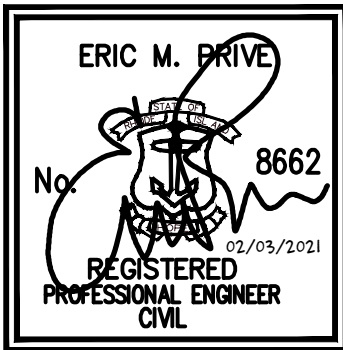


Shepherd's Run
Sewer Feasibility Study
South Kingstown, Rhode Island

February 2021



Prepared for:
Morgan + Schoen Hospitality
12 Grand Street
Stonington, CT 006378

Prepared by:
DiPrete Engineering Associates, Inc.
Two Stafford Court
Cranston, RI 02920

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Introduction

The property located at 4780A Tower Hill Road, South Kingstown, RI is serviced by an existing OWTS referenced by RIDEM Application No. 0232-2532. The existing OWTS consists of an interior kitchen grease trap, three 5,000 gallon septic tanks, two 6,000 gallon recirculation tanks, a four-zone recirculating sand filter for denitrification, and a ten zone pressurized shallow narrow dispersal trench leachfield totaling 2,040 square feet of treatment area. A new commercial development is proposed at this location which will utilize the existing OWTS components. Flows from the proposed development will be at or below 7,500 gallons per day, which is the RIDEM-approved design flow of the existing system.

This report studies the following 3 alternatives for disposal of wastewater:

Alternative 1 – Offsite Sewer Force Main Extension (Prout School to the west) – SFM to South County Commons - The first alternative is to install an onsite sewer pump station with a sewer force main to the Prout School to the west. The Prout School has a pump station that connects to the South County Commons pump station across Tower Hill Road (Route 1). Alternative 1 starts with a new sewer force main line at the existing building and continues along the northern most asphalt drive leaving the property to the Prout School parking lot then turns left (south) on the next paved road where it discharges into the existing pump station owned and operated by Prout School. An existing pressure sewer line then feeds the sewage northwest through the Prout School site, continues up the northmost asphalt drive which then crosses Tower Hill Road (Route 1) to the South County Commons and ties into the existing South County Commons private sanitary sewer pump station. The owners of South County Commons were contacted about possible tie-in and were informed that the South County Commons pump station is not able to accept the flow from the Shepherd’s Run site. See Appendix C for the letter from South County Commons stating non-acceptance for tie-in.

Alternative 2 – Offsite Sewer Force Main Extension (Government Center to the south) – SFM to Pump Station – The second alternative is to install an onsite sewer pump station with a sewer force main to the Government Center to the south. Similar to Alternative 1, the proposed route starts at a sewer force main line at the existing building and continues along the southern most asphalt drive leaving the property until it turns left (south) on the next paved road then southwest through the Family Court parking lot by the building then southeast where it discharges into the existing pump station owned and operated by the Government Center (State of Rhode Island). An existing pressure sewer line then feeds the sewage southwest through the Government Center site and continues west down the asphalt drive which then crosses Tower Hill Road (Route 1) and ties into the existing gravity sewer main within the Route 1 access road associated with Dr. Delmonico and Westerly Community Credit Union. The owners of the Government Center were contacted about possible tie-in and were informed that their existing pump station is not able to accept the flow from the Shepherd’s Run site. See Appendix C for the letter from the Government Center stating non-acceptance for tie-in.

Alternative 3 – Onsite Wastewater Treatment System (denitrification technology via a four-compartment recirculating sand filter) - The third alternative is to use the current Onsite Wastewater Treatment System, in which wastewater is treated and disposed onsite. Flows from the proposed development will be at or below the RIDEM-approved 7,500 gallons per day, which is the design flow of the existing system. The proposed development will occur in phases with Phase I consisting of ten guest rooms, wine making facilities for guests, and an event hall. Flows from Phase I will total 1,650 gallons per day based on RIDEM OWTS sizing requirements. Phase II of the proposed development will include 23 additional guest rooms and an 80 seat restaurant/bar. Flows from Phase II will total 5,500 gallons per

day. Combined flows from Phase I and II are expected to be 7,150 gallons per day. There has already been approved proposed development plans and RIDEM approved OWTS design.

The sewer connection was analyzed using the criteria found in the Code of Ordinances for the Town of South Kingstown, Chapter 19, Article II, Sec. 19-115 (1) b.2.

2. The director shall consider the following criteria in determining if a mandatory connection and/or sewer main extension is required:

- (i) Conformity to Town of South Kingstown Comprehensive Plan.*
- (ii) Areas of existing ISDS problems or failures.*
- (iii) Soil conditions not suitable for ISDS placement.*
- (iv) Proximity to wetlands, coastal ponds, groundwater resources and other environmentally sensitive areas.*
- (v) Existing and/or planned municipal potable waterline locations.*
- (vi) Economic feasibility.*
- (vii) Lot size.*
- (viii) Impact on areas in the vicinity of the proposed main extension.*
- (ix) Potential effect on private or municipal potable water groundwater wells within the future.*

It's also important to note that the Code of Ordinances for the Town of South Kingstown, Chapter 19, Article II, Sec. 19-115 (1) c. states:

c. Individual sewer lift or pumping stations will be subject to approval by the director. Only pressure connections to individual lots constructed perpendicular to a gravity sewer main will be considered. The pressure sewer line shall transition to a gravity sewer lateral at the applicant's property line. Community low-pressure sewer mains and/or laterals serving more than one (1) property is prohibited. [emphasis added]

1.0 Conformity to Town of South Kingstown Comprehensive Plan

The proposed Shepherd's Run project is partially within the Future Sewer Service area which is depicted within Figure 6.2 of the Town's Comprehensive Community Plan (CCP). This is an area of the town where public sewer service is recommended for any significant new development. The Town of South Kingstown Comprehensive Community Plan specifies that individual developments must be reviewed on a case-by-case basis. There is no language that we have been able to find within the Town of South Kingstown Comprehensive Plan that would be contradictory to the use of an advanced treatment OWTS for this site. In fact, there is much language that would be contradictory for connection to the town sewer system.

2.0 Areas of Existing OWTS Problems and Failures

There are no known existing OWTS failures within the vicinity of the site. The existing OWTS is regularly inspected by a professional operations & maintenance (O&M) vendor, which will continue with the future operations. The O&M contract has been recorded within the South Kingstown Land Evidence Records and is to be in-effect in perpetuity.

3.0 Soil Conditions Not Suitable for OWTS Placement

The OWTS system has already been placed and used with no soil condition issues. The soils information for this project have been added to this report for reference. The soil types are described as follows:

<u>Soil Symbol</u>	<u>Description</u>	<u>Hydrologic Group</u>
BrB*	Broadbrook silt loam, 3 to 8 percent slopes	C
CeC	Canton and Charlton fine sandy loams, very rocky, 3 to 15 percent slopes	B
RaA*	Rainbow silt loam, 0 to 3 percent slopes	C
RaB*	Rainbow silt loam, 3 to 8 percent slopes	C
Rp	Rock outcrop-Canton complex	B
Se	Stissing silt loam	C
UD	Udorthents-Urban land complex	None
Ur	Urban land	None
WbA*	Wapping silt loam, 0 to 3 percent slopes	B
WbB*	Wapping silt loam, 3 to 8 percent slopes	B

4.0 Proximity to Wetlands, Coastal Ponds, Groundwater Resources & Other Environmental Sensitive Areas

The proposed development is approximately 36 acres and is located off Tower Hill Road (Route 1). There is a wetland on the eastern portion of the property with regulatory jurisdiction by the Coastal Resources Management Council (CRMC). The proposed development does not propose any disturbance to the onsite jurisdictional wetland.

There are coastal resources within the vicinity as depicted on the plan set. However, the existing system has been setback from these environmentally sensitive areas in accordance with the town and RI CRMC guidelines. This review was completed when the system was designed and installed in 2002.

This site is located within the Narrow River Special Area Management Plan (CRMC) and OWTS Critical Resource Area (RIDEM). For the Narrow River SAMP from CRMC the property is classified as “Lands of Critical Concern” which states that “...the properties to be sewered are within 500 feet of an existing sewer line or are within a subdivision which abuts the sewer easement.” Since there is no sewer line within 500’ of the existing buildings, creating such a connection would violate the Narrow River SAMP and state law.

A Rhode Island Commercial System Suitability Determination has been approved from RIDEM, which qualifies that the existing OWTS is suitable for the future uses. A copy of the RIDEM System Suitability is provided in Appendix D.

5.0 Existing and/or Planned Municipal Potable Water Line Locations

There are no known or currently planned potable water locations that would be affected by maintaining the use of the existing OWTS in its current location. The site is serviced by public water with the water tower being located on the adjacent Prout School property to the west.

6.0 Economic Feasibility

Economic feasibility of connecting to the existing town system would also be cost prohibitive. Early estimates put a connection to a neighboring property at around \$500,000. A direct connection to the town system has not been estimated as the cost would be significantly higher. The nearest town-owned gravity system is located within the Route 1 access road associated with Dr. Delmonico and Westerly Community Credit Union, which is approximately 4,000 feet away. Alternative 3 – Onsite Wastewater Treatment System already exists which would cost significantly less than Alternative 1 and 2. Alternative 1 and 2 are not reasonable alternatives to the existing OWTS system already on site. As such, economic feasibility is not a consideration for this project.

7.0 Lot Size

The lot size is 35.77 acres, located off Tower Hill Road (Route 1), and the existing denitrifying pre-treatment OWTS is designed to accommodate the proposed use. RIDEM has issued a Commercial System Suitability, which confirms suitability of the existing OWTS for the future uses.

8.0 Impact on Areas in the Vicinity of the Proposed Main Extension

Impact if a main extension was required would be significant as there would have to be a pressurized line run adjacent to Route 1 and the distance from the existing line is roughly 4,000 feet. On the other hand, maintenance and upkeep of the existing OWTS would cause no additional impact as the system is already installed and in use. A majority of the existing uses along Route 1 already have access to the municipal sewer therefore there wouldn't be any additional benefit to the adjacent properties with an extension. Any new sewer force main extension would be for the sole benefit of the Shepherd's Run project.

9.0 Potential Effect on Private or Municipal Potable Water Groundwater Wells Within the Future

There are no known private or municipal potable water wells in the area that would be affected by this proposal. Information from RIDEM and the Town of South Kingstown was used for this determination.

10.0 Conclusion

As can be seen from the above analysis, it is our professional opinion that the OWTS currently installed and maintained at the site is the most appropriate method for ongoing sewage treatment. Not only is the system designed to meet the future needs, but it meets the existing specifications outlined by the Town of South Kingstown and the RI Coastal Resources Management Council.

Additionally, a new proposed connection to sewer would be in conflict with state mandated guidelines.

After reviewing the criteria found in the Code of Ordinances for the Town of South Kingstown, Chapter 19, Article II, Sec. 19-33 (a) & (b), Sec. 19-115 (1)(b.)(2.), RICRMC Jurisdiction, and considering the RIDEM OWTS Regulations Rule 250-RICR-150-10-6.15 E., it is our opinion that Alternative 3 (utilizing the existing OWTS currently on site) is the only feasible option for wastewater disposal.

It's also important to note that the Code of Ordinances for the Town of South Kingstown, Chapter 19, Article II, Sec. 19-115 (1) c. states:

c. Individual sewer lift or pumping stations will be subject to approval by the director. Only pressure connections to individual lots constructed perpendicular to a gravity sewer main will be considered. The pressure sewer line shall transition to a gravity sewer lateral at the applicant's property line. Community low-pressure sewer mains and/or laterals serving more than one (1) property is prohibited. [emphasis added]

Factors for generating conclusion:

- The property is currently serviced by a RIDEM-approved denitrifying OWTS with a capacity of 7,500 gallons per day. The system uses denitrification technology via a four-compartment recirculating sand filter. Per a recent inspection by the vendor, it was confirmed that the system is in good working condition and has adequate capacity to handle the future proposed use for the property. This was also affirmed by RIDEM with the issuance of the Commercial System Suitability.
- The closest existing town sewer line is located almost 4,000 feet away at an increased elevation

of over 20 feet. As such, connectivity would require the use of pump or ejector.

- Alternative 1 & 2 owners will not provide permission to tie-in to the existing adjacent sewer pump stations.
- Alternative 3 provides an economically viable alternative that meets all requirements of the Town of South Kingstown, CRMC, and state law.

It is DiPrete Engineering's professional opinion that Alternative 3 (utilizing the existing RIDEM-approved denitrifying OWTS) has been proven to be the most feasible option for the Shepherd's Run project.

Appendix A: Locus Map



Appendix B: Town Ordinance

Sec. 19-115. Connection policy.

The town hereby establishes the following policy relative to future connections to the sewer system:

(1) *Property within the existing and/or future sewer service area.* Any parcel of land located within the existing and/or future sewer service area as defined in figure 6.2 entitled "Sewer Service Areas," of the Town of South Kingstown Comprehensive Community Plan, may be required to connect to the sanitary sewer system. The property owner agrees to abide by all conditions, restrictions, standards, specifications, design criteria, and to pay all fees which may be established by the town. The property owner shall also pay any cost(s) associated with sewer service connection and/or sewer main extensions.

a. Property located along and abutting an existing sewer line shall be governed by section 19-33.

b. Property not located along and not abutting an existing sewer line where the property will require a sewer line extension shall be governed by section 19-111 and the following:

1. The utilities director may require that property(s) proposed for development be required to connect to the sanitary sewer system provided the following conditions are met: i.) satisfactory grades are established meeting the approval of the utilities director, and ii.) permanent rights-of-way and easements are granted to the town (where required).

2. The utilities director shall consider the following criteria in determining if a mandatory connection and/or sewer main extension is required:

- (i) Conformity to Town of South Kingstown Comprehensive Plan.
- (ii) Areas of existing ISDS problems or failures.
- (iii) Soil conditions not suitable for ISDS placement.
- (iv) Proximity to wetlands, coastal ponds, groundwater resources and other environmentally sensitive areas.
- (v) Existing and/or planned municipal potable waterline locations.
- (vi) Economic feasibility.
- (vii) Lot size.
- (viii) Impact on areas in the vicinity of the proposed main extension.
- (ix) Potential effect on private or municipal potable water groundwater wells within the future.

3. if connection is mandated, then the individual property owner(s) must submit an extension request under the following procedure. The owner of property, or his agent, shall apply in writing to the utilities department giving the following information:

- (i) Name.
- (ii) Street.
- (iii) Address.

- (iv) Assessor's plat and lot.
- (v) Proposed use of property.
- (vi) Number of units (residential).
- (vii) Proposed daily wastewater flow (nonresidential).

c. Individual sewer lift or pumping stations will be subject to approval by the utilities director. Only pressure connections to individual lots constructed perpendicular to a gravity sewer main will be considered. The pressure sewer line shall transition to a gravity sewer lateral at the applicant's property line. Community low-pressure sewer mains and/or laterals serving more than one (1) property is prohibited.

d. An applicant requesting sewer main extensions within the existing and/or future sewer service area shall prepare an engineering study at applicant's expense by a registered professional engineer delineating various wastewater methodologies satisfactory to the utilities director. This study shall address, as a minimum, the criteria identified in subsection (1)b.2 to the satisfaction of the utilities director. This document will be subject to applicable local, state and federal regulations.

e. The requested sewer connection must demonstrate that the existing sewer main designated for extension is of sufficient capacity to properly accommodate the projected sewer flows as determined by the utilities director.

f. All sewer main extensions for land subdivisions as defined in the Subdivision Regulations of the Town of South Kingstown shall be subject to planning board approval.

g. The utilities director may waive the requirement for mandatory sewer connection when in the opinion of the director sufficient evidence indicates that sewer connection is not feasible based upon criteria delineated in subsections (1) b.2 and (1)c–e.

(2) *Properties abutting or beyond the future sewer service area.* Any applicant requesting sanitary sewers for property(s) either abutting or beyond the future sewer service area which meets the criteria delineated for such extensions in the comprehensive plan may be permitted. The applicant for said extension shall submit an application to the town clerk for amendment to the future sewer service area map of the comprehensive plan in accordance with the procedure set forth in chapter 45-22.2 of the General Laws, the Rhode Island Comprehensive Planning and Land Use Regulation Act. The application for amendment to the comprehensive plan shall be accompanied by all information required under subsection (1)b.

(3) *Appeals.* Appeals contrary to the utilities director's decision regarding sanitary sewer connection shall be made to the town manager.

(4) *Property owner/developer obligations.* The following obligations apply to all sewer line connections:

a. The property owner and/or developer agrees to abide by all conditions, restrictions, standards, specifications, design criteria and to pay all fees which may be established by the town and/or the State of Rhode Island. All costs for sewer main extensions shall be paid for by the developer and/or property owner, including pipelines and services, and will not be entitled to any refunds or rebates.

b. The developer's contractor shall submit evidence satisfactory to the utilities

director of experience and qualifications for installing sewer mains, adequate insurance coverage, and assumption of liability by the contractor or developer. The plan of such installation shall be submitted to the utilities department on a utilities plan at a scale of fifty (50) feet to the inch showing sewer line details and locations, final road boundaries and grade, and location of service connections. The plan shall be in conformance with the standards and specifications of the utilities department and shall meet the approval of the utilities director. The plan shall be corrected to as-built drawing upon construction completion, certified by a registered professional engineer licensed by the State of Rhode Island, and filed with the utilities department on mylar film.

c. The materials and installations shall meet the standards of the utilities department and be subject to inspection and testing during installation and prior to acceptance. Upon acceptance, if it is so determined by the utilities director, main extensions within town and state highway rights-of-way shall become the property of the town and the responsibility of the utilities department of the town for maintenance except failures due to materials or workmanship occurring within one (1) year of acceptance, which shall remain the responsibility of the developer. The detailed standards for developers is available in the utilities department office for a fee shown under fees and charges.

(5) The final approval for sewer connections or extensions shall expire twenty-four (24) months from the date of its granting if the permission granted is not utilized as evidenced by the commencement of significant sewer construction. Reapplication shall then be required and handled as a new case.

(6) Once eighty (80) percent of plant design capacity is reached, based on an average daily flow of ninety (90) consecutive calendar days, by reason of actual use plus committed allocation estimate (based upon the utilities director's estimates of the total as evidenced by final sewer approvals and other pertinent data), no additional sewer applications will be accepted for review by the town. New applications will be placed on a waiting list pending the start of the wastewater treatment plant redesign phase.

(Ord. of 11-10-86; Ord. of 12-22-86; Ord. of 12-9-91; Ord. of 3-10-97)

Appendix C: Letters from Abutters

November 10, 2020

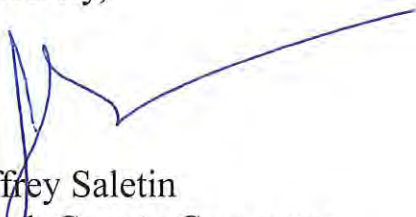
Ryan Schoen
Morgan + Schoen Hospitality
12 Grand Street
Stonington, CT 06378

**RE: Shepherd's Run – Sewer System Tie-In
4780A Tower Hill Road
Assessor's Plat 50-4 Lot 12
South Kingstown, Rhode Island**

Dear Mr. Schoen,

Please let this letter serve as acknowledgement of your request to connect to the South County Commons private sanitary sewer pump station. Unfortunately, South County Commons is not in a position to provide the necessary easements nor acceptance of additional flow into the capacity of the existing private sewer pump station.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Jeffrey Saletin', with a long horizontal flourish extending to the right.

Jeffrey Saletin
South County Commons

Sewer Connection Response from DOA/ State of Rhode Island regarding connection through their private sanitary pump system.

Kwiatkowski, Dane (DOA) <Dane.Kwiatkowski@doa.ri.gov>

Nov 9, 2020, 11:32 AM



to John, Kelly, me, Marco, Carole ▾

Good morning John,

Upon further review of the request, the state is not willing to entertain the proposed sanitary system connection. The state system cannot accommodate the additional effluent from the proposed development.

Regards,

Dane

Appendix D: System Suitability and Approved Plan

2132-0015

100~

11-23-20

447



RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 Onsite Wastewater Treatment Systems Program
 Office of Water Resources
 235 Promenade Street, Providence, RI 02908-5767
 www.dem.ri.gov/septic



**SYSTEM SUITABILITY DETERMINATION APPLICATION
 RESIDENTIAL / COMMERCIAL**

SITE INFORMATION

Site Location (Town) South Kingstown Plat: 50-4 Lot: 12
 Street Address of Building / Dwelling 4780A Tower Hill Road Water supply (please check one)
 Public or Private
 Owner's Name Legion of Christ (RI) Inc
 Mailing Address (street/PO Box) 30 Mansell Ct. Ste 103 City/Town Roswell State GA Zip 30076-1580

Was the System installed after April 9, 1968 Yes No
 If Yes, Application # 0232-2532 (Attach 3 copies of approved permit and plan)
 Was a Change of Use or System Suitability Determination previously requested? Yes No
 If Yes, Application # _____ Date approved: _____
 Are there any Deed Restrictions on occupancy, building size or other items which may impact sewage flow?
 If so, explain: _____
 Is this property part of a condominium? YES No If yes, provide approval from Condo Association

BUILDING USE	CURRENT	PROPOSED
A. Building use	Boarding school	Hotel
		Restaurant/Bar
B. Number of Design units (bedrooms, patrons, seats, etc)		
C. Number of People		
D. Water Consumption	7500	7500

CHARACTERISTIC OF EXISTING SEWAGE DISPOSAL SYSTEM

Size of Septic Tank ^{see attached} _____ Size of grease tank ^{see attached} _____ approximate size of leachfield 136' x 91' square feet 2040 s.f
 Type of Leachfield Trench chambers bed seepage pit other Shallow narrow trenches

The owner assumes all responsibility for the truth and accuracy of the representations hereon, and on all forms, submittals, plans and sketches attached hereto, and assumes all liability and responsibility for the future failure of the OWTS system on this site, and agrees to hold the RI Department of Environmental Management harmless from any and all claims against it for such future failures.

I agree and understand that should this onsite wastewater treatment system malfunction, I will take immediate steps to legally correct the problem in accordance with RIDEM OWTS rules.

Signature of Legal owner(s) [Signature] Date 11/6/20

DETERMINATION	EXTENT OF IMPROVEMENT	RECOMMENDED ACTION
<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Increase in Flow	<input type="checkbox"/> New System – Apply for Permit
<input type="checkbox"/> Denied	<input type="checkbox"/> Change in Use	<input type="checkbox"/> Alternation of System
<input type="checkbox"/> Engineering Analysis Required		<input type="checkbox"/> Field work required/ Retain a OWTS designer

COMMENTS: Per ISDS/OWTS # 0232-2532 and attached letter from
DiPrete Engineering dated 11/12/20
 DEM representative signature [Signature] Date 1/6/20 Date of expiration 1/6/25

November 12, 2020

RIDEM OWTS Program
 235 Promenade Street
 Providence, RI 02908

**RE: 4780A Tower Hill Road
 Commercial System Suitability Determination
 South Kingstown, RI
 Project #: 2193-001**

To Whom It May Concern,

The existing Ocean Pastoral Center located at 4780A Tower Hill Road, South Kingstown, RI is serviced by an existing OWTS referenced by RIDEM Application No. 0232-2532. The existing OWTS consists of an interior kitchen grease trap, three 5000 gallon septic tanks, two 6000 gallon recirculation tanks, a four-zone recirculating sand filter for denitrification, and a ten zone pressurized shallow narrow dispersal trench leachfield totaling 2040 square feet of treatment area. A new commercial development is proposed at this location which will utilize the existing OWTS components. Flows from the proposed development will be at or below 7500 gallons per day, which is the design flow of the existing system.

The proposed development will occur in phases with Phase I consisting of ten guest rooms, wine making facilities for guests, and an event hall. Flows from Phase I will total 1650 gallons per day based on RIDEM OWTS sizing requirements.

<u>Phase 1</u>						
10	guest rooms	100	gpd/unit		1000	gpd
20	wine making	5	gpd/employee		100	gpd
110	event hall (per seat)	5	gpd/seat		550	gpd
				Total	1650	gpd

Phase II of the proposed development will include 23 additional guest rooms and an 80 seat restaurant/bar. Flows from Phase II will total 5500 gallons per day.

<u>Phase 2</u>						
23	guest rooms	100	gpd/unit		2300	gpd
80	restaurant (60 seats) and bar (20 seats)	40	gpd/seat		3200	gpd
				Total	5500	gpd

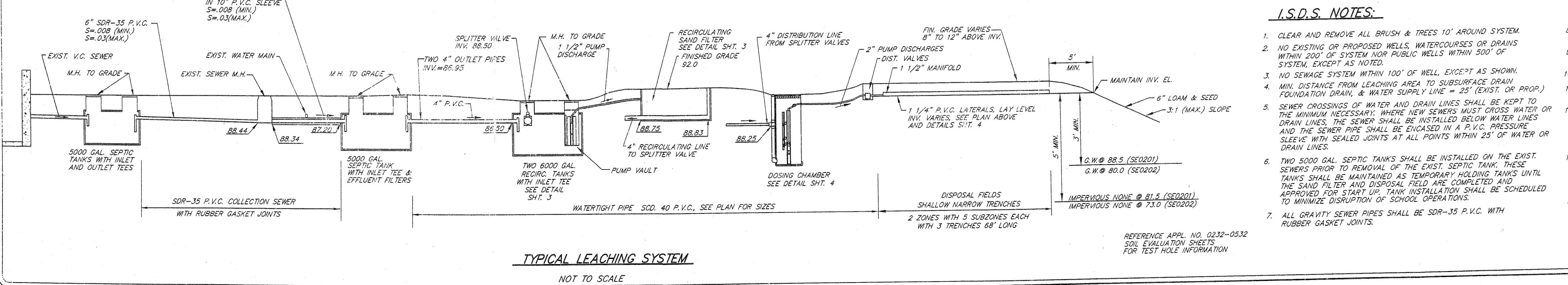
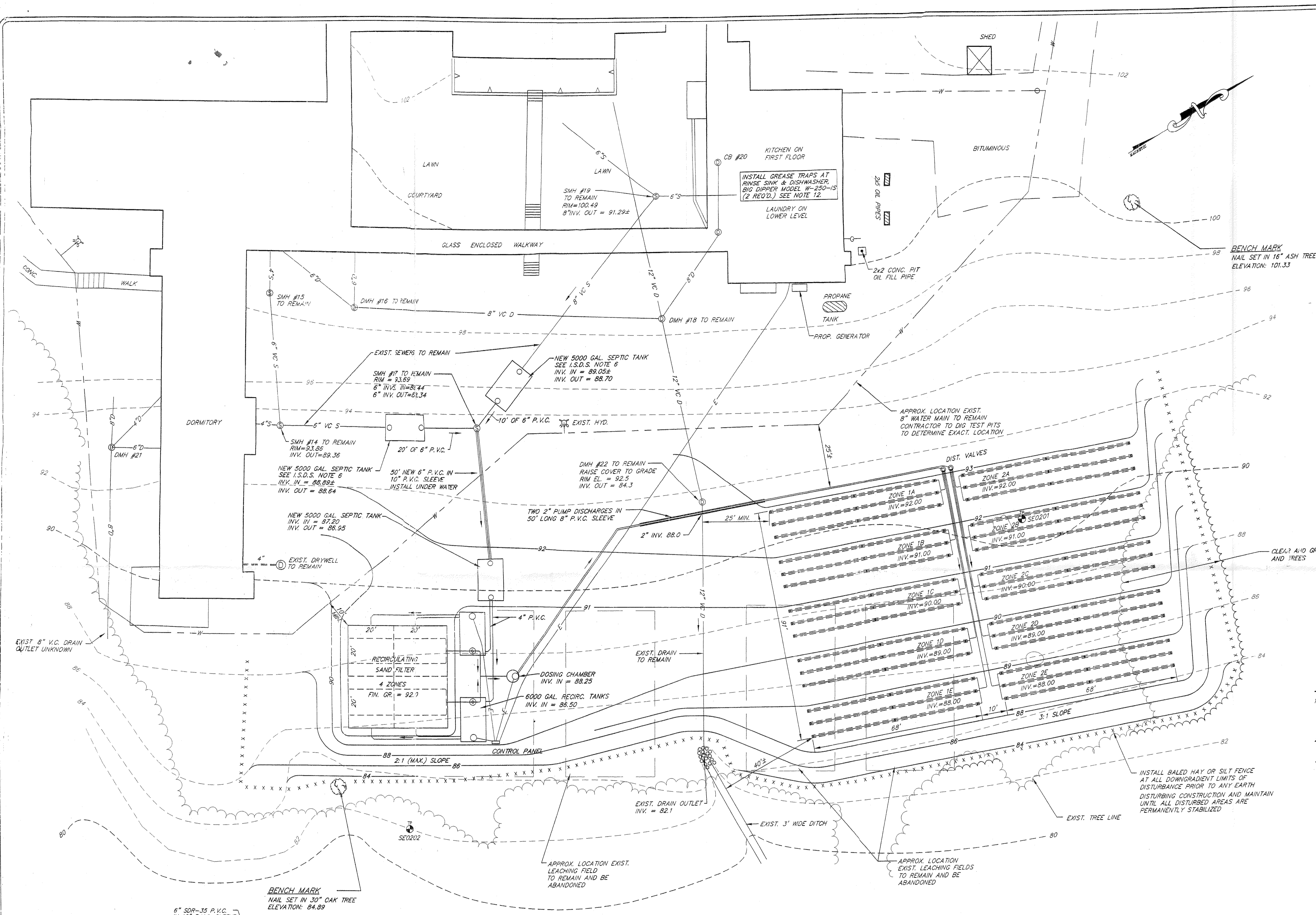
Combined flows from Phase I and II are expected to be 7150 gallons per day. Also included with this letter are the proposed development plans and RIDEM approved OWTS design.

If you should have any questions on this matter, please feel free to contact me at your earliest convenience.

Sincerely,
DiPrete Engineering Associates, Inc.

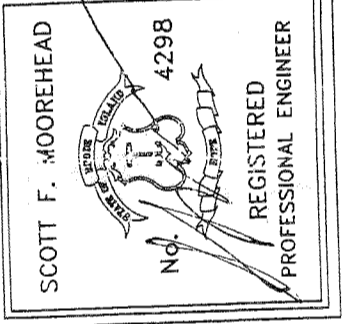
A handwritten signature in blue ink, appearing to read "Eric Prive". The signature is fluid and cursive, with a large loop at the end.

Eric Prive, PE
Senior Project Manager
eprive@diprete-eng.com



TYPICAL LEACHING SYSTEM
NOT TO SCALE

ENGINEER / DESIGNER
S.F.M. ENGINEERING ASSOCIATES
410 TIOGUE AVENUE
COVENTRY, RHODE ISLAND



SCITUATE SURVEYS, INC.
410 TIOGUE AVENUE
COVENTRY, RHODE ISLAND 02816
LAND SURVEYING / MAPPING / SITE PLANNING
SCALE IN FEET: 0 20 40 60

PROFESSIONAL LAND SURVEYOR NO. 1762
ANGLO AL RAIMONDI
No. 1762
PROFESSIONAL LAND SURVEYOR

PROPOSED I.S.D.S. PLAN
IMMACULATE CONCEPTION ACADEMY
ASSESSOR'S PLAT 50-4 LOT 12
SOUTH KINGSTOWN, RHODE ISLAND

PREPARED FOR:
OVERBROOK INC.
4780 TOWER HILL ROAD
SOUTH KINGSTOWN, RHODE ISLAND

PROJECT NO.:
DWG. NO.: SFM507SP

SHEET
2 OF 4

GENERATOR NOTES

1. A PROPANE POWERED GENERATOR SHALL BE PROVIDED IN THE BUILDING OR SEPARATE ENCLOSURE. LOCATION AND INSTALLATION SHALL BE IN CONFORMANCE WITH THE BUILDING AND ELECTRIC CODES.
2. THE GENERATOR SHALL HAVE AUTOMATIC SWITCHING TO ALLOW STARTUP DURING POWER OUTAGES.
3. THE GENERATOR SHALL BE WIRED AND SIZED TO RUN ALL PUMPS IN THE I.S.D.S. SYSTEM.

I.S.D.S. DESIGN DATA

I.S.D.S. DESIGN FLOW BASED ON BOARDING SCHOOL WITH 120 TOTAL PERSONS.
D.E.M. DESIGN FLOW = 80 G.P.D. PER PERSON
D.E.M. DESIGN FLOW = 120 X 80 = 9600 GPD
SYSTEM DESIGN BASED ON ACTUAL WATER USE RECORDS
MAX. DAY DESIGN FLOW = 7500 GPD
SHALLOW NARROW DISPOSAL TRENCH LOADING RATE = 3.7 GPD/S.F. (SOIL CAT. 3)
7500 + 3.7 = 2027 S.F. REQUIRED; 2040 S.F. PROVIDED

I.S.D.S. NOTES:

1. CLEAR AND REMOVE ALL BRUSH & TREES 10' AROUND SYSTEM.
2. NO EXISTING OR PROPOSED WELLS, WATERCOURSES OR DRAINS WITHIN 200' OF SYSTEM NOR PUBLIC WELLS WITHIN 500' OF SYSTEM, EXCEPT AS NOTED.
3. NO SEWAGE SYSTEM WITHIN 100' OF WELL, EXCEPT AS SHOWN. MIN. DISTANCE FROM LEACHING AREA TO SUBSURFACE DRAIN FOUNDATION DRAIN, & WATER SUPPLY LINE = 25' (EXIST. OR PROP.).
4. SEWER CROSSINGS OF WATER AND DRAIN LINES SHALL BE KEPT TO THE MINIMUM NECESSARY. WHERE NEW SEWERS MUST CROSS WATER OR DRAIN LINES, THE SEWER SHALL BE INSTALLED BELOW WATER LINES AND THE SEWER PIPE SHALL BE ENCASED IN A P.V.C. PRESSURE SLEEVE WITH SEALED JOINTS AT ALL POINTS WITHIN 25' OF WATER OR DRAIN LINES.
5. TWO 5000 GAL. SEPTIC TANKS SHALL BE INSTALLED ON THE EXIST. TANKS PRIOR TO REMOVAL OF THE EXIST. SEPTIC TANK. THESE TANKS SHALL BE MAINTAINED AS TEMPORARY HOLDING TANKS UNTIL THE SAND FILTER AND DISPOSAL FIELD ARE COMPLETED AND APPROVED FOR START UP. TANK INSTALLATION SHALL BE SCHEDULED TO MINIMIZE DISRUPTION OF SCHOOL OPERATIONS.
6. TWO 5000 GAL. SEPTIC TANKS SHALL BE INSTALLED ON THE EXIST. TANKS PRIOR TO REMOVAL OF THE EXIST. SEPTIC TANK. THESE TANKS SHALL BE MAINTAINED AS TEMPORARY HOLDING TANKS UNTIL THE SAND FILTER AND DISPOSAL FIELD ARE COMPLETED AND APPROVED FOR START UP. TANK INSTALLATION SHALL BE SCHEDULED TO MINIMIZE DISRUPTION OF SCHOOL OPERATIONS.
7. ALL GRAVITY SEWER PIPES SHALL BE SDR-35 P.V.C. WITH RUBBER GASKET JOINTS.
8. 2" PRESSURE PIPE SHALL BE CLASS 200 SDR-21 OR SCD. 40 P.V.C. PRESSURE PIPE.
9. ALL SAND FILTER PIPING SHALL BE SCD. 40 P.V.C. WITH SOLVENT WELD JOINTS.
10. ALL WORK SHALL CONFORM TO THE R.I.D.E.M. RULES & REGULATIONS.
11. REMOTE ALARM PANEL SHALL BE INSTALLED IN THE BUILDING MAINTENANCE OFFICE.
12. TWO THERMACO BIG DIPPER MODEL W-250-13 GREASE RECOVERY SYSTEMS SHALL BE INSTALLED ONE AT THE RINSE SINK WASTE PIPE AND ONE AT THE DISHWASHER WASTE PIPE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS. GREASE TRAPS SHALL BE CLEANED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
13. ALL COMPONENTS AND INSTALLATION MUST BE INSPECTED AND APPROVED BY S.F.M. ENGINEERING ASSOCIATES. ANY COMPONENT SUBSTITUTION MUST BE PRE-APPROVED BY S.F.M. ENGINEERING ASSOCIATES.
14. THE OWNER SHALL MAINTAIN A CONTRACT WITH A QUALIFIED I.S.D.S. MAINTENANCE FIRM OR EMPLOY A QUALIFIED MAINTENANCE PERSON TO PROVIDE OPERATION AND MAINTENANCE. O & M SHALL BE PROVIDED IN ACCORDANCE WITH THESE PLANS, D.E.M. REGULATIONS AND GUIDANCE DOCUMENTS AND MANUFACTURERS SPECIFICATIONS.

REFERENCE APRIL NO. 0232-0532
SOIL EVALUATION SHEETS
FOR TEST HOLE INFORMATION

SEP 12 2002

SCALE: T=20' DATE: JULY 22, 2002 REVISION: