VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a Minor, Industrial permit. The effluent limitations contained in this permit will maintain the Surface Water Quality Standards of 9 VAC 25-260. The discharge results from the operation of a municipal water production plant serving Clarke County (SIC Code: 4941 - Water Supply System). This permit action consists of reissuing the permit with revisions to the permit, as needed, due to changes in applicable laws, guidance, and available technical information.

1. Facility Name and Address:
   Prospect Hill Springs WTP
   PO Box 327
   Berryville, VA 22611
   Location: 543 Prospect Spring Lane, Boyce, VA

2. Permit No. VA0090883; Expiration Date: February 29, 2012

3. Owner: Clarke County Service Authority
   Contact Name: Mike Legge
   Title: Administrator
   Telephone No: (540) 955-5185

4. Description of Treatment Works:
   Total Number of Outfalls – 1

   Raw surface water is drawn from a natural spring (approximately 0.198 MGD) and treated with a duplex strainer, membrane filters, and a hypochlorite solution prior to being discharged to the distribution system.

   The only operation contributing to the discharge flow is the backwash of the membrane filters. Each of the three membrane filters will backwash, using raw water, on a staggered basis, approximately every 30 minutes, for approximately 2 and a half minutes each. Following a clean-in-place (CIP) sequence, one backwash cycle using air and raw water, and two rinse cycles using only raw water are performed, approximately 7 days per week. The spent filter cleaning solution from the CIP sequence is pumped and hauled to Boyce STP.

   The routine backwash of the membrane filters does not have any chemicals present. All chlorine addition takes place after the water flows through the membrane filters prior to distribution. No chlorine is present in the backwash water.

   There are no wastewater treatment facilities for the routine backwash water. Clarke County Sanitary Authority indicated on the permit application that the design average flow from the routine backwash discharge from the membrane filters is 18,000 gallons per day.

   The permit reissuance application includes a water treatment facility schematic.

   Design Average Flow = 0.018 MGD

5. Application Complete Date: September 15, 2011

   Permit Writer: Keith Showman Date: December 14, 2011
   Reviewed By: Dawn Jeffries Date: December 15, 2011

   Public Comment Period: March 23, 2012 to April 23, 2012

6. Receiving Stream Name: Page Brook
   River Mile: 0.83
   Use Impairment: Yes
   Special Standards: pH
   Tidal Waters: No
   Basin: Potomac; Subbasin: Shenandoah
   Section: 1c; Class: IV

7. Operator License Requirements per 9 VAC 25-31-200.C: N/A

8. Reliability Class per 9 VAC 25-790: N/A

9. Permit Characterization:
   ☐ Private ☐ Federal ☐ State ☑ POTW ☐ PVOTW
   ☐ Possible Interstate Effect ☐ Interim Limits in Other Document (attach copy of CSO)

10. Discharge Location Description and Receiving Waters Information: Appendix A

    NPDES Permit Rating Worksheet: Score: 70

11. Effluent Screening and Effluent Limitations: Appendix B

12. Bases for Special Conditions: Appendix C

13. Antidegradation (AD) Review & Comments per 9 VAC 25-260-30:
    Tier Designation: Tier 2

    The State Water Control Board's Water Quality Standards (WQS) includes an AD policy. All state surface waters are provided one of three levels of AD protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 waters have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 waters are exceptional waters and are so designated by regulatory amendment. The AD policy prohibits new or expanded discharges into exceptional waters.

    The antidegradation review begins with a Tier determination. Page Brook downstream of Prospect Hill Springs WTP discharge is identified as a Tier 2 water because there are no data available that indicate water quality criteria either have been violated or are barely met. Since the receiving stream is determined to be Tier 2, no significant degradation of the existing water quality will be allowed. Because no further toxic parameters evaluation is needed during this reissuance, antidegradation baselines were not calculated.

14. Whole Effluent Toxicity (WET) Program Requirements per 9 VAC 25-31-220.D:
    Because there was no proposed expansion for this existing facility, there are no TMP requirements for this discharge. The permittee may exercise the option of performing WET monitoring in order to qualify for coverage under the general permit for water treatment facilities, but no WET monitoring is required unless an expansion of the current facility is proposed.

15. Material Storage per 9 VAC 25-31-280.B.2:
    This permit requires that the facility's O&M Manual include information to address the management of wastes, fluids, and pollutants which may be present at the facility, to avoid unauthorized discharge of such materials.

16. Antibacksliding Review per 9 VAC 25-31-220.L:
    This permit complies with Antibacksliding provisions of the VPDES Permit Regulation.

17. Impaired Use Status Evaluation per 9 VAC 25-31-220.D:
    Page Brook in the vicinity of Outfall 001 is listed as impaired for bacteria. A total maximum daily load (TMDL) has been developed for bacteria to address recreational use impairment in Spout Run. This TMDL was approved by the Environmental Protection Agency on 6/3/2010 and can be found at the following website: http://www.deq.virginia.gov/tmdl/apptmdls/shenrvr/spout.pdf . DEQ utilized the future growth allocation within the Page Brook TMDL to accommodate the discharge from Prospect Hill Spring WTP. The revised WLA accommodates this facility at a design flow of 0.018 MGD and an E. coli concentration of 126 cfu/100 mL. This equates to an annual bacteria WLA of 3.13×10^{10} cfu/yr for this facility. The facility was also included in the Sediment TMDL for Spout Run that was approved by the EPA on June 3, 2010. The facility was given a waste load allocation (WLA) of 0.75 tonnes /year for sediment. Based on the design flow of 0.018 MGD, the sediment WLA corresponds to a TSS concentration limit of 30 mg/L.

18. Regulation of Users per 9 VAC 25-31-280.B.9: N/A – This facility is owned by a municipality.

19. Storm Water Management per 9 VAC 25-31-120:
    Application Required? ☐ Yes ☑ No
    If "No," check one:
    ☐ STPs: This facility does not have a design flow $\geq$ 1.0 MGD, nor is it required to have an approved POTW pretreatment program under 9 VAC 25-31-10 et seq.
    ☑ Others: This facility's SIC Code(s) and activities do not fall within the categories for which a Storm Water Application submittal is required.

20. Compliance Schedule per 9 VAC 25-31-250: There are no compliance schedules included in the reissued permit.

21. Variances/Alternative Limits or Conditions per 9 VAC 25-31-280.B, 100.J, 100.P, and 100.L: The applicant requested a waiver for sampling and reporting BOD, COD, TOC, Ammonia-N, and Temperature on the application. The waiver justification is included in the application.

22. Financial Assurance Applicability per 9 VAC 25: N/A – This facility is owned by a municipality.

23. Virginia Environmental Excellence Program (VEEP) Evaluation per § 10.1-1187.1-7: At the time of this reissuance, is this facility considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level? ☐ Yes ☑ No

24. Nutrient Trading Regulation per 9 VAC 25-820: See Appendix B
    General Permit Required: ☐ Yes ☑No

25. Threatened and Endangered (T&E) Species Screening per 9 VAC 25-260-20 B.8:
    Because this is not an issuance or reissuance that allows increased discharge flows, T&E screening is not automatically required. However, in accordance with the VPDES Memorandum of Understanding, T&E screening was coordinated on December 19, 2011 through DCR based upon request. Comments were received from DCR on January 10, 2012 and are included in the permit processing file. Comments were considered in the drafting of the permit and were also forwarded to the permittee.

26. Public Notice Information per 9 VAC 25-31-280.B: All pertinent information is on file, and may be inspected and copied by contacting Keith Showman at: DEQ-Valley Regional Office, P.O. Box 3000, Harrisonburg, Virginia 22801, Telephone No. (540) 574-7836, keith.showman@deq.virginia.gov.

    Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

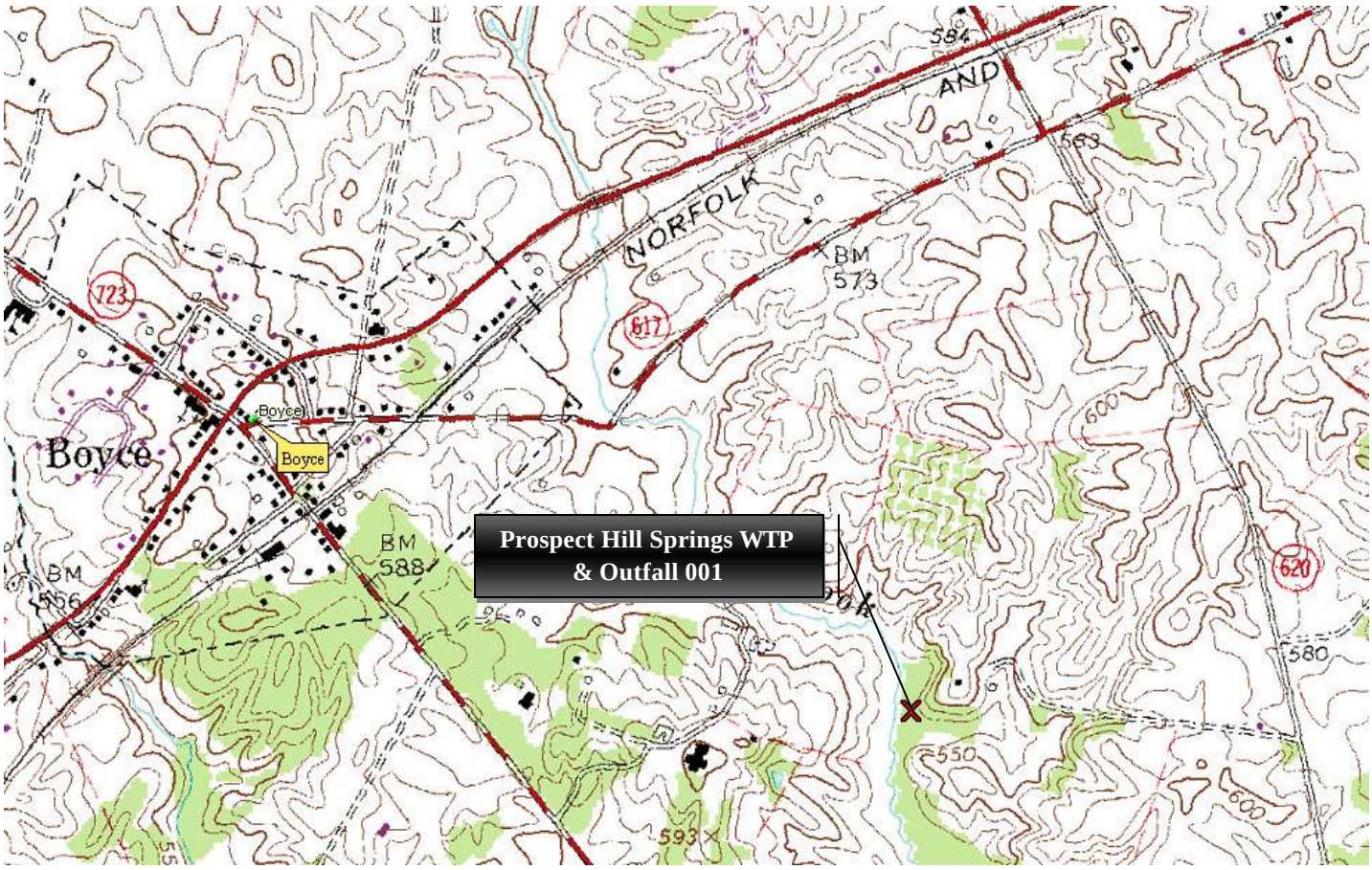
27. Historical Record:

EVENT	DATE
VPDES Permit No. VA0090883 issued for new water treatment facility	March 25, 2002

APPENDIX A

DISCHARGE LOCATION AND RECEIVING WATERS INFORMATION

Prospect Hill Springs WTP discharges to Page Brook in Clarke County. The topographical map below shows the location of the facility and Outfall 001.



PLANNING INFORMATION

Relevant points of interest within the watershed and in the vicinity of the discharge are shown on the Water Quality Assessment TMDL Review table and corresponding map below.

WATER QUALITY ASSESSMENTS REVIEW
POTOMAC-SHENANDOAH RIVER BASIN
8/18/2011

IMPAIRED SEGMENTS

SEGMENT ID	STREAM	SEGMENT START	SEGMENT END	SEGMENT LENGTH	PARAMETER
B08R-01-BAC	Opequon Creek	57.47	32.66	24.81	E-coli
B08R-01-BEN	Opequon Creek	57.47	32.66	24.81	Benthic
B32R-02-HG	South River/NF & SF Shen. Rivers	163.27	8.16	155.11	Mercury in Fish Tissue
B41R-02-PCB	SF Shen. River/NF Shen. River/Shen. River	51.1	0.00	51.1	PCB in Fish Tissue
B57R-01-BAC	Page Brook Run/Spout Run	8.78, 3.70	0.00, 0.00	8.78, 3.70	Fecal Coliform
B57R-01-BEN	Spout Run	3.7	0.00	3.7	Benthic
B57R-03-BAC	Chapel Run	9.44	0.00	9.44	E-coli
B57R-03-BEN	Chapel Run	9.44	0.00	9.44	Benthic
B57R-04-BAC	Roseville Run	3.94	0.00	3.94	E-coli
B57R-04-TEMP	Roseville Run	3.94	0.00	3.94	Temperature
B58R-02-BAC	Dog Run	4.8	0.00	4.8	E-coli

PERMITS

PERMIT	FACILITY	STREAM	RIVER MILE	LAT	LONG	WBID
VA0090883	**Prospect Hills Filtration WTP**	**Page Brook**	**0.83**	**390519**	**780233**	**VAV-B57R**
VA0023370	White Post Correctional Unit 7	Crooked Run X Trib	3.26	390303	780820	VAV-B56R
VA0058599	Berryville WTP	Lewis Run	1.00	390609	775903	VAV-B57R
VA0085171	Boyce STP	Roseville Run	1.38	390519	780351	VAV-B57R
VA0088811	Sandy's Mobile Home Community	Crooked Run X-Trib	1.38	390335	780903	VAV-B56R
VA0089010	San Damiano Spiritual Life Center	Opequon Creek X-Trib	0.23	390547	780815	VAV-B08R

MONITORING STATIONS

STREAM	NAME	RIVER MILE	RECORD	LAT	LONG
Spout Run	1BSPR000.41	0.41	10/15/92	390356	780015
Chapel Run	1BCPL002.83	2.83	8/29/01	390611	780040
Opequon Creek	1AOPE036.13	36.13	7/1/91	390852	780526
Opequon Creek	1AOPE038.36	38.36	7/1/97	390713	780614
Roseville Run	1BRSC001.42	1.42	7/1/98	390518	780351
Spout Run	1BSPR000.40	0.4	7/1/91	390357	780013
Page Brook	1BPGE000.09	0.09	5/10/01	390441	780241
Shenandoah River	1BSHN038.48	38.48	9/23/99	390228	775958
Opequon Creek	1AOPE039.70	39.7	7/1/01	39633	-78637
Shenandoah River	1BSHN028.15	28.15	7/1/01	3966	-775755
Chapel Run	1BCPL000.95	0.95	11/14/03	390509	775914

PUBLIC WATER SUPPLY INTAKES

OWNER	STREAM	RIVER MILE
BERRYVILLE, TOWN	SHENANDOAH RIVER	25.26

WATER QUALITY MANAGEMENT PLANNING REGULATION

Is this discharge addressed in the WQMP regulation? **No**

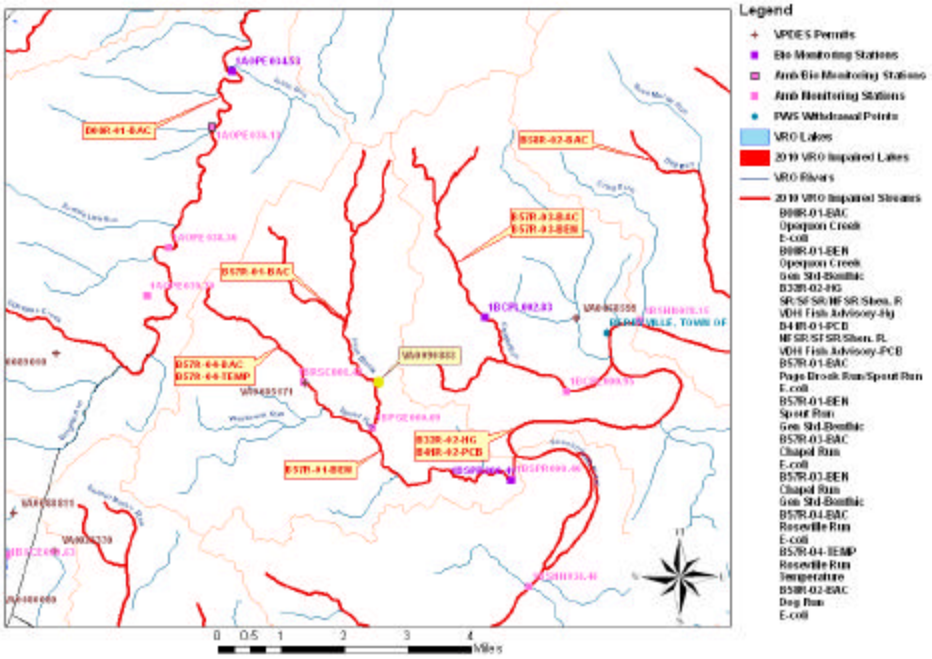
If Yes, what effluent limitations or restrictions does the WQMP regulation impose on this discharge?

PARAMETER	ALLOCATION

WATERSHED NAME

VAV-B57R Shenandoah River/Spout Run

Prospect Hill Springs WTP - Water Quality Assessments Review
August 18, 2011



NPDES PERMIT RATING WORK SHEET

Facilities identified under SIC Code 4941 have the following characteristics as defined in Appendix A to the NPDES Permit Rating Work Sheet found in the VPDES Permit Manual.

1987 SIC Code	1987 SIC Code Title	40 CFR 439 Sub-Part	Sub-part Title	Human Health Toxicity Number	Total Toxicity Number	Industrial Sub-category Number
4941	Potable Water Treatment Plant	NA	NA	7	7	NA

Factor 1 – Toxic Pollutant Potential – This rating is prescribed by the worksheet instructions regarding potable water treatment plant wastewater discharges. This is unchanged from the previous rating.

Factor 2 – Flow/Stream Flow Volume – Section A, Type II is selected because the percent of in-stream wastewater concentration at the receiving stream low flow could not be calculated as a flow frequency for the receiving stream was not performed during this reissuance. This is a change from the previous rating.

Factor 3.A. – The permit does not contain limits for BOD_5 or COD. This is unchanged from the previous rating.

Factor 3.B. – The permit contains limits for TSS. This is unchanged from the previous rating.

Factor 3.C. – The permit does not contain limits for Nitrogen. This is unchanged from the previous rating.

Factor 4. – A worst case assumption is made for proximity to public water supplies. This is unchanged from the previous rating.

Factor 5.A. – The permit contains permit limits for pH based on WQS and an E. coli Waste Load Allocation (WLA) has been assigned to the discharge. This is a change from the previous rating.

Factor 5.B. – The receiving stream is in compliance with all applicable WQS for pollutants that are water quality limited in the permit. This is unchanged from the previous rating.

Factor 5.C. – The permit does not contain Toxics Management Program requirements. This is unchanged from the previous rating.

Factor 6. – Proximity to Near Coastal Waters: Headquarters Priority Permit Indicator (HPRI) Code #4 – This discharge occurs in a non-coastal county. This is unchanged from the previous rating.

NPDES PERMIT RATING WORK SHEET

[ ] Regular Addition
[ ] Discretionary Addition
[ ] Score change, but no status change
[ ] Deletion

NPDES NO. **VA0090883**

Facility Name: **Prospect Hill Springs WTP**

City: **Boyce, VA**

Receiving Water: **Page Brook**

Reach Number:

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?
1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate
[ ] YES; score is 600 (stop here) [X] NO (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

[ ] YES; score is 700 (stop here)
[X] NO (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: _____ Primary SIC Code: **4941** Other SIC Codes: _____
Industrial Subcategory Code: **000** (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[ ] No process waste streams			[ ] 3.			[X] 7.	7	35
[ ] 1.	1	5	[ ] 4.	4	20	[ ] 8.	8	40
[ ] 2.	2	10	[ ] 5.	5	25	[ ] 9.	9	45
			[ ] 6.	6	30	[ ] 10.	10	50

Code Number Checked: **7**

Total Points Factor 1: **35**

FACTOR 2: Flow/Stream Flow Volume *(Complete either Section A or Section B; check only one)*

Section A [X] Wastewater Flow Only Considered

Wastewater Type (See Instructions)		Code	Points
Type I: Flow < 5 MGD	[ ]	11	0
Flow 5 to 10 MGD	[ ]	12	10
Flow > 10 to 50 MGD	[ ]	13	20
Flow > 50 MGD	[ ]	14	30
Type II: Flow < 1 MGD	[X]	21	10
Flow 1 to 5 MGD	[ ]	22	20
Flow > 5 to 10 MGD	[ ]	23	30
Flow > 10 MGD	[ ]	24	50
Type III: Flow < 1 MGD	[ ]	31	0
Flow 1 to 5 MGD	[ ]	32	10
Flow > 5 to 10 MGD	[ ]	33	20
Flow > 10 MGD	[ ]	34	3

Section B [ ] Wastewater and Stream Flow Considered

Wastewater Type (See Instructions)	Percent of instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10 %	[ ]	41	0
	10 % to < 50 %	[ ]	42	10
	> 50 %	[ ]	43	20
Type II:	< 10 %	[ ]	51	0
	10 % to <50 %	[ ]	52	20
	> 50 %	[ ]	53	30

Code Checked from Section A or B: **21**

Total Points Factor 2: **10**

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutant: (check one) [ ] BOD [ ] COD [ ] Other: N/A

			Code	Points
Permit Limits: (check one)	[ ]	< 100 lbs/day	1	0
	[ ]	100 to 1000 lbs/day	2	5
	[ ]	> 1000 to 3000 lbs/day	3	15
	[ ]	> 3000 lbs/day	4	20

Code Checked : **N/A**

Points Scored: **N/A**

B. Total Suspended Solids (TSS)

			Code	Points
Permit Limits: (check one)	[X]	< 100 lbs/day	1	0
	[ ]	100 to 1000 lbs/day	2	5
	[ ]	> 1000 to 5000 lbs/day	3	15
	[ ]	> 5000 lbs/day	4	20

Code Checked : **1**

Points Scored: **0**

C. Nitrogen Pollutant: (check one) [ ] Ammonia [ ] Other: N/A

		Nitrogen Equivalent	Code	Points
Permit Limits: (check one)	[ ]	< 300 lbs/day	1	0
	[ ]	300 to 1000 lbs/day	2	5
	[ ]	> 1000 to 3000 lbs/day	3	15
	[ ]	> 3000 lbs/day	4	20

Code Checked : **N/A**

Points Scored: **N/A**

Total Points Factor 3: **0**

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

[X]YES (If yes, check toxicity potential number below)

[ ] NO (If no, go to Factor 5)

Determine the human health toxicity potential from Appendix A. Use the same SIC code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column [ ] check one below)

Toxicity Group	Code	Points	Toxicit y Group	Code	Points	Toxicity Group	Code	Points
[ ] No process waste streams	0	0	[ ] 3.	3	0	[X] 7.	7	15
[ ] 1.	1	0	[ ] 4.	4	0	[ ] 8.	8	20
[ ] 2.	2	0	[ ] 5.	5	5	[ ] 9.	9	25
			[ ] 6.	6	10	[ ] 10.	10	30

Code Number Checked : **7**

Total Points Factor 4: **15**

FACTOR 5: Water Quality Factors

A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge:

		Code	Points
[X]	Yes	1	10
[ ]	No	2	0

B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

		Code	Points
[X]	Yes	1	0
[ ]	No	2	5

C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

		Code	Points
[ ]	Yes	1	10
[X]	No	2	0

Code Number Checked : A 1 B 1 C 2

Total Points Factor 5: A **10** + B **0** + C **0** = **10** TOTAL

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from Factor 2): **21**

Enter the multiplication factor that corresponds to the flow code: **0.10**

Check appropriate facility HPRI Code (from PCS):

	HPRI#	Code	HPRI Score	Flow Code	Multiplication Factor
[ ]	1	1	20	11, 31, or 41	0.00
[ ]	2	2	0	12, 32, or 42	0.05
[ ]	3	3	30	13, 33, or 43	0.10
[X]	4	4	0	14 or 34	0.15
[ ]	5	5	20	21 or 51	0.10
				22 or 52	0.30
				23 or 53	0.60
				24	1.00

HPRI code checked: 4

Base Score: (HPRI Score) **0** x (Multiplication Factor) **0.10** = **0** (TOTAL POINTS)

B. Additional Points --- NEP Program
For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay? **N/A**

	Code	Points
[ ] Yes	1	10
[ ] No	2	0

C. Additional Points --- Great Lakes Area of Concern
For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see Instructions)? **N/A**

	Code	Points
[ ] Yes	1	10
[ ] No	2	0

Code Number Checked : A 4 B N/A C N/A

Points Factor 6: A **0** + B **N/A** + C **N/A** = **0** TOTAL

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	**35**
2	Flows/Stream Flow Volume	**10**
3	Conventional Pollutants	**0**
4	Public Health Impacts	**15**
5	Water Quality Factors	**10**
6	Proximity to Near Coastal Waters	**0**
	TOTAL (Factors 1-6)	**70**

S1. Is the total score equal to or greater than 80? [ ] Yes (Facility is a major) [X] No

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

[X] No

[ ] Yes (Add 500 points to the above score and provide reason below:

Reason: _____

New Score: **70**

Old Score: **70**

Keith Showman
Permit Reviewer's Name

540-574-7836
Phone Number

December 14, 2011
Date

APPENDIX B

EFFLUENT SCREENING AND EFFLUENT LIMITATIONS

EFFLUENT LIMITATIONS

A comparison of technology and water quality-based limits was performed and the most stringent limits were selected, as summarized in the table below.

Outfall 001 **Final Limits** **Design Flow: 0.018 MGD**

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		Monthly Avg.	Maximum	Frequency	Sample Type
Flow (MGD)	1,3	NL	NL	1/Month	Estimate
TSS (mg/L)	1,3,5	30	60	1 Month	5G/8HC
E. coli (geometric mean) (N/100 mL)	4	126	NA	1/Month	Grab
---------	---------	Minimum	Maximum	---------	---------
pH (SU)	1,2,3	6.5	9.5	1/Month	Grab

NL = No Limitation, monitoring required

5G/8HC = Eight hour composite consisting of grab samples collected at hourly intervals until the discharge ceases or until a minimum of five samples have been collected.

BASIS DESCRIPTIONS

1. VPDES Permit Manual
2. Water Quality Standards (9 VAC 25-260)
3. General VPDES Permit for Potable Water Treatment Plants(9 VAC25-860)
4. Bacteria TMDL for Spout Run
5. Sediment TMDL for Spout Run

LIMITING FACTORS – OVERVIEW:

The following potential limiting factors have been considered in developing this permit and fact sheet:

Water Quality Management Plan Regulation (9 VAC 25-720)	
A. TMDL limits	**E. coli, TSS**
B. Non-TMDL WLAs	**None**
C. CBP (TN &TP) WLAs	**None**
Federal Effluent Guidelines	**None**
BPJ/Agency Guidance limits	**TSS**
Water Quality-based Limits - numeric	**pH**
Water Quality-based Limits - narrative	**None**
Technology-based Limits (9 VAC 25-40-70)	**None**
General VPDES Permit for Potable Water Treatment Plants (9 VAC25-860)	**Flow, TSS, pH**
Whole Effluent Toxicity (WET)	**None**
Storm Water Limits	**None**

EVALUATION OF THE EFFLUENT – CONVENTIONAL POLLUTANTS:
Standard limits and monitoring requirements as specified in the VPDES Permit Manual for WTP backwash wastewater discharges were applied to the permit. There is no evidence to indicate these limits should not be applied to the discharge.

The TSS limits of 30 mg/L (monthly average) and 60 mg/L (maximum), are based on the VPDES Permit Manual and General VPDES Permit for Potable Water Treatment Plants (9 VAC 25-860).

The pH limits reflect the current WQS for pH in the receiving stream and are based on the VPDES Permit Manual and General VPDES Permit for Potable Water Treatment Plants (9 VAC25-860).

The E. coli limits are based on the WLA of 3.13×10^{10} cfu/yr for Prospect Hill Springs WTP listed in the approved Bacteria TMDL for Spout Run. No data are available to indicate that the E. coli limits cannot be met; therefore, a compliance schedule is not included in the permit.

EVALUATION OF THE EFFLUENT – NUTRIENTS:
Nutrient monitoring and limits are currently not required for this industrial facility.

EVALUATION OF THE EFFLUENT – TOXICS:
Since all chlorine addition takes place after the water flows through the membrane filters prior to distribution and raw water is used during the backwash of the filters, no evaluation of TRC was performed during this reissuance.

Cadmium, Chromium III, Chromium VI, Copper, Lead, Mercury, and Zinc were previously evaluated. There have been no changes in the facility's operations since the previous evaluation; therefore, those metals were not reevaluated at this reissuance. Based on the results of the previous evaluation, limits are not required for these parameters.

TMP REQUIREMENTS:
Per current guidance, a WTP with an existing VPDES permit that has never required a TMP cannot apply for General Permit coverage unless they conduct and pass (do not exhibit RP when the test data are evaluated) the minimum amount of toxicity testing required by the regulation (9VAC 25-860-50). Such facilities can remain under an Individual Permit without being required to conduct TMP testing unless there is new information to indicate that the effluent may be causing downstream toxicity. The permittee at this time has opted to remain under coverage from this individual permit. No TMP monitoring will be required with this reissuance.

APPENDIX C

BASES FOR PERMIT SPECIAL CONDITIONS

Tabulated below are the sections of the permit, with any changes and the reasons for the changes identified. Also provided is the basis for each of the permit special conditions.

Cover Page: Content and format as prescribed by the VPDES Permit Manual.

Part I.A.1. **Effluent Limitations and Monitoring Requirements:**
Updates Part I.A.1. of the previous permit with the following:

- E. coli limits have been added.

Part I.B. **Effluent Limitations and Monitoring Requirements – Additional Instructions:** *Identical to Part I.B. of the previous permit*. Authorized by VPDES Permit Regulation, 9 VAC 25-31-190.J.4 and 220.I. This condition is necessary when a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.

Part I.C.1. **Materials Handling/Storage:** *Identical to Part I.C.2. of the previous permit***.** 9 VAC 25-31-280.B.2. requires that the types and quantities of "wastes, fluids, or pollutants which are … treated, stored, etc." be addressed for all permitted facilities.

Part I.C.2. **O&M Manual Requirement:** *Updates Part I.C.3. of the previous permit.* Code of Virginia at 62.1-44.16, VPDES Permit Regulation 9 VAC 25-31-190 E, and 40 CFR 122.41(e) require proper operation and maintenance of the permitted facility. Added requirement to describe procedures for documenting compliance with the permit requirement that there shall be no discharge of floating solids or visible foam in other than trace amounts.

Part I.C.3. **Reopeners**:
a. *Updates Part I.C.5. of the previous permit:* Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.

b. *Updates Part I.C.4. of the previous permit:* 9 VAC 25-31-390 A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.

Part I.C.4 **Notification Levels**: *Updates Part I.C.1. of the previous permit.* Required by the VPDES Permit Regulation 9 VAC 25-31-200 A for all manufacturing, commercial, mining, and silvicultural dischargers.

Part II **Conditions Applicable to All VPDES Permits:** *Updates Part II of previous permit.* VPDES Permit Regulation 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed. Part II,A.4. language added for Virginia Environmental Laboratory Accreditation Program (VELAP) per 1 VAC 30, Chapter 45: Certification for Noncommercial Environmental Laboratories, and 1 VAC 30, Chapter 46: Accreditation for Commercial Laboratories.

State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: Prospect Hill Springs WTP

NPDES Permit Number: VA0090883

Permit Writer Name: Keith A. Showman

Date: April 27, 2012

Major [ ] **Minor** [✓] **Industrial** [✓] **Municipal** [ ]

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	✓		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	✓		
3. Copy of Public Notice?		✓	
4. Complete Fact Sheet?	✓		
5. A Priority Pollutant Screening to determine parameters of concern?	✓		
6. A Reasonable Potential analysis showing calculated WQBELs?	✓		
7. Dissolved Oxygen calculations?		✓	
8. Whole Effluent Toxicity Test summary and analysis?			✓
9. Permit Rating Sheet for new or modified industrial facilities?	✓		

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new, or currently unpermitted facility?		✓	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	✓		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	✓		

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		✓	
5. Has there been any change in streamflow characteristics since the last permit was developed?		✓	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		✓	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	✓		
8. Does the facility discharge to a 303(d) listed water?	✓		
a. Has a TMDL been developed and approved by EPA for the impaired water?	✓		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			✓
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?	✓		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?	✓		
10. Does the permit authorize discharges of storm water?		✓	
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		✓	
12. Are there any production-based, technology-based effluent limits in the permit?		✓	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		✓	
14. Are any WQBELs based on an interpretation of narrative criteria?		✓	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		✓	
16. Does the permit contain a compliance schedule for any limit or condition?		✓	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		✓	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	✓		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		✓	
20. Have previous permit, application, and fact sheet been examined?	✓		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Review Checklist – For Non-Municipals

(To be completed and included in the record for all non-POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet **or** permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	✓		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	✓		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	✓		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	✓		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?		✓	
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			✓
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?			✓
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?	✓		
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?	✓		
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a "reasonable measure of ACTUAL production" for the facility (not design)?			✓
5. Does the permit contain "tiered" limits that reflect projected increases in production or flow?	✓		
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?	✓		
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	✓		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ) – cont.	Yes	No	N/A
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?	✓		
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		✓	

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	✓		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?	✓		
3. Does the fact sheet provide effluent characteristics for each outfall?	✓		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	✓		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	✓		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	✓		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	✓		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?	✓		
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	✓		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	✓		
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?	✓		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	✓		
8. Does the fact sheet indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	✓		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?	✓		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	✓		
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices?			✓

II.F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?		✓	
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?			
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			✓
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			✓

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	✓		
List of Standard Conditions – 40 CFR 122.41 Duty to comply Duty to reapply Need to halt or reduce activity not a defense Duty to mitigate Proper O & M Permit actions Property rights Duty to provide information Inspections and entry Monitoring and records Signatory requirement Bypass Upset Reporting Requirements Planned change Anticipated noncompliance Transfers Monitoring reports Compliance schedules 24-Hour reporting Other non-compliance			
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?	✓		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name Keith A. Showman

Title Water Permit Writer