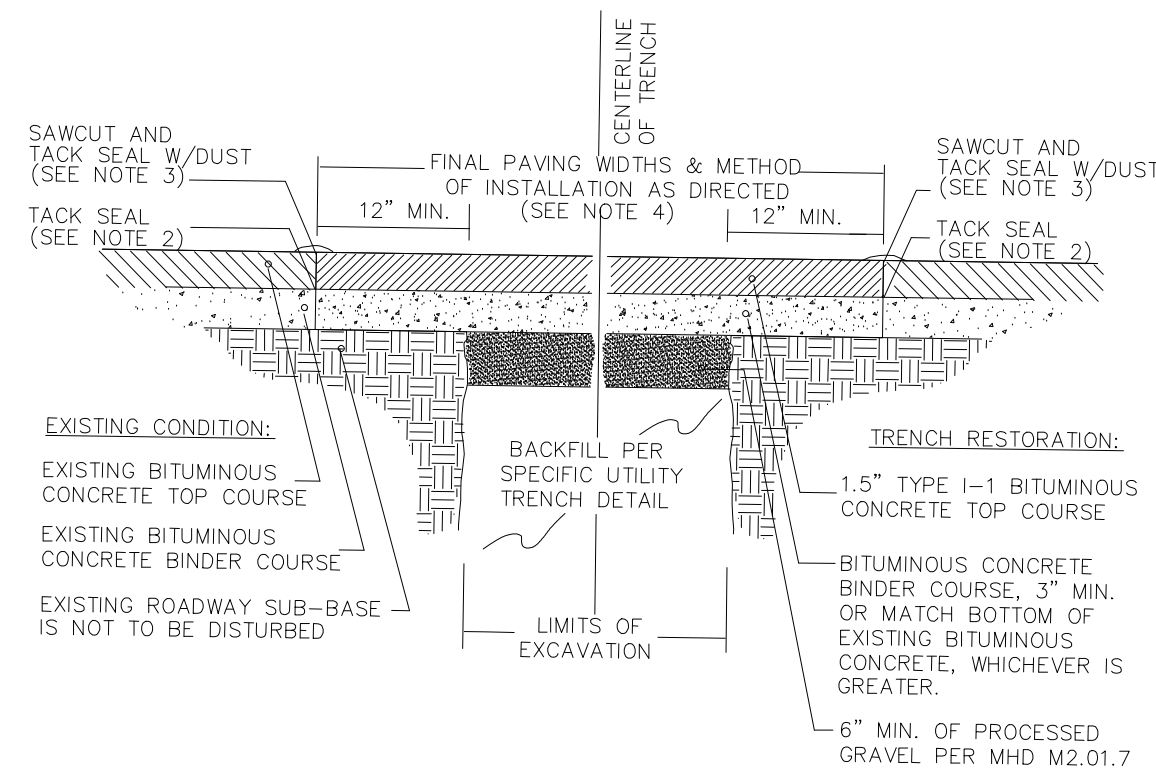
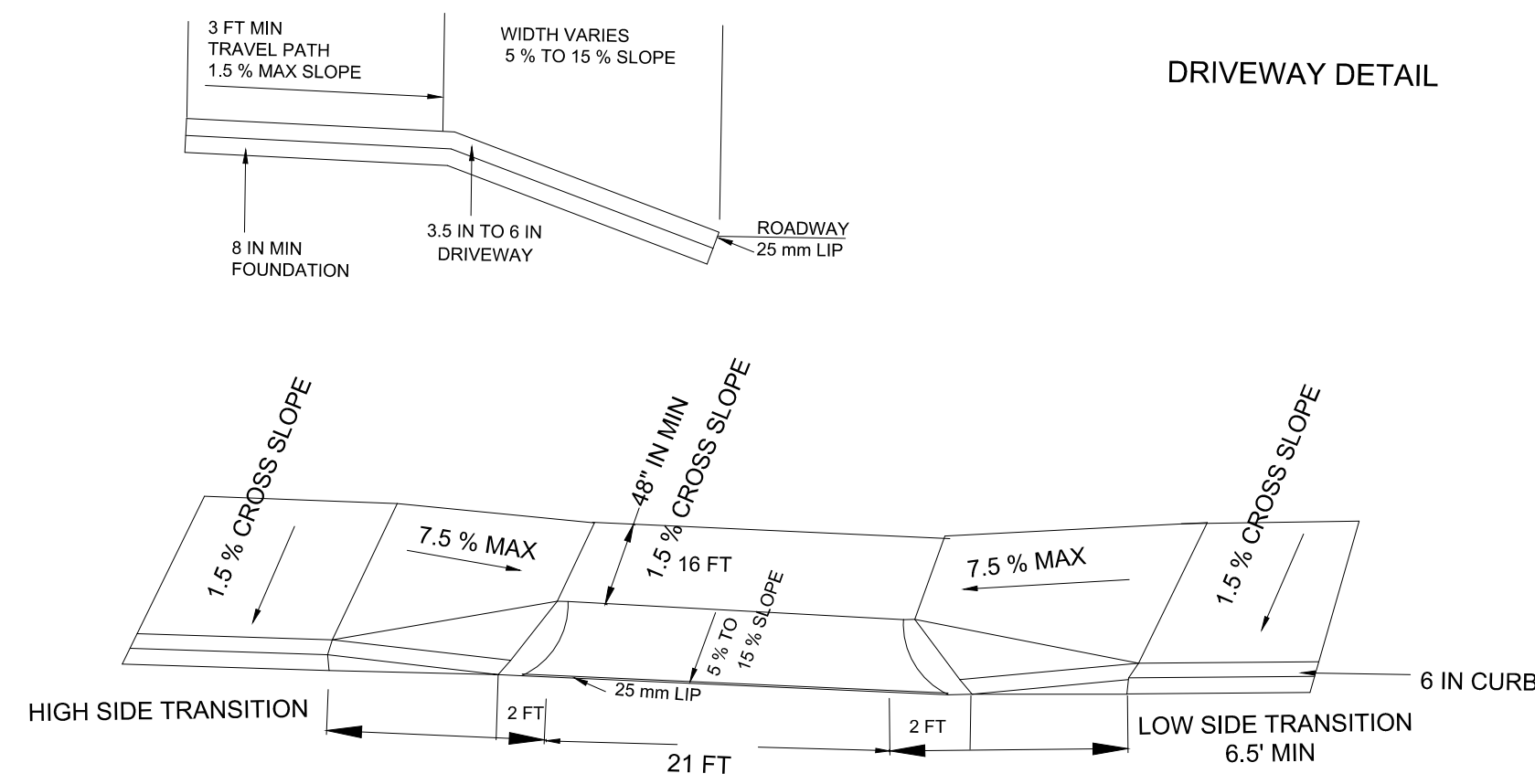


PAVEMENT SECTION DETAIL



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 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.



EXISTING BIT DRIVE WILL NOT BE ALTERED AND WILL MATCH EXISTING WALK
WALKS WILL BE CONSTRUCTED PER CITY SPECIFICATIONS AND MEET ADA SPECS

5 YEAR MORATORIUM: IF AT TIME OF CONSTRUCTION THE ROADWAY IS UNDER A 5 YEAR MORATORIUM, THE ROADWAY MUST BE MILLED AND PAVED GUTTER TO GUTTER FOR A DISTANCE OF 25 FT IN EACH DIRECTION FROM FROM THE OUTERMOST TRENCHES.

NO EXCAVATION IS ALLOWED WITHIN THE CITY'S ROW BETWEEN NOVEMBER 15 TH AND APRIL 15 TH. 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 WORK FOR CLARIFICATION.

PER CITY ORD B-42 COUNCIL ITEM 251-19. APPLICANT IS REQUIRED TO INSTALL/REPLACE SIDEWALK AND CURB ALONG THE ENTIRE FRONTAGE. THIS SHALL INCLUDE APPROPRIATE TRANSITION TO ADJOINING CURBING AND WALKWAYS, INCLUDING ACCESSIBLE CURB CUTS AND OTHER ACCESS AS REQUIRED. ENGINEERING CONSTRUCTION INSPECTOR MAKES A DETERMINATION, BASED ON THE MATERIAL AND MANNER OF CONSTRUCTION OF THE EXISTING SIDEWALK AND CURB, THAT THE EXISTING SIDEWALK AND CURB HAS THE ABILITY TO BE RESET OR REUSED WITHOUT REPLACEMENT.

ENGINEER OF RECORD IS RESPONSIBLE FOR THE ON SITE INSPECTIONS 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 DRAINAGE SYSTEM BEING INSTALLED.

PRIOR TO ENGINEERING DIVISION RECOMMENDING THAT A CERTIFICATE OF OCCUPANCY BE ISSUED, AN AS BUILT PLAN MUST BE SUBMITTED. THE AS BUILT PLAN MUST 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 ENGINEER OF RECORD.

I CERTIFY THAT THE CONSTRUCTION SO SHOWN WAS INSPECTED PRIOR TO BACKFILL AND THAT ALL WORK CONFORMS WITH THE APPROVED PLAN.

ENGINEER OF RECORD DATE

DISCUSSION:

THE INCREASE IN IMPERVIOUS SURFACE FOR THE NEW ADDITION IS APPROX. 590 SF. USING A RUNOFF COEFFICIENT OF 0.9 FOR IMPERVIOUS SURFACES THE POSTDEVELOPMENT RUNOFF IS AS FOLLOWS:
590(0.9/12) = 438 CF (100 YR STORM)

THE RUNOFF WILL BE STORED AND INFILTRATED UTILIZING DRYWELLS.

PERCOLATION RATE: 12 MIN. PER INCH (SITE PERCOLATION)

DRYWELL SIZE:

10 FT 6 IN DIAMETER
3 FT DEEP

BOTTOM AREA = $3.14 \cdot D^2 \cdot H / 4 = 3.14 \cdot 10.5^2 \cdot 10.5 / 4 = 86.6 \text{ SF}$

VOLUME OF PIT: $3.14 \cdot D^2 \cdot H^2 / 4 = 3.14 \cdot 10.5^2 \cdot 6.5^2 / 4 = 99.5 \text{ CF}$

VOLUME OF STONE = $3.14 \cdot D^2 \cdot H \cdot 3 / 4 = 3.14 \cdot 10.5^2 \cdot 10.5 \cdot 3 / 4 = 259.8 \text{ CF}$

VOID STORAGE VOLUME = VOID RATIO (STONE VOLUME - PIT VOLUME)

STORAGE PER DRYWELL = $99.5 + 56.1 = 155.6 \text{ CF}$
 $(.35(259.8 - 99.5)) = 56.1$

INFILTRATION CAPACITY = BOTTOM AREA • INFILTRATION RATE

= $86.6 \text{ SF} \cdot .083 \text{ IN/MIN} \cdot 1/12 \cdot 60/\text{HR}$

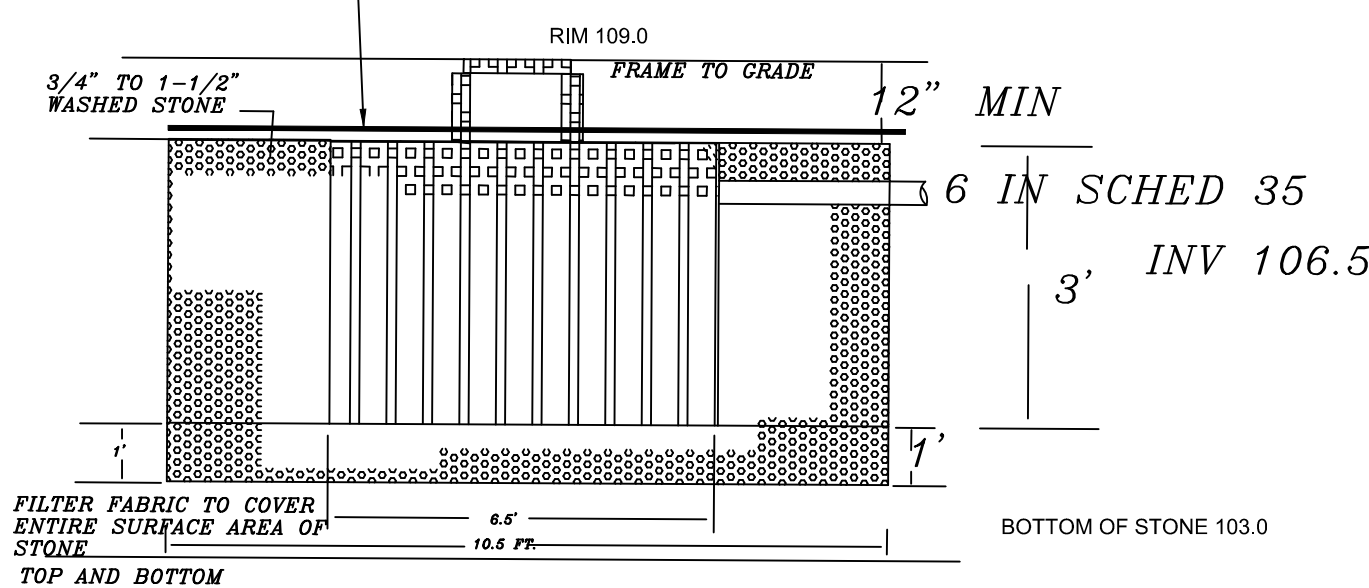
= 35.9 CF/HOUR

= 861 CF/DAY(1016 TOTAL CAPACITY)

ONE DRYWELL REQUIRED

TEST PIT
MAY 19, 2020
0'-6" SANDY LOAM 10YR 5/3
6"-8" FINE SANDY LOAM 10YR 5/5
8"-9" FINE SANDY LOAM 10YR 5/4
PERC 12 MIN/IN @ 30"
NO SHWT OBSERVED/NO LEDGE

TOP OF DRYWELL TO BE COVERED WITH A MINIMUM 3" PEASTONE AND ENCASED WITH FILTER FABRIC



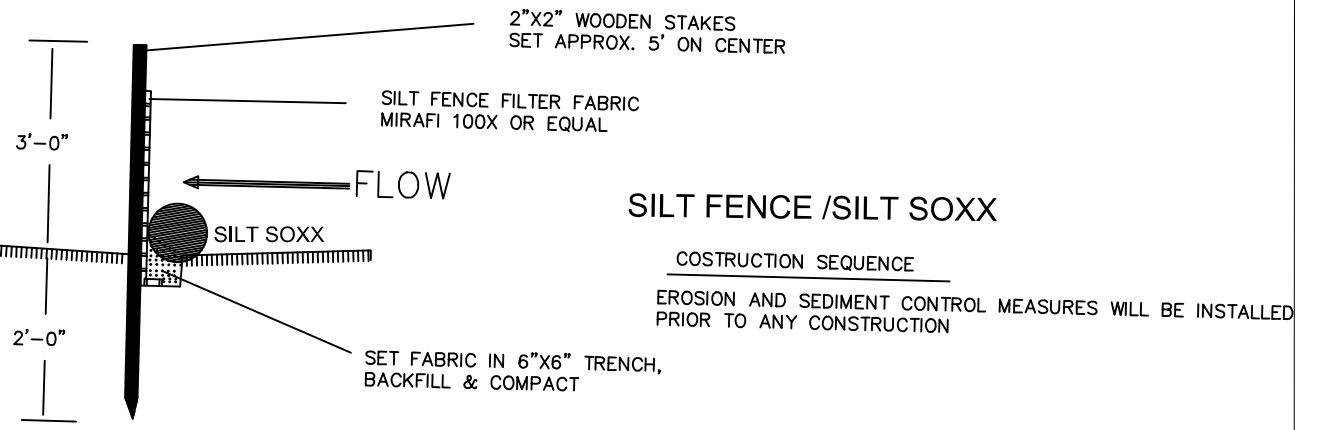
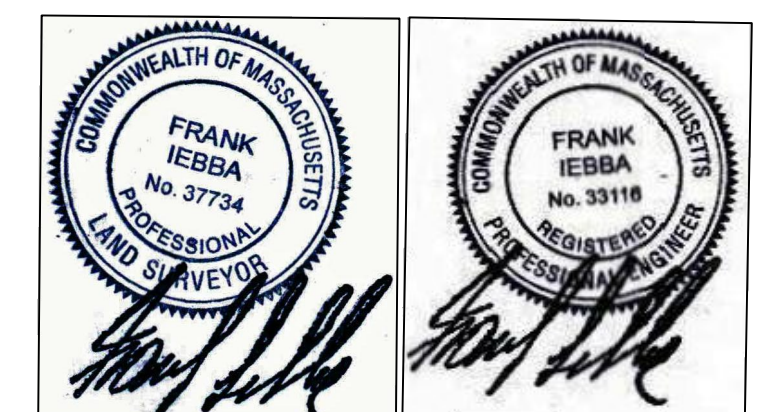
LEGAL REFERENCE BOOK 1507 PAGE 76

PROPOSED ADDITION
290 HARTMAN ROAD
NEWTON, MA.
SCALE: 1 IN = 10 FT

FEB 22, 2021
FEB 27, 2021

ESSEX ENG. & SURVEY
PO BOX 650217 WEST NEWTON
MA, 02465
617-797-7342
FRANK.IEBBA@GMAIL.COM

I CERTIFY THAT THIS PLAN IS THE RESULT OF AN INSTRUMENT SURVEY ON THE GROUND



PROVIDE SILT FENCE AND ORSILT SOXX AS DIRECTED BY ENGINEER

- 1) ALL WORK TO BE IN ACCORDANCE WITH CITY OF NEWTON AND MASS HIGHWAY STANDARDS. DRIVEWAY WILL CONFORM TO MA, AAS & NEWTON STANDARDS. A MINIMUM 4 FT (48 IN) WIDTH AND MAX 1.5% CROSS SLOPE WILL BE MAINTAINED.
- 2) MINIMUM COMPACTION IN TRENCHES TO BE 90%.
- 3) PRIOR TO START CONSTRUCTION ALL APPLICABLE LOCAL AGENCIES AND DIG SAFE WILL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO COMMENCING WORK. UTILITY & DRAINAGE SYSTEM MUST BE FULLY EXPOSED FOR THE INSPECTOR. UTILITIES CAN ONLY BE BACKFILLED ON APPROVAL & SIGNOFF BY INSPECTOR.
- 4) NO BACKFILLING OF ANY TRENCHES WILL TAKE PLACE UNTIL WORK HAS BEEN INSPECTED AND APPROVED BY THE CITY CONTRACTOR WILL NOTIFY CITY 48 HOURS IN ADVANCE OF UTILITY INSPECTION.
- 5) AS BUILT UTILITY & GRADING PLAN WILL BE SUBMITTED TO NEWTON DPW/ENG DIV) IN BOTH DIGITAL AND HARD COPY PRIOR TO ISSUANCE OF OCCUPANCY PERMIT. PLAN MUST SHOW ALL UTILITIES, WITH TIES, EASEMENTS AND FINAL GRADING.
- 6) STREET OPENING, SIDEWALK CROSSING, UTILITY CONNECTION AND TRENCH PERMITS WILL BE OBTAINED FROM THE CITY PRIOR TO COMMENCING ANY WORK.
- 7) TRENCH PAVEMENT PERMANENT PATCH WILL CONFORM NEWTON STANDARDS AND WITH THE TRENCH SECTION SPECIFIED HEREIN.
- 8) LOCATION OF UNDERGROUND UTILITIES IS APPROXIMATE. CONTRACTOR WILL NOTIFY DIG SAFE PRIOR TO COMMENCING WORK. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE RESULTING FROM INCORRECTLY LOCATED UTILITIES.
- 9) WITH THE EXCEPTION OF GAS SERVICES, ALL TRENCH WORK WITHIN THE NEWTON ROW WILL BE BACKFILLED WITH TYPE I (EXCAVATABLE) CONTROLLED DENSITY FILL AS SPECIFIED BY THE CITY ENGINEERING SPECIFICATIONS. ESCAVATABLE FILL WILL EXTEND TO WITHIN 18 IN OF ROADWAY ASPHALT.
- 10) LOCATION OF UNDERGROUND UTILITIES IS APPROXIMATE. CONTRACTOR WILL VERIFY UTILITY LOCATIONS THROUGH DISSE. ANY DAMAGE CAUSED BY CONTRACTOR AS A RESULT OF UTILITY LOCATIONS SHOWN WILL BE BORNE SOLELY BY CONTRACTOR AT NO COST TO OWNER.
- 11) IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT THE DESIGN ENGINEER FOR ALL REQUIRED INSPECTIONS SUCH AS MATERIALS USED, COMPACTION, UTILITY AS BUILTS, ETC.. ENGINEER ASSUMES NO RESPONSIBILITY UNLESS HE INSPECTS THE SYSTEM DURING CONSTRUCTION.

AS OF JAN 1, 2009 ALL TRENCH EXCAVATION CONTRACTORS SHALL COMPLY WITH MGL 82A, TRENCH EXCAVATION AND SAFETY REQUIREMENTS, TO PROTECT THE PUBLIC FROM UNAUTHORIZED ACCESS TO UNATTENDED TRENCHES. AN EXCAVATION PERMIT IS REQUIRED AND APPLIES TO ALL TRENCHES ON PUBLIC OR PRIVATE PROPERTY.

ALL WORK WITHIN THE NEWTON ROW WILL COMPLY WITH THE CITY'S CONSTRUCTION SPECS. AND 621 CMR 21 & 22.

ANY TREE REMOVED FROM THE PROPERTY SHALL MEET THE CITY OF NEWTON TREE ORDINANCE