



Form 1
General Information

Lot: _____ Block: _____

1. Type of Permit Needed (check applicable categories):

_____ New Construction _____ Alteration/No Expansion or Change of Use
_____ Alteration/Expansion or Change in Use
_____ Alteration/Malfunctioning System
_____ Deviation from Standards _____ Repairs to Existing System

2. Location of project:

Municipality: _____
Street Address: _____
Zip Code: _____
Block No.: _____
Lot No.: _____
New Jersey State Plane Feet Coordinates: (optional) X-Coord.: _____ Y-Coord.: _____

3. Name of Applicant: _____

Present Address: _____

4. Estimated Cost of Project: (optional) _____

5. Applicants Phone Number: _____ (second tel. no.) _____

6. Type of facility:

_____ Residential
_____ Commercial/Industrial
Specify type of establishment: _____

7. Type of waste to be discharged:

_____ Sanitary Sewage
_____ Industrial Wastes
_____ Other-(specify): _____

8. Other approvals/certification/waivers/exemptions (attach to application):

_____ Pinelands Commission
_____ U.S. Army Corps of Engineers
_____ NJDEP – Bureau of Flood Plain Management
_____ Other – (specify): _____

9. I hereby certify that the information furnished on Form 1 of this application (and the attachments thereto) is true. I am aware that false swearing is a crime in this State and subject to prosecution.

Signature of Applicant: _____ Date: _____

County: _____ Municipality: _____

FOR AGENCY USE ONLY

_____ Application Denied – Reason for Denial/Citation of Rules Violated: _____
_____ Application Approved
_____ Application Approved Subject to Approval by NJDEP

Date of Action: _____

Signature of Authorized Agent: _____

Printed Name and Title: _____

**Form 2a**
General Site Evaluation Data

Lot: _____ Block: _____

1. Name of Site Evaluator: _____
2. Business Address of Site Evaluator: _____
3. Business Phone Number of Site Evaluator: _____

4. Special site limitations identified (check appropriate categories):

| | | |
|-------------------------|------------------------|--------------------|
| Flood Plains _____ | Bedrock Outcrops _____ | Wetlands _____ |
| Excessively Stony _____ | Disturbed Ground _____ | Steep Slopes _____ |
| Sand Dunes _____ | Sink Holes _____ | |

5. Soil logs – Enter on Form 2b – Use one sheet for each soil log.

6. Considerations relating to disturbed ground:

- a. Type of disturbance (check appropriate categories)

| | | |
|-------------------------|----------------------|----------------------|
| Filled Area _____ | Excavated Area _____ | Re-graded Area _____ |
| Subsurface Drains _____ | Other-Specify _____ | |

- b. Pre-existing Natural Ground Surface

Elevation relative to existing ground surface _____

Method of identification _____

- c. Suitability of disturbed ground:

Unsuitable, objects subject to disintegration or change in volume _____

Excessively coarse _____

Proctor test performed _____ % Standard proctor density = _____

7. Hydraulically head test:

- a. Hydraulically restrictive horizon, Depth to bottom:

- b. Piezometer A, Depth to bottom: _____ Depth of water level (24 hrs): _____

- c. Piezometer B, Depth to bottom: _____ Depth of water level (24 hrs): _____

- d. Witnessed by: _____ (signature) Date: _____

8. Attachments (check items included)

Site plan: _____

Key map showing location of site on U.S.G.S. Quadrangle or Other Accurate map: _____

Key map showing location of site on U.S.D.A. Soil Survey map: _____

Other – Specify _____

9. I hereby certify that the information furnished on Form 2a of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date: _____

Signature of Professional Engineer: _____ License #: _____

County: _____ Municipality: _____



Form 2b
Soil Log and Interpretation

Lot: _____ Block: _____

1. Log Number: _____ Method (check one) : _____ Profile Pit: _____ Boring: _____

2. Soil Log:

Depth: (inches) _____

Top-Bottom: _____

[Munsel color name and symbol; estimated textural class; estimated volume % coarse fragment, if present; structure; moist or dry consistence; mottling – abundance, size and contrast, if present]

3. Ground water observation:

Seepage-indicate depth: _____

Pit/Boring-depth flooded (y/n): _____ Depth: (inches) _____ Hours: _____

4. Soil limiting zones (check appropriate categories):

Fractured rock substratum – depth to top: _____
Massive rock substratum- depth to top: _____
Excessively coarse horizon – depth top to bottom: _____
Excessively coarse substratum – depth to top: _____
Hydraulically restrictive horizon – depth top to bottom: _____
Hydraulically restrictive substratum – depth to top: _____
Perched zone of saturation – depth top to bottom: _____
Regional zone of saturation – depth to top: _____

5. Soil Suitability Classification: _____

6. I hereby certify that the information furnished on Form 2b of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date: _____

Signature of Professional Engineer: _____ License #: _____

County: _____ Municipality: _____

**Form 3a**
Soil Permeability Data

Lot: _____ Block: _____

Assign a number for each test and a letter for each test replicate. Show test data and calculations on Form 3d, 3c, 3d, 3f or 3g. Use one sheet for each separate test or test replicate.

1. Summary of data – Enter data for each test replicate on a separate line.

| Type of Test | Test (number) | Replicate (letter) | Depth (inches) | Result* |
|--------------|---------------|--------------------|----------------|---------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

*For tube permeameter, pit-balling and piezometer tests report results in inches per hour. For soil permeability class rating give soil permeability class number. For percolation test report result in minutes per inch. For basin flooding test report result as positive if basin drains completely within 24 hours after second filing, negative otherwise.

2. Design permeability/percolation rate: Specify test number: _____

Average of text replicates _____

Single replicate _____

Slowest of replicates _____

3. Identification and classification

| Type of Limiting Zone Identified | Test Number |
|----------------------------------|-------------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |

4. Attachments (check items included):

- ____ Form 3b- Tube permeameter test data; Number of sheets. _____
- ____ Form 3c- Soil Permeability Class Rating Test Data; Number of sheets _____
- ____ Form 3d- Percolation Test Data; Number of sheets _____
- ____ Form 3e- Pit-Bailing Test Data; Number of sheets _____
- ____ Form 3f- Piezometer Test Data; Number of sheets _____
- ____ Form 3g- Basin Flooding Test Data; Number of sheets _____

6. I hereby certify that the information furnished on Form 3a of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date: _____

Signature of Professional Engineer: _____ License #: _____

County: _____ Municipality: _____



Form 3b
Tube Permeameter Test Data

Lot: _____ Block: _____

1. Test Number: _____ Replicate (letter): _____ Date collected: _____
2. Material Tested: _____ Fill: _____ Tested in native soil: _____ Indicate Depth: _____
3. Type of Sample: _____ Undisturbed: _____ Disturbed: _____
4. Sample dimensions: Inside radius of sample tube, R, in cm _____ Length of sample, L, in inches _____
5. Bulk density determination (disturbed samples only):
 Sample weight (wt. tube containing sample-wt. of empty tube), grams _____
 Sample volume ($L \times 2.54\text{cm./inch} \times 2.24^2$), cc _____
 Bulk density (sample Wt./Sample Volume), grams/cc _____
6. Standpipe used: No: _____ Yes: _____ Indicate internal radius, cm: _____
7. Height of water level above rim of test basin, in inches:
 At the beginning of each test interval, H1 _____
 At the end of each test interval, H2 _____
8. Rate of water level drop (add additional lines if needed):

| Time, start of test interval, t1 | Time, end of test, interval t2 | Length of test interval, t, minutes |
|----------------------------------|--------------------------------|-------------------------------------|
| | | |
| | | |
| | | |
| | | |
| | | |

9. Calculation of permeability:

$$K, (\text{in/hr}) = 60 \text{ min/hr} \times r^2/R^2 \times L(\text{in})/t(\text{min}) \times \ln(H1/H2)$$

$$= 60 \text{ min/hr} \times \text{_____} / \text{_____} \times \text{_____} / \text{_____} \times \ln(\text{_____} / \text{_____}) = \text{_____}$$
10. Defects in the Sample (Check appropriate items):

| | | |
|--|--|--|
| <input type="checkbox"/> None | <input type="checkbox"/> Cracks | <input type="checkbox"/> Worm Channels |
| <input type="checkbox"/> Root Channels | <input type="checkbox"/> Soil/Tube Contact | |
| <input type="checkbox"/> Large Gravel | <input type="checkbox"/> Large Roots | |
| <input type="checkbox"/> Dry Soil | <input type="checkbox"/> Smearing | <input type="checkbox"/> Compaction |

 Other (specify): _____

11. I hereby certify that the information furnished on Form 3b of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date: _____
 Signature of Professional Engineer: _____ License #: _____

County: _____ Municipality: _____



Form 3c
Soil Permeability Class rating Data

Lot: _____ Block: _____

1. Test Number: _____ Replicate (letter): _____
2. Sample Depth: _____ Boring Number: _____ Date Collected: _____
3. Course Fragment Content:
 Total weight of sample. W.T, grams _____
 Weight of material retained on 2mm sieve, W.C.F., grams _____
 Wt. % Coarse Fragment (W.C.F./ W.T. x 100, grams _____
4. Oven dry weight (24 hrs., 105° C) of 40 gram air dry sample, grams, Wt. _____
5. Hydrometer Calibration, Rc: _____
6. Hydrometer reading – 40 seconds, grams, R1: _____
 Temperature of suspension, °F: _____
7. Corrected hydrometer reading, grams, R1': _____
8. Hydrometer reading – 2 hours, grams, R2: _____
 Temperature of suspensions, °F: _____
9. Corrected hydrometer reading, grams, R2': _____
10. % sand = (Wt. – R1') / Wt. x 100 = (_____ - _____) / _____ x 100 = _____
11. % clay = R2' / Wt. x 100 = _____ / _____ x 100 = _____
12. Sieve Analysis:
 - a. Oven dry Wt. (2hrs., 105°C) Total sand fraction (soil retained in .047 mm sieve), grams: _____
 - b. Wt. of fine plus very fine sand fraction (Sand passing .25 mm sieve), grams: _____
 - c. % fine plus very fine sand (b/a): _____
13. Soil morphology (Natural soil samples only):
 Structure of soil horizon tested: _____
 Consistence of soil horizon tested: Dry: _____ Moist: _____
14. Soil permeability class rating (Based upon average textural analysis of this replicate and other replicate samples):
 K Value= _____
15. I hereby certify that the information furnished on Form 3c of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date: _____
 Signature of Professional Engineer: _____ License #: _____

County: _____ Municipality: _____

**Form 3d**
Percolation Test Data

Lot: _____ Block: _____

1. Test Number: _____ Replicate (letter): _____ Date Tested: _____

2. Depth: _____

3. Pre-soak: _____

_____ Sandy textured soil only, shortened pre-soak – Indicate time required for 12 inches of water to drain after second filling, minutes: _____

_____ Four hour pre-soak completed – Indicate results:

_____ Test hole drained within 16 to 24 hours after pre-soak

_____ Test hole did not drain within 24 hours after pre-soak

4. Rate of fall data:

a. Time interval selected, minutes: _____

b. Record the drop in water level during each time interval to the nearest 1/10th – Inch on the lines below:

| Depth of water, start of interval (inches) | Depth of water, end of interval (inches) | Drop in water level (inches) |
|--|--|------------------------------|
| | | |
| | | |
| | | |
| | | |
| | | |

5. Percolation Rate:

a. Time, minutes, required for a six-inch drop in water level _____

b. Percolation rate = $a/6 =$ _____ min/in

6. I hereby certify that the information furnished on Form 3d of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____

Date: _____

Signature of Professional Engineer: _____

License #: _____

County: _____ Municipality: _____



Form 3e
Piezometer Test Date

Lot: _____ Block: _____

1. Test Number: _____ Reference Soil Log: _____ Date Tested: _____
2. Diameter of soil auger, in.: _____ Depth of test hole, in.: _____
3. Depth of apparent static water level, in. _____
4. Measure and record:

| Water Depth, start of interval inches, d1: | Time at start of interval: | Water depth, end of interval inches, d1: | Time at end of interval: | Length of Intercal, min, t: |
|--|----------------------------|--|--------------------------|-----------------------------|
| | | | | |

5. Depth to water level after 24 hours stabilization period, D_{static} in.: _____

6. Value of A-parameter: _____

7. Calculation of permeability:

$$K, \text{ in/hr} = \left[\frac{(3.14R^2)}{(A \times t)} \right] \times \left[\frac{\ln(d_1 - D_{\text{stat}} / d_2 - D_{\text{stat}})}{\ln \left(\frac{d_1 - D_{\text{stat}}}{d_2 - D_{\text{stat}}} \right)} \right] \times 60 \text{ min/hr}$$

$$= \left[\frac{(3.14 \text{ } ______)}{(\text{ } ______ \times \text{ } ______)} \right] \times \left[\ln \left(\frac{\text{ } ______ - \text{ } ______}{\text{ } ______ - \text{ } ______} \right) \right] \times 60 \text{ min/hr} = \text{ } ______$$

8. I hereby certify that the information furnished on Form 3e of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date: _____
 Signature of Professional Engineer: _____ License #: _____

County: _____ Municipality: _____



Form 3f
Pit-Balling Test Data

Lot: _____ Block: _____

1. Test Number: _____ Reference Soil Log: _____ Date Tested: _____
2. Using the reference level established, measure and record the following:
 - a) Depth to bottom of pit, ft, D_{pit} : _____
 - b) Depth to water level after 2hr. stabilization period, ft D_{water} : _____
 - c) Depth to impermeable stratum, ft, $D_{stratum}$: _____ (if depth is unknown assume it to be 1.5 times the depth of the pit.)
 - d) Height of water level above impermeable stratum, ft, H _____ (H _____ = $D_{stratum} - D_{water}$)
 - e) Length of time interval, T , in minutes _____
3. At the interval chosen, record the following data in the table below:
 - a) Time of measurement, t_n , minutes
 - b) Depth of water level below reference level, d_n , inches
 - c) Water surface dimensions, ft: l, w
4. Calculate the following values and enter in the table below:
 - a) Water surface area, ft^2 , A_n
 - b) Water level rise h_{rise} (subtract current value of d_n from previous value)
 - c) Average water surface area, ft^2 , A_{av} (take average of A_n and previous A_n)
 - d) Average height of water level above impermeable stratum, ft, h (take average of d_n and previous value of d_n , convert to ft., and subtract from $D_{stratum}$)
 - e) Permeability, in/hr, K_a (calculate using formula): $K_a = [h_{rise} / T] \times [A_{av} / 2.27 (H^2 - h^2)] \times 60 \text{ min/hr}$

| t_n | D_n (in.) | l, w (ft^2) | H_{rise} (in.) | A_{av} (ft^2) | H (ft) | K_a |
|-------|-------------|-------------------|------------------|---------------------|----------|-------|
| T0 | | | XXXX | XXXX | XXXX | XXXX |
| T1 | | | | | | |
| T2 | | | | | | |
| T3 | | | | | | |
| T4 | | | | | | |
| T0 | | | XXXX | XXXX | XXXX | XXXX |
| T1 | | | | | | |
| T2 | | | | | | |
| T3 | | | | | | |
| T4 | | | | | | |
| T0 | | | XXXX | XXXX | XXXX | XXXX |
| T1 | | | | | | |
| T2 | | | | | | |
| T3 | | | | | | |
| T4 | | | | | | |

5. Record the following data:
 - a) Final depth of Pit, D_{pit} , ft: _____
 - b) Depth to impermeable stratum, ft, $D_{stratum}$: _____ (if no impermeable stratum is encountered assume $D_{stratum} = D_{pit}$)
 - c) Height of standpipe above reference level, ft., h_{pipe} : _____
 - d) Depth to water level after 24 hr. stabilization period, ft, D_{water} : _____ (take measurement from top of standpipe subtract h_{pipe})
 - e) Height of static water level above impermeable stratum, ft., H _____ ($H = D_{stratum} - D_{water}$)
 - f) Average height of water level above impermeable stratum, ft, h _____ (take average of d_n from beginning and end of last time interval recorded in section 4, convert this to ft., subtract from $D_{stratum}$)
6. Re-calculation of K using data from section 5 above and from final time interval of section 4:



N.J.A.C. 7:9A – Appendix B Forms

$$K = \frac{[h_{rise} / t] \times [A_{av} / 2.27 (H_2 - h_2)] \times 60 \text{ min/hr}}{X 60 \text{ min/hr}} = \left[\frac{\quad}{\quad} \right] \times 2.27 (\quad - \quad)$$

7. I hereby certify that the information furnished on Form 3f of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date: _____

Signature of Professional Engineer: _____ License #: _____

County: _____ Municipality: _____



Form 3g
Basin Flooding Test Data

Lot: _____ Block: _____

1. Test Number: _____ Reference Soil Log: _____ Date Tested: _____

2. Depth of Pit, ft.: _____

3. Area of Pit, ft² _____

4. Description of rock substratum within test zone:

Type of rock: _____

Name of formation: _____

Average fracture spacing: _____

Type of fractures (check appropriate category):

_____ Open (wide), clean – width of openings, mm _____

_____ Open (wide), infilled with fines – width of openings, mm _____

_____ Tight (closed)

Orientation of Fractures:

_____ Horizontal (parallel to pit bottom) or nearly so

_____ Inclined

_____ Vertical (parallel to sides of pit) or nearly so

Hardness of Rock:

_____ Rippable with hand tools

_____ Not rippable with hand tools, rippable by machine

_____ Not rippable by machine, explosives used

5. Time of first basin Flooding: _____
Volume of water added, Gal. _____

6. Result of first basin Flooding: _____
_____ Basin drained within 24 hours – Indicate time _____
_____ Basin not drained within 24 hours

7. Time of Second basin Flooding: _____
Volume of water added, gallon: _____

8. Result of Second Basin Flooding: _____
_____ Basin drained within 24 hours – Indicate time _____
_____ Basin not drained within 24 hours

9. I hereby certify that the information furnished on Form 3g of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date: _____

Signature of Professional Engineer: _____ License #: _____

County: _____ Municipality: _____



Form 4
General Design Data

Lot: _____ Block: _____

1. Volume of sanitary sewage, gal.: _____
 _____ Residential: number of dwelling units: _____ Total number of bedrooms: _____
 _____ Commercial/Institutional – indicate type of establishment and show method of calculation. If estimate is based on water meter data, indicate source of data, frequency of readings, average daily flow, and maximum recorded daily reading: _____

2. Alterations or Repairs
 - a) Reason for alteration or repair (check appropriate categories):
 _____ Expansion or change in use _____ Upgrade existing facilities
 _____ Correct malfunctioning system _____ Other (specify): _____
 - b) Describe nature of alteration or repairs: _____

3. System components:
 - a) Grease trap capacity, gals: _____
 Show calculation used: _____
 - b) Septic tank capacities, gals: _____ First compartment gals: _____ Second gals: _____ Third gals: _____
 - c) Effluent distribution
 Method: _____ Gravity flow: _____ Gravity dosing: _____ Pressure dosing: _____
 Dosing device: Pump: _____ Siphon _____
 - d) Dosing tank capacities, gals.: Total capacity: _____ Dose volume: _____ Reserve capacity: _____
 - e) Laterals: Total length: _____ Pipe size: _____ Spacing: _____ Total Number: _____
 - f) Connecting pipe: Size: _____ Length: _____
 - g) Manifold: Size: _____ Length: _____
 - h) Disposal field: Type of installation: _____
 Design permeability (percolation rate): _____
 Trenches: Width: _____ Total length: _____ Bed Area: _____
 - i) Seepage pits: Design percolation rate: _____
 Number of pits: _____ Total percolation area provided: _____

4. Attachments: (check items included):

_____ General plan of system showing location of all system components

_____ X-Sections of each system component including grease trap, septic tank, dosing tank, disposal field, seepage pits and interceptor drains

_____ Pump performance curve

_____ Other (specify) _____

5. I hereby certify that the information furnished on Form 4 of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date: _____
 Signature of Professional Engineer: _____ License #: _____

County: _____ Municipality: _____

**Form 5**
Design of Pressure Dosing System

Lot: _____ Block: _____

1. Configuration of distribution network:

Type of manifold: _____ End _____ Central
Distribution laterals: Number _____ Length, ft: _____ Spacing, ft: _____
Hole diameter, inches: _____ Hole spacing, inches: _____
Diameter of laterals, inches: _____

2. Lateral discharge rate:

Design pressure head at supply end of laterals, Hp, ft: _____
Hole discharge rate, Q, gpm: _____
Number of holes per lateral, n: _____
Lateral discharge rate, (Qxn) gpm: _____

3. Manifold length, ft: _____ Manifold diameter, inches: _____

4. System discharge rate, gpm: _____

5. Pump selection:

Diameter of delivery pipe: _____ Length of delivery pipe: _____
Friction loss in delivery pipe, Hf, ft: _____
Elevation of dosing tank low water level: _____
Elevation of lateral invert: _____
Elevation head, He, ft: _____
Total operating head, Ht (Hp + Hf + He), ft: _____
Pump model: _____ Rated Horsepower: _____
Pump discharge rate at total operation head, gpm: _____

6. Siphon Elevation:

Diameter of delivery pipe: _____ Length of delivery pipe: _____
Friction loss in delivery pipe, Hf, ft: _____
Velocity head, Hv, ft: _____
Total operating head, Ht (Hp + Hf + Hv), ft: _____
Elevation of lateral invert: _____
Elevation of siphon invert: _____

7. Dose Volume:

Design volume of sewage, gal/day: _____
Design permeability, in/hr: _____ or Percolation rate, min/in: _____
Internal volume of distribution network: _____
Dose volume: _____

8. I hereby certify that the information furnished on Form 5 of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date: _____
Signature of Professional Engineer: _____ License #: _____

County: _____ Municipality: _____