pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**Northeast Regional Office**
**CLEAN WATER PROGRAM**

# NPDES PERMIT FACT SHEET
# INDIVIDUAL SEWAGE

| | | | |
|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0064033** |
| Facility Type | **Non-Municipal** | APS ID | **538500** |
| Major / Minor | **Minor** | Authorization ID | **1362525** |

## Applicant and Facility Information

| | | | |
|---|---|---|---|
| Applicant Name | **Pusti Margiya Vashnav Samaj Of North American (PMVS of North America)** | Facility Name | **Vraj Temple STP** |
| Applicant Address | 15 Manor Road<br>Schuylkill Haven, PA 17972-9067 | Facility Address | 15 Manor Road<br>Schuylkill Haven, PA 17972-9067 |
| Applicant Contact | Pravin Desai (Director) | Facility Contact | Michael Kreiser (Select Environmental Services, Certified Operator) |
| Applicant Phone | (484) 226-8755 | Facility Phone | (570) 754-7419 |
| Client ID | 60160 | Site ID | 529936 |
| Ch 94 Load Status | - | Municipality | Wayne Township |
| Connection Status | - | County | Schuylkill |
| Date Application Received | July 20, 2021 | EPA Waived? | Yes |
| Date Application Accepted | August 3, 2021 | If No, Reason | |

Purpose of Application: RENEWAL OF EXISTING NPDES PERMIT.

## Summary of Review

Renewal of 0.075 MGD nonmunicipal NPDES Permit STP discharge of treated sewage to an Unnamed Tributary to Lower Little Swatara Creek (CWF, MF; Stream code 10053). The facility discharged 0.01029 MGD in 2020, 0.00969 MGD in 2019, and 0.0102 MGD in 2018. They generated 0.01387 MGD max in January 2020. Provided influent data confirms highly variable plant loadings, dependent on main facility usage.

Background:

- The Vraj Temple STP is underloaded, and subject to highly variable influent flows/loadings due to nature of the facility's usage pattern.
- The as-built facility is rated at 0.051 MGD hydraulic capacity, and requires a Part II WQM permit to authorize any additional construction to handle the 0.075 MGD NPDES Permit-basis flow.
- Facility has a UV unit but uses chlorine/de-chlorination back-up.
- The facility effluent discharge was low in January 2022 (below 6.5 SU pH). Ammonia-N biological reduction degrades below 6.8 SU pH and ceases at 6.5 SU pH. pH adjustment might be needed on occasions when additional holding time is insufficient to achieve adequate ammonia-N reduction.
- The facility has changed its contract operator to ARRO Water Services.

Sludge use and disposal description and location(s): Shipped to the Pine Grove JTA WWTP for disposal. 16,800 gallons total sludge was hauled in year 2021.

Part C Conditions: Changes bolded.

- **Part C.I.A through D**: Existing Stormwater prohibition; Necessary property rights; Residuals management; Planning

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| X | | James D. Berger (signed)<br>James D. Berger, P.E. / Environmental Engineer | November 28, 2022 |
| X | | Amy M. Bellanca (signed)<br>Amy M. Bellanca, P.E. / Environmental Engineer Manager | 12-6-22 |

**Summary of Review**

- **Part C.I.E**: Existing Chlorine minimization **(updated to clarify reporting requirements)**
- **Part C.I.F: New responsible operator notification requirement (to ensure up-to-date contact information is available to the Department).**
- **Part C.I.F: New WQM permit condition in event the facility ever want to rerate or expand the 0.051 MGD STP to the 0.075 MGD NPDES Permit-Basis capacity. Any new construction would have to meet current design standards.**
- **Part C.II**: Existing Solids Management conditions

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.

**Discharge, Receiving Waters and Water Supply Information**

| | | | |
|---|---|---|---|
| Outfall No. | 001 | Design Flow (MGD) | .075 |
| Latitude | 40º 33' 19.67" | Longitude | -76º 14' 7.20" |
| Quad Name | Friedensburg | Quad Code | 1436 (6.19.3) |
| Wastewater Description: | Sewage Effluent | | |
| Receiving Waters | Unnamed Tributary to Lower Little Swatara Creek (CWF) | Stream Code | 10053 |
| NHD Com ID | 56394767 | RMI | ~1.87 |
| Drainage Area | 1.7 $mi^2$ | Yield ($cfs/mi^2$) | 0.1 |
| $Q_{7-10}$ Flow (cfs) | 0.17 | $Q_{7-10}$ Basis | Default LFY |
| Elevation (ft) | ~671 per Streamstats profile tool. | Slope (ft/ft) | - |
| Watershed No. | 7-D | Chapter 93 Class. | CWF |
| Existing Use | - | Existing Use Qualifier | - |
| Exceptions to Use | - | Exceptions to Criteria | - |
| Assessment Status | Attaining Use(s) | | |
| Cause(s) of Impairment | - | | |
| Source(s) of Impairment | - | | |
| TMDL Status | Final (3/1/1999) | Name | Upper Swatara Creek Watershed |

| Background/Ambient Data: None available | | Data Source |
|---|---|---|
| pH (SU) | - | - |
| Temperature (°F) | - | - |
| Hardness (mg/L) | - | - |
| Other: | - | - |

| | | | |
|---|---|---|---|
| Nearest Downstream Public Water Supply Intake | | Lebanon Water Authority | |
| PWS Waters | Swatara Creek | Flow at Intake (cfs) | - |
| PWS RMI | 39 | Distance from Outfall (mi) | ~27 per last Fact Sheet |

Changes Since Last Permit Issuance: None known.

Other Comments:

**Receiving Stream**: Outfall is located near headwaters with upstream dam. Outfall coordinates were updated in the previous NPDES permit renewal fact sheet. Facility is only discharging a fraction of its NPDES permit-basis flow.

**Upstream dam/impoundment**: Vraj Dam No. 54-120 (C-4 low hazard dam) on the property with same permittee. No minimum dam release requirement found in available DEP dam files.

**TMDL Impairments**: Upper Swatara Creek TMDL addresses watershed issues including: METALS; pH; TOTAL SUSPENDED SOLIDS (TSS). No Waste Load Allocations. A small STP is not expected to contribute to these impairments.

**Low Flow:** Statewide Default 0.1 CFS/Square Mile LFY used. The LFY method (using a downstream point and USGS PA Streamstats was less conservative, but the outfall is on headwaters on an attaining stream portion, hence unlikely to have AMD discharges to raise LFY above default LFY. **Note from previous Fact Sheet**: Previous modeling utilized a LFY value of 0.064 cfs/mi2, which was based on flow data from stream gage 01572000 (Lower Little Swatara at Pine Grove,

PA). Since recent data was unavailable from that gage, the last 25 years of data from a downstream stream gage was used (01572025 Swatara Creek near Pine Grove, PA). The resulting LFY was calculated to be 0.14 cfs/mi2 (D.A. = 116 mi2, Q7-10 = 16.9 cfs). For this renewal, modeling performed using the more conservative default LFY of 0.1 cfs/mi2 did not result in more stringent effluent limitations (see WQM Modeling and TRC Calculation attachments).

**Treatment Facility Summary**

**Treatment Facility Name:** Vraj Temple STP

| WQM Permit No. | Issuance Date | Scope |
|---|---|---|
| 5413403 | 4/17/2014 | expansion of the existing 0.011 MGD wastewater treatment plant to a **0.051 MGD** wastewater treatment plant. |
| 5401403 | 1/9/2002 | Extended aeration plant with aerobic digester, sludge holding basin, chlorination/de-chlorination, TP/TN removal, 25,000-gallon EQ Tank, with collection system/pump station |

| Waste Type | Degree of Treatment | Process Type | Disinfection | Avg Annual Flow (MGD) |
|---|---|---|---|---|
| Sewage | Secondary with TN/TP removal | MLE | UV | 0.075 |

| Hydraulic Capacity (MGD) | Organic Capacity (lbs/day) | Load Status | Biosolids Treatment | Biosolids Use/Disposal |
|---|---|---|---|---|
| 0.051* | 102 | - | Aerobic digester | Disposal |

*Facility has not been constructed to treat its 0.075 MGD NPDES Permit-basis flow

**Changes Since Last Permit Issuance**: None known.

**Other Comments**:

- **Facility has not been constructed to treat its 0.075 MGD NPDES Permit-basis flow. However, facility is underloaded, seldom exceeding 0.010 MGD monthly average flows.**
- NPDES Permit Application STP Description: Four (4) connected EQ Tanks followed by flow division box that splits flow into three (3) treatment trains:
  - Train 1: Anoxic Tank followed by two aeration tanks followed by clarifier.
  - Trains 2 & 3 (identical) with each train consisting of: One (1) Anoxic Tank, three (3) aeration tanks, and clarifier.
  - All three trains flow to post-aeration Tank followed by a polishing clarifier followed by a polishing clarifier.
  - UV Disinfection unit onsite
  - Solids Management: All solids are wastes to two (2) aerated digesters
  - Soda Ash is used for alkalinity and pH control.
  - Poly aluminum chloride (Stern pac) is used for TP reduction.
  - **DEP Inspection reports noted de-chlorination is used, and that the chlorination system is back-up for the UV disinfection units (two banks in series). Applicant confirmed that the chlorination/de-chlorination system is the UV system bypass.**

- 2014 Expansion WQM Permit IRR Description:
  - Precast concrete structures (5000 psi with approximate nominal 4.75" thick walls) as manufactured by Dutchland, Inc will be used for most of the additional treatment units. The dimensions of each of these precast structures are 15' L x 6' W x 11.66' D. Each of these structures is divided in half to provide two separate tanks. 5 anoxic tanks, 12 aeration tanks, 4 clarifier tanks, and 4 aerobic digester tanks will be added to the treatment process. One aerobic digester tank will be abandoned in the new design.
  - A 7.5' L x 6' W x 10' D ultraviolet disinfection/post aeration tank will be added to the treatment process. The existing chlorine contact and dechlorination tanks will be kept as a backup to UV disinfection.
  - Wastewater will enter a new flow splitter box and diverted to one of three treatment trains. The new treatment process will not require the addition of a secondary carbon source for total nitrogen reduction since the upgraded treatment plant will add anoxic tanks and utilize the MLE process. A chemical feed for additional carbon will be provided in the case that influent BOD is not strong enough to support the denitrifying bacteria. Chemical feed for alum or a similar phosphorus precipitation chemical (Poly

aluminum chloride) will be added to the WWTP design. Three new 3-hp blowers with VFDs will be added for the air demand of the expanded WWTP.

- Influent Data: Application Influent data ranged from 518 mg/l max and average of 85 mg/l BOD5; TSS information was incorrectly reported on form (obvious typos), but indicates variability of plant loadings (dependent upon Temple activities/holy days).

## Compliance History

**DMR Data for Outfall 001 (from October 1, 2021 to September 30, 2022)**

| Parameter | SEP-22 | AUG-22 | JUL-22 | JUN-22 | MAY-22 | APR-22 | MAR-22 | FEB-22 | JAN-22 | DEC-21 |
|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Average Monthly | **0.00384** | **0.010478** | **0.00763** | **0.00911** | **0.01174** | **0.01392** | **0.009** | **0.00852** | **0.00683** | **0.01149** |
| Flow (MGD) Daily Maximum | **0.008** | **0.01914** | **0.01449** | **0.01295** | **0.02125** | **0.03162** | **0.01208** | **0.01124** | **0.01914** | **0.01914** |
| pH (S.U.) Minimum | 7.14 | 6.81 | 7.43 | 7.04 | 7.01 | 6.98 | 7.2 | 7.0 | **6.07** | 7.18 |
| pH (S.U.) Instantaneous Maximum | 7.9 | 8.15 | 7.63 | 7.56 | 7.59 | 7.44 | 7.51 | 7.21 | 7.76 | 7.9 |
| TRC (mg/L) Average Monthly | GG | GG | GG | GG | GG | GG | GG | GG | GG | GG |
| TRC (mg/L) Instantaneous Maximum | GG | GG | GG | GG | GG | GG | GG | GG | GG | GG |
| CBOD5 (mg/L) Average Monthly | < 2.0 | < 2.0 | < 2 | < 2 | < 2.1 | < 2.1 | < 2 | < 2 | < 2.5 | < 2 |
| TSS (mg/L) Average Monthly | < 4.3 | < 4.0 | < 4 | < 4 | < 4 | < 5 | < 3.4 | < 4 | < 6.3 | < 4 |
| Fecal Coliform (CFU/100 ml) Geometric Mean | 10 | < 7 | < 1 | 5 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 |
| Fecal Coliform (CFU/100 ml) Instantaneous Maximum | 10 | 52 | 2 | 13 | 1 | 1 | < 1 | < 1 | 1 | < 1 |
| Nitrate-Nitrite (mg/L) Annual Average | | | | | | | | | | 9.79 |
| Total Nitrogen (mg/L) Annual Average | | | | | | | | | | 10.4 |
| Ammonia (mg/L) Average Monthly | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.93 | < 0.1 | < 0.1 | < 0.1 |
| TKN (mg/L) Annual Average | | | | | | | | | | 0.64 |
| Total Phosphorus (mg/L) Average Monthly | 0.52 | 1.73 | 3.1 | 0.27 | 0.14 | < 0.2 | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Aluminum (mg/L) Annual Average | | | | | | | | | | 0.147 |
| Total Iron (mg/L) Annual Average | | | | | | | | | | < 0.1 |
| Total Manganese (mg/L) Annual Average | | | | | | | | | | 0.013 |

**DMR Data for Outfall 001 (from June 1, 2020 to May 31, 2021)**

| Parameter | MAY-21 | APR-21 | MAR-21 | FEB-21 | JAN-21 | DEC-20 | NOV-20 | OCT-20 | SEP-20 | AUG-20 | JUL-20 | JUN-20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Average Monthly | 0.00942 | 0.00904 | 0.01041 | 0.00756 | 0.00781 | 0.00806 | 0.00808 | 0.0096 | 0.00974 | 0.01044 | 0.00901 | 0.01111 |
| Flow (MGD) Daily Maximum | **0.01277** | **0.01182** | **0.01407** | **0.0157** | **0.01222** | **0.01333** | **0.01259** | **0.01293** | **0.01344** | **0.02045** | **0.01198** | **0.02283** |
| pH (S.U.) Minimum | 6.8 | 6.69 | 6.78 | 6.91 | 6.82 | 6.93 | 7.41 | 7.14 | 6.86 | 6.96 | 7.06 | 7.05 |
| pH (S.U.) Instantaneous Maximum | 7.99 | 7.31 | 7.25 | 7.47 | 7.41 | 7.34 | 7.61 | 7.84 | 7.38 | 7.45 | 7.5 | 7.35 |
| TRC (mg/L) Average Monthly | GG | GG | GG | GG | GG | GG | GG | GG | GG | GG | GG | GG |
| TRC (mg/L) Instantaneous Maximum | GG | GG | GG | GG | GG | GG | GG | GG | GG | GG | GG | GG |
| CBOD5 (mg/L) Average Monthly | < 2 | < 2.1 | < 3.3 | < 2.4 | < 2 | 2.2 | < 2 | < 2 | < 3 | < 2 | < 2 | < 2 |
| TSS (mg/L) Average Monthly | 9 | 6 | 10.8 | 10 | 8.9 | 11.4 | 7.6 | < 4.6 | < 6 | 4.8 | 5.6 | 5 |
| Fecal Coliform (CFU/100 ml) Geometric Mean | < 1 | < 1 | < 12 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 10 | < 1 | < 2 |
| Fecal Coliform (CFU/100 ml) Instantaneous Maximum | 1 | < 1 | 136 | < 1 | < 1 | 1 | 2 | 1 | 1 | 105 | 1 | 4 |
| Nitrate-Nitrite (mg/L) Annual Average | | | | | | 6.07 | | | | | | |
| Total Nitrogen (mg/L) Annual Average | | | | | | < 6.57 | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ammonia (mg/L) Average Monthly | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TKN (mg/L) Annual Average | | | | | | < 0.5 | | | | | | |
| Total Phosphorus (mg/L) Average Monthly | 1.74 | 1.46 | | | | | | 1.49 | 1.92 | 1.46 | 1.62 | 0.79 |
| Total Aluminum (mg/L) Annual Average | | | | | | 0.279 | | | | | | |
| Total Iron (mg/L) Annual Average | | | | | | < 0.1 | | | | | | |
| Total Manganese (mg/L) Annual Average | | | | | | < 0.01 | | | | | | |

## Compliance History

**Effluent Violations for Outfall 001, from: November 1, 2021 To: September 30, 2022**

| Parameter | Date | SBC | DMR Value | Units | Limit Value | Units |
|---|---|---|---|---|---|---|
| Total Phosphorus | 07/31/22 | Avg Mo | 3.1 | mg/L | 2.0 | mg/L |

Summary of Inspections:

| FACILITY NAME | INSP PROGRAM | INSP ID | INSPECTED DATE | INSP TYPE | INSPECTION RESULT DESC | # OF VIOLATIONS |
|---|---|---|---|---|---|---|
| PUSTI MARGIYA VASHNAV SAMAJ OF NORTH AMERICA | WPCNP | 3035275 | 09/29/2021 | Administrative/File Review | No Violations Noted | 0 |
| PUSTI MARGIYA VASHNAV SAMAJ OF NORTH AMERICA | WPCNP | 3253571 | 09/21/2021 | Administrative/File Review | Violation(s) Noted | 2 |
| PUSTI MARGIYA VASHNAV SAMAJ OF NORTH AMERICA | WPCNP | 2968421 | 09/09/2021 | Compliance Evaluation | No Violations Noted | 0 |
| PUSTI MARGIYA VASHNAV SAMAJ OF NORTH AMERICA | WPCNP | 2652732 | 05/21/2020 | Administrative/File Review | Violation(s) Noted | 1 |
| PUSTI MARGIYA VASHNAV SAMAJ OF NORTH AMERICA | WPCNP | 2799189 | 10/30/2019 | Compliance Evaluation | No Violations Noted | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| PUSTI MARGIYA VASHNAV SAMAJ OF NORTH AMERICA | WPCNP | 2905662 | 06/05/2019 | Compliance Evaluation | No Violations Noted | 0 |
| PUSTI MARGIYA VASHNAV SAMAJ OF NORTH AMERICA | WPCNP | 3259400 | 11/01/2018 | Follow-up Inspection | No Violations Noted | 0 |
| PUSTI MARGIYA VASHNAV SAMAJ OF NORTH AMERICA | WPCNP | 3246929 | 09/26/2018 | Routine/Partial Inspection | No Violations Noted | 0 |
| PUSTI MARGIYA VASHNAV SAMAJ OF NORTH AMERICA | WPCNP | 2797165 | 10/26/2017 | Administrative/File Review | Violation(s) Noted | 1 |

*9/1/2021 Inspection Report noted Hurricane Ida resulted in UV system flooding with temporary usage of chlorine disinfection.

Other Comments:

- 9/21/2021 NOV: Late Application
- Open Violations by Client Number: 11/23/2022 WMS query indicated two open violations:

| FACILITY | INSP PROGRAM | INSP ID | VIOLATION ID | VIOLATION DATE | VIOLATION CODE | VIOLATION |
|---|---|---|---|---|---|---|
| PUSTI MARGIYA VASHNAV SAMAJ OF NORTH AMERICA | WPC NPDES | 3253571 | 930365 | 09/21/2021 | 92A.75(A) | NPDES - Failure to submit NPDES renewal application at least 180 days prior to expiration or later approved date |
| PUSTI MARGIYA VASHNAV SAMAJ OF NORTH AMERICA | WPC NPDES | 3253571 | 930367 | 09/21/2021 | 92A.61(C) | NPDES - Failure to monitor pollutants as required by the NPDES permit |

## Development of Effluent Limitations

**Outfall No.** 001 **Design Flow (MGD)** .075
**Latitude** 40º 33' 10.00" **Longitude** -76º 14' 24.00"
**Wastewater Description:** Sewage Effluent

**Permit Limits and Monitoring: Changes bolded.**

| Parameter | Limit (mg/l unless otherwise specified) | SBC | Model/Basis |
|---|---|---|---|
| CBOD5 | **Report Lbs/d**<br>**Report Lbs/d**<br>25**.0**<br>**50.0**<br>50**.0** | **Monthly Average**<br>**Daily Max**<br>Monthly Average<br>**Daily Max**<br>IMAX | Existing Technology limit (Chapter 92a.47) supported by water quality modeling. **Significant digit added.** Application data: 4.4 mg/l max and 2.17 mg/l average (48 samples) |
| TSS | **Report Lbs/d**<br>**Report Lbs/d**<br>30**.0**<br>**60.0**<br>60**.0** | **Monthly Average**<br>**Daily Max**<br>Monthly Average<br>**Daily Max**<br>IMAX | Existing Technology limit (Chapter 92a.47). **Significant digit added.** Application data: 16.4 mg/l max and 5.3 mg/l average (48 samples) |
| pH | 6.0 – 9.0 SU | **Inst.** Min - IMAX | Existing Technology limit (Chapter 92a.47) Application data: **6.36** – 8.17 mg/l range. **Changed to daily when discharging due to underloading. Ammonia reduction ceases at 6.5 SU.** |
| Total Residual Chlorine (TRC) | **0.22**<br>0.7**3** | Monthly Average<br>IMAX | UV Disinfection is the approved method of disinfection, but Chlorine Minimization Condition in event of usage in manner ending up in effluent. **More stringent monthly average WQBEL. Significant digit added.** Application data: No data. |
| **UV Intensity** | **Report (uw/cm$^2$)** | **Inst. Min** | **UV Disinfection is the approved method of disinfection. Upon request as it is unclear if old UV system has adequate measurement capability.** Application data: No data. |
| **Dissolved Oxygen (DO)** | **3.0** | **Inst. Minimum** | **New WQBEL based on water quality modeling and normal treated sewage DO concentration. Daily when discharging due to underloading.** Application data: No data |
| **E Coli** | **Report (#/100 ml)** | **Inst. Min** | **New quarterly monitoring requirement due to new Chapter 93 WQS.** Application data: No data. |
| Fecal Coliform (5/1 – 9/30) | 200/100 ml<br>1,000/100 ml | Geo Mean<br>IMAX | Existing Technology limit (Chapter 92a.47) Application data: 250/100 ml max and 10/100 ml average (50 samples) |
| Fecal Coliform (10/1 – 4/30) | 2,000/100 ml<br>10,000 ml/100 ml | Geo Mean<br>IMAX | See above. |
| Ammonia-Nitrogen (May 1 - Oct 31) | **Report Lbs/d**<br>**Report Lbs/d**<br>3.5 | **Monthly Average**<br>**Daily Max**<br>Monthly Average | Existing Ammonia-N limits. Application data: 2.46 mg/l max and 0.17 mg/l average (48 samples). |

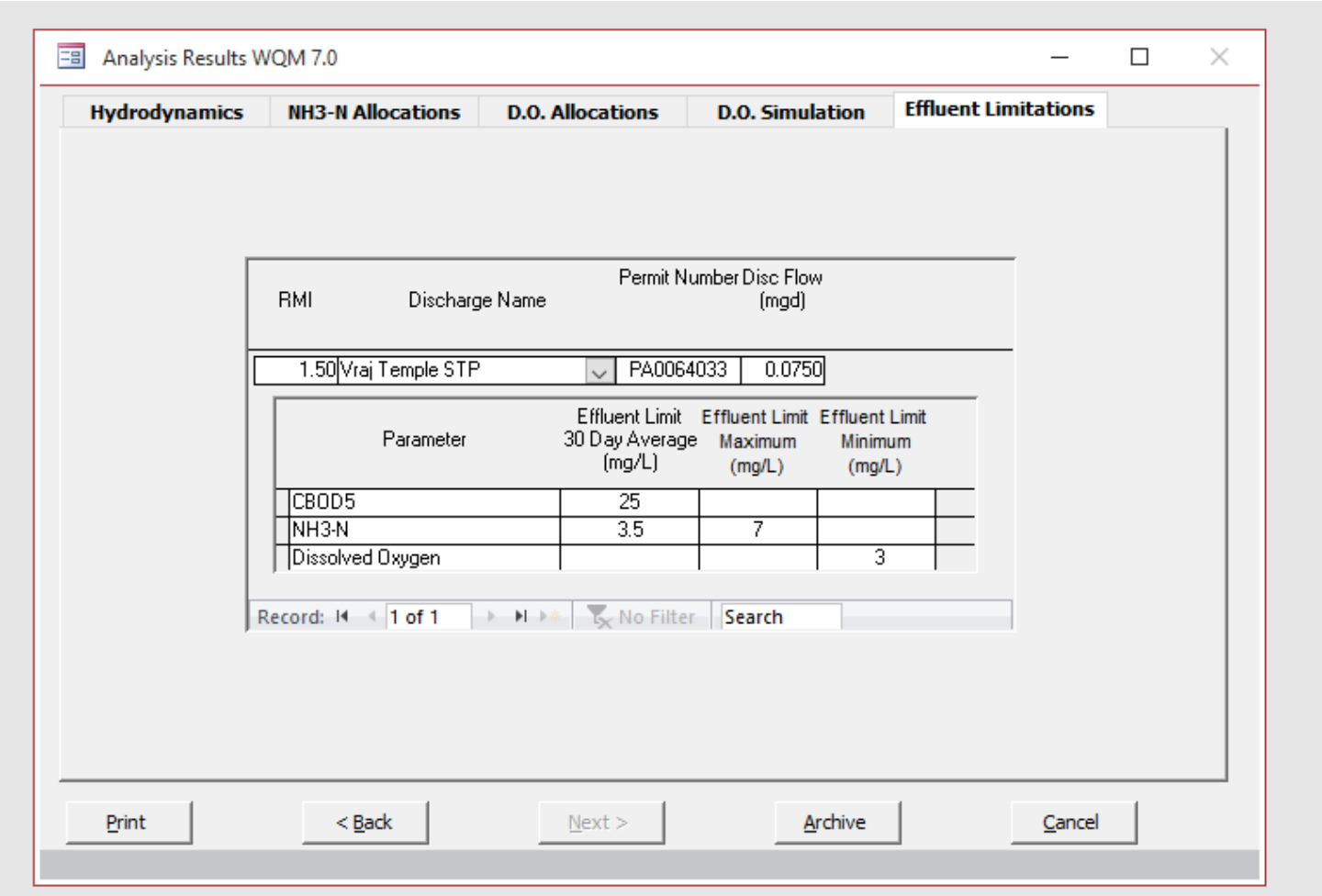
| | | | |
|---|---|---|---|
| | **7.0**<br>7.0 | **Daily Max**<br>IMAX | |
| Ammonia-Nitrogen<br>(Nov 1 - Apr 30) | **Report Lbs/d**<br>**Report Lbs/d**<br>10.5<br>**21.0**<br>21.0 | **Monthly Average**<br>**Daily Max**<br>Monthly Average<br>**Daily Max**<br>IMAX | See above. |
| Total Phosphorus | **Report Lbs/d**<br>**Report Lbs/d**<br>2.0<br>**4.0**<br>4.0 | **Monthly Average**<br>**Daily Max**<br>Monthly Average<br>**Daily Max**<br>IMAX | **Existing WQBEL.**<br><br>Application data: 2.02 mg/l max and 0.75 mg/l average (48 samples) |
| **Total Nitrogen (Nitrate-Nitrite-N + TKN measured in same sample)** | **Report Lbs/d**<br>**Report Lbs/d**<br>Report<br>**Report** | **Annual Average**<br>**Daily Max**<br>Annual Average<br>**Daily Max** | **Annual nutrient monitoring (Chapter 92a.61).**<br>Application data: 10.4 mg/l max and 8.49 mg/l average (2 samples) |
| Aluminum, Total | **Report Lbs/d**<br>**Report Lbs/d**<br>Report<br>**Report** | **Annual Average**<br>**Daily Max**<br>Annual Average<br>**Daily Max** | Existing monitoring requirement with the usage of aluminum-based TP wastewater treatment chemical. No industrial or commercial source.<br>Application data: 0.279 mg/l max and 0.213 mg/l average (2 samples) |
| Iron, Total | **Report Lbs/d**<br>**Report Lbs/d**<br>Report<br>**Report** | **Annual Average**<br>**Daily Max**<br>Annual Average<br>**Daily Max** | Existing monitoring requirement. No industrial or commercial source.<br>Application data: <0.1 mg/l (2 samples) |
| Manganese, Total | **Report Lbs/d**<br>**Report Lbs/d**<br>Report<br>**Report** | **Annual Average**<br>**Daily Max**<br>Annual Average<br>**Daily Max** | Existing monitoring requirement. No industrial or commercial source.<br>Application data**:** 0.013 mg/l max and <0.012 mg/l average (2 samples) |

Comments:

- Changed units pre EDMR requirements. Added significant digits to TRC and other limits.
- Added mass loading reporting and daily max limits (based on IMAX limits as any exceedance of the IMAX limit of any duration is a permit exceedance). No additional sampling required.
- Changed to 24-hour composite sampling to eliminate biasing.

**WQM Model Output**:

VrajWQM1.pdf




TRC Spreadsheet:

| A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|

**TRC EVALUATION**

Input appropriate values in A3:A9 and D3:D9 — Vraj Temple STP

| | | | |
|---|---|---|---|
| 0.17 | = Q stream (cfs) | 0.5 | = CV Daily |
| 0.075 | = Q discharge (MGD) | 0.5 | = CV Hourly |
| 30 | = no. samples | 1 | = AFC_Partial Mix Factor |
| 0.3 | = Chlorine Demand of Stream | 1 | = CFC_Partial Mix Factor |
| 0 | = Chlorine Demand of Discharge | 15 | = AFC_Criteria Compliance Time (min) |
| 0.5 | = BAT/BPJ Value | 720 | = CFC_Criteria Compliance Time (min) |
| 0 | = % Factor of Safety (FOS) | | =Decay Coefficient (K) |

| Source | Reference | AFC Calculations | Reference | CFC Calculations |
|---|---|---|---|---|
| TRC | 1.3.2.iii | WLA afc = 0.486 | 1.3.2.iii | WLA cfc = 0.467 |
| PENTOXSD TRG | 5.1a | LTAMULT afc = 0.373 | 5.1c | LTAMULT cfc = 0.581 |
| PENTOXSD TRG | 5.1b | LTA_afc= 0.181 | 5.1d | LTA_cfc = 0.271 |

| Source | | Effluent Limit Calculations | |
|---|---|---|---|
| PENTOXSD TRG | 5.1f | AML MULT = 1.231 | |
| PENTOXSD TRG | 5.1g | AVG MON LIMIT (mg/l) = 0.223 | AFC |
| | | INST MAX LIMIT (mg/l) = 0.730 | |

**Communication Log:**
**6/30/2021**: NPDES Permit expiration date
**7/20/2021**: Late NPDES Permit Renewal Application received. (Permit had expired.)
**7/27/2021:** DEP Incompleteness letter issued. See letter for incompleteness issues.
**8/12/2021:** Partial response to DEP incompleteness letter received.
**8/18/2021:** DEP (Berger) E-mail on remaining incompleteness issues (missing client contact telephone and e-mail information; need to verify applicant is operator with financial control, did not complete project information or coordination information sections, wrong fee (referenced wrong fee in last letter).
**8/19/2021:** Mr. Desai called. He will send in rest of application fee and other required information. He then sent clarification e-mail (same day) and indicated remaining fee would be sent in by mail. E-mail contained updated contact information.
**9/17/2021**: DEP (Berger) reminder e-mail about required application fee.
**9/17/2021**: Applicant (Rikin Desai) E-mail response that he would look into the fee issue.
**9/17/2021**: Applicant (Pravin Desai) E-mail response with picture of Fed Ex mailing label.
**9/22/2021**: Application determined to be complete.
**9/22/2021**: Applicant (Pravin Desai) E-mail response to NOV letter noting application fee was submitted and application complete.
**9/23/2021**: Applicant (Pravin Desai) E-mail response to NOV with responses to NOV item (this reviewer was copied).
**9/27/2021**: Applicant (Pravin Desai) E-mail response to NOV with responses to NOV item (this reviewer was copied).
**11/23/2022**: DEP (Berger) E-mail requesting additional information. Response due by 12/9/2022.
**11/23/2022**: Applicant (Pravin Desai) E-mail response to DEP informational request. Referenced previous certified operator.
**11/28/2022**: DEP (Berger) E-mail asking for clarification.
**11/28/2022**: Applicant (Pravin Desai) E-mail response to DEP informational request.
**11/28/2022**: Applicant requested phone-call (voice-mail). Mr. Desai indicated Mr. Austin Horst (ARRO) was new site contact.
**11/28/2022**: DEP (Berger) E-mail to Mr. Horst requesting additional site contact information to allow updating of E-facts.
**11/28/2022**: Applicant (P.J. O'Boyle ARRO) E-mail providing site contact information.