

Wetland Replication Plant List

Common Name Scientific Name Quantity Size

Red maple Acer rubrum 15 4"-6"

Sweet pepperbush Clethra alnifolia 8 18"-24"

Highbush Blueberry Vaccinium corymbosum 8 18"-24"

Arrowwood Viburnum Viburnum dentatum 8 18"-24"

Cinnamon fern Osmunda cinnamomea 20 #1

Procedure for Construction of Wetland Replication Area

1. Install and maintain erosion and sediment control barriers on the edge of the existing wetland adjacent to the proposed replication area and adjacent to the access driveway crossing of wetland.

2. Excavate and grade the replication area to a depth of approximately 20 inches help the area shown on the replication area plan on the upslane end of the

2. Excavate and grade the replication area to a depth of approximately 20 inches below the grades shown on the replication area plan on the upslope end of the replication area, grading down to approximately 12 inches below the grades shown on the replication area at the downslope end where the replication area abuts the wetland boundary.

3. Excavation of wetland area to be disturbed by access driveway crossing

3. Excavation of wetland area to be disturbed by access driveway crossing installation shall occur after the replication area has been excavated to subgrade. The topsoil from the wetland area to be disturbed by access driveway crossing shall be transferred directly to the replication area. Do not remove and vegetation, shrubs, or roots from wetland topsoil. Stockpiling of topsoil material shall be allowed only temporarily. Additional fill required to bring replication area to grade shall be composed of prepared topsoil mix (75% loam, 25% well decomposed compost).

4. Replication area should be graded to be level with the adjacent natural wetland. Hand leveling and raking shall be used to avoid soil compaction. Any potholes or depressions should be filled and leveled to avoid stagnant puddles. Any berms resulting between the created and natural wetlands should be removed to allow for unrestricted hydraulic connection.

5. Side slopes at the replication area shall not exceed a 4:1 slope and immediately following establishment of final grades, the replication area shall be planted with trees and shrubs in accordance with the wetland replication plant list, and seeded with a wetland seedmix at a rate of 1lb/2500 sq.ft, and mulched with straw (hay is not to be used).

6. Trees shall be planted at 10-15ft on center spacing, and shrubs shall be planted at 8-10ft on center spacing throughout the replication area.

7. After the replication area has been constructed, erosion and sediment control barrier shall be placed between the replication area and disturbed upland areas to

prevent siltation of the replication area.

8. The replication area should be inspected at the end of the first and second growing seasons to examine replication success. Replanting, repairs, and removal of invasive plant species should be scheduled as needed to provide adequate cover and prevent predominance by invasive species.

| Soil Test Pit Observation |          |     |                |    |            |                   |  |  |  |
|---------------------------|----------|-----|----------------|----|------------|-------------------|--|--|--|
| Depth                     | Matrix   |     | Redox Features |    | Texture    | Remarks           |  |  |  |
|                           | Color    | %   | Color          | %  |            |                   |  |  |  |
| 0-10                      | 10YR 3/2 | 100 | None           |    | Sandy Loam |                   |  |  |  |
| 10-22                     | 10YR 4/4 | 100 | 7.5YR 4/6      | 20 | Sandy Loam | Evidence of water |  |  |  |
|                           |          |     | 10YR 6/2       | 5  | -          | table @ 20"       |  |  |  |
| 22+                       | 10YR 5/2 | 70  | 7.5YR 4/6      | 30 | Sandy Loam |                   |  |  |  |

## OWNER & APPLICANT

JOSEPH & CHRISTINE PANSE 246 S. COCONUT PALM BLVD. TAVERNIER, FL 33070 DEED REF. BK. 48,905, PG 274

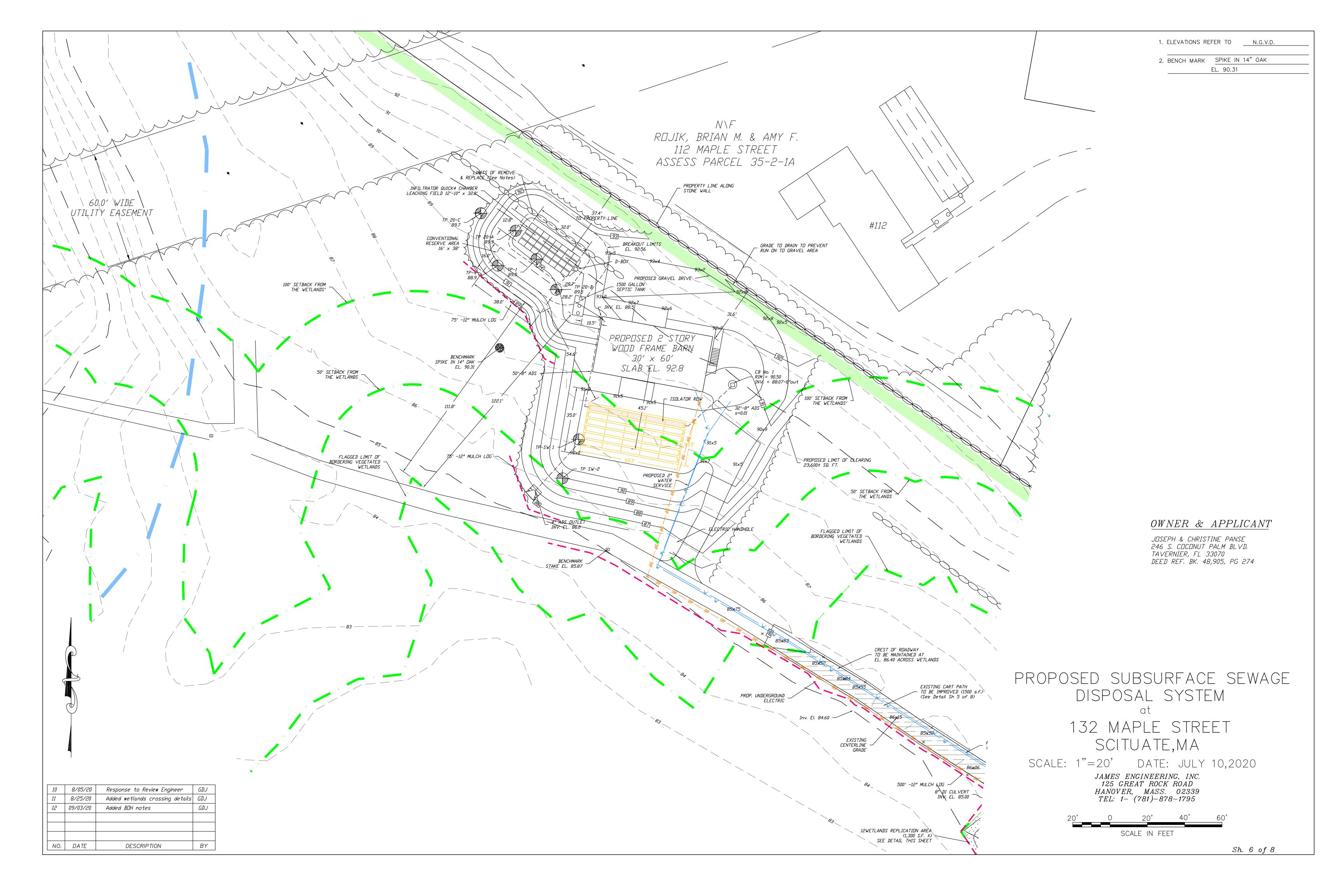
WETLANDS CROSSING & WETLANDS REPLICATION PLAN & DETAILS at 132 MAPLE STREET SCITUATE, MA

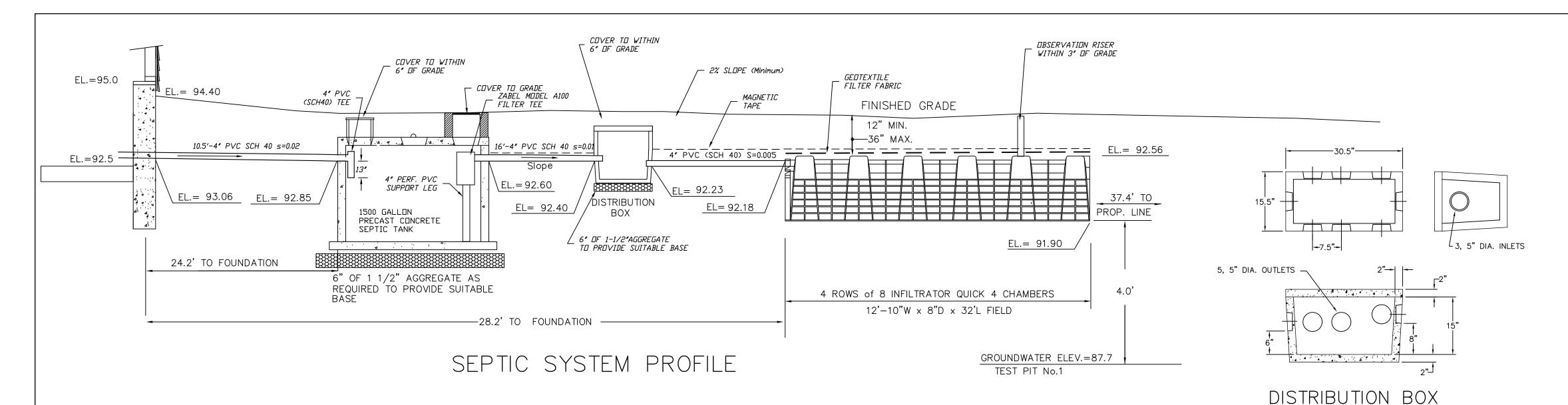
SCALE: 1"=20' DATE: APRIL 23,2019

JAMES ENGINEERING, INC. 125 GREAT ROCK ROAD HANOVER, MASS. 02339 TEL: 1- (781)-878-1795



Sh. 5 of 8





TEST PIT # 1

PERFORMED BY: GARY D. JAMES, P.E. WITNESSED BY: RALPH COLE, BOH PERC RATE: 11 MIN/IN DATE 11/18/19

|           | · · · · · · · · · · · · · · · · · · · |                  |                            |                      |                  |                                           |  |  |  |  |
|-----------|---------------------------------------|------------------|----------------------------|----------------------|------------------|-------------------------------------------|--|--|--|--|
|           | DEEP OBSERVATION HOLE LOG             |                  |                            |                      |                  |                                           |  |  |  |  |
| 89.5      | DEPTH FROM<br>SURFACE<br>(INCHES)     | SOIL<br>HORIZONS | SOIL<br>TEXTURES<br>(USDA) | SOIL COLOR (MUNSELL) | SOIL<br>MOTTLING | OTHER (STRUCTURES, CONSISTENCY,% GRAVEL)  |  |  |  |  |
|           | 0-9"                                  | А                | Sandy<br>Loam              | 10 YR 3/2            |                  | FRIABLE, MASSIVE                          |  |  |  |  |
| 28"       | 9-22"                                 | B <sub>w</sub>   | Sandy<br>Loam              | 10 YR 5/6            |                  | FRIABLE, MASSIVE                          |  |  |  |  |
| PERC TEST |                                       | С <sub>1</sub>   | Sandy<br>Loam              | 10 YR 6/2            |                  | FRIABLE, CRUMB<br>10% gravel<br>10% stone |  |  |  |  |

WEEPING FROM PIT FACE: 89"
ESTIMATED DEPTH TO MAX. G.W. 22" (EL. 87.7)
STANDING N/A

TEST PIT # 4

PERFORMED BY: GARY D. JAMES, P.E. WITNESSED BY: RALPH COLE, BOH

PERC RATE: DATE 11/18/19

|      | DEEP OBSERVATION HOLE LOG         |                  |                            |                      |                   |                                          |  |  |  |
|------|-----------------------------------|------------------|----------------------------|----------------------|-------------------|------------------------------------------|--|--|--|
| 88.9 | DEPTH FROM<br>SURFACE<br>(INCHES) | SOIL<br>HORIZONS | SOIL<br>TEXTURES<br>(USDA) | SOIL COLOR (MUNSELL) | SOIL<br>MOTTLING  | OTHER (STRUCTURES, CONSISTENCY,% GRAVEL) |  |  |  |
|      | 0-7"                              | А                | Sandy<br>Loam              | 10 YR 3/2            |                   | GRANULAR<br>FRIABLE                      |  |  |  |
|      | 7–18"                             | В                | Sandy<br>Loam              | 10 YR 5/6            |                   | FRIABLE, MASSIVE                         |  |  |  |
|      | 18–120 <b>"</b>                   | C <sub>1</sub>   | Sandy<br>Loam              | 10 YR 5/4            | 24"<br>7.5 YR 5/6 | FRIABLE, CRUMB<br>5% gravel<br>5% stone  |  |  |  |

WEEPING FROM PIT FACE:100"
ESTIMATED DEPTH TO MAX. G.W. 24" (EL. 86.9)
STANDING N/A

TEST PIT # 20-A

PERFORMED BY: GARY D. JAMES, P.E. WITNESSED BY: RALPH COLE, BOH PERC RATE: 11 MIN/IN DATE: 06/24/20

|      |                                   | · · ·                     |                            |                      |                   |                                           |  |  |  |  |  |
|------|-----------------------------------|---------------------------|----------------------------|----------------------|-------------------|-------------------------------------------|--|--|--|--|--|
|      |                                   | DEEP OBSERVATION HOLE LOG |                            |                      |                   |                                           |  |  |  |  |  |
| 89.9 | DEPTH FROM<br>SURFACE<br>(INCHES) | SOIL<br>HORIZONS          | SOIL<br>TEXTURES<br>(USDA) | SOIL COLOR (MUNSELL) | SOIL<br>MOTTLING  | OTHER (STRUCTURES, CONSISTENCY,% GRAVEL)  |  |  |  |  |  |
|      | 0-9"                              | А                         | Sandy<br>Loam              | 10 YR 3/2            |                   | GRANULAR<br>FRIABLE                       |  |  |  |  |  |
| 34"  | 9-28"                             | B <sub>w</sub>            | Sandy<br>Loam              | 10 YR 5/6            |                   | FRIABLE, MASSIVE                          |  |  |  |  |  |
|      | 28-120"                           | C <sub>1</sub>            | Sandy<br>Loam              | 10 YR 5/4            | 30"<br>7.5 YR 5/6 | FRIABLE, CRUMB<br>10% gravel<br>30% stone |  |  |  |  |  |

WEEPING FROM PIT FACE: 82"
ESTIMATED DEPTH TO MAX. G.W. 30" (EL. 87.4)
STANDING N/A

TEST PIT # 20-B

PERFORMED BY: GARY D. JAMES, P.E. WITNESSED BY: RALPH COLE, BOH PERC RATE: 13 MIN/IN DATE: 06/24/20

|           | DEEP OBSERVATION HOLE LOG         |                |                            |                      |                   |                                           |  |  |  |
|-----------|-----------------------------------|----------------|----------------------------|----------------------|-------------------|-------------------------------------------|--|--|--|
| 89.4      | DEPTH FROM<br>SURFACE<br>(INCHES) |                | SOIL<br>TEXTURES<br>(USDA) | SOIL COLOR (MUNSELL) | SOIL<br>MOTTLING  | OTHER (STRUCTURES, CONSISTENCY,% GRAVEL)  |  |  |  |
|           | 0-8"                              | Α              | Sandy<br>Loam              | 10 YR 3/2            |                   | GRANULAR<br>FRIABLE                       |  |  |  |
| 28"       | 8-28"                             | B <sub>w</sub> | Sandy<br>Loam              | 10 YR 5/6            |                   | FRIABLE, MASSIVE                          |  |  |  |
| PERC TEST |                                   | с <sub>1</sub> | Sandy<br>Loam              | 10 YR 5/4            | 24"<br>7.5 YR 5/6 | FRIABLE, CRUMB<br>10% gravel<br>30% stone |  |  |  |

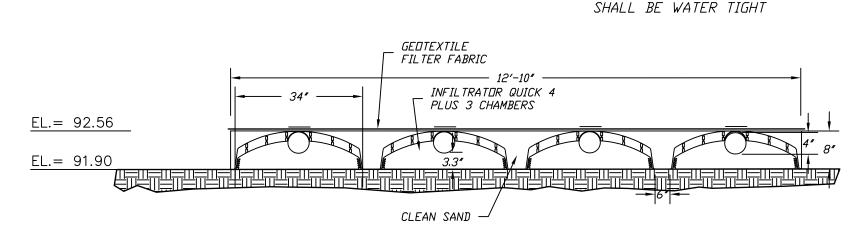
WEEPING FROM PIT FACE: 74"
ESTIMATED DEPTH TO MAX. G.W. 24" (EL. 87.4)
STANDING N/A

TEST PIT # 20-C

PERFORMED BY: GARY D. JAMES, P.E. WITNESSED BY: RALPH COLE, BOH PERC RATE: TEST STOPPED DATE: 06/24/20

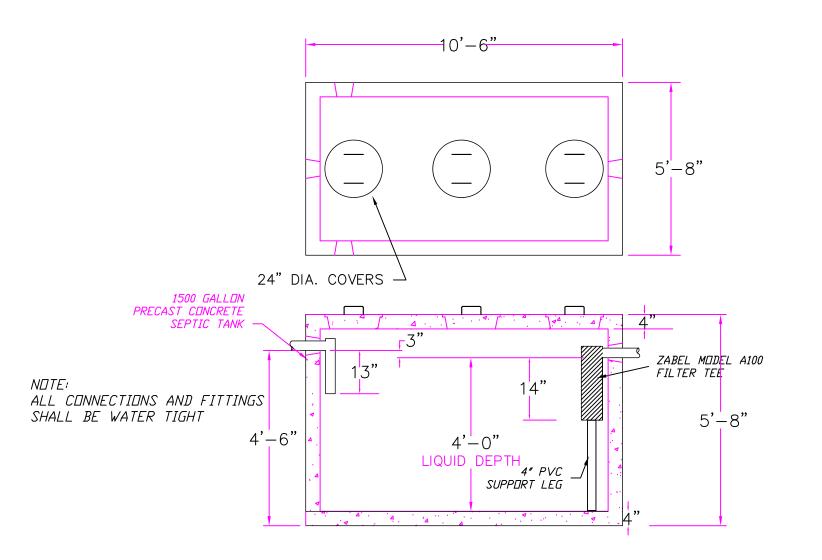
|      |      | DEEP OBSERVATION HOLE LOG         |                  |                            |                      |                   |                                               |  |  |  |
|------|------|-----------------------------------|------------------|----------------------------|----------------------|-------------------|-----------------------------------------------|--|--|--|
|      | 89.7 | DEPTH FROM<br>SURFACE<br>(INCHES) | SOIL<br>HORIZONS | SOIL<br>TEXTURES<br>(USDA) | SOIL COLOR (MUNSELL) | SOIL<br>MOTTLING  | OTHER<br>(STRUCTURES,<br>CONSISTENCY, GRAVEL) |  |  |  |
|      |      | 0-8"                              | Α                | Sandy<br>Loam              | 10 YR 3/2            |                   | GRANULAR<br>FRIABLE                           |  |  |  |
|      | 30"  | 8-28"                             | B <sub>w</sub>   | Sandy<br>Loam              | 10 YR 5/6            |                   | FRIABLE, MASSIVE                              |  |  |  |
| PERC | TEST |                                   | С <sub>1</sub>   | Sandy<br>Loam              | 10 YR 5/4            | 30"<br>7.5 YR 5/6 | FRIABLE, CRUMB<br>10% gravel<br>30% stone     |  |  |  |

WEEPING FROM PIT FACE: 82"
ESTIMATED DEPTH TO MAX. G.W. 30" (EL. 87.2)
STANDING N/A



SECTION THRU LEACHING

ALL CONNECTIONS AND FITTINGS



1500 GAL. SEPTIC TANK

NOTES CONTINUED:

14. LEACHING FACILITIES SHALL BE COVERED WITH A GEOTEXTILE FABRIC LAYER.

15. IN AREAS SHOWN ON THE PLAN, ALL TOPSOIL, PEAT AND OTHER IMPERVIOUS MATERIAL SHALL BE REMOVED AND REPLACED WITH A CLEAN GRANULAR SAND FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, WHICH SHALL BE GRADED SUCH THAT;

1. NO MATERIAL IS LARGER THAN 2 INCHES.

2. NOT MORE THAN 45% IS RETAINED ON THE #4SIEVE;

3. OF THE FRACTION PASSING
THE #4 SIEVE, THE MATERIAL
SHALL FALL WITHIN THE
GRADATION LIMITS AS FOLLOWS;

 SIEVE SIZE
 PERCENT PASSING

 #50
 10-100%

 #100
 0-20%

 #200
 0-5%

16. A SIEVE ANALYSIS OF THE MATERIAL SHALL BE PERFORMED TO DETERMINE THAT IT MEETS THE GRADATION REQUIREMENTS AS NOTED AROVE

REPLACEMENT QUANTITY= 170\*CU. YDS.

17. REMOVE AND REPLACE SHALL EXTEND TO A DEPTH OF 28" OR UNTIL C1 HORIZON IS ENCOUNTERED;

EXCAVATION QUANTITY= 85 CU. YDS.

18. UNLESS OTHERWISE NOTED, ALL PIPING SHALL BE SCHEDULE 40 PVC WITH WATER TIGHT JOINTS AND SHALL BE COVERED BY A MAGNETIC TAPE TO ASSIST WITH LOCATING THE PIPE.

\* INCLUDES 20% COMPACTION ALLOWANCE

19. UNLESS OTHERWISE NOTED, THERE ARE NO KNOWN WELLS WITHIN 200' OF THE PROPOSED LEACHING FACILITIES.

20. ALL SYSTEM COMPONENTS SHALL BE COVERED WITH A MAGNETIC TAPE

21. DESIGN ENGINEER SHALL BE CONTACTED TO INSPECT THE CONSTRUCTION PROGRESS OF THE SYSTEM;

TO HELP IDENTIFY LOCATION AFTER INSTALLATION.

1. WHEN ALL MATERIAL HAS BEEN REMOVED
TO INSPECT THE MATERIAL AT THE BOTTOM OF THE HOLE;
2. WHEN THE SYSTEM COMPONENTS HAVE BEEN INSTALLED
PRIOR TO BACKFILLING; AND
3. WHEN THE SYSTEM FINAL GRADING HAS BEEN COMPLETED.

22. THE SITE IS NOT LOCATED IN A FEMA FLOOD HAZARD AREA.

23. THE SITE IS LOCATED IN A ZONE II OF A PUBLIC WATER SUPPLY WELL

24. INFILTRATOR QUICK4 PLUS 3 CHAMBERS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE GENERAL USE PERMIT ISSUED BY DEP REV JUNE 12,2015.

25. INSTALLER SHALL BE CERTIFIED BY INFILTRATOR TO INSTALL THEIR SYSTEMS

26. LEACHING FACILITIES AS SHOWN ON ABUTTING LOTS TAKEN FROM AS BUILT PLANS ON RECORD AT THE BOARD OF HEALTH

27. CONVENTIONAL SYSTEM REQUIREMENTS

APEA REQUIRED = 5893 SO FT

AREA REQUIRED = 589.3 SQ. FT. SYSTEM PROPOSED = 16' x 38' AREA PROVIDED = 608 SQ. FT. ok

28. THERE SHALL BE NO CHANGES MADE TO THE PLAN WITHOUT THE PERMISSION OF THE BOARD OF HEALTH AND DESIGN ENGINEER.

29. ZONE II COMPLIANCE CALCULATIONS

LOT AREA 636,000 SQ. FT.

CURRENT USE 2 BEDROOM DWELLING 220 GALLONS
PROPOSED USE DESIGN CAPACITY 330 GALLONS
TOTAL DAILY FLOW 550 GALLONS
EQUIVALENT FLOW 5 BEDROOMS
ALLOWED DENSITY = 1 BEDROOM / 10,000 SQ. FT.
= 63 BEDROOMS
ACTUAL USE = 5 BEDROOMS ok

1. ELEVATIONS REFER TO N.G.V.D.

2. BENCH MARK NAIL IN OAK TREE

EL. 89.87

3. ESTIMATED DAILY FLOW

USE 330 GALLON MINIMUM

RESIDENTIAL USE

4. SEPTIC TANK REQ'D CAPACITY = 1500 GALLONS

5. LEACHING AREA REQUIREMENTS; CLASS II SOIL PERC RATE 13 MIN/IN

APPLICATION RATE = 0.56 G/SF

AREA REQ. =330.0 ÷ 0.56 GAL/S.F. =589.3 S.F

USE INFILTRATOR QUICK4 PLUS CHAMBERS

AREA =4.73 S.F. / L.F.

LNGTH REQ. = 589.3 S.F. ÷ 4.73 S.F./L.F. =124.6

6. LEACHING AREA PROVIDED

USE CHAMBER BED 32'L X 12'-10" W

4 ROWS OF CHAMBERS 32'L = 128'

EQUIV. AREA PROV. = 128 x 4.73 = 605.4 S.F.

CAP. PROV=605.4 X 0.74 G/S.F.= 448.0 G.P.D.

7. HEAVY GRADING MACHINERY SHALL NOT BE PERMITTED TO PASS OVER LEACHING AREAS.

8. ALL CONSTRUCTION TO CONFORM TO THE REQUIREMENTS OF THE MASSACHUSETTS DEPARTMENT OF ENV. PROTECTION SANITARY CODE, TITLE 5, AND THE TOWN OF SCITUATE BOARD OF HEALTH.

9. PERCOLATION DATA

PERC RATE DEPTH OF TEST DATE

1. 11 MIN/IN 30" 11/18/19
20-A 11 MIN/IN 34" 06/24/20
20-B 13 MIN/IN 28" 06/24/20

10. THIS SYSTEM IS NOT DESIGNED TO ACCOMMODATE A GARBAGE GRINDER.

11. THE FIRST TWO FEET OF EACH LINE EXITING FROM THE "D-BOX" SHALL BE LEVEL.

12. DESIGN ENGINEER TO BE NOTIFIED AT LEAST 48 HOURS PRIOR TO REQUIRED INSPECTIONS.

13. SEPTIC SYSTEM OWNER SHALL HAVE SEPTIC TANK INSPECTED AT LEAST ONCE EACH YEAR & PUMPED AS DEEMED NECESSARY BY THE INSPECTOR NOT LESS THAN ONCE EVERY THREE YEARS.

OWNER & APPLICANT

JOSEPH & CHRISTINE PANSE 246 S. COCONUT PALM BLVD. TAVERNIER, FL 33070 DEED REF. BK. 48,905, PG 274

## SEPTIC DETAILS PLAN OF LAND at 132 MAPLE STREET SCITUATE, MA

SCALE: NTS DATE: JULY 10,2020

JAMES ENGINEERING, INC. 125 GREAT ROCK ROAD HANOVER, MASS. 02339 TEL: 1- (781)-878-1795

10 8/05/20 Response to Review Engineer GDJ
11 8/25/20 Added wetlands crossing details GDJ
12 09/03/20 Added BOH notes GDJ

NO. DATE DESCRIPTION BY



Sh. 7 of 8

