TO: BOARD OF DIRECTORS

FROM: MICHAEL LEBRUN

DATE: MARCH 4, 2010

AGENDA ITEM
E-1
MARCH 10, 2010

AECOM CONTRACT AMENDMENT FOR SOUTHLAND WWTF UPGRADE PROJECT ENGINEERING DESIGN

ITEM

AUTHORIZE EXECUTION OF AMENDMENT TO AECOM SOUTHLAND WWTF UPGRADE PROJECT FINAL DESIGN AGREEMENT IN THE AMOUNT OF $37,020 FOR ADDITIONAL SERVICES REQUIRED TO COMPLETE DESIGN [RECOMMEND APPROVAL].

BACKGROUND

In 2009, your Honorable Board selected AECOM to provide final engineering design services for Phase 1 of the Southland Wastewater Treatment Facility (WWTF) Upgrade Project, as detailed in the Board-approved, January 2009 Southland WWTF Master Plan. The project as originally envisioned involved an upgrade to 1.25 MGD from the current capacity of 0.9 MGD and included a new influent lift station, screens, grit chambers, Biolac® cells in each of Ponds 1 and 2, two clarifiers, sludge holding lagoons, and two concrete lined sludge drying beds.

AECOM began the final design process by evaluating the flow and loading data since the completion of the Southland WWTF Master Plan to confirm the Master Plan. Attached is a Technical Memorandum dated February 12, 2010 that addresses AECOM's findings. In general, flow and loading is not increasing as quickly as anticipated in the Master Plan. The impact on the Southland WWTF Upgrade Project design is that while AECOM still recommends that the District proceed with the upgrade project utilizing the Biolac® treatment process, AECOM recommends that the plant sizing and construction phasing be reassessed. Treatment systems can perform very poorly at loads that are significantly less than their design value. Thus, AECOM is recommending that the phasing plan for upgrading the plant, including layout and costs, be reevaluated to optimize plant performance at current loads and provide flexibility for future demands.

Staff met with AECOM to discuss tasks that were beyond the original scope of services but are necessary to move forward with the project design and tasks that required more effort and time than was originally budgeted due to unforeseen challenges. AECOM submitted the attached proposal to perform these tasks. As set forth in the attached proposal, AECOM is willing to perform this work on a time-and-materials basis with a not-to-exceed expenditure limit of $37,020.

FISCAL IMPACT

The FY 09-10 Budget includes $8,000,000 in Town Sewer Capacity Charges Fund (Fund #710) for design services, environmental review services and construction with additional funding expected in FY 10-11 and FY 11-12. Execution of the proposed amendment would increase the not-to-exceed design agreement expenditure limit from $923,094 to $960,114.

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AGENDA ITEM E-1
MARCH 10, 2010

RECOMMENDATION

Staff recommends that your Honorable Board the Board authorize the General Manager to execute an amendment in the amount of $37,020 to the existing Southland WWTF Final Design Agreement.

ATTACHMENTS

AECOM Technical Memorandum Dated February 12, 2010
AECOM Budget Revision Request Dated March 1, 2010

t:\board matters\board meetings\board letter\2010\southland wwtf design agreement budget revision 1.doc

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REVISED DRAFT Memorandum

To	Mr. Michael LeBrun, General Manager	Page	1
CC	Mr. Peter Sevcik, PE, District Engineer Ms. Tina Grietens, Utilities Superintendent		
Subject	Changes in Design Flows and Startup Conditions for Southland WWTF Upgrade Project		
From	Mike Nunley, PE Eileen Shields, PE		
Date	February 12, 2010		

As part of the preliminary design effort for the Southland Wastewater Treatment Facility (WWTF) Upgrade Project, the Nipomo Community Services District (District) has been providing AECOM with recent influent monitoring results. AECOM has been using the data to develop a comprehensive picture of the design loads and startup conditions for plant improvements, and has projected considerably different load projections than those estimated in the January 2009 Southland WWTF Master Plan and preceding reports. This memorandum will provide a review of prior flow estimates, a summary of the current projections, and recommendations for moving forward with the Southland WWTF Upgrade Project.

Background

For nearly four years, AECOM has been tracking influent flows and biological oxygen demand (BOD) concentrations at Southland WWTF. Figure 1 displays flow data collected since spring of 2004. AECOM has completed several reports for the District to summarize these records, assess the capacity of the District's Southland WWTF, and assist with planning for improvements.

In May 2006, AECOM (formerly Boyle Engineering) completed a report entitled *Southland Wastewater Treatment Facility Action Plan*. This report represented phase one of the District's two-phase response to the Regional Water Quality Control Board (RWQCB) Notice of Violation (NOV), received in February 2006. The NOV was issued for a series of Waste Discharge Requirement violations at the Southland WWTF, occurring during 6 months in 2005. The Action Plan provided a review of the violations and potential causes, an assessment of plant capacity, and a summary of work completed by operators to address violations. Recommendations were provided for short-term improvements (including positioning of new aerators in all ponds and removal of baffles in Ponds 3 and 4), development of a Facility Master Plan, and effluent monitoring.

AECOM completed the *Draft Southland Master Plan* in February 2007. The Facility Master Plan represented phase two of the District's response to the RWQCB NOV. The report provided a more detailed capacity analysis, discussed water quality goals for the treated effluent, identified improvements needed for WWTF and the influent trunk line to meet existing and projected demands, and developed a capital improvements plan.

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As a result of the geotechnical investigations performed by the District simultaneously with the Draft Master Plan, a growing mound of effluent was discovered beneath the infiltration basins on the Southland WWTF site. This spurred additional hydrogeologic studies (performed by Fugro West, Inc.) to characterize the effluent mound, evaluate fate and transport of the treated effluent, and estimate onsite disposal capacity. It was concluded that the mound would continue to grow at current flows, and would grow more quickly as flows increase in the future. Using the results from these studies, AECOM evaluated future alternatives for reuse and/or disposal of treated effluent (Preliminary Screening Evaluation of Southland WWTF Disposal Alternatives, completed January 2009). The report provided a preliminary ranking of nine alternatives, including offsite infiltration at various locations and reuse as irrigation for landscape or agriculture.

After the conclusion of these investigations, the District requested that AECOM finalize the Southland WWTF Master Plan. Completed in January 2009, the Final Master Plan included a full update to the capacity analysis, recommendations, and capital improvements plan initially set forth in the 2007 Draft Master Plan.

Historical Plant Loading

As described above, various reports have summarized flow and loading data at Southland WWTF. The Action Plan was AECOM's first study addressing this issue and it assessed data collected between April 2004 and March 2006. Flow data indicated that the recorded maximum month flow[1] (MMF) was equal to 0.79 million gallons per day (MGD), which is approximately 88% of permitted capacity of 0.9 MGD. Influent wastewater strength was examined by measuring the influent biological oxygen demand, recorded at 5 days (BOD_5). The 2005 maximum month average BOD_5 was measured to be 290 mg/L. This value was used to evaluate the plant's treatment capacity. It was concluded that with some minor modifications, the plant had sufficient capacity for current demands, but flow projections should be prepared in the subsequent Facility Master Plan in order to estimate when capacity would be exceeded.

The capacity analysis in the Draft Facility Master Plan assessed two complete years of data from September 2004 through August 2006, in order to develop design flows. The MMF was equal to 0.79 MGD. Existing flow data was used to develop peaking factors to estimate flows at various conditions. A design value for BOD loading was developed by calculating the 90^{th} percentile influent BOD_5. The 90^{th} percentile represents the value at which 90% of the values in the data set are equivalent or lower. Based on the data set, the 90% percentile influent BOD_5 was equal to 350 mg/L.

The average annual flow (AAF) estimate from the *Water and Sewer Master Plan* (Cannon Associates, December 2007), for the year 2030 was utilized to develop projected flow rates at 5-year increments for the Wastewater Treatment Facility. These values, along with the peaking factors and projected loading rates, provided the basis for evaluating the future capacity of the facility and evaluating various upgrade options. The existing and projected average annual and maximum monthly flow rates from the Draft Facility Master Plan are summarized in Table 1. The report estimated that the permitted capacity (MMF = 0.9 mgd) could be reached within the year.

[1] Maximum month flow is the average daily flow rate for the maximum month in the study period and is used to describe the plant's permitted hydraulic capacity in the Waste Discharge Requirements, issued by the RWQCB. The permitted capacity for the Southland WWTF is a MMF of 0.9 mgd.

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Table 1 Projected Flow Rates

Flow Condition	Peaking Factor	Existing Flow (mgd)	Projected Flow (mgd)*				
			2010	2015	2020	2025	2030
Average Annual Flow (AAF)	--	0.591	0.838	1.05	1.25	1.45	1.67
Maximum Monthly Flow (MMF)	1.34	0.791	1.12	1.41	1.68	1.94	2.34
* Projected AAF based on Draft Water and Sewer Master Plan (GTA & Cannon Assoc.)							

The Final Facility Master Plan (January 2009) re-evaluated the data, using flow and BOD concentrations from September 2006 through August 2008. The MMF was nearly 20% less than that from the previous data set, at 0.64 MGD. Peaking factors were revised accordingly. The 90th percentile BOD_5 was slightly greater, at 360 mg/L.

The 2030 AAF was held at 1.67 MGD. However, the "five-year" projections were interpolated between current and 2030 flows. The existing and projected average annual and maximum monthly flow rates from the Final Master Plan are summarized in Table 2. The updated projections indicated that the permitted capacity (MMF = 0.9 mgd) could be reached by December 2010.

Table 2 Projected Flow Rates

Flow Condition	Peaking Factor	Existing Flow (mgd)	Projected Flow (mgd)*				
			2010	2015	2020	2025	2030
Average Annual Flow (AAF)	--	0.59	0.73	0.97	1.20	1.44	1.67
Maximum Monthly Flow (MMF)	1.09	0.64	0.80	1.06	1.31	1.57	1.82
* Projected AAF based on Water and Sewer Master Plan Update (Cannon Assoc., December 2007)							

Re-evaluation of Data

Flow Rates

The 30-day average daily flow rates (ADF) for each month between September 2004 and October 2009 were graphed to evaluate for trends (Figure 1). Upon review of Figure 1, the first apparent trend is higher precision in the data set over time. The flow rates during the first two years of the graph show a relatively wide variability. Between September 2004 and August 2005 the flows vary by approximately 0.35 MGD, ranging from 0.44 to 0.79 MGD. During the next eighteen months, the variation is reduced to approximately 0.12 MGD, with flow rates ranging between 0.53 and 0.65 MGD.

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Whereas, after February 2007 the spread is reduced further to 0.07 MGD, with the flow rates ranging from 0.54 to 0.61 MGD.

In addition, a reduction of flow over time is observed. The maximum month flows (MMF) are noted on the graph for each year between 2005 and 2009, measured between the months of September and August. Between 2005 and 2009, the MMF dropped each year from 0.79 MGD to 0.57 MGD.

AECOM and District staff expect that the recent data is more accurate than prior records. Prior to November 2006, flows were manually read from a flow totalizer, sometimes at varying times of day. Since then, staff has automated the data collection process, and has been using SCADA data to report flows and calculate daily totals, adding consistency to the data.
In addition, some of the high flow measurements recorded in the past could be due to high flow backing up from the influent lift station, surcharging the upstream trunk main and flow meter. While this condition could also affect current data, these high data readings could have contributed considerably to errors in prior daily and monthly flow measurements when coupled with inconsistent flow measurement procedures.

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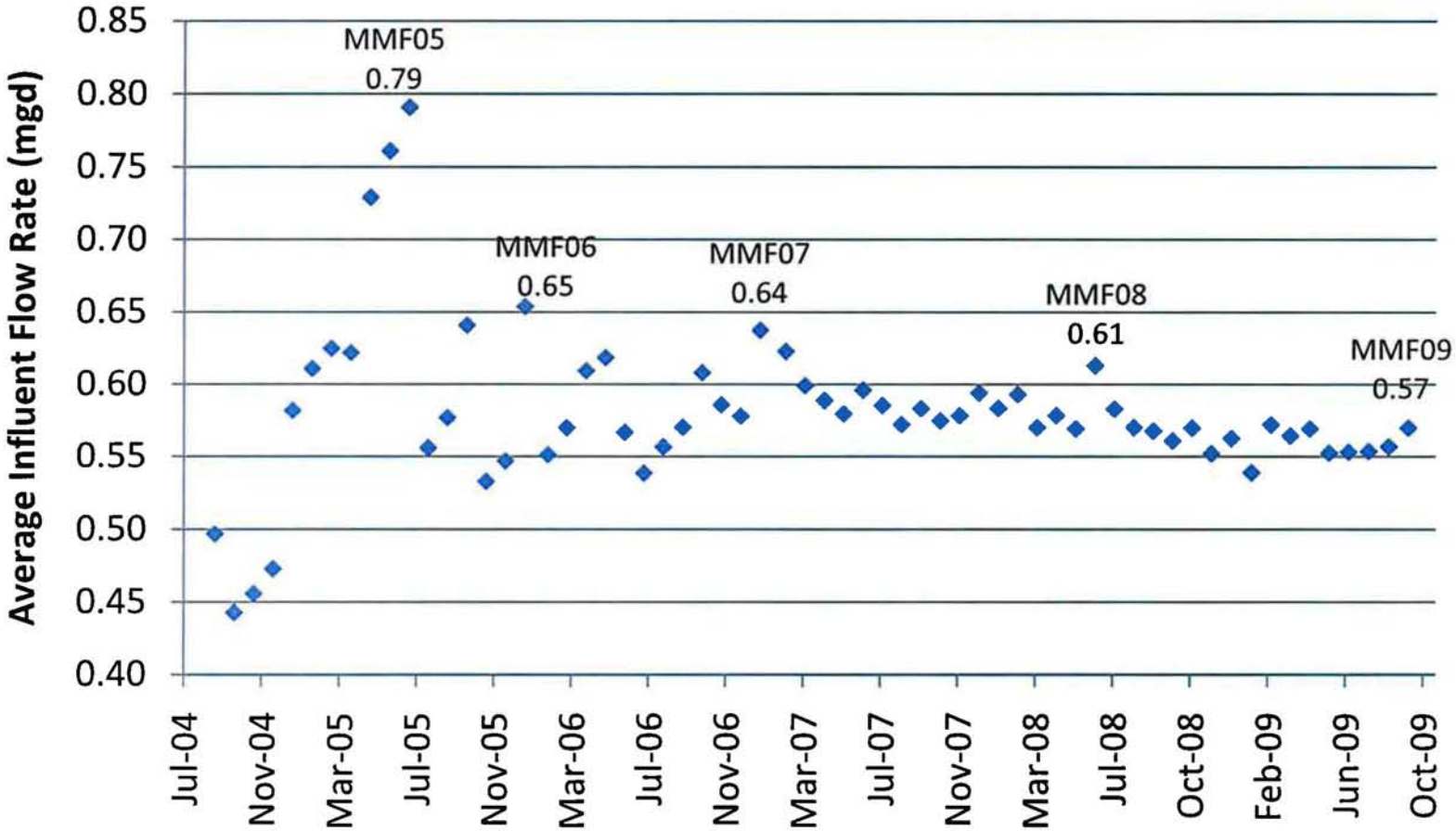
Figure 1. Average Influent Flow



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Influent Loading

The most recent 2-years of BOD_5 data (September 2007 through August 2009) were graphed to examine the current influent conditions (Figure 2). Samples of the WWTF influent are taken weekly and analyzed for BOD_5. Figure 2 shows the 3-month moving average alongside weekly BOD_5 values. The moving average is used to examine trends over a data set. Here, it indicates a downward trend of the influent BOD_5. At first glance, a "rolling," or seasonal trend might be estimated, but upon further evaluation, the increases and decreases don't correlate with seasons over the two years of data. For example, a decrease is seen for November 2007 through February 2008, the winter season. However, from October or November 2008 through March 2009, the moving average is rising.

Figure 2 also shows the 90^{th} percentile BOD_5 for this period (300 mg/L) and the 90^{th} percentile BOD_5 calculated for the Master Plan, which is 20% higher than the current value.

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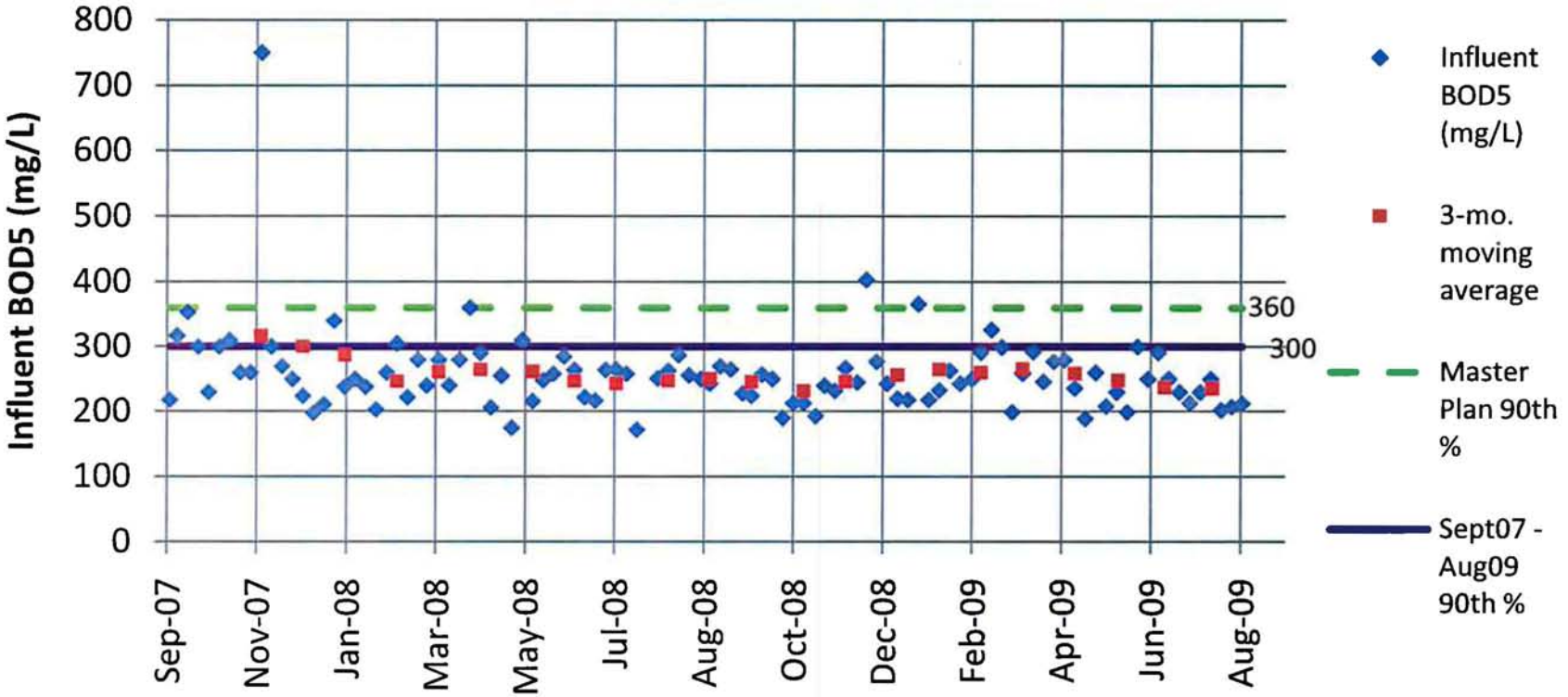
Figure 2. Influent BOD_5



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Flow Projections

As previously mentioned, the Facility Master Plan utilized flow projections developed as part of the Water and Sewer Master Plan (Cannon Associates, December 2007). Projected for year 2030, the buildout average annual flow rate for the WWTF is estimated at 1.67 MGD. Intermediate flow rates were projected in the Draft Facility Master Plan, and updated in the final, to assist with phasing recommendations. Using the latest two years of flow rate data, the projections were recreated with the same rate of increase to 1.67 MGD. The three sets of flow data and projections were graphed together for comparison purposes (Figure 3). By projecting the same rate of flow increase starting from the existing average annual flow, the estimated buildout flow rate of 1.67 MGD is reached in 2032, two years later than previously estimated.

To assess the implications of the revised flow projections, the treatment capacity of the existing pond system was re-evaluated utilizing the spreadsheet model developed for the Facility Master Plan. First-order rate kinetics were used to estimate BOD_5 degradation in the aeration ponds. Updated BOD_5 values were utilized and various flow and temperature conditions were considered. Two operational configurations were analyzed: ponds in parallel (the current operational configuration, equally split flow between 2 trains of 2 ponds), and ponds in series (full flow through all 4 ponds, sequentially).

The analysis suggests that the existing pond system has capacity to handle an AAF of 0.83 MGD while operating in parallel. This flow corresponds to a MMF of approximately 0.9 MGD, the facility's permitted hydraulic capacity. If the ponds are operated in series configuration, the model suggests the pond volume is sufficient handle an average annual flow of 1.0 MGD, or approximately 1.1 MGD on a MMF basis if additional aeration is provided[2].

These two capacity estimates are shown as horizontal lines on Figure 3. Following the projection from the most recent flow data (project titled Dec 09 Design), Figure 3 indicates that the WWTF may reach the treatment capacity for parallel configuration and the permitted hydraulic capacity (0.83 MGD, AAF) around the year 2015. Figure 3 also shows that changing to series configuration could provide an additional 3 ½ years of capacity.

However, there are limitations to the model. Typically the model is effective at evaluating detention times and at sizing ponds during design. Several variables impact the performance of pond systems that are difficult to model, including solids buildup, algal growth and decay, wind mixing, and temperature stratification. Therefore, conclusions must be conservative when predicting effluent concentrations and estimating treatment capacity.

Another reason to be conservative is the existing evidence of limited capacity in the ponds provided by historical waste discharge reports. In 2008, the WWTF experienced high effluent BOD_5 concentrations during 4 months (April through July) and high TSS concentrations in July. In 2009, TSS values were high during 7 months (March through June and August through October), and high BOD_5 concentrations were seen during 2 months, November and December.

These high BOD concentrations correlate with seasonal shift from high summer temperatures to cooler fall temperatures. Typically, pond systems can experience "overturning" in the fall whereby the pond surface cools, temperature stratification no longer protects lower depths from surface mixing, and lower-quality water begins to mix into the top layers of the ponds.

---

[2] Additional aeration capacity will be required for both scenarios; approximately 15 horsepower (hP) more (for a total of 135 hP) for a flowrate of 0.83 MGD and an additional 45 hP (total of 165 hP) for 1.0 MGD.

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Another potential reason for the high BOD concentrations could be low oxygen levels caused by aerator failures, due to ragging. One of the two grinders at the plant failed, allowing rags and other debris to flow into the ponds. Several aerators were clogged with debris and were not functioning consistently throughout November and December.

High TSS values could result from several factors. Late fall readings could be caused by algal blooms. Aerators could be pulling water with higher solids into the surface of the pond, near the outlet depth. The outlet and downstream pipes could have sediment or sludge that are picked up in the effluent samples.

The high BOD and TSS values, which occur in spite of model results suggesting pond and aeration capacity are adequate to meet permit limitations, are examples of the difficulties inherent in modeling, controlling, and operating treatment pond systems. Ponds with surface aerators cannot be simulated as "ideal reactors" due to short-circuiting, dead spots, and other flow characteristics that occur in large, irregularly-mixed volumes. These factors significantly increase error between predicted and actual BOD results, in particulary. Unlike modern treatment technologies, pond systems have few variables that can be controlled by operators other than turning aerators on or off. In activated sludge systems, for example, operators can control air flow, air distribution, and also the population and concentration of microbes that degrade waste. This allows operators to optimize system performance (and BOD and TSS removal) as waste flows and characteristics change seasonally. Sludge cannot settle properly in a partially-mixed pond, whereas activated sludge systems use independent clarifiers to settle solids, reducing both TSS and BOD.

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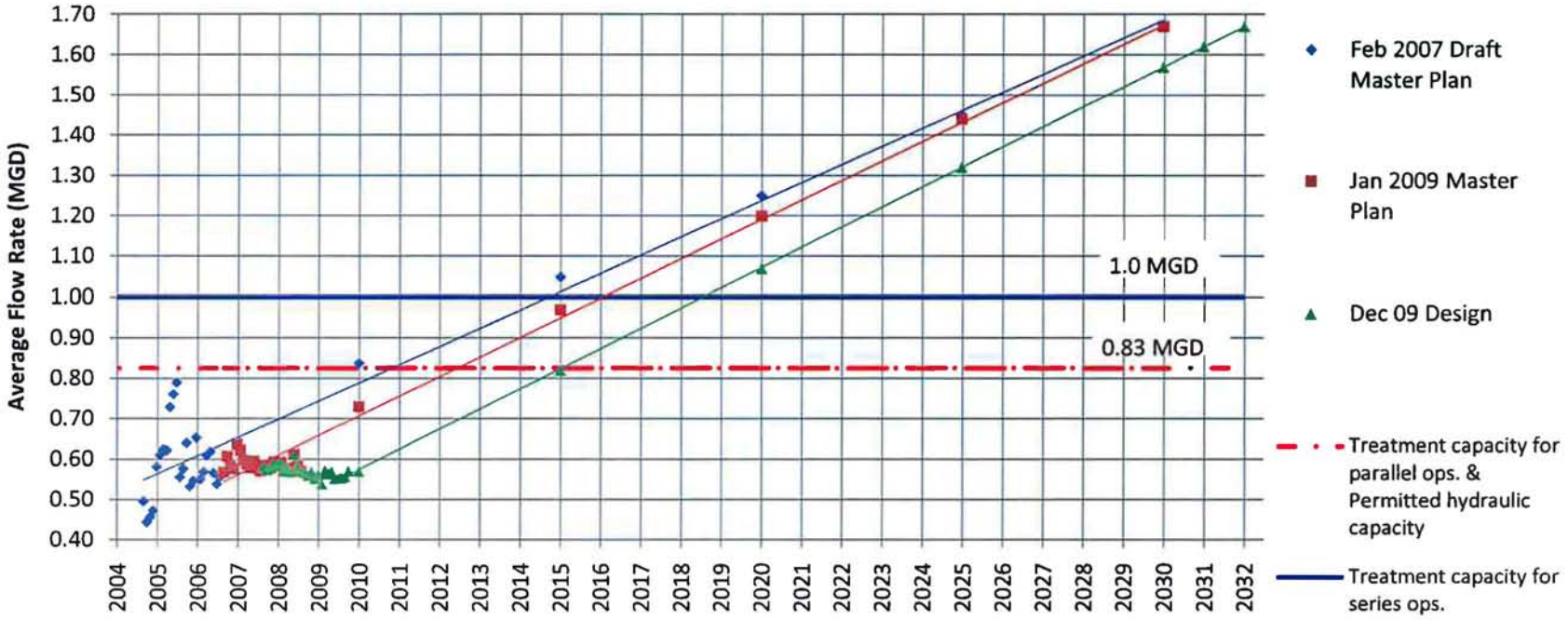
Figure 3. Flow Projections & WWTF Capacities



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Impacts to WWTF Upgrade Design

The Facility Master Plan analysis that led to the recommendation of Biolac® wave oxidation system for Southland WWTF remains valid. The recommendation was based on a comparison of well-proven biological treatment processes, all of which would be impacted by a reduction in influent loading. Relative to systems with comparable treatment levels, Biolac® has a lower life cycle cost, with simpler day-to-day operations and maintenance, but with system capabilities that will allow the operators to handle fluctuations in flow and waste concentrations unlike the existing pond system. However, the sizing is impacted by changes in influent loading and will need to be revisited.

AECOM and District staff have discussed the possibility of upgrading the existing influent lift station and installing new screening and grit removal systems without replacing the existing aerated pond systems. This approach would not address the prior NOV, current poor performance of the pond systems, and continued inability to meet permit limitations in spite of sludge extraction from all four ponds, installation of new aerators, and outlet improvements. AECOM recommends replacing the pond system while the bidding climate is good for new construction and while flows and loads are sufficiently low that a partial plant shutdown can be mitigated.

However, plant sizing and construction phasing should be reassessed. Treatment systems can perform very poorly at loads that are significantly less than their design values. If the project were installed without an increase in loading, it is unlikely that the manufacturer would provide a process warranty at a satisfactory treatment level. Based on the analyses discussed herein, the WWTF is experiencing a lower loading than was anticipated for startup conditions (approximately 30% lower flow rate and 20% lower influent BOD_5 concentration). A decreased loading equates to less nutrients and carbon for the microbes contained in the biological treatment process, which could result in decreased treatment level overall.

Phasing Plan

In order to develop an appropriate long-term strategy for upgrading the Southland WWTF, AECOM recommends revisiting the two-stage phasing plan from the Master Plan and developing a three-stage program. This would require a new 2030 site plan and updated capital improvement plan as provided in the last sections of the report.

A significant part of the improvement plan will remain the same. Due to hydraulic limitations in the Frontage Road Trunk Main and plant headworks, the influent lift station should be replaced as recommended in the Facility Master Plan.

The primary difference from the Facility Master Plan would be modifications to Ponds 1 and 2 in order to accommodate more, smaller Biolac cells (possibly four) instead of the two cells initially proposed. The 2009 Facility Master Plan developed a two-phase program that included the following, in addition to sludge holding lagoons and drying beds:

> Phase I – 1.25 MGD[3]: Construct new influent lift station, screens, grit chambers, a Biolac cell in each of Ponds 1 and 2, and two clarifiers.
>
> Phase II – 1.67 MGD: Install additional aeration in each Biolac cell.

[3] Note all flows in this section are AAF

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It is now recommended that the District consider phasing the project as follows:

> Phase I - 0.9 MGD: Construct new influent lift station, screens, grit chamber, and Biolac cells. Install aeration equipment in only one Biolac cell. Consider construction of two clarifiers or possibly one complete clarifier and one unfinished clarifier with equipment in storage.
>
> Phase II – 1.3 MGD: Install aeration equipment in second Biolac cell
>
> Phase III – 1.67 MGD: Construct and install equipment for third and fourth Biolac cells and bring second clarifier online

Recommendations

In our original May 11, 2009 contract with the District, it was assumed the Concept Design Report phase of the work would focus on detailed design of the Phase I project developed in the Facility Master Plan. The work to modify this phasing plan and update the cost opinions to accommodate a "smaller" Phase I project was not anticipated in our scope.

AECOM recommends the District direct us to prepare a budget revision request for the additional planning work to develop a new phasing plan and capital improvement plan that reflect the lower organics loads and flows. The plan would meet existing demands as well as the future flow conditions specified in the 2007 Water and Sewer Master Plan. This work would allow us to develop a strategy that optimizes the District's future investments at the plant, anticipates future needs, protects treatment process warranties, and ensures the initial stages of the Southland WWTF will be operable and meet anticipated effluent limitations.

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RECEIVED
MAR 04 2010
NIPOMO COMMUNITY
SERVICES DISTRICT

March 1, 2010

Mr. Michael LeBrun
General Manager
Nipomo Community Services District
148 S. Wilson Avenue
Nipomo, CA 93444

Dear Michael,

Budget Revision Request 1 – Update of Phasing Plan and Cost Opinions from Facility Master Plan

As described in our memorandum dated February 12, 2010, AECOM has evaluated current flows and loadings to the Southland Wastewater Treatment Facility since September 2004 and concluded the following:

1. Flows are not increasing as quickly as anticipated in the District's 2007 Water and Sewer Master Plan. In fact, there has been no increase in flows and loads since 2004.

2. Prior flow records have considerably greater variability than current records, due to staff's work to improve consistency in flow and BOD measuring techniques.

3. The existing plant model indicates aeration capacity and volume are sufficient to meet current limitations based on similar wastewater treatment facilities. However, violations of both total suspended solids (TSS) and biological oxygen demand (BOD_5) continue.

4. Current plant violations could be due to many factors – lack of screening, inappropriate retention times, mixing of sludge from the pond bottom into higher areas during the fall and winter, or other variables that commonly hinder treatment pond performance. These factors cannot be accurately predicted or controlled in a pond system.

5. The current plant design from the Facility Master Plan (FMP) should be modified to create a "smaller" Phase I plant, in order to accommodate low current loadings. Treatment processes do not perform well at loads that are lower than design values; Phase I of the master planned project is too large for current flows, and flows are not expected to increase at a sufficient rate to approach Phase I capacity within a reasonable timeframe. Extended aeration (e.g. Biolac) is still recommended as the treatment process for the project, due to the low initial cost, redundancy, and large buffer volume relative to comparable process alternatives.

6. The phasing plan for upgrading the plant, including layout and costs, should be reevaluated to optimize plant performance at current loads and provide flexibility for future demands.

In our original May 11, 2009, contract with the District, it was assumed the Concept Design Report phase of the work would focus on detailed design of the phasing plan developed in the FMP. The work to modify this phasing plan and update the cost opinions to accommodate a "smaller" Phase I project was not anticipated in our scope. Therefore, AECOM recommends that the District Board of Directors ("Board") authorize this budget revision request to perform the following tasks:

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AECOM

Task Group 100 – Modify Existing Phasing Plan

AECOM will review current loads and develop a revised site plan, including sizes and phases of process equipment, basins, and appurtenances. Approximately $6400 of this budget will reimburse prior work to update flows and loadings and the February 12, 2010, memorandum summarizing our conclusions from that work.

Task Group 200 – Update Cost Opinions

AECOM will develop updated capital cost opinions for proposed phases of the project through Master Planned future flows. These cost opinions will incorporate escalation factors in a present worth analysis.

AECOM will also provide updated annual operations and maintenance costs.

Task Group 300 – Presentation to Southland Wastewater Committee and Board

A presentation will be prepared and provided to the Committee and Board to describe the changes to the phasing plan and costs, as well as to respond to questions or concerns from the District, prior to proceeding with this work.

Task Group 400 – Amendment #1 to Southland Facility Master Plan

AECOM will prepare a draft amendment to the Facility Master Plan to summarize the phasing plan and capital improvement program for the Plant. An administrative draft will be provided for staff review and comment, followed by a draft final submittal for the Committee and Board. Upon receiving comments from the Committee and Board, a final Amendment #1 will be submitted.

Deliverables

Deliverables are listed below:

- Draft site plan
- Draft cost opinion
- Presentation materials
- Adminstrative draft, draft final, and final Southland Facility Master Plan Amendment #1

Schedule

AECOM proposes the following deadlines for these submittals. It is assumed District reviews will be performed within 10 working days of the submittal dates.

Deliverables	#Working Days from Notice to Proceed
Revised site plan	15
Draft cost opinion	20
Administrative draft Amendment #1	30
Draft Final Amendment #1	45
Final Amendment #1	60

It is assumed this work and modifications to the Concept Plan will result in a schedule delay of approximately 12 weeks, as shown in the attached schedule.

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Budget

See the attached spreadsheet for a breakdown of fees. AECOM will perform this work on a Time and Materials basis, with a budget not to exceed $37,020 unless prior authorization is granted in writing by the District.

If you have questions or comments, please contact me to discuss. We look forward to working with you on this critical planning step, and completing the design of this important project.

Sincerely,

Michael K. Nunley, PE
Project Manager

Attachments:

Fee Summary
Revised Project Schedule

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Project Budget

Budget Revision Request 2
Update of Phasing Plan and Cost Opinions from Facility Master Plan

Nipomo Community Services District

Task Description	Personnel Hours						Budget		
	Principal	Senior Engineer II	Associate	Drafter	Clerical	Total Hours	Labor	Non-Labor Fee	Total
Task Group 100 - Modify Existing Phasing Plan									
Review current loads	4		12			16	$ 2,300	$ 184	$ 2,484
Perform preliminary design calculations	4		12			16	$ 2,300	$ 184	$ 2,484
Evaluate equipment sizes	4		12			16	$ 2,300	$ 184	$ 2,484
Coordinate with equipment vendors	4		12			16	$ 2,300	$ 184	$ 2,484
Develop revised site plar	4		12	8		24	$ 3,140	$ 251	$ 3,391
Subtotal	**20**	**-**	**60**	**8**	**-**	**88**	**$ 12,340**	**$ 987**	**$ 13,327**
Task Group 200 - Update Cost Opinions									
Develop cost opinions for current and future project phase	4		20	8		32	$ 4,140	$ 331	$ 4,471
Subtotal	**4**	**-**	**20**	**8**	**-**	**32**	**$ 4,140**	**$ 331**	**$ 4,471**
Task Group 300 - Presentation to Southland Wastewater Committee and Board									
Prepare and attend presentation to Southland Wastewater Committee	8		12	4	4	28	$ 3,808	$ 305	$ 4,113
Prepare and attend presentation to Board of Directors	8		8	4	4	24	$ 3,308	$ 265	$ 3,573
Subtotal	**16**	**-**	**20**	**8**	**8**	**52**	**$ 7,116**	**$ 569**	**$ 7,685**
Task Group 400 - Amendment #1 to Southland Facility Master Plan									
Prepare administrative draft	4		24	4	2	34	$ 4,364	$ 349	$ 4,713
Meet with District and respond to comments	4		4			8	$ 1,300	$ 104	$ 1,404
Prepare final draft	4		12	4	2	22	$ 2,864	$ 229	$ 3,093
Prepare final amendmen	4		8	2	2	16	$ 2,154	$ 172	$ 2,326
Subtotal	**16**	**-**	**48**	**10**	**6**	**80**	**$ 10,682**	**$ 855**	**$ 11,537**
Total	**56**	**-**	**148**	**34**	**14**	**252**	**$ 34,278**	**$ 2,742**	**$ 37,020**

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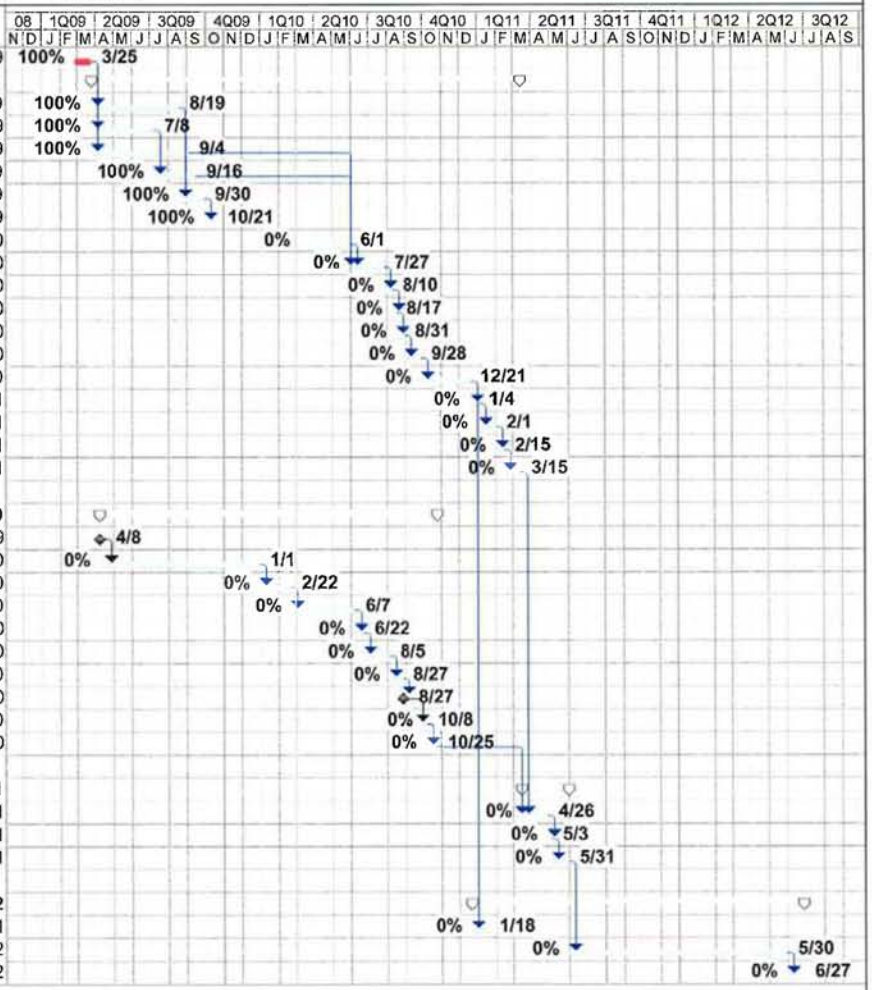
Southland WWTF Upgrades Design Schedule

Mon 3/1/10

ID	Task Name	% Work Complete	Duration	Start	Finish
1	Negotiation and Notice to Proceed	100%	20 days	Thu 2/26/09	Wed 3/25/09
2	**Design**	**0%**	**514 days**	**Thu 3/26/09**	**Tue 3/15/11**
3	Survey	100%	105 days	Thu 3/26/09	Wed 8/19/09
4	Preliminary Soils Report	100%	75 days	Thu 3/26/09	Wed 7/8/09
5	Draft Site Plan	100%	117 days	Thu 3/26/09	Fri 9/4/09
6	Draft Soils Report	100%	50 days	Thu 7/9/09	Wed 9/16/09
7	Draft Operations Plan - TM 1	100%	30 days	Thu 8/20/09	Wed 9/30/09
8	Revised Draft Soils Report	100%	15 days	Thu 10/1/09	Wed 10/21/09
9	Facility Master Plan Amendment #1	0%	12 wks	Wed 3/10/10	Tue 6/1/10
10	Administrative Draft Concept Report	0%	8 wks	Wed 6/2/10	Tue 7/27/10
11	District Review	0%	10 days	Wed 7/28/10	Tue 8/10/10
12	Draft Concept Report	0%	5 days	Wed 8/11/10	Tue 8/17/10
13	District / Peer Review	0%	10 days	Wed 8/18/10	Tue 8/31/10
14	Final Concept Report	0%	20 days	Wed 9/1/10	Tue 9/28/10
15	60% Plans, Specifications, and Estimates	0%	60 days	Wed 9/29/10	Tue 12/21/10
16	District / Peer Review	0%	10 days	Wed 12/22/10	Tue 1/4/11
17	95% Plans, Specifications, and Estimates	0%	20 days	Wed 1/5/11	Tue 2/1/11
18	District / Peer Review	0%	10 days	Wed 2/2/11	Tue 2/15/11
19	Final Plans, Specifications, and Estimates	0%	20 days	Wed 2/16/11	Tue 3/15/11
20					
21	**Environmental Impact Report**	**0%**	**403.5 days**	**Wed 4/8/09**	**Mon 10/25/10**
22	Notice of Award	100%	1 day	Wed 4/8/09	Wed 4/8/09
23	Completion of subconsultant analyses	0%	38.3 wks	Thu 4/9/09	Fri 1/1/10
24	Administrative Draft EIR	0%	7.2 wks	Fri 1/1/10	Mon 2/22/10
25	District Review and Revision of Project Description	0%	15 wks	Tue 2/23/10	Mon 6/7/10
26	Preparation of Public Draft EIR	0%	11 days	Tue 6/8/10	Tue 6/22/10
27	EIR Public Review Period	0%	6.3 wks	Wed 6/23/10	Thu 8/5/10
28	Preparation of Administrative Final EIR/Responses to Comments	0%	16 days	Thu 8/5/10	Fri 8/27/10
29	Completion and Receipt of Comments from District on Final EIR	0%	17 days	Fri 8/27/10	Tue 9/21/10
30	Completion of Final EIR and Findings of Fact	0%	6 days	Thu 9/30/10	Fri 10/8/10
31	Public Hearings/EIR Certification	0%	11 days	Fri 10/8/10	Mon 10/25/10
32					
33	**Bid Phase**	**0%**	**55 days**	**Wed 3/16/11**	**Tue 5/31/11**
34	Advertisement	0%	30 days	Wed 3/16/11	Tue 4/26/11
35	Bid Opening	0%	5 days	Wed 4/27/11	Tue 5/3/11
36	Bid Review and Notice of Award	0%	20 days	Wed 5/4/11	Tue 5/31/11
37					
38	**Construction**	**0%**	**396 days**	**Wed 12/22/10**	**Wed 6/27/12**
39	Retain Design Fim to Perform Services During Construction	0%	20 days	Wed 12/22/10	Tue 1/18/11
40	Construct	0%	261 days	Wed 6/1/11	Wed 5/30/12
41	Startup & Testing	0%	20 days	Thu 5/31/12	Wed 6/27/12



Project: Southland Design 8 03 09
Date: Mon 3/1/10

Task | Progress | Baseline | Milestone
Baseline Milestone | Summary | Rolled Up Task | Rolled Up Critical Task
Rolled Up Milestone | Baseline Summary | Rolled Up Baseline | Rolled Up Baseline Milestone
Rolled Up Progress | Split | Baseline Split | External Tasks
Project Summary | Group By Summary | Deadline

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