

NIPOMO COMMUNITY SERVICES DISTRICT

Wednesday, May 16, 2007

9:00 A. M.

SPECIAL MEETING AGENDA AND NOTICE

BOARD of DIRECTORS

MICHAEL WINN, PRESIDENT
LARRY VIERHEILIG, VICE PRESIDENT
ED EBY, DIRECTOR
CLIFFORD TROTTER, DIRECTOR
JAMES HARRISON, DIRECTOR

PRINCIPAL STAFF

BRUCE BUEL, GENERAL MANAGER
LISA BOGNUDA, ASSIST. ADMINISTRATOR
DONNA JOHNSON, BOARD SECRETARY
JON SEITZ, GENERAL COUNSEL
DAN MIGLIAZZO, UTILITY SUPERVISOR

MEETING LOCATION

District Board Room
148 S. Wilson Street
Nipomo, California

Public Comment will be received on each agenda item

- A. CALL TO ORDER, ROLL CALL, AND FLAG SALUTE
- B. RECEIVE PRESENTATION FROM BOYLE ENGINEERING REGARDING DESALINATION TECHNOLOGIES

ACTION REQUESTED: None

- C. DISCUSS OPTIONS FOR DISCHARGE OF SOUTHLAND WWTF TREATED WASTEWATER; DISCUSS TIMELINE AND PROCESS FOR SCOPING PROJECT; AND CONSIDER FORMATION OF SOUTHLAND WWTF UPGRADE STANDING COMMITTEE;

ACTION REQUESTED: Discuss Discharge Options; Discuss Scoping Process; and Form Standing Advisory Committee

*** End Special Meeting Notice ***

TO: BOARD OF DIRECTORS
FROM: BRUCE BUEL *BB*
DATE: May 11, 2007

**AGENDA ITEM
B
MAY 16, 2007**

RECEIVE DESALINATION PRESENTATION

ITEM

Receive presentation from Boyle Engineering re desalination technologies [No Action Requested].

BACKGROUND

Mr. Ernie Kertinen of Boyle Engineering is scheduled to present information on desalination technologies. Boyle staff will also be available to answer questions regarding application of the technologies to Nipomo.

RECOMMENDATION

Staff recommends that your Honorable Board receive this presentation and ask questions.

ATTACHMENT – NONE

T:\doc\board matters\board meetings\board letter 2007\Desalination Presentation2

TO: BOARD OF DIRECTORS
FROM: BRUCE BUEL *BB*
DATE: May 11, 2007



SOUTHLAND WWTF UPGRADE PROJECT

ITEM

Discuss options for discharge of Southland WWTF treated wastewater; discuss timeline and process for scoping project; and consider formation of Southland WWTF Upgrade Standing Committee [RECOMMEND ADOPTION].

BACKGROUND

Staff previously released Boyle's April 2, 2007 "Evaluation of Southland WWTF Ground Water Monitoring Data" which documents the water quality and water hydrology problems associated with discharge of treated wastewater in the existing Southland WWTF percolation ponds. Based on this evaluation and consultation with RWQCB staff, District Staff believes that significant additional work will be needed to determine the quantity of disposal possible with the existing percolation ponds; the wastewater treatment upgrades necessary to achieve compliance with the conditions set forth in NCSD's existing Discharge Order; and the options for off-site disposal. Until these additional evaluations are complete, it will not be possible to "Scope" the Upgrade Project or to complete the Southland WWTF Upgrade Master Plan.

Attached is a letter report from Boyle Engineering proposing an "Action Plan" for recharge/disposal of Southland wastewater discharge. This Action Plan describes the current disposal situation, recommends additional groundwater evaluations, outlines possible scenarios that could be determined based on completion of the research, recommends Wastewater Management Strategies, and summarizes the steps underway for evaluation of Offsite Recharge/Disposal Facilities. Mike Nunley from Boyle Engineering will present this letter report to the Board and answer questions regarding each section.

Staff has also requested that SAIC submit proposals to address the recommended additional groundwater evaluations set forth in Boyle's letter report. Staff expects to present proposals from SAIC regarding the groundwater evaluation and from Boyle regarding assistance in scoping the disposal options at your Honorable Board's June 13, 2007, meeting.

Also attached is a copy of a rough draft timeline for development of the Wastewater Project. As set forth in the draft timeline, staff projects that the evaluations described above will take at least 4 months to complete and that it will not be possible to adopt a revised Southland WWTF Upgrade Master Plan until September at the earliest.

RECOMMENDATION

Staff recommends that your Honorable Board review the Letter Report/Timeline, receive Mr. Nunley's presentation and ask questions of staff and Mr. Nunley. Staff further recommends that your Honorable Board agree to create a standing Southland WWTF Upgrade Committee to coordinate with staff throughout the project elements set forth in the attached Timeline. Assuming that the Board creates such a committee, the Board should then appoint two members to that Committee.

ATTACHMENTS

- Draft Boyle Southland WWTF Disposal/Recharge Action Plan
- Draft Timeline

1194 Pacific Street, Suite 204
San Luis Obispo, CA 93401
TEL: (805)542-9840
FAX: (805)542-9990
www.boyleengineering.com

Employee Owned

 **DRAFT**

Bruce Buel
General Manager
NIPOMO COMMUNITY SERVICES DISTRICT
Nipomo Community Services District
148 S. Wilson
Nipomo, CA 93444

May 10, 2007
19996.41-0000-000

Southland WWTF Recharge/Disposal Action Plan

The Nipomo Community Services District is beginning to define the objectives of their wastewater program. However, it appears the following may be appropriate "program-level" objectives, based on the District's current planning efforts:

- 1) Minimize negative impacts on water quality in the groundwater basin;
- 2) Apply reclaimed wastewater to reduce groundwater depressions and reduce potable water demand within the Nipomo Mesa Management Area; and
- 3) Develop multiple disposal/recharge options to accommodate treatment plant upsets and wet weather conditions.

Defining program objectives will be important for developing and evaluating various wastewater reuse strategies.

Onsite Percolation

The District has been percolating their treated effluent at the Southland site since the plant was constructed in 1988. The District wishes to continue using onsite percolation as one disposal option, particular during wet weather. At a minimum, continued use will be required in the immediate future as other options are developed.

The critical first step in evaluating onsite disposal options is to assess groundwater conditions underneath the plant. The objective is to develop a "baseline" understanding of local groundwater conditions, since the treatment, disposal, and/or recharge facilities will be designed to minimize impacts to any receiving ground or surface waters.

LETTER TO BRUCE BUEL_DRAFT SOUTHLAND ACTION (2).DOC

Knowledge of groundwater conditions beneath the WWTF is limited, and is summarized below:

1. Shallow groundwater – As discussed in our letter report to the District regarding onsite monitoring well data, a mound of “perched” wastewater treatment effluent is located underneath the WWTF site. The extent, and ultimate fate, of this water is not known. It appears to be resting on a clay layer which has low permeability.
2. Deep aquifer – The connectivity of the deep aquifer to shallow groundwater is unknown. Water quality information is limited and the accuracy of the available data is questionable.

Recommendations for Groundwater Evaluation

In order to further evaluate impacts of plant effluent on groundwater, and to predict how changes in wastewater management may affect groundwater, we recommend that the District pursue a groundwater study which addresses the following:

Shallow Conditions:

- Extent of shallow groundwater mound beneath the WWTF;
- Direction, flow (if any), and travel time to Nipomo Creek or to the deep aquifer, if effluent travels to these water bodies;
- Presence of indicator organisms (such as coliform bacteria) in extracted groundwater;
- Optimal location(s) to withdraw groundwater from this mound, in order to prevent offsite migration and to “produce” water for offsite irrigation;
- Maximum allowable inflow and yield, as well as expected recovery efficiency, if the shallow aquifer is used for short-term storage and recovery of reclaimed water for irrigation;
- Maximum effluent loading on the treatment plant site with and without pumping of effluent for irrigation use;
- Monitoring program (short-term and long-term) to evaluate quality and extent of mounded effluent;

Deep aquifer:

- Connectivity (and estimated travel time) to nearby wells, District wells, and mounded plant effluent;
- Water quality and depth;

- Geologic profile extending through plant and including both Santa Maria River and Oceano fault lines;

Possible Findings from Groundwater Evaluation

We anticipate the following possible findings from this study: Groundwater is 1) flowing northeast to Nipomo Creek; 2) flowing laterally in a different direction; 3) relatively stagnant and not moving significantly; 4) flowing vertically to the deeper aquifer; or 5) a combination of these conditions.

Findings	Primary Water Quality Concerns for Onsite Disposal	Recommended Onsite Management Strategy
Groundwater is flowing northeast to Nipomo Creek (Clean Water Act - 303d listed impaired water body)	Pathogens (from 303d list) Nitrogen Salts (Chloride, sodium, sulfate) Toxicity	Salt Management Plan Nitrogen Removal Prevent flow to Creek
Groundwater is flowing laterally away from Nipomo Creek	Nitrogen Salts (Chloride, sodium, sulfate) Impact to neighboring wells	Salt Management Plan Nitrogen Removal Prevent lateral flow
Relatively stagnant, not moving significantly	Nitrogen Salts (Chloride, sodium, sulfate)	Salt Management Plan Nitrogen Removal Prevent lateral flow
Flowing vertically to deep aquifer	Nitrogen Salts (Chloride, sodium, sulfate)	Salt Management Plan Nitrogen Removal

As shown above, water quality concerns (and conceptual treatment goals) will be similar under any of these conditions. However, if flow is moving toward Nipomo Creek, toxicity and pathogens also become issues since the creek is surface water. Two programs affecting surface waters would be of particular concern to the District:

Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) – This policy requires the establishment of aquatic life-based numerical limits for 23 toxics and human health-based limits for 57 toxics. Pollutants include metals, ammonia, trihalomethanes, and organic compounds such as pesticides. Southland

WWTF may be required to include limits for these pollutants in their Waste Discharge Requirements (WDRs).

Total Maximum Daily Load Program (TMDL) – The TMDL program sets numerical goals for reducing specific pollutants flowing into an impaired water body. The Regional Water Quality Control Board has designated Nipomo Creek as “impaired for beneficial uses” by the presence of pathogens.

Recommended Wastewater Management Strategies

Nitrogen Removal: The proposed wastewater treatment strategy, presented in the Draft Southland WWTF Master Plan, will reduce nitrogen (forms include ammonia, nitrite, nitrate, and organic nitrogen) to below 10 milligrams per liter (mg/L), which is the California Department of Health Services drinking water standard for nitrate.

Prevention of Offsite Flow: Preventing offsite flow is the preferred wastewater management strategy in any of the conditions described above, since it would prevent impacts to neighboring wells or to Nipomo Creek. Implementation would require the development of offsite recharge or reuse facilities.

Salt Management Plan: The objective of a Salt Management Plan is to reduce salt concentrations in wastewater treatment plant effluent by modifying practices which currently add salt to wastewater.

Three (3) basic components are recommended to implement these strategies: onsite wastewater disposal (to be defined after groundwater evaluation is completed); offsite recharge/reuse facilities; and a Salt Management Program.

Offsite Recharge/Reuse Facilities

Offsite recharge/reuse facilities could include groundwater recharge ponds and/or irrigation systems at Blacklake and Woodlands golf courses, as well as County parks. Conceptual recharge and reuse alternatives are being presented in the District’s Sewer Master Plan Update and Supplemental Water Alternatives Evaluation. A Recycled Water Study could incorporate the findings from these studies, and would complete the following steps:

- Identify potential users and the quantities of water they would use on a daily, seasonal, and annual basis;
- Evaluate potential groundwater recharge locations (general locations of groundwater depressions will be presented in the District’s Sewer Master Plan and Supplemental Water Alternatives Evaluation). This would include estimates of sizes required based on anticipated percolation characteristics of the soils, precipitation, and evaporation rates;

- Determine storage, pumping, and pipeline facilities required to deliver water to these customers and recharge sites; and
- Develop a phased Capital Improvements Plan for constructing these facilities.

Salt Management Plan

Development of a Salt Management Plan would include the following steps:

- Identify sources of salt in wastewater collection system, including possible industrial dischargers and self-regenerating water softeners;
- Develop a public education program to encourage voluntary mitigation measures, such as the use of *offsite* regenerated water softeners;
- Determine strategies for managing water supplies to reduce salt input, including importation of surface water sources and use of wells with lower salt concentrations;
- Predict impact these measures may have on salt concentrations in plant effluent; and
- Monitor program to determine success of these efforts.

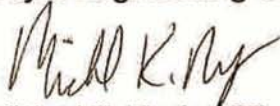
Recommendations

As described above, Boyle recommends proceeding with the following tasks:

- 1) Onsite Disposal Facilities – Perform groundwater characterization
- 2) Offsite Reuse/Recharge Facilities – Continue with development of a phased Capital Improvements Program for these facilities
- 3) Salt Management Plan – Begin development of a program, with elements as outlined above.

Please call if you would like to discuss these further.

Boyle Engineering Corporation


Michael K. Nunley, PE
Managing Engineer

ID	Task Name	Duration	Start	Finish	2008												2009														
					Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
1	Hydrogeological Evaluation	75 days	Wed 4/25/07	Tue 8/7/07	[Gantt bar from 4/25 to 8/7]																										
2	Amend Southland WWTP Master Plan	25 days	Wed 8/8/07	Tue 9/11/07	[Gantt bar from 8/8 to 9/11]																										
3	Adopt Southland WWTF Master Plan	1 day	Wed 9/12/07	Wed 9/12/07	[Gantt bar on 9/12]																										
4	Issue RFP - Design and Environmental	1 day	Thu 9/13/07	Thu 9/13/07	[Gantt bar on 9/13]																										
5	Proposal Preparation	30 days	Fri 9/14/07	Thu 10/25/07	[Gantt bar from 9/14 to 10/25]																										
6	Interviews	5 days	Fri 10/26/07	Thu 11/1/07	[Gantt bar from 10/26 to 11/1]																										
7	Selection of EIR/Design Consultant	5 days	Fri 11/2/07	Thu 11/8/07	[Gantt bar from 11/2 to 11/8]																										
8	Board Issues NTP	1 day	Fri 11/9/07	Fri 11/9/07	[Gantt bar on 11/9]																										
10	CEQA Compliance	226 days	Mon 11/12/07	Mon 9/22/08	[Summary bar from 11/12 to 9/22/08]																										
11	Initial Study	45 days	Mon 11/12/07	Fri 1/11/08	[Gantt bar from 11/12 to 1/11/08]																										
12	Issue Notice of Preparation	10 days	Mon 1/14/08	Fri 1/25/08	[Gantt bar from 1/14 to 1/25/08]																										
13	Prepare Administrative Draft EIR	60 days	Mon 1/28/08	Fri 4/18/08	[Gantt bar from 1/28 to 4/18/08]																										
14	District Review	10 days	Mon 4/21/08	Fri 5/2/08	[Gantt bar from 4/21 to 5/2/08]																										
15	Prepare Public Draft EIR	10 days	Mon 5/5/08	Fri 5/16/08	[Gantt bar from 5/5 to 5/16/08]																										
16	Public Comment Period	45 days	Mon 5/19/08	Fri 7/18/08	[Gantt bar from 5/19 to 7/18/08]																										
17	Response to Public Comment	21 days	Mon 7/21/08	Mon 8/18/08	[Gantt bar from 7/21 to 8/18/08]																										
18	District Review	10 days	Tue 8/19/08	Mon 9/1/08	[Gantt bar from 8/19 to 9/1/08]																										
19	Prepare Final EIR	10 days	Tue 9/2/08	Mon 9/15/08	[Gantt bar from 9/2 to 9/15/08]																										
20	Board Review and Certification	5 days	Tue 9/16/08	Mon 9/22/08	[Gantt bar from 9/16 to 9/22/08]																										
22	Design	200 days	Mon 11/12/07	Fri 8/15/08	[Summary bar from 11/12 to 8/15/08]																										
23	Survey	20 days	Mon 11/12/07	Fri 12/7/07	[Gantt bar from 11/12 to 12/7/07]																										
24	Geotechnical Investigation	20 days	Mon 11/12/07	Fri 12/7/07	[Gantt bar from 11/12 to 12/7/07]																										
25	Concept Design Report (30%)	60 days	Mon 11/12/07	Fri 2/1/08	[Gantt bar from 11/12 to 2/1/08]																										
26	District Review	15 days	Mon 2/4/08	Fri 2/22/08	[Gantt bar from 2/4 to 2/22/08]																										
27	Prepare Report of Waste Discharge	20 days	Mon 2/25/08	Fri 3/21/08	[Gantt bar from 2/25 to 3/21/08]																										
28	60% PS&E	40 days	Mon 2/25/08	Fri 4/18/08	[Gantt bar from 2/25 to 4/18/08]																										
29	District Review	10 days	Mon 4/21/08	Fri 5/2/08	[Gantt bar from 4/21 to 5/2/08]																										
30	90% PS&E	40 days	Mon 5/5/08	Fri 6/27/08	[Gantt bar from 5/5 to 6/27/08]																										
31	District Review	15 days	Mon 6/30/08	Fri 7/18/08	[Gantt bar from 6/30 to 7/18/08]																										
32	Final PS&E	20 days	Mon 7/21/08	Fri 8/15/08	[Gantt bar from 7/21 to 8/15/08]																										
34	Bid Phase	47 days	Tue 9/23/08	Wed 11/26/08	[Summary bar from 9/23 to 11/26/08]																										
35	Bid Advertisement	1 day	Tue 9/23/08	Tue 9/23/08	[Gantt bar on 9/23]																										
36	Bid Period	30 days	Wed 9/24/08	Tue 11/4/08	[Gantt bar from 9/24 to 11/4/08]																										
37	Bid Opening	1 day	Wed 11/5/08	Wed 11/5/08	[Gantt bar on 11/5]																										
38	Review of Bid Packages	5 days	Thu 11/6/08	Wed 11/12/08	[Gantt bar from 11/6 to 11/12/08]																										
39	Bid Award	10 days	Thu 11/13/08	Wed 11/26/08	[Gantt bar from 11/13 to 11/26/08]																										
40	Notice to Proceed	10 days	Thu 11/13/08	Wed 11/26/08	[Gantt bar from 11/13 to 11/26/08]																										
42	Construction	200 days	Thu 11/27/08	Wed 9/2/09	[Summary bar from 11/27 to 9/2/09]																										
43	Mobilization	20 days	Thu 11/27/08	Wed 12/24/08	[Gantt bar from 11/27 to 12/24/08]																										
44	Frontage Road Trunk Main	60 days	Thu 12/25/08	Wed 3/18/09	[Gantt bar from 12/25 to 3/18/09]																										
45	Influent Pump Station	60 days	Thu 12/25/08	Wed 3/18/09	[Gantt bar from 12/25 to 3/18/09]																										
46	Headworks Improvements	30 days	Thu 3/19/09	Wed 4/29/09	[Gantt bar from 3/19 to 4/29/09]																										
47	Biolac Installation	60 days	Thu 3/19/09	Wed 6/10/09	[Gantt bar from 3/19 to 6/10/09]																										
48	Site/Yard Piping	60 days	Thu 3/19/09	Wed 6/10/09	[Gantt bar from 3/19 to 6/10/09]																										
49	Sludge Drying Bed Improvements	30 days	Thu 6/11/09	Wed 7/22/09	[Gantt bar from 6/11 to 7/22/09]																										
50	Percolation Ponds	30 days	Thu 7/23/09	Wed 9/2/09	[Gantt bar from 7/23 to 9/2/09]																										

Project: Southland Schedule
Date: Thu 4/26/07

Task	[Blue box]	Milestone	[Diamond]	Rolled Up Critical Task	[Red box]	Split	[Split line]	Group By Summary	[Arrow]
Critical Task	[Red box]	Summary	[Arrow]	Rolled Up Milestone	[Diamond]	External Tasks	[Grey box]	Deadline	[Down arrow]
Progress	[Black bar]	Rolled Up Task	[Blue box]	Rolled Up Progress	[Black bar]	Project Summary	[Grey bar]		