DVI's SMR Cover Letter Summary (August 2014 through June 2016)

Date	Monitoring Period	Discharger's Comment/ recommended Corrective Action
9/23/2014	Aug-14	On August 31, 2014 the Nitrate + Nitrite as N result was 12 mg/l for the monthly average. The maximum Monthly average is 10 mg/l. The high Nitrate + Nitrite as N is the result of operating 4 membrane tanks continuous, decreasing the detention time in the denitrification process. The Membrane filters are in need of replacement, the California Department of Corrections and Rehabilitations Facility Management is currently working on the purchase of the new filters.
10/22/2014	Sep-14	On September 30, 2014 the Nitrate + Nitrite as N result was 12 mg/l for the monthly average. The maximum Monthly average is 10 mg/l. The high Nitrate + Nitrite as N is the result of operating 4 membrane tanks continuous, decreasing the detention time in the denitrification process. The Membrane filters are in need of replacement, the California Department of Corrections and Rehabilitations Facility Management is currently working on the purchase of the new filters.
11/22/2014	Oct-14	On Saturday October 18, 2014 the Reverse Osmosis Water Treatment Plant had an emergency shut down and is currently under repair. On October 21, 2014 the final effluent at the Wastewater Treatment Plant was diverted to the emergency holding ponds on the institutional grounds as recommended by the CRWCB. We will continue the diversion until the Reverse Osmosis Water Treatment Plant is back on line or if the emergency holding ponds reach a level in which we feel we must divert back to Deuel Drain.
12/18/2014	Nov-14	On Saturday October 18, 2014 the Reverse Osmosis Water Treatment Plant had an emergency shut down and is currently under repair. On October 21, 2014 the final effluent at the Wastewater Treatment Plant was diverted to the emergency holding ponds on the institutional grounds as recommended by the CRWCB. On November 3, 2014 the final effluent was diverted back to Deuel Drain, the Reverse Osmosis Water Treatment Plant will be down for an extended period of time.
4/21/2015	Mar-15	On March 31, 2015 the Nitrite plus Nitrate (as N) monthly average was over the limit of 10 mg/l, the result was 13 mg/l. The high Nitrate + Nitrite as N is the result of the Membrane filters in need of replacement, the California Department of Corrections and Rehabilitations Facility Management is currently working on the purchase of the new filters.
5/18/2015	Apr-15	On April 30, 2015 the Nitrite plus Nitrate (as N) monthly average was over the limit of 10 mg/l, the result was 12 mg/l. The high Nitrate + Nitrite as N is the result of the Membrane filters in need of replacement, the California Department of Corrections and Rehabilitations Facility Management is currently working on the purchase of the new filters.

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6/18/2015	May-15	The high coliforms may be a cause from maintenance activities on the MBR filters, causing a release of biological floc and building up in the piping, filters are damaged and in need of replacement, DVI is currently in the bidding process for the replacement of the filters. On May 7, 2015 the RO treatment plant was brought back on line and continued to run throughout the month of May.
7/23/2015	Jun-15	The UV system has been determined to be functioning properly after inspection of the lamps and crystal sleeve lamp housing, all 3 UV Trains are yielding the same results therefore the high coliforms are most likely due to the inadequate filtration of the membrane filters. DVI is currently in the bidding process for the replacement of the filters.
8/18/2015	Jul-15	The UV system has been determined to be functioning properly after inspection of the lamps and crystal sleeve lamp housing. All 3 UV Trains are yielding the same results therefore the high coliforms are most likely due to the inadequate filtration of the membrane filters. DVI is currently in the bidding process for the replacement of the filters. On August 6, 2015 Aqua Sierra Controls made program changes to the maintenance clean program that may improve the condition of the filters.
9/25/2015	Aug-15	On August 10, 2015 the RO Water Treatment plant shut down for required maintenance, as required by the cleanup and abatement order R5-2015-0703 in the event the RO plant is taken off line for more than seven days and beginning on the eighth day after the RO plant is taken offline, the discharger shall conduct three species chronic toxicity testing, to determine whether the effluent is contributing chronic toxicity to the receiving water due to RO plant being off line. On August 17, 2015 samples were drawn for the acute and chronic toxicity to comply with the cleanup and abatement order, testing was conducted at Nautilus Environmental (Nautilus) between August 18 and 25, 2015. significant decreases in green algae growth (34.0 percent effect) and water flea reproduction (60.6 percent effect) were observed in the undiluted final effluent relative to the lab control. The RO plant was brought back on line September 12, 2015 and continues to operate.
10/26/2015	Sep-15	Biological floc is showing in the recycle water filter screens and may be causing the elevated coliform positive results. A purchase order for UV system parts has been generated and the parts will arrive soon, when the parts arrive the UV trains will be rebuilt with new parts, the result will be higher doses that may penetrate the small amount of biological flocs getting by the membrane filters. DVI is currently in the bidding process for the replacement of the membrane filters. The RO plant was brought back on line September 12, 2015 and continues to operate.

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Date	Monitoring Period	Discharger's Comment/ recommended Corrective Action
12/9/2015	Oct-15	During the month of October 2015 the Aerobic process was experiencing a plant upset, the denitrification process was affected as well as the nitrification process. On October 20, 2015 the digester compartment normally used as a surge basin was converted back to an aerobic digester to isolate the aerobic organisms and encourage stabilization for the solids handling and removal process, aeration basin tank 2 was converted to the surge basin. A surge basin is still necessary due to the flow capacity of the MBR filters. The plant is recovering.
12/21/2015	Nov-15	Biological floc is showing in the recycle water filter screens and may be causing the elevated coliform positive results. DVI is currently in the bidding process for the replacement of the membrane filters. During the month of October 2015 the Aerobic process was experiencing a plant upset, the denitrification process was affected as well as the nitrification process. On October 20, 2015 the digester compartment normally used as a surge basin was converted back to an aerobic digester to isolate the aerobic organisms and encourage stabilization for the solids handling and removal process, aeration basin tank 2 was converted to the surge basin. A surge basin is still necessary due to the flow capacity of the MBR filters. The plant is recovering from the upset.
1/27/2016	Dec-15	During the month of October 2015 the Aerobic process was experiencing a plant upset, the denitrification process was affected as well as the nitrification process. The 4th quarter Acute and Chronic Toxicity was sampled on October 19, 2015, the results showed a toxicity to the green algae with a results of >1. On October 20, 2015 the digester compartment normally used as a surge basin was converted back to an aerobic digester to isolate the aerobic organisms and encourage stabilization for the solids handling and removal process, aeration basin tank 2 was converted to the surge basin. A surge basin is still necessary due to the flow capacity of the MBR filters. The plant is recovering from the upset. Many of the membrane filter strands are damaged. Biological floc is showing in the recycle water filter screens, this biological floc may be causing the elevated coliform positive results at the UVS-002 sample location. UV Train 1 and 2 have been rebuilt with new crystal sleeves, although the doses are higher the total coliforms results are still high. UV doses have been compared to the total coliform failures and the dose has no correlation with the increased coliform results. On January 26, 2016 an additional UV train has been put on line for a total of 4 banks, the additional UV train will increase the dose. DVI is currently in the bidding process for the replacement of the membrane filters.

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Date	Monitoring Period	Discharger's Comment/ recommended Corrective Action
2/24/2016	Jan-16	During the month of October 2015 the Aerobic process was experiencing a plant upset, the denitrification process was affected as well as the nitrification process. The 4th quarter Acute and Chronic Toxicity was sampled on October 19, 2015, the results showed a toxicity to the green algae with a results of >1. On October 20, 2015 the digester compartment normally used as a surge basin was converted back to an aerobic digester to isolate the aerobic organisms and encourage stabilization for the solids handling and removal process, aeration basin tank 2 was converted to the surge basin. A surge basin is still necessary due to the flow capacity of the MBR filters. Many of the membrane filter strands are damaged. Biological floc is showing in the recycle water filter screens, this biological floc may be causing the elevated coliform positive results at the UVS-002 sample location. On January 26, 2016 an additional UV train has been put on line for a total of 4 banks, the additional UV train will increase the dose. DVI is currently in the bidding process for the replacement of the membrane filters.
3/29/2016	Feb-16	During the month of October 2015 the Aerobic process was experiencing a plant upset, the denitrification process was affected as well as the nitrification process. The 4th quarter Acute and Chronic Toxicity was sampled on October 19, 2015, the results showed a toxicity to the green algae with a results of >1. On October 20, 2015 the digester compartment normally used as a surge basin was converted back to an aerobic digester to isolate the aerobic organisms and encourage stabilization for the solids handling and removal process, aeration basin tank 2 was converted to the surge basin. A surge basin is still necessary due to the flow capacity of the MBR filters. The delivery date for the new filters is scheduled for April 22, 2016. March 25, 2016 Update on the Plant Upset: The DVI wastewater operational staff has discovered that the culinary had installed garbage disposals at or around the time when the plant upset began, we are currently looking into the food waste causing the continued plant upsets due to high organic loads into the plant. The garbage disposal grinds food solids into a soluble form and passes through the screening process causing high organic loadings.

DVI's SMR Cover Letter Summary (August 2014 through June 2016)

Date	Monitoring Period	Discharger's Comment/ recommended Corrective Action
4/25/2016	Mar-16	During the month of October 2015 the Aerobic process was experiencing a plant upset, the denitrification process was affected as well as the nitrification process. The 4th quarter Acute and Chronic Toxicity was sampled on October 19, 2015, the results showed a toxicity to the green algae with a results of >1. On October 20, 2015 the digester compartment normally used as a surge basin was converted back to an aerobic digester to isolate the aerobic organisms and encourage stabilization for the solids handling and removal process, aeration basin tank 2 was converted to the surge basin. A surge basin is still necessary due to the flow capacity of the MBR filters. On Tuesday April 19, 2016 the module replacements began on Tank 3, the module replacement was completed and in operation on Thursday April 21, 2016. The Filter Tanks 1, 2 and 4 are scheduled for replacement starting on May 20, 2016. March 25, 2016 Update on the Plant Upset: The DVI wastewater operational staff has discovered that the culinary had installed garbage disposals at or around the time when the plant upset began, we are currently looking into the food waste causing the continued plant upsets due to high organic loads into the plant. The garbage disposal grinds food solids into a soluble form and passes through the screening process causing high organic loadings. On April 7, 2016 the Correctional Plant Manager notified the Assistant Correctional Food Manager to limit the food disposal into garbage disposal drains and dispose of the food waste using the contract services to be hauled off site. Dewberry Environmental will be completing a plant performance evaluation to identify the ongoing plant upset. Total Coliform Failures: Many of the membrane filter strands are damaged. Biological floc is showing in the recycle water filter screens, this biological floc may be causing the elevated coliform positive results at the UVS-002 sample location. On January 26, 2016 an additional UV train had been put on line for a total of 4 banks, the additional UV train has lowered the coliform to <2.0 except for 1 instance occurring on February 9, 2016 which exceeded the 7-day median.

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Date	Monitoring Period	Discharger's Comment/ recommended Corrective Action
5/30/2016	Apr-16	Total Coliform Failures: Many of the membrane filter strands are damaged. Biological floc is showing in the recycle water filter screens, this biological floc may be causing the elevated coliform positive results at the UVS-002 sample location. On January 26, 2016 an additional UV train had been put on line for a total of 4 banks, the additional UV train has lowered the coliform totals, all filter module replacements will be completed by June 3 2016. RO Plant Status: On March 24, 2016, the RO plant shut down at 0800 hours in order to complete routine maintenance, due to additional items in need of repair the RO plant remained off line until May 23, 2016 the RO plant was brought back on line.
6/20/2016	May-16	MBR Filter Module Replacement On June 2, 2016 the MBR filter module replacement has been completed. Additional items to address are the replacement of the MBR filter flexible discharge lines, the piping supplied by Evoqua was not sufficient, new piping has been received and will be installed by DVI staff, July 11, 2016 the Evoqua representative is scheduled to arrive to inspect the new piping installation and make changes to the operating program. May 19, 2016 Update on the Plant Upset: Due to the high organic loading from the Culinary food waste the aerobically digested sludge cannot be dewatered to the permit requirement of 15%, the land fill will not accept solids below the 15% requirement. The sludge drying beds are being utilized for additional drying after the dewatering process.

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Date	Monitoring Period	Discharger's Comment/ recommended Corrective Action
7/29/2016	Jun-16	MBR Filter Module Replacement and Coliform Failures On June 2, 2016 the MBR filter module replacement has been completed. Additional items addressed were the replacement of the MBR filter flexible discharge lines, the piping supplied by Evoqua was not holding a seal, the leakage of biological floc was causing positive coliform results at the UVS-002 location, on June 30, 2016 the new piping was installed, following replacement of the flexible discharge lines the coliform results have been non detect, on July 12, 2016 the Evoqua programmer completed the updates on the Siemens MBR filter operating program to reflect the current operating conditions. Biosolids Due to the high organic loading from the Culinary food waste the aerobically digested sludge cannot be dewatered to the permit requirement of 15%, the land fill will not accept solids below the 15% requirement. The sludge drying beds are being utilized for additional drying after the dewatering process.