



SPRUHAN ENGINEERING, P.C.

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

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





432 DEDHAM STREET NEWTON, MASSACHUSETTS

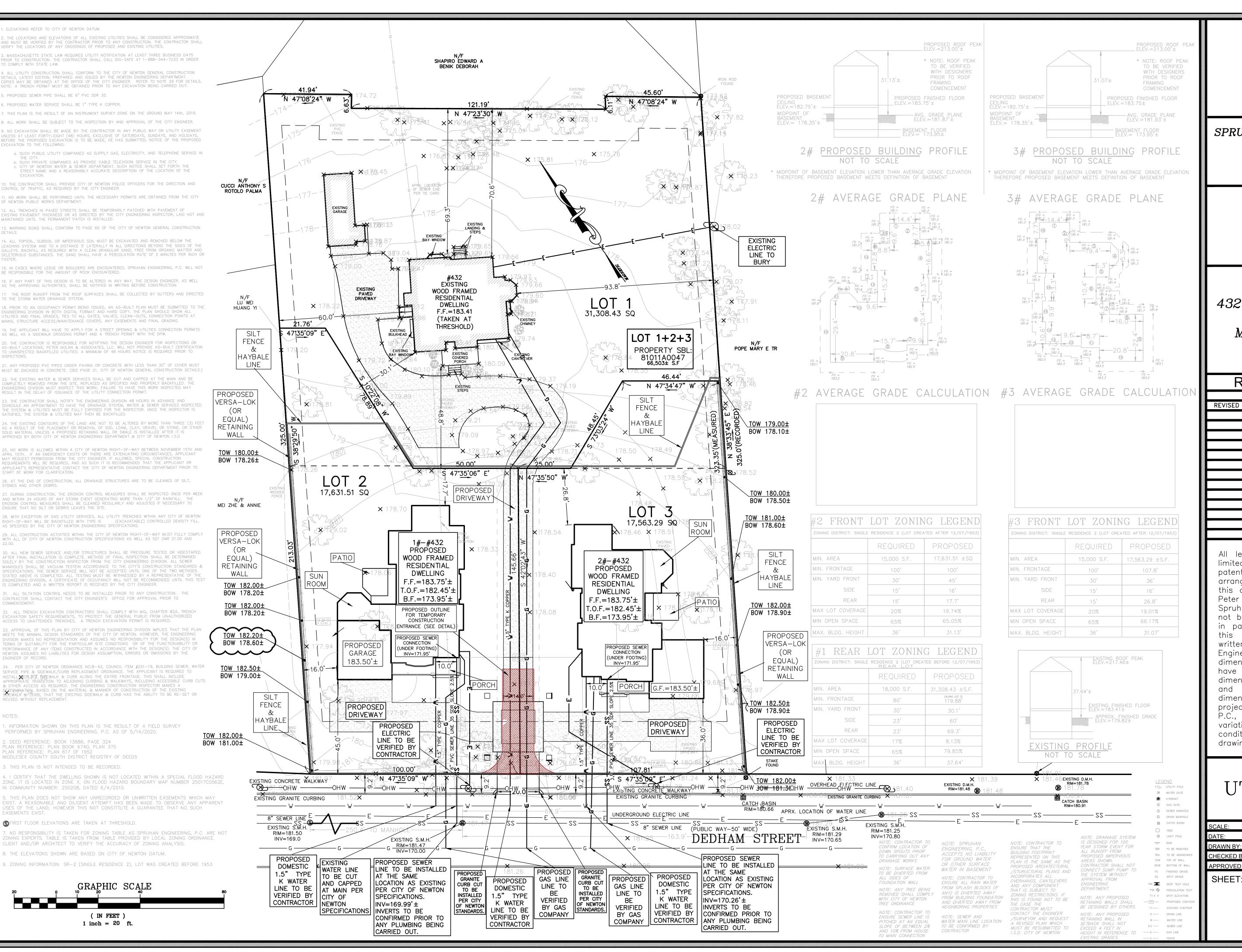
REVISION BLOCK

| TAL VIOLOTA DEC | |
|-------------------------------|---------|
| DESCRIPTION | DATE |
| REVISED RETAINING WALL HEIGHT | 8/3/202 |
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ZONING&GRADING PLAN

| | | /// |
|--------------|----------|-----|
| SCALE: | 1" = 20' | |
| DATE: | 6-10-20 | |
| DRAWN BY: | PS | |
| CHECKED BY: | ES | |
| APPROVED BY: | ES | |
| | | |





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UTILITY PLAN

 SCALE:
 1" = 20'

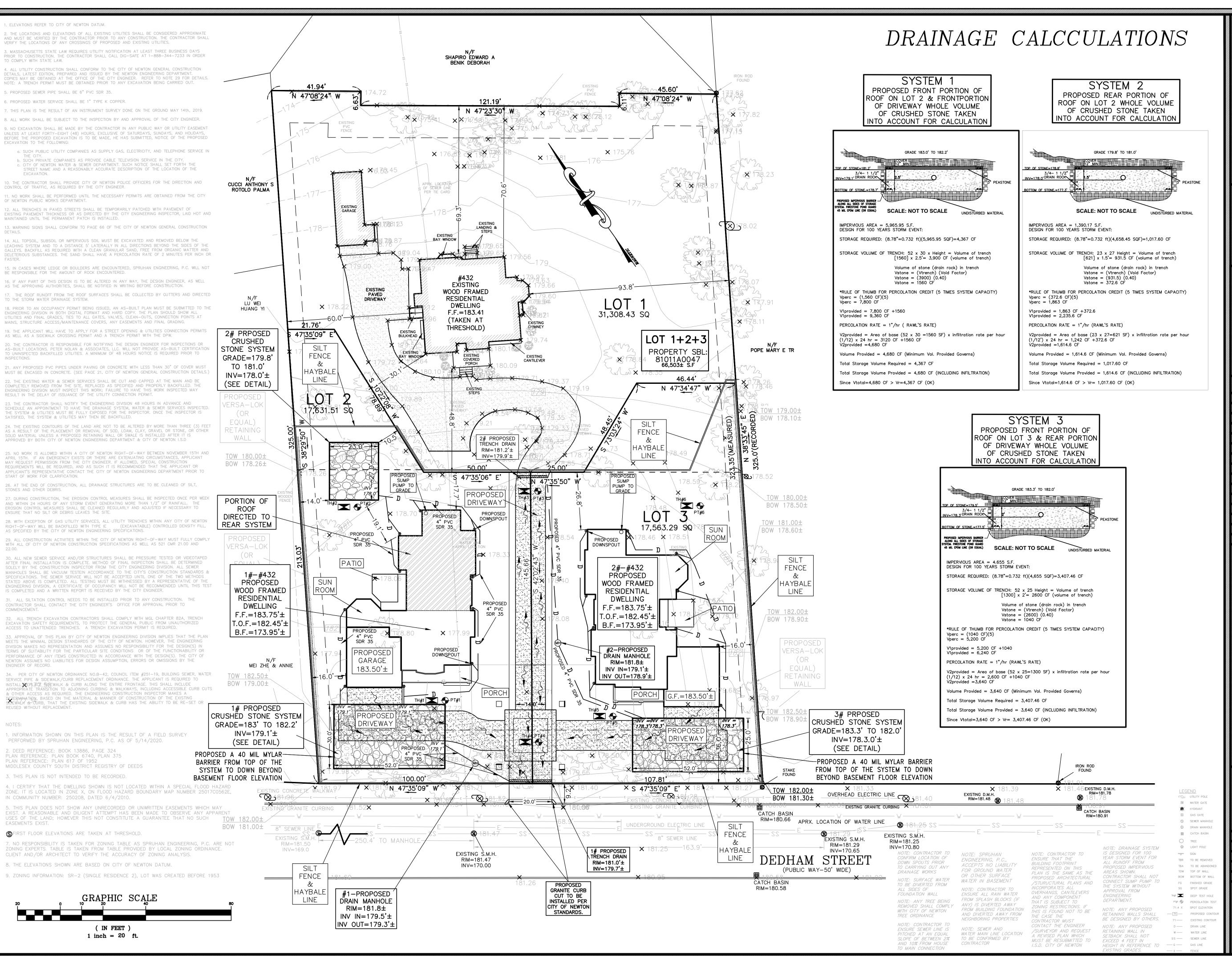
 DATE:
 6-10-20

 DRAWN BY:
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 ES

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DRAINAGE SYSTEM PLAN

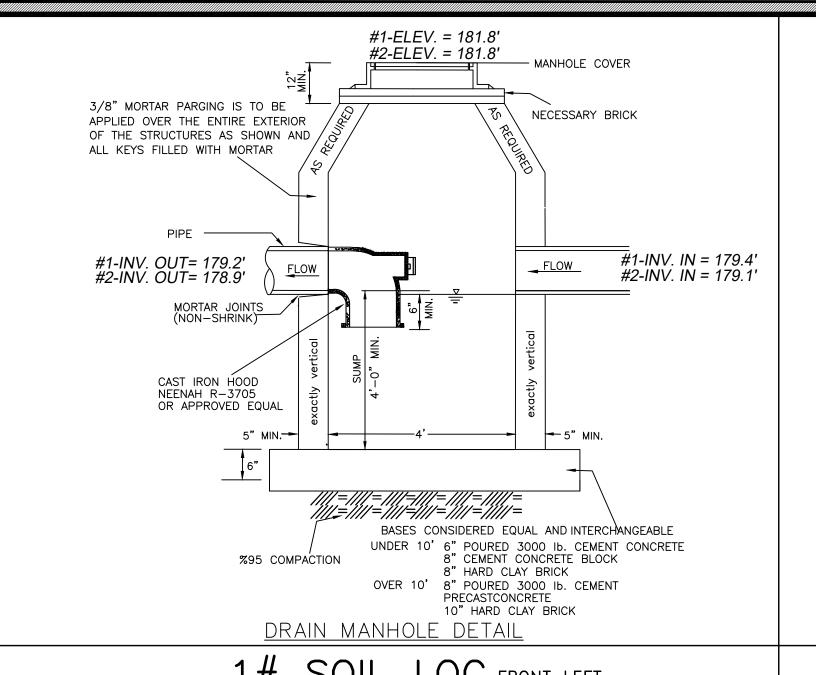
 SCALE:
 1" = 20'

 DATE:
 6-10-20

 DRAWN BY:
 PS

 CHECKED BY:
 ES

 APPROVED BY:
 ES



____ SCREEN ── DOWNSPOU¹ OVERFLOW OUTLET COVER (MIN) 4" PVC (MIN) LEACHING STRUCTURE 10' MINIMUM (SEE DETAIL) TYPICAL DOWNSPOUT DETAIL

DEEP OBSERVATION HOLE LOG

|178.0"-177.0" | 0" - 12" |AD

|177.0"-175.5" | 12" - 26" |B_w

175.5"-168.0" | 26" - 120" | C₁

DEEP OBSERVATION HOLE LOG

178.8"-177.8" | 0" - 12"

|177.8"-175.3" | 12" - 30" |B_W

|175.3"−168.8" |30" − 120"|c₁

AT 432 DEDHAM STREET, NEWTON BY

GENERAL SITE CONDITIONS: GRASS AND TREES. PERCOLATION TEST HOLE PT - 4

GRADE

GRADE

UNDISTURBED SOIL

END VIEW

AT 432 DEDHAM STREET, NEWTON BY

GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED

PERCOLATION TEST HOLE PT - 2
PERCOLATION RATE: 1"/Hr USING RAWL'S RATE

HOLE NUMBER: TP - 2 DATED: 5/20/19

GENERAL SITE CONDITIONS: GRASS AND TREES.

PETER NOLAN & ASSOCIATES, LLC. AND SPRUHAN ENGINEERING, P.C.

4# SOIL LOG

PETER NOLAN & ASSOCIATES, LLC. AND SPRUHAN ENGINEERING, P.C. HOLE NUMBER: TP - 4 DATED: 5/20/19

|HORIZON|TEXTURE

GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED

PERCOLATION RATE : 1"/Hr USING RAWL'S RATE

|HORIZON|TEXTURE|

COLOR | MOTTLING | OTHER

NO

@26"

COLOR | MOTTLING | OTHER

NO

@24"

NONE

NONE

NONE

6" 45° ELBOW (TYP)

[\]8"x 6" PVC 45" WYE (TYP) ANGLE AS REQUIRED

ELEVATION VIEW

NO STANDING WATER

10 YR 5/4

10 YR 5/6

7.5 YR 7/1

10 YR 5/4

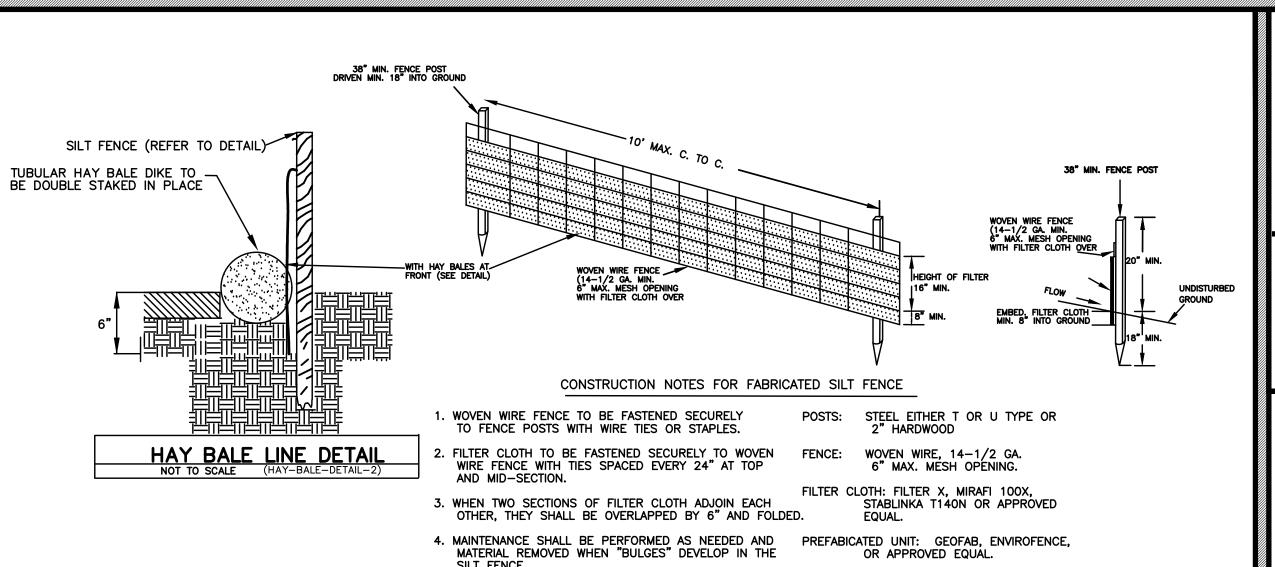
10 YR 5/6|

|7.5 YR 7/1|

NONE

YES | NONE

NO STANDING WATER



SILT FENCE DETAIL

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P.C., must be notified of any

variation from the dimensions and

conditions shown by these

and be responsible for

Engineering,

drawings.

DEEP OBSERVATION HOLE LOG GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED AT 432 DEDHAM STREET, NEWTON BY PETER NOLAN & ASSOCIATES, LLC. AND SPRUHAN ENGINEERING, P.C. HOLE NUMBER: TP - 1 DATED: 5/20/19GENERAL SITE CONDITIONS: GRASS AND TREES.

<u>PERCOLATION TEST HOLE PT - 1</u> PERCOLATION RATE : 1"/Hr USING RAWL'S RATE COLOR MOTTLING OTHER |HORIZON|TEXTURE|

| 177.7"-176.7" | 0" - 12" | A _P | S _{LM} | 10 YR 5/4 | NO | NONE |
|---------------|------------|----------------|-----------------|------------|------|------|
| 176.7"-175.7" | 12" - 24" | B _W | S _{LM} | 10 YR 5/6 | @24" | NONE |
| 175.7"-167.7" | 24" - 120" | C ₁ | S _{LM} | 7.5 YR 7/1 | YES | NONE |

STANDING WATER @BOTTOM OF HOLE

5# SOIL LOG FRONT RIGHT

DEEP OBSERVATION HOLE LOG GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED AT 432 DEDHAM STREET, NEWTON BY PETER NOLAN & ASSOCIATES, LLC. AND SPRUHAN ENGINEERING, P.C. HOLE NUMBER: TP - 5 DATED: 5/20/19

GENERAL SITE CONDITIONS: GRASS AND TREES.

PERCOLATION TEST HOLE PT - 5

PERCOLATION RATE: 1"/Hr USING RAWL'S RATE

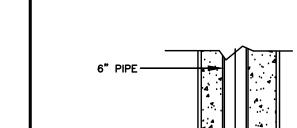
GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED

DEEP OBSERVATION HOLE LOG

AT 432 DEDHAM STREET, NEWTON BY

| 1 21(002)(| 121002711011 17112 1 7111 00110 171112 0 17112 | | | | | |
|---------------|--|----------------|-----------------|------------|----------|-----------|
| GRADE | DEPTH | HORIZON | TEXTURE | COLOR | MOTTLING | OTHER |
| 178.5"-177.5" | 0" - 12" | A _P | S _{LM} | 10 YR 5/4 | NO | NONE |
| 177.5"-175.0" | 12" - 30" | B _W | SLM | 10 YR 5/6 | NO | NONE |
| 175.0"-168.5" | 30" - 120" | C ₁ | S _{LM} | 7.5 YR 7/1 | @32" | NONE |
| <u> </u> | • | | | | NO CIVID | INC WATED |

NO STANDING WATER



Granite curb —

(6" REVEL)

GRAVEL BASE

Compacted Subgrade

ROADWAY

Finish Grade

GRAVEL BASI

✓ Cement Concrete

GRANITE CURB DETAIL

N.T.S.

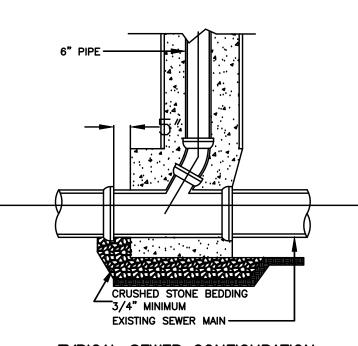
PETER NOLAN & ASSOCIATES, LLC. AND SPRUHAN ENGINEERING, P.C. HOLE NUMBER: TP - 6 DATED: 5/20/19 GENERAL SITE CONDITIONS: GRASS AND TREES. PERCOLATION TEST HOLE PT - 6

PERCOLATION PATE : 1" / Hr HSING PAWL'S PATE

| PERCOLATION RATE: 1 /Hr USING RAWLS RATE | | | | | | |
|--|------------|----------------|-----------------|------------|----------|----------|
| GRADE | DEPTH | HORIZON | TEXTURE | COLOR | MOTTLING | OTHER |
| 78.6"-177.6" | 0" - 12" | A _P | S _{LM} | 10 YR 5/4 | NO | NONE |
| 77.6"-175.3" | 12" - 28" | B _W | S _{LM} | 10 YR 5/6 | @24" | NONE |
| 75.3"-168.6" | 28" - 120" | C ₁ | SLM | 7.5 YR 7/1 | YES | NONE |
| | | | | | TICUT | MATEDIAL |

6# SOIL LOG BACK RIGHT

IIGHI MATERIAL NO STANDING WATER



TYPICAL SEWER CONFIGURATION

3# SOIL LOG BACK MIDDLE

DEEP OBSERVATION HOLE LOG GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED AT 432 DEDHAM STREET, NEWTON BY

8"X3' BAR GRATING -

_____3′−1½″___-

`UUTLET -

PLAN VIEW

SIDE SECTION VIEW

TRENCH DRAIN DETAIL N.T.S.

1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.

3. AVAILABLE IN END, MIDDLE, OR CLOSED SECTIONS.

4. DESIGNED FOR AASHTO HS-20 LOADING.

2. AVAILABLE IN 3' AND 6' SECTIONS.

PETER NOLAN & ASSOCIATES, LLC. AND SPRUHAN ENGINEERING, P.C. HOLE NUMBER: TP - 3 DATED: 5/20/19GENERAL SITE CONDITIONS: GRASS AND TREES. PERCOLATION TEST HOLE PT - 3
PERCOLATION DATE : 1"/Hr HSING DAWL'S DATE

| PERCULATION RATE : I /Hr USING RAWL 5 RATE | | | | | | |
|--|------------|----------------|-----------------|------------|----------|-------|
| GRADE | DEPTH | HORIZON | TEXTURE | COLOR | MOTTLING | OTHER |
| 78.9"-176.7" | 0" - 12" | A _P | S _{LM} | 10 YR 5/4 | NO | NONE |
| 76.7"-175.7" | 12" - 24" | Bw | SLM | 10 YR 5/6 | NO | NONE |
| 75.7"-167.7" | 24" - 120" | C ₁ | SIM | 7.5 YR 7/1 | @30" | NONE |

NO STANDING WATER

 $RIM-1=181.0'\pm$

/NV-1=179.7±

END SECTION VIEW

TD3 3' SECTION 1,315#
TD3 3' SECTION 711#

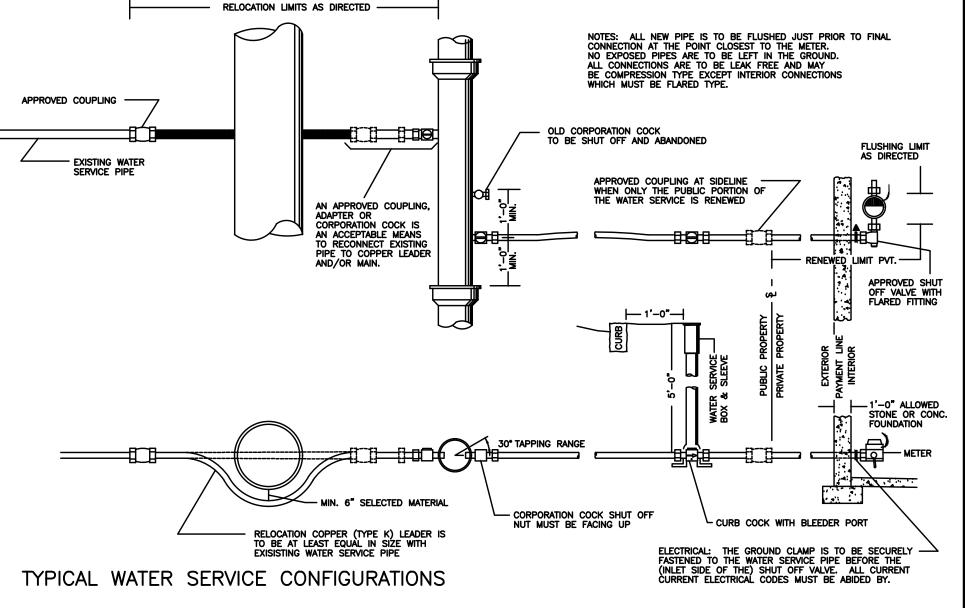
HANDICAP GRATE (OPTIONAL)

TRENCH DRAIN 8" x 16"

RIM-2=181.2'±

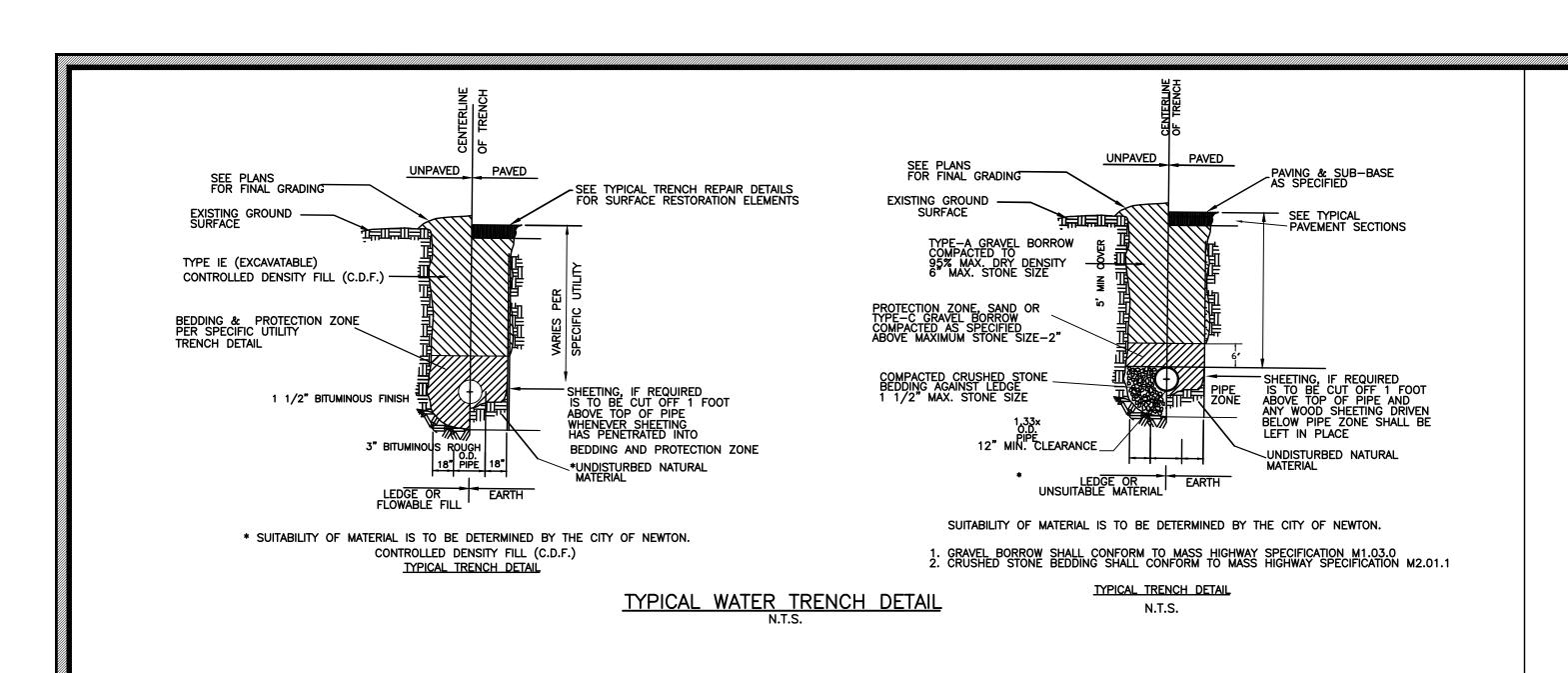
EXTRA CARE TEMPORARY PATCH. EDGES ARE TO BE BROOMED CLEAN OF ALL RESIDUAL SOIL BEFORE LATERAL CONNECTION: THE INSTALLATION OF 2' GROUND SURFACE DEPTH BIT. PATCH. A MANHOLE IS TO BE CONSTRUCTED WHEN DIRECTED TO DO SO BY THE ENGINEER THE MANHOLE SHALL CONFORM TO THE SAVE STANDARDS AS THE SEWER MAIN MANHOLES (REFER TO MANHOLE DETAIL) DEPTH OF COVER VARIES 3' MINIMUM COVER REQUIRED THE INVERT OF THE 6" SEWER HOUSE CONNECTION IS TO BE SET NO LOWER THAN THE TOP OF THE 8" SEWER MAIN. ALL SEWER HOUSE CONNECTIONS ARE EVERY SEWER HOUSE CONNECTION STUB IS TO BE INSTALLED WITH A BELL END AT THE SIDELINE AND IS TO TERMINATE WITH 2" x 2" OAK MARKER A 2' SECTION FURNISHED WITH AN AIRTIGHT PIPE SUBJECT TO ADDITIONAL HEIGHT ADJUSTMENTS AS DIRECTED BY THE TYPICAL TRENCH DETAIL APPLIES INV-2=179.9'± PIPE IS TO BE INSTALLED WITH LASER GUIDANCE -3/4" CRUSHED STONE BEDDING 6" ALL AROUND TYPICAL TRENCH DETAIL APPLIES SELECTED BACKFILL © 2" MAX. SIZE AGGREGATE AS DIRECTED SEWER PIPE BY THE ENGINEER UNDISTURBED SOIL

TYPICAL PVC SEWER HOUSE CONNECTION



DETAILS

| SCALE: | 1" = 20' |
|--------------|----------|
| DATE: | 6-10-20 |
| DRAWN BY: | PS |
| CHECKED BY: | ES |
| APPROVED BY: | ES |
| SHEET: | |



CONSTRUCTION SPECIFICATIONS:

BE REMOVED IMMEDIATELY.

THE CONSTRUCTION SITE.

METHODS.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

SEDIMENT BASIN. SEE SEDIMENT BASIN BMP.

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

CLEANED PRIOR TO ENTRANCE ONTO PUBLIC

DONE ON AN AREA STABILIZED WITH

CRUSHED STONE THAT DRAINS INTO AN

APPROVED SEDIMENT TRAP OR SEDIMENT

RUMBLE STRIPS MAY BE USED

AS AN ALTERNATIVE SUBJECT

CITY PRIOR TO INSTALLATION

TO THE APPROVAL OF THE

WIDTH AS

TRAFFIC

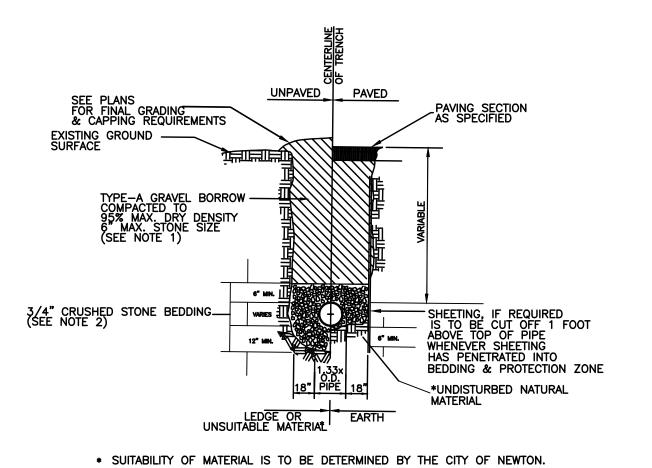
REQUIRED TO

ACCOMMODATE

ANY MEASURES USED TO TRAP SEDIMENT.

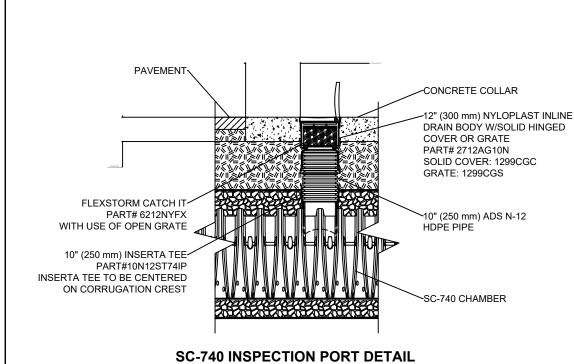
2. WHEN NECESSARY, WHEELS SHALL BE

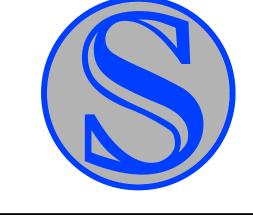
3. WHEN WASHING IS REQUIRED, IT SHALL BE



- 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 N.T.S.





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DESCRIPTION DATE REVISED RETAINING WALL HEIGHT 8/3/2020

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DETAILS

6-10-20 DRAWN BY CHECKED BY: PPROVED BY:

SHEET:

HIGH SIDE

4'-0"

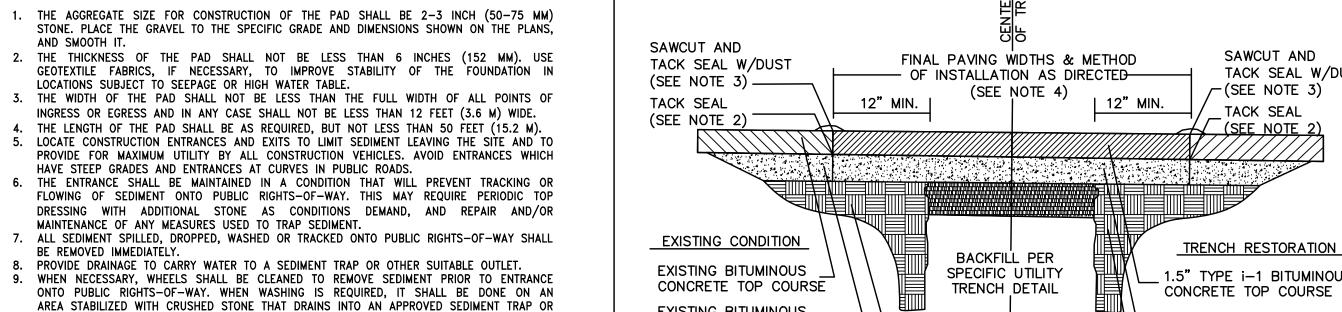
4'-0"

GUTTER GRADE

UP TO 5

LENGHT OF TRANSITION CURB INCLUDING THE 2' RADIUS COR. BLK. (3)(4)

6 OF 6



INSPECTION AND MAINTENANCE: 11. MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING

12. REPLACE GRAVEL MATERIAL WHEN SURFACE VOIDS ARE NOT VISIBLE. 13. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT

10. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR

WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, STRAW BALES, OR OTHER APPROVED

14. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO

PUBLIC ROADWAYS. REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS WITHIN 24

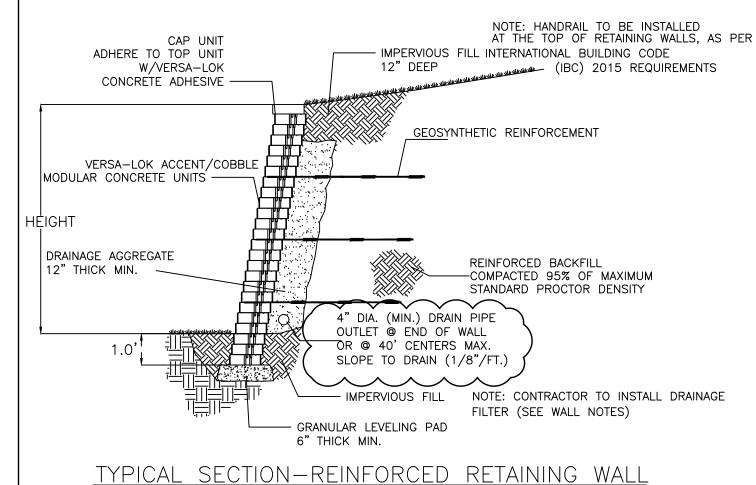
TACK SEAL W/DUST 1.5" TYPE i-1 BITUMINOUS EXISTING BITUMINOUS CONCRETE BINDER COURSE - BITUMINOUS CONCRETE BINDER COURSE, 3" MIN. EXISTING ROADWAY SUB-BASE -OR MATCH BOTTOM OF IS NOT TO BE DISTURBED EXISTING BITUMINOUS EXCAVATION CONCRETE, WHICHEVER IS - 6" MIN. OF PROCESSED GRAVEL PER MHD M2.01.7

TYPICAL TRENCH REPAIR & PAVEMENT SECTION DETAIL

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

4. ANY TOP COURSE APPLIED AT A WIDTH OF 6' WIDE OR GREATER IS TO BE 5. PLACED BY MACHINE/BAX SPREADER WHEN & AS DIRECTED BY THE CITY OF NEWTON.

NEW BITUMINOUS CONCRETE INSTALLATIONS. 3. ALL EXPOSED JOINTS ARE TO BE SEALED WITH TACK AND STONE DUST.



SCALE: NONE

CORNER BLOCK

REVEAL

3 5/8"

4'-6"

TO APRON

1'-6"

2# SEWER PROFILE

CRUSHED AGGREGATE GREATER THAN 3"

- FILTER FABRIC

ORIGINAL GRADE

CONSTRUCT SEDIMENT BARRIER

AND CHANNEL RUNOFF TO

SEDIMENT TRAPPING DEVICE

TEMPORARY PIPE CULVERT —B

AS NEEDED

OR FOUR TIMES THE CIRCUMFERENCE

OF THE LARGEST CONSTRUCTION VEHICLE TIRE,

WHICHEVER IS GREATER

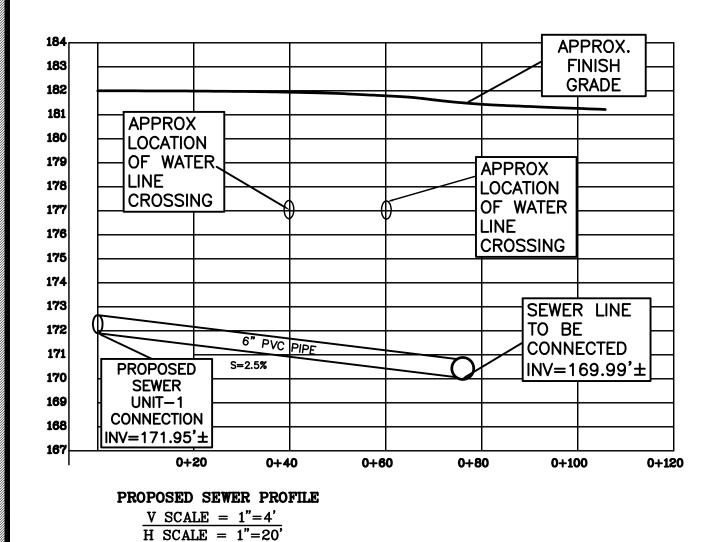
BUT SMALLER THAN 6"

extstyle -12" MIN, UNLESS OTHERWISE

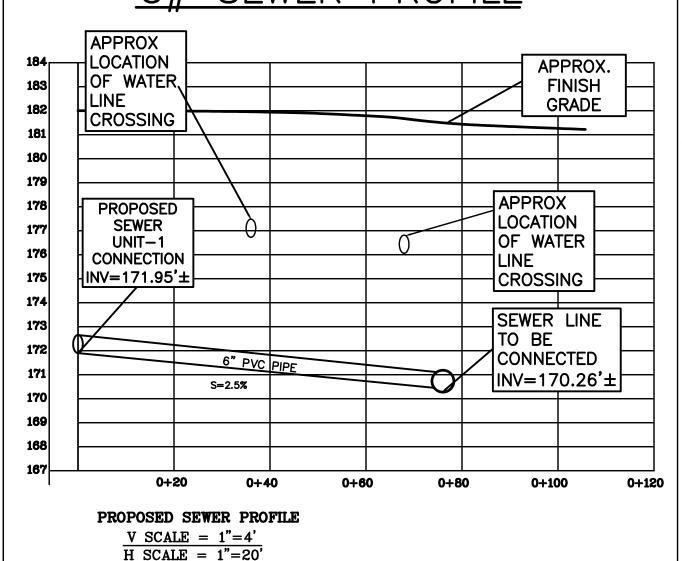
SECTION B-B

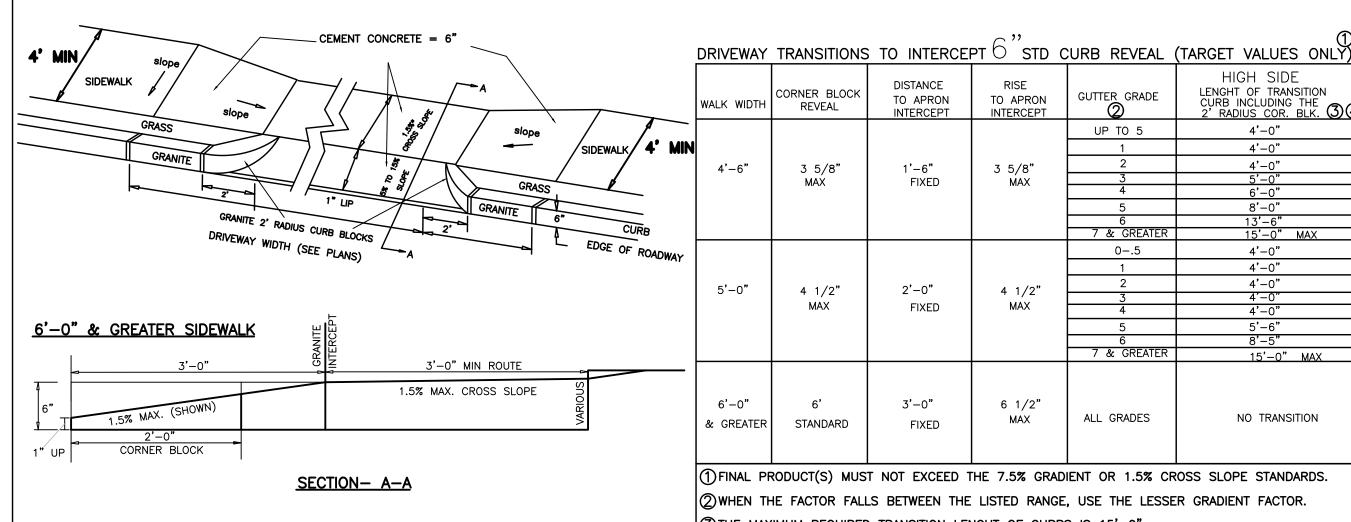
GRADE

SPECIFIED BY A SOIL ENGINEER



3# SEWER PROFILE





DRIVEWAY APRON WITH CORNER BLOCKS

8'-0" 0-.5 4'-0" 4'-0" 4'-0" 5'-0" 4 1/2" 2'-0" 4 1/2" FIXED 4'-0" 5'-6" 8'-5" 7 & GREATER 15'-0" MAX 3'-0" 6 1/2" ALL GRADES NO TRANSITION & GREATER STANDARD FIXED

TO APRON

3 5/8"

1) FINAL PRODUCT(S) MUST NOT EXCEED THE 7.5% GRADIENT OR 1.5% CROSS SLOPE STANDARDS. ②WHEN THE FACTOR FALLS BETWEEN THE LISTED RANGE, USE THE LESSER GRADIENT FACTOR. (3) THE MAXIMUM REQUIRED TRANSITION LENGHT OF CURBS IS 15'-0" (4) SIDEWALKS WITH LOAM BORDRS DO NOT REQUIRE TRANSITION CURBS.