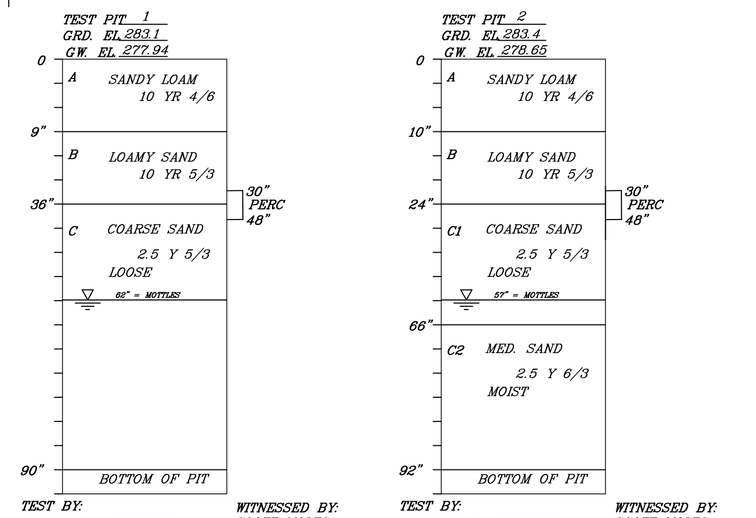
SOIL TEST PIT DATA:

INDICATES TEST PIT



TEST BY: ANTHONY A. ESPOSITO DATE 9/18/2019 — WITNESSED BY: SCOTT MOLES BOARD OF HEALTH PERC. RATE: 6 MIN./IN.

TEST BY: ANTHONY A. ESPOSITO DATE 9/18/2019 — WITNESSED BY: SCOTT MOLES BOARD OF HEALTH PERC. RATE: 7 MIN./IN.

ANTHONY A. ESPOSITO SE888

SEWAGE DISPOSAL SYSTEM AND THE DWELLING DO NOT FALL WITHIN A "ZONE I" OF A SURFACE WATER PROTECTION AREA OR A "ZONE II" OF A "INTERIM WELLHEAD PROTECTION AREA".

THIS SITE FALLS WITHIN A FLOOD ZONE "X" AND IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM MAP 25017C0629E DATED JUNE 4, 2010

THIS DESIGN DOES NOT REQUIRE VARIANCE FROM TITLE 5 AND DOES NOT REQUIRE A VARIANCE FROM THE HOLLISTAN SUPPLEMENTARY RULES & REGULATIONS TO TITLE 5.

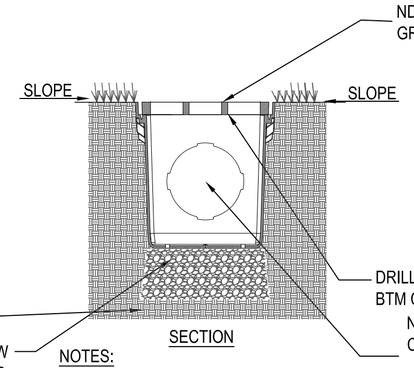
THERE ARE NO KNOWN WETLANDS WITHIN 100' OF THE SITE.

THERE ARE NO KNOWN PRIVATE WELLS WITHIN 100' OF THE SYSTEM.

THE SITE IS NOT LOCATED IN A NATURAL HERITAGE ESTIMATED OR PRIORITY HABITAT MAPPED AREA.

CONTRACTOR SHALL SET NEW BENCHMARK WITHIN 75 FT. OF LEACHING SYSTEM.

NDS, INC.
851 NORTH HARVARD AVE.
LINDSAY, CA 93247
TOLL FREE: 1-800-726-1994
PHONE: (559) 562-9888
FAX: (559) 562-4488
www.ndspro.com



SECTION

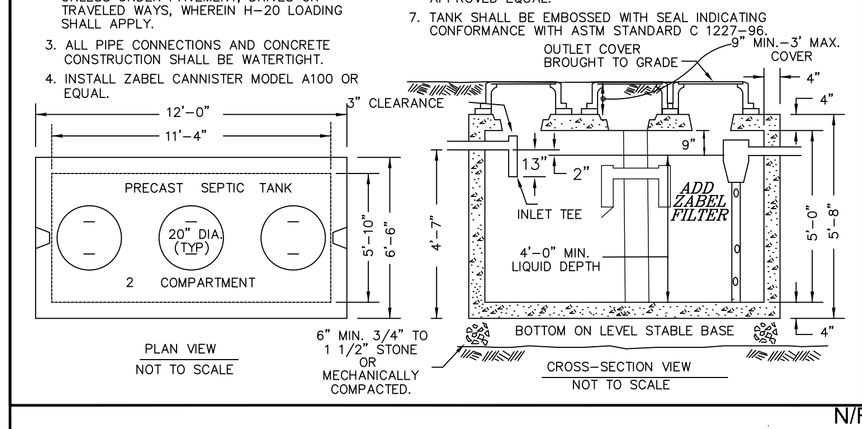
NOTES:
1. GRATE TO BE ATTACHED TO CATCH BASIN WITH SCREW PROVIDED AT TIME OF INSTALLATION.
2. RISER CAN BE CUT TO ACHIEVE EXACT ELEVATION.
3. DO NOT USE OVER 5 RISERS WITH CATCH BASIN.
4. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
5. DO NOT SCALE DRAWING.
6. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY.
7. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.

LAWN DRAIN DETAIL

NOT TO SCALE

SEPTIC TANK DETAIL: 1500 GALLON

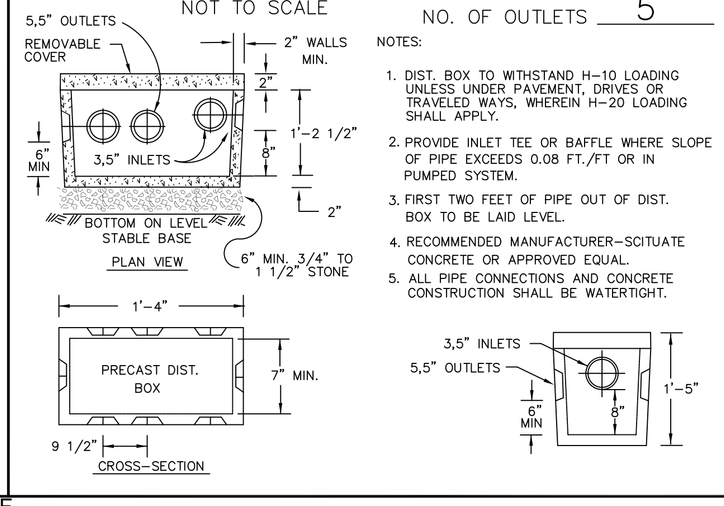
NOTES:
1. SEPTIC TANK SHALL BE STEEL REINFORCED 4000 PSI CONCRETE, WITH THREE (3) 20" MANHOLES.
2. SEPTIC TANK TO WITHSTAND H-10 LOADING UNLESS UNDER PAVEMENT, DRIVES OR TRAVELED WAYS, WHEREIN H-20 LOADING SHALL APPLY.
3. ALL PIPE CONNECTIONS AND CONCRETE CONSTRUCTION SHALL BE WATERTIGHT.
4. INSTALL ZABEL CANNISTER MODEL A100 OR EQUAL.
5. INLET AND OUTLET TEES TO BE CAST IRON, SCHED. 40 PVC OR CAST-IN-PLACE CONCRETE. TEES TO BE UNDER MANHOLE COVER WITHIN 12" OF END WALL.
6. RECOMMENDED MANUFACTURER-SCITUATE CONCRETE OR APPROVED EQUAL.
7. TANK SHALL BE EMBOSSED WITH SEAL INDICATING CONFORMANCE WITH ASTM STANDARD C 1227-96.



DISTRIBUTION BOX DETAIL:

NOT TO SCALE

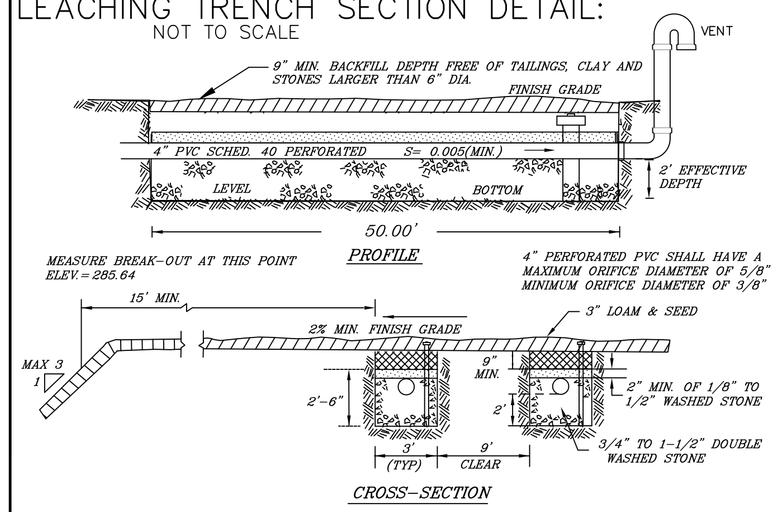
NO. OF OUTLETS 5

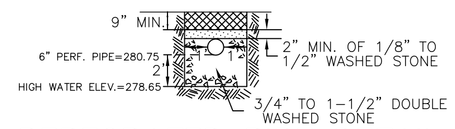


NOTES:
1. DIST. BOX TO WITHSTAND H-10 LOADING UNLESS UNDER PAVEMENT, DRIVES OR TRAVELED WAYS, WHEREIN H-20 LOADING SHALL APPLY.
2. PROVIDE INLET TEE OR BAFFLE WHERE SLOPE OF PIPE EXCEEDS 0.08 FT./FT OR IN PUMPED SYSTEM.
3. FIRST TWO FEET OF PIPE OUT OF DIST. BOX TO BE LAID LEVEL.
4. RECOMMENDED MANUFACTURER-SCITUATE CONCRETE OR APPROVED EQUAL.
5. ALL PIPE CONNECTIONS AND CONCRETE CONSTRUCTION SHALL BE WATERTIGHT.

LEACHING TRENCH SECTION DETAIL:

NOT TO SCALE





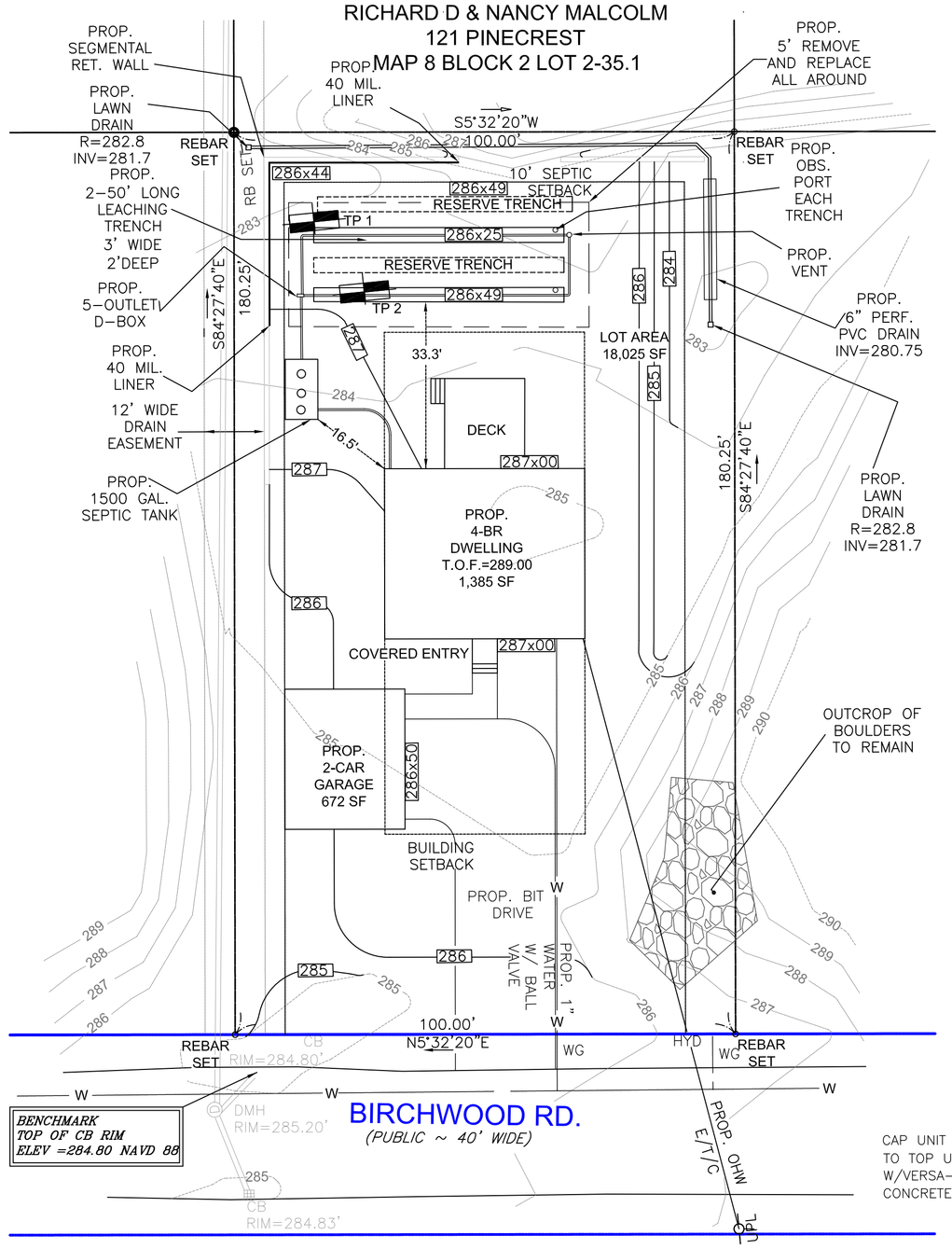
PERFORATED PIPE DETAIL

NOT TO SCALE

N/F
PATRICIA CLANCY
24 OAKRIDGE RD.
MAP 8 BLOCK 2 LOT 2-32.P

N/F
RICHARD D & NANCY MALCOLM
121 PINECREST
MAP 8 BLOCK 2 LOT 2-35.1

N/F
FIRST EVERGREEN PROPERTIES, LLC
36 BIRCHWOOD RD.
MAP 8 BLOCK 2 LOT 2-28.P



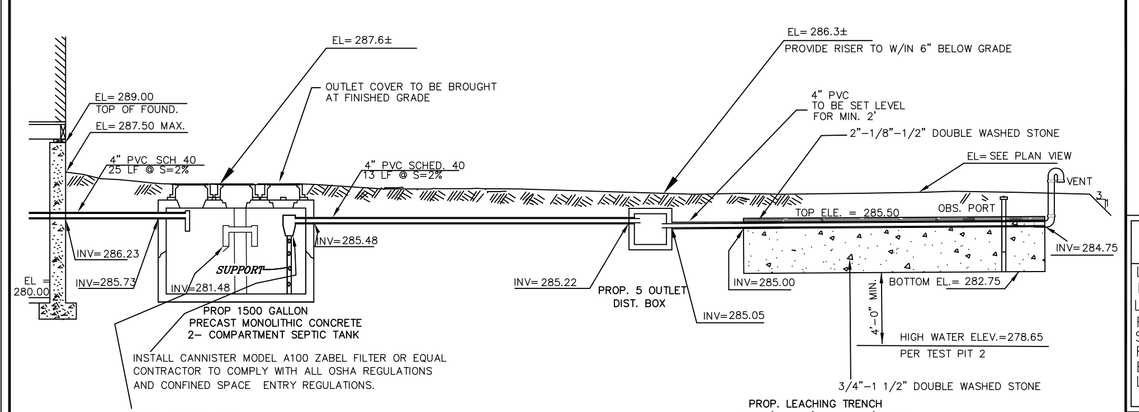
SCALE: 1"=20'
0 10 20 30 40 50 FEET

CONSTRUCTION NOTES

1) INSPECTION PORT SHALL CONFORM TO 310 CMR 15.240 (13).
2) MAGNETIC TAPE TO BE PROVIDED ON TOP OF ALL LEACHING COMPONENTS IN ACCORDANCE WITH TITLE 5.

NOT FOR CONSTRUCTION

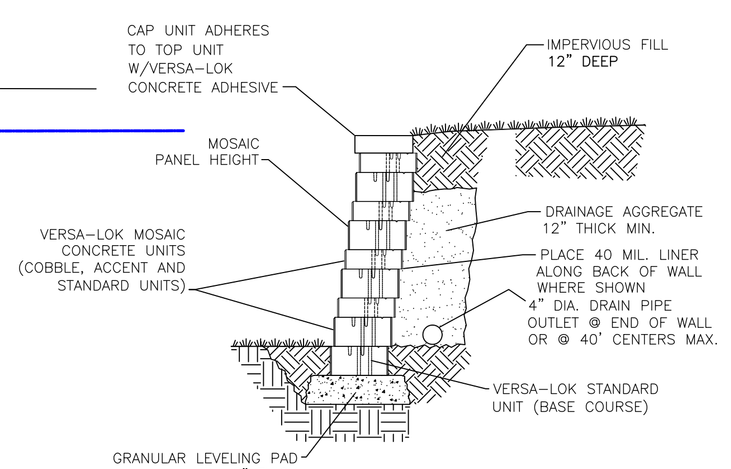
PROFILE: NOT TO SCALE:



DIMENSIONAL REQUIREMENTS

AGRICULTURE-RESIDENTIAL DIST. B	DWL. REQ.	DWL.	GAR.
LOT AREA	40,000 SF	18,025 SF	18,025 SF
FRONTAGE	180 LF	100 LF	100 LF
LOT DEPTH	300 LF	108.25 LF	108.25 LF
FRONT SETBACK	40 LF	79 LF	41 LF
SIDE SETBACK	30 LF	30 LF	10 LF
REAR SETBACK	40 LF	67.25 LF	113.25 LF
BUILDING HEIGHT	2.5 STO./35 LF	35 LF	35 LF
LOT COVERAGE	25%	*8%	*4%
PARKING	2/UNIT	2/ UNIT MIN.	------

*-TOTAL PROPOSED FOR SITE 12%



UNREINFORCED RETAINING WALL

NOT TO SCALE

INVERT ELEVATIONS:

4" INVERT AT BUILDING	286.23
4" INVERT AT SEPTIC TANK (IN)	285.73
4" INVERT AT SEPTIC TANK (OUT)	285.48
4" INVERT AT D-BOX (IN)	285.22
4" INVERT AT D-BOX (OUT)	285.05

INVERTS AT LEACHING FACILITY:

4" INVERT AT INLET OF LEACHING TRENCH	285.00
4" INVERT AT END OF LEACHING TRENCH	284.75
ELEVATION AT BOTTOM OF LEACHING TRENCH	282.75
GROUNDWATER ELEVATION VIA TEST PIT 2	278.65

DESIGN CRITERIA:

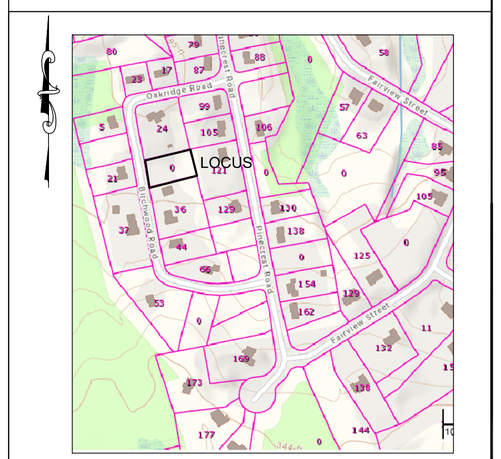
DESIGN FLOW PER LOCAL REG.:
4 BEDROOMS AT 110 G.P.B/D 440 G.P.D.

REQUIRED SEPTIC TANK:
440 GALS = 880 GAL.
SEPTIC TANK PROVIDED = 1500 GAL.
SIZE OF LEACHING FACILITY REQUIRED:
DESIGN PERC RATE: 7 MIN./IN.

CLASS I SOIL 0.68 g.p.d/s.f.
440 ÷ 0.68 = 648 S.F. (Min.)

USE:CONVENTIONAL LEACHING TRENCHS
50' L X 2' DEEP X 3' WIDE
2 TRENCHES X (2 (2 X 50')) + (3 X 50') = 700 SF
700 X 0.68 GPD/SF = 476 GPD

LOCUS N.T.S.



REVISIONS:

No.	DESCRIPTION	DATE
1.	ADDED DRAINAGE	5/4/2020

GENERAL NOTES:

1. THIS PLAN IS FOR DESIGN AND CONSTRUCTION OF THE SEWAGE DISPOSAL FACILITY ONLY.
2. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO MASS. D.E.P. TITLE 5 AND LOCAL BOARD OF HEALTH REGULATIONS.
3. ALL PIPES SHALL BE 4" PVC SCH 40 OR EQUAL.
4. THERE ARE NO KNOWN WELLS LOCATED WITHIN 100 FT OF THE PROPOSED LEACHING FACILITY NOR ANY WELLS PROPOSED WITHIN 100 FT OF ANY KNOWN LEACHING FACILITY.
5. THIS SYSTEM **IS NOT** DESIGNED FOR THE USE OF A GARBAGE GRINDER.
6. WITHIN LIMIT OF EXCAVATION REMOVE ALL TOPSOIL(A), SUBSOIL, (B) AND OTHER UNSUITABLE MATERIAL BELOW EXISTING GRADE.
7. REPLACE WITH CLEAN WASHED SAND OR OTHER CLEAN GRANULAR MATERIAL IN CONFORMANCE WITH 310 CMR 15.255.
8. EXISTING UTILITIES AS SHOWN ON THIS DRAWING(S) ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER LOCATION AND THE COORDINATION OF PROPOSED CONSTRUCTION ACTIVITY WITH DIG-SAFE AND THE APPLICABLE UTILITY COMPANY(S). THE CONTRACTOR SHALL MAINTAIN ANY EXISTING UTILITY SYSTEM IN SERVICE. DIG-SAFE WILL BE NOTIFIED PER STATE OF MASS-ACHUSETTS STATUTE CHAPTER 82, SECTION 409 AT TEL 811. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF, OR THAT ALL UTILITIES AND SUBSURFACE STRUCTURES ARE SHOWN. LOCATIONS AND ELEVATIONS, IF ANY, OF UNDERGROUND UTILITIES ARE TAKEN FROM RECORD PLANS. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION AND INVERTS OF UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
9. NO CHANGES ARE TO BE MADE IN THE FIELD WITHOUT THE APPROVAL OF THE HOLLISTON BOARD OF HEALTH AND THE DESIGN ENGINEER.

COMMONWEALTH OF MASSACHUSETTS
ANTHONY A. ESPOSITO
CIVIL
No. 39782
REGISTERED PROFESSIONAL ENGINEER

5-6-2020

PREPARED BY:
Anthony A. Esposito
Professional Engineer
SOUTH MEADOW VILLAGE
Unit 55-7
CARVER, MA 02330
508-369-4783
ltespo12@yahoo.com

PROJECT TITLE:
NEW CONSTRUCTION SEWAGE DISPOSAL SYSTEM DESIGN
AT
0 BIRCHWOOD RD.
HOLLISTON, MA.

MAP # 8 BLOCK 2 LOT 30.P

PREPARED FOR:
CAVALLO CORP.
70 VICTORIA ST.
SOMERVILLE, MA. 02144

DATE:	JANUARY 9, 2019
COMP./DESIGN:	A. ESPOSITO
CHECK:	A. ESPOSITO
DRAWN:	A. ESPOSITO
FIELD:	BAYSIDE ENGINEERING
APPROVED:	A. ESPOSITO
DWG.No.	2192741 SP
JOB No.	2192741

SHEET 1 OF 1