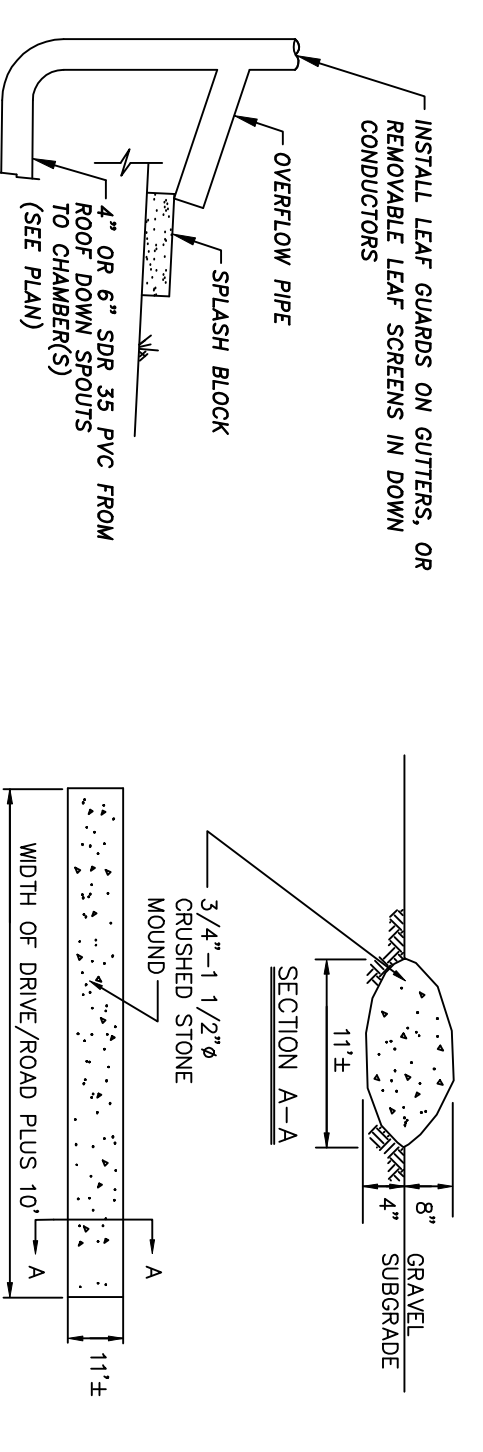
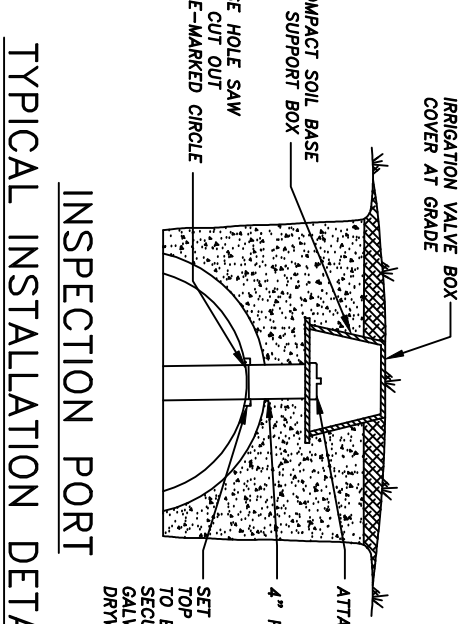


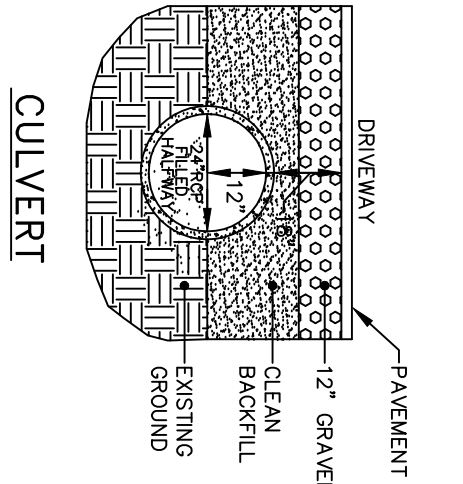
ROOF INFILTRATION SYSTEM (2 CHAMBERS)
N.T.S.



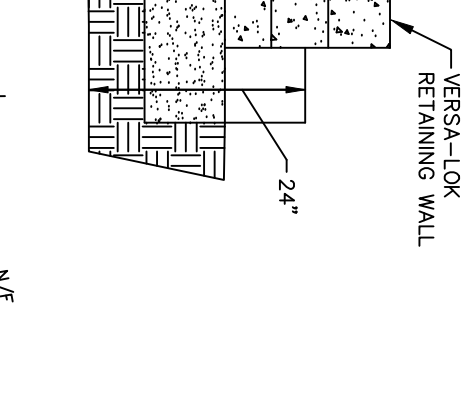
ROOF LEADER DETAIL STABILIZED CONSTRUCTION ENTRANCE
N.T.S.



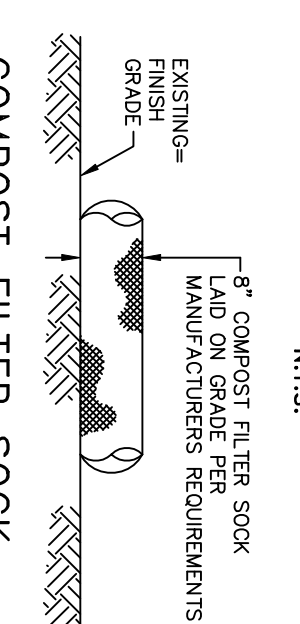
TYPICAL INSTALLATION DETAIL
N.T.S.



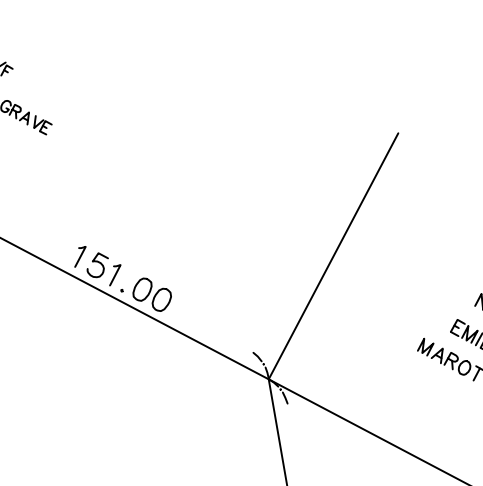
CULVERT PROFILE
N.T.S.



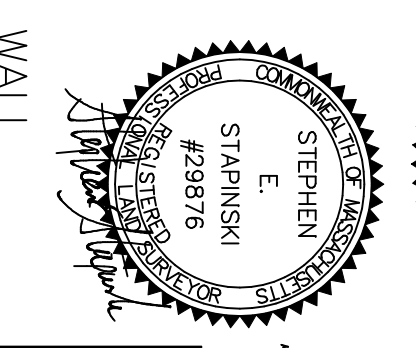
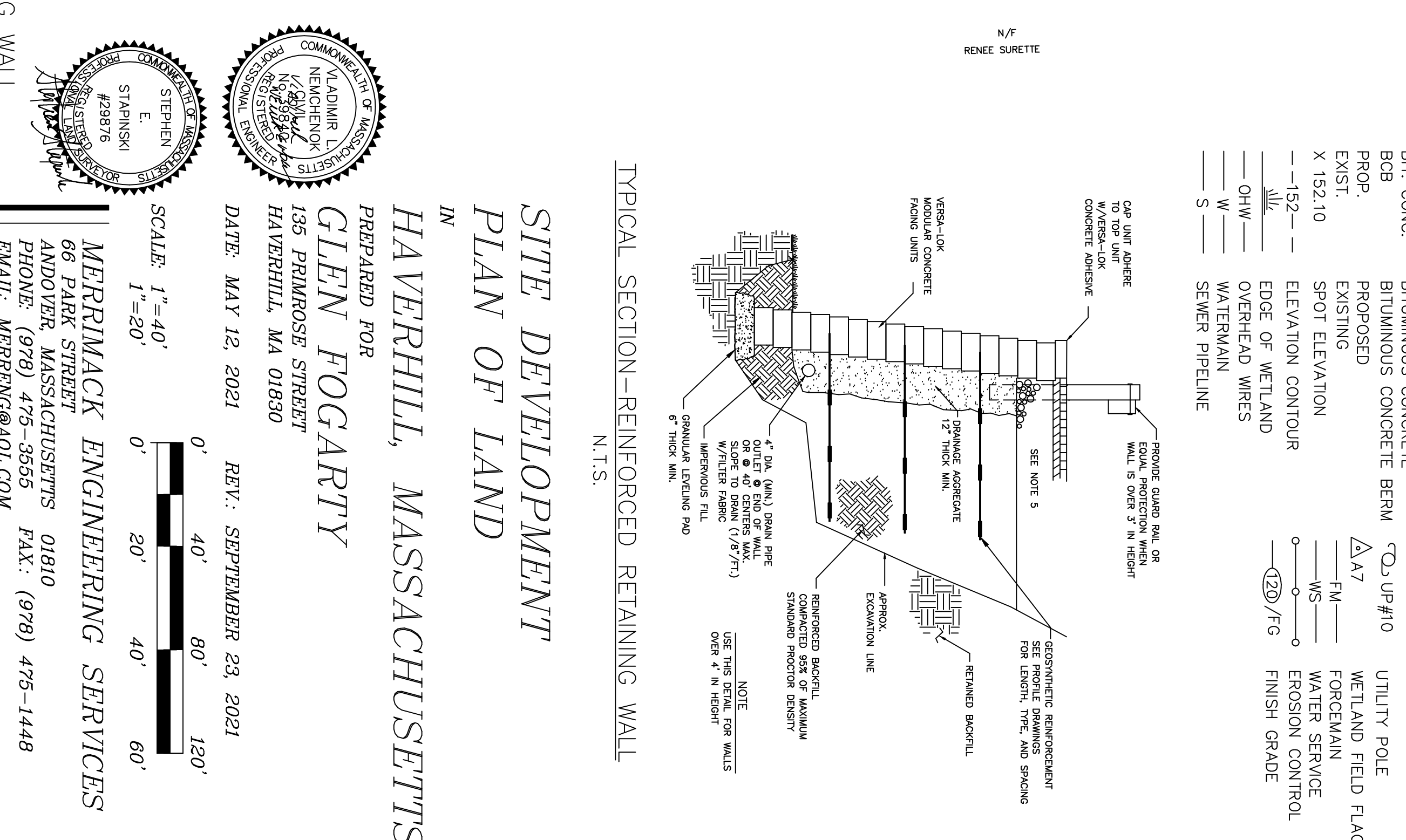
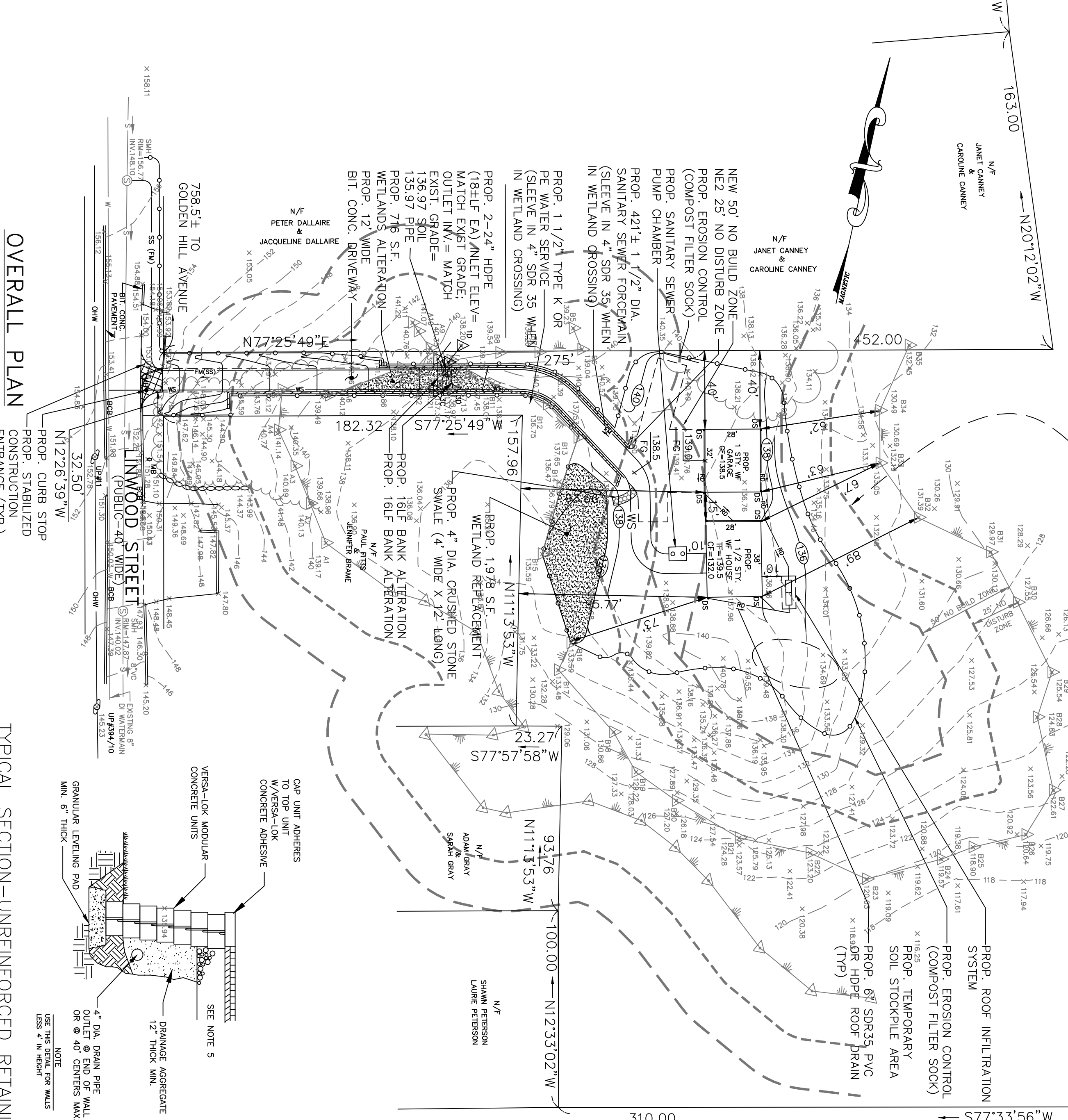
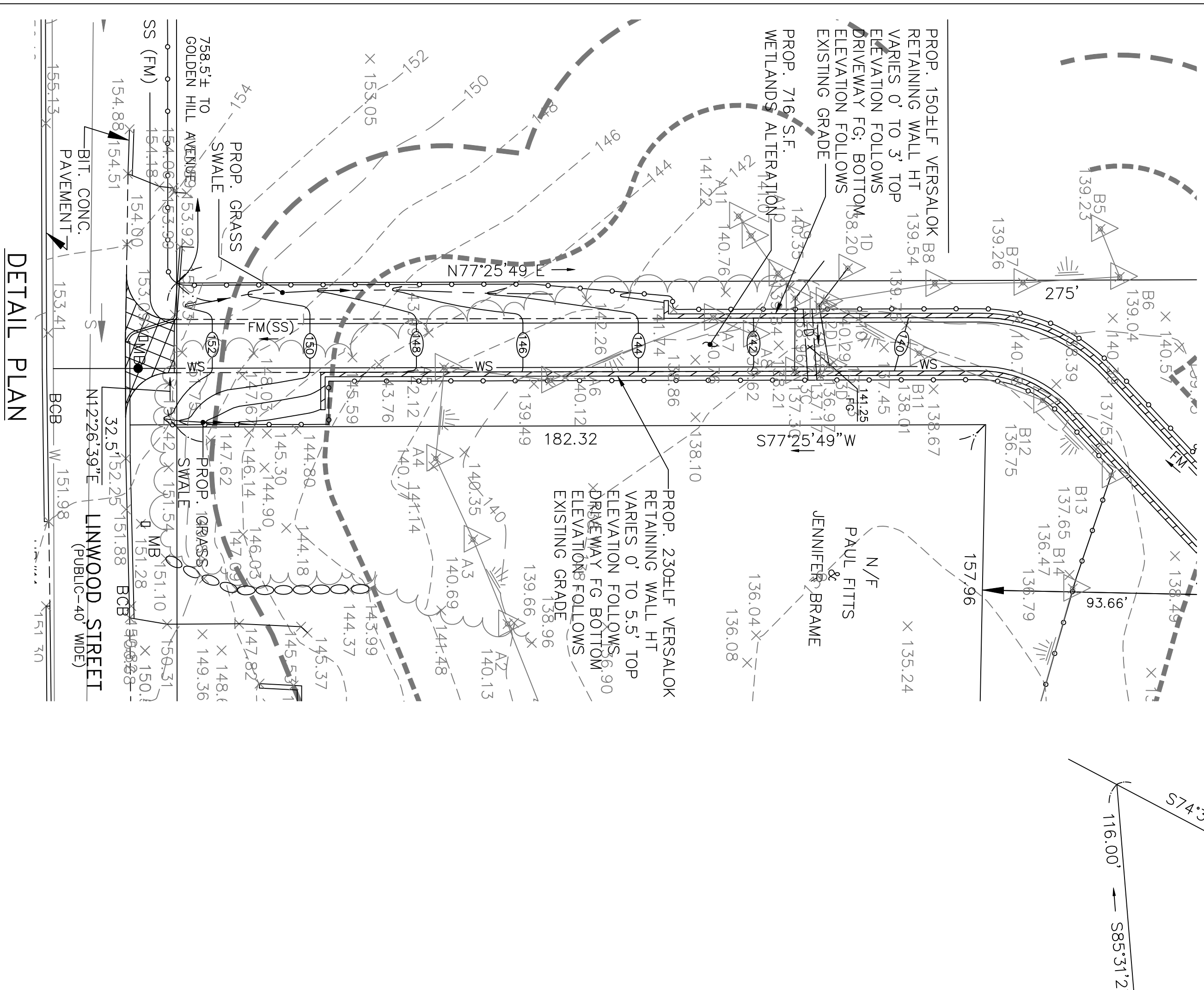
CULVERT
N.T.S.



COMPOST FILTER SOCK
N.T.S.



ROOF INFILTRATION SYSTEM (2 CHAMBERS)
N.T.S.



NOTES:

- SEE CITY OF HAVERHILL ASSESSORS MAP 411 BLOCK #138 LOT 5, BOOK 14064 PAGE 597 AND PLAN BOOK 323 PLAN 70 E.S.D.R.D. FOR SITE.
- TOPOGRAPHIC DATUM BASE IS NAVD 88 ESTABLISHED BY G.P.S. BENCHMARK IS SEWER MANHOLE RIM, ELEVATION 156.77; WETLAND DELINEATED BY HORSE ENVIRONMENTAL SERVICES, TINGSBOROUGH, MA (FALL 2018)
- ZONE DISTRICT: RM
- REQUIRES SETBACKS OF FRONT: 25'; SIDE: 15'; REAR: 30'
- ALL WORK SHALL CONFORM TO CITY OF HAVERHILL WATER DEPARTMENT, DPW AND OTHER STANDARDS. ALL NON-PAVED DISTURBED AREAS TO BE MINIMUM LOAM AND SEED.
- DRIVEWAY TO BE UP TO 12" WIDE 1" TYPE I-1 BITUMINOUS CONCRETE SURFACE COURSE OVER 2" TYPE I-1 BITUMINOUS CONCRETE BINDER COURSE OVER 12" COMPACTED GRAVEL BASE.
- ROOF RUNOFF CALCULATIONS
STORAGE REQUIRED = 1/2" x 1960 S.F. = 81.66 C.F.
STORAGE PROVIDED = 2 CULTIC CHAMBERS @ 25.2 C.F. EA = 50.4 C.F.
VOLUME STONE = ((16.66 x 7 x 2.21) - 50.4 S.F.) x 4 = 82.9 C.F.
TOTAL STORAGE 50.4 C.F. + 82.9 C.F. = 133.33 C.F.
133.33 C.F. > 81.66 C.F.
- HOUSE TO BE SERVICED WITH INDIVIDUAL DOMESTIC FIRE SPRINKLERS.
- TITLE X FLOWS: 3 BEDROOMS @110 GPD/BEDROOM=330 GPD
- HOUSE TO BE PROVIDED WITH RESIDENTIAL FIRE SPRINKLER SYSTEM.

LEGEND

N/F	NOW OR FORMERLY	○	STONE WALL
W/F	WOOD FRAME	○	SEWER MANHOLE
BIT. CONC.	BITUMINOUS CONCRETE	○	UTILITY POLE
PROPOSED	PROPOSED	○	WETLAND FIELD FLAG
EXIST.	EXISTING	○	FORCEMAIN
X 152.10	SPOT ELEVATION	○	WATER SERVICE
-152-	ELEVATION CONTOUR	○	EROSION CONTROL
-OHW-	EDGE OF WETLAND	○	FINISH GRADE
-W-	OVERHEAD WIRES	○	
-S-	WATERMAIN	○	
-W-	SEWER PIPELINE	○	

TYPICAL SECTION - REINFORCED RETAINING WALL
N.T.S.

SITE DEVELOPMENT PLAN OF LAND
IN
HAVERHILL, MASSACHUSETTS
PREPARED FOR
GLEN FOGARTY
135 PRIMROSE STREET
HAVERHILL, MA 01830
DATE: MAY 12, 2021
REV: SEPTEMBER 23, 2021

SCALE: 1"=40'
0' 40' 80' 120'
0' 20' 40' 60'

MERRIMACK ENGINEERING SERVICES
66 PARK STREET
ANDOVER, MASSACHUSETTS 01810
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EMAIL: MERREN@AOL.COM