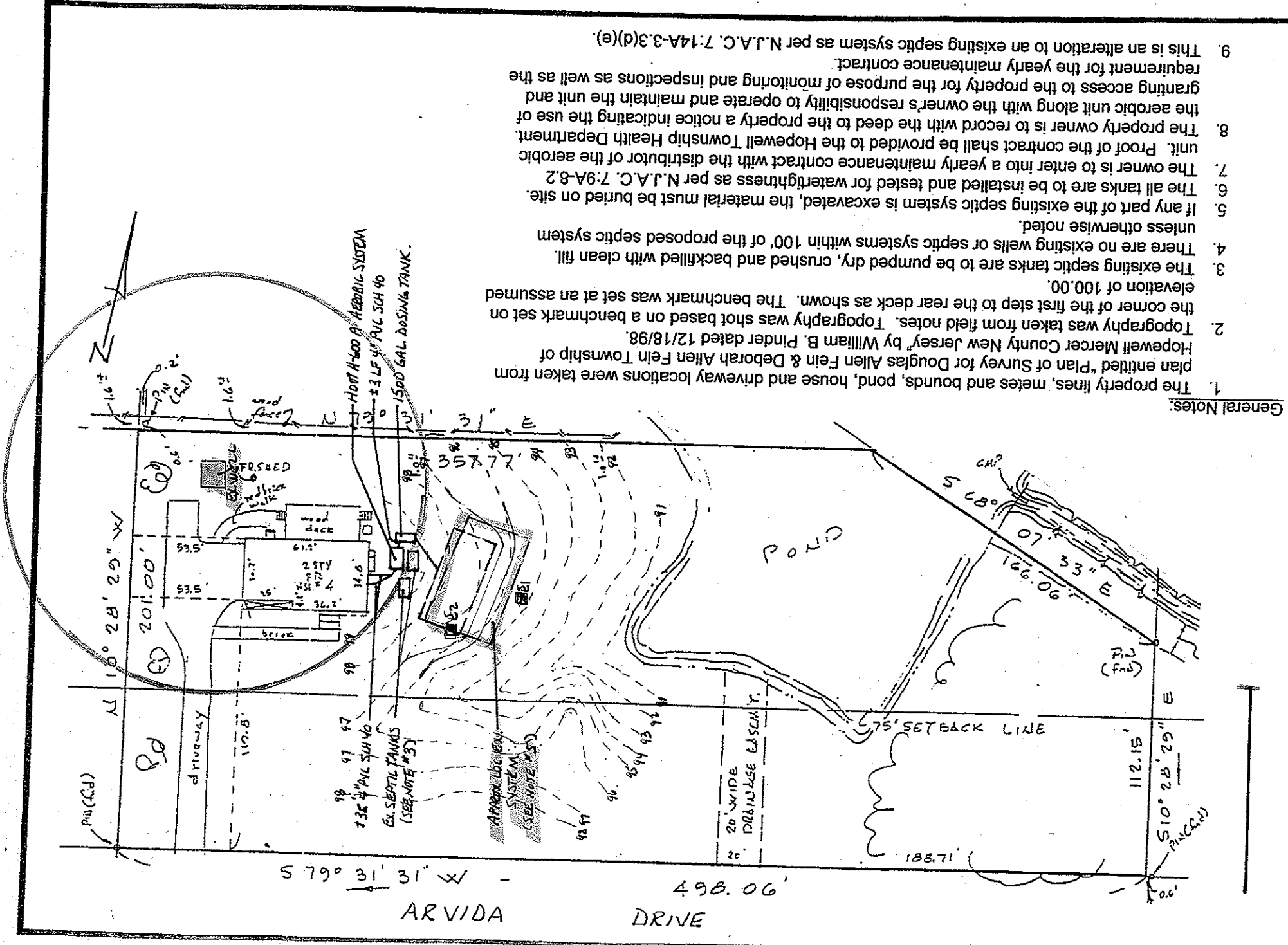




- General Notes:**
1. The property lines, metes and bounds, pond, house and driveway locations were taken from plan entitled "Plan of Survey for Douglas Allen Fein & Deborah Allen Fein Township of Hopewell Mercer County New Jersey" by William B. Pinder dated 12/18/98.
 2. Topography was taken from field notes. "Topography was shot based on a benchmark set on the corner of the first step to the rear deck as shown. The benchmark was set at an assumed elevation of 100.00."
 3. The existing septic tanks are to be pumped dry, crushed and backfilled with clean fill.
 4. There are no existing wells or septic systems within 100' of the proposed septic system unless otherwise noted.
 5. If any part of the existing septic system is excavated, the material must be buried on site.
 6. The all tanks are to be installed and tested for watertightness as per N.J.A.C. 7:9A-8.2.
 7. The owner is to enter into a yearly maintenance contract with the distributor of the aerobic unit. Proof of the contract shall be provided to the Hopewell Township Health Department.
 8. The property owner is to record with the deed to the property a notice indicating the use of the aerobic unit along with the owner's responsibility to operate and maintain the unit and granting access to the property for the purpose of monitoring and inspections as well as the requirement for the yearly maintenance contract.
 9. This is an alteration to an existing septic system as per N.J.A.C. 7:14A-3.3(d)(e).

REV.	DESCRIPTION	DATE	BY



DONALD P. SCHLACHTER DATE 03/22/03

 New Jersey Professional Engineer No. 23805

SEPTICS BY PATTERSON, INC.
 SOIL TESTING, SEPTIC DESIGN, INSPECTIONS
 887 NEW RD. CHURCHVILLE, PA 18966 215-942-9017

SEPTIC SYSTEM DESIGN
 PREPARED FOR
BLOCK 43.17 LOT 2
 SITUATED IN
 HOPEWELL TOWNSHIP MERCER COUNTY

SCALE: 1"=60'
 DATE: 12/2/03
 DRAWN BY:
 CHECKED BY:
 PAGE: 1 OF 7

INSPECTION PORT - 4" PVC PIPE
WITH A SCREW CAP TAKEN TO A DEPTH
OF (BOTTOM OF LEVEL OF INFILTRATION)

EXISTING GROUND
SURFACE ELEV - 97.4

PROP. FINISHED
GRADE ELEV.

EXCAVATION LENGTH - 46'

APPROVED FILTER FABRIC

9-18" TOPSOIL (MIN.)

2" STONE COVER
1" PERFORATED PVC PIPE - INV. 96.4
12" CRUSHED STONE
D.A.T. STANDARD SIZES #3, #4, #24
ELEV. 95.4

5" DIA. CENTER MANIFOLD

18" COARSE SAND (SEE NOTE #5 P. 7)
ZONE OF TREATMENT

ELEV. 93.9

55" COARSE SAND
(SEE NOTE #5 P. 7)
ZONE OF DISPOSAL

ELEV. 89.32

4" PVC 54" DEEP MONITOR PORT W/
SCREW ON CAP TO BE INSTALLED TO A
DEPTH OF 6" INTO THE ZONE OF DISPOSAL

20' LATERAL
LENGTH E.T.W.S.

120" SOIL LOSS DEPTH

97" EXCAVATION DEPTH

97" PERMEABILITY TEST DEPTH

There are 10 distribution laterals 20' long
Each lateral is to be spaced 45" off center
Individual laterals to have holes. The holes are apart with a diameter of
The end laterals are to be spaced from the edge of the bed.

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SEPTIC SYSTEM DESIGN
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BLOCK 43.17 LOT 2
SITUATED IN
HOPEWELL TOWNSHIP
MERCER COUNTY

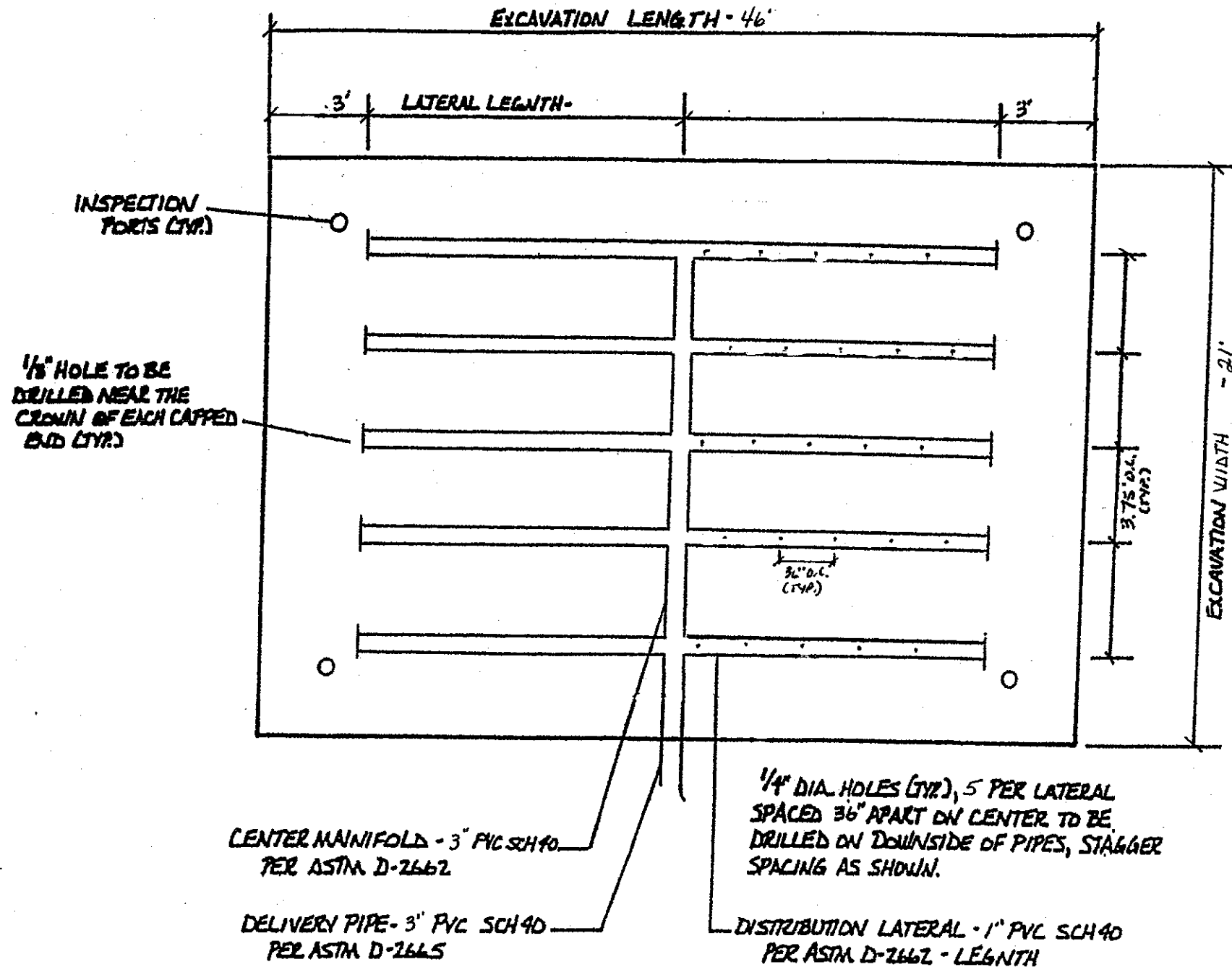
SCALE: DRAWN BY:
DATE: 12/2/13 CHECKED BY: PAGE: 2 OF 7

REV.	DESCRIPTION	DATE	BY

03 Dec 13

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DATE



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 DATE: 12/3/13 CHECKED BY: PAGE: 3 OF 7

REV.	DESCRIPTION	DATE	BY

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DISPOSAL BED CALCULATIONS:

System designed for a 5 bedroom dwelling

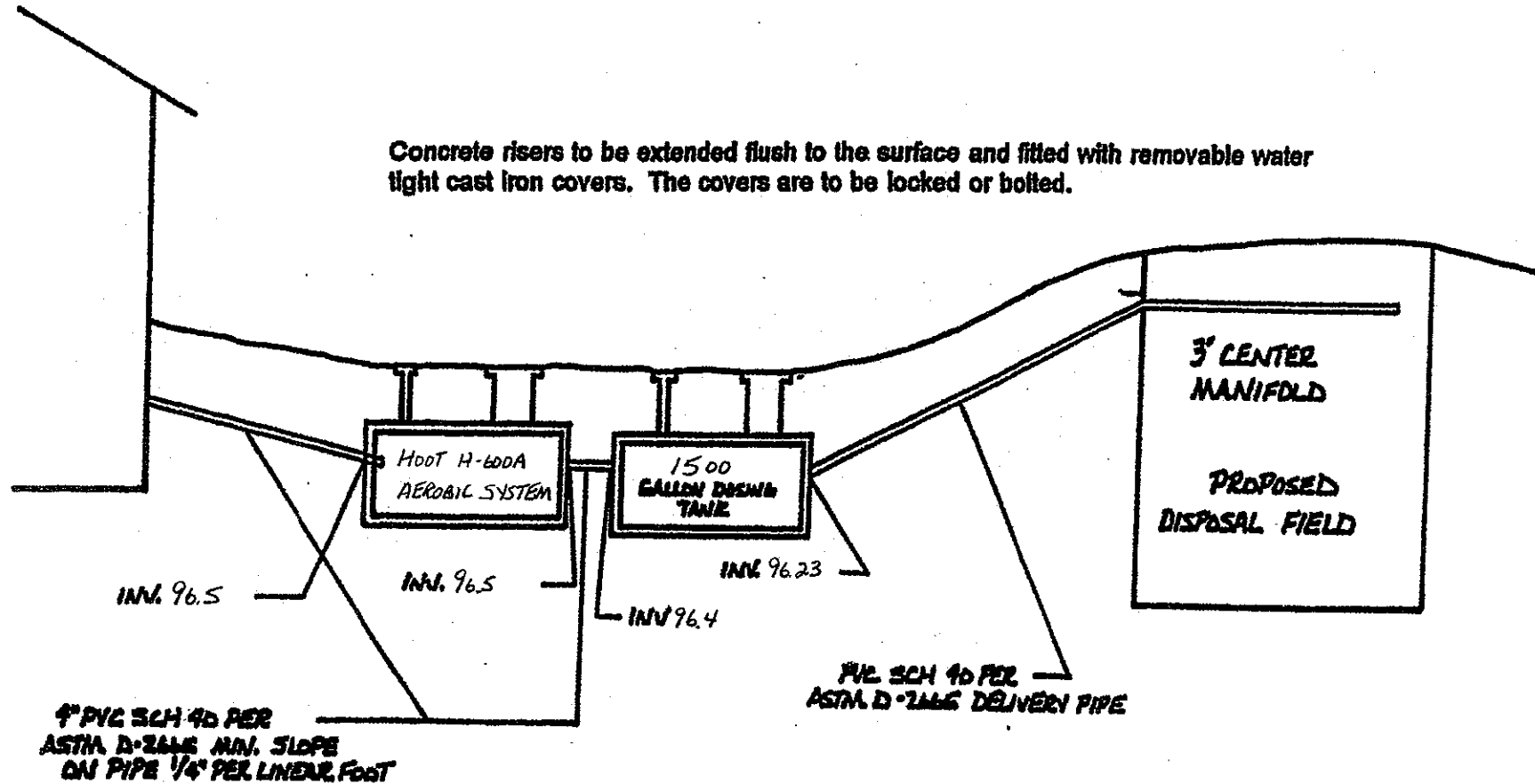
Required Bottom Bed Area:

$$800 \text{ GPD} \times 0.018 \text{ SF/GPD} \times 1.25 = 956 \text{ SF}$$

Proposed Bottom Bed Area:

$$46' \text{ long} \times 21' \text{ wide} = 966 \text{ SF}$$

Concrete risers to be extended flush to the surface and fitted with removable water tight cast iron covers. The covers are to be locked or bolted.



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SEPTIC SYSTEM DESIGN

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BLOCK 43.17 LOT 2
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SCALE: — DRAWN BY: —

DATE: 10/2/13 CHECKED BY: —

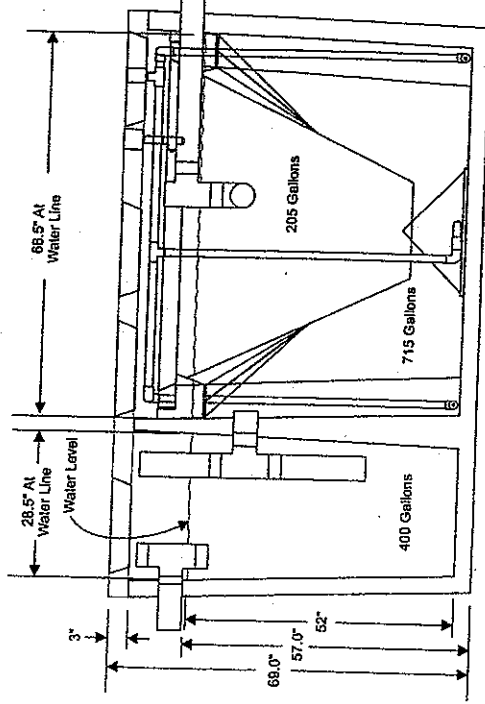
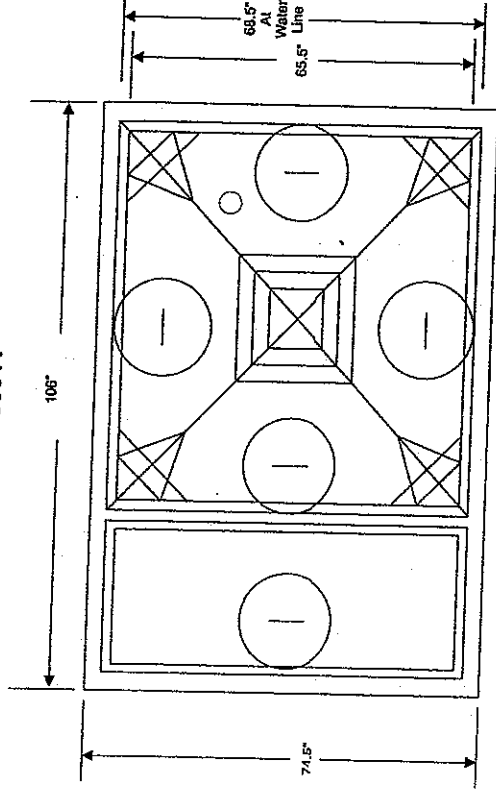
PAGE: 4 OF 7

REV.	DESCRIPTION	DATE	BY

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New Jersey Professional Engineer No. 23805

H-600 A



Aerobic Unit Notes:

1. The unit must be NSF Standard 40 and/or Standard 245 certified.
2. Unit must be installed in accordance with all the manufacturer's specifications and recommendations.
3. The control panel used must be able to track at the minimum the pump elapsed time, cycle counts, and high level alarms to determine flow through the system.
4. The unit must be equipped with a telemetry control panel that provides continuous remote monitoring, informational management and control on the unit.
5. The authorized installer shall be present at all times during the installation and either install or directly oversee the installation.
6. The authorized installer shall ensure the property owner has a copy of the service contract and have the owner agree to comply with the requirements by obtaining written acknowledgement of the contract.
7. All tanks must be installed and tested for watertightness as per N.J.A.C. 7:9A-8.2
8. Troy Air Blower must be located no more than 50' from the Hoot Pretreatment device.

Hoot Universal Pump control Panel

1. Provide float level control system to automatically control the operation of the pump as required by the effluent flow. Float level sensors shall be Gould Pump Model No. A2-5
2. The control panel shall be as manufactured by Hoot Systems and be suitable for use with the 1/3 HP sewage pump.
3. The alarm and the pump are to be on separate circuit breakers

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DATE

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SEPTIC SYSTEM DESIGN
PREPARED FOR

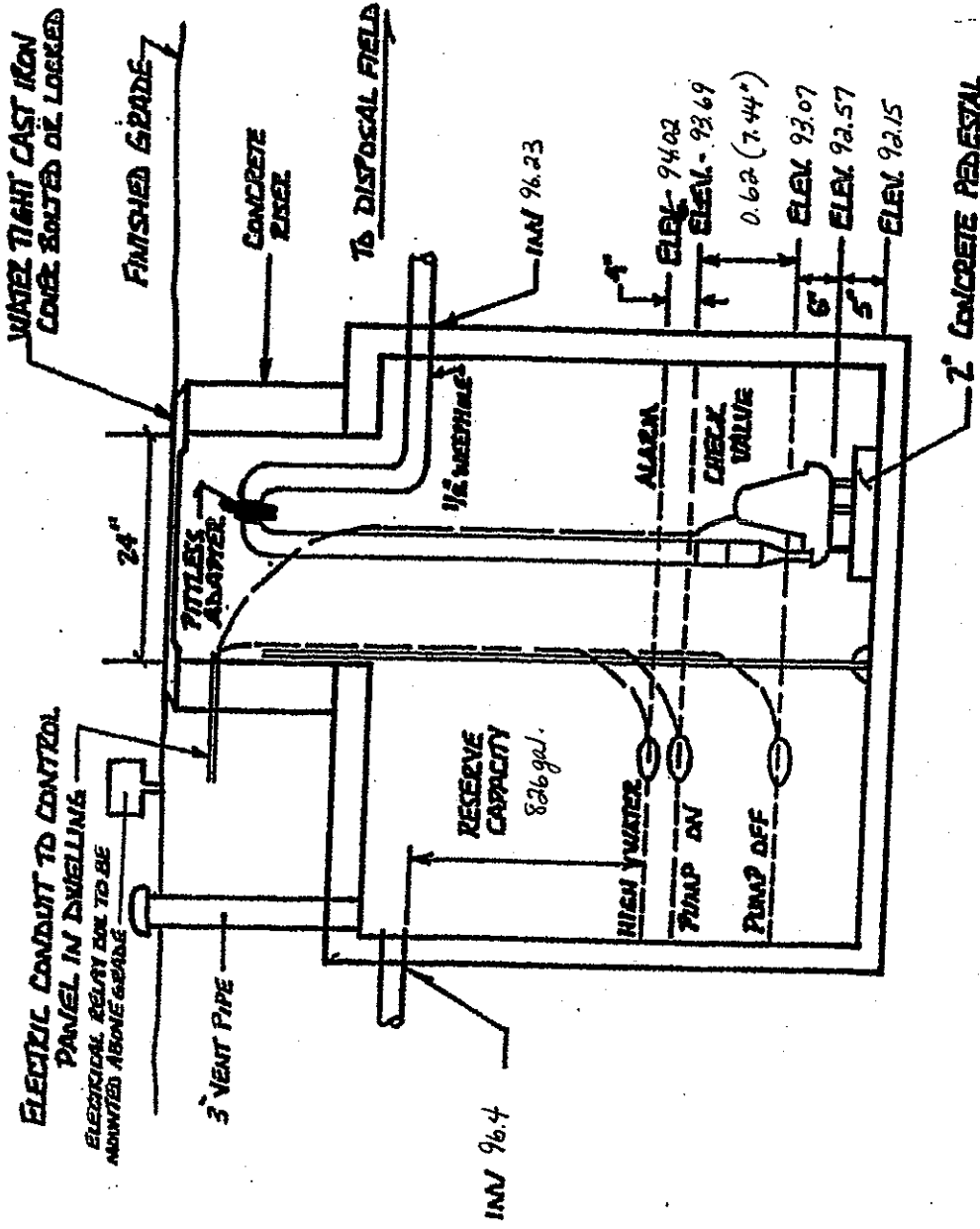
BLOCK 43.17 LOT 2

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DATE: 12/2/13 CHECKED BY: _____

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Dosing Tank Notes:

1. The dosing tank shall be constructed the same as septic tanks as prescribed in N.J.A.C. 7:9A-8.2(e).
2. The dosing tank is a 1500 gallon concrete tank.
3. The dosing tank is to be installed and tested for watertightness as per N.J.A.C. 7:9A-8.2.
4. The inside tank dimensions are 120" x 60".
5. The dosing tank is to be installed on a firm and stable foundation of 3/4" clean stone 6" deep.
6. If the pump to be used is a Goulds model 3886BHF WS03B, 1/3 HP pump or approved equal, the contractor shall provide to the engineer the pump model and its specifications for approval prior to its installation.
7. Audio and visual alarms are to be installed in the dwelling. The pump and alarm shall utilize separate electrical circuits.
8. Quick disconnect couplings shall be used to facilitate removal.
9. A weather electrical relay box is to be mounted above grade outside the tank. A gas-tight seal shall be provided where the conduits exit the tank.

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GENERAL NOTES

1. Remove trees in the vicinity of the disposal field as directed by the Health Department.
2. If the excavation is carried below the required depth, it is to be filled with approved fill.
3. If the soil conditions encountered during the excavation for the system differ from what was found during the soil testing. The design engineer is to be contacted immediately.
4. The engineer is to be contacted for the below listed inspections. No certification will be given unless the engineer completes the following inspections:
 - open hole
 - fill emplacement and certification
 - distribution network placement
 - septic tank and/or dosing tank placement
 - pump/alarm float settings
 - final grade
5. Material used in the zone of treatment or zone of disposal shall meet the following requirements:

Course sand to be used as per N.J.A.C. 7:9A-10.1(f)4. Coarse sand used shall meet the following requirements:

 - Coarse fragment content (greater than a No. 8 sieve) less than 15% by volume or less than 20% by weight.
 - Textural analysis (composition, by weight, of size fraction passing the particular sieve as stated): 100% must pass a 3/8" sieve, between 80 and 100% must pass No. 8 sieve (2.36 mm); between 50 and 85% must pass No. 16 sieve (1.18 mm); between 25 to 60% must pass No. 30 sieve (0.6 mm); between 10 and 30% must pass No. 50 sieve (0.3mm); 2 and 10% must pass No. 100 sieve (0.15 mm).
 - Permeability for these materials is established within the range of 6-20 in/hr for design purposes.
6. Fill material to be spread and compacted in one foot lifts. Compaction to be done by sheepfoot roller or the use of a rubber tired or tracked machine, exerting no more than 8 lbs/sq. in., driven over the area in a controlled pattern.
7. The engineer must perform percolation tests in the emplaced fill material.
8. The contractor is to verify all elevations prior to construction.
9. Fill material compaction to be inspected by the engineer.
10. No grading equipment shall pass over the septic field.
11. Lot grading to be controlled to direct surface water away from the disposal field.
12. The septic and dosing tanks are to be constructed and placed in accordance to N.J.A.C. 7:9A-8.2.
13. All electrical items to be installed per national electrical codes.
14. No garbage grinder disposal units are permitted.
15. The soil logs and permeability tests make no representations or warranties to the presence or absence of obstructions of soil conditions other than those actually encountered. Subsurface conditions of soil conditions other than those actually encountered may vary with regard to elevation, composition, texture, structure, and other characteristics from the descriptions given in the soil logs and the results of the permeability tests. Subsurface conditions differing from those observed at the test areas may require revisions to the design or construction of the on-site disposal system at the owner's expense. Results of soil logs shall be from logs within 15 ft. of the proposed disposal field and meet soil profile pit locations described in N.J.A.C. 7:9A(a-h), and (c)1.
16. Soil Tests were carried out under the direct supervision of a licensed engineer.
17. There are no existing or proposed wells within 100' of the proposed system unless as shown.

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