



**Sacramento Regional County Sanitation District
Sacramento Regional Wastewater Treatment Plant**

**Progress Report
Method of Compliance Work Plan
and Schedule for
Ammonia, Nitrate plus Nitrite, and Disinfection Byproduct
Effluent Limitations
and
Title 22 or Equivalent Disinfection Requirements**

Submitted: July 7, 2022

Contents

1.0 Introduction.....	1
2.0 Overall Compliance Schedule.....	2
3.0 Progress towards Compliance.....	5
3.1 Pilot Study Implementation	5
3.2 Design of Treatment Systems	5
3.3 Environmental Analysis.....	6
3.4 Construction Phase	6
3.5 Startup and Commissioning.....	6
3.6 Regional San Project Acceptance	6
3.7 Ammonia Pollution Prevention.....	6
3.8 Nitrate plus Nitrite Pollution Prevention	7
3.9 Disinfection Byproducts Pollution Prevention	7
3.10 Schedule.....	8

Tables

Table 1. Compliance Schedule for Ammonia Final Effluent Limitations	2
Table 2. Compliance Schedule for Title 22 or Equivalent Treatment Requirements	3
Table 3. Time Schedule for Nitrate Plus Nitrite Requirements	3
Table 4. Time Schedule for Chlorodibromomethane and Dichlorobromomethane.....	4
Table 5. Major EchoWater Projects.....	5

Appendices

- Appendix A. Status of Ammonia and Nitrate Reduction and Title 22 or Equivalent Projects
- Appendix B. Work Plan Schedule for Compliance

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1.0 Introduction

On June 9, 2011, the Sacramento Regional County Sanitation District (Regional San) submitted a Method of Compliance Work Plan and Schedule for Ammonia Effluent Limitations and Title 22 or Equivalent Treatment Requirements (Work Plan). This submittal was required by the compliance schedule contained in the waste discharge requirements Order No. R5-2010-0114 (2010 NPDES Permit¹) adopted by the Central Valley Regional Water Quality Control Board (Regional Board) on December 9, 2010 for the Sacramento Regional Wastewater Treatment Plant (SRWTP). The 2010 NPDES Permit imposed new final effluent limitations for ammonia and nitrate (requiring nutrient reduction facilities) and new requirements for Title 22 or equivalent disinfection requirements (requiring tertiary treatment facilities). The 2010 NPDES Permit required the submittal of annual progress reports following approval of the Work Plan. The Regional Board approved the Work Plan on July 8, 2011.

On April 21, 2016, the Regional Board adopted Order R5-2016-0020 (2016 NPDES Permit) for the SRWTP which rescinded and replaced the 2010 NPDES Permit. The 2016 NPDES Permit also required compliance with final effluent limitations for ammonia and nitrate and Title 22 or equivalent disinfection.

On December 4, 2020, the Regional Board adopted Time Schedule Order R5-2020-0904 for the SRWTP (2020 TSO). The 2020 TSO contains time schedules for compliance with ammonia, nitrate plus nitrite, and chlorodibromomethane and dichlorobromomethane. The compliance dates provided in the 2020 TSO are also reflected in Tables 1, 3, and 4 below.

On April 22, 2021, the Regional Board adopted Order R5-2021-0019 (2021 NPDES Permit) for the SRWTP. The 2021 NPDES Permit continues the compliance schedule for Title 22 or equivalent disinfection requirements and imposes final effluent limitations for ammonia, nitrate plus nitrite, and chlorodibromomethane and dichlorobromomethane. The compliance dates provided in the 2021 NPDES Permit are included in Table 2 below.

¹ The 2010 NPDES Permit was amended several times. All the amendments were incorporated into Regional Board Order No. R5-2010-0114-04

2.0 Overall Compliance Schedule

The following compliance schedules for Ammonia Effluent Limitations and Title 22 or Equivalent treatment requirements are listed below in Table 1 and Table 2, respectively:

Table 1. Time Schedule for Final Effluent Ammonia and Nitrate Nitrogen Limitations

Task	Relevant Dates
i. Submit Method of Compliance Work Plan/Schedule	Due Date: 9 June 2011 Date Submitted: 9 June 2011 Date Approved: 8 July 2011 Status: Complete
ii. Submit and Implement Pollution Prevention Plan (PPP) for Ammonia ¹	Due Date: 9 December 2011 Date Submitted: 8 December 2011 Revised Plan Submitted: 15 November 2012 Date Approved: 17 May 2013 Status: Complete
iii. Progress Reports ²	Progress report required by permit due 9 July, annually
iv. Begin CEQA process for Compliance Project	Due Date: 19 May 2015 Process Initiated: 22 August 2012 Date EIR Approved: 24 September 2014 Status: Complete
v. Begin Construction of Compliance Project	Due Date: 19 May 2018 Status: Complete; Biological Nutrient Removal Notice to Proceed – 27 April 2016
vi. Startup of 3 of 8 BNR treatment basins (120 MGD capacity)	25 September 2020
vii. Startup of 6 of 8 BNR treatment basins (240 MGD capacity)	19 April 2021
viii. Completion of all 8 BNR treatment basins	9 August 2021
ix. Filed Acceptance of BNR Project – Contractor Completion	16 November 2021
x. Date on which the final effluent limitations become effective under the 2016 NPDES Permit	Due Date: Ammonia-Nitrogen - 11 May 2021 ³
xi. Date through which the interim Ammonia-N and Nitrate-N effluent limitations under the 2020 TSO apply	Ammonia-N and Nitrate-N : 31 May 2022

¹The Discharger shall continue to implement the PPP.

²The progress reports shall detail the steps implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance by the final compliance date.

³Regional San notified the Regional Board on May 10, 2021, of compliance with the final effluent limitation for ammonia and nitrate nitrogen under the 2016 NPDES Permit.

Method of Compliance Work Plan For Ammonia

Table 2. Compliance Schedule for Title 22 or Equivalent Treatment Requirements

Task	Relevant Dates
i. Submit Method of Compliance Work Plan/Schedule	Due Date: 9 June 2011 Date Submitted: 9 June 2011 Date Approved: 8 July 2011 Status: Complete
ii. Progress Reports ¹	Progress report required by permit due 9 July, annually
iii. Begin CEQA process for Compliance Project	Due Date: 16 May 2017 Process Initiated: 22 August 2012 Date EIR Approved: 24 September 2014 Status: Complete
iv. Begin Construction of Compliance Project	Due Date: 16 May 2020 Status: Complete; Tertiary Treatment Facility Notice to Proceed – 11 April 2018
v. Submit Seasonal Operations Plan ²	Due Date: 9 April 2023
vi. Full Compliance	Due Date: 9 May 2023

¹ The progress reports shall detail the steps implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance by the final compliance date.

² The plan shall incorporate as a goal to reasonably limit the amount of unfiltered discharge and describe anticipated operations of the Facility when flows in excess of filter design capacity occur considering influent flows to the entire Facility, available storage, river flows, impending meteorological conditions, and any other relevant operational considerations. This plan will be periodically updated, as necessary, based on accumulated operating data experience.

Table 3. Time Schedule for Nitrate Plus Nitrite Requirements

Task	Relevant Dates
i. Submit and implement a PPP that meets the requirements specified in California Water Code Section 13263.3	Due Date: 9 July 2021 ¹ Date Submitted: 8 July 2011 Status: Complete
ii. Progress Reports	Progress report required by permit due 9 July, annually
iii. Submit documentation that constructions and start-up of BNR Facilities has been completed.	Due Date: 1 June 2022 ²
iv. Submit Final Report demonstrating compliance with the Final Effluent Limitations for nitrate plus nitrite	Due Date: 1 June 2022 ²

¹ The Discharger shall continue to implement the PPP.

² Regional San notified the Regional Board on May 31, 2022, of completion of the BNR Facilities and submitted a final report demonstrating compliance with the Final Effluent Limitations for nitrate plus nitrite nitrogen under the 2016 NPDES Permit. The SRWTP has been in compliance with final effluent limits for ammonia, nitrate, and nitrite since April 19, 2021.

Table 4. Time Schedule for Chlorodibromomethane and Dichlorobromomethane

Task	Relevant Dates
i. Submit and implement a PPP that meets the requirements specified in California Water Code Section 13263.3	Due Date: 9 July 2021 Date Submitted: 8 July 2011 Status: Complete
ii. Submit evaluation of CO Tank conversion need, feasibility and efficacy	Due Date: 1 March 2022 Date Submitted: 1 March 2022 Status: Complete
iii. Submit documentation that construction and start-up of tertiary treatment facilities has been completed	Due Date: 1 June 2023
iv. If deemed necessary by CO Tank conversion evaluation, submit documentation that equalization basins (CO Tank conversion project) have been completed	Due Date: 1 November 2023
v. Progress Reports ¹	Progress report required by permit due 9 July, annually
vi. Submit Final Report demonstrating compliance with the Final Effluent Limitations for chlorodibromomethane and dichlorobromomethane	Due Date: 1 November 2023

¹The progress reports shall document the steps taken to comply with the 2020 TSO, describe the completion of tasks, progress of construction, evaluation of the effectiveness of the implemented measures, and an assessment of whether additional measures are necessary to meet the final compliance date.

Installation of advanced treatment technologies is needed to meet the new discharge permit requirements. To construct the required treatment facilities, Regional San identified other major activities needed to achieve compliance with the NPDES Permit requirements, including:

- Treatment Technology Identification - Completed
- Pilot Study Implementation
 - ❖ Phase 1 - Treatment Technology Selection - Completed
 - ❖ Phase 2 - Design Criteria Optimization - Completed
 - ❖ Phase 3 - Process optimization and additional operator training - In planning (but not required to operate nutrient reduction or tertiary treatment facilities)
- Establishment of the Program Management Office (PMO) - Completed
- Select treatment technologies for environmental review, design, and implementation - Completed
- Design full-scale treatment systems - Completed
- Environmental Analysis - Completed
- Construction Phase - In progress (for Title 22 or equivalent, and related facilities)
- Startup and Commissioning - In progress for Title 22 or equivalent facilities. See Appendix A for status of all the individual projects.

3.0 Progress towards Compliance

The following is a summary of the various activities associated with complying with the Ammonia Effluent Limitations and Title 22 or Equivalent requirements. The summary provided here is the information required as part of the permit requirements.

3.1 Pilot Study Implementation

The Phase 2 Pilot System was completed in December 2014. A final report was completed in December 2015.

The goal of the Phase 3 Pilot Study is to further optimize the biological process and provide training to operators. This phase is not required to successfully commission the new facilities.

3.2 Design of Treatment Systems

Designs for all of the projects have been completed. Table 3 lists the major projects required to meet nutrient-related (i.e., final ammonia and nitrate) limitations and Title 22 or Equivalent treatment requirements. Major design projects, as defined in the Partial Settlement Agreement, are those with a design contract in excess of \$1 million. Dates in bold are actual dates of accomplishment. Other dates are planned dates. Regional San has determined that construction completion will be designated as when nutrient reduction facilities and the Title 22 or Equivalent treatment facilities are commissioned as a combined system instead of separate facilities. Additional project information is included in Appendix A.

As discussed below, construction completion is not the equivalent of the date of compliance with final effluent limitations. Construction completion is a function of contracts, testing, and commissioning. As recognized in the 2020 TSO, there will be a period following the completion of Title 22 or Equivalent treatment facilities when Regional San will decommission former treatment processes, convert to the equalization basins, and optimize operations with all facilities to ensure compliance with all final effluent limitations by October 2023.

Table 5. Major EchoWater Projects

Major Project	Design Contract Award	Construction Contract Award	Construction Completion ¹
Biological Nutrient Removal (BNR)	24 Jan 2013	27 Apr 2016	10 Nov 2021
Flow Equalization	28 Aug 2013	25 Feb 2015	31 Dec 2022
RAS Pumping System	13 Nov 2013	25 May 2016	25 Jun 2020
Building Relocations	25 Sep 2013	19 Mar 2015	29 Feb 2016
Site Preparation	11 Dec 2013	25 Feb 2015	11 Nov 2016
Main Electrical Substation Expansion	In House Design	08 Jan 2016	30 Dec 2016
Disinfection Chemical Storage	11 Dec 2013	22 Jul 2015	16 Nov 2017
Nitrifying Sidestream Treatment	26 Mar 2014	13 Jan 2016	01 Oct 2019
Tertiary Treatment Facilities (TTF)	27 May 2015	11 April 2018	01 Jan 2023
Channel Air Blowers	11 Nov 2016	23 May 2018	26 Feb 2021

¹ Construction Completion date is not equivalent to the date for compliance with final effluent limitations.

3.3 Environmental Analysis

The CEQA process was initiated on August 22, 2012 and the Final Environmental Impact Report (EIR) was certified by the Regional San Board of Directors on September 24, 2014.

3.4 Construction Phase

Construction of major projects supporting the key ammonia and nitrate and Title 22 or Equivalent treatment facilities was initiated in February 2015. Eight major projects have been completed as of November 11, 2021. There are currently two major projects under construction. The Flow Equalization project and the key project needed to meet the Title 22 or equivalent requirements, the Tertiary Treatment Facilities project.

3.5 Startup and Commissioning

Startup and commissioning for each project has occurred as major treatment processes were completed. Additional time is required to start up and commission the new facilities together (i.e., Biological Nutrient Removal and Tertiary Treatment) to ensure stable overall process operation. Regional San is defining full compliance of the Title 22 or Equivalent treatment facilities as completion of the last project (the Tertiary Treatment Facilities). This phase is anticipated to be accomplished by May 2023. Additional time will be necessary, as recognized in the 2020 TSO, to decommission former treatment processes and optimize current primary effluent equalization in storage basin A, or convert no longer used carbonaceous oxygen activated sludge tanks for use as equalization basins, to ensure compliance with all final effluent limitations by October 2023.

3.6 Regional San Project Acceptance

This milestone of the project is a contractual step to formally close out the construction project once all contractual issues have been resolved, and Regional San Board approval will follow. Treatment facilities will have already been commissioned and will be fully operational. This date is subject to the nearest Board meeting after all contractual issues have been resolved and is not related to permit compliance.

3.7 Ammonia Pollution Prevention

As stated in the November 2012 revised Ammonia PPP, domestic waste contributes the majority of ammonia in the treatment plant influent. Most of the ammonia found in domestic waste is derived from urea, which breaks down rapidly to ammonia in the wastewater conveyance system. Therefore, the primary source of ammonia to the sewer system is considered uncontrollable.

The first phase of the Biological Nutrient Removal (BNR) process started commissioning September 15, 2020, and, full treatment of all flows occurred on April 19, 2021. From April 20, 2021 to May 31, 2021, the average daily influent ammonia load was approximately 34,800 lbs/day and the average daily effluent load was 180 lbs/day. The daily effluent ammonia concentration during the same period was either not detected, or detected, but not quantified at

a reporting limit (RL) of 0.5 mg/L. The average removal rate of ammonia is 99.5%. Regional San is in compliance with the interim and permanent maximum daily, average weekly, and average monthly effluent limitations, as well as the final average weekly and average monthly effluent limitations for ammonia.

There is an internal recycle of ammonia within the plant from the solids treatment processes. The Nitrifying Sidestream Treatment (NST) performs ammonia removal on the sidestream flows from the solids storage basins and biosolids recycling facility prior to their discharge into the plant influent. Final acceptance for NST was issued on May 13, 2020.

Industrial point sources remain a relatively insignificant source of ammonia, contributing about 1% of the influent load. Potential influent ammonia concentration reduction from source control of industrial users would be negligible. Regional San will continue to identify and screen potential new significant ammonia point source dischargers.

3.8 Nitrate plus Nitrite Pollution Prevention

As stated in the July 2021 Nitrate plus Nitrite PPP, the primary source of nitrate plus nitrite in the treatment plant influent is treated effluent from the NST process that is returned to the influent upstream of the influent sampling location. Source reduction activities targeting users in the Regional San service area would have a negligible impact on the level of nitrate plus nitrite in the treatment plant effluent.

From April 20, 2021 to May 12, 2022, the average daily influent nitrate plus nitrite concentration was 3.4 mg/L, and the average daily effluent nitrate plus nitrite concentration was 7.4 mg/L. Regional San is in compliance with the interim and permanent average monthly effluent limitation for nitrate plus nitrite, as well as the final average monthly and average weekly effluent limitations.

The NST process is critical for the treatment plant to comply with ammonia removal requirements because the NST minimizes potential large fluctuations in influent ammonia concentrations from return flows that are high in ammonia. Therefore, reducing influent nitrate plus nitrite contributions by removing or modifying NST processes is not recommended.

3.9 Disinfection Byproducts Pollution Prevention

As stated in the July 2021 Chlorodibromomethane (CDBM) and Dichlorobromomethane (DCBM) PPP, the primary source of CDBM and DCBM is chlorine disinfection of water and wastewater where ammonia is not present (known as free chlorination). Startup and optimization of EchoWater facility operations therefore have the potential to create elevated levels of CDBM and DCBM, especially with essentially complete ammonia removal and temporary longer free chlorine contact time.

From January 1 to May 31, 2021, all influent CDBM results were non-detect and all DCBM results have been detected, but not quantified (J-flagged) at an RL of 0.5 µg/L. These are consistent with historical results and indicate that there are no significant industrial sources in the Regional San service area.

In the effluent, from April 20, 2021 to May 15, 2022, the average DCBM concentration was 24.3 mg/L. There was a single excursion of the final DCBM average monthly effluent limit in September 2021, but the interim limit was not exceeded. The average effluent CDBM concentration was 5 µg/L. The effluent CDBM has complied with the final and interim limits.. Further treatment plant changes, are expected to reduce the generation of DCBM and CDBM once they are in place.

As CDBM and DCBM are not detected at quantifiable levels in the treatment plant influent, and potential elevated levels will be due to treatment plant changes, source reduction activities targeting users in the Regional San service area would have a negligible impact on the level of both in the treatment plant effluent. Regional San is evaluating bromate in the sodium hypochlorite delivered to the SRWTP used for disinfection to determine if elevated bromate concentrations in the sodium hypochlorite in summer 2021 may have increased DCBM formation and potentially caused the exceedance of the monthly average limit in September 2021. However, until all EchoWater construction projects are commissioned and Regional San is in compliance with the final effluent limitations, should evidence of significant industrial sources become known, additional pollution prevention measures could be considered.

3.10 Schedule

Regional San met the compliance dates for ammonia and nitrate final effluent limitations, and is making a good faith effort to meet the Title 22 or equivalent treatment requirements. Construction for all of the projects required to provide the necessary treatment facilities to meet the permit requirements is in progress or has been completed.

The construction contractor for the treatment facilities needed to meet the Title 22 or equivalent requirements (Tertiary Treatment Facilities) was issued a notice to proceed on April 30, 2018. The contractor continues to make good progress. Significant process has been made on the installation of mechanical and electrical systems and commissioning of facilities is well under way. The contractor's schedule currently shows a completion date that will allow Regional San to meet the May 9, 2023 compliance date for Title 22 or equivalent requirements. Additional time, as recognized in the 2020 TSO, will be necessary to decommission former treatment processes and convert existing basins to operate as equalization basins to ensure compliance with all final effluent limitations by October 2023.

A Program schedule is included in Appendix B showing the major projects as well as other projects and work efforts required to comply with the final effluent limitations for Title 22 or equivalent requirements. The high-level schedule shown in Table 5 may reflect more recent updates to key project milestones.

Appendices

- A. Status of Ammonia and Nitrate Reduction and Title 22 or Equivalent Projects
- B. Work Plan Schedule for Compliance

Appendix A

Status of Ammonia and Nitrate Reduction and Title 22 or Equivalent Projects

Status of Ammonia and Nitrate Reduction and Title 22 or Equivalent Projects

Biological Nutrient Removal

A construction contract was awarded on April 27, 2016 and Notice to Proceed was issued on May 27, 2016. Field Acceptance was awarded to the contractor on November 16, 2021 as construction is complete.

Tertiary Treatment Facilities

The contract was awarded on April 11, 2018. Notice to Proceed was issued on April 30, 2018. Concrete placement is complete, and significant process has been made on the installation of mechanical and electrical systems. Commissioning is ongoing. The contractor's schedule shows construction complete by November 18, 2022. The project is on schedule to meet this date but due to the complex construction activities, there is very little to no float in the construction schedule.

As noted above, construction completion is not the equivalent of the date of compliance with final effluent limitations. Construction completion is a function of contracts, testing, and commissioning. The 2020 TSO recognizes there will be a period following the completion of Title 22 or Equivalent treatment facilities when Regional San will decommission former treatment processes, convert to the equalization basins, and optimize operations with all facilities to ensure compliance with all final effluent limitations by October 2023.

Nitrifying Sidestream Treatment

The contract was awarded on January 13, 2016 and Notice to Proceed was issued on February 19, 2016. Construction was completed in October 2019. All commissioning activities have been completed and final acceptance was issued on May 13, 2020.

Channel Air Blowers

The contract was awarded on May 23, 2018 and Notice to Proceed was issued on September 4, 2018. The new blower systems have been successfully commissioned and are in operation. Demolition of the existing blower systems is complete. Final acceptance was issued on March 10, 2021.

Flow Equalization

A construction contract was awarded on February 25, 2015 and Notice to Proceed was issued on March 4, 2015. The contractor is experiencing delays from the wash-down system vendor who defaulted on his contract. The prime contractor has assumed control of the remaining work and is making progress to complete the automated wash-down system. Programming and commissioning of the wash-down system was further delayed by two pipe breaks in the wash-

down system. Those repairs have been made and commissioning of the system has resumed. However the basins can be used without the automated wash-down system. Construction and commissioning is expected to be completed by December 31, 2022.

RAS Pumping System

A construction contract was awarded on May 25, 2016 and Notice to Proceed was issued on June 15, 2016. Commissioning was completed on December 31, 2019 and the system is in operation. Final acceptance was issued on July 22, 2020.

Building Relocations

Construction was completed on February 29, 2016 and final acceptance was issued on July 13, 2016.

Site Preparation

Construction was completed on November 11, 2016 and final acceptance issued on October 11, 2017.

Main Electrical Substation Expansion

Construction was completed on December 30, 2016 and final acceptance was issued on February 22, 2017.

Disinfection Chemical Storage

Construction was completed on November 16, 2017 and final acceptance was issued on September 12, 2018.

Appendix B

Work Plan Schedule for Compliance

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	2012												2013												2014												2015												2016												2017												2018												2019												2020												2021												2022												2023											
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Site Preparation Design						[Gantt bar for Site Preparation Design]																																																																																																																																															
SM-Site Preparation Bid and Award						[Gantt bar for SM-Site Preparation Bid and Award]																																																																																																																																															
SM-Site Preparation Construction						[Gantt bar for SM-Site Preparation Construction]																																																																																																																																															
SM-Site Preparation Commissioning						[Gantt bar for SM-Site Preparation Commissioning]																																																																																																																																															
SM-Site Preparation Closeout						[Gantt bar for SM-Site Preparation Closeout]																																																																																																																																															
Fiber Optic Network Replacement (FOR)						[Gantt bars for Fiber Optic Network Replacement (FOR)]																																																																																																																																															
Fiber Optic Network Replacement Design						[Gantt bar for Fiber Optic Network Replacement Design]																																																																																																																																															
Fiber Optic Network Replacement Bid & Award						[Gantt bar for Fiber Optic Network Replacement Bid & Award]																																																																																																																																															
Fiber Optic Network Replacement Construction						[Gantt bar for Fiber Optic Network Replacement Construction]																																																																																																																																															

■ Remaining Level of Effort
 ■ Remaining Work
 ◆ Milestone
 ◆ Gates
■ Actual Level of Effort
 ■ Critical Remaining Work
◆ Gates
■ Actual Work
▬ Summary



Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Schedule																																															
						2012				2013				2014				2015				2016				2017				2018				2019				2020				2021				2022				2023			
						Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
	Fiber Optic Network Replacement Commissioning	144	0	07-Oct-15 A	29-Feb-16 A	▼ Fiber Optic Network Replacement Commissioning																																															
	Fiber Optic Network Replacement Closeout	3	0	29-Feb-16 A	02-Mar-16 A	▼ Fiber Optic Network Replacement Closeout																																															
	Flow Equalization (FEQ)	3697	830	16-Apr-12 A	10-May-23	▶ Flow Equalization																																															
	Flow Equalization Planning	556	0	16-Apr-12 A	23-Oct-13 A	▶ Flow Equalization Planning																																															
	Flow Equalization Design	450	0	28-Aug-13 A	20-Nov-14 A	▶ Flow Equalization Design																																															
	Flow Equalization Contractor Prequalification Process	231	0	23-Apr-14 A	09-Dec-14 A	▶ Flow Equalization Contractor Prequalification Process																																															
	Flow Equalization Bid and Award	78	0	10-Dec-14 A	25-Feb-15 A	▶ Flow Equalization Bid and Award																																															
	Flow Equalization Construction	2281	699	04-Mar-15 A	30-Dec-22	▶ Flow Equalization Construction																																															
	Flow Equalization Commissioning	1029	699	07-Aug-18 A	30-Dec-22	▶ Flow Equalization Commissioning																																															
	Flow Equalization Closeout	729	830	01-Jun-20 A	10-May-23	▶ Flow Equalization Closeout																																															
	BNR (w PEPS Construction)	3637	362	16-Mar-12 A	28-Oct-22	▶ BNR(w PEPS Co																																															
	BNR Planning	414	0	16-Mar-12 A	03-May-13 A	▶ BNR Planning																																															
	BNR Design	994	0	24-Jan-13 A	14-Oct-15 A	▶ BNR Design																																															
	BNR/PEPS Bid and Award	183	0	28-Oct-15 A	27-Apr-16 A	▶ BNR/PEPS Bid and Award																																															
	BNR/PEPS Construction	1998	0	13-May-16 A	31-Oct-21 A	▶ BNR/PEPS Construction																																															
	BNR/PEPS Commissioning	748	0	15-Oct-19 A	31-Oct-21 A	▶ BNR/PEPS Commissioning																																															
	BNR/PEPS Closeout	120	362	01-Nov-21 A	28-Oct-22	▶ BNR/PEPS Closeout																																															
	Primary Effluent Pump Station (PEPS) (Plan & Design Only)	1249	0	14-May-12 A	14-Oct-15 A	▶ Primary Effluent Pump Station (PEPS) (Plan & Design Only)																																															
	Primary Effluent PS Planning	582	0	14-May-12 A	16-Dec-13 A	▶ Primary Effluent PS Planning																																															
	Prim Effluent PS Design	721	0	24-Oct-13 A	14-Oct-15 A	▶ Prim Effluent PS Design																																															
	Return Activated Sludge Pump Station (RAS)	3085	0	14-May-12 A	23-Oct-20 A	▶ Return Activated Sludge Pump Station (RAS)																																															
	RAS PS Planning	628	0	14-May-12 A	31-Jan-14 A	▶ RAS PS Planning																																															
	RAS PS Design	776	0	13-Nov-13 A	28-Dec-15 A	▶ RAS PS Design																																															
	RAS PS Bid and Award	134	0	13-Jan-16 A	25-May-16 A	▶ RAS PS Bid and Award																																															
	RAS PS Construction	1472	0	15-Jun-16 A	25-Jun-20 A	▶ RAS PS Construction																																															
	RAS PS Commissioning	843	0	11-Jul-17 A	31-Oct-19 A	▶ RAS PS Commissioning																																															
	RAS PS Closeout	120	0	26-Jun-20 A	23-Oct-20 A	▶ RAS PS Closeout																																															
	Tertiary Treatment Facilities (TTF) (Filtration, FIPS, DCB)	4007	830	21-May-12 A	10-May-23	▶ Tertiary T																																															
	Tertiary Treatment Facilities Planning (TTF)	1145	0	21-May-12 A	09-Jul-15 A	▶ Tertiary Treatment Facilities Planning (TTF)																																															
	Tertiary Treatment Facilities (TTF) Design	955	0	27-May-15 A	05-Jan-18 A	▶ Tertiary Treatment Facilities (TTF) Design																																															
	Tertiary Treatment Facilities (TTF) Bid and Award	97	0	05-Jan-18 A	11-Apr-18 A	▶ Tertiary Treatment Facilities (TTF) Bid and Award																																															
	Tertiary Treatment Facilities (TTF) Construction	1663	649	01-May-18 A	10-Nov-22	▶ Tertiary Treatment																																															
	Tertiary Treatment Facilities (TTF) Commissioning	532	484	15-Jul-21 A	10-Nov-22	▶ Tertiary Treatment																																															
	Tertiary Treatment Facilities (TTF) Closeout	181	181	11-Nov-22	10-May-23	▶ Tertiary T																																															
	Effluent Disinfection - Ph1 Chemical Storage (DCS)	2243	0	09-Jul-12 A	29-Aug-18 A	▶ Effluent Disinfection - Ph1 Chemical Storage (DCS)																																															
	Disinfection - Ph1 Chemical Storage Planning	579	0	09-Jul-12 A	07-Feb-14 A	▶ Disinfection - Ph1 Chemical Storage Planning																																															
	Disinfection - Ph1 Chemical Storage Design	500	0	11-Dec-13 A	24-Apr-15 A	▶ Disinfection - Ph1 Chemical Storage Design																																															
	Disinfection - Ph1 Chemical Storage Bid and Award	71	0	13-May-15 A	22-Jul-15 A	▶ Disinfection - Ph1 Chemical Storage Bid and Award																																															
	Disinfection - Ph1 Chemical Storage Construction	820	0	20-Aug-15 A	16-Nov-17 A	▶ Disinfection - Ph1 Chemical Storage Construction																																															
	Disinfection - Ph1 Chemical Storage Commissioning	578	0	18-Apr-16 A	16-Nov-17 A	▶ Disinfection - Ph1 Chemical Storage Commissioning																																															
	Disinfection - Ph1 Chemical Storage Closeout	286	0	17-Nov-17 A	29-Aug-18 A	▶ Disinfection - Ph1 Chemical Storage Closeout																																															
	Nitrifying Sidestream Treatment (NST)	2644	0	06-May-13 A	31-Jul-20 A	▶ Nitrifying Sidestream Treatment (NST)																																															
	Nitrifying Sidestream Planning	374	0	06-May-13 A	14-May-14 A	▶ Nitrifying Sidestream Planning																																															
	Nitrifying Sidestream Design	447	0	26-Mar-14 A	15-Jun-15 A	▶ Nitrifying Sidestream Design																																															
	Nitrifying Sidestream Bid and Award	113	0	23-Sep-15 A	13-Jan-16 A	▶ Nitrifying Sidestream Bid and Award																																															
	Nitrifying Sidestream Construction	1321	0	19-Feb-16 A	01-Oct-19 A	▶ Nitrifying Sidestream Construction																																															
	Nitrifying Sidestream Commissioning	394	0	04-Mar-19 A	31-Mar-20 A	▶ Nitrifying Sidestream Commissioning																																															
	Nitrifying Sidestream Closeout	122	0	01-Apr-20 A	31-Jul-20 A	▶ Nitrifying Sidestream Closeout																																															
	Channel Air Blower System (CAB)	1601	0	11-Nov-16 A	30-Mar-21 A	▶ Channel Air Blower System (CAB)																																															
	CAB Planning	167	0	11-Nov-16 A	26-Apr-17 A	▶ CAB Planning																																															
	CAB Design	460	0	11-Nov-16 A	13-Feb-18 A	▶ CAB Design																																															
	CAB Bid and Award	71	0	14-Mar-18 A	23-May-18 A	▶ CAB Bid and Award																																															
	CAB Construction	907	0	04-Sep-18 A	26-Feb-21 A	▶ CAB Construction																																															

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