

EXHIBIT C



Imperial County Niland Sanitary District

Technical Report

The Holt Group



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sufficient treatment capacity to accommodate growth and that any project alternatives to address compliance issues would consider a conservative 150,000 gpd design.

The longstanding challenge at the NSD WWTP is the inability to treat the effluent adequately per permit standards. The predominant issues at the NSD Wastewater Treatment Plant remain as exceedance of Copper and Thallium which is highly toxic. This report provides a general overview of system components, conditions and regulatory background based on available Preliminary Engineering Reports prepared throughout recent years as noted in this document. Engineering recommendations are also incorporated as applicable.

II. Infrastructure Overview & Regulatory Background

Niland Sanitary District Facilities

The Niland Sanitary District (NSD) owns and operates approximately 6 miles of gravity flow sewer collection pipelines, ninety-seven manholes, one lift station, and a Wastewater Treatment Plant. The pipelines range from 4-inch to 10-inch in diameter and are primarily situated in a grid-like pattern within an approximate 0.50 square mile radius, encompassing the Niland Community: generally bound by the Southern Pacific Railroad to the northeast, Noffsinger Road to the south and Highway 111 to the west. The system gravity flows via a 10" diameter sanitary sewer outfall main pipeline for approximately 2,000 feet west along Alcott Road to the existing lift station at the WWTP as noted in **Figure 1-Facilities Map**.

The existing Niland WWTP is accessed from Alcott Road, from a bridge over the "R" Drain. The "R" Drain is owned and operated by the Imperial Irrigation District (IID). The Niland Wastewater Treatment Plant is located on 17.46 acres owned by the NSD. The Plant itself consists of a pump station, three aerated ponds that operate in series, a chlorination and dechlorination basin, a chemical storage structure and a laboratory/staff building all of which are discussed in further detail under existing conditions.

Regulatory Background

The NSD WWTP has a long history of compliance challenges with the Colorado River RWQCB, as summarized in **Table - A**. The majority of the violations are due to treatment not meeting permit requirements for E-Coli (bacteria), copper, and thallium. Although there have been a number of E. Coli violations over the years, there have been no E. Coli violations since 2011.

Table A - Violation History

| DATE | ORDER NUMBER | TYPE | FINE AMOUNT |
|------------|--------------|--------------------------------------|-------------|
| 12/10/1999 | R7-0099-0128 | Administrative Civil Liability | \$ 25,000 |
| 11/16/2005 | R7-2005-0112 | Administrative Civil Liability | \$ 108,000 |
| 09/20/2006 | R7-2006-0074 | Administrative Civil Liability | \$ 126,000 |
| 01/22/2009 | R7-2009-0007 | Cease and Desist Order (Violated) | - |
| 09/20/2012 | R7-2012-0024 | Cease and Desist Order (Violated) | - |
| 2017 | R7-2017-0005 | Administrative Civil Liability | \$478,103 |

The predominant issues at the NSD Wastewater Treatment Plant remain as exceedance of E. Coli, Copper and Thallium. The most recent Administrative Civil Liability was issued in 2017 for failure to comply with the 2012 amended Board Order milestones.

E. Coli- Historically, the NSD has had several E. Coli test exceedances which is bacteria. However, between 5/31/2011 and 2016 no bacteria testing violations had occurred through per the Chief Plant Supervisor. To maintain disinfection performance, the operators adjust the metering pump, when necessary, after measuring the chlorine residual at the end of the chlorine contact basin. In 2017, however, the operators have documented the following exceedances in the months of April, June, July and repeatedly during the month of August 2017.

Copper- The current NSD NPDES Permit has an average monthly effluent limitation of 19 µg/L with a maximum daily limitation of 52 µg/L for copper. Since November 2005, the District has experienced copper exceedances. A review of the 2013 and 2014 years of copper testing shows that for most months there are measurable concentrations of copper were not documented through 2017. These concentrations of copper have exceeded the average monthly effluent limitations in each month testing occurred.

Thallium- Thallium is very toxic. EPA has set the MCL (maximum contaminate level) of thallium for drinking water at 2 µg/L with a MCLG (maximum contaminant level goal) of 0.5 µg/L¹. The exceedances of thallium occurred mostly in December and January of 2012 and 2013, respectively, but have not occurred in 2014 or 2015, 2016 and 2017 according to plant operators. Over 90% of the thallium concentration will need to be removed to meet the permit conditions if the previous concentration of 70 µg/L continues to be intermittently transmitted to the NSD Wastewater Treatment Plant.

¹ Basic Information about thallium in Drinking Water, <http://water.epa.gov/drink/contaminants/basicinformation/thallium.cfm>

A. Treatment System Conditions and Findings

The condition of the existing treatment facilities has been evaluated over a number of years by several engineering firms. The following narrative provides an overview of the findings made by The Holt Group, Inc. based on a 2016 on-site inspection, unless otherwise noted.

1. Headworks Station

Raw wastewater from the Niland community is transmitted to the Wastewater Treatment Plant headworks station which consists of a manual bar screen located in a below grade concrete structure. The raw wastewater influent passes through the manual bar-screen prior to entering the influent pump station. The Headworks Structure has not had any major improvements since its initial construction as part of the 1993 NSD WWTP Improvement Project, however, the Manual Bar Screen was replaced in the 2010 NSD WWTP Improvement Project. **CONDITION: The Headworks Structure appears to be in good condition. No Capital Improvements are recommended at this time for the Headworks Station.**

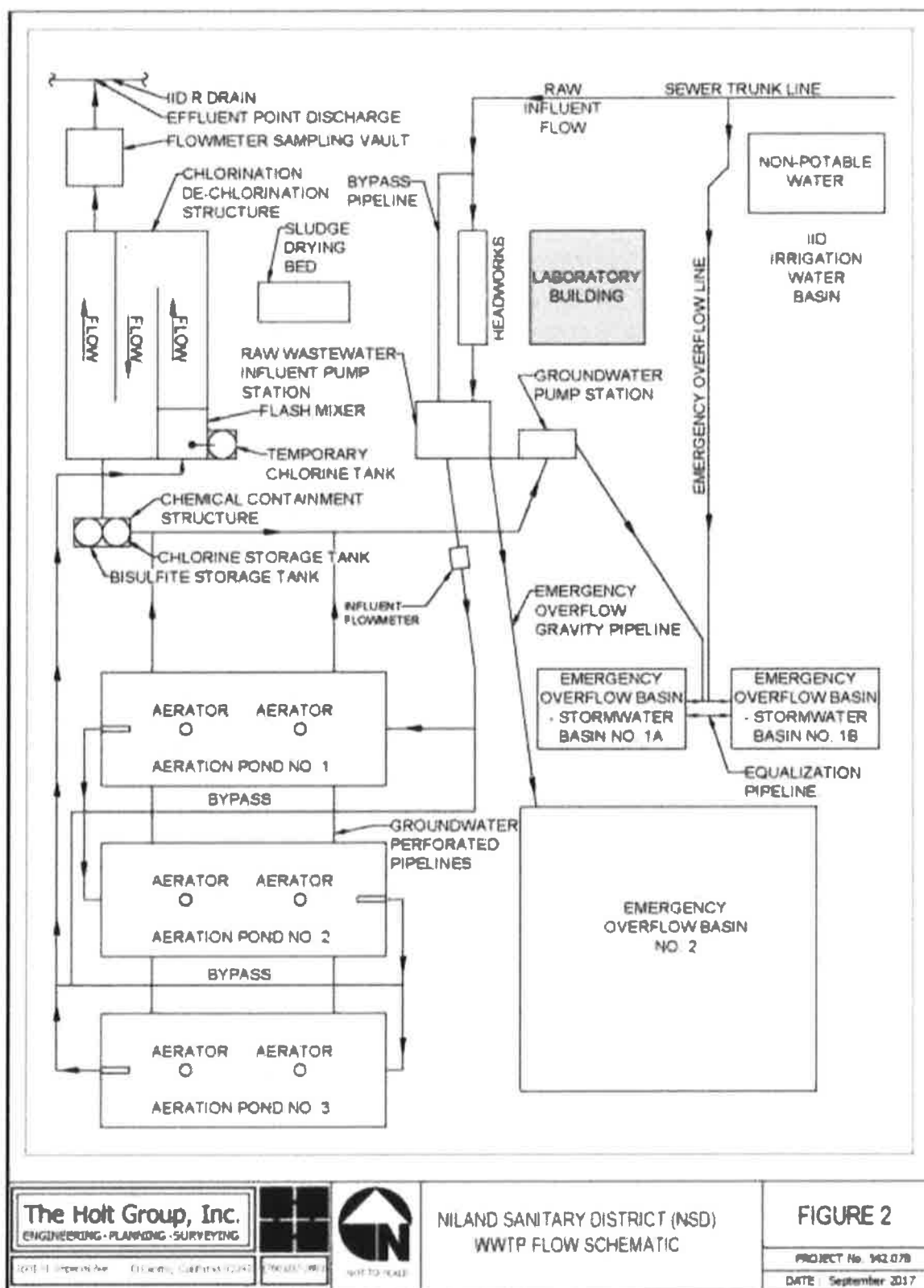
2. Raw Water Influent Pump Station

The Raw Wastewater Influent Pump Station consists of an 8-foot wide x 14-foot long x 20-foot deep (inside dimensions) concrete wet well with 1-foot thick concrete walls coated with a urethane coating system during the 2010 Wastewater Treatment Plant Improvement Project. The influent pump station is controlled by an ultrasound depth gauge that energizes two submersible pumps when a high water level is reached in the wet well. The pumps' motor control space is located within the Motor Control Center in the Laboratory Building. The two (2) submersible pumps were originally installed in 1993 and along with the discharge piping were replaced in the 2010 NSD WWTP Improvement Project. The pumps can be removed from the wet well by means of slide rails which are attached to the access hatch located at the top of the wet well. They are 700-gallon per minute, 12 horsepower, 480 volt, 3-phase pumps **CONDITION: The pump station interior concrete walls appear to be in satisfactory condition. The pumps and discharge piping are operable and in good condition. The Electrical / Control Panels for the submersible pumps are in operable and good condition. The fiberglass grating has experienced deterioration with exposure to the atmosphere and raw sewage gases and should be replaced with a 316 stainless steel grating. The existing manhole also requires removal, surface preparation and recoating of the manhole frame and cover.**

3. Aeration Ponds

The raw wastewater influent pump station transmits the wastewater to three aeration ponds. The ponds have been operational since 1993. The three (3) lined aeration ponds are connected in series (Ponds 1, 2 and 3), each with two (2) 7.5 horsepower, 480-volt, floating aerators. The current plant is operating with one (1) active aerator in each aeration pond. Each pond is approximately 300 feet x

Figure 2-Wastewater Flow Schematic



condition. The Flowmeter/Sampling Vault, however, is in need of railing due to safety concerns along the exterior of the sampling vault.

8. Laboratory and Staff Building

The Niland WWTP also includes a laboratory/control building. The laboratory and staff building are located just east of the influent pump station. The existing 31'-8" x 41'-8" Operations and Laboratory Building consists of a slab on grade metal building and includes an Office/Meeting Room, Electrical Power and Control Room, Bathroom and Laboratory Room. The electrical power and control facilities are located in the laboratory building. The Laboratory Building has not had any capital improvements since it was constructed as part of the 1993 NSD WWTP Improvement Project. **CONDITION: All facilities including the Laboratory Building, Electrical / Control Room, Office / Meeting Room, and Restroom are in serviceable and good condition. No capital improvements are presently required for the Laboratory Building.**

9. Ancillary Components

Other ancillary improvements include an unlined emergency overflow basin and an area for sludge dewatering.

Wooden Entrance Bridge at Alcott Road – There is an existing wood bridge across the "R" Drain that must be accessed in order to reach the WWTP. Although there is no information regarding the age of the bridge, the bridge has not been retrofitted under any of the documented improvements at the NSD WWTP. **CONDITION: The existing wooden entrance bridge into the NSD WWTP does not allow access for any vehicles greater than 2 tons, due to its dilapidated condition. This does not allow for large equipment or heavy trucks to use the access bridge. Alternate routes are required to access the NDS WWTP for trucks and vehicles greater than 2 tons.**

Potable Water Treatment System (System and Piping) – The existing non-potable Water Treatment System is composed of a pond filled with irrigation water as provided by the Imperial Irrigation District and does not meet the minimum requirements of the Imperial Health Department. A small centrifugal pump conveys water from the pond to a pressurized hydro-pneumatic tank. The hydro-pneumatic tank pressurizes the downstream water pipeline system that is located throughout the WWTP site. It is important to note that the Water System is not a potable water system. The existing non-potable Water System services the eye wash stations and restroom facilities and laboratory sink. The hydro-pneumatic tank and water pipeline system experiences clogging. The hydro-pneumatic tank and water pipeline system experience frequent operation and maintenance problems due to the solids contained with the IID supplied raw water. Potable Water for drinking and potable use is purchased and trucked in by a vendor. **CONDITION: There is currently no potable water treatment system on site. The NSD relies on bulk potable water. A potable water treatment (package treatment system) in conformance with the State Water Resources Control Board – Division of Drinking Water requirements and replacement of the water pipeline system**

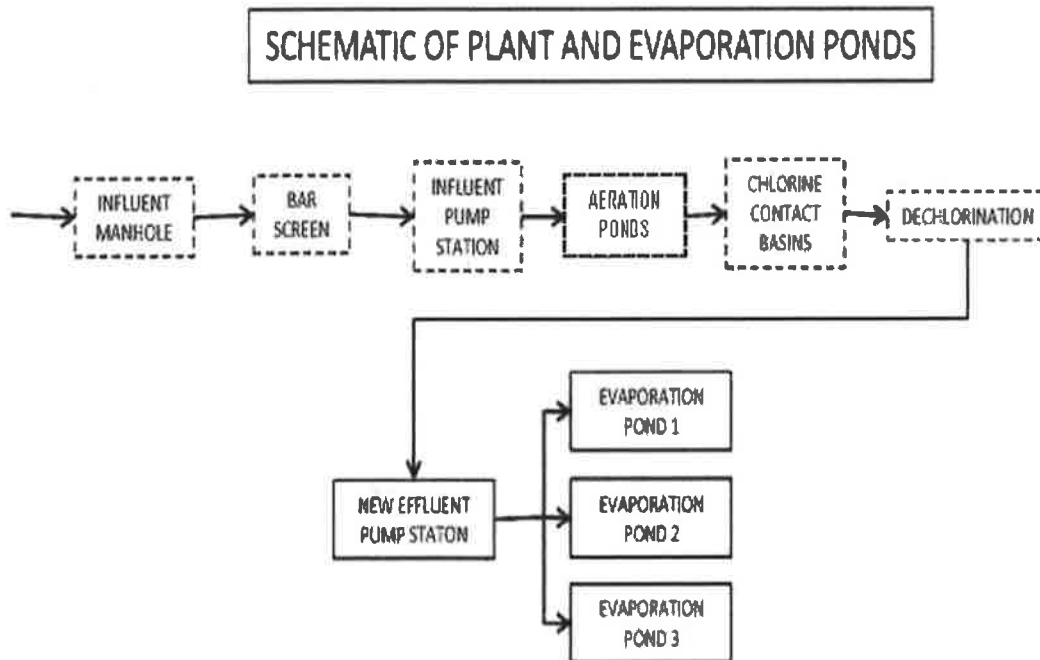
B. Previous Considerations Alternatives and Preferred Project Alternative for Treatment

Since 2007, and over the course of ten (10) years, several alternatives have been considered by the NSD and partner agencies such as the Regional Water Quality Control Board, the US Environmental Protection Agency and USDA Rural Assistance which have provided the funding and technical reviews of the same. All of the PER's are summarized in **Table C**, followed by a brief overview and the preferred project alternative as selected by NSD and partnering funding agencies for funding under USEPA Border Environmental Infrastructure Fund Program and USDA Rural Assistance Program.

Table C
Summary of Alternatives Previously Considered for Treatment

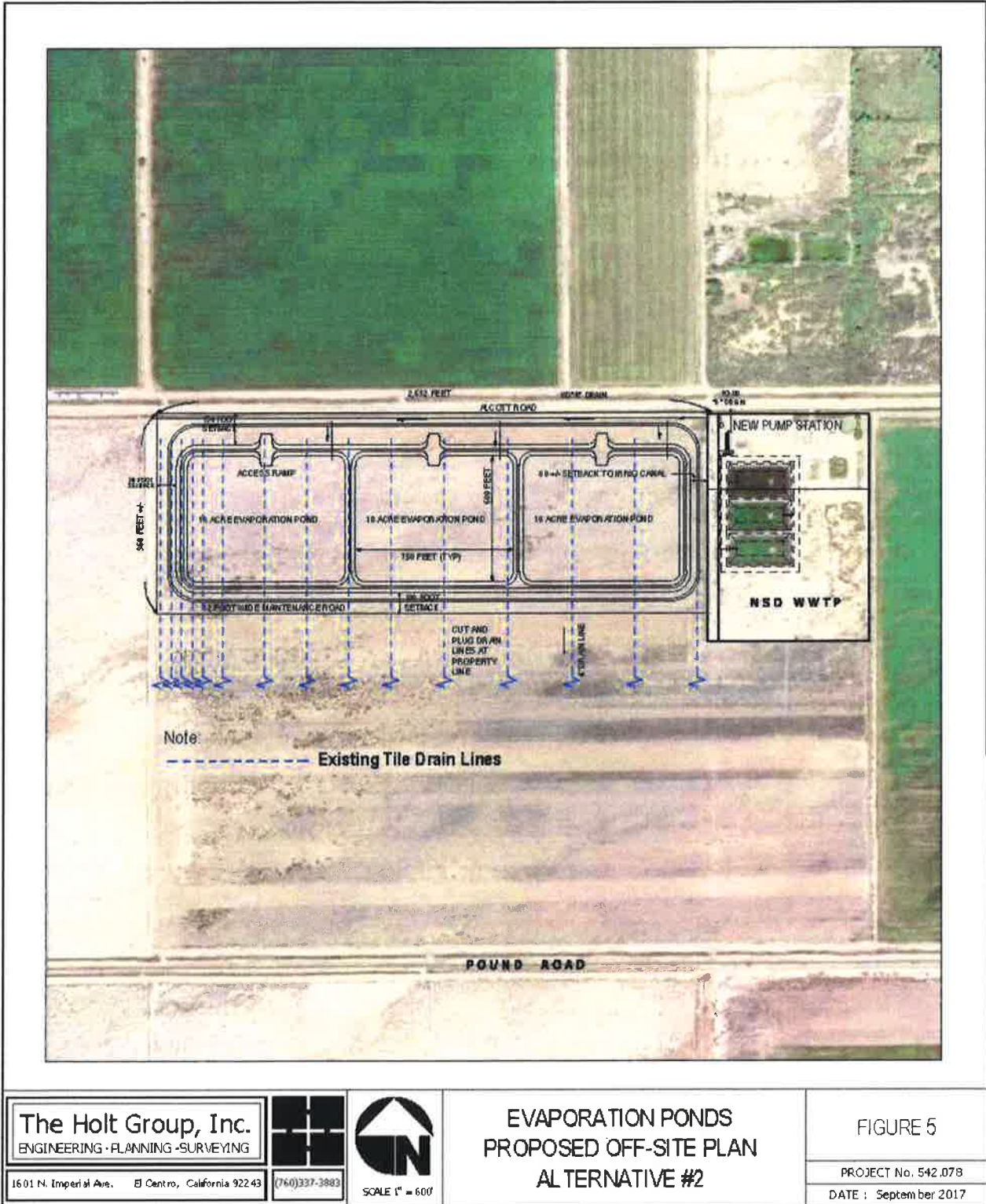
| PRIOR ALTERNATIVES CONSIDERED FOR WASTEWATER TREATMENT COMPLIANCE | REPORT DATE | DETERMINATION |
|---|----------------------|---|
| WWTP System Improvements <ul style="list-style-type: none"> Repair/Replace Components of Current Process Abandonment of Basin for UV & Sand Filter | 2007-NOLTE | Technically Unfeasible |
| WWTP Existing System Modifications <ul style="list-style-type: none"> Precipitation/New chemical dosing system Ion Exchange System Reverse Osmosis System | 2012 - AMEC | Financially Unfeasible |
| Discharge to Calipatria WWTP for Treatment | 2012 - AMEC | Financially Unfeasible and Calipatria Would Not Accept Wastewater |
| Discharge-Industrial Use (Geothermal) | 2012 - AMEC | Financially Unfeasible |
| Land Disposal On-Site Percolation Ponds | 2012 - AMEC | Technically Unfeasible |
| Land Disposal On-Site Injection Wells | 2012 - AMEC | Technically Unfeasible |
| WWTP System Improvements <ul style="list-style-type: none"> Repair/Replace & Ion Exchange North Side Repair/Replace & Ion Exchange South Side | 2014-NV 5 | Technically Unfeasible |
| Discharge-Industrial Use (Turbine & Solar Plants) | 2014-NV 5 | Technically Unfeasible |
| Discharge to Calipatria WWTP for Treatment | 2014-NV 5 | Financially Unfeasible and Calipatria Would Not Accept Wastewater |
| Land Disposal - Percolation & Evaporation <ul style="list-style-type: none"> West & Northwest for Evaporation East & Northeast for Evaporation IID Managed Marsh Land | 2014-NV 5 | Percolation Unfeasible Evaporation Viable |
| Wetlands Alternative | 2016- The Holt Group | Technical Challenges Due to Sulfide & Ammonia |
| Evaporation Ponds Alternative (West) | 2016-The Holt Group | Evaporation Ponds Feasible |
| | | |

Figure 3



- Design-** The evaporation ponds are recommended to be designed for an annual flow of 150,000 gpd. The transmission pipeline would need to be jack-and-bored under the existing IID drain that runs along the west side of the WWTP site. Three evaporation basins will be required since the current flows average about 63,000 gpd. During the winter, portions of the flows may need to be sent to a second basin for maintenance. It is projected that approximately 5 inches of solids per year will accumulate when the basins are operating at full capacity assuming that the solids will compact to a concentration of about 5,000 mg/L. Thus, about two feet of depth will be reserved for solids accumulation as noted in **Figure 4**. It is further recommended that the pond bottom consist of 2 feet of native silty clay compacted to 90 percent of maximum density per ASTM D-1557. As the silty clay soil in the bottom of the evaporation basins becomes saturated, the infiltration rate will likely decrease to nearly zero. It is recommended the side-slopes of the evaporation ponds be protected by covering the side-slopes with a high density polyethylene (HDPE) liner or a soil cement.

Figure 5-Evaporation Ponds Proposed Site Plan



C. Summary of Applicable Costs to Wastewater Treatment Facilities

Costs For WWTP Rehabilitation

Several capital improvements were recommended to the wastewater treatment plant. Specifically, 1) the repairing or replacing of existing facilities such as manhole frames, sections of HDPE liner, p.c.c. walls and ceilings, handrails, eyewash stations, concrete spalling, and resilient wedge gate valves, 2) installation of Stainless Steel Grating, 3) installation of sodium hypochlorite tank, 4) installation of sodium hypochlorite duplex pumps and piping system, 5) installation of chemical rate of flow controllers, 6) installation of sodium bisulfite duplex pumps, 7) installation of aluminum access hatch, 8) installation of potable water treatment system, 9) installation of automatic transfer switch, and 10) Bridge Retrofit. Table D provides a summary breakdown of these costs, while Table E summarizes all of the associated and corresponding permitting costs, professional service costs, applicable tests and incidentals additional to construction costs.

Table D
WWTP Capital Improvement Costs

| Estimated Costs of WWTP Improvements | |
|--|-------------------|
| Cost Item | Total Cost |
| 1. Repairing or replacing of existing facilities | \$153,300 |
| 2. Install Stainless Steel Grating | \$1,200 |
| 3. Install Sodium Hypochlorite Tank | \$12,600 |
| 4. Install Sodium Hypochlorite Duplex Pumps | \$9,500 |
| 5. Install Rate of Flow Controllers | \$18,900 |
| 6. Install Sodium Bisulfite Duplex Pumps | \$9,500 |
| 7. Install Aluminum Access Hatch | \$4,500 |
| 8. Install Potable Water Treatment System | \$115,000 |
| 9. Install Automatic Transfer Switch | \$45,000 |
| 10. Bridge Retrofit | \$200,000 |
| TOTAL CONSTRUCTION COST ESTIMATE | \$569,500 |

Costs For Evaporation Ponds New Construction

Construction Costs-The following tables provide construction cost estimates for the Evaporation Ponds as the preferred treatment alternative. Cost comparisons were done considering both a Clay Liner and an HDPE Liner. A detailed breakdown is being provided only for the Clay Liner which is the recommended alternative.

Table D
Evaporation Ponds Cost Estimate Summary per Liner Option

| Evaporation Ponds Cost With Liner Options | |
|---|-------------|
| Cost Item | Total Cost |
| 1. Evaporation Ponds Cost With Clay Liner | \$4,071,400 |
| 2. Evaporation Ponds Cost With HDPE Liner | \$7,632,300 |

Table E
Evaporation Ponds Detail Cost Estimate with Clay Liner

| CLAY EVAPORATION PONDS CONSTRUCTION COST ESTIMATES | | |
|--|------------|--------------------|
| Cost Item | Subtotal | Total Cost |
| 1. Construction Costs | | \$2,778,600 |
| Clearing and Grubbing | \$ 156,800 | |
| Cut Volume | \$ 484,000 | |
| Compact Fill | \$ 414,000 | |
| Compacted Clay Liner | \$365,900 | |
| HDPE Liner – Side slopes | \$ 491,970 | |
| 8" C-900 PVC Pipe Underground | \$ 198,750 | |
| 8" Plug Valves and Valve Boxes | \$ 9,600 | |
| 5hp Duplex Package Pump Station | \$ 135,00 | |
| Fencing | \$ 189,000 | |
| Contingency 10% | \$ 252,600 | |
| 2. Land Acquisition¹ | | \$ 330,000 |
| 3. Design, Bidding & Engineering | | \$ 722,300 |
| Design 12% of Construction Costs | \$ 333,400 | |
| Bidding 2% of Construction Costs | \$ 55,500 | |
| Construction Management 12% of Construction Costs | \$ 333,400 | |
| 4. Reports Studies & Surveys | | \$ 110,500 |
| SWPP Preparation | \$12,000 | |
| Geotechnical and/or Hydrogeological Investigations | \$58,500 | |
| Field Survey | \$40,000 | |
| 5. Permit Costs | | \$80,000 |
| 6. Other Soft Costs | | \$50,000 |
| TOTAL COSTS | | \$4,071,400 |

¹Assumed Market Value of Land/Appraisal and Ultimate Cost has been lowered to \$174,000

\$3,100 per year at current flows. The estimated chemical cost for the sodium hypochlorite chemical disinfection system will continue to remain the same and is \$4,000/year for current flows and \$17,000 at full capacity (150,000 gallons/day average daily flow).

- **Residuals/Waste Disposal:** The WWTP currently necessitates sludge removal. It is recommended that an amount of \$4,000 be budgeted annually for management of sludge in the aeration ponds that will require removal every five years at an estimated cost of \$20,000.

The solids that accumulate in the bottom of the evaporation ponds will need to be disked into the clay pond bottoms after the ponds are dried out. It is recommended that an amount of \$4,000/year be budgeted for the costs to contract with a farmer to disk the bottom of the evaporation ponds.

- **Maintenance of Operations, Equipment, and Grounds:** Occasional spraying to control vectors at the evaporation pond site would also be required. Site grading and clean-up work at the existing NSD WWTP would continue to be required, regardless of the proposed alternative.

D. Optional Components/Alternatives if Financing is Cost Prohibitive for WWTP Facility

The wastewater treatment plant's recommended improvements are comprehensive recommendations in order to address health, safety and compliance factors. There are no optional components recommended for elimination from the wastewater treatment improvement project as recommended under the 2016 PER prepared by The Holt Group, Inc and again summarized herein.

IV. Wastewater Collection System Conditions & Recommendations

As previously noted the NSD's sanitary sewer collection system dates back to the 1940's with limited system section improvements over the years. There is a total of 408 physical wastewater service connections and 718 wastewater service users under the NSD sewer collection system for rate application purposes. The users are broken down by four major categories: 1) residential, 2) commercial, 3) industrial/other, and 4) available service/undeveloped. Fees are assessed to all users including undeveloped lots. No major industrial waste generators are serviced. The NSD does not operate any septage receiving station at the treatment facility or anywhere within the collection system. However, the operators report that there is an active dump station near the Chamber of Commerce Building in Niland that is independently operated by the Chamber.

A. Collection System Findings and Conditions

Components of the existing sanitary sewer collection system has been rehabilitated in previous years under various Capital Improvement Projects. A comprehensive inspection and video documentation of the Niland Sanitary Sewer District Wastewater Collection System was completed over ten (10) years ago, in 2006. It appears that much of the sanitary sewer collection system was found in a poor or failed condition

Table G
NSD Sanitary Sewer Collection System Inventory

| Pipe Diameter | Length (ft.) |
|---------------|---------------|
| 4-Inch Pipe | 717 |
| 8-Inch Pipe | 28,800 |
| 10-Inch Pipe | 1,980 |
| Total | 31,497 |

The pipelines are believed to generally consist of vitrified clay pipe which is brittle and susceptible to cracking. Cracking can be created or propagated by seismic activity and by highway loads, both of which are prevalent in the area. In addition, clay pipe has short pipe lengths, which increase the number of joints through which groundwater can infiltrate into the collection system. Sections of the collection system were repaired by lining in 2007-2008 resulting in vast reductions in infiltration and inflow, now contributing to increased capacity at the WWTP. **CONDITION: The 2014 NV-5 report, based on a flushing and televising study, noted that the most of the existing pipes, both clay and PVC, are in good condition with some infiltration suspected at IID Canal and Drain crossings. It was recommended that existing laterals along Alcott Road be removed to reduce infiltration into the sanitary sewer pipeline collection system.**

2. Sanitary Main Lines

Sanitary Sewer trunk and outfall pipelines within the NSD collection system are generally 10" in diameter. The outfall and trunk pipelines between the Niland Community and the NSD Wastewater Treatment Plant consist of 10" diameter pipelines located within the Caltrans right-of-way on the east side of the Highway 111 and Alcott Road west of Highway 111 to the NSD Wastewater Treatment Plant. Most segments of the trunk and outfall pipeline between Noffsinger Road and the wastewater treatment facility are believed to be original to the system, dating to the 1940s, 1950s or 1960s. The capacity of the 10" diameter pipelines are adequate considering there has been no significant residential, industrial, institutional, or commercial growth in the Niland community requiring main pipeline capacity increases and given the pipelines possess sufficient capacity to transmit the required projected wastewater flows.

The 2014 NV5 Study was prepared to identify the sources of thallium and copper in the collection system upstream of the NSD WWTP. Although the source of thallium and copper was not identified, several possible sources of the elements were suspected. A possible source of thallium has been suggested to come from the agricultural fields located along the wastewater trunk and outfall pipelines. The Infiltration Report indicated non-detect concentrations for copper and thallium in the IID

Highway 111 and Noffsinger Road (8010 Highway 111), had comparably medium concentrations of thallium, measuring 2-4 ppb. The thallium concentrations within the NSD manholes were slightly more consistent than the copper concentrations. The data suggests the GSWC to be a probable, significant source of thallium concentration in the collection system.

The Chamber of Commerce RV Dump site, although not tested, should also be considered as a possible source of thallium. The dump site is not secured and usage is based on the "honor system," intended for and used by RV's. It is recommended that suspension of the service be considered. Other possible sources of thallium considered were from rat poisons or from illegal dumping into the sanitary sewer collection system manholes.

B. Previous Considerations for Sewer Collection System

The 2014 Nolte PER and the 2016 PER prepared by The Holt Group, Inc. did not include the Collection System as part of their scope of work. No Alternatives have been considered for the collection system beyond the recommended slip-lining repairs. Under the 2016 PER, the recommendations from the 2014 Infiltration Report were incorporated into the project as requested by USEPA and the RWQCB. Consequently, several improvements are recommended to the outfall pipeline between the Niland community and the Wastewater Treatment Plant located 0.66 miles to the southwest. Specifically, the replacement of the sanitary sewer sections beneath "S" Drain and "S" Lateral at Noffsinger Road and Highway 111 and the "R" Drain at Alcott Road and Highway 111 were incorporated into the recommended project alternative. The manhole replacements and slip-lining proposed are noted in **Figure 6**.

C. Summary of Applicable Costs for Collection System

Table H provides a summary breakdown of costs of the recommended improvements to the NSD wastewater collection system. **Table I**, that follows, summarizes all of the associated and corresponding permitting costs, professional service costs, applicable tests and incidentals additional to construction costs.

Table H
Sewer Collection System Costs

| Estimated Costs of Sewer Collection Improvements | |
|---|------------------|
| Cost Item | Total Cost |
| 1. Replacement of Pipeline Sections Under Drains/Laterals | \$36,200 |
| 2. Rehabilitation of Manholes | \$285,000 |
| 3. Collection System Pipeline Slip Lining & Repairs | \$280,300 |
| CONSTRUCTION COST ESTIMATE | \$601,500 |

Table I
Refined Sewer Collection System Cost Estimates

| COLLECTION SYSTEM ITEMS | Subtotal | Total |
|---|-----------|-------------------|
| Environmental Services – (NEPA completed concurrent with PER). | | |
| - CEQA Environmental Report | \$ 0.00 | |
| - NEPA Environmental Report | \$ 0.00 | |
| - Environmental Mitigation Contract Services | \$ 0.00 | \$0.00 |
| Total Soft Cost Service: | | \$ 0.00 |
| Engineering Services | | |
| Basic Services: | | |
| - Preliminary Engineering Report (PER) | \$ 0 | |
| - Preliminary and Final Design Phase Services (12%) | \$ 79,400 | |
| - Bidding/Contract Award Phase Services (2%) | \$ 13,200 | |
| - Construction and Post-Construction Phase Services (w/o inspection) (2%) | \$ 13,200 | |
| - Resident Project Representative Services (resident inspector) (10%) | \$ 66,200 | |
| Additional Services: | | |
| - Permitting (Caltrans Encroachment, I.C. Encroachment, & IID Encroachment) | \$ 65,000 | \$279,000 |
| - Regulatory Compliance Reports | \$ 5,000 | |
| - Environmental Mitigation Services (Construction Phase) | \$ 7,000 | |
| - Easement Acquisition/ROW's Services (Construction Phase) | \$ 0 | |
| - Surveying Services (Construction Phase) | \$ 0 | |
| - Operation & Maintenance Manual(s) | \$ 0 | |
| - Geotechnical Services | \$ 30,000 | |
| - Hydrogeologist Services | \$ 0 | |
| - Materials Testing Services (Construction Phase) | \$ 0 | |
| Total Engineering Service: | | \$ 279,000 |
| Equipment/Materials (Direct purchase, separate from construction bid/cost) | | \$ 0 |
| Construction Cost Estimate (Attach breakdown) | | \$ 601,500 |
| Contingency (10%) | | \$ 60,100 |
| Sub-Total Material & Construction Costs: | | \$ 661,600 |
| TOTAL SEWER COLLECTION SYSTEM PROJECT COST ESTIMATE | | \$ 940,600 |

Table J- Total Proposed Project Cost Estimate

| NSD SYSTEM IMPROVEMENT PROJECT | | |
|---|------------------|---------------------|
| Project Soft Costs | | |
| Property Purchase / Lease Agreements | | \$ 330,000 |
| Administration/Legal Counsel | | \$ 45,000 |
| Environmental Services | | |
| - CEQA Environmental Report (NEPA Complete) | \$ 20,000 | |
| - Environmental Mitigation Contract Services (Own Survey) | \$ 20,000 | \$40,000 |
| Sub-Total Soft Cost Service For Evaporation Pond: | | \$415,000.00 |
| Professional Engineering & Planning Services for System Improvements | | |
| Engineering Services: | \$999,700 | |
| - Preliminary Engineering Report (PER) | In Progress | |
| - Preliminary and Final Design Phase Services (12%) | \$ 461,500 | |
| - Bidding/Contract Award Phase Services (2%) | \$ 76,800 | |
| - Construction and Post-Construction Phase Services (w/o inspection) (2%) | \$ 76,800 | |
| - Resident Project Representative Services (resident inspector) (10%) | \$ 384,600 | |
| Additional Planning and Field Services: | \$332,300 | |
| - Permitting (CUP, LLA, I.C. Grading, APCD Construction, TCP, TPS, WDR, Caltrans Encroachments, I.C. Encroachments, IID Encroachments, I.C. & Portable Water System Permit) | \$ 112,300 | \$1,332,000 |
| - Regulatory Compliance Reports | \$ 15,000 | |
| - Environmental Mitigation Services (Construction Phase) | \$ 24,000 | |
| - Surveying Services (Construction Phase) | \$ 50,000 | |
| - Operation & Maintenance Manual(s) | \$ 26,000 | |
| - Geotechnical Services | \$ 95,000 | |
| - Materials Testing Services (Construction Phase) | \$ 10,000 | |
| Sub-Total Professional Service: | | \$ 1,332,000 |
| Utility and ROW Costs | | |
| - IID Utility Cost (Bridge Work) | \$ 200,000 | \$220,000 |
| - Easement Acquisition/ Right of Way (IID) | \$ 20,000 | |
| Sub-Total Utility Services | | \$220,000 |
| Construction Costs | | |
| Construction Cost Estimate (Attach breakdown) | | \$ 3,497,000 |
| Contingency (10%) | | \$ 349,700 |
| Sub-Total Construction Costs: | | \$ 3,846,700 |
| TOTAL NSD SYSTEM IMPROVEMENT PROJECT COST ESTIMATE | | \$ 5,813,700 |