

RESOLUTION
of the
BOROUGH OF NEW PROVIDENCE
Resolution No. 2017-227

Council Meeting Date: 09-11-2017

Date Adopted: 09-11-2017

TITLE: RESOLUTION AUTHORIZING THE APPLICATION FOR A TREATMENT WORKS APPROVAL PERMIT FOR REDWOOD-ERC NEW PROVIDENCE, LLC, BLOCK 320, LOT 15

Councilperson Galluccio submitted the following resolution, which was duly seconded by Councilperson Madden.

WHEREAS, Bohlers Engineering., has made an application known as “Redwood-ERC New Providence, LLC” to the Board of Adjustment for Treatment Works Approval (TWA) of the property known as Block 320, Lot 15 and in connection with such approval, an application must be filed with the NJDEP for a Treatment Works Approval Permit for sewer extension; and

WHEREAS, such application requires the endorsement by the Borough which is a routine procedure.

NOW, THEREFORE BE IT RESOLVED by the Borough Council of the Borough of New Providence, County of Union and State of New Jersey that the Borough is authorized to endorse the Treatment Works Approval Application for “Redwood-ERC New Providence, LLC” date September 11, 2017.

APPROVED, this 11th day of September, 2017.

RECORD OF VOTE

	AYE	NAY	ABSENT	NOT VOTING
GALLUCCIO	X			
GENNARO	X			
KAPNER	X			
MADDEN	X			
MUÑOZ			X	
ROBINSON	X			
MORGAN			TO BREAK COUNCIL TIE VOTE	

I hereby certify that the above resolution was adopted at a meeting of the Borough Council held on the 11th day of September, 2017.

Wendi B. Barry, Borough Clerk

TREATMENT WORKS APPROVAL CHECKLIST FOR ADMINISTRATIVE COMPLETENESS

The submittal of an administratively complete Treatment Works Approval (TWA) application is essential for a quick and timely review. If the TWA application is not administratively complete at the time of submittal, the review of the application will be delayed. Therefore, please make sure that you have provided the items listed in N.J.A.C. 7:14A-22.8(a). Below is a checklist that you may use.

- 1) Original Application Form TWA-1, signed and sealed.
- 2) Original Engineer's Report Form WQM-006, signed and sealed. (For All General Industrial TWAs, see [*] below.)
NOTE: Project specific Engineer's Report in addition of the Form WQM-006 is required for Sewage Treatment Plants.
- 3) Original completed Consent Form WQM-003.
NOTE: Resolutions authorizing appropriate signature from Municipalities and Sewerage Authorities (as applicable) on ALL submitted forms (TWA-1, WQM-003) are required.
- 4) Application Review Fee, payable to "Treasurer, State of New Jersey, Environmental Services Fund". See Fee Schedule for fee calculation.
NOTE: For General Industrial TWAs, the minimum Application Review Fee is required.
- 5) A breakdown of the Construction Cost Estimate for the proposed sewerage facilities.
- 6) Copies of Receipts of Public Notification from the Municipal Planning Board and the Municipal Environmental Commission.
NOTE: If the municipality does not have an Environmental Commission, a receipt from the County Environmental Commission must be obtained. If neither exists, then a letter stating such must be submitted.
- 7) Copy of appropriate USGS Quadrangle Map with project site clearly delineated.
- 8) GPS coordinates of the pump station or treatment plant control building in accordance with N.J.A.C. 7:1D Appendix A, and NJ GIS protocol, if the project includes a pump station or sewage treatment plant.
- 9) One (1) set of Final Plans and Profiles signed and sealed by a New Jersey Licensed Professional Engineer on each sheet. Plans must be marked "FINAL" or "FINAL FOR SEWER DESIGN". Plans are to include standard details of sewerage appurtenances.
- 10) One (1) set of Construction Specifications, signed and sealed by a New Jersey Licensed Professional Engineer.
- 11) Copy of Sewer Connection Ban Exemption Approval, if the project is located in a ban area.

[*] For All General Industrial TWAs ONLY, the following additional items will be required:

- a) A Completed Licensed Operator Grading Sheet Form DWR-175;
- b) An Engineer's Certification for General Industrial TWAs, signed and sealed by a New Jersey Licensed Professional Engineer; in accordance with N.J.A.C. 7:14A-22.6(a)3;
- c) An Engineer's Abstract containing, at a minimum, the following:
 - i. A description of waste treatment system;
 - ii. The ultimate destination of all wastewater and residuals;
 - iii. Listing of all pollutants, including regular and intermittent flows, which may enter the system;
 - iv. The average and peak flow requirements; and
 - v. The expected composition of effluent from the treatment system.
- d) For direct dischargers to surface or groundwater, or for indirect dischargers required to obtain a NJPDES/SIU permit from the Department, a copy of a valid NJPDES permit and/or a General NJPDES permit authorization.

Please submit application to
NJ DEP, Division of Water Quality
Bureau of Environmental, Engineering & Permitting
Mail Code: 401-03D, PO Box 420
Trenton, New Jersey 08625-042
Attention - John Maselli (TWA Program)



**STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER QUALITY**

TWA - 1

Reset form

Treatment Works Approval Permit Application

Refer to Instructions on Page 4 and Provide All Applicable Information. Please Print or Type.

1. APPLICANT/OWNER*

Name Redwood - ERC New Providence II, LLC Telephone (410) 402-2475
 Permanent Legal Address 701 Maiden Choice Lane
 City or Town Baltimore State MD Zip Code 21228 E-mail mark.hunter@erickson.com

* Applicant/Owner should be the eventual owner of the proposed Treatment Works.

2. LOCATION OF ACTIVITY

Name of Facility/Site Proposed Continuing Care Retirement Community
 Street Address/Location 535 & 603 Mountain Ave
 Lot No. 15 & 17 Block No. 320
 City or Town Borough of New Providence State NJ Zip Code 07974
 Municipality Borough of New Providence County Union

3. NEW JERSEY LICENSED PROFESSIONAL ENGINEER

Name Robert L. Streker, P.E. N.J. License No. 45344
 Name of Firm, if employee Bohler Engineering NJ, LLC
 Mailing Address 35 Technology Drive
 City or Town Warren State NJ Zip Code 07974
 Telephone (908) 668-8300 Fax (908) 754-4401 E-Mail rstreker@bohlereng.com

4. ESTIMATED CONSTRUCTION COST AND APPLICATION FEE

A. Cost of treatment works proposed in this application \$ 14,750.00
(Attach a breakdown of the cost of all items related to the construction of the proposed treatment works).
 B. Application Fee \$ 850.00
(In accordance with N.J.A.C. 7:1C-1.5 et seq., made payable to Treasurer, State of NJ, Environmental Services Fund).

5. OTHER REQUIRED PERMITS

If any of the the following applications have been submitted for this project, provide the applicable information.

Permit Type	Application Status		Application Date (or Application No.)
	Pending	Approved*	
● Treatment Works Approval	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No. 14-0208 (8/4/2014)
● Exemption From Sewer Ban	<input type="checkbox"/>	<input type="checkbox"/>	
● Water Quality Management Plan Amendment	<input type="checkbox"/>	<input type="checkbox"/>	
● CAFRA	<input type="checkbox"/>	<input type="checkbox"/>	
● Stream Encroachment	<input type="checkbox"/>	<input type="checkbox"/>	
● Freshwater Wetlands	<input type="checkbox"/>	<input type="checkbox"/>	
● Tidal or Coastal Wetlands	<input type="checkbox"/>	<input type="checkbox"/>	
● Waterfront Development	<input type="checkbox"/>	<input type="checkbox"/>	
● NJPDES Permits	<input type="checkbox"/>	<input type="checkbox"/>	
● Pinelands Certificate	<input type="checkbox"/>	<input type="checkbox"/>	
● Delaware & Raritan Canal Commission	<input type="checkbox"/>	<input type="checkbox"/>	
● Hackensack/Meadowlands Commission	<input type="checkbox"/>	<input type="checkbox"/>	
● Other Related Approvals	<input type="checkbox"/>	<input type="checkbox"/>	

(* If any of the above applications were approved, please provide a copy of the approval with this application).

6. PROJECT DESCRIPTION (Brief Description of Proposed Treatment Works and Intended Use).

Proposed 36 LF of 8" PVC to service the 171 independent living units on lot 15. The proposed sanitary sewer system will connect to the sanitary sewer manhole located in the northern portion of the site. In turn, it will then connect with the existing system on lot 17, which connects to an existing manhole located within South Street.

7. APPLICANT'S AGENT (Optional)

I, Susan L. Oliveri, as Secretary of Redwood - ERC New Providence II, LLC
(Applicant/Owner's Name)

authorize to act as my agent/representative in all matters pertaining to my application the following person:

Name Robert L. Streker, P.E. Position Associate, Bohler Engineering

Address 35 Technology Drive City Warren

State NJ Zip Code 07059 Telephone (908) 668-8300

Signature of Agent _____ Date _____ Signature of Applicant/Owner _____ Date _____

8. PROPERTY OWNER'S CERTIFICATION

I hereby certify that Redwood - ERC New Providence II, LLC
(Property Owner's Name)

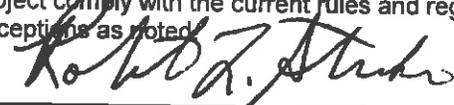
owns the property identified in this application. As owner, I grant permission for the activity to be permitted under this application and authorize the Department of Environmental Protection to conduct on-site inspections, if necessary. If the construction activity will take place in an easement, I certify that with this application, I presently have or will obtain permission of the property owner(s) prior to initiation of construction of this proposed treatment works.

Signature of Owner _____ Date _____

Print or Type: Name and Position Susan L. Oliveri, Secretary

9. STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS AND ENGINEER'S REPORT AND/OR ABSTRACT

I hereby certify that the engineering plans, specifications, and engineer's report and/or abstract applicable to this project comply with the current rules and regulations of the Department of Environmental Protection with the exceptions as noted.

 8/9/17
Signature of Engineer _____ Date _____

Print or Type: Name and Position Robert L Streker, P.E., Associate

PROFESSIONAL ENGINEER'S
EMBOSSSED SEAL

10. PROPER CONSTRUCTION AND OPERATION CLAUSE

I, the Applicant/Owner, Redwood-ERC New Providence II, LLC agree that the treatment works will be properly constructed and operated in accordance with the engineering plans, specifications and conditions under which approval is granted by the Department of Environmental Protection.

Signature of Applicant/Owner Date

Print or Type: Name and Position Susan L. Oliveri, Secretary

11. CERTIFICATION BY APPLICANT/OWNER

I certify, under penalty of law, that the information provided in this application and the attachments is true, accurate, and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

Signature of Applicant/Owner Date

Print or Type: Name and Position Susan L. Oliveri, Secretary

INSTRUCTIONS FOR COMPLETING FORM TWA - 1

This form should accompany all Treatment Works Approval permit applications.

1. **General Information** - (items #1 through #4, #6) Complete the requested applicant and project information.
2. **Other Required Permits** (item # 5) - Please list all permits issued for the subject project (in addition to the permits being applied for at this time).
3. **Signatures** (items #7 through #11) - All signatures must comply with N.J.A.C. 7:14A-4.9 and N.J.A.C. 7:14A-22.8. Where indicated under items #1, #10 and #11, the applicant/owner should be the eventual owner of the proposed treatment works. Item #8 shall be completed by the owner of the property.

Should you need assistance in completing the application, please call the appropriate phone number listed below:

<p>◆ Bureau of Construction & Connection Permits (609) 984-4429 Municipal Treatment Works, Industrial Treatment Works, Sewer Extension, Sewer Ban Exemption, Subsurface Disposal Systems</p>	<p>◆ Bureau of Nonpoint Pollution Control (609) 633-7021 Alternate Design Septic Systems (design flow less than 2,000 GPD)</p>
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**STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Water Quality**

Reset Form

ENGINEER'S REPORT FOR DOMESTIC TREATMENT WORKS APPROVAL APPLICATIONS

INSTRUCTIONS

- Complete all applicable sections and certifications.
- Justifications for any exceptions from the regulations at N.J.A.C. 7:14A - 23 et seq. must be submitted. (Additional sheets may be attached if necessary.)
- All supplemental information required to be submitted along with this engineer's report must be signed, sealed, and dated by a professional engineer, licensed to practice in the State of New Jersey.
- For Treatment Works other than collection and/or conveyance, please attach a separate Engineer's Report in accordance with N.J.A.C. 7:14A - 23.5.

GENERAL INFORMATION

Applicant: Redwood - ERC New Providence II, LLC **Municipality:** Borough of New Providence

Project Name: Redwood - ERC **County:** Union

Name of Receiving Sewage Treatment Plant: The Joint Meeting of Essex and Union Counties

NJPDES Permit Number: NJ0024741

Effluent Receiving Waters: The Arthur Kill

Scope of Project:

Proposed 36 LF of 8" PVC to service the 171 independent living units on lot 15. The proposed sanitary sewer system will connect to the sanitary sewer

manhole located in the northern portion of the site. In turn, it will then connect with the existing system on lot 17, which connects to an existing

manhole located within South Street.

Contributory Flow: *For assistance in completing this chart, refer to N.J.A.C. 7:14A - 23.3.*

Establishment Type	Number of Measurement Units		Gallons per Day per Unit		Projected Flow (G.P.D.)
	See Attachment	X		=	
		X		=	
		X		=	
		X		=	

Combined Projected Flow: 0.024990 **M.G.D.**
Existing Contributory Flow (if any): 0.053177 **M.G.D.**
TOTAL FLOW: 0.078167 **M.G.D.**

1. WASTEWATER CONVEYANCE SYSTEMS

(A) GRAVITY SEWER SYSTEMS

Diameter (inches)	Total Length (feet)	Material Type	"n" Value	Max. MH Spacing (feet)	Min. Slope (%)	Max. Velocity (ft/sec)	Max. Capacity (M.G.D.)
8	36	PVC	0.010	24	0.50%	9.00	0.36

1.	What is the minimum cover (as measured from the top of the pipe to the grade elevation) provided along the entire sewer line?	3.29 ft.		
2.	What is the infiltration and/or exfiltration limit for testing purposes (gallons per inch of pipe per mile per day)?	50		
		YES	NO	N/A
3.	Are sewers within 100 feet of a public water supply well or a below-grade reservoir?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.	Are sewers located at least 10 feet horizontally from potable water lines and/or at least 18 inches below potable water lines and in separate trenches, including crossings?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Are sewers crossing streams located within 10 feet of a stream embankment encased in concrete?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6.	Is a drop pipe provided for sewers entering manholes above the manhole invert wherever the difference in elevation is two feet or more?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Are all manholes located more than 100 feet from a public water supply well or a below-grade reservoir?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	Are watertight covers used where street elevations are less than 10 feet above the North American Vertical Datum of 1988 and/or where the top of a manhole may be flooded by street runoff or high water?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9.	Are the sanitary sewers designed to carry at least twice the estimated average projected flow when flowing half full?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10.	Have adequate provisions been made for the ventilation of manholes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
11.	If siphons are part of this project, are they in conformance with N.J.A.C. 7:14A - 23.7?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12.	Are the immediate downstream sewer lines constructed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(B) PUMPING SYSTEM: Submit a Pump Station Design Report, which should include, at a minimum, the basis for the following: (a) pump selection; (b) sizing of force main and velocity calculations; (c) total dynamic head; (d) pump station performance curve and (e) wet well detention time.

Average daily flow:	N/A	GPD	Surface area of wet well:	N/A	ft ²
Peaking factor:	N/A		Wet Well Detention Time :	N/A	minutes
Peak design flow:	N/A	GPD	TDH of pump:	N/A	ft
Number of pumps:	N/A				
Design capacity of pump station (with the largest pump out of service):	N/A			N/A	GPM

1. WASTEWATER CONVEYANCE SYSTEMS

(B) PUMPING SYSTEM (continued)

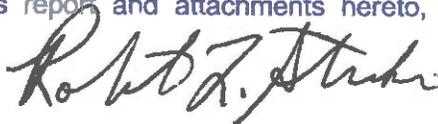
FORCE MAINS

Diameter (inches)	Length (feet)	Material Type	Velocity (ft/sec)

1.	What is the minimum cover (as measured from the top of the pipe to the grade elevation) provided along the entire force main?	ft		
2.	Specify the method of screening at the pumps.			
3.	Where is the ultimate location of the alarm for high water conditions, power failures, and mechanical breakdowns?			
4.	Specify the type of back-up power source provided.			
		YES	NO	N/A
5.	Is adequate light and ventilation provided at the pump station?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Are air and/or vacuum release valves provided on the high points of the force main?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Are adequate freshwater wash-down facilities provided?	<input type="checkbox"/>	<input type="checkbox"/>	
8.	If a domestic water service connection will be utilized for wash-down purposes, is it protected by a backflow prevention device?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	Are shut-off valves on suction and discharge piping and check valves on discharge lines provided?	<input type="checkbox"/>	<input type="checkbox"/>	
10.	Is the base of the pump station wet well sloped toward the pump suction?	<input type="checkbox"/>	<input type="checkbox"/>	
11.	Does the alarm system provide for competent assistance on a 24 hour basis?	<input type="checkbox"/>	<input type="checkbox"/>	
12.	Is the pump station adequately protected from flooding?	<input type="checkbox"/>	<input type="checkbox"/>	
13.	Is the dry well provided with a sump pump?	<input type="checkbox"/>	<input type="checkbox"/>	

I am a professional engineer licensed by the New Jersey Board of Professional Engineers and Land Surveyors to practice in New Jersey. I certify that the proposed treatment works, as designed, meets the requirements of N.J.A.C. 7:14A - 23 et seq., other than the exceptions as noted.

I hereby certify that the information provided in this engineer's report and attachments hereto, is true, accurate, and complete. Exceptions attached [YES , NO]?



Signature of Engineer:

Professional Engineer's
Embossed Seal

Name and Date:
(Print or Type)

Robert L. Streker P.E.

Firm Name:

Bohler Engineering NJ, LLC

2. DOMESTIC WASTEWATER TREATMENT AND/OR RESIDUAL FACILITIES

Is the following information submitted with this engineer's report?		YES	NO
1.	A complete description of the selected wastewater treatment system.	<input type="checkbox"/>	<input type="checkbox"/>
2.	For the modification of an existing system which has not previously been granted a treatment works approval (TWA), the capacities of the existing units and a brief description of the operation of each, and a statement concerning which units are existing and which are proposed at the time of the application. If there exists a previously issued TWA approval for the subject facility, submit the date of issuance and the TWA number.	<input type="checkbox"/>	<input type="checkbox"/>
3.	Hydraulic profiles of the flow of wastewater through the system.	<input type="checkbox"/>	<input type="checkbox"/>
4.	A unit by unit mass balance for all discharge parameters.	<input type="checkbox"/>	<input type="checkbox"/>
5.	The ultimate disposal location of all effluent.	<input type="checkbox"/>	<input type="checkbox"/>
6.	The basis and computations for average and peak flow requirements.	<input type="checkbox"/>	<input type="checkbox"/>
7.	The expected composition of the influent and effluent from the treatment system including the average, maximum and minimum values of the pollutant parameters specified in the facility's NJPDES permit/DAC.	<input type="checkbox"/>	<input type="checkbox"/>
8.	An evaluation of the quantity and quality of any and all residuals generated and projected to be generated, including a hydraulic profile and unit by unit mass balance for the flow of residuals through the system.	<input type="checkbox"/>	<input type="checkbox"/>
9.	Documentation of adequate storage and handling facilities for residuals.	<input type="checkbox"/>	<input type="checkbox"/>
10.	Provisions for the ultimate management of residuals.	<input type="checkbox"/>	<input type="checkbox"/>
11.	Details of flow monitoring and control, alarm systems, auxiliary power, storage facilities for treatment chemicals and wastes, and plans for bypassing units during construction or maintenance.	<input type="checkbox"/>	<input type="checkbox"/>
12.	The basis and computations for the projected wastewater flow.	<input type="checkbox"/>	<input type="checkbox"/>
13.	A fully executed Licensed Operator Grading Form.	<input type="checkbox"/>	<input type="checkbox"/>

I am a professional engineer licensed by the New Jersey Board of Professional Engineers and Land Surveyors to practice in New Jersey. I certify that the proposed treatment works, as designed, are adequate to meet all applicable final NJPDES permit limitations contained in the current NJPDES Discharge Permit No. _____ . In addition, I certify that the proposed treatment works, as designed, meets the requirements of N.J.A.C. 7:14A - 23 et seq., other than the exceptions as noted.

I hereby certify that the information provided in this engineer's report and attachments hereto is true, accurate, and complete. Exceptions attached [YES , NO]?

Signature of Engineer* _____

Professional Engineer's
Embossed Seal

Name and Date: _____
(Print or Type)

Firm Name: _____

* This certification may not be completed until the effective date of the associated final NJPDES Discharge Permit.



BOHLER ENGINEERING

35 Technology Drive, Warren, NJ 07059
(908) 668-8300

7/25/2017
New Providence, NJ
J100690.03

BAG
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SANITARY SEWER FLOW CALCULATION

	TYPE	Units	Number of Units	GPD/Unit	Total GPD
Proposed Flow (Lot 15)	1 Bedroom	Per Dwelling	68	110 GPD	7,480 GPD
	2 Bedroom	Per Dwelling	103	170 GPD	17,510 GPD
	Totals				24,990 GPD
Existing Flow (Approved-Lot 17)	1 Bedroom	Per Dwelling	94	110 GPD	10,340 GPD
	2 Bedroom	Per Dwelling	181	170 GPD	30,770 GPD
	Amenity-Independent Living	Per SF	27,760	0.1 GPD	2,776 GPD
	Pool	Per Occupant	80	15 GPD	1,200 GPD
	Skilled Nursing	Per Bed	40	75 GPD	3,000 GPD
	Memory Care	Per Bed	28	100 GPD	2,800 GPD
	Assisted Living	Per Bed	17	100 GPD	1,700 GPD
	Amenity-Healthcare	Per SF	5,912	0.1 GPD	591 GPD
	Totals		5,912		53,177 GPD
Total Flow					78,167 GPD 0.078167 MGPD

Note:

1. Flow rates per NJAC 7:14a-23.3(a).

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Water Quality

Reset Form

STATEMENTS OF CONSENT

A supplement to the TWA-1 or NJPDES-1 Forms

General Information

Applicant/Owner/Operator

Location of Work Site

Name of Project/Facility

Type of permit application
(TWA, NJPDES/SIU)

NJPDES Permit Number (if applicable)

A-1 Consent By Governing Body**

(Consent by the municipality in which the project is located.)

As an authorized representative of the governing body, I hereby certify that the

(Name of Municipality or Municipal Authority)

consents to the submission of the above listed application to the Department of Environmental Protection for approval. I further certify that the project as proposed conforms with the requirements of all municipal ordinances.

Signed* _____ Date

Type Name and Position

* Cite authorization to sign for the governing body

Resolution# Dated

(Submit the resolution with the application. If no such resolution granting authority to sign exists, the Governing Body's full resolution, consenting to the project, must be submitted with the application.)

** Note

For most Treatment Works Approval (TWA) applications, this section may be omitted if a sewerage entity (for example, sewerage authority, utilities authority, municipal utilities authority, joint meeting, etc.) has responsibility for regulating the construction and operation of wastewater treatment and conveyance facilities within the municipality. In such cases, the governing body consent requirement may be satisfied by completing Section A-2. Applicants for TWAs for industrial/commercial facilities discharging pursuant to NJPDES/DSW or DGW permits must complete section A-1.

A-2 Consent by Sewerage Authority**

As an authorized representative of this agency, I hereby certify that the

[Empty box for agency name]

(Name of Agency)

consents to the submission of the above listed application to the Department of Environmental Protection for approval. I further certify that the project as proposed conforms with the requirements of this agency.

Signed* _____ Date [Empty box]

Type Name and Position [Empty box]

* Cite authorization to sign for the agency

Resolution# [Empty box] Dated [Empty box]

(Submit the resolution with the application. If no such resolution granting authority to sign exists, the Governing Body's full resolution, consenting to the project, must be submitted with the application.)

** Note

For TWA applications, this section must be completed when a sewerage entity (for example, sewerage authority, utilities authority, municipal utilities authority, joint meeting, etc.) has responsibility for regulating the construction and operation of wastewater treatment and conveyance facilities within the municipality.

A-3 Consent by Owner of Wastewater Treatment Facility**

(For NJPDES/SIU applications only)

As an authorized representative of this agency, I hereby certify that the

[Empty box for agency name]

(Name of Agency)

consents to the submission of the above listed application to the Department of Environmental Protection for approval. I further certify that the project as proposed conforms with the requirements of this agency and the agency agrees to accept wastewater from the project for treatment.

Signed* _____ Date [Empty box]

Type Name and Position [Empty box]

* Cite authorization to sign for the agency

Resolution# [Empty box] Dated [Empty box]

(Submit the resolution with the application. If no such resolution granting authority to sign exists, the Agency's full resolution, consenting to the project, must be submitted with the application.)

** Note

For NJPDES/SIU applications, this section must be completed when the owner of the receiving wastewater treatment plant is different that the entity listed under A-2.

B. Certification by Wastewater Conveyance System Owner**

By agreeing to accept wastewater from the project, I (we) hereby certify that to the best of my (our) knowledge the wastewater conveyance system, into which the project proposed under this application will connect, has adequate capacity in accordance with N.J.A.C. 7:14A-1.2 ("Adequate conveyance capacity"). Furthermore, I (we) am (are) not aware of inadequate conveyance capacity conditions in any portion of the downstream facilities necessary to convey the wastewater from this project to the treatment plant.

Name of Municipality or Authority BOROUGH OF NEW PROVIDENCE

Signed* _____ Date _____

Type Name and Position _____

* Cite authorization to sign for the governing body

Resolution# _____ Dated _____
(Submit the resolution with the application. If no such resolution granting authority to sign exists, the governing body's full resolution, consenting to the project, must be submitted with the application.)

** Note

- 1. For TWA applications, this section must be completed by the owner/operator of the wastewater conveyance system into which the project named herein will directly connect.
- 2. For NJPDES/SIU applications, this section must be completed when the owner/operator wastewater conveyance system into which the project named herein will directly connect is different that the entity listed under A-3.

C. Certification by Wastewater Treatment Facility Owner**

(For TWA applications that include a sewer connection/extension.)

I (we) hereby certify that the committed flow*** to the JOINT MEETING OF ESSEX AND UNION COUNTIES

(Name of Wastewater Treatment Plant)

does not exceed the presently permitted design capacity and with the additional flow proposed by this application, the permitted design capacity is not anticipated to be exceeded. I (we) further certify that the treatment plant is currently complying with its **conventional and non-conventional** NJPDES permit requirements (see N.J.A.C. 7:14A-22.17(b)-(d), percent removal and toxicity requirements excluded from this certification) as determined by a **rolling average of the three most recent monthly discharge monitoring reports that were required to be submitted to the Department as of this date**, and based upon my (our) assessment of all information pertinent to this permit request, is anticipated to continue to do so with the additional flow from this project.

Accepted for Treatment by JOINT MEETING OF ESSEX AND UNION COUNTIES
(Name of Treating Authority)

Signed* _____ Date _____

Type Name and Position _____

Name of project and/or location REDWOOD - ERC / NEW PROVIDENCE

* Cite authorization to sign for the governing body

Resolution# _____ Dated _____
(Submit the resolution with the application. If no such resolution granting authority to sign exists, the governing body's full resolution, consenting to the project, must be submitted with the application.)

** For TWA applications, this section must be completed by the owner of the wastewater treatment facility receiving the wastewater identified in this application.

*** For the purposes of this certification, committed flow means the sum of the 1) actual metered flow, 2) flow from DEP approved TWA applications (not yet operational), and 3) flow from locally approved projects that do not require DEP approval.

Additional Information (For TWA Applications)

1. Approvals, permits, service contracts, or other reservations of flow capacity issued or agreed to by any participating municipality or sewerage agency do not constitute the required approval of the DEP.
2. For computation of actual flow at the receiving wastewater treatment plant, the average flow processed by the facility for the three (3) month period immediately preceding the submission of the application shall be used. Pursuant to the NJPDES regulations (N.J.A.C. 7:14A), no application shall be submitted to the DEP if the wastewater treatment facility is not meeting its discharge permit requirements.

Lack of Consent*

1. The affected sewerage authority or municipality must consent to the application or submit comments to the DEP within 60 days of the applicant's request for consent. Prior to the expiration of the 60-day period to respond to a request for a written statement of consent, the municipality or sewerage authority may request a 30-day time extension.
2. Any document issued by a sewerage authority or municipality which is a tentative, preliminary, or conditional approval shall not be considered a statement of consent.
3. When the affected sewerage authority or municipality does not consent to a project, it shall state all reasons for rejection or disapproval in a resolution and send a certified copy of the resolution to the DEP.
4. When the affected sewerage authority or municipality expressly denies a request for a written statement of consent for a project, the permit application may be determined by the DEP to be incomplete for processing; or in the alternative, the DEP may review the reasons for denial. Any such reasons shall be considered by the DEP in determining whether to issue a draft permit in accordance with N.J.A.C. 7:14A-15.6, or a Treatment Works Approval or sewer connection approval in accordance with N.J.A.C. 7:14A-22.
5. When the affected sewerage authority or municipality does not issue a written statement of consent in accordance with (1) above, or a denial in accordance with (3) above, the DEP, upon receipt of proof that the applicant has delivered to the affected agency a written request for a statement of consent, shall review the reasons therefore, if known on the basis of reasonably reliable information. Any such reasons shall be considered by the DEP in determining whether to issue a draft permit in accordance with N.J.A.C. 7:14A-15.6, or a Treatment Works Approval in accordance with N.J.A.C. 7:14A-22. The DEP, may in its discretion, deem the application to be incomplete pending the expiration of the time period set forth in (1) above.

* This section has been excerpted from the NJPDES regulations for guidance purposes only. Please refer to N.J.A.C. 7:14A-22.8(a)3 for the complete requirements concerning statements of consent.

Notice: False statements, representations, or certifications, in any application, record, or document are subject to fines and penalties as set forth in the Water Pollution Control Act (N.J.S.A. 58:10A-10F 2 and 3.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER QUALITY
MAIL CODE 401-03D, PO Box 420
TRENTON, NEW JERSEY 08625-0420

TREATMENT WORKS APPROVAL FEE SCHEDULE

The fee schedule for the Treatment Works Approval applications processed by the Department of Environmental Protection is established in accordance with N.J.A.C. 7:14A-22.25 et al. The latest changes to the permit fees were published in the New Jersey Register on May 5, 2008. **The minimum fee remains \$850.00.** As before, the below fee formulas base the permit fees on a percentage of the construction costs on the portion of the project for which a Treatment Works Approval is requested. The fee formulas are based upon the following categories:

CATEGORY I: (Projects with a construction cost exceeding \$1,000,000)

$$\text{FEE} = 4P(\$250,000) + 2P(\$750,000) + P(\text{C.C.} - \$1,000,000)$$

CATEGORY II: (Projects with a construction cost exceeding \$250,000 but less than or equal to \$1,000,000)

$$\text{FEE} = 4P(\$250,000) + 2P(\text{C.C.} - \$250,000)$$

CATEGORY III: (Projects with a construction cost less than or equal to \$250,000)

$$\text{FEE} = 4P(\text{C.C.}) = 4P(\$14,750.00) = \$259.60 \longrightarrow \$850.00$$

For all three categories, and "C.C." is the construction cost on the portion of the project for which a Treatment Works Approval is requested and as of July 1, 2008, the value for "P" has been calculated to be equal to .0044. Please note that **\$850.00 is the minimum permit fee.** Please be aware that the minimum review fee for Treatment Works Approval modifications continues at \$500.00.

TREATMENT WORKS APPROVAL
 CONTACT PEOPLE

☞ **EUGENE CHEBRA, P.E., P.P., ACTING ASSISTANT DIRECTOR, DIVISION OF WATER QUALITY**

GAUTAM R. PATEL
(609) 633-1180

CHIEF, BUREAU OF CONSTRUCTION AND CONNECTION PERMITS
TREATMENT WORKS APPROVALS – TECHNICAL REVIEW

JOHN MASELLI /
NINA LUCHANSKY
(609) 984-4429

BUREAU OF CONSTRUCTION AND CONNECTION PERMITS
TREATMENT WORKS APPROVALS - ADMINISTRATIVE REVIEW

KIRIT ANIN
(609) 984-4429

SUPERVISOR, CONSTRUCTION AND CONNECTION PERMITS
GENERAL INDUSTRIAL TWA PROCESSING

ELEANOR KRUKOWSKI
(609) 292-0407

SUPERVISOR, BUREAU OF NON-POINT POLLUTION CONTROL
ALTERNATE DESIGN SEPTIC SYSTEMS

(Septic systems with a design flow of 2,000 gallons per day or less)

 If you have any questions on the administrative submission of a Treatment Works Approval application, please call 
Bureau of Construction and Connection Permits Bureau of Non-Point Pollution Control
(609) 984-4429 (609) 292-0407



BOHLER ENGINEERING

OPINION OF
PROBABLE CONSTRUCTION COST
for

Redwood - ERC New Providence II, LLC
Borough of New Providence, Union County, NJ
7/25/2017
BE #: J100690.03

Prepared by:
BOHLER ENGINEERING
35 Technology Drive, Warren, NJ 07059

Prepared By: BAG
Checked By: TXL

QUANTITY UNIT UNIT COST TOTAL COST

SANITARY

On Site:

8" PVC	36	LF	\$37.50	\$1,350.00
4' Diameter Manhole (8'-12' deep)	1	EA	\$2,800.00	\$2,800.00
4' Diameter Drop Manhole (16'-20' deep)	2	EA	\$5,300.00	\$10,600.00
Subtotal				\$14,750.00

NOTE:

1.) This preliminary opinion of probable construction cost has been prepared based upon review of plans entitled "AMENDED PRELIMINARY & FINAL MAJOR SITE PLAN", as prepared by Bohler Engineering, dated 12/03/2014, last revised 7/25/2017.

2.) The unit pricing included herein is based on available pricing indices and/or this firm's historical experience of general unit prices for the area, and it should be considered only approximate. When used for budgeting or other purposes, values indicated may need to be adjusted based on current market conditions and other constructability factors.

3.) This opinion of probable construction cost excludes costs that may be associated with the dewatering, unforeseen sub-surface conditions, environmental conditions, earth work, adverse weather conditions, material requirements, temporary utility installations, electrical transformer costs, water meter costs, etc. This estimate is not to be utilized for proforma or finance purposes.

Robert L. Streker P.E. LIC. #45344



August 9, 2017

Via Federal Express

Michael O'Krepky
Maser Consulting, P.A.
400 Valley Road, Suite 304
Mt. Arlington, New Jersey 07856

**RE: Redwood-ERC New Providence II, LLC
Proposed Continuing Care Retirement Community
Block 320; Lot 15 & 17
Borough of New Providence
Union County, New Jersey
BENJ File No. 100690.03**

Dear Mr. O'Krepky:

Enclosed please find the following documents constituting our offices formal submission for TWA review:

- One (1) completed copy of the Treatment Works Approval Checklist for Administrative Completeness;
- One (1) original signed and sealed TWA-1 Application Form;
- One (1) original signed and sealed Engineer's Report Form (WQM-006);
- One (1) completed Consent Form (WQM-003);
- One (1) copy of the Treatment Works Approval Fee Schedule;
- One (1) signed and sealed copy of the Sanitary Sewer Opinion of Probable Cost for Redwood-ERC New Providence II, LLC prepared by Bohler Engineering, dated July 25, 2017;
- One (1) USGS Quadrangle Map;
- One (1) signed and sealed set of the PRELIMINARY & FINAL MAJOR SITE PLAN FOR REDWOOD-ERC NEW PROVIDENCE II, LLC prepared by Bohler Engineering, dated December 03, 2014, last revised July 25, 2017;
- One (1) signed and sealed copy of Sanitary Sewer Specifications for Redwood-ERC New Providence II, LLC prepared by Bohler Engineering, dated July 2017;
- One (1) copy of the Developers Agreement dated December 31, 2015;
- One (1) copy of the Developer's Agreement, dated October 2013, guaranteeing the availability of the capacity to accommodate 100,000 gallons per day of sewer capacity;
- One (1) copy of the NJDEP Treatment Works Approval for Lot 17, dated July 31, 2014 (Permit Number 14-0208);
- One (1) copy of the NJDEP Treatment Works Approval Application Review Letter (File No. NPZ-317D) prepared by Michael O'Krepky, P.E., C.M.E., dated January 6, 2017.



We request that you please review and recommend the enclosed Consent Form WQM-003 for endorsement and return the original WQM-003, along with the TWA-1 Application Form at your earliest convenience. Should you have any questions or require additional information, please contact us at your convenience.

Sincerely,

BOHLER ENGINEERING NJ, LLC

Tung-To Lam, P.E.

Robert L. Streker, PE

TXL/mjp G:\2010\100690.03\Admin\Letters-OUT\Maser 01 - Kreply-2017-08-09.doc

cc via email:

Mark Hunter – Redwood-ERC New Providence, LLC
Andrew R. Hipolit, PE – Maser Consulting, P.A.
Joe Del Ciotto – Lantz-Boggio Architects, P.C.
Ty Apgar – Maser Consulting, P.A.

SANITARY SEWER SPECIFICATIONS

for

Redwood-ERC New Providence II, LLC

Prepared for:

Lantern Hill
Block 320, Lots 15 & 17
603 & 535 Mountain Avenue
Borough of New Providence
Union County, New Jersey

Prepared by



35 Technology Drive
Warren, NJ 07059
908-668-8300



Robert L. Streker, P.E.

New Jersey Professional Engineer License No. 45344

July 2017

BENJ # J100690.03

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TECHNICAL SPECIFICATIONS

1. Excavation for Sewer Lines

1.1 Scope of Work

The Contractor must furnish all labor, material, and equipment necessary for such excavation and backfill as may be required for the satisfactory construction and installation of the work specified in the Contract Documents.

1.2 Excavation Near Existing Structures

The Contractor is required to take special precautions in all excavations to protect all existing structures, both underground and aboveground, and he will be held responsible for any damages or omissions incurred by reasons of his work.

Attention is called to the fact that there are water mains, gas pipes, telephone cables, storm drainage, and other utilities throughout the project area. Some of these have been indicated on the Contract Documents and are based on the best information available to the Engineer at the time. Furthermore, no attempt has been made to show house services of the various utilities and the completeness or accuracy of any information given is not guaranteed. It is the Contractor's responsibility to contact the utility companies involved and to locate existing structures.

As the excavation approaches pipes, conduits, or other underground structures, the Contractor must, if necessary, discontinue digging by machinery and employ hand excavation to protect the structure(s).

If more restrictive, the Rules, Regulations, Requirements, or Ordinances of the State, County or Municipal Body having jurisdiction supersede any specific requirement in this section.

1.3 Protection of Existing Structures

All existing poles, pipes, wires, fences, curbing, walls, driveways, monuments, and other structures, which in the opinion of the Engineer must be preserved in place without being temporarily or permanently relocated must be carefully supported and protected from damage by the Contractor at his expense and in case of damage, they must be restored to at least as good condition as that in which they were found immediately prior to the start of the work.

The Contractor may, subject to approval by the Engineer, elect to remove structures or obstacles and replace them to at least as good condition as they were prior to their removal, without additional compensation.

1.4 Alignment of Excavation

Trenches and other excavations must conform to the lines and grades given, and in every case, must be of sufficient width to permit the compacting of refill around pipes and structures and the satisfactory construction of all appurtenances. Excavation of trench width at the trench bottom must not exceed twenty-four inches (24"), plus width of pipe to be installed.

The right is reserved, however, to change lines and grades where such change is made necessary by interposting structures, or at the discretion of the Engineer.

1.5 Sheeting and Bracing

The Contractor must provide all temporary shoring, bracing, steel boxes, etc., necessary to prevent caving and settlement of adjacent land or structures and/or as necessary to comply with all applicable safety regulations. All sheeting and bracing must comply with the latest requirements of OSHA.

1.6 Dewatering

The Contractor is responsible for all dewatering and pumping operations necessary to keep the trench dry during installation of the sewer pipe.

- A. The Contractor must at all times provide and maintain ample means and devices to promptly remove and disperse all water or sewage entering excavations and structures dry until all work therein is completed.
- B. The Contractor must dispose of the water from the trenches and excavations in a manner satisfactory to the Owner without damage to adjacent property and in compliance with State and local soil erosion and sediment control requirements. In no case will water or sewage be allowed to enter new lines.
- C. If groundwater and subsoil conditions along the line of the work are such that the Contractor cannot successfully remove water or provide a stable trench by ordinary trench pumping and bailing, or when necessary to protect the works, public, under- or above-ground utilities, and structures, pavements and public and private property, the Contractor must furnish and provide the necessary equipment, power, and labor to employ the well point method of trench dewatering. The well point system or portions thereof must be removed by the Contractor upon the completion of backfill and the holes remaining from the points must be backfilled and thoroughly tamped.

1.7 Stone Bedding

The Contractor must furnish and place 3/4 inch clean crushed stone bedding under all sewer mains and lateral sewers.

The Contractor must excavate a minimum of six inches (6") below the invert of the pipe and must furnish and place 3/4-inch crushed stone in the excavated area. For PVC pipe, the contractor must place 3/4" stone as initial backfill to extend up to the mid-point of the pipe for the full width of the trench.

1.8 Backfilling

The Contractor must backfill the pipe trench only after the pipe installations have been inspected by the Engineer or his authorized representative. For PVC pipe, the Contractor must furnish and place 3/4-inch clean crushed stone over the pipe to a depth of twelve inches (12") for the full width of the trench. For DIP pipe, the initial backfill may be suitable excavated material. The remaining backfill must be made with the best of the excavated material as approved by the Engineer. Special care must be exercised to place material around the pipe to an average depth of twelve inches (12") over the pipe.

If, in the opinion of the Engineer, the material excavated from the trench is unsuitable for backfill, the Contractor must furnish and place select fill material as directed by the Engineer. Select material is defined as sand, bank run, or other fine granular material as approved by the Engineer.

All backfill is to be placed in 6" – 8" layers and must be thoroughly tamped with a Vibratory Rammer ("Jumping Jack") to a density equal to "in-situ" material or a minimum of 95% maximum modified proctor density.

The compaction is to be inspected on a regular basis by the field inspector and Engineer.

1.9 Disposal of Surplus Excavated Material

A sufficient quantity of suitable material must be retained for backfill. Surplus excavated material must be disposed of daily so as to cause a minimum of inconveniences to the public.

The disposal sites are to be selected by the Contractor, and the Contractor is responsible for the proper disposal of the surplus material, in accordance with Soil Conservation District requirements and local authorities.

In the case of settlement of the trench, the Contractor must supply sufficient material to make up the deficiency.

1.10 Municipal, County and State Requirements

The Contractor must obtain all permits from the municipality, county or state which may be required to carry out the work, paying all fees and guarantees associated therewith. The Contractor is required to comply with all municipal and state requirements for traffic control, methods of construction, restoration, and any other items over which the respective body has jurisdiction.

2. Sewer Pipe

2.1 Scope of Work

The Contractor must furnish and install all of the 8" and sanitary sewer as shown on the Contract Drawings and/or as specified herein.

2.2 Description

- A. Gravity Sewer - Gravity sewer pipe installation includes the excavation and backfill for and the construction, furnishing and installation of gravity sewers for conveying sanitary sewage in accordance with the Contract Documents and Specifications and as directed by the Engineer.
- B. Also included is any by-pass piping and pumping required to construct this pipeline.

2.3 Submittals

- A. Contractor must supply two (2) copies of shop drawings for all pipe and fittings for approval prior to installation.
- B. Submit two (2) copies of manufacturer's certified letter stating that the pipe or joint materials ordered meets the requirements of this Specification. Letter must indicate compliance with appropriate reference standards listed.

2.4 Materials

The pipe material is to be as shown on the plans.

- A. PVC Sewer Pipe:
 - 1. PVC pipe is to be ASTM D3034 SDR 35 up to a depth of 12 feet, or SDR 26 for depths up to 20 feet.
 - 2. PVC sewer lateral pipe is to be Schedule 40.

- B. Ductile Iron Pipe is to be ASTM A746, AWWA C150, AWWA 151 for push-on joints. Pipe is to be Class 52 thickness, cement lined, with AWWA C111 rubber gaskets. Standard fittings are to be ductile iron with push-on or mechanical joints.
- C. Fittings, as recommended by pipe manufacturer.
- D. Joint Design, as recommended by pipe manufacturer.
- E. Joint Material: Elastomeric ring rubber gasket, as recommended by pipe manufacturer.
- F. Joint Material Primer/Adhesive, as recommended by pipe manufacturer.
- G. Special - Pipe Adaptors: Where necessary to joint pipe of different types, the Contractor must provide necessary adaptors. Ends must conform to the Specifications for the appropriate type of joint.

2.5 Methods of Construction

- A. Excavation and Backfill must be as specified heretofore in the Specifications.
- B. Handling - Pipe and accessories must be new material which has never been used for any purposes whatsoever. Pipe and accessories must be handled in such a manner so as to ensure delivery in a sound undamaged condition, and conforming in all respects with the Specifications. Place no pipe or materials inside any pipe. Defective materials must be removed immediately from the job site. Pipe placed along the line of the work must be placed so as to be as little inconvenience to the traveling public as possible.
- C. Placing Pipe in Trench - The interior of all pipe must be thoroughly cleaned before being lowered into trench. Pipe must be lowered into the trench with great care. No trench water is to be permitted to enter pipe or fittings. Pipe must be supported over its entire length by a firm foundation.

Connections to manholes are to be water-tight. Connection to existing manholes must be made as defined in Section 4 - "Manholes". Installation of pipe is to start at the low end of the system and proceed up-gradient.
- D. Alignment and Grade - The pipe must be laid in the trench accurately to line and grade as shown on the Plans and Profile. If changes to the alignment are required by field conditions, General Contractor to immediately notify the Engineer in writing. Pipe must not be backfilled until inspected and approved by the authority having jurisdiction. Great care must be exercised to protect finished pipe during backfilling. All pipe is to be installed with the aid of a laser.
- E. Cutting Pipe - All pipe must be cut so as to have neat, smooth edges at 90 degrees to pipe axis. Provide beveled angle on spigot end of pipe as recommended by the pipe manufacturer. Do not damage pipe or linings while cutting pipe. Mechanical cutters must be used unless other means are authorized by the Engineer.
- F. Jointing - The jointing of pipe will receive the strictest supervision and inspection. All sewers must be as nearly watertight as possible. All visible leaks must be repaired. Joints can only be made when free of water below the bell joint. The making of joints must conform in all respects with pipe manufacturer's recommendations, these Specifications, and good practice where connections are made to structures or manholes, and/or joints within four (4) feet of structure or manhole to which connection is made. Joints that do not meet these Specifications must be remade.

3. Building Connections

3.1 Scope of Work

The Contractor must furnish all labor, equipment, materials, and all else necessary for the house connection laterals as specified herein.

3.2 General

Building connections must be installed at the locations and depths depicted on the Contract Drawings, or at the locations designated in the field by the Owner.

In general, all requirements for the construction of building laterals must be the same as those set forth for the sewer main, unless otherwise specified.

All building connection laterals must be **Schedule 40 PVC** or stronger pipe with the diameter shown on the plans. The building connection pipe must be connected to the tee or wye branch of the main sewer with a 45-degree bend and a suitable adapter where required, as detailed on the Contract Drawings.

Unless otherwise directed by the plans or the authority having jurisdiction, building laterals must be laid on a 2% slope. The clean-out must consist of a tee, 4" or 6" riser to existing or proposed grade, with end cap and must be installed at a spacing which conforms with the current Plumbing Codes. The opening of the riser tee to which the property owner will connect is to be plugged or capped to prevent ground water and soil from entering the lateral, until final connection to main is complete.

Where building laterals are installed at the same time as the main sewer, the Contractor must backfill the trench for the main and building connection simultaneously, bringing the backfill up in even layers throughout. If the Contractor elects to install the building laterals after completing the main sewers, the trench for the main sewer must be backfilled completely, temporarily restored, and re-excavated for the installation of the building laterals.

Building laterals must be tested at the same time that the main sewer is tested when installed at the same time, with the same type of test and leakage allowance specified for the main sewer.

3.3 Deep Building Connections

The Contractor must install deep building connection risers at the locations as directed by the Engineer. Deep building connection risers must be installed only for main sewers deeper than eight (8) feet. The riser pipe must be minimum 4" **Schedule 40 or stronger PVC pipe** encased in concrete or DIP, as shown on the Contract Drawings.

4. Manholes

4.1 Scope of Work

The Contractor must furnish and install all manholes and appurtenant items as shown on the Contract Drawings and/or as specified herein. All manholes must be of the pre-cast reinforced concrete type and must be constructed to the size and dimensions as shown on the Contract Drawings.

4.2 Pre-Cast Manholes

Pre-cast manholes are to consist of pre-cast reinforced concrete base, barrel and top sections conforming with the typical manhole details as shown on the Contract Drawings. Pre-cast barrel sections must be 1, 2, 3, or 4 feet in length as required. Pre-cast top sections are to be eccentric design as shown on the Contract Drawings and be designed to withstand H-25 truck loadings.

Pre-cast manhole sections must be manufactured in accordance with ASTM Designation C478-61T. The minimum compressive strength of the concrete for all sections is 4,000 psi.

Joints of the manhole sections are to be formed entirely of concrete employing a round rubber gasket, and when assembled must be self-centering and forming a uniform watertight joint. The gasket spaces between the bell and the spigot must be so shaped as to provide grooves that will prevent the gasket from disengaging from its compression surface, or being blown out by hydrostatic pressures. The gasket is to be the sole element utilized in sealing the joint from either internal or external hydrostatic pressure.

Each section of the pre-cast manhole is to have not more than two (2) holes for the purpose of handling and installation. These holes must be plugged with mortar after installation.

All pre-cast manholes and joints are to be coated entirely with a protective waterproof tar coating.

Manhole steps must be polypropylene or an equivalent corrosion-resistant material with 1/2" steel reinforcing. All steps are to be built into the walls of the pre-cast section and be set in straight alignment so as to form a continuous ladder, with a maximum distance of twelve (12) inches between steps. The top step is not to be over fifteen (15) inches below the top of the manhole frame, and the lower-most step is to be no more than two (2) feet above the bottom of the sewer as required.

Pre-cast base sections are to be installed on a firm, stabilized foundation prepared similar to that required for the proper installation of the adjacent pipeline as described elsewhere in the Specifications.

Pre-cast base sections are to have paved invert channels formed of concrete. Paved inverts must be smooth and accurately shaped to a semicircular bottom conforming to the inside of the adjacent sewer sections. Changes in direction of the sewer and entering branches are to have a circular curve of as large a radius as the manhole will permit.

The sewer pipes entering and leaving manholes must be sealed to the manholes by means of manhole adapter fittings which are cast into the manhole wall. The sewer pipes entering and leaving manholes must be cut flush with the inside of the manhole.

The adapter is to have an integral elastomeric gasket of the proper size and configuration so that it is compatible with the sewer pipe. The sewer pipe connections to the manholes are to be completely watertight.

All manholes to comply with the latest New Jersey Administration Code (NJAC) Section 7:14A-23.

4.3 Manhole Castings

The Contractor must furnish and install all manhole castings. All castings for manhole frames and covers are to be of tough gray iron; free from cracks, holes, sponginess, pouring faults and other defects affecting their strength and value for the service intended. The quality must be such that a blow from a hammer will produce an indentation to the rectangular edge of the casting without flaking the metal.

All castings must conform to the dimensions and design as shown on the Contract Drawings.

All castings must be manufactured in the United States.

All covers must fit the frames in any position, and if found to rattle under traffic, must be replaced at the expense of the Contractor.

All castings must be machined to provide even bearing surfaces. No plugging, burning in, or filling will be allowed.

All castings must be brought neatly and accurately to line and grade in a full bed or mortar.

Upon completion of pavement and/or other restoration, the manhole frame and cover is to be adjusted to a flush condition with the surrounding area.

All manholes castings to comply with the latest New Jersey Administration Code (NJAC) Section 7:14A-23.

5. Testing of Sewer Lines

5.1 Scope of Work

The Contractor must furnish all labor, materials, and equipment necessary to perform the below specified tests on all sewers installed based on the Contract Documents. All testing must be performed by the Contractor under the supervision of the authority having jurisdiction. Where it is advantageous to the Owner, the authority may order the testing of completed sewer lines in any portion of the Contract. It is specifically noted that the term "sewers" as used in this section is to include both main sewers and building laterals; and all the terms of this section are to apply to both main sewers and building laterals.

5.2 Test

1. Contractor must test using one of the following methods:
 - A. Leakage Test - All sewers must be tested for leakage as the work progresses. Sewer must be tested from manhole to manhole. Where sewer is laid in ground that is wet up to top of sewer, test may be made by measuring leakage into pipe, otherwise sewer must be plugged and filled and leakage measured out. All material, labor and equipment must be furnished and installed by Contractor for test and test must be performed in the presence and under the supervision of the authority having jurisdiction. The leakage either in or out of sewer cannot exceed fifty (50) gallons per twenty-four (24) hours per inch of sewer internal diameter, per mile of pipe, per day, or it will be rejected.
 - B. Air Testing - Air testing must conform to the manufacturer's recommendations. All laterals are to be installed prior to the air test. The minimum time duration for a low pressure exfiltration pressure drop between two consecutive manholes is not to be less than shown in Table 1. The prescribed drop must not exceed 0.5 psi from 4.0 to 3.5 psi in excess of the groundwater pressure above the top of the sewer.

TABLE 1

Minimum Duration for Air Test Pressure Drop

Pipe Size *		Time **
<u>Inches</u>	<u>mm.</u>	<u>(Min/100 FT)</u>
8	200	5

* Multiple Pipe Sizes: When sewer line undergoing test is eight (8) inches or larger diameter pipe and includes different sized laterals, the test time shown for the sewer line is to be utilized, and no time adjustments for the laterals are to be considered.

** Test Time: Minimum test time durations listed do not include minimum of two-minute air stabilization period required before commencing test.

Sewers not meeting these requirements must be repaired or rebuilt as directed by the Engineer at no cost to Owner. Before final acceptance, Contractor must provide means for final inspection by the Engineer. Sewers must be left clean and free throughout their entire length.

2. Deflection Testing (for PVC pipe)

- A. The maximum allowable pipe deflection (reduction in vertical inside diameter) is to be 7.5%.
- B. Deflection tests must be successfully performed on the complete installation by the "Go/No-Go" Mandrel Method. Mandrel must be properly sized for the tested pipe diameter.
- C. Any section of sewer not passing the mandrel must be uncovered and the bedding and backfill replaced to prevent excessive deflection. Repaired section of sewer must be retested and must not deflect more than 4%.

6. Restoration and Environmental Considerations

6.1 Scope of Work

The Contractor must furnish all labor, equipment, and materials necessary to restore all surfaces and structures which have been removed and/or damaged in the course of his work.

6.2 General

Unless otherwise specified, all surfaces which have been damaged and/or removed by the Contractor's operations must be restored to the condition and the grade elevations at least equal to that in which they were found immediately prior to the beginning of construction. Suitable materials and methods must be used for such restoration. The Contractor must obtain any and all permits which may be required, paying all fees and charges for same.

All trenches must be temporarily restored immediately following pipe installation and backfilling.

The permanent restoration of all surfaces and structures must be done as promptly as practicable and must not be left until the end of the construction period. Where more restrictive, the laws, ordinances, and rules and regulations of governing bodies will supersede any specific requirement in this section. All pavement restorations must comply with the New Jersey Department of Transportation's Standard Specifications for Road and Bridge Construction (2007).

6.3 Sedimentation and Erosion Control

The Contractor must furnish all equipment, materials, and labor necessary to provide satisfactory sedimentation and erosion control. All water pumped from trenches must be discharged in a manner that is compliant with the soil conservation standards. Care must be taken not to kill vegetation by excessive watering or accumulation of silt.

In general, all trench spoils must be stockpiled on the uphill side of the trench. Where required, the Contractor is to provide coverings or other means to prevent spoils from being washed away.

The Contractor must furnish and utilize such mats, mulch, straw bales, blankets, or rip rap as necessary to prevent erosion of newly excavated or restored areas.

In controlling erosion and sedimentation, the Contractor is to be guided by the New Jersey State Standards for Soil Erosion and Sedimentation Control and applicable Municipal ordinances.

6.4 Temporary Restoration

All main trenches and lateral connection trenches must be temporarily restored each day, immediately after backfilling of the trench. Temporary restoration of paved roads is to consist of placing a minimum of 4" stabilized base pavement and compacting same flush with the surrounding pavement. The Contractor must maintain the trench in a flush condition for a period of six (6) months after the project is deemed substantially complete by the Engineer and Owner.

Temporary restoration of surfaces other than pavement must include rough grading, removal of excess material and debris, and maintenance of the surface in a flush condition until final restoration. The Contractor must use a motor powered sweeper for cleaning the roadway after each day's work as deemed necessary by the Engineer and Owner.

6.5 Permanent Restoration

The permanent restoration of the trenches in the paved roadway must receive final paving by the Contractor within thirty (30) days after the project is deemed substantially complete by the Owner and Engineer. The Contractor is responsible for maintaining the stabilized base in the trenches for this period of thirty (30) days as described in Section 6.4.

All non-paved areas which are disturbed by the Contractor's operations must be restored to their original condition. Lawn areas and other grass areas must be restored with topsoil and seeding. Topsoil must be furnished and placed to a depth, as shown on Contract Drawings. Seeding of the top-soiled areas must be done with a mixture, as approved on Contract Drawings.

All seeded areas must be protected by salt hay mulching. Any grass which does not grow or dies out must be replaced by the Contractor.

Other unclassified areas such as road shoulders must be restored by the Contractor. Such restoration includes grading of the trench to its original elevation and placement of quarry process stone where applicable.

The Contractor must restore all other miscellaneous surfaces or structures, including but not limited to, curb, sidewalks, fences, driveways, shrubs, mailboxes, signs and walls which are disturbed and/or damaged by reason of his operations. All items must be replaced to equal or better condition as encountered prior to the start of construction.

7. Rock Excavation

7.1 Scope of Work

Under this item, the Contractor must furnish the labor, material, equipment and all else necessary to excavate rock as may be encountered during the process of the work.

7.2 Rock Defined

Rock for this project means non-rippable ledge rock requiring blasting, wedging, drilling, or barring for its removal, boulders one-half (1/2) cubic yard or greater in volume removed from the excavation, and excavated cement masonry, including the concrete bases of pavements. When rock is encountered, it must be cleaned off prior to excavation to permit satisfactory measurement by the Engineer or his duly authorized representative.

7.3 Right to Change Grades

The Engineer reserves the right to alter the grades or depths of excavation to avoid the necessity of removing rock if it is considered to be to the best interests of the Owner.

The Contractor is not entitled to make claims against the Owner for the loss of anticipated profits which may be occasioned by such revisions or alterations.

7.4 Blasting

Blasting is to be resorted to as a means of excavation only in solid ledge rock or rock which cannot be removed with conventional equipment. Blasting, if necessary, is to be carefully done, using small charges properly protected by mats and timbers or other approved means, and such work is to be entirely at the Contractor's own responsibility for any resultant damage. Contractor must obtain all required approvals/permits for blasting.

All explosives must be kept in a secure and approved manner and must be handled only by experienced personnel. All laws relative to the storage and use of explosives must be observed. The Contractor is directed to acquaint himself fully with all local, county, and state rules, regulations and/or restrictions and to comply with them in full.

The Contractor must be responsible for the prevention of damage to existing foundations, street utilities, and other structural elements contained within the dwellings in the area. Prior to blasting, Contractor to take photos of all structures adjacent to the location. Contractor must maintain appropriate insurance coverage against potential damage to pay for any repairs to adjacent property owners that may be required as a result of blasting, and must provide the owner with certificates of insurance prior to blasting.

8. Engineering and Surveying Data

8.1 Survey Control Points

The Contractor is to utilize the survey data provided on the Contract Drawings as follows:

- A. Horizontal control points on manhole centerlines to establish pipe alignment.
- B. Vertical benchmarks for establishing pipe grades and vertical alignment. The existing sewer inverts are to be used as vertical benchmarks and verified by the Contractor. Any other benchmarks that may be used are designated as such on the Contract Drawings.

8.2 Stakeout, Layout and Cut Sheets

For all surveying work, the Contractor must employ a Professional Land Surveyor (Surveyor) licensed to do work in the State of New Jersey.

Prior to staking out and preparing cut sheets, the Contractor's surveyor must verify the accuracy of the benchmarks, provided by the Engineer. In addition, the Contractor's surveyor must establish two or more offset points at each control point, outside of the construction area, so that the original control points can be re-established.

The Contractor's surveyor must accurately profile the original ground along the centerline of the proposed pipe line at each control point and at each even fifty- (50)-foot station.

The Contractor's surveyor must set offset stakes at each control point and at each even fifty- (50)-foot station, and must determine the elevation at each offset stake.

On the basis of the elevations as determined by the Contractor's surveyor, and with the proposed design data supplied by the Engineer, the Contractor's surveyor is to prepare cut sheets showing the vertical distance from the invert of the pipe to the ground elevation over the pipe, and from the invert of the pipe to the offset stake for each control point and even fifty- (50)-foot station.

Cut sheets are to be prepared, dated, and signed by a responsible person, and must be submitted to the Engineer at least two (2) working days prior to laying the pipe.

The Contractor is responsible for maintaining all benchmarks, offsets, and all ties to control points. The Contractor is responsible for the stakeout and cut sheets, and must correct any improperly installed work resulting from errors thereof. When there are field changes in the line or grade caused by unforeseen obstructions, rock or other causes, the Contractor, when so directed by the Engineer, is to adjust the stakeout and cut sheets to meet the new conditions.

8.3 Construction Control

The Contractor must employ suitable techniques to ensure that the pipes are installed to the grades and slopes as shown on the Surveyor's grade sheets. Such techniques are to include the use of an engineer's level or a laser beam. Where laser beams are utilized for pipe alignment, the laser must be field checked at intervals of not more than 100 feet using an engineer's level.

9. Engineering and Surveying Data

9.1 General

All work within roadways must be performed in accordance with the requirements of the authority having jurisdiction. The Contractor must obtain any and all permits which may be required paying all fees and charges for same. The Contractor must comply with all requirements of the NJDOT Utility Opening Permit including setting of signs, cones and barricades as required by the work and as approved by the entity having jurisdiction over the road.

9.2 Traffic and Safety

The Contractor must conduct his work in such a manner as to minimize any inconvenience to the residents of the municipality. The Contractor must observe all ordinances applicable to obstructing streets and roads, maintaining open passageways and the maintenance of safety devices.

The Contractor must coordinate his work schedule with the local police department so that all emergency and public safety operations can be maintained during the construction period. Unless special permission is granted, no roads are to be blocked. The Contractor, at his own expense, must employ uniformed police officers for traffic control where it is deemed necessary by the authority having jurisdiction.

The Contractor is solely responsible for maintaining safe conditions during the construction of the project. The Contractor must take all necessary safety precautions which include, but are not limited to: traffic control consisting of warning signs, traffic markers, barricades and lights, and pedestrian control consisting of signs, barriers, and lights. The Contractor must also have personnel available for emergency call-out in the event unsafe conditions arise during non-working hours, weekends or holidays.

The Contractor must coordinate all traffic control measures in conformance with the Manual of Uniform Traffic Control Devices Standards for lane closures.

The contractor is responsible for preparing a traffic control plan and for submitting same to the appropriate authorities for approval.

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DEVELOPER'S

AGREEMENT

THIS AGREEMENT, made this 31st day of December, 2015 between THE BOROUGH OF NEW PROVIDENCE, a Municipal Corporation of the State of New Jersey, whose address is 360 Elkwood Avenue, New Providence, NJ 07974 (hereinafter referred to as the "Borough"), and REDWOOD-ERC NEW PROVIDENCE II, LLC (hereinafter referred to as the "Developer") whose address is c/o Rick W. Slosson, Erickson Living Management, LLC, 701 Maiden Choice Lane, Baltimore, MD 21228.

WITNESSETH

WHEREAS, Developer obtained approvals from the Borough Zoning Board of Adjustment (the "Zoning Board") by Resolution No. 2011-13, adopted May 16, 2011, and Resolution No. 2012-14, adopted June 4, 2012, and pursuant to such approvals is constructing a continuing care retirement community facility (the "CCRC") on property known as 535 Mountain Avenue, and identified as Block 320, Lot 17 on the Borough of New Providence Official Tax Map (hereafter "Phase I & II Property"); and

WHEREAS, Developer subsequently obtained approval from the Zoning Board by Resolution (the "Resolution") No. 2015-19, adopted May 4, 2015, which is attached hereto as Exhibit A, for Preliminary and Final Major Site Plan Approval with Variances to expand the CCRC on property adjacent to the Phase I & II Property, known as 460 Mountain Avenue, identified as Block 320, Lot 15 on the Borough of New Providence Official Tax Map (the "Property"), for the construction of a four-story, 145 unit continuing care retirement community building, along with other improvements referenced in the Resolution, and in the documents identified and incorporated by reference in the Resolution, and as set forth on all other

submissions constituting the Developer's application to the Zoning Board; and

WHEREAS, it is appropriate that Developer enter into an Agreement with the Borough to set forth the obligations of the respective parties in connection with the development of the Property.

NOW, THEREFORE, in consideration of and pursuant to the provisions of the Statutes of the State of New Jersey, and the mutual covenants and agreements herein contained, Developer and the Borough do hereby agree with each other as follows:

ARTICLE I. Preliminary and final site plan approval and variance relief has been granted, and Developer intends to complete construction of the improvements referenced in the Resolution.

ARTICLE II. Developer shall secure all required and necessary permits and shall be responsible for complying with all conditions of said permits throughout construction.

Developer shall comply with any and all Federal, State, County or local statutes, ordinances and regulations which may apply to the Development.

ARTICLE III. Developer agrees to deposit with the Borough the inspection fees for the site work improvements (including any fees for review of design or change in design) in accordance with the Land Development Ordinances of the Borough, upon the commencement of any site work. Developer's engineer shall prepare an estimate of such fees and the anticipated time periods over which such fees are to be incurred for approval by the Borough Engineer. Upon the Borough's approval of such estimate and commencement of the site work improvements, Developer shall deposit ten percent (10%) of the total inspection fees and shall from time to time replenish such escrow account as directed by the Borough and in accordance

with the time periods described in the approved estimate. Replenishment of the escrow account shall be made by Developer within thirty (30) days of request of same.

ARTICLE IV. Developer's engineer shall prepare and submit a Schedule of Values to the Borough Engineer setting forth the cost estimate of each portion of the site improvements for which a performance guarantee will be required. Permits for site improvements shall be issued upon the filing of construction drawings and upon posting of a suitable performance bond for the value of such portion of the site improvement work for which the permit is issued based on the Schedule of Values as reviewed and approved by the Borough Engineer.

ARTICLE V. The performance guarantee which shall be in the amount of one hundred twenty percent (120%) of the estimated cost of the installation of all of the site improvements, said itemized cost estimate to be based on the Schedule of Values approved by the Borough Engineer, shall inure to the benefit of the Borough only and shall remain in full force and effect until the work secured thereby is completed to the satisfaction of the Borough Engineer. Developer shall have the right from time to time during construction to apply to the Borough for partial release of the performance guarantee, commensurate with the value of improvements set forth in the Schedule of Values approved by the Borough Engineer to have been completed pursuant to N.J.S.A. 40:55D-53, and as approved by the Borough Engineer. No credit will be given for any un-inspected work at the time of guarantee reduction or partial release. The Borough agrees to promptly inspect all work in progress upon the request of Developer for same.

ARTICLE VI. The Developer at its own cost and expense shall maintain all improvements required to be installed for the Development for a period of two (2) years from the date of acceptance or approval of construction by the Borough, provided, however, that this requirement shall not apply to any underground utility installed by a public utility company

which will be owned and maintained by such company after installation. Maintenance shall include the repair, reconstruction and replacement of any improvement or portion thereof, which is necessitated by reason of faulty materials or workmanship, settlement or the effects of the forces of nature. Maintenance shall also include the correction of any adverse conditions within road rights-of-way or easements conveyed to the Borough caused by the forces of nature and not evident at the time of acceptance by the Borough. Maintenance shall be deemed to be satisfactorily performed when inspected and approved by the Borough Engineer.

ARTICLE VII. If, upon the acceptance of improvements for the Development by the Borough, the Developer desires to have the performance guarantee released, the Developer shall furnish to the Borough a maintenance bond guaranteeing the maintenance of all improvements as provided in Article VI, which bond shall be in an amount equal to fifteen percent (15%) of the cost of the improvements required to be maintained as such cost is determined by the Borough Engineer.

ARTICLE VIII. Prior to the issuance of a certificate of occupancy for a portion of the Developer's project, all approved site infrastructure necessary for the occupancy of that portion of the project must be installed and must be approved by the Borough Engineer, or the appropriate official or entity having jurisdiction.

ARTICLE IX. Developer agrees to take all steps as may be reasonably necessary to protect persons and property, including roads both on and off the site, from injury or damage due to the conditions resulting from the development contemplated herein.

Developer agrees to indemnify and hold harmless the Borough and all officials, employed or appointed, during the time of construction from any and all liability arising out of

any claims made during construction arising out of Developer's construction activities, but not relating to any approvals granted pursuant to the Resolution.

ARTICLE X. Developer grants to the Borough and its agents the right of full and complete access to the construction site during the entire period of development for inspection and enforcement purposes.

Developer shall join in the inspection of the work in progress by the Borough and shall promptly correct any hazardous or unsafe conditions as may be required by the Borough. Developer and the Borough shall have a pre-construction meeting for the Developer, the Borough Engineer and the general contractor to coordinate the progress of construction and address any security issues related to the Property.

ARTICLE XI. Developer agrees to construct all improvements in accordance with the approved plans entitled "Preliminary and Final Major Site Plan for Redwood-ERC New Providence II, LLC proposed Continuing Care Retirement Community," prepared by Bohler Engineering, dated December 3, 2014, last revised March 25, 2015, and as required per all conditions set forth in the Resolution.

All drawings, maps, plans and agreements approved by the Zoning Board shall, following its approval, be incorporated by reference in this Developer's Agreement as though set forth fully at length herein.

Upon completion of the improvements, Developer shall furnish to the Borough "as built" plans in an electronic format acceptable to the Borough Engineer.

ARTICLE XII. In the event Developer shall breach any of the terms and conditions of this Agreement, Developer shall, upon the Borough's request, immediately take all steps to

correct such breach and if not remedied in a reasonably timely manner, the Borough reserves the right to stop all work on the project area by vehicles or pedestrians.

The Borough reserves the right to revoke the applicable approval granted or take appropriate action in the event there is any material deviation from or alteration to the plans unless prior written approval for any such material deviation or alteration has been obtained from the Zoning Board or its authorized representatives.

ARTICLE XIII. Developer shall be responsible and pay for all road, aisle and parking area maintenance on the Property which shall include, but not be limited to, the responsibility for snow and ice removal during periods of inclement weather, and all services enumerated in Section 2 of the Municipal Services Act, N.J.S.A. 40:67-23.3.

ARTICLE XIV. For purposes of all notices and correspondence arising out of this Developer's Agreement, the office of Developer is c/o Rick W. Slosson, Erickson Living Management, LLC, 701 Maiden Choice Lane, Baltimore, MD 21228, with a copy of all correspondence to be directed to General Counsel, Erickson Living, 701 Maiden Choice Lane, Baltimore, Maryland 21228. All notices and correspondence shall be sent to Wendi B. Barry, Clerk, 360 Elkwood Avenue, New Providence, NJ 07974, with a copy to Andrew Hipolit, Borough Engineer, 360 Elkwood Avenue, New Providence, NJ 07974.

ARTICLE XV. This Developer's Agreement shall be binding upon and its provisions shall inure to the benefit of the representative successors and assigns of the parties hereto. This Agreement may be assigned to a successor developer and upon replacement of the restoration guarantee by a successor, Developer shall receive a return from the Borough of the guarantee posted.

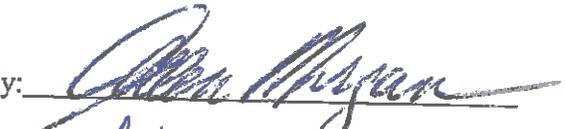
ARTICLE XVI. If any provisions of this Developer's Agreement shall be declared to be illegal or unconstitutional or otherwise defective in whole or in part, such determination shall not be deemed to void the entire Agreement if the remaining portions of the Agreement are of themselves effective, it being the intent that all of the provisions of the Developer's Agreement are separable and not necessarily dependent upon any other provisions of the Developer's Agreement.

This Developer's Agreement shall be interpreted and construed in accordance with the laws of the State of New Jersey.

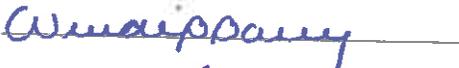
IN WITNESS WHEREOF, the said parties have hereunto set their hands and seals, in triplicate, respectively, the day and year first above mentioned.

Borough of New Providence

By:


Allen Morgan, Mayor

ATTEST:


Wendy Barry, Clerk

Redwood-ERC New Providence II, LLC

By:


Susan L. Oliveri
Secretary

WITNESS:


Cathy M. Thompson

DEVELOPERS

AGREEMENT

THIS AGREEMENT, made this day of October, 2013 between the Borough of New Providence, a Municipal Corporation of the State of New Jersey, whose address is 360 Elkwood Avenue, New Providence, NJ 07974 (hereinafter referred to as the "Borough"), and Redwood-ERC New Providence, LLC (hereinafter referred to as the "Developer") whose address is c/o Dawn Yeager, Erickson Living Management, LLC, 701 Maiden Choice Lane, Baltimore, MD 21228.

WITNESSETH

WHEREAS, Developer proposes to construct a continuing care retirement community facility together with related driveways, signs, off-street parking areas, utilities, lighting, landscaping, recreational amenities, and certain improvements (hereafter "the Development") on the subject premises known and designated as 535 Mountain Avenue, also identified as Block 320, Lot 17 on the Official Tax Map of the Borough of New Providence, Union County, New Jersey (hereafter "Property") which improvements shall consist of and shall include those improvements referenced in certain resolutions of approval adopted by the Borough of New Providence Zoning Board of Adjustment duly adopted at a regular public meeting of said Board held on May 16, 2011 (Resolution No. 2011-13, Approval No. 2011-03) and at a regular public meeting held on June 4, 2012 (Resolution No. 2012-14, Approval No. 2012-05) (collectively referred to as "Resolutions", which are attached hereto and made part hereof), in the documents identified and incorporated by reference into the Resolutions and as set forth on all other

submissions constituting the Developer's application to the Zoning Board of Adjustment of the Borough of New Providence;

WHEREAS, Developer's affiliate, Redwood-ERC New Providence II, LLC, owns the land adjacent to the Property known as 460 Mountain Avenue, also identified as Block 320, Lot 15 on the Official Tax Map of the Borough of New Providence, Union County, New Jersey (the "Adjacent Property");

WHEREAS, Developer has received preliminary and final site plan approval from the Borough of New Providence Zoning Board of Adjustment; and

WHEREAS, it is appropriate that Developer enter into an Agreement with the Borough as respects the obligations of the respective parties in connection with the development of the property.

NOW, THEREFORE, in consideration of and pursuant to the provisions of the Statutes of the State of New Jersey, and the mutual covenants and agreements herein contained, Developer and the Borough do hereby agree with each other as follows:

ARTICLE I. Preliminary and final site plan approval has been granted, and Developer intends to complete construction of the improvements referenced in the Resolutions.

ARTICLE II. Developer shall secure all required and necessary permits and shall be responsible for complying with all conditions of said permits throughout construction.

Developer shall comply with any and all Federal, State, County or local statutes, ordinances and regulations which may apply to the Development.

ARTICLE III. Developer agrees to deposit with the Borough the inspection fees for the site work improvements (including any fees for review of design or change in design) in accordance with the Land Development Ordinances of the Borough, upon the commencement of

any site work. Developer's engineer shall prepare an estimate of such fees and the anticipated time periods over which such fees are to be incurred for approval by the Borough Engineer. Upon the Borough's approval of such estimate and commencement of the site work improvements, Developer shall deposit ten percent (10%) of the total inspection fees and shall from time to time replenish such escrow account as directed by the Borough and in accordance with the time periods described in the approved estimate. Replenishment of the escrow account shall be made by Developer within thirty (30) days of request of same.

ARTICLE IV. Developer's engineer shall prepare and submit a Schedule of Values to the Borough Engineer setting forth the cost estimate of each portion of the site improvements for which a performance guarantee will be required. Permits for site improvements shall be issued upon the filing of construction drawings and upon posting of a suitable performance bond for the value of such portion of the site improvement work for which the permit is issued based on the Schedule of Values as reviewed and approved by the Borough Engineer.

ARTICLE V. The performance guarantee which shall be in the amount of one hundred twenty percent (120%) of the estimated cost of the installation of all of the site improvements, said itemized cost estimate to be based on the Schedule of Values approved by the Borough Engineer, shall inure to the benefit of the Borough only and shall remain in full force and effect until the work secured thereby is completed to the satisfaction of the Borough Engineer

Developer shall have the right from time to time during construction to apply to the Borough for partial release of the performance guarantee, commensurate with the value of improvements set forth in the Schedule of Values approved by the Borough Engineer to have been completed pursuant to N.J.S.A. 40:55D-53, and as approved by the Borough Engineer. No credit will be given for any un-inspected work at the time of guarantee reduction or partial

release. The Borough agrees to promptly inspect all work in progress upon the request of Developer for same.

ARTICLE VI. The Developer at its own cost and expense shall maintain all improvements required to be installed for the Development for a period of two (2) years from the date of acceptance or approval of construction by the Borough, provided, however, that this requirement shall not apply to any underground utility installed by a public utility company which will be owned and maintained by such company after installation. Maintenance shall include the repair, reconstruction and replacement of any improvement or portion thereof, which is necessitated by reason of faulty materials or workmanship, settlement or the effects of the forces of nature. Maintenance shall also include the correction of any adverse conditions within road rights-of-way or easements conveyed to the Borough caused by the forces of nature and not evident at the time of acceptance by the Borough. Maintenance shall be deemed to be satisfactorily performed when inspected and approved by the Borough Engineer.

ARTICLE VII. If, upon the acceptance of improvements for the Development by the Borough, the Developer desires to have the performance guarantee released, the Developer shall furnish to the Borough a maintenance bond guaranteeing the maintenance of all improvements as provided in Article VI, which bond shall be in an amount equal to fifteen percent (15%) of the cost of the improvements required to be maintained as such cost is determined by the Borough Engineer.

ARTICLE VIII. The Borough and the Developer acknowledge that Board of Adjustment Resolution 2012-14 provided that Developer was required to contribute up to \$175,000 for the assessment and upgrade of off-site sanitary sewer mains serving the Development (the "Sewer Obligation"). As a result of the Borough's subsequent assessment of

its inflow and infiltration issues and in order to address the sewer capacity needs of the Property and the Adjacent Property, the Sewer Obligation set forth in Resolution 2012-14 is hereby rescinded. In lieu of the Sewer Obligation, Developer shall contribute \$225,000 to the Borough for the inflow and infiltration issues related to the Property and the Adjacent Property and for the Borough to guarantee to Developer the availability of the capacity to accommodate 100,000 gallons per day of sewer capacity to be used for the Property and the Adjacent Property, which shall be allocated between the Property and Adjacent Property as Developer deems necessary. The 100,000 gallons per day shall be measured as the average daily flow of the peak week of any 12 month period. The peak hourly flow rate shall not exceed 13,500 gallons per hour. The Borough acknowledges and agrees that Developer has previously paid the cost of all engineering and design review fees and costs associated with obtaining the requisite variances and site plan approval for the Property. It further acknowledges and agrees that the contribution of \$225,000 to the Borough for inflow and infiltration work is in full payment of any obligations Developer may have for said work. The \$225,000 contribution does not relieve Developer from paying any and all fees, including without limitation sewer connection fees, plumbing and sewer fees, construction permit fees or any bonding required pursuant to the Board of Adjustment Resolutions or to municipal State or federal ordinance, codes, statutes or law, in connection with the construction of the Property or the Adjacent property, nor for any engineering and design review fees and costs related to the Adjacent Property. Developer agrees to install a sewer flow meter on the Property at a location designated and controlled by the Borough, and a dedicated sampling opening in the sewer line from the hospital wing of the Developer's project. The \$225,000 contribution shall be paid by Developer to the Borough upon the issuance of the building permit for Phase I of the Development. Other than the Developer's obligation to

contribute \$225,000 as described herein, there are no off tract improvements required to be completed by Developer.

ARTICLE IX. Prior to the issuance of a certificate of occupancy for a portion of the Developer's project, all approved site infrastructure necessary for the occupancy of that portion of the project must be installed and must be approved by the Borough Engineer, or the appropriate official or entity having jurisdiction.

Notwithstanding the foregoing, the Borough acknowledges that Developer may be constructing a temporary sales structure on the Property, and the certificate of occupancy for such structure will be issued even though subsequent improvements will be made in such area of the Property for subsequent portions of the project. The existence of the temporary structure and the inability to install future improvements in that area of the Property while the temporary structure exists shall not prohibit the issuance of any certificate of occupancy for other portions of the project.

ARTICLE X. Developer agrees to take all steps as may be reasonably necessary to protect persons and property, including roads both on and off the site, from injury or damage due to the conditions resulting from the development contemplated herein.

Developer agrees to indemnify and hold harmless the Borough and all officials, employed or appointed, during the time of construction from any and all liability arising out of any claims made during construction arising out of Developer's construction activities, but not relating to any approvals granted pursuant to the Resolutions.

ARTICLE XI. Developer grants to the Borough and its agents the right of full and complete access to the construction site during the entire period of development for inspection and enforcement purposes.

Developer shall join in the inspection of the work in progress by the Borough and shall promptly correct any hazardous or unsafe conditions as may be required by the Borough. Developer and the Borough shall have a pre-construction meeting for the Developer, the Borough Engineer and the general contractor to coordinate the progress of construction and address any security issues related to the Property.

ARTICLE XII. Developer agrees to construct all the improvements in accordance with the approved plans entitled "PRELIMINARY & FINAL MAJOR SITE PLAN," prepared by Brian McMorrow of Bohler Engineering P.E., consisting of 20 sheets dated January 19, 2012, last revised February 19, 2013 (Revision #4), and as required per all conditions set forth in the Resolutions.

All drawings, maps, plans and agreements approved by the Zoning Board of Adjustment of the Borough shall, following their approval, be incorporated by reference in this Developer's Agreement as though set forth fully at length herein.

Upon completion of the improvements, Developer shall furnish to the Borough "as built" plans in an electronic format acceptable to the Borough Engineer.

ARTICLE XIII. In the event Developer shall breach any of the terms and conditions of this Agreement, Developer shall, upon the Borough's request, immediately take all steps to correct such breach and if not remedied in a reasonably timely manner, the Borough reserves the right to stop all work on the project area by vehicles or pedestrians.

The Borough reserves the right to revoke the applicable approval granted or take appropriate action in the event there is any material deviation from or alteration to the plans unless prior written approval for any such material deviation or alteration has been obtained from the Zoning Board of Adjustment or its authorized representatives.

ARTICLE XIV. Developer shall be responsible and pay for all road, aisle and parking area maintenance on the Property which shall include, but not be limited to, the responsibility for snow and ice removal during periods of inclement weather, and all services enumerated in Section 2 of the Municipal Services Act, N.J.S.A. 40:67-23.3.

ARTICLE XV. For purposes of all notices and correspondences arising out of this Developer's Agreement, the office of Developer is c/o Dawn Yeager, Erickson Living, 701 Maiden Choice Lane, Baltimore, MD 21228, with a copy of all correspondence to be directed to General Counsel, Erickson Living, 701 Maiden Choice Lane, Baltimore, Maryland 21228. All notices and correspondence shall be sent to Wendi B. Barry, Clerk, 360 Elkwood Avenue, New Providence, NJ 07974, with a copy to Andrew Hipolit, Borough Engineer, 360 Elkwood Avenue, New Providence, NJ 07974.

ARTICLE XVI. This Developer's Agreement shall be binding upon and its provisions shall inure to the benefit of the representative successors and assigns of the parties hereto. This Agreement may be assigned to a successor developer and upon replacement of the restoration guarantee by a successor, Developer shall receive a return from the Borough of the guarantee posted.

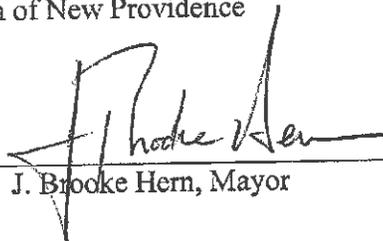
ARTICLE XVII. If any provisions of this Developer's Agreement shall be declared to be illegal or unconstitutional or otherwise defective in whole or in part, such determination shall not be deemed to void the entire Agreement if the remaining portions of the Agreement are of themselves effective, it being the intent that all of the provisions of the Developer's Agreement are separable and not necessarily dependant upon any other provisions of the Developer's Agreement.

This Developer's Agreement shall be interpreted and construed in accordance with the laws of the State of New Jersey.

IN WITNESS WHEREOF, the said parties have hereunto set their hands and seals, in triplicate, respectively, the day and year first above mentioned.

Borough of New Providence

By:



J. Brooke Hern, Mayor

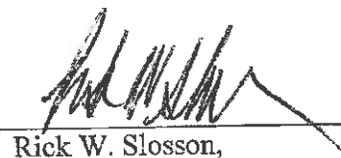
ATTEST:



Wendi B. Barry, Clerk

Redwood-ERC New Providence, LLC

By:



Rick W. Slosson,
Senior Vice President Development

WITNESS:





State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Water Quality
Municipal Finance and Construction Element
P.O. Box 420, Mail Code 401-03D
Trenton, NJ 08625-0420
Fax: (609) 633-8165
www.state.nj.us/dep/dwq

BOB MARTIN
Commissioner

Redwood-ERC New Providence, LLC
701 Maiden Choice Lane
Baltimore, MD 21228

AUG - 4 2014

Re: Treatment Works Approval (TWA) No. 14-0208
Continuing Care Retirement Community
New Providence Borough, Union County

Gentlemen:

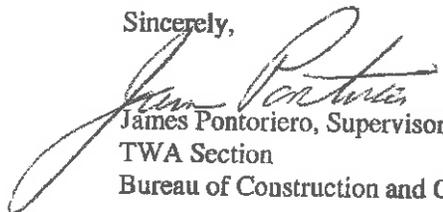
There is enclosed a Treatment Works Approval issued to you pursuant to Title 58 of the Revised Statutes of New Jersey and in consideration of your application received on 06/11/2014 signed by Mark Hunter, Director of Development, and Brian McMorro, P.E., of Bohler Engineering

This approval is valid for a period of two (2) years from the issuance date, unless otherwise stated in the attached approval document. This approval shall expire unless building, installing or modifying of the treatment works has begun within the initial approval period. Treatment works approvals may be extended beyond the original two year approval date, to a maximum period of five years from the original issuance date, in accordance with the terms and conditions contained in N.J.A.C. 7:14A-22.12. A time extension request must be received by the Department prior to the permit's expiration date. Time extension requests shall be submitted to the Bureau of Construction and Connection Permits (BCCP) at the address noted in the heading of this letter.

Within 30 days of completion of the treatment works approved herein, the permittee shall submit an executed Form WQM005 (Certification for Approval by Professional Engineer) to BCCP, as indicated in the Treatment Works Approval under Part II - "General Conditions for Treatment Works Approvals", Section B. Note that for indirect dischargers, the submitted WQM005 form must also be executed by the receiving sewage treatment plant.

If you have any questions regarding the permit, please contact Jay Acharya of this office by calling (609) 984-4429.

Sincerely,



James Pontoriero, Supervisor
TWA Section
Bureau of Construction and Connection Permits

14-0208

Enclosure

c: Joint Meeting of Essex and Union Counties
New Providence Borough
Bohler Engineering

Let's protect our earth



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
P.O. Box 402, TRENTON, NJ 08625-0402

PERMIT TO CONSTRUCT AND OPERATE* TREATMENT WORKS

**Local Agency approval required prior to operation*

The New Jersey Department of Environmental Protection grants this approval in accordance with your application, attachments accompanying same application, and applicable laws and regulation.

PERMIT NO.	ISSUANCE DATE	EXPIRATION DATE	DESIGN FLOW
14-0208	07/31/2014	07/30/2016	.0532 M.G.D.

NAME AND ADDRESS OF APPLICANT
Redwood-ERC New Providence, LLC
701 Maiden Choice Lane
Baltimore, MD 21228

LOCATION OF ACTIVITY
New Providence Borough
Union County

This permit grants permission to:

Construct and operate approximately 1,291 L.F. of 8-inch PVC sanitary sewer extension to serve a proposed Continuing Care Retirement Community, located on Mountain Avenue, in New Providence Borough, Union County, New Jersey.

According to the plans entitled:

Preliminary & Final Major Site Plan for Redwood -ERC New Providence, LLC, Proposed Continuing Care Retirement Community, Block 320, Lot 17, Tax Map Sheet #32, 535 Mountain Avenue, Borough of New Providence, Union County, New Jersey", five (5) sheets prepared by Bohler Engineering, dated January 19, 2012, last revised February 12, 2014, sheets 1, 6, 11, 21, and 22 of 23.

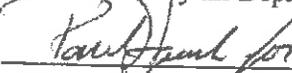
and according to the specifications entitled:

"Sanitary Sewer Specifications for Redwood-ERC New Providence, LLC prepared for Lantern Hill Block 320, Lot 17, 535 Mountain Avenue, Borough of New Providence, Union County, New Jersey", prepared by Bohler Engineering, dated February 2014, last revised April 2014.

Prepared by: 
Jay Acharya, Project Engineer


Shadab Ahmad, P.E., Section Chief

APPROVED by the Department of Environmental Protection


William P. Machotka, P.E., Interim Chief
Bureau of Construction and Connection Permits

This permit is also subject to special provisos and general conditions stipulated on the attached three (3) pages which are agreed to by the permittee upon acceptance of the permit.

PART I

PROVISOS

A. Project Specific Provisos

1. That pursuant to N.J.A.C. 7:10A-1 et. seq., an appropriate public wastewater collection system licensed operator will be required for your system.
2. That the proper operation and maintenance of the sewer system approved herein is the sole responsibility of the OWNER AND OR APPLICANT named herein or its assignees.
3. That except as provided in N.J.A.C. 7:14A-22.4, any future sewer connections into the sanitary sewer system approved herein will require a treatment works approval from the N.J.D.E.P.

B. Custom Requirement

1. That it is the applicant's responsibility to obtain all Federal, State, and local approvals that may be required for this project.
2. That the contributory design flow (0.0532 MGD) approved herein for this project is based on 94 one-bedroom age restricted residential units @ 110 gallons per day (GPD) per unit, 181 two-bedroom age restricted residential units @ 170 GPD per unit, 40 beds skilled nursing facility @ 75 GPD per bed, 45 beds assisted living facility @ 100 GPD per bed, 33672 sq. ft. of office/retail space @ 0.1 GPD per sq. ft., and 80 swimming pool occupant @ 15 GPD per occupant.

GENERAL CONDITIONS FOR TREATMENT WORKS APPROVALS**Section A. GENERAL CONDITIONS**

1. This permit is revocable, or subject to modification or change, at any time, when in the judgement of the Department of Environmental Protection of the State of New Jersey such revocation, modification or change shall be necessary.
2. The issuance of this permit shall not be deemed to affect in any way action by the Department of Environmental Protection of the State of New Jersey on any future application.
3. The works, facilities, and/or activities shown by plans and/or other engineering data, which are this day approved, subject to the conditions herewith established, shall be constructed and/or executed in conformity with such plans and/or engineering data and the said conditions.
4. No change in plans or specifications shall be made except with the prior written permission of the Department of Environmental Protection of the State of New Jersey.
5. The granting of this permit shall not be construed to in any way affect the title or ownership of property, and shall not make the Department of Environmental Protection or the State a party in any suit or question of property.
6. This permit does not waive the obtaining of Federal or other State or local government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained.
7. A copy of this permit shall be kept at the work site, and shall be exhibited upon request of any person.
8. No treatment unit or conveyance system may be by-passed which would result in the discharge of untreated sewage into any of the waters of the state.
9. The full responsibility for adequate design, construction and operation of the treatment works, and the full responsibility for successful collection, treatment, and discharge of pollutants shall be on the applicant.
10. The issuance of approval by the Department shall not relieve the applicant of the continuing responsibility for the successful collection, treatment, or discharge of pollutants for the continuing compliance with any applicable effluent limitations, permits, regulations, statute, or other law.
11. Review and approval is based solely upon the information contained in the application and the contents of the engineer's report as certified by the licensed professional engineer as being in compliance with the Department's Rules and Regulations.

Section B. CONSTRUCTION COMPLETION CERTIFICATION

1. Within 30 days of completion of the treatment works approved herein, the permittee shall submit two executed forms, WQM005 Certification of Approval, to the appropriate sewage treatment plant (STP) for their approval prior to operation. One executed copy approved by the receiving STP shall be forwarded to the appropriate Bureau and address noted on the cover page of this approval. Failure to submit the certification within 30 days of completion of the project may be grounds for revocation of the permit. Should partial operation be required prior to completion, approval will be under local jurisdiction.
2. In cases where the project and the receiving treatment facility are one in the same, the WQM005 Certification of Approval form must be submitted to the Bureau and address noted on the cover page of this approval within 30 days of completion of the treatment works. Failure to submit the certification within this time period may be grounds for revocation of the permit.

Section C. PERMIT EXPIRATION AND EXTENSIONS OF TIME

1. This permit shall remain in force for a period of only two years from the date of approval unless stated otherwise within the special provisos, or construction of said works has begun within the approved time frame. Interruption of construction of said works for a period of more than two years may serve as a basis for permit revocation.
2. Treatment works approvals may be extended beyond the original two year approval date, to a maximum of five years from the original issuance date, in accordance with the terms and conditions in N.J.A.C. 7:14A-22.12, unless stated otherwise within the special provisos. A time extension request must be received by the Department prior to the permit's expiration date. Requests must be submitted to the Bureau and address noted on the cover page.

Section D. ADJUDICATORY HEARING REQUESTS

1. Pursuant to N.J.A.C. 7:14A-22.24 et seq., any interested person who considers himself or herself aggrieved by this action, may, within 10 days of publication of notice of the decision in the DEP Bulletin, request a hearing by addressing a written request for such hearing to the:

Office of Legal Affairs
Attention: Adjudicatory Hearing Requests
Department of Environmental Protection
P.O. Box 420, Mail Code 401-04L
Trenton, NJ 08625-0420

Such a request should include a completed Administrative Hearing Request Checklist and Tracking form for Approvals or Denials (enclosed herein for Denials). This form is required, as DEP is the transmitting agency to the Office of Administrative Law, pursuant to N.J.A.C. 1:1-8.2.

BOROUGH OF
NEW PROVIDENCE

SETTLED IN 1720

Allen Morgan, Mayor

Andrew R. Hipolit, Borough Engineer

Margaret Koontz, Administrative Assistant

January 6, 2017

VIA E-MAIL

Margaret Koontz
Secretary, Zoning Board of Adjustment
Borough of New Providence
Municipal Center
360 Elkwood Avenue
New Providence, NJ 07974

Re: Redwood-ERC (CCRC)
NJDEP Treatment Works Approval (TWA) Application and Site Plan
Block 320, Lots 15
535 & 603 Mountain Avenue
Our File No. NPZ-317D

Dear Ms. Koontz:

Our office is in receipt of copies of documents relative to the above-referenced application, summarized in Exhibit 1. We take no exception to the Borough signing the attached Statements of Consent Form WQM-003, Section A-1, with the following conditions:

1. The Applicant shall perform leakage testing of all proposed sanitary sewer manholes.
2. All Shop Drawings related to the sanitary sewer design shall be provided to Maser Consulting for review.
3. As a courtesy, this office has identified the following items the NJDEP will require the Applicant submit as part of a complete TWA submission:
 - a. Treatment Works Approval Checklist for Administrative Completeness
 - b. Receipts of Public Notification from the Municipal Planning Board and the Municipal Environmental Commission, if any (Refer to N.J.A.C 7:14A-22.8(a)4).

After the form has been signed and a Resolution has been approved, all original forms shall be returned to Bohler Engineering.

To: Margaret Koontz, Board Secretary
Re: Our File No. NPZ-317D

January 6, 2017
Page 2

Thank you for your kind attention in this matter. Please contact me should you have any questions.

Very truly yours,



Michael J. O'Krepky, P.E., C.M.E.
Project Manager

MJO/cd

Attachments

cc: Zoning Board of Adjustment (via Secretary)
Keith Lynch, Building Official (via e-mail)
Philip Morin, Esq., Board Attorney (via e-mail)
Glenn S. Pantel, Drinker, Biddle & Reath (via email)
Robert Streker, Bohler Engineering (via email)

P:\NPZ\NPZ-317D\Correspondence\OUT\170106_MJO_Koontz_TWA_Lot15.docx

To: Margaret Koontz, Board Secretary
Re: Our File No. NPZ-317D

January 6, 2017
Page 3

EXHIBIT 1

SUMMARY OF DOCUMENTS SUBMITTED FOR REDWOOD-ERC NEW PROVIDENCE, LLC CCRC

To: Margaret Koontz, Board Secretary
Re: Our File No. NPZ-317D

January 6, 2017
Page 4

The following is a summary of the documents and information submitted in the matter of the Redwood-ERC New Providence, LLC, CCRC/Erickson Living TWA Application:

- a. Form WQ006, Engineer's Report for Domestic Treatment Works Approval Applications, Applicant Redwood – ERC New Providence II, LLC, dated 11/18/16, original signed and sealed;
- b. Form WQM-003, Statements of Consent, Applicant Redwood – ERC New Providence, II, LLC;
- c. Sanitary Sewer Specifications for Redwood-ERC New Providence II, LLC Prepared for Lantern Hill, Block 320, Lots 15 & 17, 603 & 535 Mountain Avenue, Borough of New Providence, Union County, New Jersey, dated November 2016
- d. Treatment Works Approval Permit Application, Applicant Redwood – ERC New Providence II, LLC, dated 11/1/2016, original signed and sealed;
- e. Sanitary Sewer Flow Calculation, prepared by Bohler Engineering, dated 11/4/2016;
- f. Opinion of Probable Construction Cost for Redwood – ERC New Providence II, LLC, Borough of New Providence, Union County, NJ, dated 11/4/2016, prepared by Bohler Engineering;
- g. Developers Agreement between Borough of New Providence and Redwood-ERC New Providence, LLC, dated October 2013;
- h. Treatment Works Approval No. 14-0208 dated 07/31/2014, Applicant Redwood-ERC New Providence, LLC;
- i. Developer's Agreement between Borough of New Providence and Redwood-ERC New Providence II, LLC, dated December 31, 2015;and
- j. Plan set entitled, "Preliminary & Final Major Site Plan for Redwood-ERC, New Providence, LLC, Proposed Continuing Care Retirement Community, 535 & 603 Mountain Avenue, Borough of New Providence, Union County, New Jersey, Block 320, Lots 15 & 17," prepared by Brian McMorrow, P.E., of Bohler Engineering, consisting of sixteen (16) sheets, dated December 3, 2014, revised through 11/15/2016;

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Water Quality

Reset Form

STATEMENTS OF CONSENT

A supplement to the TWA-1 or NJPDES-1 Forms

General Information

Applicant/Owner/Operator Redwood - ERC New Providence II, LLC
Location of Work Site 535 & 603 Mountain Ave, New Providence, Union County, NJ
Name of Project/Facility Redwood - ERC (CCRC)
Type of permit application TWA
(TWA, NJPDES/SIU)
NJPDES Permit Number (if applicable) NJ0024741

A-1 Consent By Governing Body**

(Consent by the municipality in which the project is located.)

As an authorized representative of the governing body, I hereby certify that the

BOROUGH OF NEW PROVIDENCE

(Name of Municipality or Municipal Authority)

consents to the submission of the above listed application to the Department of Environmental Protection for approval. I further certify that the project as proposed conforms with the requirements of all municipal ordinances.

Signed* _____ Date _____

Type Name and Position _____

* Cite authorization to sign for the governing body

Resolution# _____ Dated _____

(Submit the resolution with the application. If no such resolution granting authority to sign exists, the Governing Body's full resolution, consenting to the project, must be submitted with the application.)

** Note

For most Treatment Works Approval (TWA) applications, this section may be omitted if a sewerage entity (for example, sewerage authority, utilities authority, municipal utilities authority, joint meeting, etc.) has responsibility for regulating the construction and operation of wastewater treatment and conveyance facilities within the municipality. In such cases, the governing body consent requirement may be satisfied by completing Section A-2. Applicants for TWAs for industrial/commercial facilities discharging pursuant to NJPDES/DSW or DGW permits must complete section A-1.

A-2 Consent by Sewerage Authority**

As an authorized representative of this agency, I hereby certify that the

(Name of Agency)

consents to the submission of the above listed application to the Department of Environmental Protection for approval. I further certify that the project as proposed conforms with the requirements of this agency.

Signed* _____ Date _____

Type Name and Position _____

* Cite authorization to sign for the agency

Resolution# _____ Dated _____
(Submit the resolution with the application. If no such resolution granting authority to sign exists, the Governing Body's full resolution, consenting to the project, must be submitted with the application.)

** Note

For TWA applications, this section must be completed when a sewerage entity (for example, sewerage authority, utilities authority, municipal utilities authority, joint meeting, etc.) has responsibility for regulating the construction and operation of wastewater treatment and conveyance facilities within the municipality.

A-3 Consent by Owner of Wastewater Treatment Facility**

(For NJPDES/SIU applications only)

As an authorized representative of this agency, I hereby certify that the

(Name of Agency)

consents to the submission of the above listed application to the Department of Environmental Protection for approval. I further certify that the project as proposed conforms with the requirements of this agency and the agency agrees to accept wastewater from the project for treatment.

Signed* _____ Date _____

Type Name and Position _____

* Cite authorization to sign for the agency

Resolution# _____ Dated _____
(Submit the resolution with the application. If no such resolution granting authority to sign exists, the Agency's full resolution, consenting to the project, must be submitted with the application.)

** Note

For NJPDES/SIU applications, this section must be completed when the owner of the receiving wastewater treatment plant is different that the entity listed under A-2.

B. Certification by Wastewater Conveyance System Owner**

By agreeing to accept wastewater from the project, I (we) hereby certify that to the best of my (our) knowledge the wastewater conveyance system, into which the project proposed under this application will connect, has adequate capacity in accordance with N.J.A.C. 7:14A-1.2 ("Adequate conveyance capacity"). Furthermore, I (we) am (are) not aware of inadequate conveyance capacity conditions in any portion of the downstream facilities necessary to convey the wastewater from this project to the treatment plant.

Name of Municipality or Authority _____

Signed* _____ Date _____

Type Name and Position _____

* Cite authorization to sign for the governing body

Resolution# _____ Dated _____

(Submit the resolution with the application. If no such resolution granting authority to sign exists, the governing body's full resolution, consenting to the project, must be submitted with the application.)

** Note

1. For TWA applications, this section must be completed by the owner/operator of the wastewater conveyance system into which the project named herein will directly connect.

2. For NJPDES/SIU applications, this section must be completed when the owner/operator wastewater conveyance system into which the project named herein will directly connect is different that the entity listed under A-3.

C. Certification by Wastewater Treatment Facility Owner**

(For TWA applications that include a sewer connection/extension.)

I (we) hereby certify that the committed flow*** to the
JOINT MEETING OF ESSEX AND UNION COUNTIES

(Name of Wastewater Treatment Plant)

does not exceed the presently permitted design capacity and with the additional flow proposed by this application, the permitted design capacity is not anticipated to be exceeded. I (we) further certify that the treatment plant is currently complying with its conventional and non-conventional NJPDES permit requirements (see N.J.A.C. 7:14A-22.17(b)-(d), percent removal and toxicity requirements excluded from this certification) as determined by a rolling average of the three most recent monthly discharge monitoring reports that were required to be submitted to the Department as of this date, and based upon my (our) assessment of all information pertinent to this permit request, is anticipated to continue to do so with the additional flow from this project.

Accepted for Treatment by JOINT MEETING OF ESSEX AND UNION COUNTIES
(Name of Treating Authority)

Signed* _____ Date _____

Type Name and Position _____

Name of project and/or location REDWOOD - ERC / NEW PROVIDENCE

* Cite authorization to sign for the governing body

Resolution# _____ Dated _____

(Submit the resolution with the application. If no such resolution granting authority to sign exists, the governing body's full resolution, consenting to the project, must be submitted with the application.)

** For TWA applications, this section must be completed by the owner of the wastewater treatment facility receiving the wastewater identified in this application.

*** For the purposes of this certification, committed flow means the sum of the 1) actual metered flow, 2) flow from DEP approved TWA applications (not yet operational), and 3) flow from locally approved projects that do not require DEP approval.

Additional Information (For TWA Applications)

1. Approvals, permits, service contracts, or other reservations of flow capacity issued or agreed to by any participating municipality or sewerage agency do not constitute the required approval of the DEP.
2. For computation of actual flow at the receiving wastewater treatment plant, the average flow processed by the facility for the three (3) month period immediately preceding the submission of the application shall be used. Pursuant to the NJPDES regulations (N.J.A.C. 7:14A), no application shall be submitted to the DEP if the wastewater treatment facility is not meeting its discharge permit requirements.

Lack of Consent*

1. The affected sewerage authority or municipality must consent to the application or submit comments to the DEP within 60 days of the applicant's request for consent. Prior to the expiration of the 60-day period to respond to a request for a written statement of consent, the municipality or sewerage authority may request a 30-day time extension.
2. Any document issued by a sewerage authority or municipality which is a tentative, preliminary, or conditional approval shall not be considered a statement of consent.
3. When the affected sewerage authority or municipality does not consent to a project, it shall state all reasons for rejection or disapproval in a resolution and send a certified copy of the resolution to the DEP.
4. When the affected sewerage authority or municipality expressly denies a request for a written statement of consent for a project, the permit application may be determined by the DEP to be incomplete for processing; or in the alternative, the DEP may review the reasons for denial. Any such reasons shall be considered by the DEP in determining whether to issue a draft permit in accordance with N.J.A.C. 7:14A-15.6, or a Treatment Works Approval or sewer connection approval in accordance with N.J.A.C. 7:14A-22.
5. When the affected sewerage authority or municipality does not issue a written statement of consent in accordance with (1) above, or a denial in accordance with (3) above, the DEP, upon receipt of proof that the applicant has delivered to the affected agency a written request for a statement of consent, shall review the reasons therefore, if known on the basis of reasonably reliable information. Any such reasons shall be considered by the DEP in determining whether to issue a draft permit in accordance with N.J.A.C. 7:14A-15.6, or a Treatment Works Approval in accordance with N.J.A.C. 7:14A-22. The DEP, may in its discretion, deem the application to be incomplete pending the expiration of the time period set forth in (1) above.

* This section has been excerpted from the NJPDES regulations for guidance purposes only. Please refer to N.J.A.C. 7:14A-22.8(a)3 for the complete requirements concerning statements of consent.

Notice: False statements, representations, or certifications, in any application, record, or document are subject to fines and penalties as set forth in the Water Pollution Control Act (N.J.S.A. 58:10A-10F 2 and 3.



**STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER QUALITY**

TWA - 1

Reset form

Treatment Works Approval Permit Application

Refer to Instructions on Page 4 and Provide All Applicable Information. Please Print or Type.

1. APPLICANT/OWNER*

Name Redwood - ERC New Providence II, LLC Telephone (410) 402-2475
 Permanent Legal Address 701 Maiden Choice Lane
 City or Town Baltimore State MD Zip Code 21228 E-mail mark.hunter@erickson.com

* Applicant/Owner should be the eventual owner of the proposed Treatment Works.

2. LOCATION OF ACTIVITY

Name of Facility/Site Proposed Continuing Care Retirement Community
 Street Address/Location 535 & 603 Mountain Ave
 Lot No. 15 & 17 Block No. 320
 City or Town Borough of New Providence State NJ Zip Code 07974
 Municipality Borough of New Providence County Union

3. NEW JERSEY LICENSED PROFESSIONAL ENGINEER

Name Robert L. Streker, P.E. N.J. License No. 32473
 Name of Firm, if employee Bohler Engineering
 Mailing Address 35 Technology Drive
 City or Town Warren State NJ Zip Code 07974
 Telephone (908) 668-8300 Fax (908) 754-4401 E-Mail rstreker@bohlereng.com

4. ESTIMATED CONSTRUCTION COST AND APPLICATION FEE

- A. Cost of treatment works proposed in this application \$ 18,570.00
 (Attach a breakdown of the cost of all items related to the construction of the proposed treatment works).
- B. Application Fee \$ 850.00
 (In accordance with N.J.A.C. 7:1C-1.5 et seq., made payable to Treasurer, State of NJ, Environmental Services Fund).

5. OTHER REQUIRED PERMITS

If any of the the following applications have been submitted for this project, provide the applicable information

Permit Type	Application Status		Application Date (or Application No.)
	Pending	Approved*	
● Treatment Works Approval	<input type="checkbox"/>	<input checked="" type="checkbox"/>	TWA No. 14-0208
● Exemption From Sewer Ban	<input type="checkbox"/>	<input type="checkbox"/>	
● Water Quality Management Plan Amendment	<input type="checkbox"/>	<input type="checkbox"/>	
● CAFRA	<input type="checkbox"/>	<input type="checkbox"/>	
● Stream Encroachment	<input type="checkbox"/>	<input type="checkbox"/>	
● Freshwater Wetlands	<input type="checkbox"/>	<input type="checkbox"/>	
● Tidal or Coastal Wetlands	<input type="checkbox"/>	<input type="checkbox"/>	
● Waterfront Development	<input type="checkbox"/>	<input type="checkbox"/>	
● NJPDES Permits	<input type="checkbox"/>	<input type="checkbox"/>	
● Pinelands Certificate	<input type="checkbox"/>	<input type="checkbox"/>	
● Delaware & Raritan Canal Commission	<input type="checkbox"/>	<input type="checkbox"/>	
● Hackensack/Meadowlands Commission	<input type="checkbox"/>	<input type="checkbox"/>	
● Other Related Approvals	<input type="checkbox"/>	<input type="checkbox"/>	

(* If any of the above applications were approved, please provide a copy of the approval with this application).

6. PROJECT DESCRIPTION (Brief Description of Proposed Treatment Works and Intended Use).

Proposed 103 LF of 8" PVC to service the 143 independent living units on lot 15. The proposed sanitary sewer system will connect to the sanitary sewer manhole located in the northern portion of the site. In turn, it will then connect with the existing system on lot 17, which connects to an existing manhole located within South Street.

7. APPLICANT'S AGENT (Optional)

I, Susan L. Oliveri, as Secretary of Redwood-ERC New Providence II, LLC,
 (Applicant/Owner's Name)
 authorize to act as my agent/representative in all matters pertaining to my application the following person:

Name Robert L Streker, P.E. Position Senior Project Manager, Bohler Engineering
 Address 35 Technology Drive City Warren
 State NJ Zip Code 07059 Telephone (908) 668-8300
[Signature] 11/18/16 [Signature] 11/1/2016
 Signature of Agent Date Signature of Applicant/Owner Date

8. PROPERTY OWNER'S CERTIFICATION

I hereby certify that Redwood - ERC New Providence II, LLC
 (Property Owners Name)
 owns the property identified in this application. As owner, I grant permission for the activity to be permitted under this application and authorize the Department of Environmental Protection to conduct on-site inspections, if necessary. If the construction activity will take place in an easement, I certify that with this application, I presently have or will obtain permission of the property owner(s) prior to initiation of construction of this proposed treatment works.

[Signature] 11/1/2016
 Signature of Owner Date
 Print or Type Name and Position Susan L. Oliveri, Secretary

9. STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS AND ENGINEER'S REPORT AND/OR ABSTRACT

I hereby certify that the engineering plans, specifications, and engineer's report and/or abstract applicable to this project comply with the current rules and regulations of the Department of Environmental Protection with the exceptions as noted.

[Signature] 11/18/16
 Signature of Engineer Date
 Print or Type Name and Position Robert L Streker, P.E., Senior Project Manager

PROFESSIONAL ENGINEER'S
EMBOSSSED SEAL

10. PROPER CONSTRUCTION AND OPERATION CLAUSE

I, the Applicant/Owner, Redwood-ERC New Providence II, LLC agree that the treatment works will be properly constructed and operated in accordance with the engineering plans, specifications and conditions under which approval is granted by the Department of Environmental Protection.

Susan L. Oliveri 11/1/2016
Signature of Applicant/Owner Date

Print or Type Name and Position Susan L. Oliveri, Secretary

11. CERTIFICATION BY APPLICANT/OWNER

I certify, under penalty of law, that the information provided in this application and the attachments is true, accurate, and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

Susan L. Oliveri 11/1/2016
Signature of Applicant/Owner Date

Print or Type Name and Position Susan L. Oliveri, Secretary

INSTRUCTIONS FOR COMPLETING FORM TWA - 1

This form should accompany all Treatment Works Approval permit applications.

1. **General Information** - (items #1 through #4, #6) Complete the requested applicant and project information.
2. **Other Required Permits** (item # 5) - Please list all permits issued for the subject project (in addition to the permits being applied for at this time).
3. **Signatures** (items #7 through #11) - All signatures must comply with N.J.A.C. 7:14A-4.9 and N.J.A.C. 7:14A-22.8. Where indicated under items #1, #10 and #11, the applicant/owner should be the eventual owner of the proposed treatment works. Item #8 shall be completed by the owner of the property.

Should you need assistance in completing the application, please call the appropriate phone number listed below:

<ul style="list-style-type: none"> • Bureau of Construction & Connection Permits: (609) 984-4429 Municipal Treatment Works, Industrial Treatment Works, Sewer Extension, Sewer Ban Exemption, Subsurface Disposal Systems 	<ul style="list-style-type: none"> • Bureau of Nonpoint Pollution Control (609) 633-7021 Alternate Design Septic Systems (design flow less than 2,000 GPD)
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**STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Water Quality**

Reset Form

ENGINEER'S REPORT for DOMESTIC TREATMENT WORKS APPROVAL APPLICATIONS

- INSTRUCTIONS**
- Complete all applicable sections and certifications.
 - Justifications for any exceptions from the regulations at N.J.A.C. 7:14A - 23 et seq. must be submitted. (Additional sheets may be attached if necessary.)
 - All supplemental information required to be submitted along with this engineer's report must be signed, sealed, and dated by a professional engineer, licensed to practice in the State of New Jersey.
 - **For Treatment Works other than collection and/or conveyance, please attach a separate Engineer's Report in accordance with N.J.A.C. 7:14A - 23.5.**

GENERAL INFORMATION

Applicant: Redwood - ERC New Providence II, LLC **Municipality:** Borough of New Providence

Project Name: Redwood - ERC **County:** Union

Name of Receiving Sewage Treatment Plant: The Joint Meeting of Essex and Union Counties

NJPDES Permit Number: NJ0024741

Effluent Receiving Waters: The Arthur Kill

Scope of Project:

Proposed 103 LF of 8" PVC to service the 143 independent living units on lot 15. The proposed sanitary sewer system will connect to a sanitary sewer manhole

located in the northern portion of the site. In turn, it will then connect with the existing system on lot 17, which connects to an existing manhole

located within South Street.

Contributory Flow: *For assistance in completing this chart, refer to N.J.A.C. 7:14A - 23.3.*

Establishment Type	Number of Measurement Units		Gallons per Day per Unit		Projected Flow (G.P.D.)
	See Attachment	X		=	
		X		=	
		X		=	
		X		=	

Combined Projected Flow: 0.02091 M.G.D.
 Existing Contributory Flow (if any): 0.05318 M.G.D.
TOTAL FLOW: 0.07408 M.G.D.

1. WASTEWATER CONVEYANCE SYSTEMS

(A) GRAVITY SEWER SYSTEMS

Diameter (Inches)	Total Length (feet)	Material Type	"n" Value	Max. MH Spacing (feet)	Min. Slope (%)	Max. Velocity (ft/sec)	Max. Capacity (M.G.D.)
8	103	PVC	0.011	50	2.08	2.27	1.46

1.	What is the minimum cover (as measured from the top of the pipe to the grade elevation) provided along the entire sewer line?	3.5	ft.
2.	What is the infiltration and/or exfiltration limit for testing purposes (gallons per inch of pipe per mile per day)?	50	
		YES	NO
3.	Are sewers within 100 feet of a public water supply well or a below-grade reservoir?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.	Are sewers located at least 10 feet horizontally from potable water lines and/or at least 18 inches below potable water lines and in separate trenches, including crossings?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5.	Are sewers crossing streams located within 10 feet of a stream embankment encased in concrete?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6.	Is a drop pipe provided for sewers entering manholes above the manhole invert wherever the difference in elevation is two feet or more?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7.	Are all manholes located more than 100 feet from a public water supply well or a below-grade reservoir?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8.	Are watertight covers used where street elevations are less than 10 feet above the North American Vertical Datum of 1988 and/or where the top of a manhole may be flooded by street runoff or high water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9.	Are the sanitary sewers designed to carry at least twice the estimated average projected flow when flowing half full?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10.	Have adequate provisions been made for the ventilation of manholes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11.	If siphons are part of this project, are they in conformance with N.J.A.C. 7:14A - 23.7?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12.	Are the immediate downstream sewer lines constructed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(B) PUMPING SYSTEM: Submit a Pump Station Design Report, which should include, at a minimum, the basis for the following: (a) pump selection; (b) sizing of force main and velocity calculations; (c) total dynamic head; (d) pump station performance curve and (e) wet well detention time.

Average daily flow:	N/A	GPD	Surface area of wet well:	N/A	ft ²
Peaking factor:	N/A		Wet Well Detention Time	N/A	minutes
Peak design flow:	N/A	GPD	TDH of pump:	N/A	ft
Number of pumps:	N/A				
Design capacity of pump station (with the largest pump out of service):				N/A	GPM

1. WASTEWATER CONVEYANCE SYSTEMS

(B) PUMPING SYSTEM (continued)

FORCE MAINS

Diameter (inches)	Length (feet)	Material Type	Velocity (ft/sec)

1.	What is the minimum cover (as measured from the top of the pipe to the grade elevation) provided along the entire force main?				ft
2.	Specify the method of screening at the pumps.				
3.	Where is the ultimate location of the alarm for high water conditions, power failures, and mechanical breakdowns?				
4.	Specify the type of back-up power source provided.				
		YES	NO	N/A	
5.	Is adequate light and ventilation provided at the pump station?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.	Are air and/or vacuum release valves provided on the high points of the force main?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.	Are adequate freshwater wash-down facilities provided?	<input type="checkbox"/>	<input type="checkbox"/>		
8.	If a domestic water service connection will be utilized for wash-down purposes, is it protected by a backflow prevention device?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9.	Are shut-off valves on suction and discharge piping and check valves on discharge lines provided?	<input type="checkbox"/>	<input type="checkbox"/>		
10.	Is the base of the pump station wet well sloped toward the pump suction?	<input type="checkbox"/>	<input type="checkbox"/>		
11.	Does the alarm system provide for competent assistance on a 24 hour basis?	<input type="checkbox"/>	<input type="checkbox"/>		
12.	Is the pump station adequately protected from flooding?	<input type="checkbox"/>	<input type="checkbox"/>		
13.	Is the dry well provided with a sump pump?	<input type="checkbox"/>	<input type="checkbox"/>		

I am a professional engineer licensed by the New Jersey Board of Professional Engineers and Land Surveyors to practice in New Jersey. I certify that the proposed treatment works, as designed, meets the requirements of N.J.A.C. 7:14A - 23 et seq., other than the exceptions as noted.

I hereby certify that the information provided in this engineer's report and attachments hereto, is true, accurate, and complete. Exceptions attached [YES , NO]?

Professional Engineer's
Embossed Seal

Signature of Engineer:

 1/10/16
Robert L. Streker P.E.

Name and Date:
(Print or Type)

Firm Name:

Bohler Engineering NJ, LLC

2. DOMESTIC WASTEWATER TREATMENT AND/OR RESIDUAL FACILITIES

Is the following information submitted with this engineer's report?		YES	NO
1.	A complete description of the selected wastewater treatment system.	<input type="checkbox"/>	<input type="checkbox"/>
2.	For the modification of an existing system which has not previously been granted a treatment works approval (TWA), the capacities of the existing units and a brief description of the operation of each, and a statement concerning which units are existing and which are proposed at the time of the application. If there exists a previously issued TWA approval for the subject facility, submit the date of issuance and the TWA number.	<input type="checkbox"/>	<input type="checkbox"/>
3.	Hydraulic profiles of the flow of wastewater through the system.	<input type="checkbox"/>	<input type="checkbox"/>
4.	A unit by unit mass balance for all discharge parameters.	<input type="checkbox"/>	<input type="checkbox"/>
5.	The ultimate disposal location of all effluent.	<input type="checkbox"/>	<input type="checkbox"/>
6.	The basis and computations for average and peak flow requirements.	<input type="checkbox"/>	<input type="checkbox"/>
7.	The expected composition of the influent and effluent from the treatment system including the average, maximum and minimum values of the pollutant parameters specified in the facility's NJPDES permit/DAC.	<input type="checkbox"/>	<input type="checkbox"/>
8.	An evaluation of the quantity and quality of any and all residuals generated and projected to be generated, including a hydraulic profile and unit by unit mass balance for the flow of residuals through the system.	<input type="checkbox"/>	<input type="checkbox"/>
9.	Documentation of adequate storage and handling facilities for residuals.	<input type="checkbox"/>	<input type="checkbox"/>
10.	Provisions for the ultimate management of residuals.	<input type="checkbox"/>	<input type="checkbox"/>
11.	Details of flow monitoring and control, alarm systems, auxiliary power, storage facilities for treatment chemicals and wastes, and plans for bypassing units during construction or maintenance.	<input type="checkbox"/>	<input type="checkbox"/>
12.	The basis and computations for the projected wastewater flow.	<input type="checkbox"/>	<input type="checkbox"/>
13.	A fully executed Licensed Operator Grading Form.	<input type="checkbox"/>	<input type="checkbox"/>

I am a professional engineer licensed by the New Jersey Board of Professional Engineers and Land Surveyors to practice in New Jersey. I certify that the proposed treatment works, as designed, are adequate to meet all applicable final NJPDES permit limitations contained in the current NJPDES Discharge Permit No. _____ . In addition, I certify that the proposed treatment works, as designed, meets the requirements of N.J.A.C. 7:14A - 23 et seq., other than the exceptions as noted.

I hereby certify that the information provided in this engineer's report and attachments hereto is true, accurate, and complete. Exceptions attached [YES , NO]?

Signature of Engineer* _____

Professional Engineer's
Embossed Seal

Name and Date:
(Print or Type)

N/A _____

Firm Name:

N/A _____

* This certification may not be completed until the effective date of the associated final NJPDES Discharge Permit.



BOHLER ENGINEERING

35 Technology Drive, Warren, NJ 07058
(908) 668-8300

11/4/2016
New Providence, NJ
J100890.03
JWH
RLS

SANITARY SEWER FLOW CALCULATION

	TYPE	Units	Number of Units	GPD/Unit	Total GPD
Proposed Flow (Lot 15)	1 Bedroom	Per Dwelling	65	110 GPD	7,150 GPD
	2 Bedroom	Per Dwelling	78	170 GPD	13,260 GPD
	Healthcare	Per Bed	4	125 GPD	500 GPD
	Totals				20,910 GPD
Existing Flow (Approved-Lot 17)	1 Bedroom	Per Dwelling	94	110 GPD	10,340 GPD
	2 Bedroom	Per Dwelling	181	170 GPD	30,770 GPD
	Amenity-Independent Living	Per SF	27,760	0.1 GPD	2,776 GPD
	Pool	Per Occupant	80	15 GPD	1,200 GPD
	Skilled Nursing	Per Bed	40	75 GPD	3,000 GPD
	Memory Care	Per Bed	28	100 GPD	2,800 GPD
	Assisted Living	Per Bed	17	100 GPD	1,700 GPD
	Amenity-Healthcare	Per SF	5,912	0.1 GPD	591 GPD
Totals		5,912		53,177 GPD	
Total Flow					74,087 GPD 0.07409 MGPD

Note:

1. Flow rates per NJAC 7:14a-23.3(a).