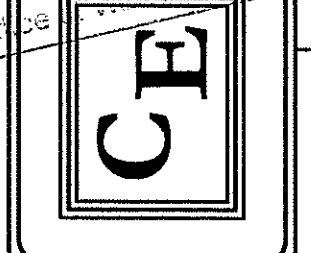
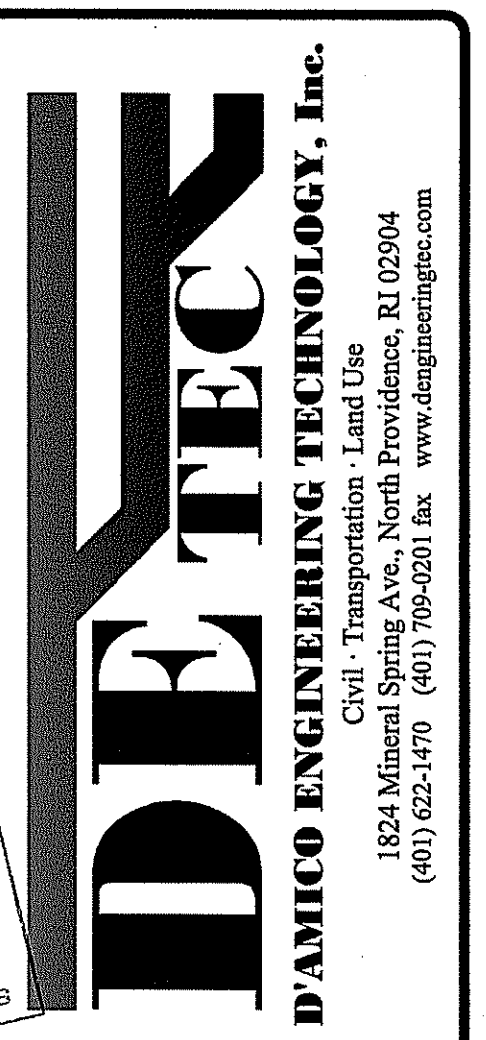
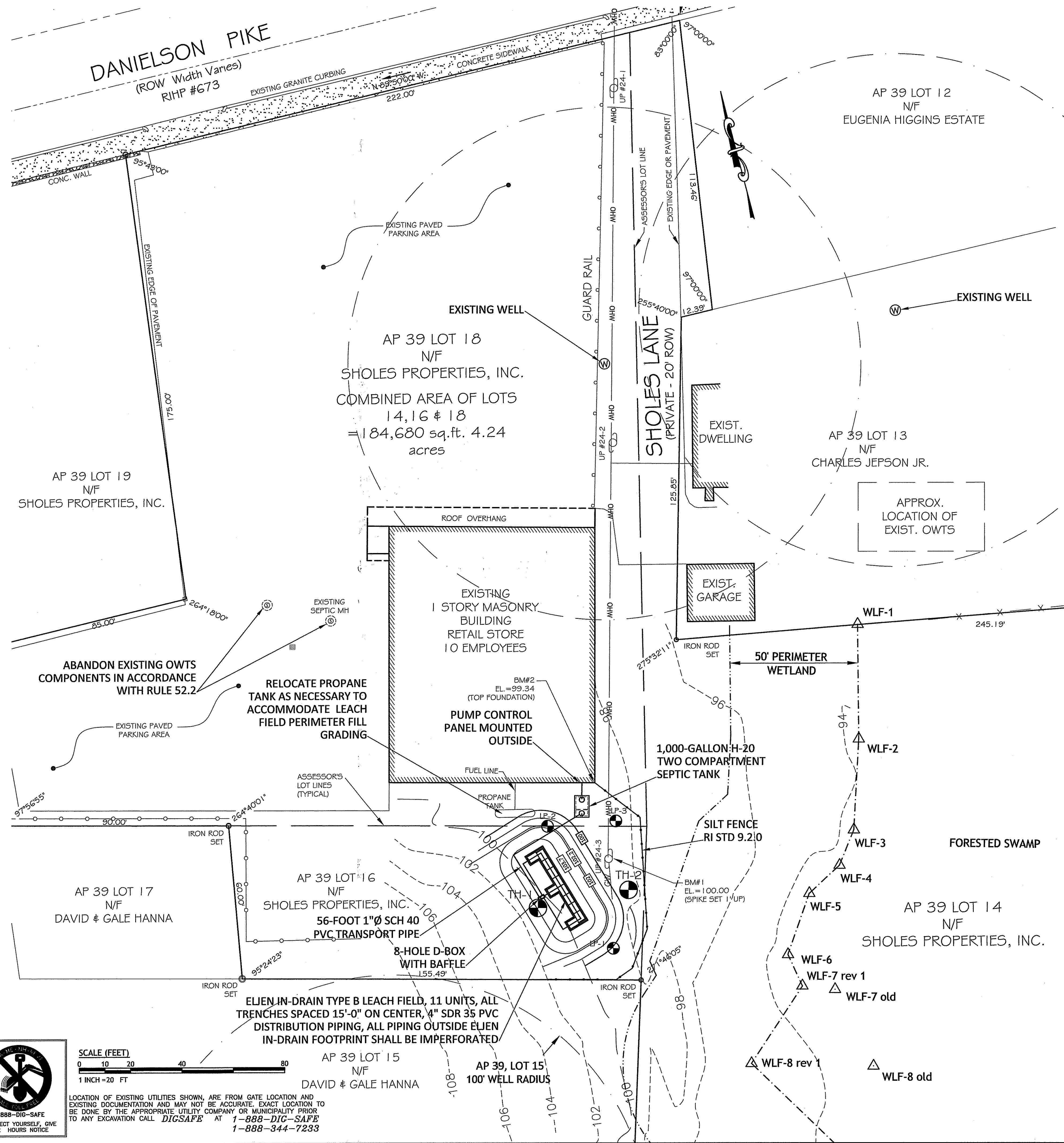


GLULEY ENGINEERING
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 No. 7439
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)
 6/7/12

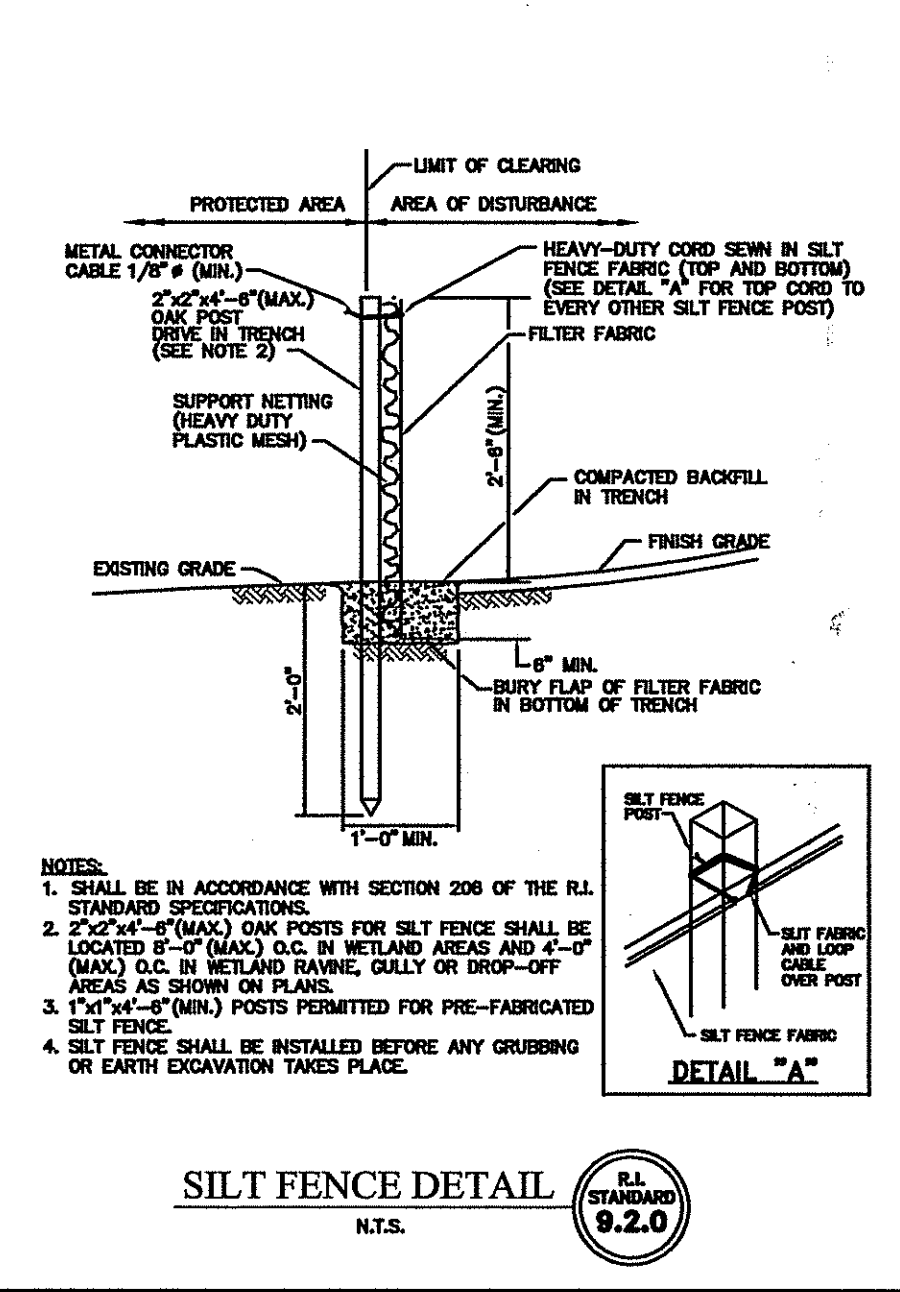


EROSION CONTROL NOTES:

- NO UNDISTURBED AREAS SHALL BE CLEARED OF EXISTING VEGETATION AFTER OCTOBER 15 OF ANY CALENDAR YEAR. ALL DISTURBED SOILS EXPOSED PRIOR TO OCTOBER 15 OF ANY CALENDAR YEAR SHALL BE SEEDED OR PROTECTED BY THAT DATE. ANY SUCH AREAS THAT DO NOT HAVE ADEQUATE VEGETATIVE STABILIZATION, AS DETERMINED BY THE RESIDENT ENGINEER OR ENVIRONMENTAL INSPECTOR, BY NOVEMBER 15 OF ANY CALENDAR YEAR, MUST BE STABILIZED THROUGH THE USE OF EROSION CONTROL MATTING OR HAY MULCH, IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK. IF WORK CONTINUES WITHIN ANY OF THESE AREAS DURING THE PERIOD FROM OCTOBER 15 THROUGH APRIL 15, CARE MUST BE TAKEN TO ENSURE THAT ONLY THE AREA REQUIRED FOR THAT DAY'S WORK IS EXPOSED, AND ALL ERODIBLE SOIL MUST BE RESTABILIZED WITHIN 5 WORKING DAYS. ANY ADDITIONAL WORK TO CORRECT THE PROBLEM RESULTING FROM FAILURE TO COMPLY WITH THIS PROVISION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THERE WILL BE NO SEPARATE PAYMENT FOR THIS PROVISION, IT SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OPERATIONS.
- STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 15 DAYS OF FINAL GRADING.
- STOCKPILES OF SOIL SHALL NOT BE LOCATED WITHIN REGULATED WETLANDS OR BUFFER ZONE AREAS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 30% AND STOCKPILES SHALL ALSO BE SEEDED AND RINGED WITH R.I. STD. 9.1.0 TO STABILIZE.
- JUTE MESH SHALL BE USED TO STABILIZE PLANTABLE SOIL AND/OR LOAM IN ALL DITCHES, ON ALL SLOPES ADJACENT TO WETLANDS AND WETLAND PERIMETERS, AND ON ALL SLOPES WITHIN WATER QUALITY BASINS. JUTE MESH IN DITCHES SHALL EXTEND TO AN ELEVATION 2 FEET ABOVE THE BOTTOM OF THE DITCH.
- DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR PERIODS IN EXCESS OF 2 WEEKS OR THROUGH THE INACTIVE WINTER SEASON.

EROSION CONTROL NOTES (CONT.):

- ALL HAY BALES AND SILT FENCE SHALL BE INSTALLED WITH THE LOWER 6" BURIED AND BACKFILLED WITH COMPACTED SOIL MATERIAL. WHEN USED IN COMBINATION, A SUFFICIENT AMOUNT OF SILT FENCE SHALL BE PLACED IN THE TRENCH SO THAT THE HAY BALE STAKES ARE DRIVEN THROUGH THE FABRIC OF THE FENCE.
- THE TOE OF ANY FILL SLOPE IS TO REMAIN AT LEAST 1' INSIDE OF ALL EROSION CONTROLS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR COVER ANY PORTION OF THE EROSION CONTROL MEASURES WITH MATERIAL. ANY MATERIAL THAT IS PLACED ON ANY EROSION CONTROLS BY THE CONTRACTOR, OR ANY AGENT OF THE CONTRACTOR, SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR, AND ANY NECESSARY REPAIRS TO THE EROSION CONTROLS ACCOMPLISHED, AT NO COST TO THE OWNER OR ENGINEER.
- TEMPORARY TREATMENTS SHALL CONSIST OF HAY, STRAW, OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING (JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
- ALL HAY BALES, SILT FENCE OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN HELP TO MINIMIZE EROSION. TEMPORARY SEED WILL CONFORM TO R.I.D.O.T. STANDARD TEMPORARY SEED MIX.
- THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE TO THE OWNER OR ENGINEER.



TEST HOLE DATA TABLE

TH	SURF ELEV	SHOULDER ELEV
1	100.80	98.80
2	98.25	96.25

LEDGE PROBE DATA TABLE

LP	SURF ELEV	LEDGE ELEV
1	98.75	94.58
2	99.25	93.83
3	98.25	91.08

- LEGEND**
- WOOD FENCE
 - BARB WIRE FENCE
 - EDGE OF PAVEMENT
 - OVERHEAD WIRES
 - BOULDER WALL
 - OHW
 - WETLAND EDGE
 - WLF-10
 - MINOR CONTOUR
 - MAJOR CONTOUR
 - LOT DIMENSION "AS SURVEYED" IN THE FIELD
 - Q.H.W
 - RHP
 - RHO
 - RHW
 - TH-1
 - LEGE PROBE LOCATION

PROPOSED OWTS
 104 DANIELSON PIKE,
 SITUATE, RHODE ISLAND
 AP 39, LOTS 14, 16 & 18

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 WETLANDS PROGRAM
 SITE PLAN APPLICATION NO. 12-0107
 JUL 24, 2012
 SEE LETTER OF SAME DATE.

REVISIONS:
 NO. DATE DESCRIPTION
 1 6/7/12 RIDEM COMMENTS DATED 5/1/12

DESIGNED BY: DJC
 DRAWN BY: DJC
 CHECKED BY: DJC
 DATE: APRIL 2012
 PROJECT NO: 08-0075-04

OWTS #1230-0255
 ALTERATION

OWTS PLAN

SHEET 1 OF 2



SCALE (FEET)
 0 10 20 40 80
 1" = 20' FT

LOCATION OF EXISTING UTILITIES SHOWN, ARE FROM GATE LOCATION AND EXISTING DOCUMENTATION AND MAY NOT BE ACCURATE. EXACT LOCATION TO BE DONE BY THE APPROPRIATE UTILITY COMPANY OR MUNICIPALITY PRIOR TO ANY EXCAVATION CALL DIGSAFE AT 1-888-DIG-SAFE

SOIL EVALUATION:

RIDEM OWTS APP. #1230-0255 APPROVED XX/XX/XX
DATE OF EXCAVATION/OBSERVATION: 3/29/12

HRZN	DEPTH	MATRIX	TEXT.	STRICT.	CONS.	CAT
A	0-10"	10YR 4/3	sil	1/sbk	vfr	5
Bw	10-20"	10YR 5/6	stail	1/sbk	vfr	5
BC	20-24"	2.5Y 5/4	stail	1/sbk	vfr	5
2Cg	24-108"	5Y 8/1	sts	0/ma	fr	6*
		5Y 6/1	stsl			

*Indicates use of the course fragment modifier.

SOIL CLASS: **EOLIAN (CLASS G) OVER ABLATION TILL (CLASS B)**

DEPTH TO GROUNDWATER SEEPAGE: **NOT OBSERVED**
ESTIMATED SEASONAL HIGH GROUNDWATER TABLE: **26"**
TOTAL DEPTH OF TEST HOLE: **108"**
DEPTH TO IMPERVIOUS OR LIMITING LAYER: **108"**

HRZN	DEPTH	MATRIX	TEXT.	STRICT.	CONS.	CAT
A	0-9"	10YR 4/3	sil	1/sbk	vfr	5
Bw	9-26"	10YR 5/6	stail	1/sbk	vfr	5
BC	26-43"	10YR 6/6	stail	1/sbk	vfr	5
2Cg	43-96"	5Y 8/1	sts	0/ma	fr	6*
		5Y 6/1	stsl			

*Indicates use of the course fragment modifier.

SOIL CLASS: **EOLIAN (CLASS G) OVER ABLATION TILL (CLASS B)**

DEPTH TO GROUNDWATER SEEPAGE: **86"**
ESTIMATED SEASONAL HIGH GROUNDWATER TABLE: **24"**
TOTAL DEPTH OF TEST HOLE: **96"**
DEPTH TO IMPERVIOUS OR LIMITING LAYER: **96"**

DESIGN CALCULATIONS:

- DESIGN FLOW:
RETAIL STORE
10 EMPLOYEES x 15 GPD = 150 GPD
- PER RULE 26.1.2
SEPTIC TANK CAPACITY = 2 x DAILY FLOW
2 x 150 = 300 GPD
USE **1,000-GALLON, TWO-COMPARTMENT H-20 SEPTIC TANK**
- SOIL EVALUATION OWTS APP. #1230-0255
PER RULE 32.2.2(B)
USE SOIL CATEGORY 5
MAX LOADING RATE = 0.52 GAL/SF/DAY
- MIN LEACHING AREA = $\frac{150 \text{ GPD}}{0.52 \text{ GAL/SF/DAY}} = 289 \text{ SF}$
- ELJEN IN-DRAINS:
EFFECTIVE LEACHING AREA = 7.0 SF/LF OF ELJEN IN-DRAIN TRENCH
TOTAL REQ'D LENGTH OF TRENCH = $\frac{289 \text{ SF}}{7.0 \text{ SF/LF}} = 42 \text{ LF}$

LEACHING AREA PROVIDED
= 11 IN-DRAINS x 4.0 LF x 7.0 SF/LF = 308 SF
- SINGLE PUMP DESIGN:
PER OWTS RULE 30.2.1(B), COMMERCIAL OWTS MUST HAVE STORAGE CAPACITY FOR ONE DAY'S FLOW

INTERIOR AREA OF 1,000-GALLON SEPTIC TANK (BOTH COMPARTMENTS) = 34.7 SF
DEPTH TO STORE ONE DAY'S FLOW:
DEPTH = $\frac{150 \text{ GPD} \times 12 \text{ IN/LF}}{7.48 \text{ GAL/CF} \times 34.7 \text{ SF}} = 7"$

FLOAT SETTINGS FOR PUMP MODEL #PF1005fc IN ORENCO BIOTUBE PUMP VAULT:
HIGH LEVEL ALARM ELEV. = SEPTIC TANK INFLUENT INVERT ELEVATION - 7" = 95.05 = 94.47
PUMP ON ELEVATION = HIGH LEVEL ALARM ELEV. - 3"
= 94.47 - 0.25 = 94.22

PUMP OFF ELEVATION:
PER RIDEM RECOMMENDATION, USE IN-DRAIN DOSE IN THE RANGE OF 1.6-2.0 GALLONS/IN-DRAIN/DOSE THEREFORE, DOSE FOR ENTIRE LEACH FIELD OF 11 IN-DRAINS SHOULD BE 18-22 GALLONS/DOSE VOLUME OF FORCE MAIN DRAINBACK:
= 56 LF x 0.785 SI x 7.48 GAL = 2.3 GAL
144 SI/SF CF

USE 22 GALLONS/DOSE = 2.94 CF/DOSE
ASSUME PUMP ON CYCLE TO DISCHARGE 2.94 CF:
DROP IN SEPTIC TANK LIQUID LEVEL = $\frac{2.94 \text{ CF}}{34.7 \text{ SF}} = 0.08 \text{ FT (USE 1")}$
PUMP OFF ELEVATION = 94.22 - 0.08 = 94.14
PUMP MODEL #PF1005fc OPERATING AT 12 GPM:
TIME TO DISCHARGE 2.94 CF
= $\frac{2.94 \text{ CF} \times 7.48 \text{ GAL} \times 1 \text{ MIN}}{12 \text{ GAL}} = 1.8 \text{ MIN}$

CHECK DETENTION TIME IN SEPTIC TANK:
AT PUMP OFF ELEVATION DEPTH = 3.3 LF
VOLUME = 34.7 SF x 3.3 LF x 7.48 GAL/CF
VOLUME = 856 GALLONS
DETENTION TIME = $\frac{856 \text{ GALLONS}}{150 \text{ GPD}} = 5.7 \text{ DAYS}$
5.7 DAYS > 3 DAYS O.K.

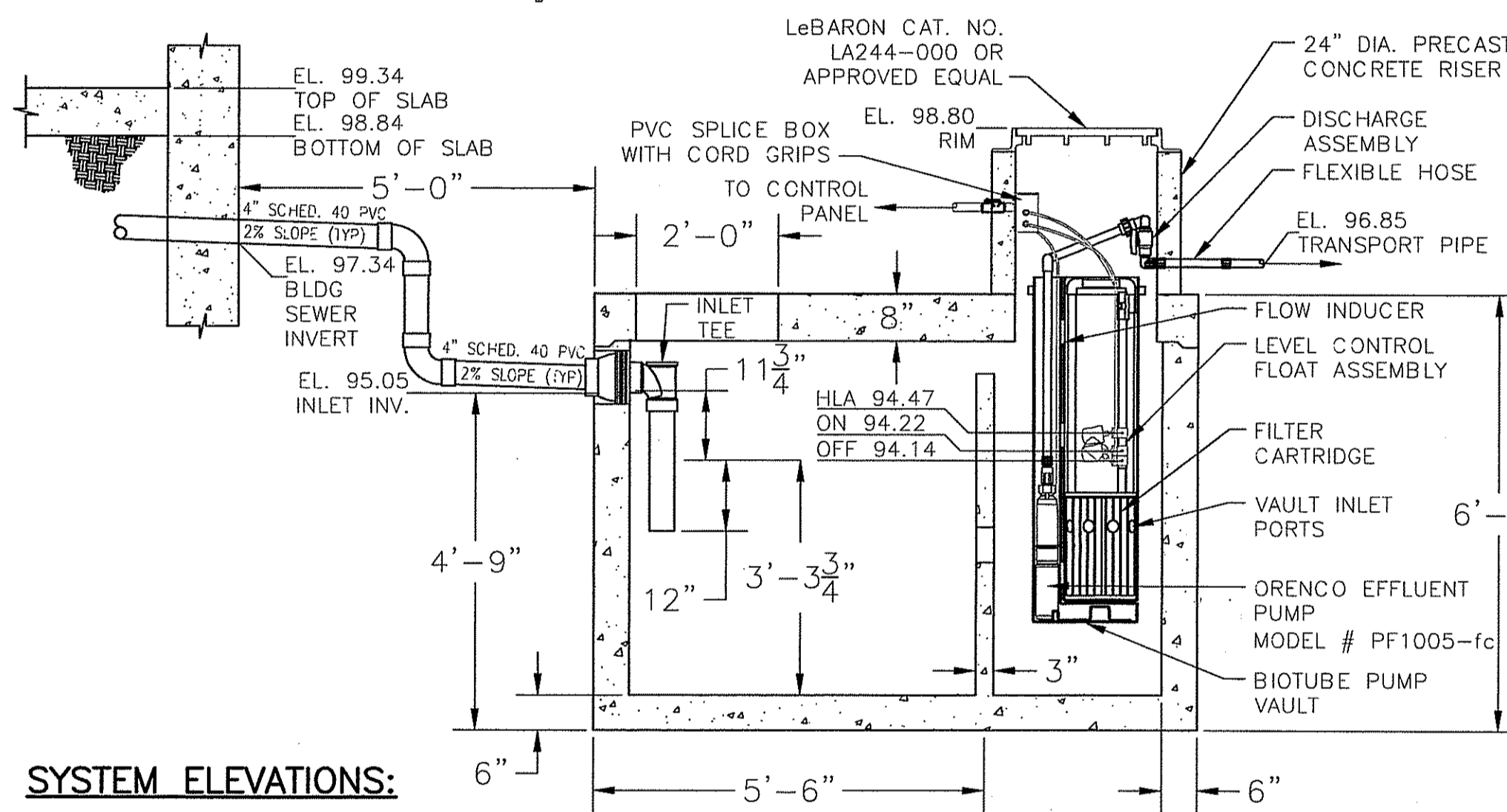
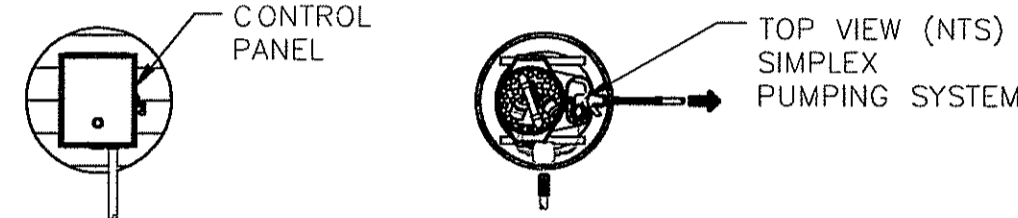
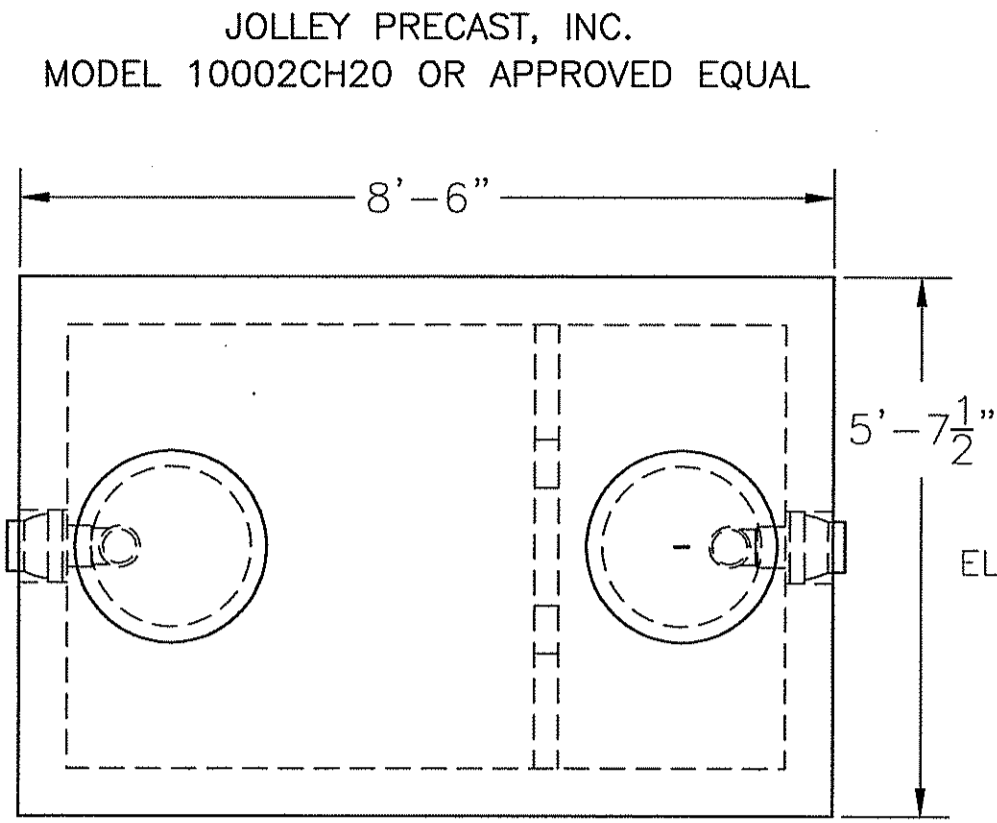
GENERAL NOTES:

- CONSTRUCTION SHALL CONFORM TO THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT RULES ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION, DESIGN, CONSTRUCTION AND MAINTENANCE OF ONSITE WASTEWATER TREATMENT SYSTEMS (OWTS), REV. JUNE 30, 2011.
- ALL STONE SHALL BE DOUBLE WASHED. IF DOUBLE WASHED STONE IS NOT AVAILABLE, THE CONTRACTOR SHALL BE ALLOWED TO WASH THE STONE ON THE SITE ONCE. IN NO CASE SHALL THE STONE DELIVERED TO THE SITE NOT BE WASHED AT LEAST ONCE BY THE PROCESSOR, AND IN NO CASE SHALL THE STONE INSTALLED NOT BE DOUBLE WASHED.
- SEE ELJEN IN-DRAIN INSTALLATION GUIDELINES FOR SITE PREPARATION REQUIREMENTS.
- THE FILL AROUND THE SYSTEM SHALL BE COURSE SAND OR BANK RUN GRAVEL. IT SHOULD CONTAIN NO MORE THAN 5% FINES (PASSING #200 SIEVE) AND PREFERABLY NO MORE THAN 2% FINES. WHERE FILL IS USED, A PERCOLATION TEST SHALL BE DONE IN THE FILL MATERIAL AFTER PLACEMENT AND COMPACTION. IF THE PERCOLATION RATE IS SLOWER THAN 2 MINUTES/INCH, THE MATERIAL SHALL BE REMOVED.
- NO DRAINS OR WATERLINES TO BE INSTALLED WITHIN 25' OF LEACHING AREA. NO DRAINS TO BE INSTALLED WITHIN 50' DOWNGRADIENT OR SIDE-GRADIENT OF LEACHING AREA.
- NO GARBAGE GRINDERS SHALL BE INSTALLED.
- THERE ARE NO EXISTING OR PROPOSED PRIVATE WELLS WITHIN 200' OF THE PROPOSED SYSTEM OTHER THAN SHOWN.
- THERE ARE NO KNOWN EXISTING OR PROPOSED DRAINS WITHIN 200' OF THE PROPOSED SYSTEM OTHER THAN SHOWN.
- THERE ARE NO KNOWN EXISTING OR PROPOSED OWTS SYSTEMS WITHIN 100' OF A PROPOSED OR EXISTING WELL.
- THERE ARE NO KNOWN EXISTING OR PROPOSED PUBLIC WELLS WITHIN 500' OF THE PROPOSED OWTS.
- INSTALLER TO REMOVE ALL TREES AND SHRUBS FROM THE LEACHING AREA AND 10' ON ALL SIDES.
- BUILDING SEWER PIPE SHALL BE MINIMUM 4" SCHEDULE 40 PVC. TRANSPORT PIPE FROM SEPTIC TANK TO DISTRIBUTION BOX SHALL BE 1" SCHEDULE 40 PVC. ALL DISTRIBUTION PIPING FROM D-BOX SHALL BE 4" SDR 35 PVC PIPE.
- D-BOX TO HAVE MANHOLE TO GRADE AND/OR LOCATION MARKER.
- D-BOX SHALL HAVE A TOP LOAD CARRYING CAPACITY OF THREE HUNDRED (300) POUNDS PER SQUARE FOOT AND MINIMAL SIDEWALL DEFLECTION.
- LIMIT OF RIDEM FRESHWATER WETLANDS REVIEWED UNDER APPLICATION NO. N/A
- CLASS I PROPERTY LINE SURVEY BY CANAVAN & ASSOCIATES, INC. FOR D'AMICO ENGINEERING TECHNOLOGY, INC.
- TOPOGRAPHIC SURVEY CONFORMS TO A CLASS III STANDARD FOR TOPOGRAPHY/PLANIMETRICS AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. TOPOGRAPHIC SURVEY BY CANAVAN & ASSOCIATES, INC. FOR D'AMICO ENGINEERING TECHNOLOGY, INC.
- ALL STAGES OF THE OWTS INSTALLATION MUST BE SUPERVISED BY A RIDEM LICENSED CLASS 2 OR 3 DESIGNER.
- SEPTIC TANK SHALL HAVE MINIMUM 24" I.D. MANHOLES OVER INLET AND OUTLET TEES. MANHOLE AT OUTLET TEE MUST BE BROUGHT TO FINISH GRADE AND MANHOLE AT INLET TEE MUST BE BROUGHT WITHIN 12" OF FINISH GRADE. MANHOLE RISERS, FRAMES AND COVERS SHALL BE DESIGNED FOR H-20 WHEEL LOADING.
- SEPTIC TANK MANHOLE RISER LIDS SHALL BE AS DETAILED IN THE PLANS.
- INSTALLER SHALL ADHERE TO ALL SECTIONS OF RIDEM OWTS APPLICATIONS.
- INSTALLER TO MAINTAIN INVERT EL. 102.21 FOR 10' PERIMETER.
- ECOSYSTEM SOLUTIONS, INC. CERTIFIES TO THE SOIL CONDITIONS ONLY IN THE AREAS TESTED. INSTALLER TO NOTIFY ENGINEER IF SOIL CONDITIONS ARE FOUND DIFFERENT THAN STATED ON OWTS SUBMISSION.
- BENCH MARK TO BE SET WITHIN 150' OF PROPOSED OWTS PRIOR TO START OF CONSTRUCTION. BENCH MARK: SPIKE IN UTILITY POLE #24-3 EL. 100.00

SEQUENCE OF CONSTRUCTION:

- CONTRACTOR TO OBTAIN ALL REQUIRED FEDERAL, STATE, AND MUNICIPAL PERMITS, AND TO NOTIFY "DIG SAFE" PRIOR TO CONSTRUCTION.
- INSTALL SILT FENCE AT LIMIT OF WORK, MAINTAIN CONTINUOUS FENCE LINE DURING CONSTRUCTION AND REPAIR AS NEEDED.
- CONTACT ENGINEER 24 HOURS PRIOR TO OWTS CONSTRUCTION.
- INITIATE OWTS BOTTOM EXCAVATION.
- CONTACT ENGINEER 24 HOURS PRIOR TO OWTS BOTTOM EXCAVATION COMPLETION.
- BEGIN OWTS CONSTRUCTION.
- CONTACT ENGINEER 24 HOURS PRIOR TO OWTS COMPLETION.
- COVER OWTS COMPONENTS.
- CONTACT ENGINEER 24 HOURS PRIOR TO OWTS FINAL COVER.
- COMPLETE SOIL STABILIZATION BY LOAM AND SEEDING DISTURBED AREAS.

1,000-GALLON, H-20 TWO COMPARTMENT SEPTIC TANK



SYSTEM ELEVATIONS:

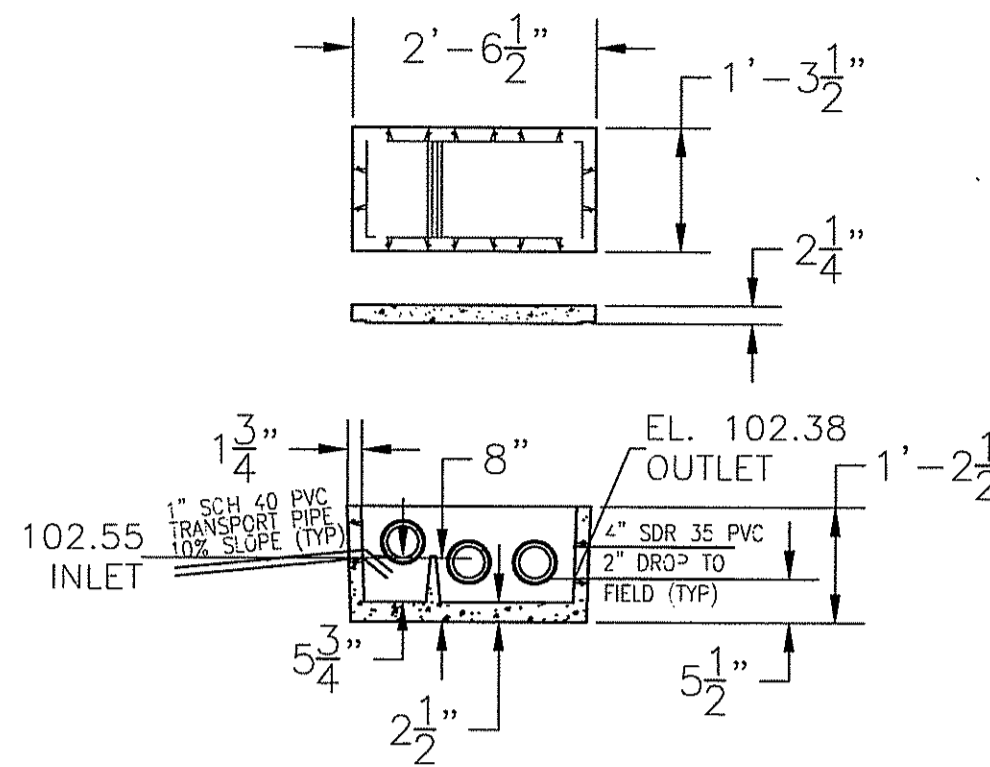
- SHOW TH-1 98.63
- BOTTOM OF ASTM C-33 SAND 101.13
- BOTTOM OF ELJEN IN-DRAIN 101.63
- PIPE INVERT/TOP IN-DRAIN 102.21
- FINAL COVER OVER LEACH FIELD 103.71
- D-BOX OUTLET INVERT 102.38
- D-BOX INLET INVERT 102.55
- ST TRANSPORT PIPE INVERT 96.85
- HIGH LEVEL ALARM 94.47
- PUMP ON 94.22
- PUMP OFF 94.14
- SEPTIC TANK INLET INVERT 95.05
- BLDG. SEWER INV. @ FNDTN 97.34
- TOP OF SLAB 98.34
- BOTTOM OF SLAB 98.84

- DESIGN NOTES**
- ALL JOINTS SHALL BE SEALED WITH BUTYL RUBBER SEALANT.
 - ALL INLETS AND OUTLETS HAVE STATE-APPROVED SEALS.
 - RIDEM APPROVED OUTLET FILTER REQUIRED.
 - MEETS ASTM C 1227-97A.
 - CONCRETE COMP. STRENGTH 5,000 PSI MIN. @ 28 DAYS.
 - DESIGN LOADING: H-20 WHEEL LOAD

SCALE: 1/2" = 1'-0"

8 HOLE "D" BOX WITH BAFFLE

JOLLEY PRECAST, INC. MODEL DB5-3 OR APPROVED EQUAL



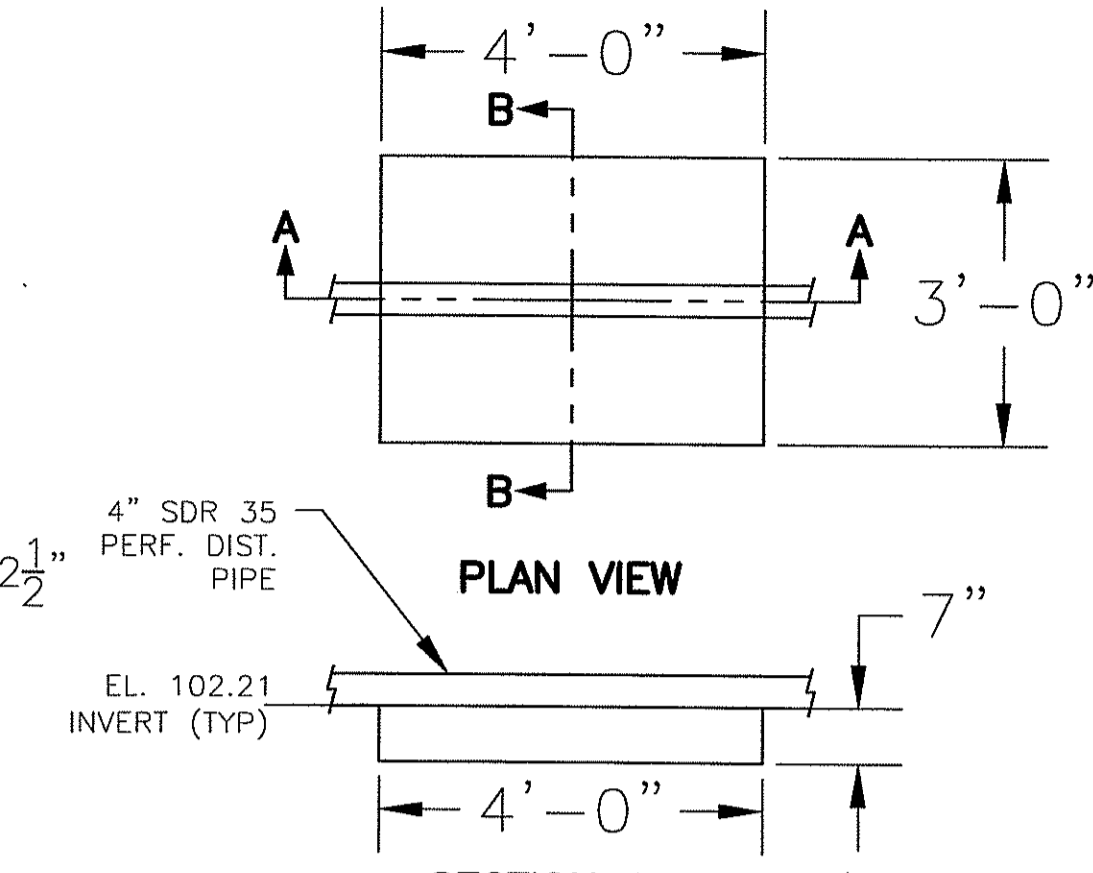
DESIGN NOTES

- FIVE OUTLETS AND THREE INLETS.
- ALL INLETS AND OUTLETS HAVE STATE-APPROVED SEALS THAT ACCEPT 4" S-40, 4" SDR-35, 3" AND 2" PIPE.
- TYPE II CEMENT ASTM C-150-81.
- CONCRETE COMP. STRENGTH 5,000 PSI MIN. @ 28 DAYS.

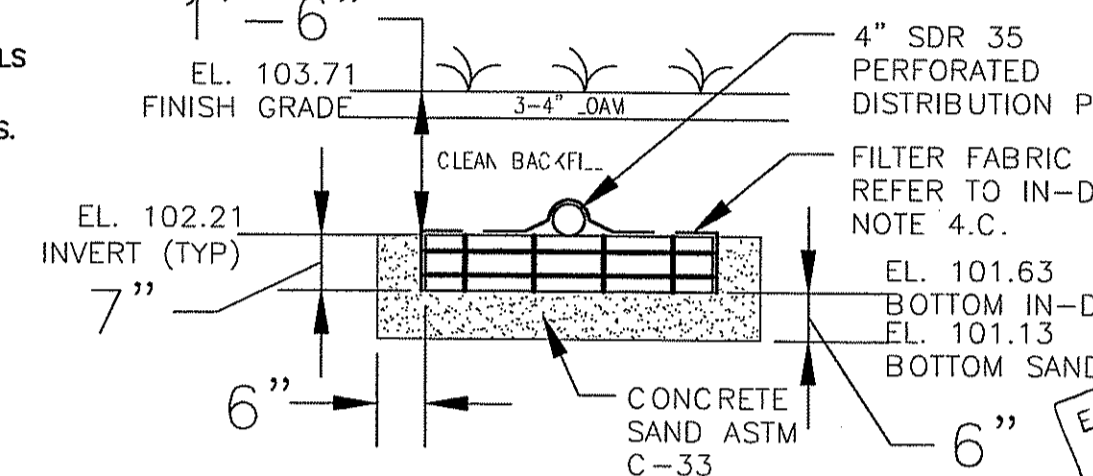
SCALE: 1/2" = 1'-0"

ELJEN IN-DRAIN, TYPE B

ELJEN CORPORATION



SECTION A-A



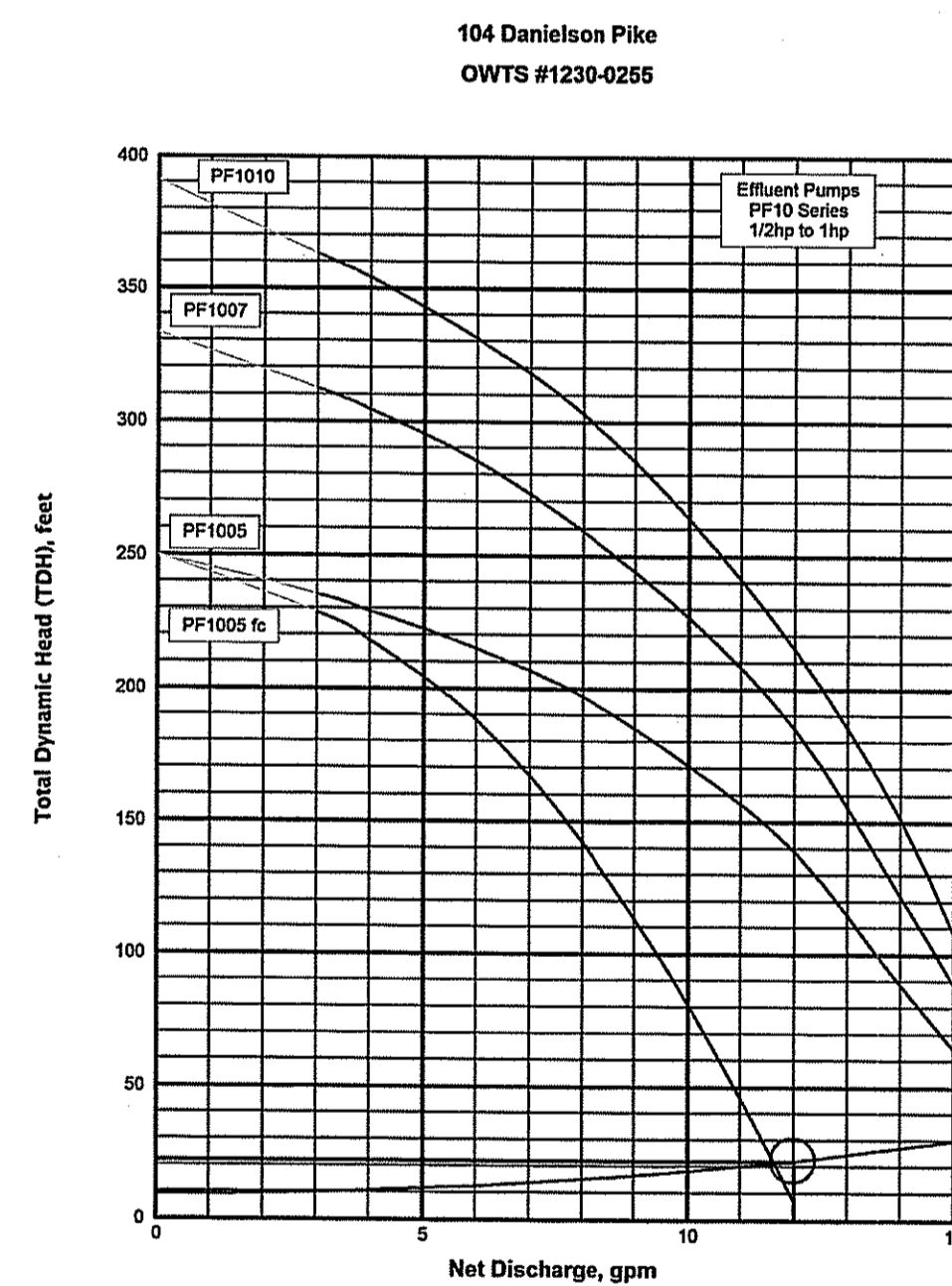
SECTION B-B

SCALE: 1/2" = 1'-0"

Pump Selection for a Non-Pressurized System

Input Parameters	Value
Design Flow Rate	12.0 gpm
Distributing Valve Model	None
Lift to Discharge	9.0 feet
Transport Length	60.0 feet
Transport Line Size	1.00 inches
Transport Pipe Class/Schedule	40
Discharge Assembly Size	1.00 inches
Flow Meter	None inches
*Add-on Friction Losses	5.0 feet

Calculations	Value
Head Loss Through Distributing Valve	0.0 feet
Head Loss in Transport Pipe	4.7 feet
Head Loss Through Discharge	3.3 feet
Head Loss Through Flow Meter	0.0 feet
*Add-on Friction Losses	5.0 feet
Total Flow Rate	12.0 gpm
TDH	22.0 feet



ELJEN IN-DRAIN INSTALLATION GUIDELINES:

- IN ADDITION TO THE OWTS RULES, CONSTRUCTION SHALL CONFORM TO THE RIDEM'S APRIL 28, 1997 ELJEN IN-DRAIN CERTIFICATION AND ELJEN CORPORATION'S JULY 1997 INSTALLATION AND DESIGN MANUAL.
- SITE PREPARATION:
 - REMOVE OBSTRUCTING ITEMS SUCH AS STUMPS, BOULDERS, COBBLES, LOAM, TOP SOIL AND SUBSOIL FROM THE LEACH FIELD AREA. THE FIELD AREA SHOULD NOT BE DUG DURING WET WEATHER. BOTTOM AND SIDE AREAS (INFILTRATION SURFACES) MUST NOT BE SMEARED OR COMPACTED BY FOOT OR VEHICULAR TRAFFIC. THE BOTTOM AND SIDEWALL SURFACES MUST BE SCARIFIED.
 - STRIPPING OF NATIVE SOIL BETWEEN IN-DRAIN TRENCHES IS NOT REQUIRED.
- SAND AND FILL SPECIFICATIONS:
 - SAND SHALL BE MEDIUM TO COARSE TEXTURED, WASHED, SILICA SAND, EFFECTIVE SIZE 0.25 TO 2.0 MM, PASSING #200 SIEVE < 5%, UNIFORMITY COEFFICIENT < 5, COEFFICIENT OF PERMEABILITY > 5 FT/DAY, MATERIAL MUST MEET ASTM C-33
 - 6" OF SAND IS PLACED DIRECTLY ON TOP OF THE UNDERLYING NATIVE SOIL IN THE EXCAVATED 4' WIDE TRENCH, AND AT BOTH SIDES OF THE IN-DRAIN UNITS.

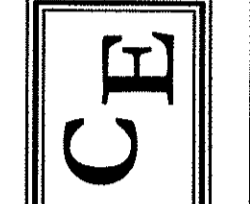
ELJEN IN-DRAIN INSTALLATION GUIDELINES (CONT.):

- TYPE B IN-DRAIN FIELD INSTALLATION:
 - PLACE IN-DRAIN MODULES (WHITE STRIPE FACING UP) SNUGLY END TO END OVER RAKED SAND FIELD BOTTOM PER RIDEM APPROVED PLAN. NOTE THAT 4' LENGTH IS IN LINE WITH TRENCH. ROWS ARE SPACED 15' CENTER TO CENTER.
 - INSTALL PERFORATED DISTRIBUTION PIPE ON CENTER OF IN-DRAIN ROWS. SECURE WITH METAL HOOPS (PROVIDED) BY PUSHING POINTED ENDS INTO IN-DRAIN MODULES. OPTIONALLY, HAND PLACED BACKFILL MAY BE USED TO HOLD PIPE IN PLACE AFTER FILTER FABRIC IS PLACED OVER MODULES.
 - LAY GEOTEXTILE FABRIC OVER THE TOPS BEING SURE TO COVER THE SIDES OF IN-DRAINS. COVER FABRIC SHOULD DRAPE OVER TOP OF PIPE. DO NOT BLOCK HOLES IN PERFORATED PIPE.

ELJEN IN-DRAIN INSTALLATION GUIDELINES (CONT.):

- BACKFILL AND EROSION CONTROL: PLACE 18" OF CLEAN BACKFILL, FINAL COVER OVER THE IN-DRAINS. BACKFILL MUST BE FREE OF LARGE ROCKS THAT WOULD DAMAGE DISTRIBUTION PIPE, COVER FABRIC OR IN-DRAINS UNITS. NORMAL INSTALLATION USES BANK RUN SAND AS FILL MATERIAL. 3" TO 4" OF TOPSOIL SHOULD BE SEEDED AND PROTECTED FROM EROSION (HAY OR EQUIVALENT METHOD). FINISHED GRADES SHOULD NOT BE GREATER THAN A 3:1 SLOPE. SURFACE DRAINAGE MUST BE DIRECTED AWAY FROM THE FIELD AREA AT ALL TIMES.
- SYSTEM GRADING: GRADING IN THE LEACH FIELD AREA DURING CONSTRUCTION AND UPON COMPLETION MUST DIVERT SURFACE RUNOFF FROM BUILDINGS, PARKING AREAS AND NEARBY SLOPED TERRAIN. GRADE BED AREA IN LEVEL SYSTEMS AT A MINIMUM OF 1% TO PREVENT SURFACE PONDING.

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4/24/12

Environmental Management
Office of Water Resources
JUN 25 2012

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FACSIMILE: (541) 459-2884

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
REVIEWED SITE PLAN APPLICATION NO.: 12-0107
DATED JUL 24, 2012
SEE LETTER OF SAME DATE

REVISIONS:	NO.	DATE	DESCRIPTION

OWTS #1230-0255
ALTERATION

OWTS DETAILS & NOTES

SHEET 2 OF 2