



Groundwater Banking Subcommittee Meeting No. 2 | January 4, 2007

Alternatives Development and Project Screening



Paso Robles Groundwater Basin Water Banking Feasibility Study



Agenda Items

- 1. Provide Overview of Water Banking Feasibility Study**
- 2. Project Purpose and Approach**
- 3. Project Schedule**
- 4. Project Status Report**
- 5. Preview of GBSC Meeting No. 3**



Project Goal

The goal of this project is to determine the feasibility of groundwater banking alternatives in the Paso Robles Groundwater Basin



Water Banking Feasibility

- **Ability to utilize unallocated SWP supply**
- **Ability to store and recover water**
- **Ability to deliver banked water to end user**



Potential Project Benefits

- **Utilize SWP Supply to improve local water supply reliability**
- **Improve local groundwater conditions**
- **Increase dry year water supply reliability**
- **Improve local groundwater quality**
- **Provide greater flexibility in water resources management**
- **Reduce dependence on imported water supplies in below-normal years**



Project Approach

- **Evaluate Technical Feasibility**
 - **Hydrogeologic Feasibility**
 - **Engineering Feasibility**
- **Identify Other Considerations**
 - **Environmental Considerations**
 - **Institutional/Regulatory Considerations**
 - **Project Partners and Funding Opportunities**



Hydrogeologic Feasibility

- **Geologic/Hydrogeologic Setting**
- **Near Surface Conditions**
- **Available Groundwater Storage Capacity**
- **Ability to Recharge the Aquifer System**
- **Ability to Recover Banked Water**
- **Interaction with Surface Water**
- **Water Quality Considerations**



Engineering Feasibility

- **Water Supply Availability**
- **Ability to Utilize Existing Infrastructure**
- **Additional Required Facilities**
- **Project Operations**
- **Capital and O&M Costs**

Project Schedule

UPDATED SCHEDULE

San Luis Obispo County Flood Control and Water Conservation District
Paso Robles Groundwater Basin Feasibility Study
Proposed Project Schedule

ID	Task Name	Start	Finish	2007												2008					
				Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
1	Task 1 - Stakeholder Involvement Meetings	Mon 10/2/06	Mon 12/31/07	[Yellow bar spanning from Oct 2006 to Feb 2008]																	
2	Groundwater Banking Sub-Committee Meeting 1	Thu 10/5/06	Thu 10/5/06	10/5 Kickoff Meeting																	
3	Task 2 - Preliminary Engineering	Thu 1/4/07	Thu 1/4/07	[Blue bar from Jan 4, 2007 to Jan 4, 2007]																	
4	Deliverable: Preliminary Engineering Technical Memorandum	Fri 12/1/06	Fri 12/1/06	12/1 Deliverable: PETM																	
5	Groundwater Banking Sub-Committee Meeting 2	Thu 1/4/07	Thu 1/4/07	1/4																	
6	Task 3 - Developing Initial Alternatives and Screening Criter	Tue 11/14/06	Fri 3/2/07	[Blue bar from Nov 14, 2006 to Mar 2, 2007]																	
7	Groundwater Banking Sub-Committee Meeting 3	Thu 2/1/07	Thu 3/1/07	3/1																	
8	Task 4 - Groundwater Storage Project Refinement and Selec	Fri 1/19/07	Fri 5/11/07	[Blue bar from Jan 19, 2007 to May 11, 2007]																	
9	Groundwater Banking Sub-Committee Meeting 4	Thu 5/3/07	Thu 5/3/07	5/3																	
10	Task 5 - Hydrogeologic Evaluation of Selected Banking Site	Fri 4/20/07	Fri 8/10/07	[Blue bar from Apr 20, 2007 to Aug 10, 2007]																	
11	Task 6 - Engineering Analysis of Selected Banking Sites	Fri 4/20/07	Fri 8/10/07	[Blue bar from Apr 20, 2007 to Aug 10, 2007]																	
12	Deliverable: Progress Report	Fri 7/20/07	Fri 7/20/07	7/20 Deliverable: Progress Report																	
13	Groundwater Banking Sub-Committee Meeting 5	Thu 8/2/07	Thu 8/2/07	8/2																	
14	Task 7 - Draft Report	Fri 7/20/07	Thu 10/4/07	[Blue bar from Jul 20, 2007 to Oct 4, 2007]																	
15	Deliverable: Draft Report	Fri 9/21/07	Fri 9/21/07	9/21 Deliverable: Draft Report																	
16	Groundwater Banking Sub-Committee Meeting 6	Thu 10/4/07	Thu 10/4/07	10/4																	
17	Task 8 - Final Report	Fri 9/21/07	Fri 11/16/07	[Blue bar from Sep 21, 2007 to Nov 16, 2007]																	
18	Deliverable: Final Report	Fri 11/9/07	Fri 11/9/07	11/9 Deliverable: Final Report																	
19	Task 9 - Project Management and Coordination	Mon 10/2/06	Fri 12/14/07	[Yellow bar from Oct 2, 2006 to Dec 14, 2007]																	
20	Quarterly Progress Report	Fri 12/29/06	Fri 12/14/07	12/29 3/30 6/29 9/28 12/14																	

Project: Paso Robles.mpp
Date: Fri 8/4/06

Task Groundwater Banking Sub-Committee Meeting
Quarterly Progress Reports

Deliverable



GBSC Meetings

**Meeting
Number**

Activities

1	Introductions, Project Goals, Review PETM outline
2	Provide comments on PETM Review initial project screening criteria
3	Review application of coarse screening criteria to allow the identification of 3 projects for further analysis
4	Review progress of the hydrogeologic and engineering feasibility analysis
5	Provide comments on Progress Report
6	Provide comments on Draft Report



Project Deliverable: Preliminary Engineering Technical Memorandum

- Document project assumptions
- Develop common understanding of water banking considerations
- Identify initial hydrogeologic and engineering evaluation criteria



CONSIDERATIONS

	Hydrogeologic	Engineering	Other
Imported Water Supply	NOT APPLICABLE	<p>State Water Project Supplies</p> <ul style="list-style-type: none"> San Luis Obispo County - Table A <p>Deliver to Recharge Site</p> <ul style="list-style-type: none"> Facility requirements including the size and capacity of required delivery facilities Benefit/cost of delivering water to recharge sites 	<p>Groundwater Management Considerations - Water supply for water banking</p> <p>Environmental Considerations – Potential impacts of water delivery facilities</p>
Water Banking (Recharge)	<p>Groundwater Basin Characteristics</p> <ul style="list-style-type: none"> Geologic/Hydrogeologic Setting Available Groundwater Storage Near Surface Conditions Ability to Recharge and Store Water Existing Groundwater Quality Interaction with Surface Water 	<p>Groundwater Recharge Methods</p> <p><u>Direct Recharge Methods</u></p> <ul style="list-style-type: none"> Spreading Basins/Ponds Injection Wells River Recharge <p><u>Indirect recharge methods</u></p> <ul style="list-style-type: none"> In-Lieu Recharge 	<p>Groundwater Management Considerations - Management of recharge operations for net benefit of basin.</p> <p>Environmental Considerations – Potential impacts of recharge facilities on local land use, vegetation, and wild life habitat.</p>
Water Banking (Recovery)	<p>Groundwater Basin Response</p> <ul style="list-style-type: none"> <u>Direct recharge methods</u> — introduce imported water supply into aquifer system <u>Indirect recharge methods</u> — groundwater levels increase through existing 'natural' recharge methods in response to reduced groundwater pumping. Groundwater extraction 	<p>Groundwater Recovery Methods</p> <ul style="list-style-type: none"> Existing Groundwater Wells – for Local Users New Wells and Well Fields – for Local Users or Regional Users 	<p>Groundwater Management Considerations - Management of recovery operations for net benefit of basin.</p> <p>Environmental Considerations – Potential impacts of recovery facilities on local land use, vegetation, and wild life habitat.</p>
Delivery to End User	NOT APPLICABLE	<p>Delivery to End User</p> <ul style="list-style-type: none"> <u>Local Users</u> – Includes in-basin users near the recharge location, and does not require additional water delivery facilities. <u>Regional User</u> – Includes out of basin water users and in-basin users that require additional water delivery facilities. 	<p>Groundwater Management Considerations - Effect on water management and groundwater management on end user.</p> <p>Environmental Considerations – Potential impacts of recovery facilities on local land use, vegetation, and wild life habitat. Potential impacts on end users land and water use conditions.</p>



Next Step

- **Identify Specific Projects for Evaluation and Develop Detailed Project Descriptions**
 - **Identify water banking projects and preliminary evaluation of alternatives**
 - **Identify potential end users of banked water**
 - **Describing project components and requirements**



Preview of GBSC Meeting No. 3

- **Identify Specific Projects for Evaluation and Develop Detailed Project Descriptions**
 - **Available Water Supply**
 - **Groundwater Recharge Opportunities**
 - **Agricultural In-Lieu Recharge**
 - **Direct Recharge – Basins**
 - **Direct Recharge - Streams**
 - **Conveyance Costs**



Next GBSC Meeting

- **Scheduled for May 3, 2007**
 - **Preview of alternatives being considered**
 - **Update on initial evaluations**
 - **Identification of other considerations**



Questions ?



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