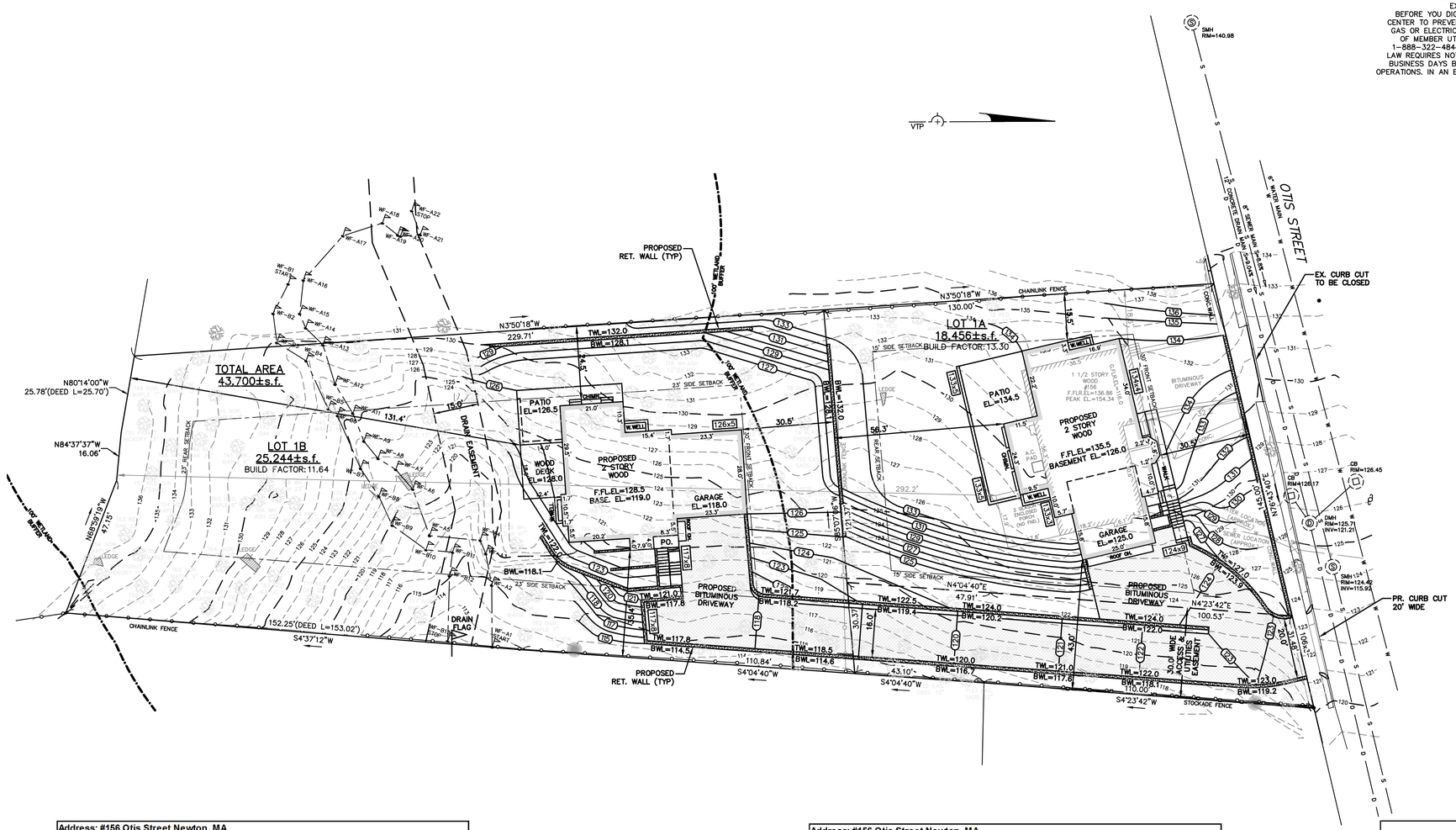
217176_bp9.dwg (Z:2017)

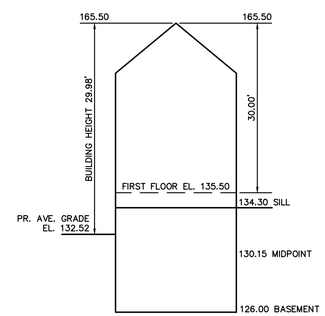
LEGEND

BUILDING
PROPERTY LINE W/ BEARING DISTANCE — S81°56'34"E 116.23'
CONTOUR — 70
STOCKADE FENCE
CHAINLINK FENCE
PICKET FENCE
SEWER LINE — S
DRAIN LINE — D
WATER LINE — W
GAS LINE — G
GAS VALVE
WATER VALVE
DRAIN MANHOLE
SEWER MANHOLE
CATCH BASIN
UTILITY POLE
LIGHT POLE
DECIDUOUS TREE — DEC. 22"
CONIFEROUS TREE — CON. 12"
HYDRANT

DIG SAFE

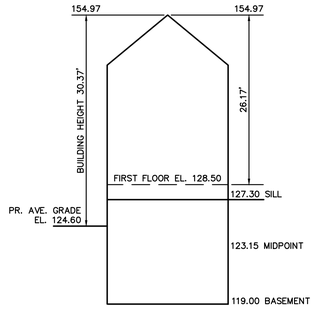
EXCAVATORS
BEFORE YOU DIG CONTACT THE DIG SAFE CENTER TO PREVENT DAMAGE TO TELEPHONE, GAS OR ELECTRIC UNDERGROUND FACILITIES OF MEMBER UTILITIES, CALL TOLL FREE 1-888-322-4644. MASSACHUSETTS STATE LAW REQUIRES NOTIFICATION AT LEAST THREE BUSINESS DAYS BEFORE YOU START DIGGING OPERATIONS. IN AN EMERGENCY, CALL IMMEDIATELY





LOT 1A
PROPOSED BUILDING HEIGHT
NOT TO SCALE

Address: #156 Otis Street Newton, MA					
Length Weighted Mean					
LOT 1A					
Proposed Average Grade Calculation					
A	B	C	D	E	F
Segment	Length Of Segment in Feet	Height of High Point of Segment	Height of Low Point of Segment	E=(C+D)/2 Average Segment Height	F=BxE
1	1.03	127.00	127.00	127.00	130.81 Sq. Ft.
2	23.97	124.80	124.80	124.80	2991.46 Sq. Ft.
3	4.04	125.00	124.90	124.95	504.80 Sq. Ft.
4	4.17	129.00	129.00	129.00	537.93 Sq. Ft.
5	4.17	132.00	129.00	130.50	544.19 Sq. Ft.
6	3.46	133.80	133.80	133.80	462.95 Sq. Ft.
7	10.00	133.90	133.00	133.45	1334.50 Sq. Ft.
8	19.43	134.40	134.40	134.40	2611.39 Sq. Ft.
9	12.62	134.40	134.00	134.20	1693.60 Sq. Ft.
10	1.95	134.30	134.00	134.15	261.59 Sq. Ft.
11	16.92	134.00	134.00	134.00	2267.28 Sq. Ft.
12	15.50	134.00	134.00	134.00	2077.00 Sq. Ft.
13	22.17	134.50	134.50	134.50	2981.87 Sq. Ft.
14	11.50	134.50	134.50	134.50	1546.75 Sq. Ft.
15	24.25	134.50	134.50	134.50	3261.63 Sq. Ft.
16	9.46	133.30	133.30	133.30	1261.02 Sq. Ft.
17	9.92	133.30	133.00	133.15	1320.85 Sq. Ft.
18	5.92	133.00	130.00	131.50	778.48 Sq. Ft.
Total	200.48				26568.08 Sq. Ft.
		Total Column F / Total Column B = Average Grade			
				Average Grade: 132.52'	



LOT 1B
PROPOSED BUILDING HEIGHT
NOT TO SCALE

Address: #156 Otis Street Newton, MA					
Length Weighted Mean					
LOT 1B					
Proposed Average Grade Calculation					
A	B	C	D	E	F
Segment	Length Of Segment in Feet	Height of High Point of Segment	Height of Low Point of Segment	E=(C+D)/2 Average Segment Height	F=BxE
1	9.19	124.00	122.50	123.25	1132.67 Sq. Ft.
2	10.97	124.40	124.00	124.20	1362.47 Sq. Ft.
3	7.88	124.00	124.00	124.00	977.12 Sq. Ft.
4	0.89	124.40	124.40	124.40	110.72 Sq. Ft.
5	3.67	126.80	126.80	126.80	465.36 Sq. Ft.
6	3.77	118.40	118.40	118.40	446.37 Sq. Ft.
7	22.33	117.90	117.90	117.90	2632.71 Sq. Ft.
8	28.00	126.50	126.00	126.25	3535.00 Sq. Ft.
9	23.33	126.50	126.50	126.50	2951.25 Sq. Ft.
10	15.37	126.50	126.50	126.50	1944.31 Sq. Ft.
11	10.33	126.50	126.50	126.50	1306.75 Sq. Ft.
12	21.00	126.50	126.50	126.50	2656.50 Sq. Ft.
13	12.12	126.50	126.50	126.50	1533.18 Sq. Ft.
14	4.64	125.10	125.00	125.05	580.23 Sq. Ft.
15	18.23	125.00	124.00	124.50	2269.64 Sq. Ft.
16	10.50	124.00	122.10	123.05	1292.03 Sq. Ft.
Total	202.22				25196.28 Sq. Ft.
		Total Column F / Total Column B = Average Grade			
				Average Grade: 124.60'	

ZONING CHART				
NEWTON, MASSACHUSETTS				
ZONE: SR-2 (NEW)			SUBMISSION: BLDG. PERMIT	
REGULATION	REQUIRED	EXISTING	PROPOSED LOT 1A	PROPOSED LOT 1B
LOT AREA	15,000s.f.	43,700±s.f.	18,456±s.f.	25,244±s.f.
LOT FRONTAGE	100.0'	145.0'	145.0'	N/A
FRONT SETBACK	30.0'	32.2'	30.5'	30.5'
SIDE SETBACK	15.0'/23.0'*	18.6'	15.5'	24.5'
REAR SETBACK	15.0'/23.0'*	290.6'	56.3'	131.4'
BUILDING HEIGHT	36.0'	22.82'	29.98'	30.37'
AVERAGE GRADE	–	115.52	132.52	124.60
LOT COVERAGE	20.0%	4.9%	13.6%	8.9%
OPEN SPACE	50.0%	93.6%	65.7%	83.4%
* REAR LOT.				

0 20 50 100
SCALE: 1" = 20'

ZONING PLAN
NEWTON, MASSACHUSETTS

SHOWING PROPOSED CONDITIONS AT
#156 OTIS STREET

SCALE: 1in.=20ft. DATE: FEBRUARY 23, 2018
REVISED: MARCH 21, 2018; MARCH 27, 2018

PROJECT: 217176

VTP ASSOCIATES INC.
LAND SURVEYORS – CIVIL ENGINEERS. 132 ADAMS STREET 2ND FLOOR SUITE 3
NEWTON, MA 02458
(617) 332-8271

JOSEPH R. PORTER NO. 39697 REGISTERED LAND SURVEYOR COMMONWEALTH OF MASSACHUSETTS

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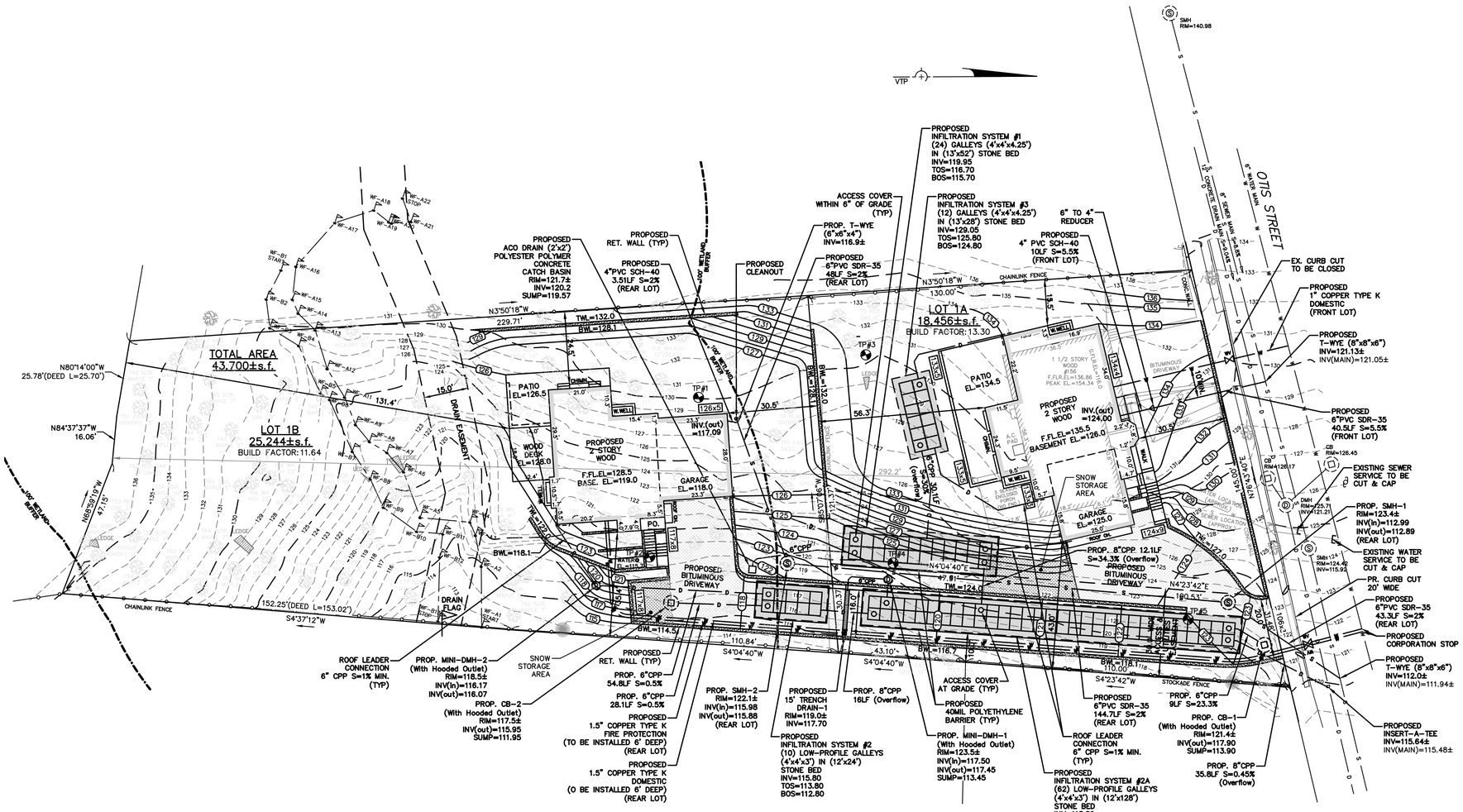
LEGEND

- BUILDING
- PROPERTY LINE W/ BEARING DISTANCE — S81°56'34"E 116.23'
- CONTOUR — 70
- STOCKADE FENCE
- CHAINLINK FENCE
- PICKET FENCE
- SEWER LINE — S
- DRAIN LINE — D
- WATER LINE — W
- GAS LINE — G
- GAS VALVE — GV
- WATER VALVE
- DRAIN MANHOLE
- SEWER MANHOLE
- CATCH BASIN
- UTILITY POLE
- LIGHT POLE
- DECIDUOUS TREE — DEC. 22"
- CONIFEROUS TREE — CON. 12"
- HYDRANT

TESTPIT #1 (Jan. 18, 2018) 0-14" TOP SOIL 14"-30" SUBSOIL REFUSAL @ 30" or EL.=127.6 NO WATER
TESTPIT #2 (Jan. 18, 2018) 0-16" TOP SOIL 16"-32" SUBSOIL 32"-96" SILTY LOAM WITH GRAVEL & FEW COBBLES WATER @ 32" PERCHED or EL.=115.7 NO REFUSAL
TESTPIT #3 (Jan. 18, 2018) 0-12" TOPSOIL 12"-30" SUBSOIL 30"-86" SANDY LOAM WITH GRAVEL & COBBLES REFUSAL @ 86" or EL.=123.1 NO WATER GLACIAL TILL
TESTPIT #4 (Jan. 18, 2018) 0-12" TOPSOIL 12"-32" SUBSOIL 32"-76" SANDY LOAM WITH GRAVEL, COBBLES & STONES REFUSAL OR STONE @ 76" or EL.=114.7 NO WATER GLACIAL TILL
TESTPIT #5 (Jan. 18, 2018) 0-12" TOPSOIL 12"-32" SUBSOIL 32"-85" SANDY LOAM WITH GRAVEL, COBBLES & STONES REFUSAL OR STONE @ 84" or EL.=114.5 NO WATER GLACIAL TILL

I CERTIFY THAT ON NOVEMBER 20, 2005 I HAVE PASSED THE EXAMINATION APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE ANALYSIS HAS BEEN PERFORMED BY ME, CONSISTENT WITH THE REQUIRED TRAINING, EXPERTISE, AND EXPERIENCE DESCRIBED IN 310 CMR 15.018 (2). APPROVAL No. SE3015.

SOIL LOGS BY JOSEPH R. PORTER, ON FILE WITH BOARD OF HEALTH



CORRUGATED PLASTIC PIPE (CPP)
(ADS N-12 ST IB (Soiltight) PIPE (per ASTM F2648)

DIG SAFE

EXCAVATORS
BEFORE YOU DIG CONTACT THE DIG SAFE CENTER TO PREVENT DAMAGE TO TELEPHONE, GAS OR ELECTRIC UNDERGROUND FACILITIES OF MEMBER UTILITIES, CALL TOLL FREE 1-888-322-4844. MASSACHUSETTS STATE LAW REQUIRES NOTIFICATION AT LEAST THREE BUSINESS DAYS BEFORE YOU START DIGGING OPERATIONS. IN AN EMERGENCY, CALL IMMEDIATELY

DIG SAFE

0 20 50 100
SCALE: 1" = 20'

NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THIS PLAN. PRIOR TO ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION BEFORE PROCEEDING WITH THE WORK.
2. THE LOCATION OF ALL UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASE ON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER GATES, ETC. AND GOVERNMENT AGENCIES.
3. ALL THE PROPOSED DOWNSPOUT TO CONNECT INTO ONSIDE INFILTRATION SYSTEMS.

COMMONWEALTH OF MASSACHUSETTS
JOSEPH R. PORTER
NO. 39051
REGISTERED PROFESSIONAL LAND SURVEYOR

GRADING, DRAINAGE & UTILITY PLAN
NEWTON, MASSACHUSETTS

SHOWING PROPOSED CONDITIONS AT #156 OTIS STREET

SCALE: 1in.=20ft. DATE: FEBRUARY 23, 2018
REVISED: MARCH 21, 2018

PROJECT: 217176

VTP ASSOCIATES INC.

LAND SURVEYORS – CIVIL ENGINEERS. 132 ADAMS STREET 2ND FLOOR SUITE 3
NEWTON, MA 02458
(617) 332-8271

217176_bp9.dwg (2:2017)

AMENDED FINAL REVISED 03/29/2018

LEGEND

BUILDING

PROPERTY LINE W/ BEARING DISTANCE — S81°56'34"E 116.23'

CONTOUR — 70

STOCKADE FENCE

CHAINLINK FENCE

PICKET FENCE

SEWER LINE — S

DRAIN LINE — D

WATER LINE — W

GAS LINE — G

GAS VALVE

WATER VALVE

DRAIN MANHOLE

SEWER MANHOLE

CATCH BASIN

UTILITY POLE

LIGHT POLE

DECIDUOUS TREE — DEC. 22"

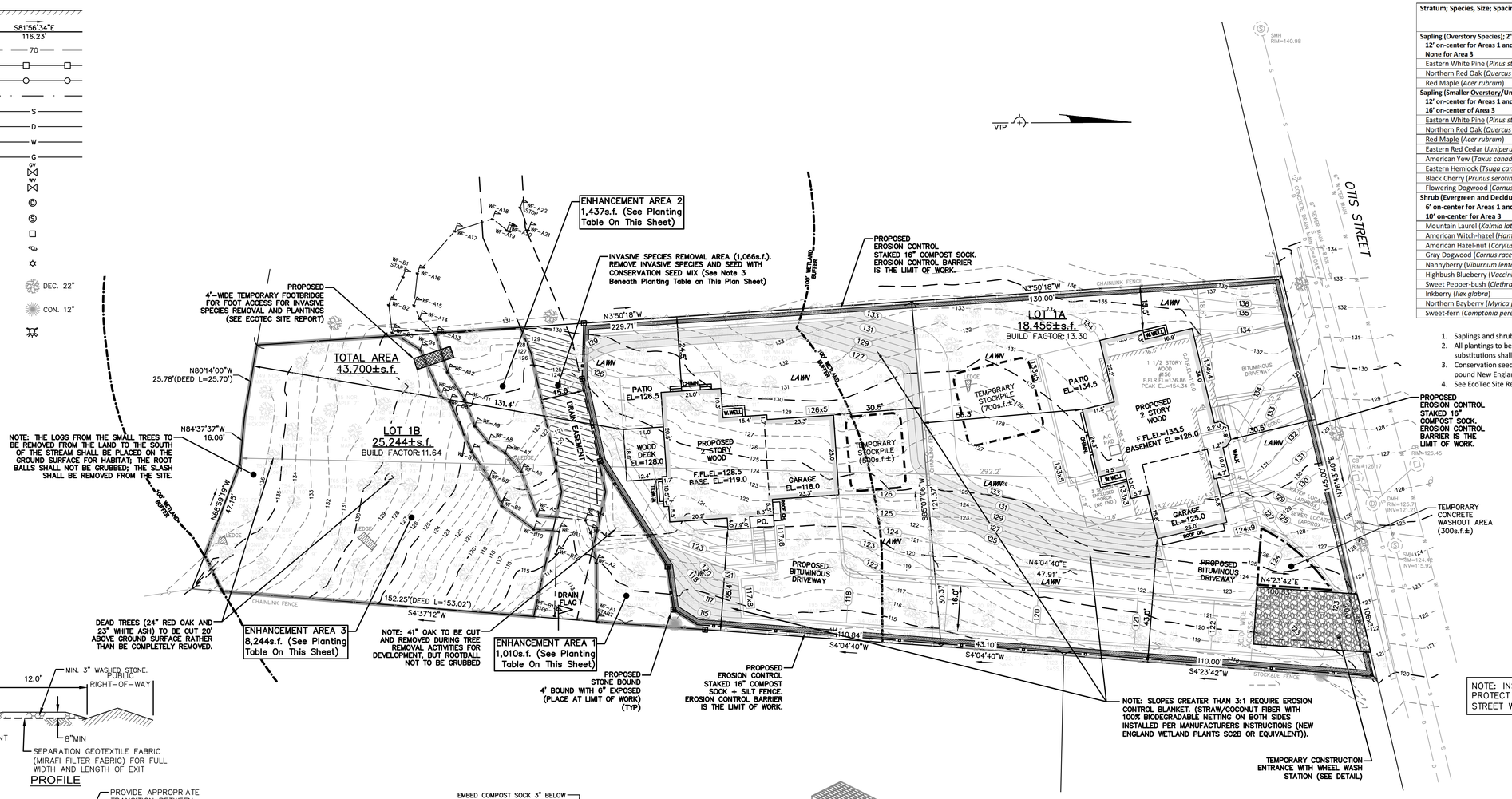
CONIFEROUS TREE — CON. 12"

HYDRANT

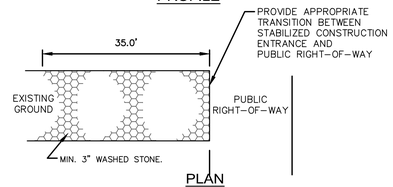
Enhancement Plantings for Enhancement Areas 1 to 3

Stratum; Species, Size; Spacing	Enhancement Area 1 (1,010±sf)	Enhancement Area 2 (1,437±sf)	Enhancement Area 3 (8,244±sf)
Sapling (Overstory Species); 2" caliper; 12' on-center for Areas 1 and 2 None for Area 3	7	10	0
Eastern White Pine (*Pinus strobus*)	2	4	--
Northern Red Oak (*Quercus rubra*)	3	3	--
Red Maple (*Acer rubrum*)	2	3	--
Sapling (Smaller Overstory/Understory Species); 1" caliper; 12' on-center for Areas 1 and 2; 16' on-center of Area 3	7	10	32
Eastern White Pine (*Pinus strobus*)	--	--	10
Northern Red Oak (*Quercus rubra*)	--	--	8
Red Maple (*Acer rubrum*)	--	--	8
Eastern Red Cedar (*Juniperus virginiana*)	--	--	--
American Yew (*Taxus canadensis*)	--	3	--
Eastern Hemlock (*Tsuga canadensis*)	2	2	--
Black Cherry (*Prunus serotina*)	3	3	6
Flowering Dogwood (*Cornus florida*)	2	2	--
Shrub (Evergreen and Deciduous); 3-5' height; 6' on-center for Areas 1 and 2; 10' on-center for Area 3	28	40	80
Mountain Laurel (*Kalmia latifolia*)	--	12	20
American Witch-hazel (*Hamamelis virginiana*)	--	12	20
American Hazel-nut (*Corylus americana*)			20
Gray Dogwood (*Cornus racemosa*)	4	--	--
Nannyberry (*Viburnum lentago*)	4	--	5
Highbush Blueberry (*Vaccinium corymbosum*)	4	4	5
Sweet Pepper-bush (*Clethra alnifolia*)	4	4	5
Inkberry (*Ilex glabra*)	4	--	5
Northern Bayberry (*Myrica pensylvanica*)	4	4	--
Sweet-fern (*Comptonia peregrina*)	4	4	--

1. Saplings and shrubs shall be natives and not varietals or cultivars.
2. All plantings to be located in the field under the direct supervision of the wetland scientist. Any substitutions shall be approved by the wetland scientist.
3. Conservation seed mix shall comprise 2 pounds of New England Conservation/Wildlife Mix and 1 pound New England Wildflower Mix (or equivalent).
4. See EcoTec Site Report for additional information.



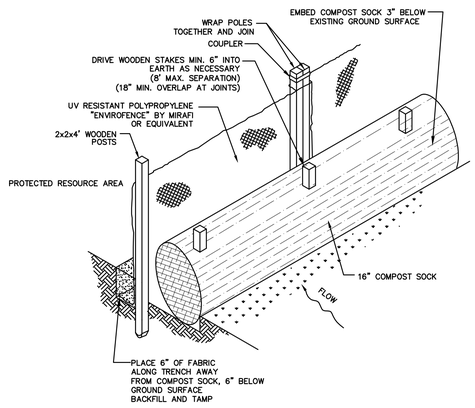
PROFILE



PLAN

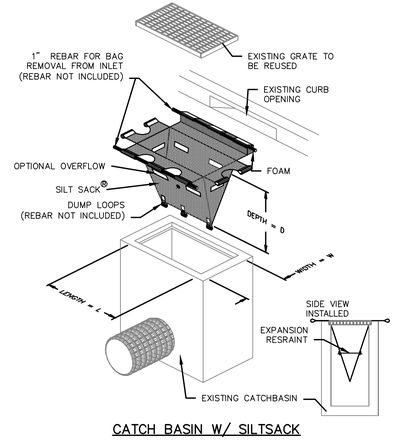
STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



COMPOST SOCK & SILT FENCE

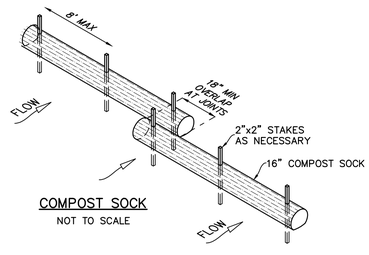
NOT TO SCALE



CATCH BASIN W/ SILTSACK

INLET PROTECTION

NOT TO SCALE



COMPOST SOCK

NOT TO SCALE

DIG SAFE

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0 20 50 100

SCALE: 1" = 20'

COMMONWEALTH OF MASSACHUSETTS
JOSEPH R. PORTER
No. 39001
REGISTERED PROFESSIONAL LAND SURVEYOR

EROSION & SEDIMENT CONTROL PLAN NEWTON, MASSACHUSETTS

SHOWING PROPOSED CONDITIONS AT #156 OTIS STREET

SCALE: 1in.=20ft. DATE: FEBRUARY 23, 2018
REVISED: MARCH 21, 2018, APRIL 3, 2018
PROJECT: 217176

VTP ASSOCIATES INC.

LAND SURVEYORS – CIVIL ENGINEERS. 132 ADAMS STREET 2ND FLOOR SUITE 3 NEWTON, MA 02458 (617) 332-8271

217176_bp9.dwg (2:2017)

GENERAL & UTILITIES NOTES:

ALL NEW SEWER SERVICE AND/OR STRUCTURES SHALL BE PRESSURE TESTED OR VIDEOTAPED AFTER FINAL INSTALLATION IS COMPLETE. METHOD OF FINAL INSPECTION SHALL BE DETERMINED SOLELY BY THE CONSTRUCTION INSPECTOR FROM THE CITY ENGINEERING DIVISION. ALL SEWER MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE TO THE CITY'S CONSTRUCTION STANDARDS & SPECIFICATIONS. THE SEWER SERVICE WILL NOT BE ACCEPTED UNTIL ONE OF THE TWO METHODS STATED ABOVE IS COMPLETED. ALL TESTING MUST BE WITNESSED BY A REPRESENTATIVE OF THE ENGINEERING DIVISION. A CERTIFICATE OF OCCUPANCY WILL NOT BE RECOMMENDED UNTIL THIS TEST IS COMPLETED AND A WRITTEN REPORT IS RECEIVED BY THE CITY ENGINEER.

THE SEWER SERVICES AND WATER SERVICES NEED TO BE COMPLETELY REMOVED FROM THE MAINS TO THE EXISTING DWELLING AND PROPERLY BACK-FILED. THE CONTRACTOR SHALL MAKE ARRANGEMENTS TO HAVE THIS ABANDONMENT INSPECTED BY A REPRESENTATIVE OF THE ENGINEERING DIVISION, FAILING TO HAVING THESE INSPECTIONS MAY RESULT IN THE DELAY OR DENIAL OF ISSUING NEW UTILITY CONNECTION PERMITS.

AS OF MARCH 1, 2009, ALL TRENCH EXCAVATION CONTRACTORS SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82A, TRENCH EXCAVATION SAFETY REQUIREMENTS, TO PROTECT THE GENERAL PUBLIC FROM UNAUTHORIZED ACCESS TO UNATTENDED TRENCHES. TRENCH EXCAVATION PERMIT REQUIRED. THIS APPLIES TO ALL TRENCHES ON PUBLIC AND PRIVATE PROPERTY.

THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE ENGINEERING DIVISION AND SCHEDULING AN APPOINTMENT 48 HOURS PRIOR TO THE DATE WHEN THE UTILITIES WILL BE MADE AVAILABLE FOR AN INSPECTION OF WATER SERVICES, SEWER SERVICES, AND DRAINAGE SYSTEM INSTALLATION. THE UTILITY IS QUESTION SHALL BE FULLY EXPOSED FOR THE INSPECTOR TO VIEW; BACKFILLING SHALL ONLY TAKE PLACE WHEN THE CITY'S INSPECTOR HAS GIVEN THEIR APPROVAL.

THE APPLICANT WILL HAVE TO APPLY FOR STREET OPENING, SIDEWALK CROSSING, AND UTILITIES CONNECTING PERMITS WITH THE DEPARTMENT OF PUBLIC WORKS PRIOR TO ANY CONSTRUCTION.

PRIOR TO OCCUPANCY PERMIT BEING ISSUED, AN AS-BUILT PLAN SHALL BE SUBMITTED TO THE ENGINEERING DIVISION IN BOTH DIGITAL FORMAT AND HARD COPY. THE PLAN SHOULD SHOW ALL UTILITIES AND FINAL GRADES ANY EASEMENTS AND FINAL GRADING, IMPROVEMENTS AND LIMITS OF RESTORATION WORK. THE PLAN SHALL ALSO INCLUDE PROFILES OF THE VARIOUS NEW UTILITIES, INDICATING RIM & INVERT ELEVATIONS, SLOPES OF PIPES, PIPE MATERIAL, AND SWING TIES FROM PERMANENT BUILDING CORNERS.

IF A CERTIFICATE OF OCCUPANCY IS REQUESTED PRIOR TO ALL SITE WORK BEING COMPLETED, THE APPLICANT WILL BE REQUIRED TO POST A CERTIFIED BANK CHECK IN THE AMOUNT TO COVER THE REMAINING WORK. THE CITY ENGINEER SHALL DETERMINE THE VALUE OF THE UNCOMPLETED WORK.

NO EXCAVATION IS ALLOWED WITHIN ANY CITY RIGHT-OF-WAY BETWEEN NOVEMBER 15TH AND APRIL 15TH. 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 OF WORK FOR CLARIFICATION.

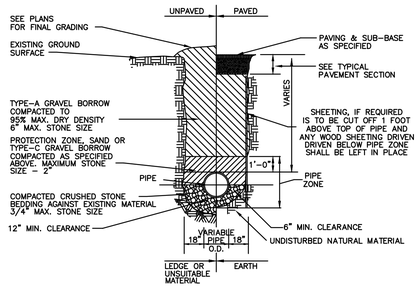
ALL SITE WORK INCLUDING TRENCH RESTORATION MUST BEING COMPLETED BEFORE A CERTIFICATION OF OCCUPANCY IS ISSUED.

THE APPLICANT WILL HAVE TO APPLY FOR STREET OPENING, UTILITY CONNECTION AND TRENCH PERMITS AS WELL AS AN INSTALL CURB & SIDEWALK PERMIT WITH THE DPW PRIOR TO START OF WORK.

WITH THE EXCEPTION OF GAS SERVICES, ALL UTILITY TRENCHES WITHIN THE CITY OF NEWTON RIGHT-OF-WAY WILL BE BACKFILLED WITH TYPE IE (EXCAVATABLE) CONTROLLED DENSITY FILL AS SPECIFIED BY THE CITY OF NEWTON ENGINEERING SPECIFICATIONS.

APPROVAL OF THIS PLAN BY THE 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 REPRESENTATIONS 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.

ALL SILTATION CONTROL SYSTEMS SHALL BE INSTALLED AND INSPECTED BY THE CONSERVATION COMMISSION AGENT(S) PRIOR TO ANY CONSTRUCTION.

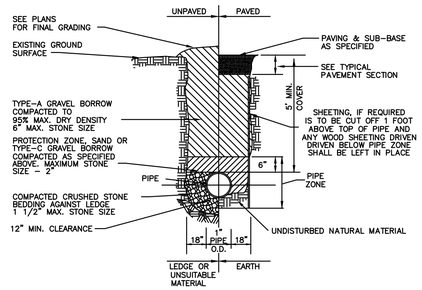


* SUITABILITY OF MATERIALS IS TO BE DETERMINED BY THE CITY OF NEWTON

TYPICAL P.V.C. DRAIN TRENCH DETAIL

NOT TO SCALE

1. GRAVEL BORROW SHALL CONFORM TO MASS HIGHWAY SPECIFICATION M1.03.0
2. CRUSHED STONE BEDDING SHALL CONFORM TO MASS HIGHWAY SPECIFICATION M2.01.1

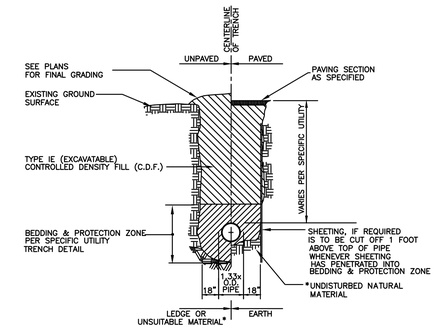


TYPICAL WATER TRENCH DETAIL

NOT TO SCALE

1. GRAVEL BORROW SHALL CONFORM TO MASS HIGHWAY SPECIFICATION M1.03.0
2. CRUSHED STONE BEDDING SHALL CONFORM TO MASS HIGHWAY SPECIFICATION M2.01.1

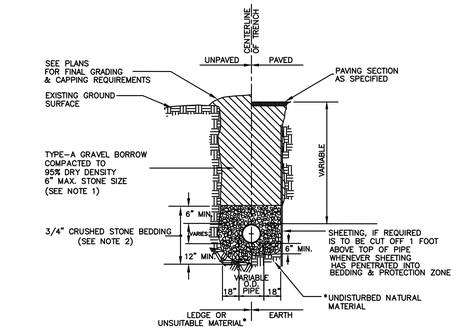
* SUITABILITY OF MATERIAL IS TO BE DETERMINED BY THE CITY OF NEWTON.



* SUITABILITY OF MATERIAL IS TO BE DETERMINED BY THE CITY OF NEWTON.

TYPICAL C.D.F. TRENCH DETAIL

NOT TO SCALE

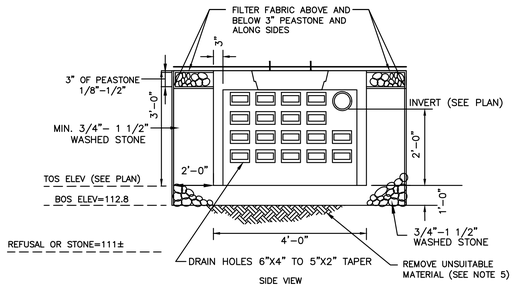


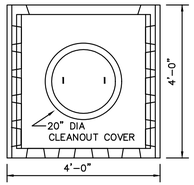
* SUITABILITY OF MATERIAL IS TO BE DETERMINED BY THE CITY OF NEWTON.

1. GRAVEL BORROW SHALL CONFORM TO MASS HIGHWAY SPECIFICATION M1.03.0
2. CRUSHED STONE BEDDING SHALL CONFORM TO MASS HIGHWAY SPECIFICATION M2.01.1

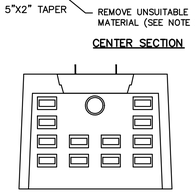
GRAVITY SEWER TRENCH DETAIL

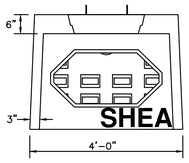
NOT TO SCALE





CENTER SECTION

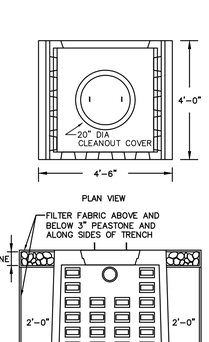


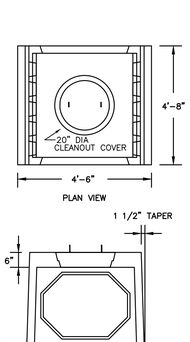


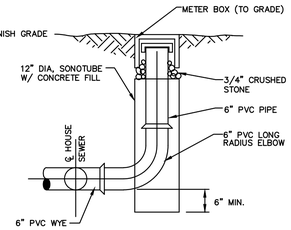
END SECTION

ITEM NO.		WEIGHT
LE-EGLPH	H-20	1,875#
LE-CGLPH	H-20	1,743#

NOTES:
1. MINIMUM OF 1-FOOT OF COVER
2. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
3. ALSO AVAILABLE IN H-20 LOADING.
4. SECTIONS AVAILABLE WITHOUT 20" CLEANOUT.
5. EXCAVATION OF UNSUITABLE MATERIAL WILL EXTEND FIVE FEET LATERALLY IN ALL DIRECTIONS BEYOND THE OUTER PERIMETER OF THE GALLEY SECTIONS AND TO A DEPTH OF NATURALLY OCCURRING PERVIOUS MATERIAL. UNSUITABLE MATERIAL WILL BE REPLACED WITH GRAVEL BORROW(MHD M1.03.0 TYPE "B") COMPACTED IN 6" LAYERS.

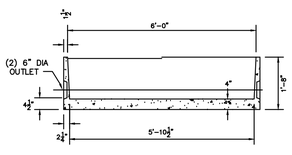


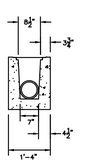




SEWER CLEANOUT

NOT TO SCALE



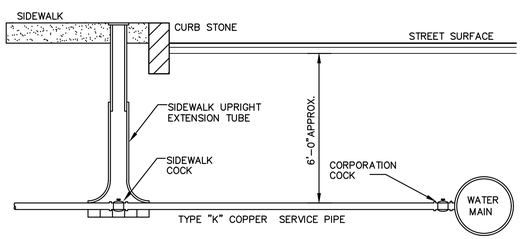


ITEM NO.	
M-TD6	6' SECTION
M-TD3	3' SECTION

NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. AVAILABLE IN 3' AND 6' SECTIONS.
3. AVAILABLE IN END OR MIDDLE SECTIONS.
4. CONFORMS TO H-20 LOADING.

TRENCH DRAIN DETAIL

NOT TO SCALE

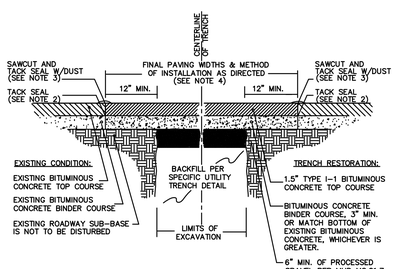


WATER CONNECTION 1.5" SERVICE PIPES

NOT TO SCALE

INFILTRATION SYSTEM #2 - #2A LOW PROFILE GALLEYS

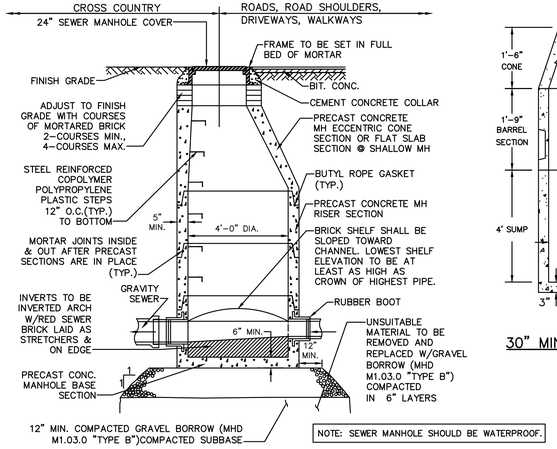
NOT TO SCALE



1. ALL INSTALLATION AND MATERIAL SPECIFICATIONS PER MASS. HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 1988 AS AMENDED.
2. ALL EXPOSED BITUMINOUS CONCRETE IS TO BE TACKED PER MHD PRIOR TO NEW BITUMINOUS CONCRETE INSTALLATION.
3. ALL EXPOSED JOINTS ARE TO BE SEALED WITH 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.

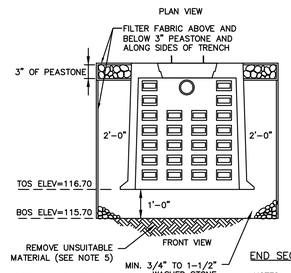
TYPICAL TRENCH REPAIR & PAVEMENT SECTION DETAIL (1/2)

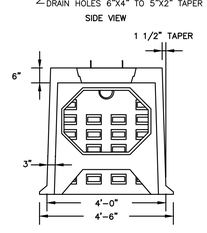
NOT TO SCALE



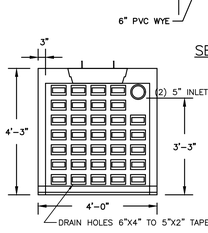
TYPICAL SEWER MANHOLE DETAIL

NOT TO SCALE





END SECTION

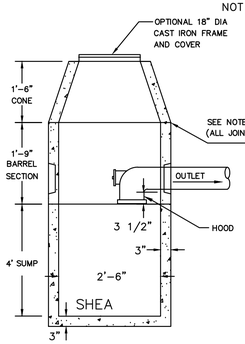


CENTER SECTION

NOTES:
1. MINIMUM OF 1-FOOT OF COVER
2. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
3. ALSO AVAILABLE IN H-20 LOADING.
4. SECTIONS AVAILABLE WITHOUT 20" CLEANOUT.
5. EXCAVATION OF UNSUITABLE MATERIAL WILL EXTEND FIVE FEET LATERALLY IN ALL DIRECTIONS BEYOND THE OUTER PERIMETER OF THE GALLEY SECTIONS AND TO A DEPTH OF NATURALLY OCCURRING PERVIOUS MATERIAL. UNSUITABLE MATERIAL WILL BE REPLACED WITH GRAVEL BORROW(MHD M1.03.0 TYPE "B") COMPACTED IN 6" LAYERS.

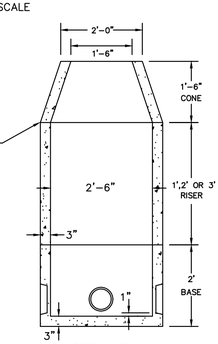
INFILTRATION SYSTEM #1 GALLEYS (4'x4'x4.25')

NOT TO SCALE



30" MINI-DRAIN MANHOLE WITH HOOD

NOT TO SCALE



30" MINI-DRAIN MANHOLE

NOT TO SCALE

NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. BUTYL RESIN SECTION JOINT CONFORMS TO LATEST ASTM C443 SPEC.
3. FLAT COVER WITH CLEANOUT CAN BE USED IN PLACE OF CONE.
4. OPTIONAL ROUND COVER CAN BE USED IN PLACE OF CAST IRON COVER AND FRAME.

DIG SAFE

EXCAVATORS
BEFORE YOU DIG CONTACT THE DIG SAFE CENTER TO PREVENT DAMAGE TO TELEPHONE, GAS OR ELECTRIC UNDERGROUND FACILITIES OF MEMBER UTILITIES, CALL TOLL FREE 1-888-322-4844. MASSACHUSETTS STATE LAW REQUIRES NOTIFICATION AT LEAST THREE BUSINESS DAYS BEFORE YOU START DIGGING OPERATIONS. IN AN EMERGENCY, CALL IMMEDIATELY

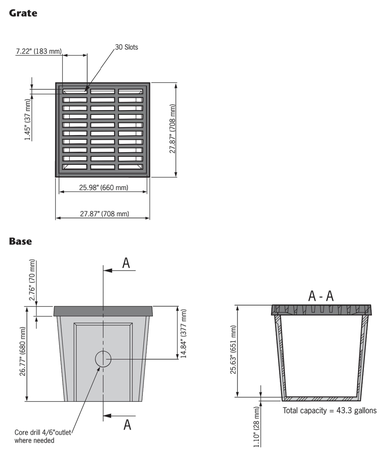
DETAIL-1
NEWTON, MASSACHUSETTS

SHOWING PROPOSED CONDITIONS AT #156 OTIS STREET

SCALE: AS-SHOWN DATE: FEBRUARY 23, 2018
REVISED: MARCH 21, 2018

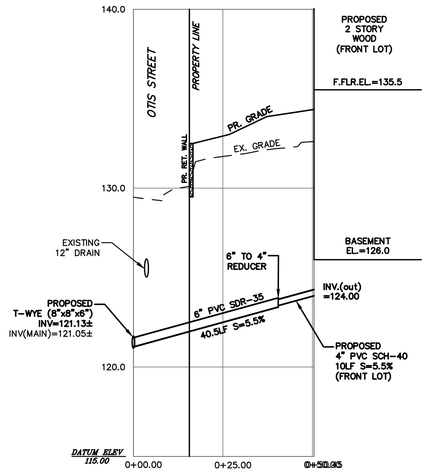
PROJECT: 217176

VTP ASSOCIATES INC.
LAND SURVEYORS - CIVIL ENGINEERS. 132 ADAMS STREET 2ND FLOOR SUITE 3
NEWTON, MA 02458
(617) 332-8271

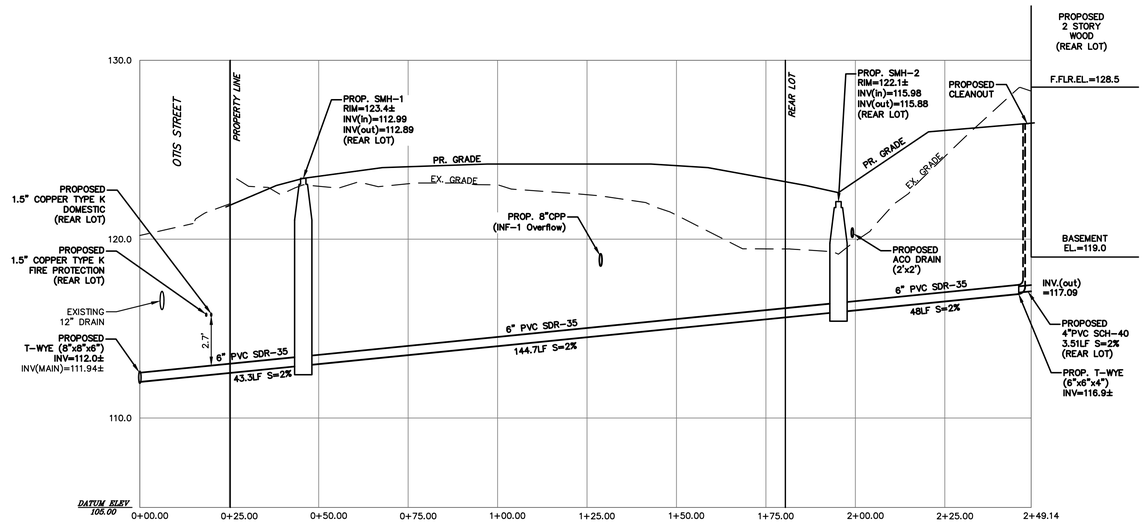


ACO DRAIN-2'x2' POLYESTER POLYMER CONCRETE CATCH BASIN DETAIL

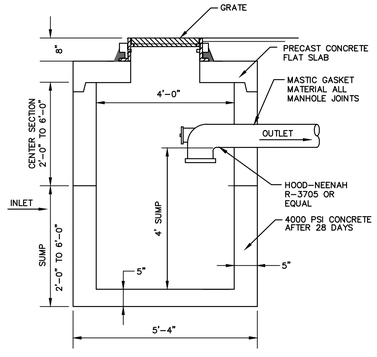
NOT TO SCALE



(FRONT LOT)
PROPOSED SEWER PROFILE
SCALE: 1" = 20' (HORIZONTAL)
SCALE: 1" = 4' (VERTICAL)

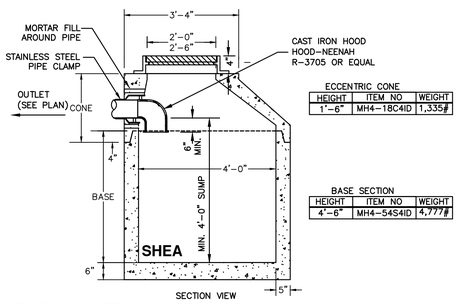


(REAR LOT)
PROPOSED SEWER PROFILE
SCALE: 1" = 20' (HORIZONTAL)
SCALE: 1" = 4' (VERTICAL)



PRECAST CONCRETE CATCH BASIN MANHOLE #1 WITH OIL TRAP OUTLET

NOT TO SCALE

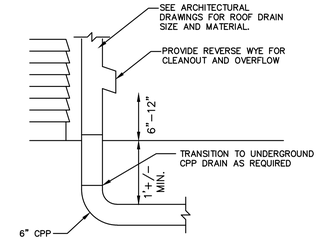


NOTES:

1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. REINFORCED STEEL CONFORMS TO LATEST ASTM A185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
3. H-20 DESIGN LOADING PER AASHTO HS-20-44; ASTM C478 SPEC FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."

PRECAST CONCRETE CATCH BASIN MANHOLE #2 WITH OIL TRAP OUTLET

NOT TO SCALE



ROOF LEADER DETAIL

NOT TO SCALE

DIG SAFE

EXCAVATORS
BEFORE YOU DIG CONTACT THE DIG SAFE CENTER TO PREVENT DAMAGE TO TELEPHONE, GAS OR ELECTRIC UNDERGROUND FACILITIES OF MEMBER UTILITIES, CALL TOLL FREE 1-888-322-4844. MASSACHUSETTS STATE LAW REQUIRES NOTIFICATION AT LEAST THREE BUSINESS DAYS BEFORE YOU START DIGGING OPERATIONS. IN AN EMERGENCY, CALL IMMEDIATELY

DIG SAFE

DETAIL-2
NEWTON, MASSACHUSETTS

SHOWING PROPOSED CONDITIONS AT
#156 OTIS STREET

SCALE: AS-SHOWN DATE: FEBRUARY 23, 2018
REVISED: MARCH 21, 2018

PROJECT: 217176

COMMONWEALTH OF MASSACHUSETTS
JOSEPH R. PORTER
NO. 39001
REGISTERED LAND SURVEYOR

VTP ASSOCIATES INC.
LAND SURVEYORS - CIVIL ENGINEERS. 132 ADAMS STREET 2ND FLOOR SUITE 3
NEWTON, MA 02458
(617) 332-8271