

Application Type New
Wastewater Type Sewage
Facility Type SRSTP

**NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP**

Application No. PA0255742
APS ID 1021631
Authorization ID 1323688

Applicant, Facility and Project Information

Applicant Name	<u>Susan C. Troisi</u>	Facility Name	<u>Troisi SRSTP</u>
Applicant Address	<u>3031 Baker School Road</u> <u>Irwin, PA 15642-9788</u>	Facility Address	<u>3031 Baker School Road</u> <u>Irwin, PA 15642-9788</u>
Applicant Contact	<u>Susan C. Troisi</u>	Facility Contact	<u>***same as applicant***</u>
Applicant Phone	<u>(724) 382-4431</u>	Facility Phone	<u>***same as applicant***</u>
Client ID	<u>357953</u>	Site ID	<u>844523</u>
SIC Code	<u>8811</u>	Municipality	<u>North Huntingdon Township</u>
SIC Description	<u>Private Households</u>	County	<u>Westmoreland</u>
Date Application Received	<u>August 17, 2020</u>	WQM Required	<u>Yes</u>
Date Application Accepted	<u>August 21, 2020</u>	WQM App. No.	<u>6520404</u>
Project Description	<u>The application is for a new NPDES permit for a new discharge of treated SRSTP sewage.</u>		

Summary of Review

On August 17, 2020, on behalf of the Susan C. Troisi, F.R. Brant Company submitted an application for an NPDES permit for discharges of treated sewage from a new single residence sewage treatment plant (SRSTP). An application for a Water Quality Management permit (pending WQM Permit No. 6520404) was submitted concurrently to authorize construction and operation of the SRSTP. An Act 537 Plan Revision was approved by letter dated April 29, 2020 to the North Huntingdon Township Supervisors for 1 EDU (400 gallons per day).

The new SRSTP will have a design flow of 400 gpd and a design organic loading of 0.90 lbs BOD-5/day and will replace a malfunctioning septic system. The Design Engineer's Report for the WQM permit describes the SRSTP as follows: "The [SRSTP] will consist of a Singulair Bio-Kinetic Model 960-500 treatment tank utilizing the extended aeration process. This system is certified by the NSF International and provides flow equalization, pretreatment, aeration, clarification, and tertiary filtration. Treated effluent from the Singulair system then flows through a Hydro-Kinetic Bio-Film Reactor (HKBFR) which significantly improves the effectiveness of the treatment process. Effluent from the HKBFR then flows through a Model AT 1500 UV disinfection system. After passing through the above treatment process, the effluent is discharged to an Unnamed Tributary to Brush Creek, at a rate of 400 gpd."

This facility is not eligible for a PAG-04 NPDES General Permit because the treatment units do not qualify for a General Permit under the design requirements of the current revision of the *Small Flow Treatment Facilities Manual* dated December 2, 2006 (Doc. No. 362-0300-002).

The SRSTP will discharge through a 4" diameter Schedule 40 pipe that leads to an unnamed tributary to Brush Creek (Stream Code 37258). The unnamed tributary is designated for trout stock fishes. There are Total Maximum Daily Loads (TMDLs) for both the Brush Creek Watershed and the Turtle Creek Watershed for acid mine drainage affected waters.

Per the Department's Onlot Alternate Technology Listings (see attached) and "[i]n accordance with Title 25, Chapter 73, Section 73.72, DEP classifies the Norweco Singulair 960 & Hydro-Kinetic Bio-Film Reactor (Norweco Singulair 960-HKBFR) combination for use as an alternate onlot sewage treatment system. This classification permits the use of the Norweco

Approve	Deny	Signatures	Date
X		<i>Ryan C. Decker</i> Ryan C. Decker, P.E. / Environmental Engineer	January 11, 2021
X		<i>Christopher Kriley</i> Christopher Kriley, P.E. / Program Manager	January 15, 2021

Summary of Review

Singulair 960-HKBFR as a pair of treatment components used in series for the specific purposes of reducing CBOD5 and TSS in the sewage effluent prior to discharge to an absorption area. This system has demonstrated that it can produce an effluent which shall not exceed 10 mg/L CBOD5 and 10 mg/L TSS as monthly averages. With the use of an optional ultraviolet (uv) disinfection, the uv unit can also reduce fecal coliform concentrations to treatment levels which shall not exceed 200 cfu/100 ml on a monthly average basis. The inclusion of a uv disinfection unit is at the discretion of the homeowner.”

25 Pa. Code § 71.64(d) requires that “Small flow treatment facilities and their appurtenances shall meet applicable design, installation, operation and other standards established for small flow treatment facilities by the Department under sections 202 and 207 of The Clean Streams Law (35 P. S. §§ 691.202 and 691.207) and shall obtain a Clean Streams Law permit and if there is a discharge to surface water, a National Pollutant Discharge Elimination System permit, prior to construction and operation.”

The Department has established design standards for SRSTPs (as a subset of SFTFs) in the aforementioned *Small Flow Treatment Facilities Manual*, which requires SFTFs to be “capable of continuously producing a suitable effluent (< 10 mg/L BOD5 and Total Suspended Solids (TSS)) without causing water pollution or public health hazards.”

Pursuant to § 71.64(d), the *Small Flow Treatment Facilities Manual*, the Department’s evaluation of the performance characteristics of the Norweco Singulair 960 & Hydro-Kinetic Bio-Film Reactor combination in the Onlot Alternate Technology Listings, and the use of ultraviolet light for disinfection, average monthly technology-based effluent limits of 10 mg/L will be imposed for BOD5 and TSS and a fecal coliform limit of 200/100mL will be imposed at Outfall 001. Since the applicant will use ultraviolet light for disinfection, no requirements for total residual chlorine are imposed. SRSTPs with UV disinfection systems do not require UV intensity or transmittance monitoring in the permit.

In accordance with DEP’s procedure for converting average monthly effluent limitations to instantaneous maximum (IMAX) effluent limitations—described in Chapter 2, Section C of the Department’s *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits*, October 1, 1997 (Doc. No. 362-0400-001)—IMAX limits of 20 mg/L also will be imposed for BOD5 and TSS.

Effluent limits of 6.0 (instantaneous minimum) and 9.0 (instantaneous maximum) for pH are imposed pursuant to 25 Pa. Code § 92a.47(a)(7) and 25 Pa. Code § 95.2(1).

Flow monitoring will be required pursuant to 25 Pa. Code § 92a.61(b).

Sewage discharges with design flows <2,000 gpd do not require monitoring for Total Nitrogen and Total Phosphorus.

There are two TMDLs for the SRSTP’s receiving water: the Brush Creek Watershed TMDL (Westmoreland) dated January 28, 2005 and the Turtle Creek Watershed TMDL dated June 29, 2009. Both TMDLs address waters polluted by acid mine drainage with waste load allocations for aluminum, iron, and manganese. The SRSTP will not contribute aluminum, iron, or manganese to the watershed. Therefore, the facility is unaffected by the TMDLs.

Effluent limits for Outfall 001 (summarized on the attached page) are consistent with the Department’s *Standard Operating Procedure for Clean Water Program New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Applications* (SOP No. BCW-PMT-003). The sampling frequencies for all parameters other than flow will be 1/year using grab samples in accordance with the self-monitoring requirements for sewage discharges in Chapter 6, Table 6-3 of the Department’s *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits*. Flow must be estimated 1/year.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP’s discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the “NPDES Permit Writer’s Manual” (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Annual Average	Average Weekly	Instant. Minimum	Annual Average	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/year	Estimate
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/year	Grab
Biochemical Oxygen Demand (BOD5)	XXX	XXX	XXX	10.0	XXX	20.0	1/year	Grab
Total Suspended Solids	XXX	XXX	XXX	10.0	XXX	20.0	1/year	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200	XXX	XXX	1/year	Grab

Compliance Sampling Location: Outfall 001

Discharge, Receiving Waters and Water Supply Information

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>0.0004</u>
Latitude	<u>40° 21' 21.00"</u>	Longitude	<u>-79° 43' 35.00"</u>
Quad Name	<u>Irwin</u>	Quad Code	<u>1608</u>
Wastewater Description: <u>Sewage effluent</u>			
Receiving Waters	<u>Unnamed Tributary to Brush Creek (TSF)</u>	Stream Code	<u>37258</u>
NHD Com ID	<u>99407924</u>	RMI	<u>0.68</u>
Drainage Area	<u>2.76</u>	Yield (cfs/mi ²)	<u>0.01</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.0277</u>	Q ₇₋₁₀ Basis	<u>USGS StreamStats</u>
Elevation (ft)	<u>871.29</u>	Slope (ft/ft)	<u>0.015</u>
Watershed No.	<u>19-A</u>	Chapter 93 Class.	<u>TSF</u>
Existing Use	<u></u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Attaining Use(s)</u>		
Cause(s) of Impairment	<u></u>		
Source(s) of Impairment	<u></u>		
TMDL Status	<u>Final (1/28/2005), Final (6/29/2009)</u>	Name	<u>Brush Creek Watershed (Westmoreland), Turtle Creek Watershed</u>
Nearest Downstream Public Water Supply Intake	<u>PA American Water Company-Pittsburgh (PWS ID 5020039)</u>		
PWS Waters	<u>Monongahela River</u>	Flow at Intake (cfs)	<u>1,230</u>
PWS RMI	<u>4.39</u>	Distance from Outfall (mi)	<u>18.86</u>

StreamStats Report

Region ID:
Workspace ID:
Clicked Point (Latitude, Longitude):
Time:

PA
PA20201215234845995000
40.35595, -79.72650
2020-12-15 18:49:02 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2.76	square miles
ELEV	Mean Basin Elevation	1121	feet

Low-Flow Statistics Parameters_(Low Flow Region 4)

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.76	square miles	2.26	1400
ELEV	Mean Basin Elevation	1121	feet	1050	2580

Low-Flow Statistics Flow Report_(Low Flow Region 4)

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	SEp
7 Day 2 Year Low Flow	0.0843	ft ³ /s	43	43
30 Day 2 Year Low Flow	0.155	ft ³ /s	38	38
7 Day 10 Year Low Flow	0.0277	ft ³ /s	66	66
30 Day 10 Year Low Flow	0.0545	ft ³ /s	54	54
90 Day 10 Year Low Flow	0.105	ft ³ /s	41	41

Low-Flow Statistics Citations

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

Commonwealth of Pennsylvania
Department of Environmental Protection (DEP)
Bureau of Point and Non-Point Source Management
Harrisburg, PA

Issued to: Norweco, Inc.
220 Republic Street
Norwalk, OH 44857
Phone: 1-800-NORWECO or (419) 668-4471
www.norweco.com

Technology: Norweco Singulair 960 & Hydro-Kinetic Bio-Film Reactor (Norweco Singulair 960-HKBFR)

Classification Type: Alternate technology (A2015-0028-0001)

Classification Date: December 10, 2015

In accordance with Title 25, Chapter 73, Section 73.72, DEP classifies the Norweco Singulair 960 & Hydro-Kinetic Bio-Film Reactor (Norweco Singulair 960-HKBFR) combination for use as an alternate onlot sewage treatment system. This classification permits the use of the Norweco Singulair 960-HKBFR as a pair of treatment components used in series for the specific purposes of reducing CBOD₅ and TSS in the sewage effluent prior to discharge to an absorption area. This system has demonstrated that it can produce an effluent which shall not exceed 10 mg/L CBOD₅ and 10 mg/L TSS as monthly averages. With the use of an optional ultraviolet (uv) disinfection, the uv unit can also reduce fecal coliform concentrations to treatment levels which shall not exceed 200 cfu/100 ml on a monthly average basis. The inclusion of a uv disinfection unit is at the discretion of the homeowner.

Note: Norweco Singulair Green 960 are referred in this document as Norweco Singulair 960.

I. Technology Description

The Singulair wastewater treatment system comprises a pair of treatment tanks used in series. The first tank in the treatment process is the Singulair 960 tank. The second tank in the treatment process is the HKBFR.

The first compartment of the Singulair 960 tank is known as the pretreatment chamber. This chamber physically removes easily separable solids in the wastewater. The second compartment of the Singulair 960 tank utilizes extended aeration and activated sludge to achieve treatment. At the aeration chamber, infused air provides oxygen for the aerobic bacteria on a timed run cycle. The third and last chamber of the Singulair 960 tank houses the Bio-Kinetic[®] System. The Bio-Kinetic System serves the treatment tank for clarification and flow equalization.

The second treatment tank in the series is the HKBFR. The HKBFR receives flow equalized liquid from the clarifier by entering the influent chamber. As liquid travels up through the proprietary attached growth media, further reduction of organic matter shall take place. The

DEP Alternate Classification Listing
Norweco Singulair 960 & Hydro-Kinetic Bio-Film Reactor (Norweco Singulair 960-HKBFR)
Classification Date: December 10, 2015

Page 2 of 7

effects of gravity cause solids to settle to the bottom of the tank. After passing through the filtration media for final polishing, the treated sewage is then discharged from the HKBFR filter through the outlet tee.

II. Design Requirements

- A. Location: The Norweco Singulair 960-HKBFR may be installed for the treatment of domestic strength wastewater (as defined by Table 1 of Miscellaneous Data to be used in Conjunction with PA DEP listings) serving a new construction or as a repair.
- B. Size: The Norweco Singulair 960 units with the following base model numbers itemized in Section II.B are acceptable for use. All acceptable Norweco Singulair 960 units must bear the seal of the NSF Standard No. 40 or equivalent. Tank materials are either concrete or high density polyethylene (HDPE). The HDPE tanks are labelled as Green in the tank model.

- Singulair 960, 960LP, 960OP
- Singulair Green 960

LP = low profile; OP = one piece tank

- C. Construction:
- (1) The Norweco Singulair 960-HKBFR units must be installed according to the manufacturer's installation manual and by a Norweco trained and authorized installer.
 - (2) Aerobic treatment tanks must be in compliance with Section 73.32.
 - (3) For flow rates ranging 400 gpd to 800 gpd, the treatment sequence must consist of (a) a Norweco Singulair 960 aerobic treatment tank, (b) a HKBFR, (c) a dosing tank, and (d) an absorption area described by Section II.E.
 - (4) For flow rates ranging 801 gpd to 1500 gpd, the treatment sequence must consist of (a) an external pretreatment tank supplied by Norweco, (b) a Norweco Singulair 960 aerobic treatment tank, (c) two HKBFRs, (d) a dosing tank, and (e) an absorption area described by Section II.E.

The size of the pretreatment tank for given flow rates are shown in Table 1.

DEP Alternate Classification Listing
Norweco Singulair 960 & Hydro-Kinetic Bio-Film Reactor (Norweco Singulair 960-HKBFR)
Classification Date: December 10, 2015

Table 1
Pretreatment Tank Capacity for Given Flow Rate

Flow Rate (gpd)	Pretreatment Tank Capacity (gal)
1000	1000
1250	1250
1500	1500

- (5) Depending upon the flow rate, multiple HKBFRs shall be placed in parallel. Each HKBFR can treat up to 800 gpd.
- (6) Both the Norweco Singulair 960 and the HKBFR units must be watertight and all outlets properly sealed against liquid and solid infiltration and exfiltration.
- (7) A single Bio-Static sludge return assembly is installed in 500 gpd, 750 gpd, and 1000 gpd flow rates. Two Bio-Static sludge return assemblies are required to be installed for 1250 gpd and 1500 gpd flow rates.
- (8) The HKBFR and dosing tank combined vessel has a maximum capacity of 800 gpd.
- (9) Sites that utilize water softeners must plumb the water softener backwash into the treatment tank.
- (10) The Norweco telemetry system is recommended unless the subject site does not have telemetry capabilities.

D. Installation:

- (1) An onsite preconstruction conference attended by the sewage enforcement officer, designer, installer, and the property owner prior to construction is recommended.
- (2) Tanks should not be installed in saturated clay, areas with a high water table, bogs, swampy areas, landfills where the soil is soft or wet, areas containing expansive soils or soils with an ultimate bearing capacity of less than 1,500 pounds/ft².
- (3) Tank Leveling Pad- To insure that the tank bottom will be bearing the weight evenly, all tanks should be set on a four inch thick pad of gravel, sand, or fine crushed stone. The pad should be installed and leveled by the contractor before delivery and setting of any tank takes place. The tank pad must be leveled to within 1/4" from side to side and end to end.
- (4) For the Singulair Green 960 tank, anti-flotation measures may be necessary where there is a high water table. Consult with the manufacturer's Shallow Burial and Reduced Soil Density Hold Down Requirements shown as Table 2 to determine the amount of additional hold down weight. Soil densities that fall between the interval listed in Table 2 can be rounded down to the lower soil density interval. Additional hold down weight can be made possible by using either a pair of concrete beams placed at the base of the excavation or 0.60 CCA treated lumber beams.

DEP Alternate Classification Listing
Norweco Singlair 960 & Hydro-Kinetic Bio-Film Reactor (Norweco Singlair 960-HKBFR)
Classification Date: December 10, 2015

Table 2
Singlair Green 960
Shallow Burial and Reduced Soil Density Hold Down Requirements

Soil Density (lbs/ft ³)	80	90	100	110	120	130
Fill Over Tank (inches)	Additional Weight Required (lbs)					
6	6,915	5,935	4,956	3,976	2,996	2,017
8	6,091	5,008	3,926	2,843	1,761	678
10	5,267	4,081	2,896	1,710	525	*
12	4,443	3,155	1,866	578	*	*
14	3,619	2,228	836	*	*	*
16	2,796	1,301	Standard Installation	*	*	*
18	1,972	374	*	*	*	*
20	1,148	*	*	*	*	*
22	324	*	*	*	*	*
24	*	*	*	*	*	*

Notes: * Hold Down Weight Not Required

- (5) For the Green HKBFR, anti-flotation measures may be necessary where there is a high water table. Consult with the manufacturer's Shallow Burial and Reduced Soil Density Hold Down Requirements shown as Table 3 to determine the amount of additional hold down weight. Soil densities that fall between the interval listed in Table 3 can be rounded down to the lower soil density interval. Additional hold down weight can be made possible by using either a pair of concrete beams placed at the base of the excavation or 0.60 CCA treated lumber beams.

DEP Alternate Classification Listing
Norweco Singulair 960 & Hydro-Kinetic Bio-Film Reactor (Norweco Singulair 960-HKBFR)
Classification Date: December 10, 2015

Table 3
Green Hydro-Kinetic Bio-Film Reactor
Shallow Burial and Reduced Soil Density Hold Down Requirements

Soil Density (lbs/ft ³)	80	90	100	110	120	130
Fill Over Tank (inches)	Additional Weight Required (lbs)					
6	2,725	2,377	2,029	1,681	1,333	985
8	2,382	1,991	1,600	1,209	818	428
10	2,038	1,605	1,171	737	304	*
12	1,695	1,218	742	265	*	*
14	1,352	832	313	*	*	*
16	1,009	446	Standard Installation			*
18	665	*	*	*	*	*
20	322	*	*	*	*	*
22	*	*	*	*	*	*
24	*	*	*	*	*	*

Notes: * Hold Down Weight Not Required

- (6) The appropriate backfill materials for the treatment tanks should be pea gravel such as AASHTO #8 aggregate until the inlet line is covered. The remaining excavation cover may be fine, loose earth.
 - (7) For the Norweco Singulair tank, a fresh air vent is designed into the perimeter of the access cover above the Singulair aerator. The perimeter vent supplies fresh air to the aerator, which is drawn through the aspirator and into the wastewater. Finished landscaping should be maintained three to six inches below the top of the vented access cover and graded to drain runoff away from the cover. Do not obstruct the vented access cover or allow plants, shrubbery, mulch, or landscaping of any type to restrict the flow of air to the perimeter vent.
 - (8) For the pretreatment chamber, the inspection cover must project a minimum of 3 to 6 inches above finished grade. Pretreatment chamber access covers should never be vented and should be sealed with mastic.
 - (9) The top of the covers of the treatment tanks must project a minimum of 6" above finished grade. Individual precast Bio-Kinetic system riser castings may be added in 12" increments when necessary.
- E. Use of the Component/System and Siting Requirements:
- (1) For final treatment and disposal for an onlot system described in Chapter 73 other than IRSIS, up to a 40 percent reduction in the size of the absorption area is allowed where the percolation rate is in the range of 3 to 60 minutes per inch (min/in), inclusive. However, where the percolation rate is in the range of 61 to 180 min/in, inclusive, no reduction in absorption area sizing is permitted. Sufficient soil profiles must be conducted to ensure that a minimum of 20 inches of suitable soil is present under the entire area proposed for the absorption area.

DEP Alternate Classification Listing
Norweco Singulair 960 & Hydro-Kinetic Bio-Film Reactor (Norweco Singulair 960-HKBFR)
Classification Date: December 10, 2015

Page 6 of 7

- (2) On sites exhibiting limiting zones greater than or equal to 20 inches from the mineral soil surface, the absorption area must be designed in accordance with the alternate at-grade absorption area. The soil profile must show that there is a minimum of 20 inches of suitable soil between the bottom of the proposed area and the limiting zone. Where the percolation rate is in the range of 3 to 60 minutes per inch, inclusive, up to a 40% reduction in the size of the absorption area is allowed. However, where the percolation rate is in the range of 61 to 180 min/in, inclusive, no reduction in absorption area sizing is permitted.
- (3) On sites exhibiting limiting zones less than 20 inches from the mineral soil surface, the absorption area must be designed in accordance with the specifications described by the alternate shallow limiting zone at-grade absorption area. Ultraviolet (uv) disinfection is optional.
- (4) The absorption area may also be designed in accordance with the specifications described by the alternate drip irrigation.
- (5) Where sizing reductions are proposed, they are not cumulative. No additional sizing reduction is allowed for use of either an aerobic tank or infiltration chambers.
- (6) If sizing reductions are proposed, where the system is used to serve a new dwelling, the soil profile evaluations and percolation testing must document that sufficient area is available for installation of a full-sized absorption area (prior to the calculation of the 40% reduction).
- (7) For repairs, system sizing must be maximized up to the square footage of a full-sized system.
- (8) The system must be designed to take full advantage of the slope to move effluent out from under the absorption area and downgradient with the laterals placed parallel to the contour.

III. Minimum Maintenance Standards

- A. Service Contract: A service contract with a Service Provider qualified to maintain the Norweco treatment system is required. The service contract will require a minimum of two (2) site visits annually.
- B. The manufacturer's representative must meet with the property owner within one (1) month of system start-up and/or occupancy of the dwelling and with the local agency's SEO upon request, to explain the operation and maintenance of the system and provide written instructions to the property owner that includes:
 - (1) Norweco's Owner's Manual;
 - (2) Instructions on the operation and maintenance of the system;
 - (3) The locations of all parts of the system;
 - (4) A commitment that the manufacturer's service provider will investigate and troubleshoot system problems;
 - (5) Contact information for the manufacturer, the manufacturers' representatives, and manufacturer's service provider;
- C. Warranty: The manufacturer must provide a minimum 2-year warranty on all defects due to materials or workmanship.

DEP Alternate Classification Listing
Norweco Singlair 960 & Hydro-Kinetic Bio-Film Reactor (Norweco Singlair 960-HKBFR)
Classification Date: December 10, 2015

Page 7 of 7

D. Inspection:

- (1) Inspection of the area around the soil absorption area every 6 months by the homeowner to ensure that there is no ponding of effluent or downgradient seepage.
- (2) The service provider shall inspect at least the following items at an interval frequency recommended by the manufacturer's requirements:
 - a) Inspect aerobic tanks for structural integrity of the tank, inlets, and outlet baffles, buoyed solids retainer, pumps, siphons, and electrical connections.
 - b) Inspect HKBFR tanks, dosing tanks, and lift pump tanks for structural integrity of the tank, inlet and outlet baffles, solids retainer, pumps, siphons, and electrical connections;
 - c) Ensure that the pumping system is operational.
- (3) The service provider shall inspect and pump excess solids in accordance with the manufacturer's requirements.

IV. Permitting Requirements

- A. A sewage enforcement officer who has successfully completed an appropriate Department sponsored training course that included the absorption area that this listing will discharge may independently review the design and issue the permit for components under this listing. All other proposals under this listing must be submitted to the Department for review and comment.
- B. The sewage enforcement officer shall include on both the *Application for An Onlot Sewage Disposal* permit (Part III, Section 1) and the permit, the classification number itemized in the Classification Type of this listing.

V. Planning Requirements

Not applicable