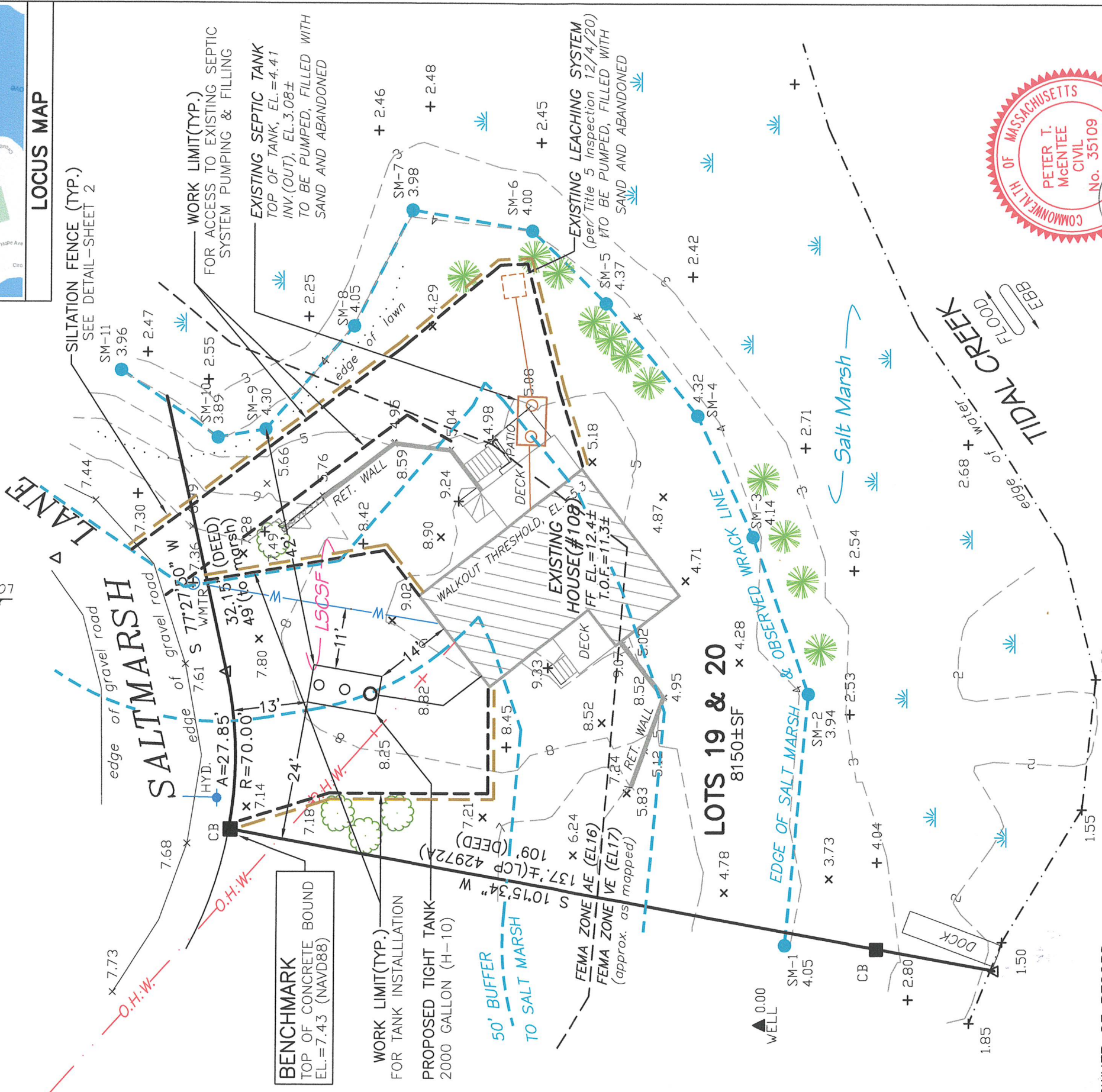


**LEGEND**

- 10--- EXISTING CONTOUR
- x 11.98 EXISTING SPOT GRADE
- W— EXISTING WATER SVC.
- O.H.W.— OVERHEAD WIRES
- WETLAND SYMBOL
- SM-12 WETLAND FLAG
- ⊕ BENCHMARK



**LOCUS MAP**



**OWNER OF RECORD**  
 LINDBERG, LEOCARDIA  
 108 SALT MARSH LANE  
 POCASSET, MA 02559

**FEMA FLOOD DESIGNATION**  
 MAP NUMBER: 25001C0484J  
 EFFECTIVE DATE: JULY 16, 2014  
 Zone AE (EL16) & VE (EL17)

**WETLAND CONSULTANT**  
 MARSH MATTERS ENVIRONMENTAL  
 P.O. BOX 554  
 FORESTDALE, MA 02644  
 978-434-1228

**PLAN REFERENCES**  
 PLAN BOOK 81, PAGE 61, LOTS 19 & 20  
 LAND COURT PLAN 42972A

**RECEIVED**

**APR 06 2021**  
 Bourne Health Department  
 24 Perry Avenue  
 Buzzards Bay, MA 02532

**PARCEL ID: 43.3-8**

**PROPOSED TIGHT TANK**  
**108 SALTMARSH LANE, POCASSET, MA**

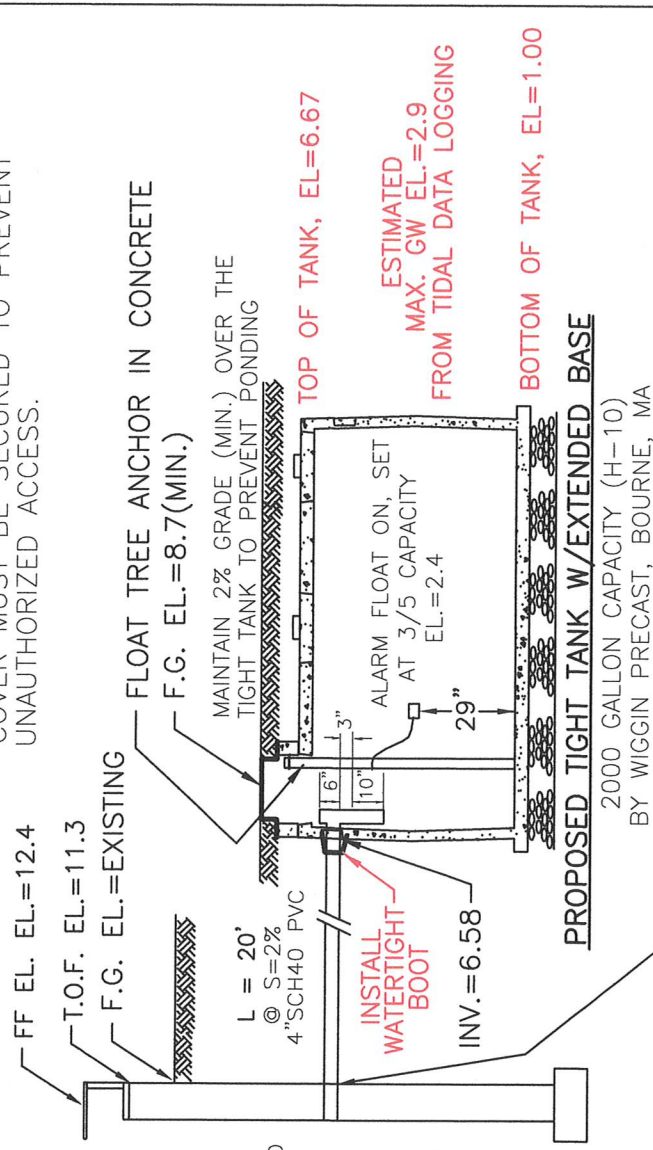
Prepared for: Uri ten Brink, 64 Two Ponds Rd, Falmouth, MA 02540

Engineering by:	SCALE	DRAWN	JOB. NO.
<b>Engineering Works, Inc.</b>	1"=20'	P.T.M.	108-21
12 West Crossfield Road, Forestdale, MA 02644	DATE	CHECKED	SHEET NO.
(508) 477-5313	2/27/21	P.T.M.	1 of 2



**SEPTIC TANK**

INSTALL A 24" DIAMETER H-20 RISER, FRAME & COVER OVER INLET AND SET TO FINISH GRADE. COVER MUST BE SECURED TO PREVENT UNAUTHORIZED ACCESS.



**NOTES:**

- 1) CONTRACTOR SHALL VERIFY ALL EXISTING PIPE INVERTS, PRIOR TO INSTALLATION.
- 2) SEPTIC TANK (TIGHT TANK) SHALL BE SET LEVEL AND TRUE TO GRADE ON A MECHANICALLY COMPACTED STABLE BASE OR 6" CRUSHED STONE BASE, AS SPECIFIED IN 310 CMR 15.221(2).
- 3) INSTALL INLET TEE, AS REQUIRED.
- 4) INSTALL AUDIO/VISUAL ALARM ON SEPARATE CIRCUIT IN THE BUILDING
- 5) TIGHT TANK SHALL BE SEALED AND WRAPPED AND A POLYMER COATING SHALL BE APPLIED TO THE EXTERIOR PRECAST UNIT.
- 6) ALL JOINTS SHALL BE MADE WATERTIGHT.
- 7) INSTALLATION SHALL COMPLY WITH 310 CMR 15.260

TOP OF TANK, EL=6.67

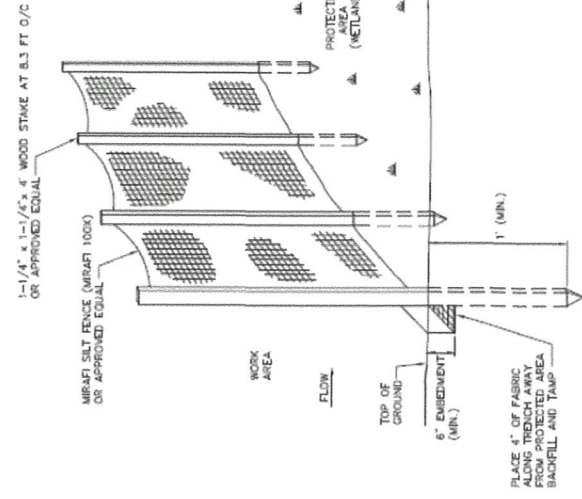
ESTIMATED MAX. GW EL.=2.9 FROM TIDAL DATA LOGGING

BOTTOM OF TANK, EL=1.00

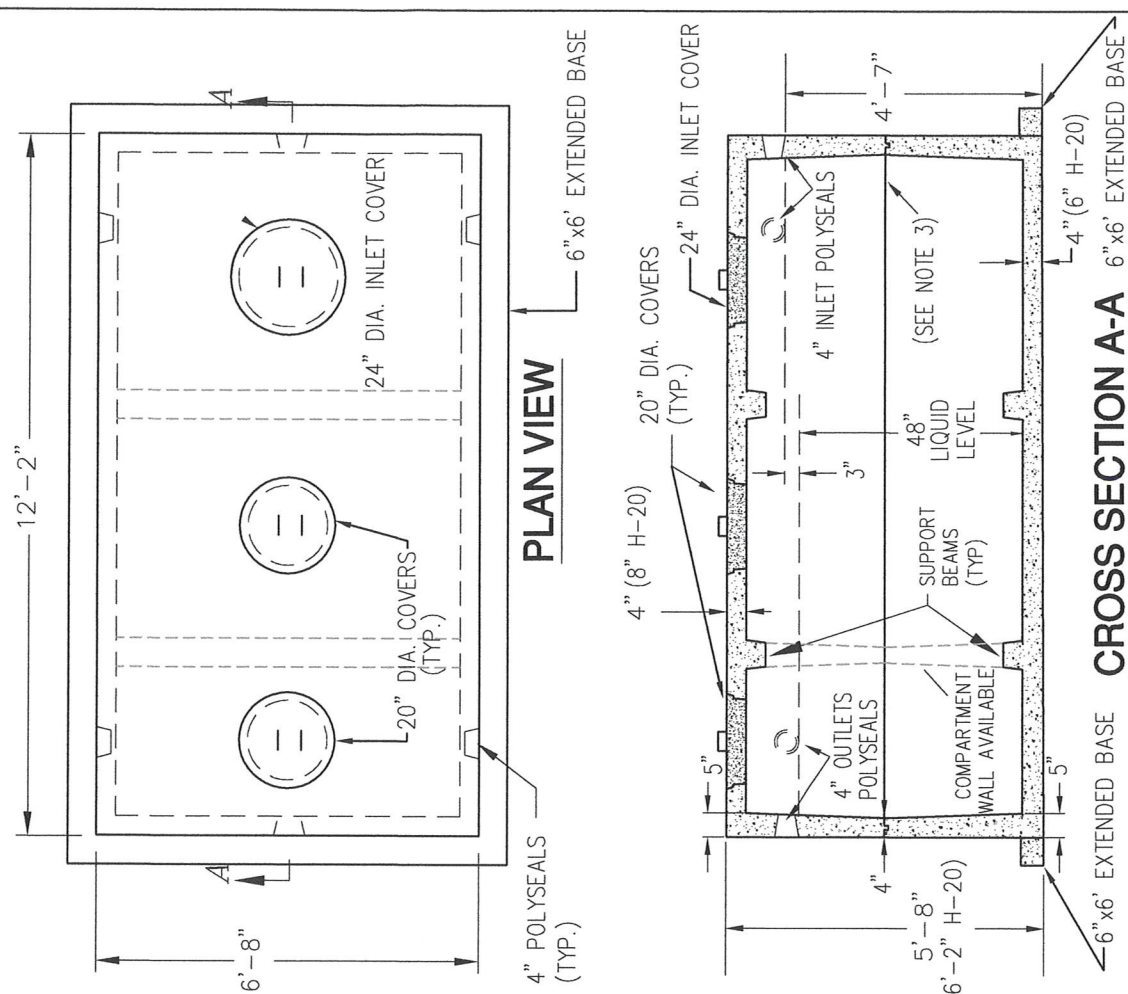
**PROPOSED TIGHT TANK W/EXTENDED BASE**

2000 GALLON CAPACITY (H-10)  
BY WIGGIN PRECAST, BOURNE, MA

INTERIOR PLUMBING SHALL BE MODIFIED TO PROVIDE NEW SEWER OUTLET AT LOCATION SHOWN, INV.=6.78



**SILTATION FENCE DETAIL**



**SPECIFICATIONS**

- 1.) CONCRETE 4,000 PSI AFTER 28 DAYS.
- 2.) CONSTRUCTION CONFORMS TO DEP TITLE V REGS. 310 CMR SECTION 15.226.
- 3.) TONGUE & GROOVE JOINT SEALED W/ BUTYL RESIN
- 4.) REINFORCEMENT PER ASTM C1227-93.
- 5.) ALSO AVAILABLE IN H-20 LOADING.
- 6.) AVAILABLE IN TWO COMPARTMENT AS WELL.

WEIGHT:  
H-10 WT.=17,606 LBS  
H-20 WT.=24,475 LBS

**2,000 GALLON  
PRECAST SEPTIC TANK  
ADD 6" x 6" EXTENDED BASE**

**PROPOSED TIGHT TANK**

**108 SALT MARSH LANE, POCASSET, MA**

Prepared for: Uri ten Brink, 64 Two Ponds Rd, Falmouth, MA 02540

Engineering by:	SCALE	DRAWN	JOB. NO.
<b>Engineering Works, Inc.</b>	N.T.S.	P.T.M.	108-21
12 West Crossfield Road, Forestdale, MA 02644	DATE	CHECKED	SHEET NO.
(508) 477-5313	2/27/21	P.T.M.	2 of 2

**BUOYANCY CALCULATIONS**  
**2000 GALLON PRECAST SEPTIC TANK (TIGHT TANK)**

BOTTOM OF UNIT EL.= 1.00  
HIGH GROUNDWATER EL.=2.90 (TIDAL MONITORING)  
BUOYANCY FORCE PER FOOT OF DEPTH:  
12.2' x 6.7' x 1' x 62.4 lbs./cu.ft. = 5100.5 lbs.  
MAX. DISPLACEMENT = 2.90'-1.00' = 1.90'  
MAX. UPLIFT PRESSURE = 1.90' x 5100.5 lbs/ft = 9691.0 lbs.  
WEIGHT OF UNIT EMPTY = 17,606 lbs.  
**WEIGHT OF SOIL OVER TOP OF UNIT:**  
WEIGHT= LENGTH x WIDTH x DEPTH x 90 lbs./cu.ft.  
= 12.2 x 6.7 x 1.0' x 95 lbs./cu.ft.= 7765.3 lbs.  
**WEIGHT OF SOIL OVER EXTENDED BASE:**  
SIDES=13.2', ENDS=6.7', TOTAL PERIMETER=39.8', COVER DEPTH=6.7'  
WEIGHT= LENGTH x WIDTH x DEPTH x 90 lbs./cu.ft.  
= 39.8' x 6.7' x 0.5' x 95 lbs./cu.ft.= 12,666.4 lbs.  
**COMBINED WEIGHT=17,606 + 7765 + 12,666 lbs. = 38,037 lbs.**  
**38,037 lbs. > 9691 lbs.**

**DESIGN CRITERIA**

NUMBER OF BEDROOMS: 3 BEDROOMS  
DAILY FLOW: 330 GPD  
DESIGN FLOW: 330 GPD  
TANK SIZE: 330 GPD x 500% = 1650 GALLON (MIN.)  
**TANK SIZE PROPOSED: 2000 GALLON CAPACITY**