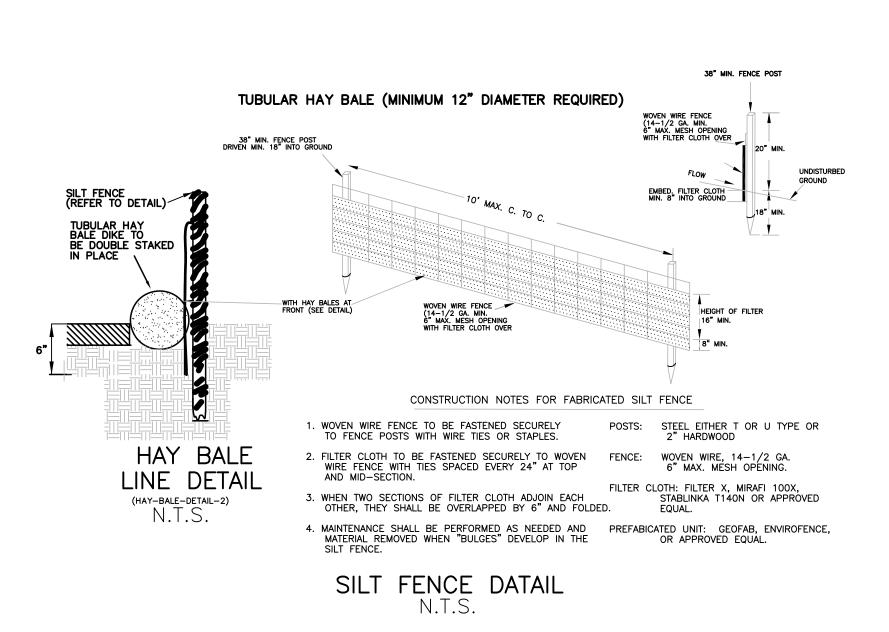
80 JEWETT ST, (SUITE 1) NEWTON, MA 02458

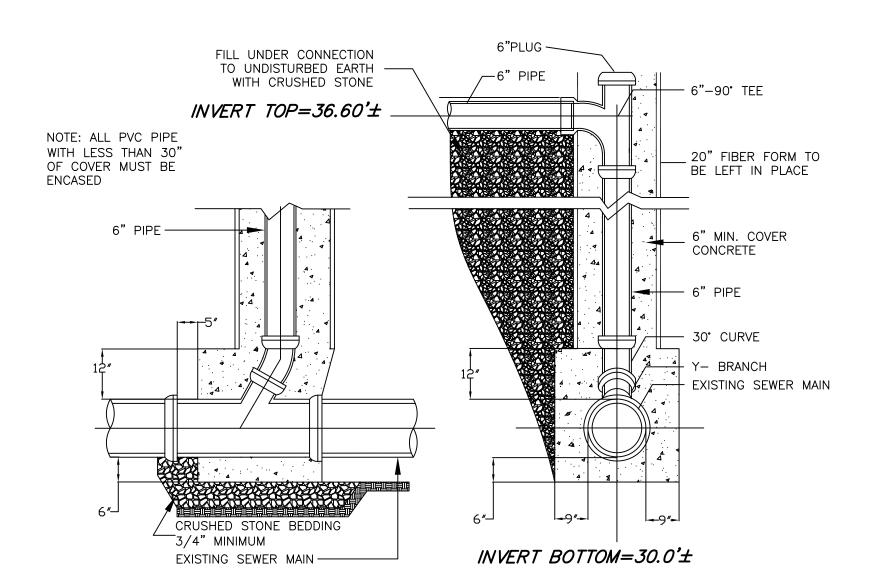
Tel: 617-816-0722 Email:edmond@spruhaneng.com

236 CHAPEL STREET NEWTON **MASSACHUSETTS** 

CIVIL PLAN







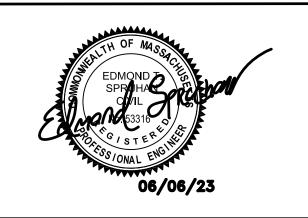
TYPICAL SEWER CHIMNEY N.T.S.

NOTE: AT THE CONTRACTORS OPTION,
THE CONTRACTOR MAY ELECT TO USE DI PIPE INSTEAD OF PVC AT NO ADDITIONAL COST TO THE OWNER. IF DI PIPE IS USED, THE DI PIPE SHALL EXTEND 12" BEYOND THE EDGE OF THE MAINLINE TRENCH & BE FITTED WITH A PVC ADAPTOR.

# DELITATON DIAGIZ

BY	DESCRIPTION	DATE

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DATE:	06/06/23
DRAWN BY:	E.R.G.
CHECKED BY:	H.M.S.
APPROVED BY:	E.S

DETAIL SHEET 3

SHEET 5 OF 5